

HARVI™ II

High-Performance Solid Carbide End Mills

Primary Application

The HARVI II system is designed to provide maximum metal removal rates with five unequally spaced flutes for roughing and finishing operations in side milling, slotting, and profiling. A wide range of diameters and corner configurations, such as chamfer, radii, and sharp edges, are available from stock.

- 1 x D slotting in titanium and stainless steels with five unequally spaced flutes.
- Roughing and finishing with one tool.
- KCPM15™ Beyond™ grades for long tool life.

Features and Benefits

Advanced Technology

- Five unequally spaced flutes for chatter-free machining at high feed rates.
- Proprietary parabolic core design increases stability.
- Ramping up to 3°.
- 1 x D full slotting capability in:
 - Titanium
 - Stainless steel

Tailored Grades

- KCPM15 Beyond grade for outstanding wear protection in stainless steel to mitigate crater, depth-of-cut notching, and flank wear.
- Universal KC643M™ grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut possible.
- Chip divider geometry reduces power consumption and improves chip formation in difficult-to-cut materials.
- Ball-nose version available.
- Internal coolant axial and radial available.
- Various shanks, including Safe-Lock™ by Haimer, and non-standard coatings available.
- Multiple steps possible.

Extensive Standard Offering

- Diameter range 3/16–1".
- Necked, corner radii, and square-end offering.

High-feed roughing and finishing with one tool at highest length of cut.



Unequal Flute Spacing
Reduces vibrations.
Improves surface finish.

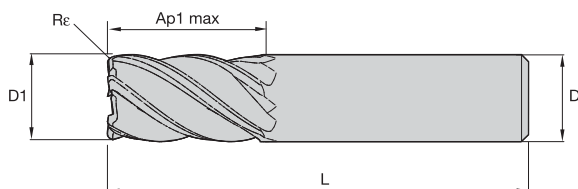
Proprietary Core Design
Improves tool stability.

38° Helix Angle
Roughing and finishing.

KCPM15™ Beyond™ Grade
Excellent performance up to
52 HRC. Optimized for steel and
stainless steel machining.

KC643M™ AITiN Grade
Universal usage.
For highest tool life.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Five-flute geometry enables slotting up to 1 x D.

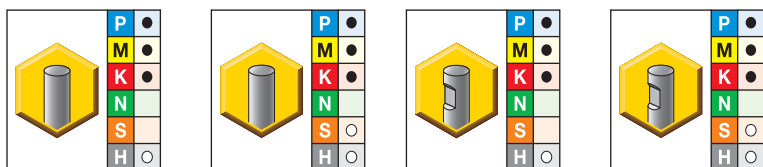


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"



■ UCDE • 5 Flute • Inch

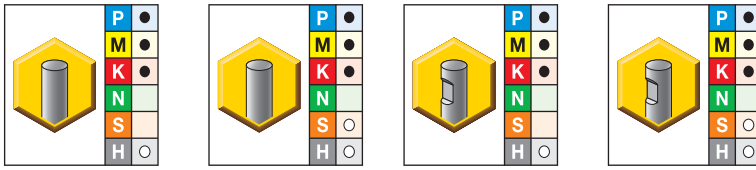


- first choice
- alternate choice

KCPM15	KC643M	KCPM15	KC643M	D1	D	Ap1 max	L	Re
UCDE188J5BRA	UCDE188J5BRA	—	—	3/16	3/16	5/8	2 1/4	.015
UCDE188J5BRB	UCDE188J5BRB	—	—	3/16	3/16	5/8	2 1/4	.030
UCDE188J5BS	UCDE188J5BS	—	—	3/16	3/16	5/8	2 1/4	—
—	UCDE219J5BS	—	—	7/32	1/4	5/8	2 1/2	—
UCDE250J5BRA	UCDE250J5BRA	—	—	1/4	1/4	3/4	2 1/2	.015
UCDE250J5BRB	UCDE250J5BRB	—	—	1/4	1/4	3/4	2 1/2	.030
UCDE250J5BS	UCDE250J5BS	—	—	1/4	1/4	3/4	2 1/2	—
—	UCDE281J5BS	—	—	9/32	5/16	3/4	2 1/2	—
UCDE312J5BRA	UCDE312J5BRA	—	—	5/16	5/16	3/4	2 1/2	.015
UCDE312J5BRB	UCDE312J5BRB	—	—	5/16	5/16	3/4	2 1/2	.030
UCDE312J5BS	UCDE312J5BS	—	—	5/16	5/16	3/4	2 1/2	—
—	UCDE344J5BS	—	—	11/32	3/8	1	2 1/2	—
UCDE375J5BRA	UCDE375J5BRA	—	—	3/8	3/8	7/8	2 1/2	.015
UCDE375J5BRB	UCDE375J5BRB	—	—	3/8	3/8	7/8	2 1/2	.030
UCDE375J5BS	UCDE375J5BS	—	—	3/8	3/8	7/8	2 1/2	—
—	UCDE375J5CRA	—	—	3/8	3/8	1	3	.015
—	UCDE375J5CRB	—	—	3/8	3/8	1	3	.030
—	UCDE438J5BS	—	—	7/16	7/16	1	2 1/2	—
UCDE500J5BRA	UCDE500J5BRA	UCDE500K5BRA	UCDE500K5BRA	1/2	1/2	1 1/4	3	.015
UCDE500J5BRB	UCDE500J5BRB	UCDE500K5BRB	UCDE500K5BRB	1/2	1/2	1 1/4	3	.030
—	UCDE500J5BRD	—	—	1/2	1/2	1 1/4	3	.060
UCDE500J5BRF	UCDE500J5BRF	UCDE500K5BRF	UCDE500K5BRF	1/2	1/2	1 1/4	3	.120
UCDE500J5BS	UCDE500J5BS	UCDE500K5BS	UCDE500K5BS	1/2	1/2	1 1/4	3	—
—	UCDE562J5BRA	—	—	9/16	5/8	1 1/4	3 1/2	.015
—	UCDE562J5BRB	—	—	9/16	5/8	1 1/4	3 1/2	.030
—	UCDE562J5BS	—	—	9/16	5/8	1 1/4	3 1/2	—
—	UCDE625J5BRA	—	—	5/8	5/8	1 1/4	3 1/2	.015
UCDE625J5BRB	UCDE625J5BRB	UCDE625K5BRB	UCDE625K5BRB	5/8	5/8	1 1/4	3 1/2	.030
—	UCDE625J5BRD	—	—	5/8	5/8	1 1/4	3 1/2	.060
UCDE625J5BS	UCDE625J5BS	UCDE625K5BS	UCDE625K5BS	5/8	5/8	1 1/4	3 1/2	—
—	UCDE750J5BRA	—	—	3/4	3/4	1 1/2	4	.015
UCDE750J5BRB	UCDE750J5BRB	UCDE750K5BRB	UCDE750K5BRB	3/4	3/4	1 1/2	4	.030

(continued)

(UCDE • 5 Flute • Inch — continued)



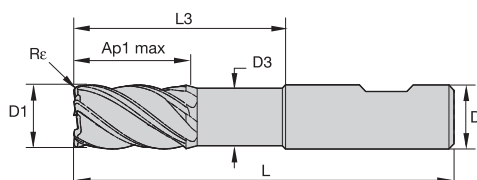
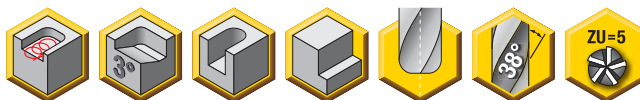
● first choice
○ alternate choice

KCPM15	KC643M	KCPM15	KC643M	D1	D	Ap1 max	L	Re
UCDE750J5BRD	UCDE750J5BRD	—	—	3/4	3/4	1 1/2	4	.060
UCDE750J5BRE	UCDE750J5BRE *	—	—	3/4	3/4	1 1/2	4	.090
UCDE750J5BRF	UCDE750J5BRF	—	UCDE750K5BRF	3/4	3/4	1 1/2	4	.120
UCDE750J5BS	UCDE750J5BS	UCDE750K5BS	UCDE750K5BS	3/4	3/4	1 1/2	4	—
—	UCDE750J5CRB	—	—	3/4	3/4	1 5/8	4	.030
—	UCDE750J5CRD	—	—	3/4	3/4	1 5/8	4	.060
—	UCDE750J5CRF	—	—	3/4	3/4	1 5/8	4	.120
—	UCDE750J5CS	—	—	3/4	3/4	1 5/8	4	—
—	UCDE1000J5BRA	—	—	1	1	1 3/4	4 1/2	.015
UCDE1000J5BRB	UCDE1000J5BRB	UCDE1000K5BRB	UCDE1000K5BRB	1	1	1 3/4	4 1/2	.030
UCDE1000J5BRD	UCDE1000J5BRD *	—	—	1	1	1 3/4	4 1/2	.060
UCDE1000J5BRE *	UCDE1000J5BRE *	—	—	1	1	1 3/4	4 1/2	.090
UCDE1000J5BRF	UCDE1000J5BRF	UCDE1000K5BRF *	UCDE1000K5BRF *	1	1	1 3/4	4 1/2	.120
UCDE1000J5BS	UCDE1000J5BS *	UCDE1000K5BS	UCDE1000K5BS	1	1	1 3/4	4 1/2	—

NOTE: For application data, see page P34.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Five-flute geometry enables slotting up to 1 x D.

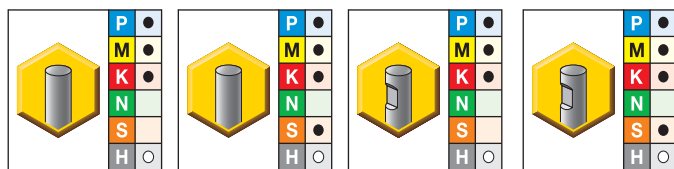


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"



■ UCDE • 5 Flute with Neck • Inch

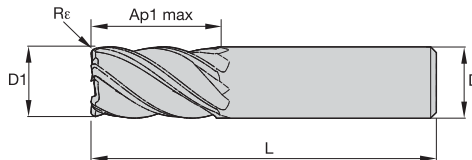
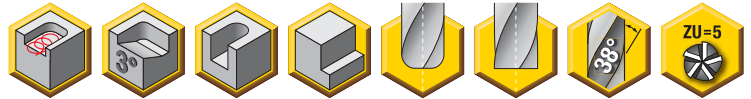


- first choice
- alternate choice

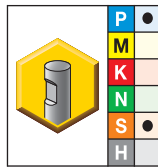
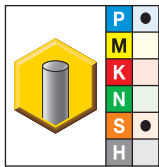
		KCPM15	KC643M	KCPM15	KC643M	D1	D	D3	Ap1 max	L3	L	Re
UCDE250J5ARA	UCDE250J5ARA	—	—	1/4	1/4	.235	1/2	1 1/4	4	.015		
UCDE375J5ARA	UCDE375J5ARA	—	—	3/8	3/8	.353	7/8	1 7/8	4	.015		
—	—	UCDE500K5ARB	UCDE500K5ARB	1/2	1/2	.472	1 1/4	2 1/4	4	.030		
—	—	UCDE625K5ARB	UCDE625K5ARB	5/8	5/8	.590	1 1/4	2 1/4	4	.030		
—	—	UCDE750K5ARB	UCDE750K5ARB	3/4	3/4	.704	1 1/2	3 1/4	5 1/2	.030		
—	—	UCDE1000K5ARB	UCDE1000K5ARB	1	1	.940	1 3/4	3 1/4	5 1/2	.030		

NOTE: For application data, see page P35.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Optimized geometry for titanium machining.
- Five-flute geometry enables slotting up to 1 x D.


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"

UDDE • 5 Flute • Inch


- first choice
- alternate choice

KC643M	UDDE500K5	D1	D	Ap1 max	L3	L	Re
UDDE500J5BRA	—	1/2	1/2	1 1/4	1 1/4	3	.015
UDDE500J5BRB	—	1/2	1/2	1 1/4	1 1/4	3	.030
UDDE500J5BRF	—	1/2	1/2	1 1/4	1 1/4	3	.120
UDDE500J5BS	—	1/2	1/2	1 1/4	1 1/4	3	—
—	UDDE500K5BRA	1/2	1/2	1 1/4	1 1/2	3	.015
—	UDDE500K5BRB	1/2	1/2	1 1/4	1 1/2	3	.030
—	UDDE500K5BRF	1/2	1/2	1 1/4	1 1/2	3	.120
—	UDDE500K5BS	1/2	1/2	1 1/4	1 1/2	3	—
UDDE625J5BRB	—	5/8	5/8	1 1/4	1 1/4	3 1/2	.030
UDDE625J5BS	—	5/8	5/8	1 1/4	1 1/4	3 1/2	—
—	UDDE625K5BRB	5/8	5/8	1 1/4	1 1/2	3 1/2	.030
—	UDDE625K5BS	5/8	5/8	1 1/4	1 1/2	3 1/2	—
UDDE750J5BRB	—	3/4	3/4	1 1/2	1 1/4	4	.030
UDDE750J5BRF	—	3/4	3/4	1 1/2	1 1/4	4	.120
UDDE750J5BS	—	3/4	3/4	1 1/2	1 1/4	4	—
—	UDDE750K5BRB	3/4	3/4	1 1/2	1 3/4	4	.030
—	UDDE750K5BRF	3/4	3/4	1 1/2	1 3/4	4	.120
—	UDDE750K5BS	3/4	3/4	1 1/2	1 3/4	4	—
UDDE1000J5BRB	—	1	1	1 3/4	1 1/4	4 1/2	.030
UDDE1000J5BRF *	—	1	1	1 3/4	1 1/4	4 1/2	.120
UDDE1000J5BS	—	1	1	1 3/4	1 1/4	4 1/2	—
—	UDDE1000K5BRB	1	1	1 3/4	1 3/4	4 1/2	.030
—	UDDE1000K5BRF	1	1	1 3/4	1 3/4	4 1/2	.120
—	UDDE1000K5BS	1	1	1 3/4	1 3/4	4 1/2	—

NOTE: For application data, see page P35.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



High-Performance Solid Carbide End Mills

■ HARVI II • UCDE • Unequal Flute Spacing

Material Group															
	Side Milling (A) and Slotting (B)			KC643M		KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM				D1 – Diameter							
	ap	ae	ap	min	max	min	max	frac.	1/4	3/8	1/2	5/8	3/4	1	
P	0	1.5 x D	0.5 x D	1 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	1	1.5 x D	0.5 x D	1 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	1.5 x D	0.5 x D	1 x D	460	620	460	620	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	3	1.5 x D	0.5 x D	1 x D	390	520	390	520	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	4	1.5 x D	0.5 x D	0.75 x D	300	490	300	490	IPT	.0014	.0020	.0026	.0030	.0034	.0039
	5	1.5 x D	0.5 x D	1 x D	200	330	200	330	IPT	.0012	.0018	.0023	.0027	.0031	.0036
M	1	1.5 x D	0.5 x D	1 x D	300	380	300	380	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	1.5 x D	0.5 x D	1 x D	200	260	200	260	IPT	.0012	.0018	.0023	.0027	.0031	.0036
	3	1.5 x D	0.5 x D	1 x D	200	230	200	230	IPT	.0010	.0015	.0019	.0022	.0025	.0028
K	1	1.5 x D	0.5 x D	1 x D	390	490	390	490	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	1.5 x D	0.5 x D	1 x D	360	460	360	460	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	3	1.5 x D	0.5 x D	1 x D	360	430	360	430	IPT	.0012	.0018	.0023	.0027	.0031	.0036
S	1	1.5 x D	0.3 x D	0.3 x D	160	300	–	–	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	1.5 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	3	1.5 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	4	1.5 x D	0.5 x D	1 x D	160	200	–	–	IPT	.0011	.0017	.0021	.0025	.0028	.0033
H	1	1.5 x D	0.5 x D	0.75 x D	260	460	260	460	IPT	.0014	.0020	.0026	.0030	.0034	.0039

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

■ HARVI II • UCDE • Unequal Flute Spacing • With Neck

		Side Milling (A) and Slotting (B)			KC643M		KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.						
Material Group		A		B	Cutting Speed – vc SFM				frac. dec.	D1 – Diameter					
		ap	ae	ap	min	max	max	max		1/4	3/8	1/2	5/8	3/4	1
P	0	0.75 x D	0.5 x D	0.75 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	1	0.75 x D	0.5 x D	0.75 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	0.75 x D	0.5 x D	0.75 x D	460	620	460	620	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	3	0.75 x D	0.5 x D	0.75 x D	390	520	390	520	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	4	0.75 x D	0.5 x D	0.5 x D	300	490	300	490	IPT	.0014	.0020	.0026	.0030	.0034	.0039
	5	0.75 x D	0.5 x D	0.75 x D	200	330	200	330	IPT	.0012	.0018	.0023	.0027	.0031	.0036
M	1	0.75 x D	0.5 x D	0.75 x D	300	380	300	380	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	0.75 x D	0.5 x D	0.75 x D	200	260	200	260	IPT	.0012	.0018	.0023	.0027	.0031	.0036
	3	0.75 x D	0.5 x D	0.75 x D	200	230	200	230	IPT	.0010	.0015	.0019	.0022	.0025	.0028
K	1	0.75 x D	0.5 x D	0.75 x D	390	490	390	490	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	0.75 x D	0.5 x D	0.75 x D	360	460	360	460	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	3	0.75 x D	0.5 x D	0.75 x D	360	430	360	430	IPT	.0012	.0018	.0023	.0027	.0031	.0036
S	1	0.75 x D	0.3 x D	0.3 x D	160	300	–	–	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	0.75 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	3	0.75 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	4	0.75 x D	0.5 x D	0.75 x D	160	200	–	–	IPT	.0011	.0017	.0021	.0025	.0028	.0033
H	1	0.75 x D	0.5 x D	0.5 x D	260	460	260	460	IPT	.0014	.0020	.0026	.0030	.0034	.0039

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group. Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group. Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter. Side milling applications – for longest reach (L3) tools, reduce ae by 30%. Slot milling applications – for longest reach (L3) tools, reduce ap by 30%.

■ HARVI II • UDDE • Unequal Flute Spacing

		Side Milling (A) and Slotting (B)			KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.						
Material Group		A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter					
		ap	ae	ap	min	max		1/2	5/8	3/4	1		
P	5	1.25 x D	0.5 x D	1 x D	200	325	IPT	.0023	.0027	.0003	.0036		
	6	1.25 x D	0.5 x D	0.75 x D	150	225	IPT	.0019	.0022	.0024	.0028		
S	2	1.0 x D	0.3 x D	0.3 x D	70	130	IPT	.0016	.0018	.0020	.0025		
	3	1.25 x D	0.5 x D	1 x D	160	260	IPT	.0023	.0027	.0030	.0036		
	4	1.25 x D	0.5 x D	1 x D	150	210	IPT	.0022	.0025	.0028	.0033		

NOTE: These guidelines may require variations to achieve optimum results. Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group. Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group. Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

➤ HARVI™ II Long

High-Performance Solid Carbide End Mills

Primary Application

The HARVI II Long system is designed for machining titanium, steels, and stainless steels with excellent surface finishes at maximum Metal Removal Rates (MRR). The extended cutting length enables the HARVI II Long system to machine deep pockets with thin walls in semi-finishing and finishing operations. It also reduces the number of cuts when machining wing profiles for the aerospace industry.

- 5 x D side milling finishing operations in titanium and stainless steels.
- Exceptionally straight walls.
- Universal KC643M™ grade for long tool life.

Features and Benefits

Advanced Technology

- Five unequally spaced flutes for chatter-free machining at high feed rates, improving surface finish and tool life.
- 3 x D and 5 x D lengths for reduced number of cuts.
- Innovative core design increases stability for exceptionally straight walls.
- Improved feed rate in corner machining operations versus conventional cutters.

Tailored Grades

- Universal KC643M grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

Customization

- Intermediate diameters available.
- Chip divider geometry available for reduced power consumption and improved chip formation in difficult-to-cut materials.
- Internal coolant axial, as well as radial, available.
- Various shank options, including Safe-Lock™ by Haimer, and non-standard coatings available.

Extensive Standard Offering

- Diameter range 1/4–1".
- Various corner radii in stock.

3 x D and 5 x D lengths of cut without reduced feed rates when machining corners.

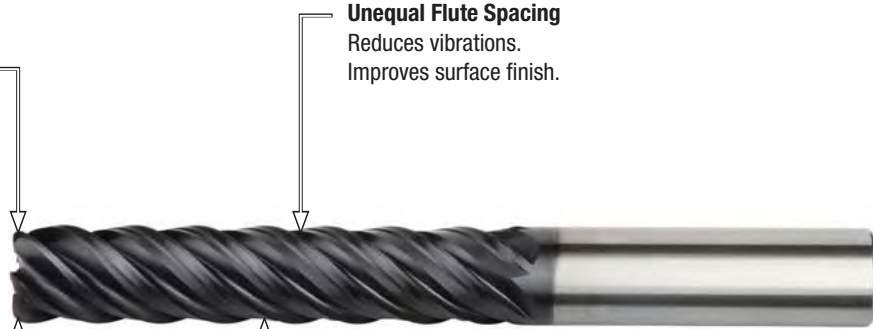


Innovative Core Design
Improves tool stability and wall straightness.

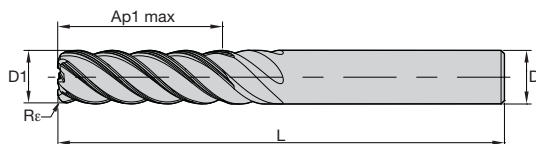
Unequal Flute Spacing
Reduces vibrations.
Improves surface finish.

KC643M™ AlTiN Grade
Universal usage.
For highest tool life.

43° Helix Angle
Improves results and machining of corners.



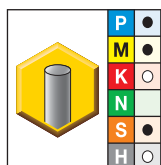
- Kennametal standard dimensions.
- Non-center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- For finishing and semi-finishing applications.
- Optimized geometry for machining corners at deep cavities.



End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"

■ HARVI II • UGDE • 3 x D Lengths of Cut



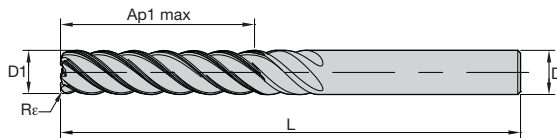
- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L	Re
UGDE0250J5ARA	1/4	1/4	3/4	2 1/2	.015
UGDE0250J5ARB	1/4	1/4	3/4	2 1/2	.030
UGDE0250J5AE	1/4	1/4	3/4	2 1/2	—
UGDE0312J5ARA	5/16	5/16	15/16	3	.015
UGDE0312J5ARB *	5/16	5/16	15/16	3	.030
UGDE0312J5AE	5/16	5/16	15/16	3	—
UGDE0375J5ARA	3/8	3/8	1 1/8	4	.015
UGDE0375J5ARB	3/8	3/8	1 1/8	4	.030
UGDE0375J5ARC	3/8	3/8	1 1/8	4	.060
UGDE0375J5AE	3/8	3/8	1 1/8	4	—
UGDE0500J5ARA	1/2	1/2	1 1/2	4	.015
UGDE0500J5ARB	1/2	1/2	1 1/2	4	.030
UGDE0500J5ARC	1/2	1/2	1 1/2	4	.060
UGDE0500J5AE	1/2	1/2	1 1/2	4	—
UGDE0625J5ARA	5/8	5/8	1 7/8	5	.015
UGDE0625J5ARB	5/8	5/8	1 7/8	5	.030
UGDE0625J5ARC	5/8	5/8	1 7/8	5	.060
UGDE0625J5ARD	5/8	5/8	1 7/8	5	.120
UGDE0625J5AE	5/8	5/8	1 7/8	5	—
UGDE0750J5ARA	3/4	3/4	2 1/4	5	.015
UGDE0750J5ARB	3/4	3/4	2 1/4	5	.030
UGDE0750J5ARC	3/4	3/4	2 1/4	5	.060
UGDE0750J5ARD	3/4	3/4	2 1/4	5	.120
UGDE0750J5AE	3/4	3/4	2 1/4	5	—
UGDE1000J5ARA	1	1	3	6	.015
UGDE1000J5ARB	1	1	3	6	.030
UGDE1000J5ARC	1	1	3	6	.060
UGDE1000J5ARD	1	1	3	6	.120
UGDE1000J5AE	1	1	3	6	—

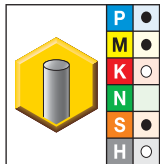
NOTE: For application data, see page P40.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Non-center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- For finishing and semi-finishing applications.
- Optimized geometry for machining corners at deep cavities.


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ HARVI II • UGDE • 5 x D Lengths of Cut


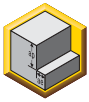

- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L	Re
UGDE0250J5BRA	1/4	1/4	1 1/4	3	.015
UGDE0250J5BRB	1/4	1/4	1 1/4	3	.030
UGDE0250J5BE	1/4	1/4	1 1/4	3	—
UGDE0312J5BRA	5/16	5/16	1 1/4	3 1/2	.015
UGDE0312J5BRB	5/16	5/16	1 1/4	3 1/2	.030
UGDE0312J5BE	5/16	5/16	1 1/4	3 1/2	—
UGDE0375J5BRA	3/8	3/8	1 7/8	4	.015
UGDE0375J5BRB	3/8	3/8	1 7/8	4	.030
UGDE0375J5BRC	3/8	3/8	1 7/8	4	.060
UGDE0375J5BE	3/8	3/8	1 7/8	4	—
UGDE0500J5BRA	1/2	1/2	2 1/2	5	.015
UGDE0500J5BRB	1/2	1/2	2 1/2	5	.030
UGDE0500J5BRC	1/2	1/2	2 1/2	5	.060
UGDE0500J5BE	1/2	1/2	2 1/2	5	—
UGDE0625J5BRA	5/8	5/8	3 1/8	6	.015
UGDE0625J5BRB	5/8	5/8	3 1/8	6	.030
UGDE0625J5BRC	5/8	5/8	3 1/8	6	.060
UGDE0625J5BRD	5/8	5/8	3 1/8	6	.120
UGDE0625J5BE	5/8	5/8	3 1/8	6	—
UGDE0750J5BRA	3/4	3/4	3 3/4	7	.015
UGDE0750J5BRB	3/4	3/4	3 3/4	7	.030
UGDE0750J5BRC	3/4	3/4	3 3/4	7	.060
UGDE0750J5BRD	3/4	3/4	3 3/4	7	.120
UGDE0750J5BE	3/4	3/4	3 3/4	7	—
UGDE1000J5BRA	1	1	5	7 1/2	.015
UGDE1000J5BRB	1	1	5	7 1/2	.030
UGDE1000J5BRC	1	1	5	7 1/2	.060
UGDE1000J5BRD	1	1	5	7 1/2	.120
UGDE1000J5BE	1	1	5	7 1/2	—

NOTE: For application data, see page P41.

High-Performance Solid Carbide End Mills

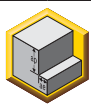

■ HARVI II • UGDE • Unequal Flute Spacing • 3 x D Lengths of Cut

Material Group		 Side Milling (A)												
				A		KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A).						
		ap	ae	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter							
				min	max		1/4	5/16	3/8	1/2	5/8	3/4	1	
P	0	Ap max	0.05 x D	980	1310	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059	
	1	Ap max	0.05 x D	980	1310	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059	
	2	Ap max	0.05 x D	920	1250	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059	
	3	Ap max	0.05 x D	790	1050	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054	
	4	Ap max	0.05 x D	590	980	IPT	.0017	.0021	.0025	.0031	.0036	.0040	.0046	
	5	Ap max	0.05 x D	390	660	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043	
M	6	Ap max	0.05 x D	330	490	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034	
	1	Ap max	0.05 x D	590	750	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054	
	2	Ap max	0.05 x D	390	520	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043	
K	3	Ap max	0.05 x D	390	460	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034	
	1	Ap max	0.05 x D	790	980	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059	
	2	Ap max	0.05 x D	720	920	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054	
S	3	Ap max	0.05 x D	720	850	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043	
	1	Ap max	0.05 x D	330	590	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054	
	2	Ap max	0.05 x D	160	260	IPT	.0010	.0012	.0015	.0018	.0022	.0025	.0029	
	3	Ap max	0.05 x D	160	260	IPT	.0010	.0012	.0015	.0018	.0022	.0025	.0029	
H	4	Ap max	0.05 x D	330	390	IPT	.0013	.0017	.0020	.0026	.0030	.0034	.0040	
	1	Ap max	0.05 x D	520	920	IPT	.0017	.0021	.0025	.0031	.0036	.0040	.0046	
	2	Ap max	0.05 x D	460	790	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034	

* For the above cutting data, do not exceed an overall ae of .031".
 NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

■ HARVI II • UGDE • Unequal Flute Spacing • 5 x D Lengths of Cut

Material Group		 Side Milling (A)											
				KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A).							
		A		Cutting Speed – vc SFM		D1 – Diameter							
		ap	ae	min	max	frac.	1/4	5/16	3/8	1/2	5/8	3/4	1
P	0	Ap max	0.05 x D	980	1310	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059
	1	Ap max	0.05 x D	980	1310	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059
	2	Ap max	0.05 x D	920	1250	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059
	3	Ap max	0.05 x D	790	1050	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	4	Ap max	0.05 x D	590	980	IPT	.0017	.0021	.0025	.0031	.0036	.0040	.0046
	5	Ap max	0.05 x D	390	660	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043
M	6	Ap max	0.05 x D	330	490	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034
	1	Ap max	0.05 x D	590	750	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	2	Ap max	0.05 x D	390	520	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043
K	3	Ap max	0.05 x D	390	460	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034
	1	Ap max	0.05 x D	790	980	IPT	.0022	.0028	.0033	.0041	.0047	.0053	.0059
	2	Ap max	0.05 x D	720	920	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054
S	3	Ap max	0.05 x D	720	850	IPT	.0015	.0019	.0022	.0028	.0033	.0037	.0043
	1	Ap max	0.05 x D	330	590	IPT	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	2	Ap max	0.05 x D	160	260	IPT	.0010	.0012	.0015	.0018	.0022	.0025	.0029
	3	Ap max	0.05 x D	160	260	IPT	.0010	.0012	.0015	.0018	.0022	.0025	.0029
H	4	Ap max	0.05 x D	330	390	IPT	.0013	.0017	.0020	.0026	.0030	.0034	.0040
	1	Ap max	0.05 x D	520	920	IPT	.0017	.0021	.0025	.0031	.0036	.0040	.0046
	2	Ap max	0.05 x D	460	790	IPT	.0012	.0016	.0018	.0023	.0027	.0030	.0034

* For the above cutting data, do not exceed an overall ae of .031".

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.



HARVI™ III

High-Performance Solid Carbide End Mills

Primary Application

The HARVI III system takes high-performance profiling, semi-finishing, and finishing to the next level. These end mills are designed to provide maximum metal removal rates in titanium and stainless steel while achieving supreme surface conditions. A wide range of diameters and corner radii are available from stock as well as the Safe-Lock™ system by HAIMER® shanks.

- Outstanding metal removal rates increase productivity.
- Longest tool life due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.
- Increased process safety with Safe-Lock™ shanks.

Features and Benefits

Advanced Technology

- Six unequally spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability in roughing and finishing operations.
- Center cutting design for higher flexibility as well as radial and axial finishing pass after roughing operation.

Tailored Grades

- KCSM15™ Beyond™ grade for exceptional tool life in titanium and stainless steels.

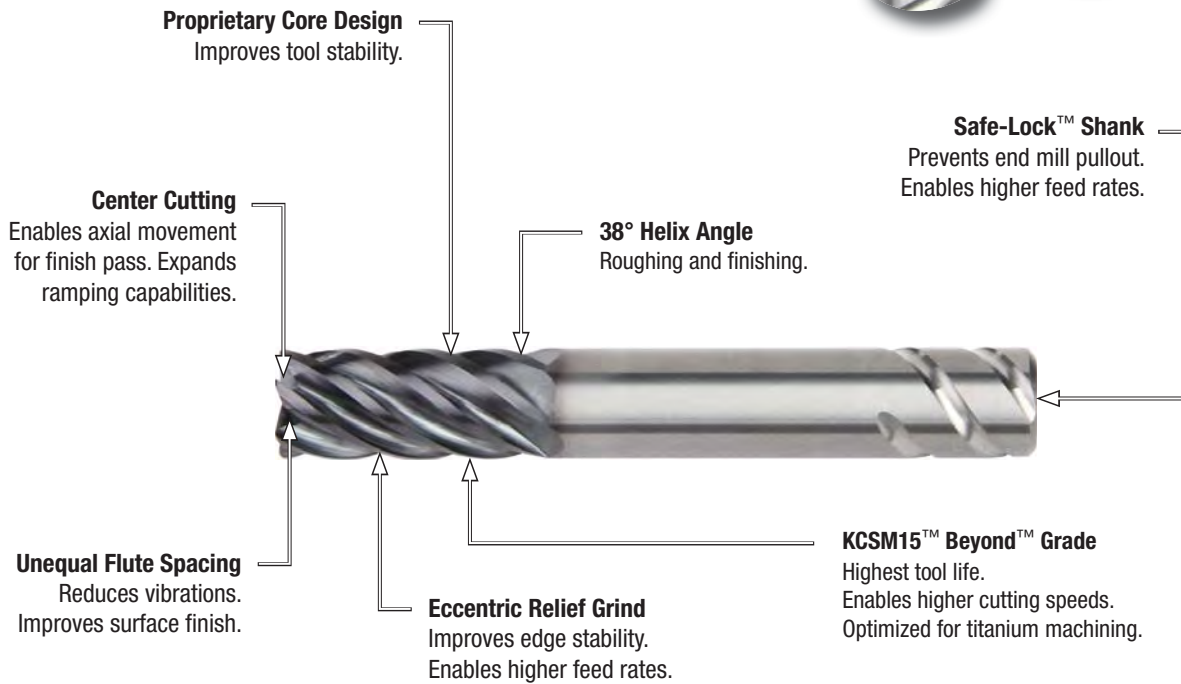
Customization

- Engineered solutions, including ball nose versions, are available upon request.

Extensive Standard Offering

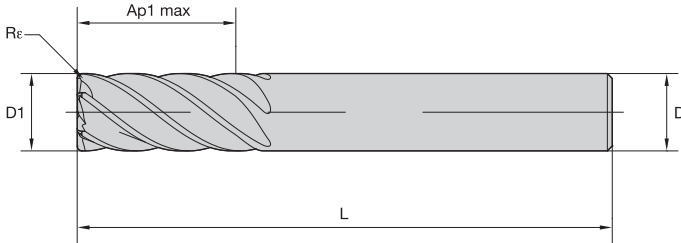
- Diameter ranges 3/8–1-1/4".
- Necked, corner radii, and square-end offering.
- Round shank and Safe-Lock™ shank available.

Maximum metal removal rates in machining titanium and stainless steel with supreme surfaces.



SAFE-LOCK®
by HAIMER®

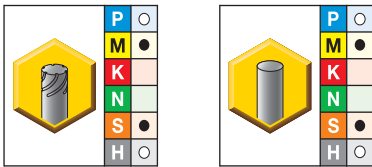
- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1-3/16"	0/0.00051"



■ UJDE • 6 Flute with Eccentric Relief Grind • Inch



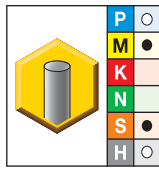
- first choice
- alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Rε
—	UJDE375J6CRA	3/8	3/8	1	3	.015
—	UJDE375J6CRB	3/8	3/8	1	3	.030
—	UJDE375J6CRC	3/8	3/8	1	3	.060
—	UJDE375J6CS	3/8	3/8	1	3	—
—	UJDE0500J6ARB	1/2	1/2	1	3	.030
—	UJDE0500J6ARC	1/2	1/2	1	3	.060
UJDE500N6BRA	UJDE500J6BRA	1/2	1/2	1 1/4	3	.015
UJDE500N6BRB	UJDE500J6BRB	1/2	1/2	1 1/4	3	.030
UJDE500N6BRC	UJDE500J6BRC	1/2	1/2	1 1/4	3	.060
UJDE500N6BRE	UJDE500J6BRE	1/2	1/2	1 1/4	3	.120
UJDE500N6BS	UJDE500J6BS	1/2	1/2	1 1/4	3	—
—	UJDE0500J6CRB	1/2	1/2	2	4	.030
—	UJDE0500J6CRE	1/2	1/2	2	4	.120
—	UJDE0625J6ARA	5/8	5/8	1	3 1/2	.015
UJDE625N6BRB	UJDE625J6BRB	5/8	5/8	1 1/4	3 1/2	.030
UJDE625N6BRC	UJDE625J6BRC	5/8	5/8	1 1/4	3 1/2	.060
UJDE625N6BS	UJDE625J6BS	5/8	5/8	1 1/4	3 1/2	—
—	UJDE0625J6CRB	5/8	5/8	1 5/8	3 1/2	.030
—	UJDE0625J6CRC	5/8	5/8	1 5/8	3 1/2	.060
—	UJDE0625J6CRD	5/8	5/8	1 5/8	3 1/2	.090
—	UJDE0625J6CRE	5/8	5/8	1 5/8	3 1/2	.120
—	UJDE0750J6ARB	3/4	3/4	1	3	.030
UJDE750N6BRB	UJDE750J6BRB	3/4	3/4	1 1/2	4	.030
UJDE750N6BRC	UJDE750J6BRC	3/4	3/4	1 1/2	4	.060
UJDE750N6BRD	UJDE750J6BRD	3/4	3/4	1 1/2	4	.090
UJDE750N6BRE	UJDE750J6BRE	3/4	3/4	1 1/2	4	.120
—	UJDE0750J6BRH	3/4	3/4	1 1/2	4	.190
UJDE750N6BS	UJDE750J6BS	3/4	3/4	1 1/2	4	—

(continued)

High-Performance Solid Carbide End Mills

(UJDE • 6 Flute with Eccentric Relief Grind • Inch — continued)



● first choice
○ alternate choice

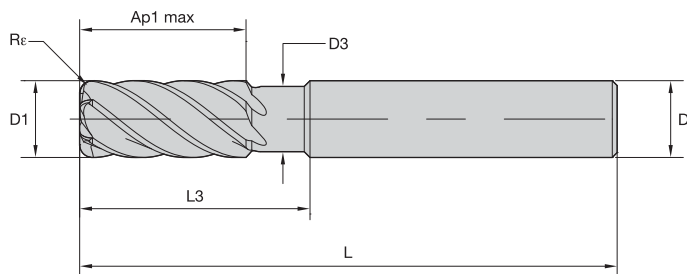
KCSM15	KCSM15	D1	D	Ap1 max	L	Rε
UJDE750N6CRB	UJDE750J6CRB	3/4	3/4	1 5/8	4	.030
UJDE750N6CRC	UJDE750J6CRC	3/4	3/4	1 5/8	4	.060
UJDE750N6CRD	UJDE750J6CRD	3/4	3/4	1 5/8	4	.090
UJDE750N6CRE	UJDE750J6CRE	3/4	3/4	1 5/8	4	.120
UJDE750N6CS	UJDE750J6CS	3/4	3/4	1 5/8	4	—
—	UJDE1000J6ARB	1	1	1 1/2	4	.030
—	UJDE1000J6ARC	1	1	1 1/2	4	.060
—	UJDE1000J6ARE *	1	1	1 1/2	4	.120
—	UJDE1000J6AS	1	1	1 1/2	4	—
UJDE1000N6BRB	—	1	1	1 3/4	4 1/2	.030
UJDE1000N6BRC	UJDE1000J6BRC	1	1	1 3/4	4 1/2	.060
UJDE1000N6BRE	UJDE1000J6BRE	1	1	1 3/4	4 1/2	.120
UJDE1000N6BRF	UJDE1000J6BRF	1	1	1 3/4	4 1/2	.250
UJDE1000N6BS	UJDE1000J6BS	1	1	1 3/4	4 1/2	—
—	UJDE1000J6CRB	1	1	2	4 1/2	.030
—	UJDE1000J6CRC	1	1	2	4 1/2	.060
—	UJDE1000J6CRD	1	1	2	4 1/2	.090
—	UJDE1000J6CRE	1	1	2	4 1/2	.120
—	UJDE1000J6CRH	1	1	2	4 1/2	.190
—	UJDE1000J6CRF	1	1	2	4 1/2	.250
—	UJDE1000J6CS	1	1	2	4 1/2	—
—	UJDE1000J6DRB	1	1	2	5	.030
—	UJDE1000J6DS	1	1	2 1/4	5	—
UJDE1250N6BRB	UJDE1250J6BRB	1 1/4	1 1/4	2 1/4	5	.030
UJDE1250N6BRE	—	1 1/4	1 1/4	2 1/4	5	.120
UJDE1250N6BS	—	1 1/4	1 1/4	2 1/4	5	—

NOTE: For application data, see page P47.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

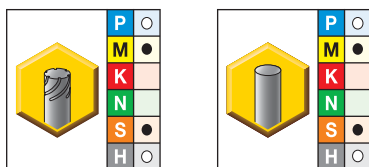


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1-3/16"	0/.00051"



■ UJDE • 6 Flute with Eccentric Relief Grind and Neck • Inch



- first choice
- alternate choice

KCSM15	KCSM15	D1	D	D3	Ap1 max	L3	L	Re
—	UJDE0375J6BQE	3/8	3/8	.353	7/8	1 1/4	3	.120
—	UJDE375J6BQA	3/8	3/8	.353	7/8	1 7/8	4	.015
—	UJDE0500J6DQB	1/2	1/2	.470	3/4	2 1/4	6	.030
UJDE500N6BQB	—	1/2	1/2	.470	1 1/4	2 1/4	4	.030
UJDE625N6BQB	—	5/8	5/8	.588	1 1/4	2 1/4	4	.030
—	UJDE0625J6DQB	5/8	5/8	.588	1 1/4	2 1/4	6	.030
UJDE750N6BQB	—	3/4	3/4	.705	1 1/2	3 1/4	5 1/2	.030
UJDE1000N6BQB	—	1	1	.940	1 3/4	3 1/4	5 1/2	.030

NOTE: For application data, see page P48.

High-Performance Solid Carbide End Mills

■ HARVI III • UJDE • Unequal Flute Spacing • Roughing

Material Group	Side Milling (A)		KCSM15		Recommended feed per tooth (IPT = inch/th) for side milling (A).							
	A		Cutting Speed – vc SFM		frac.	D1 – Diameter						
	ap	ae	min	max		3/8	1/2	5/8	3/4	1	1 1/4	
					dec.	.3750	.5000	.6250	.7500	1.0000	1.2500	
P	4	Ap max	0.4 x D	300	490	IPT	.0020	.0026	.0030	.0034	.0039	.0040
	5	Ap max	0.4 x D	200	330	IPT	.0018	.0023	.0027	.0031	.0036	.0039
M	1	Ap max	0.4 x D	300	380	IPT	.0023	.0029	.0034	.0039	.0045	.0048
	2	Ap max	0.4 x D	200	260	IPT	.0018	.0023	.0027	.0031	.0036	.0039
	3	Ap max	0.4 x D	200	230	IPT	.0015	.0019	.0022	.0025	.0028	.0029
S	1	Ap max	0.4 x D	160	300	IPT	.0023	.0029	.0034	.0039	.0045	.0048
	2	Ap max	0.4 x D	80	130	IPT	.0012	.0015	.0018	.0021	.0024	.0026
	3	Ap max	0.4 x D	80	130	IPT	.0012	.0015	.0018	.0021	.0024	.0026
	4	Ap max	0.4 x D	160	200	IPT	.0017	.0021	.0025	.0028	.0033	.0036
H	1	Ap max	0.4 x D	260	460	IPT	.0020	.0026	.0030	.0034	.0039	.0040

■ HARVI III • UJDE • Unequal Flute Spacing • Finishing

Material Group	Side Milling (A)		KCSM15		Recommended feed per tooth (IPT = inch/th) for side milling (A).							
	A		Cutting Speed – vc SFM		frac.	D1 – Diameter						
	ap	ae	min	max		3/8	1/2	5/8	3/4	1	1 1/4	
					dec.	.3750	.5000	.6250	.7500	1.0000	1.2500	
P	4	Ap max	0.06 x D	560	940	IPT	.0025	.0031	.0036	.0040	.0046	.0048
	5	Ap max	0.06 x D	370	620	IPT	.0022	.0028	.0033	.0037	.0043	.0047
M	1	Ap max	0.06 x D	560	720	IPT	.0027	.0035	.0041	.0046	.0054	.0058
	2	Ap max	0.06 x D	370	500	IPT	.0022	.0028	.0033	.0037	.0043	.0047
	3	Ap max	0.06 x D	370	440	IPT	.0018	.0023	.0027	.0030	.0034	.0035
S	1	Ap max	0.06 x D	310	560	IPT	.0027	.0035	.0041	.0046	.0054	.0058
	2	Ap max	0.06 x D	160	250	IPT	.0015	.0018	.0022	.0025	.0029	.0032
	3	Ap max	0.06 x D	160	250	IPT	.0015	.0018	.0022	.0025	.0029	.0032
	4	Ap max	0.06 x D	310	370	IPT	.0020	.0026	.0030	.0034	.0040	.0043
H	1	Ap max	0.06 x D	500	870	IPT	.0025	.0031	.0036	.0040	.0046	.0048

NOTE: Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.



■ HARVI III • UJDE • Unequal Flute Spacing • Roughing • With Neck

Material Group										
	Side Milling (A)		KCSM15		Recommended feed per tooth (IPT = inch/th) for side milling (A).					
	A		Cutting Speed – vc SFM		frac.	D1 – Diameter				
	ap	ae	min	max		dec.	3/8	1/2	5/8	3/4	1
P	4	Ap1 max 0.4 x D	300	490	IPT	.3750	.5000	.6250	.7500	1.0000
	5	Ap1 max 0.4 x D	200	330	IPT	.0020	.0026	.0030	.0033	.0039
M	1	Ap1 max 0.4 x D	300	380	IPT	.0023	.0029	.0034	.0038	.0046
	2	Ap1 max 0.4 x D	200	260	IPT	.0018	.0023	.0027	.0030	.0036
	3	Ap1 max 0.4 x D	200	230	IPT	.0015	.0019	.0022	.0024	.0028
S	1	Ap1 max 0.4 x D	160	300	IPT	.0023	.0029	.0034	.0038	.0046
	2	Ap1 max 0.4 x D	160	300	IPT	.0023	.0029	.0034	.0038	.0046
	3	Ap1 max 0.4 x D	80	130	IPT	.0012	.0016	.0018	.0020	.0025
	4	Ap1 max 0.4 x D	160	260	IPT	.0017	.0022	.0025	.0028	.0033
H	1	Ap1 max 0.4 x D	260	460	IPT	.0020	.0026	.0030	.0033	.0039

■ HARVI III • UJDE • Unequal Flute Spacing • Finishing • With Neck

Material Group										
	Side Milling (A)		KCSM15		Recommended feed per tooth (IPT = inch/th) for side milling (A).					
	A		Cutting Speed – vc SFM		frac.	D1 – Diameter				
	ap	ae	min	max		dec.	3/8	1/2	5/8	3/4	1
P	4	Ap1 max 0.06 x D	560	940	IPT	.3750	.5000	.6250	.7500	1.0000
	5	Ap1 max 0.06 x D	370	620	IPT	.0024	.0031	.0036	.0040	.0047
M	1	Ap1 max 0.06 x D	560	720	IPT	.0027	.0035	.0041	.0045	.0055
	2	Ap1 max 0.06 x D	370	500	IPT	.0022	.0028	.0033	.0036	.0044
	3	Ap1 max 0.06 x D	370	440	IPT	.0018	.0023	.0027	.0029	.0034
S	1	Ap1 max 0.06 x D	310	560	IPT	.0027	.0035	.0041	.0045	.0055
	2	Ap1 max 0.06 x D	310	560	IPT	.0027	.0035	.0041	.0045	.0055
	3	Ap1 max 0.06 x D	160	250	IPT	.0014	.0019	.0022	.0024	.0029
	4	Ap1 max 0.06 x D	310	500	IPT	.0020	.0026	.0030	.0033	.0040
H	1	Ap1 max 0.06 x D	500	870	IPT	.0024	.0031	.0036	.0040	.0047

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

EADE Solid Ceramic End Mill

- Roughing nickel-based high-temperature alloys.
- Highest productivity and longest tool life.
- Outstanding reduction of machining time.
- Less tool changes due to higher tool life.
- Benefit from throw-away type of tooling.
- Minimum cutting speed of 1300 SFM (400 m/min).

Offering

- 4-flute necked tools for slotting.
- 6-flute version for face and side milling.

KYS40

- Cutting speeds up to 3300 SFM (1000 m/min) increases Metal Removal Rates (MRR).



beyond™

Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

HARVI™ III Ball Nose

High-Performance Solid Carbide End Mills

Primary Application

HARVI III Ball Nose tooling takes high-performance profiling, semi-finishing, and finishing to the next level. Designed to provide maximum metal removal rates in titanium and stainless steel while achieving supreme surface conditions. A wide range of diameters and length variations are available from stock.

- Outstanding metal removal rates increase productivity.
- Highest tool life increases due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.

Features and Benefits

Advanced Technology

- Six unequally spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability at roughing and finishing operations.

Tailored Grade

- KCSM15 Beyond grade for exceptional tool life in titanium and stainless steels.

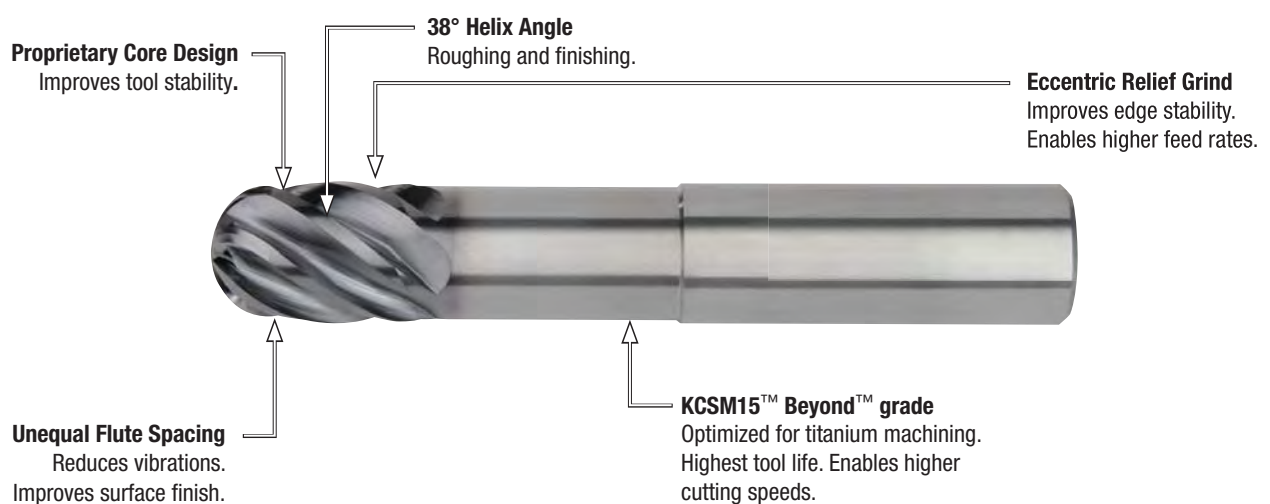
Extensive Standard Offering

- Diameter ranges 3/8–1".
- Necked, round shank offering in two length variations.

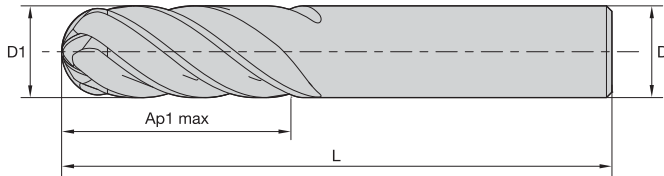
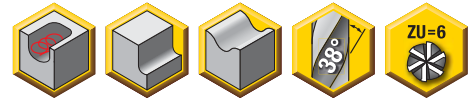
Customization

- Engineered solutions, including shank and non-standard length versions, are available upon request.

3D profiling at highest productivity in titanium and stainless steels.

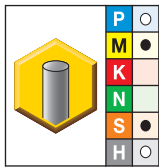


- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1-3/16"	0/.00051"

UJBE • 6-Flute Ball Nose with Eccentric Relief Grind • Inch

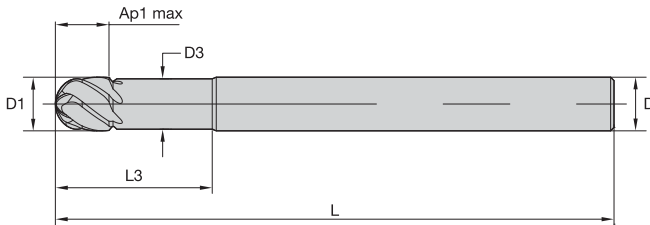
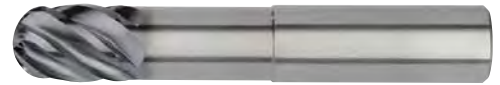
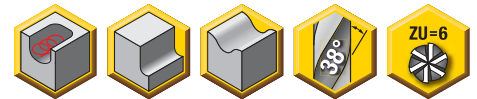


● first choice
 ○ alternate choice

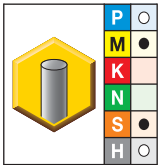
KCSM15	D1	D	Ap1 max	L
UJBE0375J6B	3/8	3/8	7/8	2 1/2
UJBE0500J6B	1/2	1/2	1	3
UJBE0500J6C	1/2	1/2	1 1/4	3
UJBE0625J6B	5/8	5/8	1 1/4	3 1/2
UJBE0750J6B	3/4	3/4	1 1/2	4
UJBE1000J6B	1	1	1 1/2	4

NOTE: For application data, see page P56.

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1-3/16"	0/.00051"

UJBE • 6-Flute Ball Nose with Eccentric Relief Grind and Neck • Inch


- first choice
- alternate choice

KCSM15	D1	D	D3	Ap1 max	L3	L
UJBE0375J6AL	3/8	3/8	.35	1/2	2.00	6
UJBE0500J6AL	1/2	1/2	.47	5/8	2.25	6
UJBE0625J6AL	5/8	5/8	.59	3/4	2.25	6
UJBE0750J6AL	3/4	3/4	.71	1	2.25	6
UJBE1000J6AL	1	1	.94	1 1/4	3.25	6

NOTE: For application data, see page P56.



HARVI III Ball Nose with Eccentric Relief

CHALLENGE

- Finish profile machining of keel for weapon attachment.
- Vertical machining center.
- Titanium Alloy Beta (R56400).
- External emulsion.

SOLUTION

- HARVI III ball nose \varnothing .5" with eccentric relief in KCSM15™.
- Six effective teeth.

CUTTING DATA

- vc 300 SFM
- fz .0018 IPT
- ap 1.2"
- ae .025"

RESULT

- Significantly increased tool life.
- Reduced machining time from 210 minutes to 90 minutes.
- Surface finish 90 RMS.

BENEFIT

- Predictable wear at main lands instead of cutting edge flaking with competitive tooling.
- Extended tool life of HARVI III eliminated a mid-part tool change.
- Improved surface finish compared to previous four-flute ball nose tools.

HARVI III Ball Nose with Eccentric Relief

CHALLENGE

- Rough profile yoke contour milling of bogey pitch trimmer.
- Lathe with driven tooling.
- 4340 low-alloy steel.
- External emulsion.

SOLUTION

- HARVI III ball nose \varnothing .787" (20mm) with eccentric relief in KCSM15.
- Six effective teeth.

CUTTING DATA

- vc 400 SFM
- fz .003 IPT
- ap 1.7"
- ae .1"

RESULT

- Tool completed seven workpieces compared to five workpieces with existing tooling.
- Surface finish 120 RMS.

BENEFIT

- Reduced machining time from 88 minutes to 49 minutes.
- About 30% higher feed rate due to feed per tooth and six flutes rather than four flutes.

(continued)

(continued)



HARVI III Ball Nose with Eccentric Relief

- CHALLENGE**
- Hem stitch profile neck to flanged blend.
 - Lathe with driven tooling.
 - 4340 low-alloy steel.
 - External emulsion.

- SOLUTION**
- HARVI III ball nose \varnothing .5" with eccentric relief in KCSM15™.
 - Six effective teeth.

- CUTTING DATA**
- vc 350 SFM
 - fz .0025 IPT
 - ap .05"
 - ae .05"

- RESULT**
- Increase in cutting speed from 150 SFM to 350 SFM.
 - Tool completed ten workpieces compared to six workpieces with existing tooling.

- BENEFIT**
- Reduced machining time to eight minutes compared to 29 minutes with competitive four-flute ball nose tool.
 - 200% increase in Metal Removal Rate (MRR).

HARVI III Ball Nose with Eccentric Relief

- CHALLENGE**
- Finish interior walls and blend fillet radius.
 - Horizontal machining center.
 - 4340 low-alloy steel.
 - External emulsion.

- SOLUTION**
- HARVI III ball nose \varnothing .5" with eccentric relief in KCSM15.
 - Six effective teeth.

- CUTTING DATA**
- vc 350 SFM
 - fz .0025 IPT
 - ap .553"
 - ae .05"

- RESULT**
- Tool completed six workpieces compared to two workpieces with existing solution.
 - Surface finish 63 RMS.

- BENEFIT**
- Reduced machining time from 25 minutes to 10 minutes.
 - Improved surface finish from 90 RMS to 63 RMS at accelerated feeds and speeds.
 - Reduction in harmonics, noise level, and vibrations with HARVI III ball nose tooling.

■ HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Roughing

		Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).						
Material Group		A		Cutting Speed – vc SFM			frac.	D1 – Diameter					
		ap	ae	min		max		inch	3/8	1/2	5/8	3/4	1
P	0	Ap max	0.4 x D	490	–	660	IPT	.0027	.0034	.0039	.0044	.0049	
	1	Ap max	0.4 x D	490	–	660	IPT	.0027	.0034	.0039	.0044	.0049	
	2	Ap max	0.4 x D	460	–	620	IPT	.0027	.0034	.0039	.0044	.0049	
	3	Ap max	0.4 x D	390	–	520	IPT	.0023	.0029	.0034	.0039	.0045	
	4	Ap max	0.4 x D	300	–	490	IPT	.0020	.0026	.0030	.0034	.0039	
	5	Ap max	0.4 x D	200	–	330	IPT	.0018	.0023	.0027	.0031	.0036	
	4	Ap max	0.4 x D	160	–	250	IPT	.0015	.0019	.0022	.0025	.0028	
M	1	Ap max	0.4 x D	300	–	380	IPT	.0023	.0029	.0034	.0039	.0045	
	2	Ap max	0.4 x D	200	–	260	IPT	.0018	.0023	.0027	.0031	.0036	
	3	Ap max	0.4 x D	200	–	230	IPT	.0015	.0019	.0022	.0025	.0028	
S	1	Ap max	0.4 x D	160	–	300	IPT	.0023	.0029	.0034	.0039	.0045	
	2	Ap max	0.4 x D	80	–	130	IPT	.0012	.0015	.0018	.0021	.0024	
	3	Ap max	0.4 x D	80	–	130	IPT	.0012	.0015	.0018	.0021	.0024	
	4	Ap max	0.4 x D	160	–	200	IPT	.0017	.0021	.0025	.0028	.0033	
H	1	Ap max	0.4 x D	260	–	460	IPT	.0020	.0026	.0030	.0034	.0039	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Finishing

		Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).						
Material Group		A		Cutting Speed – vc SFM			frac.	D1 – Diameter					
		ap	ae	min		max		in	3/8	1/2	5/8	3/4	1
P	0	Ap max	0.06 x D	940	–	1250	IPT	.0033	.0041	.0047	.0053	.0059	
	1	Ap max	0.06 x D	940	–	1250	IPT	.0033	.0041	.0047	.0053	.0059	
	2	Ap max	0.06 x D	870	–	1180	IPT	.0033	.0041	.0047	.0053	.0059	
	3	Ap max	0.06 x D	750	–	1000	IPT	.0027	.0035	.0041	.0046	.0054	
	4	Ap max	0.06 x D	560	–	940	IPT	.0025	.0031	.0036	.0040	.0046	
	5	Ap max	0.06 x D	370	–	620	IPT	.0022	.0028	.0033	.0037	.0043	
	6	Ap max	0.06 x D	310	–	470	IPT	.0018	.0023	.0027	.0030	.0034	
M	1	Ap max	0.06 x D	560	–	720	IPT	.0027	.0035	.0041	.0046	.0054	
	2	Ap max	0.06 x D	370	–	500	IPT	.0022	.0028	.0033	.0037	.0043	
	3	Ap max	0.06 x D	370	–	440	IPT	.0018	.0023	.0027	.0030	.0034	
S	1	Ap max	0.06 x D	310	–	560	IPT	.0027	.0035	.0041	.0046	.0054	
	2	Ap max	0.06 x D	160	–	250	IPT	.0015	.0018	.0022	.0025	.0029	
	3	Ap max	0.06 x D	160	–	250	IPT	.0015	.0018	.0022	.0025	.0029	
	4	Ap max	0.06 x D	310	–	370	IPT	.0020	.0026	.0030	.0034	.0040	
H	1	Ap max	0.06 x D	500	–	870	IPT	.0025	.0031	.0036	.0040	.0046	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

Superior Finishing **MaxiMet™**

Designed to significantly reduce machining time in aluminum!
The innovative geometry designs include a wiper facet for superior surface finish on aluminum parts. MaxiMet handles roughing and finishing cuts with one tool.

- Use only one tool for roughing and finishing operations.
- Slotting is effective up to full 1 x D axial depth; side milling is effective up to 0.5 x D radial, by 1.5 x D axial depth.
- Three-flute series uses unequal flute spacing for chatter-free performance.
- Effective in a full range of machine speeds.
- Multiple corner radii and extended neck configurations are available as standard.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

HARVI™ III

High-Performance Solid Carbide End Mills

Primary Application

This new HARVI III version is tailored to address traditional machining techniques, as well as high-velocity machining techniques with one tool design. This allows for the highest level of flexibility, fully utilizing the tool capabilities. This is designed specifically for high-performance profiling, semi-finishing, and finishing of titanium. The HARVI III provides maximum metal removal rates and achieves supreme surfaces. The standard offering comprises various length versions for each diameter to satisfy the need for maximum stability, as well as highest reach lengths in ball nose and square end designs.

- Outstanding metal removal rates increase productivity.
- Longest tool life due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.
- Increased process safety with Safe-Lock™ shanks.

Features and Benefits

Advanced Technology

- Six unequally-spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides the highest tool stability in roughing and finishing operations.
- Center cutting design for higher flexibility, as well as radial and axial finishing pass after roughing operation.
- Tailored rake angles allow for high performance in both traditional and high-velocity machining techniques.

Tailored Grades

- KCSM15™ Beyond™ grade for exceptional tool life in titanium and stainless steels.

Customization

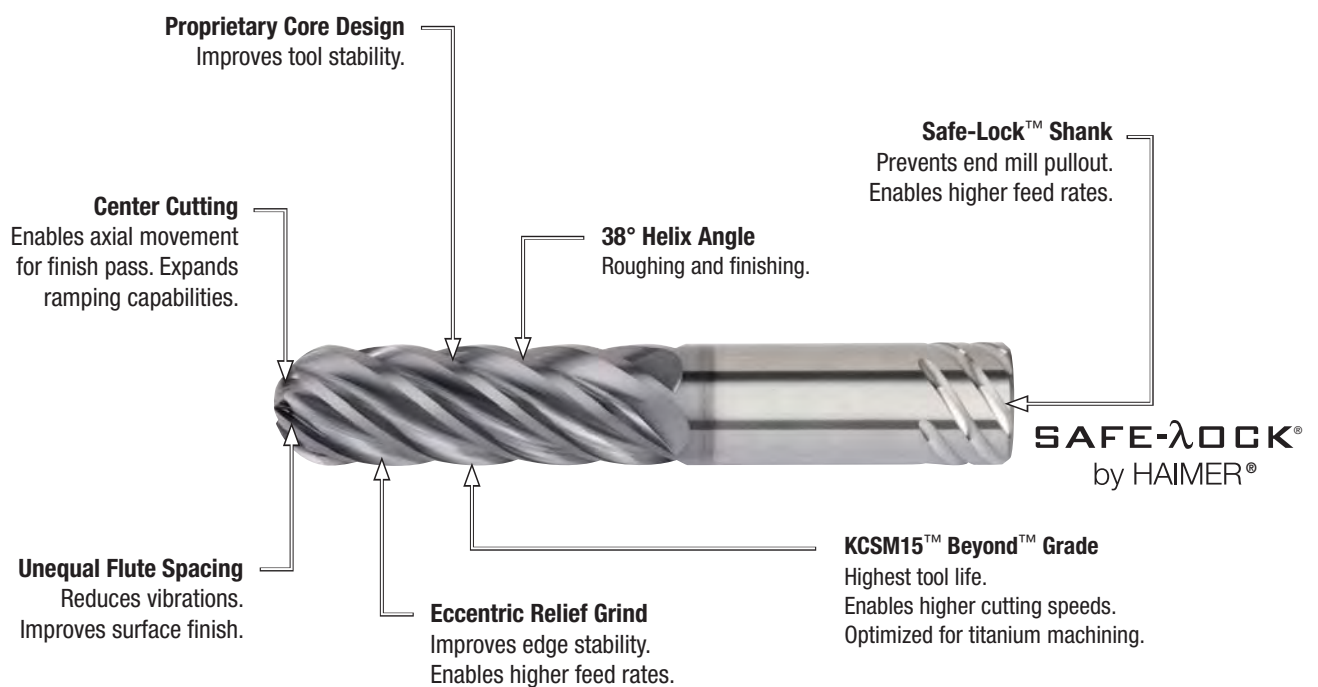
- Engineered solutions, including ball nose versions, are available upon request.

Extensive Standard Offering

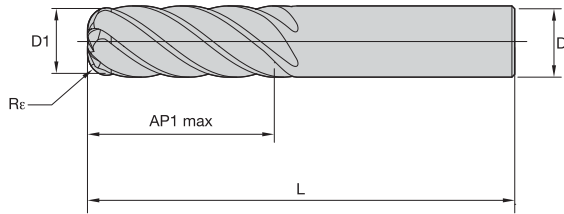
- Off-the-shelf standard diameter range 1/2–1".
- 1 1/2" diameter items are made-to-order.
- Ball nose and corner radii tooling in various length.
- Round shank and Safe-Lock™ shank available.

The new HARVI™ III by Kennametal.

“The HARVI III line boasts a portfolio of 300+ tools that have met the expectations set forth in the Industry Challenge — Increased tool life, High MRR, Reduced Tool Changes, and Decreasing overall tooling cost.”



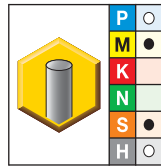
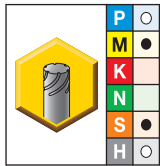
- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



End Mill Tolerances			
D1	tolerance	D	tolerance
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1-3/16"	0/0.00051"



■ HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind



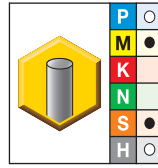
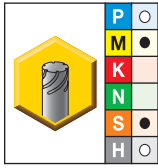
- first choice
- alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Re
—	UJDE0500J6ABB	1/2	1/2	1	3	.030
—	UJDE0500J6ABC	1/2	1/2	1	3	.060
—	UJDE0500J6ABD	1/2	1/2	1	3	.090
—	UJDE0500J6ABE	1/2	1/2	1	3	.120
—	UJDE0500J6ABH	1/2	1/2	1	3	.190
—	UJDE0500J6ZBB	1/2	1/2	1 1/2	3 1/2	.030
—	UJDE0500J6ZBC	1/2	1/2	1 1/2	3 1/2	.060
—	UJDE0500J6ZBD	1/2	1/2	1 1/2	3 1/2	.090
—	UJDE0500J6ZBE	1/2	1/2	1 1/2	3 1/2	.120
—	UJDE0500J6ZBH	1/2	1/2	1 1/2	3 1/2	.190
—	UJDE0500J6CBB	1/2	1/2	2	4	.030
—	UJDE0500J6CBC	1/2	1/2	2	4	.060
—	UJDE0500J6CBD	1/2	1/2	2	4	.090
—	UJDE0500J6CBE	1/2	1/2	2	4	.120
—	UJDE0500J6CBH	1/2	1/2	2	4	.190
—	UJDE0500J6DBB	1/2	1/2	2 1/2	4 1/2	.030
—	UJDE0500J6DBC	1/2	1/2	2 1/2	4 1/2	.060
—	UJDE0500J6DBD	1/2	1/2	2 1/2	4 1/2	.090
—	UJDE0500J6DBE	1/2	1/2	2 1/2	4 1/2	.120
—	UJDE0500J6DBH	1/2	1/2	2 1/2	4 1/2	.190
—	UJDE0750J6ABB	3/4	3/4	1	3 1/2	.030
—	UJDE0750J6ABC	3/4	3/4	1	3 1/2	.060
—	UJDE0750J6ABD	3/4	3/4	1	3 1/2	.090
—	UJDE0750J6ABE	3/4	3/4	1	3 1/2	.120
—	UJDE0750J6ABH	3/4	3/4	1	3 1/2	.190
—	UJDE0750J6ABF	3/4	3/4	1	3 1/2	.250
—	UJDE0750J6ZBB	3/4	3/4	2	4 1/2	.030
—	UJDE0750J6ZBC	3/4	3/4	2	4 1/2	.060
—	UJDE0750J6ZBD	3/4	3/4	2	4 1/2	.090
—	UJDE0750J6ZBE	3/4	3/4	2	4 1/2	.120
—	UJDE0750J6ZBH	3/4	3/4	2	4 1/2	.190
—	UJDE0750J6ZBF	3/4	3/4	2	4 1/2	.250

(continued)

High-Performance Solid Carbide End Mills

(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



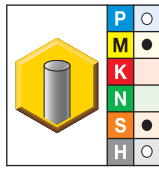
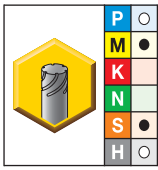
● first choice
○ alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Rε
—	UJDE0750J6DBB	3/4	3/4	3	5 1/2	.030
—	UJDE0750J6DBC	3/4	3/4	3	5 1/2	.060
—	UJDE0750J6DBD	3/4	3/4	3	5 1/2	.090
—	UJDE0750J6DBE	3/4	3/4	3	5 1/2	.120
—	UJDE0750J6DBH	3/4	3/4	3	5 1/2	.190
—	UJDE0750J6DBF	3/4	3/4	3	5 1/2	.250
—	UJDE0750J6EBB	3/4	3/4	4	6 1/2	.030
—	UJDE0750J6EBC	3/4	3/4	4	6 1/2	.060
—	UJDE0750J6EBD	3/4	3/4	4	6 1/2	.090
—	UJDE0750J6EBE	3/4	3/4	4	6 1/2	.120
—	UJDE0750J6EBH	3/4	3/4	4	6 1/2	.190
—	UJDE0750J6EBF	3/4	3/4	4	6 1/2	.250
UJDE1000N6XBB	—	1	1	1	4	.030
UJDE1000N6XBC	—	1	1	1	4	.060
UJDE1000N6XBD	—	1	1	1	4	.090
UJDE1000N6XBE	—	1	1	1	4	.120
UJDE1000N6XBH	—	1	1	1	4	.190
UJDE1000N6XBF	—	1	1	1	4	.250
UJDE1000N6XBK	—	1	1	1	4	.375
UJDE1000N6ABB	—	1	1	1 1/2	4 1/2	.030
UJDE1000N6ABC	—	1	1	1 1/2	4 1/2	.060
UJDE1000N6ABD	—	1	1	1 1/2	4 1/2	.090
UJDE1000N6ABE	—	1	1	1 1/2	4 1/2	.120
UJDE1000N6ABH	—	1	1	1 1/2	4 1/2	.190
UJDE1000N6ABF	—	1	1	1 1/2	4 1/2	.250
UJDE1000N6ABK	—	1	1	1 1/2	4 1/2	.375
UJDE1000N6CBB	—	1	1	2	5	.030
UJDE1000N6CBC	—	1	1	2	5	.060
UJDE1000N6CBD	—	1	1	2	5	.090
UJDE1000N6CBE	—	1	1	2	5	.120
UJDE1000N6CBH	—	1	1	2	5	.190
UJDE1000N6CBF	—	1	1	2	5	.250
UJDE1000N6CBK	—	1	1	2	5	.375
UJDE1000N6ZBB	—	1	1	2 1/2	5 1/2	.030
UJDE1000N6ZBC	—	1	1	2 1/2	5 1/2	.060
UJDE1000N6ZBD	—	1	1	2 1/2	5 1/2	.090
UJDE1000N6ZBE	—	1	1	2 1/2	5 1/2	.120
UJDE1000N6ZBH	—	1	1	2 1/2	5 1/2	.190
UJDE1000N6ZBF	—	1	1	2 1/2	5 1/2	.250
UJDE1000N6ZBK	—	1	1	2 1/2	5 1/2	.375
UJDE1000N6FBB	—	1	1	3	6	.030
UJDE1000N6FBC	—	1	1	3	6	.060
UJDE1000N6FBD	—	1	1	3	6	.090
UJDE1000N6FBE	—	1	1	3	6	.120
UJDE1000N6FBH	—	1	1	3	6	.190
UJDE1000N6FBF	—	1	1	3	6	.250
UJDE1000N6FBK	—	1	1	3	6	.375
UJDE1000N6GBB	—	1	1	3 1/2	6 1/2	.030
UJDE1000N6GBC	—	1	1	3 1/2	6 1/2	.060
UJDE1000N6GBD	—	1	1	3 1/2	6 1/2	.090
UJDE1000N6GBE	—	1	1	3 1/2	6 1/2	.120
UJDE1000N6GBH	—	1	1	3 1/2	6 1/2	.190

(continued)

High-Performance Solid Carbide End Mills

(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



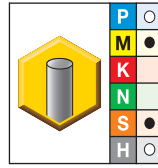
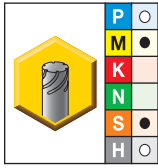
● first choice
○ alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Re
UJDE1000N6GBF	—	1	1	3 1/2	6 1/2	.250
UJDE1000N6GBK	—	1	1	3 1/2	6 1/2	.375
UJDE1000N6DBB	—	1	1	4	7	.030
UJDE1000N6DBC	—	1	1	4	7	.060
UJDE1000N6DBD	—	1	1	4	7	.090
UJDE1000N6DBE	—	1	1	4	7	.120
UJDE1000N6DBH	—	1	1	4	7	.190
UJDE1000N6DBF	—	1	1	4	7	.250
UJDE1000N6DBK	—	1	1	4	7	.375
UJDE1000N6HBB	—	1	1	4 1/2	7 1/2	.030
UJDE1000N6HBC	—	1	1	4 1/2	7 1/2	.060
UJDE1000N6HBD	—	1	1	4 1/2	7 1/2	.090
UJDE1000N6HBE	—	1	1	4 1/2	7 1/2	.120
UJDE1000N6HBH	—	1	1	4 1/2	7 1/2	.190
UJDE1000N6HBF	—	1	1	4 1/2	7 1/2	.250
UJDE1000N6HBK	—	1	1	4 1/2	7 1/2	.375
UJDE1000N6EBB	—	1	1	5	8	.030
UJDE1000N6EBC	—	1	1	5	8	.060
UJDE1000N6EBD	—	1	1	5	8	.090
UJDE1000N6EBE	—	1	1	5	8	.120
UJDE1000N6EBH	—	1	1	5	8	.190
UJDE1000N6EBF	—	1	1	5	8	.250
UJDE1000N6EBK	—	1	1	5	8	.375
UJDE1250N6ABB	—	1 1/4	1 1/4	2	5	.030
UJDE1250N6ABC	—	1 1/4	1 1/4	2	5	.060
UJDE1250N6ABD	—	1 1/4	1 1/4	2	5	.090
UJDE1250N6ABE	—	1 1/4	1 1/4	2	5	.120
UJDE1250N6ABH	—	1 1/4	1 1/4	2	5	.190
UJDE1250N6ABF	—	1 1/4	1 1/4	2	5	.250
UJDE1250N6ABJ	—	1 1/4	1 1/4	2	5	.375
UJDE1250N6ABK	—	1 1/4	1 1/4	2	5	.500
UJDE1250N6XBB	—	1 1/4	1 1/4	2 1/2	5 1/2	.030
UJDE1250N6XBC	—	1 1/4	1 1/4	2 1/2	5 1/2	.060
UJDE1250N6XBD	—	1 1/4	1 1/4	2 1/2	5 1/2	.090
UJDE1250N6XBE	—	1 1/4	1 1/4	2 1/2	5 1/2	.120
UJDE1250N6XBH	—	1 1/4	1 1/4	2 1/2	5 1/2	.190
UJDE1250N6XBF	—	1 1/4	1 1/4	2 1/2	5 1/2	.250
UJDE1250N6XBJ	—	1 1/4	1 1/4	2 1/2	5 1/2	.375
UJDE1250N6XBK	—	1 1/4	1 1/4	2 1/2	5 1/2	.500
UJDE1250N6ZBB	—	1 1/4	1 1/4	3	6	.030
UJDE1250N6ZBC	—	1 1/4	1 1/4	3	6	.060
UJDE1250N6ZBD	—	1 1/4	1 1/4	3	6	.090
UJDE1250N6ZBE	—	1 1/4	1 1/4	3	6	.120
UJDE1250N6ZBH	—	1 1/4	1 1/4	3	6	.190
UJDE1250N6ZBF	—	1 1/4	1 1/4	3	6	.250
UJDE1250N6ZBJ	—	1 1/4	1 1/4	3	6	.375
UJDE1250N6ZBK	—	1 1/4	1 1/4	3	6	.500
UJDE1250N6CBB	—	1 1/4	1 1/4	3 1/2	6 1/2	.030
UJDE1250N6CBC	—	1 1/4	1 1/4	3 1/2	6 1/2	.060
UJDE1250N6CBD	—	1 1/4	1 1/4	3 1/2	6 1/2	.090
UJDE1250N6CBE	—	1 1/4	1 1/4	3 1/2	6 1/2	.120
UJDE1250N6CBH	—	1 1/4	1 1/4	3 1/2	6 1/2	.190

(continued)

High-Performance Solid Carbide End Mills

(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



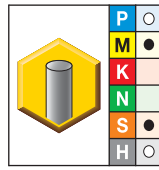
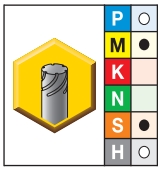
● first choice
○ alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Rε
UJDE1250N6CBF	—	1 1/4	1 1/4	3 1/2	6 1/2	.250
UJDE1250N6CBJ	—	1 1/4	1 1/4	3 1/2	6 1/2	.375
UJDE1250N6CBK	—	1 1/4	1 1/4	3 1/2	6 1/2	.500
UJDE1250N6FBB	—	1 1/4	1 1/4	4	7	.030
UJDE1250N6FBC	—	1 1/4	1 1/4	4	7	.060
UJDE1250N6FBD	—	1 1/4	1 1/4	4	7	.090
UJDE1250N6FBE	—	1 1/4	1 1/4	4	7	.120
UJDE1250N6FBH	—	1 1/4	1 1/4	4	7	.190
UJDE1250N6FBF	—	1 1/4	1 1/4	4	7	.250
UJDE1250N6FBJ	—	1 1/4	1 1/4	4	7	.375
UJDE1250N6FBK	—	1 1/4	1 1/4	4	7	.500
UJDE1250N6GGB	—	1 1/4	1 1/4	4 1/2	7 1/2	.030
UJDE1250N6GBC	—	1 1/4	1 1/4	4 1/2	7 1/2	.060
UJDE1250N6GBD	—	1 1/4	1 1/4	4 1/2	7 1/2	.090
UJDE1250N6GBE	—	1 1/4	1 1/4	4 1/2	7 1/2	.120
UJDE1250N6GBH	—	1 1/4	1 1/4	4 1/2	7 1/2	.190
UJDE1250N6GBF	—	1 1/4	1 1/4	4 1/2	7 1/2	.250
UJDE1250N6GBJ	—	1 1/4	1 1/4	4 1/2	7 1/2	.375
UJDE1250N6GBK	—	1 1/4	1 1/4	4 1/2	7 1/2	.500
UJDE1250N6DBB	—	1 1/4	1 1/4	5	8	.030
UJDE1250N6DBC	—	1 1/4	1 1/4	5	8	.060
UJDE1250N6DBD	—	1 1/4	1 1/4	5	8	.090
UJDE1250N6DBE	—	1 1/4	1 1/4	5	8	.120
UJDE1250N6DBH	—	1 1/4	1 1/4	5	8	.190
UJDE1250N6DBF	—	1 1/4	1 1/4	5	8	.250
UJDE1250N6DBJ	—	1 1/4	1 1/4	5	8	.375
UJDE1250N6DBK	—	1 1/4	1 1/4	5	8	.500
UJDE1250N6HBB	—	1 1/4	1 1/4	5 1/2	8 1/2	.030
UJDE1250N6HBC	—	1 1/4	1 1/4	5 1/2	8 1/2	.060
UJDE1250N6HBD	—	1 1/4	1 1/4	5 1/2	8 1/2	.090
UJDE1250N6HBE	—	1 1/4	1 1/4	5 1/2	8 1/2	.120
UJDE1250N6HBH	—	1 1/4	1 1/4	5 1/2	8 1/2	.190
UJDE1250N6HBF	—	1 1/4	1 1/4	5 1/2	8 1/2	.250
UJDE1250N6HBJ	—	1 1/4	1 1/4	5 1/2	8 1/2	.375
UJDE1250N6HBK	—	1 1/4	1 1/4	5 1/2	8 1/2	.500
UJDE1250N6JBB	—	1 1/4	1 1/4	6	9	.030
UJDE1250N6JBC	—	1 1/4	1 1/4	6	9	.060
UJDE1250N6JBD	—	1 1/4	1 1/4	6	9	.090
UJDE1250N6JBE	—	1 1/4	1 1/4	6	9	.120
UJDE1250N6JBH	—	1 1/4	1 1/4	6	9	.190
UJDE1250N6JBF	—	1 1/4	1 1/4	6	9	.250
UJDE1250N6JBJ	—	1 1/4	1 1/4	6	9	.375
UJDE1250N6JBK	—	1 1/4	1 1/4	6	9	.500
UJDE1250N6EBB	—	1 1/4	1 1/4	6 1/2	9 1/2	.030
UJDE1250N6EBC	—	1 1/4	1 1/4	6 1/2	9 1/2	.060
UJDE1250N6EBD	—	1 1/4	1 1/4	6 1/2	9 1/2	.090
UJDE1250N6EBE	—	1 1/4	1 1/4	6 1/2	9 1/2	.120
UJDE1250N6EBH	—	1 1/4	1 1/4	6 1/2	9 1/2	.190
UJDE1250N6EBF	—	1 1/4	1 1/4	6 1/2	9 1/2	.250
UJDE1250N6EBJ	—	1 1/4	1 1/4	6 1/2	9 1/2	.375
UJDE1250N6EBK	—	1 1/4	1 1/4	6 1/2	9 1/2	.500
UJDE1500N6XBB *	—	1 1/2	1 1/2	2	6	.030

(continued)

High-Performance Solid Carbide End Mills

(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



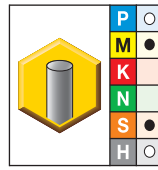
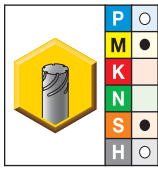
● first choice
○ alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L	Re
UJDE1500N6XBC *	—	1 1/2	1 1/2	2	6	.060
UJDE1500N6XBD *	—	1 1/2	1 1/2	2	6	.090
UJDE1500N6XBE *	—	1 1/2	1 1/2	2	6	.120
UJDE1500N6XBH *	—	1 1/2	1 1/2	2	6	.190
UJDE1500N6XBF *	—	1 1/2	1 1/2	2	6	.250
UJDE1500N6XBJ *	—	1 1/2	1 1/2	2	6	.375
UJDE1500N6XBK *	—	1 1/2	1 1/2	2	6	.500
UJDE1500N6XBL *	—	1 1/2	1 1/2	2	6	.625
UJDE1500N6ABB *	—	1 1/2	1 1/2	2 1/2	6 1/2	.030
UJDE1500N6ABC *	—	1 1/2	1 1/2	2 1/2	6 1/2	.060
UJDE1500N6ABD *	—	1 1/2	1 1/2	2 1/2	6 1/2	.090
UJDE1500N6ABE *	—	1 1/2	1 1/2	2 1/2	6 1/2	.120
UJDE1500N6ABH *	—	1 1/2	1 1/2	2 1/2	6 1/2	.190
UJDE1500N6ABF *	—	1 1/2	1 1/2	2 1/2	6 1/2	.250
UJDE1500N6ABJ *	—	1 1/2	1 1/2	2 1/2	6 1/2	.375
UJDE1500N6ABK *	—	1 1/2	1 1/2	2 1/2	6 1/2	.500
UJDE1500N6ABL *	—	1 1/2	1 1/2	2 1/2	6 1/2	.625
UJDE1500N6BBB *	—	1 1/2	1 1/2	3	7	.030
UJDE1500N6BBC *	—	1 1/2	1 1/2	3	7	.060
UJDE1500N6BBD *	—	1 1/2	1 1/2	3	7	.090
UJDE1500N6BBE *	—	1 1/2	1 1/2	3	7	.120
UJDE1500N6BBH *	—	1 1/2	1 1/2	3	7	.190
UJDE1500N6BBF *	—	1 1/2	1 1/2	3	7	.250
UJDE1500N6BBJ *	—	1 1/2	1 1/2	3	7	.375
UJDE1500N6BBK *	—	1 1/2	1 1/2	3	7	.500
UJDE1500N6BBL *	—	1 1/2	1 1/2	3	7	.625
UJDE1500N6ZBB *	—	1 1/2	1 1/2	3 1/2	7 1/2	.030
UJDE1500N6ZBC *	—	1 1/2	1 1/2	3 1/2	7 1/2	.060
UJDE1500N6ZBD *	—	1 1/2	1 1/2	3 1/2	7 1/2	.090
UJDE1500N6ZBE *	—	1 1/2	1 1/2	3 1/2	7 1/2	.120
UJDE1500N6ZBH *	—	1 1/2	1 1/2	3 1/2	7 1/2	.190
UJDE1500N6ZBF *	—	1 1/2	1 1/2	3 1/2	7 1/2	.250
UJDE1500N6ZBJ *	—	1 1/2	1 1/2	3 1/2	7 1/2	.375
UJDE1500N6ZBK *	—	1 1/2	1 1/2	3 1/2	7 1/2	.500
UJDE1500N6ZBL *	—	1 1/2	1 1/2	3 1/2	7 1/2	.625
UJDE1500N6CBB *	—	1 1/2	1 1/2	4	8	.030
UJDE1500N6CBC *	—	1 1/2	1 1/2	4	8	.060
UJDE1500N6CBD *	—	1 1/2	1 1/2	4	8	.090
UJDE1500N6CBE *	—	1 1/2	1 1/2	4	8	.120
UJDE1500N6CBH *	—	1 1/2	1 1/2	4	8	.190
UJDE1500N6CBF *	—	1 1/2	1 1/2	4	8	.250
UJDE1500N6CBJ *	—	1 1/2	1 1/2	4	8	.375
UJDE1500N6CBK *	—	1 1/2	1 1/2	4	8	.500
UJDE1500N6CBL *	—	1 1/2	1 1/2	4	8	.625
UJDE1500N6FBB *	—	1 1/2	1 1/2	4 1/2	8 1/2	.030
UJDE1500N6FBC *	—	1 1/2	1 1/2	4 1/2	8 1/2	.060
UJDE1500N6FBD *	—	1 1/2	1 1/2	4 1/2	8 1/2	.090
UJDE1500N6FBE *	—	1 1/2	1 1/2	4 1/2	8 1/2	.120
UJDE1500N6FBH *	—	1 1/2	1 1/2	4 1/2	8 1/2	.190
UJDE1500N6FBF *	—	1 1/2	1 1/2	4 1/2	8 1/2	.250
UJDE1500N6FBJ *	—	1 1/2	1 1/2	4 1/2	8 1/2	.375
UJDE1500N6FBK *	—	1 1/2	1 1/2	4 1/2	8 1/2	.500

(continued)

High-Performance Solid Carbide End Mills

(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



● first choice
○ alternate choice

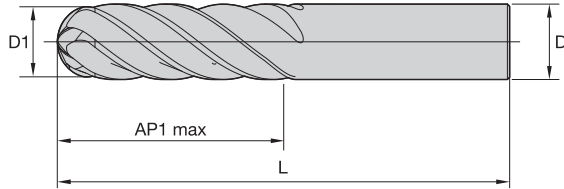
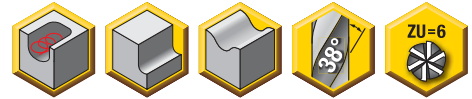
KCSM15	KCSM15	D1	D	Ap1 max	L	Rε
UJDE1500N6FBL *	—	1 1/2	1 1/2	4 1/2	8 1/2	.625
UJDE1500N6GGB *	—	1 1/2	1 1/2	5	9	.030
UJDE1500N6GBC *	—	1 1/2	1 1/2	5	9	.060
UJDE1500N6GBD *	—	1 1/2	1 1/2	5	9	.090
UJDE1500N6GBE *	—	1 1/2	1 1/2	5	9	.120
UJDE1500N6GBH *	—	1 1/2	1 1/2	5	9	.190
UJDE1500N6GBF *	—	1 1/2	1 1/2	5	9	.250
UJDE1500N6GBJ *	—	1 1/2	1 1/2	5	9	.375
UJDE1500N6GBK *	—	1 1/2	1 1/2	5	9	.500
UJDE1500N6GBL *	—	1 1/2	1 1/2	5	9	.625
UJDE1500N6DBB *	—	1 1/2	1 1/2	5 1/2	9 1/2	.030
UJDE1500N6DBC *	—	1 1/2	1 1/2	5 1/2	9 1/2	.060
UJDE1500N6DBD *	—	1 1/2	1 1/2	5 1/2	9 1/2	.090
UJDE1500N6DBE *	—	1 1/2	1 1/2	5 1/2	9 1/2	.120
UJDE1500N6DBH *	—	1 1/2	1 1/2	5 1/2	9 1/2	.190
UJDE1500N6DBF *	—	1 1/2	1 1/2	5 1/2	9 1/2	.250
UJDE1500N6DBJ *	—	1 1/2	1 1/2	5 1/2	9 1/2	.375
UJDE1500N6DBK *	—	1 1/2	1 1/2	5 1/2	9 1/2	.500
UJDE1500N6DBL *	—	1 1/2	1 1/2	5 1/2	9 1/2	.625
UJDE1500N6HBB *	—	1 1/2	1 1/2	6	10	.030
UJDE1500N6HBC *	—	1 1/2	1 1/2	6	10	.060
UJDE1500N6HBD *	—	1 1/2	1 1/2	6	10	.090
UJDE1500N6HBE *	—	1 1/2	1 1/2	6	10	.120
UJDE1500N6HBH *	—	1 1/2	1 1/2	6	10	.190
UJDE1500N6HBF *	—	1 1/2	1 1/2	6	10	.250
UJDE1500N6HBJ *	—	1 1/2	1 1/2	6	10	.375
UJDE1500N6HBK *	—	1 1/2	1 1/2	6	10	.500
UJDE1500N6HBL *	—	1 1/2	1 1/2	6	10	.625

NOTE: For application data, see page P70.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

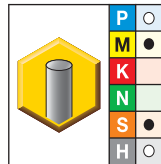


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1-3/16"	0/.00051"



■ HARVI III Ball Nose • UJBE • Unequal Flute Spacing • With Eccentric Relief Grind



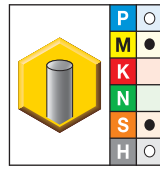
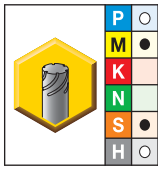
- first choice
- alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L
—	UJBE0500J6BB	1/2	1/2	1	3
—	UJBE0500J6ZB	1/2	1/2	1 1/2	3 1/2
—	UJBE0500J6CB	1/2	1/2	2	4
—	UJBE0500J6DB	1/2	1/2	2 1/2	4 1/2
—	UJBE0750J6AB	3/4	3/4	1	3 1/2
—	UJBE0750J6ZB	3/4	3/4	2	4 1/2
—	UJBE0750J6DB	3/4	3/4	3	5 1/2
—	UJBE0750J6EB	3/4	3/4	4	6 1/2
UJBE1000N6XB	—	1	1	1	4
UJBE1000N6AB	—	1	1	1 1/2	4 1/2
UJBE1000N6CB	—	1	1	2	5
UJBE1000N6ZB	—	1	1	2 1/2	5 1/2
UJBE1000N6FB	—	1	1	3	6
UJBE1000N6GB	—	1	1	3 1/2	6 1/2
UJBE1000N6DB	—	1	1	4	7
UJBE1000N6HB	—	1	1	4 1/2	7 1/2
UJBE1000N6EB	—	1	1	5	8
UJBE1250N6AB	—	1 1/4	1 1/4	2	5
UJBE1250N6XB	—	1 1/4	1 1/4	2 1/2	5 1/2
UJBE1250N6ZB	—	1 1/4	1 1/4	3	6
UJBE1250N6CB	—	1 1/4	1 1/4	3 1/2	6 1/2
UJBE1250N6FB	—	1 1/4	1 1/4	4	7
UJBE1250N6GB	—	1 1/4	1 1/4	4 1/2	7 1/2
UJBE1250N6DB	—	1 1/4	1 1/4	5	8
UJBE1250N6HB	—	1 1/4	1 1/4	5 1/2	8 1/2
UJBE1250N6JB	—	1 1/4	1 1/4	6	9
UJBE1250N6EB	—	1 1/4	1 1/4	6 1/2	9 1/2
UJBE1500N6XB *	—	1 1/2	1 1/2	2	6

(continued)

High-Performance Solid Carbide End Mills

(HARVI III Ball Nose • UJBE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)



● first choice
○ alternate choice

KCSM15	KCSM15	D1	D	Ap1 max	L
UJBE1500N6AB *	—	1 1/2	1 1/2	2 1/2	6 1/2
UJBE1500N6BB *	—	1 1/2	1 1/2	3	7
UJBE1500N6ZB *	—	1 1/2	1 1/2	3 1/2	7 1/2
UJBE1500N6CB *	—	1 1/2	1 1/2	4	8
UJBE1500N6FB *	—	1 1/2	1 1/2	4 1/2	8 1/2
UJBE1500N6GB *	—	1 1/2	1 1/2	5	9
UJBE1500N6DB *	—	1 1/2	1 1/2	5 1/2	9 1/2
UJBE1500N6HB *	—	1 1/2	1 1/2	6	10

NOTE: For application data, see page P71.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.





HARVI III Aerospace Expansion

HARVI III Aerospace Expansion

CHALLENGE

CHALLENGE

- Industry challenge II.
- Traditional approach.
- Ti6AL4V.
- External emulsion.

- Industry challenge II.
- High-Velocity Approach.
- Ti6AL4V.
- External emulsion.

SOLUTION

SOLUTION

- HARVI III Ø 1.250" (31.75mm) — Safe-Lock™ shank.
- SK50 Type B coolant shrink fit.
- Corner Radius R = 0.090" (2.28mm).

- HARVI III Ø 1.250" (31.75mm) — Safe-Lock™ shank.
- SK50 Type B coolant shrink fit.
- Corner Radius R = 0.090" (2.28mm).

CUTTING DATA

CUTTING DATA

- V_C 250 SFM (76 m/min).
- F_Z .0074" (0,187mm).
- A_p 2.000" (50.8mm).
- A_e .100" (2,54mm).

- V_C 500 SFM (152 m/min).
- F_Z .0095" (0,24mm).
- A_p 2.000" (50.8mm).
- A_e .020" (0,508mm).

RESULT

RESULT

- After one hour of cut time, less than .001" (0,025mm) wear.
- Surface finish of 23 μ in Ra (0,6 μ m Ra).

- After one hour of cut time, less than .0014" (0,035mm) wear.
- Surface finish of 27.5 μ in Ra (0,7 μ m Ra).

BENEFIT

BENEFIT

- Increased tool life.
- High MRR.
- Reduced tool changes.
- Decrease overall tooling cost.

- Increased tool life.
- High MRR.
- Reduced tool changes.
- Decrease overall tooling cost.



HARVI III Aerospace Expansion

CHALLENGE

- Seat track.
- Ti6AL4V.
- External emulsion.
- Test vs. regular HARVI III.

SOLUTION

- HARVI III Ø .750" (19.05mm) — cylindrical shank
- HydroForce™ with reducer sleeve
- Corner Radius R = 0.120" (3.05mm)

CUTTING DATA

- V_C 40 m/min (130 SFM).
- F_Z Varies.
- A_p From .050" (1,27mm) to 1.500" (38.1mm).
- A_e From .050" (1,27mm) to full slot.

RESULT

- Tool life increased from 45min up to 5h.

BENEFIT

- Increased tool life.
- Reduced tool changes.
- Decrease overall tooling cost.

■ HARVI III™ • UJDE • Unequal Flute Spacing

Material Group	Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).							
	A		Cutting Speed – vc SFM			D1 – Diameter							
	ap	ae	min		max	frac. dec.	1/2	5/8	3/4	1	1 1/4	1 1/2	
P	4	Ap max	0.4 x D	300	–	490	IPT	.0026	.0030	.0033	.0039	.0043	.0046
	5	Ap max	0.4 x D	200	–	330	IPT	.0023	.0027	.0030	.0036	.0041	.0045
M	1	Ap max	0.4 x D	300	–	380	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	2	Ap max	0.4 x D	200	–	260	IPT	.0023	.0027	.0030	.0036	.0041	.0045
	3	Ap max	0.4 x D	200	–	230	IPT	.0019	.0022	.0024	.0028	.0031	.0033
S	1	Ap max	0.4 x D	160	–	300	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	2	Ap max	0.4 x D	160	–	300	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	3	Ap max	0.4 x D	80	–	130	IPT	.0016	.0018	.0020	.0025	.0028	.0031
	4	Ap max	0.4 x D	150	–	200	IPT	.0022	.0025	.0028	.0033	.0037	.0041
H	1	Ap max	0.4 x D	260	–	460	IPT	.0026	.0030	.0033	.0039	.0043	.0046

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly.

■ Adjustment factor table for feed and speed calculation

	Ae/D	0.50%	1.00%	1.60%	2.00%	4.00%	5.00%	8.00%	10.00%	20.00%	30.00%
Speed factor	Kv	2.9	2.85	2.8	2	1.5	1.45	1.4	1.35	1.25	1.2
Feed factor	KFz	2.8	2.6	2.5	2.4	2.3	2.2	2	1.7	1.25	1.02

To calculate application specific cutting data, please use above KV coefficient for adaptation of cutting speed and KFz for feed respectively.
Vc new = Vc * Kv
Fz new = IPT * KFz

Calculation example:

Application: D = 1 inch; S4 material group; Ae 0,02 inch
Cutting data recommendation: 150 SFM; fz = 0.0033 IPT
Adjustment coefficients: Ae = 0,02 = inch equals 2,00%; Kv = 2; KFz = 2.4

Final cutting data recommendation:

Vc new = 150 SFM * 2 = 300 SFM
Fz new = .0033 IPT * 2.4 = .0079 IPT

■ HARVI™ III • UJBE • Ball Nose • Unequal Flute Spacing

Material Group	Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).							
	A		Cutting Speed – vc SFM			D1 – Diameter							
	ap	ae	min		max	frac. dec.	1/2	5/8	3/4	1	1 1/4	1 1/2	
P	4	Ap max	0.4 x D	300	–	490	IPT	.0026	.0030	.0033	.0039	.0043	.0046
	5	Ap max	0.4 x D	200	–	330	IPT	.0023	.0027	.0030	.0036	.0041	.0045
M	1	Ap max	0.4 x D	300	–	380	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	2	Ap max	0.4 x D	200	–	260	IPT	.0023	.0027	.0030	.0036	.0041	.0045
	3	Ap max	0.4 x D	200	–	230	IPT	.0019	.0022	.0024	.0028	.0031	.0033
S	1	Ap max	0.4 x D	160	–	300	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	2	Ap max	0.4 x D	160	–	300	IPT	.0029	.0034	.0038	.0046	.0051	.0056
	3	Ap max	0.4 x D	80	–	130	IPT	.0016	.0018	.0020	.0025	.0028	.0031
	4	Ap max	0.4 x D	150	–	200	IPT	.0022	.0025	.0028	.0033	.0037	.0041
H	1	Ap max	0.4 x D	260	–	460	IPT	.0026	.0030	.0033	.0039	.0043	.0046

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly.

■ Adjustment factor table for feed and speed calculation

	Ae/D	0.50%	1.00%	1.60%	2.00%	4.00%	5.00%	8.00%	10.00%	20.00%	30.00%
Speed factor	Kv	2.9	2.85	2.8	2	1.5	1.45	1.4	1.35	1.25	1.2
Feed factor	KFz	2.8	2.6	2.5	2.4	2.3	2.2	2	1.7	1.25	1.02

To calculate application specific cutting data, please use above KV coefficient for adaptation of cutting speed and KFz for feed respectively.

$$Vc_{new} = Vc * Kv$$

$$Fz_{new} = IPT * KFz$$

Calculation example:

Application: D = 1 inch; S4 material group; Ae 0,02 inch

Cutting data recommendation: 150 SFM; fz = 0.0033 IPT

Adjustment coefficients: Ae = 0,02 = inch equals 2,00%; Kv = 2; KFz = 2.4

Final cutting data recommendation:

$$Vc_{new} = 150 SFM * 2 = 300 SFM$$

$$Fz_{new} = .0033 IPT * 2.4 = .0079 IPT$$



HARVI™ III Taper Ball Nose

High-Performance Solid Carbide End Mills

Primary Application

HARVI III taper ball nose addresses the demand from energy and aerospace turbine customers to increase output and solve capacity issues by significantly reducing of machining time in 5-axis machining.

- Up to 50% higher Metal Removal Rates (MRR) with same tool life or up to 50% higher tool life due to 6-flute geometry with unequal flute spacing.
- Different tapered front end for highest tool stability on a variety of long-reach applications.
- Proprietary KCSM15™ grade for high tool life.

Features and Benefits

Advanced Technology

- Six flutes in ball nose and taper section for highest metal removal rates.
- Unequally spaced flutes to minimize vibrations and provide high tool life and superior surface quality.

Tailored Grades

- KCSM15 Beyond™ grade for outstanding wear protection in stainless steels and high-temperature alloys.

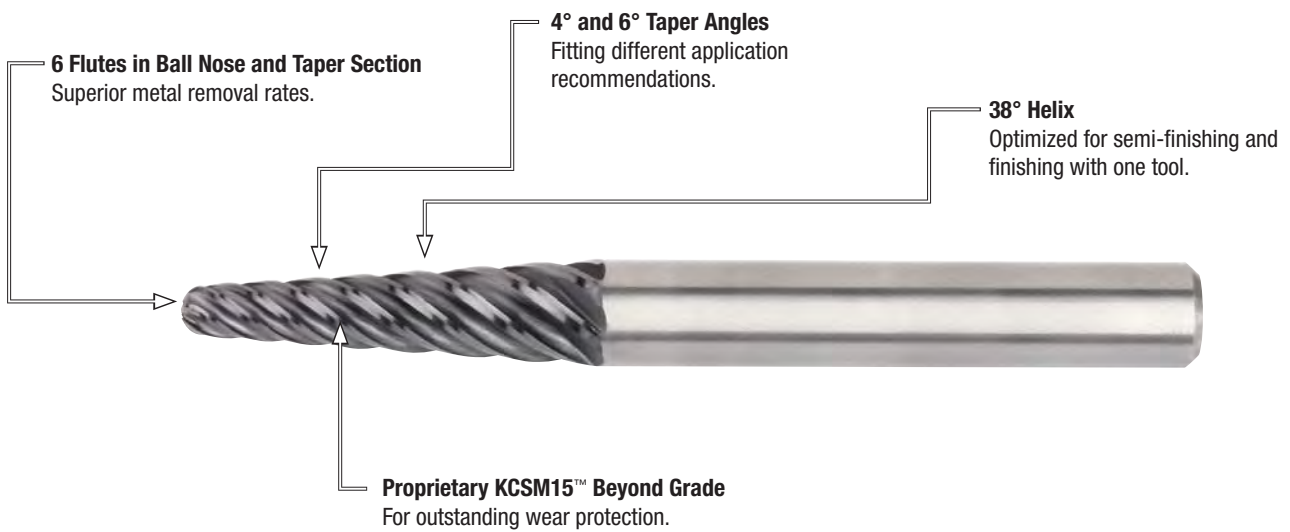
Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.

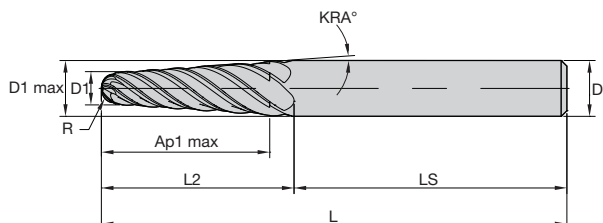
Standard Offerings

- Diameter ranges 1/8–7/16".

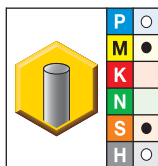
Designed for 5-axis machining in steel,
stainless steel, nickel-based alloys,
and titanium.



- Center cutting.
- 6 flutes for highest material removal rates.
- Unequal flute spacing minimizes chatter for smoother machining.
- 2 taper angle versions for optimized stability in long-reach operations.
- Single tool for both semi-finishing and finishing operations requiring fewer setups.
- Optimized geometry for stainless, nickel-based-alloys, and titanium machining.



■ UJBE • 6-Flute Taper Ball Nose • Unequal Flute Spacing



● first choice
○ alternate choice

KCSM15	D1	D	Ap1 max	L	L2	LS	R	KRA
UJBE0125J6CP	1/8	5/16	1.188	3	1.401	1.599	.063	4
UJBE0125J6BP	1/8	3/8	1.000	3 1/2	1.249	2.252	.063	6
UJBE0188J6BP	3/16	3/8	1.188	3 1/2	1.431	2.069	.094	4
UJBE0188J6CP	3/16	1/2	1.250	4	1.576	2.425	.094	6
UJBE0250J6CP	1/4	1/2	1.563	4	1.908	2.092	.125	4
UJBE0250J6BP	1/4	5/8	1.500	5	1.902	3.098	.125	6
UJBE0312J6BP	5/16	5/8	1.250	5	1.635	3.365	.156	6
UJBE0312J6CP	5/16	5/8	2.000	5	2.385	2.615	.156	4
UJBE0375J6BP	3/8	5/8	1.000	5	1.367	3.633	.188	6
UJBE0375J6CP	3/8	5/8	1.563	5	1.969	3.032	.188	4
UJBE0438J6BP	7/16	5/8	.750	5	1.099	3.901	.219	6
UJBE0438J6CP	7/16	5/8	1.188	5	1.552	3.448	.219	4

NOTE: For application data, see page P80.

The Economical Milling Cutter Line

G0mill™

The G0mill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, the line is made to conform to the growing market of mill-turn machines.

What does this mean for you?

- Unequal flute spacing.
- AlTiN coating.
- Short overall tool length.
- Positive rake angle.
- Better surface finish and tool life.
- Universal usage on multiple workpiece materials.
- Higher cutting conditions, higher productivity, lower price due to less carbide.
- Lower power consumption.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

ENGLISH ORDER PRODUCTS ONLINE

KENNAMETAL SEARCH PRODUCT SELECTOR POWERED BY NOVO

PRODUCTS INDUSTRY SOLUTIONS SERVICES RESOURCES SUPPORT ABOUT US

Home / Resources / Engineering Calculators / End Milling / Ball Nose Surface finish

Ball Nose Surface Finish

Unit:

Ball Nose Radius: in

Helix Angle: °

Radial Rake: °

Choose Additional Parameter(s) Choose Additional Parameter(s)

CALCULATE

⚠ These calculations are based upon theoretical values and are only intended for planning purposes. Actual results will vary. No responsibility from Kennametal is assumed.

R_a Surface finish: 20.31 μ in.

Helix Angle

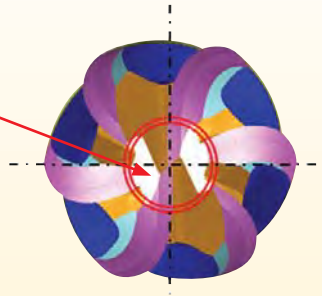
Radial Rake

Use 5–10° for radial rake angle.

***Make use of calculators such as:
kennametal.com/en/resources/calculators/
end-milling-calculators/ball-nose-surface-finish.html***

Not all 6 cutting edges are reaching to the center of the HARVI III taper ball nose end mill.
Therefore, certain machining angles will result in different numbers of effective cutting edges.

Between 15–17° transition from
4–6 effective cutting edges due
to grinding profile.



0°
Avoid (center cutting speed = 0)



15°
<15° z = 2 effective cutting edges



17°
>17° z = 6 effective cutting edges



HARVI™ III Taper Ball Nose UJBE

CHALLENGE

- Finishing contour milling with lightly interrupted cut.
- Blade machining for energy customer.
- X22 CrMoV12.
- External emulsion.

SOLUTION

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15™ with 6 effective cutting edges, Ø 0.315".

CUTTING DATA

- vc 328 SFM
- fz .0020 IPT
- ap .0787"
- ae .0236"

RESULT

- 73% increased productivity.

BENEFIT

- Reduced cost per component as the tool life increased.
- New 6-flute geometry has given better surface finish compared to 4 flutes.
- Regrindable tool.

HARVI III Taper Ball Nose UJBE

CHALLENGE

- Finishing intersection and hub on blade airfoil.
- Blade machining for energy customer.
- X22CrMoV12-1.
- External emulsion.

SOLUTION

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15 with 6 effective cutting edges, Ø 0.394".

CUTTING DATA

- vc 853 SFM
- fz .0024 IPT
- ap .0236"
- ae .0118"

RESULT

- 50% increase in feed.
- 28% increase in tool life.
- Improved surface finish and minimum wear on edges.

BENEFIT

- Reduced tooling cost.
- Reduction in cost per component.
- Good surface finish.
- Regrindable tool.

(continued)

(continued)



HARVI™ III Taper Ball Nose UJBE

CHALLENGE

- Finishing intersection and hub on blade airfoil.
- X22CrMoV12-1.
- External emulsion.

SOLUTION

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15™.
- Ø 0.157" with 8 effective cutting edges.

CUTTING DATA

- vc 459 SFM
- fz .0006 IPT
- ap .0197"
- ae .0138"

RESULT

- Substantial increase in Metal Removal Rates (MRR).

BENEFIT

- Improved surface quality.
- Regrindable tool to reduce tool cost.

■ HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Roughing

Material Group		Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).									
							A		Cutting Speed – vc SFM		D1 – Diameter					
		ap	ae	min	max	frac.	dec.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
								.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
P	0	Ap max	0.4 x D	490	–	660	IPT	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	1	Ap max	0.4 x D	490	–	660	IPT	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	2	Ap max	0.4 x D	460	–	620	IPT	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	3	Ap max	0.4 x D	390	–	520	IPT	.0008	.0011	.0015	.0019	.0023	.0029	.0034	.0039	.0045
	4	Ap max	0.4 x D	300	–	490	IPT	.0007	.0010	.0014	.0017	.0020	.0026	.0030	.0034	.0039
	5	Ap max	0.4 x D	200	–	330	IPT	.0006	.0009	.0012	.0015	.0018	.0023	.0027	.0031	.0036
M	1	Ap max	0.4 x D	300	–	380	IPT	.0008	.0011	.0015	.0019	.0023	.0029	.0034	.0039	.0045
	2	Ap max	0.4 x D	200	–	260	IPT	.0006	.0009	.0012	.0015	.0018	.0023	.0027	.0031	.0036
	3	Ap max	0.4 x D	200	–	230	IPT	.0005	.0008	.0010	.0013	.0015	.0019	.0022	.0025	.0028
S	1	Ap max	0.4 x D	160	–	300	IPT	.0008	.0011	.0015	.0019	.0023	.0029	.0034	.0039	.0045
	2	Ap max	0.4 x D	80	–	130	IPT	.0004	.0006	.0008	.0010	.0012	.0015	.0018	.0021	.0024
	3	Ap max	0.4 x D	80	–	130	IPT	.0004	.0006	.0008	.0010	.0012	.0015	.0018	.0021	.0024
	4	Ap max	0.4 x D	160	–	200	IPT	.0006	.0008	.0011	.0014	.0017	.0021	.0025	.0028	.0033
H	1	Ap max	0.4 x D	260	–	460	IPT	.0007	.0010	.0014	.0017	.0020	.0026	.0030	.0034	.0039

NOTE: Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ HARVI™ III • UJBE • Ball Nose • Unequal Flute Spacing • Finishing

Material Group		Side Milling (A)		KCSM15			Recommended feed per tooth (IPT = inch/th) for side milling (A).									
							A		Cutting Speed – vc SFM		D1 – Diameter					
		ap	ae	min	max	frac.	dec.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
								.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
P	0	Ap max	.06 x D	940	–	1250	IPT	.0011	.0016	.0022	.0027	.0033	.0041	.0047	.0053	.0059
	1	Ap max	.06 x D	940	–	1250	IPT	.0011	.0016	.0022	.0027	.0033	.0041	.0047	.0053	.0059
	2	Ap max	.06 x D	870	–	1180	IPT	.0011	.0016	.0022	.0027	.0033	.0041	.0047	.0053	.0059
	3	Ap max	.06 x D	750	–	1000	IPT	.0009	.0014	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	4	Ap max	.06 x D	560	–	940	IPT	.0008	.0012	.0016	.0020	.0025	.0031	.0036	.0040	.0046
	5	Ap max	.06 x D	370	–	620	IPT	.0007	.0011	.0015	.0018	.0022	.0028	.0033	.0037	.0043
M	1	Ap max	.06 x D	310	–	470	IPT	.0006	.0009	.0012	.0015	.0018	.0023	.0027	.0030	.0034
	2	Ap max	.06 x D	560	–	720	IPT	.0009	.0014	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	3	Ap max	.06 x D	370	–	500	IPT	.0007	.0011	.0015	.0018	.0022	.0028	.0033	.0037	.0043
S	1	Ap max	.06 x D	370	–	440	IPT	.0006	.0009	.0012	.0015	.0018	.0023	.0027	.0030	.0034
	2	Ap max	.06 x D	310	–	560	IPT	.0009	.0014	.0018	.0023	.0027	.0035	.0041	.0046	.0054
	3	Ap max	.06 x D	160	–	250	IPT	.0005	.0007	.0010	.0012	.0015	.0018	.0022	.0025	.0029
	4	Ap max	.06 x D	160	–	250	IPT	.0005	.0007	.0010	.0012	.0015	.0018	.0022	.0025	.0029
H	1	Ap max	.06 x D	310	–	370	IPT	.0007	.0010	.0013	.0017	.0020	.0026	.0030	.0034	.0040
H	1	Ap max	.06 x D	500	–	870	IPT	.0008	.0012	.0016	.0020	.0025	.0031	.0036	.0040	.0046

NOTE: Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

End Mills for High-Feed Milling

KenFeed™

Specifically engineered to machine hardened steel up to 65 HRC
at extreme speeds and feeds.

FEATURES AND BENEFITS

- Unique tool with new 6-flute style for high productivity.
- Necked shanks provide extended reach in deep cavities.
- High-feed rates up to .0230" per tooth on a 3/4" tool.
- Machine hardened materials at 2–3x the metal removal rate of competitive end mills.
- Wide range of cutting diameters: down to 1/4" for small and medium pocket work.
- Innovative new geometry maximizes metal removal rates.
- High metal removal rates lower manufacturing costs.



Visit kenametal.com or contact your local
Authorized Kennametal Distributor.



kenametal.com

➤ CXE/CXER

High-Performance Solid Carbide End Mills

Primary Application

CXE and CXER radius end mills are specially developed and manufactured for stainless steel, titanium, and high-temperature alloys that are typically found in aerospace, defense, medical, oil, and gas industries.

- Roughing and finishing with one tool.
- Highest Metal Removal Rates (MRR) optimize productivity.
- Tough and wear-resistant substrate.
- Advanced nano-composite PVD coating.

Features and Benefits

Advanced Technology

- Four flutes with unequal helix for chatter-free machining at high feed rates.
- Center cutting for helical operations and pocketing.
- Front-end design and unequal helix for optimized chip control.

Tailored Grades

- SP4060 grade with tough and wear-resistant substrate, advanced nano-composite PVD coating for highest tool life.

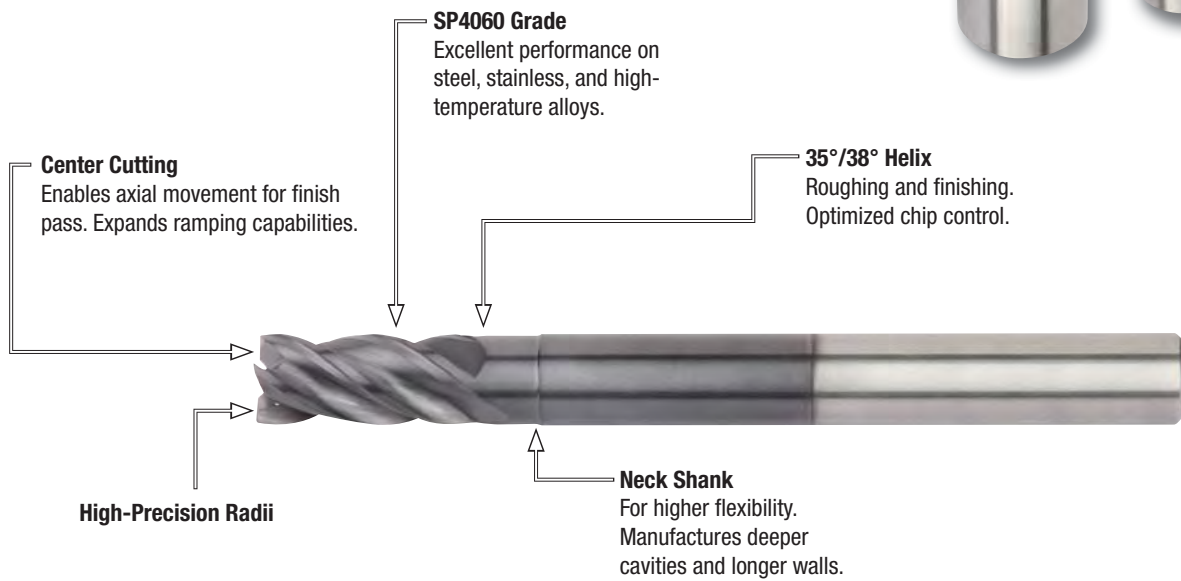
Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.

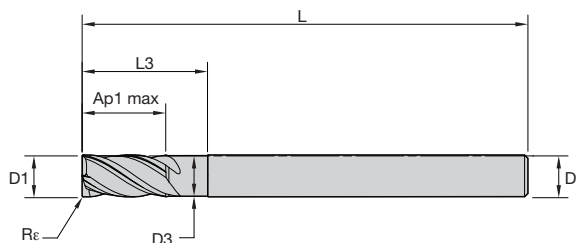
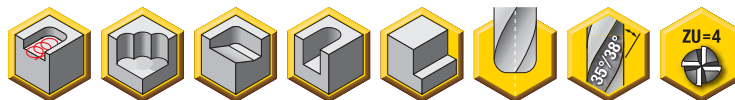
Standard Offering

- Diameter range 1/8–1".

Designed for roughing and finishing with the highest Metal Removal Rates (MRR) in demanding materials.

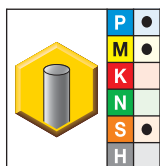


- Asymmetrical flute spacing and variable helix configuration minimizes chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Standard items listed. Additional styles and coatings made-to-order.



End Mill Tolerances	
D1	tolerance
All	+0.000/- .002"

■ CXE • 4 Flute • Inch

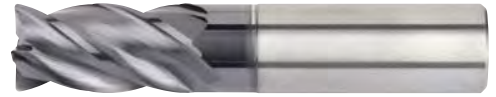
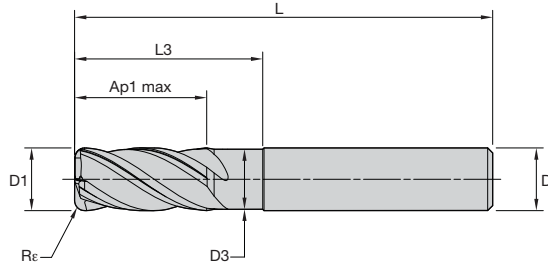
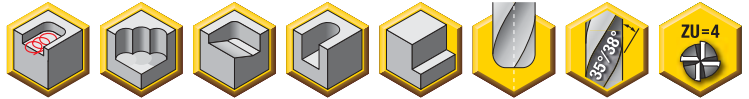


- first choice
- alternate choice

SP4060	D1	D	D3	Ap1 max	L	L3	Re
CXE0125MTN4-C	1/8	1/4	—	1/4	2 1/2	—	.010
CXE0187MTN4-C	3/16	1/4	—	3/8	3	—	.010
CXE0250MN4-C	1/4	1/4	.240	1/2	3	3/4	.010
CXE0375MN4-C	3/8	3/8	.365	3/4	4	1 1/8	.010
CXE0500MN4-C	1/2	1/2	.490	1	4	1 1/2	.010
CXE0750MN4-C	3/4	3/4	.740	1 1/2	5	2 1/4	.010

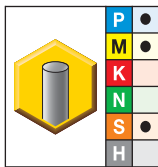
NOTE: For application data, see page P86.

- Asymmetrical flute spacing and variable helix configuration minimizes chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Standard items listed. Additional styles and coatings made-to-order.



End Mill Tolerances	
D1	tolerance
All	+ .000 / - .002"

■ CXER • 4 Flute • Inch



- first choice
- alternate choice

SP4060	D1	D	Ap1 max	L	L3	Re
CXER0125NTN4-C	1/8	.250	.275	2 1/2	—	.010
CXER0125NTN4-F *	1/8	.250	.290	2 1/2	—	.030
CXER0250NN4-C	1/4	.250	.540	2 1/2	.750	.010
CXER0250NN4-E	1/4	.250	.550	2 1/2	.750	.020
CXER0375NN4-C	3/8	.375	.825	2 1/2	1.125	.010
CXER0375NN4-E	3/8	.375	.825	2 1/2	1.125	.020
CXER0469NTN4-E *	15/32	.500	1.031	3	—	.020
CXER0500NN4-C	1/2	.500	1.100	3	1.500	.010
CXER0500NN4-F *	1/2	.500	1.100	3	1.500	.030
CXER0500NN4-J	1/2	.500	1.100	3	1.500	.060
CXER0500NN4-K	1/2	.500	1.100	3	1.500	.090
CXER0500NN4-L	1/2	.500	1.100	3	1.500	.120
CXER0625NN4-C	5/8	.625	1.375	3 1/2	1.875	.010
CXER0625NN4-J *	5/8	.625	1.375	3 1/2	1.875	.060
CXER0750NN4-C	3/4	.750	1.650	4	2.250	.010
CXER0750NN4-F	3/4	.750	1.650	4	2.250	.030
CXER0750NN4-K	3/4	.750	1.650	4	2.250	.090
CXER0750NN4-L	3/4	.750	1.650	4	2.250	.120
CXER1000NN4-C *	1	1.000	2.200	5	3.000	.010
CXER1000NN4-F	1	1.000	2.200	5	3.000	.030
CXER1000NN4-L *	1	1.000	2.200	5	3.000	.120

NOTE: For application data, see page P86.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



High-Performance Solid Carbide End Mills

■ CXE/CXER • Asymmetrical Flute Spacing

		Side Milling (A) and Slotting (B)			Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.														
Material Group	A		B	SP4060			D1 – Diameter												
	ap	ae	ap	Cutting Speed – vc SFM			frac.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1		
				min		max	dec.	.125	.188	.250	.313	.375	.438	.500	.625	.750	1.000		
P	3	1.5 x D	0.5 x D	1 x D	390	–	520	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045	
	4	1.5 x D	0.5 x D	0.75 x D	300	–	490	IPT	.0007	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034	.0039	
	5	1.5 x D	0.5 x D	1 x D	200	–	330	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031	.0036	
	6	1.5 x D	0.5 x D	0.75 x D	160	–	250	IPT	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0025	.0028	
M	1	1.5 x D	0.5 x D	1 x D	300	–	380	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045	
	2	1.5 x D	0.5 x D	1 x D	200	–	260	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031	.0036	
	3	1.5 x D	0.5 x D	1 x D	200	–	230	IPT	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0025	.0028	
S	1	1.5 x D	0.5 x D	1 x D	160	–	300	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045	
	2	1.5 x D	0.5 x D	1 x D	80	–	130	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021	.0024	
	3	1.5 x D	0.5 x D	1 x D	80	–	130	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021	.0024	
	4	1.5 x D	0.5 x D	1 x D	160	–	200	IPT	.0005	.0008	.0011	.0014	.0017	.0019	.0021	.0025	.0028	.0033	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.



Mobile App

The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.



FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

MACHING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

ORDERING

Login using your Konnect credentials to complete a purchase.

WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.



➤ High-Performance Solid Carbide Roughing End Mills

Primary Application

High-performance roughers can be applied in a wide range of workplace materials such as steels, stainless steels, cast irons, and in certain cases, hardened materials. Tailored roughing profiles reduce cutting forces to the necessary level or combine roughing and semi-finishing for fewer tool changes.

- High-performance universal tools for almost all cutting materials.
- Lower cutting forces and spindle power consumption.
- Center cutting for plunging, ramping, profiling, high-feed slotting, and side milling.

Features and Benefits

Advanced Technology

- Up to full length of cut for:
 - Slotting
 - Side milling
 - Profiling
 - Semi-finishing
- Various roughing profiles available for the right balance between cutting forces, feed rates, and surface quality.

Tailored Grades

- From proprietary KCPM15™ Beyond™ grade for outstanding wear to uncoated tools suitable for a variety of workpiece materials.
- Universal KC643M™ grade suitable for cutting steel, stainless, and titanium.

Customization

- Intermediate diameters available.
- Corner radii for near-shape roughing operations available.
- Various shank options, including the Safe-Lock™ system by HAIMER®, and non-standard coatings available.
- Internal coolant for improved chip evacuation and extended tool life.

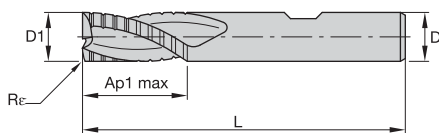
Extensive Standard Offering

- Diameter range 1/4–1".
- Weldon® shank for maximum torque transmission.

Highest metal removal rates — even on unstable machines or workpiece clamping.



- Kennametal standard dimensions.
- Center cutting.
- Chipbreaker profile.

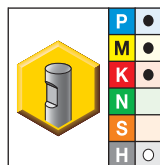


End Mill Tolerances

D1	d11	D	tolerance h6
<1/8"	-.0008/- .0031"	<1/8"	+0/- .00024"
1/8-7/32"	-.0012/- .0041"	1/8-7/32"	+0/- .00031"
1/4-3/8"	-.0016/- .0051"	1/4-3/8"	+0/- .00035"
13/32-11/16"	-.002/- .0063"	13/32-11/16"	+0/- .00043"
23/32-1-3/16"	-.0026/- .0077"	23/32-1-3/16"	+0/- .00051"



■ HPRSS

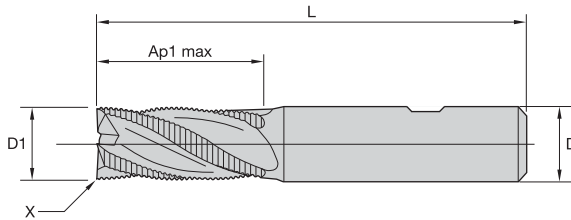
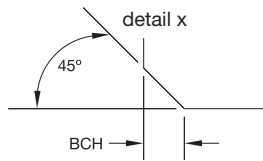


- first choice
- alternate choice

KCPM15	D1	D	Ap1 max	L	Re
HPRSS250S3075	1/4	1/4	3/4	2 1/2	.020
HPRSS375S3100	3/8	3/8	1	2 1/2	.020
HPRSS500S3125	1/2	1/2	1 1/4	3	.030
HPRSS625S3163	5/8	5/8	1 5/8	3 1/2	.030
HPRSS750S3163	3/4	3/4	1 5/8	4	.030

NOTE: For application data, see page P93.

- Kennametal standard dimensions.
- Center cutting.
- Cord profile.

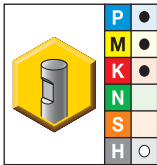


End Mill Tolerances

D1	d11	D	tolerance h6
<1/8"	-.0008/-0.0031"	<1/8"	+0/-0.00024"
1/8-7/32"	-.0012/-0.0041"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	-.0016/-0.0051"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	-.002/-0.0063"	13/32-11/16"	+0/-0.00043"
23/32-1-3/16"	-.0026/-0.0077"	23/32-1-3/16"	+0/-0.00051"



■ MDRHEC • Rougher • Beyond™



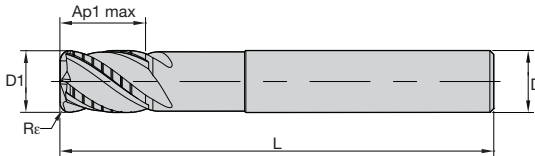
- first choice
- alternate choice

KCPM15	D1	D	Ap1 max	L	BCH	Z U
MDRHEC250S3025	1/4	1/4	3/8	2	.012	3
MDRHEC250S3075	1/4	1/4	3/4	2 1/2	.012	3
MDRHEC250S4025	1/4	1/4	3/8	2	.012	3
MDRHEC250S4075	1/4	1/4	3/4	2 1/2	.012	3
MDRHEC312S4081	5/16	5/16	13/16	2 1/2	.012	4
MDRHEC375S4038	3/8	3/8	1/2	2	.020	4
MDRHEC375S4088	3/8	3/8	7/8	2 1/2	.020	4
MDRHEC500S4050	1/2	1/2	5/8	2 1/2	.020	4
MDRHEC500S4100	1/2	1/2	1	3	.020	4
MDRHEC625S4063	5/8	5/8	3/4	3	.020	4
MDRHEC625S4125	5/8	5/8	1 1/4	3 1/2	.020	4
MDRHEC750S4075	3/4	3/4	7/8	3 1/2	.020	4
MDRHEC750S4150	3/4	3/4	1 1/2	4	.020	4
MDRHEC100S5150	1	1	1 1/2	4	.020	5

NOTE: For application data, see page P94.

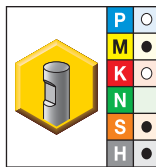
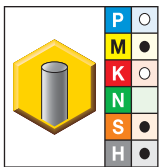
High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Center cutting.
- Shallow-pitch profile.



End Mill Tolerances			
D1	d11	D	tolerance h6
<1/8"	-.0008/-0.0031"	<1/8"	+0/-0.0024"
1/8-7/32"	-.0012/-0.0041"	1/8-7/32"	+0/-0.0031"
1/4-3/8"	-.001/-0.0051"	1/4-3/8"	+0/-0.0035"
13/32-11/16"	-.002/-0.0063"	13/32-11/16"	+0/-0.0043"
23/32-1 3/16"	-.0026/-0.0077"	23/32-1 3/16"	+0/-0.0051"

■ HPRST



- first choice
- alternate choice

KC643M	KC643M	D1	D	Ap1 max	L	Re	Z U
HPRST250S4038	—	1/4	1/4	3/8	2	.030	3
HPRST250S4075	—	1/4	1/4	3/4	2 1/2	.030	4
HPRST375S4050	—	3/8	3/8	1/2	2	.030	4
HPRST375S4088	—	3/8	3/8	7/8	2 1/2	.030	4
—	HPRST500S4063	1/2	1/2	5/8	2 1/2	.040	4
—	HPRST500S4125	1/2	1/2	1 1/4	3	.040	4
—	HPRST625S4075	5/8	5/8	3/4	3	.040	4
—	HPRST625S4125	5/8	5/8	1 1/4	3 1/2	.040	4
—	HPRST625S6125	5/8	5/8	1 1/4	3 1/2	.040	6
—	HPRST750S4088	3/4	3/4	7/8	3 1/2	.050	4
—	HPRST750S4150	3/4	3/4	1 1/2	4	.050	4
—	HPRST750S6150	3/4	3/4	1 1/2	4	.050	6
—	HPRST1000S4150	1	1	1 1/2	4	.050	4
—	HPRST1000S6150	1	1	1 1/2	4	.050	6

NOTE: For application data, see page P95.

■ HPRSS

Material Group													
	Side Milling (A) and Slotting (B)			KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter						
	ap	ae	ap	min	max		1/4	5/16	3/8	1/2	5/8	3/4	
P	1	1 x D	0.5 x D	0.75 x D	500	650	fz	.0018	.0023	.0027	.0035	.0039	.0043
	2	1 x D	0.5 x D	0.75 x D	450	625	fz	.0018	.0023	.0027	.0035	.0039	.0043
	3	1 x D	0.5 x D	0.75 x D	400	525	fz	.0015	.0020	.0023	.0029	.0034	.0038
	4	1 x D	0.4 x D	0.3 x D	350	475	fz	.0014	.0018	.0020	.0026	.0030	.0033
	5	1 x D	0.5 x D	0.75 x D	200	325	fz	.0012	.0016	.0018	.0023	.0027	.0030
	6	1 x D	0.4 x D	0.3 x D	150	225	fz	.0010	.0013	.0015	.0019	.0022	.0024
M	1	1 x D	0.5 x D	0.75 x D	250	325	fz	.0015	.0020	.0023	.0029	.0034	.0038
	2	1 x D	0.5 x D	0.75 x D	190	260	fz	.0012	.0016	.0018	.0023	.0027	.0030
	3	1 x D	0.5 x D	0.75 x D	200	260	fz	.0010	.0013	.0015	.0019	.0022	.0024
K	1	1 x D	0.5 x D	0.75 x D	400	525	fz	.0018	.0023	.0027	.0035	.0039	.0043
	2	1 x D	0.5 x D	0.75 x D	360	460	fz	.0015	.0020	.0023	.0029	.0034	.0038
	3	1 x D	0.5 x D	0.75 x D	330	430	fz	.0012	.0016	.0018	.0023	.0027	.0030
H	1	1 x D	0.4 x D	0.3 x D	300	450	fz	.0014	.0018	.0020	.0026	.0030	.0033

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.



MDRHEC

Material Group	Side Milling (A) and Slotting (B)			KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.								
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter							
	ap	ae	ap	min	max		1/4	5/16	3/8	1/2	5/8	3/4	1	
							.250	.313	.375	.500	.625	.750	1.000	
P	0	1.0 x D	0.5 x D	0.5 x D	490	660	IPT	.0016	.0020	.0023	.0029	.0034	.0037	.0042
	1	1.0 x D	0.5 x D	0.5 x D	490	660	IPT	.0016	.0020	.0023	.0029	.0034	.0037	.0042
	2	1.0 x D	0.4 x D	0.5 x D	460	620	IPT	.0016	.0020	.0023	.0029	.0034	.0037	.0042
	3	1.0 x D	0.4 x D	0.5 x D	390	520	IPT	.0013	.0017	.0019	.0025	.0029	.0033	.0038
	4	1.0 x D	0.3 x D	0.4 x D	300	490	IPT	.0012	.0015	.0017	.0022	.0026	.0029	.0033
M	1	1.0 x D	0.4 x D	0.5 x D	300	380	IPT	.0013	.0017	.0019	.0025	.0029	.0033	.0038
	2	1.0 x D	0.4 x D	0.5 x D	200	260	IPT	.0010	.0013	.0016	.0020	.0023	.0026	.0031
	3	1.0 x D	0.4 x D	0.5 x D	200	230	IPT	.0009	.0011	.0013	.0016	.0019	.0021	.0024
K	1	1.0 x D	0.5 x D	0.5 x D	390	490	IPT	.0016	.0020	.0023	.0029	.0034	.0037	.0042
	2	1.0 x D	0.4 x D	0.5 x D	360	460	IPT	.0013	.0017	.0019	.0025	.0029	.0033	.0038
	3	1.0 x D	0.4 x D	0.5 x D	360	430	IPT	.0010	.0013	.0016	.0020	.0023	.0026	.0031
S	1	1.0 x D	0.4 x D	0.5 x D	–	–	IPT	.0013	.0017	.0019	.0025	.0029	.0033	.0038
	2	1.0 x D	0.4 x D	0.5 x D	–	–	IPT	.0007	.0009	.0010	.0013	.0015	.0018	.0021
H	1	1.0 x D	0.3 x D	0.4 x D	260	460	IPT	.0012	.0015	.0017	.0022	.0026	.0029	.0033

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ HPRST

Material Group						Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.								
		Side Milling (A) and Slotting (B)		KC643M		D1 – Diameter								
		A		B	Cutting Speed – vc SFM		frac.	1/4	5/16	3/8	1/2	5/8	3/4	1
		ap	ae	ap	min	max	dec.	.250	.313	.378	.500	.625	.750	1.000
P	3	1.0 x D	0.5 x D	0.75 x D	390	520	IPT	.0015	.0020	.0023	.0029	.0034	.0039	.0045
	4	1.0 x D	0.3 x D	0.75 x D	300	490	IPT	.0014	.0017	.0020	.0026	.0030	.0034	.0039
	5	1.0 x D	0.5 x D	0.75 x D	200	330	IPT	.0012	.0016	.0018	.0023	.0027	.0031	.0036
	6	1.0 x D	0.3 x D	0.3 x D	160	250	IPT	.0010	.0013	.0015	.0019	.0022	.0025	.0028
M	1	1.0 x D	0.5 x D	0.75 x D	300	380	IPT	.0015	.0020	.0023	.0029	.0034	.0039	.0045
	2	1.0 x D	0.5 x D	0.75 x D	200	260	IPT	.0012	.0016	.0018	.0023	.0027	.0031	.0036
	3	1.0 x D	0.5 x D	0.75 x D	200	230	IPT	.0010	.0013	.0015	.0019	.0022	.0025	.0028
K	1	1.0 x D	0.5 x D	1 x D	390	490	IPT	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	2	1.0 x D	0.5 x D	1 x D	360	460	IPT	.0015	.0020	.0023	.0029	.0034	.0039	.0045
	3	1.0 x D	0.5 x D	1 x D	360	430	IPT	.0012	.0016	.0018	.0023	.0027	.0031	.0036
S	1	1.0 x D	0.3 x D	0.75 x D	160	300	IPT	.0015	.0020	.0023	.0029	.0034	.0039	.0045
	2	1.0 x D	0.3 x D	0.75 x D	80	130	IPT	.0008	.0010	.0012	.0015	.0018	.0021	.0024
	3	1.0 x D	0.3 x D	0.75 x D	80	130	IPT	.0008	.0010	.0012	.0015	.0018	.0021	.0024
	4	1.0 x D	0.4 x D	0.75 x D	160	200	IPT	.0011	.0014	.0017	.0021	.0025	.0028	.0033
H	1	1.0 x D	0.3 x D	0.3 x D	260	460	IPT	.0014	.0017	.0020	.0026	.0030	.0034	.0039
	2	1.0 x D	0.2 x D	0.2 x D	230	390	IPT	.0010	.0013	.0015	.0019	.0022	.0025	.0028
	3	1.0 x D	0.2 x D	0.2 x D	200	300	IPT	.0008	.0010	.0012	.0015	.0018	.0021	.0024

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

➤ RSM II

Multi-Flute End Mills

Primary Application

RSM II offers the highest productivity in machining aerospace structural components in titanium and titanium alloys. The RSM II is designed to utilise high-speed peel milling strategies with secure chip formation and evacuation in deep cavities. RSM II is available with the Safe-Lock™ system by HAIMER®.

- Excellent metal removal rates.
- Highest surface quality.
- Unmatched tool life and wear resistance using grade KC643M™.
- Highest process security.

Features and Benefits

Advanced Technology

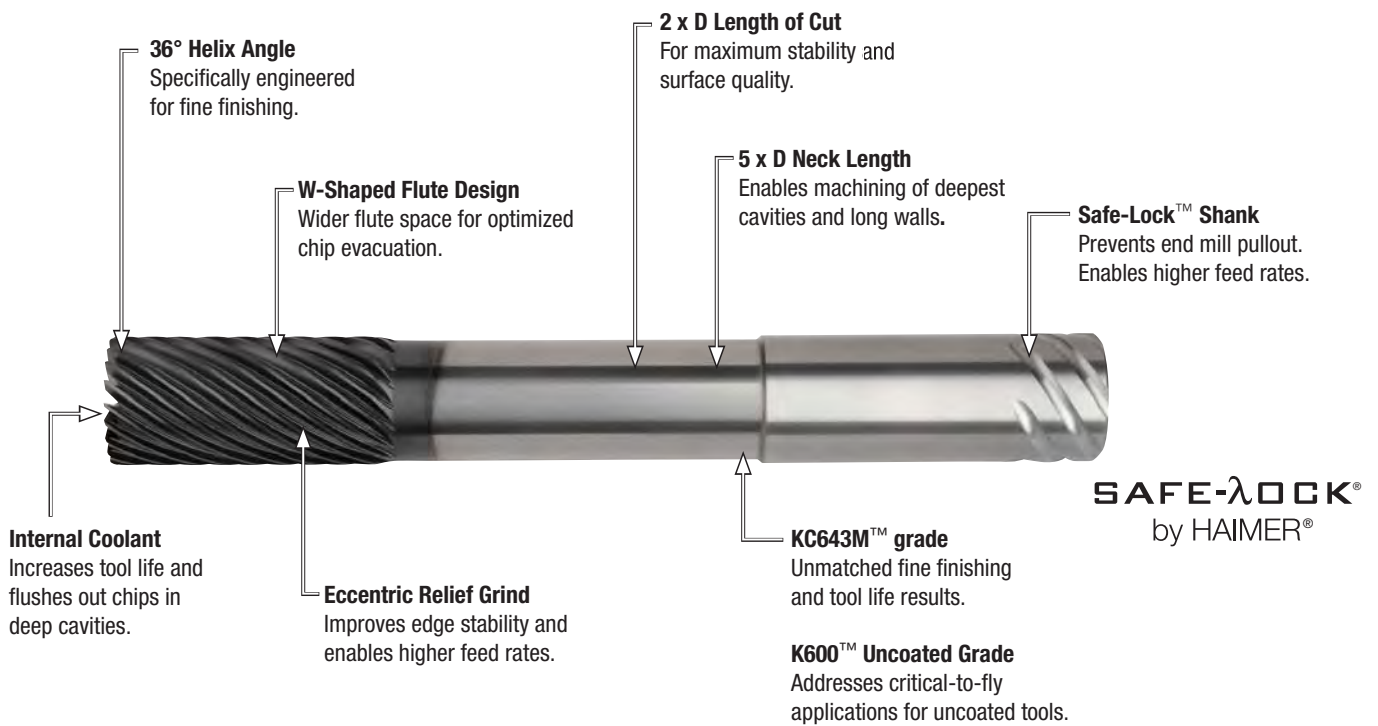
- Maximum number of flutes for increased feed rates and less vibration tendency.
- Proprietary W-shaped flute form improves chip formation and reduces cutting forces.
- Unequal flute spacing increases tool life and surface quality.
- Proprietary AlTiN KC643M grade for increased tool life.

Customization

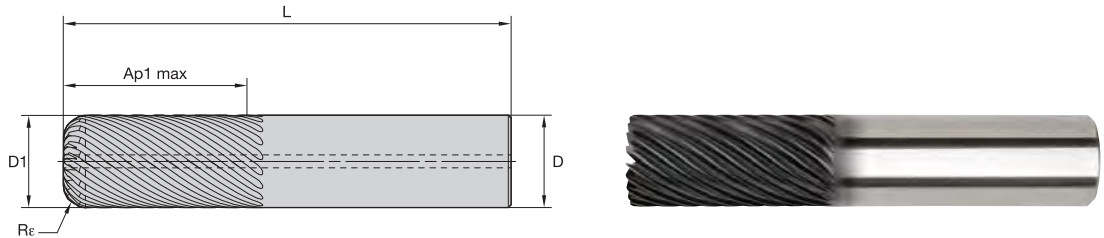
- Custom overall length and length of cut.
- Different radii per diameter.
- Custom shank styles.
- Tapered versions available.
- Uncoated K600 grade for milling critical-to-fly components.

Extensive Standard Offering

- Each diameter has an optimized number of flutes for constant edge-to-flute space ratio.
- Different radii per diameter.
- Safe-Lock™ and round shank.



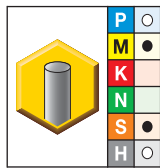
- Kennametal standard dimensions.
- Non-center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.



End Mill Tolerances

D1	tolerance e8	D	tolerance h6 + / -
< 1/8"	+0/- .002	< 1/8"	0/.00024
1/8-7/32"	+0/- .002	1/8-7/32"	0/.00031
1/4-3/8"	+0/- .002	1/4-3/8"	0/.00035
13/32-11/16"	+0/- .002	13/32-11/16"	0/.00043
23/32-1-3/16"	+0/- .002	23/32-1-3/16"	0/.00051

FSDE.. • Multi-Flute • Short • Inch



- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L	Re	Z U
FSDE0375J9BCA	3/8	3/8	3/4	2	.015	9
FSDE0375J9BCB	3/8	3/8	3/4	2	.030	9
FSDE0500J9BCA	1/2	1/2	1	2 1/2	.015	9
FSDE0500J9BCB	1/2	1/2	1	2 1/2	.030	9
FSDE0500J9BCC	1/2	1/2	1	2 1/2	.060	9
FSDE0625JBBCB	5/8	5/8	1 1/4	3	.030	11
FSDE0750JFBCA	3/4	3/4	1 1/2	3 1/2	.015	15
FSDE0750JFBCB	3/4	3/4	1 1/2	3 1/2	.030	15
FSDE0750JFBCC	3/4	3/4	1 1/2	3 1/2	.060	15
FSDE0750JFBCE	3/4	3/4	1 1/2	3 1/2	.120	15
FSDE1000JJBCA	1	1	2	4	.015	19
FSDE1000JJBCB	1	1	2	4	.030	19
FSDE1000JJBCC	1	1	2	4	.060	19
FSDE1000JJBCE	1	1	2	4	.120	19

NOTE: For application data, please see page P99.

■ FSDE.. • Multi-Flute • Short • Inch • Roughing

Material Group							Recommended feed per tooth (IPT = inch/th) for side milling (A).					
	Side Milling (A)		KC643M			D1 – Diameter						
	A		Cutting Speed – vc SFM									
	ap	ae	min		max	in	1/4	3/8	1/2	5/8	3/4	1
P	4	Ap max 0.03–0.045	440	–	740	IPT	.0032	.0034	.0040	.0043	.0049	.0058
	5	Ap max 0.03–0.045	300	–	490	IPT	.0028	.0030	.0036	.0039	.0045	.0054
M	1	Ap max 0.03–0.045	440	–	570	IPT	.0035	.0038	.0045	.0049	.0056	.0068
	2	Ap max 0.03–0.045	300	–	390	IPT	.0028	.0030	.0036	.0039	.0045	.0054
	3	Ap max 0.03–0.045	300	–	340	IPT	.0024	.0025	.0030	.0032	.0036	.0042
S	1	Ap max 0.03–0.045	250	–	440	IPT	.0035	.0038	.0045	.0049	.0056	.0068
	2	Ap max 0.03–0.045	120	–	200	IPT	.0019	.0020	.0024	.0026	.0030	.0036
	3	Ap max 0.03–0.045	120	–	200	IPT	.0019	.0020	.0024	.0026	.0030	.0036
	4	Ap max 0.03–0.045	250	–	300	IPT	.0025	.0028	.0033	.0036	.0041	.0050
H	1	Ap max 0.03–0.045	390	–	690	IPT	.0032	.0034	.0040	.0043	.0049	.0058
	2	Ap max 0.03–0.045	340	–	590	IPT	.0024	.0025	.0030	.0032	.0036	.0042

NOTE: For better surface finish, reduce feed per tooth.

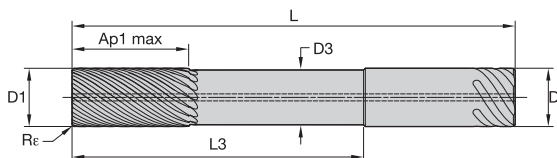
■ FSDE.. • Multi-Flute • Highest Surface Quality • Finishing

Material Group							Recommended feed per tooth (IPT = inch/th) for side milling (A).					
	Side Milling (A)		KC643M			D1 – Diameter						
	A		Cutting Speed – vc SFM			frac.						
	ap	ae	min		max	dec.	1/4	3/8	1/2	5/8	3/4	1
P	4	Ap max .008–.012	445	–	1628	IPT	.0042	.0045	.0053	.0058	.0061	.0066
	5	Ap max .008–.012	295	–	1078	IPT	.0038	.0040	.0048	.0052	.0056	.0061
M	1	Ap max .008–.012	445	–	1243	IPT	.0047	.0050	.0060	.0066	.0070	.0077
	2	Ap max .008–.012	295	–	869	IPT	.0038	.0040	.0048	.0052	.0056	.0061
	3	Ap max .008–.012	295	–	759	IPT	.0032	.0033	.0040	.0043	.0045	.0048
S	1	Ap max .008–.012	245	–	979	IPT	.0047	.0050	.0060	.0066	.0070	.0077
	2	Ap max .008–.012	125	–	429	IPT	.0025	.0026	.0032	.0035	.0037	.0041
	3	Ap max .008–.012	125	–	429	IPT	.0025	.0026	.0032	.0035	.0037	.0041
	4	Ap max .008–.012	245	–	649	IPT	.0033	.0037	.0044	.0048	.0051	.0056
H	1	Ap max .008–.012	395	–	1518	IPT	.0042	.0045	.0053	.0058	.0061	.0066
	2	Ap max .008–.012	345	–	1298	IPT	.0032	.0033	.0040	.0043	.0045	.0048

NOTE: For better surface finish, reduce feed per tooth.

High-Performance Solid Carbide End Mills

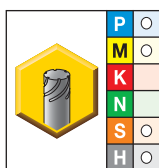
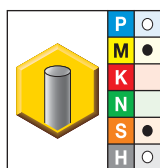
- Kennametal standard dimensions.
- Non-center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Reach optimized for machining deep cavities.



End Mill Tolerances

D1	tolerance e8	D	tolerance h6 +/-
< 1/8"	+0/--.002	< 1/8"	0/.00024
1/8-7/32"	+0/--.002	1/8-7/32"	0/.00031
1/4-3/8"	+0/--.002	1/4-3/8"	0/.00035
13/32-11/16"	+0/--.002	13/32-11/16"	0/.00043
23/32-1-3/16"	+0/--.002	23/32-1-3/16"	0/.00051

FSDE.. • Multi-Flute with Neck • Inch



- first choice
- alternate choice

KC643M	FSDE0500N9DYA	D1	D	D3	Ap1 max	L3	L	Re	Z U
FSDE0250J7DYA	-	1/4	1/4	.235	1/2	1.250	3	.015	7
FSDE0375J9DYA	-	3/8	3/8	.353	3/4	1.875	4	.015	9
FSDE0375J9DYB	-	3/8	3/8	.353	3/4	1.875	4	.030	9
-	FSDE0500N9DYA	1/2	1/2	.470	1	2.500	5	.015	9
-	FSDE0500N9DYB	1/2	1/2	.470	1	2.500	5	.030	9
-	FSDE0500N9DYC	1/2	1/2	.470	1	2.500	5	.060	9
-	FSDE0625NBDYB	5/8	5/8	.588	1 1/4	3.125	5 1/4	.030	11
-	FSDE0750NFDYA	3/4	3/4	.705	1 1/2	3.750	6	.015	15
-	FSDE0750NFDYB	3/4	3/4	.705	1 1/2	3.750	6	.030	15
-	FSDE0750NFDYC	3/4	3/4	.705	1 1/2	3.750	6	.060	15
-	FSDE0750NFDYE	3/4	3/4	.705	1 1/2	3.750	6	.120	15
-	FSDE1000JJDYA	1	1	.940	2	5.000	7 1/2	.015	19
-	FSDE1000JJDYB	1	1	.940	2	5.000	7 1/2	.030	19
-	FSDE1000JJDYC	1	1	.940	2	5.000	7 1/2	.060	19
-	FSDE1000JJDYE	1	1	.940	2	5.000	7 1/2	.120	19

NOTE: For application data, please see page P101.

FSDE.. • Multi-Flute with Neck • Inch

Material Group							Recommended feed per tooth (IPT = inch/th) for side milling (A).						
		Side Milling (A)		KC643M									
		A		Cutting Speed – vc SFM			D1 – Diameter						
		ap	ae	min		max	frac.	1/4	3/8	1/2	5/8	3/4	1
							dec.	.2500	.3750	.5000	.6250	.7500	1.0000
P	4	Ap max	0.008–0.012	445	–	1628	IPT	.0042	.0045	.0053	.0058	.0061	.0066
	5	Ap max	0.008–0.012	295	–	1078	IPT	.0038	.0040	.0048	.0052	.0056	.0061
M	1	Ap max	0.008–0.012	445	–	1243	IPT	.0047	.0050	.0060	.0066	.0070	.0077
	2	Ap max	0.008–0.012	295	–	869	IPT	.0038	.0040	.0048	.0052	.0056	.0061
S	3	Ap max	0.008–0.012	295	–	759	IPT	.0032	.0033	.0040	.0043	.0045	.0048
	1	Ap max	0.008–0.012	245	–	979	IPT	.0047	.0050	.0060	.0066	.0070	.0077
H	2	Ap max	0.008–0.012	125	–	429	IPT	.0025	.0026	.0032	.0035	.0037	.0041
	3	Ap max	0.008–0.012	125	–	429	IPT	.0025	.0026	.0032	.0035	.0037	.0041
H	4	Ap max	0.008–0.012	245	–	649	IPT	.0033	.0037	.0044	.0048	.0051	.0056
	1	Ap max	0.008–0.012	395	–	1518	IPT	.0042	.0045	.0053	.0058	.0061	.0066
H	2	Ap max	0.008–0.012	345	–	1298	IPT	.0032	.0033	.0040	.0043	.0045	.0048

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions.
 For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.





FSDE 15-Flute End Mill

FSDE 11-Flute End Mill

CHALLENGE

CHALLENGE

- Finishing contour milling on aerospace part with interrupted cut.
- Depth of cut: 1.575" (40mm).
- Titanium alloy R56400.
- External emulsion.

- Finishing long channel on aerospace frame part.
- Depth of cut: 1.535" (39mm).
- Titanium alloy.
- External emulsion.

SOLUTION

SOLUTION

- RSM II multi-flute cutter with KC643M™.
- Ø .787" (20mm) with 15 effective cutting edges and .158" (4mm) radius.

- RSM II multi-flute cutter with KC643M.
- Ø .625" (15.875mm) with 11 effective cutting edges and .003" (0.762mm) radius.

CUTTING DATA

CUTTING DATA

- vc 230 SFM
- fz .0030 IPT
- ap 1.569"
- ae .001"

- vc 425 SFM
- fz .0021 IPT
- ap 1.55"
- ae .001"

RESULT

RESULT

- 3.75 times longer tool life compared to competitor solution.

- 2.5 times higher feed rates compared to initial solution.

BENEFIT

BENEFIT

- Machining time reduction of 46%.
- Metal removal rate increase of 87%.

- Machining time reduction of 60%.
- Metal removal rate increase of 150%.

(continued)

(continued)



FSDE 15-Flute End Mill

- CHALLENGE**
- Finishing external profile.
 - Depth of cut: .787" (20mm).
 - Titanium alloy 6Al4V.
 - External emulsion.

- SOLUTION**
- RSM II multi-flute cutter with KC643M™.
 - Ø .787" (20mm) with 15 effective cutting edges and .158" (4mm) corner radius.

- CUTTING DATA**
- vc 492 SFM
 - fz .0020 IPT
 - ap .784"
 - ae .0024"

- RESULT**
- 50% tool life increase.
 - 3x cutting speed.
 - Nearly 8x the feed rates.

- BENEFIT**
- Machining time reduction of 81% from 43.1–8.4 min vs competitor solution.
 - Metal removal rate increase of 360% vs competitor solution.

FSDE 19-Flute End Mill

- CHALLENGE**
- Finishing external profile.
 - Depth of cut: .787" (20mm).
 - Titanium alloy 6Al4V.
 - External emulsion.

- SOLUTION**
- RSM II multi-flute cutter with KC643M.
 - Ø .984" (25mm) with 19 effective cutting edges and .039" (1mm) corner radius.

- CUTTING DATA**
- vc 492 SFM
 - fz .0020 IPT
 - ap .784"
 - ae .0024"

- RESULT**
- 50% tool life increase.
 - 3x cutting speed.
 - Nearly 8x the feed rates.

- BENEFIT**
- Machining time reduction of 81% from 43.1–8.3 min vs competitor solution.
 - Metal removal rate increase of 366% vs competitor solution.

Materials to Cut	<ul style="list-style-type: none"> • Titanium and titanium alloys. • Nickel-based alloys. • Cobalt-based alloys. • Steels (P4–P5). • Stainless steels (M2–M3). • Hardened steels (H1).
Cutting Speed	<ul style="list-style-type: none"> • Refer to application data recommendation. • Highly dynamic machines recommended.
Feed Rate	<ul style="list-style-type: none"> • Refer to application data recommendation. • Highly dynamic machines recommended. • High-speed peel milling strategies require control of adequate feed rates.
Depth of Cut	<ul style="list-style-type: none"> • High-speed peel milling requires small depth of cut (approximately 5% of diameter) not exceeding 0.0393" (1mm).
Coolant	<ul style="list-style-type: none"> • Internal coolant for machining cavities. • External coolant for peripheral milling.
Adaptation	<ul style="list-style-type: none"> • Shrink Fit adaptation is preferred as alternate recommendation. • High-Performance Milling Chucks (HPMC) are applicable. • Collect chucks are not recommended due to high runout.
Roughing Application	<ul style="list-style-type: none"> • Not recommended.
Finishing Application	<ul style="list-style-type: none"> • Finishing and semi-finishing.
Milling Strategy	<ul style="list-style-type: none"> • Peel milling strategies are recommended. • Trochoidal milling is not recommended for this tool.
Applications	<ul style="list-style-type: none"> • Shoulder milling. • Shoulder milling and fine finishing. • Peel milling and HPC techniques. • Non-center cutting. • No ramping and helical interpolation.
Corner Machining	<ul style="list-style-type: none"> • Pre-mill corner pocket to leave appropriate depth-of-cut for finishing application. • Use RSM with depth-of-cut at approximately 5% of diameter and below 0.0393" (1mm). • RSM II tool radius shall be smaller than final corner radius.
Engineered Solutions	<ul style="list-style-type: none"> • Available upon request.
Reconditioning Service	<ul style="list-style-type: none"> • Available with standard Kennametal reconditioning procedures. • Check services under Kennametal website for detailed information.

Service and Support

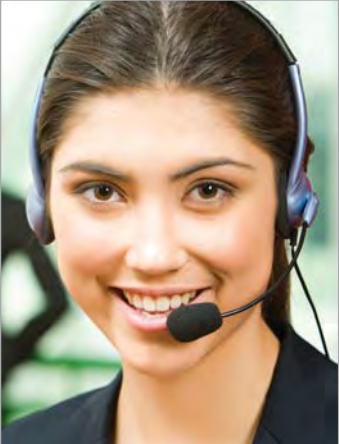
Customer Application Support (CAS)

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

SERVICE LEVEL EXCELLENCE	Fast telephone response. Quick technical solutions. Efficient case management.	
SERVICES	Operating parameters. Process optimization. Hardware support. Tooling selection. Troubleshooting.	
BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY	Materials database. Application calculators. Tooling performance experts.	

Originating Country	Language	Phone	E-mail
Australia	English	1800 666 667	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	k-cn.techsupport@kennametal.com
Denmark	English	808 89298	na.techsupport@kennametal.com
Finland	English	0800 919412	na.techsupport@kennametal.com
France	French	080 5540 367	eu.techsupport@kennametal.com
Germany	German	0800 0006651	eu.techsupport@kennametal.com
India	English	1 800 103 5227	in.techsupport@kennametal.com
Israel	English	1809 449889	na.techsupport@kennametal.com
Italy	Italian	800 916561	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	ap-kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	ap-kmt.techsupport@kennametal.com
Mexico	Spanish	1800 253 0758	na.techsupport@kennametal.com
Netherlands	English	0800 0201 130	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	ap-kmt.techsupport@kennametal.com
Norway	English	800 10080	na.techsupport@kennametal.com
Poland	Polish	0800 04411887	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643	na.techsupport@kennametal.com
Sweden	English	020799246	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	ap-kmt.techsupport@kennametal.com
UK	English	0800 032 8339	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	eu.techsupport@kennametal.com
USA	English	800 835 3668	na.techsupport@kennametal.com

Numbers shown only serve the originating country listed.

➤ High-Performance Solid Carbide Finishing End Mills

Primary Application

High-performance finishing end mills can be used for a wide range of workpiece materials such as steel, stainless steel, cast titanium, high-temp alloys, and in certain cases, hard materials.

- High-performance tools for excellent surface quality and accuracy.
- Reduce harmonics for chatter-free machining.
- Different front and flute styles for a wide range of applications like open contour, contour milling, and pocketing, and milling long and thin walls.

Features and Benefits

Advanced Technology

- Various styles available to choose from for the right application and workpiece material.
- Designated platforms for aerospace, transportation, and general engineering requirements.
- Selective styles for machining up to 6 x D.

Tailored Grades

- Wide range of grades from uncoated to proprietary Beyond™ grades to cover a wide range of requirements.

Highest metal removal rates and surface finish.



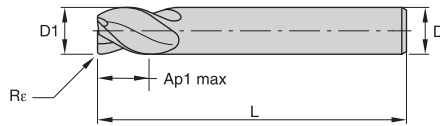
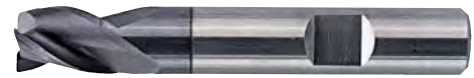
Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.
- Different radii available.

Standard Offering

- Diameter range 1/8–1".

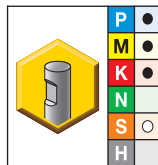
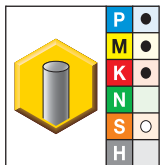
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6 +/-
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"

■ HPFSS 3 Flute • Soft Steels and Stainless Steels

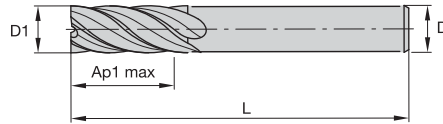


- first choice
- alternate choice

KC635M	KC635M	D1	D	Ap1 max	L	Rε
HPFSS125S3025	—	1/8	1/8	1/4	1 1/2	.010
HPFSS188S3031	—	3/16	3/16	5/16	2	.010
HPFSS250S3038	—	1/4	1/4	3/8	2	.020
HPFSS250S3050	—	1/4	1/4	1/2	2	.020
HPFSS312S3081	—	5/16	5/16	13/16	2 1/2	.020
HPFSS375S3050	—	3/8	3/8	1/2	2	.020
HPFSS375S3088	—	3/8	3/8	7/8	2 1/2	.020
—	HPFSS500S3063	1/2	1/2	5/8	2 1/2	.030
—	HPFSS500S3125	1/2	1/2	1 1/4	3	.030

NOTE: For application data, see page P111.

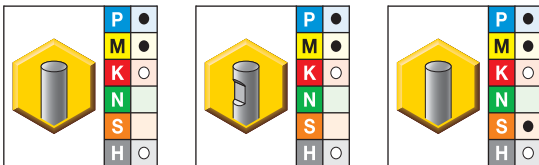
- Kennametal standard dimensions.
- Center cutting.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"



HPFSS 5 Flute • Steel, Stainless Steels, and Titanium

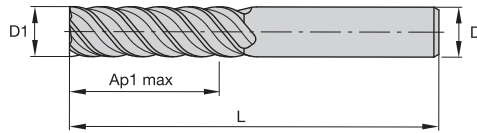


- first choice
- alternate choice

KCPM15	KCPM15	KC635M	D1	D	Ap1 max	L
—	—	HPFSS125S5025	1/8	1/8	1/4	1 1/2
—	—	HPFSS156S5056	5/32	3/16	9/16	2
—	—	HPFSS188S5031	3/16	3/16	5/16	2
HPFSS188S5056	—	—	3/16	3/16	9/16	2
HPFSS250S5038	—	—	1/4	1/4	3/8	2
HPFSS250S5075	—	—	1/4	1/4	3/4	2 1/2
HPFSS250S5125	—	—	1/4	1/4	1 1/4	4
HPFSS375S5050	—	—	3/8	3/8	1/2	2
HPFSS375S5088	—	—	3/8	3/8	7/8	2 1/2
HPFSS375S5150	—	—	3/8	3/8	1 1/2	4
—	HPFSS500S5063	—	1/2	1/2	5/8	2 1/2
—	HPFSS500S5125	—	1/2	1/2	1 1/4	3
—	HPFSS500S5200	—	1/2	1/2	2	4
—	HPFSS625S5075	—	5/8	5/8	3/4	3
—	HPFSS625S5163	—	5/8	5/8	1 5/8	4
—	HPFSS750S5088	—	3/4	3/4	7/8	3
—	HPFSS750S5163	—	3/4	3/4	1 5/8	4
—	HPFSS750S5325	—	3/4	3/4	3 1/4	5
—	HPFSS1000S5200	—	1	1	2	4
—	HPFSS1000S5325	—	1	1	3 1/4	6

NOTE: For application data, see page P111.

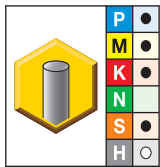
- Kennametal standard dimensions.
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6 +/-
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

HPFT • Stainless Steels and High-Temp Alloys



- first choice
- alternate choice

KC635M	D1	D	Ap1 max	L	Z U
HPFT250S6038	1/4	1/4	3/8	2	6
HPFT250S6075	1/4	1/4	3/4	2 1/2	6
HPFT312S6081	5/16	5/16	13/16	2 1/2	6
HPFT375S6088	3/8	3/8	7/8	2 1/2	6
HPFT375S6113	3/8	3/8	1 1/8	3	6
HPFT500S6063	1/2	1/2	5/8	2 1/2	6
HPFT500S6100	1/2	1/2	1	3	6
HPFT500S6200	1/2	1/2	2	4 1/2	6
HPFT625S6125	5/8	5/8	1 1/4	3 1/2	6
HPFT750S6150	3/4	3/4	1 1/2	4	6
HPFT750S6225	3/4	3/4	2 1/4	5	6
HPFT750S6300	3/4	3/4	3	5 1/4	6
HPFT750S6400	3/4	3/4	4	6 1/4	6
HPFT1000S6150	1	1	1 1/2	4	6
HPFT1000S6225	1	1	2 1/4	5	6
HPFT1000S6400	1	1	4	6 1/2	6

NOTE: For application data, see page P112.

High-Performance Solid Carbide End Mills

■ HPFSS 3 Flute • With Radius • Soft Steels and Stainless Steels

Material Group					Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.											
	Side Milling (A) and Slotting (B)		KC635M		D1 – Diameter											
	A		B		Cutting Speed – vc SFM		frac.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	ap	ae	ap		min	max	dec.	.125	.188	.250	.313	.375	.438	.500	.625	.750
P	0	1.5 x D	0.3 x D	0.5 x D	490	660	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	1	1.5 x D	0.3 x D	0.5 x D	490	660	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	2	1.5 x D	0.3 x D	0.5 x D	460	620	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	3	1.5 x D	0.3 x D	0.5 x D	390	520	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	4	1.5 x D	0.3 x D	0.3 x D	300	490	IPT	.0007	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034
	5	1.5 x D	0.3 x D	0.5 x D	200	330	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
M	1	1.5 x D	0.3 x D	0.5 x D	300	380	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	2	1.5 x D	0.3 x D	0.5 x D	200	260	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
	3	1.5 x D	0.3 x D	0.5 x D	200	230	IPT	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0025
K	1	1.5 x D	0.3 x D	0.5 x D	390	490	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	2	1.5 x D	0.3 x D	0.5 x D	360	460	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	3	1.5 x D	0.3 x D	0.5 x D	360	430	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
S	1	1.5 x D	0.3 x D	0.3 x D	160	300	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	2	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021
	3	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021
	4	1.5 x D	0.3 x D	0.5 x D	160	200	IPT	.0005	.0008	.0011	.0014	.0017	.0019	.0021	.0025	.0028

■ HPFSS 5 Flute • Steel, Stainless Steels, and Titanium

Material Group					Recommended feed per tooth (IPT = inch/th) for side milling (A).													
	Side Milling (A)		KC635M		KCPM15		D1 – Diameter											
	A		Cutting Speed – vc SFM				frac.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	
	ap	ae	min	max	min	max	dec.	.125	.188	.250	.313	.375	.438	.500	.625	.750	1.000	
P	0	1.5 x D	0.2 x D	490	660	490	660	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044	.0049
	1	1.5 x D	0.2 x D	490	660	490	660	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044	.0049
	2	1.5 x D	0.2 x D	460	620	460	620	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044	.0049
	3	1.5 x D	0.2 x D	390	520	390	520	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045
	4	1.5 x D	0.2 x D	300	490	300	490	IPT	.0007	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034	.0039
	5	1.5 x D	0.2 x D	200	330	200	330	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031	.0036
M	1	1.5 x D	0.2 x D	300	380	300	380	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045
	2	1.5 x D	0.2 x D	200	260	200	260	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031	.0036
	3	1.5 x D	0.2 x D	200	230	200	230	IPT	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0025	.0028
K	1	1.5 x D	0.2 x D	390	490	390	490	IPT	.0009	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044	.0049
	2	1.5 x D	0.2 x D	360	460	360	460	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045
	3	1.5 x D	0.2 x D	360	430	360	430	IPT	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031	.0036
S	1	1.5 x D	0.2 x D	160	300	–	–	IPT	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039	.0045
	2	1.5 x D	0.2 x D	80	130	–	–	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021	.0024
	3	1.5 x D	0.2 x D	80	130	–	–	IPT	.0004	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021	.0024
	4	1.5 x D	0.2 x D	160	200	–	–	IPT	.0005	.0008	.0011	.0014	.0017	.0019	.0021	.0025	.0028	.0033
H	1	1.5 x D	0.2 x D	260	460	260	460	IPT	.0007	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034	.0039

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on > 1/2" diameter.

■ HPFT • Stainless Steels and High-Temp Alloys

Material Group														
	Side Milling (A)		KC635M		Recommended feed per tooth (IPT = inch/th) for side milling (A).									
	A		Cutting Speed – vc SFM		frac.	D1 – Diameter								
	ap	ae	min	max	dec.	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
P	0	1.5 x D	0.05 x D	490	660	IPT	.188	.250	.313	.375	.438	.500	.625	.750
	1	1.5 x D	0.05 x D	490	660	IPT	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	2	1.5 x D	0.05 x D	460	620	IPT	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	3	1.5 x D	0.05 x D	390	520	IPT	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	4	1.5 x D	0.05 x D	300	490	IPT	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034
	5	1.5 x D	0.05 x D	200	330	IPT	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
M	1	1.5 x D	0.05 x D	300	380	IPT	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	2	1.5 x D	0.05 x D	200	260	IPT	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
	3	1.5 x D	0.05 x D	200	230	IPT	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0025
K	1	1.5 x D	0.05 x D	390	490	IPT	.0013	.0018	.0023	.0027	.0031	.0034	.0039	.0044
	2	1.5 x D	0.05 x D	360	460	IPT	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	3	1.5 x D	0.05 x D	360	430	IPT	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0031
S	1	1.5 x D	0.04 x D	160	300	IPT	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0039
	2	1.5 x D	0.04 x D	80	130	IPT	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021
	3	1.5 x D	0.04 x D	80	130	IPT	.0006	.0008	.0010	.0012	.0014	.0015	.0018	.0021
	4	1.5 x D	0.05 x D	160	200	IPT	.0008	.0011	.0014	.0017	.0019	.0021	.0025	.0028
H	1	1.5 x D	0.04 x D	260	460	IPT	.0010	.0014	.0017	.0020	.0023	.0026	.0030	.0034

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group
 These guidelines may require variations to achieve optimum results.

DUO-ΛOCK®

Replaceable head system

- High accuracy and repeatability.
- Maximum stability and productivity.
- Solid carbide performance.

Offering

- HARVI™ I, II, and III.
- Roughers and finishers.
- Aluminum and high-feed cutters.
- Corner rounding and chamfering tools.

Advanced Technology

- Up to 1 x D full slotting.
- 1,5 x D side milling up to 50% radial engagement.
- Extensive straight shanks, conical shanks, and integral adapters.
- Proprietary HARVI geometries enable roughing and finishing with one tool.



DUO-ΛOCK®
by HAIMER® and Kennametal

Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

MaxiMet™

Primary Application

The MaxiMet system provides extraordinary metal removal rates and combines roughing and finishing operations with any aluminum plunging, slotting, and profiling application. Its proprietary flute geometry is designed for high stiffness and improved chip evacuation, and generates exceptional wall to floor perpendicularity in thin-wall applications. To ensure a superior floor surface finish, the MaxiMet front geometry is equipped with a wiper facet grind.

- Use only one tool for roughing and finishing operations.
- Slotting depths up to 1 x D as well as side milling up to 0.5 x D radial and 1.5 x D axial engagement.
- Unequal flute spacing for chatter-free performance with the 3-flute series.
- Multiple corner radii and extended neck configurations available as standard.

Features and Benefits

Advanced Technology

- Increase output with fewer tool changes and increased metal removal rates.
- No specific tools for roughing and finishing necessary.
- Fewer passes due to 1 x D slotting capability.
- Perfect for MQL (minimum quantity lubrication) methods.

Tailored Grades

- K600 uncoated grade for longest tool life in aluminum and other non-ferrous materials.

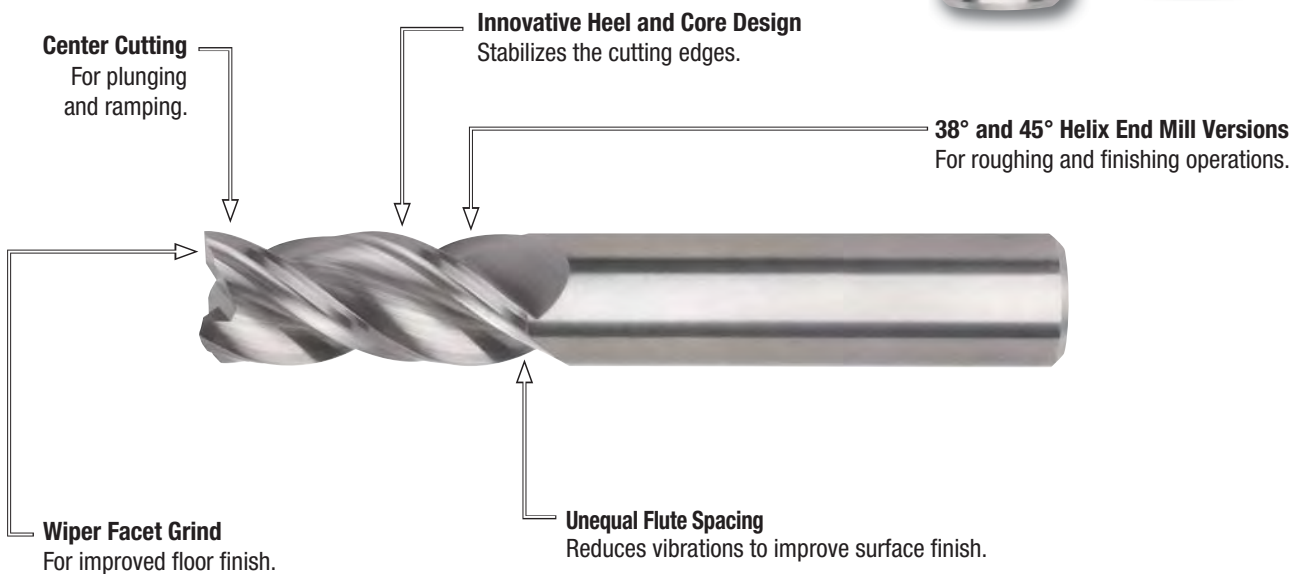
Customization

- Intermediate diameters available.
- Custom solutions available for machining titanium and other high-temperature alloys.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.

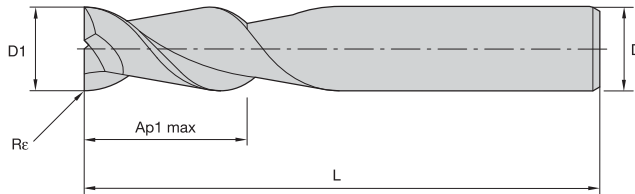
Extensive Standard Offering

- Diameter ranges 3/16–1".
- Extended neck for long-reach applications and radii and sharp corner configurations.

Solid carbide end mills for high metal removal rates and superior surface finishes in aluminum.



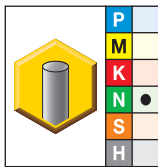
- Kennametal standards dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.



End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.00024"
1/8-7/32"	+0/-0.002"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	+0/-0.00035"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	+0/-0.00043"	13/32-11/16"	+0/-0.00043"
23/32-1 3/16"	+0/-0.00051"	23/32-1 3/16"	+0/-0.00051"

ABDF • Wiper Facet



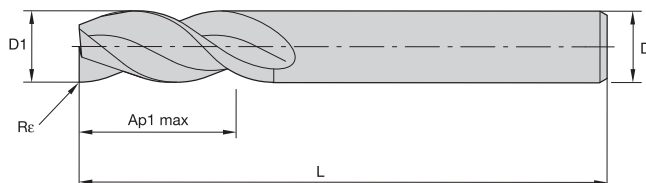
- first choice
- alternate choice

K600	D1	D	Ap1 max	L	Re
ABDF0188J2ARA	3/16	3/16	3/8	2	.015
ABDF0188J2AS	3/16	3/16	3/8	2	—
ABDF0250J2ARA	1/4	1/4	1/2	2 1/2	.015
ABDF0250J2ARB	1/4	1/4	1/2	2 1/2	.030
ABDF0250J2AS	1/4	1/4	1/2	2 1/2	—
ABDF0312J2ARA	5/16	5/16	5/8	2 1/2	.015
ABDF0312J2ARB	5/16	5/16	5/8	2 1/2	.030
ABDF0312J2AS	5/16	5/16	5/8	2 1/2	—
ABDF0375J2ARB	3/8	3/8	3/4	2 1/2	.030
ABDF0375J2AS	3/8	3/8	3/4	2 1/2	—
ABDF0500J2ARB	1/2	1/2	1 1/4	3	.030
ABDF0500J2ARC	1/2	1/2	1 1/4	3	.060
ABDF0500J2ARE	1/2	1/2	1 1/4	3	.120
ABDF0500J2AS	1/2	1/2	1 1/4	3	—
ABDF0625J2AS	5/8	5/8	1 1/4	3 1/2	—
ABDF0625J2BRB	5/8	5/8	1 5/8	3 1/2	.030
ABDF0625J2BRC	5/8	5/8	1 5/8	3 1/2	.060
ABDF0625J2BRE *	5/8	5/8	1 5/8	3 1/2	.120
ABDF0625J2BS	5/8	5/8	1 5/8	3 1/2	—
ABDF0750J2ARB *	3/4	3/4	1 1/2	4	.030
ABDF0750J2ARC	3/4	3/4	1 1/2	4	.060
ABDF0750J2ARE	3/4	3/4	1 1/2	4	.120
ABDF0750J2AS	3/4	3/4	1 1/2	4	—
ABDF0750J2BRB	3/4	3/4	1 5/8	4	.030
ABDF0750J2BRC	3/4	3/4	1 5/8	4	.060
ABDF0750J2BS	3/4	3/4	1 5/8	4	—
ABDF1000J2ARB *	1	1	1 1/2	4	.030
ABDF1000J2ARC	1	1	1 1/2	4	.060
ABDF1000J2ARE *	1	1	1 1/2	4	.120
ABDF1000J2AS *	1	1	1 1/2	4	—
ABDF1000J2BRB *	1	1	2	5	.030
ABDF1000J2BRC	1	1	2	5	.060
ABDF1000J2BS	1	1	2	5	—

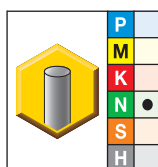
NOTE: For application data, see page P122.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standards dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.


End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.00024"
1/8-7/32"	+0/-0.002"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	+0/-0.00035"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	+0/-0.00043"	13/32-11/16"	+0/-0.00043"
23/32-1 3/16"	+0/-0.00051"	23/32-1 3/16"	+0/-0.00051"

ABDE • Wiper Facet


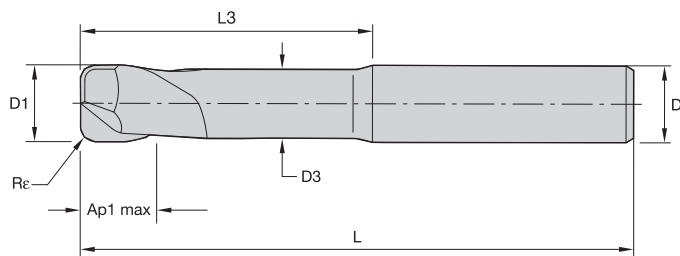
● first choice

○ alternate choice

K600	D1	D	Ap1 max	L	Re
ABDE0188J3ARA	3/16	3/16	7/32	2	.015
ABDE0188J3AS	3/16	3/16	7/32	2	—
ABDE0250J3ARB	1/4	1/4	1/2	2 1/2	.030
ABDE0250J3AS	1/4	1/4	1/2	2 1/2	—
ABDE0312J3ARB	5/16	5/16	5/8	2 1/2	.030
ABDE0312J3AS	5/16	5/16	5/8	2 1/2	—
ABDE0375J3ARB	3/8	3/8	3/4	2 1/2	.030
ABDE0375J3AS	3/8	3/8	3/4	2 1/2	—
ABDE0500J3ARB	1/2	1/2	1 1/4	3	.030
ABDE0500J3ARC	1/2	1/2	1 1/4	3	.060
ABDE0500J3ARE	1/2	1/2	1 1/4	3	.120
ABDE0500J3AS	1/2	1/2	1 1/4	3	—
ABDE0625J3AS	5/8	5/8	1 1/4	3 1/2	—
ABDE0625J3BRB	5/8	5/8	1 5/8	3 1/2	.030
ABDE0625J3BS	5/8	5/8	1 5/8	3 1/2	—
ABDE0750J3ARB	3/4	3/4	1 1/2	4	.030
ABDE0750J3ARC	3/4	3/4	1 1/2	4	.060
ABDE0750J3ARE	3/4	3/4	1 1/2	4	.120
ABDE0750J3AS	3/4	3/4	1 1/2	4	—
ABDE0750J3BRB	3/4	3/4	1 5/8	4	.030
ABDE0750J3BRC	3/4	3/4	1 5/8	4	.060
ABDE0750J3BRE	3/4	3/4	1 5/8	4	.120
ABDE0750J3BS	3/4	3/4	1 5/8	4	—
ABDE1000J3ARB	1	1	1 1/2	4	.030
ABDE1000J3ARC	1	1	1 1/2	4	.060
ABDE1000J3ARE	1	1	1 1/2	4	.120
ABDE1000J3AS	1	1	1 1/2	4	—
ABDE1000J3BRB	1	1	2	5	.030
ABDE1000J3BRC	1	1	2	5	.060
ABDE1000J3BRE	1	1	2	5	.120
ABDE1000J3BS	1	1	2	5	—

NOTE: For application data, see page P122.

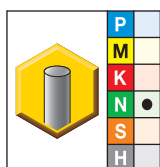
- Kennametal standard dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.



End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.0024"
1/8-7/32"	+0/-0.002"	1/8-7/32"	+0/-0.0031"
1/4-3/8"	+0/-0.0035"	1/4-3/8"	+0/-0.0035"
13/32-11/16"	+0/-0.0043"	13/32-11/16"	+0/-0.0043"
23/32-1 3/16"	+0/-0.0051"	23/32-1 3/16"	+0/-0.0051"

■ ABDF • Wiper Facet • Extended Neck



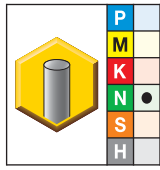
- first choice
- alternate choice

High-Performance Solid Carbide End Mills

K600	D1	D	D3	Ap1 max	L3	L	Re
ABDF0250J2AQB *	1/4	1/4	.235	3/8	3/4	4	.030
ABDF0250J2BQB	1/4	1/4	.235	3/8	1 1/8	4	.030
ABDF0250J2BQ	1/4	1/4	.235	3/8	1 1/8	4	—
ABDF0250J2CQB	1/4	1/4	.235	3/8	2 1/8	4	.030
ABDF0250J2CQ	1/4	1/4	.235	3/8	2 1/8	4	—
ABDF0312J2AQB	5/16	5/16	.294	7/16	1 1/8	4	.030
ABDF0375J2AQB	3/8	3/8	.352	1/2	1 1/8	4	.030
ABDF0375J2AQ	3/8	3/8	.352	1/2	1 1/8	4	—
ABDF0375J2BQB	3/8	3/8	.352	1/2	2 1/8	4	.030
ABDF0375J2BQ	3/8	3/8	.352	1/2	2 1/8	4	—
ABDF0500J2AQB	1/2	1/2	.469	5/8	1 3/8	4	.030
ABDF0500J2AQE	1/2	1/2	.469	5/8	1 3/8	4	.120
ABDF0500J2AQ	1/2	1/2	.469	5/8	1 3/8	4	—
ABDF0500J2BQB	1/2	1/2	.469	5/8	2 1/4	4	.030
ABDF0500J2BQC	1/2	1/2	.469	5/8	2 1/4	4	.060
ABDF0500J2BQD	1/2	1/2	.469	5/8	2 1/4	4	.090
ABDF0500J2BQE	1/2	1/2	.469	5/8	2 1/4	4	.120
ABDF0500J2BQ	1/2	1/2	.469	5/8	2 1/4	4	—
ABDF0500J2CQB	1/2	1/2	.469	5/8	3 3/8	6	.030
ABDF0500J2CQC	1/2	1/2	.469	5/8	3 3/8	6	.060
ABDF0500J2CQD *	1/2	1/2	.469	5/8	3 3/8	6	.090
ABDF0500J2CQE	1/2	1/2	.469	5/8	3 3/8	6	.120
ABDF0500J2CQ	1/2	1/2	.469	5/8	3 3/8	6	—
ABDF0625J2AQ	5/8	5/8	.587	3/4	1 5/8	4	—
ABDF0625J2BQB	5/8	5/8	.587	3/4	3 3/8	6	.030
ABDF0625J2BQE *	5/8	5/8	.587	3/4	3 3/8	6	.120
ABDF0625J2BQ	5/8	5/8	.587	3/4	3 3/8	6	—
ABDF0750J2AQB *	3/4	3/4	.705	1	1 5/8	4	.030
ABDF0750J2AQE	3/4	3/4	.705	1	1 5/8	4	.120
ABDF0750J2AQ *	3/4	3/4	.705	1	1 5/8	4	—
ABDF0750J2BQB	3/4	3/4	.705	1	2 1/2	6	.030
ABDF0750J2BQC	3/4	3/4	.705	1	2 1/2	6	.060

(continued)

(ABDF • Wiper Facet • Extended Neck — continued)



- first choice
- alternate choice

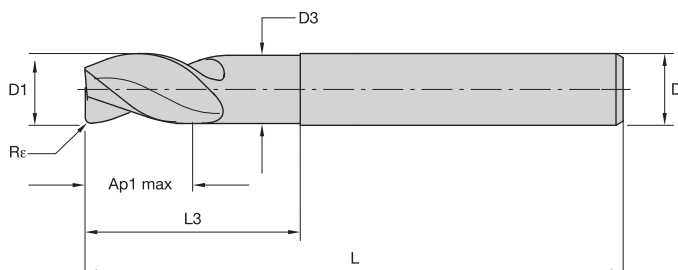
K600	D1	D	D3	Ap1 max	L3	L	Rε
ABDF0750J2BQD *	3/4	3/4	.705	1	2 1/2	6	.090
ABDF0750J2BQE	3/4	3/4	.705	1	2 1/2	6	.120
ABDF0750J2BQ	3/4	3/4	.705	1	2 1/2	6	—
ABDF0750J2CQB	3/4	3/4	.705	1	3 3/8	6	.030
ABDF0750J2CQ	3/4	3/4	.705	1	3 3/8	6	—
ABDF1000J2AQB *	1	1	.940	1 1/4	2 3/8	5	.030
ABDF1000J2AQE	1	1	.940	1 1/4	2 3/8	5	.120
ABDF1000J2AQ *	1	1	.940	1 1/4	2 3/8	5	—
ABDF1000J2BQB	1	1	.940	1 1/4	3 3/8	7	.030
ABDF1000J2BQE *	1	1	.940	1 1/4	3 3/8	7	.120
ABDF1000J2BQ *	1	1	.940	1 1/4	3 3/8	7	—
ABDF1000J2CQB *	1	1	.940	1 1/4	4 3/8	7	.030
ABDF1000J2CQ *	1	1	.940	1 1/4	4 3/8	7	—

NOTE: For application data, see page P123.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



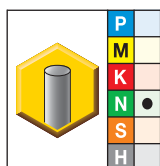
- Kennametal standard dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.



End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.00024"
1/8–7/32"	+0/-0.002"	1/8–7/32"	+0/-0.00031"
1/4–3/8"	+0/-0.00035"	1/4–3/8"	+0/-0.00035"
13/32–11/16"	+0/-0.00043"	13/32–11/16"	+0/-0.00043"
23/32–1 3/16"	+0/-0.00051"	23/32–1 3/16"	+0/-0.00051"

■ ABDE • Wiper Facet • Extended Neck



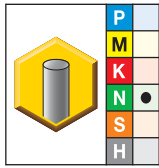
- first choice
- alternate choice

High-Performance Solid Carbide End Mills

K600	D1	D	D3	Ap1 max	L3	L	Rε
ABDE0250J3AQB	1/4	1/4	.234	3/8	3/4	4	.030
ABDE0250J3AQ	1/4	1/4	.234	3/8	3/4	4	—
ABDE0250J3BQB	1/4	1/4	.234	3/8	1 1/8	4	.030
ABDE0250J3BQ	1/4	1/4	.234	3/8	1 1/8	4	—
ABDE0250J3CQB	1/4	1/4	.234	3/8	2 1/8	4	.030
ABDE0250J3CQ	1/4	1/4	.234	3/8	2 1/8	4	—
ABDE0312J3AQB	5/16	5/16	.293	7/16	1 1/8	4	.030
ABDE0375J3AQB	3/8	3/8	.351	1/2	1 1/8	4	.030
ABDE0375J3AQ	3/8	3/8	.351	1/2	1 1/8	4	—
ABDE0375J3BQB	3/8	3/8	.351	1/2	2 1/8	4	.030
ABDE0375J3BQ	3/8	3/8	.351	1/2	2 1/8	4	—
ABDE0500J3AQB	1/2	1/2	.469	5/8	1 3/8	4	.030
ABDE0500J3AQE	1/2	1/2	.469	5/8	1 3/8	4	.120
ABDE0500J3AQ	1/2	1/2	.469	5/8	1 3/8	4	—
ABDE0500J3BQB	1/2	1/2	.469	5/8	2 1/4	4	.030
ABDE0500J3BQC	1/2	1/2	.469	5/8	2 1/4	4	.060
ABDE0500J3BQD	1/2	1/2	.469	5/8	2 1/4	4	.090
ABDE0500J3BQE	1/2	1/2	.469	5/8	2 1/4	4	.120
ABDE0500J3BQ	1/2	1/2	.469	5/8	2 1/4	4	—
ABDE0500J3CQB	1/2	1/2	.469	5/8	3 3/8	6	.030
ABDE0500J3CQC	1/2	1/2	.469	5/8	3 3/8	6	.060
ABDE0500J3CQD *	1/2	1/2	.469	5/8	3 3/8	6	.090
ABDE0500J3CQE	1/2	1/2	.469	5/8	3 3/8	6	.120
ABDE0500J3CQ	1/2	1/2	.469	5/8	3 3/8	6	—
ABDE0625J3AQB	5/8	5/8	.585	3/4	1 5/8	4	.030
ABDE0625J3AQ	5/8	5/8	.585	3/4	1 5/8	4	—
ABDE0625J3BQB	5/8	5/8	.585	3/4	3 3/8	6	.030
ABDE0625J3BQE	5/8	5/8	.585	3/4	3 3/8	6	.120
ABDE0625J3BQ	5/8	5/8	.585	3/4	3 3/8	6	—
ABDE0750J3AQB	3/4	3/4	.705	1	1 5/8	4	.030
ABDE0750J3AQE *	3/4	3/4	.705	1	1 5/8	4	.120
ABDE0750J3AQ	3/4	3/4	.705	1	1 5/8	4	—

(continued)

(ABDE • Wiper Facet • Extended Neck — continued)



- first choice
- alternate choice

K600	D1	D	D3	Ap1 max	L3	L	Rε
ABDE0750J3BQB	3/4	3/4	.705	1	2 1/2	6	.030
ABDE0750J3BQC	3/4	3/4	.705	1	2 1/2	6	.060
ABDE0750J3BQD	3/4	3/4	.705	1	2 1/2	6	.090
ABDE0750J3BQE	3/4	3/4	.705	1	2 1/2	6	.120
ABDE0750J3BQ	3/4	3/4	.705	1	2 1/2	6	—
ABDE0750J3CQB	3/4	3/4	.705	1	3 3/8	6	.030
ABDE0750J3CQ	3/4	3/4	.705	1	3 3/8	6	—
ABDE1000J3AQB	1	1	.940	1 1/4	2 3/8	5	.030
ABDE1000J3AQE *	1	1	.940	1 1/4	2 3/8	5	.120
ABDE1000J3AQ	1	1	.940	1 1/4	2 3/8	5	—
ABDE1000J3BQB	1	1	.940	1 1/4	3 3/8	7	.030
ABDE1000J3BQE	1	1	.940	1 1/4	3 3/8	7	.120
ABDE1000J3BQ	1	1	.940	1 1/4	3 3/8	7	—
ABDE1000J3CQB *	1	1	.940	1 1/4	4 3/8	7	.030
ABDE1000J3CQ	1	1	.940	1 1/4	4 3/8	7	—

NOTE: For application data, see page P123.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



■ ABDF...

		Side Milling (A) and Slotting (B)		K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.									
Material Group	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter								
	ap	ae	ap	min	max		3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
N	1	1.5 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090
	2	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0014	.0018	.0023	.0027	.0036	.0045	.0054	.0072
	3	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	4	1.5 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	5	1.5 x D	0.5 x D	1.0 x D	820	3280	IPT	.0015	.0020	.0025	.0030	.0041	.0051	.0061	.0081

■ ABDE...

		Side Milling (A) and Slotting (B)		K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.									
Material Group	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter								
	ap	ae	ap	min	max		3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
N	1	1.5 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090
	2	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0014	.0018	.0023	.0027	.0036	.0045	.0054	.0072
	3	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	4	1.5 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	5	1.5 x D	0.5 x D	1.0 x D	820	3280	IPT	.0015	.0020	.0025	.0030	.0041	.0051	.0061	.0081

NOTE: These guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
 For cutting aluminum with high silicon, coating is recommended.
 Ap for spindle with ceramic bearings, multiply by 0.5.
 For better surface finish, reduce feed per tooth.
 For tools with reach > 3 x D, reduce fz by 20%.
 For tools with reach > 5 x D, reduce fz by 30%.
 For tools with reach > 10 x D, reduce vc and fz by 30%.

High-Performance Solid Carbide End Mills

■ ABDF... with Neck

Material Group					K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter							
	ap	ae	ap	min	max		1/4	5/16	3/8	1/2	5/8	3/4	1	
	1 x D	0.5 x D	1.0 x D											
N	1	1 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0025	.0031	.0038	.0050	.0063	.0075	.0100
	2	1 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0020	.0025	.0030	.0040	.0050	.0060	.0080
	3	1 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0018	.0022	.0026	.0035	.0044	.0053	.0070
	4	1 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0018	.0022	.0026	.0035	.0044	.0053	.0070
	5	1 x D	0.5 x D	1.0 x D	820	3280	IPT	.0023	.0028	.0034	.0045	.0056	.0068	.0090

■ ABDE... with Neck

Material Group					K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter							
	ap	ae	ap	min	max		1/4	5/16	3/8	1/2	5/8	3/4	1	
	1 x D	0.5 x D	1.0 x D											
N	1	1 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0025	.0031	.0038	.0050	.0063	.0075	.0100
	2	1 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0020	.0025	.0030	.0040	.0050	.0060	.0080
	3	1 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0018	.0022	.0026	.0035	.0044	.0053	.0070
	4	1 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0018	.0022	.0026	.0035	.0044	.0053	.0070
	5	1 x D	0.5 x D	1.0 x D	820	3280	IPT	.0023	.0028	.0034	.0045	.0056	.0068	.0090

NOTE: These guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
 For cutting aluminum with high silicon, coating is recommended.
 Ap for spindle with ceramic bearings, multiply by 0.5.
 For better surface finish, reduce feed per tooth.
 For tools with reach > 3 x D, reduce fz by 20%.
 For tools with reach > 5 x D, reduce fz by 30%.
 For tools with reach > 10 x D, reduce vc and fz by 30%.

High-Performance Solid Carbide End Mills

➤ High-Performance Aluminum Solid Carbide End Mills

Primary Application

High-performance aluminum end mills from Kennametal provide the highest Metal Removal Rates (MRR) and high-quality surfaces while reducing machining time. The center-cutting design enables plunging, slotting, and profiling applications in any type of aluminum workpiece materials. Designed to deliver exceptional chip evacuation and generate the highest floor-to-wall straightness. The portfolio offers many styles to choose from.

- Tools combine roughing and finishing operations beside pure rougher with cord profile.
- Capable of full slot depths up to 1 x D and side milling up to 0.5 x D radially at 1.5 x D axially.
- Multiple corner radii and extended neck configurations available as standard.

Features and Benefits

Advanced Technology

- Double rake flute form for improved chip formation and evacuation.
- No specific tools for roughing and finishing necessary.
- Fewer passes due to 1 x D slotting capability.
- Best suited for MQL (minimum quantity lubrication) applications.

Tailored Grades

- K600 uncoated grade for highest tool life in aluminum and other non-ferrous materials.

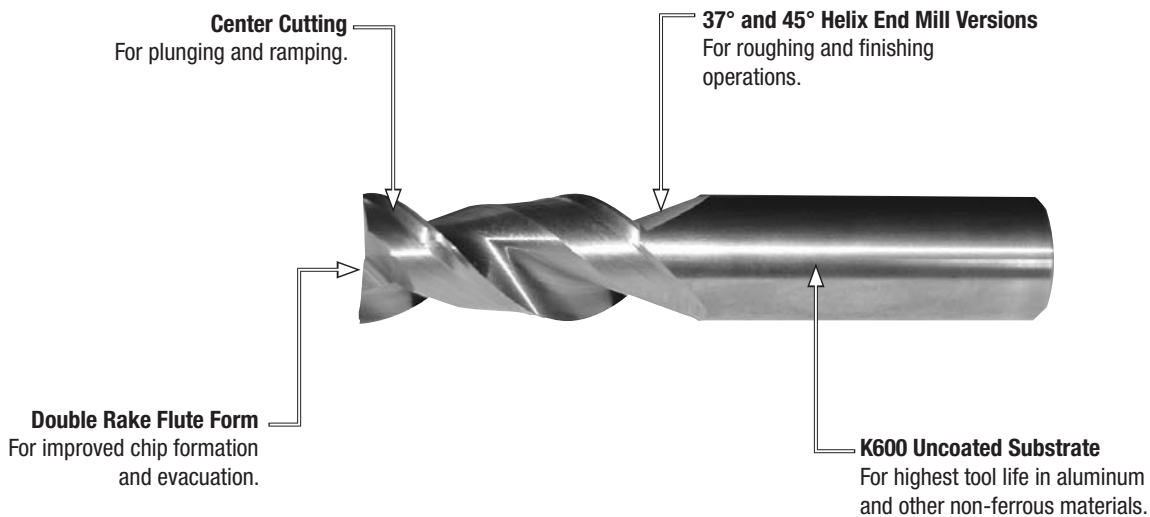
Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.
- TiB₂ grade KC651M available as custom solution.

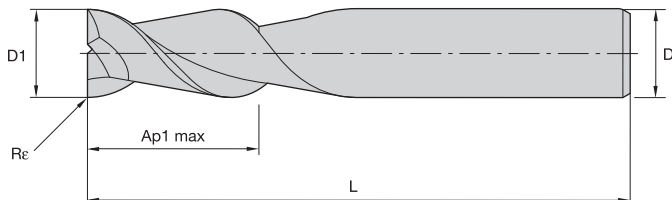
Extensive Standard Offering

- Diameter ranges 1/8–1".
- Extended neck for long-reach applications as well as radii and sharp corner configurations.

Extended neck for long-reach applications as well as radii and sharp corner configurations.



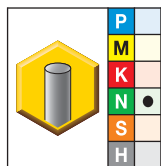
- Double-rake flute form.
- Center cutting.



End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.00024"
1/8-7/32"	+0/-0.002"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	+0/-0.00035"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	+0/-0.00043"	13/32-11/16"	+0/-0.00043"
23/32-1 3/16"	+0/-0.00051"	23/32-1 3/16"	+0/-0.00051"

■ AADF • Double-Rake Flute Form



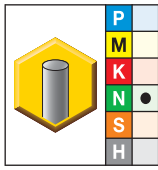
- first choice
- alternate choice

High-Performance Solid Carbide End Mills

K600	D1	D	Ap1 max	L	Re
AADF0125J2A	1/8	1/8	1/4	2	—
AADF0125J2B	1/8	1/8	1/2	2	—
AADF0188J2A	3/16	3/16	5/16	2	—
AADF0188J2D	3/16	3/16	9/16	2 1/2	—
AADF0188J2B	3/16	3/16	5/8	2	—
AADF0250J2A	1/4	1/4	3/8	2	—
AADF0250J2E	1/4	1/4	5/8	2 1/2	—
AADF0250J2BRA	1/4	1/4	3/4	2 1/2	.015
AADF0250J2BRB	1/4	1/4	3/4	2 1/2	.030
AADF0250J2B	1/4	1/4	3/4	2 1/2	—
AADF0250J2FRB	1/4	1/4	1	3	.030
AADF0250J2F	1/4	1/4	1	3	—
AADF250J2I	1/4	1/4	1 1/8	3	—
AADF0250J2C	1/4	1/4	1 1/4	3 1/4	—
AADF0250J2G	1/4	1/4	1 3/4	4	—
AADF0375J2B	3/8	3/8	7/8	2 1/2	—
AADF0375J2DRA	3/8	3/8	1	3	.015
AADF0375J2DRB	3/8	3/8	1	3	.030
AADF0375J2D	3/8	3/8	1	3	—
AADF375J2H	3/8	3/8	1 1/8	3	—
AADF0375J2E	3/8	3/8	1 1/4	3 1/2	—
AADF0375J2CRB	3/8	3/8	1 1/2	4	.030
AADF0375J2CRC	3/8	3/8	1 1/2	4	.060
AADF0375J2C	3/8	3/8	1 1/2	4	—
AADF375J2G	3/8	3/8	1 3/4	4	—
AADF0500J2A	1/2	1/2	5/8	2 1/2	—
AADF0500J2E	1/2	1/2	5/8	3	—
AADF0500J2FRB	1/2	1/2	1	3	.030

(continued)

(AADF • Double-Rake Flute Form — continued)



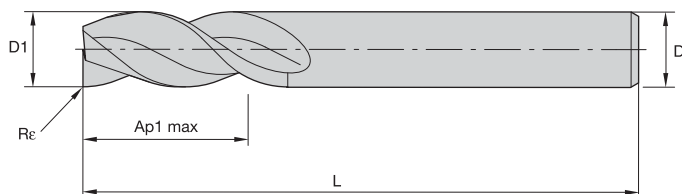
- first choice
- alternate choice

K600	D1	D	Ap1 max	L	Re
AADF0500J2F	1/2	1/2	1	3	—
AADF500J2F	1/2	1/2	1	3	—
AADF0500J2BRA	1/2	1/2	1 1/4	3	.015
AADF0500J2BRB	1/2	1/2	1 1/4	3	.030
AADF0500J2B	1/2	1/2	1 1/4	3	—
AADF500J2B	1/2	1/2	1 1/4	3	—
AADF0500J2GRA	1/2	1/2	1 5/8	4	.015
AADF0500J2GRB	1/2	1/2	1 5/8	4	.030
AADF0500J2GRC	1/2	1/2	1 5/8	4	.060
AADF0500J2G	1/2	1/2	1 5/8	4	—
AADF0500J2CRA	1/2	1/2	2	4	.015
AADF0500J2CRB	1/2	1/2	2	4	.030
AADF0500J2CRC	1/2	1/2	2	4	.060
AADF0500J2C	1/2	1/2	2	4	—
AADF0500J2D	1/2	1/2	2	5	—
AADF0625J2BRB	5/8	5/8	2 1/4	5	.030
AADF0625J2FRB	5/8	5/8	2 1/2	5	.030
AADF0625J2GRB	5/8	5/8	3 1/4	6	.030
AADF0750J2F	3/4	3/4	1	4	—
AADF0750J2BRB	3/4	3/4	1 1/2	4	.030
AADF0750J2B	3/4	3/4	1 1/2	4	—
AADF0750J2CRA	3/4	3/4	2 1/4	5	.015
AADF0750J2CRB	3/4	3/4	2 1/4	5	.030
AADF0750J2C	3/4	3/4	2 1/4	5	—
AADF0750J2GRA	3/4	3/4	3 1/4	6	.015
AADF1000J2A	1	1	1 1/2	4	—
AADF1000J2D	1	1	2	5	—
AADF1000J2BRB	1	1	2 1/4	5	.030
AADF1000J2C	1	1	3	5	—

NOTE: For application data, see page P132.

High-Performance Solid Carbide End Mills

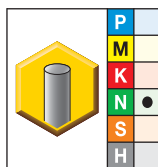
- Double-rake flute form.
- Center cutting.



End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-0.002"	<1/8"	+0/-0.00024"
1/8-7/32"	+0/-0.002"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	+0/-0.00035"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	+0/-0.00043"	13/32-11/16"	+0/-0.00043"
23/32-1 3/16"	+0/-0.00051"	23/32-1 3/16"	+0/-0.00051"

AADE • Double-Rake Flute Form



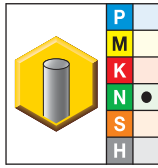
- first choice
- alternate choice

High-Performance Solid Carbide End Mills

K600	D1	D	Ap1 max	L	Re
AADE125J3G	1/8	1/8	1/4	1 1/2	—
AADE125J3F	1/8	1/8	3/8	1 1/2	—
AADE0125J3D	1/8	1/8	1/2	3	—
AADE0125J3E	1/8	1/8	3/4	3	—
AADE0188J3C	3/16	3/16	5/16	3	—
AADE188J3F	3/16	3/16	9/16	2	—
AADE0188J3D	3/16	3/16	9/16	3	—
AADE0188J3E	3/16	3/16	3/4	3	—
AADE0250J3ARB	1/4	1/4	3/8	2	.030
AADE0250J3A	1/4	1/4	3/8	2	—
AADE0250J3D	1/4	1/4	1/2	2 1/2	—
AADE0250J3E	1/4	1/4	5/8	2 1/2	—
AADE0250J3BRA	1/4	1/4	3/4	2 1/2	.015
AADE0250J3BRB	1/4	1/4	3/4	2 1/2	.030
AADE0250J3B	1/4	1/4	3/4	2 1/2	—
AADE250J3B	1/4	1/4	3/4	2 1/2	—
AADE0250J3FRA	1/4	1/4	1	3	.015
AADE0250J3F	1/4	1/4	1	3	—
AADE250J3H	1/4	1/4	1 1/4	3	—
AADE0250J3CRA	1/4	1/4	1 1/4	3 1/4	.015
AADE0250J3CRB	1/4	1/4	1 1/4	3 1/4	.030
AADE0250J3C	1/4	1/4	1 1/4	3 1/4	—
AADE0250J3G	1/4	1/4	1 3/4	4	—
AADE0312J3A	5/16	5/16	13/16	2 1/2	—
AADE0312J3B	5/16	5/16	1	3	—
AADE0312J3DRB	5/16	5/16	1 1/4	3 1/4	.030
AADE0312J3D	5/16	5/16	1 1/4	3 1/4	—
AADE0375J3A	3/8	3/8	1/2	2	—
AADE0375J3F	3/8	3/8	1/2	3	—
AADE0375J3G	3/8	3/8	3/4	2 1/2	—
AADE0375J3BRB	3/8	3/8	7/8	2 1/2	.030
AADE0375J3BRC	3/8	3/8	7/8	2 1/2	.060

(continued)

(AADE • Double-Rake Flute Form — continued)



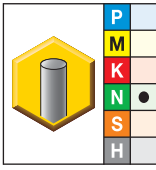
- first choice
- alternate choice

K600	D1	D	Ap1 max	L	R _ε
AADE0375J3B	3/8	3/8	7/8	2 1/2	—
AADE0375J3DRA	3/8	3/8	1	3	.015
AADE0375J3DRB	3/8	3/8	1	3	.030
AADE0375J3D	3/8	3/8	1	3	—
AADE0375J3I	3/8	3/8	1 1/8	3	—
AADE0375J3ERA	3/8	3/8	1 1/4	3 1/2	.015
AADE0375J3ERB	3/8	3/8	1 1/4	3 1/2	.030
AADE0375J3ERC	3/8	3/8	1 1/4	3 1/2	.060
AADE0375J3E	3/8	3/8	1 1/4	3 1/2	—
AADE0375J3CRB	3/8	3/8	1 1/2	4	.030
AADE0375J3CRC	3/8	3/8	1 1/2	4	.060
AADE0375J3C	3/8	3/8	1 1/2	4	—
AADE0375J3H	3/8	3/8	2	4	—
AADE0375J3KRB	3/8	3/8	2 1/2	4	.030
AADE0375J3KRC	3/8	3/8	2 1/2	4	.060
AADE0375J3J	3/8	3/8	2 1/2	5	—
AADE438J3A	7/16	7/16	9/16	2 1/2	—
AADE0438J3A	7/16	7/16	7/8	2 1/2	—
AADE0500J3ARB	1/2	1/2	5/8	2 1/2	.030
AADE0500J3ARC	1/2	1/2	5/8	2 1/2	.060
AADE0500J3A	1/2	1/2	5/8	2 1/2	—
AADE0500J3FRA	1/2	1/2	1	3	.015
AADE0500J3FRB	1/2	1/2	1	3	.030
AADE0500J3FRC	1/2	1/2	1	3	.060
AADE0500J3F	1/2	1/2	1	3	—
AADE0500J3BRA	1/2	1/2	1 1/4	3	.015
AADE0500J3BRB	1/2	1/2	1 1/4	3	.030
AADE0500J3BRC	1/2	1/2	1 1/4	3	.060
AADE0500J3BRE	1/2	1/2	1 1/4	3	.120
AADE0500J3B	1/2	1/2	1 1/4	3	—
AADE0500J3KRB	1/2	1/2	1 1/2	4	.030
AADE0500J3KRC	1/2	1/2	1 1/2	4	.060
AADE0500J3K	1/2	1/2	1 1/2	4	—
AADE0500J3GRB	1/2	1/2	1 5/8	4	.030
AADE0500J3GRC	1/2	1/2	1 5/8	4	.060
AADE0500J3GRD	1/2	1/2	1 5/8	4	.090
AADE0500J3G	1/2	1/2	1 5/8	4	—
AADE0500J3CRA	1/2	1/2	2	4	.015
AADE0500J3CRB	1/2	1/2	2	4	.030
AADE0500J3CRC	1/2	1/2	2	4	.060
AADE0500J3C	1/2	1/2	2	4	—
AADE0500J3H	1/2	1/2	2	4 1/2	—
AADE0500J3DRB	1/2	1/2	2 1/2	5	.030
AADE0500J3DRC	1/2	1/2	2 1/2	5	.060
AADE0500J3D	1/2	1/2	2 1/2	5	—
AADE0500J3LRB	1/2	1/2	3	5	.030
AADE0500J3LRC	1/2	1/2	3	5	.060
AADE0500J3L	1/2	1/2	3	5	—
AADE0500J3H	1/2	1/2	3 1/8	6	—
AADE625J3I	5/8	5/8	3/4	3	—
AADE0625J3A	5/8	5/8	1 1/4	3 1/2	—
AADE0625J3DRA	5/8	5/8	1 5/8	3 1/2	.015

High-Performance Solid Carbide End Mills

(continued)

(AADE • Double-Rake Flute Form — continued)



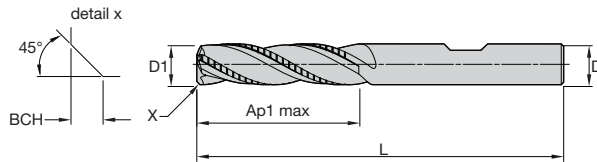
- first choice
- alternate choice

K600	D1	D	Ap1 max	L	Re
AADE0625J3DRE	5/8	5/8	1 5/8	3 1/2	.120
AADE0625J3D	5/8	5/8	1 5/8	3 1/2	—
AADE0625J3E	5/8	5/8	2 1/8	4	—
AADE0625J3B	5/8	5/8	2 1/4	5	—
AADE0625J3FRE	5/8	5/8	2 1/2	5	.120
AADE0625J3F	5/8	5/8	2 1/2	5	—
AADE0625J3HRC	5/8	5/8	3	5 1/4	.060
AADE0625J3H	5/8	5/8	3	5 1/4	—
AADE0625J3G	5/8	5/8	3 1/4	6	—
AADE0750J3ARB	3/4	3/4	7/8	3	.030
AADE0750J3ARC	3/4	3/4	7/8	3	.060
AADE0750J3A	3/4	3/4	7/8	3	—
AADE750J3K	3/4	3/4	1	3	—
AADE0750J3F	3/4	3/4	1	4	—
AADE0750J3BRB	3/4	3/4	1 1/2	4	.030
AADE0750J3BRC	3/4	3/4	1 1/2	4	.060
AADE0750J3BRE	3/4	3/4	1 1/2	4	.120
AADE0750J3B	3/4	3/4	1 1/2	4	—
AADE0750J3HRB	3/4	3/4	1 5/8	4	.030
AADE0750J3HRD	3/4	3/4	1 5/8	4	.090
AADE0750J3H	3/4	3/4	1 5/8	4	—
AADE0750J3CRA	3/4	3/4	2 1/4	5	.015
AADE0750J3CRB	3/4	3/4	2 1/4	5	.030
AADE0750J3CRC	3/4	3/4	2 1/4	5	.060
AADE0750J3CRE	3/4	3/4	2 1/4	5	.120
AADE0750J3C	3/4	3/4	2 1/4	5	—
AADE0750J3DRB	3/4	3/4	3	5 1/4	.030
AADE0750J3DRC	3/4	3/4	3	5 1/4	.060
AADE0750J3D	3/4	3/4	3	5 1/4	—
AADE0750J3GRA	3/4	3/4	3 1/4	6	.015
AADE0750J3GRB	3/4	3/4	3 1/4	6	.030
AADE0750J3GRD	3/4	3/4	3 1/4	6	.090
AADE0750J3GRE	3/4	3/4	3 1/4	6	.120
AADE0750J3G	3/4	3/4	3 1/4	6	—
AADE0750J3K	3/4	3/4	4	6 1/4	—
AADE750J3J	3/4	3/4	4	6 1/2	—
AADE1000J3ARB	1	1	1 1/2	4	.030
AADE1000J3A	1	1	1 1/2	4	—
AADE1000J3K	1	1	2	4 1/2	—
AADE1000J3D	1	1	2	5	—
AADE1000J3BRC	1	1	2 1/4	5	.060
AADE1000J3B	1	1	2 1/4	5	—
AADE1000J3GRB	1	1	2 5/8	6	.030
AADE1000J3CRB	1	1	3	5 1/2	.030
AADE1000J3CRC	1	1	3	5 1/2	.060
AADE1000J3C	1	1	3	5 1/2	—
AADE1000J3ERA	1	1	3 1/4	6	.015
AADE1000J3ERB	1	1	3 1/4	6	.030
AADE1000J3ERE	1	1	3 1/4	6	.120
AADE1000J3E	1	1	3 1/4	6	—
AADE1000J3I	1	1	4	7	—
AADE1000J3HRA	1	1	4 1/8	7	.015
AADE1000J3H	1	1	4 1/8	7	—

NOTE: For application data, see page P132.

High-Performance Solid Carbide End Mills

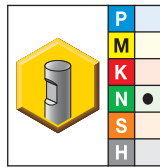
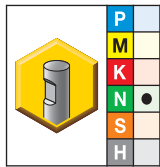
- Kennametal standard dimensions.
- Center cutting.
- Coarse pitch profile.



End Mill Tolerances

D1	d11	D	tolerance h6
<1/8"	-.0008/-0.0031"	<1/8"	+0/-0.00024"
1/8-7/32"	-.0012/-0.0041"	1/8-7/32"	+0/-0.00031"
1/4-3/8"	-.0016/-0.0051"	1/4-3/8"	+0/-0.00035"
13/32-11/16"	-.002/-0.0063"	13/32-11/16"	+0/-0.00043"
23/32-1-3/16"	-.0026/-0.0077"	23/32-1-3/16"	+0/-0.00051"

■ SFRHEC • Roughing Profile



- first choice
- alternate choice

K600	KC625M	D1	D	Ap1 max	L	BCH
SFRHEC250S3075	—	1/4	1/4	3/4	2 1/2	.024
—	SFRHEC312S3075	5/16	5/16	3/4	2 1/2	.024
SFRHEC375S3088	SFRHEC375S3088	3/8	3/8	7/8	2 1/2	.024
SFRHEC500S3100	SFRHEC500S3100	1/2	1/2	1	3	.039
SFRHEC500S3200	SFRHEC500S3200	1/2	1/2	2	4 1/2	.039
SFRHEC625S3225	SFRHEC625S3225	5/8	5/8	2 1/4	5	.039
SFRHEC750S3150	SFRHEC750S3150	3/4	3/4	1 1/2	4	.039
SFRHEC750S3225	SFRHEC750S3225	3/4	3/4	2 1/4	5	.039
—	SFRHEC100S3150	1	1	1 1/2	4	.039
SFRHEC100S3225	SFRHEC100S3225	1	1	2 1/4	5	.039

NOTE: For application data, see page P132.

High-Performance Solid Carbide End Mills

■ AADF

Material Group	Side Milling (A) and Slotting (B)		K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.											
	A		B		Cutting Speed – vc SFM		D1 – Diameter									
	ap	ae	ap	min	max	frac.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
	ap	ae	ap	min	max	dec.	.125	.188	.250	.313	.375	.500	.625	.750	1.000	
N	1	1.5 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090
	2	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0009	.0014	.0018	.0023	.0027	.0036	.0045	.0054	.0072
	3	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0008	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	4	1.5 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0008	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	5	1.5 x D	0.5 x D	1.0 x D	820	3280	IPT	.0010	.0015	.0020	.0025	.0030	.0041	.0051	.0061	.0081

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ AADE

Material Group	Side Milling (A) and Slotting (B)		K600		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.											
	A		B		Cutting Speed – vc SFM		D1 – Diameter									
	ap	ae	ap	min	max	frac.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
	ap	ae	ap	min	max	dec.	0.125	0.188	0.250	0.313	0.375	0.500	0.625	0.750	1.000	
N	1	1.5 x D	0.5 x D	1.0 x D	1640	6560	IPT	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090
	2	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0009	.0014	.0018	.0023	.0027	.0036	.0045	.0054	.0072
	3	1.5 x D	0.5 x D	1.0 x D	1640	4920	IPT	.0008	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	4	1.5 x D	0.5 x D	1.0 x D	1310	2460	IPT	.0008	.0012	.0016	.0020	.0024	.0032	.0039	.0047	.0063
	5	1.5 x D	0.5 x D	1.0 x D	820	3280	IPT	.0010	.0015	.0020	.0025	.0030	.0041	.0051	.0061	.0081

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ SFRHEC

Material Group	Side Milling (A) and Slotting (B)		K600/KC625M		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
	A		B		Cutting Speed – vc SFM		D1 – Diameter						
	ap	ae	ap	min	max	frac.	1/4	3/8	1/2	5/8	3/4	1	
	ap	ae	ap	min	max	dec.	0.250	0.375	0.500	0.625	0.750	1.000	
N	1	1.25 x D	0.5 x D	1 x D	1650	6500	fz	.0028	.0041	.0055	.0070	.0085	.0110
	2	1.25 x D	0.5 x D	1 x D	1650	5050	fz	.0025	.0037	.0050	.0060	.0075	.0010

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

Before NOVO: The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

With NOVO: The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kenametal.com/novo



➤ CFRP KCN05™ Beyond™ Grade Solid Carbide Routers

Primary Application

KCN05 solid carbide router products provide excellent tool life and produce smooth finishes with improved edge quality when machining difficult CFRP (carbon-fiber reinforced polymer) and non-ferrous components. The unique geometries are free cutting, reduce heat generation, and provide high-quality machined surfaces.

- Designed to avoid delamination and bur formation.
- Excellent tool life due to KCN05 diamond film coating.

Features and Benefits

Advanced Technology

- Compression-style routers for trimming designed to provide high feed rates and quality edges on both sides of the material. Up-cut/down-cut geometry promotes stable cutting conditions.
- Down-cut style routers intended for surface work. Excellent ramping capabilities eliminate surface delamination machining pockets.
- Bur style for highest material removal rates and superior surface quality. Designed for trimming fiberglass and CFRP, and for slotting and profiling.

Tailored Grades

- KCN05 diamond coating uses a proprietary substrate to optimize coating adhesion and improve tool life.

Customization

- Intermediate diameters available.
- Compression routers with six and eight flutes available for special wire CFRP.
- Bur-style routers with end cutting, drill-point cutting, and non-end cutting point styles available on request.
- K600 uncoated grade for fiberglass applications and as an economic alternative to KCN05 routers.

Extensive Standard Offering

- Diameters 1/4, 3/8, and 1/2".
- Different length versions.
- KCN05 routers.



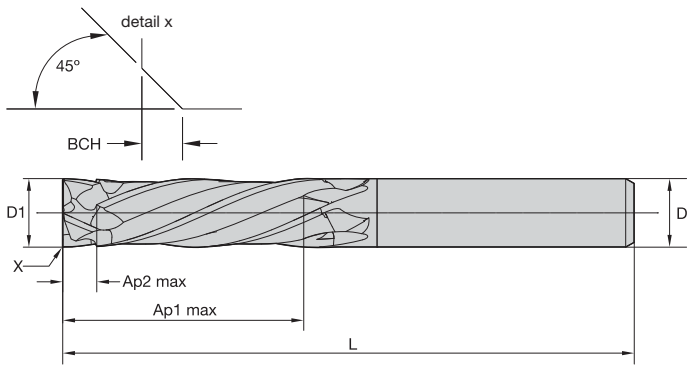
Up-Cut/Down-Cut Geometry
Prevents delamination because cutting forces are directed inside the workpiece.

KCN05™ Diamond Coating
For excellent tool life and smooth finishes with improved edge quality.

Highest Number of Cutting Edges
For excellent temperature control and highest metal removal rates.

Extended Length of Cut Version
Enables machining in different levels for multiplying tool life of same tool.

- Kennametal standard dimensions.
- Aerospace composites and fiberglass.
- Internal air coolant for ZU = 4.

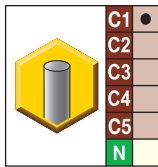


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .003"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"



■ Compression-Style Router • CCNC • Inch



- first choice
- alternate choice

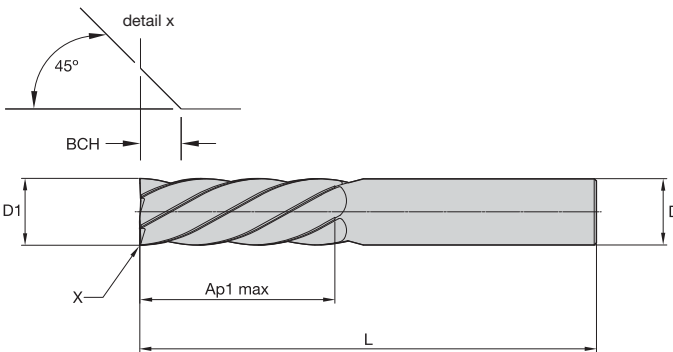
KCN05	D1	D	Ap1 max	Ap2 max	L	BCH	Z U
CCNC0250J3AH	1/4	1/4	3/4	0.1250	2 1/2	.005	3
CCNC0250J3BH	1/4	1/4	1 1/2	0.1250	4	.005	3
CCNC0375J4AH	3/8	3/8	3/4	0.1250	3 1/4	.005	4
CCNC0375J4BH	3/8	3/8	1 1/2	0.1250	4	.005	4
CCNC0500J4AH	1/2	1/2	3/4	0.1250	3 1/4	.005	4
CCNC0500J4BH	1/2	1/2	1 1/2	0.1250	4	.005	4

NOTE: For application data, see page P139.

C1	CFRP, CFRP/CFRP
C2	CFRP/Aluminum
C3	CFRP/Titanium
C4	CFRP/Stainless Steel
C5	CFRP/Aluminum/Titanium

High-Performance Solid Carbide End Mills

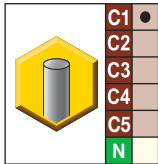
- Kennametal standard dimensions.
- Aerospace composites and fiberglass.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/- .003"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"



Down-Cut Router • CDDC • Inch



- first choice
- alternate choice

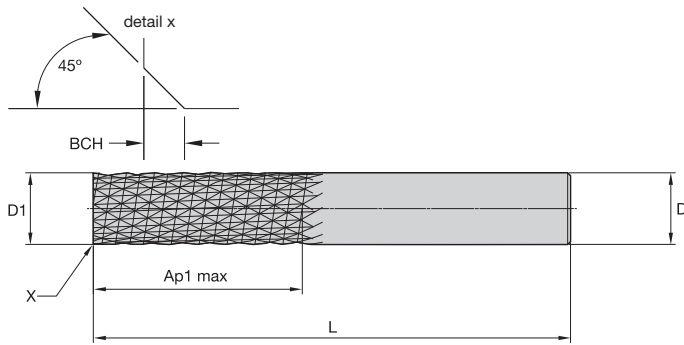
KCN05	D1	D	Ap1 max	L	BCH
CDDC0250J6AH	1/4	1/4	3/4	2 1/2	.010
CDDC0250J6BH	1/4	1/4	1 1/2	4	.010
CDDC0375J6AH	3/8	3/8	3/4	3 1/4	.010
CDDC0375J6BH	3/8	3/8	1 1/2	4	.010
CDDC0500J6AH	1/2	1/2	3/4	3 1/4	.010
CDDC0500J6BH	1/2	1/2	1 1/2	4	.010

NOTE: For application data, see page P139.

C1	CFRP, CFRP/CFRP
C2	CFRP/Aluminum
C3	CFRP/Titanium
C4	CFRP/Stainless Steel
C5	CFRP/Aluminum/Titanium

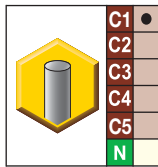


- Kennametal standard dimensions.
- Aerospace composites and fiberglass.



beyond

Bur-Style Router • CBDB • Inch



- first choice
- alternate choice

KCN05	D1	D	Ap1 max	L	BCH
CBDB0250JXAS	1/4	1/4	3/4	2 1/2	.020
CBDB0250JXBS	1/4	1/4	1 1/2	4	.020
CBDB0375JXAS	3/8	3/8	3/4	3 1/4	.035
CBDB0375JXBS	3/8	3/8	1 1/2	4	.035
CBDB0500JXAS	1/2	1/2	3/4	3 1/4	.045
CBDB0500JXBS	1/2	1/2	1 1/2	4	.045

NOTE: For application data, see page P139.
 12 RHS/RHC flutes. 10 LHS/RHC flutes, 6 end teeth.
 For tolerance table, see page P137.

C1	CFRP, CFRP/CFRP
C2	CFRP/Aluminum
C3	CFRP/Titanium
C4	CFRP/Stainless Steel
C5	CFRP/Aluminum/Titanium

Additional point styles are available upon request:



End Mill End Cutting






Drill-Point Cutting






Non-End Cutting

■ Compression-Style Router • CCNC • Inch

Material Group									
	Side Milling (A)		 KCN05		Feed per Tooth – fz information is for side milling (A).				
	A		Cutting Speed – vc SFM			D1 – Diameter			
	ap	ae	min	max	frac	1/4	3/8	1/2	
C	1	Ap1 max	0.5 x D	330	500	fz	.0007	.0012	.0014



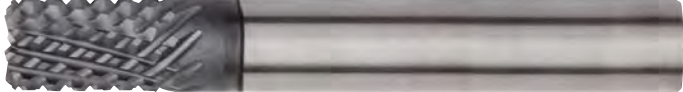

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ Down-Cut Router • CDDC • Inch

Material Group									
	Side Milling (A)		 KCN05		Feed per Tooth – fz information is for side milling (A).				
	A		Cutting Speed – vc SFM			D1 – Diameter			
	ap	ae	min	max	frac	1/4	3/8	1/2	
C	1	Ap1 max	1 x D	330	500	fz	.0018	.0030	.0036

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ Burr-Style Router • CBDB • Inch

Material Group											
	Side Milling (A) and Slotting (B)				 KCN05		Feed per Revolution – Inch per revolution (IPR) information is for side milling (A). For Slotting (B), reduce IPR by 10%.				
	A		B		Cutting Speed – vc SFM			D1 – Diameter			
	ap	ae	ap	min	max	frac	1/4	3/8	1/2		
C	1	Ap1 max	0.2 x D	1 x D	330	500	IPR	.0059	.0098	.0118	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

KenFeed™

Primary Application

The numerous effective cutting edges of KenFeed end mills make them the right choice for machining heat-treated steels up to 67 HRC. The KenFeed system combines roughing and semi-finishing into one tool by taking very shallow-depth cuts at extremely high feed rates to maximize metal removal. The 3 x D neck and extended-reach design is perfectly suited for pocketing using 3D machining techniques, such as ramping and helical interpolation. During face milling, the proprietary front end geometry of the KenFeed system is entirely in contact with the workpiece, providing up to 55% engagement compared to regular ball nose-type tooling that provides only 5–10%.

- Unique tool with new 6-flute style for high productivity.
- Innovative new geometry maximizes metal removal rates.
- High metal removal rates help to reduce manufacturing costs.

Features and Benefits

Advanced Technology

- Provides the benefits of indexable-style high-feed milling starting at 1/4".
- One tool for roughing and semi-finishing operations.
- Increases output by performing 3D machining, helical ramping, circular interpolation, face milling, and pocketing.
- Use in hardened materials from 40 to 67 HRC with two dedicated geometry variants.

Tailored Grades

- KC639M AlTiN-coated grade for longest tool life in hardened steels from 40 to 67 HRC.

Customization

- Intermediate diameters available.
- Custom solutions available for machining titanium and other high-temperature alloys.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.

Extensive Standard Offering

- Diameter ranges 1/4–3/4".
- Extended neck for long-reach applications.

End mills for high-feed milling of medium and hard steels.



Proprietary Geometry
Maximizes metal removal rates.

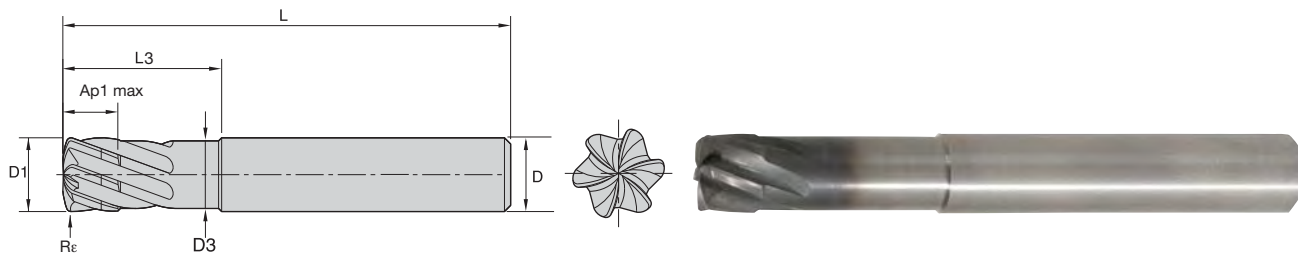


6-Flute Design
Enables helical ramping, circular
interpolation, and face milling.

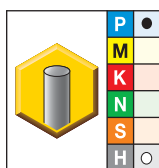
Necked Shank
Provides extended reach
in deep cavities.

KC639M™ AlTiN Coating
For maximum tool life.

- Kennametal standard dimensions.
- Non-center cutting.
- High feed.



■ KenFeed • KMDA • <52 HRC • Medium Steels



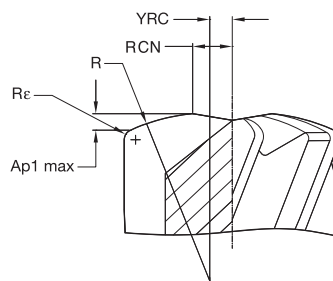
- first choice
- alternate choice

KC639M	D1	D	D3	Ap1 max	L3	L	Re
KMDA0250J6ANA	1/4	1/4	.211	.013	3/4	2 1/2	.016
KMDA0312J6ANA	5/16	5/16	.273	.017	1	3	.020
KMDA0375J6ANA	3/8	3/8	.336	.023	1 1/4	3 1/2	.023
KMDA0500J6ANA	1/2	1/2	.461	.027	1 1/2	4	.032
KMDA0625J6ANA	5/8	5/8	.586	.033	2	5	.040
KMDA0750J6ANA	3/4	3/4	.711	.040	2 1/2	5	.047

NOTE: For application data, see page P144.

End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"



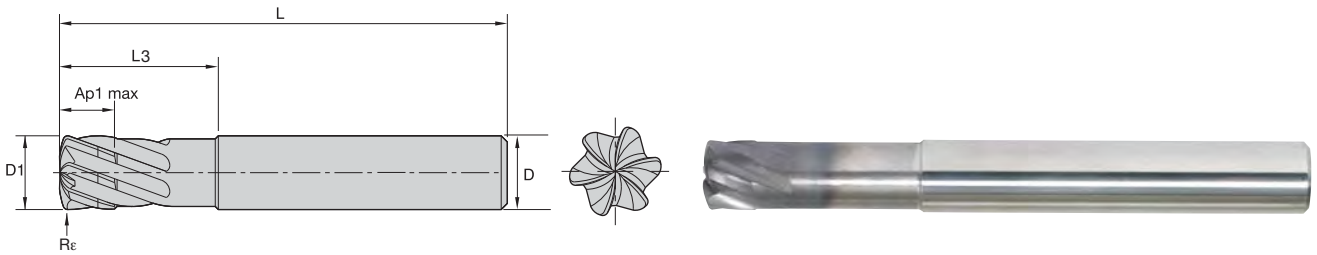
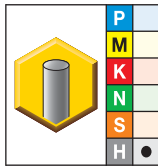
■ Programming Data

geometrical parameters		ramping guide for circular and linear ramping											
		circular interpolation					linear ramping						
catalog number	D1	Ap1 max	R	Re	YRC	RCN	optimal range of circle diameter for a single pass		calculated length per ramp angle				
							smallest	largest	1°	2°	3°	4°	5°
KMDA0250J6ANA	1/4	0.0133	0.250	0.0160	0.0313	0.0525	0.355	0.500	0.762	0.381	0.254	0.190	0.152
KMDA0312J6ANA	5/16	0.0166	0.313	0.0200	0.0391	0.0656	0.444	0.625	0.953	0.476	0.317	0.238	0.190
KMDA0375J6ANA	3/8	0.0200	0.375	0.0235	0.0469	0.0788	0.533	0.750	1.143	0.572	0.381	0.285	0.228
KMDA0500J6ANA	1/2	0.0266	0.500	0.0320	0.0625	0.1050	0.710	1.000	1.525	0.762	0.508	0.381	0.304
KMDA0625J6ANA	5/8	0.0333	0.625	0.0400	0.0781	0.1313	0.888	1.250	1.906	0.953	0.635	0.476	0.380
KMDA0750J6ANA	3/4	0.0399	0.750	0.0470	0.0938	0.1575	1.065	1.500	2.287	1.143	0.762	0.571	0.456

recommended % of programmed feed rate to use while ramping 100% 70% 50% 30% 10%

NOTE: YRC = distance from center line to the crown of the R radius.
 RCN = distance from center line to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
 R = the head radius size.
 Re = the shoulder radius or radius at the corner of the cutter.

- Kennametal standard dimensions.
- Non-center cutting.
- High feed.


■ KHDA • Steels with Hardness • >52 HRC


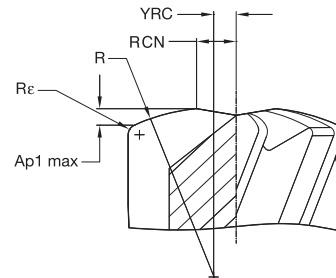
- first choice
- alternate choice

KC639M	D1	D	Ap1 max	L3	L	Rε
KHDA0250J6ANA	1/4	1/4	.0082	.750	2 1/2	.016
KHDA0312J6ANA	5/16	5/16	.0103	1.000	3	.020
KHDA0375J6ANA	3/8	3/8	.0123	1.250	3 1/2	.020
KHDA0500J6ANA	1/2	1/2	.0164	1.500	4	.023
KHDA0625J6ANA	5/8	5/8	.0205	2.000	4 1/2	.032
KHDA0750J6ANA	3/4	3/4	.0250	2.500	5	.040

NOTE: For application data, see page P144.

End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+ .000/- .002"	≤1/8"	+0/- .00024"
		>1/8–1/4"	+0/- .00031"
		>1/4–3/8"	+0/- .00035"
		>3/8–23/32"	+0/- .00043"
		>23/32–1 3/16"	+0/- .00051"


■ Programming Data

geometrical parameters				ramping guide for circular and linear ramping										
catalog number	D1	Ap1 max	R	Rε	YRC	RCN	circular interpolation		linear ramping					
							optimal range of circle diameter for a single pass		calculated length per ramp angle					
							smallest	largest	1°	2°	3°	4°	5°	
KHDA0250J6ANA	1/4	0.0082	0.375	0.0160	0.0313	0.0550	0.360	0.500	0.470	0.235	0.157	0.117	0.094	
KHDA0312J6ANA	5/16	0.0103	0.469	0.0200	0.0391	0.0688	0.450	0.625	0.588	0.294	0.196	0.147	0.117	
KHDA0375J6ANA	3/8	0.0123	0.563	0.0240	0.0469	0.0825	0.540	0.750	0.706	0.353	0.235	0.176	0.141	
KHDA0500J6ANA	1/2	0.0164	0.750	0.0320	0.0625	0.1100	0.720	1.000	0.941	0.470	0.313	0.235	0.188	
KHDA0625J6ANA	5/8	0.0205	0.938	0.0400	0.0781	0.1375	0.900	1.250	1.176	0.588	0.392	0.294	0.235	
KHDA0750J6ANA	3/4	0.0246	1.125	0.0470	0.0938	0.1650	1.080	1.500	1.411	0.705	0.470	0.352	0.282	

recommended % of programmed feed rate to use while ramping: 100% 70% 50% 30% 10%

NOTE: YRC = distance from center line to the crown of the R radius.

RCN = distance from center line to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.

R = the head radius size.

Rε = the shoulder radius or radius at the corner of the cutter.

■ KMDA • Steels with Hardness <52 HRC

Material Group	3D Milling/Profiling		KC639M			frac.	D1 – Diameter					
			Cutting Speed – vc SFM		1/4		5/16	3/8	1/2	5/8	3/4	
	ap	ae	min	max	dec.	0.250	0.313	0.375	0.500	0.625	0.750	
P	4	0.05 x D	0.55 x D	528	594	fz	.0130	.0160	.0190	.0250	.0260	.0280
H	1	0.05 x D	0.55 x D	462	528	fz	.0130	.0160	.0190	.0250	.0260	.0280
	2	0.05 x D	0.55 x D	330	396	fz	.0080	.0090	.0110	.0150	.0190	.0230

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ KHDA • Steels with Hardness >52 HRC

Material Group	3D Milling/Profiling		KC639M			frac.	D1 – Diameter					
			Cutting Speed – vc SFM		1/4		5/16	3/8	1/2	5/8	3/4	
	ap	ae	min	max	dec.	0.250	0.313	0.375	0.500	0.625	0.750	
H	2	0.03 x D	0.55 x D	330	396	fz	.0080	.0090	.0110	.0150	.0190	.0230
	3	0.03 x D	0.55 x D	265	330	fz	.0080	.0090	.0110	.0150	.0190	.0230
	4	0.03 x D	0.55 x D	165	230	fz	.0060	.0080	.0090	.0130	.0160	.0190

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.



High-Performance Solid Carbide End Mills

G0mill™ GP

General Purpose End Mill Series

- Flexible — plunging, slotting, and profiling.
- Complete — wide range of diameters and lengths.
- Adaptive — wide range of applications and workpiece materials.
- Economical — excellent cost-benefit ratio.

Offering

- 2-flute version for unstable conditions.
- 3-flute version as alternative to 2 and 4 flutes.
- 4-flute version for high metal removal rates.

Advanced Technology

- Roughing and finishing with one tool.
- Eccentric relief increases edge stability.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

➤ High-Performance Hard-Machining Solid Carbide End Mills

Primary Application

These end mills from Kennametal for hard machining are engineered to machine hardened steels up to 67 HRC at extreme speeds and feeds. Designed with special coatings, substrates, and geometries to extend tool life in any application that requires machining of hardened workpiece materials.

- Capable of machining hardened steels more than 60 HRC.
- Unique design enables higher feeds and speeds to increase Metal Removal Rates (MRR).
- Sophisticated coatings for maximum wear resistance.

Features and Benefits

Advanced Technology

- Negative geometry for increased edge strength.
- Reinforced core for better rigidity.
- High helix for better surface finishes.

Tailored Grades

- Universal grade KC633M™.

Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut possible.
- Toroidal as well as undercutting end mills (Spherical Lollipop-Style).
- Various shank options and non-standard coatings available.
- TiAlN wear-resistant substrate grade KC637M and AlTiN grade KC643M available as custom solution.

Extensive Standard Offering

- Diameter ranges 1/8–1".
- Extended neck for long-reach applications and radii and sharp corner configurations.
- Roughing and ball nose finishing geometries.

Sophisticated coatings for maximum wear resistance.



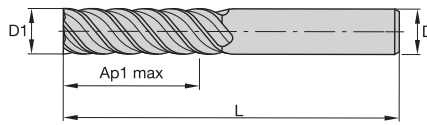
Parabolic Core Design
Proprietary technology stabilizes end mill to avoid deflection in longer length of cut.

Various Helix End Mill Versions
Dedicated application-specific design.



KC633M™ TiAlN-Coated Substrate
For longest tool life in challenging applications.

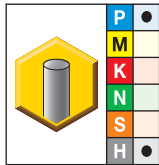
- Kennametal standard dimensions.
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ HPFDM • Medium and Hardened Steels



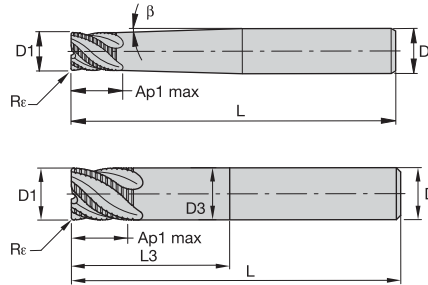
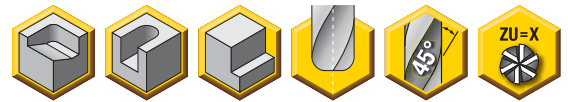
- first choice
- alternate choice

KC633M	D1	D	Ap1 max	L	Z U
HPFDM250S4038	1/4	1/4	3/8	3	4
HPFDM250S4063	1/4	1/4	5/8	3	4
HPFDM250S4088	1/4	1/4	7/8	3	4
HPFDM312S4050	5/16	5/16	1/2	4	4
HPFDM312S4075	5/16	5/16	3/4	4	4
HPFDM312S4113	5/16	5/16	1 1/8	4	4
HPFDM375S4056	3/8	3/8	9/16	4	4
HPFDM375S5094	3/8	3/8	15/16	4	5
HPFDM375S5131	3/8	3/8	1 5/16	4	5
HPFDM500S4075	1/2	1/2	3/4	5	4
HPFDM500S6125	1/2	1/2	1 1/4	5	6
HPFDM500S6175	1/2	1/2	1 3/4	5	6
HPFDM625S4094	5/8	5/8	15/16	5	4
HPFDM625S6156	5/8	5/8	1 9/16	5	6
HPFDM625S6219 *	5/8	5/8	2 3/16	5	6
HPFDM750S4113	3/4	3/4	1 1/8	6	4
HPFDM750S6188	3/4	3/4	1 7/8	6	6
HPFDM750S6263	3/4	3/4	2 5/8	6	6
HPFDM1000S5150	1	1	1 1/2	6	5
HPFDM1000S6250	1	1	2 1/2	6	6
HPFDM1000S6350	1	1	3 1/2	6	6

NOTE: For application data, see page P151.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

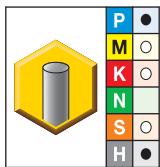
- Kennametal standard dimensions.
- Center cutting.
- Shallow-pitch profile.



End Mill Tolerances

D1	d11	D	tolerance h6
<1/8"	-.0008/- .0031"	<1/8"	+0/- .00024"
1/8-7/32"	-.0012/- .0041"	1/8-7/32"	+0/- .00031"
1/4-3/8"	-.0016/- .0051"	1/4-3/8"	+0/- .00035"
13/32-11/16"	-.002/- .0063"	13/32-11/16"	+0/- .00043"
23/32-1-3/16"	-.0026/- .0077"	23/32-1-3/16"	+0/- .00051"

■ HPRDM • Rougher for Medium and Hardened Steels



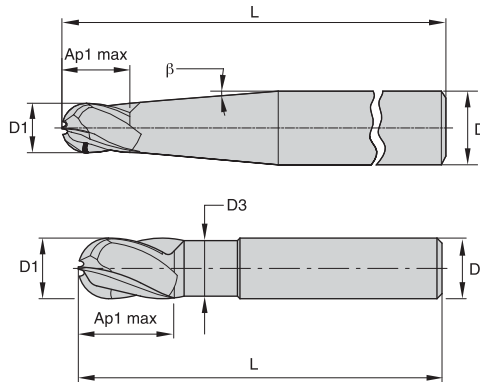
- first choice
- alternate choice

KC633M	D1	D	Ap1 max	L	Rε	β	Z U
HPRDM188S3019	3/16	1/4	3/16	3	.030	2.5	3
HPRDM250S4025	1/4	3/8	1/4	4	.030	2.5	4
HPRDM312S4031	5/16	3/8	5/16	4	.030	2.5	4
HPRDM375S4038	3/8	1/2	3/8	5	.030	2.5	4
HPRDM500S4050	1/2	5/8	1/2	5	.040	2.5	4

NOTE: For application data, see page P151.

High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Center cutting.

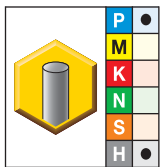


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ HPBNDM • Medium and Hardened Steels

- first choice
- alternate choice



KC633M	D1	D	D3	Ap1 max	L3	L	β
HPBNDM125S4013	1/8	1/4	—	1/8	1.56	3	2.5
HPBNDM188S4019	3/16	1/4	—	3/16	.90	3	2.5
HPBNDM250S4025	1/4	3/8	—	1/4	1.68	4	2.5
HPBNDM375S4038	3/8	1/2	—	3/8	1.81	5	2.5
HPBNDM500S4050	1/2	5/8	—	1/2	1.93	5	2.5
HPBNDM625S4063	5/8	5/8	.59	5/8	1.87	5	—
HPBNDM750S4075	3/4	3/4	.71	3/4	2.25	6	—

NOTE: For application data, see page P152.

HPFDM

		Side Milling (A) and Slotting (B)		KC633M		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
Material Group		A		B	Cutting Speed – vc SFM		frac.	D1 – Diameter					1	
		ap	ae	ap	min	max		dec.	0.250	0.313	0.375	0.500		0.625	0.750
P	3	1 x D	0.4 x D	1 x D	390	520	fz	.0017	.0021	.0025	.0032	.0037	.0042	.0050
	4	1 x D	0.4 x D	0.75 x D	300	490	fz	.0015	.0019	.0022	.0029	.0033	.0036	.0043
H	1	1 x D	0.4 x D	0.75 x D	260	460	fz	.0015	.0019	.0022	.0029	.0033	.0036	.0043
	2	1 x D	0.3 x D	0.5 x D	230	390	fz	.0011	.0014	.0017	.0021	.0024	.0027	.0031
	3	1 x D	0.15 x D	0.3 x D	200	300	fz	.0009	.0011	.0013	.0017	.0020	.0022	.0027
	4	1 x D	0.1 x D	0.15 x D	160	230	fz	.0006	.0008	.0009	.0011	.0013	.0015	.0018

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

For better surface finish, reduce feed per tooth.

HPRDM

		Side Milling (A) and Slotting (B)		KC633M		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
Material Group		A		B	Cutting Speed – vc SFM		frac.	D1 – Diameter				1/2	
		ap	ae	ap	min	max		dec.	3/16	1/4	5/16		3/8
P	3	0.8 x D	0.5 x D	0.75 x D	390	520	IPT	.0011	.0015	.0020	.0023	.0029	
	4	0.8 x D	0.4 x D	0.5 x D	300	490	IPT	.0010	.0014	.0017	.0020	.0026	
	5	0.8 x D	0.5 x D	0.75 x D	200	330	IPT	.0009	.0012	.0016	.0018	.0023	
	6	0.8 x D	0.4 x D	0.5 x D	160	250	IPT	.0008	.0010	.0013	.0015	.0019	
M	1	0.8 x D	0.5 x D	0.75 x D	300	380	IPT	.0011	.0015	.0020	.0023	.0029	
	2	0.8 x D	0.4 x D	0.75 x D	200	260	IPT	.0009	.0012	.0016	.0018	.0023	
	3	0.8 x D	0.4 x D	0.75 x D	200	230	IPT	.0008	.0010	.0013	.0015	.0019	
K	1	0.8 x D	0.5 x D	0.75 x D	390	490	IPT	.0013	.0018	.0023	.0027	.0034	
	2	0.8 x D	0.5 x D	0.75 x D	360	460	IPT	.0011	.0015	.0020	.0023	.0029	
	3	0.8 x D	0.4 x D	0.75 x D	360	430	IPT	.0009	.0012	.0016	.0018	.0023	
S	1	0.8 x D	0.4 x D	0.75 x D	160	300	IPT	.0011	.0015	.0020	.0023	.0029	
	2	0.8 x D	0.4 x D	0.75 x D	80	130	IPT	.0006	.0008	.0010	.0012	.0015	
	3	0.8 x D	0.4 x D	0.75 x D	80	130	IPT	.0006	.0008	.0010	.0012	.0015	
	4	0.8 x D	0.3 x D	0.5 x D	160	200	IPT	.0008	.0011	.0014	.0017	.0021	
H	1	0.8 x D	0.5 x D	0.5 x D	260	460	IPT	.0010	.0014	.0017	.0020	.0026	
	2	0.8 x D	0.2 x D	0.3 x D	230	390	IPT	.0008	.0010	.0013	.0015	.0019	
	3	0.8 x D	0.15 x D	0.2 x D	200	300	IPT	.0006	.0008	.0010	.0012	.0015	

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

■ HPBNDM

Material Group	3D Milling/Profiling		KC633M		Feed per Tooth – Finishing										
			Cutting Speed – vc SFM		D1 – Diameter										
			frac.	1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8	3/4			
	ap	ae	min	max	dec.	0.125	0.156	0.188	0.250	0.313	0.375	0.500	0.625	0.750	
P	3	0.04 x D	0.04 x D	1360	1540	fz	.0033	.0042	.0052	.0070	.0090	.0105	.0135	.0157	.0175
	4	0.04 x D	0.04 x D	1190	1360	fz	.0031	.0039	.0047	.0063	.0081	.0093	.0120	.0139	.0152
H	1	0.03 x D	0.03 x D	950	1330	fz	.0033	.0041	.0050	.0068	.0086	.0100	.0128	.0148	.0163
	2	0.03 x D	0.03 x D	670	1140	fz	.0025	.0031	.0038	.0051	.0065	.0075	.0096	.0110	.0120
	3	0.02 x D	0.02 x D	710	1060	fz	.0021	.0026	.0032	.0043	.0054	.0063	.0082	.0095	.0107
	4	0.02 x D	0.02 x D	590	830	fz	.0014	.0017	.0021	.0028	.0036	.0042	.0054	.0063	.0070

Material Group	3D Milling/Profiling		KC633M		Feed per Tooth – Semi-Finishing										
			Cutting Speed – vc SFM		D1 – Diameter										
			frac.	1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8	3/4			
	ap	ae	min	max	dec.	0.125	0.156	0.188	0.250	0.313	0.375	0.500	0.625	0.750	
P	3	0.1 x D	0.05 x D	890	1000	fz	.0022	.0027	.0033	.0045	.0059	.0068	.0088	.0102	.0114
	4	0.1 x D	0.05 x D	780	890	fz	.0020	.0025	.0030	.0041	.0053	.0061	.0078	.0090	.0099
H	1	0.07 x D	0.1 x D	660	920	fz	.0025	.0031	.0038	.0051	.0066	.0076	.0098	.0113	.0124
	2	0.05 x D	0.04 x D	530	910	fz	.0022	.0027	.0033	.0044	.0057	.0065	.0084	.0096	.0105
	3	0.03 x D	0.03 x D	570	860	fz	.0019	.0025	.0030	.0040	.0051	.0059	.0076	.0089	.0100
	4	0.03 x D	0.03 x D	480	670	fz	.0013	.0016	.0020	.0027	.0034	.0039	.0051	.0059	.0066

Material Group	3D Milling/Profiling		KC633M		Feed per Tooth – Roughing										
			Cutting Speed – vc SFM		D1 – Diameter										
			frac.	1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8	3/4			
	ap	ae	min	max	dec.	0.125	0.156	0.188	0.250	0.313	0.375	0.500	0.625	0.750	
P	3	0.2 x D	0.1 x D	680	770	fz	.0010	.0012	.0015	.0020	.0026	.0030	.0039	.0046	.0051
	4	0.2 x D	0.1 x D	600	680	fz	.0009	.0011	.0014	.0018	.0023	.0027	.0035	.0040	.0044
H	1	0.15 x D	0.1 x D	460	640	fz	.0013	.0017	.0020	.0028	.0035	.0041	.0052	.0060	.0066
	2	0.1 x D	0.75 x D	390	670	fz	.0015	.0019	.0023	.0031	.0039	.0045	.0058	.0067	.0073
	3	0.05 x D	0.05 x D	450	680	fz	.0017	.0021	.0026	.0035	.0044	.0052	.0067	.0078	.0087
	4	0.05 x D	0.05 x D	380	530	fz	.0011	.0014	.0017	.0023	.0030	.0034	.0044	.0052	.0058

NOTE: These guidelines may require variations to achieve optimum results.

High-Performance Solid Carbide End Mills

HARVI™ III Family

High-temperature alloy machining

- Profiling, semi-finishing, and finishing.
- Maximum metal removal rates in titanium and stainless steel.
- Supreme surface conditions.
- Complete family of square end, ball nose, and taper ball nose cutters.

KCSM15™

- Proprietary Beyond™ grade for exceptional tool life in titanium and stainless steels.

Advanced Technology

- Six unequally spaced flutes for chatter-free machining.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability in roughing and finishing operations.



beyond™

Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

➤ Beyond™ EADE

Solid Ceramic End Mills

Primary Application

EADE solid ceramic end mills offer higher productivity and tool life in roughing nickel-based high-temperature alloys. Beyond grade KYS40™ delivers best-in-class tool life and exceptionally high Metal Removal Rates (MRR), surpassing those of other solutions on the market today.

- Outstanding reduction of machining time.
- Fewer tool changes due to longer tool life.
- Benefit from throw-away type of tooling.

Features and Benefits

Advanced Technology

- KYS40 Beyond grade solid SiAlON ceramic designed for machining nickel-based high-temperature alloys.
- Cutting speeds up to 3300 SFM increase metal removal rates.
- Tool life up to 5x that of carbide end mills.

Extensive Standard Offering

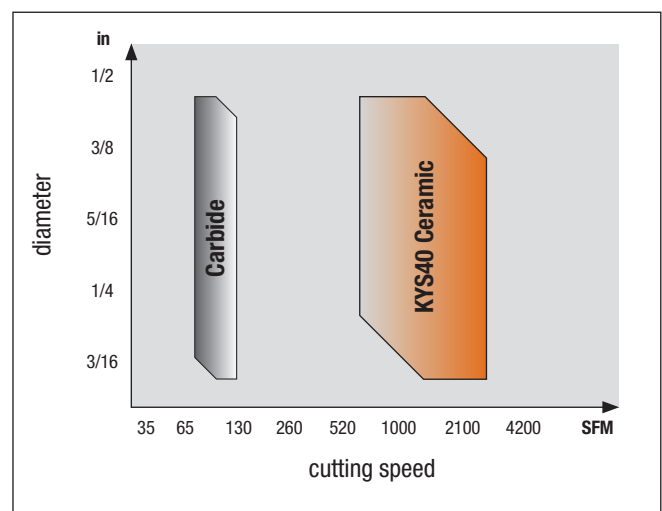
- 4-flute tooling for pocketing and slotting. Undersize end mills leaving stock for finishing operations.
- 6-flute tooling for face milling and profiling.

Customization

- Engineered solutions are available upon request.

Highest Cutting Speed Capability

- Increase compared to carbide.





Ceramic Optimized End Geometry
Increases shearing action.
Improves corner stability.

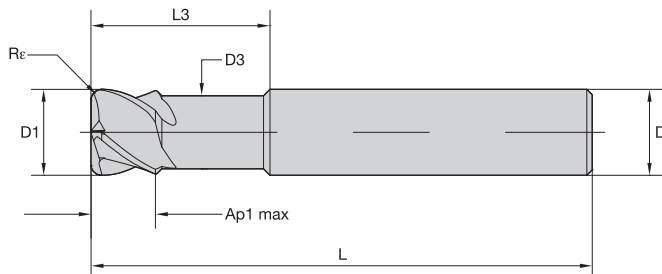
Enlarged Core Design
Increases tool rigidity for less deflection.

40° Helix Angle
Improves chip evacuation.

KYS40™ Beyond™ Grade
Enables highest cutting speeds.



- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 2,5°.
- Optimized geometry for roughing nickel-based high-temperature alloys.

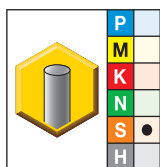


End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤1/8"	-.00055/-.00110"	≤1/8"	+0/-.00024"
>1/8-1/4"	-.00079/-.00150"	>1/8-1/4"	+0/-.00031"
>1/4-3/8"	-.00098/-.00185"	>1/4-3/8"	+0/-.00035"
>13/32-23/32"	-.00126/-.00232"	>13/32-23/32"	+0/-.00043"
>23/32-1-3/16"	-.00157/-.00287"	>23/32-1-3/16"	+0/-.00051"



EADE • 4 Flute with Neck • Inch



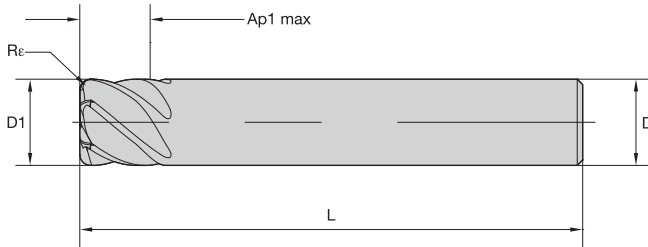
- first choice
- alternate choice

KYS40	D1	D1	D	D3	Ap1 max	L	L3	Re
EADE0178J4AQX	—	.180	1/4	.173	9/64	2	3/8	.023
EADE0188J4AQX	3/16	.188	1/4	.180	9/64	2	3/8	.023
EADE0238J4AQB	—	.238	1/4	.229	3/16	2	1/2	.031
EADE0250J4AQB	1/4	.250	1/4	.240	3/16	2	1/2	.031
EADE0297J4AQX	19/64	.297	5/16	.285	15/64	2 1/4	5/8	.039
EADE0313J4AQX	5/16	.313	5/16	.300	15/64	2 1/4	5/8	.039
EADE0356J4AQX	—	.356	3/8	.341	9/32	2 1/2	3/4	.047
EADE0375J4AQX	3/8	.375	3/8	.360	9/32	2 1/2	3/4	.047
EADE0475J4AQC	—	.477	1/2	.458	3/8	2 3/4	1	.063
EADE0500J4AQC	1/2	.500	1/2	.480	3/8	2 3/4	1	.063

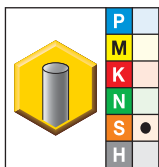
NOTE: For application data, see page P158.
For face milling, profiling, and 3D milling, do not exceed .019" of Ap.

High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 2°.
- Optimized geometry for roughing nickel-based high-temperature alloys.


End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤1/8"	-.00055/-.00110"	≤1/8"	+0/-.00024"
>1/8-1/4"	-.00079/-.00150"	>1/8-1/4"	+0/-.00031"
>1/4-3/8"	-.00098/-.00185"	>1/4-3/8"	+0/-.00035"
>13/32-23/32"	-.00126/-.00232"	>13/32-23/32"	+0/-.00043"
>23/32-1-3/16"	-.00157/-.00287"	>23/32-1-3/16"	+0/-.00051"


EADE • 6 Flute • Inch


- first choice
- alternate choice

KYS40	D1	D	Ap1 max	L	Re
EADE0188J6ARX	3/16	3/16	9/64	2	.023
EADE0250J6ARB	1/4	1/4	3/16	2	.031
EADE0313J6ARX	5/16	5/16	15/64	2 1/4	.039
EADE0375J6ARX	3/8	3/8	9/32	2 1/2	.047
EADE0500J6ARC	1/2	1/2	3/8	2 3/4	.063

NOTE: For application data, see page P158.
For face milling, profiling, and 3D-milling, do not exceed .019" of Ap.



■ 4-Flute with Neck • Inch

		Side Milling (A) and Slotting (B)		KYS40		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.						
		A		B		Cutting Speed – vc SFM		D1 – Diameter				
Material Group		ap	ae	ap	min	max	frac.	3/16	1/4	5/16	3/8	1/2
S	3	Ap1 max	0.1 x D*	0.5 x D*	825	3300	IPT	.0094	.0100	.0109	.0113	.0133

NOTE: *For above cutting data, do not exceed an overall ae of .039".
Use ap of .039" as starting condition.

■ 6-Flute • Inch

		Side Milling (A) and Profiling		KYS40		Recommended feed per tooth (IPT = inch/th) for side milling (A).					
		A		Cutting Speed – vc SFM		D1 – Diameter					
Material Group		ap	ae	min	max	frac.	3/16	1/4	5/16	3/8	1/2
S	3	Ap1 max*	0.1 x D*	825	3300	IPT	.0094	.0100	.0109	.0113	.0133

NOTE: *For above cutting data, do not exceed an overall ae of .039".
Use ap of .039" as starting condition.



A New Dimension

HARVI™ II

The next generation high-performance end mill, HARVI II dramatically improves metal removal rates without reducing tool life.

- Best suited for applications in the aerospace, medical, die and mold, automotive, and general engineering markets.
- Outstanding performance in stainless steel, titanium, INCONEL®, and other high-temperature alloys and steels.
- Increased metal removal rates in roughing and finishing operations.

Advanced Technology

- Five unequally-spaced flutes for chatter-free machining at high feed rates.
- 1 x D full slotting capability in:
 - Titanium
 - Stainless steel

Tailored Grades

- Proprietary KCPM15™ Beyond™ grade.
- Universal KC643M™ grade.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com



EADE 4-Flute End Mill

CHALLENGE

- Roughing a slot on turbine blade.
- Depth of slot .866".
- INCONEL® 718 material.
- Dry machining.

SOLUTION

- Engineered solution EADE KYS40™ ceramic end mill with extended neck.
- Ø .449" (11,4mm) with 4 effective cutting edges and .059" (1,5mm) corner radii.

CUTTING DATA

- vc 2625 SFM
- fz .0012 IPT
- ap .0197"
- ae .866"

RESULT

- Customer proprietary information.

BENEFIT

- Machining time of 1 minute 54 seconds for one slot only.
- Metal removal rate of .9 in³/m consistently achieved.
- Productivity significantly increased.

EADE 4-Flute End Mill

CHALLENGE

- Rough profiling of small turbine blades.
- INCONEL 718 material.
- Dry machining.

SOLUTION

- Standard EADE KYS40 ceramic end mill.
- Ø .449" (11,4mm) with 4 effective cutting edges and standard neck.

CUTTING DATA

- vc 2116 SFM
- fz .0012 IPT
- ap .0197"
- ae .866"

RESULT

- 3x tool life compared to 2x tool life with competitive solution in less time.

BENEFIT

- 3x higher productivity as a result of increased cutting data.
- 50% longer tool life compared to competitive carbide end mill.

(continued)

(continued)



EADE 6-Flute End Mill

- CHALLENGE**
- Rough profiling of aerospace parts.
 - Haynes® 288 and INCONEL® 718 material.
 - Dry machining.

- SOLUTION**
- Standard EADE KYS40™ ceramic end mill.
 - Ø .394" (10mm) with 6 effective cutting edges.

- CUTTING DATA**
- vc 1516 SFM
 - fz .0012 IPT
 - ap .0197–.0394"
 - ae varying

- RESULT**
- Customer proprietary information.

- BENEFIT**
- Machining time reduced.
 - Productivity significantly increased.

EADE 6-Flute End Mill

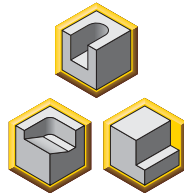
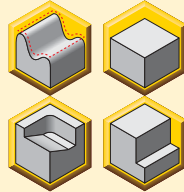
- CHALLENGE**
- Rough profiling of blisk (blade integrated disc).
 - INCONEL 718 material (42 HRC).
 - Compressed air coolant.

- SOLUTION**
- Standard EADE KYS40 ceramic end mill.
 - Ø .472" (12mm) with 6 effective cutting edges.

- CUTTING DATA**
- vc 2228 SFM
 - fz .0012 IPT
 - ap varying up to .0197"
 - ae varying

- RESULT**
- 2 blisk segments machined with one tool.
 - 12 minute machining time per segment.

- BENEFIT**
- Unprecedented reduction in machining time.

Materials to Cut	<ul style="list-style-type: none"> • Nickel-based high-temperature alloys. • Cobalt-based alloys after consulting technical assistance. • P6 and M1-3 stainless steels after consulting technical assistance. • Do not apply on iron-based high-temperature alloys.
Cutting Speed	<ul style="list-style-type: none"> • Maximum RPM machine can provide recommended cutting speed: 1,300–3,300 SFM. • Highly dynamic machines recommended. • Use of spindle speeders applicable (no wet coolant).
Feed Rate	<ul style="list-style-type: none"> • Refer to application data recommendation. • General starting condition fz .0012 IPT.
Depth of Cut	<ul style="list-style-type: none"> • Refer to application data recommendation. • General starting condition ap .019" .
Coolant	<ul style="list-style-type: none"> • Power cool nozzle preferred to flush chips away. • Pressurized air applicable. • Minimal quantity lubrication (MQL) and dry applicable. • No coolant with emulsion or oil due to thermal shock.
Adaptation	<ul style="list-style-type: none"> • Hydraulic chuck with or without sleeve preferred. • Collet or milling power chucks applicable. • Balancing at 25,000 RPM (2,5G) preferred.
Roughing Application	Yes
Finishing Application	No
Milling Strategy	<ul style="list-style-type: none"> • Conventional milling preferred at lower speeds. • Climb milling preferred at higher speeds.
4-Flute EADE	<ul style="list-style-type: none"> • Slotting and pocketing. • Common sizes and undersize leaving finishing stock. • Side milling possible up to ap max with increased feed. • Non-center cutting. • Ramping and helical interpolation possible under 2.5°. 
6-Flute EADE	<ul style="list-style-type: none"> • Profiling and face milling. • Non-center cutting. • Side milling possible up to ap max with increased feed. • Ramping and helical interpolation possible under 2°. 
Engineered Solutions	Available upon request.
Reconditioning Service	Not applicable.

Wear Indication

New

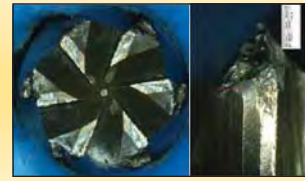


Used



Wear rate .019".
Still good to use.

End of Tool Life



Wear rate .055".
End of tool life reached.

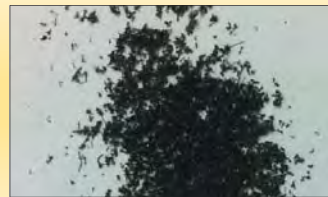
Chip Formation

Carbide



Regular curled chips. Shape and length depend on end mill geometry and cutting data.

Ceramic



Chips are nearly like dust. Pressurized air coolant recommended to blow away chips.

Causes of and Remedies for End Milling Problems

problem	cause	remedy
Excessive bur formation	<ul style="list-style-type: none"> Softness of material to cut. Excessive wear on radii. 	<ul style="list-style-type: none"> Use undersize end mills that leave stock for finishing operation. Replace tool as end of tool life reached. Check tool runout.
Sudden breakage	<ul style="list-style-type: none"> Vibration of the workpiece. Unstable tool clamping. Use of 6-flute tooling in slotting. 	<ul style="list-style-type: none"> Check workpiece and tool clamping. Use of 4-flute EADE recommended.
Chips sticking	<ul style="list-style-type: none"> Lack of cutting speed. 	<ul style="list-style-type: none"> Increase cutting speed.
Chipping	<ul style="list-style-type: none"> Unstable tool and/or workpiece clamping. Initial cutting speed too high. 	<ul style="list-style-type: none"> Check workpiece and tool clamping. Reduce cutting speed during initial cut and increase as cutting continues.
Thermal cracks	<ul style="list-style-type: none"> Wet coolant. 	<ul style="list-style-type: none"> Do not use wet coolant.

GOmill™

Economical High-Performance End Mills

Primary Application



The GOmill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, this line is made to conform to the growing market of mill-turn machines.

- Extremely stable cutting tool due to extremely short design.
- Less vibration due to unequal flute spacing.
- Soft cut to support mill-turn machines as well driven units in lathe tooling.
- Use a new GOmill with 100% performance instead of regrinding.

Features and Benefits

Advanced Technology

- The 3-flute sharp and 4-flute chamfer versions support roughing, semi-finishing, and finishing applications.
- The 3-flute ball nose tool supports roughing and semi-finishing applications.
- All geometries work in slotting and side milling applications up to 1 x D depth of cut.
- Shortened shank applicable for all common clamping adapters without modifications. Only use clamping sleeve in hydraulic chucks to avoid vibrations.

Tailored Grades

- Universal KC643M™ grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

Extensive Standard Offering

- Diameter ranges 5/64–1/2".
- Straight shanks.



High-Performance Geometry
Enables chatter free 1 x D full slotting in multiple materials.

Unequal Flute Spacing
Reduces vibrations, improving surface finish.

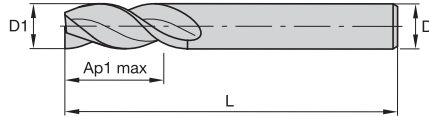
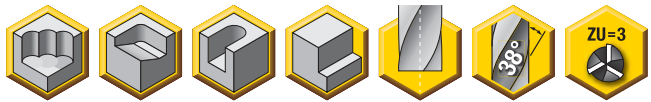
Center Cutting
For plunging and ramping.

38° Helix
For roughing and finishing operations.

KC643M™ AlTiN-Coating
For longer tool life.

Shorter than Regular Shank
Saving expensive carbide.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing.
- Roughing/finishing.

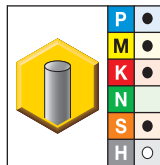


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"



■ UEDE • 3-Flute • Sharp Edge



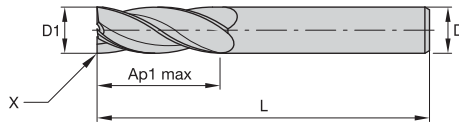
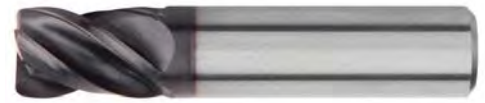
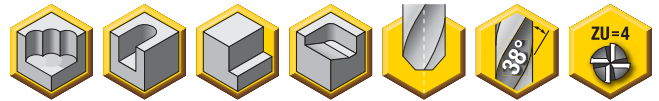
- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L
UEDE0078J3AS	5/64	1/4	5/32	1 1/2
UEDE0094J3AS	3/32	1/4	5/32	1 1/2
UEDE0125J3AS	1/8	1/4	13/64	1 1/2
UEDE0156J3AS	5/32	1/4	17/64	1 1/2
UEDE0188J3AS	3/16	1/4	19/64	1 1/2
UEDE0250J3AS	1/4	1/4	21/64	1 1/2
UEDE0312J3AS	5/16	5/16	27/64	1 3/4
UEDE0375J3AS	3/8	3/8	31/64	2
UEDE0437J3AS	7/16	7/16	9/16	2 5/32
UEDE0500J3AS	1/2	1/2	5/8	2 5/32

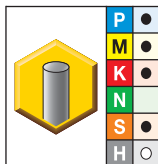
NOTE: For application data, see page P170.
Use reducer sleeve when clamping in hydraulic chucks.

High-Performance Solid Carbide End Mills

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"


■ UEDE • 4-Flute • Chamfer


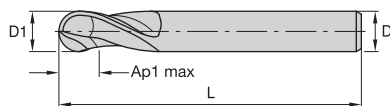
- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L	BCH
UEDE0156J4AH	5/32	1/4	17/64	1 1/2	.016
UEDE0188J4AH	3/16	1/4	19/64	1 1/2	.016
UEDE0250J4AH	1/4	1/4	21/64	1 1/2	.016
UEDE0312J4AH	5/16	5/16	27/64	1 3/4	.016
UEDE0375J4AH	3/8	3/8	31/64	2	.016
UEDE0437J4AH	7/16	7/16	9/16	2 5/32	.016
UEDE0500J4AH	1/2	1/2	5/8	2 5/32	.016

NOTE: For application data, see page P170.
Use reducer sleeve when clamping in hydraulic chucks.



- Kennametal standard dimensions.
- Center cutting.
- Single tool for both semi-finishing and finishing operations for fewer setups.

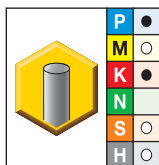


End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.00/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"



■ UEBD • 2-Flute • Ball Nose



- first choice
- alternate choice

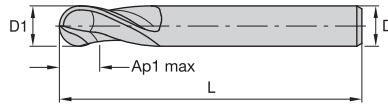
KC643M	D1	D	Ap1 max	L
UEBD0078J2A	5/64	1/4	5/32	1 1/2
UEBD0094J2A	3/32	1/4	5/32	1 1/2
UEBD0125J2A	1/8	1/4	13/64	1 1/2
UEBD0156J2A *	5/32	1/4	17/64	1 1/2
UEBD0188J2A	3/16	1/4	19/64	1 1/2
UEBD0250J2A	1/4	1/4	21/64	1 1/2
UEBD0312J2A *	5/16	5/16	27/64	1 3/4
UEBD0375J2A	3/8	3/8	31/64	2
UEBD0437J2A *	7/16	7/16	9/16	2 5/32
UEBD0500J2A	1/2	1/2	5/8	3

NOTE: For application data, see page P171.

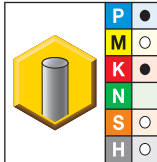
Use reducer sleeve when clamping in hydraulic chucks.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and semi-finishing operations for fewer setups.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+0.000/-0.002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"


■ UEBD • 3-Flute • Ball Nose


- first choice
- alternate choice

KC643M	D1	D	Ap1 max	L
UEBD0078J3A	5/64	1/4	5/32	1 1/2
UEBD0094J3A	3/32	1/4	5/32	1 1/2
UEBD0125J3A	1/8	1/4	13/64	1 1/2
UEBD0156J3A	5/32	1/4	17/64	1 1/2
UEBD0188J3A	3/16	1/4	19/64	1 1/2
UEBD0250J3A	1/4	1/4	21/64	1 1/2
UEBD0312J3A	5/16	5/16	27/64	1 3/4
UEBD0375J3A	3/8	3/8	31/64	2
UEBD0437J3A	7/16	7/16	9/16	2 5/32
UEBD0500J3A	1/2	1/2	5/8	2 5/32

NOTE: For application data, see page P171.
Use reducer sleeve when clamping in hydraulic chucks.

High-Performance Solid Carbide End Mills

■ UEDE • 3-Flute • Sharp Edge



Material Group	Side Milling (A) and Slotting (B)			KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.								
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter							
	ap	ae	ap	min	max		5/64	1/8	3/16	1/4	5/16	3/8	1/2	
							0.08	0.13	0.19	0.250	0.31	0.38	0.50	
P	0	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	1	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	460	620	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	3	1.5 x D	0.5 x D	1 x D	390	520	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	4	1.5 x D	0.5 x D	0.75 x D	300	490	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026
	5	1.5 x D	0.5 x D	1 x D	200	330	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
M	6	1.5 x D	0.5 x D	0.75 x D	160	250	IPT	.0003	.0005	.0008	.0010	.0013	.0015	.0019
	1	1.5 x D	0.5 x D	1 x D	300	380	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.5 x D	1 x D	200	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
K	3	1.5 x D	0.5 x D	1 x D	200	230	IPT	.0003	.0005	.0008	.0010	.0013	.0015	.0019
	1	1.5 x D	0.5 x D	1 x D	390	490	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	360	460	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
S	3	1.5 x D	0.5 x D	1 x D	360	430	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
	1	1.5 x D	0.3 x D	0.3 x D	160	300	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
	3	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
H	4	1.5 x D	0.5 x D	1 x D	160	200	IPT	.0003	.0005	.0008	.0011	.0014	.0017	.0021
	1	1.5 x D	0.5 x D	0.75 x D	260	460	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026

■ UEDE • 4-Flute • Chamfer



Material Group	Side Milling (A) and Slotting (B)			KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.									
	A		B	Cutting Speed – vc SFM		frac. dec.	D1 – Diameter								
	ap	ae	ap	min	max		5/64	1/8	5/32	3/16	1/4	5/16	3/8	1/2	
							.0781	.1250	.1563	.1875	.2500	.3125	.3750	.5000	
P	0	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0011	.0013	.0018	.0023	.0027	.0034
	1	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0011	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	460	620	IPT	.0005	.0009	.0011	.0013	.0018	.0023	.0027	.0034
	3	1.5 x D	0.5 x D	1 x D	390	520	IPT	.0004	.0007	.0009	.0011	.0015	.0020	.0023	.0029
	4	1.5 x D	0.5 x D	0.75 x D	300	490	IPT	.0004	.0007	.0008	.0010	.0014	.0017	.0020	.0026
	5	1.5 x D	0.5 x D	1 x D	200	330	IPT	.0004	.0006	.0007	.0009	.0012	.0016	.0018	.0023
M	6	1.5 x D	0.5 x D	0.75 x D	160	250	IPT	.0003	.0005	.0006	.0008	.0010	.0013	.0015	.0019
	1	1.5 x D	0.5 x D	1 x D	300	380	IPT	.0004	.0007	.0009	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.5 x D	1 x D	200	260	IPT	.0004	.0006	.0007	.0009	.0012	.0016	.0018	.0023
K	3	1.5 x D	0.5 x D	1 x D	200	230	IPT	.0003	.0005	.0006	.0008	.0010	.0013	.0015	.0019
	1	1.5 x D	0.5 x D	1 x D	390	490	IPT	.0005	.0009	.0011	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	360	460	IPT	.0004	.0007	.0009	.0011	.0015	.0020	.0023	.0029
S	3	1.5 x D	0.5 x D	1 x D	360	430	IPT	.0004	.0006	.0007	.0009	.0012	.0016	.0018	.0023
	1	1.5 x D	0.3 x D	0.3 x D	160	300	IPT	.0004	.0007	.0009	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0005	.0006	.0008	.0010	.0012	.0015
	3	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0005	.0006	.0008	.0010	.0012	.0015
H	4	1.5 x D	0.5 x D	1 x D	160	200	IPT	.0003	.0005	.0006	.0008	.0011	.0014	.0017	.0021
	1	1.5 x D	0.5 x D	0.75 x D	260	460	IPT	.0004	.0007	.0008	.0010	.0014	.0017	.0020	.0026

NOTE: Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

For better surface finish, reduce feed per tooth.

■ UEBD • 2-Flute • Ball Nose


Material Group							Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
		Side Milling (A) and Slotting (B)		KC643M		D1 – Diameter								
		A		B	Cutting Speed – vc SFM		frac.	5/64	1/8	3/16	1/4	5/16	3/8	1/2
		ap	ae	ap	min	max	dec.	0.08	0.13	0.19	0.25	0.31	0.38	0.50
P	0	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	1	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	460	620	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	3	1.5 x D	0.5 x D	1 x D	390	520	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	4	1.5 x D	0.5 x D	0.75 x D	300	490	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026
	5	1.5 x D	0.5 x D	1 x D	200	330	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
M	1	1.5 x D	0.5 x D	1 x D	300	380	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.5 x D	1 x D	200	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
	3	1.5 x D	0.5 x D	1 x D	200	230	IPT	.0003	.0005	.0008	.0010	.0013	.0015	.0019
K	1	1.5 x D	0.5 x D	1 x D	390	490	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	360	460	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	3	1.5 x D	0.5 x D	1 x D	360	430	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
S	1	1.5 x D	0.3 x D	0.3 x D	160	300	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
	3	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
	4	1.5 x D	0.5 x D	1 x D	160	200	IPT	.0003	.0005	.0008	.0011	.0014	.0017	.0021
H	1	1.5 x D	0.5 x D	0.75 x D	260	460	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026

■ UEBD • 3-flute • Ball Nose

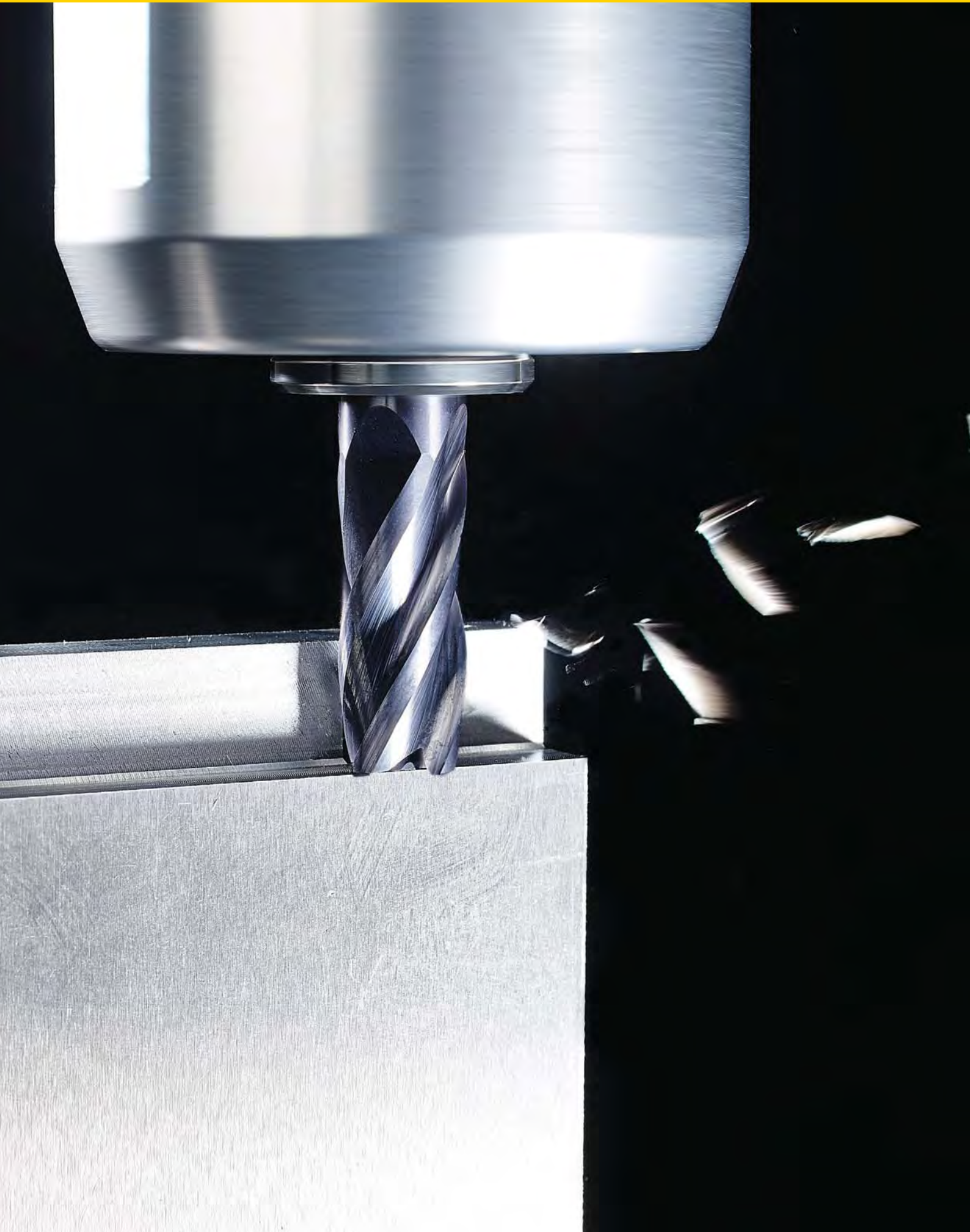

Material Group							Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
		Side Milling (A) and Slotting (B)		KC643M		D1 – Diameter								
		A		B	Cutting Speed – vc SFM		frac.	5/64	1/8	3/16	1/4	5/16	3/8	1/2
		ap	ae	ap	min	max	dec.	0.08	0.13	0.19	0.25	0.31	0.38	0.50
P	0	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	1	1.5 x D	0.5 x D	1 x D	490	660	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	460	620	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	3	1.5 x D	0.5 x D	1 x D	390	520	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	4	1.5 x D	0.5 x D	0.75 x D	300	490	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026
	5	1.5 x D	0.5 x D	1 x D	200	330	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
M	1	1.5 x D	0.5 x D	1 x D	300	380	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.5 x D	1 x D	200	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
	3	1.5 x D	0.5 x D	1 x D	200	230	IPT	.0003	.0005	.0008	.0010	.0013	.0015	.0019
K	1	1.5 x D	0.5 x D	1 x D	390	490	IPT	.0005	.0009	.0013	.0018	.0023	.0027	.0034
	2	1.5 x D	0.5 x D	1 x D	360	460	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	3	1.5 x D	0.5 x D	1 x D	360	430	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023
S	1	1.5 x D	0.3 x D	0.3 x D	160	300	IPT	.0004	.0007	.0011	.0015	.0020	.0023	.0029
	2	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
	3	1.5 x D	0.3 x D	0.3 x D	80	130	IPT	.0002	.0004	.0006	.0008	.0010	.0012	.0015
	4	1.5 x D	0.5 x D	1 x D	160	200	IPT	.0003	.0005	.0008	.0011	.0014	.0017	.0021
H	1	1.5 x D	0.5 x D	0.75 x D	260	460	IPT	.0004	.0007	.0010	.0014	.0017	.0020	.0026

NOTE: Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

For better surface finish, reduce feed per tooth.



Solid End Milling • General Purpose Solid Carbide End Mills

GOMill Portfolio Overview	Q2-Q3
GOMill GP 2-Flute End Mills	Q4-Q12
GOMill GP 3-Flute End Mills	Q14-Q19
GOMill GP 4-Flute End Mills	Q20-Q29
Catalog Numbering System	Q30
GOMill GP Cross Reference Guide	Q31-Q47

■ End Mill Type Recommendation

End Mills									
Z = number of teeth		Fine Finishing	Finishing	Roughing	Slot Milling	Plunging	Contour Milling	Peel Milling	Trochoidal Milling
end mill Z = 2									
end mill Z = 3									
end mill Z = 4									
Ball Nose End Mills									
ball nose end mill Z = 2									
ball nose end mill Z = 4									



first choice



suitable with limitations



not recommended

Always select a tool with the shortest possible flute length whenever possible. This will increase the stability of the tool and give the best results.

When selecting an end mill, the following machining factors will affect your selection of the correct end mill for your application:

1. Tool overhang.
2. Coolant flow.
3. Machine and setup stability.
4. Machine power and torque.
5. Material to be machined.
6. Machine adapter size (CV40, CV50, HSK63, etc.).

■ Select Adapter per Technical Data/Characteristics

Technical data/characteristics	Toolholders				
	HydroForce™ high torque	Shrink Fit	Milling chuck	ER collet chuck	Weldon® adapter
torque transmission	★★★★★	★★★★	★★★★★	★★	★★★★★
radial runout (T.I.R.) ¹	★★★★★	★★★★★	★★★★	★★★	★
radial rigidity ²	★★★★	★★★★★	★★★	★★★	★★★
tool length adjustment	★★★★★	★★★★	★	★★★★	★★
tool shank tolerance requirement	★★★★	★★	★★★	★★★★★	★★★
through coolant	★★★★★	★★★★★	★★★	★★★	★★
minimum quantity lubrication (MQL)	★★★★★	★★★★★	★	★	★
dampening capability	★★★★★	★	★★★	★★★	★★★
shank diameter range ³	★★★★★	★	★★★★★	★★★★★	★
cost of toolholder	★★	★★★	★	★★★★	★★★★★
low requirement of external devices ⁴	★★★★★	★	★★★★	★★★★	★★★★★
ease of handling	★★★★★	★★★	★★	★★★★	★★★★
dust resistance	★★★★★	★★★★★	★★★	★★★	★★★★
high-speed capability	★★★★★	★★★★★	★★★	★★★	★
balancing accuracy	★★★★★	★★★★★	★★★	★★★	★

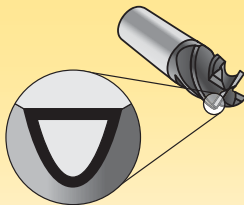
¹ Radial runout may affect tool life.

² Radial rigidity for Weldon holder is low at a direction perpendicular to the screw.

³ Accepts different shank diameters through the use of reduction sleeves or due to collapse range.

⁴ Collet chucks and milling chucks may require the use of a torque or special wrench; Shrink Fit adapter requires a shrinking unit.

Grades and Grade Descriptions



Coatings provide high-speed capability and are engineered for roughing to finishing.

P	Steel
M	Stainless Steel
K	Cast Iron

wear resistance ← → toughness

Grade	Coating	Grade Description											
			05	10	15	20	25	30	35	40	45		
KC633M		Coated carbide grade with PVD multilayer coating. KC633M™ is designed for dry milling most types of material, apart from the hardened variety. This grade is characterized by high hardness and wear resistance. It provides outstanding protection for solid carbide tools against cratering and abrasion.	P										
			M										
			K										

➤ G0mill™ GP General Purpose Solid Carbide End Mills • 2 Flute

Primary Application

G0mill GP series offers plunging, slotting, and profiling with long tool life on a wide range of workpiece materials. They are designed to provide high Metal Removal Rates (MRR) and achieve good surface quality at an excellent cost-benefit ratio. A wide range of diameters and lengths are available with chamfered edge and ball nose as stocked standard.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for high tool life.



Features and Benefits

Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and reduces reconditioning cost.
- 2-flute design for unstable conditions and high flexibility.

Tailored Grades

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless (wet).

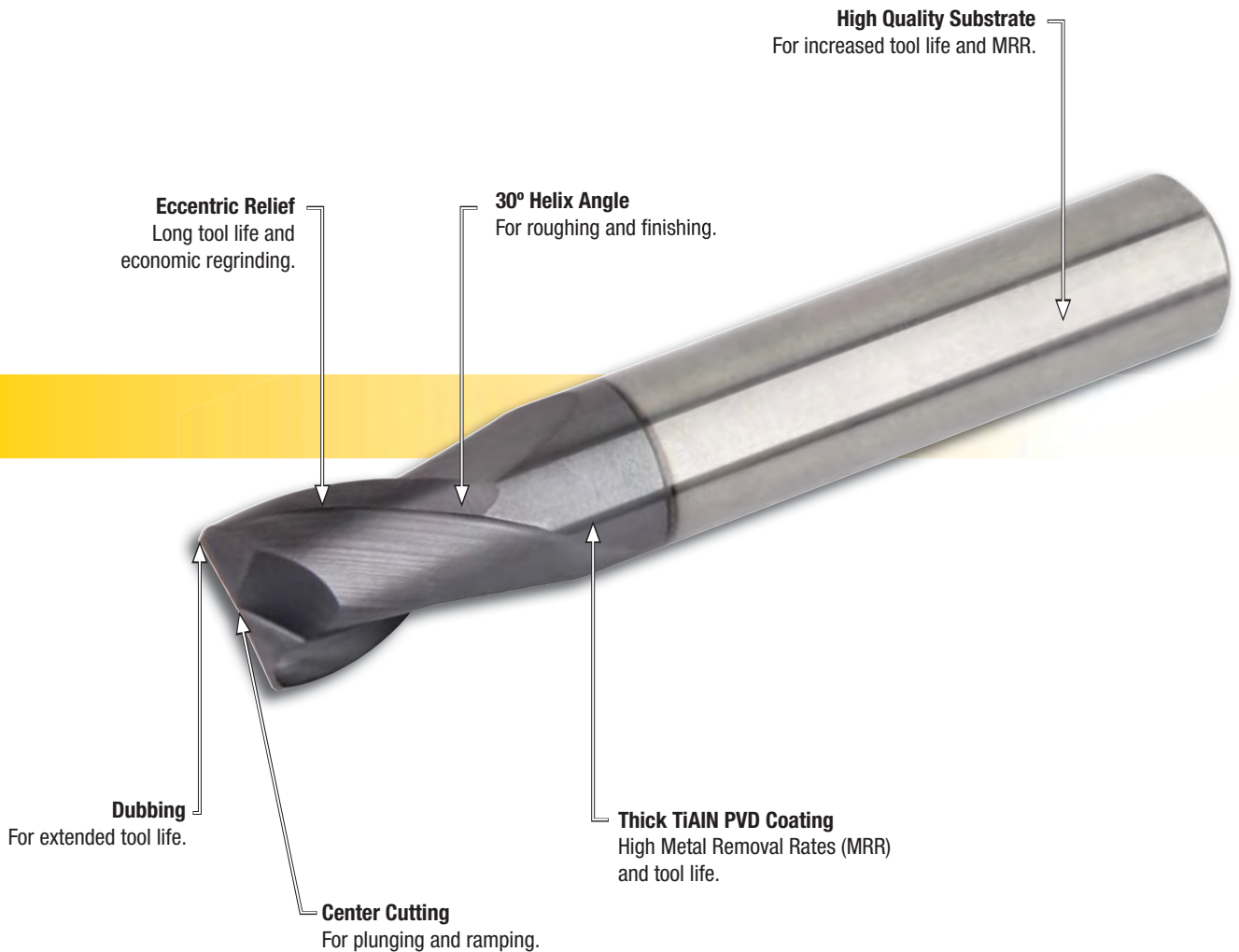
Customization

- Intermediate diameters available.

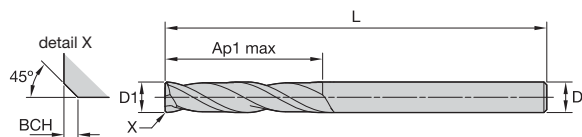
Extensive Standard Offering

- Diameter range 1/64–1".
- Sharp edge, chamfer edge, and ball nose as standard offering.

Designed for roughing and finishing with one tool at a value price.



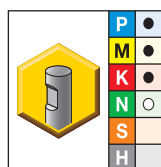
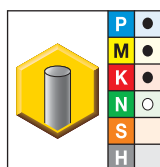
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6 + / -
All	+0.000/- .002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"

■ 2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch



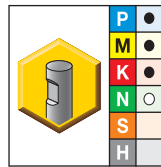
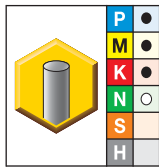
- first choice
- alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
2SE0016IR003A	—	1/64	1/8	1/32	1 1/2	—
2SE0031IR007A	—	1/32	1/8	5/64	1 1/2	—
2SE0062IR012A	—	1/16	1/8	1/8	1 1/2	—
2SE0062IL018A	—	1/16	1/8	3/16	1 1/2	—
2SE0062IX050A	—	1/16	1/8	1/2	2	—
2SE0078IR018A	—	5/64	1/8	3/16	1 1/2	—
2SE0093IR018A	—	3/32	1/8	3/16	1 1/2	—
2SE0093IL037A	—	3/32	1/8	3/8	1 1/2	—
2SE0093IX062A	—	3/32	1/8	5/8	2	—
2SE0109IR037A	—	7/64	1/8	3/8	1 1/2	—
2CH0125IR025A	—	1/8	1/8	1/4	1 1/2	.010
2SE0125IR025A	—	1/8	1/8	1/4	1 1/2	—
2CH0125IL050A	—	1/8	1/8	1/2	1 1/2	.010
2SE0125IL050A	—	1/8	1/8	1/2	1 1/2	—
2CH0125IX075A	—	1/8	1/8	3/4	2 1/4	.010
2SE0125IX075A	—	1/8	1/8	3/4	2 1/4	—
2CH0140IR056A	—	9/64	3/16	9/16	2	.010
2SE0140IR056A	—	9/64	3/16	9/16	2	—
2CH0156IR031A	—	5/32	3/16	5/16	2	.010
2SE0156IR031A	—	5/32	3/16	5/16	2	—
2CH0156IL056A	—	5/32	3/16	9/16	2	.010
2SE0156IL056A	—	5/32	3/16	9/16	2	—
2CH0171IR062A	—	11/64	3/16	5/8	2	.010
2SE0171IR062A	—	11/64	3/16	5/8	2	—
2CH0187IR062A	—	3/16	3/16	5/8	2	.010
2SE0187IR062A	—	3/16	3/16	5/8	2	—
2CH0187IL075A	—	3/16	3/16	3/4	2 1/2	.010
2SE0187IL075A	—	3/16	3/16	3/4	2 1/2	—
2CH0187IX112A	—	3/16	3/16	1 1/8	3	.010
2SE0187IX112A	—	3/16	3/16	1 1/8	3	—
2CH0218IR043A	—	7/32	1/4	7/16	2	.016
2SE0218IR043A	—	7/32	1/4	7/16	2	—

(continued)

General Purpose Solid Carbide End Mills

(2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch — continued)



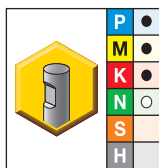
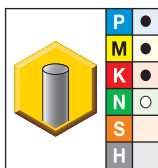
● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
2CH0218IL062A	—	7/32	1/4	5/8	2 1/2	.016
2SE0218IL062A	—	7/32	1/4	5/8	2 1/2	—
2CH0250IS050A	—	1/4	1/4	1/2	2	.016
2SE0250IS050A	—	1/4	1/4	1/2	2	—
2CH0250IR075A	—	1/4	1/4	3/4	2 1/2	.016
2SE0250IR075A	—	1/4	1/4	3/4	2 1/2	—
2CH0250IL112A	—	1/4	1/4	1 1/8	3	.016
2SE0250IL112A	—	1/4	1/4	1 1/2	3	—
2CH0250IX150A	—	1/4	1/4	1 1/2	4	.016
2SE0250IX150A	—	1/4	1/4	1 1/2	4	—
2CH0281IR075A	—	9/32	5/16	3/4	2 1/2	.016
2SE0281IR075A	—	9/32	5/16	3/4	2 1/2	—
2CH0312IS050A	—	5/16	5/16	1/2	2	.016
2SE0312IS050A	—	5/16	5/16	1/2	2	—
2CH0312IR081A	—	5/16	5/16	13/16	2 1/2	.016
2SE0312IR081A	—	5/16	5/16	13/16	2 1/2	—
2CH0312IL112A	—	5/16	5/16	1 1/8	3	.016
2SE0312IL112A	—	5/16	5/16	1 1/8	3	—
2CH0312IX162A	—	5/16	5/16	1 5/8	4	.016
2SE0312IX162A	—	5/16	5/16	1 5/8	4	—
2CH0343IR100A	—	11/32	3/8	1	2 1/2	.020
2SE0343IR100A	—	11/32	3/8	1	2 1/2	—
2CH0375IS062A	—	3/8	3/8	5/8	2	.020
2SE0375IS062A	—	3/8	3/8	5/8	2	—
2CH0375IR100A	—	3/8	3/8	1	2 1/2	.020
2SE0375IR100A	—	3/8	3/8	1	2 1/2	—
2CH0375IL112A	—	3/8	3/8	1 1/8	3	.020
2SE0375IL112A	—	3/8	3/8	1 1/2	3	—
2CH0375IX175A	—	3/8	3/8	1 3/4	4	.020
2SE0375IX175A	—	3/8	3/8	1 3/4	4	—
2CH0406IR100A	—	13/32	7/16	1	2 3/4	.020
2SE0406IR100A	—	13/32	7/16	1	2 3/4	—
2CH0437IR062A	—	7/16	7/16	5/8	2 1/2	.020
2SE0437IR062A	—	7/16	7/16	5/8	2 1/2	—
2CH0437IL100A	—	7/16	7/16	1	2 1/2	.020
2SE0437IL100A	—	7/16	7/16	1	2 1/2	—
2CH0437IX200A	—	7/16	7/16	2	4	.020
2SE0437IX200A	—	7/16	7/16	2	4	—
2CH0468IR100A	—	15/32	1/2	1	3	.020
2SE0468IR100A	—	15/32	1/2	1	3	—
2CH0500IS062A	—	1/2	1/2	5/8	2 1/2	.020
2SE0500IS062A	—	1/2	1/2	5/8	2 1/2	—
2CH0500IR100A	2CH0500IR100B	1/2	1/2	1	3	.020
2SE0500IR100A	2SE0500IR100B	1/2	1/2	1	3	—
2CH0500IL200A	2CH0500IL200B	1/2	1/2	2	4	.020
2SE0500IL200A	2SE0500IL200B	1/2	1/2	2	4	—
2CH0500IX300A	2CH0500IX300B	1/2	1/2	3	6	.020
2SE0500IX300A	2SE0500IX300B	1/2	1/2	3	6	—

(continued)

General Purpose Solid Carbide End Mills

(2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch — continued)



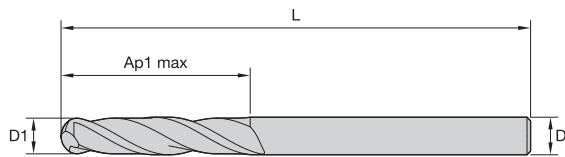
● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
2CH0562IR075A	—	9/16	9/16	3/4	3	.020
2SE0562IR075A	—	9/16	9/16	3/4	3	—
2CH0562IL125A	2CH0562IL125B	9/16	9/16	1 1/4	3 1/2	.020
2SE0562IL125A	2SE0562IL125B	9/16	9/16	1 1/4	3 1/2	—
2CH0562IX225A	2CH0562IX225B	9/16	9/16	2 1/4	5	.020
2SE0562IX225A	2SE0562IX225B	9/16	9/16	2 1/4	5	—
2CH0625IR075A	—	5/8	5/8	3/4	3	.020
2SE0625IR075A	—	5/8	5/8	3/4	3	—
2CH0625IL125A	2CH0625IL125B	5/8	5/8	1 1/4	3 1/2	.020
2SE0625IL125A	2SE0625IL125B	5/8	5/8	1 1/4	3 1/2	—
2CH0625IX225A	2CH0625IX225B	5/8	5/8	2 1/4	5	.020
2SE0625IX225A	2SE0625IX225B	5/8	5/8	2 1/4	5	—
2CH0687IR137A	2CH0687IR137B	11/16	3/4	1 3/8	4	.020
2SE0687IR137A	2SE0687IR137B	11/16	3/4	1 3/8	4	—
2CH0750IS100A	—	3/4	3/4	1	3	.020
2SE0750IS100A	—	3/4	3/4	1	3	—
2CH0750IR150A	—	3/4	3/4	1 1/2	4	.020
2SE0750IR150A	—	3/4	3/4	1 1/2	4	—
2CH0750IR225A	2CH0750IR225B	3/4	3/4	2 1/4	5	.020
2SE0750IR225A	2SE0750IR225B	3/4	3/4	2 1/4	5	—
2CH0750IL300A	2CH0750IL300B	3/4	3/4	3	6	.020
2SE0750IL300A	2SE0750IL300B	3/4	3/4	3	6	—
2CH0750IX400A	2CH0750IX400B	3/4	3/4	4	7	.020
2SE0750IX400A	2SE0750IX400B	3/4	3/4	4	7	—
2CH0875IR150A	2CH0875IR150B	7/8	7/8	1 1/2	4	.020
2SE0875IR150A	2SE0875IR150B	7/8	7/8	1 1/2	4	—
2CH0875IL225A	2CH0875IL225B	7/8	7/8	2 1/4	5	.020
2SE0875IL225A	2SE0875IL225B	7/8	7/8	2 1/4	5	—
2CH1000IS150A	—	1	1	1 1/2	4	.020
2SE1000IS150A	—	1	1	1 1/2	4	—
2CH1000IR225A	2CH1000IR225B	1	1	2 1/4	5	.020
2SE1000IR225A	2SE1000IR225B	1	1	2 1/4	5	—
2CH1000IL300A	2CH1000IL300B	1	1	3	6	.020
2SE1000IL300A	2SE1000IL300B	1	1	3	6	—
2CH1000IX400A	2CH1000IX400B	1	1	4	7	.020
2SE1000IX400A	2SE1000IX400B	1	1	4	7	—

NOTE: For application data, please see page Q11.

General Purpose Solid Carbide End Mills

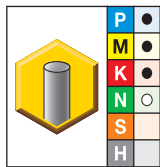
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6 + / -
All	+ .000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ 2BN..IS-IR-IL-IX • 2 Flute • Ball Nose • Inch



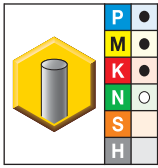
- first choice
- alternate choice

KC633M	D1	D	length of cut Ap1 max	length L
2BN0031IR007A	1/32	1/8	5/64	1 1/2
2BN0047IR018A	3/64	1/8	3/16	1 1/2
2BN0063IR018A	1/16	1/8	3/16	1 1/2
2BN0094IR018A	3/32	1/8	3/16	1 1/2
2BN0094IL037A	3/32	1/8	3/8	1 1/2
2BN0109IR037A	7/64	1/8	3/8	1 1/2
2BN0125IS025A	1/8	1/8	1/4	1 1/2
2BN0125IR050A	1/8	1/8	1/2	1 1/2
2BN0125IL075A	1/8	1/8	3/4	2 1/4
2BN0125IX075A	1/8	1/8	3/4	3
2BN0156IR031A	5/32	3/16	5/16	2
2BN0156IL056A	5/32	3/16	9/16	2
2BN0187IS031A	3/16	3/16	5/16	1 1/2
2BN0187IR062A	3/16	3/16	5/8	2
2BN0187IL075A	3/16	3/16	3/4	2 1/2
2BN0187IX100A	3/16	3/16	1	4
2BN0219IR062A	7/32	1/4	5/8	2 1/2
2BN0250IS050A	1/4	1/4	1/2	2
2BN0250IR075A	1/4	1/4	3/4	2 1/2
2BN0250IR112A	1/4	1/4	1 1/8	3
2BN0250IL150A	1/4	1/4	1 1/2	4
2BN0250IX150A	1/4	1/4	1 1/2	6
2BN0312IR081A	5/16	5/16	13/16	2 1/2
2BN0312IL112A	5/16	5/16	1 1/8	3
2BN0312IX150A	5/16	5/16	1 1/2	6
2BN0375IS062A	3/8	3/8	5/8	2
2BN0375IR087A	3/8	3/8	7/8	2 1/2
2BN0375IL112A	3/8	3/8	1 1/8	3
2BN0375IX300A	3/8	3/8	3	6
2BN0406IR100A	13/32	7/16	1	2 1/2
2BN0437IR100A	7/16	7/16	1	2 1/2
2BN0500IS062A	1/2	1/2	5/8	2 1/2

(continued)

General Purpose Solid Carbide End Mills

(2BN..IS-IR-IL-IX • 2 Flute • Ball Nose • Inch — continued)



● first choice
 ○ alternate choice

KC633M	D1	D	length of cut Ap1 max	length L
2BN0500IR100A	1/2	1/2	1	3
2BN0500IX150A	1/2	1/2	1 1/2	6
2BN0500IL200A	1/2	1/2	2	4
2BN0500IX300A	1/2	1/2	3	6
2BN0625IR125A	5/8	5/8	1 1/4	3 1/2
2BN0625IL225A	5/8	5/8	2 1/4	5
2BN0625IX300A	5/8	5/8	3	6
2BN0750IS100A	3/4	3/4	1	3
2BN0750IR150A	3/4	3/4	1 1/2	4
2BN0750IL200A	3/4	3/4	2	6
2BN0750IX300A	3/4	3/4	3	6
2BN0875IR150A	7/8	7/8	1 1/2	4
2BN1000IR150A	1	1	1 1/2	4
2BN1000IL300A	1	1	3	6

NOTE: For application data, please see page Q12.



General Purpose Solid Carbide End Mills

■ GOMill GP • 2SE/CH..IS-IR • 2 Flute • Short • Regular

		Side Milling (A) and Slotting (B)			KC633M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.																	
		A		B	Cutting Speed – vc SFM			D1 – Diameter																
Material Group		ap	ae	ap	min	max	inch	1/64	1/32	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1			
								.0156	.0313	.0625	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000			
P	0	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	1	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	0.5 x D	460	–	620	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	3	Ap1 max	0.1 x D	0.5 x D	390	–	520	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	4	Ap1 max	0.1 x D	0.5 x D	300	–	490	IPT	.0001	.0002	.0003	.0004	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039		
M	1	Ap1 max	0.1 x D	0.5 x D	300	–	380	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	2	Ap1 max	0.1 x D	0.5 x D	200	–	260	IPT	.0001	.0002	.0003	.0004	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036		
K	1	Ap1 max	0.1 x D	0.5 x D	390	–	490	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	0.5 x D	360	–	460	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
N	1	Ap1 max	0.1 x D	0.5 x D	820	–	3250	IPT	.0002	.0003	.0006	.0008	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100		
	2	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0001	.0003	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080		
	4	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0001	.0003	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090		

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 2SE/CH..IL-IX • 2 Flute • Long • Extra Long

		Side Milling (A)			KC633M		Recommended feed per tooth (IPT = inch/th) for side milling (A).																
		A		Cutting Speed – vc SFM			D1 – Diameter																
Material Group		ap	ae	min	max	inch	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1					
							.0156	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000					
P	0	Ap1 max	0.1 x D	490	–	660	IPT	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049				
	1	Ap1 max	0.1 x D	490	–	660	IPT	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049				
	2	Ap1 max	0.1 x D	460	–	620	IPT	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049				
	3	Ap1 max	0.1 x D	390	–	520	IPT	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045				
	4	Ap1 max	0.1 x D	300	–	490	IPT	.0003	.0004	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039				
M	1	Ap1 max	0.1 x D	300	–	380	IPT	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045				
	2	Ap1 max	0.1 x D	200	–	260	IPT	.0003	.0004	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036				
K	1	Ap1 max	0.1 x D	390	–	490	IPT	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049				
	2	Ap1 max	0.1 x D	360	–	460	IPT	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045				
N	1	Ap1 max	0.1 x D	820	–	3250	IPT	.0006	.0008	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100				
	2	Ap1 max	0.1 x D	820	–	2450	IPT	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080				
	4	Ap1 max	0.1 x D	820	–	2450	IPT	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090				

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 2BN..IS-IR • 2 Flute • Ball Nose • Short • Regular

		Side Milling (A) and Slotting (B)		KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.															
		A		B		Cutting Speed – vc SFM			D1 – Diameter													
Material Group		ap	ae	ap	min	max	inch	1/32	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1		
								.0313	.0625	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000		
P	0	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	1	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	2	Ap1 max	0.1 x D	0.5 x D	460	–	620	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	3	Ap1 max	0.1 x D	0.5 x D	390	–	520	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
M	4	Ap1 max	0.1 x D	0.5 x D	300	–	490	IPT	.0002	.0003	.0004	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039	
	1	Ap1 max	0.1 x D	0.5 x D	300	–	380	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
K	2	Ap1 max	0.1 x D	0.5 x D	200	–	260	IPT	.0002	.0003	.0004	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036	
	1	Ap1 max	0.1 x D	0.5 x D	390	–	490	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
N	2	Ap1 max	0.1 x D	0.5 x D	360	–	460	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
	1	Ap1 max	0.1 x D	0.5 x D	820	–	3250	IPT	.0003	.0006	.0008	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100	
	2	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0003	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080	
	4	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0003	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 2BN..IL-IX • 2 Flute • Ball Nose • Long • Extra Long

		Side Milling (A)		KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A).													
		A		Cutting Speed – vc SFM			D1 – Diameter													
Material Group		ap	ae	min	max	inch	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1				
							.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000				
P	0	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	1	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	2	Ap1 max	0.1 x D	460	–	620	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	3	Ap1 max	0.1 x D	390	–	520	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
M	4	Ap1 max	0.1 x D	300	–	490	IPT	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039			
	1	Ap1 max	0.1 x D	300	–	380	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
K	2	Ap1 max	0.1 x D	200	–	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036			
	1	Ap1 max	0.1 x D	390	–	490	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
N	2	Ap1 max	0.1 x D	360	–	460	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
	1	Ap1 max	0.1 x D	820	–	3250	IPT	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100			
	2	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080			
	4	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090			

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

Before NOVO: The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

With NOVO: The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kenametal.com/novo



➤ GOMILL™ GP General Purpose Solid Carbide End Mills • 3 Flute

Primary Application

GOMILL GP system offers plunging, slotting, and profiling with long tool life on a wide range of materials. Designed to provide high Metal Removal Rates (MRR) and to achieve good surface conditions at excellent cost-benefit ratio. A wide range of diameters and lengths with sharp edge are available from stock.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for long tool life.



Features and Benefits

Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and enables higher flexibility and lower reconditioning cost.
- 3-flute design for maximum manufacturing flexibility.

Tailored Grade

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless steel (wet).

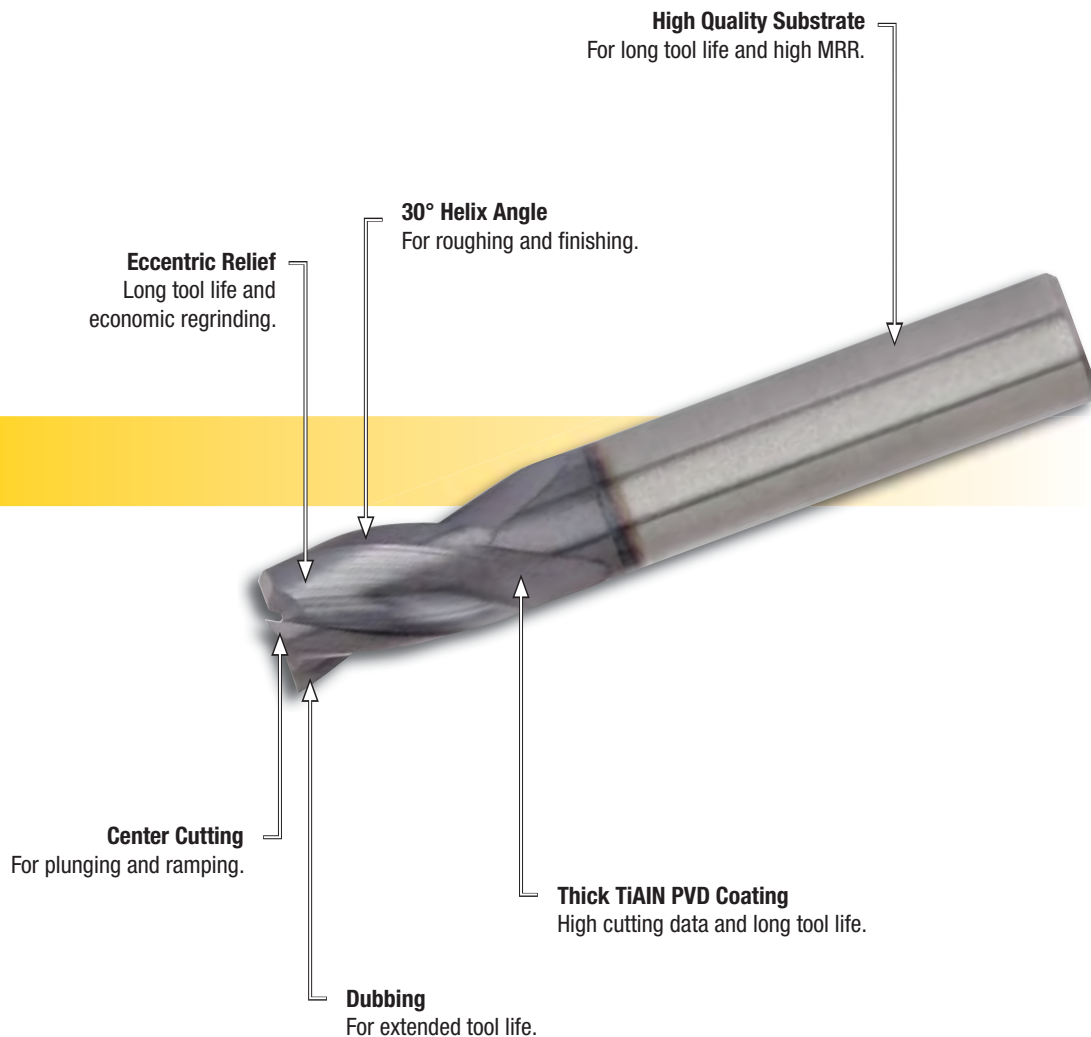
Customization

- Intermediate diameters available.

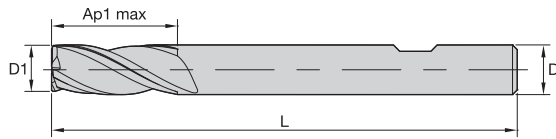
Extensive Standard Offering

- Diameter range 1/32–1".
- Sharp edge as standard offering.
- Four different lengths as factory standards in stock.

Designed for roughing and finishing with one tool at an economical price.



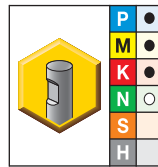
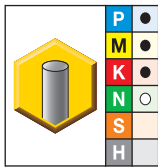
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0.000/-0.002"	≤1/8"	+0/-0.00024"
		>1/8-1/4"	+0/-0.00031"
		>1/4-3/8"	+0/-0.00035"
		>3/8-23/32"	+0/-0.00043"
		>23/32-1 3/16"	+0/-0.00051"

■ 3SE..IS-IR-IL-IX • 3 Flute • Inch



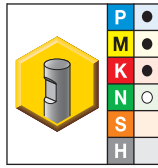
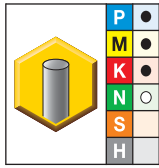
- first choice
- alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L
3SE0031IR007A	—	1/32	1/8	5/64	1 1/2
3SE0047IR011A	—	3/64	1/8	7/64	1 1/2
3SE0062IR019A	—	1/16	1/8	3/16	1 1/2
3SE0078IR011A	—	5/64	1/8	7/64	1 1/2
3SE0094IR037A	—	3/32	1/8	3/8	1 1/2
3SE0109IR037A	—	7/64	1/8	3/8	1 1/2
3SE0125IR025A	—	1/8	1/8	1/4	1 1/2
3SE0125IL050A	—	1/8	1/8	1/2	2 1/2
3SE0125IX062A	—	1/8	1/8	5/8	3
3SE0156IR056A	—	5/32	3/16	9/16	2
3SE0188IS031A	—	3/16	3/16	5/16	2
3SE0188IR056A	—	3/16	3/16	9/16	2
3SE0188IL062A	—	3/16	3/16	5/8	3
3SE0188IX100A	—	3/16	3/16	1	4
3SE0219IR062A	—	7/32	1/4	5/8	2 1/2
3SE0219IL075A	—	7/32	1/4	3/4	2 1/2
3SE0250IS050A	—	1/4	1/4	1/2	2
3SE0250IR075A	—	1/4	1/4	3/4	2 1/2
3SE0250IL100A	—	1/4	1/4	1	3
3SE0250IX150A	—	1/4	1/4	1 1/2	4
3SE0281IR075A	—	9/32	5/16	3/4	2 1/2
3SE0281IL081A	—	9/32	5/16	13/16	2 1/2
3SE0312IR050A	—	5/16	5/16	1/2	2
3SE0312IL081A	—	5/16	5/16	13/16	2 1/2
3SE0375IS050A	—	3/8	3/8	1/2	2
3SE0375IR088A	—	3/8	3/8	7/8	2 1/2
3SE0375IL100A	—	3/8	3/8	1	2 1/2
3SE0375IX112A	—	3/8	3/8	1 1/8	3
3SE0437IR062A	—	7/16	7/16	5/8	2 1/2
3SE0437IL088A	—	7/16	7/16	7/8	2 1/2
3SE0437IX100A	—	7/16	7/16	1	2 1/2
3SE0500IR100A	—	1/2	1/2	1	3

(continued)

General Purpose Solid Carbide End Mills

(3SE..IS-IR-IL-IX • 3 Flute • Inch – continued)



● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L
3SE0500IL200A	—	1/2	1/2	2	4
3SE0563IR112A	3SE0563IR112B	9/16	5/8	1 1/8	3 1/2
3SE0625IR075A	3SE0625IR075B	5/8	5/8	3/4	3
3SE0625IL125A	3SE0625IL125B	5/8	5/8	1 1/4	3 1/2
3SE0750IR100A	—	3/4	3/4	1	3
3SE0750IL150A	3SE0750IL150B	3/4	3/4	1 1/2	4
3SE0750IX225A	3SE0750IX225B	3/4	3/4	2 1/4	5
3SE1000IR150A	—	1	1	1 1/2	4
3SE1000IX225A	3SE1000IX225B	1	1	2 1/4	5

NOTE: For application data, please see pages Q18–Q19.



■ GOMill • 3SE..IS-IR • 3 Flute • Short • Regular

		Side Milling (A) and Slotting (B)			KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.															
Material Group		A		B	Cutting Speed – vc SFM			D1 – Diameter															
		ap	ae	ap	min		max	frac.	1/32	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1		
		ap	ae	ap	min		max	dec.	.0313	.0625	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000		
P	0	2.0 x D	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0005	.0006	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049		
	1	2.0 x D	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0005	.0006	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049		
	2	2.0 x D	0.1 x D	0.5 x D	460	–	620	IPT	.0002	.0005	.0006	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049		
	3	2.0 x D	0.1 x D	0.5 x D	390	–	520	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	4	2.0 x D	0.1 x D	0.5 x D	300	–	490	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0014	.0017	.0020	.0026	.0030	.0034	.0039		
M	1	2.0 x D	0.1 x D	0.5 x D	300	–	380	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	2	2.0 x D	0.1 x D	0.5 x D	200	–	260	IPT	.0002	.0003	.0004	.0005	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036		
K	1	2.0 x D	0.1 x D	0.5 x D	390	–	490	IPT	.0002	.0005	.0006	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0039	.0044	.0049		
	2	2.0 x D	0.1 x D	0.5 x D	360	–	460	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
N	1	2.0 x D	0.1 x D	0.5 x D	820	–	3250	IPT	.0003	.0007	.0008	.0010	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100		
	2	2.0 x D	0.1 x D	0.5 x D	820	–	3250	IPT	.0003	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080		
	4	2.0 x D	0.1 x D	0.5 x D	820	–	3250	IPT	.0003	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090		

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >1/2".

■ GOMill • 3SE..IL-IX • 3 Flute • Long • Extra Long

Material Group																
	Side Milling (A)		KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A).										
	A		Cutting Speed – vc SFM			D1 – Diameter										
	ap	ae	min		max	frac.	1/8	5/32	1/4	5/16	3/8	1/2	5/8	3/4	1	
					dec.	.1250	.1563	.2500	.3125	.3750	.5000	.6250	.7500	1.0000		
P	0	2.0 x D	0.1 x D	490	–	660	IPT	.0009	.0011	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	1	2.0 x D	0.1 x D	490	–	660	IPT	.0009	.0011	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	2	2.0 x D	0.1 x D	460	–	620	IPT	.0009	.0011	.0018	.0023	.0027	.0034	.0039	.0044	.0049
	3	2.0 x D	0.1 x D	390	–	520	IPT	.0007	.0009	.0015	.0020	.0023	.0029	.0034	.0039	.0045
M	4	2.0 x D	0.1 x D	300	–	490	IPT	.0007	.0008	.0014	.0017	.0020	.0026	.0030	.0034	.0039
	1	2.0 x D	0.1 x D	300	–	380	IPT	.0007	.0009	.0015	.0020	.0023	.0029	.0034	.0039	.0045
K	2	2.0 x D	0.1 x D	200	–	260	IPT	.0006	.0007	.0012	.0016	.0018	.0023	.0027	.0031	.0036
	1	2.0 x D	0.1 x D	390	–	490	IPT	.0009	.0011	.0018	.0023	.0027	.0034	.0039	.0044	.0049
N	2	2.0 x D	0.1 x D	360	–	460	IPT	.0007	.0009	.0015	.0020	.0023	.0029	.0034	.0039	.0045
	1	2.0 x D	0.1 x D	820	–	3250	IPT	.0013	.0016	.0025	.0031	.0038	.0050	.0063	.0075	.0100
	2	2.0 x D	0.1 x D	820	–	2450	IPT	.0010	.0013	.0020	.0025	.0030	.0040	.0050	.0060	.0080
	4	2.0 x D	0.1 x D	820	–	2450	IPT	.0011	.0014	.0023	.0028	.0034	.0045	.0056	.0068	.0090

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >1/2".

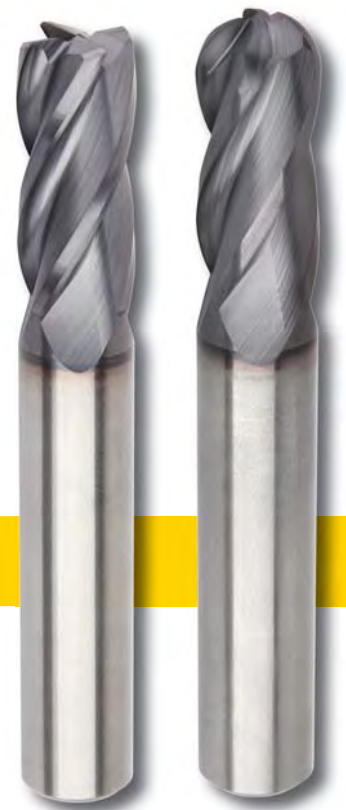


➤ G0mill™ GP General Purpose Solid Carbide End Mills • 4 Flute

Primary Application

G0mill GP system offers plunging, slotting, and profiling with long tool life in a wide range of workpiece materials. These end mills are designed to provide high Metal Removal Rates (MRR) and to achieve good surface quality at an excellent cost-benefit ratio. A wide range of diameters and lengths are available with chamfered edge and ball nose as stocked standard.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for long tool life.



Features and Benefits

Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and reduces reconditioning cost.
- 4-flute design for high MRR and reduced machining time.

Tailored Grades

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless steel (wet).

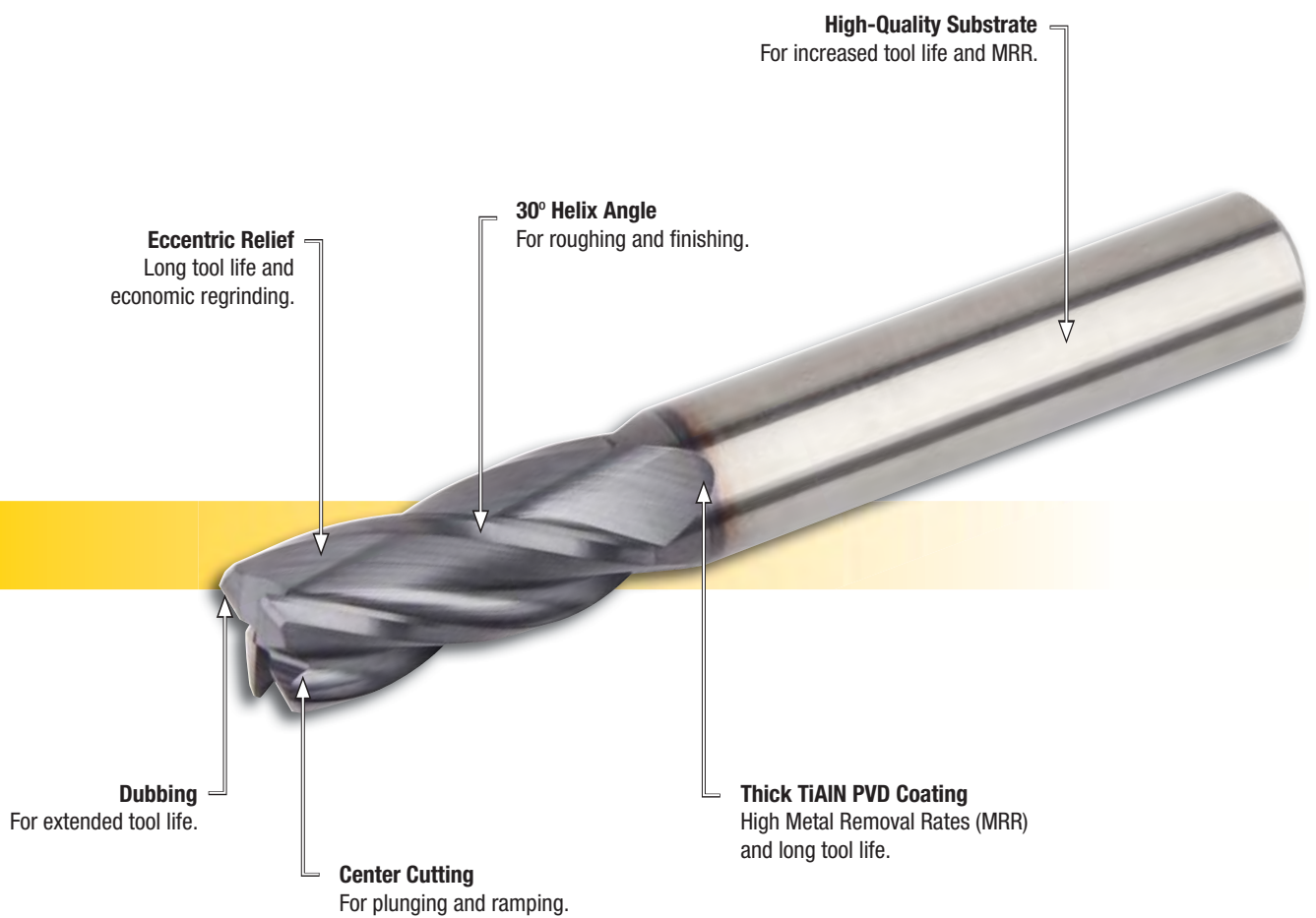
Customization

- Intermediate diameters available.

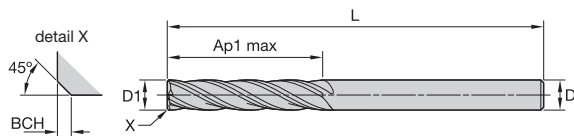
Extensive Standard Offering

- Diameter range 1/64–1".
- Sharp edge, chamfer edge, and ball nose as standard offering.

Designed for roughing and finishing with one tool at a value price.



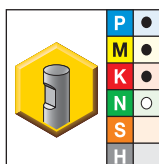
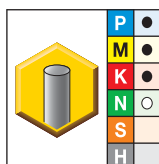
- Center cutting.



End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ 4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch



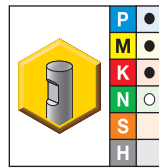
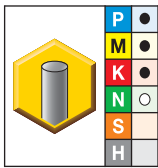
- first choice
- alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
4SE0015IR003A	—	1/64	1/8	1/32	1 1/2	—
4SE0031IR008A	—	1/32	1/8	5/64	1 1/2	—
4SE0062IR010A	—	1/16	1/8	7/64	1 1/2	—
4SE0078IR018A	—	5/64	1/8	3/16	1 1/2	—
4SE0093IR037A	—	3/32	1/8	3/8	1 1/2	—
4SE0093IL062A	—	3/32	1/8	5/8	2	—
4SE0109IR037A	—	7/64	1/8	3/8	1 1/2	—
4CH0125IS025A	—	1/8	1/8	1/4	1 1/2	.010
4SE0125IS025A	—	1/8	1/8	1/4	1 1/2	—
4CH0125IR050A	—	1/8	1/8	1/2	1 1/2	.010
4SE0125IR050A	—	1/8	1/8	1/2	1 1/2	—
4CH0125IL075A	—	1/8	1/8	3/4	2 1/4	.010
4SE0125IL075A	—	1/8	1/8	3/4	2 1/4	—
4CH0125IX100A	—	1/8	1/8	1	3	.010
4SE0125IX100A	—	1/8	1/8	1	3	—
4CH0140IR056A	—	9/64	3/16	9/16	2	.010
4SE0140IR056A	—	9/64	3/16	9/16	2	—
4CH0156IR056A	—	5/32	3/16	9/16	2	.010
4SE0156IR056A	—	5/32	3/16	9/16	2	—
4CH0187IR062A	—	3/16	3/16	5/8	2	.010
4SE0187IR062A	—	3/16	3/16	5/8	2	—
4CH0187IS075A	—	3/16	3/16	3/4	1 1/2	.010
4SE0187IS075A	—	3/16	3/16	3/4	1 1/2	—
4CH0187IL075A	—	3/16	3/16	3/4	2 1/2	.010
4SE0187IL075A	—	3/16	3/16	3/4	2 1/2	—
4CH0187IX112A	—	3/16	3/16	1 1/8	3	.010
4SE0187IX112A	—	3/16	3/16	1 1/8	3	—
4CH0203IR062A	—	13/64	1/4	5/8	2 1/2	.016
4SE0203IR062A	—	13/64	1/4	5/8	2 1/2	—
4CH0218IR043A	—	7/32	1/4	7/16	2	.016
4SE0218IR043A	—	7/32	1/4	7/16	2	—
4CH0218IL062A	—	7/32	1/4	5/8	2 1/2	.016

(continued)

General Purpose Solid Carbide End Mills

(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)



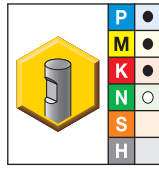
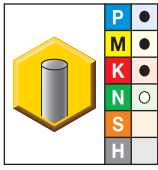
● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
4SE0218IL062A	—	7/32	1/4	5/8	2 1/2	—
4CH0234IR075A	—	15/64	1/4	3/4	2 1/2	.016
4SE0234IR075A	—	15/64	1/4	3/4	2 1/2	—
4CH0250IS050A	—	1/4	1/4	1/2	2	.016
4SE0250IS050A	—	1/4	1/4	1/2	2	—
4CH0250IR075A	—	1/4	1/4	3/4	2 1/2	.016
4SE0250IR075A	—	1/4	1/4	3/4	2 1/2	—
4CH0250IL112A	—	1/4	1/4	1 1/8	3	.016
4SE0250IL112A	—	1/4	1/4	1 1/8	3	—
4CH0250IX150A	—	1/4	1/4	1 1/2	4	.016
4SE0250IX150A	—	1/4	1/4	1 1/2	4	—
4CH0265IR075A	—	17/64	5/16	3/4	2 1/2	.016
4SE0265IR075A	—	17/64	5/16	3/4	2 1/2	—
4CH0281IR075A	—	9/32	5/16	3/4	2 1/2	.016
4SE0281IR075A	—	9/32	5/16	3/4	2 1/2	—
4CH0296IR081A	—	19/64	5/16	13/16	2 1/2	.016
4SE0296IR081A	—	19/64	5/16	13/16	2 1/2	—
4CH0312IS050A	—	5/16	5/16	1/2	2	.016
4SE0312IS050A	—	5/16	5/16	1/2	2	—
4CH0312IR081A	—	5/16	5/16	13/16	2 1/2	.016
4SE0312IR081A	—	5/16	5/16	13/16	2 1/2	—
4CH0312IL112A	—	5/16	5/16	1 1/8	3	.016
4SE0312IL112A	—	5/16	5/16	1 1/8	3	—
4CH0312IX162A	—	5/16	5/16	1 5/8	4	.016
4SE0312IX162A	—	5/16	5/16	1 5/8	4	—
4CH0328IR100A	—	21/64	3/8	1	2 1/2	.020
4SE0328IR100A	—	21/64	3/8	1	2 1/2	—
4CH0343IR100A	—	11/32	3/8	1	2 1/2	.020
4SE0343IR100A	—	11/32	3/8	1	2 1/2	—
4CH0359IR100A	—	23/64	3/8	1	2 1/2	.020
4SE0359IR100A	—	23/64	3/8	1	2 1/2	—
4CH0375IS062A	—	3/8	3/8	5/8	2	.020
4SE0375IS062A	—	3/8	3/8	5/8	2	—
4CH0375IR100A	—	3/8	3/8	1	2 1/2	.020
4SE0375IR100A	—	3/8	3/8	1	2 1/2	—
4CH0375IL112A	—	3/8	3/8	1 1/8	3	.020
4SE0375IL112A	—	3/8	3/8	1 1/8	3	—
4CH0375IX175A	—	3/8	3/8	1 3/4	4	.020
4SE0375IX175A	—	3/8	3/8	1 3/4	4	—
4CH0390IR100A	—	25/64	7/16	1	2 3/4	.020
4SE0390IR100A	—	25/64	7/16	1	2 3/4	—
4CH0406IR100A	—	13/32	7/16	1	2 3/4	.020
4SE0406IR100A	—	13/32	7/16	1	2 3/4	—
4CH0421IR100A	—	27/64	7/16	1	2 3/4	.020
4SE0421IR100A	—	27/64	7/16	1	2 3/4	—
4CH0437IS100A	—	7/16	7/16	1	2 1/2	.020
4SE0437IS100A	—	7/16	7/16	1	2 1/2	—
4CH0437IR100A	—	7/16	7/16	1	2 3/4	.020
4SE0437IR100A	—	7/16	7/16	1	2 3/4	—
4CH0437IL200A	—	7/16	7/16	2	4	.020
4SE0437IL200A	—	7/16	7/16	2	4	—
4CH0437IX300A	—	7/16	7/16	3	6	.020

(continued)

General Purpose Solid Carbide End Mills

(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)



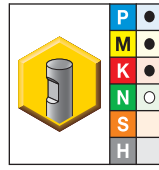
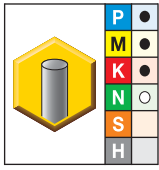
● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
4SE0437IX300A	—	7/16	7/16	3	6	—
4CH0453IR100A	—	29/64	1/2	1	3	.020
4SE0453IR100A	—	29/64	1/2	1	3	—
4CH0468IR100A	—	15/32	1/2	1	3	.020
4SE0468IR100A	—	15/32	1/2	1	3	—
4CH0484IR100A	—	31/64	1/2	1	3	.020
4SE0484IR100A	—	31/64	1/2	1	3	—
4CH0500IS062A	—	1/2	1/2	5/8	2 1/2	.020
4SE0500IS062A	—	1/2	1/2	5/8	2 1/2	—
4CH0500IR100A	4CH0500IR100B	1/2	1/2	1	3	.020
4SE0500IR100A	4SE0500IR100B	1/2	1/2	1	3	—
4CH0500IL200A	4CH0500IL200B	1/2	1/2	2	4	.020
4SE0500IL200A	4SE0500IL200B	1/2	1/2	2	4	—
4CH0500IX300A	—	1/2	1/2	3	6	.020
4SE0500IX300A	—	1/2	1/2	3	6	—
4CH0562IR075A	—	9/16	9/16	3/4	3	.020
4SE0562IR075A	—	9/16	9/16	3/4	3	—
4CH0562IL125A	4CH0562IL125B	9/16	9/16	1 1/4	3 1/2	.020
4SE0562IL125A	4SE0562IL125B	9/16	9/16	1 1/4	3 1/2	—
4CH0562IX225A	—	9/16	9/16	2 1/4	5	.020
4SE0562IX225A	—	9/16	9/16	2 1/4	5	—
4CH0625IS075A	—	5/8	5/8	3/4	3	.020
4SE0625IS075A	—	5/8	5/8	3/4	3	—
4CH0625IR125A	4CH0625IR125B	5/8	5/8	1 1/4	3 1/2	.020
4SE0625IR125A	4SE0625IR125B	5/8	5/8	1 1/4	3 1/2	—
4CH0625IL225A	4CH0625IL225B	5/8	5/8	2 1/4	5	.020
4SE0625IL225A	4SE0625IL225B	5/8	5/8	2 1/4	5	—
4CH0625IX400A	—	5/8	5/8	4	7	.020
4SE0625IX400A	—	5/8	5/8	4	7	—
4CH0687IR137A	—	11/16	3/4	1 3/8	4	.020
4SE0687IR137A	—	11/16	3/4	1 3/8	4	—
4SE0750IS100A	—	3/4	3/4	1	3	—
4CH0750IR150A	4CH0750IR150B	3/4	3/4	1 1/2	4	.020
4SE0750IR150A	4SE0750IR150B	3/4	3/4	1 1/2	4	—
4CH0750IR225A	4CH0750IR225B	3/4	3/4	2 1/4	5	.020
4SE0750IR225A	4SE0750IR225B	3/4	3/4	2 1/4	5	—
4CH0750IL300A	4CH0750IL300B	3/4	3/4	3	6	.020
4SE0750IL300A	4SE0750IL300B	3/4	3/4	3	6	—
4CH0750IX400A	—	3/4	3/4	4	7	.020
4SE0750IX400A	—	3/4	3/4	4	7	—

(continued)

General Purpose Solid Carbide End Mills

(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)



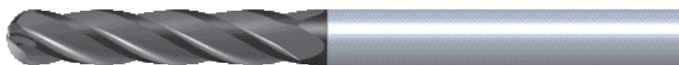
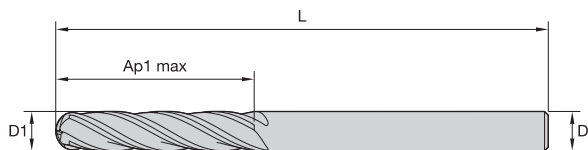
● first choice
 ○ alternate choice

KC633M	KC633M	D1	D	length of cut Ap1 max	length L	BCH
4CH0875IR150A	4CH0875IR150B	7/8	7/8	1 1/2	4	.020
4SE0875IR150A	4SE0875IR150B	7/8	7/8	1 1/2	4	—
4CH0875IL225A	4CH0875IL225B	7/8	7/8	2 1/4	5	.020
4SE0875IL225A	4SE0875IL225B	7/8	7/8	2 1/4	5	—
4CH1000IS150A	—	1	—	1 1/2	4	.020
4CH1000IR225A	4CH1000IR225B	1	—	2 1/4	5	.020
4CH1000IL300A	4CH1000IL300B	1	—	3	6	.020
4CH1000IX400A	—	1	—	4	7	.020
4SE1000IS150A	—	1	1	1 1/2	4	—
4SE1000IR225A	4SE1000IR225B	1	1	2 1/4	5	—
4SE1000IL300A	4SE1000IL300B	1	1	3	6	—
4SE1000IX400A	—	1	1	4	7	—

NOTE: For application data, please see page Q28.

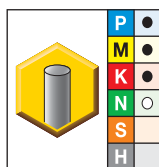


- Center cutting.



End Mill Tolerances			
D1	tolerance	D	tolerance h6
All	+.000/- .002"	≤1/8"	+0/- .00024"
		>1/8-1/4"	+0/- .00031"
		>1/4-3/8"	+0/- .00035"
		>3/8-23/32"	+0/- .00043"
		>23/32-1 3/16"	+0/- .00051"

■ 4BN..IS-IR-IL-IX • 4 Flute • Ball Nose • Inch

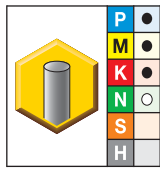


- first choice
- alternate choice

KC633M	D1	D	length of cut Ap1 max	length L
4BN0031IR008A	1/32	1/8	5/64	1 1/2
4BN0047IR012A	3/64	1/8	1/8	1 1/2
4BN0062IR019A	1/16	1/8	3/16	1 1/2
4BN0078IR019A	5/64	1/8	3/16	1 1/2
4BN0094IR019A	3/32	1/8	3/16	1 1/2
4BN0094IL037A	3/32	1/8	3/8	1 1/2
4BN0109IR037A	7/64	1/8	3/8	1 1/2
4BN0125IS025A	1/8	1/8	1/4	1 1/2
4BN0125IR050A	1/8	1/8	1/2	1 1/2
4BN0125IL075A	1/8	1/8	3/4	2 1/4
4BN0125IX075A	1/8	1/8	3/4	3
4BN0141IR056A	9/64	3/16	9/16	2
4BN0156IR056A	5/32	3/16	9/16	2
4BN0172IR062A	11/64	3/16	5/8	2
4BN0187IR031A	3/16	3/16	5/16	1 1/2
4BN0187IL062A	3/16	3/16	5/8	2
4BN0187IX100A	3/16	3/16	1	4
4BN0203IR062A	13/64	1/4	5/8	2 1/2
4BN0219IR062A	7/32	1/4	5/8	2 1/2
4BN0234IR075A	15/64	1/4	3/4	2 1/2
4BN0250IS050A	1/4	1/4	1/2	2
4BN0250IR075A	1/4	1/4	3/4	2 1/2
4BN0250IR112A	1/4	1/4	1 1/8	3
4BN0250IL150A	1/4	1/4	1 1/2	4
4BN0250IX150A	1/4	1/4	1 1/2	6
4BN0281IR075A	9/32	5/16	3/4	2 1/2
4BN0312IS050A	5/16	5/16	1/2	2
4BN0312IR081A	5/16	5/16	13/16	2 1/2
4BN0312IL112A	5/16	5/16	1 1/8	3
4BN0312IX162A	5/16	5/16	1 5/8	4
4BN0344IR100A	11/32	3/8	1	2 1/2
4BN0375IS100A	3/8	3/8	1	2 1/2

(continued)

(4BN..IS-IR-IL-IX • 4 Flute • Ball Nose • Inch — continued)



● first choice
 ○ alternate choice

KC633M	D1	D	length of cut Ap1 max	length L
4BN0375IL112A	3/8	3/8	1 1/8	3
4BN0375IR100A	3/8	3/8	1	4
4BN0375IX150A	3/8	3/8	1 1/2	6
4BN0437IR100A	7/16	1/2	1	2 1/2
4BN0500IS100A	1/2	1/2	1	3
4BN0500IR100A	1/2	1/2	1	4
4BN0500IX150A	1/2	1/2	1 1/2	6
4BN0500IR200A	1/2	1/2	2	4
4BN0500IL200A	1/2	1/2	2	4 1/2
4BN0500IX300A	1/2	1/2	3	6
4BN0562IR125A	9/16	9/16	1 1/4	3 1/2
4BN0625IR125A	5/8	5/8	1 1/4	3 1/2
4BN0625IL225A	5/8	5/8	2 1/4	5
4BN0750IR150A	3/4	3/4	1 1/2	4
4BN0750IL300A	3/4	3/4	3	6
4BN0875IR150A	7/8	7/8	1 1/2	4
4BN1000IR150A	1	1	1 1/2	4
4BN1000IL225A	1	1	2 1/4	5

NOTE: For application data, please see page Q29.



■ GOMill GP • 4SE/CH..IS-IR • 4 Flute • Short • Regular

		Side Milling (A) and Slotting (B)		KC633M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.																		
		A		B		Cutting Speed – vc SFM		D1 – Diameter																
Material Group		ap	ae	ap	min	max	inch	1/64	1/32	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1			
								.0156	.0313	.0625	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000			
P	0	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	1	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	0.5 x D	460	–	620	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	3	Ap1 max	0.1 x D	0.5 x D	390	–	520	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	4	Ap1 max	0.1 x D	0.5 x D	300	–	490	IPT	.0001	.0002	.0003	.0004	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039		
M	1	Ap1 max	0.1 x D	0.5 x D	300	–	380	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	2	Ap1 max	0.1 x D	0.5 x D	200	–	260	IPT	.0001	.0002	.0003	.0004	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036		
K	1	Ap1 max	0.1 x D	0.5 x D	390	–	490	IPT	.0001	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	0.5 x D	360	–	460	IPT	.0001	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
N	1	Ap1 max	0.1 x D	0.5 x D	300	–	380	IPT	.0002	.0003	.0006	.0008	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100		
	2	Ap1 max	0.1 x D	0.5 x D	200	–	260	IPT	.0001	.0003	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080		
	4	Ap1 max	0.1 x D	0.5 x D	390	–	490	IPT	.0001	.0003	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090		

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 4SE/CH..IL-IX • 4 Flute • Long • Extra Long

		Side Milling (A)		KC633M		Recommended feed per tooth (IPT = inch/th) for side milling (A).													
		A		Cutting Speed – vc SFM		D1 – Diameter													
Material Group		ap	ae	min	max	inch	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1			
							.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000			
P	0	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	1	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	460	–	620	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	3	Ap1 max	0.1 x D	390	–	520	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	4	Ap1 max	0.1 x D	300	–	490	IPT	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039		
M	1	Ap1 max	0.1 x D	300	–	380	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
	2	Ap1 max	0.1 x D	200	–	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036		
K	1	Ap1 max	0.1 x D	390	–	490	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049		
	2	Ap1 max	0.1 x D	360	–	460	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045		
N	1	Ap1 max	0.1 x D	820	–	3250	IPT	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100		
	2	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080		
	4	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090		

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 4BN..IS-IR • 4 Flute • Ball Nose • Short • Regular

		Side Milling (A) and Slotting (B)		KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.															
		A		B		Cutting Speed – vc SFM			D1 – Diameter													
Material Group		ap	ae	ap	min	max	inch	1/32	1/16	5/64	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1		
								.0313	.0625	.0781	.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000		
P	0	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	1	Ap1 max	0.1 x D	0.5 x D	490	–	660	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	2	Ap1 max	0.1 x D	0.5 x D	460	–	620	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
	3	Ap1 max	0.1 x D	0.5 x D	390	–	520	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
M	1	Ap1 max	0.1 x D	0.5 x D	300	–	490	IPT	.0002	.0003	.0004	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039	
	2	Ap1 max	0.1 x D	0.5 x D	300	–	380	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
K	1	Ap1 max	0.1 x D	0.5 x D	200	–	260	IPT	.0002	.0003	.0004	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036	
	2	Ap1 max	0.1 x D	0.5 x D	390	–	490	IPT	.0002	.0004	.0005	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049	
N	1	Ap1 max	0.1 x D	0.5 x D	360	–	460	IPT	.0002	.0004	.0004	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045	
	2	Ap1 max	0.1 x D	0.5 x D	820	–	3250	IPT	.0003	.0006	.0008	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100	
	4	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0003	.0005	.0006	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080	
	4	Ap1 max	0.1 x D	0.5 x D	820	–	2450	IPT	.0003	.0006	.0007	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

■ GOMill GP • 4BN..IL-IX • 4 Flute • Ball Nose • Long • Extra Long

		Side Milling (A)		KC633M			Recommended feed per tooth (IPT = inch/th) for side milling (A).													
		A		Cutting Speed – vc SFM			D1 – Diameter													
Material Group		ap	ae	min	max	inch	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1				
							.0938	.1250	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000				
P	0	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	1	Ap1 max	0.1 x D	490	–	660	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	2	Ap1 max	0.1 x D	460	–	620	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
	3	Ap1 max	0.1 x D	390	–	520	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
M	1	Ap1 max	0.1 x D	300	–	490	IPT	.0005	.0007	.0010	.0014	.0018	.0020	.0026	.0030	.0034	.0039			
	2	Ap1 max	0.1 x D	300	–	380	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
K	1	Ap1 max	0.1 x D	200	–	260	IPT	.0004	.0006	.0009	.0012	.0016	.0018	.0023	.0027	.0031	.0036			
	2	Ap1 max	0.1 x D	390	–	490	IPT	.0007	.0009	.0014	.0018	.0023	.0027	.0034	.0040	.0044	.0049			
N	1	Ap1 max	0.1 x D	360	–	460	IPT	.0005	.0007	.0011	.0015	.0020	.0023	.0029	.0034	.0039	.0045			
	2	Ap1 max	0.1 x D	820	–	3250	IPT	.0009	.0013	.0019	.0025	.0031	.0038	.0050	.0063	.0075	.0100			
	4	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0010	.0015	.0020	.0025	.0030	.0040	.0050	.0060	.0080			
	4	Ap1 max	0.1 x D	820	–	2450	IPT	.0008	.0011	.0017	.0023	.0028	.0034	.0045	.0056	.0068	.0090			

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

General Purpose End Mills • G0mill™ GP
G0mill GP • 3SE-IS-IR-IL-IX • Short • Regular • Long • Extra Long

Center cutting

3SE-IS-IR-IL-IX • 3 Flute • Inch

End Mill Tolerances			
D1	tolerance	D	tolerance
±0	+0.0005 -0.001	+0.10	+0.0020
		+0.150-0.175	+0.0020
		+0.175-0.199	+0.0020
		+0.200-0.224	+0.0020
		+0.225-0.249	+0.0020
		+0.250-0.274	+0.0020

SECTION	SECTION	D1	D	length of cut L1/2 max	length L
3SE0250IR075A		0.250	0.750	0.750	1.125
		0.250	0.750	0.750	1.125

3SE0250IR075A

3	SE	0250	IR	075	A
Number of Flutes	End Mill Shape	Cutting Diameter inch	Standard	Ap1 max inch	Shank Style
<p>2 = 2 Flute 3 = 3 Flute 4 = 4 Flute</p>	<p>CH = Chamfer Edge BN = Ball Nose SE = Sharp Edge</p>		<p>IS = Factory Standard Short IR = Factory Standard Regular IL = Factory Standard Long IX = Factory Standard Extra Long</p>		<p>A = Plain Shank B = Weldon® Shank</p>

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1115547	HEC328S4	KC610M	6086587	4SE0328IR100A	KC633M
1115548	HEC875S4	KC610M	6086520	4SE0875IR150A	KC633M
1115565	BNEC031S2	KC610M	5876721	2BN0031IR007A	KC633M
1115567	BNEC875S2	KC610M	5876774	2BN0875IR150A	KC633M
1115568	BNEC250S2113	KC610M	5876750	2BN0250IR112A	KC633M
1115569	BNEC312S2113	KC610M	5876754	2BN0312IL112A	KC633M
1115570	BNEC375S2113	KC610M	5876758	2BN0375IL112A	KC633M
1115582	BNEC016S4	KC610M	no replacement	no replacement	no replacement
1115583	BNEC047S4	KC610M	5824030	4BN0047IR012A	KC633M
1115584	BNEC172S4	KC610M	5824512	4BN0172IR062A	KC633M
1115587	BNEC375S4113	KC610M	5824532	4BN0375IL112A	KC633M
1115588	BNEC125S4300	KC610M	no replacement	no replacement	no replacement
1115589	HEC062S2013	KC610M	6086330	2SE0062IR012A	KC633M
1115591	HEC250S2050	KC610M	6086399	2SE0250IS050A	KC633M
1115592	HEC312S2050	KC610M	6086404	2SE0312IS050A	KC633M
1115593	HEC375S2063	KC610M	6086409	2SE0375IS062A	KC633M
1115594	HEC438S2063	KC610M	6086414	2SE0437IR062A	KC633M
1115595	HEC500S2063	KC610M	6086418	2SE0500IS062A	KC633M
1115596	HEC750S2100	KC610M	6086449	2SE0750IS100A	KC633M
1115597	HEC062S4013	KC610M	no replacement	no replacement	no replacement
1115598	HEC125S4025	KC610M	5824318	4CH0062IR011A	KC633M
1115599	HEC156S4031	KC610M	6086561	4SE0125IS025A	KC633M
1115599	HEC156S4031	KC610M	no replacement	no replacement	no replacement
1115601	HEC250S4050	KC610M	6086567	4SE0156IR056A	KC633M
1115602	HEC500S4063	KC610M	no replacement	no replacement	no replacement
1115603	HEC750S4100	KC610M	6086576	4SE0250IS050A	KC633M
1115616	HEC2MS2	KC610M	6086333	4SE0500IS062A	KC633M
1115617	HEC3MS2	KC610M	6086515	4SE0750IS100A	KC633M
1115618	HEC4MS2	KC610M	5873010	2CH0200MR006A	KC633M
1115619	HEC5MS2	KC610M	no replacement	no replacement	no replacement
1115620	HEC6MS2	KC610M	no replacement	no replacement	no replacement
1115621	HEC7MS2	KC610M	no replacement	no replacement	no replacement
1115622	HEC8MS2	KC610M	5873028	2CH0700MR020A	KC633M
1115624	HEC10MS2	KC610M	5873029	2CH0800MR020A	KC633M
1115624	HEC10MS2	KC610M	no replacement	no replacement	no replacement
1115626	HEC12MS2	KC610M	no replacement	no replacement	no replacement
1115632	HEC25MS2	KC610M	no replacement	no replacement	no replacement
1115633	HEC35MS2	KC610M	no replacement	no replacement	no replacement
1115635	HEC45MS2	KC610M	5873015	2CH0350MR012A	KC633M
1115638	HEC100S2	KC610M	no replacement	no replacement	no replacement
1115640	HEC125S2	KC610M	6086456	2SE1000IS150A	KC633M
1115642	HEC156S2	KC610M	6086388	2SE0125IL050A	KC633M
1115644	HEC188S2	KC610M	6086392	2SE0156IL056A	KC633M
1115645	HEC219S2	KC610M	6086394	2SE0187IR062A	KC633M
1115646	HEC062S2	KC610M	6086398	2SE0218IL062A	KC633M
1115647	HEC250S2	KC610M	6086329	2SE0062IL018A	KC633M
1115649	HEC281S2	KC610M	6086400	2SE0250IR075A	KC633M
1115651	HEC016S2	KC610M	6086403	2SE0281IR075A	KC633M
1115652	HEC312S2	KC610M	6086327	2SE0016IR003A	KC633M
1115653	HEC047S2	KC610M	6086405	2SE0312IR081A	KC633M
1115653	HEC047S2	KC610M	no replacement	no replacement	no replacement
1115654	HEC266S2	KC610M	no replacement	no replacement	no replacement
1115655	HEC375S2	KC610M	no replacement	no replacement	no replacement
1115656	HEC328S2	KC610M	6086410	2SE0375IR100A	KC633M
1115657	HEC344S2	KC610M	no replacement	no replacement	no replacement
1115658	HEC438S2	KC610M	6086408	2SE0343IR100A	KC633M
1115661	HEC500S2	KC610M	6086415	2SE0437IL100A	KC633M
1115662	HEC469S2	KC610M	6086419	2SE0500IR100A	KC633M
1115665	HEC625S2	KC610M	6086417	2SE0468IR100A	KC633M
			6086446	2SE0625IL125A	KC633M

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1115666	HEC688S2	KC610M	6086448	2SE0687IR137A	KC633M
1115667	HEC750S2	KC610M	6086450	2SE0750IR150A	KC633M
1115668	HEC094S2	KC610M	6086384	2SE0093IL037A	KC633M
1115669	HEC203S3	KC610M	no replacement	no replacement	no replacement
1115672	HEC016S4	KC610M	6086553	4SE0015IR003A	KC633M
1115673	HEC031S4	KC610M	5824317	4CH0031IR008A	KC633M
1115673	HEC031S4	KC610M	5824317	4CH0031IR008A	KC633M
1115674	HEC344S4	KC610M	6086588	4SE0343IR100A	KC633M
1115675	HEC360S4	KC610M	6086589	4SE0359IR100A	KC633M
1115678	HEC484S4	KC610M	6086603	4SE0484IR100A	KC633M
1115679	HEC125S2100	KC610M	no replacement	no replacement	no replacement
1115680	HEC125S2075	KC610M	6086389	2SE0125IX075A	KC633M
1115681	HEC125S4075	KC610M	6086563	4SE0125IL075A	KC633M
1115689	HEC100S3	KC610M	6143979	3SE1000IR150A	KC633M
1115691	HEC125S3	KC610M	6143910	3SE0125IL050A	KC633M
1115693	HEC156S3	KC610M	6143943	3SE0156IR056A	KC633M
1115694	HEC188S3	KC610M	6143945	3SE0188IR056A	KC633M
1115695	HEC219S3	KC610M	6143949	3SE0219IR062A	KC633M
1115696	HEC062S3	KC610M	6143905	3SE0062IR019A	KC633M
1115697	HEC250S3	KC610M	6143952	3SE0250IR075A	KC633M
1115698	HEC281S3	KC610M	6143955	3SE0281IR075A	KC633M
1115699	HEC312S3	KC610M	6143958	3SE0312IL081A	KC633M
1115701	HEC375S3	KC610M	6143964	3SE0375IL100A	KC633M
1115702	HEC438S3	KC610M	6143969	3SE0437IX100A	KC633M
1115705	HEC500S3	KC610M	6143970	3SE0500IR100A	KC633M
1115707	HEC625S3	KC610M	6143975	3SE0625IL125A	KC633M
1115710	HEC750S3	KC610M	6143977	3SE0750IL150A	KC633M
1115711	HEC094S3	KC610M	6143907	3SE0094IR037A	KC633M
1115714	HEC2MS4	KC610M	5824218	4CH0200MR006A	KC633M
1115715	HEC3MS4	KC610M	no replacement	no replacement	no replacement
1115716	HEC4MS4	KC610M	no replacement	no replacement	no replacement
1115717	HEC5MS4	KC610M	no replacement	no replacement	no replacement
1115718	HEC6MS4	KC610M	no replacement	no replacement	no replacement
1115719	HEC7MS4	KC610M	no replacement	no replacement	no replacement
1115720	HEC8MS4	KC610M	5824229	4CH0800MR020A	KC633M
1115721	HEC9MS4	KC610M	no replacement	no replacement	no replacement
1115722	HEC10MS4	KC610M	5824232	4CH1000MR022A	KC633M
1115723	HEC11MS4	KC610M	no replacement	no replacement	no replacement
1115724	HEC12MS4	KC610M	5824189	4CH1200DL026A	KC633M
1115725	HEC14MS4	KC610M	5824238	4CH1400MR032A	KC633M
1115726	HEC16MS4	KC610M	5824241	4CH1600MR032A	KC633M
1115727	HEC18MS4	KC610M	5824244	4CH1800MR038A	KC633M
1115728	HEC20MS4	KC610M	5824247	4CH2000MR038A	KC633M
1115729	HEC25MMS4	KC610M	no replacement	no replacement	no replacement
1115730	HEC25MS4	KC610M	no replacement	no replacement	no replacement
1115731	HEC35MS4	KC610M	no replacement	no replacement	no replacement
1115732	HEC45MS4	KC610M	no replacement	no replacement	no replacement
1115733	HEC100S4	KC610M	6086522	4SE1000IS150A	KC633M
1115734	HEC125S4	KC610M	6086562	4SE0125IR050A	KC633M
1115735	HEC156S4	KC610M	6086567	4SE0156IR056A	KC633M
1115736	HEC188S4	KC610M	6086568	4SE0187IR062A	KC633M
1115737	HEC219S4	KC610M	6086574	4SE0218IL062A	KC633M
1115738	HEC062S4	KC610M	5824318	4CH0062IR011A	KC633M
1115738	HEC062S4	KC610M	no replacement	no replacement	no replacement
1115739	HEC250S4	KC610M	6086577	4SE0250IR075A	KC633M
1115740	HEC281S4	KC610M	6086581	4SE0281IR075A	KC633M
1115741	HEC312S4	KC610M	6086584	4SE0312IR081A	KC633M
1115741	HEC312S4	KC610M	no replacement	no replacement	no replacement
1115742	HEC375S4	KC610M	6086591	4SE0375IR100A	KC633M
1115743	HEC438S4	KC610M	6086597	4SE0437IS100A	KC633M

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1115744	HEC500S4	KC610M	6086334	4SE0500IR100A	KC633M
1115746	HEC625S4	KC610M	6086511	4SE0625IR125A	KC633M
1115747	HEC688S4	KC610M	6086514	4SE0687IR137A	KC633M
1115748	HEC750S4	KC610M	6086516	4SE0750IR150A	KC633M
1115749	HEC094S4	KC610M	6086558	4SE0093IR037A	KC633M
1115751	HEC047S4	KC610M	no replacement	no replacement	no replacement
1115751	HEC047S4	KC610M	no replacement	no replacement	no replacement
1115785	BNEC2MS2	KC610M	5874192	2BN0200MR006A	KC633M
1115786	BNEC3MS2	KC610M	no replacement	no replacement	no replacement
1115787	BNEC4MS2	KC610M	no replacement	no replacement	no replacement
1115788	BNEC5MS2	KC610M	no replacement	no replacement	no replacement
1115789	BNEC6MS2	KC610M	no replacement	no replacement	no replacement
1115791	BNEC8MS2	KC610M	no replacement	no replacement	no replacement
1115793	BNEC10MS2	KC610M	no replacement	no replacement	no replacement
1115804	BNEC100S2	KC610M	5876775	2BN1000IR150A	KC633M
1115805	BNEC125S2	KC610M	5876728	2BN0125IR050A	KC633M
1115806	BNEC156S2	KC610M	5876742	2BN0156IL056A	KC633M
1115807	BNEC188S2	KC610M	5876744	2BN0187IR062A	KC633M
1115808	BNEC219S2	KC610M	5876747	2BN0219IR062A	KC633M
1115809	BNEC062S2	KC610M	5876722	2BN0063IR018A	KC633M
1115810	BNEC250S2	KC610M	5876749	2BN0250IR075A	KC633M
1115812	BNEC312S2	KC610M	5876753	2BN0312IR081A	KC633M
1115815	BNEC500S2	KC610M	5876763	2BN0500IR100A	KC633M
1115816	BNEC562S2	KC610M	no replacement	no replacement	no replacement
1115817	BNEC625S2	KC610M	5876767	2BN0625IR125A	KC633M
1115819	BNEC750S2	KC610M	5876771	2BN0750IR150A	KC633M
1115820	BNEC094S2	KC610M	5876725	2BN0094IL037A	KC633M
1115821	BNEC2MS4	KC610M	no replacement	no replacement	no replacement
1115822	BNEC3MS4	KC610M	no replacement	no replacement	no replacement
1115823	BNEC5MS4	KC610M	no replacement	no replacement	no replacement
1115824	BNEC6MS4	KC610M	no replacement	no replacement	no replacement
1115825	BNEC7MS4	KC610M	no replacement	no replacement	no replacement
1115826	BNEC8MS4	KC610M	5824924	4BN0800DL019A	KC633M
1115828	BNEC10MS4	KC610M	5824925	4BN1000DL022A	KC633M
1115830	BNEC12MS4	KC610M	5824926	4BN1200DL026A	KC633M
1115836	BNEC25MS4	KC610M	no replacement	no replacement	no replacement
1115837	BNEC35MS4	KC610M	no replacement	no replacement	no replacement
1115838	BNEC45MS4	KC610M	no replacement	no replacement	no replacement
1115839	BNEC100S4	KC610M	5824557	4BN1000IR150A	KC633M
1115840	BNEC125S4	KC610M	5824507	4BN0125IR050A	KC633M
1115841	BNEC156S4	KC610M	5824511	4BN0156IR056A	KC633M
1115842	BNEC188S4	KC610M	5824514	4BN0187IL062A	KC633M
1115843	BNEC219S4	KC610M	5824517	4BN0219IR062A	KC633M
1115844	BNEC062S4	KC610M	5824501	4BN0062IR019A	KC633M
1115845	BNEC250S4	KC610M	5824520	4BN0250IR075A	KC633M
1115846	BNEC281S4	KC610M	5824524	4BN0281IR075A	KC633M
1115847	BNEC312S4	KC610M	5824526	4BN0312IR081A	KC633M
1115848	BNEC375S4	KC610M	5824530	4BN0375IS100A	KC633M
1115850	BNEC500S4	KC610M	5824535	4BN0500IS100A	KC633M
1115851	BNEC562S4	KC610M	5824551	4BN0562IR125A	KC633M
1115852	BNEC625S4	KC610M	5824552	4BN0625IR125A	KC633M
1115854	BNEC750S4	KC610M	5824554	4BN0750IR150A	KC633M
1115855	BNEC094S4	KC610M	5824504	4BN0094IL037A	KC633M
1115865	BNEC078S4	KC610M	5824502	4BN0078IR019A	KC633M
1115866	BNEC109S4	KC610M	5824505	4BN0109IR037A	KC633M
1115867	HEC078S2	KC610M	6086382	2SE0078IR018A	KC633M
1115868	HEC109S2	KC610M	no replacement	no replacement	no replacement
1115869	HEC109S4	KC610M	6086560	4SE0109IR037A	KC633M
1115870	HEC141S2	KC610M	6086390	2SE0140IR056A	KC633M
1115871	HEC172S2	KC610M	6086393	2SE0171IR062A	KC633M

(continued)

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1115872	HEC172S4	KC610M	no replacement	no replacement	no replacement
1115872	HEC172S4	KC610M	no replacement	no replacement	no replacement
1115872	HEC172S4	KC610M	no replacement	no replacement	no replacement
1115873	HEC203S2	KC610M	no replacement	no replacement	no replacement
1115874	HEC203S4	KC610M	6086572	4SE0203IR062A	KC633M
1115875	HEC234S2	KC610M	no replacement	no replacement	no replacement
1115876	HEC234S4	KC610M	6086575	4SE0234IR075A	KC633M
1115877	HEC297S4	KC610M	6086582	4SE0296IR081A	KC633M
1115878	HEC297S2	KC610M	no replacement	no replacement	no replacement
1115890	HEC031S2	KC610M	6086328	2SE0031IR007A	KC633M
1115894	BNEC031S4	KC610M	5824029	4BN0031IR008A	KC633M
1115895	HEC078S4	KC610M	6086556	4SE0078IR018A	KC633M
1115896	HEC266S4	KC610M	6086580	4SE0265IR075A	KC633M
1115896	HEC266S4	KC610M	6086580	4SE0265IR075A	KC633M
1115900	HEC6MS275M	KC610M	5873026	2CH0600ML028A	KC633M
1115901	HEC8MS275M	KC610M	5873031	2CH0800ML028A	KC633M
1115902	HEC10MS2100M	KC610M	no replacement	no replacement	no replacement
1115902	HEC10MS2100M	KC610M	no replacement	no replacement	no replacement
1115910	HEC6MS475M	KC610M	5824227	4CH0600ML028A	KC633M
1115911	HEC8MS475M	KC610M	5824230	4CH0800ML028A	KC633M
1115912	HEC141S4	KC610M	6086565	4SE0140IR056A	KC633M
1115913	HEC375S4063	KC610M	6086590	4SE0375IS062A	KC633M
1115914	HEC10MS4100M	KC610M	5824234	4CH1000MX045A	KC633M
1115915	HEC12MS4100M	KC610M	no replacement	no replacement	no replacement
1115919	HEC16MS4150M	KC610M	5824243	4CH1600MX075A	KC633M
1115921	HEC20MS4150M	KC610M	no replacement	no replacement	no replacement
1115923	BNEC6MS275M	KC610M	no replacement	no replacement	no replacement
1115934	BNEC6MS475M	KC610M	5824954	4BN0600MR030A	KC633M
1115935	BNEC8MS475M	KC610M	no replacement	no replacement	no replacement
1115936	BNEC10MS4100M	KC610M	5824956	4BN1000MR040A	KC633M
1115944	HEC469S4	KC610M	6086602	4SE0468IR100A	KC633M
1115945	HEC188S2075	KC610M	6086395	2SE0187IL075A	KC633M
1115946	HEC188S2113	KC610M	6086396	2SE0187IX112A	KC633M
1115947	HEC250S2113	KC610M	6086401	2SE0250IL112A	KC633M
1115948	HEC312S2113	KC610M	6086406	2SE0312IL112A	KC633M
1115949	HEC375S2113	KC610M	6086411	2SE0375IL112A	KC633M
1115952	HEC100S2225	KC610M	6086457	2SE1000IR225A	KC633M
1115953	HEC625S2225	KC610M	6086447	2SE0625IX225A	KC633M
1115954	HEC750S2225	KC610M	6086451	2SE0750IR225A	KC633M
1115955	HEC100S2300	KC610M	6086458	2SE1000IL300A	KC633M
1115957	HEC500S2300	KC610M	6086441	2SE0500IX300A	KC633M
1115959	HEC750S2300	KC610M	6086452	2SE0750IL300A	KC633M
1115960	HEC250S2150	KC610M	6086402	2SE0250IX150A	KC633M
1115961	HEC312S2163	KC610M	6086407	2SE0312IX162A	KC633M
1115962	HEC375S2175	KC610M	6086412	2SE0375IX175A	KC633M
1115963	HEC188S4075	KC610M	6086570	4SE0187IL075A	KC633M
1115964	BNEC500S4450	KC610M	5824539	4BN0500IL200A	KC633M
1115965	HEC188S4113	KC610M	6086571	4SE0187IX112A	KC633M
1115966	HEC250S4113	KC610M	6086578	4SE0250IL112A	KC633M
1115967	HEC312S4113	KC610M	6086585	4SE0312IL112A	KC633M
1115968	HEC375S4113	KC610M	6086592	4SE0375IL112A	KC633M
1115970	HEC500S4450	KC610M	no replacement	no replacement	no replacement
1115971	HEC100S4225	KC610M	6086523	4SE1000IR225A	KC633M
1115972	HEC625S4225	KC610M	6086512	4SE0625IL225A	KC633M
1115973	HEC750S4225	KC610M	6086517	4SE0750IR225A	KC633M
1115974	HEC100S4300	KC610M	6086524	4SE1000IL300A	KC633M
1115975	HEC438S4600	KC610M	6086600	4SE0437IX300A	KC633M
1115976	HEC500S4300	KC610M	6086336	4SE0500IX300A	KC633M
1115979	HEC750S4300	KC610M	6086518	4SE0750IL300A	KC633M
1115980	HEC250S4150	KC610M	6086579	4SE0250IX150A	KC633M

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1115981	HEC312S4163	KC610M	6086586	4SE0312IX162A	KC633M
1115982	HEC375S4175	KC610M	6086593	4SE0375IX175A	KC633M
1115983	BNEC188S2300	KC610M	no replacement	no replacement	no replacement
1115984	BNEC250S2150	KC610M	5876751	2BN0250IL150A	KC633M
1115986	BNEC375S2175	KC610M	no replacement	no replacement	no replacement
1115987	BNEC100S2300	KC610M	5876776	2BN1000IL300A	KC633M
1115989	BNEC500S2300	KC610M	5876766	2BN0500IX300A	KC633M
1115990	BNEC625S2300	KC610M	5876769	2BN0625IX300A	KC633M
1115991	BNEC750S2600	KC610M	5876773	2BN0750IX300A	KC633M
1115992	BNEC188S4300	KC610M	no replacement	no replacement	no replacement
1115993	BNEC250S4150	KC610M	5824522	4BN0250IL150A	KC633M
1115994	BNEC312S4400	KC610M	5824528	4BN0312IX162A	KC633M
1115995	BNEC375S4175	KC610M	no replacement	no replacement	no replacement
1115996	HEC625S4075	KC610M	6086340	4SE0625IS075A	KC633M
1115997	BNEC100S4300	KC610M	no replacement	no replacement	no replacement
1115999	BNEC500S4300	KC610M	5824540	4BN0500IX300A	KC633M
1116000	BNEC625S4300	KC610M	no replacement	no replacement	no replacement
1116001	BNEC750S4600	KC610M	5824555	4BN0750IL300A	KC633M
1116031	HEC125S4100	KC610M	6086564	4SE0125IX100A	KC633M
1191644	BNEC062S2	K600	5876722	2BN0063IR018A	KC633M
1191659	BNEC250S2	K600	5876749	2BN0250IR075A	KC633M
1191660	BNEC250S4	K600	5824520	4BN0250IR075A	KC633M
1191669	BNEC4MS4	KC610M	5824952	4BN0400MR025A	KC633M
1191670	BNEC500S2	K600	5876763	2BN0500IR100A	KC633M
1191672	BNEC500S4	K600	5824535	4BN0500IS100A	KC633M
1191679	BNEC750S4	K600	5824554	4BN0750IR150A	KC633M
1192162	HEC100S2	K600	6086456	2SE1000IS150A	KC633M
1192163	HEC10MS2100M	K600	no replacement	no replacement	no replacement
1192163	HEC10MS2100M	K600	no replacement	no replacement	no replacement
1192164	HEC10MS2	K600	no replacement	no replacement	no replacement
1192164	HEC10MS2	K600	no replacement	no replacement	no replacement
1192165	HEC10MS4100M	K600	5824234	4CH1000MX045A	KC633M
1192166	HEC10MS4	K600	5824232	4CH1000MR022A	KC633M
1192168	HEC12MS2	K600	no replacement	no replacement	no replacement
1192169	HEC12MS4100M	K600	no replacement	no replacement	no replacement
1192171	HEC12MS4	K600	5824189	4CH1200DL026A	KC633M
1192174	HEC14MS4	K600	5824238	4CH1400MR032A	KC633M
1192177	HEC16MS4150M	K600	5824243	4CH1600MX075A	KC633M
1192178	HEC16MS4	K600	5824241	4CH1600MR032A	KC633M
1192179	HEC188S4	K600	6086568	4SE0187IR062A	KC633M
1192181	HEC18MS4	K600	5824244	4CH1800MR038A	KC633M
1192183	HEC20MS2	K600	5873050	2CH2000MR038A	KC633M
1192185	HEC20MS4	K600	5824247	4CH2000MR038A	KC633M
1192186	HEC250S2	K600	6086400	2SE0250IR075A	KC633M
1192187	HEC250S4	K600	6086577	4SE0250IR075A	KC633M
1192189	HEC25MMS4	K600	no replacement	no replacement	no replacement
1192192	HEC2MS2	K600	5873010	2CH0200MR006A	KC633M
1192194	HEC312S4	K600	no replacement	no replacement	no replacement
1192194	HEC312S4	K600	6086584	4SE0312IR081A	KC633M
1192196	HEC375S2	K600	6086410	2SE0375IR100A	KC633M
1192197	HEC375S4	K600	6086591	4SE0375IR100A	KC633M
1192198	HEC3MS2	K600	no replacement	no replacement	no replacement
1192199	HEC3MS4	K600	no replacement	no replacement	no replacement
1192200	HEC438S4	K600	6086597	4SE0437IS100A	KC633M
1192201	HEC4MS2	K600	no replacement	no replacement	no replacement
1192202	HEC4MS4	K600	no replacement	no replacement	no replacement
1192203	HEC500S2	K600	6086419	2SE0500IR100A	KC633M
1192204	HEC500S4	K600	6086334	4SE0500IR100A	KC633M
1192206	HEC5MS2	K600	no replacement	no replacement	no replacement
1192207	HEC5MS4	K600	no replacement	no replacement	no replacement

(continued)

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1192208	HEC625S3	K600	6143975	3SE0625IL125A	KC633M
1192209	HEC6MS275M	K600	5873026	2CH0600ML028A	KC633M
1192210	HEC6MS2	K600	no replacement	no replacement	no replacement
1192211	HEC6MS475M	K600	no replacement	no replacement	no replacement
1192212	HEC6MS4	K600	no replacement	no replacement	no replacement
1192213	HEC750S4	K600	6086516	4SE0750IR150A	KC633M
1192215	HEC8MS275M	K600	5873031	2CH0800ML028A	KC633M
1192216	HEC8MS2	K600	5873029	2CH0800MR020A	KC633M
1192218	HEC8MS4	K600	5824229	4CH0800MR020A	KC633M
1228656	HEC094S2	K600	6086384	2SE0093IL037A	KC633M
1232322	BNEC562S4	K600	5824551	4BN0562IR125A	KC633M
1232451	HEC438S3	K600	6143969	3SE0437IX100A	KC633M
1232452	HEC188S2	K600	6086394	2SE0187IR062A	KC633M
1232453	HEC500S3	K600	6143970	3SE0500IR100A	KC633M
1257524	BNEC016S2	KC610M	no replacement	no replacement	no replacement
1257525	BNEC016S2	K600	no replacement	no replacement	no replacement
1257527	BNEC031S2	K600	5876721	2BN0031IR007A	KC633M
1257530	BNEC031S4	K600	5824029	4BN0031IR008A	KC633M
1257531	BNEC047S2	KC610M	5876723	2BN0047IR018A	KC633M
1257532	BNEC047S2	K600	5876723	2BN0047IR018A	KC633M
1257534	BNEC047S4	K600	5824030	4BN0047IR012A	KC633M
1257537	BNEC062S4	K600	5824501	4BN0062IR019A	KC633M
1257539	BNEC078S2	KC610M	no replacement	no replacement	no replacement
1257540	BNEC078S2	K600	no replacement	no replacement	no replacement
1257541	BNEC078S40	K600	5824502	4BN0078IR019A	KC633M
1257542	BNEC094S2	K600	5876725	2BN0094IL037A	KC633M
1257544	BNEC094S4	K600	5824504	4BN0094IL037A	KC633M
1257548	BNEC100S2	KC635M	5876775	2BN1000IR150A	KC633M
1257549	BNEC100S2	K600	5876775	2BN1000IR150A	KC633M
1257551	BNEC100S2300	K600	5876776	2BN1000IL300A	KC633M
1257553	BNEC100S4	KC635M	5824557	4BN1000IR150A	KC633M
1257554	BNEC100S4	K600	5824557	4BN1000IR150A	KC633M
1257557	BNEC100S4300	K600	no replacement	no replacement	no replacement
1257558	BNEC109S2	KC610M	5876726	2BN0109IR037A	KC633M
1257559	BNEC109S2	K600	5876726	2BN0109IR037A	KC633M
1257560	BNEC109S40	K600	5824505	4BN0109IR037A	KC633M
1257568	BNEC125S2	KC635M	5876728	2BN0125IR050A	KC633M
1257569	BNEC125S2	K600	5876728	2BN0125IR050A	KC633M
1257571	BNEC125S2075	KC610M	5876729	2BN0125IL075A	KC633M
1257575	BNEC125S4	KC635M	5824507	4BN0125IR050A	KC633M
1257576	BNEC125S4	K600	5824507	4BN0125IR050A	KC633M
1257577	BNEC125S4075	KC610M	5824508	4BN0125IL075A	KC633M
1257578	BNEC125S4075	K600	5824508	4BN0125IL075A	KC633M
1257579	BNEC125S4300	K600	no replacement	no replacement	no replacement
1257584	BNEC141S4	KC610M	5824510	4BN0141IR056A	KC633M
1257585	BNEC156S2	K600	5876742	2BN0156IL056A	KC633M
1257587	BNEC156S4	K600	5824511	4BN0156IR056A	KC633M
1257594	BNEC172S40	K600	5824512	4BN0172IR062A	KC633M
1257598	BNEC188S2	KC635M	5876744	2BN0187IR062A	KC633M
1257599	BNEC188S2	K600	5876744	2BN0187IR062A	KC633M
1257600	BNEC188S2075	KC610M	5876745	2BN0187IL075A	KC633M
1257601	BNEC188S2075	K600	5876745	2BN0187IL075A	KC633M
1257602	BNEC188S2300	K600	no replacement	no replacement	no replacement
1257605	BNEC188S4	KC635M	5824514	4BN0187IL062A	KC633M
1257606	BNEC188S4	K600	5824514	4BN0187IL062A	KC633M
1257607	BNEC188S4075	KC610M	no replacement	no replacement	no replacement
1257608	BNEC188S4075	K600	no replacement	no replacement	no replacement
1257609	BNEC188S4300	K600	no replacement	no replacement	no replacement
1257619	BNEC203S4	KC610M	5824516	4BN0203IR062A	KC633M
1257620	BNEC203S4	K600	5824516	4BN0203IR062A	KC633M

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1257621	BNEC219S2	K600	5876747	2BN0219R062A	KC633M
1257624	BNEC219S40	K600	5824517	4BN0219R062A	KC633M
1257626	BNEC234S4	KC610M	5824518	4BN0234R075A	KC633M
1257629	BNEC250S2	KC635M	5876749	2BN0250R075A	KC633M
1257631	BNEC250S2113	K600	5876750	2BN0250R112A	KC633M
1257632	BNEC250S2150	K600	5876751	2BN0250L150A	KC633M
1257634	BNEC250S4	KC635M	5824520	4BN0250R075A	KC633M
1257636	BNEC250S4113	KC610M	5824521	4BN0250R112A	KC633M
1257637	BNEC250S4113	K600	5824521	4BN0250R112A	KC633M
1257638	BNEC250S4150	K600	5824522	4BN0250L150A	KC633M
1257641	BNEC266S4	KC610M	no replacement	no replacement	no replacement
1257642	BNEC266S4	K600	no replacement	no replacement	no replacement
1257647	BNEC281S4	K600	5824524	4BN0281R075A	KC633M
1257650	BNEC312S2	KC635M	5876753	2BN0312R081A	KC633M
1257651	BNEC312S2	K600	5876753	2BN0312R081A	KC633M
1257656	BNEC312S4	KC635M	5824526	4BN0312R081A	KC633M
1257657	BNEC312S4	K600	5824526	4BN0312R081A	KC633M
1257659	BNEC312S4113	KC610M	5824527	4BN0312L112A	KC633M
1257660	BNEC312S4113	K600	5824527	4BN0312L112A	KC633M
1257661	BNEC312S4400	K600	5824528	4BN0312X162A	KC633M
1257665	BNEC344S4	KC610M	5824529	4BN0344R100A	KC633M
1257674	BNEC375S2113	K600	5876758	2BN0375L112A	KC633M
1257675	BNEC375S2175	K600	no replacement	no replacement	no replacement
1257677	BNEC375S4	KC635M	5824530	4BN0375S100A	KC633M
1257678	BNEC375S4	K600	5824530	4BN0375S100A	KC633M
1257680	BNEC375S4113	K600	5824532	4BN0375L112A	KC633M
1257681	BNEC375S4175	K600	no replacement	no replacement	no replacement
1257706	BNEC500S2	KC635M	5876763	2BN0500R100A	KC633M
1257708	BNEC500S2300	K600	5876766	2BN0500X300A	KC633M
1257709	BNEC500S4	KC635M	5824535	4BN0500S100A	KC633M
1257711	BNEC500S4450	K600	5824539	4BN0500L200A	KC633M
1257712	BNEC500S4300	K600	5824540	4BN0500X300A	KC633M
1257714	BNEC562S2	KC635M	no replacement	no replacement	no replacement
1257715	BNEC562S2	K600	no replacement	no replacement	no replacement
1257718	BNEC562S4	KC635M	5824551	4BN0562R125A	KC633M
1257723	BNEC625S2	KC635M	5876767	2BN0625R125A	KC633M
1257724	BNEC625S2	K600	5876767	2BN0625R125A	KC633M
1257726	BNEC625S2300	K600	5876769	2BN0625X300A	KC633M
1257728	BNEC625S4	KC635M	5824552	4BN0625R125A	KC633M
1257729	BNEC625S4	K600	5824552	4BN0625R125A	KC633M
1257732	BNEC625S4300	K600	no replacement	no replacement	no replacement
1257740	BNEC750S2	KC635M	5876771	2BN0750R150A	KC633M
1257741	BNEC750S2	K600	5876771	2BN0750R150A	KC633M
1257744	BNEC750S2600	K600	5876773	2BN0750X300A	KC633M
1257746	BNEC750S4	KC635M	5824554	4BN0750R150A	KC633M
1257750	BNEC750S4600	K600	5824555	4BN0750L300A	KC633M
1257755	BNEC875S2	KC635M	5876774	2BN0875R150A	KC633M
1257758	BNEC875S4	KC610M	5824556	4BN0875R150A	KC633M
1257759	BNEC875S4	KC635M	5824556	4BN0875R150A	KC633M
1257760	BNEC875S4	K600	5824556	4BN0875R150A	KC633M
1272879	HEC016S2	K600	6086327	2SE0016R003A	KC633M
1272882	HEC016S4	K600	6086553	4SE0015R003A	KC633M
1272883	HEC031S2	K600	6086328	2SE0031R007A	KC633M
1272884	HEC031S3	KC610M	6143903	3SE0031R007A	KC633M
1272886	HEC031S4	K600	6086554	4SE0031R008A	KC633M
1272887	HEC047S2	K600	no replacement	no replacement	no replacement
1272888	HEC047S3	KC610M	6143904	3SE0047R011A	KC633M
1272889	HEC047S4	K600	no replacement	no replacement	no replacement
1272890	HEC062S2	K600	6086329	2SE0062L018A	KC633M
1272891	HEC062S3	K600	6143905	3SE0062R019A	KC633M

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1272892	HEC062S4	K600	5824318	4CH0062IR011A	KC633M
1272894	HEC078S2	K600	6086382	2SE0078IR018A	KC633M
1272895	HEC078S4	K600	6086556	4SE0078IR018A	KC633M
1272896	HEC094S3	K600	6143907	3SE0094IR037A	KC633M
1272897	HEC094S4	K600	6086558	4SE0093IR037A	KC633M
1272900	HEC100S2	KC635M	6086456	2SE1000IS150A	KC633M
1272902	HEC100S2225	K600	6086457	2SE1000IR225A	KC633M
1272904	HEC100S3	K600	6143979	3SE1000IR150A	KC633M
1272905	HEC100S4	KC635M	6086522	4SE1000IS150A	KC633M
1272906	HEC100S4	K600	6086522	4SE1000IS150A	KC633M
1272908	HEC100S4225	K600	6086523	4SE1000IR225A	KC633M
1272910	HEC100S4300	K600	6086524	4SE1000IL300A	KC633M
1272911	HEC109S2	K600	no replacement	no replacement	no replacement
1272912	HEC109S3	K600	6143908	3SE0109IR037A	KC633M
1272912	HEC109S3	K600	6143908	3SE0109IR037A	KC633M
1272913	HEC109S4	K600	6086560	4SE0109IR037A	KC633M
1272915	HEC11MS4	K600	no replacement	no replacement	no replacement
1272917	HEC125S2	KC635M	6086388	2SE0125IL050A	KC633M
1272918	HEC125S2	K600	6086388	2SE0125IL050A	KC633M
1272919	HEC125S2075	K600	6086389	2SE0125IX075A	KC633M
1272920	HEC125S2100	K600	no replacement	no replacement	no replacement
1272921	HEC125S3	K600	6143910	3SE0125IL050A	KC633M
1272922	HEC125S4	KC635M	6086562	4SE0125IR050A	KC633M
1272923	HEC125S4	K600	6086562	4SE0125IR050A	KC633M
1272926	HEC125S4075	K600	6086563	4SE0125IL075A	KC633M
1272927	HEC125S4100	K600	6086564	4SE0125IX100A	KC633M
1272932	HEC141S2	K600	6086390	2SE0140IR056A	KC633M
1272933	HEC141S3	KC610M	6143942	3SE0141IR056A	KC633M
1272933	HEC141S3	KC610M	6143942	3SE0141IR056A	KC633M
1272934	HEC141S4	K600	6086565	4SE0140IR056A	KC633M
1272935	HEC156S2	K600	6086392	2SE0156IL056A	KC633M
1272936	HEC156S3	K600	6143943	3SE0156IR056A	KC633M
1272937	HEC156S4	K600	6086567	4SE0156IR056A	KC633M
1272942	HEC172S4	K600	no replacement	no replacement	no replacement
1272945	HEC188S2	KC635M	6086394	2SE0187IR062A	KC633M
1272948	HEC188S2075	K600	6086395	2SE0187IL075A	KC633M
1272949	HEC188S2113	K600	6086396	2SE0187IX112A	KC633M
1272950	HEC188S3	K600	6143945	3SE0188IR056A	KC633M
1272951	HEC188S4	KC635M	6086568	4SE0187IR062A	KC633M
1272954	HEC188S4075	K600	6086570	4SE0187IL075A	KC633M
1272956	HEC188S4113	K600	6086571	4SE0187IX112A	KC633M
1272957	HEC203S2	K600	no replacement	no replacement	no replacement
1272958	HEC203S4	K600	6086572	4SE0203IR062A	KC633M
1272959	HEC219S2	K600	6086398	2SE0218IL062A	KC633M
1272960	HEC219S3	K600	6143949	3SE0219IR062A	KC633M
1272962	HEC219S4	K600	6086574	4SE0218IL062A	KC633M
1272965	HEC234S2	K600	no replacement	no replacement	no replacement
1272967	HEC234S4	K600	6086575	4SE0234IR075A	KC633M
1272970	HEC250S2	KC635M	6086400	2SE0250IR075A	KC633M
1272973	HEC250S2113	K600	6086401	2SE0250IL112A	KC633M
1272974	HEC250S2150	K600	6086402	2SE0250IX150A	KC633M
1272975	HEC250S3	K600	6143952	3SE0250IR075A	KC633M
1272977	HEC250S4	KC635M	6086577	4SE0250IR075A	KC633M
1272981	HEC250S4113	K600	6086578	4SE0250IL112A	KC633M
1272982	HEC250S4150	K600	6086579	4SE0250IX150A	KC633M
1272987	HEC266S2	K600	no replacement	no replacement	no replacement
1272989	HEC281S2	K600	6086403	2SE0281IR075A	KC633M
1272990	HEC281S3	K600	6143955	3SE0281IR075A	KC633M
1272991	HEC281S4	K600	6086581	4SE0281IR075A	KC633M
1272992	HEC297S2	K600	no replacement	no replacement	no replacement

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1272994	HEC297S4	K600	6086582	4SE0296IR081A	KC633M
1272996	HEC312S2	KC635M	6086405	2SE0312IR081A	KC633M
1272997	HEC312S2	K600	6086405	2SE0312IR081A	KC633M
1273000	HEC312S2113	K600	6086406	2SE0312IL112A	KC633M
1273001	HEC312S2163	K600	6086407	2SE0312IX162A	KC633M
1273002	HEC312S3	K600	6143958	3SE0312IL081A	KC633M
1273003	HEC312S4	KC635M	6086584	4SE0312IR081A	KC633M
1273005	HEC312S4113	K600	6086585	4SE0312IL112A	KC633M
1273006	HEC312S4163	K600	6086586	4SE0312IX162A	KC633M
1273008	HEC328S2	K600	no replacement	no replacement	no replacement
1273009	HEC328S3	KC610M	no replacement	no replacement	no replacement
1273011	HEC344S2	K600	6086408	2SE0343IR100A	KC633M
1273012	HEC344S3	KC610M	no replacement	no replacement	no replacement
1273013	HEC344S3	K600	no replacement	no replacement	no replacement
1273014	HEC344S4	K600	6086588	4SE0343IR100A	KC633M
1273015	HEC35MS2	K600	5873015	2CH0350MR012A	KC633M
1273020	HEC360S4	K600	6086589	4SE0359IR100A	KC633M
1273021	HEC375S2	KC635M	6086410	2SE0375IR100A	KC633M
1273024	HEC375S2113	K600	6086411	2SE0375IL112A	KC633M
1273025	HEC375S2175	K600	6086412	2SE0375IX175A	KC633M
1273026	HEC375S3	K600	6143964	3SE0375IL100A	KC633M
1273031	HEC375S4	KC635M	6086591	4SE0375IR100A	KC633M
1273034	HEC375S4113	K600	6086592	4SE0375IL112A	KC633M
1273035	HEC375S4175	K600	6086593	4SE0375IX175A	KC633M
1273040	HEC406S3	KC610M	no replacement	no replacement	no replacement
1273049	HEC438S2	KC635M	6086415	2SE0437IL100A	KC633M
1273050	HEC438S2	K600	6086415	2SE0437IL100A	KC633M
1273053	HEC438S4	KC635M	6086597	4SE0437IS100A	KC633M
1273056	HEC438S4600	K600	6086600	4SE0437IX300A	KC633M
1273058	HEC45MS4	K600	no replacement	no replacement	no replacement
1273067	HEC500S2	KC635M	6086419	2SE0500IR100A	KC633M
1273071	HEC500S2300	K600	6086441	2SE0500IX300A	KC633M
1273072	HEC500S4	KC635M	6086334	4SE0500IR100A	KC633M
1273076	HEC500S4450	K600	no replacement	no replacement	no replacement
1273079	HEC500S4300	K600	6086336	4SE0500IX300A	KC633M
1273086	HEC625S2	KC635M	6086446	2SE0625IL125A	KC633M
1273087	HEC625S2	K600	6086446	2SE0625IL125A	KC633M
1273089	HEC625S2225	K600	6086447	2SE0625IX225A	KC633M
1273093	HEC625S4	KC635M	6086511	4SE0625IR125A	KC633M
1273094	HEC625S4	K600	6086511	4SE0625IR125A	KC633M
1273096	HEC625S4225	K600	6086512	4SE0625IL225A	KC633M
1273099	HEC688S2	K600	6086448	2SE0687IR137A	KC633M
1273101	HEC688S4	K600	6086514	4SE0687IR137A	KC633M
1273104	HEC750S2	KC635M	6086450	2SE0750IR150A	KC633M
1273105	HEC750S2	K600	6086450	2SE0750IR150A	KC633M
1273107	HEC750S2225	K600	6086451	2SE0750IR225A	KC633M
1273108	HEC750S2300	K600	6086452	2SE0750IL300A	KC633M
1273109	HEC750S3	K600	6143977	3SE0750IL150A	KC633M
1273110	HEC750S4	KC635M	6086516	4SE0750IR150A	KC633M
1273112	HEC750S4225	K600	6086517	4SE0750IR225A	KC633M
1273113	HEC750S4300	K600	6086518	4SE0750IL300A	KC633M
1273117	HEC875S2	KC610M	6086454	2SE0875IR150A	KC633M
1273118	HEC875S2	K600	6086454	2SE0875IR150A	KC633M
1273121	HEC875S4	K600	6086520	4SE0875IR150A	KC633M
1287025	HEC062S4013	K600	5824318	4CH0062IR011A	KC633M
1287026	HEC094S2018	KC610M	6086383	2SE0093IR018A	KC633M
1287027	HEC094S4018	KC610M	5824320	4CH0093IR037A	KC633M
1287028	HEC094S4018	K600	5824320	4CH0093IR037A	KC633M
1287029	HEC125S2025	KC610M	6086387	2SE0125IR025A	KC633M
1287030	HEC125S2025	K600	6086387	2SE0125IR025A	KC633M

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
1287031	HEC125S4025	K600	6086561	4SE0125IS025A	KC633M
1287032	HEC156S2031	KC610M	6086391	2SE0156IR031A	KC633M
1287033	HEC156S2031	K600	6086391	2SE0156IR031A	KC633M
1287034	HEC156S4031	K600	6086567	4SE0156IR056A	KC633M
1287041	HEC250S2050	K600	6086399	2SE0250IS050A	KC633M
1287042	HEC250S4050	K600	6086576	4SE0250IS050A	KC633M
1287043	HEC312S2050	K600	6086404	2SE0312IS050A	KC633M
1287044	HEC312S4050	KC610M	6086583	4SE0312IS050A	KC633M
1287045	HEC312S4050	K600	6086583	4SE0312IS050A	KC633M
1287047	HEC375S2063	K600	6086409	2SE0375IS062A	KC633M
1287048	HEC438S2063	K600	6086414	2SE0437IR062A	KC633M
1287049	HEC438S4063	KC610M	6086597	4SE0437IS100A	KC633M
1287050	HEC438S4063	K600	6086597	4SE0437IS100A	KC633M
1287053	HEC500S2063	K600	6086418	2SE0500IS062A	KC633M
1287054	HEC500S4063	K600	6086333	4SE0500IS062A	KC633M
1287057	HEC625S2075	KC610M	6086445	2SE0625IR075A	KC633M
1287058	HEC625S2075	K600	6086445	2SE0625IR075A	KC633M
1287059	HEC625S4075	K600	6086340	4SE0625IS075A	KC633M
1287062	HEC750S2100	K600	6086449	2SE0750IS100A	KC633M
1287063	HEC750S4100	K600	6086515	4SE0750IS100A	KC633M
1331259	BNEC234S4	K600	5824518	4BN0234IR075A	KC633M
1333665	HEC047S3	K600	6143904	3SE0047IR011A	KC633M
1339881	HEC375S4063	K600	6086590	4SE0375IS062A	KC633M
1509014	HEC109S3	KC610M	6143908	3SE0109IR037A	KC633M
1515714	HEC141S3	K600	6143942	3SE0141IR056A	KC633M
1535110	BNEC141S40	K600	5824510	4BN0141IR056A	KC633M
1562642	HEC281S4	KC635M	6086581	4SE0281IR075A	KC633M
1616172	HEC031S2	KC635M	6086328	2SE0031IR007A	KC633M
1616173	HEC031S4	KC635M	6086554	4SE0031IR008A	KC633M
1616174	HEC062S2	KC635M	6086329	2SE0062IL018A	KC633M
1616176	HEC062S4	KC635M	5824318	4CH0062IR011A	KC633M
1616177	HEC094S2	KC635M	6086384	2SE0093IL037A	KC633M
1616178	HEC094S4	KC635M	6086558	4SE0093IR037A	KC633M
1616179	HEC156S2	KC635M	6086392	2SE0156IL056A	KC633M
1616180	HEC156S4	KC635M	6086567	4SE0156IR056A	KC633M
1616181	HEC219S2	KC635M	6086398	2SE0218IL062A	KC633M
1616182	HEC219S4	KC635M	6086574	4SE0218IL062A	KC633M
1616183	HEC281S2	KC635M	6086403	2SE0281IR075A	KC633M
2229299	BNEC094S2	KC635M	5876725	2BN0094IL037A	KC633M
2229301	BNEC094S4	KC635M	5824504	4BN0094IL037A	KC633M
2234615	BNEC375S4300	KC635M	no replacement	no replacement	no replacement
2657737	HEC094S2063	K600	6086385	2SE0093IX062A	KC633M
2657738	HEC094S4063	K600	6086559	4SE0093IL062A	KC633M
2657739	HEC188S2031	K600	no replacement	no replacement	no replacement
2657740	HEC188S4031	K600	no replacement	no replacement	no replacement
2657741	HEC219S2044	K600	6086397	2SE0218IR043A	KC633M
2657742	HEC219S4044	K600	6086573	4SE0218IR043A	KC633M
2657763	HEC375S2088	K600	no replacement	no replacement	no replacement
2657764	HEC375S3088	K600	6143963	3SE0375IR088A	KC633M
2657765	HEC375S3113	K600	6143965	3SE0375IX112A	KC633M
2657766	HEC375S4088	K600	6086591	4SE0375IR100A	KC633M
2657773	HEC438S2200	K600	6086416	2SE0437IX200A	KC633M
2657774	HEC438S4100	K600	6086598	4SE0437IR100A	KC633M
2657775	HEC438S4200	K600	no replacement	no replacement	no replacement
2657776	HEC500S2200	K600	6086420	2SE0500IL200A	KC633M
2657777	HEC500S3200	K600	6143971	3SE0500IL200A	KC633M
2657778	HEC500S4200	K600	no replacement	no replacement	no replacement
2657779	HEC562S2075	K600	6086442	2SE0562IR075A	KC633M
2657780	HEC562S2125	K600	6086443	2SE0562IL125A	KC633M
2657781	HEC562S2225	K600	6086444	2SE0562IX225A	KC633M

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
2657782	HEC562S4075	K600	6086337	4SE0562IR075A	KC633M
2657783	HEC562S4125	K600	6086338	4SE0562IL125A	KC633M
2657784	HEC562S4225	K600	6086339	4SE0562IX225A	KC633M
2657785	HEC625S2400	K600	no replacement	no replacement	no replacement
2657786	HEC625S4400	K600	6086513	4SE0625IX400A	KC633M
2657787	HEC750S2400	K600	6086453	2SE0750IX400A	KC633M
2657788	HEC750S3225	K600	6143978	3SE0750IX225A	KC633M
2657789	HEC750S4400	K600	6086519	4SE0750IX400A	KC633M
2657791	HEC875S4225	K600	6086521	4SE0875IL225A	KC633M
2657792	HEC100S2400	K600	6086459	2SE1000IX400A	KC633M
2657793	HEC100S3225	K600	6143980	3SE1000IX225A	KC633M
2657794	HEC100S4400	K600	6086525	4SE1000IX400A	KC633M
2657797	HEC1250S2200	K600	no replacement	no replacement	no replacement
2657798	HEC1250S4200	K600	no replacement	no replacement	no replacement
2657799	BNEC094S2018	K600	5876724	2BN0094IR018A	KC633M
2657800	BNEC125S2025	K600	5876727	2BN0125IS025A	KC633M
2657801	BNEC125S2075L	K600	5876730	2BN0125IX075A	KC633M
2657802	BNEC156S2031	K600	5876741	2BN0156IR031A	KC633M
2657823	BNEC188S2031	K600	5876743	2BN0187IS031A	KC633M
2657824	BNEC188S2100	K600	5876746	2BN0187IX100A	KC633M
2657825	BNEC250S2050	K600	5876748	2BN0250IS050A	KC633M
2657826	BNEC250S2150L	K600	5876752	2BN0250IX150A	KC633M
2657827	BNEC312S2050	K600	no replacement	no replacement	no replacement
2657828	BNEC312S2150	K600	5876755	2BN0312IX150A	KC633M
2657829	BNEC375S2063	K600	5876756	2BN0375IS062A	KC633M
2657830	BNEC375S2088	K600	5876757	2BN0375IR087A	KC633M
2657831	BNEC406S2100	K600	5876760	2BN0406IR100A	KC633M
2657832	BNEC438S2100	K600	5876761	2BN0437IR100A	KC633M
2657833	BNEC500S2063	K600	5876762	2BN0500IS062A	KC633M
2657834	BNEC500S2150	K600	5876764	2BN0500IX150A	KC633M
2657835	BNEC500S2200	K600	5876765	2BN0500IL200A	KC633M
2657836	BNEC750S2100	K600	5876770	2BN0750IS100A	KC633M
2657837	BNEC750S2200	K600	5876772	2BN0750IL200A	KC633M
2657839	BNEC094S4018	K600	5824503	4BN0094IR019A	KC633M
2657840	BNEC125S4025	K600	5824506	4BN0125IS025A	KC633M
2657841	BNEC125S4075L	K600	5824509	4BN0125IX075A	KC633M
2657842	BNEC156S4031	K600	5824511	4BN0156IR056A	KC633M
2657843	BNEC188S4031	K600	5824513	4BN0187IR031A	KC633M
2657844	BNEC188S4100	K600	5824515	4BN0187IX100A	KC633M
2657845	BNEC250S4050	K600	5824519	4BN0250IS050A	KC633M
2657846	BNEC250S4150L	K600	5824523	4BN0250IX150A	KC633M
2657847	BNEC312S4050	K600	5824525	4BN0312IS050A	KC633M
2657848	BNEC312S4150	K600	no replacement	no replacement	no replacement
2657849	BNEC375S4063	K600	no replacement	no replacement	no replacement
2657850	BNEC375S4088	K600	no replacement	no replacement	no replacement
2657851	BNEC406S4100	K600	no replacement	no replacement	no replacement
2657852	BNEC438S4100	K600	5824534	4BN0437IR100A	KC633M
2657853	BNEC500S4063	K600	no replacement	no replacement	no replacement
2657854	BNEC500S4150	K600	5824537	4BN0500IX150A	KC633M
2657855	BNEC500S4200	K600	5824538	4BN0500IR200A	KC633M
2657856	BNEC750S4100	K600	no replacement	no replacement	no replacement
2657857	BNEC750S4200	K600	no replacement	no replacement	no replacement
2657858	BNEC125S2075	K600	5876729	2BN0125IL075A	KC633M
2881042	HEC094S2063	KC610M	6086385	2SE0093IX062A	KC633M
2881073	HEC094S4063	KC610M	6086559	4SE0093IL062A	KC633M
2881074	HEC188S2031	KC610M	no replacement	no replacement	no replacement
2881075	HEC188S4031	KC610M	no replacement	no replacement	no replacement
2881076	HEC219S2044	KC610M	6086397	2SE0218IR043A	KC633M
2881077	HEC219S4044	KC610M	6086573	4SE0218IR043A	KC633M
2881078	HEC375S2088	KC610M	no replacement	no replacement	no replacement

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
2881079	HEC375S3088	KC610M	6143963	3SE0375IR088A	KC633M
2881080	HEC375S3113	KC610M	6143965	3SE0375IX112A	KC633M
2881081	HEC375S4088	KC610M	6086591	4SE0375IR100A	KC633M
2881082	HEC391S2100	KC610M	no replacement	no replacement	no replacement
2881083	HEC391S4100	KC610M	6086594	4SE0390IR100A	KC633M
2881084	HEC406S2100	KC610M	6086413	2SE0406IR100A	KC633M
2881085	HEC406S4100	KC610M	6086595	4SE0406IR100A	KC633M
2881087	HEC422S4100	KC610M	6086596	4SE0421IR100A	KC633M
2881088	HEC438S2200	KC610M	6086416	2SE0437IX200A	KC633M
2881089	HEC438S4100	KC610M	6086598	4SE0437IR100A	KC633M
2881090	HEC438S4200	KC610M	6086599	4SE0437IL200A	KC633M
2881091	HEC500S2200	KC610M	6086420	2SE0500IL200A	KC633M
2881092	HEC500S3200	KC610M	6143971	3SE0500IL200A	KC633M
2881093	HEC500S4200	KC610M	6086335	4SE0500IL200A	KC633M
2881094	HEC562S2075	KC610M	6086442	2SE0562IR075A	KC633M
2881095	HEC562S2125	KC610M	6086443	2SE0562IL125A	KC633M
2881096	HEC562S2225	KC610M	6086444	2SE0562IX225A	KC633M
2881097	HEC562S4075	KC610M	6086337	4SE0562IR075A	KC633M
2881098	HEC562S4125	KC610M	6086338	4SE0562IL125A	KC633M
2881099	HEC562S4225	KC610M	6086339	4SE0562IX225A	KC633M
2881100	HEC750S3225	KC610M	6143978	3SE0750IX225A	KC633M
2881101	HEC100S3225	KC610M	6143980	3SE1000IX225A	KC633M
2887945	HEC250S4150L	K600	no replacement	no replacement	no replacement
2887946	HEC375S4150L	K600	no replacement	no replacement	no replacement
2888924	BNEC375S4300L	K600	no replacement	no replacement	no replacement
2888925	BNEC375S2300L	K600	5876759	2BN0375IX300A	KC633M
2890374	HEC094S2063	KC635M	6086385	2SE0093IX062A	KC633M
2890375	HEC094S4063	KC635M	6086559	4SE0093IL062A	KC633M
2890376	HEC188S2031	KC635M	no replacement	no replacement	no replacement
2890377	HEC188S4031	KC635M	6086569	4SE0187IS075A	KC633M
2890378	HEC219S2044	KC635M	6086397	2SE0218IR043A	KC633M
2890379	HEC219S4044	KC635M	6086573	4SE0218IR043A	KC633M
2890380	HEC375S2088	KC635M	6086410	2SE0375IR100A	KC633M
2890381	HEC062S2013	KC635M	6086330	2SE0062IR012A	KC633M
2890382	HEC062S4013	KC635M	5824318	4CH0062IR011A	KC633M
2890383	HEC375S4088	KC635M	6086591	4SE0375IR100A	KC633M
2890384	HEC094S2018	KC635M	6086383	2SE0093IR018A	KC633M
2890385	HEC094S4018	KC635M	5824320	4CH0093IR037A	KC633M
2890386	HEC125S2025	KC635M	6086387	2SE0125IR025A	KC633M
2890387	HEC125S4025	KC635M	6086561	4SE0125IS025A	KC633M
2890388	HEC125S2075	KC635M	6086389	2SE0125IX075A	KC633M
2890389	HEC125S4075	KC635M	6086563	4SE0125IL075A	KC633M
2890390	HEC438S2200	KC635M	6086416	2SE0437IX200A	KC633M
2890391	HEC438S4100	KC635M	6086598	4SE0437IR100A	KC633M
2890392	HEC438S4200	KC635M	6086599	4SE0437IL200A	KC633M
2890393	HEC500S2200	KC635M	6086420	2SE0500IL200A	KC633M
2890394	HEC125S2100	KC635M	no replacement	no replacement	no replacement
2890395	HEC500S4200	KC635M	6086335	4SE0500IL200A	KC633M
2890396	HEC125S4100	KC635M	6086564	4SE0125IX100A	KC633M
2890397	HEC562S2125	KC635M	6086443	2SE0562IL125A	KC633M
2890398	HEC562S2225	KC635M	6086444	2SE0562IX225A	KC633M
2890399	HEC156S2031	KC635M	6086391	2SE0156IR031A	KC633M
2890400	HEC562S4125	KC635M	6086338	4SE0562IL125A	KC633M
2890401	HEC562S4225	KC635M	6086339	4SE0562IX225A	KC633M
2890402	HEC156S4031	KC635M	6086567	4SE0156IR056A	KC633M
2890403	HEC188S2075	KC635M	6086395	2SE0187IL075A	KC633M
2890404	HEC188S4075	KC635M	no replacement	no replacement	no replacement
2890405	HEC188S2113	KC635M	no replacement	no replacement	no replacement
2890406	HEC188S4113	KC635M	6086571	4SE0187IX112A	KC633M
2890781	HEC250S2050	KC635M	6086399	2SE0250IS050A	KC633M

General Purpose Solid Carbide End Mills

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
2890782	HEC250S4050	KC635M	6086576	4SE0250IS050A	KC633M
2890863	HEC250S2113	KC635M	6086401	2SE0250IL112A	KC633M
2890864	HEC250S4113	KC635M	6086578	4SE0250IL112A	KC633M
2890865	HEC250S2150	KC635M	6086402	2SE0250IX150A	KC633M
2890866	HEC250S4150	KC635M	6086579	4SE0250IX150A	KC633M
2890867	HEC250S4150L	KC635M	no replacement	no replacement	no replacement
2890868	HEC312S2050	KC635M	6086404	2SE0312IS050A	KC633M
2890869	HEC312S4050	KC635M	6086583	4SE0312IS050A	KC633M
2890870	HEC312S2113	KC635M	6086406	2SE0312IL112A	KC633M
2890871	HEC312S4113	KC635M	6086585	4SE0312IL112A	KC633M
2890872	HEC312S2163	KC635M	6086407	2SE0312IX162A	KC633M
2890873	HEC312S4163	KC635M	6086586	4SE0312IX162A	KC633M
2890874	HEC375S2063	KC635M	6086409	2SE0375IS062A	KC633M
2890875	HEC375S4063	KC635M	6086590	4SE0375IS062A	KC633M
2890876	HEC375S2113	KC635M	6086411	2SE0375IL112A	KC633M
2890877	HEC375S4113	KC635M	6086592	4SE0375IL112A	KC633M
2890878	HEC375S2175	KC635M	6086412	2SE0375IX175A	KC633M
2890879	HEC375S4175	KC635M	6086593	4SE0375IX175A	KC633M
2890880	HEC375S4150L	KC635M	no replacement	no replacement	no replacement
2890881	HEC438S2063	KC635M	6086414	2SE0437IR062A	KC633M
2890882	HEC438S4063	KC635M	6086597	4SE0437IS100A	KC633M
2890883	HEC500S2063	KC635M	6086418	2SE0500IS062A	KC633M
2890884	HEC500S4063	KC635M	6086333	4SE0500IS062A	KC633M
2890885	HEC500S2300	KC635M	6086441	2SE0500IX300A	KC633M
2890886	HEC500S4300	KC635M	6086336	4SE0500IX300A	KC633M
2890887	HEC625S2075	KC635M	6086445	2SE0625IR075A	KC633M
2890888	HEC625S4075	KC635M	6086340	4SE0625IS075A	KC633M
2890889	HEC625S2225	KC635M	6086447	2SE0625IX225A	KC633M
2890890	HEC625S4225	KC635M	6086512	4SE0625IL225A	KC633M
2890891	HEC625S2400	KC635M	no replacement	no replacement	no replacement
2890892	HEC625S4400	KC635M	6086513	4SE0625IX400A	KC633M
2890893	HEC750S2100	KC635M	6086449	2SE0750IS100A	KC633M
2890894	HEC750S4100	KC635M	6086515	4SE0750IS100A	KC633M
2890895	HEC750S2225	KC635M	6086451	2SE0750IR225A	KC633M
2890896	HEC750S4225	KC635M	6086517	4SE0750IR225A	KC633M
2890897	HEC750S2300	KC635M	6086452	2SE0750IL300A	KC633M
2890898	HEC750S4300	KC635M	6086518	4SE0750IL300A	KC633M
2890899	HEC750S2400	KC635M	6086453	2SE0750IX400A	KC633M
2890900	HEC750S4400	KC635M	6086519	4SE0750IX400A	KC633M
2890901	HEC875S2225	KC635M	6086455	2SE0875IL225A	KC633M
2890902	HEC875S4225	KC635M	6086521	4SE0875IL225A	KC633M
2890903	HEC100S2225	KC635M	6086457	2SE1000IR225A	KC633M
2890904	HEC100S4225	KC635M	6086523	4SE1000IR225A	KC633M
2890905	HEC100S2300	KC635M	6086458	2SE1000IL300A	KC633M
2890906	HEC100S4300	KC635M	6086524	4SE1000IL300A	KC633M
2890907	HEC100S2400	KC635M	6086459	2SE1000IX400A	KC633M
2890908	HEC100S4400	KC635M	6086525	4SE1000IX400A	KC633M
2890912	HEC1250S4200	KC635M	no replacement	no replacement	no replacement
2890918	BNEC031S2	KC635M	5876721	2BN0031IR007A	KC633M
2890919	BNEC031S4	KC635M	5824029	4BN0031IR008A	KC633M
2890920	BNEC062S2	KC635M	5876722	2BN0063IR018A	KC633M
2890921	BNEC062S4	KC635M	5824501	4BN0062IR019A	KC633M
2890922	BNEC094S2018	KC635M	5876724	2BN0094IR018A	KC633M
2890943	BNEC094S4018	KC635M	5824503	4BN0094IR019A	KC633M
2890944	BNEC125S2025	KC635M	5876727	2BN0125IS025A	KC633M
2890945	BNEC125S2075	KC635M	5876729	2BN0125IL075A	KC633M
2890946	BNEC125S2075L	KC635M	5876730	2BN0125IX075A	KC633M
2890947	BNEC125S4025	KC635M	5824506	4BN0125IS025A	KC633M
2890948	BNEC125S4075	KC635M	5824508	4BN0125IL075A	KC633M
2890949	BNEC125S4075L	KC635M	5824509	4BN0125IX075A	KC633M

General Purpose Solid Carbide End Mills

(continued)

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
2890950	BNEC156S2	KC635M	5876742	2BN0156IL056A	KC633M
2890951	BNEC156S2031	KC635M	5876741	2BN0156IR031A	KC633M
2890952	BNEC156S4	KC635M	5824511	4BN0156IR056A	KC633M
2890953	BNEC156S4031	KC635M	5824511	4BN0156IR056A	KC633M
2890954	BNEC188S2031	KC635M	5876743	2BN0187IS031A	KC633M
2890955	BNEC188S2075	KC635M	5876745	2BN0187IL075A	KC633M
2890956	BNEC188S2100	KC635M	5876746	2BN0187IX100A	KC633M
2890957	BNEC188S4031	KC635M	5824513	4BN0187IR031A	KC633M
2890958	BNEC188S4075	KC635M	no replacement	no replacement	no replacement
2890959	BNEC188S4100	KC635M	5824515	4BN0187IX100A	KC633M
2890960	BNEC250S2050	KC635M	5876748	2BN0250IS050A	KC633M
2890961	BNEC250S2113	KC635M	5876750	2BN0250IR112A	KC633M
2890962	BNEC250S2150	KC635M	5876751	2BN0250IL150A	KC633M
2890963	BNEC250S2150L	KC635M	5876752	2BN0250IX150A	KC633M
2890964	BNEC250S4050	KC635M	5824519	4BN0250IS050A	KC633M
2890965	BNEC250S4113	KC635M	5824521	4BN0250IR112A	KC633M
2890966	BNEC250S4150	KC635M	5824522	4BN0250IL150A	KC633M
2890967	BNEC250S4150L	KC635M	5824523	4BN0250IX150A	KC633M
2890968	BNEC312S2050	KC635M	no replacement	no replacement	no replacement
2890969	BNEC312S2113	KC635M	5876754	2BN0312IL112A	KC633M
2890970	BNEC312S2150	KC635M	5876755	2BN0312IX150A	KC633M
2890971	BNEC312S4050	KC635M	no replacement	no replacement	no replacement
2890972	BNEC312S4113	KC635M	5824527	4BN0312IL112A	KC633M
2890973	BNEC312S4150	KC635M	no replacement	no replacement	no replacement
2890974	BNEC375S2063	KC635M	5876756	2BN0375IS062A	KC633M
2890975	BNEC375S2088	KC635M	5876757	2BN0375IR087A	KC633M
2890976	BNEC375S2113	KC635M	5876758	2BN0375IL112A	KC633M
2890977	BNEC375S2175	KC635M	no replacement	no replacement	no replacement
2890978	BNEC375S2300	KC635M	5876759	2BN0375IX300A	KC633M
2890979	BNEC375S4063	KC635M	no replacement	no replacement	no replacement
2890980	BNEC375S4088	KC635M	no replacement	no replacement	no replacement
2890981	BNEC375S4113	KC635M	5824532	4BN0375IL112A	KC633M
2890982	BNEC375S4175	KC635M	no replacement	no replacement	no replacement
2890983	BNEC438S2100	KC635M	5876761	2BN0437IR100A	KC633M
2890984	BNEC438S4100	KC635M	5824534	4BN0437IR100A	KC633M
2890985	BNEC500S2063	KC635M	5876762	2BN0500IS062A	KC633M
2890986	BNEC500S2150	KC635M	5876764	2BN0500IX150A	KC633M
2890987	BNEC500S2200	KC635M	5876765	2BN0500IL200A	KC633M
2890988	BNEC500S2300	KC635M	5876766	2BN0500IX300A	KC633M
2890989	BNEC500S4063	KC635M	no replacement	no replacement	no replacement
2890990	BNEC500S4150	KC635M	5824537	4BN0500IX150A	KC633M
2890991	BNEC500S4200	KC635M	5824538	4BN0500IR200A	KC633M
2890992	BNEC500S4300	KC635M	5824540	4BN0500IX300A	KC633M
2890993	BNEC625S2300	KC635M	5876769	2BN0625IX300A	KC633M
2890994	BNEC625S4300	KC635M	no replacement	no replacement	no replacement
2890995	BNEC750S2100	KC635M	5876770	2BN0750IS100A	KC633M
2890996	BNEC750S2200	KC635M	5876772	2BN0750IL200A	KC633M
2890997	BNEC750S4100	KC635M	no replacement	no replacement	no replacement
2890998	BNEC750S4200	KC635M	5824555	4BN0750IL300A	KC633M
2890999	BNEC100S2300	KC635M	5876776	2BN1000IL300A	KC633M
2891000	BNEC100S4300	KC635M	no replacement	no replacement	no replacement
3016760	BNEC094S2018	KC610M	5876724	2BN0094IR018A	KC633M
3016761	BNEC094S4018	KC610M	5824503	4BN0094IR019A	KC633M
3016762	BNEC125S2025	KC610M	5876727	2BN0125IS025A	KC633M
3016773	BNEC125S2075L	KC610M	no replacement	no replacement	no replacement
3016774	BNEC125S4025	KC610M	5824506	4BN0125IS025A	KC633M
3016775	BNEC125S4075L	KC610M	5824509	4BN0125IX075A	KC633M
3016776	BNEC156S2031	KC610M	5876741	2BN0156IR031A	KC633M
3016777	BNEC156S4031	KC610M	5824511	4BN0156IR056A	KC633M
3016778	BNEC188S2031	KC610M	5876743	2BN0187IS031A	KC633M

(continued)

General Purpose Solid Carbide End Mills

(continued)

Old General Purpose			GOMILL GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
3016779	BNEC188S2100	KC610M	5876746	2BN0187IX100A	KC633M
3016780	BNEC188S4031	KC610M	5824513	4BN0187IR031A	KC633M
3016781	BNEC188S4100	KC610M	5824515	4BN0187IX100A	KC633M
3016782	BNEC250S2050	KC610M	5876748	2BN0250IS050A	KC633M
3016783	BNEC250S2150L	KC610M	5876752	2BN0250IX150A	KC633M
3016784	BNEC250S4050	KC610M	5824519	4BN0250IS050A	KC633M
3016785	BNEC250S4150L	KC610M	5824523	4BN0250IX150A	KC633M
3016786	BNEC312S2050	KC610M	no replacement	no replacement	no replacement
3016787	BNEC312S2150	KC610M	5876755	2BN0312IX150A	KC633M
3016788	BNEC312S4050	KC610M	no replacement	no replacement	no replacement
3016789	BNEC312S4150	KC610M	no replacement	no replacement	no replacement
3016790	BNEC375S2063	KC610M	5876756	2BN0375IS062A	KC633M
3016791	BNEC375S2088	KC610M	5876757	2BN0375IR087A	KC633M
3016792	BNEC375S2300L	KC610M	5876759	2BN0375IX300A	KC633M
3018900	BNEC375S4063	KC610M	no replacement	no replacement	no replacement
3018901	BNEC375S4088	KC610M	no replacement	no replacement	no replacement
3018902	BNEC375S4300L	KC610M	no replacement	no replacement	no replacement
3018913	BNEC406S2100	KC610M	5876760	2BN0406IR100A	KC633M
3018914	BNEC406S4100	KC610M	no replacement	no replacement	no replacement
3018915	BNEC438S2100	KC610M	5876761	2BN0437IR100A	KC633M
3018916	BNEC438S4100	KC610M	5824534	4BN0437IR100A	KC633M
3018917	BNEC500S2063	KC610M	5876762	2BN0500IS062A	KC633M
3018918	BNEC500S2150	KC610M	5876764	2BN0500IX150A	KC633M
3018919	BNEC500S2200	KC610M	5876765	2BN0500IL200A	KC633M
3018920	BNEC500S4063	KC610M	no replacement	no replacement	no replacement
3018921	BNEC500S4150	KC610M	5824537	4BN0500IX150A	KC633M
3018922	BNEC500S4200	KC610M	5824538	4BN0500IR200A	KC633M
3018923	BNEC750S2100	KC610M	5876770	2BN0750IS100A	KC633M
3018924	BNEC750S2200	KC610M	5876772	2BN0750IL200A	KC633M
3018925	BNEC750S4100	KC610M	no replacement	no replacement	no replacement
3018926	BNEC750S4200	KC610M	no replacement	no replacement	no replacement
5046911	HEC313S4044	K600	6086583	4SE0312IS050A	KC633M
5046912	HEC250S4038	K600	6086576	4SE0250IS050A	KC633M
5046913	HEC438S4088	K600	6086597	4SE0437IS100A	KC633M
5046916	HEC47S2013	K600	no replacement	no replacement	no replacement
5046917	HEC500S2200L	K600	no replacement	no replacement	no replacement
5056432	HEC16S2	KC625M	6086327	2SE0016IR003A	KC633M
5056433	HEC31S2	KC625M	6086328	2SE0031IR007A	KC633M
5056434	HEC47S2	KC625M	no replacement	no replacement	no replacement
5056435	HEC63S2	KC625M	6086381	2SE0062IX050A	KC633M
5056436	HEC63S2018	KC625M	6086329	2SE0062IL018A	KC633M
5056437	HEC63S2013	KC625M	6086330	2SE0062IR012A	KC633M
5056439	HEC78S2	KC625M	6086382	2SE0078IR018A	KC633M
5056460	HEC94S2018	KC625M	6086383	2SE0093IR018A	KC633M
5056461	HEC094S2	KC625M	6086384	2SE0093IL037A	KC633M
5056465	HEC109S2	KC625M	no replacement	no replacement	no replacement
5056467	HEC125S2100	KC625M	no replacement	no replacement	no replacement
5056468	HEC125S2075	KC625M	6086389	2SE0125IX075A	KC633M
5056470	HEC125S2	KC625M	6086388	2SE0125IL050A	KC633M
5056471	HEC125S2025	KC625M	6086387	2SE0125IR025A	KC633M
5056472	HEC156S2031	KC625M	6086391	2SE0156IR031A	KC633M
5056475	HEC156S2	KC625M	6086392	2SE0156IL056A	KC633M
5056476	HEC188S2113	KC625M	6086396	2SE0187IX112A	KC633M
5056477	HEC188S2075	KC625M	6086395	2SE0187IL075A	KC633M
5056478	HEC188S2	KC625M	6086394	2SE0187IR062A	KC633M
5056479	HEC188S2031	KC625M	no replacement	no replacement	no replacement
5056490	HEC219S2044	KC625M	6086397	2SE0218IR043A	KC633M
5056495	HEC219S2	KC625M	6086398	2SE0218IL062A	KC633M
5056497	HEC250S2150	KC625M	6086402	2SE0250IX150A	KC633M
5056498	HEC250S2113	KC625M	6086401	2SE0250IL112A	KC633M

(continued)

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
5056499	HEC250S2	KC625M	6086400	2SE0250IR075A	KC633M
5056510	HEC250S2050	KC625M	6086399	2SE0250IS050A	KC633M
5056511	HEC312S2163	KC625M	6086407	2SE0312IX162A	KC633M
5056512	HEC312S2	KC625M	6086405	2SE0312IR081A	KC633M
5056513	HEC344S2	KC625M	6086408	2SE0343IR100A	KC633M
5056514	HEC375S2088	KC625M	no replacement	no replacement	no replacement
5056515	HEC375S2113	KC625M	6086411	2SE0375IL112A	KC633M
5056517	HEC438S2200	KC625M	6086416	2SE0437IX200A	KC633M
5056530	HEC438S2	KC625M	6086415	2SE0437IL100A	KC633M
5056532	HEC500S2300	KC625M	6086441	2SE0500IX300A	KC633M
5056534	HEC500S2200	KC625M	6086420	2SE0500IL200A	KC633M
5056535	HEC500S2	KC625M	6086419	2SE0500IR100A	KC633M
5056537	HEC500S2063	KC625M	6086418	2SE0500IS062A	KC633M
5056539	HEC625S2400	KC625M	no replacement	no replacement	no replacement
5056550	HEC625S2	KC625M	6086446	2SE0625IL125A	KC633M
5056553	HEC625S2075	KC625M	6086445	2SE0625IR075A	KC633M
5056554	HEC750S2300	KC625M	6086452	2SE0750IL300A	KC633M
5056555	HEC750S2	KC625M	6086450	2SE0750IR150A	KC633M
5056556	HEC750S2100	KC625M	6086449	2SE0750IS100A	KC633M
5056557	HEC875S2	KC625M	6086454	2SE0875IR150A	KC633M
5056558	HEC1000S2	KC625M	6086456	2SE1000IS150A	KC633M
5056858	HEC688S3138	K600	no replacement	no replacement	no replacement
5056859	HEC563S3113	K600	6143973	3SE0563IR112A	KC633M
5057012	HEC062S4050	K600	no replacement	no replacement	no replacement
5057013	HEC375S4100	K600	6086593	4SE0375IX175A	KC633M
5057014	HEC453S4100	K600	6086601	4SE0453IR100A	KC633M
5057015	HEC500S4100	K600	6086335	4SE0500IL200A	KC633M
5057016	HEC062S4050	KC625M	no replacement	no replacement	no replacement
5057017	HEC375S4100	KC625M	6086593	4SE0375IX175A	KC633M
5057018	HEC500S4100	KC625M	6086335	4SE0500IL200A	KC633M
5057019	HEC375S4100	KC635M	6086593	4SE0375IX175A	KC633M
5057070	HEC500S4100	KC635M	6086335	4SE0500IL200A	KC633M
5057071	BNEC625S4075	KC635M	no replacement	no replacement	no replacement
5057072	BNEC100S4225	KC625M	5824558	4BN1000IL225A	KC633M
5057073	BNEC625S4075	KC625M	no replacement	no replacement	no replacement
5057079	BNEC100S4225	K600	5824558	4BN1000IL225A	KC633M
5058636	HEC750S4	KC625M	6086516	4SE0750IR150A	KC633M
5058637	HEC500S4	KC625M	6086334	4SE0500IR100A	KC633M
5058638	HEC375S4088	KC625M	6086591	4SE0375IR100A	KC633M
5058639	HEC250S4	KC625M	6086577	4SE0250IR075A	KC633M
5058686	HECL750S2200	KC625M	6086452	2SE0750IL300A	KC633M
5058687	HECL625S2200	KC625M	no replacement	no replacement	no replacement
5058981	BNECL500S2150	K600	5876764	2BN0500IX150A	KC633M
5058983	BNECL500S2100	K600	5876765	2BN0500IL200A	KC633M
5058984	BNECL375S2150	K600	5876759	2BN0375IX300A	KC633M
5058985	BNECL375S2100	K600	no replacement	no replacement	no replacement
5058986	BNECL312S2150	K600	5876755	2BN0312IX150A	KC633M
5058987	BNECL312S2100	K600	no replacement	no replacement	no replacement
5058989	BNECL250S2150	K600	5876752	2BN0250IX150A	KC633M
5059060	BNECL250S2100	K600	5876750	2BN0250IR112A	KC633M
5059061	BNECL188S2100	K600	5876746	2BN0187IX100A	KC633M
5059062	BNECL125S2075	K600	5876730	2BN0125IX075A	KC633M
5059063	BNECL750S2200	KC625M	5876773	2BN0750IX300A	KC633M
5059065	BNECL500S2150	KC625M	5876764	2BN0500IX150A	KC633M
5059066	BNECL500S2100	KC625M	5876765	2BN0500IL200A	KC633M
5059110	BNECL438S2300	KC625M	no replacement	no replacement	no replacement
5059111	BNECL375S2300	KC625M	5876759	2BN0375IX300A	KC633M
5059113	BNECL375S2150	KC625M	5876759	2BN0375IX300A	KC633M
5059114	BNECL375S2100	KC625M	no replacement	no replacement	no replacement
5059115	BNECL312S2100	KC625M	no replacement	no replacement	no replacement

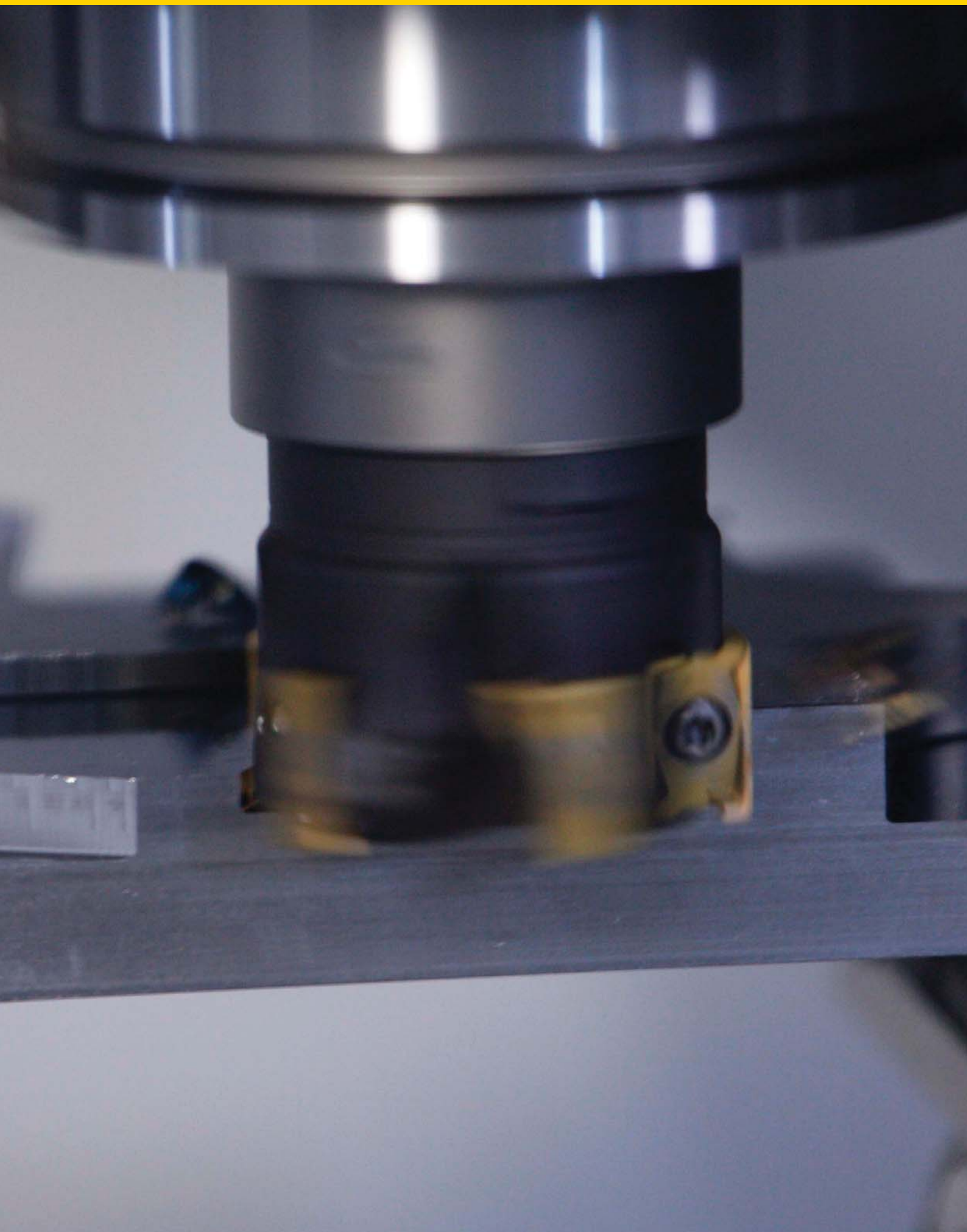
General Purpose Solid Carbide End Mills

(continued)

(continued)

Old General Purpose			GOMill GP Replacement		
Order Number	Catalog Number	Grade	Order Number	Catalog Number	Grade
5059116	BNECL250S2150	KC625M	5876752	2BN0250IX150A	KC633M
5059118	BNECL250S2100	KC625M	5876750	2BN0250IR112A	KC633M
5059119	BNECL188S2100	KC625M	5876746	2BN0187IX100A	KC633M
5059161	BNECL125S2075	KC625M	5876730	2BN0125IX075A	KC633M
5061835	BNEC100S2225	K600	no replacement	no replacement	no replacement
5061837	BNEC750S2225	K600	no replacement	no replacement	no replacement
5061838	BNEC625S2225	K600	5876768	2BN0625IL225A	KC633M





Indexable Milling

Indexable Milling Introduction.....	R2-R21
Face Milling.....	S1-S126
Shoulder Milling.....	T1-T136
Slot Milling.....	U1-U41
Copy Milling	V1-V159
Thread Milling	W1-W55
Technical Information	X1-X20
Recommended Starting Speeds	X22-X37



Indexable Milling Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

For more information about the latest products and services from Kennametal, please contact your Kennametal Representative or Authorized Kennametal Distributor, or visit kennametal.com.

▶ FACE MILLS

- Dodeka™ Mini
- Dodeka
- Dodeka MAX™
- Mill 16™
- KSSM 45°
- KSOM™ Mini
- KSOM
- KSSM8+™
- Fix-Perfect™
- HexaCut™
- KSSR™ 6°
- MEGA
- KBDM™
- KSCM™ PCD AluMill™
- Fix-Perfect 0° Aluminum

▶ SHOULDER MILLS

- Mill 4-11™
- Mill 4-15™
- Mill 1-7™
- Mill 1-10™
- Mill 1-14™
- Mill 1-18™
- Mill 1-25™
- 5720VZ
- KSSM™
- KSSM-KSSP, Helical Cutters
- 5230VS





➤ SLOT MILLS

- KTMS™ T-Slot
- KVNS™
- SN
- LN
- KSSM™

➤ COPY MILLS

- 7792VX
- KenFeed™ 2X
- Rodeka™
- KSRM™
- 7713VR
- 5505VX
- KDMB™ and KDMT™
- Z-Axis • Plunge Milling Cutters
- KCRA
- KIPR

➤ INDEXABLE THREAD MILLS

- TM Series
 - TM24
 - TM25
 - TM40
 - TM41
- KTMD U Series
- TMS — Thread Milling System



The Most Advanced Milling Solutions in the Industry

For unsurpassed quality, value, and performance, you can trust Kennametal to provide the most comprehensive line of reliable metalcutting tools. Whatever your indexable milling product requirements, be assured that you will find the appropriate solution in this all-inclusive, easy-to-use guide.

For every milling application, workpiece, or equipment need, we offer the best tools on the market, designed to reduce your machining time, provide superior surface finishes, and exceed your expectations!

Choose your application:

- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

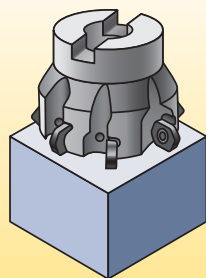
Identify material to be machined:

Each tool has a material grid marked with a letter indicating the materials that can be machined.

- first choice
- alternate choice

P	○	Steel
M	●	Stainless Steel
K	○	Cast Iron
N	○	Non-Ferrous
S	○	High-Temp Alloys
H	○	Hardened Materials

Face Mills



Lead angle

Dodeka™ Mini • High-Feed

Ap1: .064"
Cutting Edges: 12
Diameter: 1-3"
Insert Style: HN*J43

k = 75°

Pages: S4-S7

Tool name

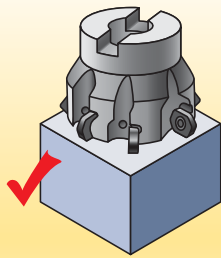
Illustration of the product

Location of introduction detail, tool bodies, inserts, and cutting data.

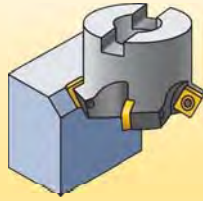
Select tool based on maximum depth of cut and diameter required: Information is given in this area to provide specific detail as a quick reference.

How to Navigate the 2018 Catalog

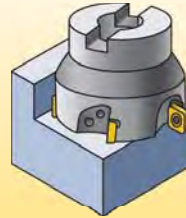
Step 1 • Select Application



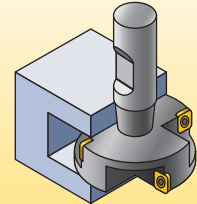
Face Milling



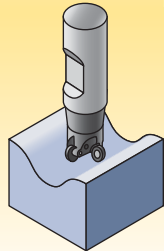
Chamfer Milling



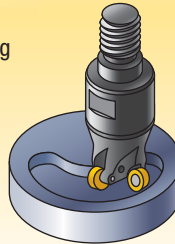
Shoulder Milling
(End Milling)



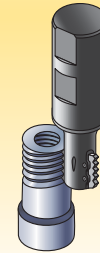
Slotting



Copy Milling



Ceramic Milling

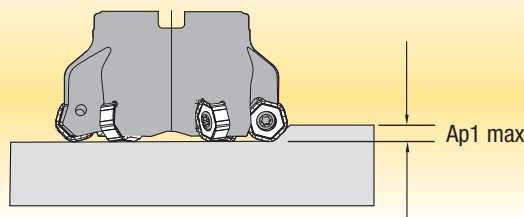


Thread Milling

Step 2 • Select Workpiece Material

ISO Description		<input checked="" type="radio"/> first choice <input type="radio"/> alternate choice	Material Group	
Steel	P	<input checked="" type="radio"/>	P1–P2	Carbon steels
			P3–P4	Alloy steels and tool steels
			P5–P6	Ferritic, martensitic, and PH stainless steels
Stainless Steel	M	<input checked="" type="radio"/>	M1–M2	Austenitic stainless steels
			M3	Duplex stainless steels (ferritic and austenitic mixture)
Cast Iron	K	<input type="radio"/>	K1–K2	Gray, ductile, CGI, and malleable cast irons >80 KSI
			K3	Ductile, CGI, and malleable cast irons >80 KSI
Non-Ferrous Materials	N	<input type="radio"/>	N1–N2	Aluminum alloys <12.2% Si
			N3	Aluminum alloys >12.2% Si
High-Temp Alloys	S	<input checked="" type="radio"/>	S1–S2	Iron- and cobalt-based heat-resistant alloys
			S3	Nickel-based heat-resistant alloys
			S4	Alpha-Beta titanium alloys
Hardened Materials	H	<input type="radio"/>	H1	Hardened steels and irons

Step 3 • Select a Maximum Axial Depth of Cut (A_p)



(continued)

How to Navigate the 2018 Catalog *(continued)*

Step 4 • Select Milling Cutter from Application Selector

Dodeka™ Mini 45°

Ap1: .127"
Cutting Edges: 12
Diameter: 1–5"
Insert Style: HN*J43
Pages: S8–S13

k = 45°

3 Axial depth of cut

Select the Cutter

Dodeka Mini 45° • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
4130426	KSHR150HN4345M3	1.500	1.822	.500	1.440	1.575	.127	4	.57	16700
4130427	KSHR150HN4345F3	1.500	1.822	.500	1.440	1.575	.127	5	.56	16700
4130428	KSHR200HN4345C3	2.000	2.321	.750	1.750	1.575	.127	4	.93	12500
4130429	KSHR200HN4345M3	2.000	2.321	.750	1.750	1.575	.127	5	.93	12500
4130430	KSHR200HN4345F3	2.000	2.321	.750	1.750	1.575	.127	6	.97	12500
4130431	KSHR250HN4345C3	2.500	2.821	.750	1.750	1.575	.127	4	1.20	10000
4130432	KSHR250HN4345M3	2.500	2.821	.750	1.750	1.575	.127	6	1.27	10000
4130493	KSHR250HN4345F3	2.500	2.821	.750	1.750	1.575	.127	8	1.29	10000

Step 5 • Insert Selection Guide

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1 – P2	E,LD	KCPM40	S,GD	KCPM40	S,HD	KCPM40
P3 – P4	E,LD	KCPK30	S,GD	KCPK30	S,HD	KCPK30
P5 – P6	E,LD	KC725M	S,GD	KC725M	S,HD	KCPK50
M1 – M2	E,LD	KCS20M	S,GD	KCSM40	S,HD	KCSM40
M3	E,LD	KCSM40	S,GD	KCSM40	S,HD	KCPM40
K1 – K2	E,LD	KCK15	S,GD	KCK15	S,HD	KCK15
K3	E,LD	KCS20M	S,GD	KCS20M	S,HD	KCS20M
M4 – M5	F,LDJ	KC410M	F,LDJ	KC410M	E,LD	KCS10M
M6	F,LDJ	KC410M	F,LDJ	KC410M	E,LD	KCS10M
M7 – M8	E,LD	KC725M	S,GD	KC725M	S,HD	KC725M
S1	E,LD	KCSM40	S,GD	KCSM40	S,HD	KCSM40
S2	E,LD	KCSM40	S,GD	KCSM40	S,HD	KCSM40
H1	E,LD	KC610M	E,LD	KC610M	E,LD	KCS01M

(continued)

How to Navigate the 2018 Catalog *(continued)*

Step 6 • Insert Chart, Providing the Inserts and Grades

HNPJ-GD

catalog number	D	BS	L10	Re	S	hm	cutting edges																				
HNPJ43ANSNGD	.472	.057	.254	.039	.175	.003	12	-	K313	-	KC410M	-	KC510M	-	KC620M	-	KC622M	-	KC725M	-	KCK15	-	KCPK30	-	KCPM40	-	KCSM40

Step 7 • Defining the Feed per Tooth

Geometry (S.GD)

20% radial width of cut, follow arrows for value.

% = radial width of cut (Ae) ÷ cutter diameter (D1)

Using a round or ball nose insert, consider the axial depth of cut; see separate chart on the cutter page.

Recommended Starting Feeds [IPT]

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)												Insert Geometry			
	10%			20%			30%			40%				50-100%		
F.LDJ	.005	.010	.019	.004	.007	.014	.003	.006	.012	.003	.006	.012	.003	.006	.011	F.LDJ
E.LD	.005	.014	.029	.004	.011	.021	.003	.009	.019	.003	.009	.017	.003	.008	.017	E.LD
S.GD	.010	.022	.038	.007	.016	.028	.006	.014	.024	.006	.013	.022	.006	.013	.022	S.GD
S.HD	.010	.024	.039	.007	.017	.029	.006	.015	.025	.006	.014	.023	.006	.014	.023	S.HD

NOTE: Use "Light Machining" values as starting feed rate.

Always consider starting with the "Light Machining" value. Once established, increase the feed per tooth from the chart.

These are minimum values and can be increased when the application has been proven.

Light Machining — Low Feed Rate, High Speed

General Purpose — Normal Feed, Normal Speed

Heavy Machining — Higher Feed, Reduced Speed

Step 8 • Recommended Starting Speeds [SFM]

Material Group		SC6525			SP4019			SP6519			KCSM30			KCSM40			X400		
		P	1	1460	1000	560	1245	900	560	1165	855	510	1460	1265	1180	-	-	-	1015	755	475
M	2	1280	885	475	1085	785	475	1015	755	460	1200	1065	870	-	-	-	900	675	410
	3	1150	785	410	970	690	410	900	655	395	1115	950	770	-	-	-	785	590	375
	4	820	575	310	755	525	310	690	490	295	985	805	655	-	-	-	590	425	280
K	5	625	475	310	590	425	280	560	410	280	805	755	655	675	575	475	-	-	-
	6	560	395	230	510	360	195	475	330	195	720	560	425	590	425	310	-	-	-
	1	785	705	560	1100	785	475	1065	770	460	885	785	720	820	675	560	-	-	-
N	2	755	625	475	985	705	425	920	675	410	805	705	575	705	575	475	-	-	-
	3	575	510	360	785	575	360	770	560	330	605	525	410	575	425	330	-	-	-
	1	1540	1065	575	1295	950	575	1165	870	560	-	-	-	-	-	-	-	-	-
S	2	1200	820	460	1000	720	460	950	690	425	-	-	-	-	-	-	-	-	-
	3	-	-	-	920	675	410	870	625	395	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: For starting speed recommendations, please refer to section X22-X37 pages. Kennametal provides starting speed conditions for both wet and dry applications. Fine pitch cutters, such as Mill16™, KSSR™, and HexaCut™, also have separate speed tables provided.

Choose the Application
















- Face Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

- first choice
- alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Face Mills



<p>Dodeka™ Mini • High-Feed</p>  <p>Ap1: .064" Cutting Edges: 12 Diameter: 1-3" Insert Style: HN*J43 k = 75° Pages: S4-S7</p>	<p>Dodeka™ Mini 45°</p>  <p>Ap1: .127" Cutting Edges: 12 Diameter: 1-5" Insert Style: HN*J43 k = 45° Pages: S8-S13</p>	<p>Dodeka™ Mini 30°</p>  <p>Ap1: .174" Cutting Edges: 12 Diameter: 1.5-5" Insert Style: HN*J43 k = 30° Pages: S14-S16</p>	
<p>Dodeka™ • High Feed • 75°</p>  <p>Ap1: .087" Cutting Edges: 12 Diameter: 2-6" Insert Style: HN*J535 k = 75° Pages: S17-S19</p>	<p>Dodeka™</p>  <p>Ap1: .178" Cutting Edges: 12 Diameter: 2-12" Insert Style: HN*J535 k = 45° Pages: S20-S23</p>	<p>Dodeka MAX™</p>  <p>Ap1: .315" Cutting Edges: 12 Diameter: 3-12" Insert Style: HN*J75 k = 45° Pages: S24-S26</p>	
<p>Mill 16™</p>  <p>Ap1: .217" Cutting Edges: 16 Diameter: 2-10" Split case: 12-20" Insert Style: ON*X64 k = 46.5° Pages: S30-S34</p>	<p>KSSM™ 45°</p>  <p>Ap1: .260" Cutting Edges: 4 Diameter: 1.26-7.87" Insert Style: SE*T443 k = 45° Pages: S39-S41</p>	<p>KSOM™ Mini</p>  <p>Ap1: .138" (8 cutting edges) Ap2: .354" (4 cutting edges) Diameter: 1.25-6" Insert Style: OF*T53 k = 47° Pages: S44-S48</p>	<p>KSOM™</p>  <p>Ap1: .197" (8 cutting edges) Ap2: .461" (4 cutting edges) Diameter: 2.5-6" Insert Style: OF*T64 k = 47° Pages: S50-S53</p>
<p>KSSM8+™ • IC10</p>  <p>Ap1: .361" Cutting Edges: 8 Diameter: 2-4" Insert Style: SN*J31 k = 2° Pages: S56-S57</p>	<p>KSSM8+ • IC12</p>  <p>Ap1: Ap1: .236" (-ENLD) Ap1: .467" (-SNGD) Cutting Edges: 8 Diameter: 2-6" Insert Style: SN*J44 k = 3° Pages: S58-S60</p>		
<p>Fix-Perfect™ 20° • Cast Iron • IC12</p>  <p>Ap1: .232" (8 cutting edges) Ap2: .374" (4 cutting edges) Diameter: 2-10" Insert Style: SPHX1205 k = 20° Pages: S64-S66</p>	<p>Fix-Perfect™ 0° • Cast Iron • IC12</p>  <p>Ap1: .236" (8 cutting edges) Ap1: .394" (4 cutting edges) Diameter: 2-6" Insert Style: SPHX1205 k = 0° Pages: S67-S69</p>	<p>Fix-Perfect™ 20° • Cast Iron • IC15</p>  <p>Ap1: .256" (8 cutting edges) Ap2: .374" (4 cutting edges) Diameter: 2-10" Insert Style: SPHX15T6 k = 20° Pages: S70-S72</p>	

(continued)

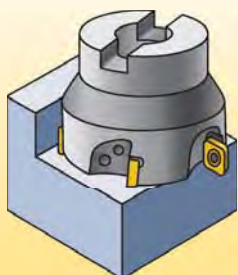
(Face Mills Application Selection Guide — continued)











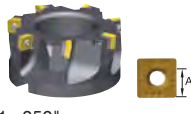




<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>HexaCut™ 45° • Cast Iron</p> <p>Ap1: .256" Cutting Edges: 12 Diameter: 3.15–12" Insert Style: HN*535 k = 45° Pages: S77–S80</p>	<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>HexaCut™ 30° • Cast Iron</p> <p>Ap1: .315" Cutting Edges: 12 Diameter: 3.15–12" Insert Style: HN*535 k = 30° Pages: S82–S83</p>	
<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>KSSR™ 6°</p> <p>Ap1: .197" Cutting Edges: 8 Diameter: 2.5–10" Insert Style: SNXF43 k = 6° Pages: S88–S90</p>		
<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>MEGA 45° • Heavy Duty</p> <p>Ap1: .675" Cutting Edges: 4 Diameter: 5–12" Insert Style: LNPU86 k = 45° Pages: S94–S95</p>	<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>MEGA 60° • Heavy Duty</p> <p>Ap1: .840" Cutting Edges: 4 Diameter: 5–12" Insert Style: LNPU76 k = 30° Pages: S98–S99</p>	<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>MEGA 90° • Heavy Duty</p> <p>Ap1: 1.0" Cutting Edges: 4 Diameter: 5–12" Insert Style: LNPU76 k = 0° Pages: S100–S101</p>
<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>KBDM™</p> <p>Ap1: 0.100/0.250/0.500" Cutting Edges: 1 Diameter: 2.5–8" Insert Style: KSDR10 Pages: S104–S106</p>	<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>KSCM™ AluMill™</p> <p>Ap1: .118" Cutting Edges: 1 Diameter: 2.5–12" Pages: S109–S111 k = 0°</p>	
<div style="display: flex; align-items: center;"> <div style="text-align: center;"> </div> </div> <p>Fix-Perfect™ 0° • Aluminum</p> <p>Ap1: .205" (PCD) Ap1: .374" (carbide) Cutting Edges: 4 Diameter: 1.5–8" Insert Style: BGHX15L5 k = 0° Pages: S121–S125</p>		

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

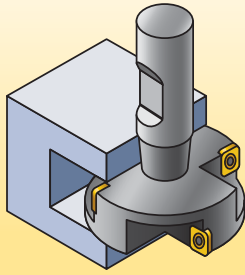
- first choice
- alternate choice







Shoulder Mills



<p>Mill 4-11™</p>  <p>Ap1: .433" Cutting Edges: 4 Diameter: .625–3" Insert Style: LN*U43 Pages: T4–T10</p> <p>k = 0°</p>	<p>Mill 4-15™</p>  <p>Ap1: .610" Cutting Edges: 4 Diameter: 1–6" Insert Style: LN*U54 Pages: T14–T20</p> <p>k = 0°</p>	<p>Mill 1-7™</p>  <p>Ap1: .275" Cutting Edges: 2 Diameter: .500–.745" Insert Style: EP07 Pages: T24–T25</p> <p>k = 0°</p>	
<p>Mill 1-10™</p>  <p>Ap1: .396" Cutting Edges: 2 Diameter: .500–4.00" Insert Style: EC10 Pages: T29–T37</p> <p>k = 0°</p>	<p>Mill 1-10™ Helical</p>  <p>Ap1: .70–1.80" Cutting Edges: 2 Diameter: .750–2.00" Insert Style: EC10 Pages: T40–T47</p> <p>k = 0°</p>	<p>Mill 1-14™</p>  <p>Ap1: .551–.580" Cutting Edges: 2 Diameter: .625–4.00" Insert Style: EC14 Pages: T49–T59</p> <p>k = 0°</p>	
<p>Mill 1-14™ Helical</p>  <p>Ap1: 1.10–2.13" Cutting Edges: 2 Diameter: 1.25–2.50" Insert Style: EC14 Pages: T63–T70</p> <p>k = 0°</p>	<p>Mill 1-18™</p>  <p>Ap1: .64–.71" Cutting Edges: 2 Diameter: .97–8.00" Insert Style: EC18 Pages: T75–T85</p> <p>k = 0°</p>	<p>Mill 1-25™</p>  <p>Ap1: .98" Cutting Edges: 2 Diameter: 1.50–5.00" Insert Style: KG25 Pages: T89–T93</p> <p>k = 0°</p>	
<p>5720VZ16</p>  <p>Ap: .630" Cutting Edges: 2 Diameter: 1–3" Insert Style: ZDET16M5 Pages: T96–T100</p> <p>k = 0°</p>	<p>KSSM™ 0° IC 10</p>  <p>Ap1: .259" Cutting Edges: 4 Diameter: .750–3.0" Insert Style: SP*T31 Pages: T107–T112</p> <p>k = 0°</p>	<p>KSSM™ 0° IC 12</p>  <p>Ap1: .361" Cutting Edges: 4 Diameter: 2.00–10.00" Insert Style: SD*T43 Pages: T113–T117</p> <p>k = 0°</p>	<p>KSSM™ • Helical 0° IC 12</p>  <p>Ap1: 1.691–4.110" Cutting Edges: 4 Diameter: 2.00–3.00" Insert Style: SD*T43 Pages: T119–T124</p> <p>k = 0°</p>
<p>5230VS09</p>  <p>Cutting Edges: 4 Diameter: 2" Insert Style: SD*T09 Pages: T127–T130</p> <p>k = 0°</p>	<p>5230VS12</p>  <p>Cutting Edges: 4 Diameter: 2–4" Insert Style: SDHT1204/ SDMW1204 Pages: T131–T133</p> <p>k = 0°</p>		

Slotting

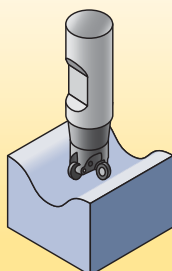








<p>KTMS™ Slotting Cutter</p>  <p>Ap1: 9–22mm Cutting Edges: 4 Diameter: 21–50mm Insert Style: SDMT Pages: U3–U4</p> <p>k = 0°</p>	<p>KVNS™ A2™ Slotting Cutters</p>  <p>Ap1: .063–.245" Cutting Edge: 1 Diameter: 2.5–10" Pages: U7–U10</p> <p>k = 0°</p>	<p>0° SN Slotting Cutters</p>  <p>B min: .161–.187" Cutting Edges: 4 Diameter: 3–6" Insert Style: SNHX Pages: U13–U15</p> <p>k = 0°</p>
<p>0° LN Slotting Cutters</p>  <p>B min: .250–.500" Cutting Edges: 4 Diameter: 2.5–8" Insert Style: LNEU/LNEQ Pages: U17–U22</p> <p>k = 0°</p>	<p>KSSM™ Slotting Cutters • IC 10</p>  <p>B min: .551–.709" Cutting Edges: 4 Diameter: 4–12" Insert Style: SP*T10T3 Pages: U25–U31</p> <p>k = 0°</p>	<p>KSSM™ Slotting Cutters • IC 12</p>  <p>B min: .709–.917" Cutting Edges: 4 Diameter: 5–12" Insert Style: SD*T1204 Pages: U32–U40</p> <p>k = 0°</p>

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

- first choice
- alternate choice





Copy Mills

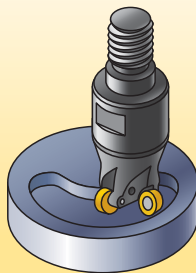




<p>7792VXP06</p>  <p>Ap1: .035" Cutting Edges: 4 Diameter: .625–1.250" Insert Style: XP*T0603 Pages: V4–V8</p>	<p>7792VXD09</p>  <p>Ap1: .059" Cutting Edges: 4 Diameter: 1–2" Insert Style: XD*T0904 Pages: V9–V16</p>	<p>7792VXD12</p>  <p>Ap1: .098" Cutting Edges: 4 Diameter: 1.25–6.3" Insert Style: XD*T1205 Pages: V17–V24</p>	
<p>7792VXE16</p>  <p>Ap1: .138" Cutting Edges: 4 Diameter: 1.5–6" Insert Style: XE*1605 Pages: V25–V29</p>	<p>KenFeed™ 2X Series</p>  <p>Ap1: .059" Cutting Edges: 6 Diameter: 1–3" Insert Style: WOEJ09 Pages: V36–V40</p> <p>HF</p>		
<p>Rodeka™ 10</p>  <p>Ap1: .200" Cutting Edges: 8 Diameter: 1–2" Insert Style: RN*J10 Pages: V44–V50</p>	<p>Rodeka™ IC12</p>  <p>Ap1: .117"/.236" Cutting Edges: 12/8 Diameter: 1.25–4" Insert Style: RN*J12 Pages: V51–V57</p> <p>Round</p>	<p>Rodeka 16</p>  <p>Ap1: .156" Cutting Edges: 12 Diameter: 1.5–5" Insert Style: RN*J16 Pages: V58–V60</p>	<p>Rodeka 12X</p>  <p>Ap1: .236" Cutting Edges: 8 Diameter: 1.575–3.15" Insert Style: RNGJ12 Pages: V62–V64</p>
<p>KSRM™ • IC12</p>  <p>Ap1: .236" Diameter: 1.25–4" Insert Style: RP*T1204 Pages: V68–V73</p> <p>Round</p>	<p>KSRM™ • IC16</p>  <p>Ap1: .315" Diameter: 1.5–6" Insert Style: RP*T1605 Pages: V75–V79</p> <p>Round</p>	<p>KSRM™ • IC 1/2"</p>  <p>Ap1: .250" Diameter: 1.25–3" Insert Style: RP*T43 Pages: V81–V85</p> <p>Round</p>	<p>KSRM™ • IC 3/4"</p>  <p>Ap1: .375" Diameter: 2–8" Insert Style: RCGT64 Pages: V87–V90</p> <p>Round</p>
<p>KSRM™ • IC 1.0"</p>  <p>Ap1: .50" Diameter: 3–8" Insert Style: RCGT86 Pages: V91–V93</p> <p>Round</p>	<p>7713VR10</p>  <p>Ap1: .197" Diameter: 1–2.5" Insert Style: RP*10 Pages: V97–V101</p>	<p>7713VR12</p>  <p>Ap1: .240" Diameter: 1–3" Insert Style: RP*12 Pages: V102–V107</p>	

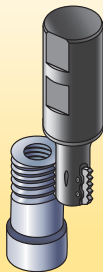
(continued)




(Copy Mills Application Selection Guide — continued)

<p>5505VX</p>  <p>Ap1: .625-2" Diameter: .625-2" Insert Style: XPNT Pages: V111-V118</p>	<p>Ball Nose End Mills • KDMB™</p>  <p>Ap1: .125-.625" Diameter: .25-1.25" Insert Style: KDMB Pages: V121-V131</p>	<p>KDMT™ High Feed</p>  <p>Ap1: up to .04" Diameter: .5-.75" Insert Style: KDMT Pages: V132-V135</p> <p>HF</p>	<p>Z-Axis Plunge Mill</p>  <p>Ap1: .433" Diameter: 1.25-6" Insert Style: SD*T43 Pages: V139-V143</p> <p>k = 1.5°</p>
--	--	--	---

Ceramic Mills


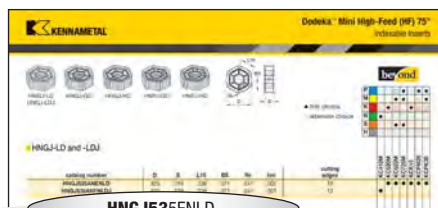
<p>KCRA</p>  <p>Ap1: .250" Diameter: 1.5-3" Insert Style: RNGN43 Pages: V148-V151</p>	<p>KIPR</p>  <p>Ap: .249" Diameter: .625-1.5" Insert Style: RPG2150/ RPG32/RPG43 Pages: V155-V159</p>
---	--

Thread Mills


<p>Indexable Thread Mills • Parallel and Conical Threads</p>  <p>Inserts: TM24, TM25, TM40, TM41 Diameter: .450-2.320" Pages: W4-W27</p>	<p>KTMD U Series</p>  <p>Diameter: 580-2.090" Pages: W29-W37</p>
<p>TMS Thread Milling System</p>  <p>Diameter: .354-1.811" Mini Shank: STN10 Normal Shank: STN11, STN16, STN27 Long Shank: STN16, STN27 Pages: W39-W47</p>	

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



HNGJ535ENLD

H	N	G	J	5	3																														
Insert Shape	Insert Clearance Angle	Tolerance Class	Geometry and Clamping Type	Size	Thickness																														
<p>A Parallelogram 85°</p> <p>C Rhomboid 80°</p> <p>E 75°</p> <p>H Hexagon 120°</p> <p>L Rectangular 90°</p> <p>O Octagon 135°</p> <p>R Round</p> <p>S Square 90°</p> <p>T Triangular 60°</p> <p>X Kennametal Standard Form</p>	<p>A 3°</p> <p>B 5°</p> <p>C 7°</p> <p>D 15°</p> <p>E 20°</p> <p>F 25°</p> <p>G 30°</p> <p>N 0°</p> <p>P 11°</p>	<p>Indexable inserts with facets/wipers</p> <p>Indexable inserts with corner radii</p> <p>Insert thickness</p>	<p>Geometry and Clamping Type</p>	<table border="1"> <thead> <tr> <th>A</th> <th>symbol</th> </tr> </thead> <tbody> <tr><td>1.000</td><td>8</td></tr> <tr><td>.750</td><td>6</td></tr> <tr><td>.625</td><td>5</td></tr> <tr><td>.500</td><td>4</td></tr> <tr><td>.375</td><td>3</td></tr> <tr><td>.250</td><td>2</td></tr> </tbody> </table> <p>inscribed circle "A"</p> <p>For shapes A, L, and X, see position #1; use length of leading cutting edge in increments of 1/4".</p>	A	symbol	1.000	8	.750	6	.625	5	.500	4	.375	3	.250	2	<p>insert thickness</p> <table border="1"> <thead> <tr> <th>T</th> <th>in 1/16"</th> </tr> </thead> <tbody> <tr><td>.0938</td><td>1.5</td></tr> <tr><td>.125</td><td>2</td></tr> <tr><td>.1562</td><td>2.5</td></tr> <tr><td>.1875</td><td>3</td></tr> <tr><td>.2188</td><td>3.5</td></tr> <tr><td>.2500</td><td>4</td></tr> <tr><td>.3125</td><td>5</td></tr> </tbody> </table>	T	in 1/16"	.0938	1.5	.125	2	.1562	2.5	.1875	3	.2188	3.5	.2500	4	.3125	5
A	symbol																																		
1.000	8																																		
.750	6																																		
.625	5																																		
.500	4																																		
.375	3																																		
.250	2																																		
T	in 1/16"																																		
.0938	1.5																																		
.125	2																																		
.1562	2.5																																		
.1875	3																																		
.2188	3.5																																		
.2500	4																																		
.3125	5																																		

tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"	tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"
A	.001	.0002	.001	J	.002-.005*	.0002	.001
B	.001	.0002	.005	K	.002-.005*	.0005	.001
C	.001	.0005	.001	L	.002-.005*	.001	.001
D	.001	.0005	.005	M	.002-.005*	.003-.008*	.005
E	.001	.001	.001	N	.002-.005*	.003-.008*	.001
F	.0005	.0002	.001	P**	.0015	.0015	.0015
G	.001	.001	.005	U	.003-.010*	.005-.015*	.005
H	.0005	.0005	.001	—	—	—	—

*See table below for tolerances according to insert size and class.

**Kennametal standard only.

A	tolerances on "A"		tolerances on "M"	
	classes J, K, L, M, N	class U	classes M & N	class U
.1875-.3937	.002	.003	.003	.005
.4375-.5625	.003	.005	.005	.008
.5906-.8125	.004	.007	.006	.011
.8661-1.188	.005	.010	.007	.015
1.250-1.378	.006	.010	.008	.015

symbol	hole	shape of hole	chipbreaker	shape of insert's section
N	without		without	
R			single sided	
F			double sided	
A	cylindrical hole		without	
M			single sided	
G			double sided	
W	partly cylindrical hole, 40-60° countersink		without	
T			single sided	
Q	with	partly cylindrical hole, 40-60° countersink	without	
U			double sided	
B			without	
H	partly cylindrical hole, 70-90° countersink		single sided	
C			without	
J	partly cylindrical hole, 70-90° double countersink		double sided	
X	special design			

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



HNGJ535ENLD

5
Corner Configuration

E
Cutting Edge Form

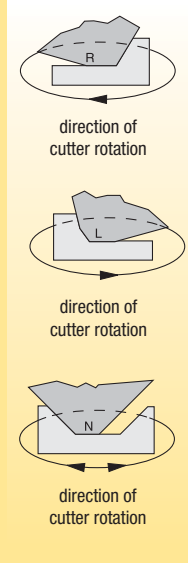
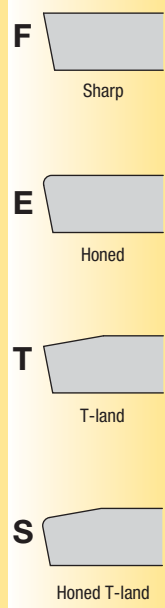
N
Insert Hand

-
Facet Width

L
Edge Prep Size

D
Rake Face Angle

Added Info



.0312	2
.0469	3
.0625	4
.0938	6

Facet width is number of 1/64" increments (1/32" for old styles).

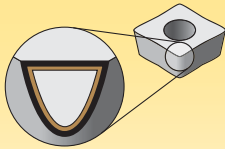
J = Polished rake face
P = Partial T-land
W = Wiper/radiused facet

radius			
0	.004	If letter is replaced by number(s), refer to table for radius "r".	wiper edge clearance P
0.5	.008		A 3°
1	1/64		B 5°
2	1/32	lead angle K	C 7°
3	3/64	A 45°	D 15°
4	1/16	D handed 30°	E 20°
5	5/64	K neutral 30°	F 25°
6	3/32	E handed 15°	G 30°
7	7/64	L neutral 15°	N 0°
8	1/8	P 0°	P 11°

L = Light — sharp or lightly honed and/or T-land
G = General — medium hone and/or T-land
H = Heavy — large hone and/or T-land

N	A	B	C	P	D	E	F	G
0° or less	3°	5°	7°	11°	15°	20°	25°	30°

Nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation.



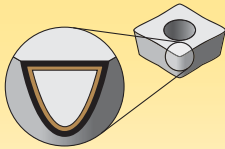
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

Grades

Coating	Grade Description		05	10	15	20	25	30	35	40	45
GH1	Uncoated submicron carbide grade with high wear resistance. GH1 is suitable for machining of aluminum and non-ferrous materials. Also a good choice for the finishing of cast iron. This grade can be used both wet and dry and is designed for light and general machining.										
		K									
		N									
GH2	Uncoated, fine grained carbide grade with good strength. GH2 is suitable for machining of aluminum and non-ferrous materials. Also good choice for cast iron for medium toughness requirements. This grade can be used both wet and dry and is designed for light and general machining.										
		K									
		N									
		S									
K110M	Uncoated carbide grade K110M is a universal grade for machining non-ferrous material. For use in light and general machining. K110M can be used with or without coolant.										
		K									
		N									
		S									
K115M	Uncoated carbide grade. K115M is a premium uncoated grade designed for high edge-wear resistance in non-ferrous and cast iron materials. Recommended to be used with coolant.										
		K									
		N									
K313	Uncoated carbide grade. K313 is suitable for machining cast iron, high-temperature alloys and non-ferrous materials. This grade can be used both wet and dry and is designed for light and general machining.										
		K									
		N									
		S									
KBK50	A high CBN content, PcBN tip brazed onto a carbide insert. Designed to machine at highest speeds and tool life on semi-finishing and finishing cast iron materials.										
		K									
KC410M	PVD, TiB ₂ coating on grade KC410M is extremely hard and provides very good wear characteristics at higher cutting speeds. KC410M resists built-up edge, can help reduce burring, and generates excellent surface finishes. The grade is best suited for aluminum with <10% silicon and other non-ferrous materials.										
		N									



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

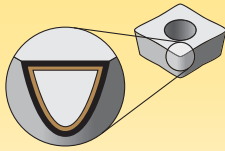
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

 Preferred grade.

wear resistance ← → toughness

Grades

Coating	Grade Description		05	10	15	20	25	30	35	40	45	
KC524M	 Coated carbide grade with a thicker PVD TiAlN coating. KC524M combines good wear resistance with high toughness. Primarily for general machining of all cast irons. This grade can be used both wet and dry.											
		K										
KC525M	 Coated carbide grade with a TiAlN coating (PVD). New universal carbide grade for milling steel, stainless steel, and high-temperature alloys. KC525M can be used with or without coolant. Primarily for use in light and general machining.	P										
		M										
		S										
KC530M	 Premium PVD-coated carbide grade (P40) with a TiAlN coating. Enables extended tool life at moderate feeds and high cutting speeds. First choice for milling in all steels, including die and mold steels. Recommended for use without coolant.	P										
		M										
KC725M	 Coated carbide grade with an advanced PVD TiAlN coating. KC725M is a high-performance grade for milling steel, stainless steel, and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining.	P										
		M										
		S										
KC735M	 PVD/TiN coated carbide grade. This grade offers an unusual combination of high toughness and wear resistance. Even under extreme toughness requirements, it achieves outstanding results in general and heavy-machining applications. Suitable for dry and wet machining.	P										
		M										
KCK15	 Coated carbide grade with CVD multilayer coating (TiN/MT TiCN/Al ₂ O ₃) and advanced Beyond™ post-coat treatment. KCK15 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry, but can also be used wet.											
		K										
KCK20	 A new PVD multilayer AlTiN + AlCrN coated carbide with an excellent combination of wear resistance and coating strength. The KCK20 grade is specifically engineered to maximize coating adhesion and edge strength, making this grade ideal in wet interrupted cutting of gray and ductile irons, and can also be used in dry conditions. It can be used in a wide range of applications, from finishing to roughing, to maximize productivity wherever strength and reliability are needed.											
		K										



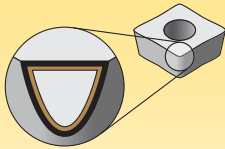
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Preferred grade.

wear resistance ← → toughness

Grades	Coating	Grade Description		05	10	15	20	25	30	35	40	45
				KCPK30		Coated carbide grade with CVD multilayer (TiN/TiCN/Al ₂ O ₃) and advanced Beyond™ post-coat treatment. Substrate is very tough. KCPK30 has a wide application area in general and roughing milling of steels and cast irons. Performs best dry, but can also be used wet.	P					
			K									
KCPM40		Coated carbide grade with an advanced PVD TiAlN/AlCrN coating. Tough substrate with excellent capability at higher temperatures. KCPM40™ is the first choice for milling steel and stainless steel. Good thermal shock resistance makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining.	P									
			M									
KCSM30		Submicron substrate coated with high-performance TiAlN-PVD coating is an excellent choice for titanium, but also high-temperature alloys and stainless with higher speeds for light to medium cuts. First choice for application with thin to medium chip thickness, dry and wet.	P									
			M									
			S									
KCSM40		Coated carbide grade with an advanced PVD TiAlN/TiN coating. Premium substrate with newly developed binder composition. KCSM40 is a high-performance grade for titanium, super alloys, and stainless steel. High thermal shock resistance of the substrate makes this grade ideal for wet machining. First choice for roughing and unsuitable cutting conditions.	M									
			S									
KD1400		A PCD-tip brazed to a carbide carrier for high-speed machining of non-ferrous materials. KD1400 has excellent chipping resistance with good wear characteristics. Coolant is preferred.	N									
KD1410		A PCD-tip brazed to carbide for machining aluminum with a very high silicon content, abrasive non-ferrous materials, and fiber-reinforced plastics. KD1410 can be used at very high cutting speeds, even where good surface finishes are required. This grade can be used both wet or dry but is suggested to use coolant where good surface finishes are required.	N									



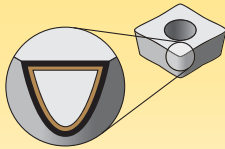
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

Grades

Coating	Grade Description		05	10	15	20	25	30	35	40	45	
KD1415	PCD-tip brazed to carbide for general machining of aluminum with a low silicon content, non-ferrous heavy metals, and plastics. KD1415™ can be used at high cutting speeds and for continuous cutting, even where outstanding surface finishes are required. KD1415 is suitable for wet and dry machining.											
KD1425	A PCD-tipped brazed to a carbide carrier for high-speed machining of aluminum and other non-ferrous materials. KD1425™ provides superior wear resistance with moderate toughness to resist chipping. Coolant is preferred.											
KTPK20	Cermet with PVD-TiAlN/AlCrN multi-layer coating. This tough cermet is primarily used in light and general machining of steel, stainless steels, and cast irons. Performs best dry.											
KY3500	A ceramic cutting material based on micro-grain Si ₃ N ₄ primarily for use in light to general machining of gray cast iron and ferritic ductile cast iron. Dry machining is preferred while using this grade.											
KYS30	KYS30™ is the latest in the line of α/βSiAlON grades for general purpose to finish machining of high-temperature alloys. This grade provides excellent wear characteristics, with better toughness and thermal shock resistance than whisker ceramics. KYS30 also gives improved thermal stability.											
KYSP30	Combines excellent wear properties, fracture toughness, and thermal shock resistance for general purpose to finish machining of high-temperature alloys. KYSP30 provides superior depth-of-cut notch resistance compared to whisker ceramics.											
MP91M	CVD-coated carbide grade with TiN/MT-TiCN/Al ₂ O ₃ . Tough substrate in combination with wear resistant for roughing and semi-finishing of steel, cast iron, and hardened materials.											



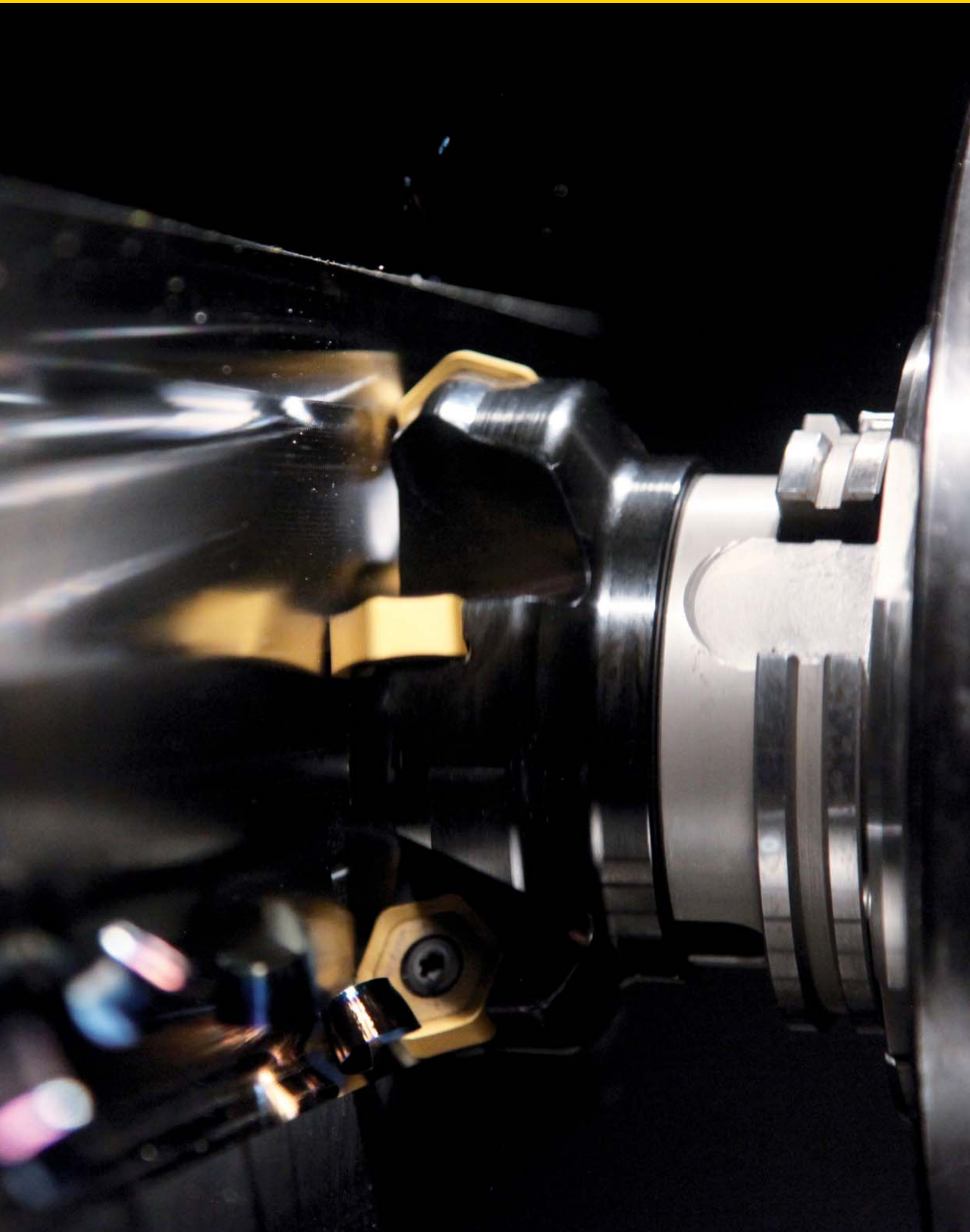
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Preferred grade.

wear resistance ← → toughness

Grades	Coating	Grade Description	Material																		
			P	M	K	N	S	H	05	10	15	20	25	30	35	40	45				
Grades	 SC3025	Coated carbide grade with CVD multilayer coating (TiN/TiCN/Al ₂ O ₃). SC3025 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results when using dry, but can also be used wet.																			
	 SC6625	Coated carbide grade with CVD multi-layer (TiN/TiCN/Al ₂ O ₃). Tough substrate with good speed capability. SC6625 has a wide application area in general and roughing milling of steels, stainless steels, and cast irons. Performs best dry, but can also be used wet.																			
	 SP4019	Fine-grained substrate coated with PVD TiAlN nano-composite. First choice for applications with thin to medium chip thickness. This grade works on many workpiece materials, dry and wet.																			
	 SP6519	Coated carbide grade with PVD TiAlN nano-composite coating on a tough substrate. Primarily for use in general and heavy machining, dry and wet.																			
	 X400	Coated carbide grade with thick PVD TiAlN nanocomposite on X-Grade™ technology substrate. With excellent toughness, good choice for difficult cutting conditions on alloyed and hardened steels. Usable in combination with high feeds.																			
	 X500	CVD TiN/TiCN/TiN coated carbide on tough substrate (X-Grade™ technology). For difficult applications with heavy impacts, vibrations, or unstable conditions. High stability against thermal cracks. Excellent grade for high-temperature alloys, stainless steels, and titanium.																			
	 X700	PVD TiAlN nano-coating on premium substrate (X-Grade™ technology). Milling of stainless steel, super alloys, and titanium with medium applications.																			



Indexable Milling • Face Milling

Dodeka • Leader in Advanced Face Milling (12 Edges per Insert)	S2–S26
Mill 16 • 16-Edged Inserts for Machining Cast Iron Materials	S28–S35
KSSM 45° • Conventional Machining	S38–S41
KSOM Mini • KSOM • Best in Class-Free Cutting Face Mills	S42–S53
KSSM8+ • 8-Edged Double-Sided Face Mills with Lead Angle Close to 0°	S54–S60
Fix-Perfect • Cast Iron Rougher and Finisher	S62–S73
HexaCut Series • Machining Automotive Components.....	S74–S84
KSSR • Cast Iron • Roughing and Finishing 6° Lead	S86–S90
MEGA 45 • For True Heavy-Duty Machining.....	S92–S95
MEGA 60/90 • For True Heavy-Duty Machining	S96–S101
KBDM • PCD Face Milling	S102–S107
KSCM AluMill	S108–S118
Fix-Perfect Aluminum	S120–S126

➤ Dodeka™ Series

Leader in Advanced Face Milling Applications

Primary Application

Dodeka Mini, Dodeka, and Dodeka MAX™ platform face milling boosters are the most comprehensive face milling boosters on the market today. Twelve true cutting edges per insert mean low cost-per-edge and high productivity. With Beyond™ premium milling grades, achieve up to 30% higher metal removal rates (MRR), 25% lower cutting forces due to soft cutting action, and up to 35% better tool life in light to heavy machining.

Features and Benefits

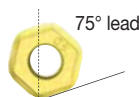
Dodeka Series • Most comprehensive face milling platform on the market. Providing an excellent cost-per-cutting edge with market leading performance. The Dodeka Series platform will cover all your face milling application needs.

All cutter body variations can be loaded with one insert style.

**Dodeka Mini High-Feed 75°
Dodeka High-Feed 75°**



12 True
Cutting
Edges



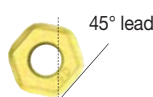
Dodeka Mini Ap1 max = .065"
Dodeka Ap1 max = .087"

Dodeka Mini HF and Dodeka HF can be loaded with all Dodeka Mini standard inserts, except wiper inserts.

**Dodeka Mini 45°
Dodeka 45°
Dodeka MAX 45°**



12 True
Cutting
Edges



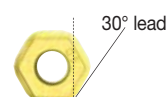
Dodeka Mini Ap1 max = .127"
Dodeka Ap1 max = .178"
Dodeka MAX Ap1 max = .315"

Best-in-class leader in face milling up to Ap1 max = .315".

Dodeka Mini 30°



12 True
Cutting
Edges



Dodeka Mini Ap1 max = .171"

Achieve a higher axial depth-of-cut capability up to Ap1 = .174" with standard Dodeka Mini inserts.



Dodeka™ Mini Series

insert size HN.J43
Ap1 max = .171"
pages S4–S16



Dodeka

insert size HN.J535
Ap1 max = .178"
pages S17–S23



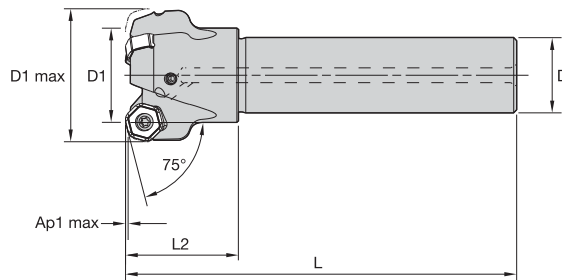
Dodeka MAX™

insert size HN.J75
Ap1 max = .315"
pages S24–S26



Applicable in most material groups • Excellent results in machining titanium

- High-feed capability.
- .06" depth-of-cut capability.
- Twelve cutting edges per insert.



■ Dodeka Mini High-Feed 75° • Cylindrical End Mills

order number	catalog number	D1	D1 max	D	L	L2	Ap1 max	Z	lbs	max RPM
4136407	KSHRHF100D02C075HN43L480	1.000	1.518	.750	4.800	1.250	.064	2	.73	19800
4136408	KSHRHF100D03C075HN43L480	1.000	1.518	.750	4.800	1.250	.064	3	.69	19800
4136410	KSHRHF125D04C100HN43L520	1.250	1.768	1.000	5.200	1.500	.065	4	1.28	17600

■ Spare Parts



insert screw



in. lbs.



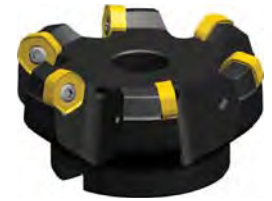
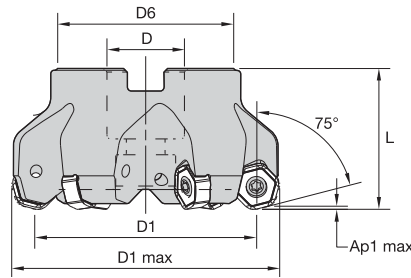
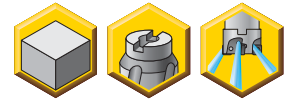
wrench

D1	insert screw	in. lbs.	wrench
1.000	193.492	31	170.025
1.250	193.492	31	170.025



Face Milling

- Twelve cutting edges per insert.
- High-feed capability.



■ Dodeka Mini High-Feed 75° • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
4136411	KSHRHF150HN43F3	1.500	2.018	.750	1.750	1.575	.065	5	.75	16700
4136412	KSHRHF200HN43M3	2.000	2.517	.750	1.750	1.575	.065	5	1.10	12500
4136413	KSHRHF250HN43M3	2.500	3.017	.750	1.750	1.575	.065	6	1.49	10000
4136414	KSHRHF300HN43M4	3.000	3.517	1.000	2.189	1.750	.065	8	2.21	8300

■ Spare Parts



D1	insert screw	in. lbs.	wrench	socket-head cap screw
1.500	193.492	31	170.025	S445
2.000	193.492	31	170.025	S445
2.500	193.492	31	170.025	S445
3.000	193.492	31	170.025	S458



Face Milling



Dodeka Mini High-Feed

First choice for long reach face milling applications or light fixtures.

Chip thinning effect due to lead angle 14,5°. Tremendous enlargement of feed rate and metal removal rate (MRR).

Up to 40% shorter machining cycle time versus conventional milling.

■ Insert Selection Guide

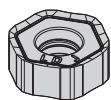
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LD	KCPM40	.S..GD	KCPM40	.S..HD	KCPM40
P3-P4	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
P5-P6	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KCPK30
M1-M2	.E..LD	KC522M	.S..GD	KCSM40	.S..HD	KCSM40
M3	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCPM40
K1-K2	.E..LD	KCK15	.S..GD	KCK15	.S..HD	KCK15
K3	.E..LD	KC520M	.S..GD	KC520M	.S..HD	KC520M
N1-N2	.F..LDJ	KC410M	.F..LDJ	KC410M	.E..LD	KC510M
N3	.F..LDJ	KC410M	.F..LDJ	KC410M	.E..LD	KC510M
S1-S2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S3	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCSM40
S4	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCSM40
H1	.E..LD	KC510M	.E..LD	KC510M	.E..LD	KC510M

Indexable Inserts

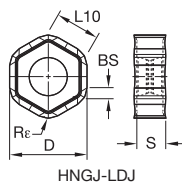
- First choice for machining aluminum.

- first choice
- alternate choice

P	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



HNGJ-LDJ



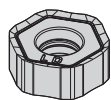
HNGJ-LDJ

■ HNGJ-LDJ

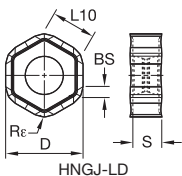
Face Milling

catalog number	D	BS	L10	Re	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
HNGJ43ANFNLDJ	.472	.060	.254	.039	.176	.001	12	●	●	-	-	-	-	-	-	-	-

- First choice for light machining.



HNGJ-LD

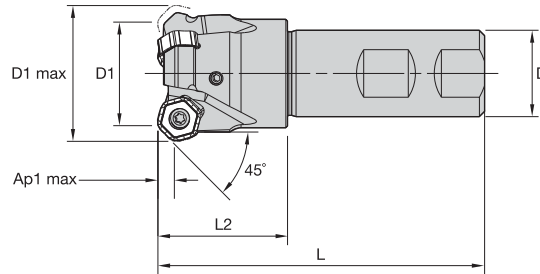
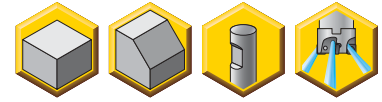


HNGJ-LD

■ HNGJ-LD

catalog number	D	BS	L10	Re	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
HNGJ43ANENLD	.472	.060	.254	.039	.176	.002	12	-	-	●	●	●	●	●	●	●	-
HNGJ438ANENLD	.472	-	.253	.126	.177	.002	12	-	-	-	-	-	●	-	●	-	-

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.



■ **Dodeka Mini 45° • Weldon® End Mills**

order number	catalog number	D1	D1 max	D	L	L2	Ap1 max	Z	lbs	max RPM
4130514	KSHR100D02W075HN06	1.000	1.322	.750	3.280	1.250	.127	2	.46	19800
4130515	KSHR100D03W075HN06	1.000	1.322	.750	3.280	1.250	.127	3	.44	19800
4130516	KSHR125D03W100HN06	1.250	1.572	1.000	3.780	1.500	.127	3	.88	17600
4130517	KSHR125D04W100HN06	1.250	1.572	1.000	3.780	1.500	.127	4	.89	17600

■ **Spare Parts**

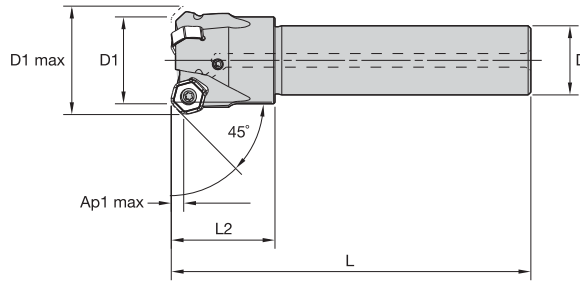
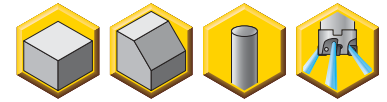


D1	insert screw	in. lbs.	wrench
1.000	193.492	31	170.025
1.250	193.492	31	170.025



Face Milling

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.



■ Dodeka Mini 45° • Cylindrical End Mills

order number	catalog number	D1	D1 max	D	L	L2	Ap1 max	Z	lbs	max RPM
4130518	KSHR100D02C075HN06L480	1.000	1.322	.750	4.800	1.250	.127	2	.64	19800
4130519	KSHR100D03C075HN06L480	1.000	1.322	.750	4.800	1.250	.127	3	.62	19800
4130533	KSHR100D03C100HN06L800	1.000	1.322	1.000	8.000	1.250	.127	3	1.64	19800
4130520	KSHR125D03C100HN06L520	1.250	1.572	1.000	5.200	1.500	.127	3	1.19	17600
4130521	KSHR125D04C100HN06L520	1.250	1.572	1.000	5.200	1.500	.127	4	1.20	17600

■ Spare Parts



insert
screw



in. lbs.



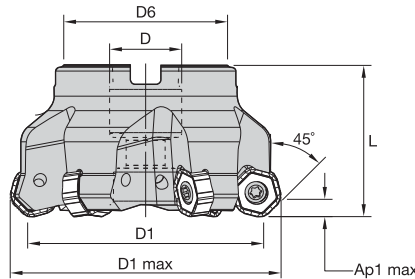
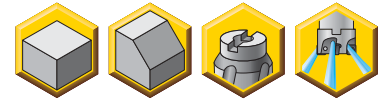
wrench

D1	insert screw	in. lbs.	wrench
1.000	193.492	31	170.025
1.250	193.492	31	170.025



Face Milling

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.



■ Dodeka Mini 45° • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
4130426	KSHR150HN4345M3	1.500	1.822	.500	1.440	1.575	.127	4	.57	16700
4130427	KSHR150HN4345F2	1.500	1.822	.500	1.440	1.575	.127	5	.56	16700
4130428	KSHR200HN4345C3	2.000	2.321	.750	1.750	1.575	.127	4	.93	12500
4130429	KSHR200HN4345M3	2.000	2.321	.750	1.750	1.575	.127	5	.93	12500
4130430	KSHR200HN4345F3	2.000	2.321	.750	1.750	1.575	.127	6	.97	12500
4130431	KSHR250HN4345C3	2.500	2.821	.750	1.750	1.575	.127	4	1.20	10000
4130432	KSHR250HN4345M3	2.500	2.821	.750	1.750	1.575	.127	6	1.27	10000
4130493	KSHR250HN4345F3	2.500	2.821	.750	1.750	1.575	.127	8	1.29	10000
4130494	KSHR300HN4345C4	3.000	3.321	1.000	2.189	1.750	.127	5	1.90	8300
4130495	KSHR300HN4345M4	3.000	3.321	1.000	2.189	1.750	.127	8	2.09	8300
4130496	KSHR300HN4345F4	3.000	3.321	1.000	2.189	1.750	.127	10	2.07	8300
4130497	KSHR400HN4345C6	4.000	4.321	1.500	3.661	1.750	.127	6	3.48	6300
4130498	KSHR400HN4345M6	4.000	4.321	1.500	3.661	1.750	.127	9	3.66	6300
4130499	KSHR400HN4345F6	4.000	4.321	1.500	3.661	1.750	.127	12	3.62	6300
4130500	KSHR500HN4345C6	5.000	5.320	1.500	3.652	2.380	.127	8	6.38	5000
4130501	KSHR500HN4345M6	5.000	5.320	1.500	3.652	2.380	.127	12	6.59	5000
4130502	KSHR500HN4345F6	5.000	5.320	1.500	3.652	2.380	.127	16	6.70	5000

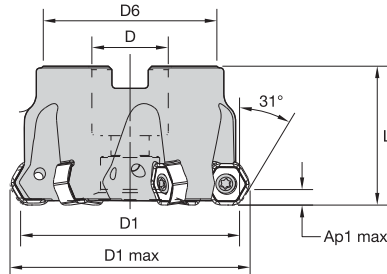
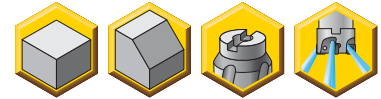
Face Milling

■ Spare Parts



D1	insert screw	in. lbs.	wrench	socket-head cap screw	coolant lock screw assembly
1.500	193.492	31	170.025	S424	—
2.000	193.492	31	170.025	S445	—
2.500	193.492	31	170.025	S445	—
3.000	193.492	31	170.025	S458	—
4.000	193.492	31	170.025	—	S2165C
5.000	193.492	31	170.025	—	S2163C

- Twelve cutting edges per insert.
- Higher Ap1 max with standard inserts.
- Productivity booster in all materials.



■ Dodeka Mini 30° • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
4136389	KSHRHD150HN43M2	1.500	1.750	.500	1.440	1.575	.171	4	.48	16700
4136390	KSHRHD150HN43F2	1.500	1.750	.500	1.440	1.575	.171	5	.48	16700
4136391	KSHRHD200HN43C3	2.000	2.250	.750	1.750	1.575	.171	4	.85	12500
4136392	KSHRHD200HN43M3	2.000	2.250	.750	1.750	1.575	.171	5	.87	12500
4136394	KSHRHD250HN43M3	2.500	2.750	.750	1.750	1.575	.171	6	1.21	10000
4136395	KSHRHD300HN43C4	3.000	3.250	1.000	2.189	1.750	.171	5	1.86	8300
4136396	KSHRHD300HN43M4	3.000	3.250	1.000	2.189	1.750	.171	8	1.96	8300
4136397	KSHRHD400HN43C6	4.000	4.249	1.500	3.661	1.750	.171	6	3.36	6300
4136399	KSHRHD500HN43C6	5.000	5.249	1.500	3.652	2.380	.171	8	6.31	5000
4136400	KSHRHD500HN43M6	5.000	5.249	1.500	3.652	2.380	.171	12	6.53	5000

■ Spare Parts

Face Milling



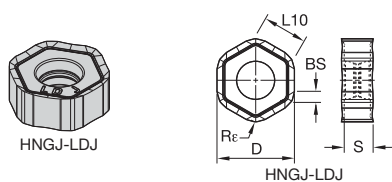
D1	insert screw	in. lbs.	wrench	socket-head cap screw	coolant lock screw assembly
1.500	193.492	31	170.025	S424	—
2.000	193.492	31	170.025	S445	—
2.500	193.492	31	170.025	S445	—
3.000	193.492	31	170.025	S458	—
4.000	193.492	31	170.025	—	S2165C
5.000	193.492	31	170.025	—	S2163C

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		↔		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LD	KCPM40	.S..GD	KCPM40	.S..HD	KCPM40
P3-P4	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
P5-P6	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KCPK30
M1-M2	.E..LD	KC522M	.S..GD	KCSM40	.S..HD	KCSM40
M3	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCPM40
K1-K2	.E..LD	KCK15	.S..GD	KCK15	.S..HD	KCK15
K3	.E..LD	KC520M	.S..GD	KC520M	.S..HD	KC520M
N1-N2	.F..LDJ	KC410M	.F..LDJ	KC410M	.E..LD	KC510M
N3	.F..LDJ	KC410M	.F..LDJ	KC410M	.E..LD	KC510M
S1-S2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S3	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCSM40
S4	.E..LD	KCSM40	.S..GD	KCSM40	.S..HD	KCSM40
H1	.E..LD	KC510M	.E..LD	KC510M	.E..LD	KC510M

Indexable Inserts

- First choice for machining aluminum.



- first choice
- alternate choice

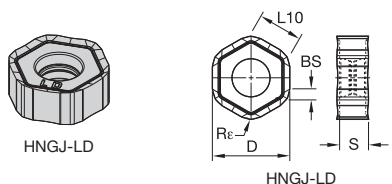
P	•					○	•	•	•	○
M	•						•	•	•	○
K	•		•	•	○		•	○		
N	•	•	○							
S							•			•
H										

HNGJ-LDJ

catalog number	D	BS	L10	Re	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
HNGJ43ANFNLDJ	.472	.060	.254	.039	.176	.001	12	•	•	-	-	-	-	-	-	-	-

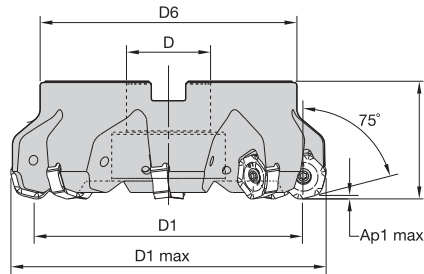
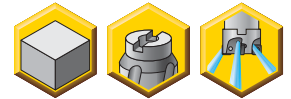
Face Milling

- First choice for light machining.


HNGJ-LD

catalog number	D	BS	L10	Re	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
HNGJ43ANENLD	.472	.060	.254	.039	.176	.002	12	-	-	•	•	•	•	•	•	•	-
HNGJ438ANENLD	.472	-	.253	.126	.177	.002	12	-	-	-	-	•	-	-	•	-	-

- High feed rates for rough face milling.
- .08" depth-of-cut capability.
- Twelve cutting edges per insert.



■ Dodeka High-Feed 75° • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
4047419	KSHRHF200HN5315C3	2.000	2.746	.750	1.750	1.595	.087	4	1.13	11300
4047420	KSHRHF250HN5315C3	2.500	3.245	.750	2.144	1.595	.087	5	1.60	8900
4047421	KSHRHF300HN5315C4	3.000	3.745	1.000	2.346	1.770	.087	6	2.23	7400
4047422	KSHRHF400HN5315C5	4.000	4.744	1.250	3.819	1.770	.087	8	3.91	5800
4047583	KSHRHF500HN5315C6	5.000	5.416	1.500	3.810	2.400	.087	9	6.87	4700
4047584	KSHRHF600HN5315C8	6.000	6.748	2.000	4.880	2.400	.087	12	10.51	4000

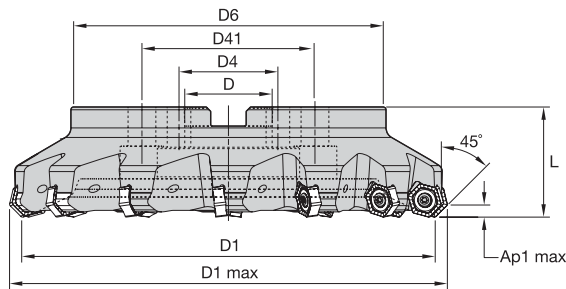
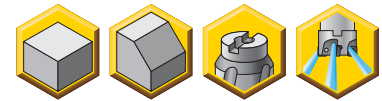
■ Spare Parts



D1	insert screw	in. lbs.	wrench	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw	coolant lock screw	coolant shower plate
2.000	193.492	31	170.025	S445	S445CG	—	—	—
2.500	193.492	31	170.025	S445	S445CG	—	—	—
3.000	193.492	31	170.025	S458	S458CG	—	—	—
4.000	193.492	31	170.025	—	—	S2162C	—	—
5.000	193.492	31	170.025	—	—	—	420.201	470.240
6.000	193.492	31	170.025	—	—	—	420.241	470.241

Face Milling

- Twelve cutting edges per insert.
- Through-coolant on cutters <4.0" diameter. 5.0" diameter cutters and above do not have through-coolant.
- Soft cutting action.



■ Dodeka 45° • Shell Mills

order number	catalog number	D1	D1 max	D	D4	D41	D6	L	Ap1 max	Z	lbs	max RPM
3326850	KSHR200HN5345C3	2.000	2.434	.750	—	—	1.593	1.570	.178	4	.81	12500
3326851	KSHR200HN5345M3	2.000	2.434	.750	—	—	1.593	1.570	.178	5	.82	12500
3747124	KSHR250HN5345XC3	2.500	2.933	.750	—	—	1.986	1.570	.177	5	1.25	10000
3326852	KSHR250HN5345C3	2.500	2.933	.750	—	—	1.986	1.570	.178	6	1.32	10000
3326923	KSHR250HN5345M3	2.500	2.933	.750	—	—	1.986	1.570	.178	7	1.34	10000
3747125	KSHR300HN5345XC4	3.000	3.433	1.000	—	—	2.189	1.750	.177	5	1.86	8300
3326924	KSHR300HN5345C4	3.000	3.433	1.000	—	—	2.189	1.750	.178	6	1.79	8300
3326925	KSHR300HN5345M4	3.000	3.433	1.000	—	—	2.032	1.750	.178	9	1.97	8300
3747126	KSHR400HN5345XC5	4.000	4.232	1.250	—	—	2.722	1.750	.177	6	3.17	6300
3326926	KSHR400HN5345C5	4.000	4.432	1.250	—	—	2.722	1.750	.178	8	2.93	6300
3326927	KSHR400HN5345M5	4.000	4.432	1.250	—	—	2.722	1.750	.178	11	3.14	6300
3747127	KSHR500HN5345XC6	5.000	5.431	1.500	—	—	3.652	2.380	.177	8	6.20	5000
3326928	KSHR500HN5345C6	5.000	5.431	1.500	—	—	3.652	2.380	.178	10	5.94	5000
3326929	KSHR500HN5345M6	5.000	5.431	1.500	—	—	3.652	2.380	.178	14	6.21	5000
3747128	KSHR600HN5345XC8	6.000	6.432	2.000	—	—	4.722	2.380	.177	10	9.01	4100
3326930	KSHR600HN5345C8	6.000	6.432	2.000	—	—	4.722	2.380	.178	12	9.10	4100
3326931	KSHR600HN5345M8	6.000	6.432	2.000	—	—	4.722	2.380	.178	16	9.36	4100
3494648	KSHR800HN5345C10	8.000	8.432	2.500	4.000	—	5.118	2.380	.177	16	13.14	3130
3494649	KSHR1000HN5345C10	10.000	10.433	2.500	4.000	—	7.120	2.380	.177	20	24.52	2510
3494650	KSHR1200HN5345C10	12.000	12.433	2.500	4.000	7.000	9.016	3.150	.177	24	42.66	2090



Face Milling

■ Spare Parts

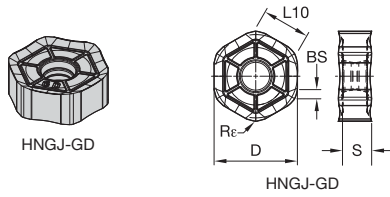


D1	insert screw	in. lbs.	wrench	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw	coolant lock screw assembly	coolant shower plate
2.000	193.492	31	170.025	S445	S445CG	—	—	—
2.500	193.492	31	170.025	S445	S445CG	—	—	—
3.000	193.492	31	170.025	S458	S458CG	—	—	—
4.000	193.492	31	170.025	—	—	—	S2162C	—
5.000	193.492	31	170.025	—	—	420.201	—	470.240
6.000	193.492	31	170.025	—	—	420.241	—	470.241
8.000	193.492	31	170.025	—	—	—	—	470.242
10.000	193.492	31	170.025	—	—	—	—	470.243
12.000	193.492	31	170.025	—	—	—	—	470.244

NOTE: Please order all spare parts separately.

beyond

- First choice for general purpose.



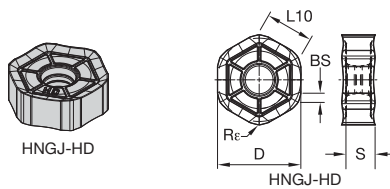
- first choice
- alternate choice

P	●																			
M	●																			
K	●																			
N	●																			
S	●																			
H	●																			

HNGJ-GD

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	KY3500
HNGJ535ANSNGD	.625	.219	.338	.071	.047	.004	12	—	—	—	●	●	●	●	●	—

- First choice for heavy roughing.

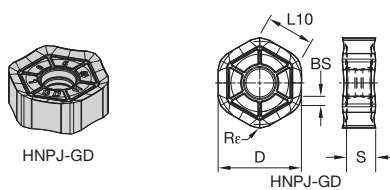


HNGJ-HD

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	KY3500
HNGJ535ANSNHD	.625	.215	.338	.065	.047	.007	12	—	●	—	●	—	●	●	●	—
HNGJ53511ANSNHD	.625	.214	.334	—	.171	.008	12	—	●	—	—	—	●	●	●	—

- First choice for general purpose.

Face Milling

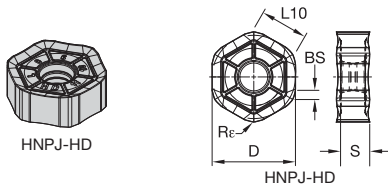


HNPJ-GD

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	KY3500
HNPJ535ANSNGD	.625	.219	.338	.071	.047	.004	12	—	●	●	●	●	●	●	—	—

beyond

- First choice for heavy roughing.



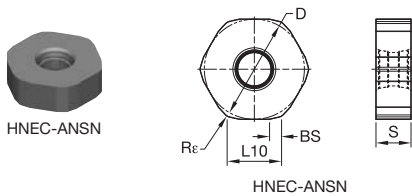
- first choice
- alternate choice

P	●																		
M	●																		
K	●																		
N	●																		
S	●																		
H	●																		

■ HNPJ-HD

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	KY3500
HNPJ535ANSNHD	.625	.215	.338	.065	.047	.007	12	●	●	●	●	●	●	●	●	●
HNPJ53511ANSNHD	.625	.214	.334	—	.171	.005	12	—	—	●	●	●	●	●	●	—

- Ceramic KYON 3500 for machining gray cast iron with high cutting speed.



■ HNEC-ANSN Ceramic Insert

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	KY3500
HNEC535ANSN	.625	.219	.361	.077	.047	.008	12	—	—	—	—	—	—	—	—	●

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

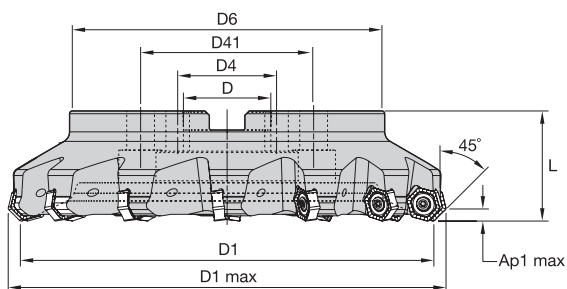
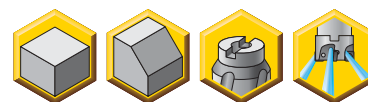
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.F..LDJ	.007	.018	.032	.005	.013	.023	.004	.010	.017	.003	.009	.015	.003	.008	.014	.F..LDJ
.E..LD	.009	.026	.040	.007	.019	.029	.005	.014	.021	.004	.012	.019	.004	.011	.017	.E..LD
.S..GD	.013	.028	.045	.009	.020	.032	.007	.015	.024	.006	.013	.021	.006	.012	.019	.S..GD
.S..HD	.013	.033	.053	.009	.024	.038	.007	.018	.028	.006	.015	.025	.006	.014	.023	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

Face Milling

- Twelve cutting edges per insert.
- 25% lower cutting forces.
- Laser-hardened pocket seats.



■ Dodeka MAX 45° • Shell Mills

order number	catalog number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	lbs	max RPM
4057578	KSHR300HN7545M4	3.000	3.682	1.000	—	2.188	1.750	.315	4	2.14	8300
4057579	KSHR400HN7545M5	4.000	4.682	1.250	—	2.875	1.750	.315	5	3.18	6300
4057580	KSHR500HN7545M6	5.000	5.682	1.500	—	3.812	2.375	.315	6	6.40	5000
4057581	KSHR600HN7545M8	6.000	6.682	2.000	—	5.000	2.375	.315	9	9.87	4100
4057582	KSHR800HN7545M10	8.000	8.682	2.500	4.000	5.000	2.375	.315	12	13.55	3130
4057576	KSHR1000HN7545C10	10.000	10.682	2.500	4.000	6.963	2.375	.315	12	25.80	2510
4057583	KSHR1000HN7545M10	10.000	10.682	2.500	4.000	6.963	2.375	.315	14	13.55	2510

■ Spare Parts



D1	insert screw	in. lbs.	Torx Plus wrench	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw assembly	coolant lock screw	coolant shower plate
3.000	193.531	71	TTP25	S458	S458CG	—	—	—
4.000	193.531	71	TTP25	—	—	S2162C	—	—
5.000	193.531	71	TTP25	—	—	—	420.201	470.240
6.000	193.531	71	TTP25	—	—	—	420.241	470.241
8.000	193.531	71	TTP25	—	—	—	—	470.242
10.000	193.531	71	TTP25	—	—	—	—	470.243

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus bit (order number 6205892 BTQTP25L90) may be purchased separately in order to ensure proper torque setting.

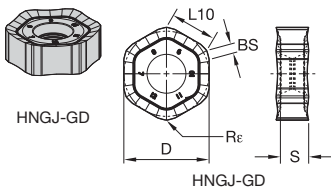
Face Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GD	KCPM40	.S..GD	KCPK30	.S..HD	KCPM40
P3-P4	.E..GD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
P5-P6	.E..GD	KC725M	.S..GD	KC725M	.S..HD	KC725M
M1-M2	.E..GD	KC725M	.S..GD	KC725M	.S..HD	KCSM40
M3	.E..GD	KCPM40	.S..GD	KC725M	.S..HD	KCSM40
K1-K2	.E..GD	KCK15	.S..GD	KCK15	.S..HD	KCK15
K3	.E..GD	KCK15	.S..GD	KC520M	.S..HD	KC520M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..GD	KC725M	.S..GD	KC725M	.S..HD	KCSM40
S3	.E..GD	KCPM40	.S..GD	KC725M	.S..HD	KCSM40
S4	.E..GD	KC725M	.S..GD	KC725M	.S..HD	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts

- First choice for light machining.



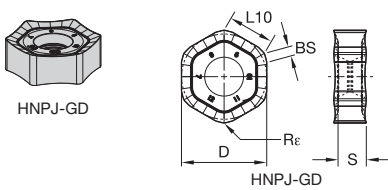
- first choice
- alternate choice

P	●	○	○	○	○	○
M	●	○	○	○	○	○
K	●	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

■ HNGJ-GD

catalog number	D	S	L10	BS	Re	hm	cutting edges													
HNGJ75ANENGD	.875	.292	.505	.074	.047	.002	12	-	KC520M	-	KC725M	●	KCK15	-	KCPK30	●	KCPM40	●	KCSM40	-

- First choice for general purpose.

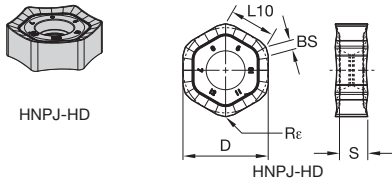


■ HNPJ-GD

catalog number	D	S	L10	BS	Re	hm	cutting edges													
HNPJ75ANSNGD	.875	.296	.505	-	.079	.005	12	●	KC520M	●	KC725M	-	KCK15	●	KCPK30	-	KCPM40	-	KCSM40	-



- First choice for heavy roughing.



- first choice
- alternate choice

P	●	●	●	○
M	●	○	○	●
K	●	●	●	○
N	○	○	○	○
S	●	○	○	●
H	○	○	○	○

■ HNPJ-HD

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC520M	KC725M	KGK15	KCPK30	KCPM40	KCSM40
HNPJ75ANSNHD	.875	.288	.505	.074	.047	.010	12	-	●	●	●	●	●
HNPJ755ANSNHD	.875	.292	.505	-	.079	.009	12	-	●	-	●	●	-
HNPJ759ANSNHD	.875	.289	.505	-	.138	.009	12	●	-	●	●	-	-

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..GD	.009	.026	.046	.007	.019	.033	.005	.014	.025	.004	.012	.022	.004	.011	.020	.E..GD
.S..GD	.013	.029	.050	.009	.021	.036	.007	.016	.027	.006	.014	.023	.006	.013	.021	.S..GD
.S..HD	.013	.033	.053	.009	.024	.038	.007	.018	.028	.006	.015	.025	.006	.014	.023	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

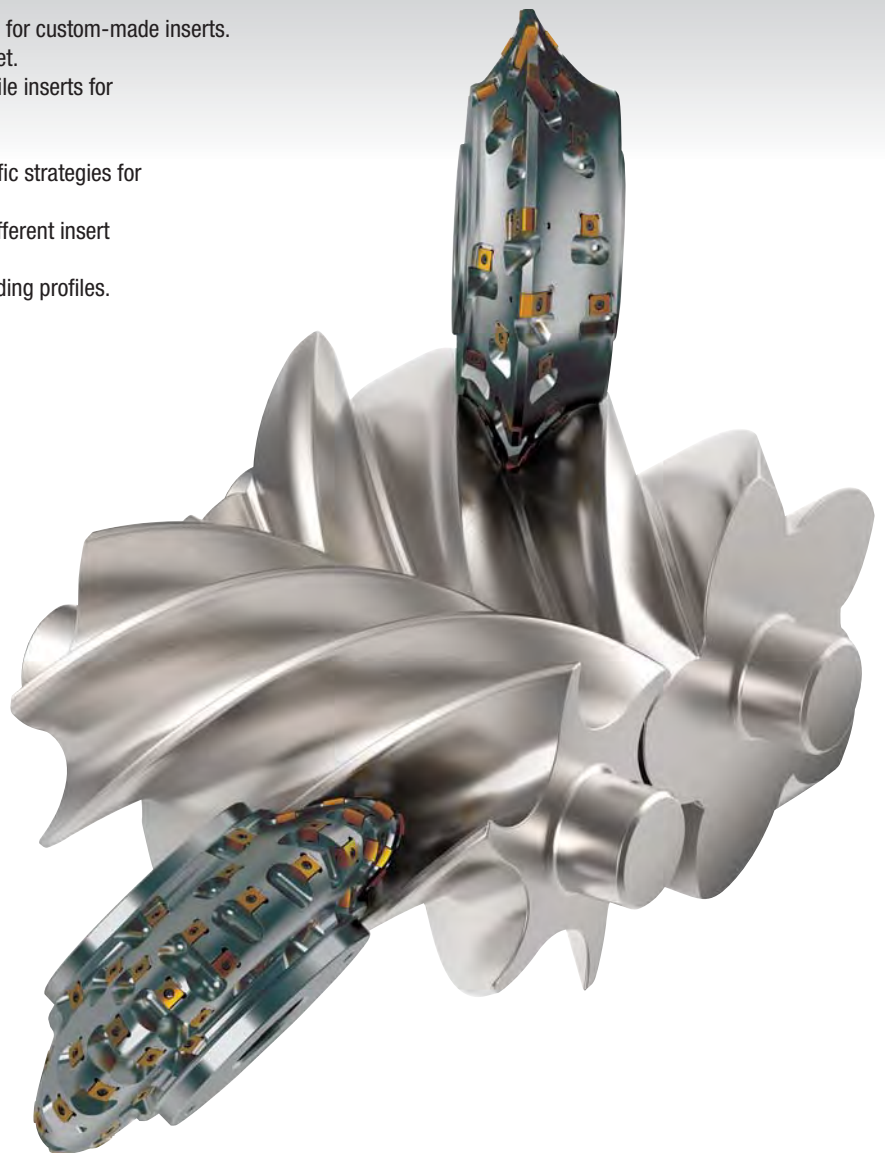
Face Milling

Solution Capabilities

SCREW-ROTOR MILLING

Kennametal customers benefit from the highest service levels, our long-term experience, and application knowledge in milling of screw-rotors.

- Faster availability due to standardized processes for custom-made inserts.
- Solutions for all machines currently on the market.
- Very close contour profile with standardized profile inserts for minimum grinding allowance.
- Tools can be used in many different materials.
- Increased productivity through application-specific strategies for optimized milling.
- Smooth cutting action due to multiple rows of different insert alignments for optimum performance.
- Innovative solutions for small rotors with demanding profiles.



Experience the advantages at your Authorized Kennametal Distributor or at kennametal.com.



kennametal.com

➤ Mill 16™

Face Mills for Cast Iron Machining.

Screw-On Clamping



Wedge Clamping



Features

- 16 effective cutting edges per insert.
- A_{p1} max = .216" (5,5mm).
- Coarse, medium and fine pitch cutters.
- Cutter bodies with pocket seat numbering system.
- Cutter diameter range = 1.969–9.843" (50–250mm).
- High-precision periphery ground inserts.
- Inserts with cutting edge numbering system.
- Lower cutting forces.
- Clearance on second main cutting edge.

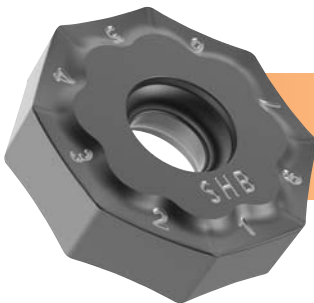
Benefits

- Low cost per edge to cut cost per part (CPP).
- Perfect fit for most cast iron face milling requirements.
- High feed rates to boost productivity and reduce cycle time.
- Comprehensive standard offering to address most needs of the shop floor.
- Improved axial runout and tool life.
- Very smooth cutting action and lower cutting forces.
- Orientated edge positioning to support axial and radial runout.
- Reliable cutting above A_{p1} = .216" (5,5mm) addresses castings with varying skin thickness.

Primary Application

The new Mill 16™ series is a specially-made platform for rough milling of components like engine heads and blocks, housings and gear boxes in cast iron materials (CGI, DCI, GCI), and all other cast iron face milling jobs. Best-in-class for machining CGI materials.

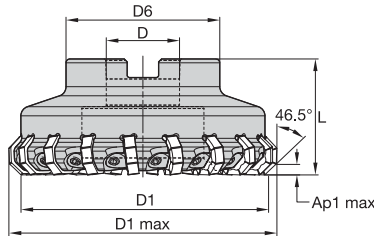
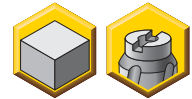
Split Case Design



Innovative insert design to reduce cutting forces and increase productivity at lower cost per edge.

- Semi-finishing and light machining
- Medium roughing
- Heavy roughing

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.



Mill 16 • Shell Mills • Wedge Clamping

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
6001979	MILL16E200Z05ON08W	2.000	2.495	.750	2.000	2.000	.215	5	1.45	11100
6001980	MILL16E250Z06ON08W	2.500	2.995	.750	2.000	2.000	.215	6	2.03	9300
6134103	MILL16E300Z08ON08W	3.000	3.495	1.000	2.189	1.750	.215	8	2.17	8200
6002121	MILL16E300Z10ON08W	3.000	3.495	1.000	2.189	1.750	.215	10	2.06	8200
6134104	MILL16E400Z10ON08W	4.000	4.494	1.250	3.150	2.000	.215	10	4.27	6800
6002122	MILL16E400Z14ON08W	4.000	4.494	1.250	3.150	2.000	.215	14	4.09	6800
6134105	MILL16E500Z14ON08W	5.000	5.494	1.500	3.150	2.375	.215	14	6.55	5900
6002123	MILL16E500Z18ON08W	5.000	5.494	1.500	3.150	2.375	.215	18	6.38	5900
6134106	MILL16E600Z16ON08W	6.000	6.494	2.000	3.937	2.381	.215	16	8.68	5300
6002124	MILL16E600Z22ON08W	6.000	6.494	2.000	3.937	2.381	.215	22	8.39	5300
6134107	MILL16E800Z20ON08W	8.000	8.494	2.500	5.118	2.400	.215	20	14.60	4500
6002125	MILL16E800Z28ON08W	8.000	8.494	2.500	5.118	2.400	.215	28	14.29	4500
6134108	MILL16E1000Z24ON08W *	10.000	10.494	2.500	5.512	2.400	.215	24	22.08	4000
6019339	MILL16E1000Z34ON08W	10.000	10.494	2.500	5.512	2.400	.215	34	21.69	4000

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



Face Milling

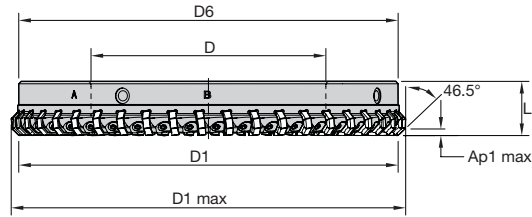
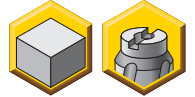
Spare Parts



D1	wedge	wedge screw	in. lbs.	wrench	mounting screw with coolant grooves	adjustable torque wrench	bit SW3 for adjustable torque wrench
2.000	CW16	12748601000	62	12148044900	KLSS0714C	DTQ50140	BTQSW3L90
2.500	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
3.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
4.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
5.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
6.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
8.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90
10.000	CW16	12748601000	62	12148044900	—	DTQ50140	BTQSW3L90

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.



■ Mill 16 • Split Case Design

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
6202190	MILL16E1200Z42ON08WSC *	12.000	12.494	7.677	12.000	1.772	.215	42	22.48	3600
6202291	MILL16E1400Z48ON08WSC *	14.000	14.494	9.055	14.000	1.772	.215	48	30.97	3300
6202292	MILL16E1600Z56ON08WSC *	16.000	16.494	11.024	16.000	1.772	.215	56	37.15	3100
6202293	MILL16E2000Z70ON08WSC *	20.000	20.494	14.961	20.000	1.772	.215	70	48.45	2800

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Spare Parts

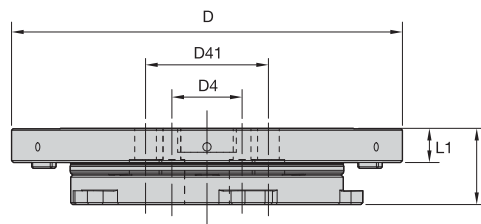


D1	wedge	wedge screw	in. lbs.	wrench
12.000	CW16	12748601000	62	12148044900
14.000	CW16	12748601000	62	12148044900
16.000	CW16	12748601000	62	12148044900
20.000	CW16	12748601000	62	12148044900

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.



Face Milling

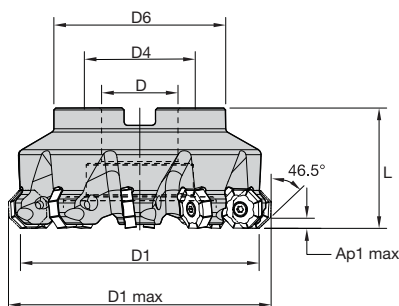
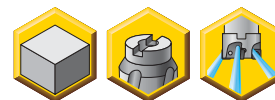


■ Carrier Flange Assembly

order number	catalog number	D	D4	D41	L1	L	lbs
6152251	D315CFA *	12.402	4.000	7.000	1.339	3.071	59.29
6152252	D355CFA *	13.976	4.000	7.000	1.378	3.071	81.99
6152253	D400CFA *	15.748	4.000	7.000	1.378	3.071	112.34
6152254	D500CFA *	19.685	4.000	7.000	1.378	3.071	192.59

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.



■ Mill 16 • Screw-On Clamping

order number	catalog number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	lbs	max RPM
6159069	MILL16E200Z04ON08SC	2.000	2.498	.750	—	1.969	1.580	.216	4	.90	14500
6159070	MILL16E250Z04ON08SC	2.500	2.973	.750	—	1.969	1.576	.220	4	1.29	12200
6159072	MILL16E300Z05ON08SC	3.000	3.473	1.000	—	2.362	1.751	.220	5	2.17	10700
6159074	MILL16E400Z06ON08SC	4.000	4.473	1.250	—	3.150	2.001	.220	6	4.11	8900
6159076	MILL16E500Z08ON08SC	5.000	5.473	1.500	—	3.543	2.376	.220	8	6.85	7700
6159078	MILL16E600Z10ON08SC	6.000	6.472	2.000	—	3.937	2.382	.220	10	8.07	7000
6159080	MILL16E800Z10ON08SC	8.000	8.472	2.500	4.000	5.118	2.401	.220	10	14.17	5900
6159082	MILL16E1000Z12ON08SC	10.000	10.472	2.500	4.000	5.512	2.401	.220	12	23.86	5200

■ Spare Parts



D1	insert screw	in. lbs.	Torx Plus wrench	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw	coolant shower plate
2.000	MS2060	40	TTP20	—	KLSS0714C	—	—
2.500	MS2060	40	TTP20	S445	—	—	—
3.000	MS2060	40	TTP20	S458	—	—	—
4.000	MS2060	40	TTP20	—	—	420.162	—
5.000	MS2060	40	TTP20	—	—	420.201	470.232
6.000	MS2060	40	TTP20	—	—	420.241	470.241
8.000	MS2060	40	TTP20	—	—	—	470.242
10.000	MS2060	40	TTP20	—	—	—	470.243

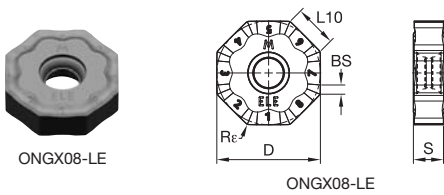
Face Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		↔		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	.E..LE	KC514M	.S..GP	KC514M	.S..HB	KC514M
K3	.E..LE	KCK20	.S..GP	KCK20	.S..HB	KCK15
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Inserts

- ...ANENLE = semi-finishing with improved surface floor finish.
- ...ENLE = light machining.



- first choice
- alternate choice

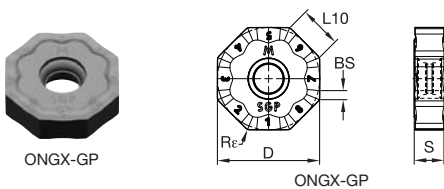
P	●				
M	●				
K	●	●	●	●	●
N	●				
S	●				
H	●				

ONGX-LE • High-Precision Periphery Ground

catalog number	D	S	L10	BS	Rε	hm	KC514M	KCK15	KCK20	KCPK30	KY3500
ONGX64ANENLE	.787	.229	.323	.059	.031	.002	●	●	●	-	-
ONGX645ENLE	.787	.229	.326	-	.079	.002	●	●	●	-	-

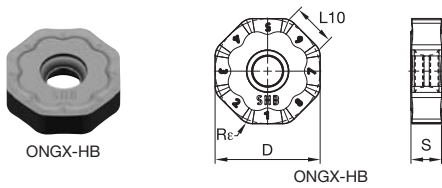


- ...ANSNGP = medium roughing with improved surface floor finish.
- ...SNGP = medium roughing with low cutting forces.


ONGX-GP • High-Precision Periphery Ground

catalog number	D	S	L10	BS	Rε	hm	KC514M	KCK15	KCK20	KCPK30	KY3500
ONGX64ANSNGP	.787	.229	.323	.059	.031	.006	●	●	●	-	-
ONGX645SNGP	.787	.229	.326	-	.079	.006	●	●	●	-	-

- First choice for heavy roughing.



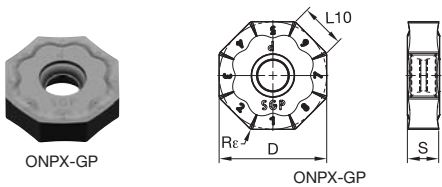
- first choice
- alternate choice

P	■						
M	■						
K	●	●	●	●	●	●	●
N	■						
S	■						
H	■						

■ ONGX-HB • High-Precision Periphery Ground

catalog number	D	S	L10	BS	Rε	hm	KC514M	KCK15	KCK20	KCPK30	KY3500
ONGX642SNHB	.787	.229	.326	—	.032	.007	●	●	—	—	—
ONGX645SNHB	.787	.229	.326	—	.079	.007	●	●	●	●	—
ONGX648SNHB	.787	.229	.326	—	.118	.007	●	●	●	—	—

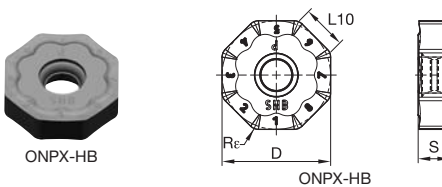
- Medium roughing with lower cutting forces.



■ ONPX-GP • Precision Pressed and Sintered to Size

catalog number	D	S	L10	BS	Rε	hm	KC514M	KCK15	KCK20	KCPK30	KY3500
ONPX642SNGP	.787	.229	.326	—	.032	.006	—	●	●	●	—

- Heavy roughing with regular performance.



■ ONPX-HB • Precision Pressed and Sintered to Size

catalog number	D	S	L10	BS	Rε	hm	KC514M	KCK15	KCK20	KCPK30	KY3500
ONPX645SNHB	.787	.229	.326	—	.079	.007	—	●	●	●	—

Face Milling

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40–100%							
.E..LE	.009	.026	.046	.007	.019	.033	.005	.014	.025	.004	.012	.022	.004	.011	.020	.E..LE
.S..GP	.013	.029	.049	.009	.021	.035	.007	.016	.026	.006	.014	.023	.006	.012	.021	.S..GP
.S..HB	.013	.033	.053	.009	.024	.038	.007	.018	.028	.006	.015	.025	.006	.014	.023	.S..HB

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

User Information

- Only use with indexable inserts ONPX0806**/ONGX0806** (ONPX64**/ONGX64**).
- Only use original Kennametal spare parts as per the current catalog.

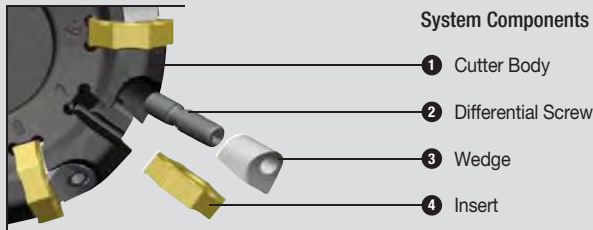


- Maintenance and repair of cutters should only be carried out by Kennametal.
- The tools must only be used in combination with suitable tool adapters and machine spindles.
- Use only the recommended torque settings when assembling the cutters for use. For further information contact the KMT CAS Team.

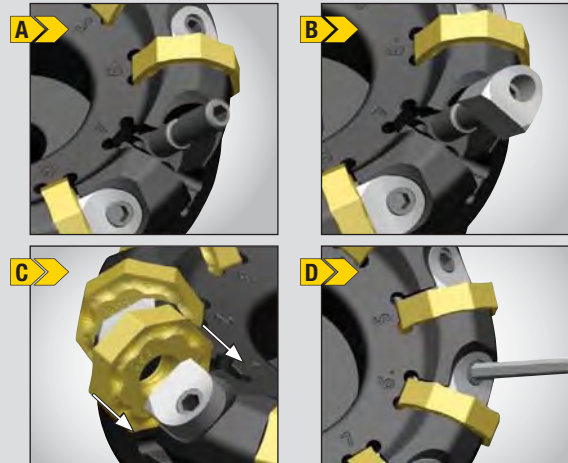
* These assembly instructions relate only to the Kennametal Mill 16 Face Mill family and not to its connection to a spindle or spindle adapter.

Preparation

- Prior to use, ensure the cutter is thoroughly cleaned and remove all dirt, grease, and anti-corrosive protection.
- Carefully grease the differential screws with copper grease. Ensure the rest of the cutter is clean.
- When loading the inserts into the cutter, please ensure that they are inserted in the clean pocket seat in the correct position.
- Mounting position: The flat side of the clamping wedge sits on top of the insert face. We recommend to mount the inserts by following the insert's edge numbering system for orientated insert seating. Active cutting edges shall all have the same cutting edge number.



Insert Clamping and Adjusting



Pre-setting of Inserts

- A. Screw the differential screw **2** into the cutter body **1** by approximately 2 turns using a 3mm hex wrench.
- B. Place wedge **3** on differential screw **2** and fasten into the cutter body.
- C. Push insert **4** into the pocket seat by hand in the direction shown.
- D. Clamp insert **4** with wedge **3** by rotating the differential screw with a clamping force of MA = 18 in/lbs (2 Nm). The differential screw must not stick out of wedge.
- E. Repeat steps A-D for all inserts.

Tightening the Inserts

- F. Tighten all inserts of the pockets with the wedge using the differential screw with a clamping torque of MA = 62 in/lbs (7 Nm).

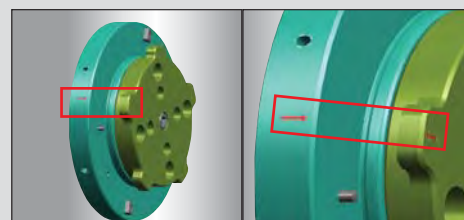
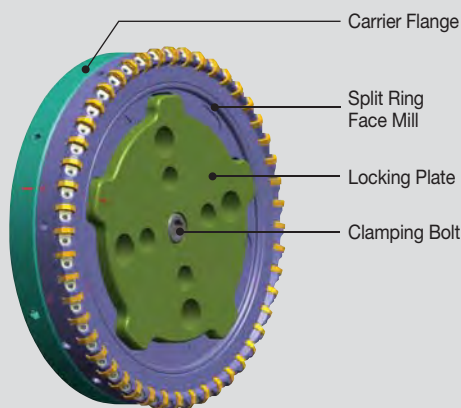
Split Cutter Assembly Instructions

Please read and follow the instructions below for safe and productive application.

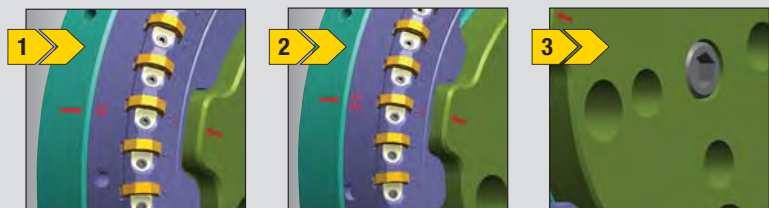
User Information

These assembly instructions relate only to Kennametal split-case milling cutters and not to its connection to a spindle or spindle adapter.

System Components



Initial position must be in such a way that the arrows in the carrier flange and locking plate coincide with each other.



1 Place the split ring face mill over the carrier flange in such a way that arrows in the locking plate and carrier flange coincide with the marking "A" in the cutter.

2 Turn the cutter ring clockwise from marking "A" to marking "B".

3 Tighten the clamping bolt with a torque of 100 Nm.

Extended Kennametal Service

Adjustable

Torque Wrenches

When working with inserts, it is especially important to use the correct torque. Kennametal offers extended service levels by assuring best tightening with adjustable torque wrenches. Please order separately as needed.

■ Adjustable torque wrenches • 5.3–47.8 in. lbs (0,6–5,4 Nm)



3641463



3641464

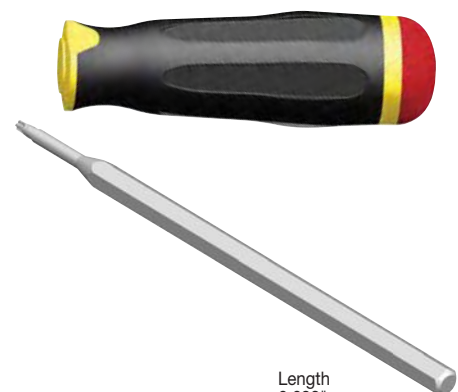


3641465

Order Number	ANSI/ISO Catalog Number	Description	Nm range	in. lbs range
3641463	DTQ0615	Torque control wrench handle	0,7–1,5 Nm	5.4–13.3
3641464	DTQ1530	Torque control wrench handle	1,6–3,0 Nm	13.4–26.6
3641465	DTQ3054	Torque control wrench handle	3,1–5,4 Nm	26.7–47.8

■ Blades

Order Number	Description	Drive	Max Torque
3641466	Blade Screw Driver TORX	BTQT6	0,8 Nm
3641467	Blade Screw Driver TORX	BTQT7	1,4 Nm
3641468	Blade Screw Driver TORX	BTQT8	2,4 Nm
3641469	Blade Screw Driver TORX	BTQT9	3,3 Nm
3641470	Blade Screw Driver TORX	BTQT10	4,0 Nm
3641471	Blade Screw Driver TORX	BTQT15	7,0 Nm
3641472	Blade Screw Driver TORX	BTQT20	10,5 Nm
3641473	Blade Screw Driver TORX	BTQT25	20,0 Nm
3641474	Blade Screw Driver TORX PLUS	BTQ6IP	0,9 Nm
3641475	Blade Screw Driver TORX PLUS	BTQ7IP	1,7 Nm
3641476	Blade Screw Driver TORX PLUS	BTQ8IP	2,8 Nm
3641477	Blade Screw Driver TORX PLUS	BTQ9IP	3,6 Nm
3641478	Blade Screw Driver TORX PLUS	BTQ10IP	5,0 Nm



Length
6.693"
(170mm)

■ Adjustable torque wrenches • 3.7–10.3 in. lbs (5–14 Nm)

Order Number	ANSI/ISO Catalog Number	Description
6197561	DTQ50140	Torque Wrench Handle 5-14Nm + bitholder
6205876	BTQSW3L90	Bit SW3 L=90mm
6205877	BTQT15L90	Bit Torx 15 L=90mm
6205878	BTQT20L90	Bit Torx 20 L=90mm
6205879	BTQT25L90	Bit Torx 25 L=90mm
6205880	BTQTP15L90	Bit Torx Plus 15 L=90mm
6205891	BTQTP20L90	Bit Torx Plus 20 L=90mm
6205892	BTQTP25L90	Bit Torx Plus 25 L=90mm

NOTE: For a complete overview of our screw drivers, bits, torque wrenches, and bit drivers, see pages X2–X3.



Experience the advantages at your Authorized Kennametal Distributor or at kennametal.com.



kennametal.com

➤ KSSM™ 45°

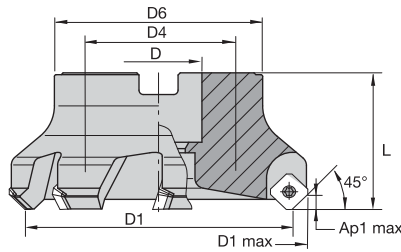
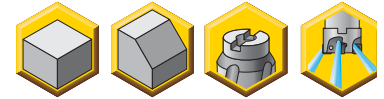
Universal face mill for conventional machining.



Features and Benefits

- Insert SE.T1404.
- $A_{p1} \text{ max} = .260''$.
- Four true cutting edges.
- Pocket seat protection with carbide shims.
- Easy handling and rapid insert change.

- Consumes less power.
- Rapid insert changes.


■ KSSM 45° • Shell Mills

order number	catalog number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	lbs	max RPM
1817866	KSSISR197SE44345C3	1.970	2.515	.750	—	1.750	1.575	.260	3	.87	22500
1817867	KSSISR197SE44345M3	1.970	2.515	.750	—	1.750	1.575	.260	4	.88	22500
1817868	KSSISR248SE44345C4	2.480	3.024	1.000	—	2.190	1.575	.260	4	1.31	20200
1817869	KSSISR248SE44345M4	2.480	3.024	1.000	—	2.190	1.575	.260	5	1.30	20200
1817870	KSSISR315SE44345C4	3.150	3.691	1.000	—	2.190	1.969	.260	4	2.16	18000
1817871	KSSISR315SE44345M4	3.150	3.691	1.000	—	2.190	1.969	.260	6	2.19	18000
1817872	KSSISR394SE44345C5	3.940	4.477	1.250	—	2.880	1.969	.260	5	3.58	16000
1817933	KSSISR394SE44345M5	3.940	4.477	1.250	—	2.880	1.969	.260	7	3.60	16000
1817934	KSSISR492SE44345C6	4.920	5.460	1.500	—	3.810	2.480	.260	6	6.50	14400
1817935	KSSISR492SE44345M6	4.920	5.460	1.500	—	3.810	2.480	.260	8	6.56	14400
1817936	KSSISR630SE44345C6	6.300	6.836	1.500	—	3.810	2.480	.260	7	9.91	12500
1817937	KSSISR630SE44345M6	6.300	6.836	1.500	—	3.810	2.480	.260	10	10.03	12500
1817938	KSSISR787SE44345C10	7.870	8.410	2.500	4.000	6.125	2.480	.260	8	13.24	11300
1817939	KSSISR787SE44345M10	7.870	8.410	2.500	4.000	6.125	2.480	.260	12	13.37	11300

■ Spare Parts


D1	insert screw	in. lbs.	Torx Plus driver	shim	shim screw	hex driver	in. lbs.	socket-head cap screw
1.970	MS2078	35	DT15IP	—	—	—	—	S2043
2.480	MS2078	35	DT15IP	—	—	—	—	S2044
3.150	MS2078	35	DT15IP	SM455	SRS3	DH35M	40	—
3.940	MS2078	35	DT15IP	SM455	SRS3	DH35M	40	—
4.920	MS2078	35	DT15IP	SM455	SRS3	DH35M	40	—
6.300	MS2078	35	DT15IP	SM455	SRS3	DH35M	40	—
7.870	MS2078	35	DT15IP	SM455	SRS3	DH35M	40	—



Face Milling

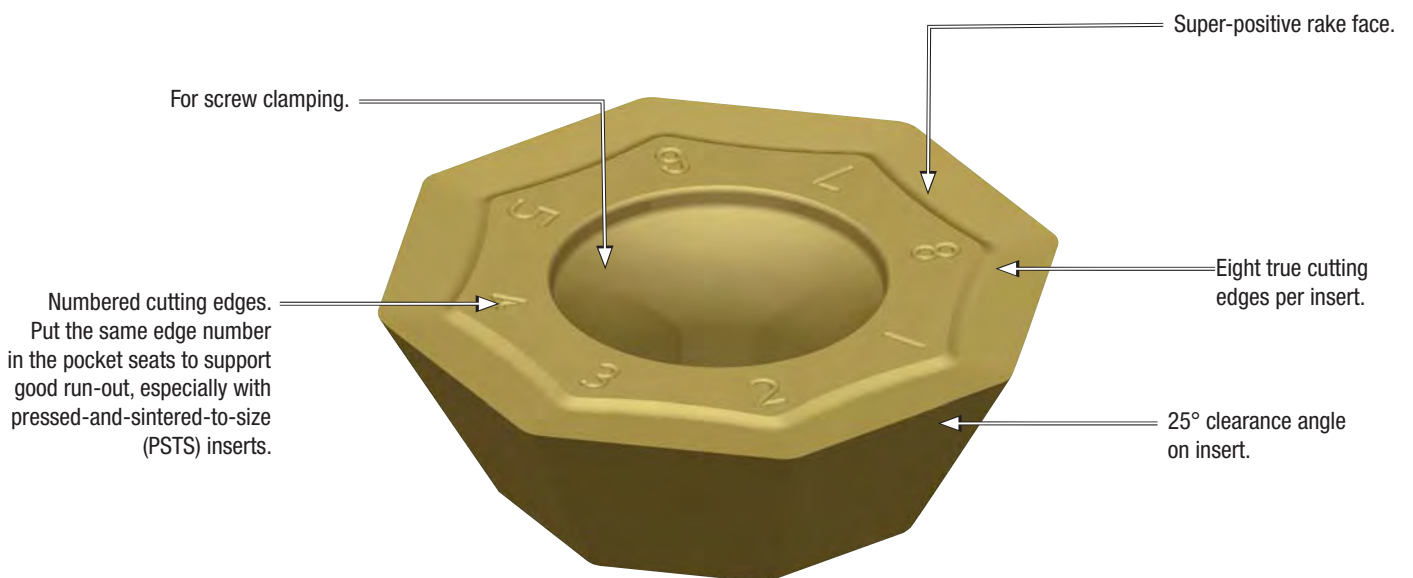
➤ KSOM™ Mini • KSOM Milling Tools

Primary Application

High-positive face mills with eight cutting edges for use in most workpieces materials. Due to its design, face milling, plunging, helical interpolation, and ramping are possible with KSOM mills.

Features and Benefits

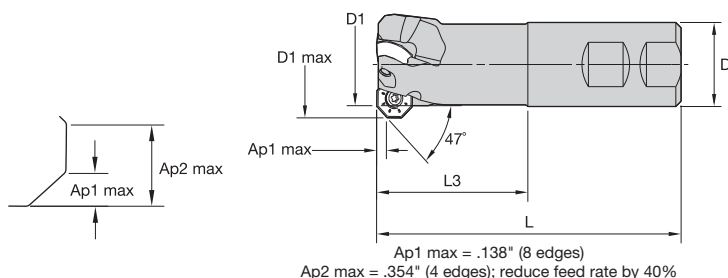
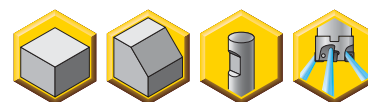
- Super-positive rake face for soft cutting action.
- Low cutting forces deliver higher feed capability.
- 25° clearance angle on insert allows excellent free cutting.
- Excellent performance in stainless steel and super alloys.
- First choice solution for machining turbocharger materials like 1.4826, 1.4838, 1.4848, and 1.4849.



KSOM Mini: insert OF*T53
 — Ap1 max = .138" (8 indexes)
 — Ap2 max = .354" (4 indexes)

KSOM insert OF*T64
 — Ap1 max = .197" (8 indexes)
 — Ap2 max = .461" (4 indexes)

- Eight cutting edges per insert.
- Super soft cutting.



■ **KSOM Mini • Weldon® End Mills**

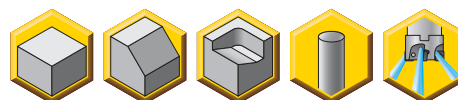
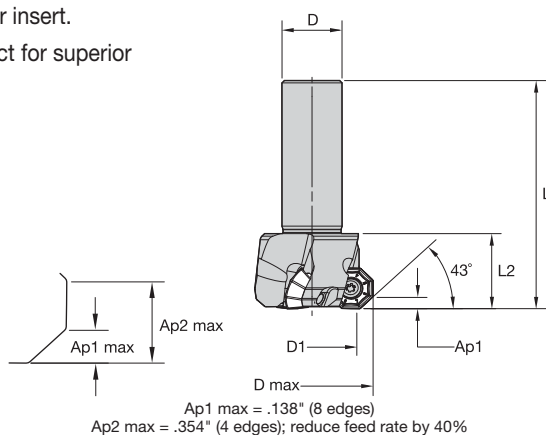
order number	catalog number	D1	D1 max	D	L	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
3093625	KSOM125OF5345M3	1.250	1.610	.750	3.047	1.000	.138	2	11.0°	.53	20050
3093600	KSOM125OF5345F5	1.250	1.610	1.250	4.530	2.250	.138	3	11.0°	1.45	20050
3093627	KSOM150OF5345M3	1.500	1.856	.750	3.047	1.000	.138	3	8.0°	.60	16710
3093623	KSOM150OF5345F3	1.500	1.856	.750	3.047	1.000	.138	4	8.0°	.56	16710

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx Plus wrench
1.250	193.433	53	TTP15
1.500	193.433	53	TTP15

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus15 (order number 6205880) may be purchased separately in order to ensure proper torque setting.

- Eight cutting edges per insert.
- Super soft cutting effect for superior surface floor finishing.



■ **Cylindrical End Mills**

order number	catalog number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
5358938	KSOM125Z03C100OF53X	1.250	1.603	1.000	3.280	1.000	.138	3	11.0°	.74	20050

■ **Spare Parts**

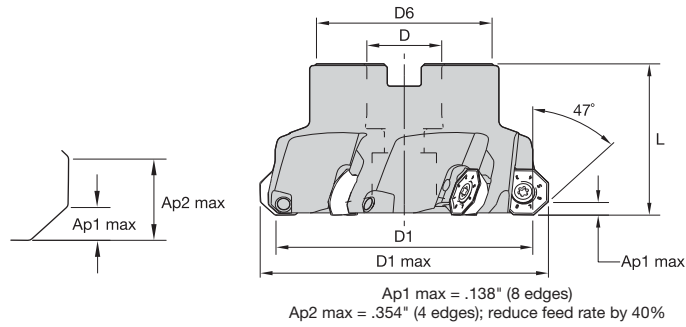
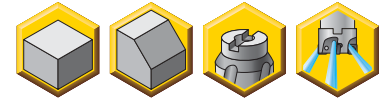
D1	insert screw	in. lbs.	Torx Plus wrench
1.250	193.433	53	TTP15

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus20 (order number 6205891) may be purchased separately in order to ensure proper torque setting.



Face Milling

- Eight cutting edges per insert.
- Super soft cutting.

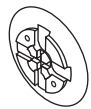


■ KSOM Mini • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
5359020	KSOM150Z04OF53S050X	1.500	1.850	.500	1.440	1.575	.138	4	8.0°	.58	16710
3093634	KSOM200OF5345M3	2.000	2.350	.750	1.593	1.570	.138	4	5.2°	.85	12530
5359021	KSOM200Z06OF53S075X	2.000	2.346	.750	1.750	1.570	.138	6	5.2°	.88	12530
3093635	KSOM250OF5345M3	2.500	2.846	.750	1.986	1.570	.138	5	3.8°	1.38	10030
5359023	KSOM250Z07OF53S075X	2.500	2.843	.750	2.144	1.570	.138	7	3.8°	1.43	10030
3093636	KSOM300OF5345M4	3.000	3.343	1.000	2.031	1.750	.138	6	3.0°	1.88	8350
5359024	KSOM300Z09OF53S100X	3.000	3.341	1.000	2.188	1.750	.138	9	3.0°	1.98	8350
3093637	KSOM400OF5345M5	4.000	4.340	1.250	2.722	1.750	.138	7	2.1°	2.77	6270
3093638	KSOM500OF5345M6	5.000	5.340	1.500	3.652	2.380	.138	8	1.6°	5.63	5010
3093632	KSOM500OF5345F6	5.000	5.340	1.500	3.652	2.380	.138	12	1.6°	6.07	5010

NOTE: "X" in the catalog number stands for improved finishing capabilities.

■ Spare Parts



D1	insert screw	in. lbs.	Torx Plus wrench	socket-head cap screw	coolant lock screw	coolant lock screw	coolant shower plate
1.500	193.433	53	TTP15	S424	—	—	—
2.000	193.433	53	TTP15	S445	—	—	—
2.500	193.433	53	TTP15	S445	—	—	—
3.000	193.433	53	TTP15	S458	—	—	—
4.000	193.433	53	TTP15	—	S2162C	—	—
5.000	193.433	53	TTP15	—	—	420.201	470.240

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus15 (order number 6205880) may be purchased separately in order to ensure proper torque setting.



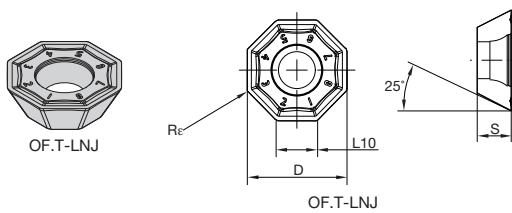
Face Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LB	KCPK30	.E..GB	KCPM40	.S..HB	KCPK30
P3-P4	.E..LB	KCPK30	.E..GB	KCPK30	.S..HB	KCPK30
P5-P6	.E..LB	KC725M	.E..GB	KC725M	.S..HB	KC725M
M1-M2	.E..LB	KCSM40	.E..GB	KCSM40	.S..HB	KCSM40
M3	.E..LB	KCSM40	.E..GB	KCSM40	.S..HB	KCSM40
K1-K2	.E..LB	KCK15	.E..GB	KC520M	.E..GB	KCK15
K3	.E..LB	KCPK30	.E..GB	KC520M	.S..HB	KCPK30
N1-N2	.F..LBJ	KC410M	.E..LBJ	KC422M	.E..LBJ	KC422M
N3	.F..LBJ	KC410M	.F..LNJ	KC410M	.F..LNJ	KC410M
S1-S2	.E..LB	KC725M	.E..GB	KC725M	.S..HB	KC725M
S3	.E..LB	KCSM40	.E..GB	KCSM40	.S..HB	KCSM40
S4	.E..LB	KCSM40	.E..GB	KCSM40	.S..HB	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts

- First choice for machining aluminum with low feed rate.



- first choice
- alternate choice

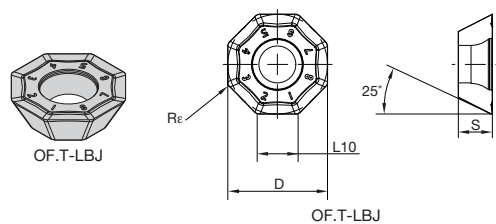
beyond

P	●				○			●	●	○
M	●							○	○	●
K	●							○	○	
N	●	●								
S								●	●	●
H										

OFKT-LNJ

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
OFKT53AFFN4LNJ	.579	.197	.236	—	.031	.001	8	●	-	-	-	-	-	-	-	-

- First choice for machining aluminum.



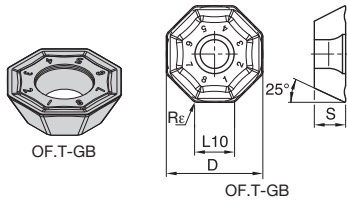
OFKT-LBJ

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
OFKT53AFEN4LBJ	.579	.197	.236	—	.031	.001	8	-	●	-	-	-	-	-	-	-
OFKT53AFFN4LBJ	.579	.197	.236	—	.031	.001	8	●	-	-	-	-	-	-	-	-

Face Milling

beyond

- First choice for general purpose.
- -GB medium geometry for roughing and finishing operations on all materials.



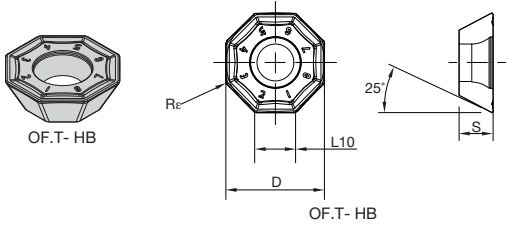
- first choice
- alternate choice

P	●					○	●	●	○
M	●					○	●	○	●
K	●					○	●	○	●
N	●	●							
S	●								●
H									

■ OFPT-GB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
OFPT53AFEN4GB	.579	.197	.236	—	.031	.006	8	-	-	●	-	●	●	●	●	-

- First choice for heavy roughing.



■ OFPT-HB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
OFPT53AFSN4HB	.579	.197	.236	—	.031	.008	8	-	-	●	-	●	●	●	-	●

Face Milling

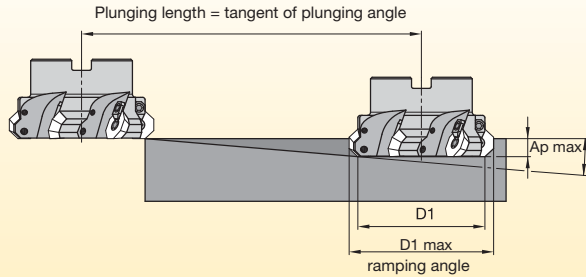
Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

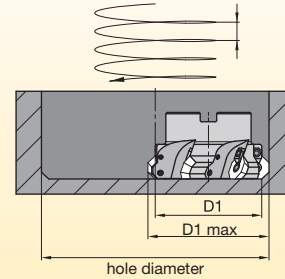
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LBJ	.007	.025	.041	.005	.018	.030	.004	.013	.022	.003	.012	.019	.003	.011	.018	.F..LBJ
.F..LNJ	.007	.025	.041	.005	.018	.030	.004	.013	.022	.003	.012	.019	.003	.011	.018	.F..LNJ
.E..LBJ	.007	.025	.045	.005	.018	.033	.004	.013	.024	.003	.012	.021	.003	.011	.019	.E..LBJ
.E..LB	.014	.029	.047	.010	.021	.034	.007	.016	.025	.006	.014	.022	.006	.013	.020	.E..LB
.S..LB	.014	.029	.051	.010	.021	.037	.007	.016	.027	.006	.014	.024	.006	.012	.022	.S..LB
.E..GB	.014	.034	.055	.010	.025	.039	.007	.018	.029	.006	.016	.025	.006	.015	.023	.E..GB
.S..HB	.014	.034	.059	.010	.025	.042	.007	.018	.031	.006	.016	.027	.006	.015	.025	.S..HB

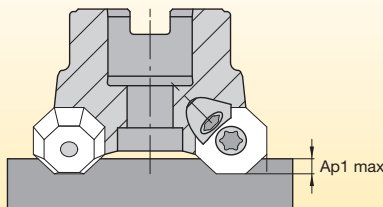
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

KSOM Mini Application • OF.T06L5
Ramping

Inch version

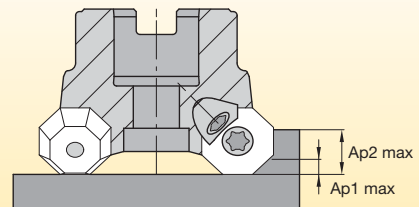
D1 inch	D1 max inch	Ap max inch	ramping angle (°)	ramping length inch
1.25	1.61	.354	11,0	1.82
1.50	1.85	.354	8,0	2.52
2.00	2.35	.354	5,2	3.89
2.50	2.85	.354	3,8	5.34
3.00	3.34	.354	3,0	6.76
4.00	4.34	.354	2,1	9.66
5.00	5.34	.354	1,6	12.69
6.00	6.34	.354	1,3	15.61

Helical Interpolation

Inch version

D1 inch	D1 max inch	hole diameter		Ap/Rev inch
		min inch	max inch	
1.25	1.61	2.41	3.20	.185
1.50	1.85	2.91	3.69	.185
2.00	2.35	3.90	4.68	.185
2.50	2.85	4.93	5.68	.185
3.00	3.34	5.89	6.68	.185
4.00	4.34	7.89	8.67	.185
5.00	5.34	9.89	10.67	.185
6.00	6.34	11.89	12.67	.185

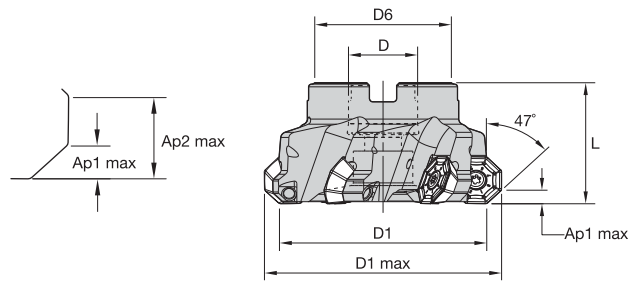
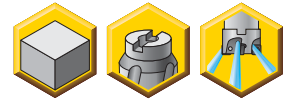
Plunging


max plunging depth	inch
Ap1 max	.13

Face Milling


max DOC Ap	inch	chipload (fz)
Ap1 max	.14	1 x fz
Ap2 max	.35	0,6 x fz

- Eight cutting edges per insert.
- Super soft cutting.



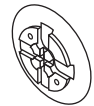
Ap1 max = .138" (8 edges)
Ap2 max = .354" (4 edges); reduce feed rate by 40%

KSOM • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
3093645	KSOM2500F6445M3	2.500	2.945	.750	1.986	1.750	.197	4	5.5°	1.47	10100
3093640	KSOM2500F6445F3	2.500	2.945	.750	1.986	1.750	.197	5	5.5°	1.29	10100
3093646	KSOM3000F6445M4	3.000	3.441	1.000	2.031	1.750	.197	4	4.2°	1.83	7900
3093641	KSOM3000F6445F4	3.000	3.441	1.000	2.031	1.750	.197	6	4.2°	1.68	7900
3093647	KSOM4000F6445M5	4.000	4.436	1.250	2.722	1.750	.197	5	2.9°	2.69	6300
3093642	KSOM4000F6445F5	4.000	4.436	1.250	2.722	1.750	.197	8	2.9°	2.79	6300
3093648	KSOM5000F6445M6	5.000	5.433	1.500	3.652	2.380	.197	6	2.2°	5.54	5000
3093643	KSOM5000F6445F6	5.000	5.433	1.500	3.652	2.380	.197	10	2.2°	5.94	5000
3093649	KSOM6000F6445M8	6.000	6.431	2.000	4.722	2.380	.197	7	1.8°	8.51	3900
3093644	KSOM6000F6445F8	6.000	6.431	2.000	4.722	2.380	.197	12	1.8°	8.66	3900

Spare Parts

Face Milling



D1	insert screw	in. lbs.	Torx Plus wrench	socket-head cap screw	coolant lock* screw assembly	coolant* lock screw	coolant* shower plate
2.500	193.409	53	TTP20	S445	—	—	—
3.000	193.409	53	TTP20	S458	—	—	—
4.000	193.409	53	TTP20	—	S2162C	—	—
5.000	193.409	53	TTP20	—	—	420.201	470.240
6.000	193.409	53	TTP20	—	—	420.241	470.241

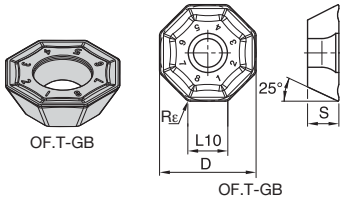
* Coolant clamping screw and coolant cap must be purchased separately.

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus20 (order number 6205891) may be purchased separately in order to ensure proper torque setting.

- First choice for general purpose.
- -GB medium geometry for roughing and finishing operations on all materials.

- first choice
- alternate choice

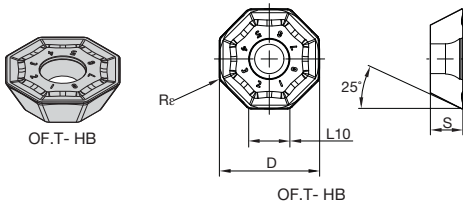
P	●	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○



OFKT-GB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
OFKT64AFEN6GB	.736	.236	.295	—	.047	.006	8	-	●	●	●	-	●	●	●	●

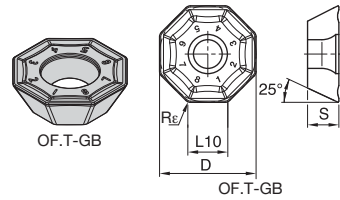
- First choice for heavy roughing.



OFKT-HB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
OFKT64AFSN6HB	.736	.236	.295	—	.047	.008	8	-	●	●	●	-	●	●	-	●

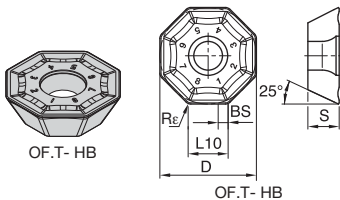
- First choice for general purpose.



OFPT-GB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
OFPT64AFEN6GB	.736	.236	.295	—	.047	.006	8	-	●	●	●	●	●	●	-	-

- First choice for heavy roughing.



OFPT-HB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
OFPT64AFSN6HB	.736	.236	.295	—	.047	.008	8	-	-	●	●	●	●	-	-	●

Face Milling

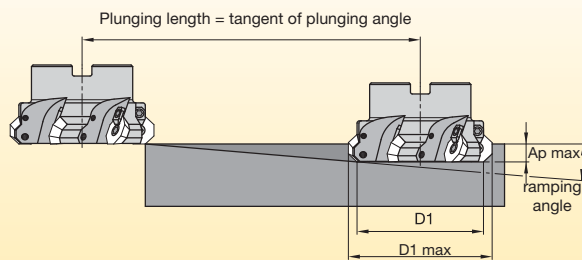
Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

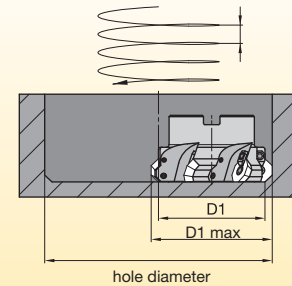
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LNJ	.007	.027	.048	.005	.019	.035	.004	.015	.026	.003	.013	.022	.003	.012	.021	.F..LNJ
.E..LB	.014	.029	.047	.010	.021	.034	.007	.016	.025	.006	.014	.022	.006	.013	.020	.E..LB
.S..LB	.014	.029	.053	.010	.021	.038	.007	.016	.028	.006	.014	.025	.006	.012	.022	.S..LB
.E..GB	.014	.034	.055	.010	.025	.039	.007	.018	.029	.006	.016	.026	.006	.015	.023	.E..GB
.S..HB	.014	.034	.059	.010	.025	.042	.007	.018	.031	.006	.016	.027	.006	.015	.025	.S..HB

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

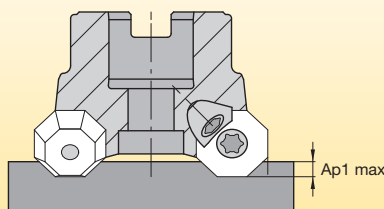
Application • OF.T07L6

KSOM Application • OF.T07L6
Ramping

Inch version

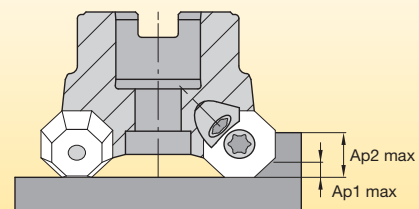
D1 inch	D1 max inch	Ap max inch	ramping angle (°)	ramping length inch
2.50	2.94	.46	5.5	4.78
3.00	3.44	.46	4.2	6.27
4.00	4.43	.46	2.9	9.09
5.00	5.43	.46	2.2	11.99
6.00	6.43	.46	1.8	14.65

Helical Interpolation

Inch version

D1 inch	D1 max inch	hole diameter		Ap/Rev inch
		min inch	max inch	
2.50	2.94	4.872	5.748	.248
3.00	3.44	5.868	6.744	.248
4.00	4.43	7.863	8.739	.248
5.00	5.43	9.859	10.736	.248
6.00	6.43	11.857	12.733	.248

Plunging


max plunging depth	inch
Ap1 max	.17

Face Milling


max DOC Ap	inch	chipload (fz)
Ap1 max	.20	1 x fz
Ap2 max	.46	0,6 x fz

Face Milling

➤ KSSM8+™ Face Milling Platform

Primary Application

The KSSM8+ platform is a first-choice face milling platform for **versatility** and a **reduced cost per edge**. This platform just got better with the latest pressing technology from Kennametal, which delivers pressed and sintered-to-size (PSTS) inserts ideal for general machining in **cast iron and steel**. With our latest KCPM40™ grade offering, PSTS inserts deliver exceptional performance. Now more than ever, the KSSM8+ platform is the economical solution for applications requiring a **near 0° shoulder**.

Features and Benefits

Features

- Double-sided insert with 8 cutting edges.
- Face mill with close to a 0° shoulder.
 - IC 10 (2° lead)
 - IC 12,7 (3° lead)
- Medium and fine density cutters.
- -LD and -GD geometry inserts.

Benefits

- Maximized number of cutting edges.
- Lower cost-per-edge.
- Reduced power consumption.
- Reduced deformation/chatter.
- Exceptional surface finish.
- Stronger edge for roughing.

Versatile Platform with Multiple Insert Options and Grades



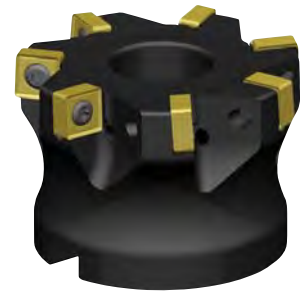
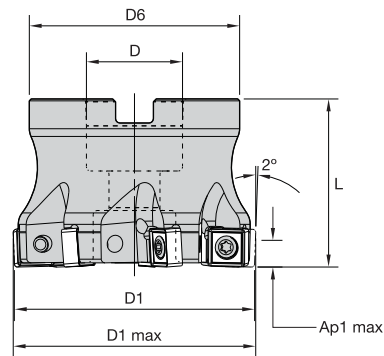
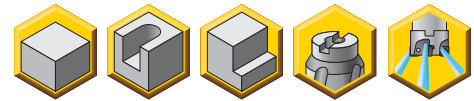
Cost per Edge
Double-sided square inserts,
8 cutting edges.



Optimized Cutting Forces
4° axial and 10° radial rake
angles reduce power consumption.

Through Tool Coolant/Air
Directed to the cutting edge
for optimum cooling.

- Eight cutting edges offer a lower cost per edge.
- Soft cutting action with low cutting forces.



■ KSSM8+ • Shell Mills

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
5420251	KSSM88D200SN3125S075Z05	2.000	2.025	.750	1.750	1.750	.361	5	.85	32500
5420252	KSSM88D200SN3125S075Z06	2.000	2.025	.750	1.750	1.750	.361	6	.85	32500
5420255	KSSM88D300SN3125S100Z07	3.000	3.025	1.000	2.190	1.750	.361	7	1.82	25500
5420257	KSSM88D300SN3125S100Z09	3.000	3.419	1.000	2.190	1.750	.361	9	1.82	25500
5420258	KSSM88D400SN3125S150Z08	4.000	4.025	1.500	3.380	2.000	.361	8	3.73	21700

NOTE: Standard milling cutters will accept insert nose radii up to .078" without modification.

■ Spare Parts

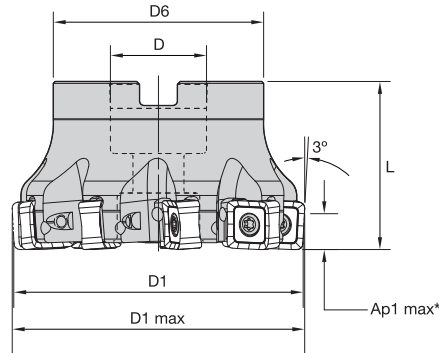
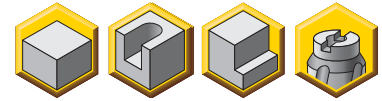


Face Milling

D1	insert screw	in. lbs.	Torx driver	socket-head cap screw	coolant lock screw assembly
2.000	193.492	35.000	DT15	S445	—
3.000	193.492	35.000	DT15	S458	—
4.000	193.492	35.000	DT15	—	S-2165-C

NOTE: For coolant shower plates (MCC.), only use low-pressure coolant.

- Eight cutting edges offer a lower cost per edge.
- Soft cutting action with low cutting forces.



■ **KSSM8+ • Shell Mills**

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max*	Z	lbs	max RPM
5420150	KSSM87D200SN440S075Z05	2.000	2.045	.750	1.750	1.750	.236	5	.81	22500
5420154	KSSM87D300SN440S100Z07	3.000	3.045	1.000	2.190	1.750	.236	7	1.86	17400
5420155	KSSM87D300SN440S100Z09	3.000	3.045	1.000	2.190	1.750	.236	9	1.83	17400
5420156	KSSM87D400SN440S150Z08	4.000	4.045	1.500	3.380	2.000	.236	8	3.69	14700
5420157	KSSM87D400SN440S150Z11	4.000	4.045	1.500	3.380	2.000	.236	11	3.68	14700
5420160	KSSM87D600SN440S150Z12	6.000	6.045	1.500	3.380	2.380	.236	12	8.17	11700
5420161	KSSM87D600SN440S150Z16	6.000	6.045	1.500	3.380	2.380	.236	16	8.16	11700

NOTE: Standard milling cutters will accept insert nose radii up to .078" without modification.
 *Ap1 max. .236" using insert SNHJ442ENLD.
 *Ap1 max. .467" using insert SNPJ442SNGD.



Face Milling

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx driver	socket-head cap screw	coolant lock screw assembly
2.000	193.492	35.000	DT15	S445	—
3.000	193.492	35.000	DT15	S458	—
4.000	193.492	35.000	DT15	—	S2165C
6.000	193.492	35.000	DT15	—	S2163C

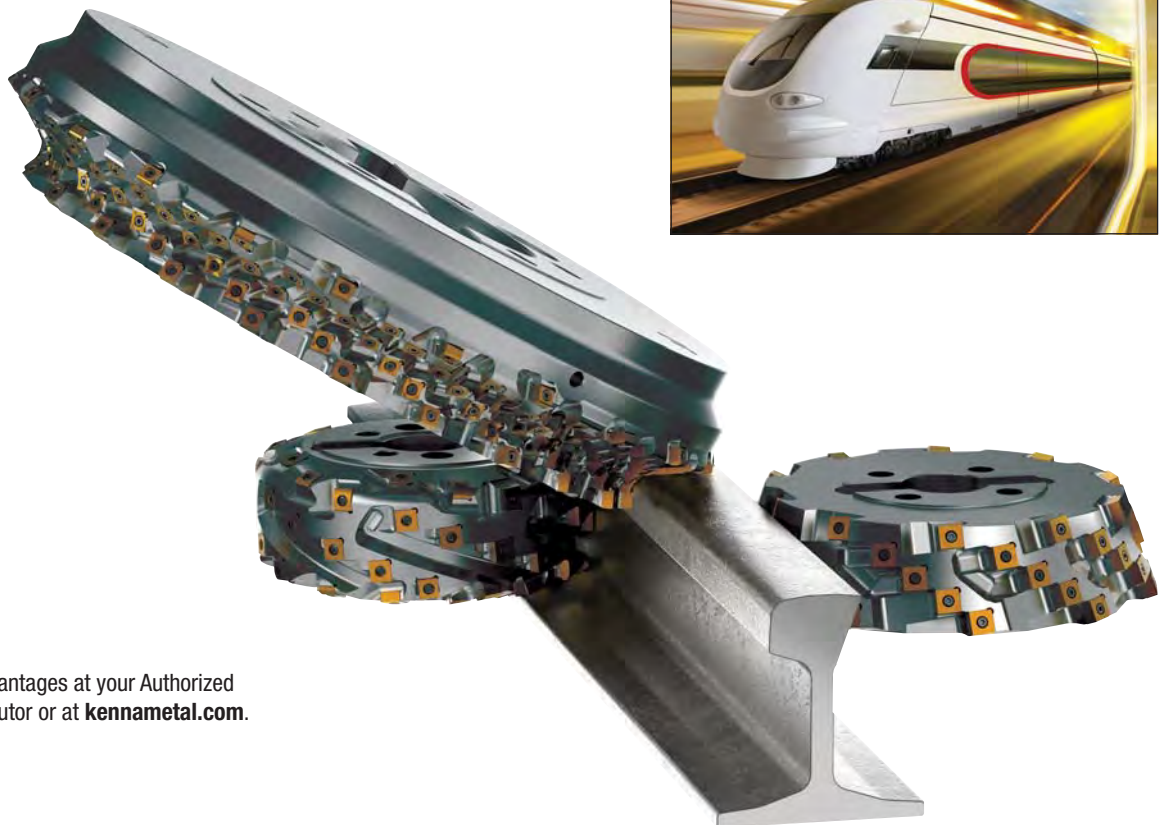
NOTE: For coolant shower plates (MCC.), only use low-pressure coolant.

Solution Capabilities

RAIL MILLING

Kennametal customers benefit from the highest service levels, our long-term experience, and application knowledge in the rail milling industry.

- Solutions for all applications in rail and wheel machining.
- Technical support to find the right tools for the application and to learn how to use them the best way.
- Highly productive tooling solutions, including indexable inserts up to eight cutting edges.
- High-performance tools with helix-like partitions and long tool life.
- Solutions available to optimize vibration, performance, and cutting action, depending on the application.



Experience the advantages at your Authorized Kennametal Distributor or at kennametal.com.



kennametal.com

➤ Fix-Perfect™ Cast Iron Rougher and Finisher

Primary Application

Performance booster in machining cast iron materials. Based on workpiece requirements, Fix-Perfect roughers and finishers cover all face and shoulder milling applications when machining cast iron materials with best-in-class productivity. Eight true cutting edges per insert deliver low cost per edge and best cost per part (CPP) ceramic inserts available as standard line items.

Features and Benefits

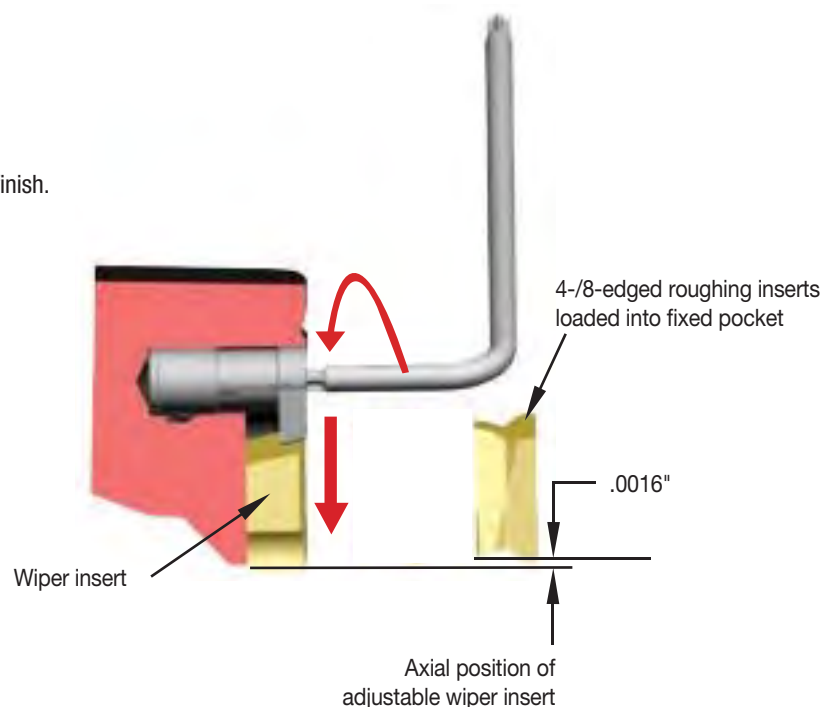
Fix-Perfect Cast Iron 20° and 0° Roughing and Finishing in One Tool

- Innovative tangential insert clamping.
- First choice for high feed rates.
- Protection of non-cutting edges.
- Adjustable element for fine finishing with wiper inserts.
- PCBN-tipped wiper inserts available for excellent floor finish.
- Micro-precise runout setup.

Fix-Perfect Cast Iron *Finisher Best-in-Class Fine-Finishing Concept

- Rigid and stable cutter design.
- High-precision pocket seat.
- Perfect axial runout without insert adjustment.
- Reliable, excellent floor finish and flatness.
- Easy handling and low-cost cutter setup.

*Finisher inch cutters available as custom solution





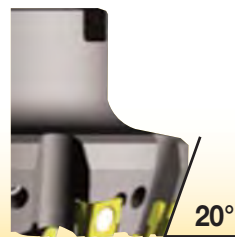
Fix-Perfect™ *Finisher



Fix-Perfect Cast Iron

Fix-Perfect Cast Iron 20° and 0°

Fix-Perfect 20°



20°

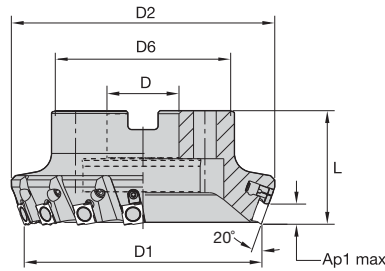
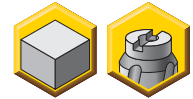
Fix-Perfect 0°



0°

*Finisher inch cutters available as custom solution

- Eight cutting edges per insert.
- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Adjustable pockets (D1 = 3–10").



Ap1max: .232" (8 edges)
Ap2 max: .374" (4 edges); reduce feed rate by 30%



■ Fix-Perfect 20° • Shell Mills

order number	catalog number	D1	D	D2	D4	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
1724429	50A04RP70SP12CUFP	2.000	.750	2.504	—	1.750	1.750	.232	4	0	1.24	8595
1724378	50A05RP70SP12CUFP	2.000	.750	2.504	—	1.750	1.750	.232	5	0	1.19	8595
1724379	63A07RP70SP12CUFP	2.500	.750	2.988	—	1.750	1.750	.232	7	0	1.55	6876
1724432	80A06RP70SP12C1WUFP	3.000	1.000	3.504	—	2.190	1.750	.232	6	1	2.21	5730
1724380	80A08RP70SP12C2WUFP	3.000	1.000	3.504	—	2.190	1.750	.232	8	2	2.43	5730
1532258	100B08RP70SP12C2WUFP	4.000	1.500	4.488	—	2.880	1.750	.232	8	2	3.30	4298
1724391	100B12RP70SP12C3WUFP	4.000	1.500	4.488	—	2.880	1.750	.232	12	3	3.10	4298
1532257	125B10RP70SP12C2WUFP	5.000	1.500	5.504	—	3.810	2.375	.232	10	2	6.50	3438
1724434	160B12RP70SP12C3WUFP	6.000	2.000	6.504	—	4.882	2.375	.232	12	3	10.10	2865
1724395	160B18RP70SP12C3WUFP	6.000	2.000	6.504	—	4.882	2.375	.232	18	3	10.10	2865
1532255	200C16RP70SP12C4WUFP	8.000	2.500	8.504	4.000	5.120	2.375	.232	16	4	14.10	2149
1532254	250C20RP70SP12C4WUFP	10.000	2.500	10.504	4.000	7.120	2.375	.232	20	4	29.30	1719



Face Milling

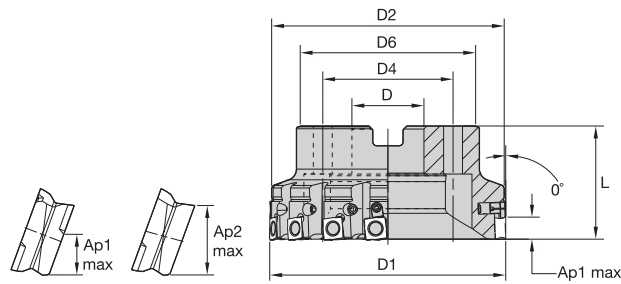
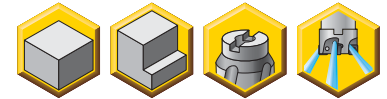
■ Spare Parts

D1	adjusting element	adjusting element screw	Torx wrench	clamp stud	set screw	hex wrench	in. lbs.	socket-head cap screw
2.000	—	—	—	410.081	121.612	170.003	45	S445
2.500	—	—	—	410.081	121.612	170.003	45	S445
3.000	479.100	193.300	KT9	410.081	121.612	170.003	45	S458
4.000	479.100	193.300	KT9	410.081	121.612	170.003	45	—
5.000	479.100	193.300	KT9	410.081	121.612	170.003	45	—
6.000	479.100	193.300	KT9	410.081	121.612	170.003	45	—
8.000	479.100	193.300	KT9	410.081	121.612	170.003	45	—
10.000	479.100	193.300	KT9	410.081	121.612	170.003	45	—

NOTE: Please order spare parts separately.

Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

- Eight cutting edges per insert.
- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Adjustable pockets (D1 = 3–6").



Ap1 max = .236" (8 edges)
 Ap2 max = .394" (4 edges); reduce feed rate by 30%



■ Fix-Perfect 0° • Shell Mills

order number	catalog number	D1	D	D2	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
1724407	50A04RP90SP12CUFP	2.000	.750	1.929	1.750	1.750	.236	4	0	.93	8595
1514498	50A05RP90SP12CUFP	2.000	.750	1.929	1.750	1.750	.236	5	0	.93	8595
1724409	63A05RP90SP12CUFP	2.500	.750	2.433	1.750	1.750	.236	5	0	1.24	6876
1724417	80A06RP90SP12C1WUFP	3.000	1.000	2.906	2.190	1.750	.236	6	1	1.81	5730
1724339	80A08RP90SP12C2WUFP	3.000	1.000	2.906	2.190	1.750	.236	8	2	1.90	5730
1724419	100B08RP90SP12C2WUFP	4.000	1.500	3.906	2.882	1.750	.236	8	2	2.60	4298
1724351	100B12RP90SP12C3WUFP	4.000	1.500	3.906	2.882	1.750	.236	12	3	2.86	3130
1724421	125B10RP90SP12C2WUFP	5.000	1.500	4.906	3.811	2.375	.236	10	2	6.30	3438
1724353	125B15RP90SP12C3WUFP	5.000	1.500	4.906	3.811	2.375	.236	15	3	6.40	3438
1724424	160B12RP90SP12C3WUFP	6.000	2.000	5.906	4.882	2.375	.236	12	3	9.10	2865

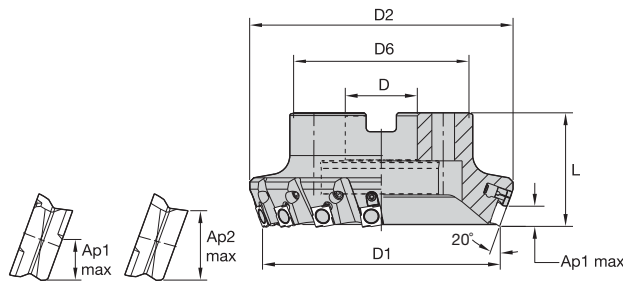
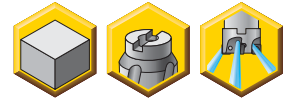
■ Spare Parts

D1	adjusting element	Torx wrench	clamp stud	set screw	hex wrench	in. lbs.	socket-head cap screw
2.000	—	—	410.081	121.612	170.003	45	S446
2.500	—	—	410.081	121.612	170.003	45	S445
3.000	479.100	KT9	410.081	121.612	170.003	45	S458
4.000	479.100	KT9	410.081	121.612	170.003	45	—
5.000	479.100	KT9	410.081	121.612	170.003	45	—
6.000	479.100	KT9	410.081	121.612	170.003	45	—

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.



- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Eight cutting edges per insert.



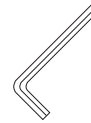
Ap1max: .256" (8 edges)
 Ap2 max: .374" (4 edges); reduce feed rate by 30%



■ **Fix-Perfect 20° • Shell Mills**

order number	catalog number	D1	D	D2	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
1806847	125B08RP70SP15C2WUFP	5.000	1.500	5.559	3.807	2.375	.256	8	2	7.00	3500
1806848	160B10RP70SP15C2WUFP	6.000	2.000	6.559	4.877	2.375	.256	10	2	10.40	2800

■ **Spare Parts**



D1	adjusting element	adjusting element screw	Torx wrench	clamp stud	clamp screw	hex wrench	in. lbs.
5.000	479.100	193.300	KT9	410.084	121.616	170.003	45
6.000	479.100	193.300	KT9	410.084	121.616	170.003	45

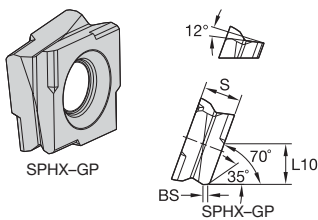
NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

Face Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	.E..GP	KCK15	.E..GP	KCK15	.E..GP	KCK15
K3	.E..GP	KCK15	.E..GP	KCK15	.S..GP	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

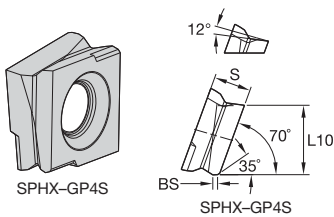
Indexable Inserts • SPHX15T6...


 ● first choice
 ○ alternate choice

P	●									
M	●									
K	●	●	●	○	○	●	●			
N	●									
S	●									
H										

■ SPHX-GP • Roughing

catalog number	L10	S	BS	hm	cutting edges	K110M	KC520M	KCK15	KTPK20	KCPK30	KB1340	KY3500
SPHX15T6ZCERGP	.257	.260	.047	.001	8	-	-	●	-	-	-	-
SPHX15T6ZCSRGP	.257	.260	.047	.006	8	●	-	-	-	●	-	-
SPHX15T6ZCTRGP	.256	.260	.047	.009	8	-	-	-	-	-	-	●



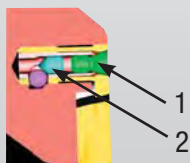
■ SPHX-GP4S • Roughing

catalog number	L10	S	BS	hm	cutting edges	K110M	KC520M	KCK15	KTPK20	KCPK30	KB1340	KY3500
SPHX15T6ZCERGP4S	.492	.260	.047	.002	4	-	-	●	-	-	-	-
SPHX15T6ZCTRGP4SK	.493	.260	.047	.009	4	-	-	-	-	-	-	●



Introduction to Fitting Cutting Bodies

	procedures:		roughing		roughing/finishing	
	fixed pocket	adjustable pocket	fixed pocket	adjustable pocket	fixed pocket	adjustable pocket
1 Reset adjusting element T x T9	—		—		—	
2 Insert roughing insert Tighten SW 3 M _{An} = 44 in. lbs.					—	—
3 Tighten adjusting element gently	—		—		—	—
4 Insert finishing insert and pre-tighten SW 3 M _{VG} = 9 in. lbs.	—	—	—	—		
5 The finishing insert is positioned .0016" in front of the highest roughing insert	—	—	—	—		
6 Tighten the finishing insert M _{An} = 44 in. lbs.	—	—	—	—		



NOTE: This process must be repeated whenever an indexable insert is changed. The ball is loose.

Changing the adjusting element

1. Remove the taper screw (1)
2. Loosen the SW 1,5 screw (2)
3. Remove the adjusting element.

ATTENTION: The maximum permissible cutting speed of the milling cutter heads is $v_c \text{ max} = 3000 \text{ SFM}$. Only use original parts when clamping the indexable inserts.

➤ Next Generation of HexaCut™

Milling Inserts Are Now Available for Roughing
and Semi-Finishing of Cast Iron Materials

Primary Application

The Kennametal HexaCut face milling program is specifically engineered for rough and semi-finish face milling of cast, ductile, and compacted graphite iron. Twelve cutting edges drastically reduce your cost per edge and increase tool life. Shorter setup times and excellent cutter accuracy allow you to apply the HexaCut program to the most demanding jobs. One ceramic and eight carbide grades with six insert geometries deliver high feed rates and will enable you to reach optimum horsepower.

Features and Benefits

- New insert topographies for existing HexaCut platform with latest cutting edge design.
- Specifically engineered for rough and semi-finish face milling of cast, ductile, and compacted graphite iron.
- Up to 20% better tool life and 10% less power consumption.
- High precision ground on insert IC to achieve a better axial and radial runout.
- First HexaCut roughing insert with integrated wiper facet for better floor finish.



New Standard Insert Offering for HexaCut™ Series

Roughing and semi-finishing of automotive engine blocks and other cast iron face milling operations.



HNHX0905..ENLE
New geometry for semi-finishing and light roughing operations.



HNHX0905ANSNGE
New geometry for roughing; integrated wiper facet for advanced floor finish.

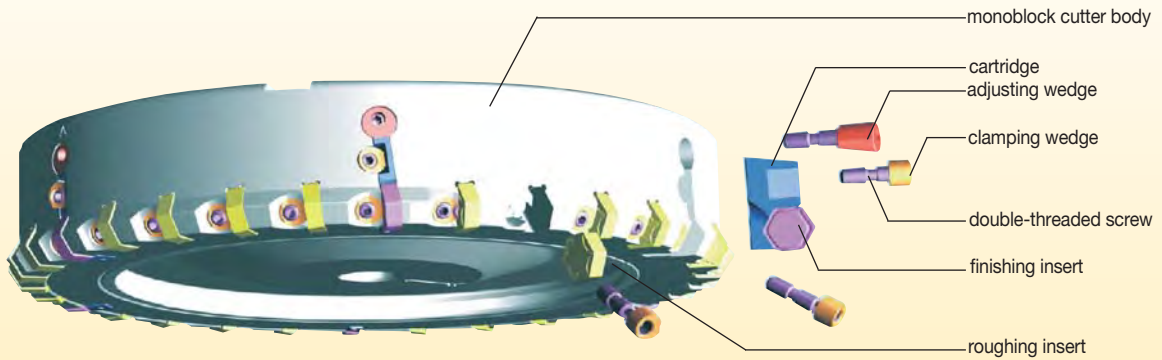


HNHX0905..SNGE
New geometry with improved rake and edge prep design for roughing operations.



HNPX0905..SNGE
New stable geometry for heavy roughing in severe machining conditions.

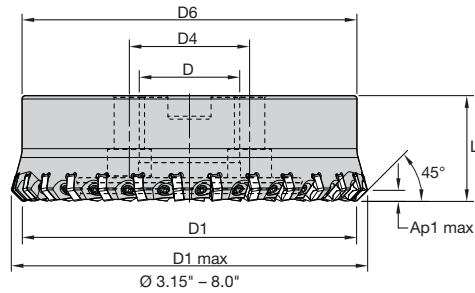
■ HexaCut 30° Cutter Body Design with Fixed and Adjustable Pocket Seats



			▼ = roughing indexable insert						▼▼ = finishing indexable insert
Recommended combination of standard indexable inserts and geometries									
Operation	Lead	Ap max							
▼/▼▼	45°	.256"	■ OR	■ OR	■ OR	■	■		
▼	30°	.315"	■ OR	■ OR	■ OR	■	■		
▼▼	30°	.040"		■	■ OR	■ OR			■
▼/▼▼	30°	.315"	■ OR	■ OR	■ OR	■	■		

NOTE: Z = number of cutting edges.

- Monoblock cutter design.
- Twelve cutting edges per insert.
- High feed rates.
- CGI milling solution.



■ HexaCut Shell Mills • Monoblock Cutter Design • Right Hand

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
2402838	K400B14RF45HN09C	4.000	4.500	1.250	4.000	1.970	.256	14	5.00	3400
2402839	K500B18RF45HN09C	5.000	5.500	1.500	5.000	2.380	.256	18	10.00	3000

NOTE: Split case design with adapter flange for D1 = 10" and D1 = 12" can be ordered as preferred custom solution standard.

■ Spare Parts



D1	wedge	wedge screw	in. lbs.	wrench
4.000	12748358200	12748600900	62	12148044900
5.000	12748358200	12748600900	62	12148044900

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.



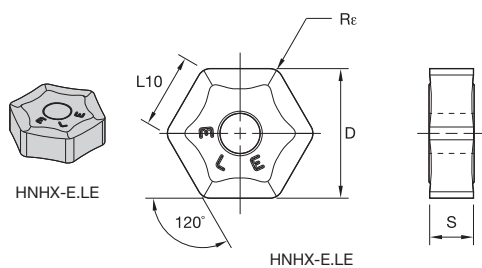
Face Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	.E..LE	KCK15	.S..GE	KCK15	.S..GE	KCK15
K3	.E..LE	KCK15	.S..GE	KC514M	.S..GE	KCK15
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Inserts • HexaCut • HN..0905...

- For semi-finishing and light roughing operations.



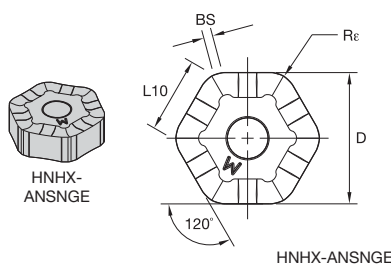
- first choice
- alternate choice

P	■						
M	■						
K	■	●	●	●	●	●	●
N	■						
S	■						
H	■						

■ HNHX-E.LE

catalog number	D	S	L10	Re	hm	cutting edges	
HNHX5354ENLE	.638	.219	.368	.063	.002	12	● KC514M ● KCK15
HNHX5355ENLE	.638	.219	.368	.079	.002	12	● KCK20 ● KCPK30 ● KD200 ● KY3500

- Roughing geometry with integrated wiper facet for advanced floor finish.

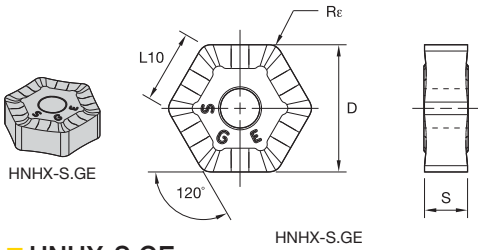


■ HNHX-ANSNGE

catalog number	D	S	L10	BS	Re	hm	cutting edges	
HNHX53ANSNGE	.638	.219	.351	.044	.047	.006	12	● KC514M ● KCK15 ● KCK20 ● KCPK30 ● KD200 ● KY3500

Face Milling

- Roughing geometry with improved rake design for lower cutting forces.

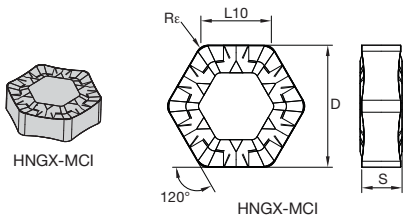


- first choice
- alternate choice

P	●						
M	●						
K	●	●	●	●	●	●	●
N	●						
S	●						
H	●						

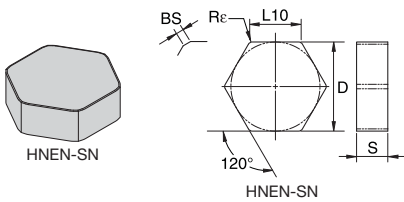
■ HNHX-S.GE

catalog number	D	S	L10	Re	hm	cutting edges	KC514M	KCK15	KCK20	KCPK30	KD200	KY3500
HNHX5354SNGE	.638	.219	.368	.063	.006	12	●	●	-	-	-	-
HNHX5355SNGE	.638	.219	.368	.079	.006	12	●	●	-	-	-	-
HNHX5358SNGE	.638	.219	.368	.118	.006	12	-	●	-	-	-	-



■ HNGX-MCI

catalog number	D	S	L10	BS	Re	hm	cutting edges	KC514M	KCK15	KCK20	KCPK30	KD200	KY3500
HNGX5358MCI	.638	.219	.368	-	.118	.002	12	-	●	-	-	-	-

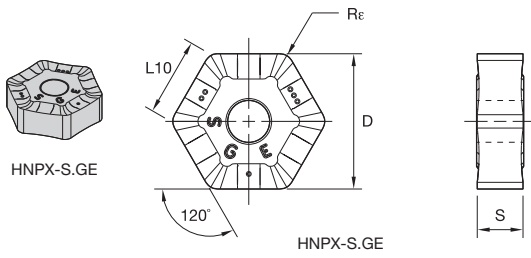


■ HNEN-SN

catalog number	D	S	L10	BS	Re	hm	cutting edges	KC514M	KCK15	KCK20	KCPK30	KD200	KY3500
HNEN090508S	.625	.219	.361	-	.031	.008	12	-	-	-	-	●	●
HNEN0905ANSN	.625	.222	.361	-	-	.008	12	-	-	-	●	●	●
HNEN0905XNSN	.638	.219	.368	.051	-	.008	12	-	-	-	-	●	●



- Heavy roughing geometry for severe machining conditions.



- first choice
- alternate choice

P	■															
M	■															
K	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
N	■															
S	■															
H	■															

■ HNPX-S.GE

catalog number	D	S	L10	BS	Rε	hm	cutting edges									
HNPX5354SNGE	.638	.219	.368	—	.063	.006	12	—	●	—	—	—	—	—	—	—
HNPX5355SNGE	.638	.219	.368	—	.079	.006	12	—	●	—	—	—	—	—	—	—
HNPX5358SNGE	.638	.219	.368	—	.118	.006	12	—	●	—	—	—	—	—	—	—

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40–100%			
...MCI	.010	.026	.046	.007	.019	.033	.006	.014	.025	.005	.012	.021	.004	.011	.020	...MCI
.E..LE	.010	.025	.046	.007	.018	.033	.006	.014	.025	.005	.012	.021	.004	.011	.020	.E..LE
.S..GE	.013	.033	.053	.009	.024	.038	.007	.018	.028	.006	.015	.025	.006	.014	.023	.S..GE
...SN	.013	.033	.053	.009	.024	.038	.007	.018	.028	.006	.015	.025	.006	.014	.023	...SN

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

Face Milling

■ Adjustment Instructions

Before Being Used for the First Time

- The milling cutter must be carefully cleaned of anti-corrosive materials, dust, etc.
- The milling cutter should only be washed when all components have been dismantled.
- Only the double-threaded screws of the clamping or adjusting wedge should be lubricated with copper grease; all other components must have clean metallic surfaces.
- A torque wrench is recommended to tighten the double-threaded screws.
- When fitting indexable inserts on the milling cutter, ensure that they are inserted in the correct position in a clean insert seat and that they are held in position during clamping.

For 45° Roughing Mills without Anvils

- The double-threaded screws on the clamping wedges for the indexable inserts are first pre-tightened to approximately 17 in. lbs. and then tightened to a final torque of 62 in. lbs.

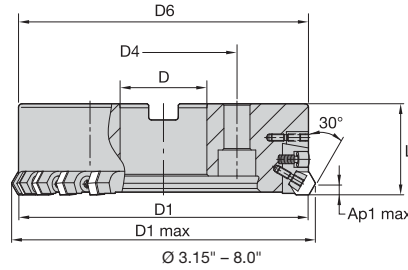
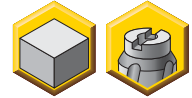
ATTENTION

At each tool adjustment, the body, indexable inserts, and spare parts must be checked and replaced, if necessary. Before each tool use, the double-threaded screws of the indexable inserts and the stops must be tightened in the specified order to a torque of 62 in. lbs. In addition, even if the cartridges have not been adjusted, the double-threaded screws of the adjusting wedges must be checked to see if these have been tightened to a torque of 26 in. lbs. If not, they must be re-tightened to this torque.

NOTE: The tools must only be used in accordance with their function. We accept no liability for their improper use. Changes of any kind and/or printing errors are not valid grounds for claims.



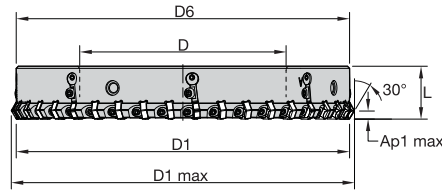
- CGI milling solution.
- Monoblock cutter design.
- High feed rates.
- Twelve cutting edges.



■ HexaCut Shell Mills • Monoblock Cutter Design with Adjustable Pockets • Right Hand

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
2430830	K315A62RF60HN09C	3.150	3.490	1.000	3.150	2.000	.315	8	2	3.50	3900
2430931	K600B164RF60HN09C	6.000	6.340	2.000	6.000	2.380	.315	20	4	15.80	2600

NOTE: Split case design with adapter flange for D1=10" and D1=12" can be ordered as preferred custom solution standard.



■ HexaCut Shell Mills • Split Case Design

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
6202335	K1200Z328RF60HN09WSC	12.000	12.369	7.677	12.000	1.969	.300	40	8	25.87	1800

NOTE: For carrier flange assembly order number, please see page S31.

■ Spare Parts



D1	clamp wedge	axial adjustment wedge	wedge screw	lbs	wrench
3.150	12748358200	12748308500	12748600900	4	12148044900
6.000	12748358200	12748308500	12748600900	16	12148044900

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

Face Milling

■ Setup for Roughing:

For a cutting depth of $<.315"$ and an achievable surface finish of $Ra >3,2$.

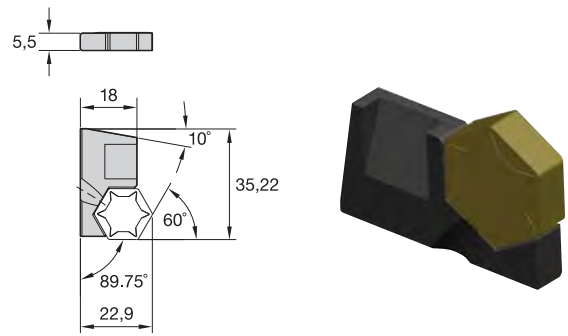
High-performance roughing:

HNHX0905ANSNGE, HNHX090516SNGE,
HNHX090520SNGE, HNHX090530SNGE, HNPX090516SNGE,
HNPX090520SNGE HNPX090530SNGE, HNEN0905XNSN.

Semi-finishing and light machining:

HNHX090516ENLE, HNHX090520ENLE, HNHX090530ENLE.

Same inserts to be loaded into fixed and adjustable (cartridges) pockets.



order number
2018164

catalog number
12748500200

NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

■ Setup for Finishing:

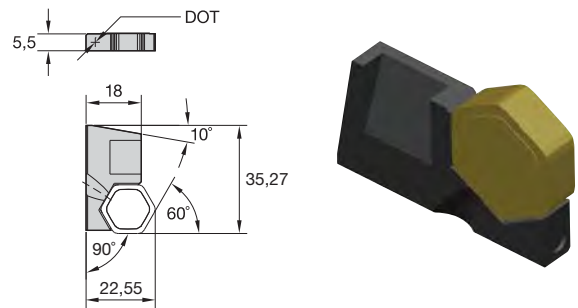
For a cutting depth of $<.039"$ and an achievable surface finish of $Ra 1,6$.

Semi-finishing insert:

HNHX090520ENLE (loaded into fixed pocket seats).

Finishing wiper insert:

HNGF090504MF, HNGF090512MF (loaded into finishing cartridge).



order number
2018166

catalog number
12748500400

NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

■ Setup for Finishing Cartridge for Low Axial Cutting Forces:
(Reduced Lead Angle to Support Increased Clearance on the Wiper Edge).

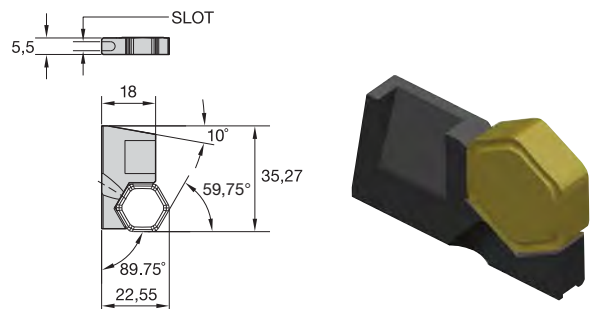
For a cutting depth of $<.039"$ and an achievable surface finish of $Ra 1,6$.

Semi-finishing insert:

HNHX090520ENLE (loaded into fixed pocket seats)

Finishing wiper insert:

HNGF090504MF, HNGF090512MF (loaded into finishing cartridge).



order number
2033468

catalog number
12748503400

NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

■ CBN Cartridge

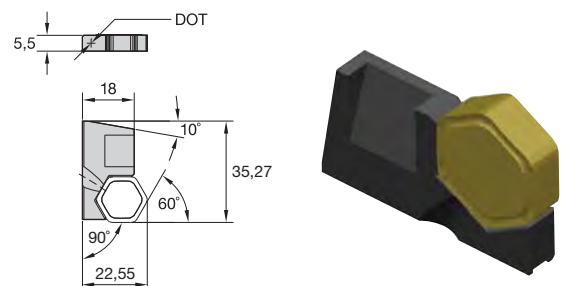
For a cutting depth of $<1mm$ and an achievable surface finish of $Ra 1,6$.

Semi-finishing insert:

HNEN0905AMSN KY3500 (loaded into fixed pocket seats).

Finishing wiper insert:

HNEN0905ANSN KD200 (loaded into finishing cartridge).



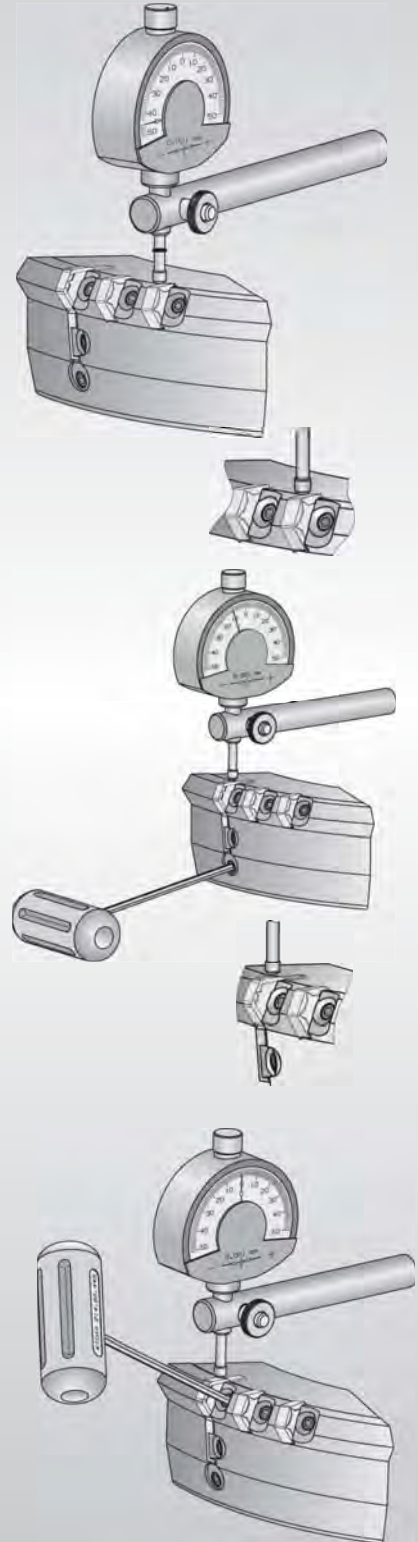
order number
3400879

catalog number
12748500500

Insert setting procedure

This procedure is to be used on all 30° lead roughing/finishing mills using the unmarked roughing cartridge, the finishing cartridge (marked ●) and the corrected edge cartridge (marked ■). These steps must be followed when adjusting the cutters for finishing inserts.

- 1 Clean all insert pockets.
- 2 Mount all wedges and cartridges. Torque the cartridge lock wedge screw to 26 in. lbs.
- 3 Mount all inserts, making sure they are seated properly in the pocket, and torque the insert lock wedge screws to 26 in. lbs.
- 4 Torque the wedge screws for all fixed pocket inserts to 62 in. lbs.
- 5 Loosen the cartridge insert wedge screw and the cartridge lock wedge screw.
- 6 Pressing the insert into the cartridge pocket, adjust the cartridge to .008-.012" below the fixed pocket inserts.
- 7 Torque the insert lock wedge screw and the cartridge lock wedge screw to 26 in. lbs.
- 8 Adjust the axial position to .0010-.0015" above the fixed pocket inserts.
- 9 Loosen the cartridge insert lock wedge screws and then re-torque to 26 in. lbs.
- 10 Adjust the axial position to the final dimension, .0015-.0020" above the highest fixed pocket insert.
- 11 Torque the insert lock wedge screws and the cartridge lock wedge screws to 62 in. lbs.
- 12 Conduct a final check of the axial runout and position.



Kennametal on the Web

kennametal.com

FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.

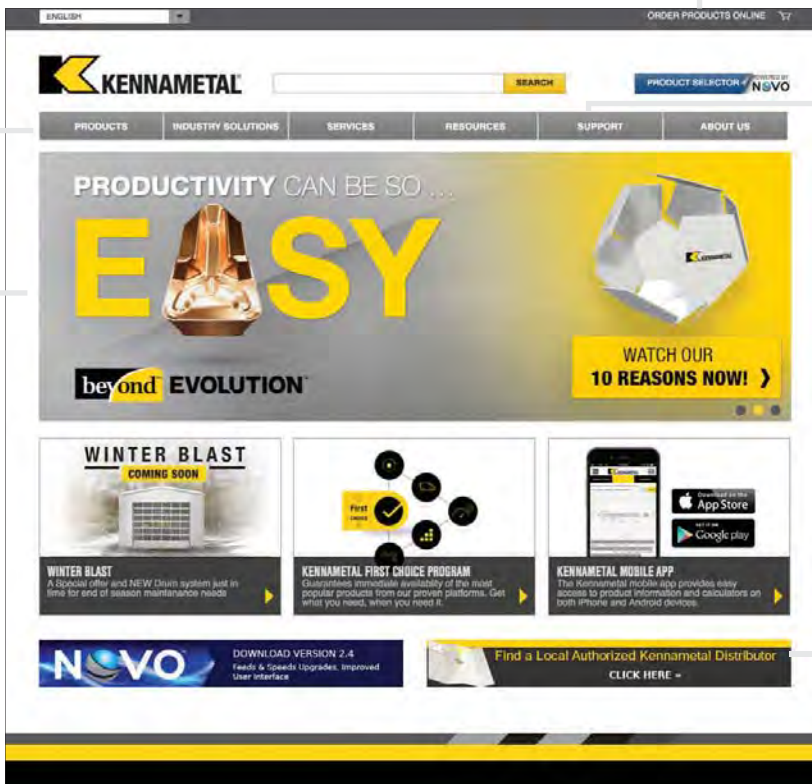
Register on **Konnect** for the full functionality of the Kennametal online ordering website.

CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.



➤ The KSSR™ 6° Inserts

Primary Application

The Kennametal new line of KSSR 6° inserts are versatile, easy to use, and right- or *left-hand neutral, making them ideal for automotive machining operations or any other industry that relies on transfer line manufacturing. Available in carbide and ceramic grades for applications in cast and ductile irons and alloy steels, KSSR 6° inserts can be used for all fine and coarse pitch styles.

*Left-hand cutters are available as non-stock standard.

Features and Benefits

KSSR 6° Features

- Available in metric and inch products, diameters from 2.5–4"; for larger diameter custom solution is available.
- Fine and coarse pitch styles.
- Easy to use and to adjust with shorter setup time.
- Wiper inserts in carbide and ceramic provide excellent surface quality.

Improved Versatility

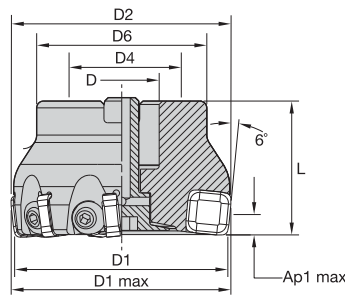
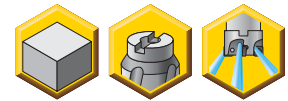
- Proven solution for the automotive segment.
- Right- and *left-hand cutters, ideal for transfer lines.
- Premium grades in carbide and ceramic for applications in cast and ductile irons and alloy steels.
- Inserts are neutral and can be used for right- or left-hand cutting.



Unrivaled Benefits

- Capability: .20" maximum depth of cut.
- Excellent accuracy:
Radial = +/- .0001"
Axial = adjustable +/- .0001"
- Inserts have eight true cutting edges.

- Eight cutting edges per insert.
- Fast and easy insert indexing.
- Highest feed rates.
- CGI specialist.



■ **KSSR 6° • Shell Mills • Right Hand • Fixed Pockets**

order number	catalog number	D1	D1 max	D	D2	D6	L	Ap1 max	Z	lbs	max RPM
2476832	KSSR250SN434M3	2.500	2.579	.750	2.520	1.770	1.500	.200	9	1.10	7500
2476963	KSSR300SN434M4	3.000	3.079	1.000	3.017	2.200	1.750	.200	11	1.98	6300
2476964	KSSR400SN434M5	4.000	4.079	1.250	4.014	2.870	1.750	.200	15	3.08	4700

NOTE: Coolant screw and coolant cap must be ordered separately.
2466094 and 2466095 are non-stock standard.

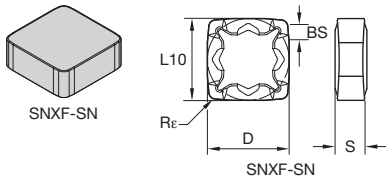
■ **Spare Parts**



D1	clamp wedge	wedge screw	in. lbs.	wrench
2.500	12748358200	12748600900	62	12148044900
3.000	12748358200	12748600900	62	12148044900
4.000	12748358200	12748600900	62	12148044900

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

Face Milling

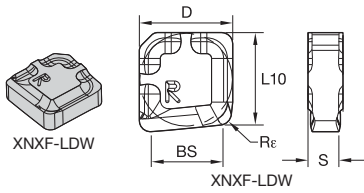


● first choice
○ alternate choice

P	■								
M	■								
K	■	●	●	●	●	●	●	●	●
N	■								
S	■								
H	■								

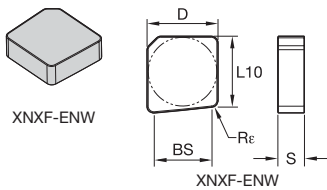
■ SNXF-SN

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC514M	KC524M	KCK15	KCK20	KCPK30	KY3500
SNXF433AMSN	.500	.187	.500	—	.047	.008	8	-	-	-	-	-	●
SNXF43ZNAMSN	.500	.187	.500	.039	.047	.008	8	-	-	-	-	-	●



■ XNXF-LDW

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC514M	KC524M	KCK15	KCK20	KCPK30	KY3500
XNXF43ZNELDW	.500	.174	.500	.374	.063	.002	2	-	-	●	-	-	-



■ XNXF-ENW

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC514M	KC524M	KCK15	KCK20	KCPK30	KY3500
XNXF43ZNEENW	.500	.188	.500	.374	.047	.008	2	-	-	-	-	-	●

Face Milling

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.E..LD	.007	.018	.033	.005	.013	.024	.004	.010	.018	.003	.009	.015	.003	.008	.014	.E..LD
.S..GP	.008	.020	.036	.006	.015	.026	.004	.011	.019	.004	.009	.017	.003	.009	.015	.S..GP
.S..HE	.007	.020	.038	.005	.015	.027	.004	.011	.020	.003	.010	.018	.003	.009	.016	.S..HE
.A..SN	.009	.023	.038	.007	.017	.027	.005	.013	.020	.004	.011	.018	.004	.010	.016	.A..SN

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Kennametal Tools for Railways and Wheel Machining

Kennametal offers a complete line of tooling for wheel and axle maintenance in railroad shops. All tools incorporate the latest technology for maximum metal removal and higher productivity. They are proven performers in actual use over extended periods of time, under a wide range of operating conditions. Standard off-the-shelf inserts and fewer pieces of hardware reduce inventory and operating costs. Included in this range are tools for reconditioning mounted wheel sets, wheel boring, wheel truing, axle turning, and journal burnishing.



Visit kennametal.com or contact your local
Authorized Kennametal Distributor.



kennametal.com

➤ MEGA 45°

Superior Heavy-Duty Milling

Primary Application

With four true cutting edges per heavy-duty MEGA 45° insert, you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 45° inserts for all steel and cast iron indexable milling needs.

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> • Four true cutting edges per heavy-duty MEGA 45° insert. 	<ul style="list-style-type: none"> • Low cost per edge and high productivity.
<ul style="list-style-type: none"> • Soft cutting edge design. 	<ul style="list-style-type: none"> • 30% lower cutting forces.
<ul style="list-style-type: none"> • Up to 30% increased Metal Removal Rates (MRR). 	<ul style="list-style-type: none"> • Performance leader in steel and cast iron materials.
<ul style="list-style-type: none"> • Carbide pocket shims. 	<ul style="list-style-type: none"> • Excellent cutter body protection.
<ul style="list-style-type: none"> • Cutting edge numbering system. 	<ul style="list-style-type: none"> • Improved run out for better tool life and floor finish.
<ul style="list-style-type: none"> • HD2 geometry. 	<ul style="list-style-type: none"> • Stronger edge protection to handle the toughest milling jobs, especially with scale and surfaces with varying thicknesses.



4 True Cutting Edges

Soft cutting edge design

Integrated wiper facets for excellent floor finish

LNPU863-HD

Strong insert for stable machining

4 True Cutting Edges

Stronger edge protection

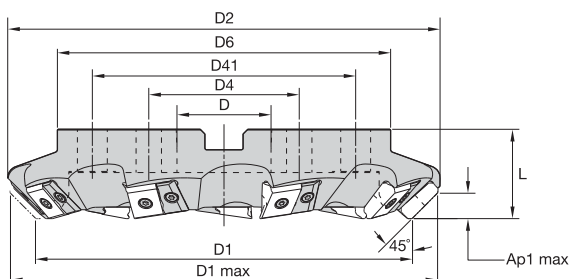
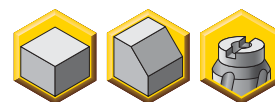
Numbered cutting edges

Integrated wiper facets for excellent floor finish

LNPU863-HD2

Strong insert for stable machining

- Up to 30% higher Metal Removal Rate (MRR).
- Cutter body protection with carbide shims.



MEGA 45 • Shell Mills

order number	catalog number	D1	D1 max	D	D2	D4	D41	D6	L	Ap1 max	Z	lbs	max RPM
4032274	MEGA45D500LN863M6	5.000	6.391	1.500	6.700	—	—	3.810	2.375	.675	6	9.18	12520
4032277	MEGA45D800LN863M10	8.000	9.392	2.500	9.550	4.000	—	6.500	2.375	.675	9	19.86	9890
4105177	MEGA45D1000LN863C10	10.000	11.392	2.500	11.500	4.000	7.000	8.858	2.375	.675	9	28.04	8850
4032278	MEGA45D1000LN863M10 *	10.000	11.392	2.500	11.500	4.000	7.000	8.858	2.375	.675	11	29.05	8850
4105178	MEGA45D1200LN863C10	12.000	13.392	2.500	13.500	4.000	7.000	8.858	3.150	.675	10	47.50	8080
4032279	MEGA45D1200LN863M10	12.000	13.392	2.500	13.500	4.000	7.000	8.858	3.150	.675	13	48.82	8080

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

Spare Parts



Face Milling



D1	insert screw	in. lbs.	shim	universal bit torque driver	drive bit
5.000	MS1162	45	SM-906	DTQ3054	BTQT25
8.000	MS1162	45	SM-906	DTQ3054	BTQT25
10.000	MS1162	45	SM-906	DTQ3054	BTQT25
12.000	MS1162	45	SM-906	DTQ3054	BTQT25

NOTE: Shim screw: MS1162.

Left-handed shim



catalog number
SM-906LH

NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..HD	KC725M	.S..HD	KCPK30	.S..HD2	KCPM40
P3-P4	.S..HD	KCPK30	.S..HD2	KCPK30	.S..HD2	KCPM40
P5-P6	.S..HD	KC725M	.S..HD2	KCPK30	.S..HD2	KCPM40
M1-M2	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCPM40
M3	.S..HD	KCPK30	.S..HD2	KCSM40	.S..HD2	KCPM40
K1-K2	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
K3	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCSM40
S3	.S..HD	KC725M	.S..HD2	KCPM40	.S..HD2	KCSM40
S4	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts

LNPU-HD LNPU-HD2

LNPU-HD LNPU-HD2

● first choice
○ alternate choice

	P	M	K	N	S	H
●	●	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○

LNPU-HD

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU863ANSRHD	1.142	.088	.985	.047	.394	.009	4	-	-	●	●	-	-
LNPU863ANSRHD2	1.142	.088	.986	.047	.394	.009	4	-	-	-	●	●	-

LNPU-HD2

LNPU-HD2

LNPU-HD2 • Left Hand

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU863ANSLHD	1.142	.088	.985	.047	.394	.009	4	-	-	-	●	●	-
LNPU863ANSLHD2	1.142	.088	.986	.047	.394	.009	4	-	-	-	●	●	-

Recommended Starting Feeds
Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.S..HD	.013	.033	.053	.009	.023	.038	.007	.018	.028	.006	.015	.024	.006	.014	.022	.S..HD
.S..HD2	.013	.036	.060	.009	.026	.043	.007	.019	.032	.006	.017	.028	.006	.015	.025	.S..HD2

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

➤ MEGA 60 and 90

Primary Application

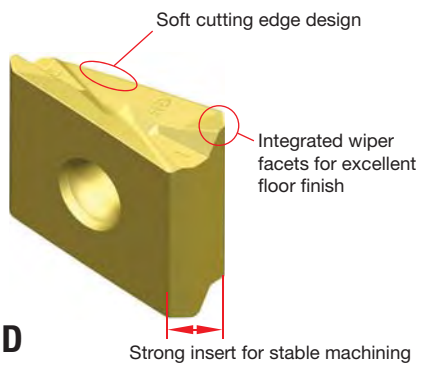
The real performance booster in heavy-duty milling. With four true cutting edges per heavy-duty insert, you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 60 and MEGA 90 for all steel and cast iron indexable milling needs.

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> • Four true cutting edges per heavy-duty MEGA 60 and 90 insert. 	<ul style="list-style-type: none"> • Low cost per edge and high productivity.
<ul style="list-style-type: none"> • Soft cutting edge design. 	<ul style="list-style-type: none"> • 30% lower cutting forces.
<ul style="list-style-type: none"> • Up to 30% increased Metal Removal Rates (MRR). 	<ul style="list-style-type: none"> • Performance leader in steel and cast iron materials.
<ul style="list-style-type: none"> • Carbide pocket shims. 	<ul style="list-style-type: none"> • Excellent cutter body protection.
<ul style="list-style-type: none"> • Cutting edge numbering system. 	<ul style="list-style-type: none"> • Improved runout for better tool life and floor finish.
<ul style="list-style-type: none"> • HD2 geometry. 	<ul style="list-style-type: none"> • Stronger edge protection to handle the toughest milling jobs, especially with scale and surfaces with varying thicknesses.

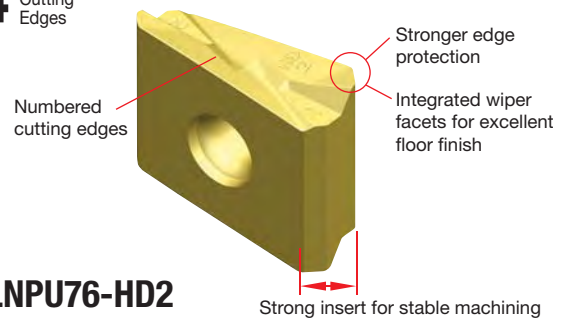


4 True Cutting Edges



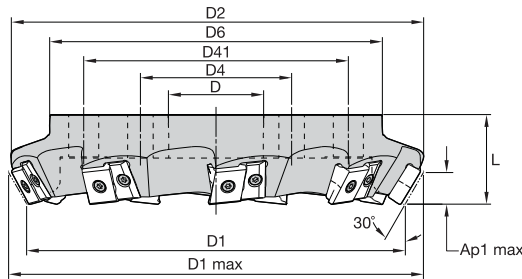
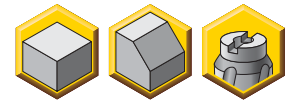
LNPU76-HD

4 True Cutting Edges



LNPU76-HD2

- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.

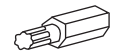


MEGA 60 • Shell Mills

order number	catalog number	D1	D1 max	D	D2	D4	D41	D6	L	Ap1 max	Z	lbs	max RPM
4147496	MEGA60D500LN76M6	5.000	5.982	1.500	6.181	—	—	3.810	2.375	.843	6	8.03	11040
4147497	MEGA60D600LN76M8	6.000	6.982	2.000	7.126	—	—	5.000	2.375	.842	7	11.07	10080
4147499	MEGA60D800LN76M10	8.000	8.981	2.500	8.976	4.000	—	6.500	2.375	.842	9	17.83	8720
4147523	MEGA60D1200LN76M10 *	12.000	12.981	2.500	12.953	4.000	7.000	8.858	3.150	.841	13	41.92	7120

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

Spare Parts



D1	insert screw	in. lbs.	shim	universal bit torque driver	drive bit
5.000	MS1162	45	SM-906	DTQ3054	BTQT25
6.000	MS1162	45	SM-906	DTQ3054	BTQT25
8.000	MS1162	45	SM-906	DTQ3054	BTQT25
12.000	MS1162	45	SM-906	DTQ3054	BTQT25

NOTE: Shim screw: MS1162.

Left-handed shim



catalog number
SM-906LH

NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

Face Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..HD	KC725M	.S..HD	KCPM40	.S..HD2	KCPM40
P3-P4	.S..HD	KCPK30	.S..HD2	KCPK30	.S..HD2	KCPM40
P5-P6	.S..HD	KC725M	.S..HD2	KCPK30	.S..HD2	KCPM40
M1-M2	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCPM40
M3	.S..HD	KCPM40	.S..HD2	KCSM40	.S..HD2	KCPM40
K1-K2	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
K3	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.S..HD	KC725M	.S..HD	KC725M	.S..HD2	KCSM40
S3	.S..HD	KCPM40	.S..HD2	KCSM40	.S..HD2	KCPM40
S4	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts

LNPU-HD LNPU-HD2

LNPU-HD LNPU-HD2

● first choice
○ alternate choice

	P	M	K	N	S	H
P	●	○	○	○	○	○
M	○	○	○	○	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

LNPU-HD/-HD2

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU763PNSRHD	1.043	.091	.985	.047	.394	.009	4	-	-	●	●	●	-
LNPU763PNSRHD2	1.043	.091	.984	.047	.394	.009	4	-	-	●	●	●	-

LNPU-HD

LNPU-HD

LNPU-HD2

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU763PNSLHD2	1.043	.091	.984	.047	.394	.009	4	●	-	-	●	●	-

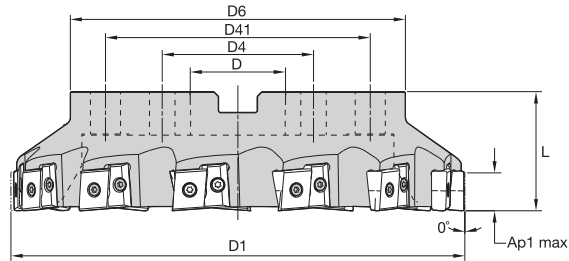
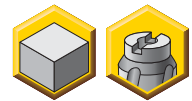
Recommended Starting Feeds
Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.S..HD	.011	.027	.043	.008	.019	.031	.006	.014	.023	.005	.013	.020	.005	.012	.018	.S..HD
.S..HD2	.011	.027	.048	.008	.019	.034	.006	.014	.025	.005	.013	.022	.005	.012	.020	.S..HD2

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

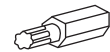
- Up to 30% higher Metal Removal Rate (MRR).
- Cutter body protection with carbide shims.



■ **MEGA 90 • Shell Mills**

order number	catalog number	D1	D	D4	D41	D6	L	Ap1 max	Z	lbs	max RPM
4136381	MEGA90D500LN76M6	5.000	1.500	—	—	3.810	2.375	1.002	6	6.86	9990
4136382	MEGA90D600LN76M8	6.000	2.000	—	—	5.000	2.375	1.002	7	10.23	9120
4136385	MEGA90D1000LN76C10	10.000	2.500	4.000	—	6.500	2.375	1.002	9	22.48	7060
4136387	MEGA90D1200LN76C10	12.000	2.500	4.000	7.000	8.858	3.150	1.002	10	38.12	6440
4136388	MEGA90D1200LN76M10	12.000	2.500	4.000	7.000	8.858	3.150	1.002	13	38.21	6440

■ **Spare Parts**



D1	insert screw	in. lbs.	shim	universal bit torque driver	drive bit
5.000	MS1162	45	SM-906	DTQ3054	BTQT25
6.000	MS1162	45	SM-906	DTQ3054	BTQT25
10.000	MS1162	45	SM-906	DTQ3054	BTQT25
12.000	MS1162	45	SM-906	DTQ3054	BTQT25

NOTE: Shim screw: MS1162.

■ **Left-handed shim**



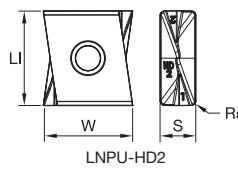
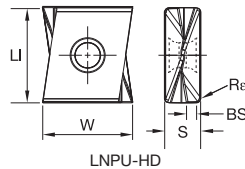
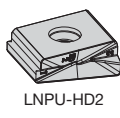
catalog number
SM-906LH

NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

Face Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..HD	KC725M	.S..HD	KCPM40	.S..HD2	KCPM40
P3-P4	.S..HD	KCPK30	.S..HD2	KCPK30	.S..HD2	KCPM40
P5-P6	.S..HD	KC725M	.S..HD2	KCPK30	.S..HD2	KCPM40
M1-M2	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCPM40
M3	.S..HD	KCPM40	.S..HD2	KCSM40	.S..HD2	KCPM40
K1-K2	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
K3	.S..HD	KC520M	.S..HD	KCK15	.S..HD2	KC520M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.S..HD	KC725M	.S..HD	KC725M	.S..HD2	KCSM40
S3	.S..HD	KCPM40	.S..HD2	KCSM40	.S..HD2	KCPM40
S4	.S..HD	KC725M	.S..HD2	KCSM40	.S..HD2	KCSM40
H1	-	-	-	-	-	-

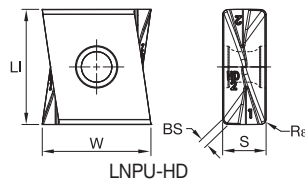


- first choice
- alternate choice

P	●	○	○	○	○	○
M	●	○	○	○	○	○
K	●	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

LNPU-HD/-HD2

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU763PNSRHD	1.043	.091	.985	.047	.394	.009	4	-	●	●	●	●	-
LNPU763PNSRHD2	1.043	.091	.984	.047	.394	.009	4	-	-	-	●	●	●


LNPU-HD2

catalog number	LI	BS	W	Re	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNPU763PNSLHD2	1.043	.091	.984	.047	.394	.009	4	●	-	-	●	●	-



Face Milling

Recommended Starting Feeds
Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry				
	5%				10%				20%				30%				40-100%		
.S..HD	.009	.023	.037	.007	.017	.026	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..HD			
.S..HD2	.009	.023	.041	.007	.017	.029	.005	.013	.022	.004	.011	.019	.004	.010	.018	.S..HD2			

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

➤ KBDM PCD Face Mills

Indexable Milling

Application

The new KBDM PCD milling platform is designed and engineered for aluminum face milling applications, targeting automotive requirements.

This proven design delivers consistent performance time and time again, and has done so for 20+ years. KBDM's new look, black anodized aluminum with yellow wedges, gives it a unique appearance. However, it's what is behind the cover that really matters. Performance is key, and KBDM does not disappoint.

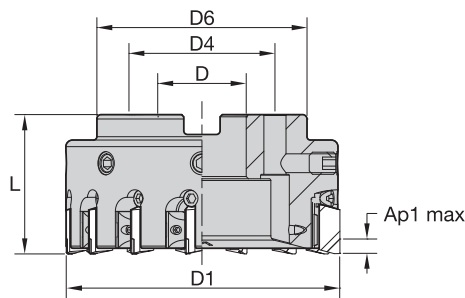


Features and Benefits

- Cutter bodies manufactured from hard anodized aluminum provide lighter weight and excellent wear and erosion resistance.
- High-density platform geared toward faster machining cycles to help lower overall costs.
- All pockets are adjustable. Very-user friendly for axial adjustment less than 0.0002" (0,005mm), with a total adjustment of 0.032" (0,8mm).
- Two grades, KD1400™ and KD1425™, provide options in maximizing efficiencies based upon application.
- Roughing, semi-finishing, and fine-finishing with one platform.
- Two corner radii — 0.031 and 0.093" (0,8 and 2,4mm).
- Mini-tip insert for finishing applications.
- All standard inserts have a 0.06" (1,5mm) wiper facet for better surface qualities.
- Full face wiper available as a standard item.

**Delivering Customer-Driven
Performance for 20+ Years.**





■ Face Mills

order number	catalog number	D1	D	D4	D6	L	Z	Z ADJ	lbs	max RPM
6044579	KBDM250SD06	2.500	1.000	—	2.441	2.000	6	6	1.00	20000
6044580	KBDM300SD08	3.000	1.000	—	2.190	2.000	8	8	1.40	20000
6044711	KBDM400SD12	4.000	1.250	—	2.875	2.000	12	12	2.50	17320
6044712	KBDM500SD16	5.000	1.500	—	3.812	2.375	16	16	4.40	15500
6044713	KBDM600SD18	6.000	1.500	—	3.812	2.375	18	18	7.00	14150
6044714	KBDM800SD24	8.000	2.500	4.000	5.000	2.375	24	24	1.40	12240

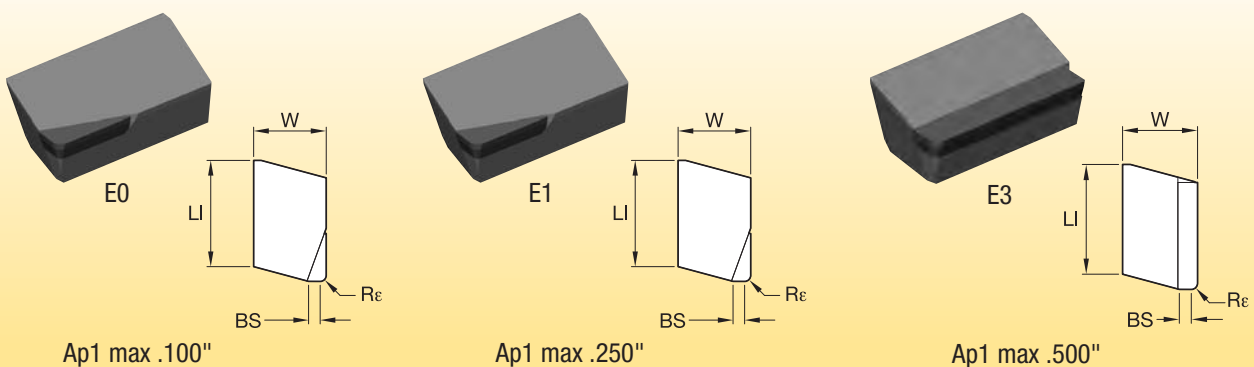
■ Spare Parts



D1	screw	wedge	wedglock screw	coolant lock screw	coolant shower plate
2.500	LS103	HDWM5EUS	SWSM515	SALS25	—
3.000	LS103	HDWM5EUS	SWSM515	SALS30	—
4.000	LS103	HDWM5EUS	SWSM515	SALS40	—
5.000	LS103	HDWM5EUS	SWSM515	SALS50	—
6.000	LS103	HDWM5EUS	SWSM515	SALS6150	—
8.000	LS103	HDWM5EUS	SWSM515	—	SSP8

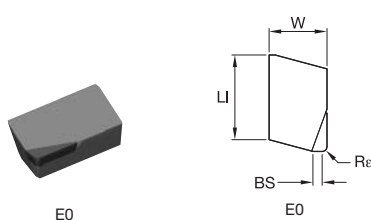
Face Milling

■ Technical Information • Ap1 max for PCD Inserts



Insert Selection Guide • KBDM • Inch

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ↔				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	.KSDR.....	KD1400	.KSDR.....	KD1400	.KSDR.....	KD1400
N3	.KSDR.....	KD1400	.KSDR.....	KD1425	.KSDR.....	KD1425
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Inserts


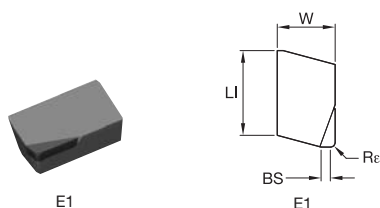
- first choice
- alternate choice

P	●		
M	●		
K	●		
N	●	●	●
S	●		
H	●		

PCD Inserts • KSDR Mini-Tip • E0

catalog number	LI	W	BS	Re	hm	KD1400	KD1425
KSDR100031E0W0S	.624	.375	-	.031	.001	●	●
KSDR100031E0W4S	.625	.375	.060	.031	.001	●	●

NOTE: For Mini-tip (E0), Ap1 max = .100".


PCD Inserts • KSDR • E1

catalog number	LI	W	BS	Re	hm	KD1400	KD1425
KSDR100031E1W4S	.625	.375	.060	.031	.001	●	●
KSDR100093E1W4S	.625	.375	.060	.093	.001	●	●

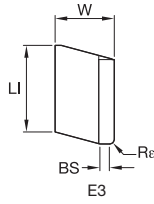
NOTE: For E1 inserts, Ap1 max = .250".



Face Milling



E3



● first choice
○ alternate choice

P	●		
M	●		
K	●		
N	●	●	
S	●		
H	●		

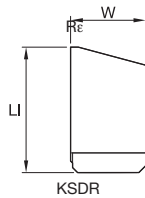
■ PCD Inserts • KSDR • E3

catalog number	LI	W	BS	Re	hm	KD1400	KD1425
KSDR100031E3W4S	.625	.375	.060	.031	.001	●	●

NOTE: For Full Edge (E3), Ap1 max = .500".



KSDR



■ PCD Inserts • KSDR Wiper

catalog number	LI	W	BS	Re	hm	KD1400	KD1425
KSDR102S	.625	.375	.035	—	.001	●	●

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40-100%							
.KSDR.....	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	.KSDR.....

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Face Milling

■ PCD Custom Solutions for Indexable Milling

- Diameters up to 21.65" (550mm).
- Integral shank options, ie, HSK.
- Left-hand rotation.
- Internal coolant capable.
- PCD lengths up to 0.50" (12,7mm).
- Specific edge preps and nose radii available.



■ Insert Setting and Fine Adjustment Procedure

Face Mills

- Apply a small amount of lubricant to the following areas:
 - Pocket area where the wedge slides.
 - Threads of the insert locking screw.
 - Threads of the axial adjustment screw.
- Install cartridges applying light torque to the wedge assembly locking screw.
- Turn axial adjustment screw until the cartridge is .0004–.0006" (0,01–0,015mm) below the final set height.
- Tighten the wedge assembly locking screw to 31 In/lbs and (4 Nm) to (3,5 Nm).
 - 170.170 — Torque Screwdriver mm #1138787.
 - 170.181 — 1/4" Drive Bit — 4mm Hex mm #1138857.
- Repeat for all inserts/pockets before final axial setting.
- Final Setting: Turn the axial adjustment screw moving the PCD insert 0.0002" (0,005um) to the final set height. Repeat for all pockets.



General

- Non-contact gages are preferred.
- Contact gages can be used with the following precautions:
 - Indicator point must be flat and parallel to the base.
 - Always approach the PCD insert from the relief angle under the PCD segment.
 - Do NOT let the indicator drop on the PCD segment.
- Remove all worn PCD inserts.
- Clean the pockets of the cutter completely.



■ KBDM Wiper Setup

- Set Wiper 0.0006–0.0008" (15–20 microns) higher than standard PCD inserts. The KSDR102S Wiper is designed to be used only with 0.031 corner radius standard inserts in the other pockets.
- At this setting, the wiper radius will cover 0.28" (7,1mm) advancement before another wiper would be needed.
- Wiper radius is 30.0" (762mm).
- Ideal setup is to use only 1 wiper to achieve best surface quality. Use when Wt is a requirement.

Example: KBDM200SD24 Face Mill

Feed per tooth: 0.008" (0,2mm)

of inserts: 24

Advancement per revolution:

Metric: 0,2 x 24 = 4,8mm

Inch: 0.008 x 24 = 0.192"

4,8mm < 7,1mm wiper length

NOTE: Large diameter cutters 10.0" (250mm) and up would be candidates for more than 1 wiper. Due to more inserts in the cutter, the advancement per revolution might exceed the coverage of 1 wiper.

➤ The KSCM™ AluMill™ System

Primary Application

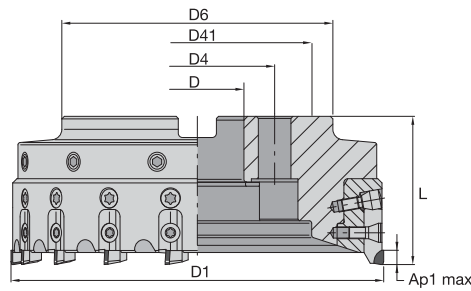
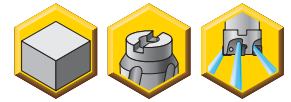
The KSCM AluMill face milling program is specifically engineered to deliver best-in-class performance in high-volume aluminum machining operations. Runs at higher speeds with no chatter while still easy to adjust. KD1420™ grade materials provide long tool life, and with the Kennametal Blue Box™ program for reconditioning worn cartridges, you can reduce inventory costs as well!

Features and Benefits

- Anti-vibration cutter design.
- Best rigidity for high feed rates.
- Unique dovetail wedge clamping design.
- No radial movement of cartridges.
- Centrifugal force protection cartridge design.
- Integrated chip gash into cartridge.
- Quick setup and easy adjust concept.
- Flexible cartridge configuration.
- No bur cartridges for fine finishing.
- Blue Box™ service.



- PCD cartridge face mill for high production aluminum face milling.
- Rough and finish in one operation.
- Precision balanceable cutter bodies produce mirror-finish surfaces.



■ **KSCM AluMill • Shell Mills**

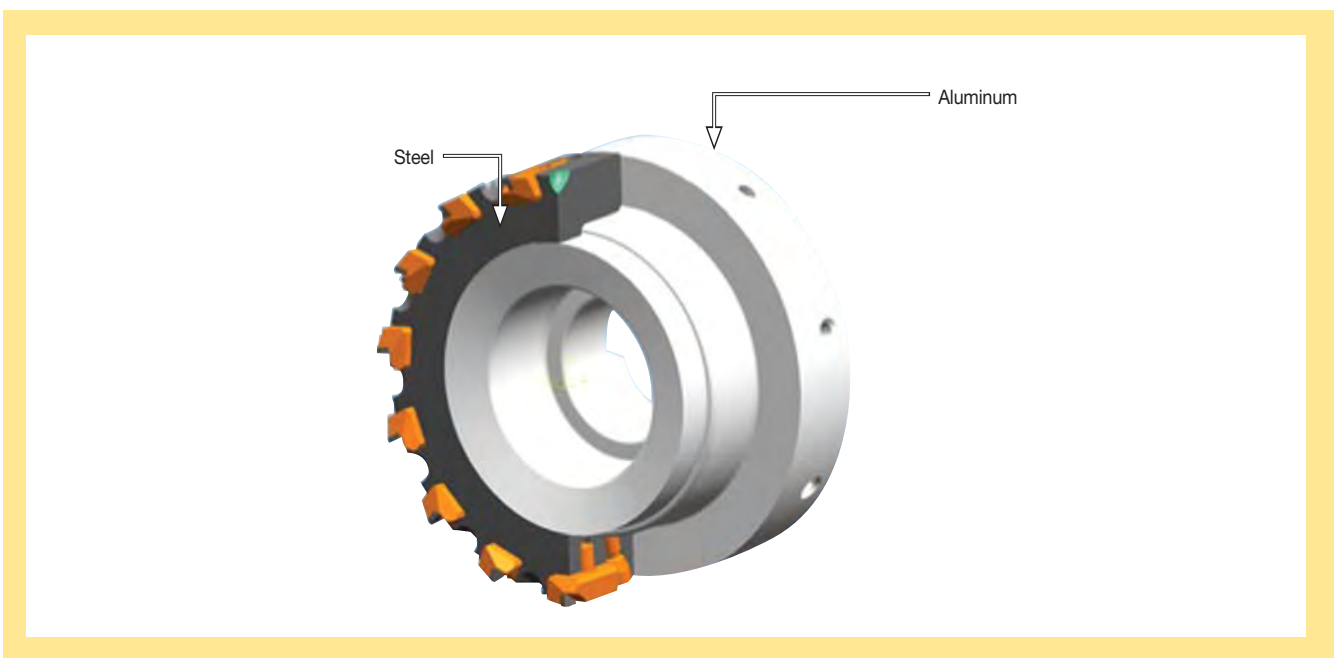
order number	catalog number	D1	D	D6	L	Z	Z ADJ	lbs	max RPM
2982056	KSCM125R16CAB40U	5.000	1.500	3.772	2.380	16	16	5.46	19100

NOTE: Ap1 max is dependent on the cartridge configuration; see the values listed under the cartridges.

■ **Spare Parts**

D1	cartridge screw	drive bit	coolant lock screw	balancing screw
5.000	193.465	170.279	420.042	193.462

NOTE: All cutters are bi-metallic except the 3.00" (80mm) diameter.
Ap1 max is dependent on the cartridge configuration; see the values listed under the cartridges.
Please order KSCM cutters bodies and cartridges separately.

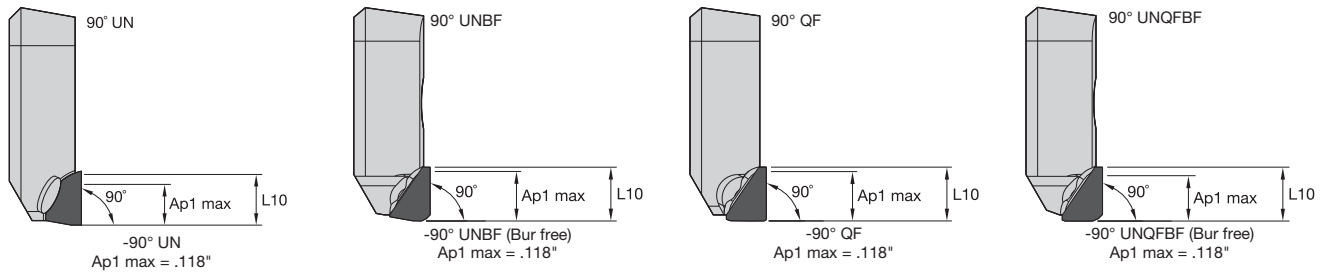


Face Milling

Cartridge Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	KCSM...	KD1420	KCSM...	KD1420	KCSM...	KD1420
N3	KCSM...	KD1420	KCSM...	KD1420	KCSM...	KD1420
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Cartridges • KSCM AluMill



cartridge combination	ratio	max ap	surface quality
UN	—	.118	Rz 2–Rz 4
UN + QF	3:1	.118	Rz 1,5–Rz 2,5
PT + UN	X:1	.118	Rz 3,2–Rz 17

● first choice
○ alternate choice

P	●		
M	●		
K	●		
N	●	●	●
S	●		
H	●		

Cartridges • KSCM AluMill • 90° -UN

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA90UN	0	.240	.001	-	●

Cartridges • KSCM AluMill • 90° -UNBF

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMA90UNBF	—	.244	—	●	●
KSCMCA90UNBF	0	.242	.001	-	●

NOTE: KSCMA90UNBF & KSCMA90QFBF should be the 1st choice solutions for KSCM PCD milling applications.
For setup instructions reference pages S117-S118.

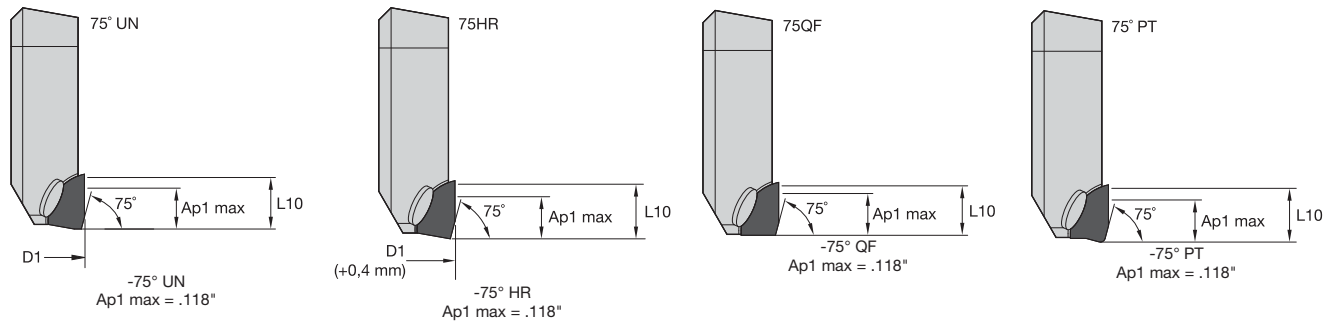
Cartridges • KSCM AluMill • 90° -QF

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA90QF	0	.244	.001	-	●

Cartridges • KSCM AluMill • 90° -QFBF

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMA90QFBF	—	.244	—	●	●
KSCMCA90QFBF	0	.244	.001	-	●

NOTE: KSCMA: Blanks without PCD segment, if cutter is not fully loaded with cartridges.
For low horsepower machines and cutter configurations with less effective teeth.



● first choice
○ alternate choice

P	■	■	■
M	■	■	■
K	■	■	■
N	■	●	●
S	■	■	■
H	■	■	■

■ Cartridges • KSCM AluMill • 75° -UN

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA75UN	15	.240	.001	-	●

■ Cartridges • KSCM AluMill • 75° -HR

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA75HR	15	.213	.001	-	●

■ Cartridges • KSCM AluMill • 75° -QF

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA75QF	15	.240	.001	-	●

■ Cartridges • KSCM AluMill • 75° -PT

catalog number	KRI ANSI	L10	hm	KD1400	KD1420
KSCMCA75PT	15	.240	.001	-	●

NOTE: KSCMA: Blanks without PCD segment, if cutter is not fully loaded with cartridges.
For low horsepower machines and cutter configurations with less effective teeth.

cartridge combination	ratio	max ap	surface quality
UN	—	.118	Rz 2–Rz 4
UN + QF	3:1	.118	Rz 1,5–Rz 2,5
PT + UN	X:1	.118	Rz 3,2–Rz 17

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

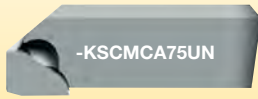
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40–100%							
KCSM...	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	KCSM...

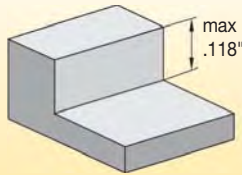
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.



Tool Configuration • Universal Cartridge

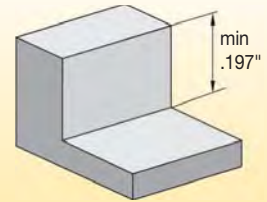


Face milling cutter fitted entirely with universal cartridges.



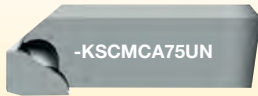
Depth of Cut:
max .118"

Surface Quality:
Rz2 - Rz4

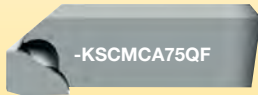


Contouring:
PCD cutting edge length = .197"

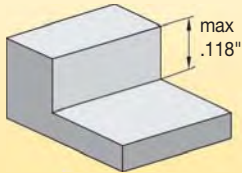
Tool Configuration • Universal Cartridge



+ Finishing Cartridge

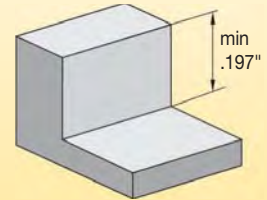


Fitting the face milling cutter with universal and finishing cartridges in a ratio of approximately 3:1.



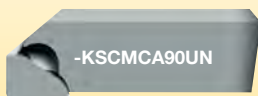
Depth of Cut:
max .118"

Surface Quality:
Rz1,5 - Rz2,5

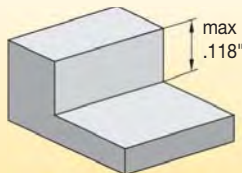


Contouring:
PCD cutting edge length = .197"

Tool Configuration • Edge Cartridge

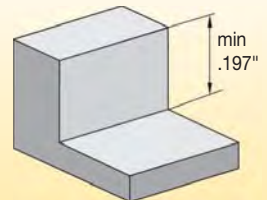


Fitting the face milling cutter entirely with edge cartridges.



Depth of Cut:
max .118"

Surface Quality:
Rz2 - Rz4

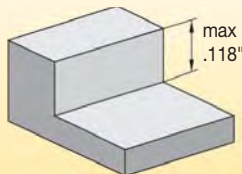


Contouring:
PCD cutting edge length = .197"

Tool Configuration • Cartridge for Defined Surfaces

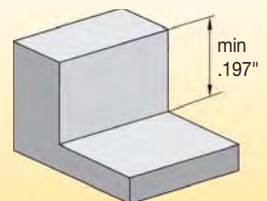


Fitting the face milling cutter entirely with cartridges for defined surfaces.



Depth of Cut:
max .118"

Surface Quality:
Rz3,2 - Rz17



Contouring:
PCD cutting edge length = .197"

■ Tool Configuration • Universal Cartridge, 75° Face Milling



1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.
4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 μ m.

■ Tool Configuration • Universal Cartridge + Finishing Cartridge (Ratio Approx. 3:1), 75°



1. Insert universal cartridges at ratio of approximately 4:1 in the body. Make sure they are evenly distributed!
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.
4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 μ m.
6. Insert finishing cartridges as described in Steps 1–5 but with an axial advance of .0003" + .0008". Max permitted runout error of 3 μ m with finishing cartridges.

■ Tool Configuration • Edge Cartridges, 90° Shoulder Milling



1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.
4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 μ m.

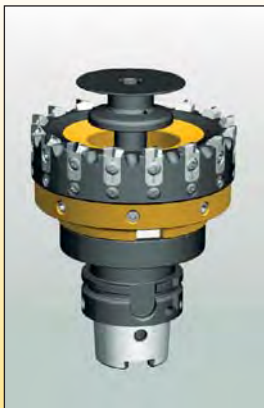
■ Tool Configuration • Cartridge for Defined Surface, 75°



1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 7 ft. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.



4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 μ m.

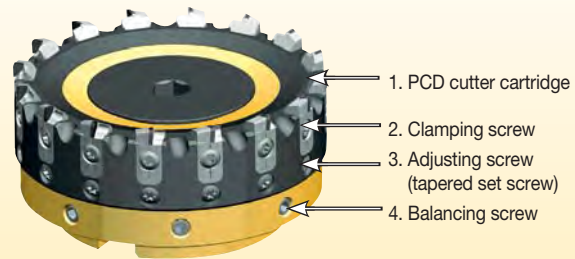


NOTE: The process must be repeated when the cartridges are changed. To dismantle, remove the adjusting element (Part 3), clamping screw (Part 2), and cartridge (Part 1).

■ Instruction for Mounting the Face Milling Cutter on the Appropriate Toolholder

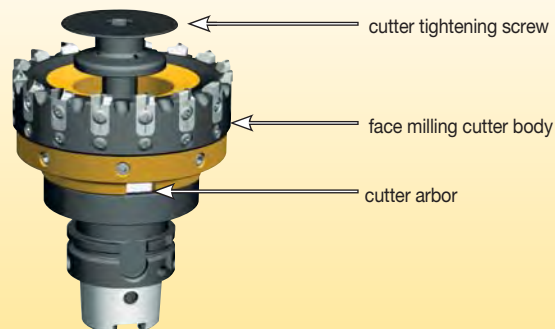
User Information:

- Tools conform to EN ISO 15641.
- Absolute cleanliness must be observed when assembling the face milling cutter.
- An optimum cutting result will only be achieved by adjusting and balancing the complete tool system (face milling cutter + toolholder).
- Balancing is achieved with the aid of the balancing screws. Quality class G2.5 DIN-ISO 1940.
- The balancing screw must not protrude above the body.
- The balancing and adjustment screws have an adhesive coating according to DIN 267, Part 28. If, after repeated use, the coating is no longer adequate to secure the screws, the screws must be replaced.
- The maximum permitted operating speed (quoted on the tool) must not be exceeded.
- The maximum permitted operating speed is only permitted with clamping systems manufactured by Kennametal in accordance with DIN 69982 Form B with enlarged plane bearing surface. Reduce the operating speed if clamping systems with increased projection length or made by other manufacturers are used.
- Tools and fittings are to be serviced and repaired by Kennametal.
- Screws sealed with lacquer have been adjusted by the manufacturer, and must not be moved.



■ Instructions for Fitting the Cutter Cartridge • Tool Construction

When mounting the face milling cutter (dimensions similar to DIN 8030 Form B), place the body of the face milling cutter on the arbor. Ensure that the contact faces are clean. Screw in the cutter fastening bolt (RH) and tighten with the appropriate torque.



Tightening torque for the central cutter tightening screw:

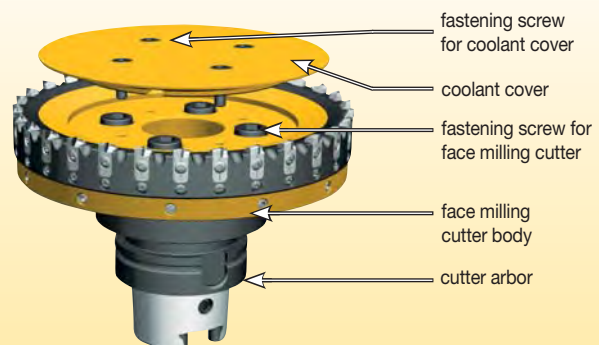
M20 (adapter diameter 40): **184 ft. lbs.**

M16 (adapter diameter 32): **110 ft. lbs.**

M12 (adapter diameter 27): **59 ft. lbs.**

■ Mounting the Face Milling Cutter (Dimensions Similar to DIN 8030 Form C)

Place the body of the face milling cutter on the arbor. Ensure that the contact faces are clean. Screw in the fastening bolt (RH) and tighten with the appropriate torque. Put the aluminum coolant cover in place and fasten with the Torx fastening screws.



Tightening torque for the face milling cutter fastening screws:

M20: **184 ft. lbs.**

M16: **81 ft. lbs.**

M12: **36 ft. lbs.**

Tightening torque for the coolant cover fastening screws:

M8: **13 ft. lbs.**

KSCM AluMill Reconditioning Service



Kennametal



New Supply

On request, the face mill will be delivered with cartridges already mounted and adjusted.



Service Level • PCD Insert Reconditioning

Reconditioning of PCD cartridges up to three times.

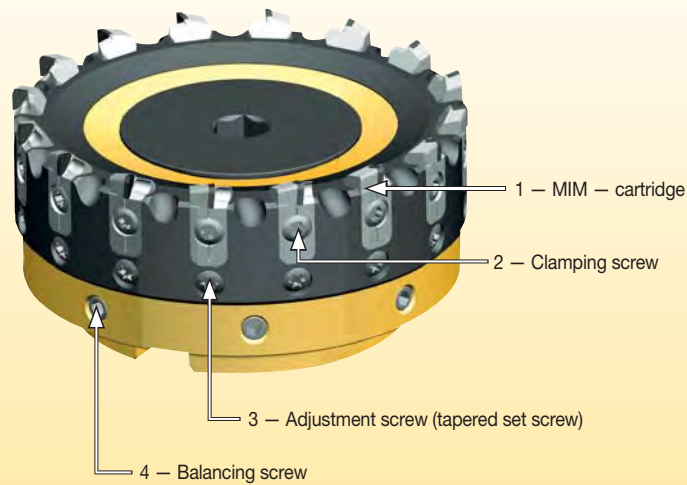
- Tool diameter and length remain constant.



Face mill will be delivered with exchanged cartridges already mounted, adjusted, and balanced.



■ Tool Design

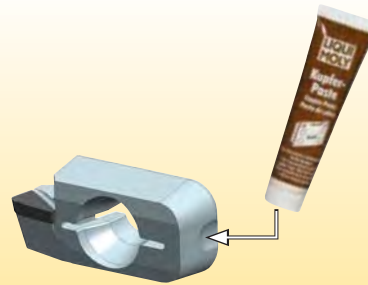


■ Information:

- KSCM tools conform to EN ISO 15641.
- Absolute cleanliness is needed when assembling the cutter.
- For optimum results, adjust and balance the complete tool system (face milling cutter + toolholder).
- Balancing is achieved with the aid of balancing screws. Quality class G2.5 DIN-ISO 1940.
- The balancing screw must not protrude above the body. The balancing and adjustment screws have an adhesive coating according to DIN 267, Part 28. After repeated use, the coating may no longer be adequate to secure the screws; the screws must be replaced.
- Do not exceed the maximum operating speed.
- Maximum operating speed is only permitted with clamping systems manufactured by Kennametal in accordance with DIN 69982 Form B with enlarged plane bearing surface. Reduce the operating speed if clamping systems with increased projection length or made by other manufacturers are used.
- Tools and fittings are to be serviced and repaired by Kennametal.
- Screws sealed with lacquer have been adjusted by the manufacturer, and must not be moved.
- A centrifugal force test was done.
- If the tools will be used for HSC, referred to in DIN EN ISO 15641, machines have to fulfill the special safety requirements.

■ Assembling

- 1** Lubricate small cove on the MIM cartridge with copper paste of Liqui Moly.



- 2** Insert universal cartridges at approximate ratio 3:1 into the body. Make sure that they are distributed evenly!

- 3** Screw in the clamping screws (RH) and tighten to 8 Nm.

- 4** Screw in the adjusting screws (RH) and tighten to 3 Nm.

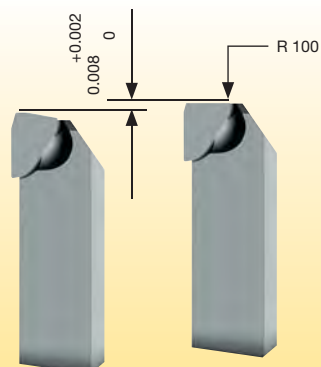


- 5** Determine which cartridge is in the highest axial position.

- 6** By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.



- 7** Insert finishing cartridges as described in steps 1–6 with an axial advance of 0,008 +0,002mm. Max permitted runout error of 3 µm with finishing cartridges.



NOTE:

- The process must be repeated when the cartridges are changed. To dismantle, remove the adjusting element (Part 3), clamping screw (Part 2), and cartridge (Part 1).
- For special requirements, e.g. surface quality, the configuration and the adjustment of the tool and inserts have to be done in relation with these requirements.
- If spare parts have to be ordered, reference the drawing.

Leader in Advanced Face
Milling Applications

Dodeka™ Mini

The Dodeka Mini series is the most comprehensive face milling booster on the market today and offers fast, accurate indexing — with only one screw!

It is the first choice for long-reach face milling applications, or light fixtures with up to 40% shorter machining cycle time. With a standard offering of 15°, 45°, and 60° in combination with Beyond™ premium milling grades, expect up to 35% better tool life in light to heavy machining.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

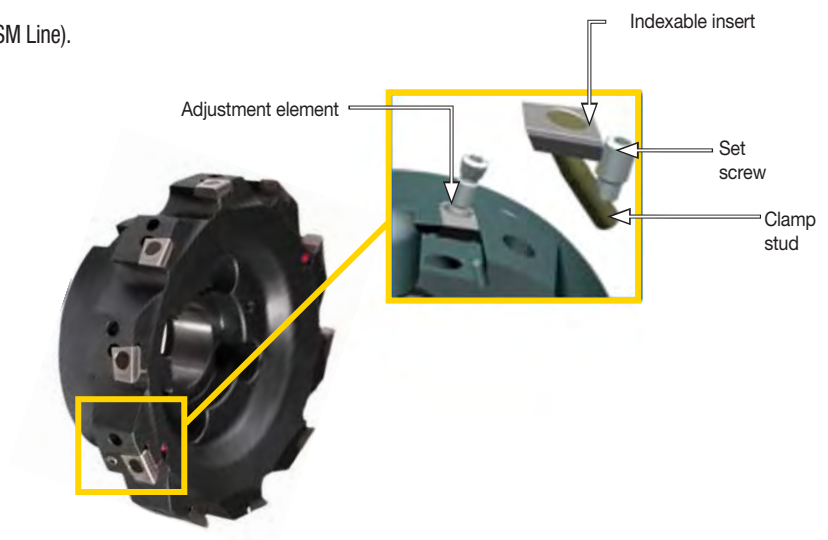
➤ Fix-Perfect™ 0° Aluminum

Primary Application

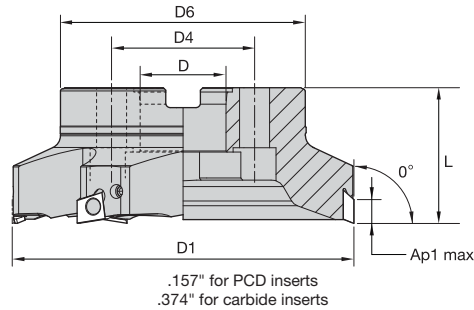
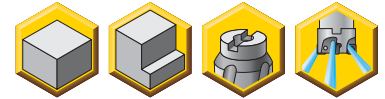
The Fix-Perfect 0° milling cutter is excellent for machining aluminum and non-ferrous materials. The 24° positive rake provides free cutting action while producing superior finishes and flatness.

Features and Benefits

- Achieve true 0° shoulder.
- Roughing and finishing in one tool.
- Full safety first insert clamping.
- Easy adjustable pocket seats for fine finishing (PM, HPM, HSM Line).
- Achievable floor surface quality: Ra = 0.5.
- Very soft cutting action.
- Axial depth of cut Ap1 max = 3.74".



- Excellent for milling aluminum and non-ferrous materials.
- Good choice for thin-wall or poorly fixtured workpieces.
- 24° positive rake enables free cutting action.
- Produces excellent finish and flatness.
- Maximum speed is 6,500 SFM.



■ Fix-Perfect • Shell Mills • M Line • Fixed Pockets

order number	catalog number	D1	D	D6	L	Ap1 max	Z	lbs	max RPM
2235052	50A03RP90BG15CUM	2.000	.750	1.750	1.570	.374	3	.90	12530
2235053	63A03RP90BG15CUM	2.500	.750	1.750	1.570	.374	3	1.10	10030
2235054	80A03RP90BG15CUM	3.000	1.000	2.189	1.750	.374	3	1.60	8350
2235055	100B04RP90BG15CUM	4.000	1.250	2.880	1.750	.374	4	2.80	6270
2235056	125B05RP90BG15CUM	5.000	1.500	3.810	2.380	.374	5	5.40	5010
2235057	160B06RP90BG15CUM	6.000	2.000	4.880	2.380	.374	6	8.50	4180

* 8-, 10-, and 12-inch diameter cutters are non-stock standards.

■ Spare Parts

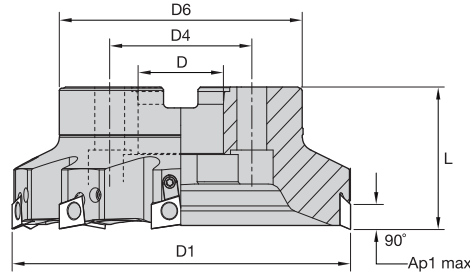
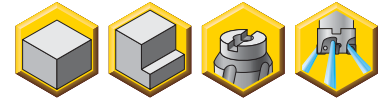
D1	clamp stud	set screw	hex wrench	in. lbs.	socket-head cap screw	coolant lock screw	coolant shower plate
2.000	410.083	420.060	170.003	45	S446	420.101 SCREW	—
2.500	410.083	420.060	170.003	45	S445	420.101 SCREW	—
3.000	410.083	420.060	170.003	45	S458	420.121	—
4.000	410.083	420.060	170.003	45	—	420.161	—
5.000	410.083	420.060	170.003	45	—	420.201	470.240
6.000	410.083	420.060	170.003	45	—	420.241	470.241

NOTE: Please order spare parts separately.

Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.



- High-speed Machining.
- Produces excellent surface finish and flatness.
- Fixed and adjustable pockets.

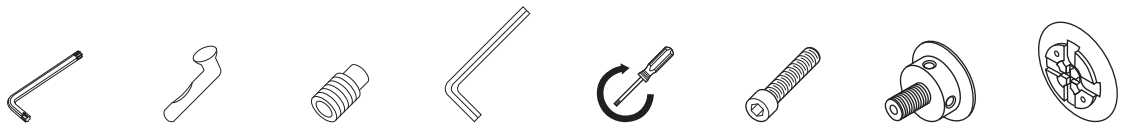


■ Fix-Perfect • Shell Mills • PM Line • Fixed and Adjustable Pockets

order number	catalog number	D1	D	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
1803174	40A02RP90BG15CUPM	1.500	.500	1.250	1.570	.375	2	0	.49	33418
1803175	50A03RP90BG15CUPM	2.000	.750	1.750	1.570	.375	3	0	.84	25063
1803177	63A04RP90BG15C1WUPM	2.500	.750	1.750	1.570	.375	4	1	1.17	22750
1803178	80A05RP90BG15C1WUPM	3.000	1.000	2.032	1.750	.375	5	1	1.85	16710
1805715	80A06RP90BG15C2WUPM	3.000	1.000	2.032	1.750	.375	6	2	1.85	16710
1803179	100B06RP90BG15C2WUPM	4.000	1.250	2.724	1.750	.375	6	2	3.22	12500
1805716	100B08RP90BG15C2WUPM	4.000	1.250	2.724	1.750	.375	8	2	3.22	12500
1806465	125B08RP90BG15C2WUPM	5.000	1.500	3.810	2.375	.375	8	2	5.95	10000
1806466	160B10RP90BG15C2WUPM	6.000	2.000	4.880	2.375	.394	10	2	9.26	8500

■ Spare Parts

Face Milling



D1	Torx wrench	clamp stud	set screw	hex wrench	in. lbs.	socket-head cap screw	coolant lock screw	coolant shower plate
1.500	KT15	410.083	420.060	170.003	45	S425	420.081	—
2.000	KT15	410.083	420.060	170.003	45	S446	420.101 SCREW	—
2.500	KT15	410.083	420.060	170.003	45	S445	420.101 SCREW	—
3.000	KT15	410.083	420.060	170.003	45	S458	420.121	—
4.000	KT15	410.083	420.060	170.003	45	—	420.161	—
5.000	KT15	410.083	420.060	170.003	45	—	420.201	470.240
6.000	KT15	410.083	420.060	170.003	45	—	420.241	470.241

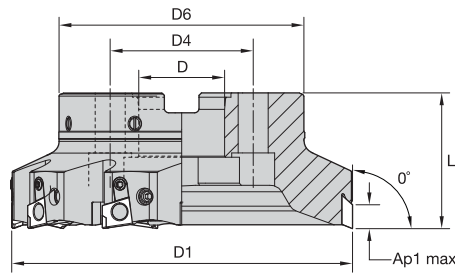
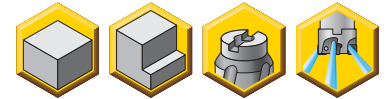
NOTE: Please order spare parts separately.

For all diameters: adjusting element screw 193.337.

If the adjusting element needs to be replaced, please return the cutter to the Kennametal Service Center.

Torque wrench (KTW45 and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

- Produces excellent surface finish and flatness.
- High-speed machining.



■ **Fix-Perfect • Shell Mills • HPM Line • All Pockets Adjustable**

order number	catalog number	D1	D	D6	L	Ap1 max	Z	Z ADJ	lbs	max RPM
1805720	63A04RP90BG15C4WUHPM	2.500	.750	1.750	1.570	.374	4	4	1.17	20051
1805745	80A05RP90BG15C5WUHPM	3.000	1.000	2.190	1.750	.374	5	5	1.83	16710

■ **Spare Parts**

D1	adjusting element screw	Torx wrench	clamp stud	set screw	hex wrench	in. lbs.	socket-head cap screw	coolant lock screw
2.500	193.326	KT15	410.083	420.060	170.003	45	S445	420.101 SCREW
3.000	193.326	KT15	410.083	420.060	170.003	45	S458	420.121

NOTE: Please order spare parts separately.
 For all diameters: adjusting element screw 193.326.
 If the adjusting element needs to be replaced, please return the cutter to the Kennametal Service Center.
 Cutters with 4" have an aluminum body.
 Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.



Face Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		↔		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	BGHX...	K110M	BGHX...	KC510M	BGHX...	KD1415
N3	BGHX...	K110M	BGHX...	KD1410	BGHX...	KD1410
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

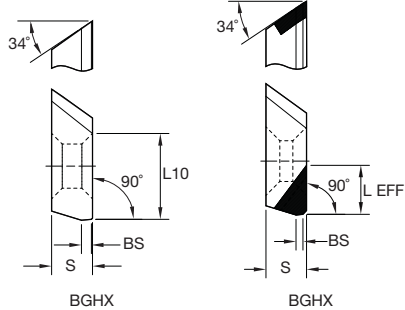
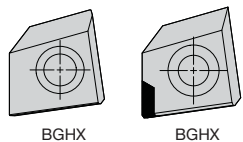
Indexable Inserts for Fix-Perfect • BGHX15L5...

- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges.

- first choice
- alternate choice

P	●				
M	●				
K	●				
N	●	●	●	●	●
S	●				
H	●				

Face Milling



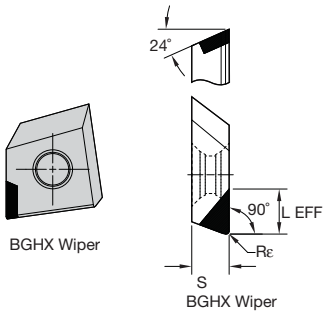
■ BGHX • Roughing

catalog number	L10	S	BS	Re	hm	cutting edges	K110M	KC510M	KD1410	KD1415
BGHX15L5PCERGGT	.205	.197	.035	—	.001	1	-	-	●	●
BGHX15L5PCFRGG	.413	.197	.048	—	.001	2	●	●	-	-
BGHX15L5PCTRGG	.413	.197	.048	—	.001	2	●	●	-	-
BGHX15L5PCERGGTM	—	.197	.047	—	.001	1	-	-	●	-

- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges with corner radii.

- first choice
- alternate choice

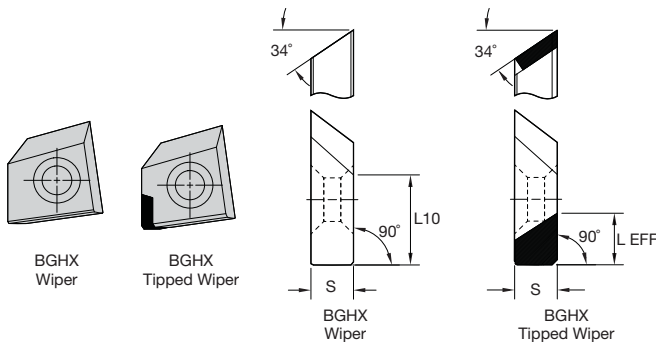
P	■				
M	■				
K	■				
N	■	●	●	●	●
S	■				
H	■				



■ BGHT • Roughing with Radius

catalog number	L10	S	BS	Re	hm	cutting edges	K110M	KC510M	KD1410	KD1415
BGHX15L504ERGET	.205	.197	—	.016	.001	1	—	—	—	●
BGHX15L504PCFRGG	.413	.197	.047	.016	.001	2	●	—	—	—
BGHX15L508PCFRGG	.413	.197	.047	.031	.001	2	●	●	—	—
BGHX15L515PCFRGG	.413	.197	.047	.059	.001	2	●	●	—	—

- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges.



■ BGHX-ET • Finishing

catalog number	L10	S	BS	Re	hm	cutting edges	K110M	KC510M	KD1410	KD1415
BGHX15L5PCSRLET	.236	.197	.035	—	.001	1	—	—	●	●
BGHX15L5PCTRHET	.236	.197	.035	—	.001	1	—	—	●	—



Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

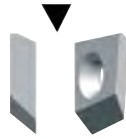
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
BGHX...	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	BGHX...

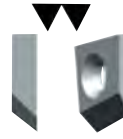
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Introduction to Fitting Cutting Bodies

Roughing indexable inserts
BGHX15L5PC..GG.



Finishing indexable inserts
BGHX15L5PC..GG.1W



Clean dust, grease, etc., from the insert seat, insert (1), and clamp stud (2).

	PM	HPM/HSM	PM/HPM/HSM
1	Loosen the adjusting element (4). Loosen the adjusting screw (5).	Loosen the adjusting element (4). Loosen the adjusting screw (5).	Loosen the adjusting element (4). Loosen the adjusting screw (5).
	Insert the indexable inserts and tighten with the clamping screw (3) 44 in. lbs. ATTENTION: Ensure that the insert is correctly positioned in the insert seat.	Insert the indexable inserts and pre-tighten with the clamping screw (3) 13 in. lbs. ATTENTION: Ensure that the insert is correctly positioned in the insert seat. Determine which cutting body is the highest on the axis.	Insert the indexable inserts and pre-tighten with the clamping screw (3) 9 in. lbs. ATTENTION: Ensure that the insert is correctly positioned in the insert seat. Determine which cutting body is the highest on the axis.
3	Tension the adjusting element (4) by tightening the adjusting screw (5) to the specified torque of 4.5 in. -lbs. Adjust the remaining inserts to the desired runout with maximum travel of the inserts .008".	Extract by .0008" the insert that is axially the highest by turning the adjusting screw (5). Adjust the remaining inserts to the desired runout with maximum travel of the inserts .008".	Adjust the finishing indexable insert(s) to the desired projection, preferably .0015" by turning the adjusting screw (5). ATTENTION: Ensure that the insert is correctly positioned in the insert seat.
	 Adjustment element to be replaced by Kennametal Service Center only.	Clamp the insert by tightening the clamping screw (3) to the specified torque of 44 in. lbs. 	Clamp the insert by tightening the clamping screw (3) to the specified torque of 44 in. lbs.
4			

Mobile App

The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.



FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

MACHING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

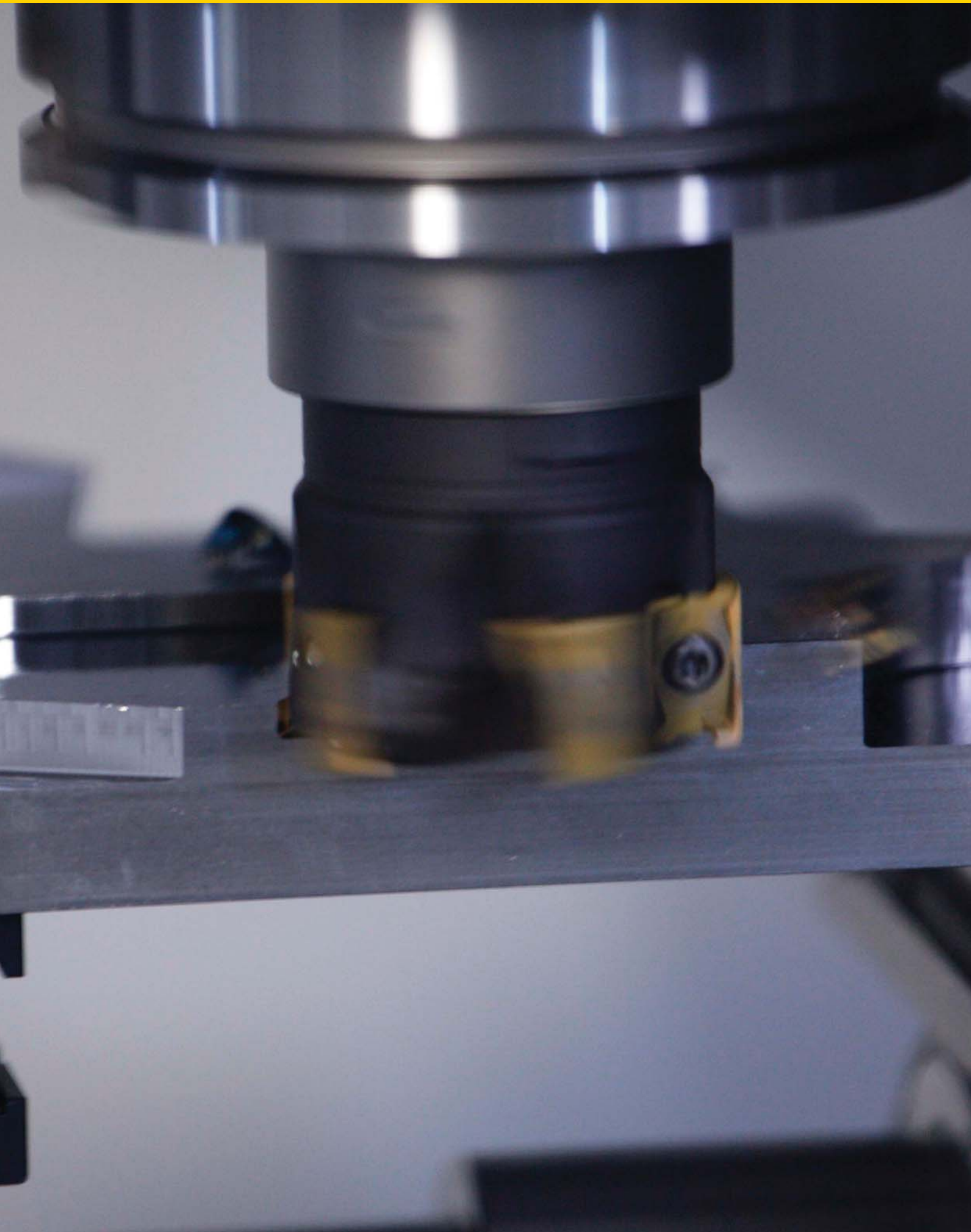
ORDERING

Login using your Konnect credentials to complete a purchase.

WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.





Indexable Milling • Shoulder Milling

Mill 4 • Double-Sided Shoulder Milling	T2–T21
Mill 4-11	T2–T11
Mill 4-15	T12–T21
Mill 1 • Single-Sided Shoulder Milling	T22–T93
Mill 1-7	T22–T26
Mill 1-10	T28–T47
Mill 1-14	T48–T73
Mill 1-18	T74–T86
Mill 1-25	T88–T93
Stellram 5720VZ16 Series • High-Speed Aluminum Cutting	T94–T104
KSSM • Square Shoulder Milling	T106–T117
KSSM-KSSP • Helical Square Shoulder Milling	T118–T124
Stellram 5230VS Series	T126–T136

➤ Mill 4-11™

One tool for all applications.

The Mill 4™ series is specially engineered to achieve excellent surface quality and higher metal removal rates in shoulder milling applications. Its unique design allows you to apply the tool in multiple passes (stepping down) with outstanding results.

From roughing to finishing operations, the Mill 4 series is applicable in a wide range of workpiece materials: steel, cast iron, stainless steel, non-ferrous materials, and high-temp alloys.

Features and Benefits

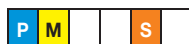
- Double-sided strong insert with 4 cutting edges.
- High positive geometry for lower cutting forces.
- Superior wall and surface finish capabilities.
- “Stepless” solution for multiple-pass operations.
- Comprehensive offering to cover all applications in all material groups.

-ELEJ



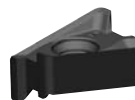
For non-ferrous materials.

-EGE



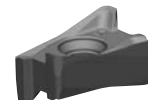
1st choice for stainless steel.
Lower cutting forces.

-SGE



First choice for Mill 4 platform,
especially when machining steels.

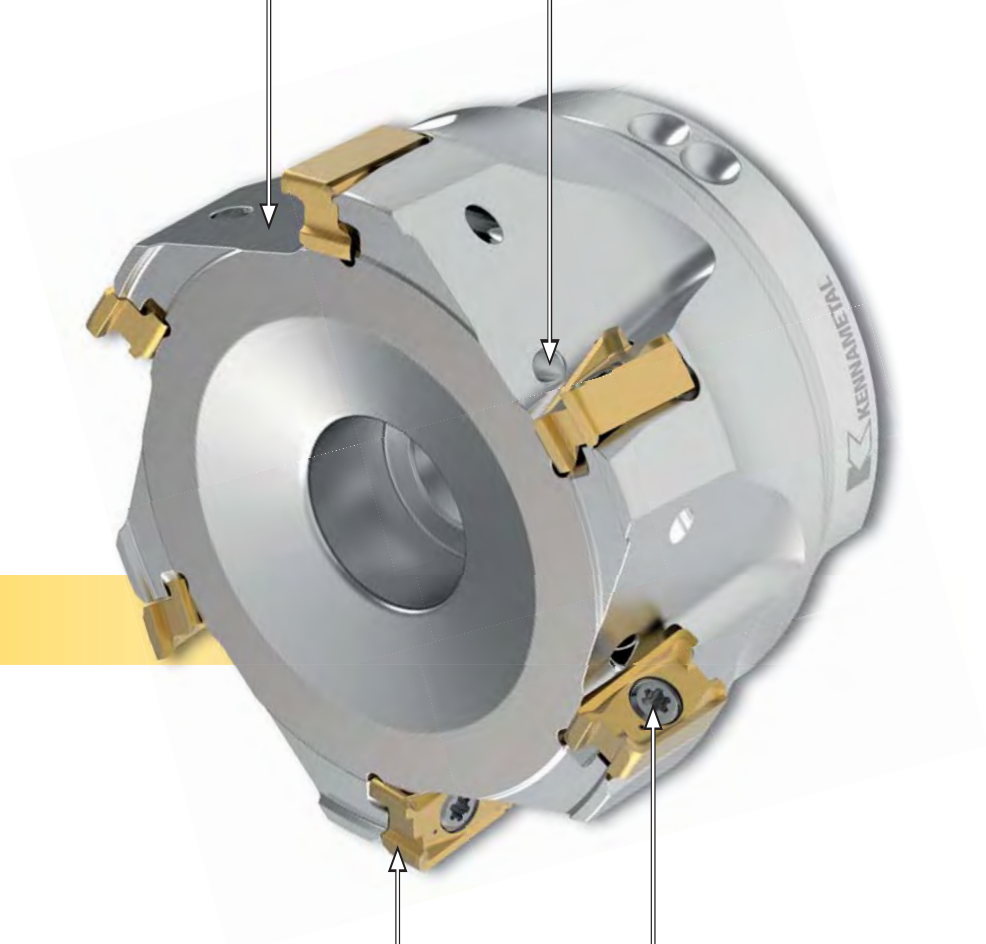
-SGEM



1st choice for cast iron.
Strongest cutting edge.

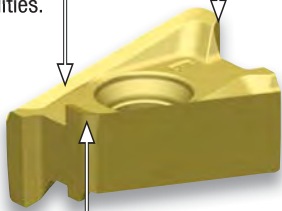
Uneven pocket spacing.

Screw-on, end mills, and shell mill cutter with internal coolant.



Up to 0.433" (11mm) Ap capabilities.

Integrated wiper facet for best-in-class floor finisher.

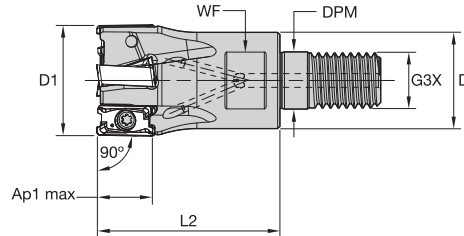
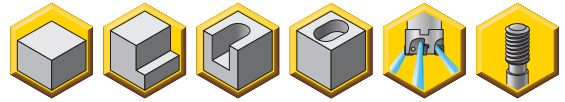


Multiple corner nose radii available from .016" (0,4mm) up to .063" (1,6mm).

TP9 insert screw (M3) to provide higher reliability and safe processes.

Double-sided insert with 4 cutting edges.

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities. Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.
- Screw-on cutters provided better rigidity and stability when used with small spindles: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.



■ Screw-On End Mills

order number	catalog number	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	lbs	max RPM
6139893	M4D075L1103M10L110	.750	.705	.413	M10	1.100	15	.433	3	.01	41700
6139894	M4D100L1104M12L125	1.000	.827	.492	M12	1.250	17	.433	4	.19	33900
6139895	M4D125L1105M16L175	1.250	1.142	.669	M16	1.750	24	.433	5	.49	29200

■ Spare Parts



insert screw



in. lbs.



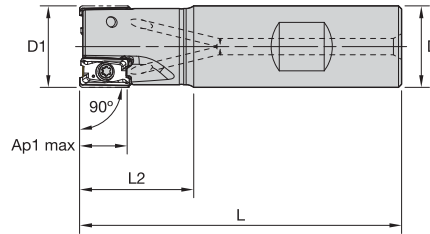
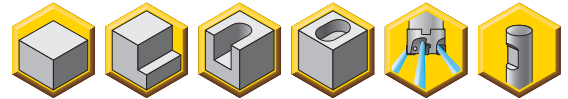
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2263	13.3	DT9IP
1.000	MS2263	13.3	DT9IP
1.250	MS2263	13.3	DT9IP



Shoulder Milling

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.



Weldon End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	lbs	max RPM
6139928	M4D062L1102W062L100	.625	.625	2.906	1.000	.433	2	.20	48000
6139929	M4D075L1102W075L110	.750	.750	3.130	1.100	.433	2	.32	41700
6139930	M4D075L1103W075L110	.750	.750	3.130	1.100	.433	3	.32	41700
6139896	M4D100L1103W075L175	1.000	.750	3.780	1.750	.433	3	.45	33900
6140051	M4D100L1103W100L175	1.000	1.000	4.030	1.750	.433	3	.77	33900
6140052	M4D125L1104W125L225	1.250	1.250	4.530	2.250	.433	4	1.37	29200
6139897	M4D150L1105W125L225	1.500	1.250	4.530	2.250	.433	5	1.48	26200

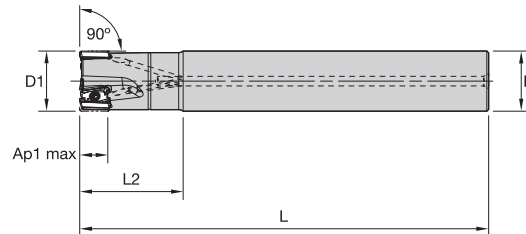
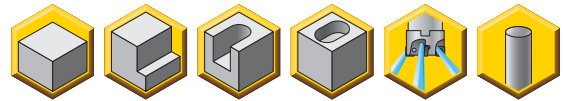
Spare Parts



D1	insert screw	in. lbs.	Torx Plus driver
.625	MS2263	13.3	DT9IP
.750	MS2263	13.3	DT9IP
1.000	MS2263	13.3	DT9IP
1.250	MS2263	13.3	DT9IP
1.500	MS2263	13.3	DT9IP



- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	lbs	max RPM
6140053	M4D062L1102C062L400	.625	.625	4.000	1.000	.433	2	.30	48000
6139898	M4D062L1102C062L600	.625	.625	6.000	1.000	.433	2	.47	48000
6140055	M4D075L1102C075L600	.750	.750	6.000	1.100	.433	2	.67	41700
6140054	M4D075L1103C075L400	.750	.750	4.000	1.100	.433	3	.43	41700
6139899	M4D075L1103C075L600	.750	.750	6.000	1.100	.433	3	.66	41700
6201903	M4D100L1104C075L450	1.000	.750	4.500	1.750	.433	4	.53	33900
6140057	M4D100L1103C100L700	1.000	1.000	7.000	1.750	.433	3	1.42	33900
6140056	M4D100L1104C100L450	1.000	1.000	4.500	1.750	.433	4	.87	33900
6139900	M4D100L1104C100L700	1.000	1.000	7.000	1.750	.433	4	1.41	33900
6201904	M4D125L1105C100L500	1.250	1.000	5.000	2.250	.433	5	1.05	29200
6139921	M4D125L1104C125L800	1.250	1.250	8.000	2.250	.433	4	2.57	29200
6140058	M4D125L1105C125L500	1.250	1.250	5.000	2.250	.433	5	1.55	29200

■ Spare Parts

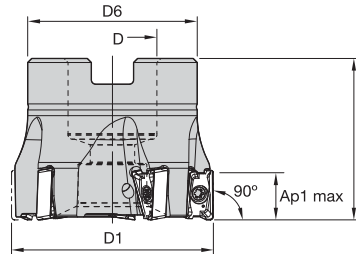
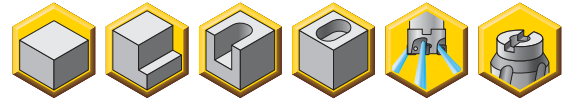


Shoulder Milling



D1	insert screw	in. lbs.	Torx Plus driver
.625	MS2263	13.3	DT9IP
.750	MS2263	13.3	DT9IP
1.000	MS2263	13.3	DT9IP
1.250	MS2263	13.3	DT9IP

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.



■ Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	lbs	max RPM
6140059	M4D150L1105S050L157	1.500	.500	1.421	1.575	.433	5	.49	26200
6139922	M4D150L1106S050L157	1.500	.500	1.421	1.575	.433	6	.49	26200
6140060	M4D200L1105S075L157	2.000	.750	1.750	1.575	.433	5	.80	22100
6140061	M4D200L1107S075L157	2.000	.750	1.750	1.575	.433	7	.81	22100
6140062	M4D250L1107S075L157	2.500	.750	1.750	1.575	.433	7	1.20	19500
6139923	M4D250L1107S100L157	2.500	1.000	2.190	1.575	.433	7	1.28	19500
6140063	M4D300L1108S100L175	3.000	1.000	2.190	1.750	.433	8	2.01	17600
6139924	M4D300L1108S125L175	3.000	1.250	2.665	1.750	.433	8	2.13	17600

■ Spare Parts



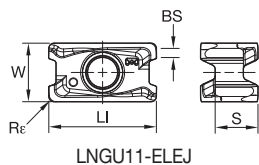
D1	D	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw
1.500	.500	MS2263	13.3	DT9IP	S424
2.000	.750	MS2263	13.3	DT9IP	S445
2.500	.750	MS2263	13.3	DT9IP	S445
2.500	1.000	MS2263	13.3	DT9IP	S458
3.000	1.000	MS2263	13.3	DT9IP	S458
3.000	1.250	MS2263	13.3	DT9IP	S467



Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GE	KCPM40	.S..GE	KCPM40	.S..GEM	KCPM40
P3-P4	.E..GE	KCPM40	.S..GE	KCPM40	.S..GEM	KCPM40
P5-P6	.E..GE	KC725M	.S..GE	KC725M	.S..GEM	KCPM40
M1-M2	.E..GE	KCSM40	.S..GE	KCSM40	.S..GEM	KC522M
M3	.E..GE	KCPM40	.S..GE	KCPM40	.S..GEM	KCPM40
K1-K2	.S..GE	KC520M	.S..GE	KCK15	.S..GEM	KCK15
K3	.S..GE	KC520M	.S..GE	KCK15	.S..GEM	KC520M
N1-N2	.E..LEJ	KC422M	.E..LEJ	KC422M	.E..LEJ	KC422M
N3	.E..LEJ	KC422M	.E..LEJ	KC422M	.E..LEJ	KC422M
S1-S2	.E..GE	KCSM40	.S..GE	KC725M	.S..GE	KCSM40
S3	.E..GE	KCSM40	.S..GE	KCSM40	.S..GE	KCSM40
S4	.E..GE	KCSM40	.S..GE	KCSM40	.S..GE	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts • Mill 4-11



● first choice
○ alternate choice

	P	M	K	N	S	H	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P	●	○	○	○	○	○									
M	○	●	○	○	○	○									
K	○	○	●	○	○	○									
N	○	○	○	●	○	○									
S	○	○	○	○	●	○									
H	○	○	○	○	○	○									

LNGU11-ELEJ • For Aluminum and Other Non-Ferrous Alloys

catalog number	LI	S	W	BS	Re	hm	cutting edges	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU431ERLEJ	.479	.190	.260	.054	.016	.002	4	●	-	-	-	-	-	-	-	-
LNGU432ERLEJ	.479	.190	.260	.039	.031	.002	4	-	-	-	-	-	-	-	-	-

Shoulder Milling

Mill 4-11 Starter Kits

Order one of our starting kits and test the performance of our new Mill 4 platform. The kits are set up to serve the majority of shoulder milling applications, delivered with a cutter body as well as 20 inserts from a premium Kennametal grade.

Detailed order information can be found in the table below.

Order one Mill 4 Kit and experience the next level of shoulder milling!



■ Mill 4-11 Starter Kits • Inch

order number	catalog number	cutter diameter/ flutes	cutter type	material group	application range	content				
						cutter	quantity	insert	grade	quantity
6214774	M4-11KITD062Z2W062SGEKCPM40	0.62z2	Weldon	P	▽/▽▽	M4D062L1102W062L100	1	LNPU110408SRGE	KCPM40	20
6214775	M4-11KITD062Z2C062SGEKCPM40	0.62z2	Cylindrical	P	▽/▽▽	M4D062L1102C062L400	1	LNPU110408SRGE	KCPM40	20
6214776	M4-11KITD075Z2W075SGEKCPM40	0.75z2	Weldon	P	▽/▽▽	M4D075L1102W075L110	1	LNPU110408SRGE	KCPM40	20
6214777	M4-11KITD075Z3W075SGEKCPM40	0.75z3	Weldon	P	▽/▽▽	M4D075L1103W075L110	1	LNPU110408SRGE	KCPM40	20
6214778	M4-11KITD075Z3C075SGEKCPM40	0.75z3	Cylindrical	P	▽/▽▽	M4D075L1103C075L400	1	LNPU110408SRGE	KCPM40	20
6214779	M4-11KITD100Z3W100SGEKCPM40	1.00z3	Weldon	P	▽/▽▽	M4D100L1103W100L175	1	LNPU110408SRGE	KCPM40	20
6214780	M4-11KITD100Z4C100SGEKCPM40	1.00z4	Cylindrical	P	▽/▽▽	M4D100L1104C100L450	1	LNPU110408SRGE	KCPM40	20
6214801	M4-11KITD125Z4W125SGEKCPM40	1.25z4	Weldon	P	▽/▽▽	M4D125L1104W125L225	1	LNPU110408SRGE	KCPM40	20
6214802	M4-11KITD125Z5C125SGEKCPM40	1.25z5	Cylindrical	P	▽/▽▽	M4D125L1105C125L500	1	LNPU110408SRGE	KCPM40	20
6214803	M4-11KITD150Z5S050SGEKCPM40	1.50z5	Shell Mill	P	▽/▽▽	M4D150L1105S050L157	1	LNPU110408SRGE	KCPM40	20
6214804	M4-11KITD200Z5S075SGEKCPM40	2.00z5	Shell Mill	P	▽/▽▽	M4D200L1105S075L157	1	LNPU110408SRGE	KCPM40	20
6214805	M4-11KITD200Z7S075SGEKCPM40	2.00z7	Shell Mill	P	▽/▽▽	M4D200L1107S075L157	1	LNPU110408SRGE	KCPM40	20
6214806	M4-11KITD062Z2W062SGEK725M	0.62z2	Weldon	M+S	▽▽/▽▽▽	M4D062L1102W062L100	1	LNGU110408ERGE	KC725M	20
6214807	M4-11KITD062Z2C062SGEK725M	0.62z2	Cylindrical	M+S	▽▽/▽▽▽	M4D062L1102C062L400	1	LNGU110408ERGE	KC725M	20
6214808	M4-11KITD075Z3W075SGEK725M	0.75z3	Weldon	M+S	▽▽/▽▽▽	M4D075L1103W075L110	1	LNGU110408ERGE	KC725M	20
6214809	M4-11KITD075Z3C075SGEK725M	0.75z3	Cylindrical	M+S	▽▽/▽▽▽	M4D075L1103C075L400	1	LNGU110408ERGE	KC725M	20
6214810	M4-11KITD100Z3W100SGEK725M	1.00z3	Weldon	M+S	▽▽/▽▽▽	M4D100L1103W100L175	1	LNGU110408ERGE	KC725M	20
6214821	M4-11KITD100Z4C100SGEK725M	1.00z4	Cylindrical	M+S	▽▽/▽▽▽	M4D100L1104C100L450	1	LNGU110408ERGE	KC725M	20
6214822	M4-11KITD125Z4W125SGEK725M	1.25z4	Weldon	M+S	▽▽/▽▽▽	M4D125L1104W125L225	1	LNGU110408ERGE	KC725M	20
6214823	M4-11KITD125Z5C125SGEK725M	1.25z5	End Mill	M+S	▽▽/▽▽▽	M4D125L1105C125L500	1	LNGU110408ERGE	KC725M	20
6214824	M4-11KITD150Z5S050SGEK725M	1.50z5	Shell Mill	M+S	▽▽/▽▽▽	M4D150L1105S050L157	1	LNGU110408ERGE	KC725M	20
6214825	M4-11KITD200Z5S075SGEK725M	2.00z5	Shell Mill	M+S	▽▽/▽▽▽	M4D200L1105S075L157	1	LNGU110408ERGE	KC725M	20
6214826	M4-11KITD200Z7S075SGEK725M	2.00z7	Shell Mill	M+S	▽▽/▽▽▽	M4D200L1107S075L157	1	LNGU110408ERGE	KC725M	20

▽ Heavy/Roughing
▽▽ Medium
▽▽▽ Light machining/Finishing

➤ Mill 4-15™ •

Double-Sided Shoulder Milling

Primary Application

The Mill 4-15 series is specially engineered to achieve excellent surface quality and higher material removal rates in shoulder milling applications. Its unique design enables multiple passes (stepping down) with outstanding results. The Mill 4™ platform is applicable in a wide range of workpiece materials: steel, cast iron, stainless steel, and titanium, from roughing to finishing operations.

Features and Benefits

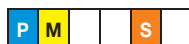
- Double-sided strong insert with 4 cutting edges.
- High positive geometry for lower cutting forces.
- Superior wall and surface finish capabilities.
- “Stepless” solution. No mismatch when machining walls in different steps.

-EGEJ



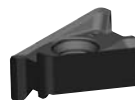
For non-ferrous materials.

-EGE



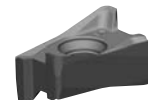
1st choice for stainless steel.
Lower cutting forces.

-SGE

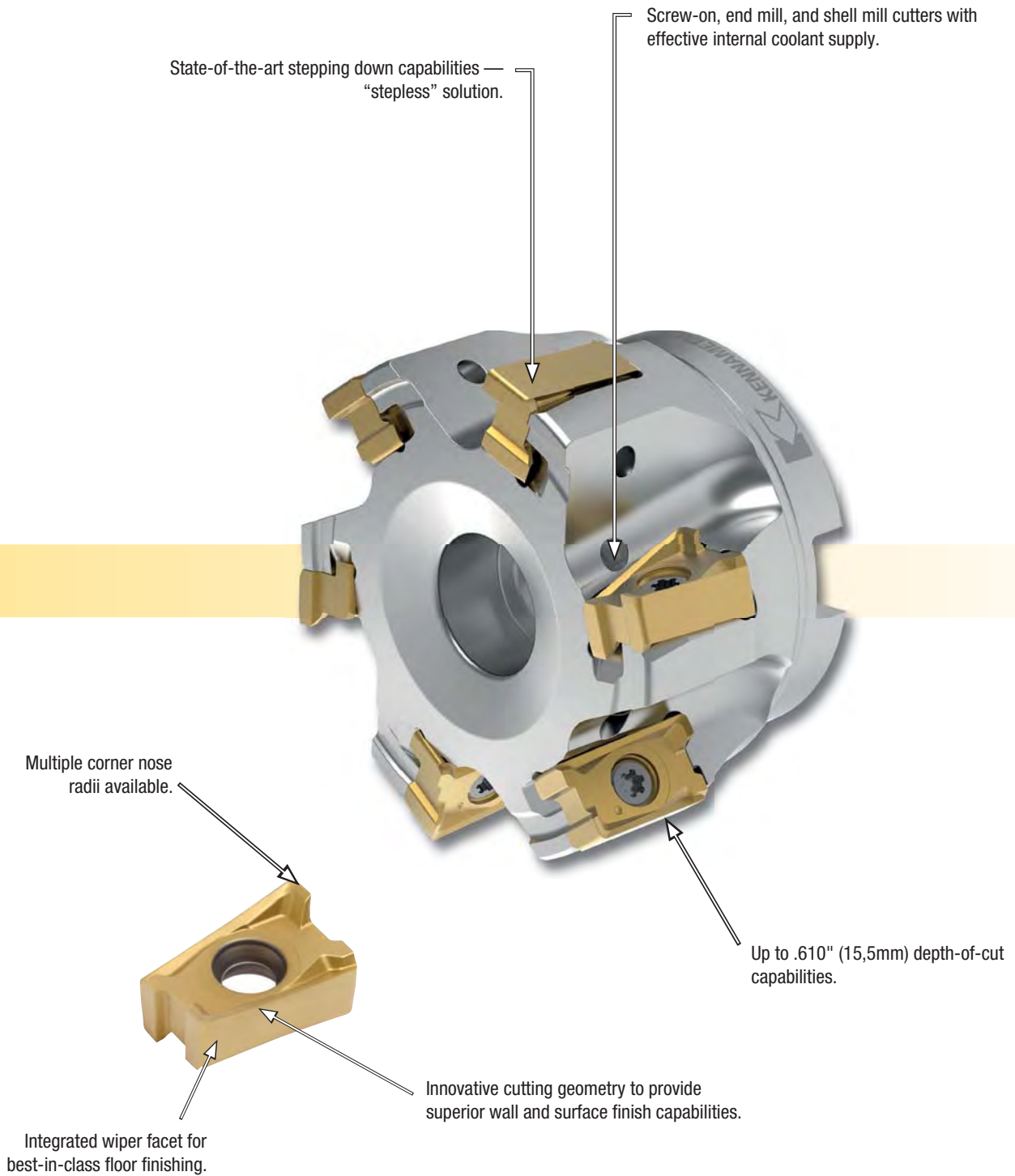


First choice for Mill 4 platform, especially when machining steels.

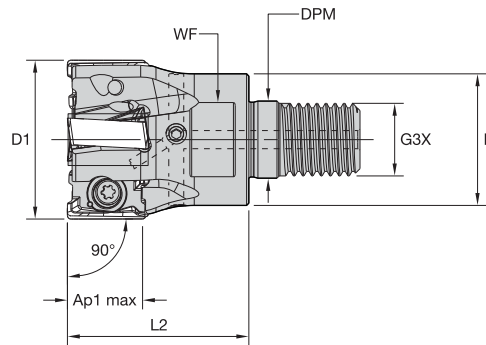
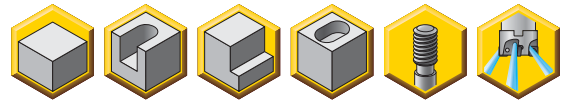
-SGEM



1st choice for cast iron.
Strongest cutting edge.



- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.



■ Screw-On End Mills

order number	catalog number	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	lbs	max RPM
5568064	M4D100L1502M12L125	1.000	.827	.492	M12	1.250	17	.610	2	.73	26300
5568065	M4D125L1503M16L175	1.250	1.142	.669	M16	1.750	24	.610	3	.44	22100
5568066	M4D150L1504M16L175	1.500	1.142	.669	M16	1.750	24	.610	4	.52	19500

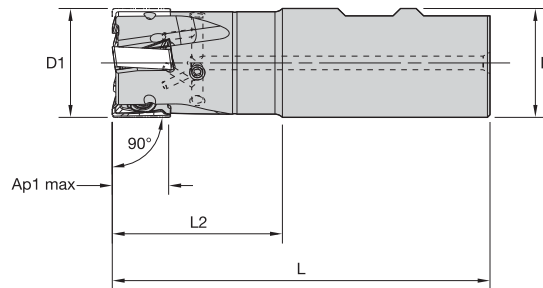
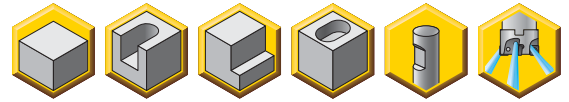
■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS-2071	31.0	DT15IP
1.250	MS-2071	31.0	DT15IP
1.500	MS-2071	31.0	DT15IP



Shoulder Milling

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.



■ **Weldon® End Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	lbs	max RPM
5568067	M4D100L1502W075L175	1.000	.750	3.780	1.750	.610	2	.73	26300
5544366	M4D100L1502W100L175	1.000	1.000	4.030	1.750	.610	2	.73	26300
5544367	M4D125L1503W100L225	1.250	1.000	4.530	2.250	.610	3	.90	22100
5568068	M4D125L1503W125L225	1.250	1.250	4.530	2.250	.610	3	1.30	22100
5568069	M4D150L1503W125L225	1.500	1.250	4.530	2.250	.610	3	1.41	19500
5544368	M4D150L1504W125L225	1.500	1.250	4.530	2.250	.610	4	1.41	19500

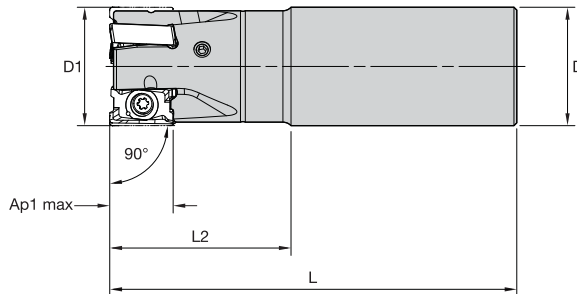
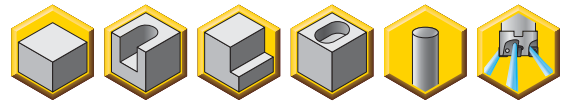
■ **Spare Parts**

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS-2071	31	DT15IP
1.250	MS-2071	31	DT15IP
1.500	MS-2071	31	DT15IP

NOTE: Weldon type not recommended for finishing operations.



- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	lbs	max RPM
5544369	M4D100L1502C100L800	1.000	1.000	8.000	1.750	.610	2	1.59	26300
5568080	M4D100L1502C100L1000	1.000	1.000	10.000	1.750	.610	2	2.03	26300
5544400	M4D125L1503C125L800	1.250	1.250	8.000	2.250	.610	3	2.50	22100
5568081	M4D125L1503C125L1000	1.250	1.250	10.000	2.250	.610	3	3.18	22100
5544401	M4D150L1504C125L800	1.500	1.250	8.000	2.250	.610	4	2.60	19500
5568082	M4D150L1504C125L1000	1.500	1.250	10.000	2.250	.610	4	3.29	19500

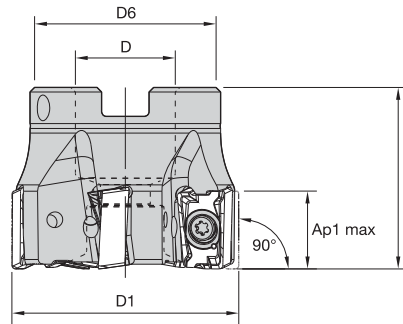
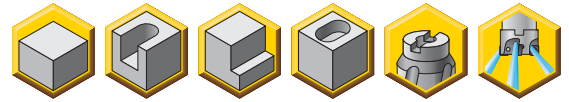
■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS-2071	31.0	DT15IP
1.250	MS-2071	31.0	DT15IP
1.500	MS-2071	31.0	DT15IP



Shoulder Milling

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.



■ Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	lbs	max RPM
5544402	M4D150L1505S050L157	1.500	.500	1.420	1.575	.610	5	.43	19500
5702499	M4D200L1504S075L175	2.000	.750	1.750	1.575	.610	4	.78	16100
5544403	M4D200L1505S075L157	2.000	.750	1.750	1.575	.610	5	.73	16100
5544404	M4D200L1506S075L157	2.000	.750	1.750	1.575	.610	6	.71	16100
5568083	M4D250L1505S075L157	2.500	.750	1.750	1.575	.610	5	1.09	14100
5544405	M4D250L1506S075L157	2.500	.750	1.750	1.575	.610	6	1.05	14100
5568084	M4D250L1507S100L175	2.500	1.000	2.190	1.750	.610	7	1.31	14100
5702495	M4D300L1505S100L175	3.000	1.000	2.190	1.750	.610	5	1.86	12700
5544406	M4D300L1507S100L175	3.000	1.000	2.190	1.750	.610	7	1.82	12700
5568085	M4D300L1509S100L175	3.000	1.000	2.190	1.750	.610	9	1.85	12700
5544407	M4D300L1508S125L200	3.000	1.250	2.665	2.000	.610	8	2.22	12700
5702496	M4D400L1506S150L200	4.000	1.500	3.380	2.000	.610	6	3.33	10800
5568086	M4D400L1508S150L200	4.000	1.500	3.380	2.000	.610	8	3.31	10800
5544408	M4D400L1511S150L200	4.000	1.500	3.380	2.000	.610	11	3.25	10800
5702500	M4D500L1507S150L238	5.000	1.500	3.907	2.380	.610	7	6.91	9600
5613026	M4D500L1509S150L238	5.000	1.500	3.907	2.380	.610	9	6.84	9660
5613027	M4D500L1512S150L238	5.000	1.500	3.907	2.380	.610	12	6.98	9660
5702497	M4D600L1508S200L238	6.000	2.000	4.880	2.380	.610	8	12.20	8600
5613028	M4D600L1510S200L238	6.000	2.000	4.880	2.380	.610	10	9.55	8600
5702498	M4D600L1512S200L238	6.000	2.000	4.880	2.380	.610	12	12.09	8600

■ Spare Parts

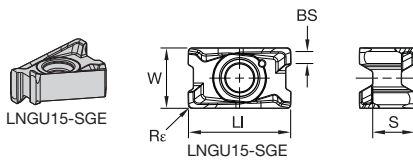


D1	D	insert screw	in. lbs.	Torx Plus driver	coolant lock screw	coolant lock screw assembly
1.500	.500	MS-2071	31.0	DT15IP	—	—
2.000	.750	MS-2071	31.0	DT15IP	—	—
2.500	.750	MS-2071	31.0	DT15IP	—	—
2.500	1.000	MS-2071	31.0	DT15IP	—	—
3.000	1.000	MS-2071	31.0	DT15IP	—	—
3.000	1.250	MS-2071	31.0	DT15IP	—	—
3.000	1.000	MS-2071	31.0	DT15IP	—	—
4.000	1.500	MS-2071	31.0	DT15IP	420.201	S2165C
5.000	1.500	MS-2071	31.0	DT15IP	420.201	S2165C
6.000	2.000	MS-2071	31.0	DT15IP	420.241	S2192C

NOTE: Coolant lock screw assembly must be ordered separately.



- SGE is the universal geometry for Mill 4-15.
- First choice when machining steel.
- Suitable for stainless steel and high-temp alloys in medium-heavy applications.



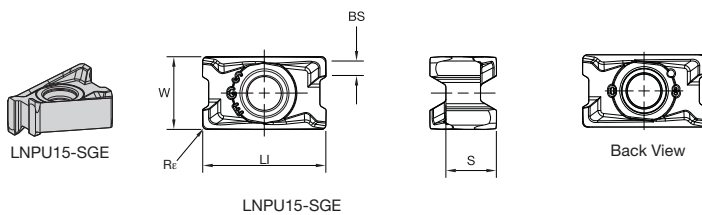
- first choice
- alternate choice

P	●			○	●	●	●	○	
M	●			○	●	●	○	○	●
K	●		○	○	●	○	○	○	○
N	●								
S								○	●
H									

■ LNGU15-SGE • Precision Ground • For Steel Machining, Finishing, and Light Roughing

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU541SRGE	.669	.394	.274	.086	.016	.004	4	-	●	●	●	●	●	-	-	-
LNGU542SRGE	.670	.394	.274	.071	.031	.004	4	-	●	●	●	●	●	-	-	-
LNGU543SRGE	.670	.394	.274	.056	.047	.004	4	-	●	●	●	●	●	-	-	-
LNGU544SRGE	.670	.394	.274	.042	.063	.004	4	-	●	●	●	●	●	-	-	-

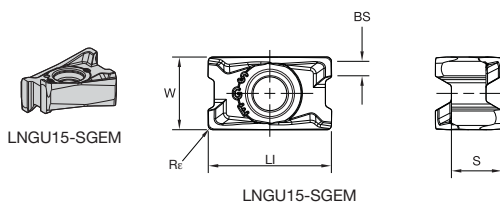
- SGE is the first choice for machining steel, as well as stainless steel and high-temp alloys in heavy applications.



■ LNPU15-SGE • Precision Pressed • For Steel Machining in Medium-Heavy Roughing

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNPU541SRGE	.665	.394	.274	.085	.016	.004	4	-	●	●	●	●	●	-	-	-
LNPU542SRGE	.665	.394	.274	.070	.031	.004	4	-	●	●	●	●	●	-	-	-
LNPU543SRGE	.665	.394	.274	.058	.047	.004	4	-	●	●	●	●	●	-	-	-
LNPU544SRGE	.666	.394	.274	.042	.063	.004	4	-	●	●	●	●	●	-	-	-
LNPU545SRGE	.666	.394	.274	.028	.078	.004	4	-	-	●	●	●	●	-	-	-

- SGEM geometry is the first choice for cast iron machining in medium and heavy applications



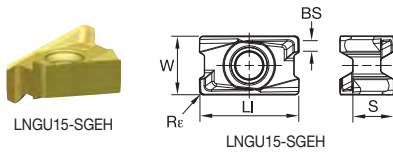
■ LNGU15-SGEM • For Cast Iron Machining

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU542SRGEM	.670	.394	.274	.067	.031	.004	4	-	●	-	-	●	●	-	-	-
LNGU543SRGEM	.670	.394	.274	.053	.047	.004	4	-	●	-	-	●	●	-	-	-
LNGU544SRGEM	.670	.394	.274	.037	.064	.004	4	-	●	-	-	●	●	-	-	-
LNGU545SRGEM	.670	.394	.274	.013	.078	.004	4	-	●	-	-	●	●	-	-	-



Shoulder Milling

- H stands for helical.
- Insert specially design to fit in helical cutters (porcupine).



- first choice
- alternate choice

beyond

P	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

■ LNGU15-SGEH • For Mill 4-15 Helical Cutters (Porcupine Style)

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU542SRGEH	.670	.394	.274	.071	.031	.004	4	-	-	-	-	-	-	-	-	●

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40%-100%			
.E..GEJ	.005	.019	.034	.003	.014	.024	.003	.010	.018	.002	.009	.016	.002	.008	.014	.E..GEJ
.E..GE	.009	.020	.035	.007	.015	.025	.005	.011	.019	.004	.009	.016	.004	.009	.015	.E..GE
.S..GE	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..GE
.S..GEM	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..GEM

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.



Shoulder Milling

Mill 4-15 Starter Kits

Order one of our starting kits and test the performance of our new Mill 4 platform. The kits are set up to serve the majority of shoulder milling applications and workpiece materials, delivered with a cutter body as well as 20 inserts from a premium Kennametal grade.

Order one Mill 4 kit, and experience the next level of shoulder milling!



Detailed order information can be found in the table below:

■ Mill 4-15 Inch Starter Kits

material group	order number	catalog number	cutter kit	application range	content				
					cutter	qty	insert	grade	qty
P	5972205	M4KITD100Z02W100SGEKCPM40	D1.00 x z2	∇∇	M4D100L1502W100L175	1	LNPU15T608SRGE	KCPM40	20
P	5972206	M4KITD125Z03W100SGEKCPM40	D1.50 x z3	∇∇	M4D125L1503W100L225	1	LNPU15T608SRGE	KCPM40	20
P	5972207	M4KITD150Z04W125SGEKCPM40	D1.50 x z4	∇∇	M4D150L1504W125L225	1	LNPU15T608SRGE	KCPM40	20
P	5972208	M4KITD150Z05S050SGEKCPM40	D1.50 x z5	∇∇	M4D150L1505S050L157	1	LNPU15T608SRGE	KCPM40	20
P	5972209	M4KITD200Z05S075SGEKCPM40	D2.00 x z5	∇∇	M4D200L1505S075L157	1	LNPU15T608SRGE	KCPM40	20
P	5972210	M4KITD200Z06S075SGEKCPM40	D2.00 x z6	∇∇	M4D200L1506S075L157	1	LNPU15T608SRGE	KCPM40	20
P	5972351	M4KITD250Z06S075SGEKCPM40	D2.50 x z6	∇∇	M4D250L1506S075L157	1	LNPU15T608SRGE	KCPM40	20
P	5972352	M4KITD300Z07S100SGEKCPM40	D3.00 x z7	∇∇	M4D300L1507S100L175	1	LNPU15T608SRGE	KCPM40	20
P	5972353	M4KITD400Z08S150SGEKCPM40	D4.00 x z8	∇∇	M4D400L1508S150L200	1	LNPU15T608SRGE	KCPM40	20
M + S	5972354	M4KITD100Z02C100EGEKC725M	D1.00 x z2	∇∇∇	M4D100L1502C100L800	1	LNGU15T608ERGE	KC725M	20
M + S	5972355	M4KITD125Z03C125EGEKC725M	D1.25 x z3	∇∇∇	M4D125L1503C125L800	1	LNGU15T608ERGE	KC725M	20
M + S	5972356	M4KITD150Z05S050EGEKC725M	D1.50 x z5	∇∇∇	M4D150L1505S050L157	1	LNGU15T608ERGE	KC725M	20
M + S	5972357	M4KITD200Z05S075EGEKC725M	D2.00 x z5	∇∇∇	M4D200L1505S075L157	1	LNGU15T608ERGE	KC725M	20
M + S	5972358	M4KITD200Z06S075EGEKC725M	D2.00 x z6	∇∇∇	M4D200L1506S075L157	1	LNGU15T608ERGE	KC725M	20
M + S	5972359	M4KITD250Z06S075EGEKC725M	D2.50 x z6	∇∇∇	M4D250L1506S075L157	1	LNGU15T608ERGE	KC725M	20
M + S	5972360	M4KITD300Z07S100EGEKC725M	D3.00 x z7	∇∇∇	M4D300L1507S100L175	1	LNGU15T608ERGE	KC725M	20
K	5972371	M4KITD100Z02W100SGEMKC520M	D1.00 x z2	∇	M4D100L1502W100L175	1	LNGU15T608SRGEM	KC520M	20
K	5972372	M4KITD125Z03W100SGEMKC520M	D1.25 x z3	∇	M4D125L1503W100L225	1	LNGU15T608SRGEM	KC520M	20
K	5972373	M4KITD150Z05S050SGEMKC520M	D1.50 x z5	∇	M4D150L1505S050L157	1	LNGU15T608SRGEM	KC520M	20
K	5972374	M4KITD200Z06S075SGEMKC520M	D2.00 x z6	∇	M4D200L1506S075L157	1	LNGU15T608SRGEM	KC520M	20
K	5972375	M4KITD250Z07S075SGEMKC520M	D2.50 x z7	∇	M4D250L1507S100L175	1	LNGU15T608SRGEM	KC520M	20
K	5972376	M4KITD300Z09S100SGEMKC520M	D3.00 x z9	∇	M4D300L1509S100L175	1	LNGU15T608SRGEM	KC520M	20
K	5972377	M4KITD400Z11S150SGEMKC520M	D4.00 x z11	∇	M4D400L1511S150L200	1	LNGU15T608SRGEM	KC520M	20

∇ Heavy/Roughing
∇∇ Medium
∇∇∇ Light machining/Finishing

➤ Mill 1-7™

Primary Application

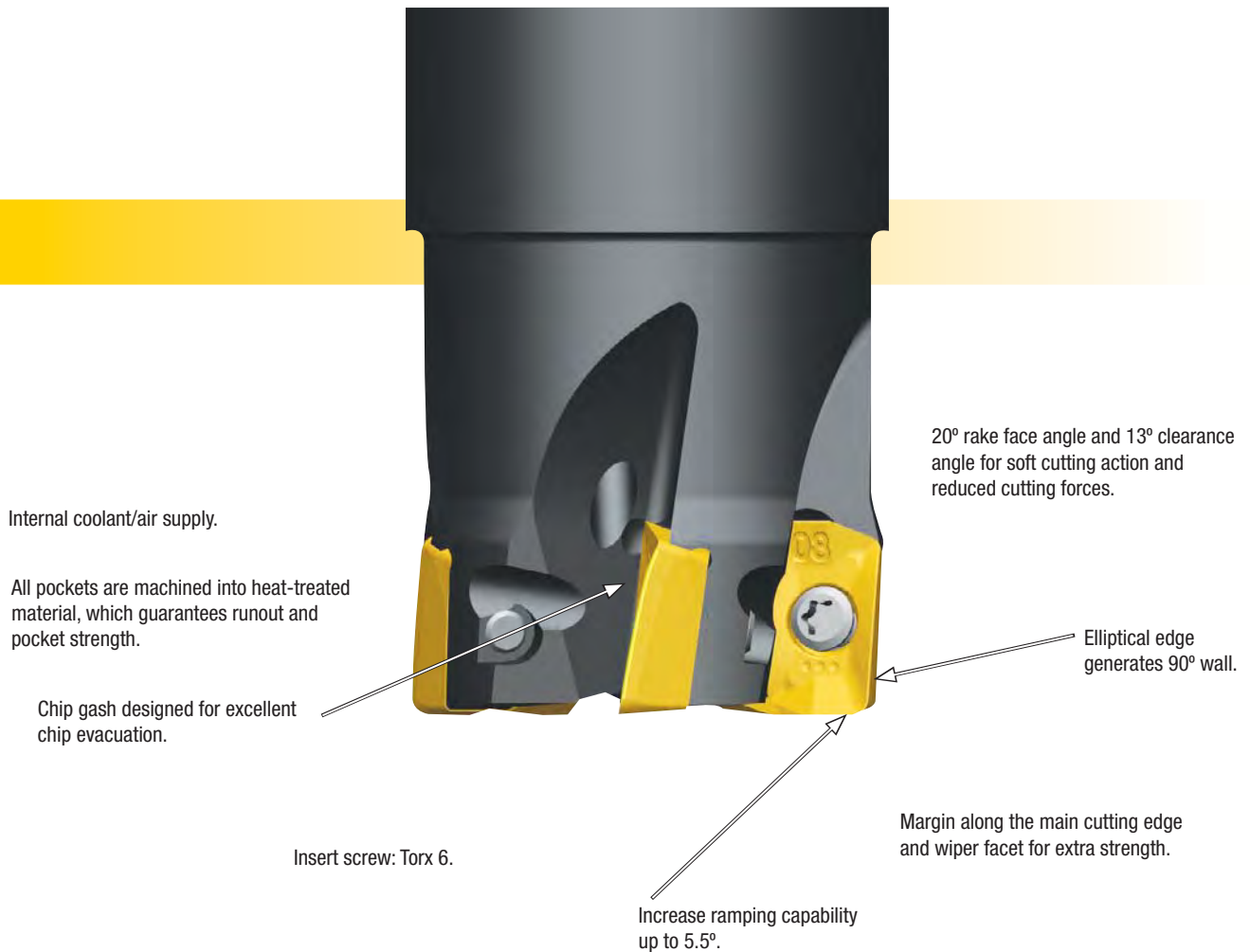
Mill 1-7 is engineered for small-component machining and covers multiple applications, including ramping, slotting, and plunging. Mill 1-7 tools provide solutions for roughing and finishing operations in energy, aerospace, and general engineering, where small-diameter end mills are required.

Features and Benefits

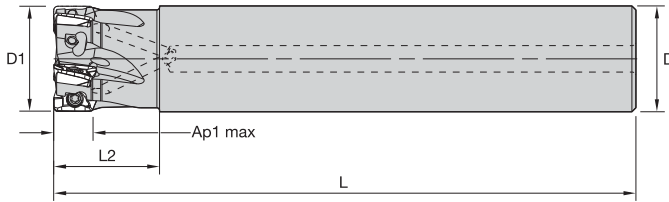
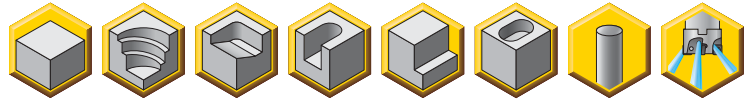
- Mill 1-7 inserts enable the use of higher density cutters, providing greater feed and higher metal removal rates.
- Super positive rake provides soft action and low cutting forces for smooth entry and exit from the component. Run at higher feed rates while using less power.
- Inserts are designed with elliptical cutting edges and are optimized for a straight 90° wall.
- Inserts are available in five grades: KC725M™, KCSM30™, KCPM40™, KCPK30™, and KC522M™.
- Ramping, slotting, and plunging capabilities in one platform.



High-Performance Shoulder Mill



- Mill 90° walls.
- Aggressive ramping rates.
- High speed machining.
- Ramp, slot, plunge, face, and shoulder milling.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
5190087	M1D050E0702C050L400	.500	.500	4.000	.750	.274	2	4.6°	.19	62680
5190088	M1D062E0703C062L500	.620	.625	5.000	1.000	.275	3	3.0°	.37	56010
5190089	M1D075E0705C075L600	.745	.750	6.000	1.000	.273	5	2.2°	.66	51100

■ Spare Parts

D1	insert screw	in. lbs.	Torx wrench
.500	12148006000	4.4	FT6
.620	12148006000	4.4	FT6
.745	12148006000	4.4	FT6



Shoulder Milling

Insert Selection Guide

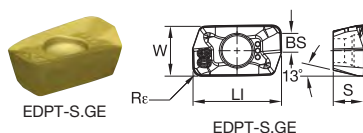
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..GE	KC725M	.S..GE	KCPK30	.S..GE	KCPM40
P3-P4	.S..GE	KC725M	.S..GE	KCPK30	.S..GE	KCPM40
P5-P6	.S..GE	KC725M	.S..GE	KCPK30	.S..GE	KCPM40
M1-M2	.S..GE	KC522M	.S..GE	KC725M	.S..GE	KCPM40
M3	.S..GE	KC725M	.S..GE	KCPK30	.S..GE	KCPM40
K1-K2	.S..GE	KCPK30	.S..GE	KCPK30	.S..GE	KCPK30
K3	.S..GE	KCPK30	.S..GE	KCPK30	.S..GE	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.S..GE	KC522M	.S..GE	KC725M	.S..GE	KC725M
S3	.S..GE	KC725M	.S..GE	KC725M	.S..GE	KCPM40
S4	.S..GE	KC522M	.S..GE	KC725M	.S..GE	KC725M
H1	-	-	-	-	-	-

Indexable Inserts

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = .276" (7mm).

● first choice
○ alternate choice

P	○	●	●	○	○
M	●	●	○	○	○
K	○	○	○	○	○
N	○	○	○	○	○
S	●	●	○	○	○
H	○	○	○	○	○


EDPT-S.GE

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC522M	KC725M	KCPK30	KCSM30	KCPM40
EP0708SGE	.322	.185	.110	.067	.031	.003	2	●	●	●	●	●

Shoulder Milling

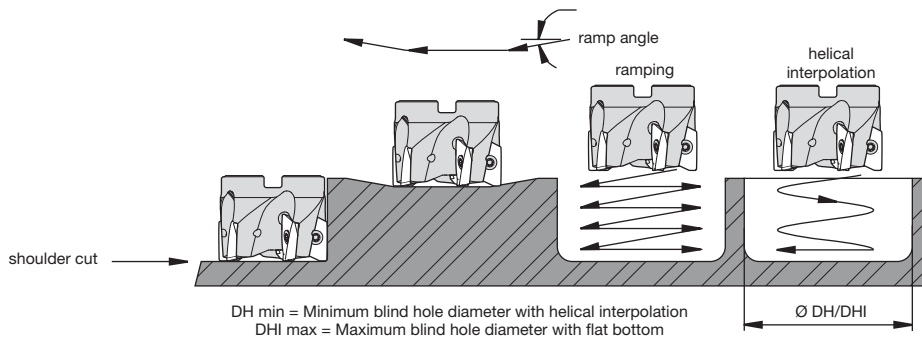
Recommended Starting Feeds
Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40-100%							
.S..GE	.009	.018	.027	.007	.013	.019	.005	.010	.014	.004	.009	.013	.004	.008	.012	.S..GE

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

■ Application Examples



cutting diameter	max ramp angle to non-cutting corner tangent	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter (no flat bottom)
.500	4.56°	.628	.886	1.000
.625	2.97°	.877	1.095	1.250
.750	2.17°	1.126	1.362	1.500

NOTE: Max ramp angle decreases as nose radius increases.



Shoulder Milling

Titanium and Stainless Steel Machining with New Milling Grade KCSM40™

Achieving maximum metal removal rates with highly engineering solutions from Kennametal.

- Ideal for roughing and semi-finishing operations.
- Available for the following milling series:
 - Mill 1™
 - Mill 4™
 - Dodeka™
 - MEGA™
 - KSOM™
 - NGE™
 - KSSM™
 - KSSM8+™
 - Rodeka™
 - 5230 Series
 - 7713 Series
 - 7792 Series
- This new carbide substrate provides toughness and fatigue resistance, minimizing the tendency for thermal cracking.
- The new coating provides high hot hardness and high abrasive resistance for unmatched tool life.
- KCSM40 milling grade is the first choice for high metal removal jobs in titanium structural aerospace components.
- Proven solution for various stainless steel applications, like machining automotive turbo chargers.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

➤ Mill 1-10™

High-Performance Shoulder Milling Platform

Primary Application

The multifunctional Mill 1-10 platform works with all tool materials in shoulder, ramp, slot, plunge, and helical milling with one insert style to improve productivity and reduce inventory and machining costs. The super positive cutting rake, soft cutting action, and low cutting forces enable higher feed rates and spindle protection. Innovative insert and cutter body designs offer improved ramping capabilities.



Features and Benefits

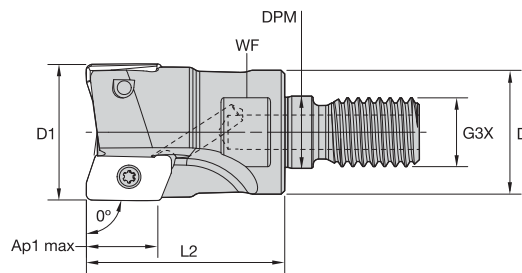
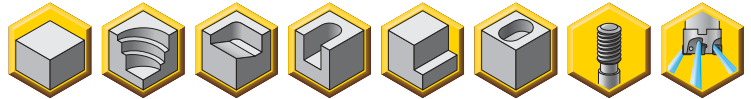
Versatility

- Works with all tool materials.
- Capable of shoulder, ramp, plunge, and helical milling.
- Internal coolant and air supply.

Advantages

- Optimized soft cutting edge.
- Elliptical edge generates 0° wall.
- Increased ramping capability due to state of the art insert and cutter body design.
- Innovative chip gash design for excellent chip evacuation and perfect cutter body stability.
- All pockets are machined into heat-treated materials, guaranteeing best-in-class runout and pocket strength.
- Inserts feature innovative margin along the main cutting edge, corner nose radius, and wiper facet for perfect edge stability.

- Mill 0° walls.
- Ramping capable for all Mill 1-10.
- Generates superior surface finish.
- High RPM capabilities.



■ Screw-On End Mills

order number	catalog number	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	max ramp angle	lbs	max RPM
3742470	M1D062E1002CM08	.625	.512	.335	M8	1.000	10	.396	2	9.5°	.05	53000
3742471	M1D075E1002CM10	.750	.709	.413	M10	1.100	15	.398	2	6.5°	.09	45900
3742472	M1D075E1003CM10	.750	.709	.413	M10	1.100	15	.398	3	6.5°	.10	45900
3742513	M1D100E1003CM12	1.000	.827	.492	M12	1.250	17	.395	3	4.0°	.19	39700
3742514	M1D100E1004CM12	1.000	.827	.492	M12	1.250	17	.395	4	4.0°	.18	39700
3742516	M1D125E1005CM16	1.250	1.142	.669	M16	1.500	22	.392	5	2.5°	.38	35500
3742517	M1D150E1006CM16	1.500	1.142	.669	M16	1.500	22	.390	6	2.0°	.46	32400

■ Spare Parts



insert screw



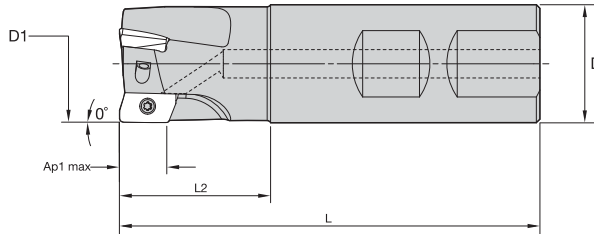
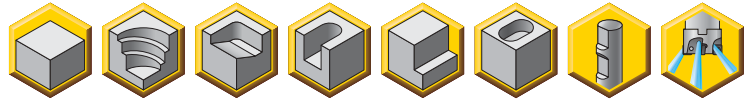
Torx Plus wrench

D1	insert screw	in. lbs.	Torx Plus wrench
.625	MS2205	9.0	F7IP
.750	MS2205	9.0	F7IP
1.000	MS2205	9.0	F7IP
1.250	MS2205	9.0	F7IP
1.500	MS2205	9.0	F7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.



■ **Weldon® End Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
3742552	M1D062E1002W075L100	.625	.750	3.030	1.000	.396	2	9.5°	.28	50300
3742553	M1D075E1002W075L110	.750	.750	3.130	1.100	.398	2	6.5°	.30	45900
3742554	M1D075E1003W075L110	.750	.750	3.130	1.100	.398	3	6.5°	.30	45900
3897781	M1D100E1003W075L125	1.000	.750	3.280	1.250	.395	3	4.0°	.40	39700
3897782	M1D100E1004W075L125	1.000	.750	3.280	1.250	.395	4	4.0°	.40	39700
3742555	M1D100E1003W100L125	1.000	1.000	3.530	1.250	.395	3	4.0°	.65	39700
3742556	M1D100E1004W100L125	1.000	1.000	3.530	1.250	.395	4	4.0°	.64	39700
3742557	M1D125E1004W125L160	1.250	1.250	3.880	1.600	.392	4	2.5°	1.12	35500
3742558	M1D125E1005W125L160	1.250	1.250	3.880	1.600	.392	5	2.5°	1.11	35500

■ **Spare Parts**



insert screw



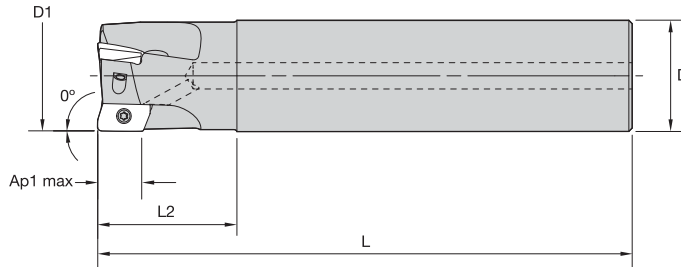
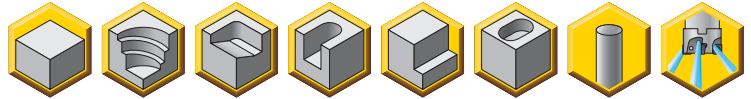
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
.625	MS2205	9.0	DT7IP
.750	MS2205	9.0	DT7IP
1.000	MS2205	9.0	DT7IP
1.250	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
3742518	M1D050E1001C062L350	.500	.625	3.500	.800	.404	1	11.5°	.25	56500
3742536	M1D062E1002C062L670	.625	.625	6.700	.999	.396	2	9.5°	.49	50300
3742519	M1D062E1002C075L400	.625	.750	4.000	1.000	.396	2	9.5°	.40	50300
3742520	M1D075E1002C075L450	.750	.750	4.500	1.100	.398	2	6.5°	.46	45900
3742538	M1D075E1002C075L670	.750	.750	6.700	1.250	.398	2	6.5°	.70	45900
3742521	M1D075E1003C075L450	.750	.750	4.500	1.100	.398	3	6.5°	.46	45900
3742540	M1D075E1003C075L670	.750	.750	6.700	1.250	.398	3	6.5°	.71	45900
3742542	M1D088E1003C075L670	.875	.750	6.700	1.250	.396	3	5.0°	.74	42600
3897779	M1D100E1003C075L480	1.000	.750	4.800	1.250	.395	3	4.0°	.58	39700
3897780	M1D100E1004C075L480	1.000	.750	4.800	1.250	.395	4	4.0°	.58	39700
3742522	M1D100E1003C100L480	1.000	1.000	4.800	1.250	.395	3	4.0°	.92	39700
3742543	M1D100E1003C100L800	1.000	1.000	8.000	1.600	.395	3	4.0°	1.59	39700
3742533	M1D100E1004C100L480	1.000	1.000	4.800	1.250	.395	4	4.0°	.92	39700
3742545	M1D100E1004C100L800	1.000	1.000	8.000	1.600	.395	4	4.0°	1.59	39700
3742547	M1D110E1004C100L800	1.100	1.000	8.000	1.600	.394	4	3.3°	1.64	38000
3742534	M1D125E1004C125L520	1.250	1.250	5.200	1.600	.392	4	2.5°	1.57	35500
3742548	M1D125E1004C125L800	1.250	1.250	8.000	1.900	.392	4	2.5°	2.48	35500
3742535	M1D125E1005C125L520	1.250	1.250	5.200	1.600	.392	5	2.5°	1.57	35500
3742550	M1D125E1005C125L800	1.250	1.250	8.000	1.900	.392	5	2.5°	2.48	35500

■ Spare Parts

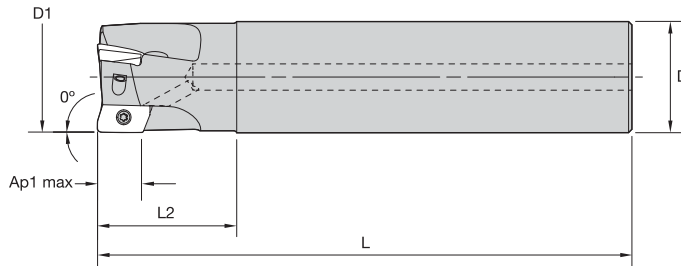
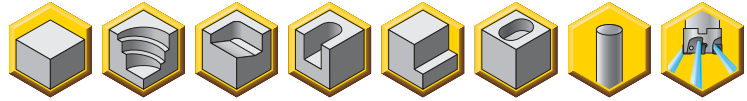
D1	insert screw	in. lbs.	Torx Plus driver
.500	MS2205	9.0	DT7IP
.625	MS2205	9.0	DT7IP
.750	MS2205	9.0	DT7IP
.875	MS2205	9.0	DT7IP
1.000	MS2205	9.0	DT7IP
1.100	MS2205	9.0	DT7IP
1.250	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.



■ Cylindrical End Mills • Long Length

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
3742537	M1D062E1002C062L670R	.625	.625	6.688	.987	.384	2	8.0°	.49	50300
3742541	M1D075E1003C075L670R	.750	.750	6.689	1.239	.387	3	5.3°	.71	45900
3742544	M1D100E1003C100L800R	1.000	1.000	7.989	1.589	.385	3	3.0°	1.59	39700
3742546	M1D100E1004C100L800R	1.000	1.000	7.989	1.589	.384	4	3.0°	1.59	39700
3742551	M1D125E1005C125L800R	1.250	1.250	7.989	1.889	.382	5	2.0°	2.48	35500

■ Spare Parts



insert screw



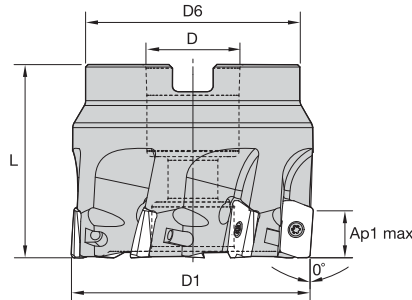
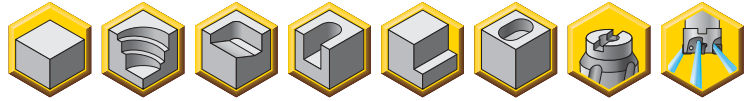
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
.625	MS2205	9.0	DT7IP
.750	MS2205	9.0	DT7IP
1.000	MS2205	9.0	DT7IP
1.250	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079".

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.



Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
3745039	M1D150E1004S075L157	1.500	.750	1.420	1.575	.391	4	2.0°	.46	32400
3745040	M1D150E1006S075L157	1.500	.750	1.420	1.575	.391	6	2.0°	.49	32400
3745041	M1D200E1005S075L157	2.000	.750	1.750	1.575	.389	5	1.5°	.92	28100
3745042	M1D200E1008S075L157	2.000	.750	1.750	1.575	.389	8	1.5°	.89	28100
3745043	M1D250E1006S075L157	2.500	.750	1.750	1.575	.389	6	1.0°	1.29	25100
3745045	M1D250E1009S075L157	2.500	.750	1.750	1.575	.389	9	1.0°	1.26	25100
3745047	M1D300E1008S100L175	3.000	1.000	2.190	1.750	.389	8	.8°	2.08	22900
3745048	M1D300E1010S100L175	3.000	1.000	2.190	1.750	.389	10	.8°	2.07	22900
3745049	M1D400E1008S150L200	4.000	1.500	3.380	2.000	.389	8	.5°	3.82	19800

Spare Parts

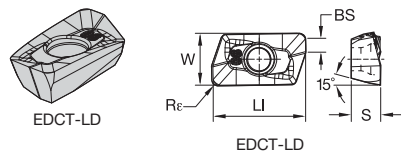
D1	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw
1.500	MS2205	9.0	DT7IP	S445
2.000	MS2205	9.0	DT7IP	S445
2.500	MS2205	9.0	DT7IP	S445
3.000	MS2205	9.0	DT7IP	S458
4.000	MS2205	9.0	DT7IP	—

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



- Finishing and high-precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = .393" (10mm).

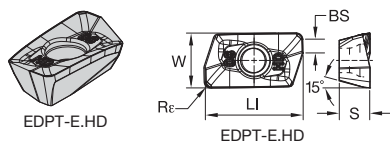
- first choice
- alternate choice



EDCT-LD

catalog number	LI	W	S	BS	Re	hm	cutting edges
EC1002ELD	.474	.266	.148	.090	.008	.002	2
EC1004ELD	.474	.266	.148	.078	.016	.002	2
EC1008ELD	.474	.266	.148	.067	.031	.002	2
EC1012ELD	.475	.265	.148	.051	.047	.002	2
EC1016ELD	.475	.265	.148	.036	.062	.002	2
EC1020ELD	.475	.265	.148	.019	.079	.002	2
EC1024ELD	.475	.265	.148	.004	.094	.002	2
EC1031ELD	.453	.264	.148	—	.122	.002	2

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = .393" (10mm)



EDPT-E.HD

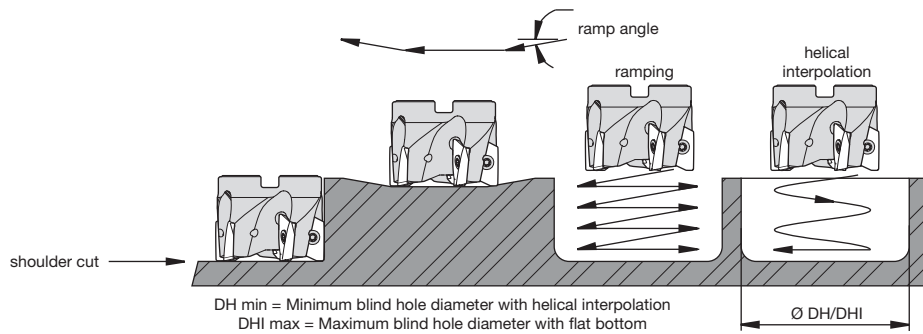
catalog number	LI	W	S	BS	Re	hm	cutting edges
EP1004EHD	.474	.266	.148	.082	.016	.003	2
EP1008EHD	.474	.265	.148	.067	.031	.003	2
EP1010EHD	.474	.265	.148	.059	.039	.003	2
EP1012EHD	.475	.265	.148	.051	.047	.003	2
EP1016EHD	.475	.265	.148	.036	.062	.003	2
EP1020EHD	.475	.265	.148	.019	.079	.003	2
EP1024EHD	.475	.265	.148	.004	.094	.003	2
EP1031EHD	.453	.264	.148	—	.122	.003	2



	P	M	K	N	S	H	K313	KC410M	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KD1410	
EDCT-LD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
EDPT-E.HD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Shoulder Milling

■ Application Examples



insert style	cutting diameter	max ramp angle to non-cutting corner tangent	max ramp angle to steel body interference	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter (no flat bottom)
Mill-1, 10mm	.500	not recommended	not recommended	not recommended	not recommended	not recommended
Mill-1, 10mm	.625	9.9°	12.5°	.758	1.121	1.250
Mill-1, 10mm	.750	6.8°	9.7°	.998	1.367	1.500
Mill-1, 10mm	.875	5.1°	6.8°	1.248	1.617	1.750
Mill-1, 10mm	1.000	4.1°	5.1°	1.498	1.867	2.000
Mill-1, 10mm	1.100	3.5°	4.3°	1.698	2.067	2.200
Mill-1, 10mm	1.250	2.9°	3.4°	1.999	2.367	2.500
Mill-1, 10mm	1.500	2.2°	2.4°	2.499	2.867	3.000
Mill-1, 10mm	2.000	1.2°	1.6°	3.509	3.876	4.000
Mill-1, 10mm	2.500	1.2°	1.2°	4.509	4.876	5.000
Mill-1, 10mm	3.000	0.9°	1.0°	5.509	5.876	6.000
Mill-1, 10mm	4.000	0.7°	0.7°	7.509	7.876	8.000

NOTE: Max ramp angle decreases as nose radius increases.



Shoulder Milling

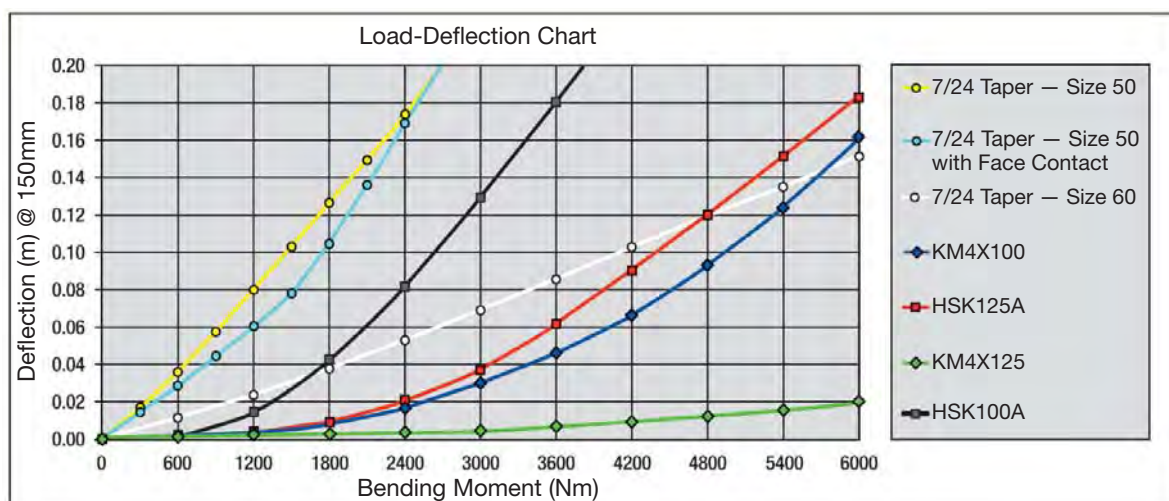
KM4X™



The Latest Innovation in Spindle Interface Technology!

Dramatically increase your metal removal rates when machining high-temperature alloys!

- Run jobs at significantly faster feeds and speeds than what is achievable with other spindle interfaces.
- Unique use of clamping force and interference level increases clamping capability 2 to 3 times.
- Achieve lower cost of ownership, increased throughput, and superior results.

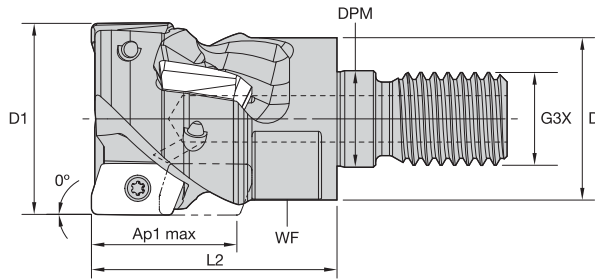
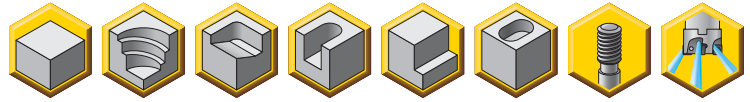


Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.



■ **Screw-On Helical Mills**

order number	catalog number	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3746106	M1HR125ED10M16Z2L160C4	1.250	1.142	.669	M16	1.614	24	.735	4	2	2.5°	.43	29400
3746107	M1HR125ED10M16Z3L160C6	1.250	1.142	.669	M16	1.614	24	.735	6	3	2.5°	.40	29400

■ **Spare Parts**

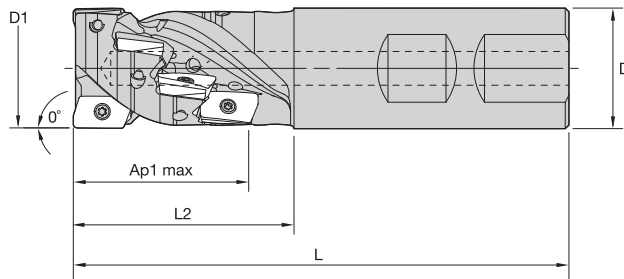
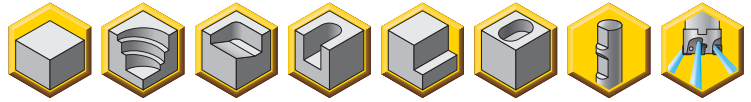
D1	insert screw	in. lbs.	Torx Plus wrench
1.250	MS2205	9.0	F7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.



■ Weldon® Helical Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3746093	M1HR075ED10W075Z2L140C6	.750	.750	3.422	1.392	1.093	6	2	6.5°	.30	38000
3746097	M1HR100ED10W100Z2L180C8	1.000	1.000	4.071	1.790	1.432	8	2	4.0°	.64	32900
3746098	M1HR125ED10W125Z2L210C10	1.250	1.250	4.371	2.090	1.764	10	2	2.5°	1.16	29400
3746099	M1HR125ED10W125Z3L210C15	1.250	1.250	4.371	2.090	1.764	15	3	2.5°	1.08	29400

■ Spare Parts

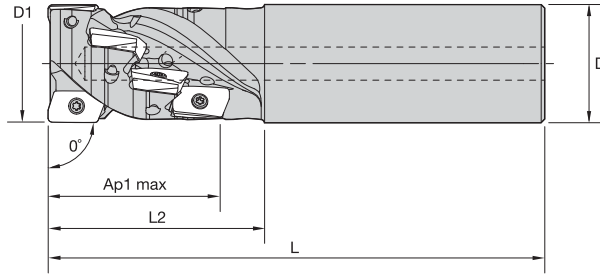
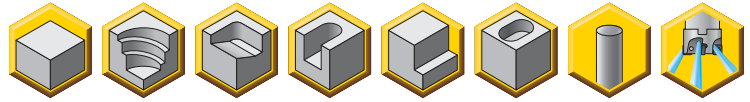
D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2205	9.0	DT7IP
1.000	MS2205	9.0	DT7IP
1.250	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.



■ **Cylindrical Helical Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3746100	M1HR075ED10C075Z2L110C4	.750	.750	4.406	1.053	.745	4	2	6.5°	.47	38000
3746101	M1HR100ED10C100Z2L110C4	1.000	1.000	4.800	1.053	.740	4	2	4.0°	.89	32900

■ **Spare Parts**

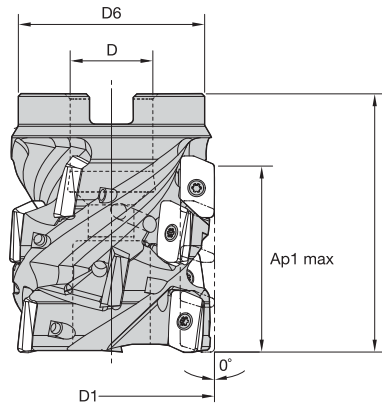
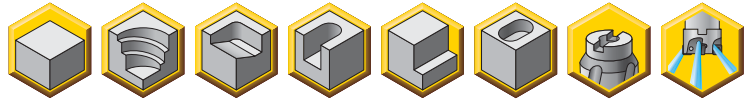
D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2205	9.0	DT7IP
1.000	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.



■ Helical Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3746108	M1HR150ED10S075Z3L200C12	1.500	.750	1.421	2.000	1.417	12	3	2.0°	.56	26900
3746109	M1HR150ED10S075Z5L200C20	1.500	.750	1.420	2.000	1.417	20	5	2.0°	.51	26900
3746110	M1HR200ED10S075Z3L240C15	2.000	.750	1.750	2.400	1.745	15	3	1.5°	1.47	23300
3746111	M1HR200ED10S075Z5L240C25	2.000	.750	1.750	2.400	1.745	25	5	1.5°	1.31	23300

■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver
1.500	MS2205	9.0	DT7IP
2.000	MS2205	9.0	DT7IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

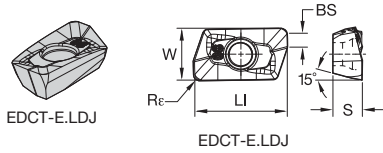


Shoulder Milling

- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).



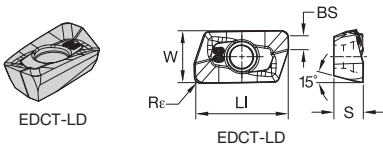
- first choice
- alternate choice



■ EDCT-E.LDJ

catalog number	LI	W	S	BS	Rε	hm	cutting edges	K313	KC410M	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	
EC1004ELD	.474	.266	.148	.078	.016	.001	2	-	-	●	-	-	-	-	-	-	-	-	-	-
EC1008ELD	.474	.265	.148	.067	.031	.001	2	-	-	●	-	-	-	-	-	-	-	-	-	-
EC1016ELD	.475	.265	.148	.036	.062	.001	2	-	-	●	-	-	-	-	-	-	-	-	-	-
EC1020ELD	.475	.265	.148	.019	.079	.001	2	-	-	●	-	-	-	-	-	-	-	-	-	-
EC1024ELD	.475	.265	.148	.004	.094	.001	2	-	-	●	-	-	-	-	-	-	-	-	-	-

- Finishing and high precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).



■ EDCT-LD

catalog number	LI	W	S	BS	Rε	hm	cutting edges	K313	KC410M	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EC1002ELD	.474	.266	.148	.090	.008	.002	2	-	-	-	-	-	-	●	-	-	-	-	-
EC1004ELD	.474	.266	.148	.078	.016	.002	2	-	-	-	-	●	●	-	-	-	-	-	-
EC1008ELD	.474	.266	.148	.067	.031	.002	2	-	-	-	●	●	●	-	●	-	-	-	-
EC1012ELD	.475	.265	.148	.051	.047	.002	2	-	-	-	-	●	●	●	-	-	-	-	-
EC1016ELD	.475	.265	.148	.036	.062	.002	2	-	-	-	-	●	●	●	-	●	-	-	-
EC1020ELD	.475	.265	.148	.019	.079	.002	2	-	-	-	-	●	●	●	-	●	-	-	-
EC1024ELD	.475	.265	.148	.004	.094	.002	2	-	-	-	-	●	●	●	-	●	-	-	-
EC1031ELD	.453	.264	.148	-	.122	.002	2	-	-	-	-	-	-	-	●	-	-	-	-

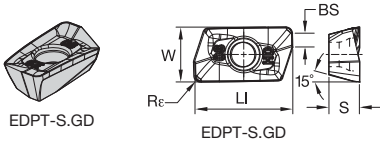


- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = 0.393" (10mm).



P	●				○		○	●	●	●	○
M	●							●	●	○	○
K	●							●	○		
N	●	●	●	○							
S	●							●	●		●
H											

● first choice
○ alternate choice



■ EDPT-S.GD

catalog number	LI	W	S	BS	R _ε	hm	cutting edges	K313	KC410M	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EP1004SGD	.474	.266	.148	.082	.016	.005	2	-	-	-	-	-	-	-	●	●	-	-	-
EP1008SGD	.474	.265	.148	.067	.031	.005	2	-	-	-	-	●	-	●	●	●	-	-	-
EP1012SGD	.475	.265	.148	.051	.047	.005	2	-	-	-	-	●	-	●	●	●	-	-	-
EP1016SGD	.475	.265	.148	.036	.062	.005	2	-	-	-	-	-	-	●	●	●	-	-	-

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40-100%							
.F..LDJ	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	.F..LDJ
.F..PCD	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	.F..PCD
.E..LDJ	.005	.014	.023	.003	.010	.017	.003	.008	.013	.002	.007	.011	.002	.006	.010	.E..LDJ
.E..LD	.005	.014	.023	.004	.010	.016	.003	.008	.012	.002	.007	.011	.002	.006	.010	.E..LD
.S..GE	.009	.018	.028	.007	.013	.020	.005	.010	.015	.004	.009	.013	.004	.008	.012	.S..GE
.S..GD	.009	.019	.028	.007	.013	.020	.005	.010	.015	.004	.009	.013	.004	.008	.012	.S..GD
.E..HD	.009	.020	.032	.007	.014	.023	.005	.011	.017	.004	.009	.015	.004	.009	.014	.E..HD

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



➤ Mill 1-14™

Primary Application

The Mill 1-14 series is a versatile, functional cutter system for a range of cutting tasks. Mill 1-14 cutters can be used for profiling, slotting, ramping, helical interpolation, circular interpolation, and other milling applications. It's a single tool with multi-functional benefits. Mill 1-14 inserts are specially designed to add cutting versatility. Innovative micro-geometry features contribute greatly to enhanced performance, various rake angles, negative T-land, and small hone. Results include significantly reduced cycle times and lower cutting forces. Test results in producing 0° walls have proven excellent with the GD2 geometry.



Features and Benefits

Features

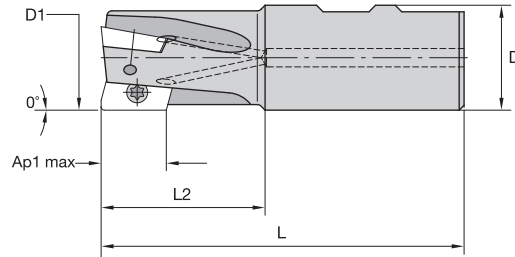
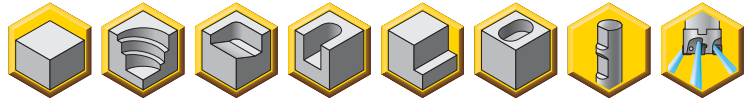
- Insert geometries and grades for most workpiece materials.
- Insert radii from .016" (0,15mm) up to .157" (4mm).
- Axial depth of cut up to .551" (14mm).
- Beyond™ grade technology.

Benefits

- Easy cutting action, even on entry and exiting the workpiece.
- Polished geometry for aluminum machining.
- Slotting, profiling, ramping, helical interpolation, and plunging.



- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ Weldon® End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2624243	M1D062E1401W075L150	.625	.750	3.530	1.500	.580	1	25.0°	.31	8000
2623856	M1D075E1402W075L175	.750	.750	3.780	1.750	.580	2	18.0°	.35	49600
2624245	M1D088E1402W100L175	.875	1.000	4.030	1.750	.580	2	13.2°	.66	43500
2624189	M1D097E1403W100L175	.970	1.000	4.030	1.750	.580	3	10.9°	.69	40100
2623857	M1D100E1402W100L175	1.000	1.000	4.030	1.750	.580	2	10.4°	.71	39200
2479508	M1D100E1403W100L175	1.000	1.000	4.030	1.750	.580	3	10.2°	.71	39200
2479506	M1D125E1404W125L225	1.250	1.250	4.530	2.250	.570	4	7.2°	1.25	33400

■ Spare Parts

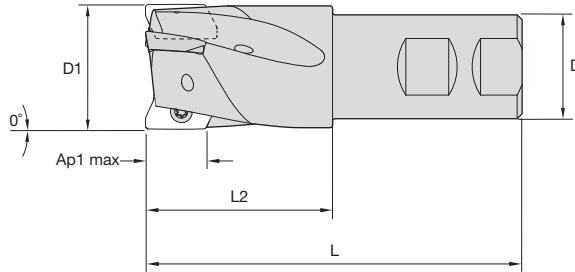
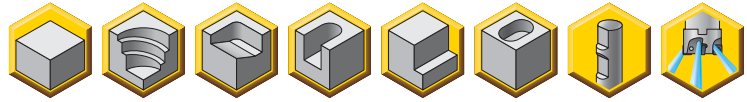


D1	insert screw	in. lbs.	Torx Plus driver
.625	MS2167	20.0	DT9IP
.750	MS2167	20.0	DT9IP
.875	MS2166	20.0	DT9IP
.970	MS2166	20.0	DT9IP
1.000	MS2166	20.0	DT9IP
1.250	MS2166	20.0	DT9IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ **Weldon® End Mills • Reduced Shank**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2479507	M1D100E1403W075L175	1.000	.750	3.780	1.750	.575	3	10.4°	.46	39200
2624199	M1D100E1403W100L175R	1.000	1.000	4.010	1.730	.580	3	10.4°	.70	39200
2623858	M1D125E1403W100L225	1.250	1.000	4.530	2.250	.571	3	7.2°	.94	33400
2479512	M1D125E1404W100L225	1.250	1.000	4.530	2.250	.571	4	7.2°	.97	33400
2624201	M1D125E1404W125L225R	1.250	1.250	4.510	2.230	.570	4	7.2°	1.25	33400
2624194	M1D150E1404W125L225	1.500	1.250	4.530	2.250	.567	4	5.5°	1.49	29600
2623859	M1D150E1405W125L225	1.500	1.250	4.530	2.250	.567	5	5.5°	1.53	29600
2624271	M1D150E1405W125L225R	1.500	1.250	4.510	2.230	.555	5	5.5°	1.53	29600

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079".

■ **Spare Parts**



insert screw



in. lbs.



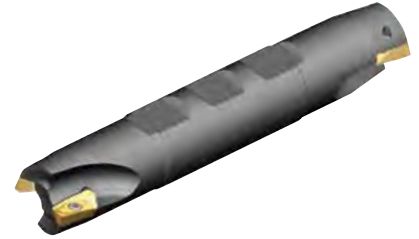
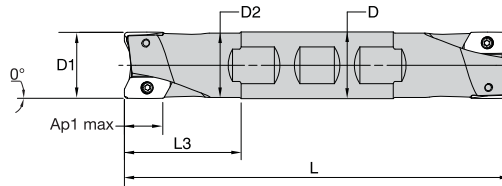
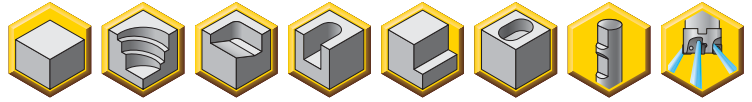
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2166	20	DT9IP
1.250	MS2166	20	DT9IP
1.500	MS2166	20	DT9IP



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ **Weldon® End Mills • Double Ended**

order number	catalog number	D1	D	D2	L	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2624188	M1D075E1402W075L175DE	.750	.750	.681	5.530	1.750	.551	2	18.0°	.53	49600
2624191	M1D100E1403W100L175DE	1.000	1.000	.950	5.780	1.750	.580	3	10.2°	1.00	39200

■ **Spare Parts**

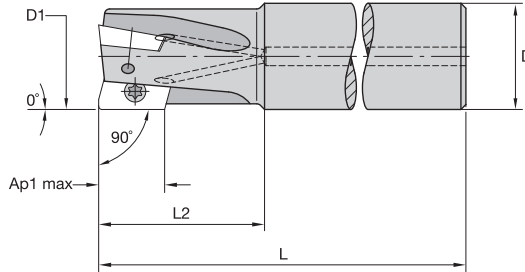
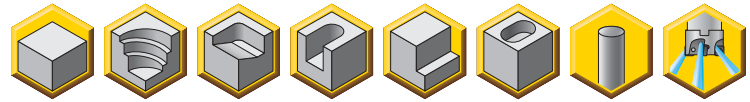
D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2167	20	DT9IP
1.000	MS2166	20	DT9IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Aggressive ramping angles.
- Generates superior surface finish.
- Mill 0° walls.
- High RPM capabilities.



■ **Cylindrical End Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2624187	M1D075E1402C075L650	.750	.750	6.500	1.750	.570	2	18.5°	.65	49600
2624197	M1D075E1402C075L800	.750	.750	8.000	1.750	.570	2	18.5°	.82	49600
2624198	M1D100E1402C100L1000	1.000	1.000	10.000	1.750	.570	2	10.2°	1.91	39200
2624190	M1D100E1403C100L750	1.000	1.000	7.500	1.750	.570	3	10.2°	1.44	39200
2624200	M1D125E1403C125L1000	1.250	1.250	10.000	2.250	.570	3	6.9°	3.09	33400
2624192	M1D125E1404C125L800	1.250	1.250	8.000	2.250	.570	4	6.9°	2.44	33400
5903140	M1D150E1403C125L1000	1.500	1.250	10.000	2.250	.560	3	5.2°	3.08	29600
2624202	M1D150E1404C125L1000	1.500	1.250	10.000	2.250	.560	4	5.2°	3.31	29600
2624250	M1D150E1405C125L800	1.500	1.250	8.000	2.250	.560	5	5.2°	2.65	29600

■ **Spare Parts**



insert screw



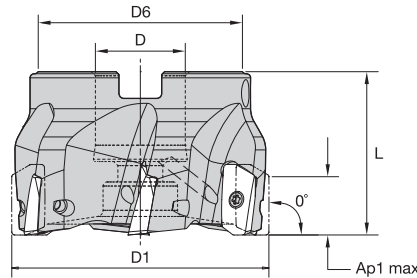
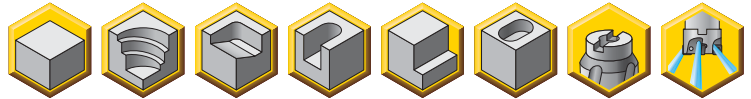
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2167	20	DT9IP
1.000	MS2166	20	DT9IP
1.250	MS2166	20	DT9IP
1.500	MS2166	20	DT9IP

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
2479509	M1D125E1404S050L157	1.250	.500	1.204	1.575	.570	4	6.9°	.28	33400
2624255	M1D150E1405S075L157	1.500	.750	1.414	1.575	.560	5	5.2°	.39	29600
5898598	M1D200E1403S075L157	2.000	.750	1.750	1.575	.560	3	3.4°	.67	24700
2624270	M1D200E1405S075L157	2.000	.750	1.750	1.575	.560	5	3.4°	.72	24700
2479510	M1D200E1406S075L157	2.000	.750	1.750	1.575	.560	6	3.4°	.70	24700
2624274	M1D250E1405S075L157	2.500	.750	1.750	1.575	.560	5	2.5°	1.04	21700
2624254	M1D250E1407S075L157	2.500	.750	1.750	1.575	.560	7	2.5°	1.04	21700
5898597	M1D300E1404S100L175	3.000	1.000	2.188	1.750	.560	4	2.0°	1.56	19600
2624277	M1D300E1406S100L175	3.000	1.000	2.188	1.750	.560	6	2.0°	1.79	19600
2624275	M1D300E1408S100L175	3.000	1.000	2.188	1.750	.560	8	2.0°	1.78	19600
2624279	M1D400E1408S150L200	4.000	1.500	3.625	2.000	.560	8	1.5°	3.97	16700
2624278	M1D400E1410S150L200	4.000	1.500	3.625	2.000	.560	10	1.5°	3.99	16700

Spare Parts



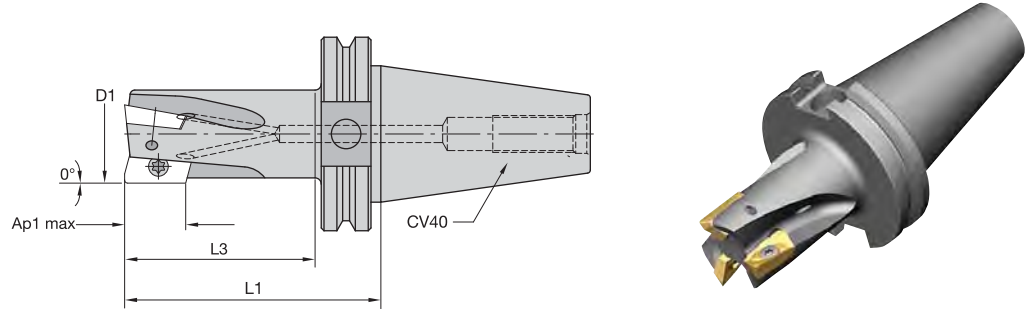
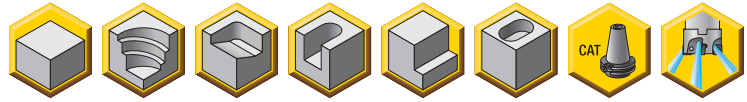
D1	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw with coolant groove	coolant screw assembly
1.250	MS2166	20	DT9IP	S422CG	—
1.500	MS2166	20	DT9IP	S445CG	—
2.000	MS2166	20	DT9IP	S445CG	—
2.500	MS2166	20	DT9IP	S445CG	—
3.000	MS2166	20	DT9IP	S2044CG	—
4.000	MS2166	20	DT9IP	—	S2165C

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ End Mills • Steep Taper CV40

order number	catalog number	CSMS system size	D1	L1	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2624246	M1D100E1403CV40L300	CV40	1.000	3.000	1.500	.570	3	10.2°	2.40	39200
2624248	M1D125E1404CV40L300	CV40	1.250	3.000	1.500	.570	4	6.9°	2.56	33400
2624253	M1D150E1405CV40L300	CV40	1.500	3.000	1.625	.560	5	5.2°	2.72	29600

■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2166	20	DT9IP
1.250	MS2166	20	DT9IP
1.500	MS2166	20	DT9IP



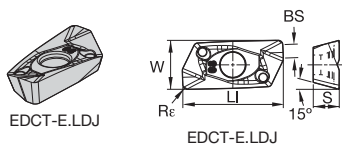
Shoulder Milling

- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

beyond

P				○	●	●	●	○
M				●	●	○	○	○
K			●	○	●	○		
N	●	●						
S			●	●			●	●
H								

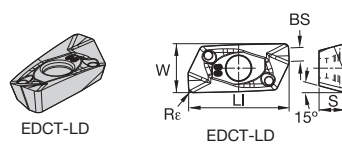
● first choice
○ alternate choice



■ EDCT-E.LDJ

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EC1404ELD	.687	.334	.177	.116	.016	.001	2	-	●	-	-	-	-	-	-	-	-
EC1408ELD	.688	.334	.177	.101	.031	.001	2	-	●	-	-	-	-	-	-	-	-
EC1424ELD	.689	.332	.177	.039	.094	.001	2	-	●	-	-	-	-	-	-	-	-

- Finishing and high-precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

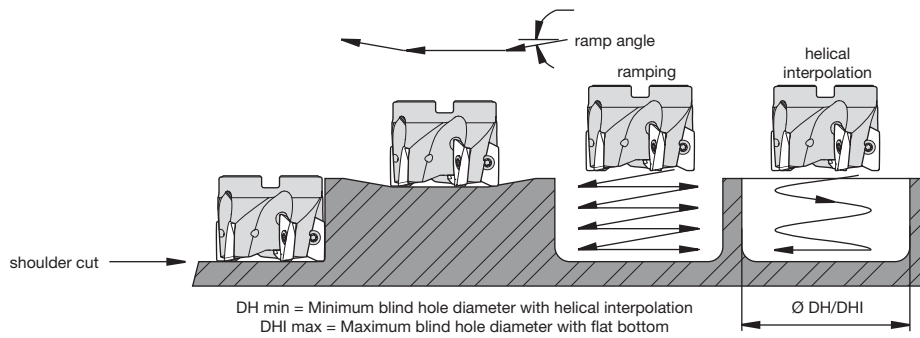


■ EDCT-LD

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EC1404ELD	.687	.334	.177	.116	.016	.002	2	-	-	-	●	-	-	-	-	-	-
EC1408ELD	.688	.334	.177	.101	.031	.002	2	-	-	-	●	-	-	-	-	-	-
EC1412ELD	.688	.333	.177	.085	.047	.002	2	-	-	-	●	-	-	-	-	-	-
EC1416ELD	.688	.333	.177	.070	.062	.002	2	-	-	-	●	-	-	-	-	-	-
EC1431ELD	.689	.331	.177	.010	.122	.002	2	-	-	-	●	-	-	-	-	-	-

Shoulder Milling

■ Application Examples



insert style	cutting diameter	max ramp angle	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter (no flat bottom)
Mill-1, 14mm	.625	25°	.625	1.065	1.25
Mill-1, 14mm	.750	18°	.869	1.130	1.50
Mill-1, 14mm	.875	13°	1.113	1.562	1.75
Mill-1, 14mm	.970	11°	1.300	1.752	1.94
Mill-1, 14mm	1.000	10°	1.360	1.812	2.00
Mill-1, 14mm	1.250	7°	1.862	2.312	2.50
Mill-1, 14mm	1.500	6°	2.361	2.812	3.00
Mill-1, 14mm	1.250	7°	1.873	2.322	2.50
Mill-1, 14mm	1.500	5°	2.370	2.822	3.00
Mill-1, 14mm	2.000	4°	3.368	3.822	4.00
Mill-1, 14mm	2.500	3°	4.367	4.822	5.00
Mill-1, 14mm	3.000	2°	5.366	5.822	6.00
Mill-1, 14mm	4.000	2°	7.366	7.822	8.00

NOTE: Max ramp angle decreases as nose radius increases.



Shoulder Milling

Kennametal on the Web

kennametal.com

FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.

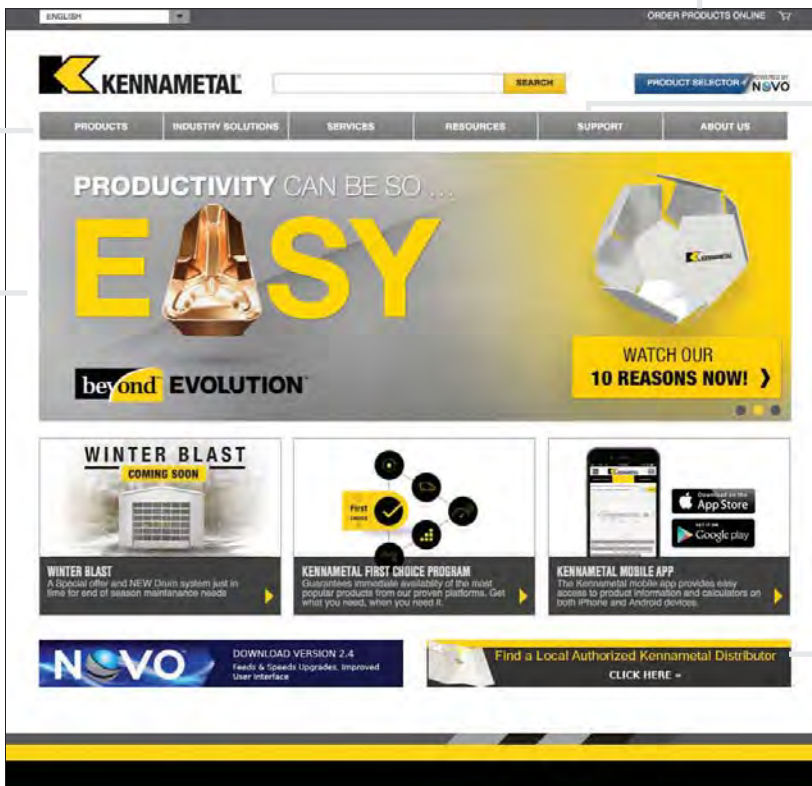
Register on **Konnect** for the full functionality of the Kennametal online ordering website.

CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.



➤ Mill 1-14™

Helical Cutters

Primary Application

Mill 1-14 helical cutters will increase axial depth of cut. Designed with axial support pins for added stability, the Mill 1-14 helical cutters feature essential Load-Optimized Insert Spacing™ (LOIS) technology. LOIS dramatically minimizes unwanted vibrations and fluctuations in power requirements, resulting in a much smoother-sounding cut. Up to nine different coolant nozzle diameters enable tailoring to suit each machine tool, providing remarkably consistent, focused coolant flow.



Features and Benefits

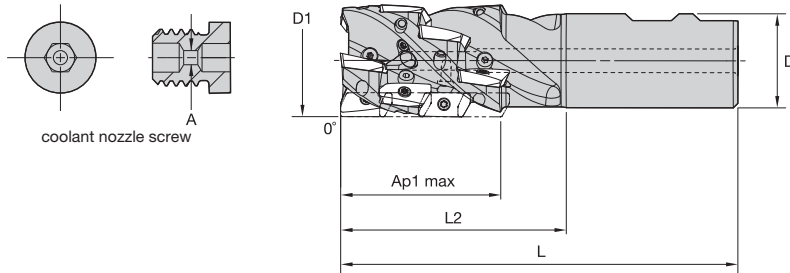
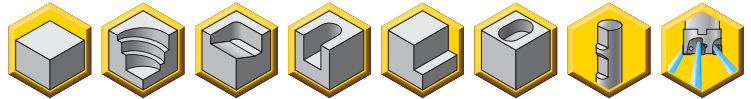
Functions

- Improves axial depth of cut better than standard end mills due to the positioning of inserts in helical configuration.
- Up to nine different coolant nozzle diameters tailored to suit each machine tool.
- One tool that offers features common to end mills, but rarely seen on a helical cutter:
Helical ramping from solid, slotting, contouring, ramping, and plunging.

Benefits

- Increases depth of cut.
- Consistent, focused coolant flow.
- Built for performance, accuracy, and versatility.

- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 0° walls.
- Axial support pins.
- Unique coolant nozzles.



■ Helical Weldon® End Mills • Slot and Profile

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3732889	M1HR125E14W125Z2L200C4	1.250	1.250	4.280	2.000	1.100	4	2	6.9°	1.10	31100
3732890	M1HR150E14W125Z3L200C6	1.500	1.250	4.280	2.000	1.090	6	3	5.2°	1.18	28400
3732891	M1HR150E14W125Z3L250C9	1.500	1.250	4.780	2.500	1.612	9	3	5.2°	1.31	28400
3732892	M1HR150E14W125Z3L300C12	1.500	1.250	5.280	3.000	2.130	12	3	5.2°	1.39	28400
3732935	M1HR200E14W150Z3L300C12	2.000	1.500	5.690	3.001	2.104	12	3	3.4°	2.63	24600

■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver	pin	coolant nozzle screw
1.250	MS2148	20	DT9IP	ASPM07001802	MS2191C20
1.500	MS2148	20	DT9IP	ASPM07001802	MS2191C20
2.000	MS2148	20	DT9IP	ASPM07001802	MS2191C20

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Optional Coolant Nozzle Screws

order number	catalog number	A
3400611	MS2191C00	—
3400612	MS2191C06	.024
3400613	MS2191C08	.032
3400616	MS2191C12	.047
3400617	MS2191C14	.055
3400618	MS2191C16	.063
3400619	MS2191C18	.071
3400620	MS2191C20	.079

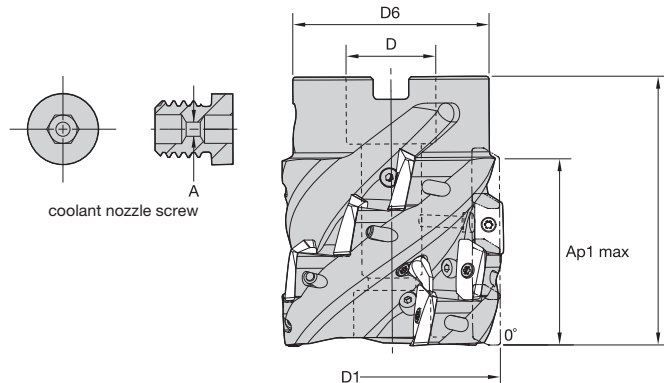
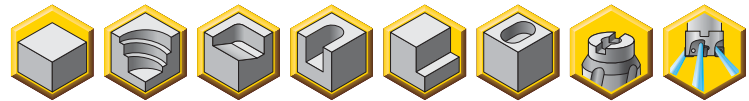
■ Coolant Nozzle Key

order number	T-handle hex wrench	drive size
1993552	THW2M	2 MM

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters. If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure. Example: MS2191C12 this is a .047" hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter. This gives flexibility for coolant flow.

Shoulder Milling

- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 0° walls.
- Axial support pins.
- Unique coolant nozzles.



■ Helical Shell Mills • Slot and Profile

order number	catalog number	D1	D	D6	L	Ap1 max	Z	Z U	max ramp angle	lbs	max RPM
3732933	M1HR200E14S075Z3L200C6	2.000	.750	1.750	2.000	1.070	6	3	3.4	.98	24600
3732934	M1HR200E14S075Z3L250C9	2.000	.750	1.750	2.500	1.591	9	3	3.4	1.27	24600
3732937	M1HR250E14S100Z3L250C9	2.500	1.000	2.188	2.500	1.570	9	3	2.5	2.12	22000
3732938	M1HR250E14S100Z4L250C12	2.500	1.000	2.188	2.500	1.570	12	4	2.5	2.05	22000
3732939	M1HR250E14S100Z3L300C12	2.500	1.000	2.188	3.000	2.080	12	3	2.5	2.61	22000

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts



order number	D1	L	insert screw	in. lbs.	Torx Plus driver	pin	socket-head cap screw	coolant nozzle screw
3732933	2.000	2.000	MS2148	20	DT9IP	ASPM07001802	S447	MS2191C20
3732934	2.000	2.500	MS2148	20	DT9IP	ASPM07001802	S449	MS2191C16
3732937	2.500	2.500	MS2148	20	DT9IP	ASPM07001802	S462	MS2191C20
3732938	2.500	2.500	MS2148	20	DT9IP	ASPM07001802	S462	MS2191C16
3732939	2.500	3.000	MS2148	20	DT9IP	ASPM07001802	S464	MS2191C16



Shoulder Milling

■ Optional Coolant Nozzle Screws

order number	catalog number	A
3400611	MS2191C00	—
3400612	MS2191C06	.024
3400613	MS2191C08	.032
3400616	MS2191C12	.047
3400617	MS2191C14	.055
3400618	MS2191C16	.063
3400619	MS2191C18	.071
3400620	MS2191C20	.079

■ Coolant Nozzle Key

order number	catalog number	drive size
1993552	THW2M	2 MM



NOTE: Check the spare parts column for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 this is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter. This gives flexibility with coolant flow.

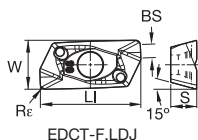


■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GD	KCPM40	.S..GD2	KCPM40	.E..HD2	KCPM40
P3-P4	.E..GD	KCPM40	.S..GD2	KCPK30	.E..HD2	KCPK30
P5-P6	.E..GD	KC725M	.S..GD2	KC725M	.E..HD2	KC725M
M1-M2	.E..LD	KC522M	.E..GD	KCSM40	.E..HD2	KC522M
M3	.E..GD	KCSM40	.S..GD2	KCPM40	.E..HD2	KCPM40
K1-K2	.S..GD2	KC520M	.E..HD2	KC520M	.E..HD2	KCK15
K3	.S..GD2	KC520M	.E..HD2	KC520M	.E..HD2	KCK15
N1-N2	.F..LDJ	KC410M	.F..LDJ	KC410M	.E..LDJ	KC422M
N3	.F..LDJ	KC410M	.F..LDJ	KC410M	.F..LDJ	KC410M
S1-S2	.E..GD	KC725M	.S..GD2	KC725M	.E..HD2	KC725M
S3	.E..GD	KCSM40	.S..GD2	KC725M	.E..HD2	KC725M
S4	.E..GD	KCSM40	.S..GD2	KC725M	.E..HD2	KC522M
H1	-	-	-	-	-	-

Indexable Inserts

- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).



■ EDCT-F.LDJ

- first choice
- alternate choice



	P	M	K	N	S	H
P	●	○	○	○	○	○
M	○	●	○	○	○	○
K	○	○	●	○	○	○
N	○	○	○	●	○	○
S	○	○	○	○	●	○
H	○	○	○	○	○	○

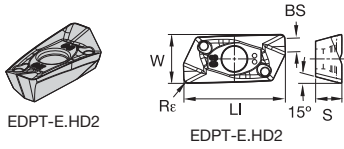
Shoulder Milling

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EC1402FLDJ	.687	.334	.177	.124	.008	.001	2	●	-	-	-	-	-	-	-	-	-
EC1404FLDJ	.687	.334	.177	.116	.016	.001	2	●	-	-	-	-	-	-	-	-	-
EC1408FLDJ	.688	.334	.177	.101	.031	.001	2	●	-	-	-	-	-	-	-	-	-
EC1412FLDJ	.688	.333	.177	.085	.047	.001	2	●	-	-	-	-	-	-	-	-	-
EC1416FLDJ	.688	.333	.177	.070	.062	.001	2	●	-	-	-	-	-	-	-	-	-
EC1431FLDJ	.689	.331	.177	.010	.122	.001	2	●	-	-	-	-	-	-	-	-	-
EC1440FLDJ	.651	.329	.177	-	.157	.001	2	●	-	-	-	-	-	-	-	-	-

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).



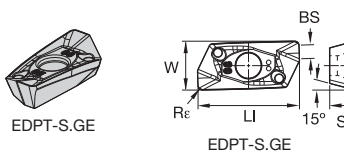
● first choice
○ alternate choice



■ EDPT-E.HD2

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EP1408EHD2	.688	.330	.177	.101	.031	.003	2	-	-	-	●	●	●	●	●	-	-

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).



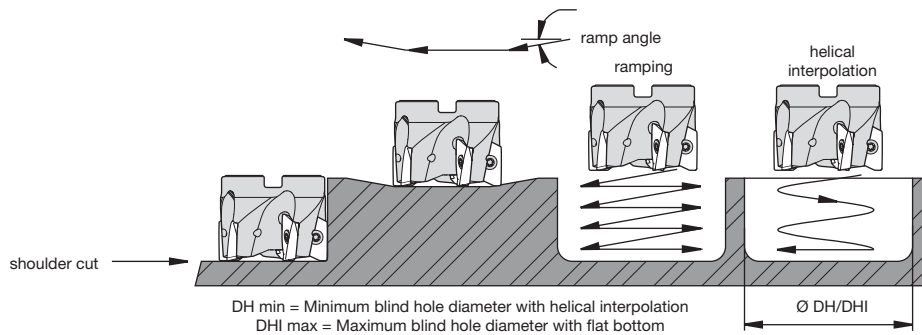
■ EDPT-S.GE

catalog number	LI	W	S	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
EP1404SGE	.686	.323	.175	.110	.016	.005	2	-	-	-	●	●	-	●	-	-	-
EP1408SGE	.686	.322	.175	.094	.031	.005	2	-	-	-	●	●	-	●	-	-	-
EP1412SGE	.687	.320	.175	.078	.047	.005	2	-	-	-	●	●	-	●	-	-	-
EP1416SGE	.687	.320	.175	.062	.062	.005	2	-	-	-	●	●	-	●	-	-	-
EP1431SGE	.687	.318	.175	.005	.122	.005	2	-	-	-	●	●	-	●	-	-	●



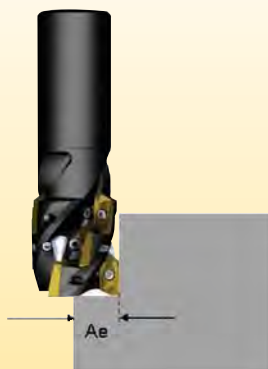
Shoulder Milling

■ Application Examples



insert style	cutting diameter	max ramp angle	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter (no flat bottom)
Mill 1-14	1.25	5.4°	1.862	2.312	2.5
Mill 1-14	1.50	4.0°	2.370	2.822	3
Mill 1-14	2.00	2.6°	3.368	3.822	4
Mill 1-14	2.50	1.9°	4.367	4.822	5

■ Best Machining Practices



Contouring/Profiling

Ae = up to 50% of cutter Ø.
This can be used with or without coolant/air blast, depending on materials being machined.



Slotting

Full width cutting or profiling over 50% of the cutter Ø. It is suggested to use coolant or air blast to evacuate chips. If necessary, reduce coolant nozzle hole size, which adds more pressure, and the chip is forced out of the chip gash.



Ramping

Only machine to the depth of the first insert. Observe the ramping angles given in the catalog.

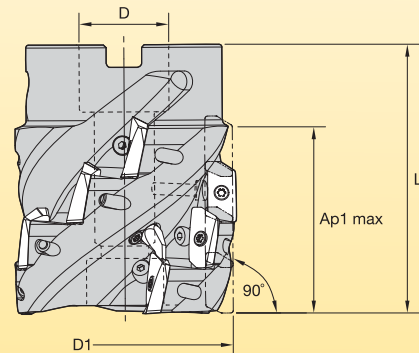
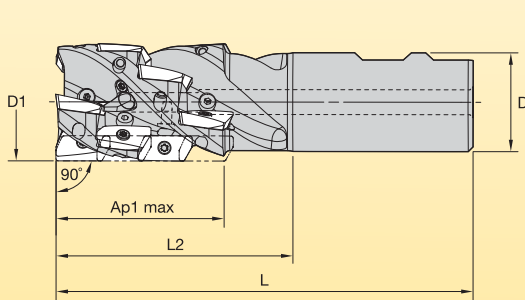
Shoulder Milling

■ Slotting by Plunging

Slot with the alternate side method, alternating the cuts from side to side. This will enable the cutter to move away from the material prior to moving back up in the Z-axis. The cutter will not be in contact with the workpiece. Follow the direction of the arrows. Move 3 axes simultaneously into the center of the slot. Maximum step over 0.315" (8,0mm).



With multiple Z-axis passes, when the final depth is achieved, move straight back up in the Z-axis, then repeat at the next step over.



	catalog number	order number	D1	ZU ¹	Z	Mtg. ²	D	L2	L	Ap1 max	max Ra ³	max CR ⁴	max RPM
Inch Cutters	M1HR125E14W125Z2L200C4	3732889	1.25	2	4	W	1.25	2.00	4.28	1.09	5.4°	0.094	31100
	M1HR150E14W125Z3L200C6	3732890	1.50	3	6	W	1.25	2.00	4.28	1.09	4.0°	0.094	28400
	M1HR150E14W125Z3L250C9	3732891	1.50	3	9	W	1.25	2.50	4.78	1.61	4.0°	0.094	28400
	M1HR150E14W125Z3L300C12	3732892	1.50	3	12	W	1.25	3.00	5.28	2.13	4.0°	0.094	28400
	M1HR200E14S075Z3L200C6	3732933	2.00	3	6	S	0.75	—	2.00	1.07	2.6°	0.094	24600
	M1HR200E14S075Z3L250C9	3732934	2.00	3	9	S	0.75	—	2.50	1.59	2.6°	0.094	24600
	M1HR200E14W150Z3L300C12	3732935	2.00	3	12	W	1.50	3.00	5.69	2.10	2.6°	0.094	24600
	M1HR250E14S100Z3L200C6	3732936	2.50	3	6	S	1.00	—	2.00	1.06	1.9°	0.094	22000
	M1HR250E14S100Z3L250C9	3732937	2.50	3	9	S	1.00	—	2.50	1.57	1.9°	0.062	22000
	M1HR250E14S100Z4L250C12	3732938	2.50	4	12	S	1.00	—	2.50	1.57	1.9°	0.062	22000
M1HR250E14S100Z3L300C12	3732939	2.50	3	12	S	1.00	—	3.00	2.07	1.9°	0.062	22000	
⁵ M1HR250E14S100Z5L300C20	3786638		2.50	5	20	S	1.00	—	3.00	2.07	1.9°	0.062	22000
Metric Cutters	M1H32J2R50B32S90ED14C4	3742932	32	2	4	W	32	50	111	27,8	5,4°	2,4	31100
	M1H40J3R50B32S90ED14C6	3743033	40	3	6	W	32	50	111	27,6	3,8°	2,4	28400
	M1H40J3R65B32S90ED14C9	3743034	40	3	9	W	32	65	126	40,8	3,8°	2,4	28400
	M1H40J4R80B32S90ED14C12	5085631	40	4	12	W	32	80	141	40,8	3,8°	2,5	28400
	M1H40J3R80B32S90ED14C12	3743035	40	3	12	W	32	80	141	54,0	3,8°	2,4	28400
	M1H50T3R50A22S90ED14C6	3743036	50	3	6	S	22	—	50	27,3	2,7°	2,4	24600
	M1H50T3R65A22S90ED14C9	3743037	50	3	9	S	22	—	65	40,4	2,7°	2,4	24600
	M1H50J3R80B40S90ED14C12	3743038	63	3	12	W	40	80	151	53,5	1,9°	2,4	24600
	M1H63T3R50A27S90ED14C6	3743039	63	3	6	S	27	—	50	27,0	1,9°	1,6	22000
	M1H63T3R65A27S90ED14C9	3743040	63	3	9	S	27	—	65	39,9	1,9°	1,6	22000
	M1H63T4R65A27S90ED14C12	3743041	63	4	12	S	27	—	65	39,9	1,9°	1,6	22000
	M1H63T3R75A27S90ED14C12	3743042	63	3	12	S	27	—	75	52,8	1,9°	1,6	22000
	⁵ M1H63T5R75A27S90ED14C20	3831819		63	5	20	S	27	—	75	52,8	1,9°	1,6	22000

¹ Number of effective flutes.

² Mounting style: W = Weldon®, S = Shell Mill.

³ Max ramp angle when radial depth of cut exceeds 0.31" (8mm)

⁴ Max insert corner radius allowed in first row without cutter body modification.

⁵ Recommended for profiling applications only.

■ Profile, Slot, and Ramp

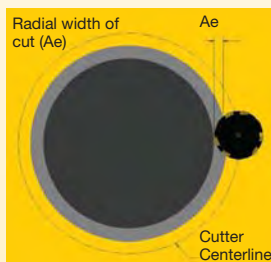
When taking a cut that equals up to 50% of the cutter diameter, you can operate without coolant, unless your material is coolant-dependent. When using more than 50% of the cutter diameter, there is a need to have coolant through the nozzles, or an air blast through the nozzles. This will assist with chip evacuation. Please use the feed table when taking a small percentage of the cutter diameter. This will improve the volume of material removed. To achieve a superior surface finish on the base, adjust the feed to suit the finish required.

When using this cutter for plunging, the maximum suggested step over is .130" (3,30mm). Always try to move the cutter and insert away from the material when retracting in the Z-axis. This can be done when employing the alternate cut method (zig zag method). Use a 3-axis move to get all axes moving at the same time, suggest .010" (0,25mm).

When machining a conventional slot, you have to move straight up in the Z-axis.

■ Circular and Helical Interpolation

External



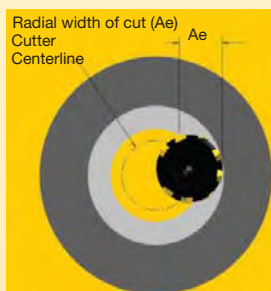
When profiling around the external part of a component, it is important to increase the feed rate. This will maintain the chip thickness value.

The programmed feed rate needs to be calculated at the cutter centerline.

For external profiling, adjust the feed rate for feed at the cutter centerline.

Increase the feed rate for external profiling.

Internal



When machining inside a component profile, the area of contact is larger.

The feed rate needs to be at the centerline, and the feed rate needs to be slower.

For internal profiling, adjust the feed rate for feed at the cutter centerline.

This will effectively reduce the feed rate as the distance traveled is less than the peripheral distance.

■ Cutting Data

Reference pages X23–X27 for speed tables. Reference platform pages for feed data. Each insert has an average chip thickness value that will enable you to determine the feed per tooth.

Please remember when using less than 50% of the cutter diameter, the feed rate will need to be increased. Failure to do so will result in premature insert failure.

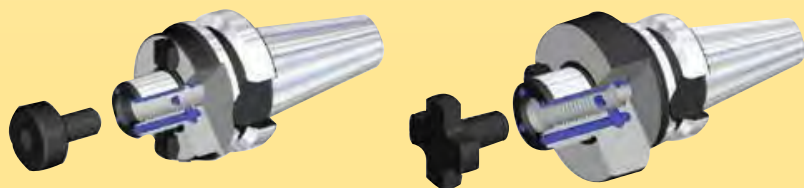
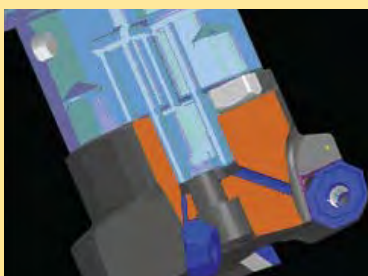
Running too slowly will reduce tool life.

■ Spare Parts

Please make sure all the spare parts in the cutters are fully tightened prior to using the product.

Shell mill cutters no longer have coolant grooved bolts. We now have adapters that will enable the coolant to be fed through the adapter pilot diameter.

■ True Through Coolant Shell Mill Adapters



➤ Mill 1-18™

Primary Application

The Mill 1-18 series is a versatile, functional cutter system for a range of cutting tasks. Mill 1-18 cutters can be used for profiling, slotting, ramping, helical interpolation, plunging, and other milling applications. It's a single tool with multi-functional benefits. Mill 1-18 inserts are specially designed to add cutting versatility, especially for larger axial depths of cut. Results include significantly reduced cycle times and lower cutting forces.

Features and Benefits



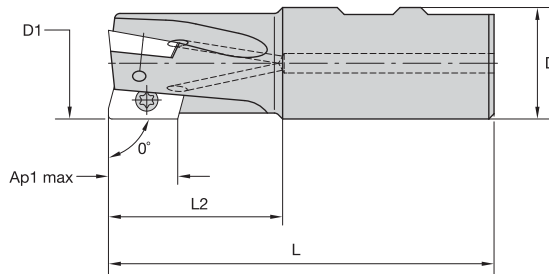
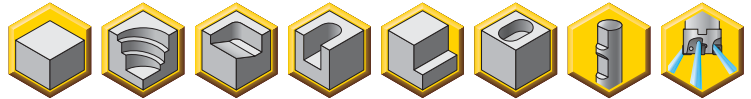
Features

- Inserts for larger axial depth of cut.
- Inserts radii up to .250" (6,35mm).
- Axial depth of cut up to .708" (18mm).
- Cutter diameters up to 8" (160mm).
- Beyond™ grade technology.

Benefits

- Slotting, profiling, ramping, helical interpolation, and plunging.
- Angled screw for insert retention.
- Insert geometries and grades for most workpiece materials.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ **Weldon® End Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2267545	M1D097E1802W100L175	.970	1.000	4.030	1.750	.710	2	17.7°	.66	37710
2267546	M1D100E1802W100L175	1.000	1.000	4.030	1.750	.710	2	16.7°	.68	37000
2267550	M1D100E1802W100L175R	1.000	1.000	3.968	1.688	.640	2	13.4°	.67	37000
2267547	M1D100E1802W100L375	1.000	1.000	6.030	3.750	.710	2	16.7°	1.00	37000
2267552	M1D100E1802W100L375R	1.000	1.000	5.968	3.688	.640	2	13.4°	.99	37000
2267623	M1D125E1803W125L225	1.250	1.250	4.530	2.250	.710	3	10.9°	1.17	32300
2267624	M1D125E1803W125L225R	1.250	1.250	4.469	2.188	.650	3	7.5°	1.16	32300
2267625	M1D125E1803W125L425	1.250	1.250	6.530	4.250	.710	3	10.9°	1.71	32300
2267626	M1D125E1803W125L425R	1.250	1.250	6.468	4.188	.650	3	7.5°	1.71	32300

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079". For example: M1D100E1802W100L375R.

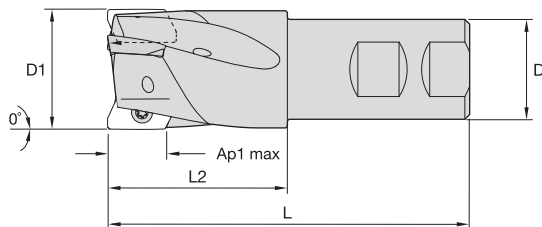
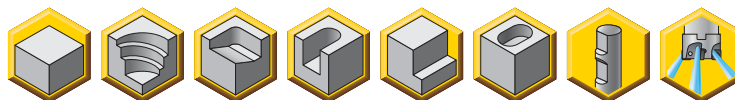
■ **Spare Parts**

D1	insert screw	in. lbs.	Torx Plus driver
.970	MS2126	35	DT15IP
1.000	MS2126	35	DT15IP
1.250	MS2126	35	DT15IP

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ **Weldon® End Mills • Reduced Shank**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2452372	M1D100E1802W075L175	1.000	.750	3.780	1.750	.710	2	14.0°	.43	37000
2452414	M1D125E1802W100L225	1.250	1.000	4.530	2.250	.710	2	10.9°	.95	32300
2635710	M1D125E1803W100L225	1.250	1.000	4.530	2.250	.710	3	10.9°	.89	32300
2267627	M1D150E1803W125L225	1.500	1.250	4.530	2.250	.710	3	8.2°	1.43	29020
2267651	M1D150E1803W125L425	1.500	1.250	6.530	4.250	.710	3	8.2°	2.26	29020
2267631	M1D150E1803W125L425R	1.500	1.250	6.468	4.188	.640	3	5.2°	2.25	29020
2267629	M1D150E1804W125L225	1.500	1.250	4.530	2.250	.710	4	8.2°	1.38	29020
2267628	M1D150E1804W125L225R	1.500	1.250	4.468	2.188	.640	4	5.2°	1.38	29020
2267621	M1D200E1805W125L225	2.000	1.250	4.530	2.250	.700	5	5.5°	2.00	24670

NOTE: "Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079". For example: M1D100E1802W100L375R.

■ **Spare Parts**



Shoulder Milling



insert screw

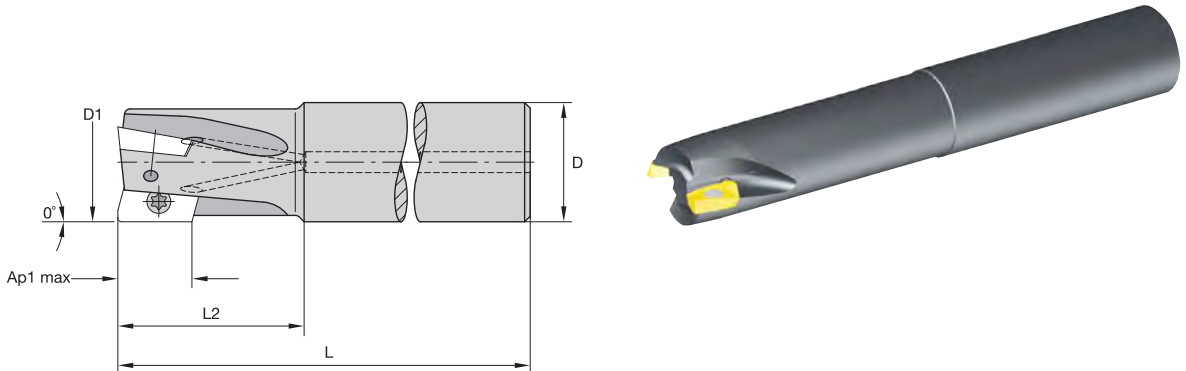
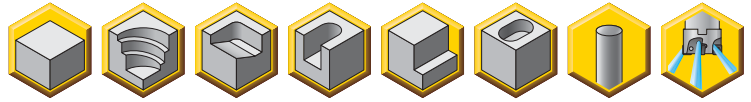


Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2126	35	DT15IP
1.250	MS2126	35	DT15IP
1.500	MS2126	35	DT15IP
2.000	MS2126	35	DT15IP

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2267534	M1D100E1802C100L800	1.000	1.000	8.000	3.750	.710	2	16.7°	1.41	37000
2267535	M1D100E1802C100L1000	1.000	1.000	10.000	3.750	.710	2	16.7°	1.82	37000
2267536	M1D125E1802C125L800	1.250	1.250	8.000	4.250	.710	2	10.9°	2.27	32300
2267537	M1D125E1802C125L1000	1.250	1.250	10.000	4.250	.710	2	10.9°	2.94	32300
2267538	M1D150E1803C125L800	1.500	1.250	8.000	4.250	.710	3	8.2°	2.75	29020
2267539	M1D150E1803C125L1000	1.500	1.250	10.000	4.250	.710	3	8.2°	3.42	29020
5194531	M1D150E1803C125L1000AL	1.500	1.250	10.000	2.000	.710	3	8.2°	3.11	29020

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
 Cylindrical shank with no through coolant.
 Cutters designated with the -AL suffix have relieved flutes for aggressive aluminum machining.

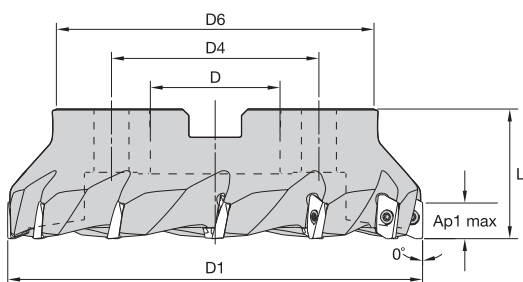
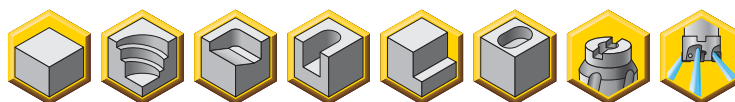
■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2126	35	DT15IP
1.250	MS2126	35	DT15IP
1.500	MS2126	35	DT15IP

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



Shell Mills

order number	catalog number	D1	D	D4	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
2267542	M1D200E1803S075L157	2.000	.750	—	1.688	1.575	.700	3	5.2°	.71	24670
5067568	M1D200E1803S075L157AL	2.000	.750	—	1.688	1.575	.700	3	5.2°	.60	24670
2267650	M1D200E1805S075L157	2.000	.750	—	1.688	1.575	.700	5	5.2°	.69	24670
5067567	M1D250E1804S075L157AL	2.500	.750	—	1.750	1.575	.690	4	3.8°	.83	21820
2267632	M1D250E1806S075L157	2.500	.750	—	1.750	1.575	.690	6	3.8°	1.00	21820
5135356	M1D300E1804S100L175AL	3.000	1.000	—	2.188	1.750	.690	4	3.0°	1.44	19780
2267616	M1D300E1805S100L175	3.000	1.000	—	2.188	1.750	.690	5	3.0°	1.72	19780
2267643	M1D300E1807S100L175	3.000	1.000	—	2.188	1.750	.690	7	3.0°	1.75	19780
2267617	M1D400E1806S150L200	4.000	1.500	—	3.625	2.000	.690	6	2.1°	3.80	16970
2267644	M1D400E1808S150L200	4.000	1.500	—	3.625	2.000	.690	8	2.1°	3.83	16970
2267645	M1D500E1809S150L200	5.000	1.500	—	3.750	2.000	.690	9	1.6°	5.75	15100
2267646	M1D600E1808S150L200	6.000	1.500	—	3.750	2.000	.690	8	1.3°	7.46	13740
2267618	M1D600E1808S200L200	6.000	2.000	—	4.875	2.000	.690	8	1.3°	8.77	13740
2267620	M1D800E1812S250L250	8.000	2.500	4.000	6.125	2.500	.690	12	1.0°	15.35	11850

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
 "Speed screw" differential lock-up system is identified by the "SS" in the catalog number. For example: M1D200E1803SS075L157.
 Cutters designated with the -AL suffix have relieved flutes for aggressive aluminum machining.

Spare Parts

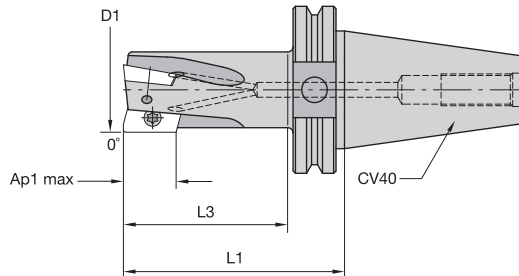
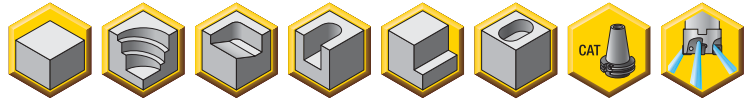
Shoulder Milling



order number	D1	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw with coolant groove	coolant screw assembly	coolant screw assembly
2267542	2.000	MS2126	35	DT15IP	S445CG	—	—
5067568	2.000	MS2126	35	DT15IP	S445CG	—	—
2267650	2.000	MS2126	35	DT15IP	S445CG	—	—
5067567	2.500	MS2126	35	DT15IP	S445CG	—	—
2267632	2.500	MS2126	35	DT15IP	S445CG	—	—
5135356	3.000	MS2126	35	DT15IP	S2044CG	—	—
2267616	3.000	MS2126	35	DT15IP	S2044CG	—	—
2267643	3.000	MS2126	35	DT15IP	S2044CG	—	—
2267617	4.000	MS2126	35	DT15IP	—	—	S2165C
2267644	4.000	MS2126	35	DT15IP	—	—	S2165C
2267645	5.000	MS2126	35	DT15IP	—	—	S2165C
2267646	6.000	MS2126	35	DT15IP	—	—	S2165C
2267618	6.000	MS2126	35	DT15IP	—	KLS20C	—
2267620	8.000	MS2126	35	DT15IP	—	—	—

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ End Mills • Steep Taper CV40

order number	catalog number	CSMS system size	D1	L1	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2267549	M1D100E1802CV40L250	CV40	1.000	2.500	1.625	.710	2	16.7°	1.98	37000
2541967	M1D100E1802CV40L450	CV40	1.000	4.500	2.625	.710	2	16.7°	2.72	37000
2267551	M1D125E1803CV40L288	CV40	1.250	2.875	2.000	.710	3	10.9°	2.20	32300
2541970	M1D125E1803CV40L488	CV40	1.250	4.875	3.000	.710	3	10.9°	3.03	32300
2267548	M1D150E1804CV40L288	CV40	1.500	2.875	2.000	.710	4	8.2°	2.36	29020
2541972	M1D150E1804CV40L488	CV40	1.500	4.875	3.000	.710	4	8.2°	3.41	29020

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts



insert screw



Torx Plus driver

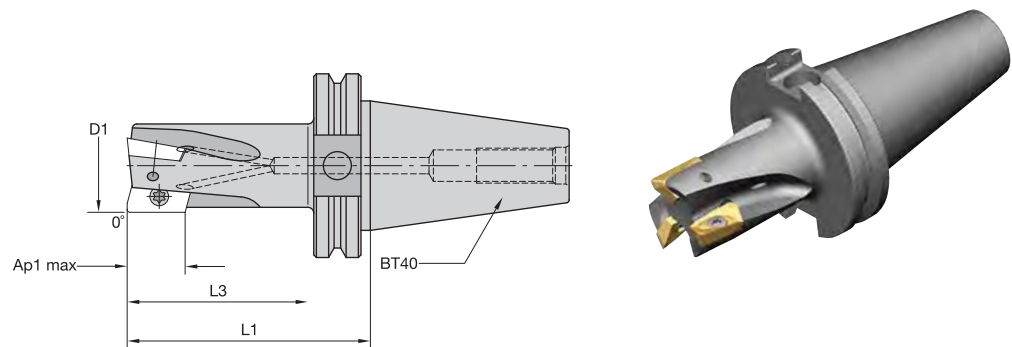
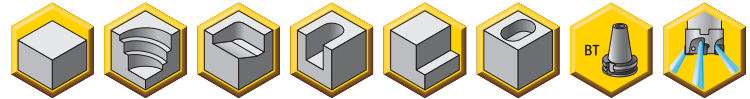
D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2126	35	DT15IP
1.250	MS2126	35	DT15IP
1.500	MS2126	35	DT15IP

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.



Shoulder Milling

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



■ End Mills • Steep Taper BT40

order number	catalog number	CSMS system size	D1	L1	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2541969	M1D100E1802BT40L450	BT40	1.000	4.500	2.625	.710	2	16.7°	2.83	37000
2541984	M1D150E1804BT40L488	BT40	1.500	4.875	3.000	.710	4	8.2°	3.50	29020

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts

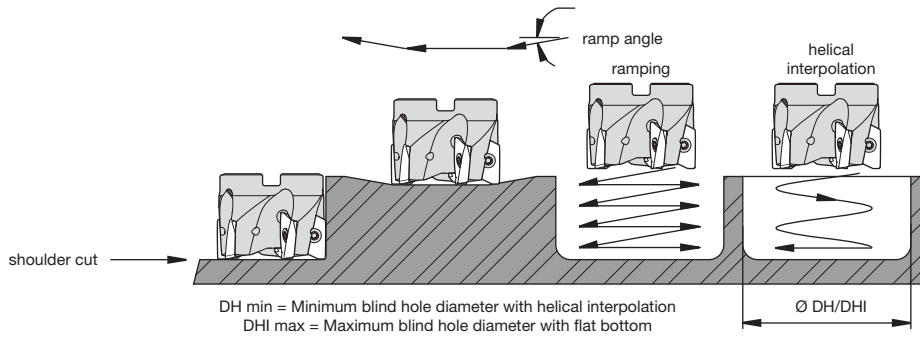
D1	insert screw	in. lbs.	Torx Plus driver
1.000	MS2126	35.0	DT15IP
1.500	MS2126	35.0	DT15IP

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.



Shoulder Milling

■ Application Examples



insert style	cutting diameter	max ramp angle	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter (no flat bottom)
Mill 1-18	.970	18°	1.124	1.776	1.94
Mill 1-18	1.000	17°	1.182	1.836	2.00
Mill 1-18	1.250	11°	1.686	2.336	2.50
Mill 1-18	1.500	8°	2.182	2.836	3.00
Mill 1-18	2.000	5°	3.180	3.836	4.00
Mill 1-18	1.500	8°	2.180	2.836	3.00
Mill 1-18	2.000	5°	3.176	3.862	4.00
Mill 1-18	2.500	4°	4.174	4.862	5.00
Mill 1-18	3.000	3°	5.174	5.862	6.00
Mill 1-18	4.000	2°	7.174	7.862	8.00
Mill 1-18	5.000	2°	9.172	9.862	10.00
Mill 1-18	6.000	1°	11.172	11.862	12.00
Mill 1-18	8.000	1°	15.172	15.862	16.00



Shoulder Milling

Flange Mount Adapters

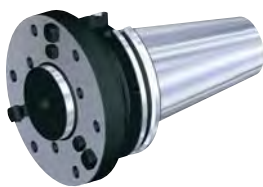
For HARVI™ Ultra Helical Cutters

HARVI ultra helical cutters can be used with our flange mount adapters to create a powerful combination on nearly all spindle connections on the market.

Our flange mount adapters enable the same cutting tool to be easily adapted to different machine spindle connections.



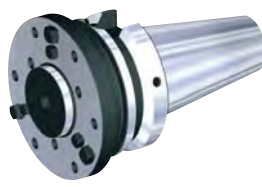
The Portfolio Features:



CV



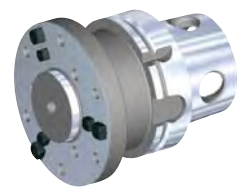
DV



BT



HSK



KM4X™

Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

➤ Mill 1-25™

Primary Application

Also known as Mill1 Max, the Mill 1-25 cutter is made specifically for aluminum machining, but can also be used when machining cast iron. High-feed capabilities enable routing applications with an axial depth of cut of up to .98" (25mm).

Features and Benefits

Functions

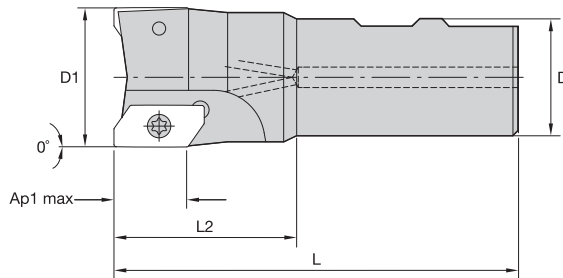
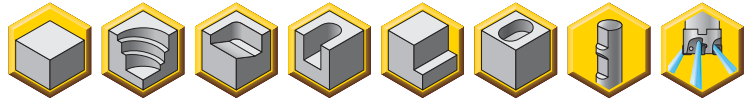
- Strong, thick inserts over .200" (5,2mm) thick.
- Axial depth of cut up to .98" (25mm).
- Cylindrical, monoblock/HSK63A, CV50, and shell mills.

Benefits

- Made for machining aluminum, but also used for machining cast iron.
- High-feed capability for routing applications.
- Balanced-by-design — if running over 10,000 RPM, balance the cutter assembly.



- For aluminum machining.
- High-speed capability.
- Insert screws should be changed when inserts are changed.



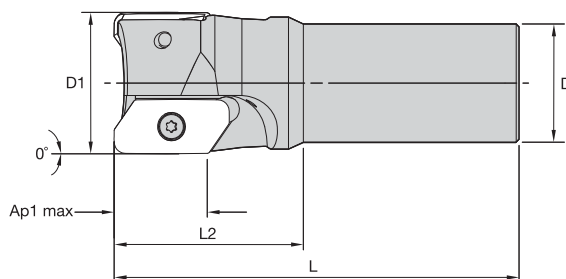
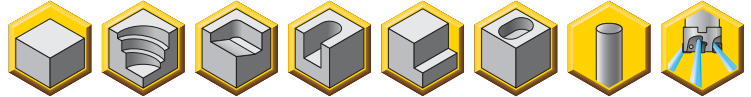
■ Weldon® End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2530317	M1D150K2502W125L200	1.500	1.250	4.280	2.000	.980	2	16.5°	1.21	25200

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts

D1	insert screw	in. lbs.	Torx driver
1.5000	MS1374	35.0	DT15



Shoulder Milling

■ Cylindrical End Mills

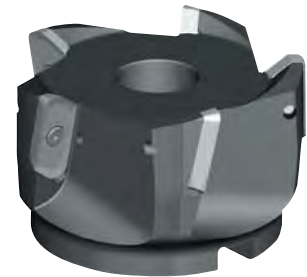
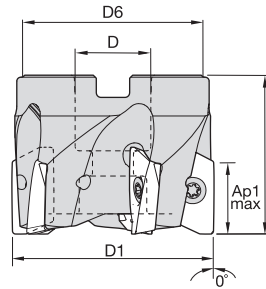
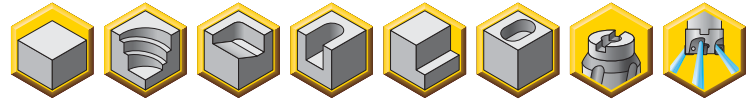
order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
2530318	M1D150K2502C125L200	1.500	1.250	4.280	2.000	.980	2	16.5°	1.23	25200
2530320	M1D150K2502C125L400	1.500	1.250	6.280	4.000	.980	2	16.5°	2.07	25200
2530322	M1D200K2503C125L200	2.000	1.250	4.155	2.000	.976	3	10.0°	1.54	20300

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts

D1	insert screw	in. lbs.	Torx driver
1.500	MS1374	35.0	DT15
2.000	MS1374	35.0	DT15

- For aluminum machining.
- High-speed capability.
- Insert screws should be changed when inserts are changed.
- Ap1 Max 0.985" (25mm).



■ **Shell Mills**

order number	catalog number	D1	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
2581445	M1D200K2502S075L200	2.000	.750	1.750	2.000	.980	2	10.0°	.87	20300
2581447	M1D250K2503S100L225	2.500	1.000	2.190	2.250	.970	3	7.0°	1.49	17500
2496869	M1D300K2503S100L225	3.000	1.000	2.190	2.250	.970	3	5.0°	2.33	15600
2581449	M1D400K2504S125L225	4.000	1.250	2.880	2.250	.970	4	3.5°	3.05	13100

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ **Spare Parts**

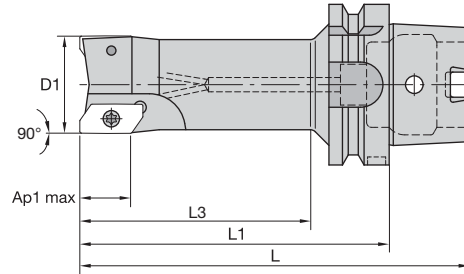
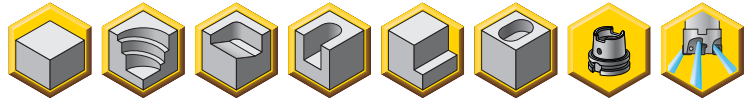


D1	insert screw	in. lbs.	Torx driver	socket-head cap screw with coolant groove	coolant lock screw assembly
2.000	MS1374	35.0	DT15	S445CG	—
2.500	MS1374	35.0	DT15	S459CG	—
3.000	MS1374	35.0	DT15	S458CG	—
4.000	MS1374	35.0	DT15	—	S2164C



Shoulder Milling

- Roughing and finishing of aluminum alloys
- Aggressive ramping angles.
- All integral shank tools are balanced to G2.5 at 10,000 RPM.
- High-speed capability.
- Ap1 Max 0.985" (25mm).
- Replace insert screws when inserts are changed.



■ Monoblocks • HSK63A

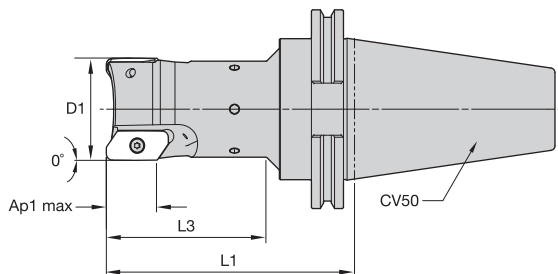
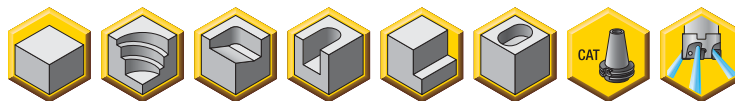
order number	catalog number	shank taper	D1	L	L1	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2530357	M1D150K2502HSK63L477	HSK63A	1.500	6.028	4.772	3.500	.984	2	16.5°	2.60	25200

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts

D1	insert screw	in. lbs.	Torx driver	balancing screw
1.500	MS1374	35.0	DT15	KUAM27

- For aluminum machining.
- High-speed capability.
- All integral shank tools are balanced to G2.5 at 10,000 RPM.
- Insert screws should be changed when inserts are changed.



■ **Monoblocks • CV50**

order number	catalog number	taper shank	D1	L1	L3	Ap1 max	Z	max ramp angle	lbs	max RPM
2530374	M1D200K2503CV50L700	CV50	2.000	7.000	5.375	.976	3	10.0°	10.62	20300

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx driver	balancing screw
2.000	MS1374	35.0	DT15	KUAM27



Shoulder Milling

■ Insert Selection Guide

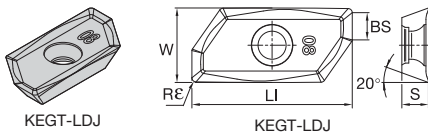
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	.E..LDJ	KC410M	.E..LDJ	KC410M	.E..LDJ	KC410M
N3	.E..LDJ	KC410M	.E..LDJ	KC410M	.E..LDJ	KC410M
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Inserts • KE..25L5..

- Roughing and finishing of aluminum alloys.
- Periphery ground for accuracy and consistency.
- Radiused cutting edge minimizes lap lines.
- Wiper facet with large radius for better floor surface finish.
- Ap1 max 0.985" (25mm).

- first choice
- alternate choice

P	●
M	○
K	○
N	●
S	○
H	○



■ KEGT-LDJ

catalog number	LI	S	W	BS	Re	hm	cutting edges	KC410M
KG2508ELDJ	1.236	.205	.575	.210	.031	.001	2	●
KG2512ELDJ	1.239	.205	.575	.195	.047	.001	2	●
KG2516ELDJ	1.239	.205	.575	.179	.063	.001	2	●
KG2520ELDJ	1.239	.205	.575	.164	.079	.001	2	●
KG2531ELDJ	1.239	.205	.575	.120	.122	.001	2	●
KG2540ELDJ	1.239	.205	.575	.085	.157	.001	2	●
KG2550ELDJ	1.239	.205	.575	.045	.197	.001	2	●
KG2564ELDJ	1.181	.205	.575	-	.252	.001	2	●



Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%			20%			30%		40-100%					
.E..LDJ	.005	.023	.042	.003	.017	.030	.003	.013	.023	.002	.011	.020	.002	.010	.018	.E..LDJ
.E..LDJ2	.005	.023	.042	.003	.017	.030	.003	.013	.023	.002	.011	.020	.002	.010	.018	.E..LDJ2

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

➤ Stellram® 5720VZ16 Series

Taking extreme high-speed aluminum machining to the highest level.



Features and Benefits

- Specially designed for machining pockets and profiles on aluminum and aluminum alloys.
- The 5720VZ16 series is designed, manufactured, and tested in accordance with EN ISO 15641:2001 to ensure maximum stability in high-speed applications.
- The internal coolant enables better chip evacuation and higher feed rates.
- The pockets are reinforced to enable for heavy feeding and safe ramping during machining. These features increase tool life and productivity.
- Excellent tools for thin-walled machining due to very low cutting pressure.
- Twelve different insert radii are available, each with the same cutting depth capacity of .630" (16mm).
- Cylindrical shank and HSK63A integral shanks are designed and balanced to G6.3 at 30,000 RPM for diameters up to 50mm. Diameter larger than 50mm are balanced to G6.3 at 24,000 RPM.

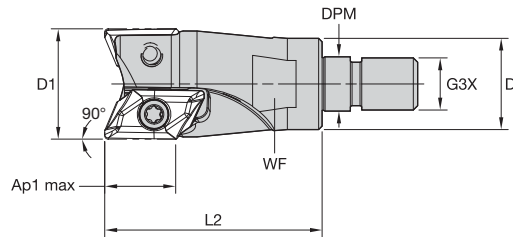
Metric monoblock cutters with HSK63A are available as standard in diameters 25, 32, 40, and 50mm.

The Stellram[®] 5720VZ16 cutters are our latest design for high metal removal in aluminum applications.



Maximum $a_p = .630"$
Diameter Range = 1–3"

- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



■ **Screw-On End Mills**

order number	catalog number	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	max ramp angle	lbs	max RPM
5672512	A5720VZ16SA1.00Z02R2	1.000	.827	.492	M12	1.969	18	.630	2	14.7°	.23	50000
5672719	A5720VZ16SA1.25Z02R2	1.250	1.142	.669	M16	1.969	24	.630	2	11.5°	.45	41500
5672521	A5720VZ16SA1.25Z3R2	1.250	1.142	.669	M16	1.967	24	.630	3	11.5°	.39	41500

NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

■ **Spare Parts**



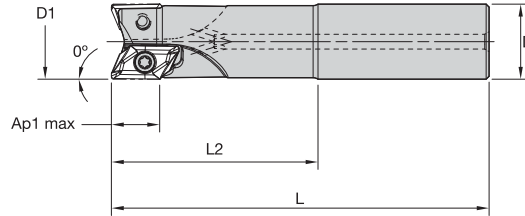
D1	insert screw	in. lbs.	Torx driver
1.000	DP5009A	54.0	TP20
1.250	DP5009A	54.0	TP20

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.



Shoulder Milling

- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max ramp angle	lbs	max RPM
5672718	C5720VZ16CA1.0Z02R2.7	1.000	1.000	5.030	2.750	.630	2	14.7°	.87	50000
5673549	C5720VZ16CA1.25Z2R3.0	1.250	1.250	5.280	2.997	.630	2	11.5°	1.49	41500
5672885	C5720VZ16CA1.25Z3R3.0	1.250	1.250	5.280	3.000	.630	3	11.5°	1.46	41500

NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

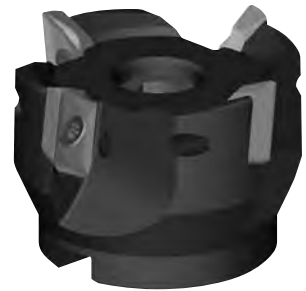
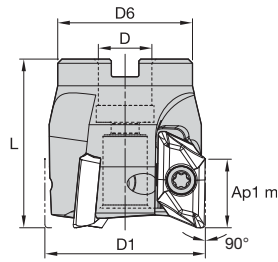
■ Spare Parts

D1	insert screw	in. lbs.	Torx driver
1.000	DP5009A	54.0	TP20
1.250	DP5009A	54.0	TP20

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.



- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



■ **Shell Mills • Coarse and Medium Pitch**

order number	catalog number	D1	D	D6	L	Ap1 max	Z	max ramp angle	lbs	max RPM
5681118	C5720VZ16-A1.50Z03R	1.500	.500	1.260	1.575	.630	3	8.1°	.34	36500
5672871	C5720VZ16-A2.00Z04R	2.000	.750	1.772	1.574	.630	4	7.8°	.55	30000
5673799	C5720VZ16-A2.00Z03R	2.000	.750	1.772	1.575	.630	3	7.8°	.65	30000
5673175	C5720VZ16-A2.50Z04R	2.500	1.000	1.969	1.969	.630	4	5.8°	1.26	26000
5672872	C5720VZ16-A2.50Z05R	2.500	1.000	1.969	1.971	.630	5	5.8°	1.32	26000
5673338	C5720VZ16-A3.00Z04R	3.000	1.000	1.969	1.969	.630	4	4.6°	1.91	23000
5673745	C5720VZ16-A3.00Z05R	3.000	1.000	1.969	1.969	.630	5	4.6°	1.68	23000

NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

■ **Spare Parts**

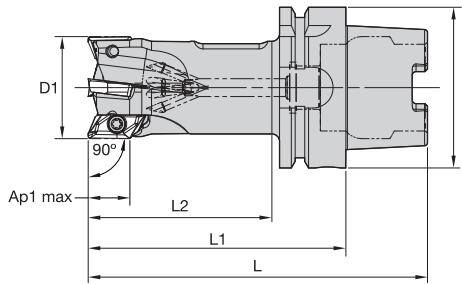


D1	insert screw	in. lbs.	Torx driver	socket-head cap screw
1.500	DP5009A	54.0	TP20	#1/4-28X3/4SHCSA
2.000	DP5009A	54.0	TP20	#3/8-24X1SHCSA
2.500	DP5009A	54.0	TP20	#1/2-20X1-1/4SHCSA
3.000	DP5009A	54.0	TP20	#1/2-20X1-1/4SHCSA

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

Shoulder Milling

- Providing solutions for the aerospace and aluminum industries' requirements for high-power and high-speed spindles.
- Specifically reinforced for highest metal removal rates for depths of cut $\leq 16\text{mm}$.
- Locking system ensures operation safety and accuracy.
- Thin-walled machining for airframe components.



■ **Monoblocks • HSK63A**

order number	catalog number	D1	D	L	L1	L2	Ap1 max	Z	max ramp angle	kg	max RPM*
6087904	5720VZ16HA025Z2R75	25	63	133	101	75	16	2	14.5°	0,81	51000
5672766	5720VZ16HA032Z3R75	32	63	133	101	75	16	3	11.4°	0,92	41500
5673629	5720VZ16HA040Z4R75	40	63	133	101	75	16	4	7.8°	1,09	35000
6160117	5720VZ16HA050Z4R75	50	63	133	101	75	16	4	7.9°	1,41	30000

*Max RPM as per ISO 15641

NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

■ **Spare Parts**



insert screw

DP5009A



Nm

6,0



driver

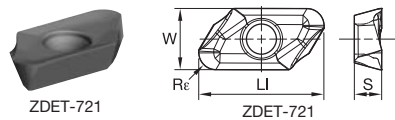
TP20

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	.F..721	GH1	.F..721	GH1	.F..721	GH1
N3	.F..721	GH1	.F..721	GH1	.F..721	GH1
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Milling Inserts



ZDET-721

ZDET-721

- first choice
- alternate choice

P	●
M	○
K	○
N	●
S	○
H	○

ZDET-721 • Sharp edge preparation for finishing applications

catalog number	LI	W	S	Resultant WorkPiece Radius In	hm	cutting edges	GH1
ZDET16M5PDFR721	.902	.443	.197	.010	.001	2	●
ZDET16M508FR721	.906	.443	.197	.032	.001	2	●
ZDET16M512FR721	.906	.443	.197	.047	.001	2	●
ZDET16M516FR721	.906	.443	.197	.063	.001	2	●
ZDET16M520FR721	.906	.443	.197	.079	.001	2	●
ZDET16M525FR721	.906	.443	.197	.098	.001	2	●
ZDET16M530FR721	.906	.443	.197	.118	.001	2	●
ZDET16M532FR721	.906	.443	.197	.126	.001	2	●
ZDET16M540FR721	.906	.443	.197	.157	.001	2	●
ZDET16M550FR721	.906	.443	.197	.197	.001	2	●
ZDET16M560FR721	.906	.443	.197	.236	.001	2	●
ZDET16M504FR721	.906	.443	.197	.020	.001	2	●

ZDET-ER721 • Honed edge preparation for roughing applications. Apply under unstable conditions.

catalog number	LI	W	S	Resultant WorkPiece Radius In	hm	cutting edges	GH1
ZDET16M525ER721	.906	.443	.197	.098	.001	2	●
ZDET16M530ER721	.906	.443	.197	.118	.001	2	●
ZDET16M540ER721	.906	.443	.197	.157	.001	2	●

NOTE: Inserts will be delivered with two screws. Because of heavy force to the screw, it is important to change the screw when changing the insert.

Recommended Starting Feeds

Recommended Starting Feeds [IPT]

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)												Insert Geometry
	10%			20%			30%			40-100%			
.F..721	.001	.013	.016	.001	.010	.012	.001	.008	.011	.001	.008	.010	.F..721
.E..721	.003	.013	.016	.002	.010	.012	.002	.008	.011	.002	.008	.010	.E..721

NOTE: Use "Light Machining" values as starting feed rate. Please see pages X22-X37 for recommended starting speeds.

Shoulder Milling

5720VZ16 Ramp Angle

cutter diameter	Insert ZDET16M5...FR-721								
	Facet 0.047	0.062	0.079	0.098	0.118	0.125	0.157	0.216	0.236
1.000	14.8	16.9	9.2	9.4	18.5	18.5	8.8	10.9	7.0
1.250	11.5	12.1	12.1	12.4	12.7	12.7	13.4	14.0	13.6
1.500	8.1	8.5	8.5	8.7	8.8	8.8	9.1	9.5	9.8
2.000	7.8	7.1	7.2	7.7	7.4	7.4	8.8	8.8	9.0
2.500	5.8	5.3	5.4	5.7	5.5	5.5	6.9	6.5	6.6
3.000	4.6	4.3	4.3	4.6	4.4	4.4	5.4	5.1	5.2

5720VZ16 Possible Maximum ap Slotting

Possible Max ap Slotting		
diameter	number of inserts	ap max
1.000	2	0.300
1.250	2	0.435
1.250	3	0.240
1.500	3	0.350
2.000	3	0.435
2.000	4	0.350
2.500	4	0.435
2.500	5	0.350
3.000	4	0.435
3.000	5	0.435

NOTE: Ap max depends on connection with cutter diameter, rigidity of the cutter, rigidity of the machine, and size of the flute.

5720VZ16 Possible Metal Removal

Possible Metal Removal		
Calculated with 24,000 RPM		
cutter diameter	ZU	MRR in ³ /min
1.00	2	97
1.25	2	197
1.25	3	182.7
1.50	3	316
2.00	3	483
2.00	4	527
2.50	4	811
2.50	5	830
3.00	4	1030
3.00	5	1288

NOTE: The chart above shows total metal removal capacity (based on 24,000 RPM) by cutter diameter and number of teeth. The maximum RPM is engraved on the cutter bodies.

Shoulder Milling

■ Machinability by Materials • Aluminum

Alloy Group	Alloy Designation	Chemical Composition Limits (WT%)											
		Cu	Si	Fe	Mn	Mg	Zn	Cr	Ti	Pb	Bi	Al	Others
Al	1050	0.05	0.25	0.40	0.50	0.05	0.05	-	-	-	-	99.50min	-
	1100	0.05-0.20	Si+Fe 1.00 max	-	0.05	-	0.10	-	-	-	-	99.00min	-
AlCu	2011	5.00-6.00	0.40	0.70	-	-	0.30	-	-	0.20	0.60	remaining	-
	2014	3.90-5.00	0.50-1.20	0.70	0.40-1.20	0.20-0.80	0.25	0.10	0.15	-	-	remaining	-
	2017	3.50-4.50	0.20-0.80	0.70	0.40-1.00	0.40-0.80	0.25	0.10	0.15	-	-	remaining	-
	2024	3.80-4.90	0.50	0.50	0.30-0.90	1.20-1.80	0.25	0.10	0.15	-	-	remaining	-
	2218	3.50-4.50	0.90	1	0.20	1.20-1.80	0.25	0.10	-	-	-	remaining	Ni1.7-2.3
	2224	3.80-4.40	0.12	0.15	0.30-0.90	1.20-1.80	0.25	0.10	0.15	-	-	remaining	-
AlMn	3003	0.05-0.20	0.60	0.70	1.00-1.50	-	0.10	-	-	-	-	remaining	-
AlSi	4032	0.50-1.30	11.00- 13.50	1	-	0.80-1.30	0.25	0.10	-	-	-	remaining	Ni0.5-1.3
AlMg	5052	0.10	0.25	0.40	0.10	2.20-2.80	0.10	0.15-0.35	-	-	-	remaining	-
	-	-	-	-	-	-	-	-	-	-	-	-	H34
	5056	0.10	0.30	0.40	0.05-0.20	4.50-5.60	0.10	0.05-0.20	-	-	-	remaining	-
	-	-	-	-	-	-	-	-	-	-	-	-	H32
	5083	0.10	0.40	0.40	0.40-1.00	4.00-4.90	0.25	0.05-0.25	0.15	-	-	remaining	-
	5086	0.10	0.40	0.50	0.20-0.70	3.50-4.50	0.25	0.05-0.25	0.15	-	-	remaining	-
	-	-	-	-	-	-	-	-	-	-	-	-	H116
AlMgSi	6061	0.15-0.40	0.40-0.80	0.70	0.15	0.80-1.20	0.25	0.04-0.35	0.15	-	-	remaining	-
	6063	0.10	0.20-0.60	0.35	0.10	0.45-0.90	0.10	0.10	0.10	-	-	remaining	-
	6070	0.15-0.40	1.00-1.70	0.50	0.40-1.00	0.50-1.20	0.25	0.10	0.15	-	-	remaining	-
	6151	0.35	0.60-1.20	1	0.20	0.45-0.80	0.25	0.15-0.35	0.15	-	-	remaining	-
	6262	0.15-0.40	0.40-0.80	0.70	0.15	0.80-1.20	0.25	0.04-0.14	0.15	0.40	0.70	remaining	-
	6351	0.10	0.70-1.30	0.50	0.40-0.80	0.40-0.80	0.20	-	0.20	-	-	remaining	-
	6463	0.20	0.20-0.60	0.15	0.05	0.45-0.90	0.05	-	-	-	-	remaining	-
AlZn	7001	1.60-2.60	0.35	0.40	0.20	2.60-3.40	6.80-8.00	0.18-0.35	0.20	-	-	remaining	-
	7003	0.20	0.30	0.35	0.30	0.50-1.00	5.00-6.50	0.20	0.20	-	-	remaining	Zr0.05-0.25
	7050	2.00-2.60	0.12	0.15	0.10	1.90-2.60	5.70-6.70	0.04	0.06	-	-	remaining	Zr0.08-0.15
	7075	1.20-2.00	0.40	0.50	0.30	2.10-2.90	5.10-6.10	0.18-0.28	0.20	-	-	remaining	-
	7178	1.60-2.40	0.40	0.50	0.30	2.40-3.10	6.30-7.30	0.18-0.35	0.20	-	-	remaining	-
	7475	1.20-1.90	0.10	0.12	0.06	1.90-2.60	5.20-6.20	0.18-0.25	0.06	-	-	remaining	-

(continued)

Machinability

- A Excellent
- B Good-to-Excellent
- C Good
- D Not Good

$$V_c = \pi \times D \times n / 1000 \quad \text{m/min} = \text{mm} \times \text{RPM}$$

D: Tool diameter, N: RPM, Vc: Cutting speed, $\pi = 3.1416$

Choose a cutting speed in the range of values, compatible with the cutter max rotation capacity (engraved on the body) and your spindle stability.

(Machinability by Materials • Aluminum — continued)

	Typical Temper	Rm (Mpa)	Machinability Chip Formation	Machinability	Typical Applications	vc SFM min-max	fz IPT max
	H14	105	D	A	<ul style="list-style-type: none"> • Chemical equipment. • Sheet metal work. • Coiled tube. 	2625-9840	0.008
	H14	90	D	A			
	T3	310	A	A	<ul style="list-style-type: none"> • Screw machine products. • Truck frame. • Aircraft structure. • Jet engine impellers. • Aircraft engine. • Cylinder heads. 	1315-8200	0.010
	T6	430	B	A			
	T4	390	B	A			
	T4	465	B	A			
	T72	331	B	B			
	-	-	A	A			
	H14	140	D	B	<ul style="list-style-type: none"> • Cooking utensils. • Chemical equipment. 	656-8200	0.008
	T6	379	B	D	<ul style="list-style-type: none"> • Pistons. 	656-3280	0.007
	H14	260	C	A	<ul style="list-style-type: none"> • Architectural. • Cable sheeting. • Welded pressure vessels. • Hydraulic tubes. • Transportation equipment. 	1315-9840	0.010
	-	-	-	-			
	H12	300	C	A			
	-	-	-	-			
	H112	335	C	A			
	H32	300	C	A			
	-	-	-	-			
	T6	300	C	B	<ul style="list-style-type: none"> • Heavy-duty structure. • Furniture. • Architectural. • Heavy-duty welded structure. • Pipeline. • Heat sink. 	1315-8200	0.008
	T5	200	C	B			
	T6	379	C	C			
	T6	-	C	C			
	T9	400	B	B			
	T6	310	D	C			
	T6	241	C	B			
	O	-	B	A	<ul style="list-style-type: none"> • High-strength structure. • Aircraft structure. 	1315-9840	0.010
	T5	400	B	A			
	T73	530	B	A			
	T6	570	B	A			
	T6	600	B	A			
	T61	565	B	A			

Recommendations for High Speed Machining at 8,000 RPM or above

- Check spindle condition:
 - Runout
 - Clamping of the attachment in traction
 - Marking and cleanliness
- Check that the tool is suitable for the required use.
- Inserts must be locked positively in the pocket and secured using the torx screw provided. The screw must be torqued to the correct value as indicated in the charts on the product pages.
- Because of heavy force to the screw, it is important to change the screw when changing the insert.
- Check the balancing of the assembled tool: cutter body, inserts, and attachment.
- Before start up, note the maximum RPM engraved on the tool. The maximum RPM is linked to a precise balancing value.
- Ensure that the field of application of the tool shown in our technical documents and technological parameters is observed:

A_e (mm)	width of cut, lateral engagement (radial)
a_p (mm)	Axial depth of cut
f_z (mm/tooth)	Feed per tooth
n (RPM)	revolutions per minute

Kennametal cannot accept responsibility for misuse of this product due to:

- Non-observance of the above instructions
- Machine without casing
- Incorrect clamping of workpieces
- No safety device on the machine
- Any misuse or incorrect clamping

The optimum rotation must be determined by condition of the spindle. The spindle must be rigid to run at these higher RPMs.

Under no circumstances must any attempt be made to repair this tool. The only permitted maintenance is the indexing or replacement of the inserts.

When assembling the cutter to a Shrink Fit holder, the maximum protrusion cannot exceed 10% of the reach of tool.

Balancing:

- Cylindrical shank and HSK63A integral shanks are designed and balanced to G6.3 at 30,000 RPM for diameters up to 50mm. Diameter larger than 50mm are balanced to G6.3 at 24,000 RPM.
- Cylindrical shank tools mounted in a Shrink Fit holder or any other chuck mill holder + inserts + screws must be re-inspected for balance as an assembly by the end-user when at or exceeding 8,000 RPM. End-user must balance the assembly at a G6.3 at 30,000 RPM maximum.
- Shell mill and modular head cutters are not balanced. These tools must be re-inspected for balance as an assembly, cutter + inserts + screws, by the end-user for high speed machining at 8,000 RPM or above. End-user must balance the assembly at a G6.3 value minimum.
- Balancing requires removing some material by drilling or milling operations. To avoid making modular heads weaker, limit these operations by avoiding high RPM. It is not recommended to remove material by drilling operation.
- For each new modular head added to the same extension, re-balance the assembly. For each new shell mill installed on the same toolholder, re-balance the assembly.

Tighten the modular head to the extension; with lubricant, apply the torque value of:

Thread sizes (mm)	Torque Values Ft. Lbs.
M6	7.37
M8	22.12
M10	36.87
M12	59.00
M16	81.13

Tighten the bolt between the shell mill and toolholder; with lubricant, apply the torque value of:

Thread sizes (inch)	Cutter Bore Size (inch)	Torque Values Ft. Lbs.
0.250	0.500	7.37
0.375	0.750	22.12
0.500	1.000	36.87
0.625	1.250	59.00
0.750	1.500	81.13

Mobile App

The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.



FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

MACHING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

ORDERING

Login using your Konnect credentials to complete a purchase.

WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.



➤ KSSM™ Platform

Primary Application

The Kennametal KSSM platform is a versatile solution providing three insert sizes that cover a wide range of applications: face milling, shoulder milling, slotting, profiling, and Z-axis (plunge milling).

Features and Benefits

KSSM IC 10 Inserts

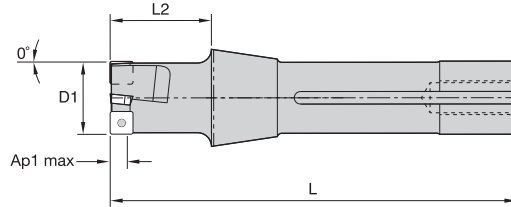
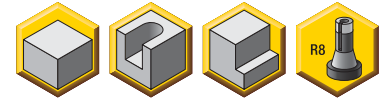
- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.

KSSM IC 12 Inserts

- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.
- Increased depth of cut.



- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.



■ **Bridgeport Shank**

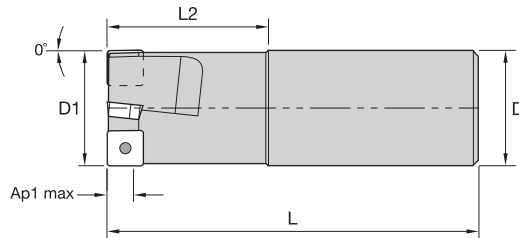
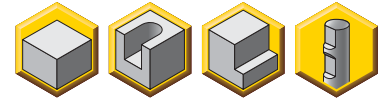
order number	catalog number	D1	L	L2	Ap1 max	Z	lbs	max RPM
1229112	KISBR150SP10T30F	1.500	5.180	1.250	.259	4	1.20	30300
1229113	KISBR200SP10T30F	2.000	5.180	1.250	.259	5	1.50	26300

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx Plus driver
1.500	MS2148	10.0	DT9IP
2.000	MS2148	10.0	DT9IP

- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.



■ Weldon® End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	lbs	max RPM
1229091	KISR075SP10T30F	.750	.750	3.500	1.470	.259	1	.40	42900
1229092	KISR100SP10T30F	1.000	1.000	3.500	1.220	.259	2	.60	37100
1229095	KISR125SP10T30F	1.250	1.250	4.030	1.750	.259	3	1.10	33200
1229096	KISR150SP10T30F	1.500	1.500	4.030	1.340	.259	4	1.63	30300

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts



insert screw



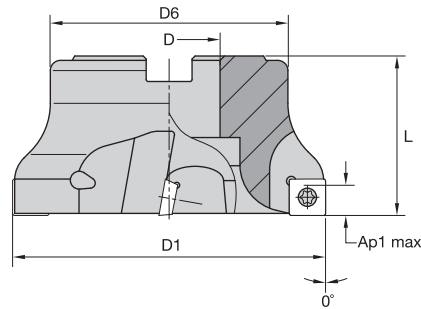
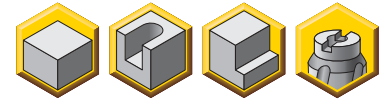
Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
.750	MS2148	10.0	DT9IP
1.000	MS2148	10.0	DT9IP
1.250	MS2148	10.0	DT9IP
1.500	MS2148	10.0	DT9IP



Shoulder Milling

- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.



■ End Mills • Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	lbs	max RPM
1229047	KSSR150SP10T30F2	1.500	.500	1.355	1.250	.259	4	.30	30300
1229078	KSSR200SP10T30F3	2.000	.750	1.625	1.750	.259	5	.60	26300
1229079	KSSR250SP10T30F4	2.500	1.000	2.065	1.750	.259	6	.90	23500
1229080	KSSR300SP10T30F4	3.000	1.000	2.065	1.750	.259	8	1.30	21450
1229081	KSSR400SP10T30F5	4.000	1.250	2.755	2.000	.259	10	2.50	18600

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

■ Spare Parts

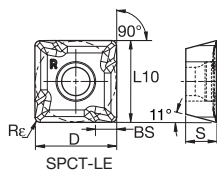
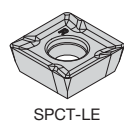
D1	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw
1.500	MS2148	10.0	DT9IP	S422
2.000	MS2148	10.0	DT9IP	S445
2.500	MS2148	10.0	DT9IP	—
3.000	MS2148	10.0	DT9IP	—
4.000	MS2148	10.0	DT9IP	—

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPK30
P3-P4	.E..LD2	KCPM40	.E..GB2	KCPK30	.S..GB2	KCPK30
P5-P6	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
M1-M2	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
M3	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KC725M
K1-K2	.E..LD2	KC520M	.E..GB2	KCK15	.S..GB2	KCK15
K3	.E..LD2	KC520M	.E..GB2	KC520M	.S..GB2	KC520M
N1-N2	.F..LE	KC410M	.F..LE	KC410M	.F..LD	KC510M
N3	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
S1-S2	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
S3	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KC725M
S4	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
H1	.F..LD	KC510M	-	-	-	-

Indexable Inserts • SP.T10T3

- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.



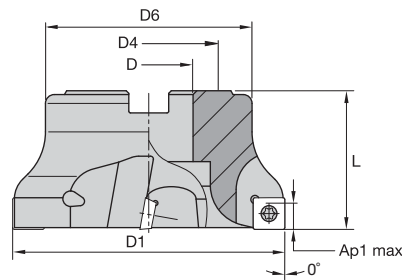
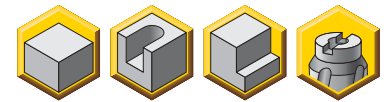
- first choice
- alternate choice

SPCT-LE

catalog number	D	S	L10	BS	Re	hm	cutting edges	beyond												
								KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KTPK20	KY3500		
SPCT31251PPFL8LE	.394	.156	.394	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-
SPCT31251PPFR8LE	.394	.156	.394	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-
SPCT3125PPFL8LE	.394	.156	.394	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-
SPCT3125PPFR8LE	.394	.156	.394	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-
SPCT31253PPFR8LE	.394	.156	.394	.106	.047	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-
SPCT31255FNLE	.394	.156	.394	-	.078	.001	4	●	-	-	-	-	-	-	-	-	-	-	-	-

Shoulder Milling

- Mill 0° walls.
- Excellent surface finishes.
- Low power requirements.
- 4 cutting edges per insert.

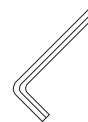


■ End Mills • Shell Mills

order number	catalog number	D1	D	D4	D6	L	Ap1 max	Z	lbs	max RPM
1024970	KSSISR200SD430C3	2.000	.750	—	1.625	1.750	.361	3	.79	20450
1024994	KSSISR200SD430F3	2.000	.750	—	1.625	1.750	.361	5	.77	20450
1024972	KSSISR200SD430M3	2.000	.750	—	1.625	1.750	.361	4	.75	20450
1025000	KSSISR250SD430F4	2.500	1.000	—	2.065	1.750	.361	6	1.23	18290
1024998	KSSISR250SD430M4	2.500	1.000	—	2.065	1.750	.361	5	1.20	18290
1024930	KSSISR300SD430C4	3.000	1.000	—	2.065	1.750	.361	4	1.42	16700
1024932	KSSISR300SD430F4	3.000	1.000	—	2.065	1.750	.361	7	1.38	16700
1024931	KSSISR300SD430M4	3.000	1.000	—	2.065	1.750	.361	6	1.38	16700
1025025	KSSISR400SD430C5	4.000	1.250	—	2.755	2.000	.361	5	3.05	14460
1025033	KSSISR400SD430F5	4.000	1.250	—	2.755	2.000	.361	8	3.01	14460
1025029	KSSISR400SD430M5	4.000	1.250	—	2.755	2.000	.361	7	3.03	14460
1025027	KSSISR400SD430C6	4.000	1.500	—	3.685	2.000	.361	5	3.58	14460
1025065	KSSISR400SD430F6	4.000	1.500	—	3.685	2.000	.361	8	3.62	14460
1025031	KSSISR400SD430M6	4.000	1.500	—	3.685	2.000	.361	7	3.57	14460
1024933	KSSISR500SD430C6	5.000	1.500	—	3.685	2.380	.361	6	5.82	12940
1024965	KSSISR500SD430F6	5.000	1.500	—	3.685	2.380	.361	10	5.96	12940
1024964	KSSISR500SD430M6	5.000	1.500	—	3.685	2.380	.361	8	5.91	12940
1024966	KSSISR600SD430C6	6.000	1.500	—	3.685	2.380	.361	8	8.52	11800
1024968	KSSISR600SD430F6	6.000	1.500	—	3.685	2.380	.361	12	8.60	11800
1024967	KSSISR600SD430M6	6.000	1.500	—	3.685	2.380	.361	10	8.58	11800
1025071	KSSISR600SD430C8	6.000	2.000	—	4.875	2.380	.361	8	7.37	11800
1025094	KSSISR600SD430M8	6.000	2.000	—	4.875	2.380	.361	10	7.44	11800
1025102	KSSISR800SD430C10	8.000	2.500	4.000	6.125	2.380	.361	10	15.40	10230
1025136	KSSISR800SD430F10	8.000	2.500	4.000	6.125	2.380	.361	14	15.30	10230
1025134	KSSISR800SD430M10	8.000	2.500	4.000	6.125	2.380	.361	12	15.40	10230
1025140	KSSISR1000SD430M10	10.000	2.500	4.000	8.125	2.380	.361	16	25.90	9150

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
 2" cutter does not have shims.
 2", 2.5", and 3" fine-pitch cutters do not have shims.

■ Spare Parts



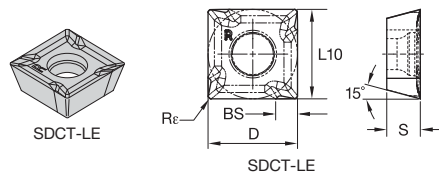
D1	insert screw	in. lbs.	Torx Plus driver	shim	shim screw	in. lbs.	hex driver	socket-head cap screw
2.000	MS2078	35.0	DT15IP	—	—	40.0	—	S445
2.500	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	S458
3.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—
4.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—
5.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—
6.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—
8.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—
10.000	MS2078	35.0	DT15IP	SM449	SRS3	40.0	DH35M	—

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1 - P2	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
P3 - P4	.E..LD2	KCPM40	.E..GB2	KCPK30	.S..GB2	KCPK30
P5 - P6	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
M1 - M2	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
M3	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
K1 - K2	.E..LD2	KC520M	.E..GB2	KCK15	.S..GB2	KCK15
K3	.E..LD2	KC520M	.E..GB2	KC520M	.S..GB2	KC520M
N1 - N2	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
N3	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
S1 - S2	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
S3	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
S4	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts • SD.T1204

- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.



- first choice
- alternate choice



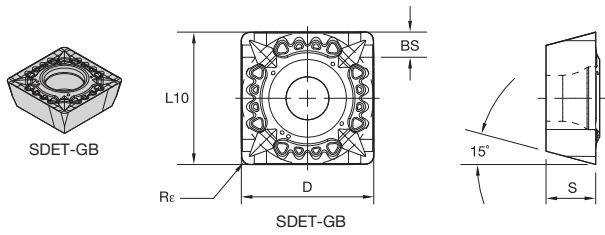
	P	M	K	N	S	H
P	○	●	●	●	○	○
M	○	○	○	○	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

SDCT-LE

Shoulder Milling

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDCT431PDFL8LE	.500	.188	.500	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT431PDFR8LE	.500	.188	.500	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT43PDFL8LE	.500	.188	.500	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT43PDFR8LE	.500	.188	.500	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT433PDFL8LE	.500	.188	.500	.106	.047	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT433PDFR8LE	.500	.188	.500	.106	.047	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT434FNLE	.500	.188	.500	-	.063	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT435FNLE	.500	.188	.500	-	.078	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT436FNLE	.500	.188	.500	-	.094	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT438FNLE	.500	.188	.500	-	.125	.001	4	●	-	-	-	-	-	-	-	-	-

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.



■ SDET-GB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDET43PDER8GB	.500	.188	.500	.101	.031	.003	4	-	●	-	-	-	-	-	-	-	-
SDET43PDSR8GB	.500	.188	.500	.101	.031	.006	4	-	-	-	●	-	●	●	-	-	-
SDET433PDER8GB	.500	.188	.500	.086	.047	.003	4	-	-	-	●	-	-	●	-	-	-
SDET433PDSR8GB	.500	.188	.500	.085	.047	.006	4	-	-	-	●	-	-	●	-	-	-
SDET434ENGB	.500	.188	.500	-	.062	.003	4	-	-	-	-	-	-	-	-	-	-
SDET434SNGB	.500	.188	.500	-	.062	.006	4	-	-	-	●	-	-	-	-	-	-
SDET436ENGB	.500	.188	.500	-	.094	.003	4	-	-	-	●	-	-	-	-	-	-
SDET436SNGB	.500	.188	.500	-	.094	.006	4	-	-	-	●	-	-	-	-	-	-
SDET438ENGB	.500	.188	.500	-	.125	.003	4	-	-	-	●	-	-	-	-	-	-
SDET438SNGB	.500	.188	.500	-	.125	.006	4	-	-	-	●	-	-	-	-	-	-
SDET4312ENGB	.500	.188	.500	-	.188	.003	2	-	-	-	●	-	-	-	-	-	-
SDET4312SNGB	.500	.188	.500	-	.188	.006	2	-	-	-	●	-	-	-	-	-	-
SDET4316ENGB	.500	.188	.500	-	.250	.003	2	-	-	-	●	-	-	-	-	-	-
SDET4316SNGB	.500	.188	.500	-	.250	.006	2	-	-	-	●	-	-	-	-	-	-



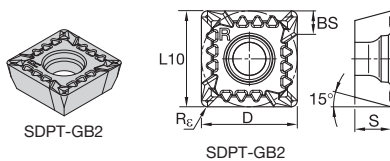
P	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- first choice
- alternate choice

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.



Shoulder Milling



■ SDPT-GB2

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDPT43PDER8GB2	.500	.188	.500	.106	.031	.003	4	-	-	-	●	-	●	●	-	-	-
SDPT43PDSR8GB2	.500	.188	.500	.106	.031	.005	4	-	-	-	●	-	●	●	-	-	-

➤ KSSM-KSSP Helical

Primary Application

KSSM-KSSP helical cutters were originally developed and proven for the aerospace industry, but are now available for all industries. The proprietary variable rake design minimizes vibration and chatter.



Features and Benefits

Features

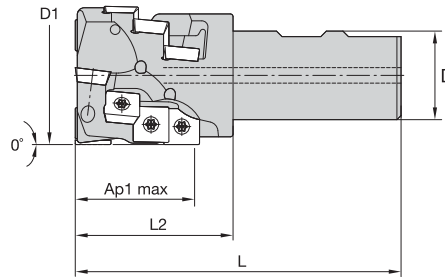
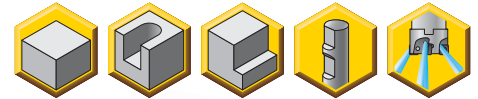
- Patented HARVI™ technology.
- Progressive helical rakes.
- Unique coolant supply.

Benefits

- Increased tool life in titanium.
- Increased metal removal rates.
- Lower power consumption.
- Ensures chip evacuation, even on exotic materials.



- Patented HARVI™ technology.
- Progressive helical rakes.
- Increased metal removal rates (MRR).
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges.



■ **Weldon® End Mills**

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U	lbs	max RPM
2528269	KSSP200R3SD43W125L169	2.000	1.250	4.530	2.250	1.691	12	3	1.73	16300

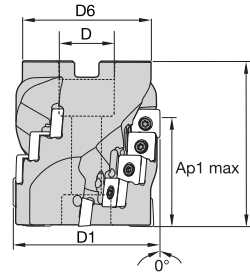
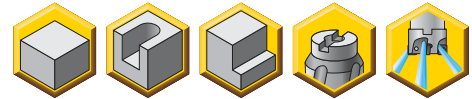
NOTE: Maximum nose radii of lead insert is .094" for a 2" diameter cutter.
All subsequent inserts up the flute should have a maximum nose radius of .031" to avoid lap lines.

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx wrench
2.000	MS1273	35.0	TT15



- Patented HARVI™ technology.
- Progressive helical rakes.
- Increased Metal Removal Rates (MRR).
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges.



■ **Shell Mills**

order number	catalog number	D1	D	D6	L	Ap1 max	Z	Z U	lbs	max RPM
2601012	KSSP200R3SD43L125	2.000	.750	1.750	1.875	1.275	9	3.0	.87	16300
2400680	KSSP200R3SD43L168	2.000	.750	1.750	2.250	1.691	12	3.0	1.02	16300
3045090	KSSP200R3SD43L200HC	2.000	.750	1.913	3.000	2.072	15	3.0	1.42	16300
2400681	KSSP250R3SD43L200	2.500	1.000	2.190	2.750	2.005	15	3.0	2.34	14550
2400682	KSSP300R4SD43L240	3.000	1.250	2.750	3.250	2.427	24	4.0	4.07	13300
2977923	KSSP300R5SD43L400HC	3.000	1.250	2.900	5.000	4.114	55	5.0	5.95	13300

NOTE: ZU = Effective number of flutes.

Maximum nose radii of lead insert is .094" for 2" diameter cutters and .125" for 2.50" diameter cutters and above.
All subsequent inserts up the flutes should have a maximum nose radius of .031" to avoid lap lines.

■ **Spare Parts**



order number	D1	insert screw	in. lbs.	Torx Plus wrench	Torx wrench
2601012	2.000	MS1273	35.0	—	TT15
2400680	2.000	MS1273	35.0	—	TT15
3045090	2.000	MS2085	35.0	TTP15	—
2400681	2.500	MS1273	35.0	—	TT15
2400682	3.000	MS1273	35.0	—	TT15
2977923	3.000	MS2085	35.0	TTP15	—

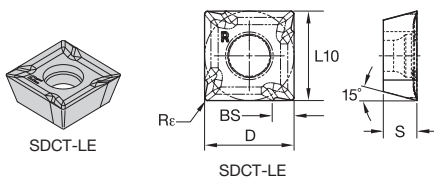
Shoulder Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		←————→		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
P3-P4	.E..LD2	KCPM40	.E..GB2	KCPK30	.S..GB2	KCPK30
P5-P6	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
M1-M2	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
M3	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
K1-K2	.E..LD2	KC520M	.E..GB2	KCK15	.S..GB2	KCK15
K3	.E..LD2	KC520M	.E..GB2	KC520M	.S..GB2	KC520M
N1-N2	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
N3	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
S1-S2	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
S3	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
S4	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts • SD.T1204

- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.



P	●	○	●	●	●	○	
M	●	○	○	○	○	○	○
K	●	○	○	○	○	○	○
N	●	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

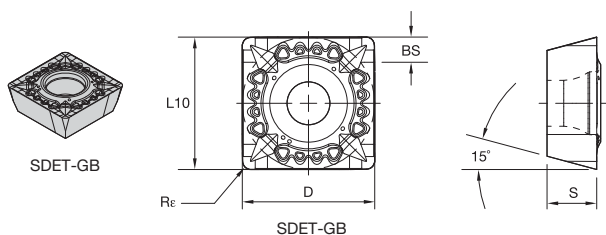
- first choice
- alternate choice

SDCT-LE

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDCT431PDFL8LE	.500	.188	.500	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT431PDFR8LE	.500	.188	.500	.106	.016	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT43PDFL8LE	.500	.188	.500	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT43PDFR8LE	.500	.188	.500	.106	.031	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT433PDFL8LE	.500	.188	.500	.106	.047	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT433PDFR8LE	.500	.188	.500	.106	.047	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT434FNLE	.500	.188	.500	-	.063	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT435FNLE	.500	.188	.500	-	.078	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT436FNLE	.500	.188	.500	-	.094	.001	4	●	-	-	-	-	-	-	-	-	-
SDCT438FNLE	.500	.188	.500	-	.125	.001	4	●	-	-	-	-	-	-	-	-	-



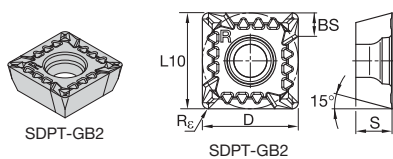
- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.



■ SDET-GB

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDET43PDER8GB	.500	.188	.500	.101	.031	.003	4	-	●	-	-	-	-	-	-	●	-
SDET43PDSR8GB	.500	.188	.500	.101	.031	.006	4	-	-	-	●	-	●	●	●	●	-
SDET433PDER8GB	.500	.188	.500	.086	.047	.003	4	-	-	-	●	-	-	●	-	●	-
SDET433PDSR8GB	.500	.188	.500	.085	.047	.006	4	-	-	-	●	-	-	-	-	●	-
SDET434ENGB	.500	.188	.500	—	.062	.003	4	-	-	-	-	-	-	-	-	●	-
SDET434SNGB	.500	.188	.500	—	.062	.006	4	-	-	-	●	-	-	-	-	●	-
SDET436ENGB	.500	.188	.500	—	.094	.003	4	-	-	-	●	-	-	-	-	●	-
SDET436SNGB	.500	.188	.500	—	.094	.006	4	-	-	-	●	-	-	-	-	●	-
SDET438ENGB	.500	.188	.500	—	.125	.003	4	-	-	-	●	-	-	-	-	●	-
SDET438SNGB	.500	.188	.500	—	.125	.006	4	-	-	-	●	-	-	-	-	●	-
SDET4312ENGB	.500	.188	.500	—	.188	.003	2	-	-	-	●	-	-	-	-	●	-
SDET4312SNGB	.500	.188	.500	—	.188	.006	2	-	-	-	●	-	-	-	-	●	-
SDET4316ENGB	.500	.188	.500	—	.250	.003	2	-	-	-	●	-	-	-	-	●	-
SDET4316SNGB	.500	.188	.500	—	.250	.006	2	-	-	-	●	●	-	-	●	●	-

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.



■ SDPT-GB2

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40	KY3500
SDPT43PDER8GB2	.500	.188	.500	.106	.031	.003	4	-	-	-	●	●	●	●	-	●	-
SDPT43PDSR8GB2	.500	.188	.500	.106	.031	.005	4	-	-	-	●	●	●	●	-	●	-



P	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● first choice
○ alternate choice



Shoulder Milling

NOVO KNOWS CAD/CAM

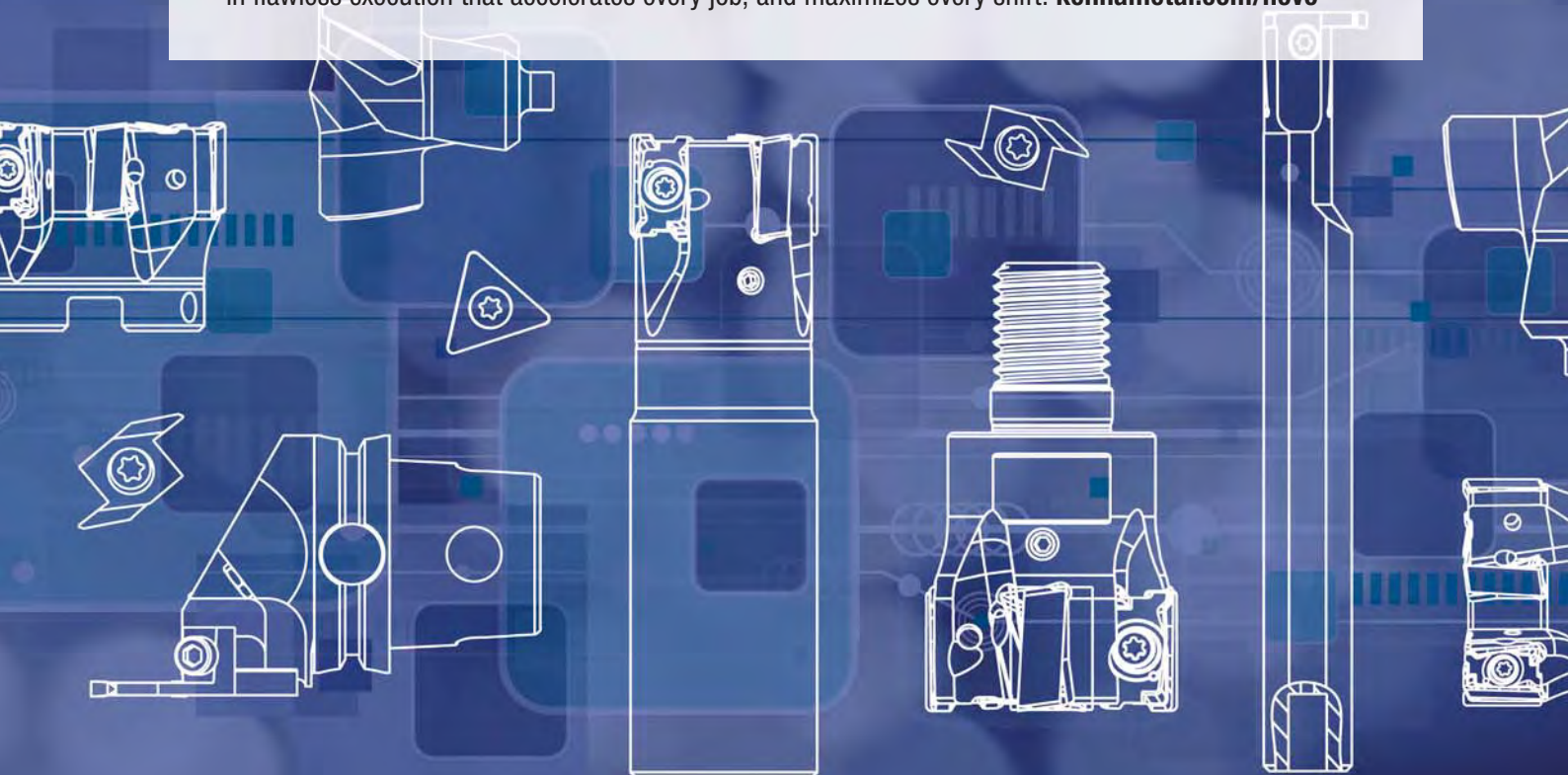
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

Before NOVO: The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

With NOVO: The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kennametal.com/novo



➤ 5230VS • High Performance Long-Edge Milling Cutters

The Stellram® **5230VS09** and **5230VS12** cutter series is perfectly suited for profiling and full slotting.

Designed for high material removal rates in titanium and high-temperature alloys. Several applications have achieved metal removal rates of up to two times greater than the previous operating cutting parameters.

The advanced chevron design ensures that one cutting point is always in contact with the material during entrance and exit. This provides optimum harmonic stability resulting in maximum tool life and a 30% improvement in surface finish. A generous flute capacity, coupled with each cutting edge having its own coolant jet, ensures excellent chip evacuation. This works to enhance surface finish and increases metal removal rates for a higher level of productivity.

The advanced 5230VS series is ideal for rough machining of steel, alloyed steel, stainless steel, and particularly for titanium and high-temperature alloys.

Features and Benefits

- Insert positioning provides smooth, progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provides constant chip evacuation and temperature stability in the cutting zone.
- The advanced chevron design improves stability and lowers power consumption, increasing tool life up to two times greater than comparable cutter in today's market.
- Proven versatility in wide application area in titanium and high-temperature alloys increasing productivity.



5230VS

5230VS09:

(a_p max is determined by selection of cutter diameter)

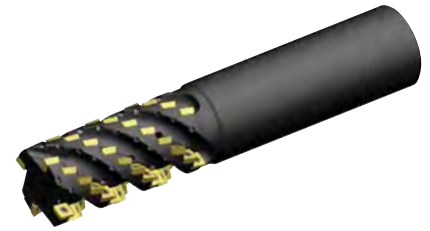
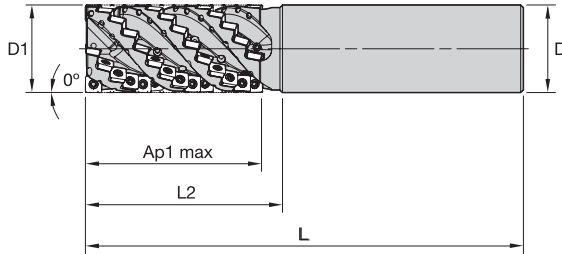
Diameter range and maximum a_p = 2.000" diameter with a_p 2.010", 3.150" or 4.000"

5230VS12:

(a_p max is determined by selection of cutter diameter)

Diameter range and maximum a_p = 2.500" diameter with a_p 2.244" or 3.700"
 3.000" diameter with a_p 2.560" or 4.433"
 4.000" diameter with a_p 3.000" or 5.236"

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth, progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U
5673041	C5230VS09CA2.0Z04R4.0	2.000	2.000	10.000	4.500	4.000	56	4

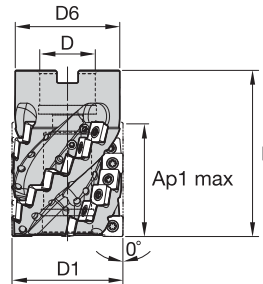
■ Spare Parts

D1	insert screw	in. lbs.	Torx driver	coolant control screw	Torx driver
2.000	F3508T	18.6	T15	F3006T	T9



Shoulder Milling

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



■ Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Ap2 max	Z	Z U
5673176	C5230VS09-A2.0Z4R2.0	2.000	1.000	1.882	2.990	2.010	1.750	28	4
5673530	C5230VS09-A2.0Z04R3.1	2.000	1.000	1.882	4.173	3.150	—	44	4

NOTE: Ap2 max is the max Ap for slotting.

■ Spare Parts



order number	D1	insert screw	in. lbs.	Torx driver	coolant control screw	Torx driver	steel coolant plug	nord lock washer	socket-head cap screw
5673530	2.000	F3508T	18.6	T15	F3006T	T9	SB3621	NLW-0.375	#1/2-20X1-1/4SHCSA
5673176	2.000	F3508T	18.6	T15	F3006T	T9	SB3413	NLW-0.375	#1/2-20X1-1/4SHCSA

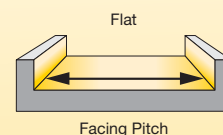
NOTE: Tighten mounting bolt to 59–74 ft. lbs.
Tighten steel coolant plug to 25 ft. lbs.



Shoulder Milling

5230VS09 Technical Information (Inch)

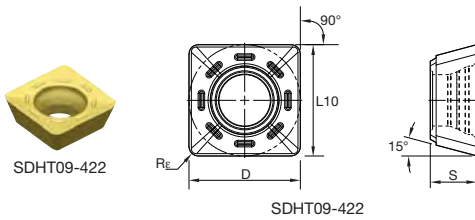
EDP	Product Item Description	Dimension					Max RPM
		Facing Pitch	Ramping Angle*	Helical Hole min. – max.		a _p max Helical/Linear	
033073	C5230VS09-CA2.0Z4R4.0	2.000	-	-	-	-	32,500
031430	C5230VS09-A2.0Z4R2.0	2.000	-	-	-	-	32,500
031581	C5230VS09-A2.0Z4R3.1	2.000	-	-	-	-	32,500



■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..422	SP6519	.E..423	SP6519	.E..41	SP6519
P3-P4	.E..423	SP6519	.E..41	MP91M	...TN	MP91M
P5-P6	.E..423	SP6519	.E..41	SP6519	...TN	SP6519
M1-M2	.E..422	KCSM40	.E..423	KCSM40	.E..41	KCSM40
M3	.E..423	KCSM40	.E..41	KCSM40	...TN	KCSM40
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..422	X500	.E..423	X500	.E..41	X500
S3	.E..422	KCSM40	.E..423	KCSM40	.E..41	KCSM40
S4	.E..423	X500	.E..41	X500	...TN	X500
H1	-	-	-	-	-	-

Milling Inserts

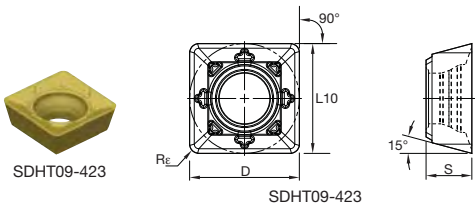


P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● first choice
○ alternate choice

■ SDHT09-422

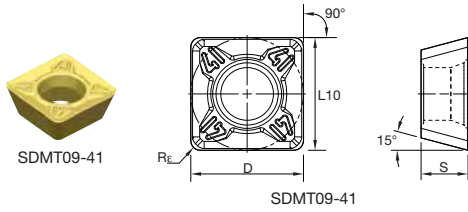
catalog number	D	L10	S	Re	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDHT09T308EN422	.375	.375	.156	.031	.001	4	●	-	●	●
SDHT09T3AEEN422	.375	.375	.156	-	.002	4	-	-	●	-



■ SDHT09-423

catalog number	D	L10	S	Re	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDHT09T308EN423	.375	.375	.156	.031	.002	4	●	-	●	●

Shoulder Milling

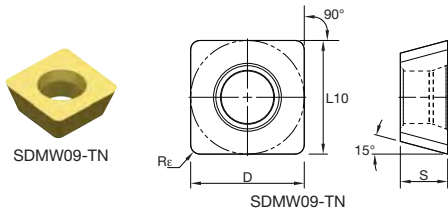


● first choice
○ alternate choice

P	●	○	○	○	○
M	●	○	○	○	○
K	●	○	○	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

■ SDMT09-41

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDMT09T308EN41	.375	.375	.156	.032	.002	4	●	●	●	●



■ SDMW09-TN

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDMW09T308TN	.375	.375	.156	.031	.004	4	●	○	○	○

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

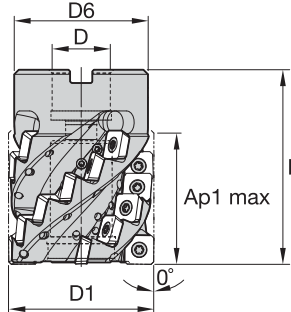
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40-100%							
.E..422	.005	.019	.030	.003	.014	.022	.003	.010	.016	.002	.009	.014	.002	.008	.013	.E..422
.E..423	.005	.019	.030	.004	.013	.021	.003	.010	.016	.002	.009	.014	.002	.008	.013	.E..423
.E..41	.007	.021	.033	.005	.015	.023	.004	.011	.018	.003	.010	.015	.003	.009	.014	.E..41
...TN	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	...TN

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Shoulder Milling

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Ap2 max	Z	Z U
5673797	C5230VS12-A2.5Z4R2.24	2.500	1.000	2.303	3.347	2.244	2.000	24	4
5672481	C5230VS12-A2.5Z4R3.70	2.500	1.000	2.283	4.882	3.701	—	40	4
5673747	C5230VS12-A3.0Z5R2.56	3.000	1.250	2.764	3.740	2.559	2.360	35	5
5673617	C5230VS12-A3.0Z5R4.33	3.000	1.250	2.764	5.630	4.331	—	60	5

NOTE: Ap2 max is the max Ap for slotting.

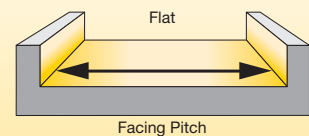
Spare Parts

D1	Z	insert screw	in. lbs.	Torx driver	coolant control screw	Torx driver	steel coolant plug	nord lock washer	socket-head cap screw
2.500	24	F4011T	27.4	T20	F3006T	T9	—	NLW-0.375	#1/2-20X1-1/4SHCSA
2.500	40	F4011T	27.4	T20	F3006T	T9	SB3230	NLW-0.375	#1/2-20X1-1/4SHCSA
3.000	35	F4011T	27.4	T20	F3006T	T9	—	NLW12SP	#5/8-18X1-1/2SHCSA
3.000	60	F4011T	27.4	T20	F3006T	T9	SB3232	NLW12SP	#5/8-18X1-1/2SHCSA

NOTE: Tighten mounting bolt on 2.5" cutters to 59–74 ft. lbs, 3" cutters to 81–110 ft. lbs, and 4" cutters to 89–132 ft. lbs.
Tighten steel coolant plug to 25 ft. lbs for 2.5" cutters and 45 ft. lbs for 3" and 4" cutters.

5230VS12 Technical Information (inch)

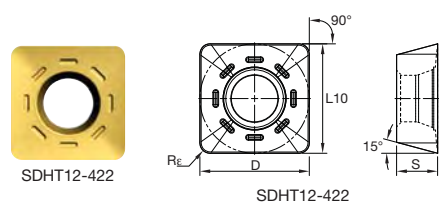
Product		Dimension				
EDP	Item Description	Facing Pitch	Ramping Angle°	Helical Hole min.-max.	a _p max Helical/Linear	Max RPM
031234	C5230VS12-A2.5Z4R2.24	2.500	—	—	—	21,000
031133	C5230VS12-A2.5Z4R3.70	2.500	—	—	—	21,000
031606	C5230VS12-A3.0Z5R2.56	3.000	—	—	—	18,500
031607	C5230VS12-A3.0Z5R4.33	3.000	—	—	—	18,500
031237	C5230VS12-A4.0Z6R5.23	4.000	—	—	—	16,000



Insert Selection Guide

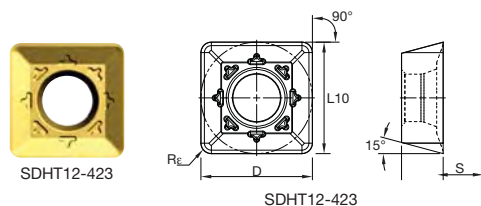
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		↔		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..422	SP6519	.E..41	SP6519	.E..423	SP6519
P3-P4	.E..41	MP91M	.E..423	SP6519	...TN	SP6519
P5-P6	.E..41	SP6519	.E..423	SP6519	...TN	SP6519
M1-M2	.E..422	KCSM40	.E..41	KCSM40	.E..423	KCSM40
M3	.E..41	KCSM40	.E..423	KCSM40	...TN	KCSM40
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..422	KCSM40	.E..41	KCSM40	.E..423	KCSM40
S3	.E..41	KCSM40	.E..423	KCSM40	...TN	KCSM40
S4	.E..41	X500	.E..423	X500	...TN	X500
H1	-	-	-	-	-	-

Milling Inserts



SDHT12-422

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDHT120412EN422	.500	.500	.187	.047	.002	4	●	-	●	●



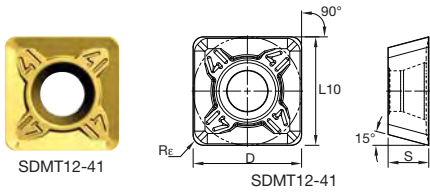
SDHT12-423

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDHT120412EN423	.500	.500	.187	.047	.002	4	●	-	●	●

P	●	○	○	○
M	●	○	○	○
K	●	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

● first choice
○ alternate choice

Shoulder Milling

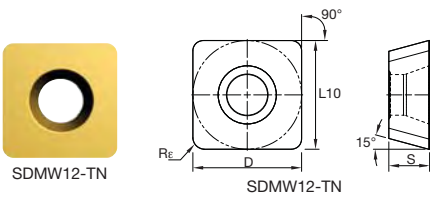


■ SDMT12-41

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDMT120412EN41	.500	.500	.187	.047	.002	4	●	●	●	●

P	●	○	○	○	○	○	○	○	○	○
M	●	●	●	●	●	●	●	●	●	●
K	●	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

● first choice
○ alternate choice



■ SDMW12-TN

catalog number	D	L10	S	Rε	hm	cutting edges	KCSM40	MP91M	SP6519	X500
SDMW120412TN	.500	.500	.187	.047	.002	4	●	-	●	-

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%		10%		20%		30%		40-100%							
.E..422	.007	.021	.035	.005	.015	.025	.004	.011	.019	.003	.010	.016	.003	.009	.015	.E..422
.E..41	.007	.021	.035	.005	.015	.025	.004	.011	.019	.003	.010	.016	.003	.009	.015	.E..41
.E..423	.008	.023	.037	.006	.017	.027	.004	.013	.020	.004	.011	.017	.003	.010	.016	.E..423
...TN	.008	.023	.037	.006	.017	.027	.004	.013	.020	.004	.011	.017	.003	.010	.016	...TN

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Shoulder Milling

Calculation of the average chip thickness in relation with the a_e (Radial Engagement) if a_e is less than 50% of diameter.

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

h_m = Average chip thickness

a_e = Radial engagement

f_z = Feed per tooth

d = Cutter diameter

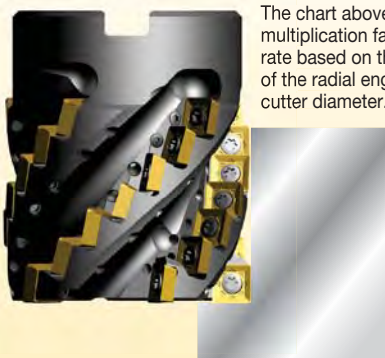
Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$

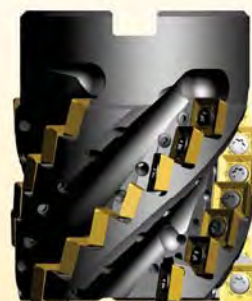
h_m Correction Coefficient Chart

Cutter Ø 2.000"			Cutter Ø 2.500"			Cutter Ø 3.000"			Cutter Ø 4.000"		
ae%	ae (Inch)	Coefficient Factor	ae%	ae (Inch)	Coefficient Factor	ae%	ae (Inch)	Coefficient Factor	ae%	ae (Inch)	Coefficient Factor
5	0.100	2.294	5	0.125	2.329	5	0.150	2.294	5	0.200	2.294
10	0.200	1.667	10	0.250	1.667	10	0.300	1.667	10	0.400	1.667
15	0.300	1.400	15	0.375	1.425	15	0.450	1.407	15	0.600	1.407
20	0.400	1.250	20	0.500	1.250	20	0.600	1.250	20	0.800	1.250
25	0.500	1.155	25	0.625	1.160	25	0.750	1.155	25	1.000	1.155
35	0.700	1.048	35	0.875	1.056	35	1.050	1.048	35	1.400	1.056
50-100	1.000-2.000	1.000	50-100	1.250-2.500	1.000	50-100	1.500-3.000	1.000	50-100	2.000-4.000	1.000

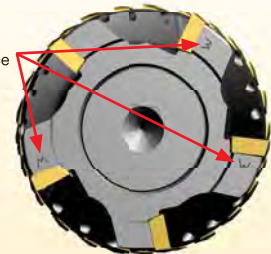
Example: A 3.000" diameter cutter using a 0.300" radial engagement (a_e) = 10% of the cutter diameter.
At 10%, your coefficient is 1.667 (see above table); therefore you must multiply your feed rate by 1.667 for correcting the feed for profiling.



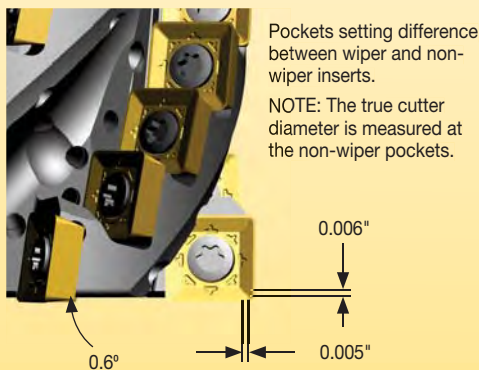
The chart above shows the multiplication factor for the feed rate based on the percentage of the radial engagement of the cutter diameter.



Wiper pockets are identified with a **W** engraved on the face of the body.



The 5230VS cutter series is designed with wiper pockets which provide a much better face surface finish. The non-wiper pockets generate the 90° corner. The same inserts can be utilized in all pockets.



Pockets setting difference between wiper and non-wiper inserts.

NOTE: The true cutter diameter is measured at the non-wiper pockets.

0.006"
0.005"

0.6°



Non-wiper pocket positions are set back and square to axis to give a true 90° approach.

Wiper pocket positions are in front and angled to allow facing.

Cutter diameter (inch)	Number of Wiper Inserts
2.000	2
2.500	2
3.000	3
4.000	3

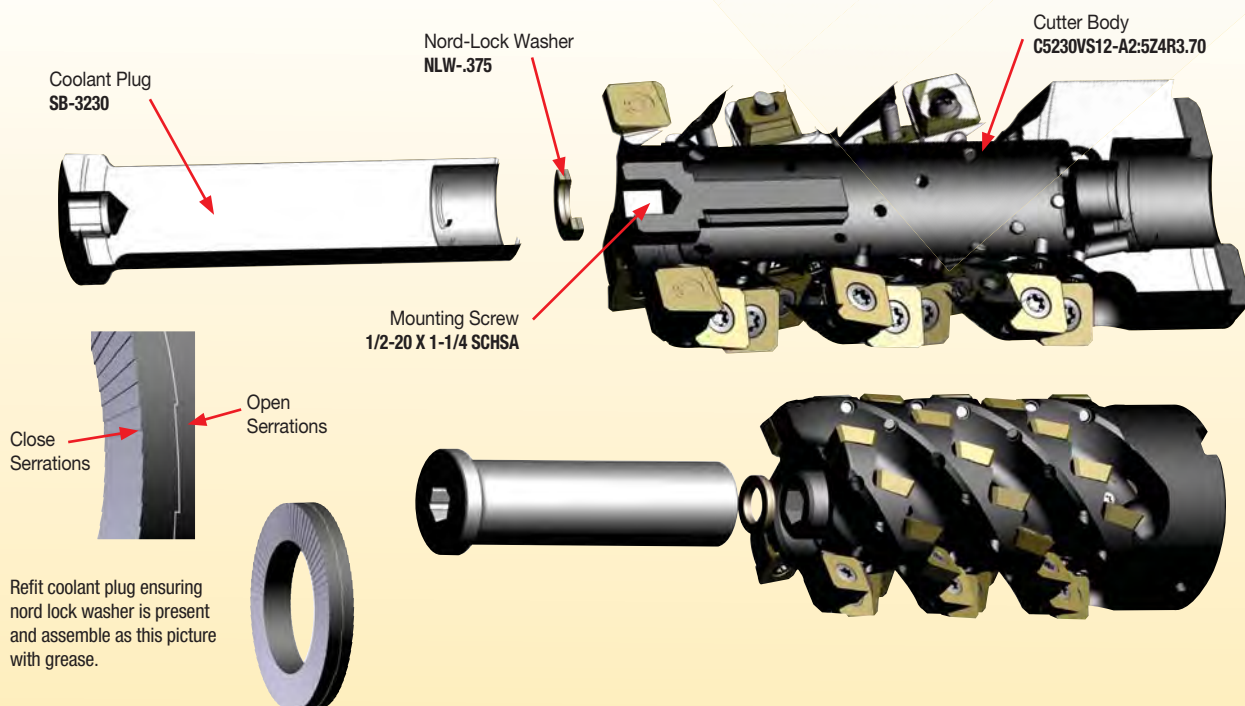
5230VS09 and 5230VS12 Fitting Instructions for Shell Mill Cutters

NOTE: All Shell Mill 5230VS09 and 5230VS12 chevron porcupine cutters are supplied assembled with mounting bolt, nord-lock washer, and steel coolant plug.

Please follow the instructions below to disassemble the cutter, attach the cutter to a shell mill adapter, and reassemble coolant plug. It is very important to use the proper torque when reassembling the cutter with the mounting bolt, nord-lock washer, and coolant plug.



Example of cutter: C5230VS12-A2.5Z4R3.70 assembly




1. Remove coolant plug. (NOTE: Ensure the nord-lock washer is retained to the bottom of the coolant plug.)
2. Fit the cutter body to the shell mill adapter and secure using the mounting bolt supplied with the cutter.
NOTE: The mounting bolt must be properly torqued to the specific torque setting shown in Detail 1 on page T136.
3. Refit coolant plug ensuring nord-lock washer is present and in the proper location on the bottom of the coolant plug.
A small amount of grease can be used to hold the nord-lock washer in place.
4. Tighten coolant plug with specific torque setting shown in Detail 2 on page T136.
5. NOTE: If axial depth of cut (a_p) is less than maximum a_p of cutter, then F3006T coolant control screws supplied separately can be used to block coolant holes forcing more coolant to the front of the cutter. If these screws are used, please secure with loctite or similar product.

Torque values for mounting bolts

Excessive condition is when long reach extensions are required or when cutting parameters are elevated to extreme parameters.

5230VS09	Detail 1		Detail 2		
Cutter	Mounting Bolt Description	Torque Values in ft lbs. for Mounting Bolt		Coolant Plug Description	Coolant Plug Tightening ft lbs.
		Normal Condition	Excessive Condition		
C5230VS09-A2.0Z4R2.0	1/2-20 x 1-1/4 SHCSA	59	74	SB-3413	25
C5230VS09-A2.0Z4R3.1				SB-3621	

5230VS12	Detail 1		Detail 2		
Cutter	Mounting Bolt Description	Torque Values in ft lbs. for Mounting Bolt		Coolant Plug Description	Coolant Plug Tightening ft lbs.
		Normal Condition	Excessive Condition		
C5230VS12-A2.5Z4R2.24	1/2-20 x 1-1/4 SHCSA	59	74	SB-3229	25
C5230VS12-A2.5Z4R3.70				SB-3230	
C5230VS12-A3.0Z5R2.56	5/8-18 x 1-1/2 SHCSA	81.1	110.6	SB-3231	45
C5230VS12-A3.0Z5R4.33				SB-3232	
C5230VS12-A4.0Z6R3.00	3/4-16 x 1-3/4 SHCSA	88.5	132.76	SB-3233	45
C5230VS12-A4.0Z6R5.23				SB-3234	

Mounting Bolt Hex Keys

M12 = Hex Key Size 10
M16 = Hex Key Size 14
M20 = Hex Key Size 17



Carbide Recycling

Help preserve and protect our planet!



It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit [kennametal.com/carbiderecycling](https://www.kennametal.com/carbiderecycling).



[kennametal.com](https://www.kennametal.com)



Indexable Milling • Slot Milling

KTMS • T-Slot Platform.....	U2–U5
KVNS • Very-Narrow Slotting Platform.....	U6–U10
SN • Popular Square Inserted Cutter	U12–U15
LN • Adjustable Width Cutter System.....	U16–U22
KSSM10 • Neutral, Right-, and Left-Hand Cutters, 10mm IC	U24–U31
KSSM12 • Neutral, Right-, and Left-Hand Cutters, 12mm IC	U32–U41

➤ KTMS™ Slotting Cutter

Primary Application

KTMS slotting cutters produce “T” slots in machine beds as well as small radial depths of cut for machining shallow radial slots. There is always a need to prepare the slot before using this type of cutter — preparation is the key to success. See the technical information for information about the pre-machining on page U5.

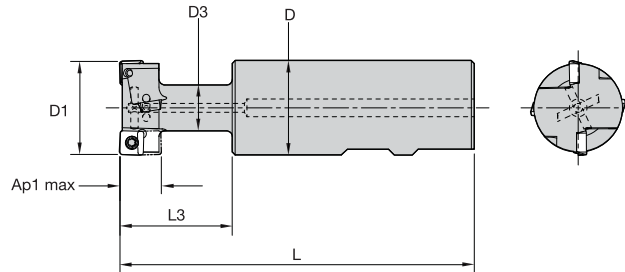
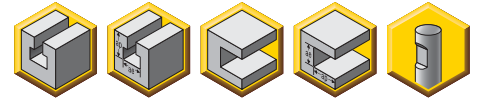
Please note that all of these cutters have metric diameters, speeds, and feeds.



Features and Benefits

- Only available in metric dimensions.
- Slot widths from 9–22mm.
- Three different insert sizes.
- Preparing the component before slotting is the key to success.
- Prepare workpiece with a slot.
- Honed insert edges.
- Feed rates between 0,10–0,15mm; lower feed rates will induce vibration.
- Use air flow to evacuate chips.
- Always start the cutting process with a new cutting edge.

- Prepare workpiece with a slot.
- Honed insert edges.
- Feed rates between 0,10–0,15mm;
lower feed rates will induce vibration.
- Use air flow to evacuate chips.
- Always start the cutting process with
a new cutting edge.



■ KTMS • T-Slot Cutter with Through Coolant • Metric

order number	catalog number	D1	D	D3	L	L3	Ap1 max	Z	Z U	insert 1	kg
3577119	KTMS21S25SD06H	21	25	11	109	29	9,0	2	1	SDMT060304EGG	0,35
3577121	KTMS25S25SD06H	25	25	13	112	32	11,0	4	2	SDMT060304EGG	0,36
3577133	KTMS32S32SD08H	32	32	16	120	38	14,0	4	2	SDMT080308EGG	0,60
3577135	KTMS40S32SD12H	40	32	21	130	50	18,0	4	2	SDMT120408EGG	0,66
3577137	KTMS50S32SD12H	50	32	27	140	60	22,0	4	2	SDMT120408EGG	0,85

■ Spare Parts



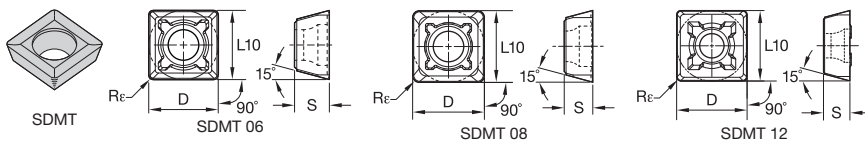
D1	insert screw	Nm	Torx driver
21	MS2206	1,2	DT8
25	MS2206	1,2	DT8
32	MS2207	2,0	DT10
40	MS2208	3,5	DT15
50	MS2208	3,5	DT15

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	..EGG	KC735M	..EGG	KC735M	..EGG	KC735M
P3-P4	..EGG	KC735M	..EGG	KC735M	..EGG	KC735M
P5-P6	..EGG	KC735M	..EGG	KC735M	..EGG	KC735M
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	..EGG	KC505M	..EGG	KC505M	..EGG	KC505M
K3	..EGG	KC505M	..EGG	KC505M	..EGG	KC505M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Insert • T-Slot Cutters SDMT • EGG

- Honed insert edges.
- Four cutting edges.



- first choice
- alternate choice

P	●	○	○
M	○	○	○
K	●	○	○
N	○	○	○
S	○	○	○
H	○	○	○
	KC505M	KC730M	KC735M

■ SDMT-EGG

catalog number	D	S	L10	Re	hm	cutting edges	KC505M	KC730M	KC735M
SDMT060304EGG	6,35	3,18	6,35	0,4	0,06	4	○	○	○
SDMT080308EGG	8,00	3,18	8,00	0,8	0,06	4	●	○	○
SDMT120408EGG	12,70	4,76	12,70	0,8	0,06	4	●	○	○

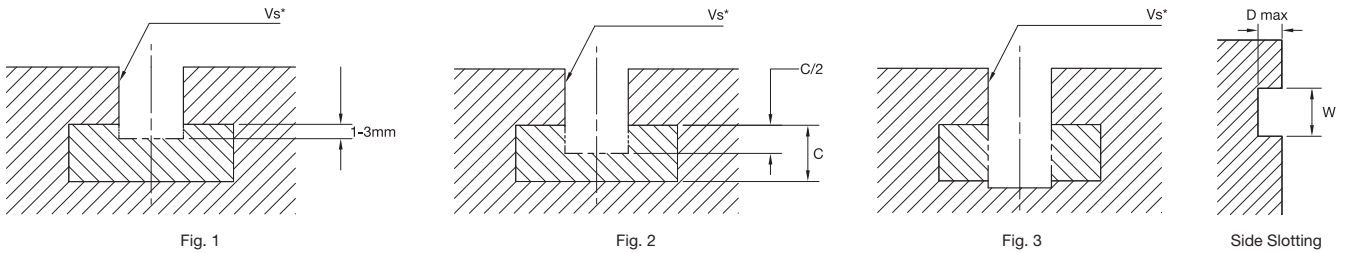
Recommended Starting Feeds

■ Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.06..EGG	0.20	0.46	0.70	0.14	0.33	0.50	0.11	0.25	0.38	0.09	0.22	0.33	0.08	0.20	0.30	.06..EGG
.08..EGG	0.20	0.53	0.82	0.14	0.38	0.59	0.11	0.29	0.44	0.09	0.25	0.39	0.08	0.23	0.35	.08..EGG
.12..EGG	0.20	0.59	0.92	0.14	0.43	0.66	0.11	0.32	0.50	0.09	0.28	0.43	0.08	0.25	0.40	.12..EGG

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Steel

- Machining a vertical slot, depth to be kept at a minimum as shown in Figure 1.
- If the depth is greater than Figure 1, chip evacuation problems could occur.
- Vibrations could occur when the T-slot cutter diameter increases; use Figure 1 as the starting point.
- If chattering is a concern, adopt the Figure 2 solution.

Cast Iron

- Fewer problems with chip evacuation, and reduced cutting forces enable deeper vertical slots as shown in Figures 2 and 3.
- Air blast is recommended to disperse the chips; this can be used for steel and cast iron.

Cutting Data Table • Slotting

	material type	catalog number	cutting conditions vc (m/min)	feed per tooth (mm)	Vs*
P	carbon steel/ alloy steel	KTMS21S25SD06H	120	0,10	Figure 1
		KTMS25S25SD06H	120	0,10	Figure 1
		KTMS32S32SD08H	100	0,10	Figure 1
		KTMS40S32SD12H	80	0,15	Figure 2
		KTMS50S32SD12H	not recommended due to frequent chattering		
K	cast iron	KTMS21S25SD06H	120	0,12	Figure 1, 2, 3
		KTMS25S25SD06H	120	0,12	Figure 1, 2, 3
		KTMS32S32SD08H	120	0,12	Figure 1, 2, 3
		KTMS40S32SD12H	120	0,15	Figure 2,3
		KTMS50S32SD12H	120	0,15	Figure 3

* Vs = Vertical Slot Preparation for T-slot.

Side Slot Machining

side slot dimension	(unit: mm)	
catalog number	W -0.1 / -0. (mm)	D max (mm)
KTMS21S25SD06H	9	4,4
KTMS25S25SD06H	11	5,4
KTMS32S32SD08H	14	6,9
KTMS40S32SD12H	18	8,9
KTMS50S32SD12H	22	10,9

NOTE: KTMS T-slot is available to side slot as per drawing.

Cutting Data Table • Side Machining

	material type	catalog number	cutting conditions vc (m/min)	n (RPM)	feed per tooth (mm)
P	carbon steel/ alloy steel	KTMS21S25SD06H	120	1820	0,10
		KTMS25S25SD06H	120	1530	0,10
		KTMS32S32SD08H	120	1190	0,10
		KTMS40S32SD12H	120	960	0,10
		KTMS50S32SD12H	120	760	0,10
K	cast iron	KTMS21S25SD06H	150	2270	0,12
		KTMS25S25SD06H	150	1910	0,12
		KTMS32S32SD08H	150	1490	0,12
		KTMS40S32SD12H	150	1190	0,15
		KTMS50S32SD12H	150	960	0,15

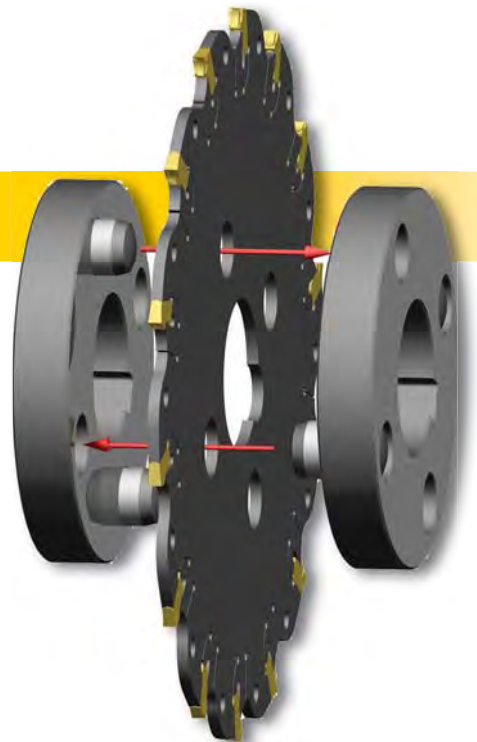
➤ KVNS™ Slotting Cutter

Primary Application

The KVNS slotting cutter enables diameters from 2.50–10" and insert widths from .063–.245". It is a perfect solution for small groove widths, grades, and geometries and suits most materials. Drive rings and support rings are available; use these items to get the maximum support for the cutter body.

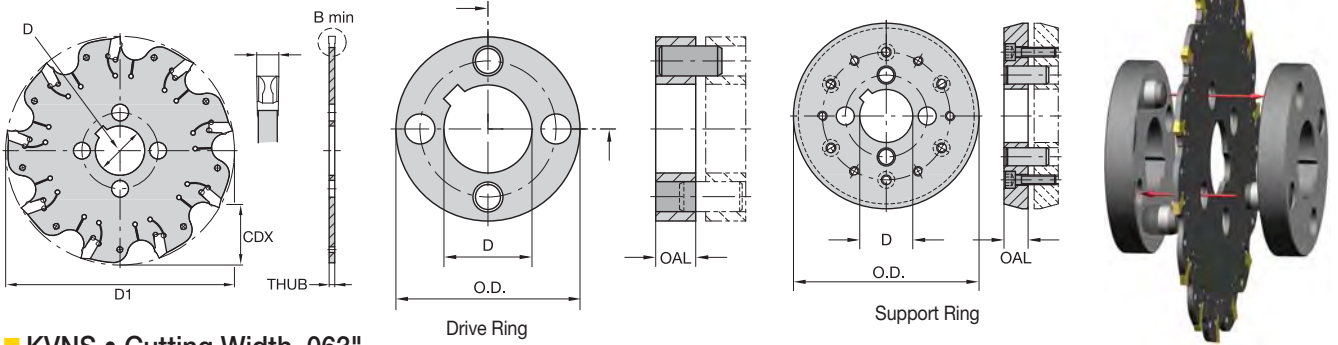
Features and Benefits

- Slot widths from .063–.245".
- Grades and geometries to suit most workpiece materials.
- Self-clamping inserts.
- Positive chipforming inserts are standard.
- Self-clamping insert seat with fixed stop.
- Excellent for all flat-bottom slotting and cut-off operations.
- Two drive hubs required for each cutter body, except when using two drive supports.
- Drive rings and support rings available, must be ordered separately (in pairs).





- .063–.245" slot width range.
- Positive chipforming inserts are standard.
- Self-clamping insert seat with fixed stop.
- Excellent for all flat-bottom slotting and cut-off operations.
- Two drive rings required for each cutter body, except when using two drive supports (must be ordered separately, in pairs).


■ KVNS • Cutting Width .063"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247698	KVNS02063OD	2.500	.625	.063	.625	.051	5	5100	OD_1063_	1247652	<2.00
1247710	KVNS03063OD	3.000	.625	.063	.875	.051	7	4000	OD_1063_	1247675	<2.00
1247725	KVNS04063OD	4.000	1.000	.063	1.063	.051	9	3200	OD_1063_	1247660	<2.00
1247738	KVNS05063OD	5.000	1.250	.063	1.375	.051	11	2600	OD_1063_	1247663	<2.00

■ KVNS • Cutting Width .087"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247712	KVNS03087OD	3.000	.625	.089	.875	.071	7	4000	OD_2087_	1247675	<2.00
1247727	KVNS04087OD	4.000	1.000	.089	1.063	.071	9	3200	OD_2087_	1247660	<2.00
1247740	KVNS05087OD	5.000	1.250	.089	1.375	.071	11	2600	OD_2087_	1247663	<2.00
1247753	KVNS06087OD *	6.000	1.250	.089	1.438	.071	14	2000	OD_2087_	1247666	<2.00

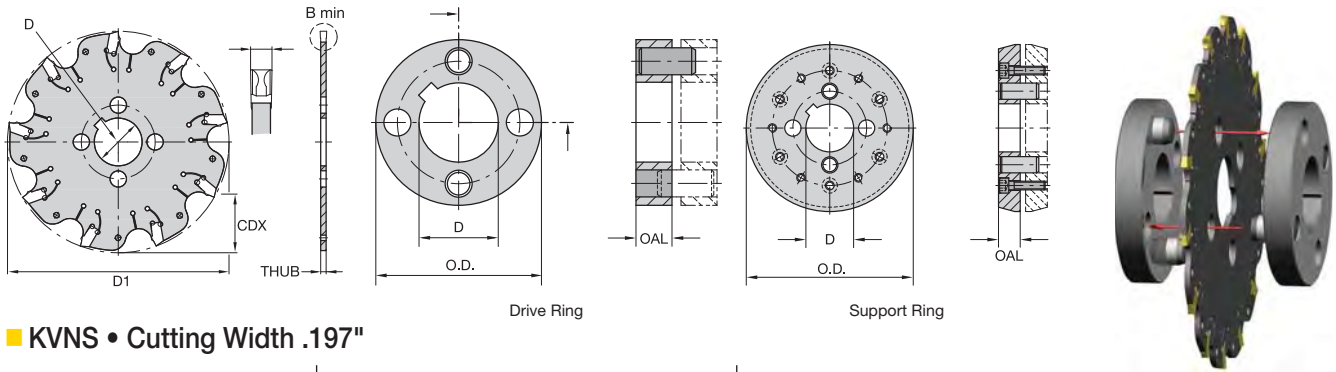
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ KVNS • Cutting Width .118"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247704	KVNS02118OD	2.500	.625	.126	.625	.095	4	5100	OD_3125_	1247650	<2.00
1247716	KVNS03118OD	3.000	.625	.126	.875	.095	6	4000	OD_3125_	1247675	<2.00
1247730	KVNS04118OD	4.000	1.000	.126	1.063	.095	9	3200	OD_3125_	1247660	<2.00
1247742	KVNS05118OD	5.000	1.250	.126	1.375	.095	11	2600	OD_3125_	1247663	<2.00
1247757	KVNS06118OD	6.000	1.250	.126	1.438	.095	14	2000	OD_3125_	1247666	<2.00
1247768	KVNS08118OD	8.000	2.000	.126	2.250	.095	19	1600	OD_3125_	1247668	<2.00
1247778	KVNS10118OD	10.000	2.000	.126	3.250	.095	24	1300	OD_3125_	1247668	<2.00

■ KVNS • Cutting Width .158"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247718	KVNS03158OD	3.000	.625	.164	.875	.134	6	4000	OD_4158_	1247675	<2.00
1247732	KVNS04158OD	4.000	1.000	.164	1.063	.134	9	3200	OD_4158_	1247660	<2.00
1247746	KVNS05158OD	5.000	1.250	.164	1.375	.134	11	2600	OD_4158_	1247663	<2.00



■ KVNS • Cutting Width .197"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247721	KVNS03197OD *	3.000	.625	.206	.875	.173	5	4000	OD_5197_	1247675	<2.00

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ KVNS • Cutting Width .236"

order number	catalog number	D1	D	B min	CDX	THUB	Z	max RPM	insert 1	drive ring	lbs
1247722	KVNS03236OD	3.000	.625	.245	.875	.213	5	4000	OD_6236_	1247675	<2.00
1247735	KVNS04236OD	4.000	1.000	.245	1.063	.213	8	3200	OD_6236_	1247660	<2.00
1247785	KVNS10236OD	10.000	2.000	.245	3.250	.213	24	1300	OD_6236_	1247668	<2.00

NOTE: Insert wrench 170.183 (order number 1124601) must be ordered separately.

■ Drive Rings

order number	D1	O.D.	OAL	bore size	drive ring	lbs
1247650	2.500	1.250	.315	.625	KAP1250632	.07
1247652	2.500	1.250	.315	.625	KAP1250634	.08
1247675	3.000	1.250	.315	.625	KAP1250764	.11
1247660	4.000	1.875	.394	1.000	KAP1871004	.20
1247663	5.000	2.250	.394	1.250	KAP2251254	.26
1247666	6.000	3.125	.472	1.250	KAP3121254	.75
1247668	8.000	3.500	.472	2.000	KAP3502004	.75
1247668	10.000	3.500	.472	2.000	KAP3502004	.75

NOTE: KAP1250634 is for use with KVNS020630D.
KAP1250632 is for use with KVNS021180D.

■ Support Rings

order number	catalog number	D1	O.D.	OAL	clamp screw	Allen key	bore size	lbs
1247669	KAP5502004	8.000	5.500	.472	125.616	170.005	2.000	2.53
1247669	KAP5502004	10.000	5.500	.472	125.616	170.005	2.000	2.53

■ Spare Parts



D1	support ring screw
8.000	125.616
10.000	125.616

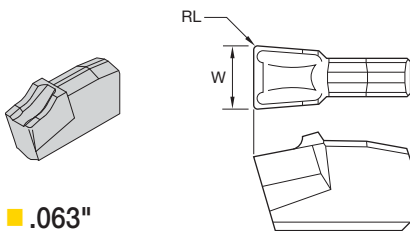
Slot Milling

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ↔ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..GD	KC735M	.S..GD	KCPK30	.S..GB	KCPK30
P3-P4	.S..GD	KC735M	.S..GD	KCPK30	.S..GB	KCPK30
P5-P6	.S..GD	KC735M	.S..GB	KCPK30	.S..GB	KCPK30
M1-M2	.S..GD	KC735M	.S..GD	KCPK30	.S..GB	KCPK30
M3	.S..GD	KCPK30	.S..GB	KCPK30	.S..GB	KCPK30
K1-K2	.S..GD	KCPK30	.S..GD	KCPK30	.S..GB	KCPK30
K3	.S..GD	KCPK30	.S..GD	KCPK30	.S..GB	KCPK30
N1-N2	.E..GD	KMF	.E..GD	KMF	.E..GD	KMF
N3	.E..GD	KMF	.E..GD	KMF	.E..GD	KMF
S1-S2	.E..GD	KMF	.E..GD	KMF	.E..GD	KMF
S3	.E..GD	KMF	.E..GD	KMF	.E..GD	KMF
S4	.E..GD	KMF	.E..GD	KMF	.E..GD	KMF
H1	-	-	-	-	-	-

Indexable Inserts • KVNS A2

- Positive chipforming insert geometry.
- Very narrow slotting/slitting operations.



- first choice
- alternate choice

P	●	○	○	○
M	●	○	○	○
K	●	○	○	○
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

.063"

catalog number	W	RL	hm	KC735M	KCPK30	KMF
ODG1063ISGD	.063	.006	.003	●	●	-
ODG1063ISGB	.063	.006	.003	●	●	-
ODC1063IEGD	.063	.006	.003	-	-	●

.087"

catalog number	W	RL	hm	KC735M	KCPK30	KMF
ODG2087ISGD	.087	.008	.003	●	●	-
ODG2087ISGB	.087	.008	.003	●	●	-
ODC2087IEGD	.087	.008	.003	-	-	●

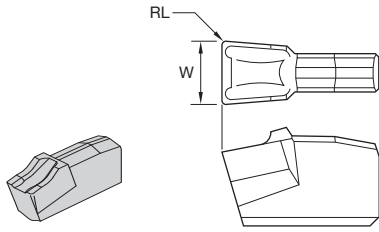
.118"

catalog number	W	RL	hm	KC735M	KCPK30	KMF
ODG3125ISGD	.120	.008	.003	●	●	-
ODG3125ISGB	.120	.008	.003	●	●	-
ODC3125IEGD	.119	.008	.003	-	-	●

.158"

catalog number	W	RL	hm	KC735M	KCPK30	KMF
ODG4158ISGD	.160	.008	.003	●	●	-
ODG4158ISGB	.160	.008	.003	●	●	-
ODC4158IEGD	.159	.008	.003	-	-	●





● first choice
○ alternate choice

P	●	○	○	○
M	●	○	○	○
K	●	○	○	○
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

■ .197"

catalog number	W	RL	hm			
ODG5197ISGB	.199	.012	.003	●	KC735M	KCPK30
					-	-
					-	KMF

■ .236"

catalog number	W	RL	hm			
ODG6236ISGB	.238	.012	.003	●	KC735M	KCPK30
					-	-
					-	KMF

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

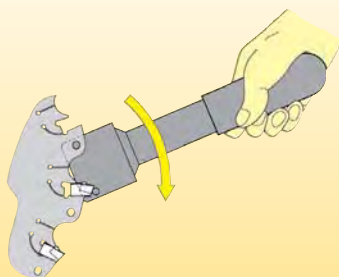
Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..GD	.009	.015	.024	.007	.011	.017	.005	.008	.013	.004	.007	.011	.004	.007	.010	.E..GD
.S..GD	.009	.017	.026	.007	.013	.019	.005	.009	.014	.004	.008	.012	.004	.008	.011	.S..GD
.S..GB	.009	.017	.028	.007	.013	.020	.005	.009	.015	.004	.008	.013	.004	.008	.012	.S..GB

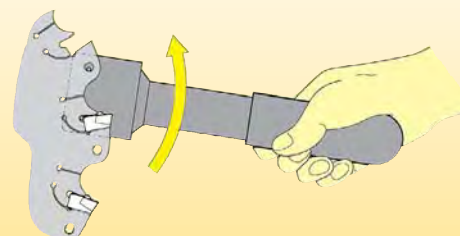
NOTE: Use "Light Machining" values as starting feed rate.
 % = ae/Dc * 100 (ae = radial depth of cut, Dc = cutting diameter)
 Please see pages X22-X37 for recommended starting speeds.

Slotting Cutters • Technical Information

■ Secure clamping self-clamping insert seat for maximum machining safety



Using the assembly wrench:
Fitting the insert



Removing the insert

- Exact position of the insert guaranteed by the positive stop.
- Maximum possible insert repeatability with dual positive prism clamping.
- Powerful, secure clamping guarantees high peripheral speeds.

Slot Milling

Kennametal on the Web

kennametal.com

FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.

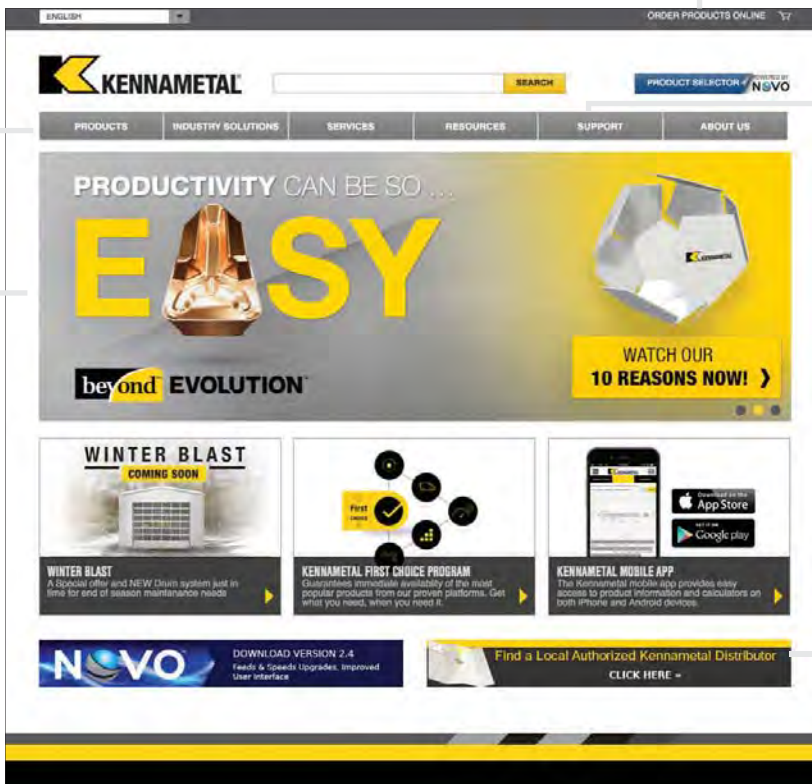
Register on **Konnect** for the full functionality of the Kennametal online ordering website.

CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.



➤ SN Slotting Cutter

Primary Application

SN slotting cutters are perfect for deeper applications that require the cutting load to be shared from one insert to the other. Provides groove widths from .161–.187" and cutter diameters from 4–6" as well as an economical way to achieve balanced cutting.

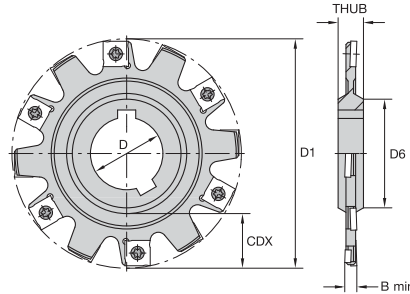
Features and Benefits

- Cutters available in arbor mount.
- Inserts with four indexes.
- Staggered key ways in mounting bore, used for multiple ganged cutters.
- Slot width .161–.187".
- Three insert geometries available: -GP, -GE, and -T.
- Requires only one spare part.





- .161–.187" slotting width range.
- Four indexes per insert.
- Three chipformers available.
- Two keyways for staggered mounting.
- Requires only one spare part.



■ SN • Cutting Width .161"

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert 1	lbs
1247681	KS426SNH1102	4.000	1.000	1.620	.161	1.120	.500	12	6	9530	SNHX1102T	<2.00
1247684	KS526SNH1102	5.000	1.250	1.880	.161	1.500	.500	14	7	8520	SNHX1102T	<2.00

■ SN • Cutting Width .187"

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert 1	lbs
1247686	KS333SNH1103	3.000	1.000	1.620	.187	.620	.500	10	5	10000	SNHX1103T	<2.00
1247688	KS433SNH1103	4.000	1.000	1.620	.187	1.120	.500	12	6	8660	SNHX1103T	<2.00
1247691	KS533SNH1103	5.000	1.250	1.880	.187	1.500	.500	14	7	7745	SNHX1103T	<2.00
1247694	KS633SNH1103	6.000	1.250	1.880	.187	2.000	.500	18	9	7070	SNHX1103T	2.00

■ Spare Parts



D1	insert screw	in. lbs.	Torx driver
3.000	192.530	10	DT7
4.000	192.530	10	DT7
5.000	192.530	10	DT7
6.000	192.530	10	DT7

NOTE: Slot width tolerance is +/- .003" over standard insert.
Bottom slot angle is 2°.

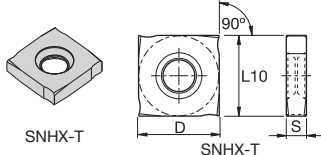
Slot Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.T..GP	KCPM40	.T..GP	KCPM40	..T	KCPM40
P3-P4	.T..GP	KCPK30	.T..GP	KCPM40	..T	KCPM40
P5-P6	.T..GP	KCPK30	..T	KCPK30	..T	KCPM40
M1-M2	.T..GP	KC725M	.T..GP	KC725M	..T	KC725M
M3	.T..GP	KCPM40	.T..GP	KCPM40	..T	KCPM40
K1-K2	..T	KC520M	..T	KC520M	..T	KC520M
K3	.T..GP	KCPK30	.T..GP	KCPK30	..T	KCPK30
N1-N2	.F..GE	KC510M	.F..GE	KC510M	.T..GP	K110M
N3	.T..GP	K110M	.T..GP	K110M	.T..GP	K110M
S1-S2	.T..GP	KC725M	.T..GP	KC725M	..T	KC725M
S3	.T..GP	KCPM40	.T..GP	KCPM40	..T	KCPM40
S4	.T..GP	KC725M	..T	KC725M	..T	KC725M
H1	.F..GE	KC510M	-	-	-	-

Indexable Inserts • SNHX-T • SNHX-NGE

- Medium to heavy machining.
- With T-land geometry.
- Four cutting edges.



- first choice
- alternate choice

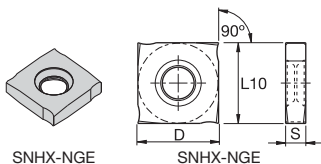
P	●	○	○	○	○	○
M	○	○	○	○	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

■ SNHX-T

catalog number	D	S	L10	hm	cutting edges	K110M	KC510M	KC520M	KC725M	KCPK30	KCPM40
SNHX1102T	.433	.091	.433	.006	4	-	-	-	●	-	●
SNHX1103T	.433	.106	.433	.006	4	-	-	-	●	-	●
SNHX1203T	.500	.126	.500	.006	4	-	-	-	●	-	●
SNHX1204T	.500	.157	.500	.004	4	-	-	-	●	-	●
SNHX12045T	.500	.177	.500	.004	4	-	-	-	●	-	●
SNHX1205T	.500	.213	.500	.004	4	-	-	-	●	-	●

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.

- Positive geometry for lighter machining.
- Four cutting edges.



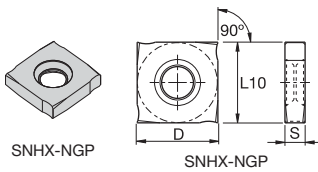
■ SNHX-NGE

catalog number	D	S	L10	hm	cutting edges	K110M	KC510M	KC520M	KC725M	KCPK30	KCPM40
SNHX11T3PZFNGE	.433	.106	.433	.002	4	-	●	-	-	-	-
SNHX1203PZFNGE	.500	.126	.500	.002	4	-	●	-	-	-	-
SNHX12L5PZFNGE	.500	.213	.500	.002	4	●	●	-	-	-	-

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.

Slot Milling

- Four cutting edges.
- High-feed capabilities up to 55 HRC.



● first choice
○ alternate choice

P	●	●	●	●	●
M	○	○	○	○	○
K	○	●	●	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

■ SNHX-NGP

catalog number	D	S	L10	hm	cutting edges	K110M	KC510M	KC520M	KC725M	KCPK30	KCPM40
SNHX1102PZTNGP	.433	.091	.433	.006	4	●	-	-	●	●	●
SNHX11T3PZTNGP	.433	.106	.433	.006	4	-	-	-	●	-	●
SNHX1203PZTNGP	.500	.126	.500	.006	4	●	-	-	●	●	●
SNHX12L4PZTNGP	.500	.177	.500	.006	4	-	-	-	-	●	-
SNHX12L5PZTNGP	.500	.213	.500	.006	4	●	-	-	●	●	-

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..GE	.005	.017	.028	.004	.012	.020	.003	.009	.015	.002	.008	.013	.002	.007	.012	.F..GE
.T..GP	.009	.018	.027	.007	.013	.020	.005	.010	.015	.004	.009	.013	.004	.008	.012	.T..GP
..T	.009	.022	.032	.007	.016	.023	.005	.012	.017	.004	.010	.015	.004	.009	.014	..T

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

➤ LN Slotting Cutter

Primary Application

LN slotting cutters offer arbor and shell mill cutter options, groove widths from .250–.539", and cutter diameters from 3–8". Easy to adjust radially in .020" increments.

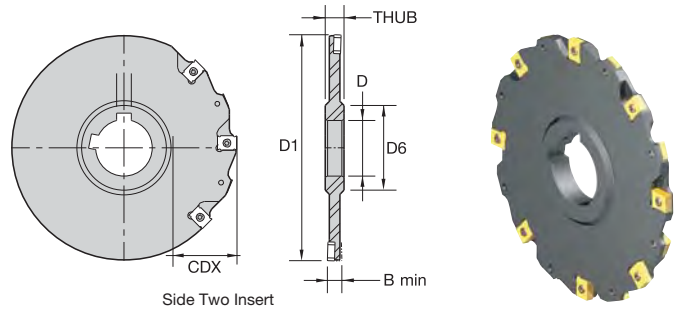


Features and Benefits

- Cutter available in arbor and shell mounts.
- Groove width .250–.500".
- Groove width can be increased by .020" or .040". Please consult the charts "Technical Information: Possible Insert Combinations".
NOTE: This involves changing the insert and insert screw.
- Easy width adjustment through insert thickness.
- Staggered internal keys.
- Positive chip grooves.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Requires only one spare part.



- .250–.500" slot width range.
- Easy width adjustment through insert thickness.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Two keyways for staggered mounting.
- Requires only one spare part.
- Base slot angle: 2°.
- Maximum slot width tolerance: +/- 0,001".



■ LN • Cutting Width .250"

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	insert 1	lbs
1025930	KS34LNE1240	3.000	1.000	1.500	.250	.594	.500	8	4	9470	MS1281	TT15	35	LNE_1240__	.36
1025931	KS44LNE1240	4.000	1.250	1.880	.250	.904	.500	10	5	8200	MS1281	TT15	35	LNE_1240__	.66
1025895	KS54LNE1240	5.000	1.250	1.880	.250	1.404	.500	12	6	7300	MS1281	TT15	35	LNE_1240__	1.08
1025932	KS64LNE1240	6.000	1.500	2.250	.250	1.747	.500	16	8	6700	MS1281	TT15	35	LNE_1240__	1.54
1025933	KS84LNE1240	8.000	1.500	2.250	.250	2.719	.500	18	9	5800	MS1281	TT15	35	LNE_1240__	2.87

■ LN • Cutting Width .312"

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	insert 1	lbs
1025964	KS45LNE1245	4.000	1.250	1.880	.312	.935	.500	10	5	7400	MS1282	TT15	35	LNE_1245__	.81
1025896	KS55LNE1245	5.000	1.250	1.880	.312	1.435	.500	12	6	6600	MS1282	TT15	35	LNE_1245__	1.33
1025965	KS65LNE1245	6.000	1.500	2.250	.312	1.750	.500	16	8	6000	MS1282	TT15	35	LNE_1245__	1.93
1025897	KS85LNE1245	8.000	1.500	2.250	.312	2.750	.500	18	9	5200	MS1282	TT15	35	LNE_1245__	3.62

■ LN • Cutting Width .375"

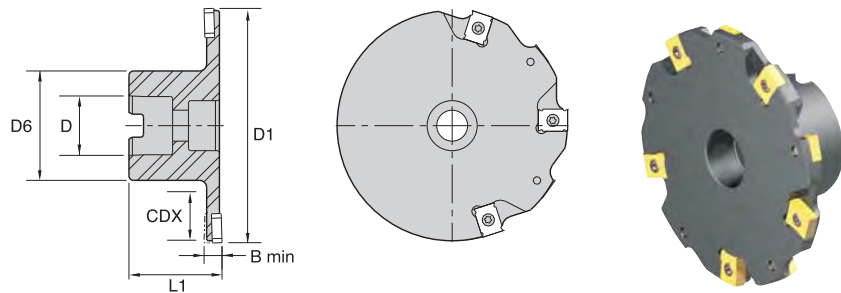
order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	insert 1	lbs
1025966	KS46LNE1245	4.000	1.250	1.880	.375	.966	.500	9	3	7400	MS1282	TT15	35	LNE_1245__	.96
1025898	KS56LNE1245	5.000	1.250	1.880	.375	1.466	.500	12	4	6600	MS1282	TT15	35	LNE_1245__	1.57
1025967	KS66LNE1245	6.000	1.500	2.250	.375	1.809	.500	15	5	8000	MS1282	TT15	35	LNE_1245__	1.56
1025968	KS86LNE1245	8.000	1.500	2.250	.375	2.781	.500	18	6	5200	MS1282	TT15	35	LNE_1245__	1.56

■ LN • Cutting Width .500"

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	insert 1	lbs
1025969	KS48LNE1255	4.000	1.250	1.880	.500	1.060	.500	9	3	4900	MS1284	TT15	35	LNE_1255__	1.23
1025899	KS58LNE1255	5.000	1.250	1.880	.500	1.560	.500	12	4	4400	MS1284	TT15	35	LNE_1255__	2.07
1025970	KS68LNE1255	6.000	1.500	2.250	.500	1.844	.500	15	5	4000	MS1284	TT15	35	LNE_1255__	3.04
1025971	KS88LNE1255	8.000	1.500	2.250	.500	2.875	.500	18	6	3500	MS1284	TT15	35	LNE_1255__	5.83

NOTE: Slot width tolerance is +/- .003" over standard insert.

- .250–.500" slot width range.
- Easy width adjustment through insert thickness.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Requires only one spare part.
- Base slot angle: 2°.
- Maximum slot width tolerance: +/- 0,001".



■ LN • Cutting Width .250"



order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	flat-head cap screw	socket-head cap screw	insert 1
1067765	KS254BLNE1240	2.500	.750	1.580	.250	.560	1.875	6	3	10400	MS1281	TT15	35	S1903	—	LNE_1240__
1025861	KS44BLNE1240	4.000	1.000	1.880	.250	.940	1.570	10	5	8200	MS1281	TT15	35	—	S458	LNE_1240__

■ LN • Cutting Width .312"



order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	flat-head cap screw	socket-head cap screw	insert 1
1067766	KS255BLNE1245	2.500	.750	1.580	.312	.560	1.875	6	3	9400	MS1282	TT15	35	S1903	—	LNE_1245__
1025862	KS45BLNE1245	4.000	1.000	1.880	.312	.942	1.570	10	5	7400	MS1282	TT15	35	—	S458	LNE_1245__

■ LN • Cutting Width .375"



order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	socket-head cap screw	insert 1
1025863	KS46BLNE1245	4.000	1.000	1.880	.375	.942	1.570	9	3	7400	MS1282	TT15	35	S458	LNE_1245__

■ LN • Cutting Width .500"



order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z U	max RPM	insert screw	Torx wrench	in. lbs.	socket-head cap screw	insert 1
1025894	KS48BLNE1255	4.000	1.000	1.880	.500	.940	2.000	9	3	4900	MS1284	TT15	35	S458	LNE_1255__

NOTE: Slot width tolerance is +/- .003" over standard insert.



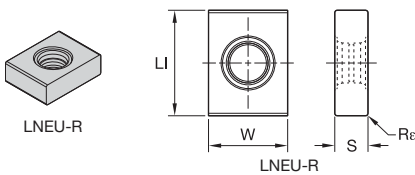
Slot Milling

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	LNE..	KCPM40	LNE..	KCPM40	.S..GP	KCPM40
P3-P4	LNE..	KCPK30	LNE..	KCPM40	.S..GP	KCPM40
P5-P6	LNE..	KC725M	.S..GP	KC725M	.S..GP	KCPM40
M1-M2	LNE..	KC725M	LNE..	KC725M	.S..GP	KC725M
M3	LNE..	KC725M	LNE..	KCPM40	.S..GP	KCPM40
K1-K2	LNE..	KC520M	LNE..	KCK15	LNE..	KCK15
K3	LNE..	KC520M	LNE..	KCK15	LNE..	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	LNE..	KC725M	LNE..	KC725M	.S..GP	KC725M
S3	LNE..	KC725M	LNE..	KCPM40	.S..GP	KCPM40
S4	LNE..	KC725M	.S..GP	KC725M	.S..GP	KC725M
H1	-	-	-	-	-	-

Indexable Inserts • 0° LN Slot LNEU

- Light machining.
- Four cutting edges.



- first choice
- alternate choice

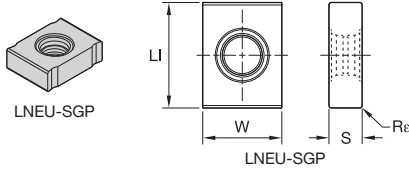
	P	M	K	N	S	H	KC520M	KC725M	KCK15	KCPK30	KCPM40
●	●	●	●	●	●	●	●	●	●	●	●
○		○	○								

■ LNEU-R

catalog number	LI	W	S	Re	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40
LNEU1235R03 4	.500	.375	.138	.012	.002	4	●	●	-	-	●
LNEU1240R03 4	.500	.375	.157	.012	.002	4	●	●	-	-	●
LNEU1245R04	.500	.375	.177	.016	.002	4	●	●	-	-	●
LNEU1250R04	.500	.375	.197	.016	.002	4	-	●	-	-	●
LNEU1255R04	.500	.375	.217	.016	.002	4	-	●	-	-	●
LNEU1260R04	.500	.375	.236	.016	.002	4	-	●	-	-	●
LNEU1240R08 4	.500	.375	.157	.031	.002	4	●	●	-	-	●
LNEU1245R08	.500	.375	.177	.031	.002	4	●	●	-	-	●
LNEU1250R08	.500	.375	.197	.031	.002	4	-	●	-	-	●
LNEU1255R08	.500	.375	.217	.031	.002	4	●	●	-	-	●
LNEU1240R16 4	.500	.375	.157	.062	.002	4	-	●	-	-	-
LNEU1245R16	.500	.375	.177	.062	.002	4	●	●	-	-	-
LNEU1255R16	.500	.375	.217	.062	.002	4	-	●	-	-	-
LNEU1245R32	.500	.375	.177	.125	.002	4	●	●	-	-	-
LNEU1255R32	.500	.375	.217	.125	.002	4	-	●	-	-	-



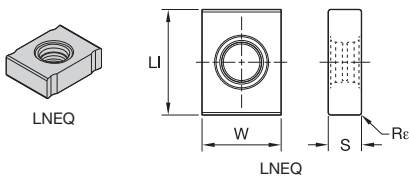
- Medium machining with chip groove.
- Four cutting edges.



LNEU-SGP

catalog number	LI	W	S	Rε	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40
LNEU1235R03SGP 4	.500	.375	.138	.012	.004	4	-	●	-	-	-
LNEU1240R03SGP 4	.500	.375	.157	.012	.004	4	-	●	-	-	-
LNEU1245R04SGP	.500	.375	.177	.016	.004	4	-	●	-	-	-
LNEU1250R04SGP	.500	.375	.197	.016	.004	4	-	●	-	-	-
LNEU1245R08SGP	.500	.375	.177	.031	.004	4	-	●	-	-	●
LNEU1250R08SGP	.500	.375	.197	.031	.004	4	-	●	-	-	-
LNEU1245R16SGP	.500	.375	.177	.063	.004	4	-	●	-	-	-

- Very strong geometry for roughing application.
- Four cutting edges.



LNEQ

catalog number	LI	W	S	Rε	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30	KCPM40
LNEQ1235R03 4	.500	.375	.138	.012	.002	4	-	●	●	-	-
LNEQ1240R03 4	.500	.375	.157	.012	.002	4	-	●	-	●	-
LNEQ1245R04	.500	.375	.177	.016	.002	4	●	●	●	●	-
LNEQ1250R04	.500	.375	.197	.016	.002	4	-	-	●	-	-
LNEQ1255R04	.500	.375	.217	.016	.002	4	-	●	●	-	-
LNEQ1260R04	.500	.375	.236	.016	.002	4	-	●	●	-	●

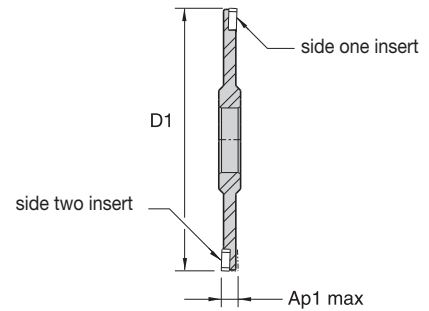
P	●	●	●	●
M	●	○	○	○
K	●	●	○	○
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

- first choice
- alternate choice



Slot Milling

- Utilizes wider inserts in standard cutter bodies.
- Cutting width of the unique LNE insert style for narrow slotting cutters can be varied by using an insert one size thicker.
- The width can be increased in .020" or .040" increments.
- Refer to the insert combination in the table "LN Slotting Cutter Widths" for insert and screw selection.



■ LN Slotting Cutter Widths: Adjust Width by Changing Inserts and Screws • Arbor Mount

cutter catalog number	D1	Ap1 max	Ap1 max (new)	side one insert*	screw**	side two insert*	screw**
KS34LNE	3.000	.250	.270	LNE1240	MS-1281	LNE1245	MS-1282
KS44LNE	4.000	.250	.270	LNE1240	MS-1281	LNE1245	MS-1282
KS54LNE	5.000	.250	.289	LNE1245	MS-1282	LNE1245	MS-1282
KS64LNE	6.000	.250	.289	LNE1245	MS-1282	LNE1245	MS-1282
KS84LNE	8.000	.250	.289	LNE1245	MS-1282	LNE1245	MS-1282
KS45LNE	4.000	.312	.332	LNE1245	MS-1282	LNE1250	MS-1283
KS55LNE	5.000	.312	.332	LNE1245	MS-1282	LNE1250	MS-1283
KS65LNE	6.000	.312	.351	LNE1250	MS-1283	LNE1250	MS-1283
KS85LNE	8.000	.312	.351	LNE1250	MS-1283	LNE1250	MS-1283
KS46LNE	4.000	.375	.395	LNE1245	MS-1282	LNE1250	MS-1283
KS56LNE	5.000	.375	.395	LNE1245	MS-1282	LNE1250	MS-1283
KS66LNE	6.000	.375	.414	LNE1250	MS-1283	LNE1250	MS-1283
KS86LNE	8.000	.375	.414	LNE1250	MS-1283	LNE1250	MS-1283
KS48LNE	4.000	.500	.520	LNE1255	MS-1284	LNE1260	MS-1285
KS58LNE	5.000	.500	.520	LNE1255	MS-1284	LNE1260	MS-1285
KS68LNE	6.000	.500	.539	LNE1260	MS-1285	LNE1260	MS-1285
KS88LNE	8.000	.500	.539	LNE1260	MS-1285	LNE1260	MS-1285

■ Example: Cutting Width of .289"

cutter catalog number	D1	Ap1 max (new)	side one insert*	screw**	side two insert*	screw**
KS34LNE	3.000	.289	LNE1245	MS-1282	LNE1245	MS-1282

*Caution variation in cutting width range is limited to one size (thickness) greater than the standard insert thickness.

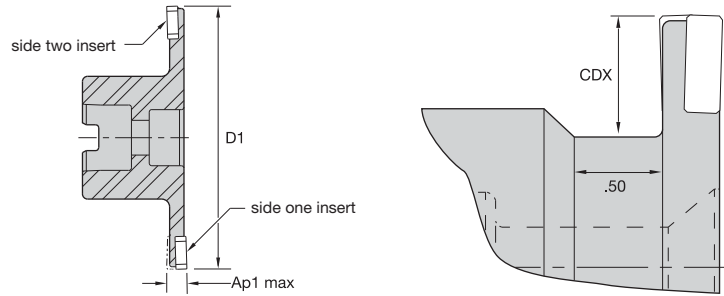
**When changing to wider insert thickness, use the necessary longer screw.

NOTE: When cutters have 3 rows of inserts, the above table only refers to the outer insert on both sides of the cutter.

When using inserts that employ a radius of .094" or .125", the corner radius under the insert on the cutter body must be modified to a .10" radius or an optional .10" x 45° chamfer; see chart for detail.



- Utilizes wider inserts in standard cutter bodies.
- Cutting width of the unique LNE insert style for narrow slotting cutters can be varied by using an insert one size thicker.
- The width can be increased in .020" or .040" increments.
- Refer to the insert combination table below for insert selection.



■ LN Slotting Cutter Widths: Adjust Width by Changing Inserts and Screws • Shell Mill

cutler catalog number	D1	Ap1 max	Ap1 max (new)	side one insert*	screw**	side two insert*	screw**
KS254BLNE1240	2.500	.250	.270	LNE1240	MS-1281	LNE1245	MS-1282
KS44BLNE1240	4.000	.250	.289	LNE1245	MS-1282	LNE1245	MS-1282
KS255BLNE1245	2.500	.312	.332	LNE1245	MS-1282	LNE1250	MS-1283
KS45BLNE1245	4.000	.312	.351	LNE1250	MS-1283	LNE1250	MS-1283
KS46BLNE1245	4.000	.375	.395	LNE1245	MS-1282	LNE1250	MS-1283
KS46BLNE1245	4.000	.375	.414	LNE1250	MS-1283	LNE1250	MS-1283
KS48BLNE1255	4.000	.500	.520	LNE1255	MS-1284	LNE1260	MS-1285
KS48BLNE1255	4.000	.500	.539	LNE1260	MS-1285	LNE1260	MS-1285

*Caution variation in cutting width range limited to one size (thickness) greater than the standard insert thickness.

**When changing to wider insert thickness, use the necessary longer screw.

NOTE: When using inserts with a radius of .094" or .125", the corner radius under the insert on the cutter body must be modified to a .10" radius or an optional .10" x 45° chamfer.

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
...	.007	.019	.027	.005	.013	.020	.004	.010	.015	.003	.009	.013	.003	.008	.012	...
.S..GP	.009	.020	.032	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..GP

NOTE: Use "Light Machining" values as starting feed rate. Please see pages X22-X37 for recommended starting speeds.

Slot Milling

NOVO KNOWS CAD/CAM

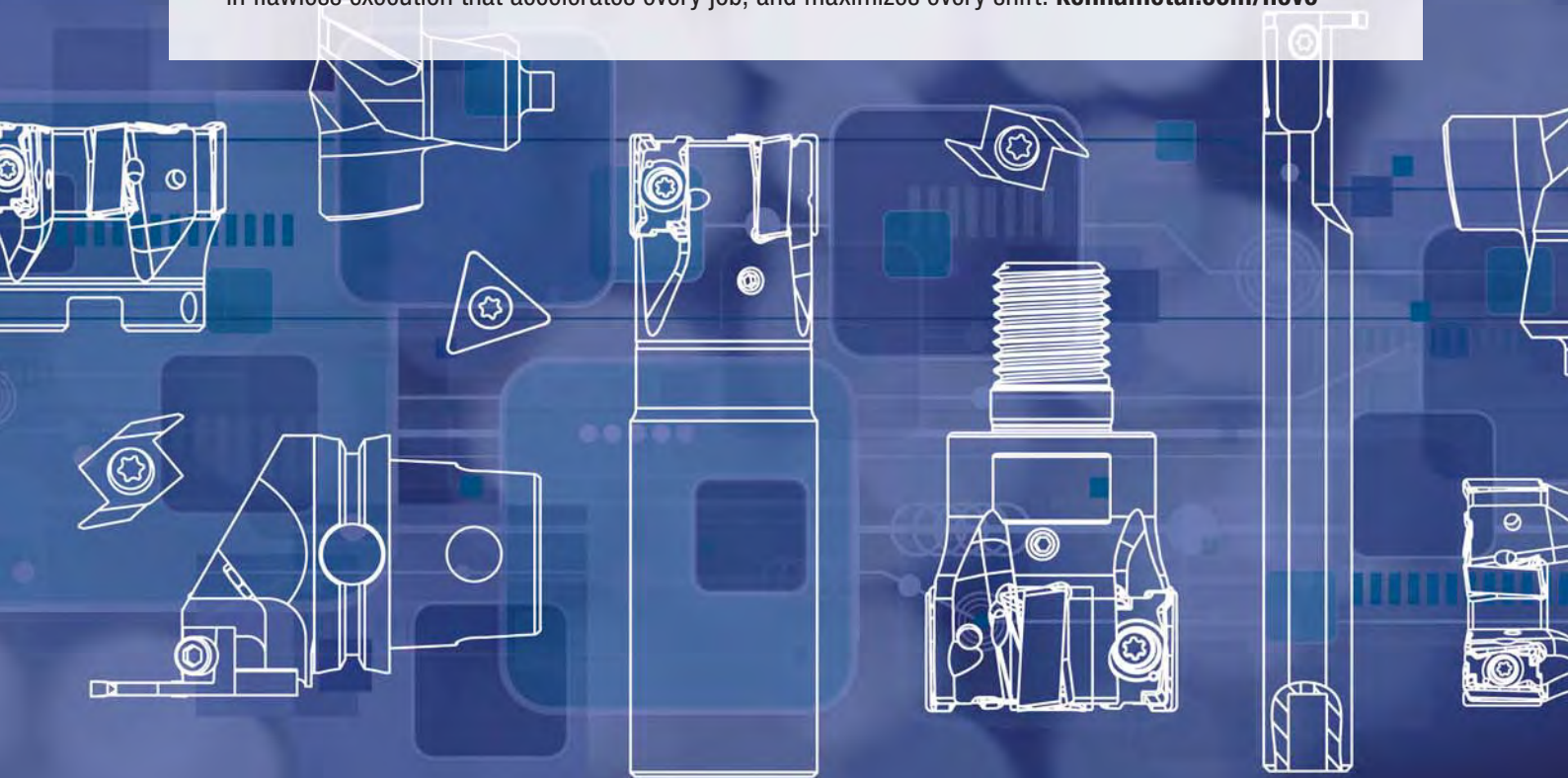
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

Before NOVO: The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

With NOVO: The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kennametal.com/novo



➤ KSSM™ Slotting Cutter

Primary Application

Cutters available in fixed and adjustable groove widths:

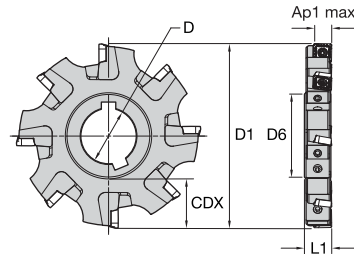
Cutters available in arbor and shell mounts, as well as in fixed and adjustable groove widths, with insert grades and geometries for most materials, KSSM fixed-width slotting cutters are a cost effective solution for the general engineering market. Very precise adjustments to achieve consistent widths are possible with the variable width and enable you to change the tool from right hand to left hand with a change of cartridge.



Features and Benefits

- Cutters available in arbor and shell mounts, as well as in fixed and adjustable groove widths.
- Maximum groove widths:
 - Fixed cutters IC 10: .359" and .614".
 - Fixed cutters 1/2" IC: .461" and .739".
 - Adjustable cutters IC 10: .551–.709".
 - Adjustable cutters 1/2" IC: .709–.917".
- Rapid adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Faceted inserts for superior surface finish.
- Cutter diameter range is 4–12".
- Insert corner radii from 0.016–0.125".

- Right-hand and left-hand cutters with .359" width of cut.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Insert radii available.
- Faceted inserts for superior surface finishes.



■ Arbor Mount • 10mm IC • Right Hand

order number	catalog number	D1	D	D6	B min	CDX	L1	Ap1 max	Z	Z S	max RPM	lbs
3330528	100G10RP90SP10 *	3.937	1.260	1.841	.359	1.035	.630	.359	10	10	17200	1.20
2629770	KSSS400ASP10R625	4.000	1.250	1.880	—	1.038	.625	.359	10	10	17100	1.22
3330531	125H11RP90SP10 *	4.921	1.575	2.156	.359	1.370	.630	.359	11	11	15400	1.89

NOTE: For superior surface finish, use right-hand inserts.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Arbor Mount • 10mm IC • Left Hand

order number	catalog number	D1	D	D6	CDX	L1	Ap1 max	Z	Z S	max RPM	lbs
2629769	KSSS400ASP10L625	4.000	1.250	1.880	1.038	.625	.359	10	10	17100	1.22
2629772	KSSS500ASP10L625 *	5.000	1.500	2.250	1.353	.625	.359	11	11	15300	1.98

NOTE: For superior surface finish, use left-hand inserts.

Insert radii ≥ .062" (1,6mm) has no facet.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Spare Parts



insert screw

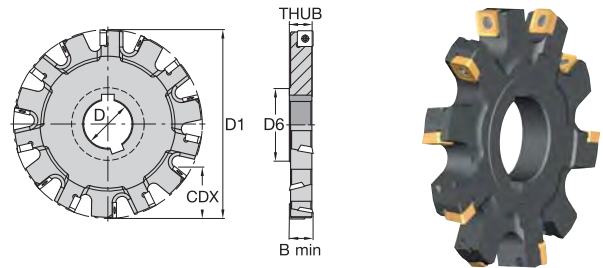


Torx Plus driver

D1	insert screw	in. lbs.	Torx Plus driver
4.000	MS2148	17	DT9IP
5.000	MS2148	17	DT9IP



- Neutral slot width (B min) is .614" + .010".
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Wide selection of insert radii.
- Faceted inserts for superior surface finishes.



Arbor Mount • 10mm IC • Neutral (Full Slotting)

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z S	max RPM	lbs
2629768	KSSS400ASP10N625	4.000	1.250	1.880	.614	1.042	.542	10	5	17100	1.05
2629794	KSSS500ASP10N625	5.000	1.500	2.250	.614	1.357	.542	12	6	15300	1.75
2629774	KSSS600ASP10N625	6.000	1.500	2.250	.614	1.857	.542	12	6	14000	2.78

NOTE: For superior surface finish, use right- and left-hand inserts.
 Insert radii $\geq .062"$ (1,6mm) has no facet.

Spare Parts

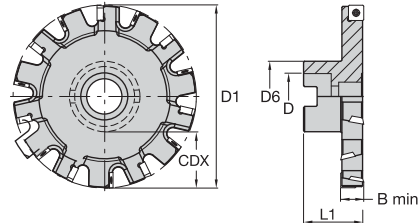


D1	insert screw	in. lbs.	Torx Plus driver
4.000	MS2148	17	DT9IP
5.000	MS2148	17	DT9IP
6.000	MS2148	17	DT9IP



Slot Milling

- Neutral slot width (B min) is .614" + .010".
- Neutral cutting.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Wide selection of insert radii.
- Faceted inserts for superior surface finishes.



■ **Shell Mount • 10mm IC • Neutral (Full Slotting)**

order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z S	max RPM	lbs
2629780	KSSS400BSP10N625	4.000	1.000	2.132	.614	.887	1.500	10	5	17100	2.12
2629781	KSSS500BSP10N625	5.000	1.250	2.880	.614	.995	1.750	12	6	15300	3.89
2629783	KSSS800BSP10N625	8.000	1.500	3.810	.614	2.030	2.000	14	7	12100	8.80

NOTE: For superior surface finish, use right- and left-hand inserts.
 Insert radii $\geq .062$ " (1,6mm) has no facet.

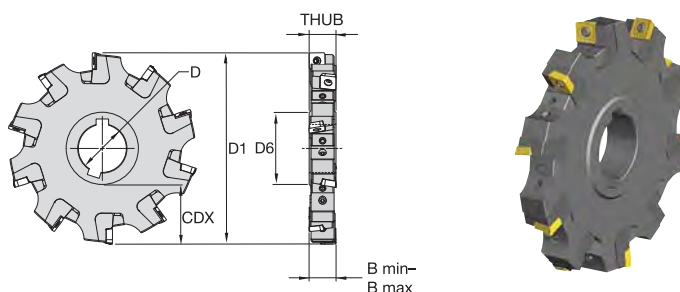
■ **Spare Parts**



D1	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw
4.000	MS2148	17	DT9IP	S2044
5.000	MS2148	17	DT9IP	S467
8.000	MS2148	17	DT9IP	—



- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.



■ Arbor Mount • Slotting Cutter • .551–.630" Adjustment Range

order number	catalog number	D1	D	D6	B min	B max	CDX	L1	THUB	Z	Z S	max RPM	lbs
2268052	KSSS400ASP10N551-630	4.000	1.250	1.880	.551	.630	1.030	.548	.545	6	3	17100	1.17
2268640	KSSS600ASP10N551-630	6.000	1.500	2.250	.551	.630	1.845	.548	.545	10	5	14000	2.97
2268652	KSSS800ASP10N551-630	8.000	2.000	2.880	.551	.630	2.530	.548	.545	14	7	12100	5.53

■ Spare Parts

D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw
4.000	KSSC551-630R	KSSC551-630L	KSSW551-630	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM32
6.000	KSSC551-630R	KSSC551-630L	KSSW551-630	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM11
8.000	KSSC551-630R	KSSC551-630L	KSSW551-630	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM11

■ Arbor Mount • Slotting Cutter • .630–.709" Adjustment Range

order number	catalog number	D1	D	D6	B min	B max	CDX	L1	THUB	Z	Z S	max RPM	lbs
2268634	KSSS500ASP10N630-709 *	5.000	1.500	2.250	.630	.709	1.345	.627	.624	8	4	15300	2.27
2268670	KSSS1200ASP10N630-709 *	12.000	2.000	2.880	.630	.709	4.530	.627	.624	20	10	9900	15.96

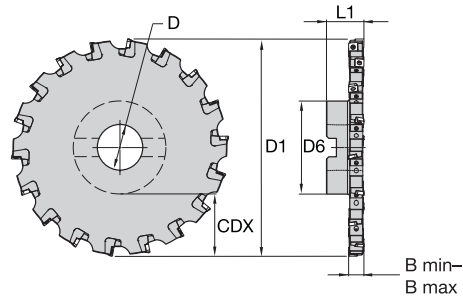
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Spare Parts

D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw
12.000	KSSC630-709R	KSSC630-709L	KSSW630-709	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM11
5.000	KSSC630-709R	KSSC630-709L	KSSW630-709	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM11

Slot Milling

- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Wiper insert facets for superior surface finishes.



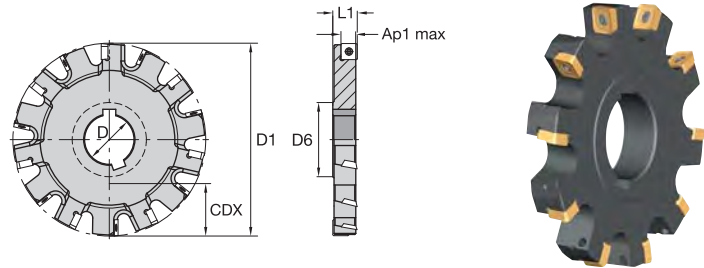
■ **Shell Mount • Slotting Cutting • .551-.630" Adjustment Range**

order number	catalog number	D1	D	D6	B min	B max	CDX	L1	Z	Z S	max RPM	lbs
2268625	KSSS400BSP10N551-630	4.000	1.000	2.132	.551	.630	.872	2.072	6	3	17100	2.49

■ **Spare Parts**

D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw	socket-head cap screw
4.000	KSSC551-630R	KSSC551-630L	KSSW551-630	MW25	MS2148	17	TTP9	KSSCP551-709	THW3M	STCM11	S458

- Right- and left-hand cutters available.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



Arbor Mount • 1/2" IC • Right Hand

order number	catalog number	D1	D	D6	CDX	L1	Ap1 max	Z	Z S	max RPM	lbs
2618969	KSSS600ASD43R750	6.000	1.500	2.250	1.851	.750	.461	12	12	9400	3.73
2629787	KSSS800ASD43R750	8.000	2.000	2.880	2.536	.750	.461	14	14	8150	6.86
2629790	KSSS1000ASD43R750 *	10.000	2.000	2.880	3.536	.750	.461	16	16	7250	11.44

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

Arbor Mount • 1/2" IC • Left Hand

order number	catalog number	D1	D	D6	CDX	L1	Ap1 max	Z	Z S	max RPM	lbs
2629784	KSSS600ASD43L750	6.000	1.500	2.250	1.851	.750	.461	12	12	9400	3.73
2629786	KSSS800ASD43L750	8.000	2.000	2.880	2.536	.750	.461	14	14	8150	6.86

Spare Parts

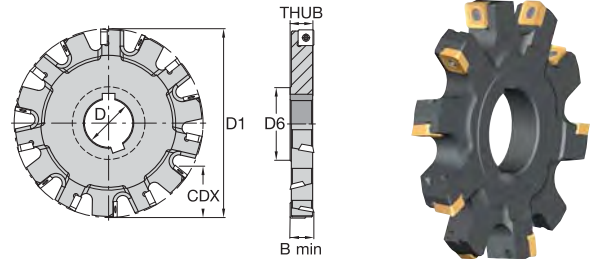


D1	insert screw	in. lbs.	Torx Plus driver
6.000	MS2078	35	DT15IP
8.000	MS2078	35	DT15IP
10.000	MS2078	35	DT15IP

NOTE: For superior surface finish, use right- and left-hand inserts.

Slot Milling

- Neutral slot width (B min) is .739" + .010" wide.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



■ **Arbor Mount • 1/2" IC • Neutral (Full Slotting)**

order number	catalog number	D1	D	D6	B min	CDX	THUB	Z	Z S	max RPM	lbs
2618967	KSSS600ASD43N750	6.000	1.500	2.250	.744	1.857	.666	14	7	9400	3.49
2629785	KSSS800ASD43N750	8.000	2.000	2.880	.739	2.542	.666	18	9	8150	6.58
2629788	KSSS1000ASD43N750	10.000	2.000	2.880	.739	3.542	.666	22	11	7250	11.02

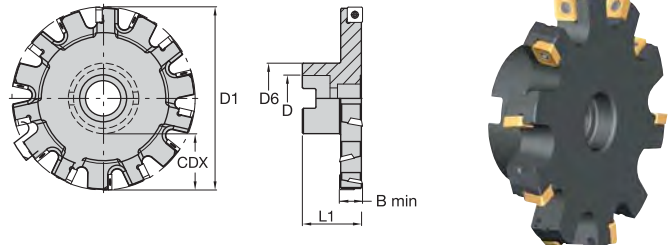
■ **Spare Parts**



D1	insert screw	in. lbs.	Torx Plus driver
6.000	MS2078	35	DT15IP
8.000	MS2078	35	DT15IP
10.000	MS2078	35	DT15IP

NOTE: For superior surface finish, use right-hand and left-hand inserts.

- Neutral slot width (B min) is .739" + .010" wide.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



■ **Shell Mount • 1/2" IC • Neutral (Full Slotting)**

order number	catalog number	D1	D	D6	B min	CDX	L1	Z	Z S	max RPM	lbs
2629791	KSSS600BSD43N750	6.000	1.500	3.810	.739	1.029	2.000	14	7	9400	6.28
2629792	KSSS800BSD43N750	8.000	1.500	3.810	.739	2.029	2.000	18	9	8150	9.90

■ **Spare Parts**

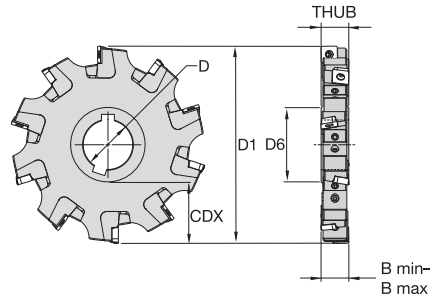
D1	insert screw	in. lbs.	Torx Plus driver
6.000	MS2078	35	DT15IP
8.000	MS2078	35	DT15IP

NOTE: For superior surface finish, use right-hand and left-hand inserts.





- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.



Arbor Mount • Slotting Cutter • .709–.813" Adjustment Range

order number	catalog number	D1	D	D6	B min	B max	CDX	THUB	Z	Z S	max RPM	lbs
2268676	KSSS500ASD43N709-813	5.000	1.500	2.250	.709	.813	1.331	.716	8	4	10300	2.33
2268688	KSSS600ASD43N709-813 *	6.000	1.500	2.250	.709	.813	1.831	.716	10	5	9400	3.62
2268712	KSSS1000ASD43N709-813	10.000	2.000	2.880	.709	.813	3.516	.716	16	8	7250	11.51
2268724	KSSS1200ASD43N709-813	12.000	2.000	2.880	.709	.813	4.516	.716	18	9	6650	17.30

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

Spare Parts

D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw
5.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11
6.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11
10.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11
12.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11

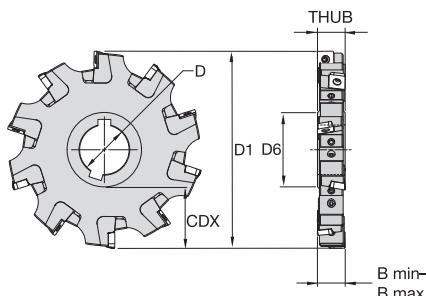
Cartridges • Larger Insert Radii

order number	catalog number
3663324	KSSC709813RX
3663325	KSSC709813LX

NOTE: Use left- or right-hand cartridges for neutral cutters. Fits all larger radii inserts.

Slot Milling

- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.

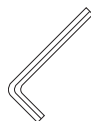
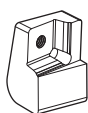


■ Arbor Mount • Slotting Cutter • .813–.917" Adjustment Range

order number	catalog number	D1	D	D6	B min	B max	CDX	THUB	Z	Z S	max RPM	lbs
2268694	KSSS600ASD43N813-917	6.000	1.500	2.250	.813	.917	1.831	.820	10	5	9400	4.23
2268706	KSSS800ASD43N813-917 *	8.000	2.000	2.880	.813	.917	2.516	.820	14	7	8150	7.99
2268730	KSSS1200ASD43N813-917 *	12.000	2.000	2.880	.813	.917	4.516	.820	18	9	6650	20.20

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ Spare Parts



D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw
6.000	KSSC813-917R	KSSC813-917L	KSSW813-917	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11
8.000	KSSC813-917R	KSSC813-917L	KSSW813-917	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11
12.000	KSSC813-917R	KSSC813-917L	KSSW813-917	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	STCM11

■ Cartridges • Larger Insert Radii

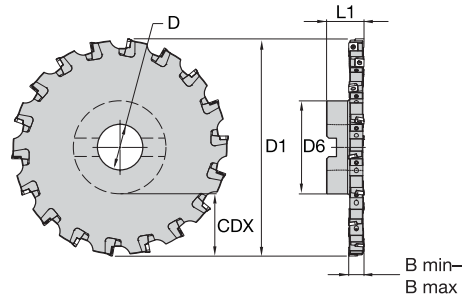
order number	catalog number
3663326	KSSC813917RX
3663327	KSSC813917LX

NOTE: Use left- or right-hand cartridges for neutral cutters. Fits all larger radii inserts.

Slot Milling



- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Wiper insert facets for superior surface finishes.



■ **Shell Mount • Slotting Cutting • .709-.813" Adjustment Range**

order number	catalog number	D1	D	D6	B min	B max	CDX	L1	Z	Z S	max RPM	lbs
2268679	KSSS500BSD43N709-813	5.000	1.250	2.880	.709	.813	.997	2.093	8	4	10300	4.55
2268727	KSSS1200BSD43N709-813	12.000	2.500	5.250	.709	.813	3.312	2.093	18	9	6650	19.83

■ **Spare Parts**

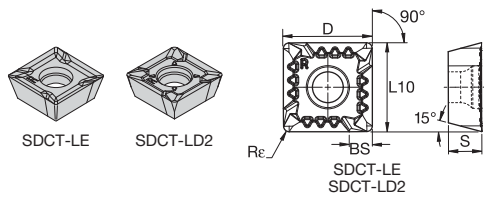
D1	cartridge right-hand	cartridge left-hand	wedge	cam pin wrench	insert screw	in. lbs.	Torx Plus wrench	cam pin	wedge wrench	wedge screw	socket-head cap screw
5.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	KSSW709-813	S467
12.000	KSSC709-813R	KSSC709-813L	KSSW709-813	MW3	MS2077	35	TTP15	KSSCP709-917	THW3M	KSSW709-813	—

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
P3-P4	.E..LD2	KCPM40	.E..GB2	KCPK30	.S..GB2	KCPK30
P5-P6	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
M1-M2	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
M3	.E..LD2	KCPM40	.E..GB2	KCPM40	.S..GB2	KCPM40
K1-K2	.E..LD2	KC520M	.E..GB2	KCK15	.S..GB2	KCK15
K3	.E..LD2	KC520M	.E..GB2	KC520M	.S..GB2	KC520M
N1-N2	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
N3	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
S1-S2	.E..LD2	KC725M	.E..GB2	KC725M	.S..GB2	KC725M
S3	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
S4	.E..LD2	KCSM40	.E..GB2	KCSM40	.S..GB2	KCSM40
H1	-	-	-	-	-	-

Indexable Inserts • KSSM™ SD.T1204...

- Light-duty Insert.
- Four cutting edges.



- first choice
- alternate choice

P	•	○	•	•	•	○	○
M	•	•	○	○	○	○	•
K	•	○	•	○	○	○	○
N	•	○	○	○	○	○	○
S	•	•	○	○	○	○	○
H	○	○	○	○	○	○	○

SDCT-LE (Ground) 20° Rake Face

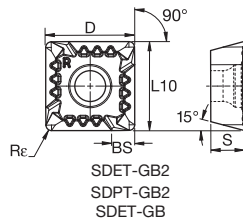
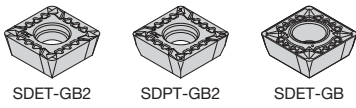
catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
SDCT431PDFL8LE	.500	.188	.500	.106	.016	.001	4	•	-	-	-	-	-	-	-	-
SDCT431PDFR8LE	.500	.188	.500	.106	.016	.001	4	•	-	-	-	-	-	-	-	-
SDCT43PDFL8LE	.500	.188	.500	.106	.031	.001	4	•	-	-	-	-	-	-	-	-
SDCT43PDFR8LE	.500	.188	.500	.106	.031	.001	4	•	-	-	-	-	-	-	-	-
SDCT433PDFL8LE	.500	.188	.500	.106	.047	.001	4	•	-	-	-	-	-	-	-	-
SDCT433PDFR8LE	.500	.188	.500	.106	.047	.001	4	•	-	-	-	-	-	-	-	-
SDCT434FNLE	.500	.188	.500	-	.063	.001	4	•	-	-	-	-	-	-	-	-
SDCT435FNLE	.500	.188	.500	-	.078	.001	4	•	-	-	-	-	-	-	-	-
SDCT436FNLE	.500	.188	.500	-	.094	.001	4	•	-	-	-	-	-	-	-	-
SDCT438FNLE	.500	.188	.500	-	.125	.001	4	•	-	-	-	-	-	-	-	-

SDCT-LD2 (Ground) 15° Rake Face

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
SDCT431PDEL8LD2	.500	.188	.500	.106	.016	.002	4	-	-	-	•	-	-	-	-	-
SDCT431PDER8LD2	.500	.188	.500	.115	.016	.002	4	-	-	-	•	-	-	-	-	-
SDCT43PDEL8LD2	.500	.188	.500	.130	.031	.002	4	-	-	-	•	-	-	-	-	-
SDCT43PDER8LD2	.500	.188	.500	.130	.031	.002	4	-	•	-	•	-	-	•	-	•
SDCT433PDEL8LD2	.500	.188	.500	.120	.047	.002	4	-	-	-	•	-	-	-	-	-
SDCT433PDER8LD2	.500	.188	.500	.120	.047	.002	4	-	-	-	•	-	-	-	-	-
SDCT434ENLD2	.500	.188	.500	-	.063	.002	4	-	-	-	•	-	-	-	-	•
SDCT435ENLD2	.500	.188	.500	-	.078	.002	4	-	-	-	•	-	-	-	-	-
SDCT436ENLD2	.500	.188	.500	-	.094	.002	4	-	-	-	•	-	-	-	-	-
SDCT438ENLD2	.500	.188	.500	-	.125	.002	4	-	-	•	•	-	-	-	-	-
SDCT4316ENLD2	.500	.188	.500	-	.250	.002	2	-	-	-	•	-	-	-	-	•

Slot Milling

- Heavy machining.
- Four cutting edges.



- first choice
- alternate choice

P	●	○	○	○	○	○	○	○	○
M	○	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

■ SDET-GB (Ground) 5° Rake Face

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
SDET43PDER8GB	.500	.188	.500	.101	.031	.003	4	○	●	○	○	○	○	○	○	○
SDET43PDSR8GB	.500	.188	.500	.101	.031	.006	4	○	○	○	○	○	○	○	○	○
SDET433PDER8GB	.500	.188	.500	.086	.047	.003	4	○	○	○	○	○	○	○	○	○
SDET433PDSR8GB	.500	.188	.500	.085	.047	.006	4	○	○	○	○	○	○	○	○	○
SDET434ENGB	.500	.188	.500	—	.062	.003	4	○	○	○	○	○	○	○	○	○
SDET434SNGB	.500	.188	.500	—	.062	.006	4	○	○	○	○	○	○	○	○	○
SDET436ENGB	.500	.188	.500	—	.094	.003	4	○	○	○	○	○	○	○	○	○
SDET436SNGB	.500	.188	.500	—	.094	.006	4	○	○	○	○	○	○	○	○	○
SDET438ENGB	.500	.188	.500	—	.125	.003	4	○	○	○	○	○	○	○	○	○
SDET438SNGB	.500	.188	.500	—	.125	.006	4	○	○	○	○	○	○	○	○	○
SDET4312ENGB	.500	.188	.500	—	.188	.003	2	○	○	○	○	○	○	○	○	○
SDET4312SNGB	.500	.188	.500	—	.188	.006	2	○	○	○	○	○	○	○	○	○
SDET4316ENGB	.500	.188	.500	—	.250	.006	2	○	○	○	○	○	○	○	○	○
SDET4316ENGB	.500	.188	.500	—	.250	.003	2	○	○	○	○	○	○	○	○	○

■ SDET-GB2 (Ground) 5° Rake Face

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
SDET43PDEL8GB2	.500	.188	.500	.130	.031	.003	4	○	○	○	○	○	○	○	○	○
SDET43PDER8GB2	.500	.188	.500	.130	.031	.003	4	○	○	○	○	○	○	○	○	○
SDET43PDSL8GB2	.500	.188	.500	.130	.031	.005	4	○	○	○	○	○	○	○	○	○
SDET43PDSR8GB2	.500	.188	.500	.130	.031	.005	4	○	○	○	○	○	○	○	○	○
SDET433PDEL8GB2	.500	.188	.500	.120	.047	.003	4	○	○	○	○	○	○	○	○	○
SDET433PDER8GB2	.500	.188	.500	.120	.047	.003	4	○	○	○	○	○	○	○	○	○
SDET434SNGB2	.500	.188	.500	—	.063	.005	4	○	○	○	○	○	○	○	○	○
SDET435SNGB2	.500	.188	.500	—	.078	.005	4	○	○	○	○	○	○	○	○	○
SDET436SNGB2	.500	.188	.500	—	.094	.005	4	○	○	○	○	○	○	○	○	○
SDET438XENGB2	.500	.188	.500	—	.125	.003	2	○	○	○	○	○	○	○	○	○
SDET438SNGB2	.500	.188	.500	—	.125	.005	4	○	○	○	○	○	○	○	○	○
SDET4316SNGB2	.500	.188	.500	—	.250	.005	2	○	○	○	○	○	○	○	○	○

■ SDPT-GB2

catalog number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
SDPT43PDER8GB2	.500	.188	.500	.106	.031	.003	4	○	○	○	○	○	○	○	○	○
SDPT43PDSR8GB2	.500	.188	.500	.106	.031	.005	4	○	○	○	○	○	○	○	○	○



■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

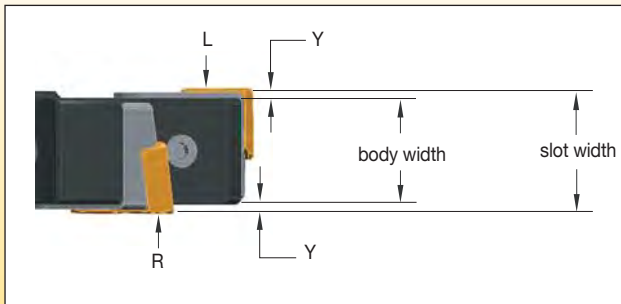
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.F..LE	.005	.017	.030	.003	.012	.021	.003	.009	.016	.002	.008	.014	.002	.007	.013	.F..LE
.E..LD	.007	.019	.032	.005	.013	.023	.004	.010	.017	.003	.009	.015	.003	.008	.014	.E..LD
.E..LD2	.005	.018	.032	.004	.013	.023	.003	.010	.017	.002	.009	.015	.002	.008	.014	.E..LD2
.E..GB	.009	.021	.035	.007	.015	.025	.005	.011	.019	.004	.010	.016	.004	.009	.015	.E..GB
.E..GB2	.009	.021	.035	.007	.015	.025	.005	.011	.019	.004	.010	.016	.004	.009	.015	.E..GB2
.S..GB	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..GB
.S..GB2	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..GB2
.S..GN	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..GN

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



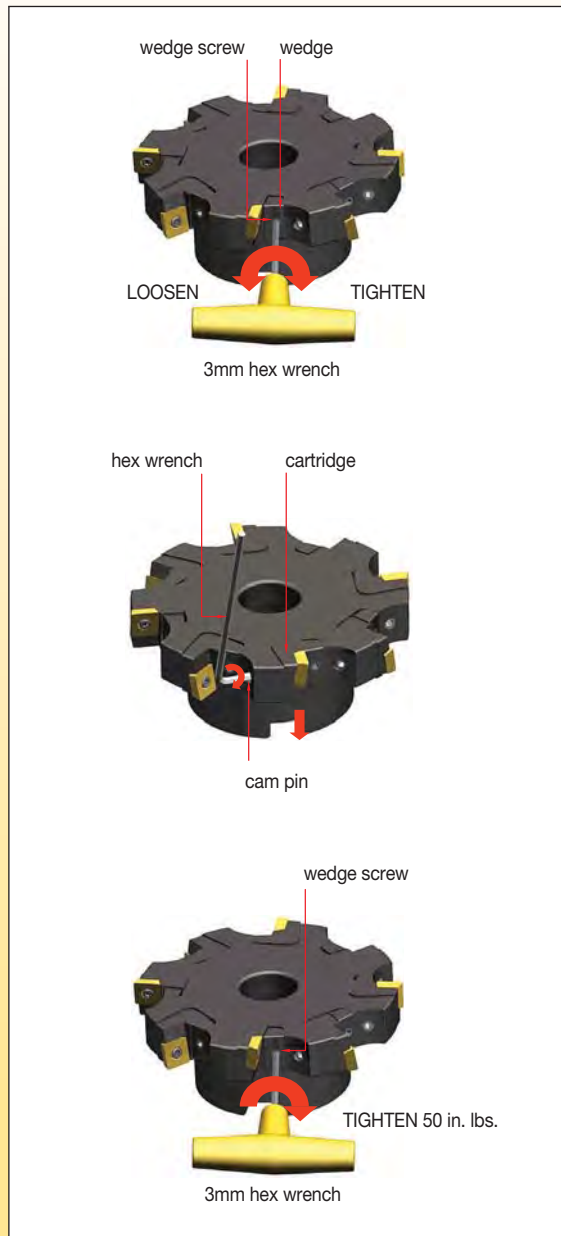
Slot Milling

■ KSSM Slot Width Adjustment Instructions



1. Measure body width at pocket 1 (per stamp on tool body) behind cartridge.
2. Zero tool presetter at pocket 1 behind cartridge.
3. Move presetter over the insert and set distance Y.
 $Y = (\text{Desired Slot Width} - \text{Body Width}) / 2$
4. Zero over insert at starting pocket (pocket 1).
5. Adjust remaining cartridges on the same side.
6. Return to starting pocket and start with step 2 for opposite side of cutter.

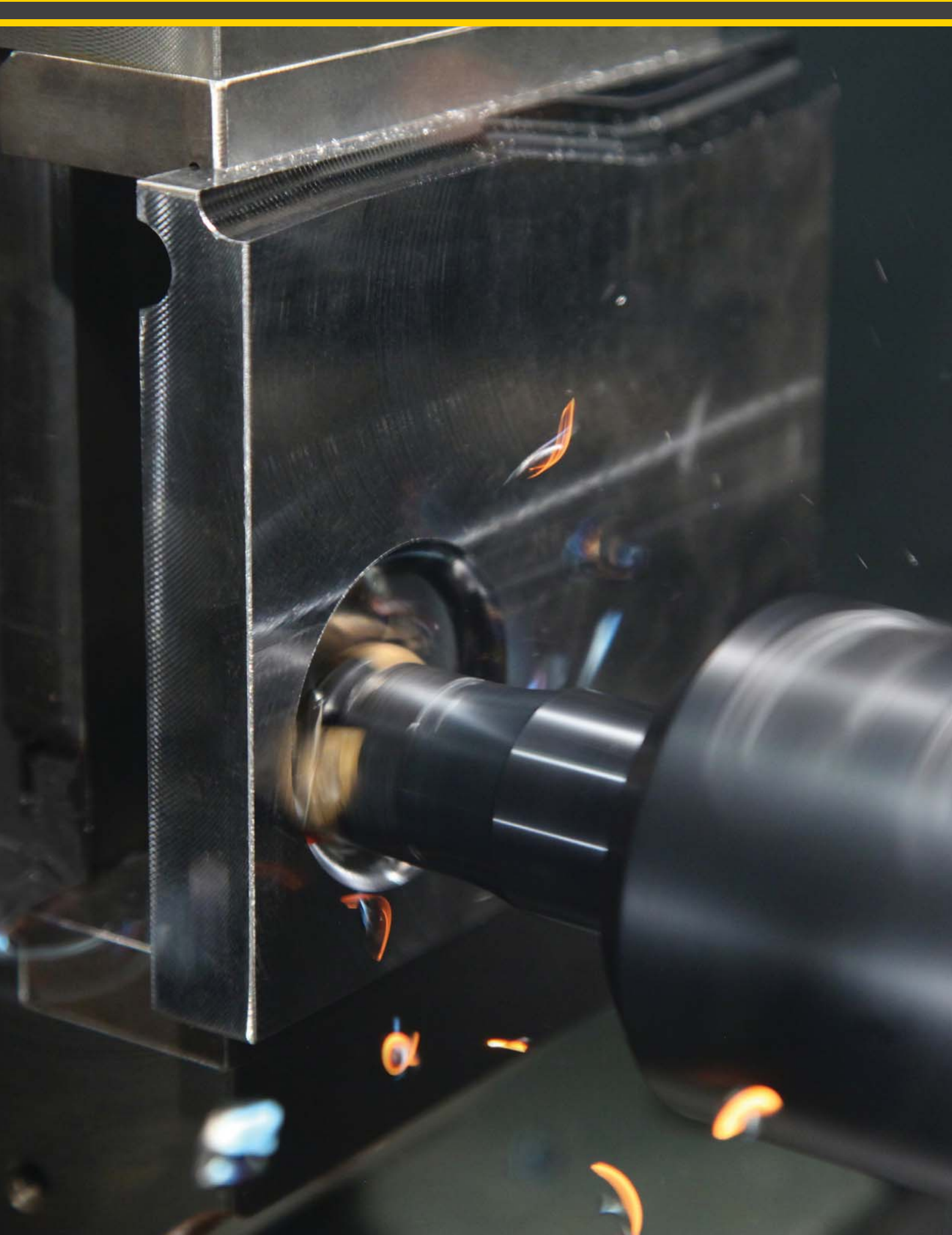
■ KSSM Cartridge Adjustment Instructions



1. Insert 3mm hex wrench into STCM Screw.
2. Rotate 3mm hex wrench counter-clockwise to loosen wedge.
3. Rotate 3mm hex wrench clockwise to lightly tighten STCM screw to approximately 9 in. lbs., so the wedge is touching the cartridge and cutter body. This creates some slight resistance against the cartridge during the adjustment.

4. Insert hex wrench into cam pin behind cartridge.
5. Rotate wrench to adjust cartridge to desired position.
6. For best accuracy, back cam pin off, so you can feel it is not touching the sides of the slot in the back of the cartridge.
7. Remove wrench from cam pin.

8. Insert 3mm hex wrench into STCM screw.
9. Tighten STCM screw to 55 in. lbs. prior to using the cutter. Kennametal torque wrench KTW45 or alternate torque wrench should be used.
10. Double check cartridge position to assure no movement.



Indexable Milling • Copy Milling

Stellram 7792VX • High-Feed Series	V2–V32
KenFeed 2X • Double-Sided High-Feed Milling Cutters	V34–V41
Rodeka • Double-Sided Round Inserts	V42–V64
Rodeka 10	V44–V50
Rodeka 12	V51–V57
Rodeka 16	V58–V60
Rodeka 12X	V61–V64
KSRM • Round Inserts, Specially Developed for Titanium and Stainless Steel	V66–V94
Stellram 7713VR • Round Inserts.....	V96–V108
Stellram 7713VR10	V97–V101
Stellram 7713VR12	V102–V108
Stellram 5505VX.....	V110–V118
KDMB and KDMT	V120–V137
Z-Axis	V138–V145
KCRA • Double-Sided Ceramic Round Inserts.....	V146–V152
KIPR.....	V154–V159

➤ Stellram® 7792 High-Feed Series

Indexable Milling

The 7792 cutter series has been designed for high-feed milling applications with superior surface generation. 7792VX cutters are designed for a wide range of applications, including facing, pocketing, ramping, helical interpolation, and plunging. They are capable of machining all materials, including steel, stainless steel, cast iron, and high-temperature and aluminum alloys.

Features and Benefits

- The 7792VX high-feed cutters are the best solution for reducing cycle times or removing the maximum amount of material in the shortest time.
- New ultra-fine pitch cutters further increase metal removal rates, especially in high-temp alloys.
- The unique design and insert positioning help to achieve up to 5x higher feed rates than other cutters on the market.
- When used in long (extended) toolholders, 7792VX cutters absorb vibrations and greatly reduce instability and tool deflection.
- Integrated wiper facet for improved surface finish: 16 Ra (1,6μ) when used at <0.020 in/z.





7792VXP06:

Maximum $a_p = 0.035''$

Diameter Range = 0.625–1.250''

7792VXD09:

Maximum $a_p = 0.059''$

Diameter Range = 1.000–2.000''

7792VXD12:

Maximum $a_p = 0.098''$

Diameter Range = 1.250–6.300''

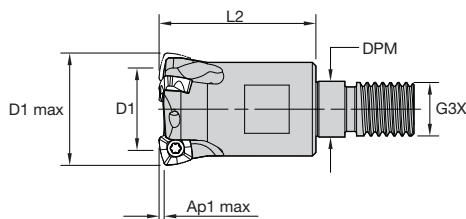
7792VXE16:

Maximum $a_p = 0.138''$

Diameter Range = 2.000–6.000''

NOTE: Larger diameter shell mill fixation cutters with interchangeable cartridges are available.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.



■ 7792VXP06 Modular Head • Screw-On

order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5661213	A7792VXP06SA.625Z2R1	.625	.255	1.000	M8	.335	.035	2
5660060	A7792VXP06SA.75Z2R1.4	.750	.380	1.377	M10	.413	.035	2
5661214	A7792VXP06SA.75Z3R1.4	.750	.380	1.377	M10	.413	.035	3
5667958	A7792VXP06SA1.0Z3R1.4	1.000	.630	1.377	M12	.492	.035	3
5661215	A7792VXP06SA1.0Z4R1.4	1.000	.630	1.377	M12	.492	.035	4
5681114	A7792VXP06SA1.25Z5R2	1.250	.880	1.693	M16	.669	.035	5

■ Spare Parts

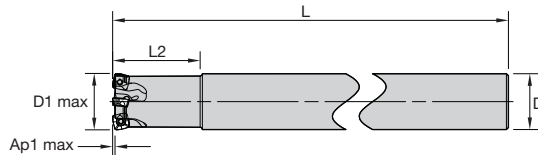
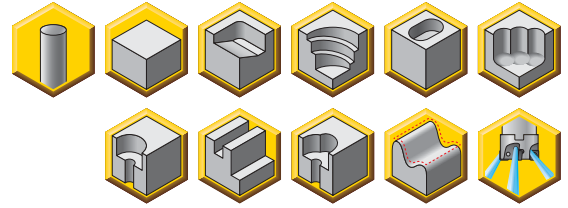
catalog number	insert screw	in. lbs.	Torx driver
A7792VXP06SA.625Z2R1	FP2506T	7.1	TP7
A7792VXP06SA.75Z2R1.4	FP2506T	7.1	TP7
A7792VXP06SA.75Z3R1.4	FP2506T	7.1	TP7
A7792VXP06SA1.0Z3R1.4	FP2507T	7.1	TP7
A7792VXP06SA1.0Z4R1.4	FP2507T	7.1	TP7
A7792VXP06SA1.25Z5R2	FP2507T	7.1	TP7

NOTE: For further application recommendation, please see technical information on pages V30-V32.



Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ **7792VXP06 Cylindrical Shank**

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5667588	C7792VXP06CA.62Z2R5.5	.625	.625	7.402	.980	.035	2
5658507	C7792VXP06CA.75Z3R6.1	.750	.750	7.874	1.259	.035	3
5661212	C7792VXP06CA1.0Z4R6.1	1.000	1.000	8.344	1.575	.035	4
5681117	C7792VXP06CA1.25Z5R8	1.250	1.250	9.761	1.575	.035	5

■ **Spare Parts**

catalog number	insert screw	in. lbs.	Torx driver
C7792VXP06CA.62Z2R5.5	FP2506T	7.1	TP7
C7792VXP06CA.75Z3R6.1	FP2506T	7.1	TP7
C7792VXP06CA1.0Z4R6.1	FP2507T	7.1	TP7
C7792VXP06CA1.25Z5R8	FP2507T	7.1	TP7

NOTE: For further application recommendation, please see technical information on pages V30–V32.



Copy Milling

■ Technical Information (in)

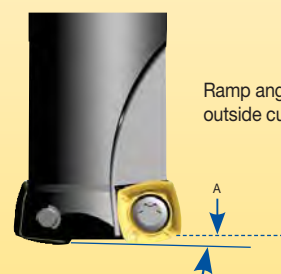
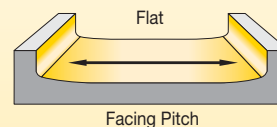
order number	catalog number	facing pitch	ramping angle	dimension		ap max helical/linear	ae max plunging	max RPM
				min-max	helical hole			
5667588	C7792VXP06CA.62Z2R5.5	6.090	8.20	0.850	1.170	0.024	0.118	65,000
5658507	C7792VXP06CA.75Z3R6.1	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5661212	C7792VXP06CA1.0Z4R6.1	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5681117	C7792VXP06CA1.25Z5R8	1.430	2.69	2.100	2.420	0.024	0.118	41,500
5661213	A7792VXP06SA.62Z2R1	6.090	8.20	0.850	1.170	0.024	0.118	65,000
5660060	A7792VXP06SA.75Z2R1.4	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5661214	A7792VXP06SA.75Z3R1.4	3.860	6.74	1.100	1.420	0.024	0.118	57,000
5667958	A7792VXP06SA1.0Z3R1.4	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5661215	A7792VXP06SA1.0Z4R1.4	2.110	4.34	1.600	1.920	0.024	0.118	49,000
5681114	A7792VXP06SA1.25Z5R2	1.430	2.69	2.100	2.420	0.024	0.118	41,500



Helical Interpolation



Plunging



Ramp angle A uses one outside cutting edge only.

A = max ramp angle utilizing full-face contact.

Inserts

■ Insert Selection Guide • IC 06

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	...D41	SC6525	...D41	SC6525	...D41	X400
P3-P4	...D	KC522M	...D	KC522M	...D	KCPM40
P5-P6	...D41	SP6519	...D41	X500	...D41	X500
M1-M2	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
M3	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
K1-K2	...D	KC510M	...D	KCPK30	...D	KCPK30
K3	...D	KC510M	...D	KCPK30	...D	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
S3	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
S4	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
H1	...D	KC510M	...D	KC510M	...D	KCPM40

Copy Milling

■ Recommended Starting Feeds [IPT] • High-Feed

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .035 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.015	.043	.076	.011	.029	.050	.008	.022	.036	.007	.019	.031	.006	.017	.028	.E..D41
.S..D	.027	.058	.093	.019	.039	.059	.014	.028	.042	.012	.024	.036	.011	.022	.033	.S..D

At .025 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.018	.051	.094	.013	.035	.059	.009	.025	.042	.008	.022	.037	.007	.020	.033	.E..D41
.S..D	.032	.070	.118	.023	.046	.071	.017	.033	.050	.014	.029	.043	.013	.026	.039	.S..D

At .020 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.020	.058	.109	.014	.039	.067	.010	.028	.047	.009	.025	.041	.008	.022	.037	.E..D41
.S..D	.036	.080	.141	.025	.052	.080	.019	.037	.056	.016	.032	.048	.015	.029	.043	.S..D

■ Feed Rate Guide • Plunging • IC 06 • fz [in/tooth]

Insert Geometry	Programmed Feed per Tooth (fz)			Insert Geometry	
	Max .118" insert engagement (ae radial engagement)				
.E..D41	.002		.006	.010	.E..D41
.S..D	.004		.008	.012	.S..D

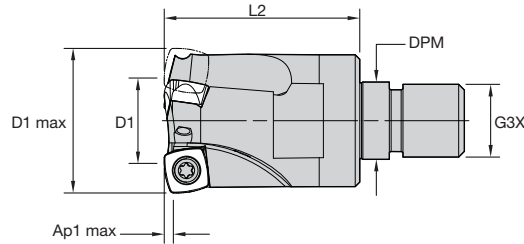
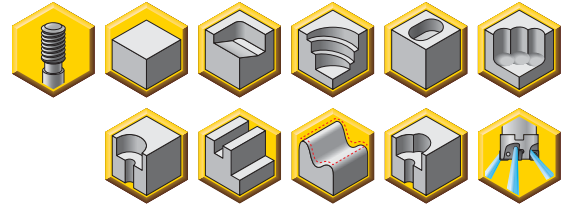


NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.

Use "Light Machining" values as starting feed rate

Please see pages X22-X37 for recommended starting speeds.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.



■ **7792VXD09 Modular Head • Screw-On**

order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5659840	A7792VXD09SA1.0Z2R1.4	1.000	.487	1.378	M12	.492	.059	2
5660449	A7792VXD09SA1.25Z3R2	1.250	.738	1.692	M16	.669	.059	3

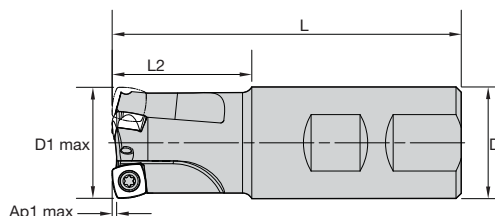
■ **Spare Parts**

catalog number	insert screw	in. lbs.	Torx driver
A7792VXD09SA1.0Z2R1.4	F3508T	18.6	T15
A7792VXD09SA1.25Z3R2	F3510T	18.6	T15

NOTE: For further application recommendation, please see technical information on pages V30-V32.



- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ 7792VXD09 Weldon® Shank

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5658075	C7792VXD09WA1.00Z2R	1.000	1.000	3.856	1.575	.059	2
5666067	C7792VXD09WA1.25Z3R	1.250	1.250	3.855	1.574	.059	3

■ Spare Parts

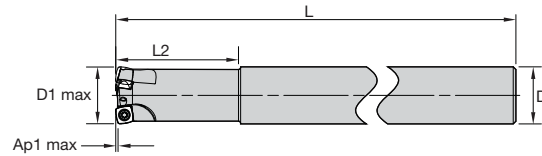
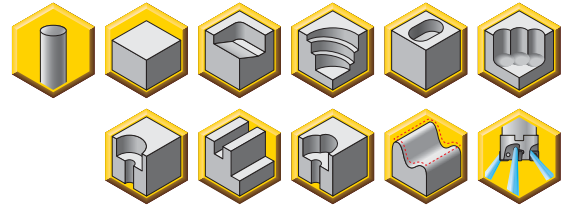
catalog number	insert screw	in. lbs.	Torx driver
C7792VXD09WA1.00Z2R	F3508T	18.6	T15
C7792VXD09WA1.25Z3R	F3510T	18.6	T15

NOTE: For further application recommendation, please see technical information on pages V30-V32.



Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ **7792VXD09 Cylindrical Shank**

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5667564	C7792VXD09CA1.00Z2R2	1.000	1.000	7.874	1.969	.059	2
6025590	C7792VXD09CA1.00Z3R2	1.000	1.000	8.000	2.000	.059	3
5659948	C7792VXD09CA1.25Z3R3	1.250	1.250	9.843	2.756	.059	3
6025611	C7792VXD09CA1.25Z4R3	1.251	1.250	10.000	3.000	.059	4

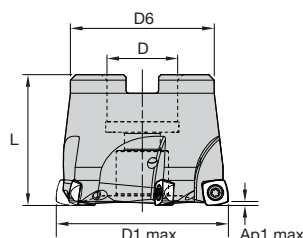
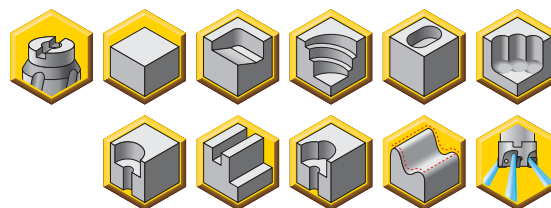
■ **Spare Parts**

catalog number	insert screw	in. lbs.	Torx driver
C7792VXD09CA1.00Z2R2	F3508T	18.6	T15
C7792VXD09CA1.00Z3R2	F3508T	18.6	T15
C7792VXD09CA1.25Z3R3	F3510T	18.6	T15
C7792VXD09CA1.25Z4R3	F3510T	18.6	T15

NOTE: For further application recommendation, please see technical information on pages V30-V32.



- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ 7792VXD09 Shell Mill

order number	catalog number	D1 max	D	D6	L	Ap1 max	Z U
5656731	C7792VXD09-A1.50Z4R	1.500	.500	1.339	1.260	.059	4
5658170	C7792VXD09-A1.50Z5R	1.500	.500	1.339	1.260	.059	5
5667832	C7792VXD09-A2.00Z5R	2.000	.750	1.811	1.575	.059	5
5665795	C7792VXD09-A2.00Z6R	2.000	.750	1.811	1.575	.059	6
6025612	C7792VXD09-A2.00Z7R	2.000	.750	1.772	1.575	.059	7

■ Spare Parts

catalog number	insert screw	in. lbs.	Torx driver	mounting screw
C7792VXD09-A1.50Z4R	F3510T	18.6	T15	#1/4-28X3/4SHCSA
C7792VXD09-A1.50Z5R	F3510T	18.6	T15	#1/4-28X3/4SHCSA
C7792VXD09-A2.00Z5R	F3510T	18.6	T15	#3/8-24X1SHCSA
C7792VXD09-A2.00Z6R	F3510T	18.6	T15	#3/8-24X1SHCSA
C7792VXD09-A2.00Z7R	F3510T	18.6	TB15	#3/8-24X1SHCSA

NOTE: For further application recommendation, please see technical information on pages V30-V32.



■ Technical Information (in)

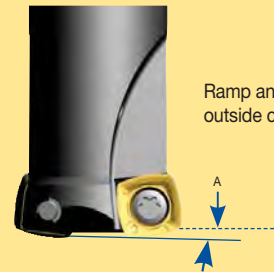
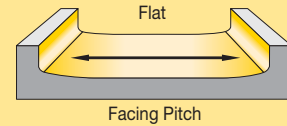
order number	catalog number	dimension						max RPM
		facing pitch	ramping angle	helical hole		ap max helical/linear	a _e max plunging	
				min	max			
5658075	C7792VXD09WA1.00Z2R	0.478	2.70	1.370	1.920	0.039	0.236	48,000
5666067	C7792VXD09WA1.25Z3R	0.728	1.50	1.870	2.420	0.039	0.236	40,500
5667564	C7792VXD09CA1.00Z2R2	0.478	2.70	1.370	1.920	0.039	0.236	48,000
6025590	C7792VXD09CA1.00Z3R2	0.478	2.70	1.370	1.920	0.039	0.236	48,000
5659948	C7792VXD09CA1.25Z3R3	0.728	1.50	1.870	2.420	0.039	0.236	40,500
6025611	C7792VXD09CA1.25Z4R3	0.728	1.50	1.870	2.420	0.039	0.236	40,500
5656731	C7792VXD09-A1.50Z4R	0.980	1.10	2.370	2.920	0.039	0.236	36,000
5658170	C7792VXD09-A1.50Z5R	0.980	1.10	2.370	2.920	0.039	0.236	36,000
5667832	C7792VXD09-A2.00Z5R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
5665795	C7792VXD09-A2.00Z6R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
6025612	C7792VXD09-A2.00Z7R	1.478	0.70	3.370	3.920	0.039	0.236	30,000
5659840	A7792VXD09SA1.0Z2R1.4	0.480	2.70	1.370	1.920	0.039	0.236	48,000
5660449	A7792VXD09SA1.25Z3R2	0.730	1.50	1.870	2.420	0.039	0.236	40,500



Helical Interpolation

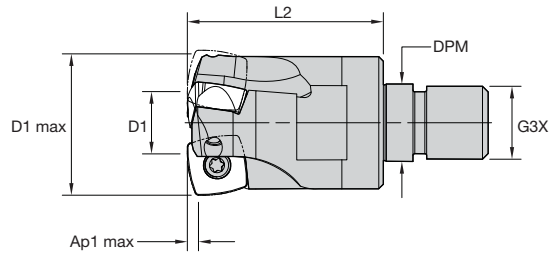
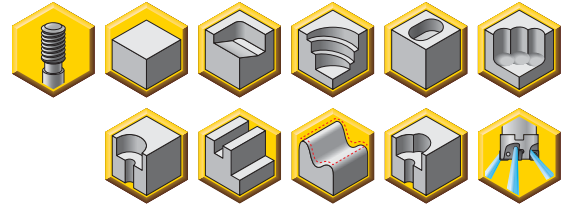


Plunging



A = max ramp angle utilizing full face contact.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.



■ **7792VXD12 Modular Head • Screw-On**

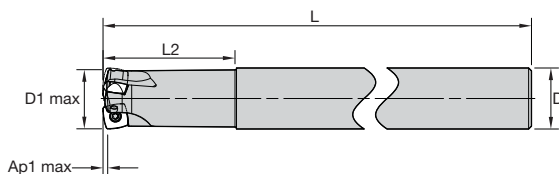
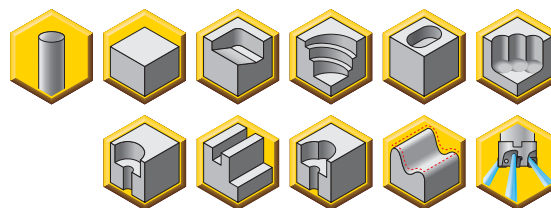
order number	catalog number	D1 max	D1	L2	G3X	DPM	Ap1 max	Z U
5659929	A7792VXD12SA1.25Z2R2	1.250	.520	1.693	M16	.669	.098	2
5667487	A7792VXD12SA1.5Z3R1.7	1.500	.785	1.750	M16	.669	.098	3

■ **Spare Parts**

catalog number	insert screw	in. lbs.	Torx driver
A7792VXD12SA1.25Z2R2	D4010T	27.4	T15
A7792VXD12SA1.5Z3R1.7	D4010T	27.4	T15

NOTE: For further application recommendation, please see technical information on pages V30-V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ 7792VXD12 Cylindrical Shank

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5666596	C7792VXD12CA1.25Z2R3	1.250	1.250	9.843	2.756	.098	2
6025588	C7792VXD12CA1.25Z3R3	1.250	1.250	10.000	3.000	.098	3
5665832	C7792VXD12CA1.2/1.5Z3	1.500	1.250	9.843	2.755	.098	3
6025589	C7792VXD12CA1.50Z4R3	1.500	1.500	10.000	3.000	.098	4

■ Spare Parts

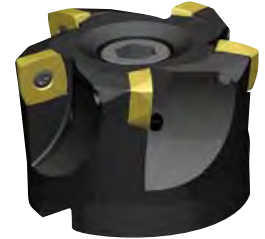
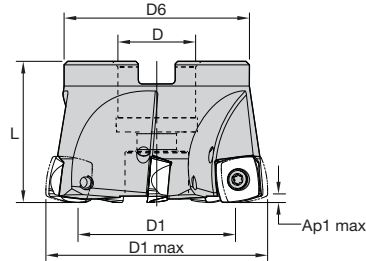
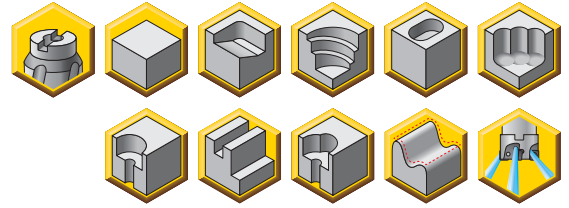
catalog number	insert screw	in. lbs.	Torx driver
C7792VXD12CA1.25Z2R3	D4010T	27.4	T15
C7792VXD12CA1.25Z3R3	D4010T	27.4	T15
C7792VXD12CA1.2/1.5Z3	D4010T	27.4	T15
C7792VXD12CA1.50Z4R3	D4010T	27.4	T15

NOTE: For further application recommendation, please see technical information on pages V30-V32.



Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ **7792VXD12 Shell Mill • Coarse, Medium, and Fine Pitch**

order number	catalog number	D1 max	D	D6	L	Ap1 max	Z U
6025581	C7792VXD12-A1.50Z4R	1.500	.750	1.417	1.575	.098	4
5657237	C7792VXD12-A2.00Z3R	2.000	.750	1.811	1.575	.098	3
5667404	C7792VXD12-A2.00Z4R	2.000	.750	1.772	1.575	.098	4
5656382	C7792VXD12-A2.00Z5R	2.000	.750	1.811	1.575	.098	5
6025582	C7792VXD12-A2.00Z6R	2.000	.750	1.772	1.575	.098	6
5667809	C7792VXD12-A2.50Z4R	2.500	1.000	1.969	1.575	.098	4
5656732	C7792VXD12-A2.50Z5R	2.500	1.000	1.969	1.575	.098	5
6025583	C7792VXD12-A2.50Z7R	2.500	1.000	2.087	1.575	.098	7
5665708	C7792VXD12-A3.00Z5R	3.000	1.000	2.087	1.969	.098	5
5656919	C7792VXD12-A3.00Z8R	3.000	1.000	1.969	1.969	.098	8
6025584	C7792VXD12-A3.00Z9R	3.000	1.000	2.087	1.969	.098	9
5667833	C7792VXD12-A4.00Z6R	4.000	1.250	2.559	1.969	.098	6
5656378	C7792VXD12-A4.00Z9R	4.000	1.250	2.559	1.969	.098	9
6025585	C7792VXD12-A4.00Z11R	4.000	1.250	2.559	1.969	.098	11
5667476	C7792VXD12-A5.00Z8R	5.000	1.500	3.244	2.480	.098	8
5658171	C7792VXD12-A5.00Z11R	5.000	1.500	3.244	2.480	.098	11
6025586	C7792VXD12-A5.00Z13R	5.000	1.500	3.189	2.480	.098	13
5656915	C7792VXD12-6.00Z12R	6.000	1.500	3.953	2.480	.098	12
6025587	C7792VXD12-6.00Z15R	6.000	1.500	4.323	2.480	.098	15
5659736	C7792VXD12-6.30Z8R	6.300	1.500	3.945	2.480	.098	8

NOTE: No through coolant for cutters where D1 max = 6.00".

■ **Spare Parts**

catalog number	insert screw	in. lbs.	Torx driver	mounting screw	mounting screw
C7792VXD12-A1.50Z4R	D4010T	27.4	T15	—	KLSS0714C
C7792VXD12-A2.00Z3R	D4012T	27.4	T15	#3/8-24X1SHCSA	—
C7792VXD12-A2.00Z4R	D4012T	27.4	T15	#3/8-24X1SHCSA	—
C7792VXD12-A2.00Z5R	D4010T	27.4	T15	#3/8-24X1SHCSA	—
C7792VXD12-A2.00Z6R	D4010T	27.4	TB15	#3/8-24X1SHCSA	—
C7792VXD12-A2.50Z4R	D4012T	27.4	T15	#1/2-20X1-1/4 LHCSA	—
C7792VXD12-A2.50Z5R	D4012T	27.4	T15	#1/2-20X1-1/4 LHCSA	—
C7792VXD12-A2.50Z7R	D4012T	27.4	TB15	#1/2-20X1-1/4 LHCSA	—
C7792VXD12-A3.00Z5R	D4012T	27.4	T15	#1/2-20X1-1/4SHCSA	—
C7792VXD12-A3.00Z8R	D4012T	27.4	T15	#1/2-20X1-1/4SHCSA	—
C7792VXD12-A3.00Z9R	D4012T	27.4	TB15	#1/2-20X1-1/4SHCSA	—
C7792VXD12-A4.00Z6R	D4012T	27.4	T15	#5/8-18X1-1/2SHCSA	—
C7792VXD12-A4.00Z9R	D4012T	27.4	T15	#5/8-18X1-1/2SHCSA	—
C7792VXD12-A4.00Z11R	D4012T	27.4	TB15	#5/8-18X1-1/2SHCSA	—
C7792VXD12-A5.00Z8R	D4012T	27.4	T15	#3/4-16X1-3/4SHCSA	—
C7792VXD12-A5.00Z11R	D4012T	27.4	T15	#3/4-16X1-3/4SHCSA	—
C7792VXD12-A5.00Z13R	D4012T	27.4	TB15	#3/4-16X1-3/4SHCSA	—
C7792VXD12-6.00Z12R	D4012T	27.4	T15	—	—
C7792VXD12-6.00Z15R	D4010T	27.4	TB15	—	—
C7792VXD12-6.30Z8R	D4012T	27.4	T15	—	—

NOTE: For further application recommendation, please see technical information on pages V30-V32.



■ Technical Information (in)

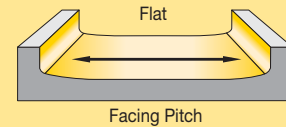
order number	catalog number	dimension						max RPM
		facing pitch	ramping angle	helical hole		ap max helical/linear	ae max plunging	
				min-max				
5666596	C7792VXD12CA1.25Z2R3	0.526	1.85	1.630	2.420	0.070	0.354	31,500
5665832	C7792VXD12CA1.2/1.5Z3	0.770	0.95	2.130	2.920	0.070	0.354	27,500
6025581	C7792VXD12-A1.50Z4R	0.770	0.95	2.130	2.920	0.070	0.354	27,500
5657237	C7792VXD12-A2.00Z3R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5667404	C7792VXD12-A2.00Z4R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5656382	C7792VXD12-A2.00Z5R	1.276	0.90	3.370	3.920	0.070	0.354	22,500
6025582	C7792VXD12-A2.00Z6R	1.276	0.90	3.130	3.920	0.070	0.354	22,500
5667809	C7792VXD12-A2.50Z4R	1.776	0.60	4.130	4.920	0.070	0.354	22,500
5656732	C7792VXD12-A2.50Z5R	1.776	0.60	4.130	4.920	0.070	0.354	22,500
6025583	C7792VXD12-A2.50Z7R	1.776	0.60	4.130	4.920	0.070	0.354	19,500
5665708	C7792VXD12-A3.00Z5R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
5656919	C7792VXD12-A3.00Z8R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
6025584	C7792VXD12-A3.00Z9R	2.276	0.45	5.130	5.920	0.070	0.354	17,500
5667833	C7792VXD12-A4.00Z6R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
5656378	C7792VXD12-A4.00Z9R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
6025585	C7792VXD12-A4.00Z11R	3.270	0.31	7.130	7.920	0.070	0.354	14,500
5667476	C7792VXD12-A5.00Z8R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
5658171	C7792VXD12-A5.00Z11R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
6025586	C7792VXD12-A5.00Z13R	4.270	0.24	9.130	9.920	0.070	0.354	13,000
5656915	C7792VXD12-6.00Z12R	5.270	0.19	11.130	11.920	0.070	0.354	11,500
6025587	C7792VXD12-6.00Z15R	5.270	0.19	11.130	11.920	0.070	0.354	11,500
5659736	C7792VXD12-6.30Z8R	5.570	0.18	11.130	11.920	0.070 <td 0.354	11,000	
5659929	A7792VXD12SA1.25Z2R2	0.520	2.60	1.630	2.420	0.070	0.354	31,500
6025588	C7792VXD12CA1.25Z3R3	0.520	2.60	1.630	2.420	0.070	0.354	31,500
5667487	A7792VXD12SA1.5Z3R1.7	0.770	1.60	2.130	2.920	0.070	0.354	27,500
6025589	C7792VXD12CA1.50Z4R3	0.770	1.60	2.130	2.920	0.070	0.354	27,500



Helical Interpolation



Plunging

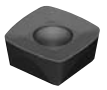


Facing Pitch

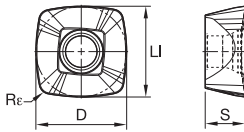


Ramp angle A uses one outside cutting edge only.

A = max ramp angle utilizing full face contact.



XDPW12-D



XDPW12-D

- first choice
- alternate choice

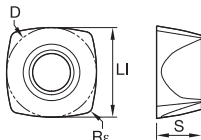
■ XDPW12-D • Precision Pressed with Reinforced Geometry •
First Choice for Hardened Materials and Cast Iron

catalog number	D	LI	S	Re	hm	RT
XDPW120515SRD	.500	.500	.219	.058	.010	.109

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.



XDLW12-D



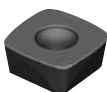
XDLW12-D

■ XDLW12-D • First choice for roughing alloyed steel and cast iron

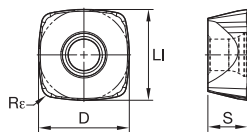
catalog number	D	LI	S	Re	hm	RT
XDLW120508SRD	.500	.500	.219	.031	.010	.098

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Particularly suitable for high strength steels, hardened materials, and cast iron.



XDPW12-D



XDPW12-D

■ XDPW12-D • Precision Pressed with Reinforced Geometry •
First Choice for Hardened Materials and Cast Iron

catalog number	D	LI	S	Re	hm	RT
XDPW120515SRD	.500	.500	.219	.058	.010	.109

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

P	M	K	N	S	H	GH2	KC510M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40	SC3025	SC6525	SP6519	X400	X500	
○	○	○	○	○	○	-	-	●	●	-	●	●	-	-	-	-	-	-	-



Copy Milling

■ Recommended Starting Feeds [IPT] • High-Feed

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .100 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	.011	.041	.066	.008	.029	.047	.006	.022	.035	.005	.019	.030	.005	.017	.028	.E..D721
.E..D41	.014	.046	.072	.010	.033	.051	.008	.024	.038	.007	.021	.033	.006	.019	.030	.E..D41
.E..D411	.014	.046	.072	.010	.033	.051	.008	.024	.038	.007	.021	.033	.006	.019	.030	.E..D411
.S..GP	.020	.051	.077	.015	.036	.055	.011	.027	.041	.009	.024	.035	.009	.022	.032	.S..GP
.S..D	.020	.051	.077	.015	.036	.055	.011	.027	.041	.009	.024	.036	.009	.022	.032	.S..D

At .070 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	.013	.048	.078	.010	.035	.056	.007	.026	.041	.006	.022	.036	.006	.021	.033	.E..D721
.E..D41	.017	.054	.086	.012	.039	.061	.009	.029	.045	.008	.025	.039	.007	.023	.036	.E..D41
.E..D411	.017	.054	.086	.012	.039	.061	.009	.029	.045	.008	.025	.039	.007	.023	.036	.E..D411
.S..GP	.024	.061	.092	.017	.043	.065	.013	.032	.048	.011	.028	.042	.010	.026	.038	.S..GP
.S..D	.024	.061	.092	.017	.043	.065	.013	.032	.048	.011	.028	.042	.010	.026	.038	.S..D

At .055 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	.015	.054	.088	.011	.039	.063	.008	.029	.046	.007	.025	.040	.007	.023	.037	.E..D721
.E..D41	.019	.061	.097	.014	.044	.069	.010	.033	.051	.009	.028	.044	.008	.026	.040	.E..D41
.E..D411	.019	.061	.097	.014	.044	.069	.010	.033	.051	.009	.028	.044	.008	.026	.040	.E..D411
.S..GP	.027	.068	.104	.019	.049	.073	.014	.036	.054	.013	.031	.047	.012	.029	.043	.S..GP
.S..D	.027	.068	.104	.019	.049	.074	.014	.036	.054	.013	.031	.047	.012	.029	.043	.S..D

■ Feed Rate Guide • Plunging • IC 12 • fz [in/tooth]

Insert Geometry	Programmed Feed per Tooth (fz) Max .354" insert engagement (ae radial engagement)			Insert Geometry	
	.E..D721	.002			.008	.013	.E..D721
.E..D41	.003		.009	.014	.E..D41
.E..D411	.003		.009	.014	.E..D411
.S..GP	.004		.010	.015	.S..GP
.S..D	.004		.010	.015	.S..D

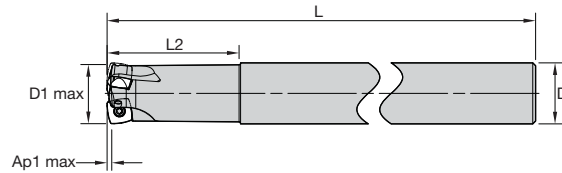
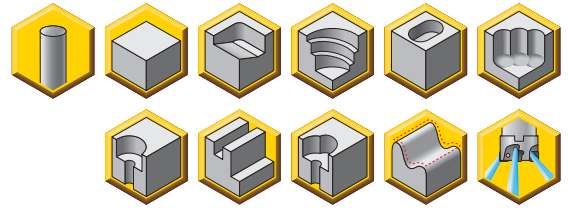


NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.

Use "Light Machining" values as starting feed rate

Please see pages X22-X37 for recommended starting speeds.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ **7792VXE16 Cylindrical Shank**

order number	catalog number	D1 max	D	L	L2	Ap1 max	Z U
5659564	C7792VXE16CA1.50Z2R4	1.500	1.500	6.703	4.016	.138	2
5666415	C7792VXE16CA2.00Z3R4	2.000	1.500	6.703	4.016	.138	3

■ **Spare Parts**

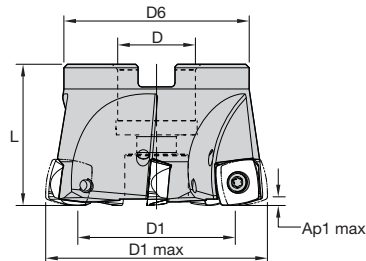
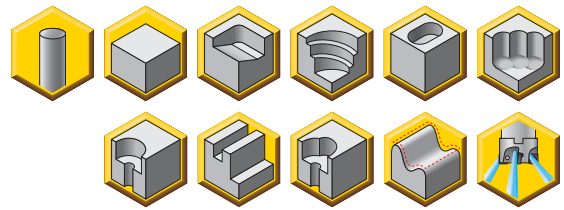
catalog number	insert screw	in. lbs.	Torx driver
C7792VXE16CA1.50Z2R4	DP5013T	54.0	TP20
C7792VXE16CA2.00Z3R4	DP5013T	53.9	TP20

NOTE: For further application recommendation, please see technical information on pages V30-V32.



Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



■ 7792VXE16 Shell Mill

order number	catalog number	D1 max	D	D6	L	Ap1 max	Z U
6025564	C7792VXE16-A2.00Z4R	2.000	.750	1.772	1.772	.138	4
5665812	C7792VXE16-A2.50Z5R	2.500	1.000	2.055	1.575	.138	5
6025565	C7792VXE16-A2.50Z6R	2.500	1.000	1.969	1.575	.138	6
5661029	C7792VXE16-A3.00Z6R	3.000	1.000	2.087	1.969	.138	6
6025566	C7792VXE16-A3.00Z7R	3.000	1.000	1.969	1.969	.138	7
6160743	C7792VXE16-A1.5/4.00Z7R	4.000	1.500	3.189	2.480	.138	7
5667941	C7792VXE16-A4.00Z8R	4.000	1.250	2.559	1.969	.138	8
6160744	C7792VXE16-A1.5/4.00Z9R	4.000	1.500	3.189	2.480	.138	9
6025567	C7792VXE16-A4.00Z9R	4.000	1.250	2.559	1.969	.138	9
5661030	C7792VXE16-A5.00Z10R	5.000	1.500	3.307	2.480	.138	10
6025568	C7792VXE16-A5.00Z11R	5.000	1.500	3.189	2.480	.138	11
5667570	C7792VXE16-6.00Z12R	6.000	1.500	4.291	2.480	.138	12
6025569	C7792VXE16-6.00Z13R	6.000	1.500	4.323	2.480	.138	13

NOTE: No through coolant for cutters where D1 max = 6.00".

■ Spare Parts

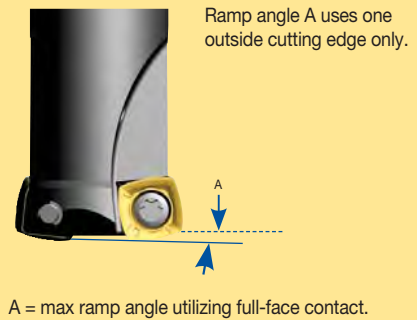
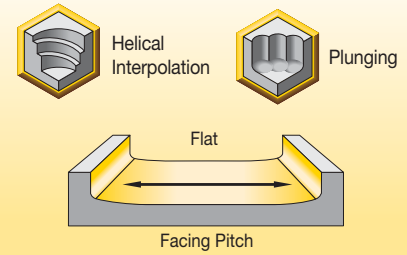
catalog number	insert screw	in. lbs.	Torx driver	mounting screw	mounting screw
C7792VXE16-A2.00Z4R	DP5013T	54.0	TP20	—	KLSS0714C
C7792VXE16-A2.50Z5R	DP5013T	54.0	TP20	#1/2-20X1-1/4 LHCSA	—
C7792VXE16-A2.50Z6R	DP5013T	54.0	TB20	#1/2-20X1-1/4 LHCSA	—
C7792VXE16-A3.00Z6R	DP5013T	54.0	TP20	#1/2-20X1-1/4SHCSA	—
C7792VXE16-A3.00Z7R	DP5013T	54.0	TB20	#1/2-20X1-1/4SHCSA	—
C7792VXE16-A1.5/4.00Z7R	DP5013T	54.0	TP20	#3/4-16X1-3/4SHCSA	—
C7792VXE16-A4.00Z8R	DP5013T	54.0	TP20	#5/8-18X1-1/2SHCSA	—
C7792VXE16-A1.5/4.00Z9R	DP5013T	54.0	TB20	#3/4-16X1-3/4SHCSA	—
C7792VXE16-A4.00Z9R	DP5013T	54.0	TB20	#5/8-18X1-1/2SHCSA	—
C7792VXE16-A5.00Z10R	DP5013T	67.3	TP20	#3/4-16X1-3/4SHCSA	—
C7792VXE16-A5.00Z11R	DP5013T	54.0	TB20	#3/4-16X1-3/4SHCSA	—
C7792VXE16-6.00Z12R	DP5013T	54.0	TP20	—	—
C7792VXE16-6.00Z13R	DP5013T	54.0	TB20	—	—

NOTE: For further application recommendation, please see technical information on pages V30-V32.

Copy Milling

■ Technical Information (in)

order number	catalog number	dimension						max RPM
		facing pitch	ramping angle	helical hole		ap max helical/linear	ae max plunging	
				min	max			
5666415	C7792VXE16CA2.0Z3R4	1.05	2.85	3	4	0.098	0.512	27,000
6025564	C7792VXE16-A2.00Z4R	1.05	2.85	3	4	0.098	0.512	27,000
5665812	C7792VXE16-A2.5Z5R	1.46	1.00	4	5	0.098	0.512	22,000
6025565	C7792VXE16-A2.50Z6R	1.56	0.86	3.82	5	0.098	0.512	27,500
5661029	C7792VXE16-A3.00Z6R	1.96	0.65	5	6	0.098	0.512	19,500
6025566	C7792VXE16-A3.00Z7R	2.06	0.58	5	6	0.098	0.512	27,500
5667941	C7792VXE16-A4.00Z8R	2.96	0.51	7	8	0.098	0.512	16,500
6025567	C7792VXE16-A4.00Z9R	3.06	0.42	7	8	0.098	0.512	27,500
5661030	C7792VXE16-A5.00Z10R	3.96	0.37	8.82	9.92	0.098	0.512	14,500
6025568	C7792VXE16-A5.00Z11R	4.06	0.32	8.82	9.92	0.098	0.512	27,500
5667570	C7792VXE16-6.00Z12R	4.96	0.27	10.82	11.92	0.098	0.512	13,000
6025569	C7792VXE16-6.00Z13R	5.06	0.23	10.82	11.92	0.098	0.512	27,500



Inserts

■ Insert Selection Guide • IC 16

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	...D41	SC6525	...D41	KCPM40	...D41	KCPM40
P3-P4	...D41	SC6525	...D	KCPM40	...D	KCPM40
P5-P6	...D41	SP6519	...D41	KCPM40	...D41	KCPM40
M1-M2	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
M3	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
K1-K2	...D	KCK15	...D	KCK15	...D	KCPK30
K3	...D	KCPK30	...D	KCPK30	...D	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
S3	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
S4	...D41	SP6519	...D41	KCSM40	...D41	KCSM40
H1	...D	KCPM40	...D	KCPM40	...D	KCPM40



■ Recommended Starting Feeds [IPT] • High-Feed

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .140 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.012	.039	.066	.009	.028	.047	.007	.021	.035	.006	.018	.030	.005	.017	.028	.E..D41
.S..D	.017	.043	.070	.012	.031	.050	.009	.023	.037	.008	.020	.032	.007	.019	.030	.S..D

At .100 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.014	.046	.077	.010	.033	.055	.008	.024	.041	.007	.021	.036	.006	.019	.032	.E..D41
.S..D	.020	.051	.083	.015	.036	.059	.011	.027	.044	.009	.024	.038	.009	.022	.035	.S..D

At .080 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	.016	.051	.086	.011	.036	.061	.009	.027	.045	.007	.024	.039	.007	.022	.036	.E..D41
.S..D	.022	.057	.092	.016	.041	.065	.012	.030	.048	.011	.026	.042	.010	.024	.039	.S..D

■ Feed Rate Guide • Plunging • IC 16 • fz [in/tooth]

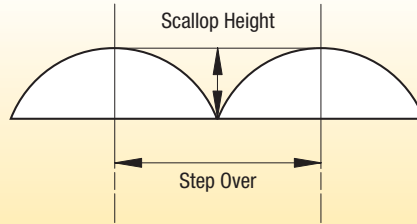
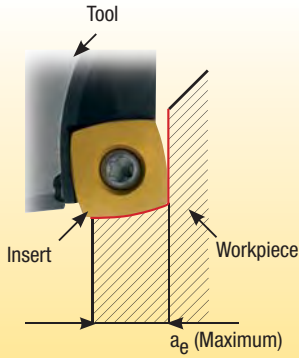
Insert Geometry	Programmed Feed per Tooth (fz)			Insert Geometry	
	Max .512" insert engagement (ae radial engagement)				
.E..D41	.003		.009	.015	.E..D41
.S..D	.004		.010	.016	.S..D



NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22-X37 for recommended starting speeds.



■ **Plunging**



The cutting edge should not be in contact with the material face after machining to maintain the cutting edge quality.

The scallop height is calculated in relation to the step over.

The maximum radial engagement is directly in relation to insert cutting edge length.

For insert type:
 XP...06 the ae max is .118"
 XD...09 the ae max is .236"
 XD...12 the ae max is .354"
 XE...16 the ae max is .512"



The advantages of face milling and producing cavities with the Stellram® high-feed face mill are numerous. The unique design of the insert, approach angle, and the cutter body ensure the cutting forces are predominantly directed in the axial direction. The example shown with a round insert tool shows complex forces which result in high levels of vibration and damage to the cutting edge.

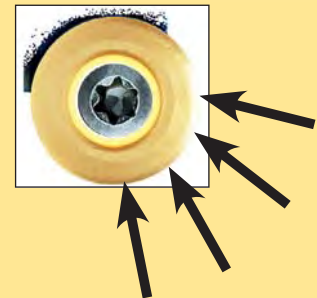
7792VX

- Cutting forces predominantly axial.
- Relationship between cutting edge and workpiece is at its most stable.
- Results in high feed rates and consistent tool life.



Round Insert Tools

- Tangential forces act around the radius.
- Leads to vibration and damage of the cutting edge.
- Leads to reduced feed and lower productivity.



The 7792VX machines with a constant volume of chip throughout all aspects of producing cavities and produces a side wall that is close to profile.

7792VX

- Constant cutting section (chip volume) irrespective of position in cavity.
- Producing a close to profile side wall.
- Near-square side walls possible.

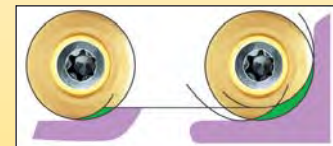


Round insert tools have increasing chip volume through the process.

Round insert

- Greater surface contact.
- Increased chip section for side wall machining.
- Vibration in corners.
- Undulating side wall cusps.

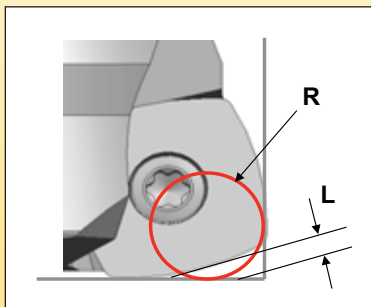
Center clearance Side wall



■ **CNC Program • Corner Radius Definition**

The use of common CAD/CAM systems requires a round insert dimension to be known for cavity machining. This is available with 7792VX cutters as shown below and in the reference table.

For finish pass applications:
Wiper facet for finishing use max. feed 0.031"

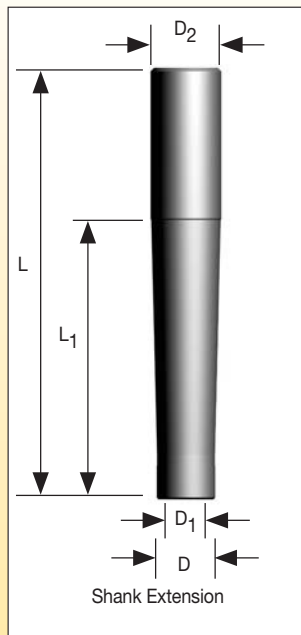


Programming Data (inch)			
Insert corner nose size (IC)	R _ε	R	L
06	0.750	1.100	1.420
09	0.031	0.079	0.028
	0.047	0.089	0.026
12	0.031	0.098	0.040
	0.047	0.107	0.038
16	0.047	0.164	0.057

Cylindrical Shank Extensions for Modular Heads

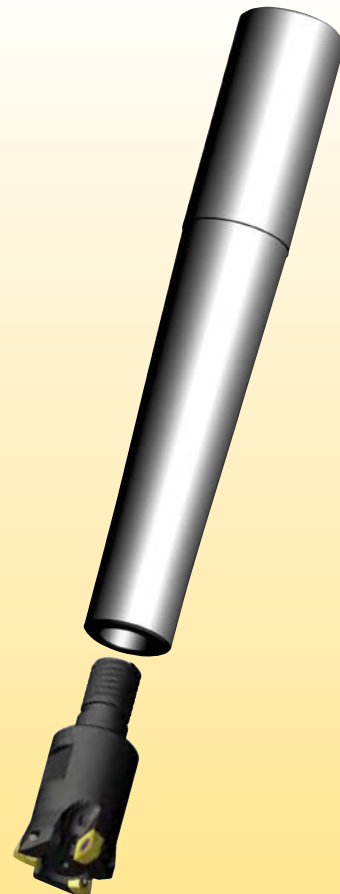
order number	catalog number	dimension					
		L	ramping angle		helical hole		M
			L1	D ₂	D	D1	
5673704	M-13-M8-CA.625-3.543	3.543	1.600	0.625	0.512	0.335	M8
5673705	M-13-M8-CA.625-4.331	4.331	2.500	0.625	0.512	0.335	M8
5672469	M-13-M8-CA.625-5.118	5.118	3.000	0.625	0.512	0.335	M8
5672833	M-13-M8-CA.625-6.693	6.693	4.750	0.625	0.512	0.335	M8
5672470	M-18-M10-CA.750-4.331	4.331	2.500	0.750	0.709	0.413	M10
5672834	M-18-M10-CA.750-5.118	5.118	3.000	0.750	0.709	0.413	M10
5672990	M-18-M10-CA.750-6.693	6.693	4.750	0.750	0.709	0.413	M10
5672835	M-21-M12-CA1-5.157	5.157	3.000	1.000	0.827	0.492	M12
5672991	M-21-M12-CA1-6.142	6.142	4.000	1.000	0.827	0.492	M12
5673353	M-21-M12-CA1-7.126	7.126	5.000	1.000	0.827	0.492	M12
5673588	M-21-M12-CA1-8.110	8.110	6.000	1.000	0.827	0.492	M12
5672471	M-21-M12-CA1-9.094	9.094	7.000	1.000	0.827	0.492	M12
5672992	M-29-M16-CA1.25-6.3	6.300	4.000	1.250	1.141	0.669	M16
5672836	M-29-M16-CA1.25-8.27	8.268	6.000	1.250	1.141	0.669	M16
5672993	M-29-M16-CA1.25-10.2	10.236	8.000	1.250	1.141	0.669	M16
5673706	M-29-M16-CA1.25-12.2	12.205	10.000	1.250	1.141	0.669	M16

NOTE: Order example with cylindrical shank: M-13-M8-CA.625-3.543.



Cylindrical shank extensions can be used with all modular heads found in several product family series within this catalog.

These extensions have the industry standard of metric threads.



Technical Advice

- M** Modular adapter
- 13** Diameter in front of the modular shank (D) = 0.512" (13mm)
- M8** Metric Thread (M)
- CA.625** Cylindrical shank diameter 0.625" with through coolant
- 3.543** Total length of the body in Inches

NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

SELECT

A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

- If you know which product you are looking for, a quick search can be performed by just the catalog number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kennametal.com/novo

➤ KenFeed™ 2X Series

Primary Application

KenFeed 2X is a double-sided trigon with six cutting edges engineered to provide superior metal removal and productivity through high feed rates in roughing operations. Smaller depths of cut at extremely high feed rates result in lower cutting forces, reducing vibrations and increasing process reliability.

Features and Benefits

- Six cutting edges per insert. Double-sided solution with unique design.
- Two different topography styles cover any type of material, component, and application.
- KenFeed 2X inserts are specially suitable for long, deep applications, up to 10 x L/D ratio.



9mm IC Insert WOEJ094....
Up to 0.059" Ap max.
Diameter 1.000–3.000"

The ultimate and innovative concept for applying the latest high-feed milling strategies.



Strong design with a thick insert provides outstanding reliability.

Screw-on, end mill, and shell mill cutters with internal coolant.

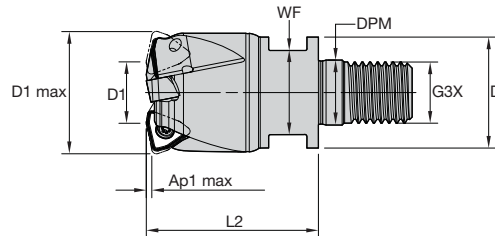
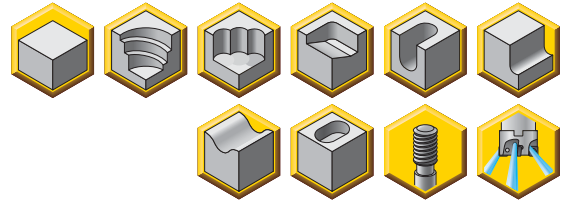
Platform designed for pocketing, ramping, and helical interpolations.

Just two topographies to cover all applications with easy selection.

No need for additional clamping device. Screw provides easy handling.

Double-sided insert with six cutting edges for better cost-per-edge position with full usage.

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.



■ **Screw-On End Mills**

order number	catalog number	D1 max	D1	D	DPM	WF (mm)	G3X	L2	Ap1 max	Z	lbs	max RPM	insert 1
4109575	KF2X100W0902M12L138	1.000	.350	.827	.492	17	M12	1.380	.059	2	.20	36600	WOEJ090512_
4109577	KF2X125W0903M16L169	1.250	.622	1.142	.669	22	M16	1.690	.059	3	.45	31000	WOEJ090512_
4109579	KF2X150W0904M16L169	1.500	.869	1.142	.669	22	M16	1.691	.059	4	.51	27400	WOEJ090512_

■ **Spare Parts**

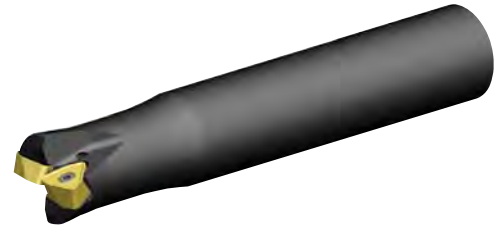
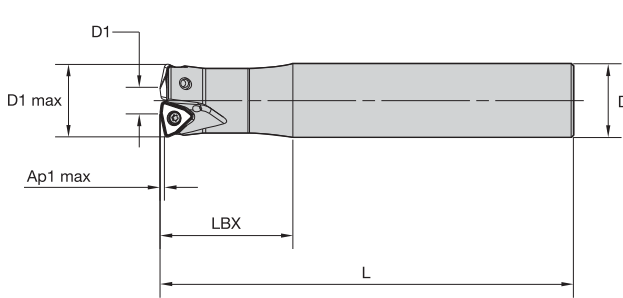
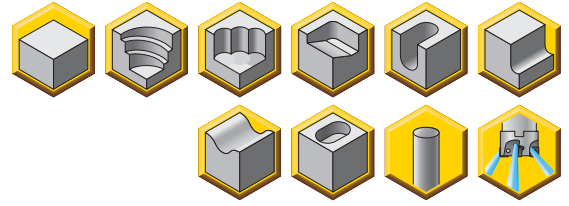


D1 max	insert screw	in. lbs.	Torx Plus driver
1.000	MS2219	16	DT9IP
1.250	MS2219	16	DT9IP
1.500	MS2219	16	DT9IP



Copy Milling

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.



■ End Mills

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max RPM	insert 1	lbs
4109580	KF2X100W0902C100L600	1.000	.350	1.000	6.000	1.780	.059	2	36600	WOEJ090512__	1.15
4109581	KF2X100W0902C100L800	1.000	.350	1.000	8.000	1.780	.059	2	36600	WOEJ090512__	1.58
4109582	KF2X125W0903C125L600	1.250	.619	1.250	6.000	1.690	.059	3	31000	WOEJ090512__	1.84
4109593	KF2X125W0903C125L800	1.250	.622	1.250	8.000	1.690	.059	3	31000	WOEJ090512__	2.53
4109594	KF2X150W0903C125L600	1.500	.869	1.250	6.000	1.691	.059	3	27400	WOEJ090512__	1.94
4109595	KF2X150W0903C125L800	1.500	.869	1.250	8.000	1.691	.059	3	27400	WOEJ090512__	2.61

■ Spare Parts



insert screw



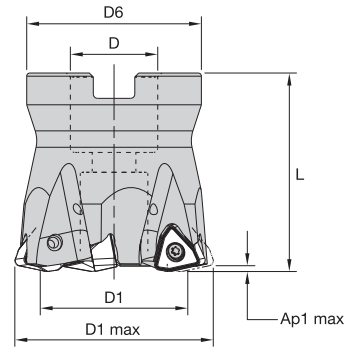
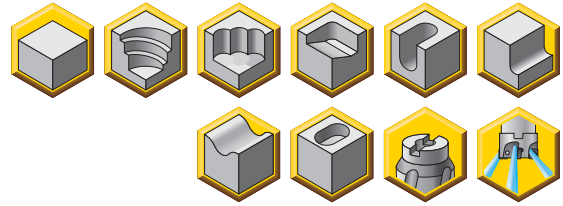
Torx Plus driver

D1 max	insert screw	in. lbs.	Torx Plus driver
1.000	MS2219	15	DT9IP
1.250	MS2219	15	DT9IP
1.500	MS2219	15	DT9IP



Copy Milling

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.



■ **Face Mills**

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max RPM	insert 1	lbs
4109596	KF2X150W0904S050L157	1.500	.869	.500	1.417	1.571	.059	4	27400	WOEJ090512__	.40
4109597	KF2X200W0905S075L157	2.000	1.366	.750	1.772	1.575	.059	5	22900	WOEJ090512__	.71
4109598	KF2X200W0906S075L157	2.000	1.366	.750	1.732	1.570	.059	6	22900	WOEJ090512__	.69
4109599	KF2X250W0906S075L175	2.500	1.864	.750	1.732	1.750	.059	6	20000	WOEJ090512__	1.16
4109600	KF2X300W0907S100L175	3.000	2.362	1.000	2.189	1.750	.059	7	18000	WOEJ090512__	1.77

■ **Spare Parts**

D1 max	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw
1.500	MS2219	15.00	DT9IP	S424
2.000	MS2219	15.00	DT9IP	S445
2.500	MS2219	15.00	DT9IP	S445
3.000	MS2219	15.00	DT9IP	S458



Copy Milling

Insert Selection Guide

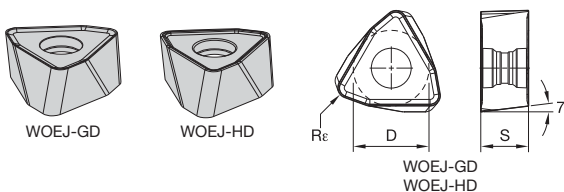
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..GD	KCPK30	.S..GD	KCPM40	.S..HD	KCPM40
P3-P4	.S..GD	KCPK30	.S..GD	KCPM40	.S..HD	KCPM40
P5-P6	.S..GD	KCPK30	.S..GD	KC725M	.S..HD	KC725M
M1-M2	.S..GD	KC522M	.S..GD	KC725M	.S..HD	KC725M
M3	.S..GD	KCPK30	.S..GD	KCPM40	.S..HD	KCPM40
K1-K2	.S..HD	KCK15	.S..HD	KCK15	.S..HD	KCK15
K3	.S..GD	KCPK30	.S..HD	KCK15	.S..HD	KCPK30
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.S..GD	KC522M	.S..GD	KC725M	.S..HD	KC725M
S3	.S..GD	KC725M	.S..GD	KCPM40	.S..HD	KCPM40
S4	.S..GD	KC522M	.S..HD	KC522M	.S..HD	KC725M
H1	-	-	-	-	-	-

Indexable Inserts • WOEJ09...

- Double-sided insert with six cutting edges.
- Unique and strong insert design that enables high-feed conditions, up to 0.1 IPT.
- -GD provides lower cutting forces; first choice for soft materials.

● first choice
○ alternate choice

P	●	○	○	○	○	○
M	○	○	○	○	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○



WOEJ-GD

catalog number	D	S	Rε	cutting edges	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30
WOEJ090512SRGD	.350	.213	.048	6	-	●	●	-	●	●	●

- Double-sided insert with six cutting edges.
- Unique and strong insert design that enables high-feed conditions, up to 0,1 IPT.
- -HD geometry is the first choice for steels, high-strength steels, and cast iron.

WOEJ-HD

catalog number	D	S	Rε	cutting edges	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30
WOEJ090512SRHD	.351	.215	.048	6	-	●	●	-	●	●	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.S..GD	.045	.089	.141	.032	.063	.098	.024	.047	.072	.021	.040	.063	.019	.037	.057	.S..GD
.S..HD	.045	.109	.168	.032	.077	.116	.024	.057	.085	.021	.049	.074	.019	.045	.067	.S..HD

■ Feed Rate Guide • Plunging • IC09 • fz [in/tooth]

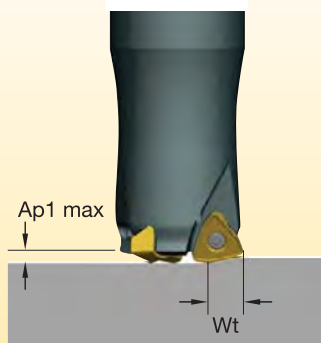
Insert Geometry	Programmed Feed per Tooth (fz)			Insert Geometry	
	Max .118" insert engagement (ae radial engagement)				
.S..GD	.004		.008	.012	.S..GD
.S..HD	.004		.009	.014	.S..HD



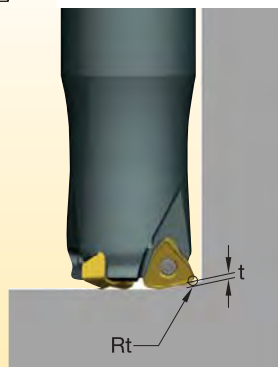
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

General Programming Information for Applying KenFeed 2X • IC 09

Rt	Wt	t
.110	.312	.045



Small Ap1 values and higher feed rates generate lower cutting forces versus traditional milling strategies.



For CAM programming, the loads can be programmed as a toroidal tool type by using the Rt value as the insert radius.

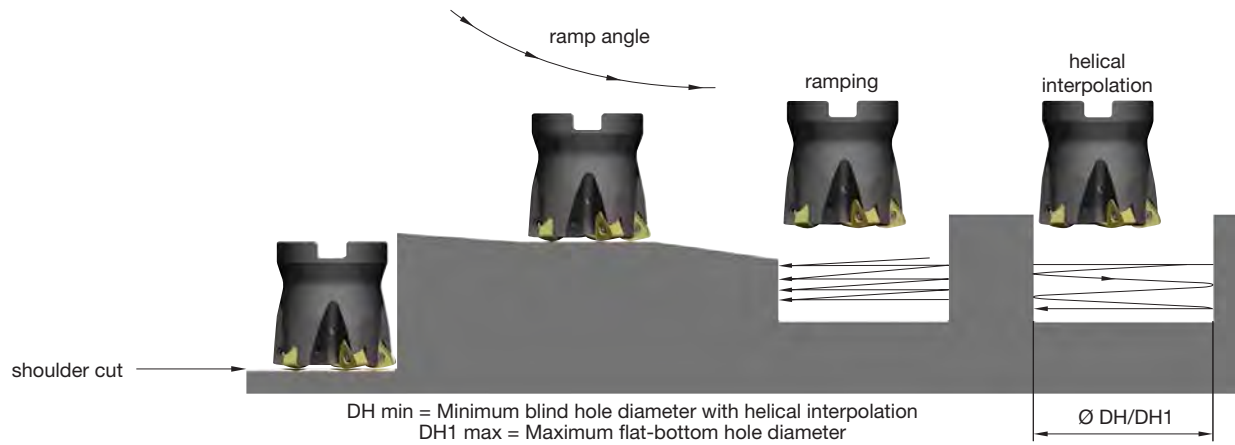


Recommended when long overhang is necessary due to lower radial forces. Maximum L/D ratio of 10 x D.



Copy Milling

■ Maximum Linear Ramping and Helical Interpolation from Solid • Inch



cutter type	catalog number	recommended ramping angle (for continuous ramping process)	max ramp angle when Ap max (not for continuous ramping process)	max ramp angle for 360° helical interpolation	min hole diameter (DH min)	max flat-bottom hole diameter (DH1 max)	max diameter (no flat bottom)
Screw-On	KF2X100W0902M12L138	3.5°	5.2°	3.1°	1.291	1.35	2.0
	KF2X125W0902M16L169	1.9°	2.8°	1.7°	1.813	1.87	2.5
	KF2X125W0903M16L169	1.9°	2.8°	1.7°	1.813	1.87	2.5
	KF2X150W0903M16L169	1.4°	2.1°	1.2°	2.310	2.37	3.0
End Mills	KF2X150W0904M16L169	1.4°	2.1°	1.2°	2.310	2.37	3.0
	KF2X100W0902C100L600	3.5°	5.2°	3.1°	1.291	1.35	2.0
	KF2X100W0902C100L800	3.5°	5.2°	3.1°	1.291	1.35	2.0
	KF2X125W0903C125L600	1.9°	2.8°	1.7°	1.813	1.87	2.5
Face Mills	KF2X125W0903C125L800	1.9°	2.8°	1.7°	1.813	1.87	2.5
	KF2X150W0903C125L600	1.4°	2.1°	1.2°	2.310	2.37	3.0
	KF2X150W0903C125L800	1.4°	2.1°	1.2°	2.310	2.37	3.0
	KF2X150W0904S050L157	1.4°	2.1°	1.2°	2.310	2.37	3.0
	KF2X200W0905S075L157	1.0°	1.4°	0.8°	3.307	3.37	4.0
	KF2X200W0906S075L157	1.0°	1.4°	0.8°	3.307	3.37	4.0
	KF2X250W0906S075L175	0.7°	1.1°	0.6°	4.305	4.36	5.0
	KF2X300W0907S100L175	0.6°	1.0°	0.5°	5.303	5.36	6.0
	KF2X300W0907S125L200	0.6°	1.0°	0.5°	5.303	5.36	6.0

➤ Rodeka™ Inserts

The New Round Insert Generation

Primary Application

Kennametal introduces a revolutionary double-sided round milling insert capable of running in multiple types of milling operations and workpiece materials. The Rodeka series provides the latest double-sided insert technology to boost your productivity with the most efficient cost per edge.

Features and Benefits

Rodeka Double-Sided Round Inserts

- Three insert sizes: 10, 12, and 16mm.
- Innovative, cutting-edge design increases tool life and reduces cutting forces.
- Rodeka 12X series is a tailor-made solution for turbine blade machining.



Rodeka 10
10mm IC insert
8 cutting edges



Rodeka 12X
12mm IC insert
8 cutting edges



Rodeka 12
12mm IC insert
12 cutting edges



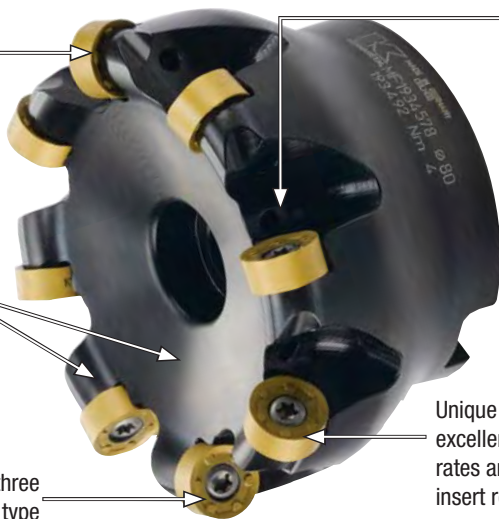
Rodeka 16
16mm IC insert
12 cutting edges



Double-sided insert with up to 12 cutting edges for a more productive cutting process.

Higher clearance in bodies to permit pocketing, profiling, and 5-axis machining.

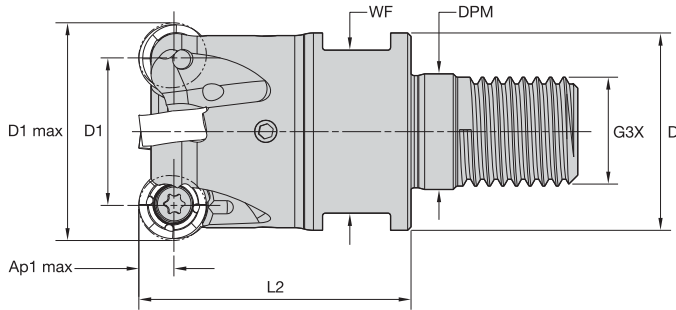
Three different insert sizes and three topography styles per size cover any type of material, component, and application.



Screw-on, end mill, and shell mill cutters with internal coolant.

Unique anti-rotation feature for excellent stability with higher feed rates and cutting forces. User-friendly insert rotation.

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



■ **Screw-On End Mills**

order number	catalog number	D1 max	D1	D	WF (mm)	G3X	DPM	L2	Ap1 max	Z	max ramp angle	lbs	max RPM	insert 1
5154366	KDR100R1003M12L125	1.00	.606	.827	17	M12	.490	1.250	.200	3	.6°	.17	54200	RN_J10T3M0_N_

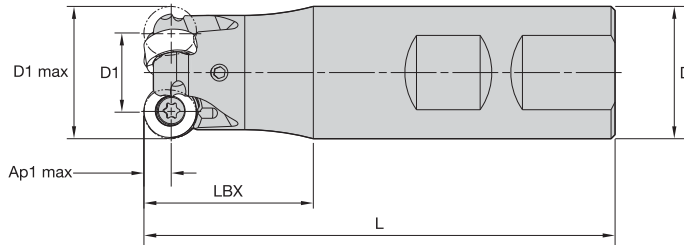
■ **Spare Parts**

D1 max	insert screw	in. lbs.	Torx Plus driver
1.000	191.848	18	170.025



Copy Milling

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing, profiling, ramping, and helical interpolation capabilities.



■ Weldon End Mills

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5154400	KDR100R1003W100L200	1.000	.606	1.000	4.280	2.000	.200	3	.6°	54200	RN_J10T3M0_N_	.74

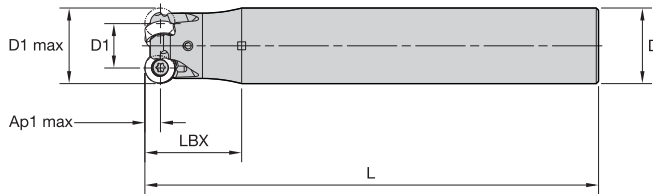
■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.000	191.848	18	170.025



Copy Milling

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	lbs	max RPM	insert 1
5154402	KDR100R1003C100L600	1.000	.606	1.000	6.000	1.500	.200	3	.6°	1.15	54200	RN_J10T3M0_N_

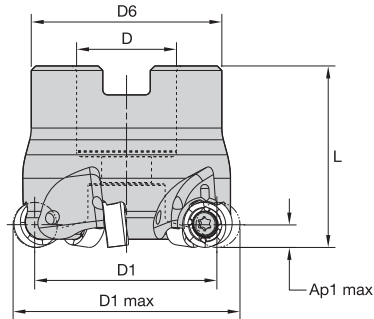
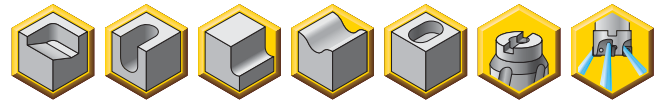
■ Spare Parts

			
D1 max	insert screw	in. lbs.	Torx Plus driver
1.000	191.848	18	170.025



Copy Milling

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



■ Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5154406	KDR150R1005S050L157	1.500	1.106	.500	1.300	1.570	.200	5	.4°	44300	RN_J10T3M0_N_	.43
5154408	KDR200R1006S075L200	2.000	1.606	.750	1.654	2.000	.200	6	.3°	38300	RN_J10T3M0_N_	1.02

■ Spare Parts

D1 max	insert screw	in. lbs.	socket-head cap screw	Torx Plus driver
1.500	191.848	18	S422	—
2.000	191.848	18	S445	170.025



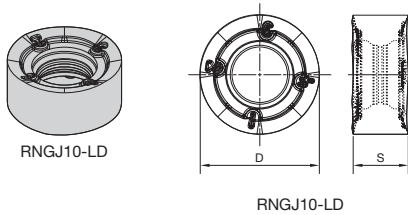
Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LDJ	KC725M	.S..GD	KCPM40	.S..HD	KCPM40
P3-P4	.S..GD	KCPK30	.S..HD	KCPK30	.S..HD	KCPM40
P5-P6	.E..LDJ	KC725M	.S..GDJ	KC725M	.S..HD	KC725M
M1-M2	.E..LDJ	KC522M	.E..LDJ	KCSM40	.S..GDJ	KC522M
M3	.E..LDJ	KCSM40	.S..GD	KCPM40	.S..HD	KCPM40
K1-K2	.S..HD	KC520M	.S..HD	KC520M	.S..HD	KCK15
K3	.S..HD	KC520M	.S..HD	KCK15	.S..HD	KCPK30
N1-N2	.F..LDJ	KC422M	.F..LDJ	KC422M	.S..GD	KC510M
N3	-	-	-	-	-	-
S1-S2	.E..LDJ	KC725M	.S..GDJ	KC725M	.S..HD	KC725M
S3	.E..LDJ	KCSM40	.S..GD	KCPM40	.S..HD	KCPM40
S4	.E..LDJ	KC522M	.E..LDJ	KCSM40	.S..GDJ	KC522M
H1	.S..GD	KC510M	.S..GD	KC510M	-	-

Indexable Inserts RN.J10..

- LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.

- first choice
- alternate choice



	P	M	K	N	S	H	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P	○	○	○	○	○	○										
M	○	○	○	○	○	○										
K	○	○	○	○	○	○										
N	○	○	○	○	○	○										
S	○	○	○	○	○	○										
H	○	○	○	○	○	○										

RNGJ10-LD

catalog number	D	S	hm	cutting edges	KC422M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
RNGJ10T3M0ELDJ	.394	.187	.002	8	-	-	-	-	●	-	-	-	-	-
RNGJ10T3M0FLDJ	.394	.187	.002	8	●	-	-	-	-	-	-	-	-	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .200 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LDJ	.005	.016	.028	.004	.011	.020	.003	.008	.015	.002	.007	.013	.002	.007	.012	.F..LDJ
.E..LDJ	.005	.017	.030	.004	.013	.021	.003	.009	.016	.002	.008	.014	.002	.008	.013	.E..LDJ
.E..LD	.005	.017	.030	.004	.013	.021	.003	.009	.016	.002	.008	.014	.002	.008	.013	.E..LD
.S..GDJ	.009	.021	.032	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..GDJ
.S..GD	.009	.021	.032	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..GD
.S..HD	.009	.021	.033	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..HD

At .070 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LDJ	.006	.021	.037	.005	.015	.027	.003	.011	.020	.003	.010	.017	.003	.009	.016	.F..LDJ
.E..LDJ	.006	.023	.040	.005	.016	.028	.003	.012	.021	.003	.011	.018	.003	.010	.017	.E..LDJ
.E..LD	.006	.023	.040	.005	.016	.028	.003	.012	.021	.003	.011	.018	.003	.010	.017	.E..LD
.S..GDJ	.012	.027	.043	.009	.019	.030	.007	.014	.022	.006	.013	.019	.005	.012	.018	.S..GDJ
.S..GD	.012	.027	.043	.009	.019	.030	.007	.014	.022	.006	.013	.019	.005	.012	.018	.S..GD
.S..HD	.012	.028	.043	.009	.020	.031	.007	.015	.023	.006	.013	.020	.005	.012	.018	.S..HD

At .040 Axial Depth of Cut (ap)

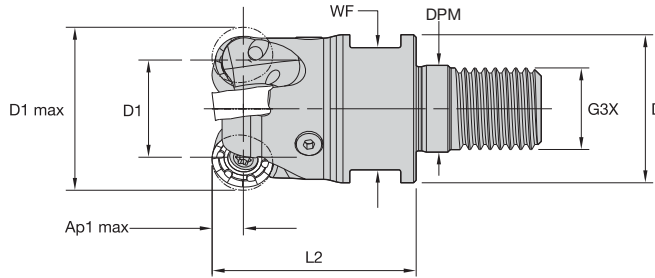
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LDJ	.008	.026	.048	.006	.019	.034	.004	.014	.025	.004	.012	.022	.004	.011	.020	.F..LDJ
.E..LDJ	.008	.029	.051	.006	.021	.036	.004	.016	.027	.004	.014	.023	.004	.012	.021	.E..LDJ
.E..LD	.008	.029	.051	.006	.021	.036	.004	.016	.027	.004	.014	.023	.004	.012	.021	.E..LD
.S..GDJ	.015	.035	.054	.011	.025	.038	.008	.018	.028	.007	.016	.025	.007	.015	.023	.S..GDJ
.S..GD	.015	.035	.054	.011	.025	.038	.008	.018	.028	.007	.016	.025	.007	.015	.023	.S..GD
.S..HD	.015	.035	.055	.011	.025	.039	.008	.019	.029	.007	.016	.025	.007	.015	.023	.S..HD

At .020 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F..LDJ	.011	.037	.067	.008	.026	.047	.006	.019	.034	.005	.017	.030	.005	.015	.027	.F..LDJ
.E..LDJ	.011	.041	.072	.008	.029	.050	.006	.021	.037	.005	.019	.032	.005	.017	.029	.E..LDJ
.E..LD	.011	.041	.072	.008	.029	.050	.006	.021	.037	.005	.019	.032	.005	.017	.029	.E..LD
.S..GDJ	.021	.048	.077	.015	.034	.053	.011	.025	.039	.010	.022	.034	.009	.020	.031	.S..GDJ
.S..GD	.021	.048	.077	.015	.034	.053	.011	.025	.039	.010	.022	.034	.009	.020	.031	.S..GD
.S..HD	.021	.049	.078	.015	.035	.054	.011	.026	.040	.010	.022	.034	.009	.020	.031	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



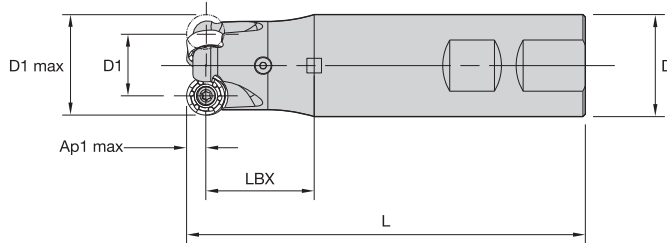
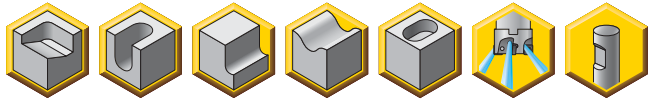
■ Screw-On End Mills

order number	catalog number	D1 max	D1	D	WF (mm)	G3X	DPM	L2	Ap1 max	Z	max ramp angle	lbs	max RPM	insert 1
4178116	KDR150R1204M16L150	1.50	1.028	1.142	24	M16	.670	1.50	.117	4	.5°	.42	35890	RN_J1204M0_

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.500	193.492	35	170.025

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing, profiling, ramping, and helical interpolation capabilities.



■ **Weldon End Mills**

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4178119	KDR125R1202W100L200	1.250	.778	1.000	4.280	2.000	.117	2	1.0°	39310	RN_J1204M0_	.85

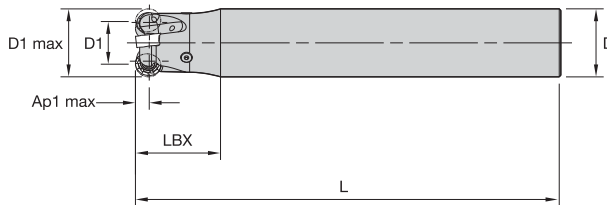
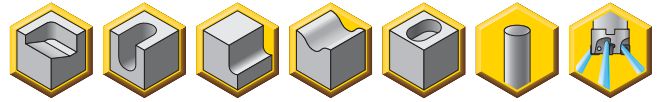
■ **Spare Parts**

			
D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	193.492	35	170.025



Copy Milling




- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



■ Cylindrical End Mills

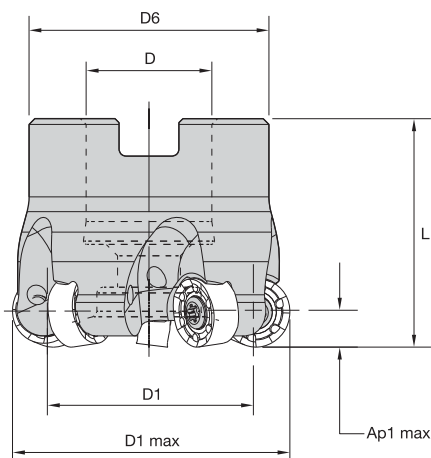
order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4178120	KDR125R1202C125L900	1.250	.778	1.250	9.000	1.500	.117	2	.9°	39310	RN_J1204M0_	2.79

■ Spare Parts

			
D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	193.492	35	170.025



- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4178122	KDR150R1204S050L157	1.500	1.028	.500	1.300	1.570	.117	4	.5°	35890	RN_J1204M0__	.39
4178123	KDR200R1204S075L200	2.000	1.528	.750	1.750	2.000	.117	4	.4°	31080	RN_J1204M0__	1.00
4178124	KDR200R1205S075L200	2.000	1.528	.750	1.750	2.000	.117	5	.4°	31080	RN_J1204M0__	.96
4178125	KDR250R1207S075L200	2.500	2.028	.750	1.750	2.000	.117	7	.3°	27800	RN_J1204M0__	1.41
4178126	KDR300R1208S100L200	3.000	2.528	1.000	2.189	2.000	.117	8	.2°	25370	RN_J1204M0__	2.01
5360215	KDR300R1208S125L200	3.000	2.528	1.250	2.875	2.000	.117	8	.5°	25370	RN_J1204M0__	2.60

Spare Parts



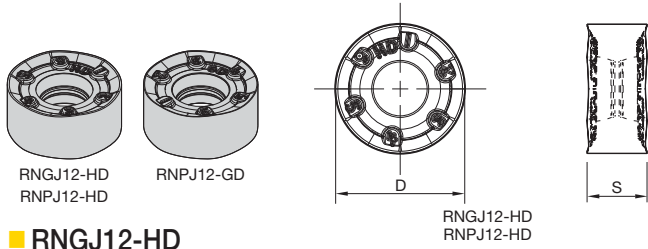
order number	D1 max	insert screw	in. lbs.	socket-head cap screw	socket-head cap screw with coolant groove	low head cap screw with coolant groove	wrench
4178122	1.500	193.492	35	S422	S422CG	—	170.025
4178123	2.000	193.492	35	S445	S445CG	—	170.025
4178124	2.000	193.492	35	S445	S445CG	—	170.025
4178125	2.500	193.492	35	S445	S445CG	—	170.025
4178126	3.000	193.492	35	S458	S458CG	—	170.025
5360215	3.000	193.492	35	S467	—	S2172CG	170.025



Copy Milling

- -HD geometry is the first choice for heavy machining high-strength steel and cast iron.
- -GD geometry is for general use in steel and for stainless steel.

● first choice
○ alternate choice



■ RNGJ12-HD

catalog number	D	S	hm	cutting edges																	
RNGJ1204M0SHD	.472	.187	.007	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

■ RNPJ12-GD

catalog number	D	S	hm	cutting edges																	
RNPJ1204M0SGD	.472	.187	.003	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

■ RNPJ12-HD

catalog number	D	S	hm	cutting edges																	
RNPJ1204M0SHD	.472	.187	.007	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

P	●				○	●	●	●	○												
M	●				○	●	●	○	○	○	○										
K	●				○	●	○	○													
N	●																				
S	●																				
H																					



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .240 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.F..LDJ	.005	.016	.030	.004	.011	.021	.003	.008	.016	.002	.007	.014	.002	.007	.013	.F..LDJ
.E..LDJ	.005	.017	.032	.004	.013	.023	.003	.009	.017	.002	.008	.015	.002	.008	.014	.E..LDJ
.E..LD	.005	.017	.032	.004	.013	.023	.003	.009	.017	.002	.008	.015	.002	.008	.014	.E..LD
.S..GDJ	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..GDJ
.S..GD	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..GD
.S..HD	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..HD

At .080 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.F..LDJ	.007	.021	.040	.005	.015	.029	.004	.011	.021	.003	.010	.019	.003	.009	.017	.F..LDJ
.E..LDJ	.007	.023	.043	.005	.017	.030	.004	.013	.023	.003	.011	.020	.003	.010	.018	.E..LDJ
.E..LD	.007	.023	.043	.005	.017	.030	.004	.013	.023	.003	.011	.020	.003	.010	.018	.E..LD
.S..GDJ	.012	.031	.048	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..GDJ
.S..GD	.012	.031	.048	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..GD
.S..HD	.012	.031	.048	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..HD

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.F..LDJ	.008	.026	.049	.006	.018	.035	.004	.014	.026	.004	.012	.023	.003	.011	.021	.F..LDJ
.E..LDJ	.008	.029	.052	.006	.020	.037	.004	.015	.028	.004	.013	.024	.003	.012	.022	.E..LDJ
.E..LD	.008	.029	.052	.006	.020	.037	.004	.015	.028	.004	.013	.024	.003	.012	.022	.E..LD
.S..GDJ	.015	.038	.059	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..GDJ
.S..GD	.015	.038	.059	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..GD
.S..HD	.015	.038	.059	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..HD

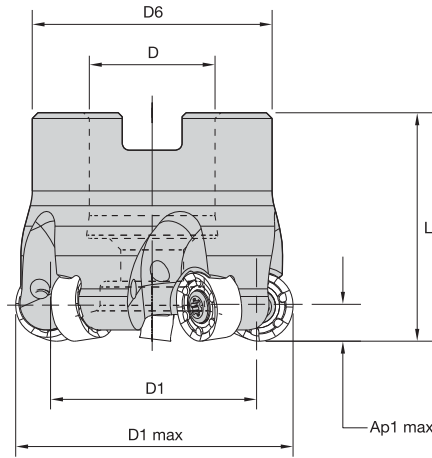
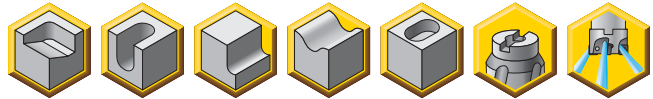
At .030 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
.F..LDJ	.010	.033	.063	.007	.023	.044	.005	.017	.033	.005	.015	.029	.004	.014	.026	.F..LDJ
.E..LDJ	.010	.036	.067	.007	.026	.047	.005	.019	.035	.005	.017	.030	.004	.015	.028	.E..LDJ
.E..LD	.010	.036	.067	.007	.026	.047	.005	.019	.035	.005	.017	.030	.004	.015	.028	.E..LD
.S..GDJ	.019	.049	.075	.014	.035	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..GDJ
.S..GD	.019	.049	.075	.014	.035	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..GD
.S..HD	.019	.049	.075	.014	.035	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



■ Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5154910	KDR200R1604S075L200	2.000	1.370	.750	1.752	2.000	.156	4	.5°	26400	RN_J1605M0__	.93
5154913	KDR300R1607S100L200	3.000	2.370	1.000	2.189	2.000	.156	7	.3°	20100	RN_J1605M0__	1.92
5360214	KDR300R1607S125L200	3.000	2.370	1.250	2.875	2.000	.156	7	.5°	20100	RN_J1605M0__	2.33
5154914	KDR400R1606S150L200	4.000	3.370	1.500	3.812	2.000	.156	6	.4°	16800	RNGJ1605M0__	3.99
5154915	KDR400R1608S150L200	4.000	3.370	1.500	3.812	2.000	.156	8	.4°	16800	RNGJ1605M0__	4.04
5154916	KDR500R1608S150L200	5.000	4.370	1.500	3.380	2.000	.156	8	.2°	14800	RN_J1605M0__	5.08

■ Spare Parts

D1 max	insert screw	in. lbs.	socket-head cap screw	wrench	coolant screw assembly
2.000	192.932	35	S446	170.026	—
3.000	192.932	35	S458	170.026	—
3.000	MS2260	35	S467	170.026	S2172CG
4.000	MS2260	35	—	170.026	—
5.000	MS2260	35	—	170.026	—



Copy Milling

Insert Selection Guide

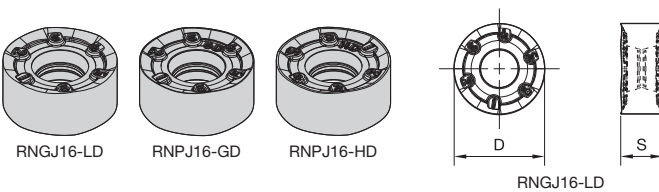
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LDJ	KC725M	.S..GD	KCPM40	.S..HD	KCPM40
P3-P4	.E..LDJ	KC522M	.S..GD	KCPK30	.S..HD	KCPM40
P5-P6	.E..LDJ	KC725M	.S..GD	KC725M	.S..HD	KC725M
M1-M2	.E..LDJ	KC522M	.S..HD	KC725M	.S..GD	KCSM40
M3	.E..LDJ	KC725M	.S..GD	KCPM40	.S..HD	KCPM40
K1-K2	.S..HD	KC520M	.S..HD	KC520M	.S..HD	KCK15
K3	.S..GD	KCPK30	.S..HD	KC520M	.S..HD	KCK15
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..LDJ	KC725M	.S..GD	KCSM40	.S..HD	KC725M
S3	.E..LDJ	KC725M	.S..GD	KCSM40	.S..HD	KCPM40
S4	.E..LDJ	KC522M	.S..GD	KCSM40	.S..HD	KC725M
H1	-	-	-	-	-	-

Indexable Inserts • RN.J16..

- LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.
- GD geometry is for general use in steel and stainless steel.
- HD geometry is the first choice for heavy machining high-strength steel and cast iron.

- first choice
- alternate choice

P	●	○	○	○	○	○	○
M	●	●	○	○	○	○	○
K	●	○	○	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○


RNGJ16-LD

catalog number	D	S	hm	cutting edges	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
RNGJ1605M0ELDJ	.630	.217	.002	12	-	●	●	-	-	-	-	-

RNPJ16-GD

catalog number	D	S	hm	cutting edges	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
RNPJ1605M0SGD	.630	.217	.003	12	-	●	●	-	●	●	-	●

RNPJ16-HD

catalog number	D	S	hm	cutting edges	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
RNPJ1605M0SHD	.630	.217	.009	12	●	-	●	●	●	●	-	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .320 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJ	.005	.017	.031	.004	.013	.023	.003	.009	.017	.002	.008	.015	.002	.008	.014	.E..LDJ
.E..LD	.005	.017	.031	.004	.013	.023	.003	.009	.017	.002	.008	.015	.002	.008	.014	.E..LD
.S..GD	.009	.020	.035	.007	.014	.025	.005	.011	.019	.004	.009	.016	.004	.009	.015	.S..GD
.S..HD	.009	.023	.037	.007	.017	.027	.005	.013	.020	.004	.011	.017	.004	.010	.016	.S..HD

At .100 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJ	.007	.024	.043	.005	.017	.031	.004	.013	.023	.003	.011	.020	.003	.010	.018	.E..LDJ
.E..LD	.007	.024	.043	.005	.017	.031	.004	.013	.023	.003	.011	.020	.003	.010	.018	.E..LD
.S..GD	.013	.027	.048	.009	.019	.034	.007	.015	.026	.006	.013	.022	.005	.012	.020	.S..GD
.S..HD	.013	.032	.051	.009	.023	.037	.007	.017	.027	.006	.015	.024	.005	.014	.022	.S..HD

At .060 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJ	.008	.030	.054	.006	.021	.039	.005	.016	.029	.004	.014	.025	.004	.013	.023	.E..LDJ
.E..LD	.008	.030	.054	.006	.021	.039	.005	.016	.029	.004	.014	.025	.004	.013	.023	.E..LD
.S..GD	.016	.034	.060	.011	.024	.043	.009	.018	.032	.007	.016	.028	.007	.014	.025	.S..GD
.S..HD	.016	.040	.064	.011	.029	.046	.009	.021	.034	.007	.019	.030	.007	.017	.027	.S..HD

At .040 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJ	.010	.036	.066	.007	.026	.047	.005	.019	.035	.005	.017	.030	.004	.015	.028	.E..LDJ
.E..LD	.010	.036	.066	.007	.026	.047	.005	.019	.035	.005	.017	.030	.004	.015	.028	.E..LD
.S..GD	.019	.041	.073	.014	.029	.052	.010	.022	.039	.009	.019	.034	.008	.017	.031	.S..GD
.S..HD	.019	.048	.078	.014	.034	.056	.010	.026	.041	.009	.022	.036	.008	.021	.033	.S..HD

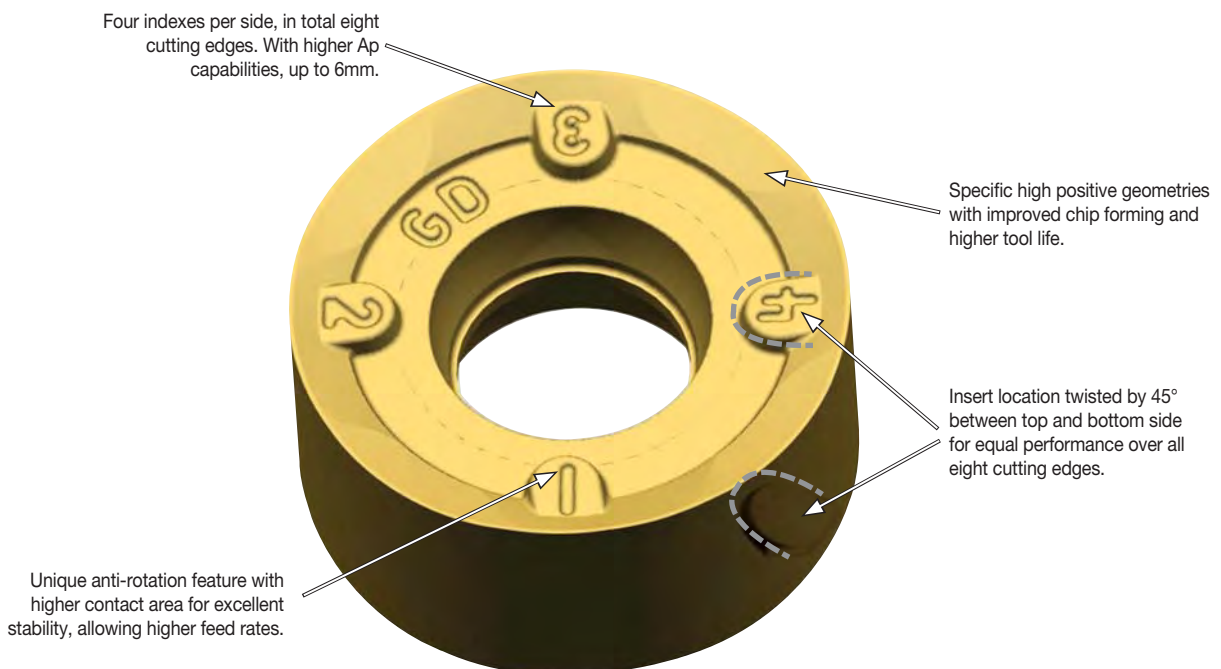
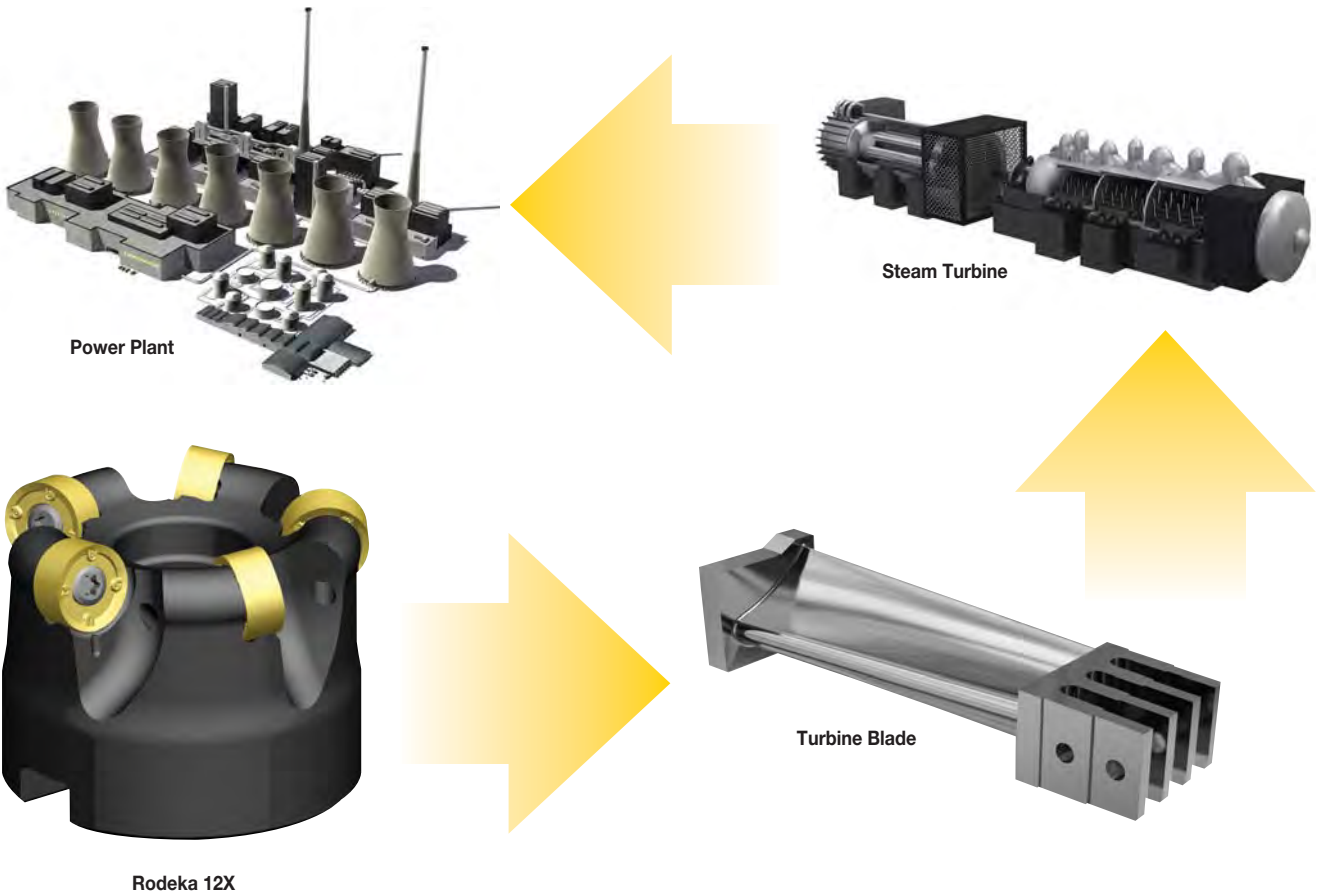
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



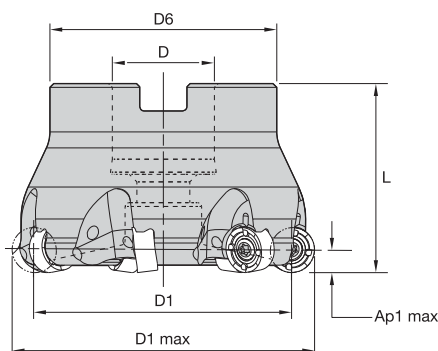
Copy Milling

Rodeka 12X Turbine Blade Version

Revolutionary double-sided round insert engineered for turbine blade machining. Special geometries, insert styles, and dedicated cutter bodies have been developed to serve this demanding application.



- Double-sided round inserts with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Engineered for turbine blade machining.



■ Shell Mills • Inch

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5104420	KDR40Z04S16RN12X	1.575	1.102	.630	1.496	1.575	.236	4	.5°	35020	RN_J1204M0__	.51
5104421	KDR50Z05S22RN12X	1.970	1.496	.866	1.650	1.570	.236	5	.7°	31330	RN_J1204M0__	.67
5104424	KDR63Z06S22RN12X	2.480	2.008	.866	1.930	1.570	.236	6	.5°	27910	RN_J1204M0__	1.06
5104426	KDR80Z07S27RN12X	3.150	2.677	1.063	2.360	1.970	.236	7	.3°	24760	RN_J1204M0__	2.31

■ Spare Parts

D1 max	insert screw	in. lbs.	socket-head cap screw	socket-head cap screw with coolant groove	wrench
1.575	193.492	35	—	MS1294CG	170.025
1.970	193.492	35	—	MS1234CG	170.025
2.480	193.492	35	—	MS1234CG	170.025
3.150	193.492	35	MS2038	MS2038CG	170.025

NOTE: Socket-head cap screws with coolant groove need to be purchased separately.



Insert Selection Guide

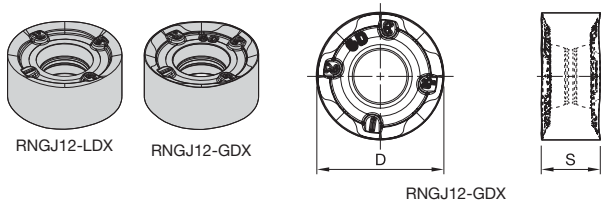
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LDJX	KC522M	.E..LDJX	KC725M	.S..GDJX	KC725M
P3-P4	.E..LDJX	KC522M	.E..LDJX	KC725M	.S..GDJX	KC522M
P5-P6	.E..LDJX	KC725M	.E..LDJX	KC725M	.S..GDJX	KC725M
M1-M2	.E..LDJX	KC522M	.E..LDJX	KC725M	.S..GDJX	KC522M
M3	.E..LDJX	KC522M	.E..LDJX	KC725M	.S..GDJX	KC725M
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..LDJX	KC522M	.E..LDJX	KC725M	.S..GDJX	KC725M
S3	.E..LDJX	KC725M	.E..LDJX	KC725M	.S..GDJX	KC725M
S4	.E..LDJX	KC522M	.S..GDJX	KC522M	.S..GDJX	KC725M
H1	-	-	-	-	-	-

Indexable Inserts

- LD geometry is for general use on blades from a solid block.
- LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.
- GD geometry is the first choice for forged blades.
- GD geometry is for general use in steel and stainless steel.

- first choice
- alternate choice

P	●	○	○	○
M	●	●	○	○
K	○	○	○	○
N	○	○	○	○
S	●	●	●	○
H	○	○	○	○


RNGJ12-LDX

catalog number	D	S	hm	cutting edges	KC522M	KC725M	KCSM30
RNGJ1204M0ENLDJX	.472	.187	.001	8	●	-	-

RNGJ12-GDX

catalog number	D	S	hm	cutting edges	KC522M	KC725M	KCSM30
RNGJ1204M0SNGDJX	.472	.187	.003	8	-	●	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .240 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJX	.005	.019	.034	.003	.014	.024	.003	.011	.018	.002	.009	.016	.002	.008	.014	.E..LDJX
.S..GDJX	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..GDJX

At .080 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJX	.006	.026	.045	.004	.019	.032	.003	.014	.024	.003	.012	.021	.003	.011	.019	.E..LDJX
.S..GDJX	.012	.031	.047	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..GDJX

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJX	.007	.032	.055	.005	.023	.039	.004	.017	.029	.004	.015	.026	.003	.014	.023	.E..LDJX
.S..GDJX	.015	.038	.057	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..GDJX

At .030 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LDJX	.009	.040	.070	.007	.029	.050	.005	.022	.037	.004	.019	.032	.004	.017	.030	.E..LDJX
.S..GDJX	.019	.048	.073	.014	.034	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..GDJX

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Copy Milling

The Next Generation Spindle Interface for Heavy-Duty Machining!

KM4X™

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adapters to handle 3x more bending capacity than similar competitive models.

What does this mean for you?

- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment.
- Ideal for aerospace and transportation industry machining jobs.



Visit kennametal.com or contact your local Authorized Kennametal Distributor.



kennametal.com

➤ KSRM™ Series

Multipurpose Milling Cutters •

12mm, 1/2", 16mm, 3/4", and 1" ICs

Primary Application

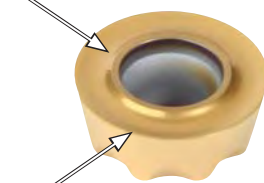
Specially developed for machining titanium and stainless steel. KSRM platform enables you to pocket, profile, ramp, and plunge with consistent performance and outstanding metal removal rates with the lowest cutting forces.

Features and Benefits

- Up to eight cutting edges per insert.
- Anti-rotation feature achieves excellent stability.
- Engineered to provide longer tool life in titanium and stainless steel.
- Roughing and semi-finishing operations with lower cutting forces.

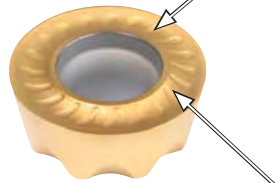
Polished rake face, superior tool life on stainless steel and high-temperature alloys.

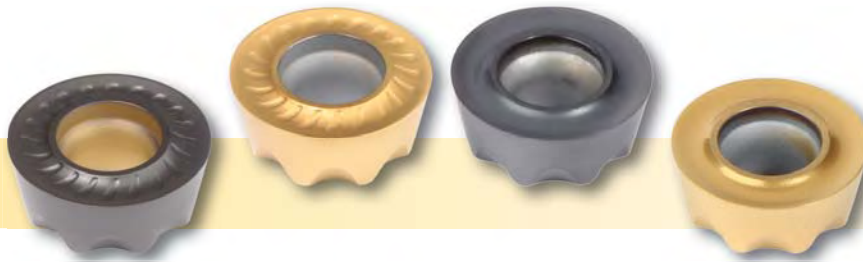
Higher rake angle provides extremely low cutting forces.



High-precision PSTS inserts for best cost-per-edge advantage.

Geometry mark to support PSTS insert location and better runout.



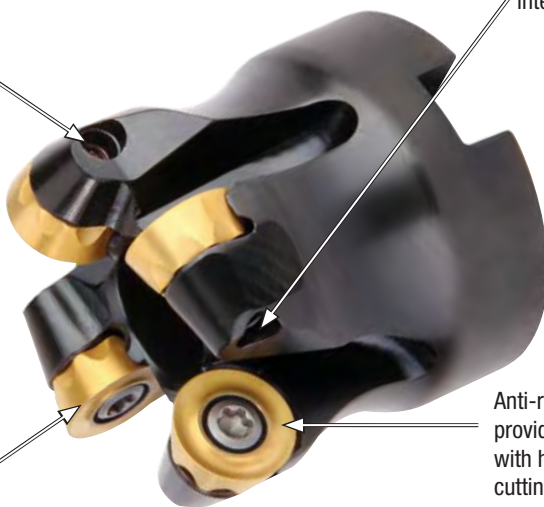


High clearance on the cutters for superior plunging, ramping, and chip load capacities.

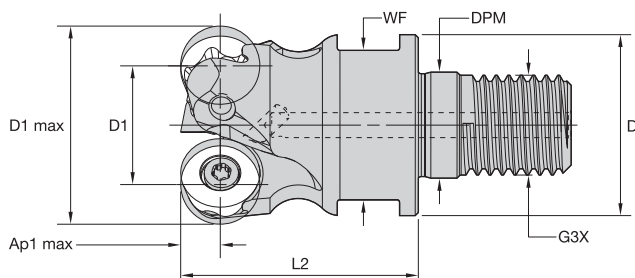
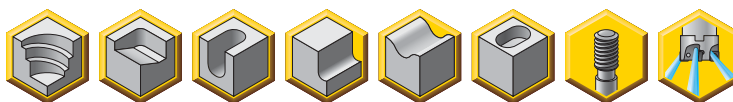
All toolholders with internal coolant capabilities.

Up to eight index positions for fast and accurate insert changes.

Anti-rotation feature provides excellent stability with higher feed rates and cutting forces.



- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.

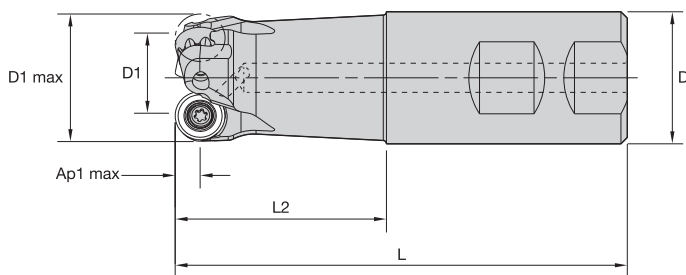
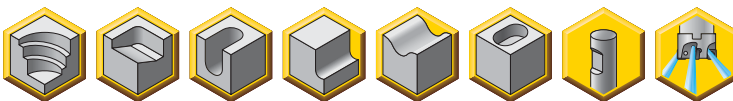


■ Screw-On End Mills

order number	catalog number	D1 max	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	max ramp angle	max RPM	lbs	insert 1
4042688	BMD125R1203M16L150	1.250	.778	1.142	.670	M16	1.500	22	.236	3	5.7°	43500	.35	RP..T1204M0..
4042690	BMD150R1204M16L150	1.500	1.028	1.142	.670	M16	1.500	22	.236	4	9.2°	39700	.41	RP..T1204M0..

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	MS2077	20	DT15IP
1.500	MS2077	20	DT15IP



■ Weldon End Mills

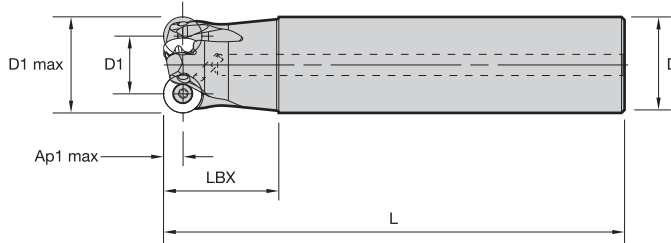
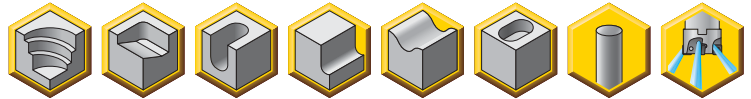
order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4042691	BMD125R1203W125L200	1.250	.778	1.250	4.280	2.000	.236	3	5.7°	43500	RP..T1204M0..	1.17
3891915	BMD150R1204W150L200	1.500	1.028	1.500	4.690	2.000	.236	4	9.2°	39700	RP..T1204M0..	1.94

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	MS2077	20	DT15IP
1.500	MS2077	20	DT15IP

Copy Milling

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



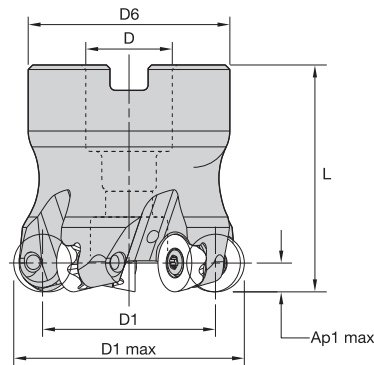
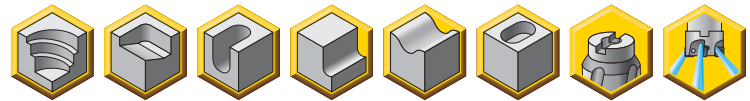
■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	L2	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4042692	BMD125R1203C125L700	1.250	.778	1.250	7.000	1.575	1.575	.236	3	5.7°	43500	RP..T1204M0..	2.11
4042713	BMD150R1203C125L800	1.500	1.028	1.250	8.000	1.575	1.575	.236	3	9.8°	39700	RP..T1204M0..	2.54

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	MS2077	20	DT15IP
1.500	MS2077	20	DT15IP

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



■ Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
3891882	BMD150R1204S050L158	1.500	1.028	.500	1.440	1.575	.236	4	9.2°	39700	RP..T1204M0#	.47
4042714	BMD200R1203S075L200	2.000	1.528	.750	1.752	2.000	.236	3	10.5°	34400	RP..T1204M0#	1.02
4042715	BMD200R1205S075L200	2.000	1.528	.750	1.752	2.000	.236	5	7.7°	34400	RP..T1204M0#	1.01
4042716	BMD250R1207S100L200	2.500	2.028	1.000	2.190	2.000	.236	7	4.1°	30800	RP..T1204M0#	1.61
3885499	BMD300R1206S100L200	3.000	2.528	1.000	2.752	2.000	.236	6	5.7°	28100	RP..T1204M0#	2.54
4042717	BMD300R1208S100L200	3.000	2.528	1.000	2.752	2.000	.236	8	3.5°	28100	RP..T1204M0#	2.57
4042718	BMD400R1207S125L200	4.000	3.528	1.250	2.878	2.000	.236	7	3.3°	23800	RP..T1204M0#	3.23
4002349	BMD400R1209S125L200	4.000	3.528	1.250	2.878	2.000	.236	9	3.0°	23800	RP..T1204M0#	3.20

■ Spare Parts



D1 max	insert screw	in. lbs.	Torx Plus driver	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw assembly
1.500	MS2077	20	DT15IP	S424	S422CG	—
2.000	MS2077	20	DT15IP	S446	S446CG	—
2.500	MS2077	20	DT15IP	S459	S459CG	—
3.000	MS2077	20	DT15IP	S459	S459CG	—
4.000	MS2077	20	DT15IP	—	—	S2162C

NOTE: Socket-head cap screw with coolant groove must be ordered separately.

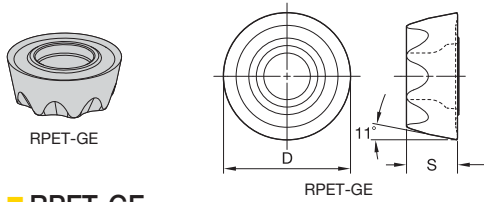


Copy Milling

- -SGEJ and -ELEJ are the first choice for titanium machining.
- -ELEJ is the first choice for lower cutting forces to avoid built-up edges.
- -SGEJ geometry for general purpose in roughing operations.

● first choice
○ alternate choice

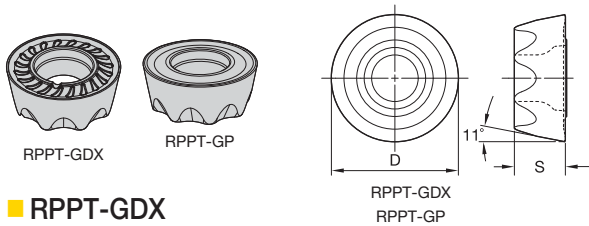
P	●	○	○	○	○	○	○
M	●	○	○	○	○	○	○
K	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○



■ RPET-GE

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPET1204M0SGE	.472	.188	.005	8	-	-	-	●	-	-	-

- -GP geometry for roughing operations, especially in steel.
- -SGDX is the first choice for martensitic stainless steel and turbine blade applications.



■ RPPT-GDX

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPPT1204M0SGDX	.472	.187	.007	8	-	-	●	-	●	-	-

■ RPPT-GP

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPPT1204M0SGP	.472	.188	.005	8	-	●	-	●	●	-	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .240 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LEJ	.007	.019	.030	.005	.013	.021	.004	.010	.016	.003	.009	.014	.003	.008	.013	.E..LEJ
.E..LE	.007	.019	.030	.005	.013	.021	.004	.010	.016	.003	.009	.014	.003	.008	.013	.E..LE
.S..GEJ	.009	.021	.033	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..GEJ
.S..GE	.009	.021	.033	.007	.015	.023	.005	.011	.017	.004	.010	.015	.004	.009	.014	.S..GE
.S..GDX	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..GDX
.S..GP	.009	.023	.035	.007	.017	.025	.005	.013	.019	.004	.011	.016	.004	.010	.015	.S..GP

At .080 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LEJ	.009	.025	.040	.006	.018	.028	.005	.013	.021	.004	.012	.018	.004	.011	.017	.E..LEJ
.E..LE	.009	.025	.040	.006	.018	.028	.005	.013	.021	.004	.012	.018	.004	.011	.017	.E..LE
.S..GEJ	.012	.028	.044	.009	.020	.031	.007	.015	.023	.006	.013	.020	.005	.012	.019	.S..GEJ
.S..GE	.012	.028	.044	.009	.020	.031	.007	.015	.023	.006	.013	.020	.005	.012	.019	.S..GE
.S..GDX	.012	.031	.048	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..GDX
.S..GP	.012	.031	.048	.009	.022	.034	.007	.017	.025	.006	.015	.022	.005	.013	.020	.S..GP

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LEJ	.011	.031	.049	.008	.022	.035	.006	.016	.026	.005	.014	.022	.005	.013	.020	.E..LEJ
.E..LE	.011	.031	.049	.008	.022	.035	.006	.016	.026	.005	.014	.022	.005	.013	.020	.E..LE
.S..GEJ	.015	.034	.054	.011	.025	.038	.008	.018	.028	.007	.016	.025	.007	.015	.023	.S..GEJ
.S..GE	.015	.034	.054	.011	.025	.038	.008	.018	.028	.007	.016	.025	.007	.015	.023	.S..GE
.S..GDX	.015	.038	.059	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..GDX
.S..GP	.015	.038	.059	.011	.027	.041	.008	.020	.031	.007	.018	.027	.007	.016	.024	.S..GP

At .030 Axial Depth of Cut (ap)

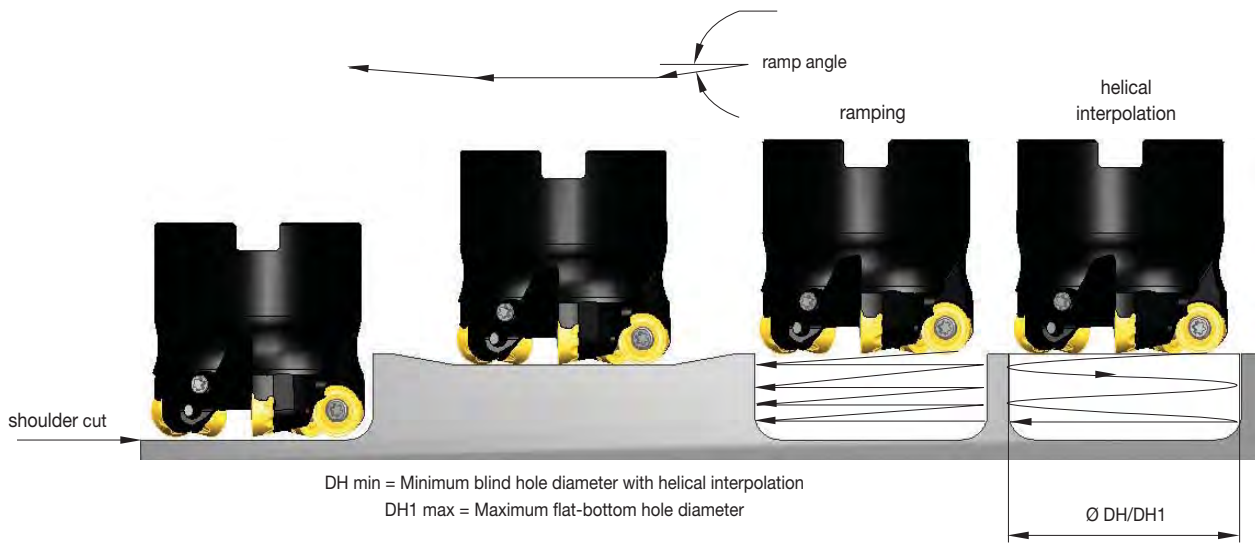
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LEJ	.013	.039	.062	.010	.028	.044	.007	.021	.032	.006	.018	.028	.006	.016	.026	.E..LEJ
.E..LE	.013	.039	.062	.010	.028	.044	.007	.021	.032	.006	.018	.028	.006	.016	.026	.E..LE
.S..GEJ	.019	.044	.069	.014	.031	.049	.010	.023	.036	.009	.020	.031	.008	.018	.029	.S..GEJ
.S..GE	.019	.044	.069	.014	.031	.049	.010	.023	.036	.009	.020	.031	.008	.018	.029	.S..GE
.S..GDX	.019	.049	.075	.014	.035	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..GDX
.S..GP	.019	.049	.075	.014	.035	.052	.010	.026	.039	.009	.022	.034	.008	.021	.031	.S..GP

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Copy Milling

■ Maximum Linear Ramping and Helical Interpolation from Solid

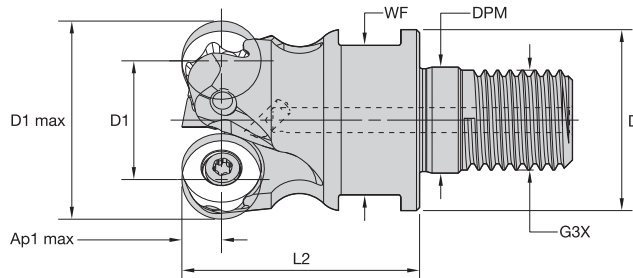
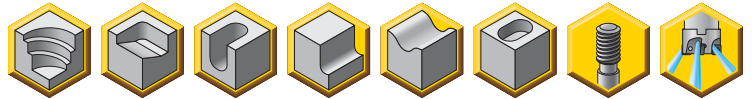


catalog number	max ramp angle	max plunging depth	min hole diameter (DH min)	max flat-bottom hole diameter (DH1 max)	max diameter (no flat bottom)
BMD125R1203M16L150	5.7°	0.061	1.719	2.028	2.5
BMD150R1204M16L150	9.2°	0.130	2.112	2.528	3.0
BMD125R1203W125L200	5.7°	0.061	1.719	2.028	2.5
BMD150R1204W150L200	9.2°	0.130	2.112	2.528	3.0
BMD125R1203C125L700	5.7°	0.061	1.719	2.028	2.5
BMD150R1203C125L800	9.8°	0.138	2.104	2.528	3.0
BMD150R1204S050L158	9.2°	0.130	2.112	2.528	3.0
BMD200R1203S075L200	10.5°	0.236	3.058	3.528	4.0
BMD200R1205S075L200	7.7°	0.173	3.074	3.528	4.0
BMD250R1207S100L200	4.1°	0.130	4.114	4.528	5.0
BMD300R1206S100L200	5.7°	0.228	5.048	5.528	6.0
BMD300R1208S100L200	3.5°	0.138	5.078	5.528	6.0
BMD400R1207S125L200	3.3°	0.189	7.068	7.528	8.0
BMD400R1209S125L200	3.0°	0.173	7.525	7.528	8.0



Copy Milling

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



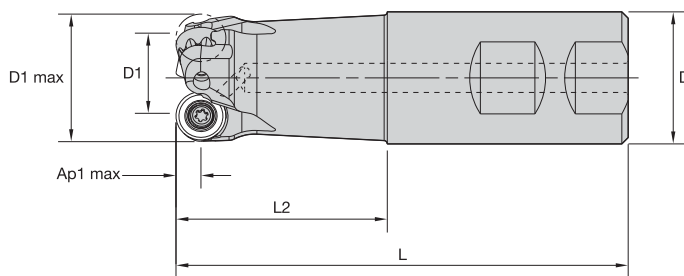
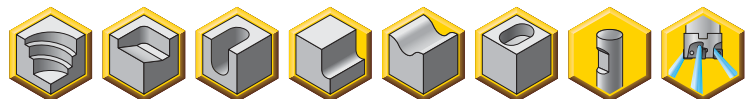
■ Screw-On End Mills

order number	catalog number	D1 max	D1	D	DPM	G3X	L2	WF (mm)	Ap1 max	Z	max ramp angle	max RPM	lbs	insert 1
4043037	BMD150R1603M16	1.500	.870	1.142	.670	M16	1.500	22	.315	3	9.9°	28000	.35	RP..T1605M0..

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.500	MS-2071	35	DT15IP

Weldon® End Mills



■ Weldon End Mills

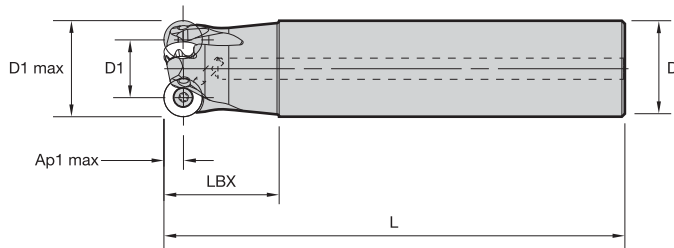
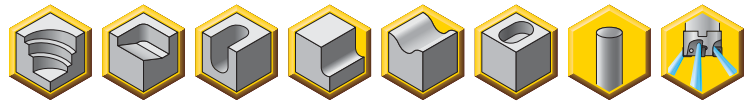
order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z	lbs	max ramp angle	max RPM	insert 1
4043038	BMD150R1603W125L200	1.500	.870	1.250	4.280	2.000	.315	3	1.24	9.9°	28000	RP..T1605M0..

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.500	MS-2071	35	DT15IP



- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4043039	BMD150R1602C125L800	1.500	.870	1.250	8.000	1.500	.315	2	11.1°	28000	RP..T1605M0..	2.48

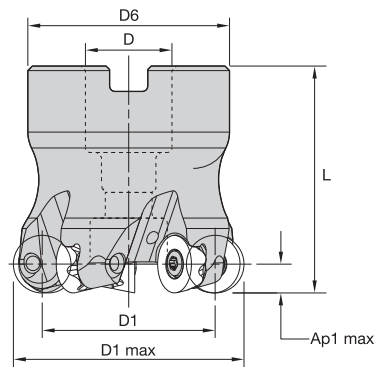
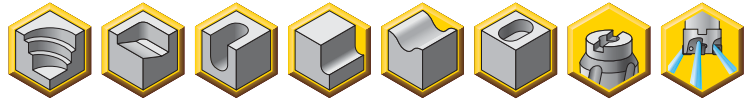
■ Spare Parts

D1 max	insert screw	in. lbs.	Torx Plus driver
1.500	MS-2071	35	DT15IP



Copy Milling

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
4043040	BMD200R1603S075L200	2.000	1.370	.750	1.752	2.000	.315	3	11.7°	24200	RP..T1605M0...	.82
4043041	BMD200R1604S075L200	2.000	1.370	.750	1.752	2.000	.315	4	9.7°	24200	RP..T1605M0..	.83
4043042	BMD250R1605S100L200	2.500	1.870	1.000	2.189	2.000	.315	5	11.7°	21700	RP..T1605M0..	1.43
4043053	BMD300R1605S100L200	3.000	2.370	1.000	2.750	2.000	.315	5	8.8°	19800	RP..T1605M0..	2.37
3997748	BMD300R1607S100L200	3.000	2.370	1.000	2.750	2.000	.315	7	6.8°	19800	RP..T1605M0..	2.38
4043054	BMD400R1608S125L200	4.000	3.370	1.250	2.875	2.000	.315	8	4.6°	16600	RP..T1605M0..	2.79
4043056	BMD600R1610S150L250	6.000	5.370	1.500	3.811	2.500	.315	10	3.4°	13100	RP..T1605M0..	7.86

Spare Parts

D1 max	insert screw	in. lbs.	socket-head cap screw	socket-head cap screw with coolant groove	coolant lock screw assembly	T-handle hex wrench	Torx Plus driver
2.000	MS-2071	35	S446	S446CG	—	—	DT15IP
2.500	MS-2071	35	S459	—	—	—	DT15IP
3.000	MS-2071	35	S459	—	—	—	DT15IP
4.000	MS-2071	35	—	—	S2162C	THW2M	DT15IP
6.000	MS-2071	35	—	—	S2163C	THW2M	DT15IP

NOTE: Socket head cap screw with coolant groove must be ordered separately.



Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LE	KCPK30	.S..GE	KCPK30	.S..HP	KCPM40
P3-P4	.E..LE	KCPK30	.S..GE	KCPK30	.S..HP	KCPM40
P5-P6	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..HP	KC725M
M1-M2	.E..LEJ	KC522M	.S..GEJ	KC522M	.S..HP	KC725M
M3	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..HP	KCPM40
K1-K2	-	-	-	-	-	-
K3	.E..LE	KCPK30	.S..GE	KCPK30	.S..HP	KCPK30
N1-N2	.E..LEJ	KC422M	.E..LEJ	KC422M	.E..LEJ	KC422M
N3	-	-	-	-	-	-
S1-S2	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..HP	KC725M
S3	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..HP	KCPM40
S4	.E..LEJ	KC522M	.S..GEJ	KC522M	.S..HP	KC725M
H1	-	-	-	-	-	-

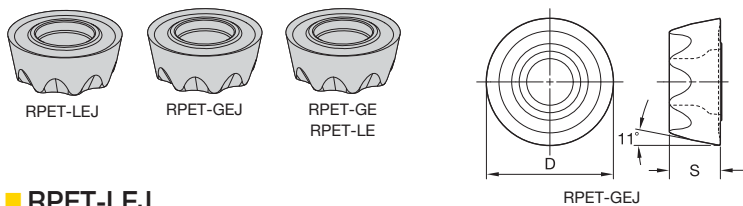
Indexable Inserts

- SGEJ and -ELEJ are the first choice for titanium machining.
- ELEJ is the first choice for lower cutting forces to avoid built-up edge.
- SGEJ geometry for general purpose in roughing operations.



P	●	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	●	●	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

- first choice
- alternate choice



RPET-LEJ

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPET1605M0ELEJ	.630	.219	.001	8	-	-	●	-	-	-	-

RPET-LE

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPET1605M0ELE	.630	.219	.001	8	-	-	-	●	-	-	-

RPET-GEJ

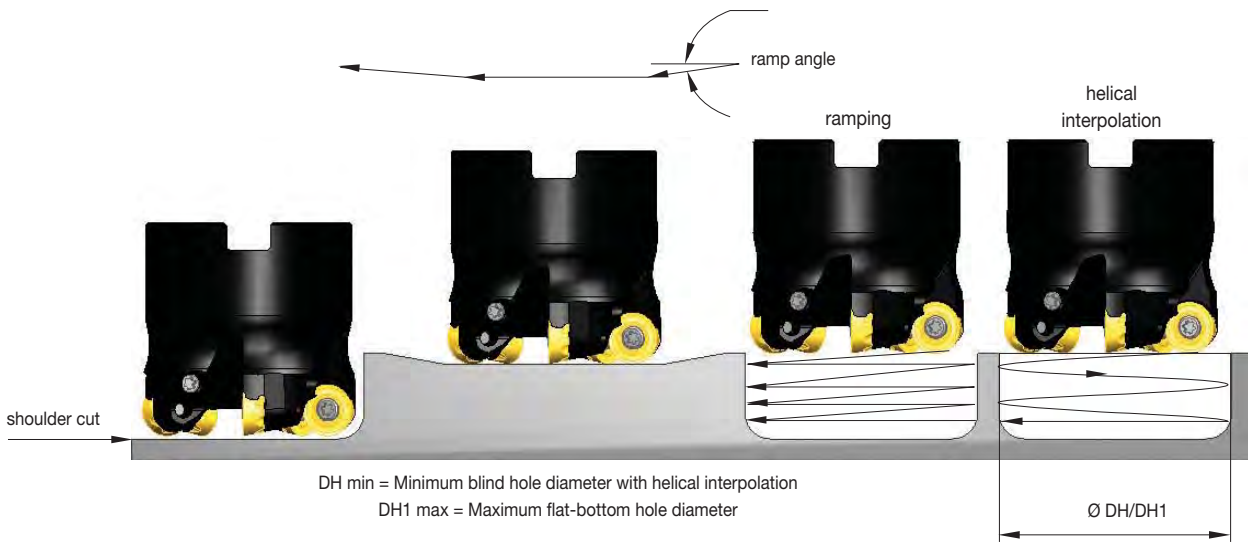
catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPET1605M0SGEJ	.630	.219	.005	8	-	●	-	-	-	●	-

RPET-GE

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPET1605M0SGE	.630	.219	.005	8	-	-	-	●	-	-	-

Copy Milling

■ Maximum Linear Ramping and Helical Interpolation from Solid

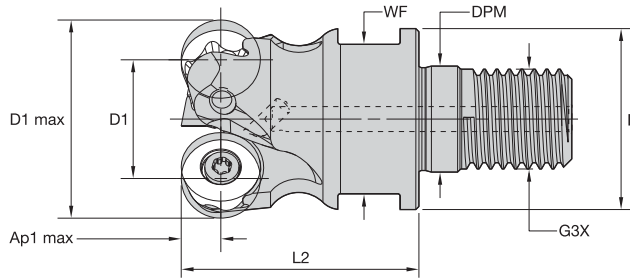


catalog number	max ramp angle	max plunging depth	min hole diameter (DH min)	max flat-bottom hole diameter (DH1 max)	max diameter (no flat bottom)
BMD150R1603M16L150	9.9°	.106	1.904	2.37	3.0
BMD150R1603W125L200	9.9°	.106	1.904	2.37	3.0
BMD150R1602C125L800	11.0°	.117	1.888	2.37	3.0
BMD200R1603S075L200	11.7°	.217	2.776	3.37	4.0
BMD200R1604S075L200	9.7°	.181	2.810	3.37	4.0
BMD250R1605S100L200	11.7°	.315	3.744	4.37	5.0
BMD300R1605S100L200	8.8°	.315	4.738	5.37	6.0
BMD300R1607S100L200	6.8°	.245	4.768	5.37	6.0
BMD400R1608S125L200	4.6°	.245	6.762	7.37	8.0
BMD500R1609S150L250	4.2°	.295	8.744	9.37	10.0
BMD600R1610S150L250	3.4°	.295	10.744	11.37	12.0



Copy Milling

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



■ **Screw-On End Mills**

order number	catalog number	D1 max	D1	D	DPM	WF (mm)	G3X	L2	Ap1 max	Z	max ramp angle	max RPM	lbs	insert 1
5175033	KSRM125R4303M16L150	1.250	.750	1.142	.670	24	M16	1.500	.250	3	5.3°	44600	.36	RP_T43
5175034	KSRM150R4304M16L150	1.500	1.000	1.142	.670	24	M16	1.500	.250	4	4.7°	38600	.38	RP_T43

■ **Spare Parts**



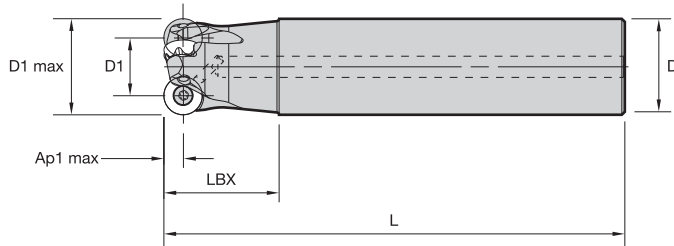
insert screw



in. lbs.

D1 max	insert screw	in. lbs.
1.250	MS2085	35
1.500	MS2085	35

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	LBX	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5175035	KSRM125R4302C125L600	1.250	.750	1.250	6.000	1.500	.250	2	6.0°	44600	RP_T43	1.77
5175037	KSRM125R4303C125L1000	1.250	.750	1.250	10.000	1.500	.250	3	5.3°	44600	RP_T43	3.10
5175038	KSRM150R4304C125L600	1.500	1.000	1.250	6.000	1.500	.250	4	4.7°	38600	RP_T43	1.85
5175039	KSRM150R4304C125L1000	1.500	1.000	1.250	10.000	1.500	.250	4	4.7°	38600	RP_T43	3.17

■ Spare Parts

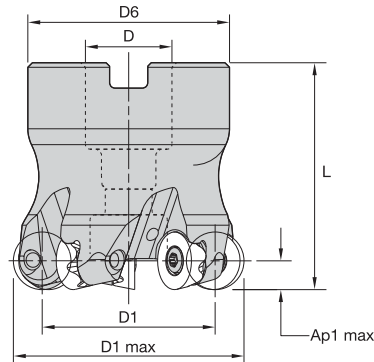


D1 max	insert screw	in. lbs.	Torx Plus driver
1.250	MS2085	35	DT15IP
1.500	MS2085	35	DT15IP



Copy Milling

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



■ Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
5302954	KSRM200R4303S075L197	2.000	1.500	.750	1.750	1.969	.250	3	11.5°	31500	RP_T43__	.89
5175380	KSRM200R4305S075L197	2.000	1.500	.750	1.750	1.969	.250	5	11.4°	31500	RP_T43__	.92
5302955	KSRM250R4304S075L197	2.500	2.000	.750	1.750	1.969	.250	4	8.2°	27300	RP_T43__	1.14
5175381	KSRM250R4306S075L197	2.500	2.000	.750	1.750	1.969	.250	6	8.2°	27300	RP_T43__	1.16
5302956	KSRM300R4305S100L197	3.000	2.500	1.000	2.750	1.969	.250	5	6.4°	24400	RP_T43__	2.46
5175382	KSRM300R4307S100L197	3.000	2.500	1.000	2.750	1.969	.250	7	6.4°	24400	RP_T43__	2.48

■ Spare Parts

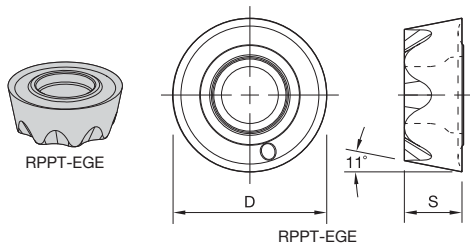
D1 max	insert screw	in. lbs.	socket-head cap screw	Torx Plus driver
2.000	MS2085	35	S446	DT15IP
2.500	MS2085	35	S446	DT15IP
3.000	MS2085	35	S459	DT15IP

Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LEJ	KC725M	.E..GE	KC725M	.S..GE	KCPK30
P3-P4	.E..LEJ	KC725M	.S..GE	KCPK30	-	-
P5-P6	.E..GE	KCPK30	.S..GE	KCPK30	-	-
M1-M2	.E..LEJ	KC725M	.E..LEJ	KC725M	.S..GE	KC725M
M3	.S..GEJ	KC725M	.E..GE	KC725M	.S..GE	KCPK30
K1-K2	-	-	.S..GE	KCPK30	-	-
K3	-	-	.S..GE	KCPK30	-	-
N1-N2	.E..LEJ	KC422M	.E..LEJ	KC422M	.E..LEJ	KC422M
N3	.E..LEJ	KC422M	.E..LEJ	KC422M	.E..LEJ	KC422M
S1-S2	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..GE	KC725M
S3	.E..LEJ	KC725M	.S..GEJ	KC725M	.S..GE	KC725M
S4	.E..LEJ	KC725M	.E..GE	KC725M	.S..GE	KC725M
H1	-	-	.S..GE	KC522M	-	-

Indexable Inserts

- EGE is the first choice for titanium machining.



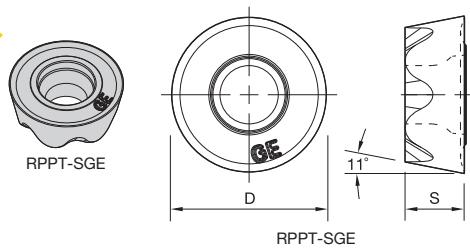
RPPT-EGE

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPPT43EGE	.500	.188	.003	6	-	-	●	●	-	-	-

- first choice
- alternate choice

P	●	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○

- SGE geometry for general purpose in roughing operations in steel.

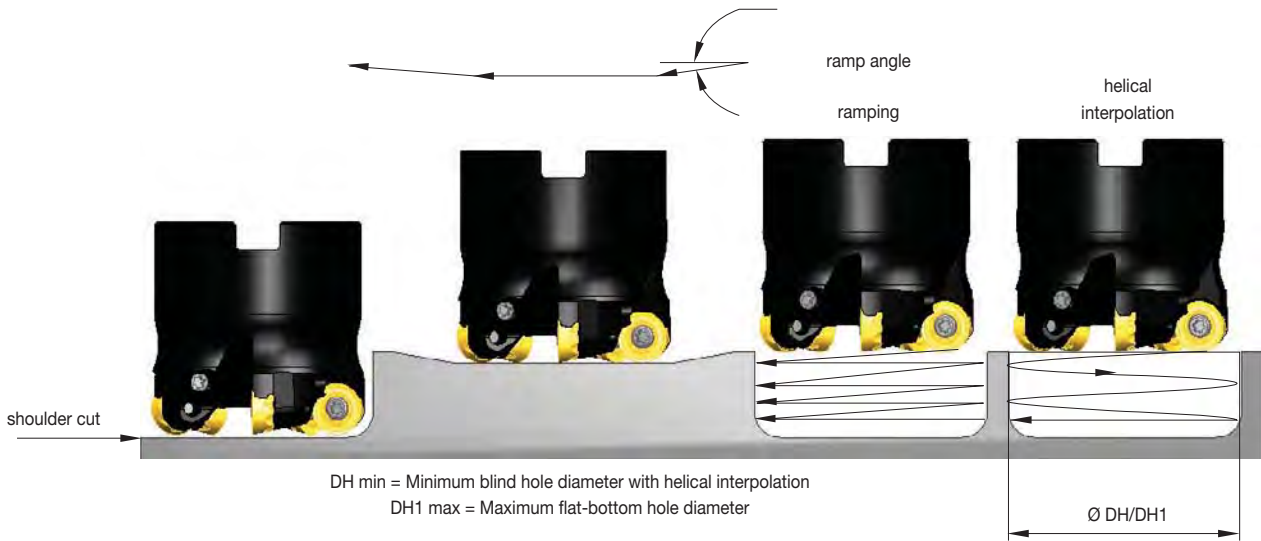


RPPT-SGE

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RPPT43SGE	.500	.188	.005	6	-	-	●	●	-	-	-

Copy Milling

■ Maximum Linear Ramping and Helical Interpolation from Solid

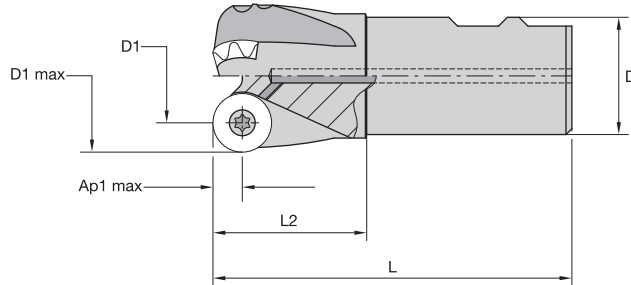
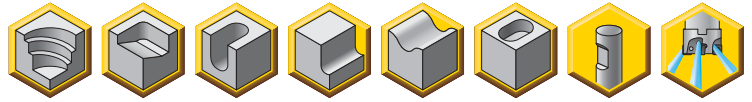


catalog number	Maximum Ramp Angle (ra) when hx = .01" and ae > ae1	Maximum Ramp Depth (ap) per pass when ae > ae1	Maximum Ramp Depth (ap) per pass when hx = .01" and ae < ae1	ae1	Maximum Plunge Depth (ap) when hx = .01" and ae > ae2	ae2	min hole diameter (DH min)	max flat-bottom hole diameter (DH1 max)	Maximum Hole Diameter (No Flat Bottom)
KSRM125R4303C125L600	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302C125L600	5.95°	.061	.250	.413	.250	.500	1.674	2.001	2.500
KSRM125R4303C125L1000	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302C125L1000	5.95°	.061	.250	.413	.250	.500	1.674	2.001	2.500
KSRM150R4304C125L600	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303C125L600	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM150R4304C125L1000	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303C125L1000	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM125R4303M16L150	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302M16L150	6.43°	.065	.250	.418	.250	.500	1.665	2.001	2.500
KSRM150R4304M16L150	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303M16L150	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM200R4305S075L197	11.43°	.250	.250	.499	.250	.500	3.001	3.501	4.000
KSRM200R4303S075L197	11.45°	.250	.250	.499	.250	.500	3.001	3.501	4.000
KSRM250R4306S075L197	8.16°	.250	.250	.500	.250	.500	4.001	4.500	5.000
KSRM250R4304S075L197	8.16°	.250	.250	.500	.250	.500	4.001	4.500	5.000
KSRM300R4307S100L197	6.35°	.250	.250	.500	.250	.500	5.001	5.500	6.000
KSRM300R4305S100L197	6.35°	.250	.250	.500	.250	.500	5.001	5.500	6.000



Copy Milling





- Engineered for roughing with large depths of cut through positive geometries.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.



■ **Weldon • End Mills**

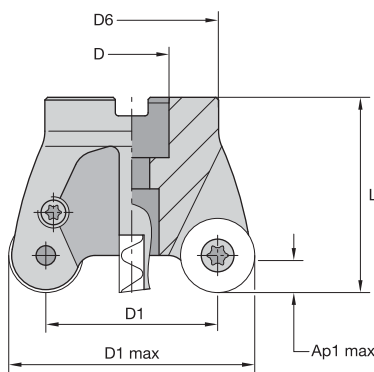
order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
2610667	BMD200R6403W150L200	2.000	1.250	1.500	4.690	2.000	.375	3	.6°	29000	RCG_64_	2.15

■ **Spare Parts**

				
D1 max	insert screw	in. lbs.	anti-rotation screw	Torx wrench
2.000	MS1162	45	S2160	TT25



- Engineered for roughing with large depths of cut through positive geometry inserts.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.
- High coolant pressure capabilities.



■ **Shell Mills**

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
2610668	BMD250R6404S075L200	2.500	1.750	.750	1.750	2.000	.375	4	.6°	26000	RCG_64__	1.16
2610670	BMD300R6405S100L200	3.000	2.250	1.000	2.190	2.000	.375	5	.7°	22000	RCG_64__	1.78
2610672	BMD400R6405S125L200	4.000	3.250	1.250	2.875	2.000	.375	5	.7°	18000	RCG_64__	3.17
2610683	BMD400R6406S125L200	4.000	3.250	1.250	2.875	2.000	.375	6	.6°	18000	RCG_64__	3.15
2610684	BMD500R6406S150L250	5.000	4.250	1.500	3.810	2.500	.375	6	.8°	15000	RCG_64__	7.08
2610685	BMD500R6408S150L250	5.000	4.250	1.500	3.810	2.500	.375	8	.7°	15000	RCG_64__	7.07
2610686	BMD600R6407S150L250	6.000	5.250	1.500	3.810	2.500	.375	7	.7°	14000	RCG_64__	9.48
2610687	BMD600R6408S150L250	6.000	5.250	1.500	3.810	2.500	.375	8	.7°	14000	RCG_64__	9.52
2610688	BMD800R6409S250L250	8.000	7.250	2.500	5.000	2.500	.375	9	.6°	12500	RCG_64__	13.08
5971566	BMD800R6409S250L250HP *	8.000	7.252	2.500	6.000	2.500	.375	9	.6°	12500	RCG_64__	14.85

NOTE: For high pressure coolant applications (>30 bar/>435 PSI) with cutter diameter 8", use items marked with "HP" in the catalog number. They are available as per request. Please ask your local sales contact for further information.

*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

■ **Spare Parts**



order number	D1 max	insert screw	in. lbs.	Torx wrench	coolant lock screw assembly	socket-head cap screw with coolant groove	coolant cap assembly
2610668	2.500	MS1162	45	TT25	—	S445CG	—
2610670	3.000	MS1162	45	TT25	—	S458CG	—
2610672	4.000	MS1162	45	TT25	S2162C	—	—
2610683	4.000	MS1162	45	TT25	S2162C	—	—
2610684	5.000	MS1162	45	TT25	S2163C	—	—
2610685	5.000	MS1162	45	TT25	S2163C	—	—
2610686	6.000	MS1162	45	TT25	S2163C	—	—
2610687	6.000	MS1162	45	TT25	S2163C	—	—
2610688	8.000	MS1162	45	TT25	—	—	MCC080001
5971566	8.000	MS1162	45	TT25	—	—	MCC0800HP

NOTE: For coolant shower plate assembly use only low pressure coolant. Use high pressure coolant cap assembly only in combination with high pressure cutters. Wrench adapter is not included and needs to be purchased separately.



Copy Milling

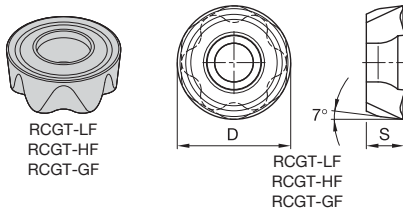
Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
P3-P4	.E..LF	KC522M	.S..GF	KC725M	.S..HF	KCPK30
P5-P6	.E..LF	KC522M	.S..HF	KCPK30	.S..HF	KCPK30
M1-M2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
M3	.E..LF	KCPK30	.S..GF	KC725M	.S..HF	KCPK30
K1-K2	-	-	.S..HF	KCPK30	-	-
K3	-	-	.S..HF	KCPK30	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
S3	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
S4	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
H1	-	-	-	-	-	-

- ELF is the first choice for lower cutting forces to avoid built-up edge.
- SGF geometry for general purpose in roughing applications.
- SHF is the first choice for heavy-duty applications.

● first choice
○ alternate choice

P	●	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



RCGT-LF/LFJ

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT64ELFJ	.750	.250	.002	6	-	-	-	-	-	●	-
RCGT64ELF	.750	.250	.002	6	-	-	●	●	-	-	●

RCGT-HF/-HFJ

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT64SHFJ	.750	.250	.010	6	-	-	-	-	●	-	-
RCGT64SHF	.750	.250	.010	6	-	-	●	●	-	-	●

RCGT-GF

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT64SGFJ	.750	.250	.004	6	-	-	-	-	●	-	-
RCGT64SGF	.750	.250	.004	6	-	●	●	-	-	-	-



Copy Milling

■ Recommended Starting Feeds [IPT]

At .375 Axial Depth of Cut (ap)

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LF	.004	.007	.013	.003	.005	.009	.002	.004	.008	.002	.004	.008	.002	.004	.008	.E..LF
.S..GF	.007	.017	.028	.005	.013	.020	.004	.011	.018	.004	.010	.016	.004	.010	.016	.S..GF
.S..HF	.007	.017	.028	.005	.013	.020	.004	.011	.018	.004	.010	.016	.004	.010	.016	.S..HF

At .188 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LF	.004	.008	.015	.003	.006	.011	.003	.005	.009	.003	.005	.009	.002	.005	.009	.E..LF
.S..GF	.008	.020	.032	.006	.015	.023	.005	.013	.020	.005	.012	.019	.005	.012	.018	.S..GF
.S..HF	.008	.020	.032	.006	.015	.023	.005	.013	.020	.005	.012	.019	.005	.012	.018	.S..HF

At .094 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LF	.005	.010	.019	.004	.008	.014	.004	.007	.012	.003	.006	.012	.003	.006	.011	.E..LF
.S..GF	.010	.026	.042	.008	.019	.031	.007	.017	.027	.006	.015	.025	.006	.015	.024	.S..GF
.S..HF	.010	.026	.042	.008	.019	.031	.007	.017	.027	.006	.015	.025	.006	.015	.024	.S..HF

At .047 Axial Depth of Cut (ap)

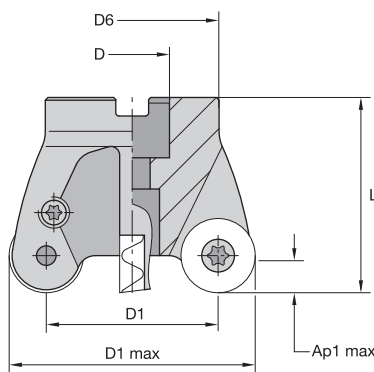
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LF	.007	.014	.027	.005	.011	.020	.005	.009	.017	.004	.009	.016	.004	.008	.015	.E..LF
.S..GF	.014	.036	.059	.010	.026	.042	.009	.023	.036	.008	.021	.034	.008	.021	.033	.S..GF
.S..HF	.014	.036	.059	.010	.026	.042	.009	.023	.036	.008	.021	.034	.008	.021	.033	.S..HF

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Copy Milling

- Engineered for roughing with large depths of cut through positive geometry inserts.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.
- High coolant pressure capabilities.



Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
2610689	BMD300R8603S075L200	3.000	2.000	.750	1.750	2.000	.500	3	.9°	15500	RCGT86__	1.22
2610691	BMD400R8605S125L250	4.000	3.000	1.250	2.875	2.500	.500	5	.8°	12000	RCGT86__	4.01
2610697	BMD500R8606S150L250	5.000	4.000	1.500	3.810	2.500	.500	6	.8°	9000	RCGT86__	6.62
2610694	BMD600R8607S150L250	6.000	5.000	1.500	3.810	2.500	.500	7	.8°	8800	RCGT86__	8.63
2610696	BMD800R8608S250L250	8.000	7.000	2.500	5.000	2.500	.500	8	.7°	8500	RCGT86__	11.81
5971567	BMD800R8608S250L250HP	8.000	7.000	2.500	6.000	2.500	.500	8	.7°	8500	RCGT86__	14.00

NOTE: For high pressure coolant applications (>30 bar/>435 PSI) with cutter diameter 8", use items marked with "HP" in the catalog number. They are available as per request. Please ask your local sales contact for further information.

Spare Parts



order number	D1 max	insert screw	in. lbs.	Torx wrench	anti-rotation screw	coolant lock screw assembly	coolant cap assembly	socket-head cap screw with coolant groove	high pressure coolant cap assembly	wrench adapter
2610689	3.000	MS1162	45	TT25	S2160	—	—	S445CG	—	—
2610691	4.000	MS1162	45	TT25	S2160	S2164C	—	—	—	—
2610697	5.000	MS1162	45	TT25	S2160	S2163C	—	—	—	—
2610694	6.000	MS1162	45	TT25	S2160	S2163C	—	—	—	—
2610696	8.000	MS1162	45	TT25	S2160	—	MCC080001	—	—	—
5971567	8.000	MS1162	45	TT25	S2160	—	—	—	MCC0800HP	SDSW66

NOTE: For coolant shower plate assembly use only low pressure coolant.
 Use high pressure coolant cap assembly only in combination with high pressure cutters.
 Wrench adapter is not included and needs to be purchased separately.



Insert Selection Guide

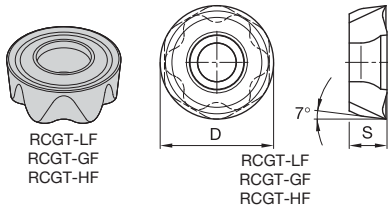
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
P3-P4	.S..GF	KC522M	.S..GF	KC725M	.S..HF	KCPK30
P5-P6	.S..GF	KC522M	.S..HF	KCPK30	.S..HF	KCPK30
M1-M2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
M3	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KCPK30
K1-K2	-	-	.S..HF	KCPK30	-	-
K3	-	-	.S..HF	KCPK30	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
S3	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
S4	.E..LF	KC725M	.S..GF	KC725M	.S..HF	KC725M
H1	-	-	-	-	-	-

Indexable Inserts

- ELF is the first choice for lower cutting forces to avoid built-up edge.
- SGF geometry for general purpose in roughing applications.
- SHF is the first choice for heavy-duty applications.

- first choice
- alternate choice

P	●	○	○	○	○	○	○
M	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○



RCGT-LF/-LFJ

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT86ELF	1.000	.375	.002	6	-	-	●	-	-	-	●

RCGT-GF

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT86SGFJ	1.000	.375	.004	6	-	-	-	-	●	-	-
RCGT86SGF	1.000	.375	.004	6	-	●	-	-	-	-	-

RCGT-HF/-HFJ

catalog number	D	S	hm	cutting edges	KC422M	KC522M	KC725M	KCPK30	KCPM40	KCSM30	KCSM40
RCGT86SHFJ	1.000	.375	.010	6	-	-	-	-	●	-	-
RCGT86SHF	1.000	.375	.010	6	-	-	●	-	-	-	●

Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
--------------------	--------------------	--------------------

At .500 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LF	.004	.007	.013	.003	.005	.009	.002	.004	.008	.002	.004	.008	.002	.004	.008	.E..LF
.S..GF	.007	.017	.028	.005	.013	.020	.004	.011	.018	.004	.010	.016	.004	.010	.016	.S..GF
.S..HF	.007	.017	.028	.005	.013	.020	.004	.011	.018	.004	.010	.016	.004	.010	.016	.S..HF

At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LF	.004	.008	.015	.003	.006	.011	.003	.005	.009	.003	.005	.009	.002	.005	.009	.E..LF
.S..GF	.008	.020	.032	.006	.015	.023	.005	.013	.020	.005	.012	.019	.005	.012	.018	.S..GF
.S..HF	.008	.020	.032	.006	.015	.023	.005	.013	.020	.005	.012	.019	.005	.012	.018	.S..HF

At .125 Axial Depth of Cut (ap)

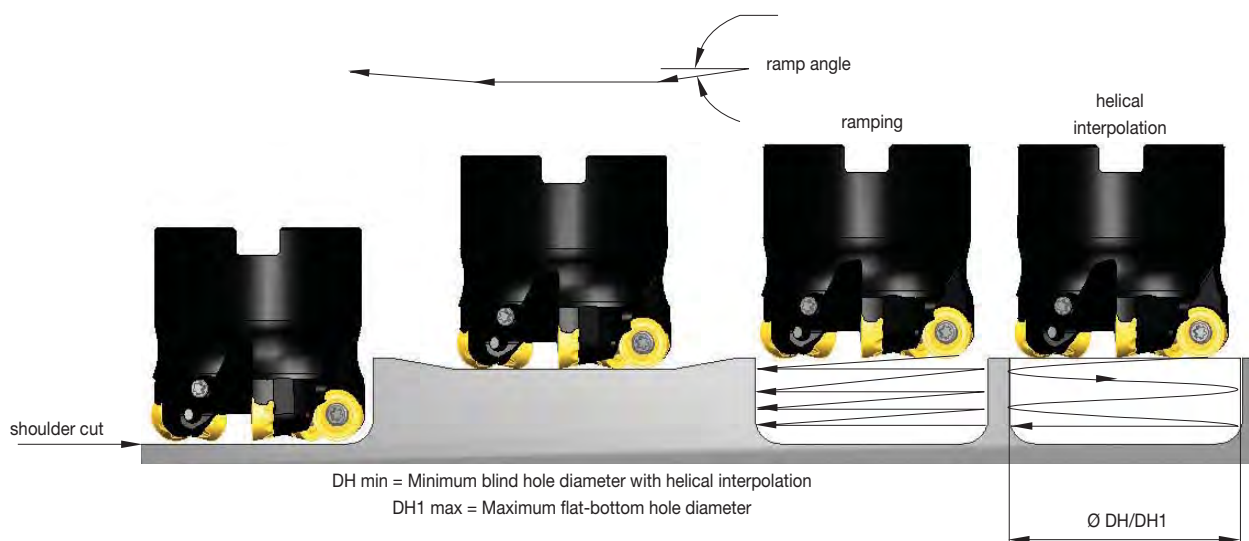
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LF	.005	.010	.019	.004	.008	.014	.004	.007	.012	.003	.006	.012	.003	.006	.011	.E..LF
.S..GF	.010	.026	.042	.008	.019	.031	.007	.017	.027	.006	.015	.025	.006	.015	.024	.S..GF
.S..HF	.010	.026	.042	.008	.019	.031	.007	.017	.027	.006	.015	.025	.006	.015	.024	.S..HF

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LF	.007	.014	.027	.005	.011	.020	.005	.009	.017	.004	.009	.016	.004	.008	.015	.E..LF
.S..GF	.014	.036	.059	.010	.026	.042	.009	.023	.036	.008	.021	.034	.008	.021	.033	.S..GF
.S..HF	.014	.036	.059	.010	.026	.042	.009	.023	.036	.008	.021	.034	.008	.021	.033	.S..HF

NOTE: Use "Light Machining" values as starting feed rate.
 Please see pages X22-X37 for recommended starting speeds.

■ Maximum Linear Ramping and Helical Interpolation from Solid



catalog number	Maximum Ramp Angle (ra) when hx = .01" and ae > ae1	Maximum Ramp Depth (ap) per pass when ae > ae1	Maximum Ramp Depth (ap) per pass when hx = .01" and ae < ae1	ae1	Maximum Plunge Depth (ap) when hx = .01" and ae > ae2	ae2	min hole diameter (DH min)	max flat-bottom hole diameter (DH1 max)	Maximum Hole Diameter (No Flat Bottom)
KSRM125R4303C125L600	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302C125L600	5.95°	.061	.250	.413	.250	.500	1.674	2.001	2.500
KSRM125R4303C125L1000	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302C125L1000	5.95°	.061	.250	.413	.250	.500	1.674	2.001	2.500
KSRM150R4304C125L600	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303C125L600	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM150R4304C125L1000	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303C125L1000	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM125R4303M16L150	5.30°	.055	.250	.406	.250	.500	1.688	2.001	2.500
KSRM125R4302M16L150	6.43°	.065	.250	.418	.250	.500	1.665	2.001	2.500
KSRM150R4304M16L150	4.74°	.069	.250	.421	.250	.500	2.157	2.502	3.000
KSRM150R4303M16L150	5.31°	.077	.250	.429	.250	.500	2.142	2.502	3.000
KSRM200R4305S075L197	11.43°	.250	.250	.499	.250	.500	3.001	3.501	4.000
KSRM200R4303S075L197	11.45°	.250	.250	.499	.250	.500	3.001	3.501	4.000
KSRM250R4306S075L197	8.16°	.250	.250	.500	.250	.500	4.001	4.500	5.000
KSRM250R4304S075L197	8.16°	.250	.250	.500	.250	.500	4.001	4.500	5.000
KSRM300R4307S100L197	6.35°	.250	.250	.500	.250	.500	5.001	5.500	6.000
KSRM300R4305S100L197	6.35°	.250	.250	.500	.250	.500	5.001	5.500	6.000

Mobile App

The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.



FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

MACHING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

ORDERING

Login using your Konnect credentials to complete a purchase.

WHERE TO FIND IT

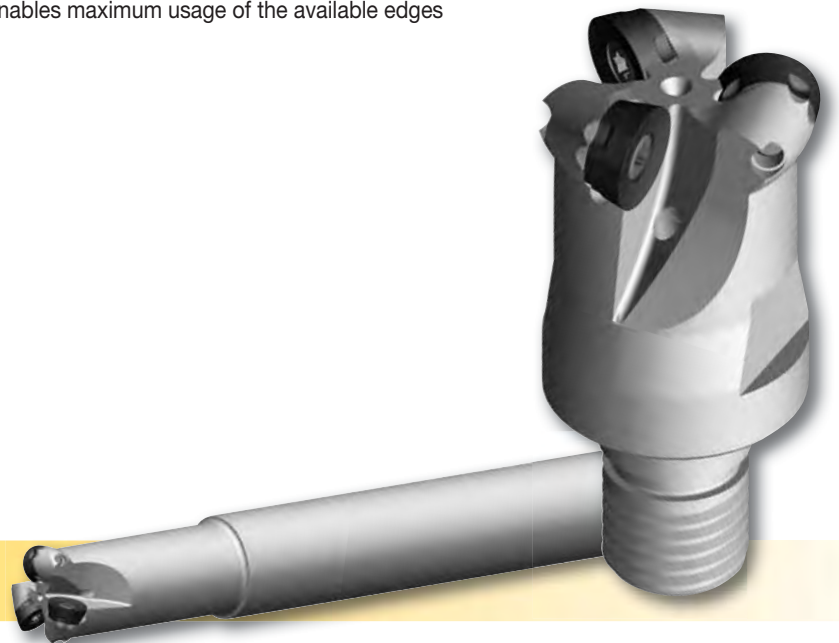
Download the free app today from iTunes® or the Google Play™ store.



➤ 7713VR Series

Round Insert Milling Cutter with Indexation

The 7713VR is our newest round insert cutter series. Designed with a new silver-satin surface treatment that reduces body degradation during high-performance applications and enhances body tool life. This cutter series has an anti-rotation design that ensures a precise number of indexes per insert. This enables maximum usage of the available edges for roughing applications.



Features and Benefits

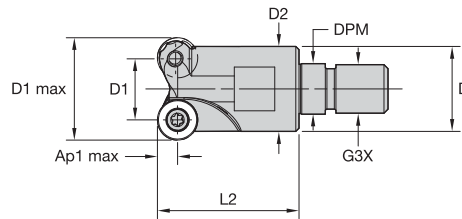
This unique patented pocket system prevents the inserts from rotating in the pocket during heavy-feed machining and unstable conditions. The 7713VR cutter is excellent for roughing and semi-finishing of all materials, especially stainless steel and high-temperature alloys, as well as for steel, tool steel, and aluminum alloys.



7713VR10:
Maximum $ap = .197''$
Diameter Range = 1–2.50"

7713VR12:
Maximum $ap = .236''$
Diameter Range = 1–3"

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



■ Screw-On End Mills

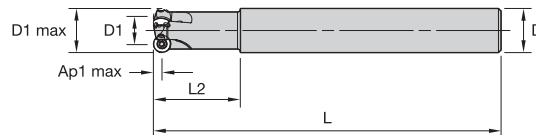
order number	catalog number	D1 max	D1	D	D2	L2	G3X	DPM	Ap1 max	Z
5673043	A7713VR10SA1.25Z4R1.7	1.250	.857	1.142	1.211	1.693	M16	.669	.197	4

■ Spare Parts



D1 max	insert screw	in. lbs.	Torx driver
1.250	D4008T	27	TB15

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



■ Cylindrical End Mills

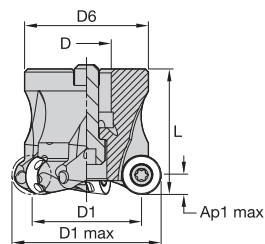
order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z
5672803	C7713VR10CA1.00Z3R2.0	1.000	.607	1.000	7.874	1.970	.197	3
5672804	C7713VR10CA1.25Z4R2.7	1.250	.856	1.250	9.842	2.756	.197	4

■ Spare Parts



D1 max	insert screw	in. lbs.	Torx driver
1.000	D4007T	27	TB15
1.250	D4008T	27	TB15

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



■ Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z
5673597	C7713VR10-A1.50Z05R	1.500	1.107	.500	1.244	1.260	.197	5
5672805	C7713VR10-A2.00Z7R	2.000	1.606	.750	1.638	1.575	.197	7
5673042	C7713VR10-A2.50Z8R	2.500	2.107	.750	1.835	1.570	.197	8

■ Spare Parts



D1 max	insert screw	in. lbs.	Torx driver	socket-head cap screw
1.500	D4008T	27	TB15	#1/4-28X3/4SHCSA
2.000	D4008T	27	TB15	#3/8-24X1SHCSA
2.500	D4008T	27	TB15	#3/8-24X1SHCSA

Technical Information

■ Technical Information (in)

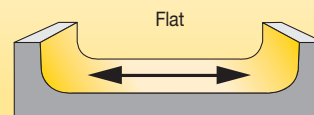
order number	catalog number	dimension				max RPM	
		facing pitch	ramping angle	helical hole min-max			ap max helical/linear
5672803	C7713VR10CA1.00Z3R2.0	0.607	11.70	1.291	1.921	0.130	64,500
5672804	C7713VR10CA1.25Z4R2.7	0.857	5.70	1.791	2.421	0.130	53,500
5673597	C7713VR10-A1.50Z05R	1.107	7.75	2.291	2.921	0.130	47,000
5672805	C7713VR10-A2.00Z7R	1.607	5.10	3.291	3.921	0.130	39,500
5673042	C7713VR10-A2.50Z8R	2.107	3.70	4.291	4.921	0.130	34,000
5673043	A7713VR10SA1.25Z4R1.7	0.857	5.70	1.791	2.421	0.130	53,500



Ramping



Helical Interpolation



Facing Pitch



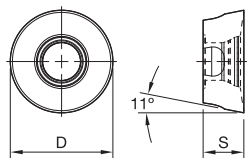
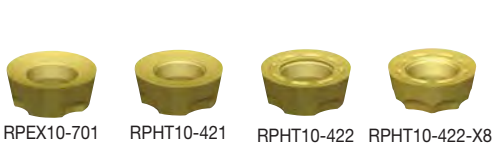
Copy Milling

Insert Selection Guide • IC 10

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	422-X8	SP6519	432-X5	SC6525	422-X4	SP6519
P3-P4	422-X8	SP6519	432-X5	SP6519	422-X4	SP6519
P5-P6	422-X8	SP6519	T-X4	SP6519	T-X4	X500
M1-M2	422-X8	SP6519	432-X5	SC6525	422-X4	SP6519
M3	422-X8	X700	432-X5	SP6519	422-X4	X500
K1-K2	422-X8	SP6519	432-X5	SC6525	T-X4	SP6519
K3	422-X8	SP6519	432-X5	SC6525	T-X4	SP6519
N1-N2	701-X4	GH1	701-X4	GH1	701-X4	GH1
N3	701-X4	GH1	701-X4	GH1	701-X4	GH1
S1-S2	422-X8	X700	432-X5	X500	422-X4	X500
S3	422-X8	X700	432-X5	X500	422-X4	X500
S4	422-X8	X700	432-X5	X500	422-X4	X500
H1	-	-	-	-	-	-

Indexable Inserts IC 10

- Four indexation positions:
 - A_p max: .197" (5mm)
 - A_p recommended: $\leq .098$ " (2,5mm)



- first choice
- alternate choice

P	●	●	●	○	○	○	○
M	●	●	●	●	●	●	●
K	○	●	●	●	○	○	○
N	●	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

■ RPEX10-701-X4 • Precision Ground • 4 Indexes •
First Choice for Roughing Non-Ferrous Alloys and Finishing High-Temp Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPEX10T3M0F701X4	.394	.156	.001	4	●	-	-	-	●	-	-	-

■ RPHT10-421-X4 • Precision Ground • 4 Indexes

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT10T3M0E421X4	.394	.156	.002	4	-	-	-	-	-	-	●	●

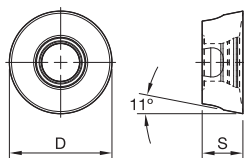
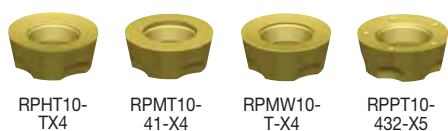
■ RPHT10-422-X4 • Precision Ground • 4 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT10T3M0E422X4	.394	.156	.001	4	-	-	-	-	-	●	●	●

■ RPHT10-422-X8 • Precision Ground • 8 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT10T3M0E422X8	.394	.156	.001	8	-	-	-	-	-	●	●	●





● first choice
○ alternate choice

P	●	●	●	○	○	○
M	●	●	●	●	●	●
K	○	●	●	●	○	○
N	●	○	○	○	○	○
S	○	○	○	●	●	●
H	○	○	○	○	○	○

■ RPHT10-TX4 • Precision Ground • 4 Indexes • General Purpose for Roughing

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT10T3M0TX4	.394	.156	.003	4	-	-	-	-	-	●	●	-

■ RPMT10-41-X4 • 4 Indexes • For Finishing Alloy Steel and Iron

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPMT10T3M0E41X4	.394	.156	.002	4	-	-	●	-	-	●	●	-

■ RPMW10-T-X4 • 4 Indexes • General Purpose for Roughing

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPMW10T3M0TX4	.394	.156	.005	4	-	-	-	-	-	-	●	-

■ RPPT10-432-X5 • Precision Pressed • 5 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPPT10T3M0E432X5	.394	.156	.001	5	-	-	-	●	-	●	●	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .197 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.005	.009	.013	.003	.007	.009	.002	.005	.007	.002	.004	.006	.002	.004	.006	701-X4
422-X8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	422-X8
432-X5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	432-X5
422-X4	.005	.012	.023	.003	.008	.016	.002	.006	.012	.002	.006	.010	.002	.005	.010	422-X4
T-X4	.009	.015	.025	.007	.011	.018	.005	.008	.013	.004	.007	.011	.004	.007	.011	T-X4

At .098 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.005	.011	.015	.004	.008	.011	.003	.006	.008	.002	.005	.007	.002	.005	.006	701-X4
422-X8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	422-X8
432-X5	.005	.014	.026	.004	.010	.019	.003	.007	.014	.002	.006	.012	.002	.006	.011	432-X5
422-X4	.005	.014	.026	.004	.010	.019	.003	.007	.014	.002	.006	.012	.002	.006	.011	422-X4
T-X4	.011	.018	.029	.008	.013	.020	.006	.010	.015	.005	.008	.013	.005	.008	.012	T-X4

At .079 Axial Depth of Cut (ap)

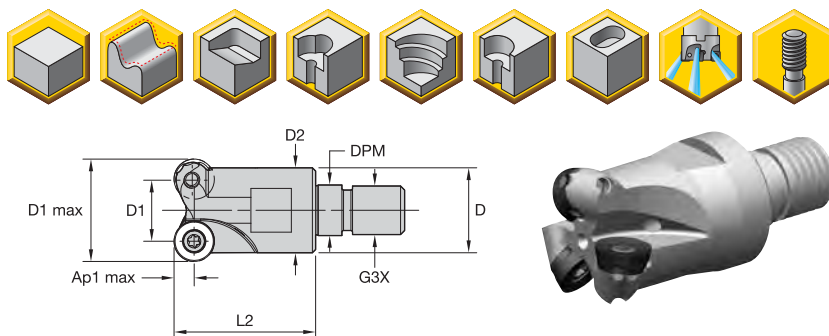
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.006	.012	.016	.004	.008	.012	.003	.006	.009	.003	.005	.008	.002	.005	.007	701-X4
422-X8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	422-X8
432-X5	.006	.015	.029	.004	.011	.020	.003	.008	.015	.003	.007	.013	.002	.006	.012	432-X5
422-X4	.006	.015	.029	.004	.011	.020	.003	.008	.015	.003	.007	.013	.002	.006	.012	422-X4
T-X4	.011	.019	.031	.008	.014	.022	.006	.010	.016	.005	.009	.014	.005	.008	.013	T-X4

At .059 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.006	.013	.018	.005	.009	.013	.003	.007	.010	.003	.006	.008	.003	.006	.008	701-X4
422-X8	.006	.017	.032	.005	.012	.023	.003	.009	.017	.003	.008	.015	.003	.007	.013	422-X8
432-X5	.006	.017	.032	.005	.012	.023	.003	.009	.017	.003	.008	.015	.003	.007	.013	432-X5
422-X4	.006	.017	.032	.005	.012	.023	.003	.009	.017	.003	.008	.015	.003	.007	.013	422-X4
T-X4	.013	.022	.035	.009	.016	.025	.007	.012	.018	.006	.010	.016	.006	.009	.015	T-X4

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



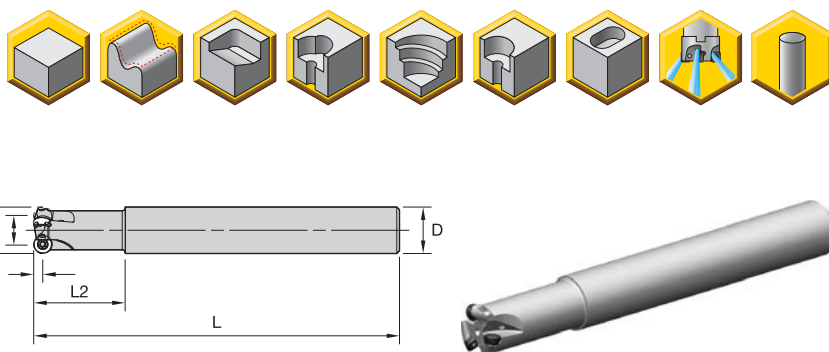
■ 7713VR12 Modular Head Screw-On

order number	catalog number	D1 max	D1	D	D2	L2	G3X	DPM	Ap1 max	Z
5672624	A7713VR12SA1.00Z2R1.4	1.000	.528	.827	.967	1.378	M12	.492	.236	2
5672810	A7713VR12SA1.25Z3R1.7	1.250	.778	1.142	1.201	1.692	M16	.669	.236	3
5673767	A7713VR12SA1.50Z4R1.7	1.500	1.028	1.142	1.455	1.693	M16	.669	.236	4
5673598	A7713VR12SA1.50Z5R1.7	1.500	1.028	1.142	1.455	1.692	M16	.669	.236	5

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx driver
1.000	D4008T	27	T15
1.250	D4008T	27	T15
1.500	D4008T	27	T15
1.500	D4008T	27	TB15

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



■ 7713VR12 Cylindrical Shank

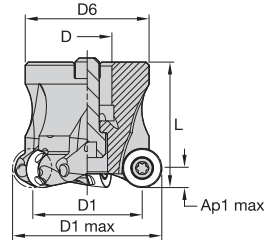
order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z
5672623	C7713VR12CA1.00Z2R2.0	1.000	.528	1.000	7.874	1.969	.236	2
5673499	C7713VR12CA1.25Z3R2.7	1.250	.778	1.250	9.842	2.755	.236	3

■ Spare Parts

D1 max	insert screw	in. lbs.	Torx driver
1.000	D4008T	27	T15
1.250	D4008T	27	T15

Copy Milling

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



■ 7713VR12 Shell Mill

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z
5673826	C7713VR12-A1.50Z4R	1.500	1.028	.500	1.323	1.574	.236	4
5673766	C7713VR12-A1.50Z5R	1.500	1.029	.500	1.323	1.575	.235	5
5672808	C7713VR12-A2.00Z5R	2.000	1.528	.750	1.835	1.574	.236	5
5673044	C7713VR12-A2.00Z4R	2.000	1.528	.750	1.835	1.575	.236	4
5673045	C7713VR12-A2.00Z6R	2.000	1.528	.750	1.835	1.575	.236	6
5673827	C7713VR12-A2.50Z6R	2.500	2.028	.750	2.031	1.986	.236	6
5673046	C7713VR12-A2.50Z7R	2.500	2.028	.750	2.031	1.986	.236	7
5672809	C7713VR12-A3.00Z8R	3.000	2.528	1.000	2.032	1.969	.236	8

■ Spare Parts

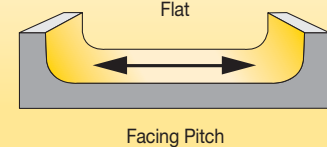


D1 max	insert screw	in. lbs.	Torx driver	socket-head cap screw
1.500	D4010T	27	T15	#1/4-28X3/4SHCSA
1.500	D4008T	27	TB15	#1/4-28X3/4SHCSA
2.000	D4010T	27	T15	#3/8-24X1SHCSA
2.500	D4010T	27	T15	#3/8-24X1SHCSA
3.000	D4010T	27	T15	#1/2-20X1-1/4SHCSA

Technical Information

■ Technical Information (in)

order number	catalog number	dimension				max RPM	
		facing pitch	ramping angle	helical hole min-max			ap max helical/linear
5672623	C7713VR12CA1.00Z2R2.0	0.528	9.50	1.134	1.921	0.160	49,000
5673499	C7713VR12CA1.25Z3R2.7	0.778	12.40	1.634	2.421	0.160	40,500
5673766	C7713VR12-A1.50Z5R	1.028	8.60	2.134	2.921	0.160	35,000
5673044	C7713VR12-A2.00Z4R	1.528	5.50	3.134	3.921	0.160	28,500
5672808	C7713VR12-A2.00Z5R	1.528	5.50	3.134	3.921	0.160	28,500
5673045	C7713VR12-A2.00Z6R	1.528	5.50	3.134	3.921	0.160	28,500
5673827	C7713VR12-A2.50Z6R	2.028	3.90	4.134	4.921	0.160	25,000
5673046	C7713VR12-A2.50Z7R	2.028	3.90	4.134	4.921	0.160	25,000
5672809	C7713VR12-A3.00Z8R	2.528	2.95	5.134	5.921	0.160	22,500
5672624	A7713VR12SA1.00Z2R1.4	0.528	9.50	1.134	1.921	0.160	49,000
5672810	A7713VR12SA1.25Z3R1.7	0.778	12.40	1.634	2.421	0.160	40,500
5673598	A7713VR12SA1.50Z5R1.7	1.028	8.60	2.134	2.921	0.160	35,000



Copy Milling

■ Insert Selection Guide • IC 12

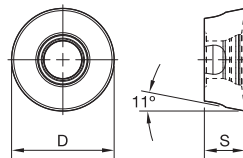
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	442-X8	SC6525	432-X5	SC6525	GD-X5	KCM40
P3-P4	432-X8	SP6519	432-X5	SP6519	GD-X5	KCM40
P5-P6	432-X8	SP6519	T-X4	SP6519	T-X4	X500
M1-M2	442-X8	SC6525	432-X5	SC6525	GD-X5	KCM40
M3	432-X8	SP6519	GD-X5	KCM40	442-X4	X500
K1-K2	T-X4	MP91M	T-X4	MP91M	T-X4	MP91M
K3	T-X4	MP91M	T-X4	MP91M	T-X4	MP91M
N1-N2	701-X4	GH1	701-X4	GH1	701-X4	GH1
N3	701-X4	GH1	701-X4	GH1	701-X4	GH1
S1-S2	442-X5	SP6519	GD-X5	KCM40	442-X4	X500
S3	442-X5	SP6519	GD-X5	KCM40	442-X4	X500
S4	442-X5	SP6519	442-X5	X500	442-X4	X500
H1	-	-	T-X4	MP91M	-	-

Indexable Inserts IC 12

- Four indexation positions:
 - Ap max: .236" (6mm)
 - Ap recommended: ≤.137" (3,5mm)
- Five indexation positions:
 - Ap max: .157" (4mm)
 - Ap recommended: ≤.098" (2,5mm)
- Eight indexation positions:
 - Ap max: .118" (3mm)
 - Ap recommended: ≤.059" (1,5mm)

● first choice
○ alternate choice

P	●	●	●	○	○	○
M	●	●	●	●	●	●
K	○	●	●	●	○	○
N	●	○	○	○	○	○
S	○	○	○	●	●	●
H	○	○	○	○	○	○



■ RPEX12-701-X4 • Precision Ground • 4 Indexes • For Roughing Non-Ferrous Alloys and Finishing High-Temp Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPEX1204M0F701X4	.472	.187	.001	4	●	-	-	-	-	-	-	-
RPEX1204M0E701X4	.472	.187	.002	4	-	-	-	-	-	-	●	-

■ RPHT12-421-X4 • Precision Ground • 4 Indexes

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0E421X4	.472	.187	.002	4	-	-	-	-	-	-	●	-

■ RPMT12-41-X4 • 4 Indexes • For Finishing Alloy Steel and Iron

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPMT1204M0E41X4	.472	.187	.002	4	-	-	●	-	-	●	●	-

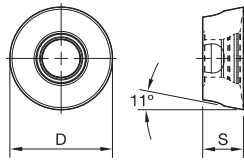
■ RPHT12-442-X5 • Precision Ground • 5 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0E442X5	.472	.187	.002	5	-	-	-	●	-	●	●	●

Copy Milling



RPHT12-442-X8 RPHT12-SGD-X5 RPHT12-SGD-X8



● first choice
○ alternate choice



RPHT12-422-X4 RPHT12-T-X4 RPMW12-T-X4

P	●	●	○	○	○	○	○	○	○
M	●	●	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

■ RPHT12-442-X8 • Precision Ground • 8 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0E442X8	.472	.187	.002	8	-	-	-	●	-	-	-	-

■ RPHT12-SGD-X5 • Precision Ground • 5 Indexes •
For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0SGDX5	.472	.188	.002	5	-	●	-	-	-	-	-	-

■ RPHT12-SGD-X8 • Precision Ground • 8 Indexes •
For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0SGDX8	.472	.188	.002	8	-	●	-	-	-	-	-	-

■ RPHT12-442-X4 • Precision Ground • 4 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0E442X4	.472	.188	.002	4	-	-	-	-	-	●	●	●

■ RPHT12-T-X4 • Precision Ground • 4 Indexes • General Purpose for Roughing

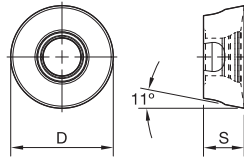
catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPHT1204M0TX4	.472	.187	.004	4	-	-	-	-	-	●	●	●

■ RPMW12-T-X4 • 4 Indexes • General Purpose for Roughing

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPMW1204M0TX4	.472	.187	.005	4	-	-	●	-	-	●	●	●



Copy Milling



● first choice
○ alternate choice

P	●	●	●	○	○	○
M	●	●	●	●	●	●
K	○	●	●	●	○	○
N	●	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

■ RPPT12-432-X4 • Precision Pressed • 4 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPPT1204M0E432X4	.472	.188	.002	4	-	-	-	●	-	-	●	●

■ RPPT12-432-X5 • Precision Pressed • 5 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPPT1204M0E432X5	.472	.188	.002	5	-	-	-	●	-	●	●	●

■ RPPT12-432-X8 • Precision Pressed • 8 Indexes •
For Machining Stainless Steel and Heat-Resistant Alloys

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPPT1204M0E432X8	.472	.188	.002	8	-	-	-	-	-	●	●	●

■ RPPT12-SGD-X4, X5, X8 • Precision Pressed • 4, 5, or 8 Indexes •
For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

catalog number	D	S	hm	cutting edges	GH1	KCM40	MP91M	SC6525	SP4019	SP6519	X500	X700
RPPT1204M0SGDX4	.472	.187	.002	4	-	-	●	-	-	-	-	-
RPPT1204M0SGDX5	.472	.188	.002	5	-	-	-	●	-	-	-	-
RPPT1204M0SGDX8	.472	.188	.002	8	-	-	-	-	-	●	-	-



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .236 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.005	.008	.011	.003	.006	.008	.002	.004	.006	.002	.004	.005	.002	.004	.005	701-X4
432-X5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	432-X5
432-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	432-X8
442-X5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	442-X5
442-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	442-X8
442-X4	.007	.021	.037	.005	.015	.027	.004	.011	.020	.003	.010	.017	.003	.009	.016	442-X4
GD-X5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GD-X5
GD-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GD-X8
T-X4	.009	.023	.037	.007	.017	.027	.005	.012	.020	.004	.011	.017	.004	.010	.016	T-X4

At .118 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.005	.009	.013	.004	.007	.009	.003	.005	.007	.002	.004	.006	.002	.004	.005	701-X4
432-X5	.006	.019	.037	.005	.014	.027	.003	.010	.020	.003	.009	.017	.003	.008	.016	432-X5
432-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	432-X8
442-X5	.006	.019	.037	.005	.014	.027	.003	.010	.020	.003	.009	.017	.003	.008	.016	442-X5
442-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	442-X8
442-X4	.008	.024	.043	.006	.017	.031	.004	.013	.023	.004	.011	.020	.003	.010	.018	442-X4
GD-X5	.006	.022	.040	.005	.016	.028	.003	.012	.021	.003	.010	.018	.003	.009	.017	GD-X5
GD-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GD-X8
T-X4	.011	.027	.043	.008	.019	.031	.006	.014	.023	.005	.012	.020	.005	.011	.018	T-X4

At .098 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.006	.010	.014	.004	.007	.010	.003	.005	.007	.003	.005	.006	.002	.004	.006	701-X4
432-X5	.007	.021	.040	.005	.015	.028	.004	.011	.021	.003	.010	.018	.003	.009	.017	432-X5
432-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	432-X8
442-X5	.007	.021	.040	.005	.015	.028	.004	.011	.021	.003	.010	.018	.003	.009	.017	442-X5
442-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	442-X8
442-X4	.009	.026	.046	.006	.019	.033	.005	.014	.024	.004	.012	.021	.004	.011	.019	442-X4
GD-X5	.007	.023	.042	.005	.017	.030	.004	.012	.022	.003	.011	.019	.003	.010	.018	GD-X5
GD-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GD-X8
T-X4	.011	.029	.046	.008	.020	.033	.006	.015	.024	.005	.013	.021	.005	.012	.019	T-X4

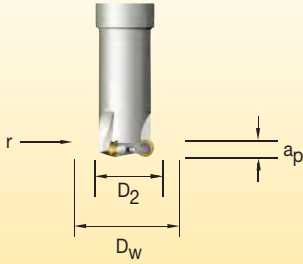
At .059 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
701-X4	.007	.012	.017	.005	.009	.012	.004	.007	.009	.003	.006	.008	.003	.005	.007	701-X4
432-X5	.008	.026	.049	.006	.018	.035	.005	.014	.026	.004	.012	.022	.004	.011	.021	432-X5
432-X8	.008	.026	.049	.006	.018	.035	.005	.014	.026	.004	.012	.022	.004	.011	.021	432-X8
442-X5	.008	.026	.049	.006	.018	.035	.005	.014	.026	.004	.012	.022	.004	.011	.021	442-X5
442-X8	.008	.026	.049	.006	.018	.035	.005	.014	.026	.004	.012	.022	.004	.011	.021	442-X8
442-X4	.011	.032	.058	.008	.023	.041	.006	.017	.030	.005	.015	.026	.005	.014	.024	442-X4
GD-X5	.008	.028	.053	.006	.020	.037	.005	.015	.027	.004	.013	.024	.004	.012	.022	GD-X5
GD-X8	.008	.028	.053	.006	.020	.037	.005	.015	.027	.004	.013	.024	.004	.012	.022	GD-X8
T-X4	.014	.035	.058	.010	.025	.041	.007	.019	.030	.006	.016	.026	.006	.015	.024	T-X4

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Copy Milling

7713VR Technical Information



Working Diameter:

Formula to evaluate the correct working diameter based on axial depth of cut (a_p).

$$D_w = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where:

- D_w = Working diameter
- D_2 = Diameter of cutter insert center to center
- r = Insert radius
- a_p = Axial depth of cut

where:

- f_z = Feed per tooth
- h_m = Average chip thickness
- r = Insert radius
- a_e = Radial depth of cut
- a_p = Axial depth of cut

Formula to find programmed feed rate based on radial engagement and axial depth of cut.

$$f_z = \frac{h_m}{\frac{\sqrt{r^2 - (r - a_e)^2}}{r} \times \frac{\sqrt{r^2 - (r - a_p)^2}}{r}}$$

Formula to calculate the average chip thickness h_m in relation with radial engagement and depth of cut.

$$h_m = f_z \times \frac{\sqrt{r^2 - (r - a_e)^2}}{r} \times \frac{\sqrt{r^2 - (r - a_p)^2}}{r}$$

Simplified formulas to evaluate h_m and f_z based on radial engagement or depth of cut.

Calculation of the average chip thickness in relation with the D.O.C. (Axial)

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_p}}$$

- h_m = Average chip thickness
- a_p = Depth of cut
- f_z = Feed per tooth
- d = Insert diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$

Calculation of the average chip thickness in relation with the a_e (Radial Engagement) if a_e is less than 50% of diameter

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

- h_m = Average chip thickness
- a_e = Radial engagement
- f_z = Feed per tooth
- d = Cutter diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{d}{a_p}}$$



Carbide Recycling

Help preserve and protect our planet!



It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

By using the Kennametal Carbide Recycling Program, you will receive:

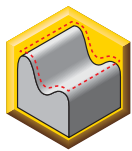
- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit [kennametal.com/carbiderecycling](https://www.kennametal.com/carbiderecycling).



[kennametal.com](https://www.kennametal.com)

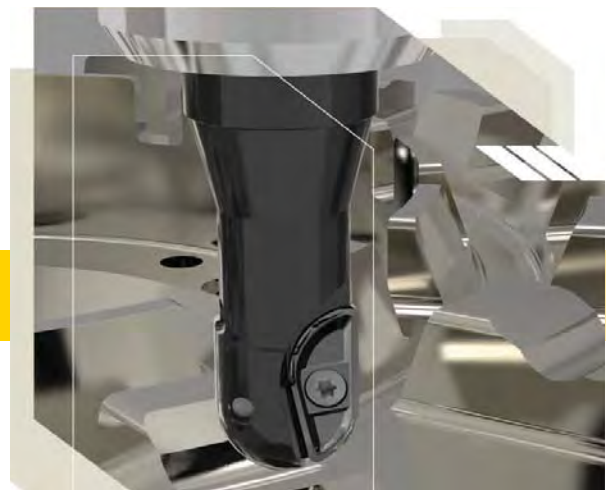
> 5505VX Series



Copy/3D



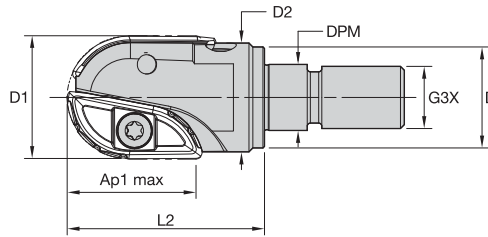
Contour Milling



Ball Nose Contour Milling Cutter

- The 5505VX ball nose cutters have a reinforced design feature, which delivers a high volume of chip removal.
- The chipbreaker geometry provides excellent chip control and evacuation during machining and prevents edge build-up.
- 5505VX roughing ball nose cutters are ideal for roughing and semi-finishing profiles and complex contours.
- One grade and one geometry are qualified to machine steel, alloyed steel, stainless steel, high-temperature alloys, and cast iron.

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



■ Screw-On End Mills

order number	catalog number	D1	D	D2	L2	G3X	DPM	Ap1 max	Z
5673710	A5505VX05SA.625R1.00	.625	.512	.585	1.000	M8	.335	.630	2
5673603	A5505VX06SA.750R1.377	.750	.709	.705	1.378	M10	.413	.750	2
5673624	A5505VX08SA1.00R1.575	1.000	.827	.907	1.575	M12	.492	.992	2
5672841	A5505VX10SA1.25R1.968	1.250	1.141	1.147	1.969	M16	.669	1.250	2

NOTE: Products available by April 1st, 2018.

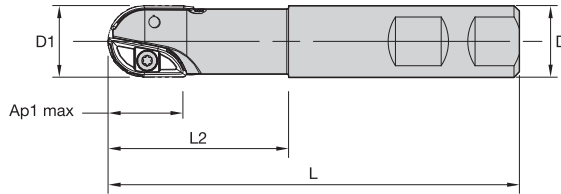
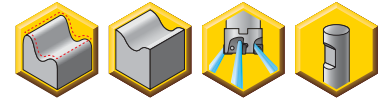
■ Spare Parts



D1	insert screw	in. lbs.	Torx Plus driver	Torx driver
.625	FP3006T	12.4	TP8	—
.750	FP3007T	12.4	TP8	—
1.000	D4010T	12.9	—	T15
1.250	D5013T	54.0	—	T20



- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



■ Weldon® End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z
5673595	C5505VX08WA1.00R2.37	1.000	1.000	4.650	2.370	.992	2
5672838	C5505VX10WA1.25R3.00	1.250	1.250	5.280	3.000	1.250	2
5673709	C5505VX10WA1.25R4.00	1.250	1.250	6.280	4.000	1.276	2
5672839	C5505VX12WA1.50R4.00	1.500	1.500	6.680	3.990	1.500	2
5673110	C5505VX12WA1.50R6.00	1.500	1.500	8.684	5.997	1.511	2
5672840	C5505VX16WA2.00R4.00	2.000	1.500	6.687	4.000	2.019	2
5673111	C5505VX16WA2.00R6.00	2.000	2.000	9.328	6.079	2.000	2

NOTE: Products available by April 1st, 2018.

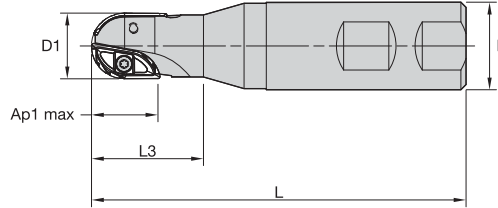
■ Spare Parts

D1	insert screw	in. lbs.	Torx driver
1.000	D4010T	12.9	T15
1.250	D5013T	54.0	T20
1.500	D6014T	62.0	T20
2.000	D6018S	146.0	—



Copy Milling

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



■ **Weldon® End Mills Flat**

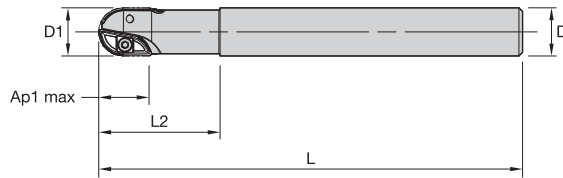
order number	catalog number	D1	D	L	L3	Ap1 max	Z
5673296	C5505VX06WA.750R2.00	.750	1.000	4.280	1.260	.760	2

NOTE: Products available by April 1st, 2018.

■ **Spare Parts**

D1	insert screw	in. lbs.	Torx Plus driver
.750	F3006T	16.0	TP8

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



■ Cylindrical End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z
5673633	C5505VX05CA.62R1.6	.625	.625	5.500	1.575	.630	2
5672846	C5505VX05CA.75/.62R1	.625	.750	7.000	1.575	.654	2
5672847	C5505VX06CA.75R1.7	.750	.750	5.000	2.000	.654	2
5673786	C5505VX06CA1/.75R1.5	.750	1.000	8.000	1.969	.760	2
5672848	C5505VX08CA1.00R2.2	1.000	1.000	10.000	2.165	1.000	2
5673142	C5505VX10CA1.25R2.2	1.250	1.250	10.000	2.559	1.276	2

NOTE: Products available by April 1st, 2018.

■ Spare Parts



D1	insert screw	in. lbs.	Torx Plus driver
.625	FP3006T	12.4	TP8
.750	FP3007T	16.0	TP8
1.000	D4010T	27.4	TP15
1.250	D5013T	53.1	—

Technical Information

■ Technical Information (in)

order number	catalog number	dimension				max RPM
		facing pitch	ramping angle	helical hole min-max	ap max helical/linear	
5673296	C5505VX06WA.750R2.00	—	85	—	—	37,250
5673595	C5505VX08WA1.00R2.37	—	85	—	—	30,250
5672658	C5505VX08WA1.00R3.55 032344	—	85	—	—	30,250
5672838	C5505VX10WA1.25R3.00	—	85	—	—	23,500
5673709	C5505VX10WA1.25R4.00	—	85	—	—	23,500
5672839	C5505VX12WA1.50R4.00	—	85	—	—	19,000
5673110	C5505VX12WA1.50R6.00	—	85	—	—	19,000
5672840	C5505VX16WA2.00R4.00	—	85	—	—	16,750
5673111	C5505VX16WA2.00R6.00	—	85	—	—	16,750
5673633	C5505VX05CA.62R1.6	—	85	—	—	54,250
5672846	C5505VX05CA.75/.62R1	—	85	—	—	54,250
5672847	C5505VX06CA.75R1.7	—	85	—	—	37,250
5673786	C5505VX06CA1/.75R1.5	—	85	—	—	37,250
5672848	C5505VX08CA1.00R2.2	—	85	—	—	30,250
5673142	C5505VX10CA1.25R2.2	—	85	—	—	23,500
5673710	A5505VX05SA.625R1.00	—	85	—	—	54,250
5673603	A5505VX06SA.750R1.377	—	85	—	—	37,250
5673624	A5505VX08SA1.00R1.575	—	85	—	—	30,250
5672841	A5505VX10SA1.25R1.968	—	85	—	—	23,500




Ramping

Copy Milling

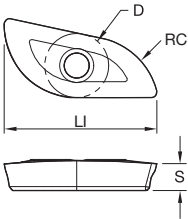
Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	R-F	SP6519	R-F	SP6519	R-F	SP6519
P3-P4	R-F	SP6519	R-F	SP6519	R-F	SP6519
P5-P6	R-F	SP6519	R-F	SP6519	R-F	SP6519
M1-M2	R-F	SP6519	R-F	SP6519	R-F	SP6519
M3	R-F	SP6519	R-F	SP6519	R-F	SP6519
K1-K2	R-F	SP6519	R-F	SP6519	R-F	SP6519
K3	R-F	SP6519	R-F	SP6519	R-F	SP6519
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	R-F	SP6519	R-F	SP6519	R-F	SP6519
S3	R-F	SP6519	R-F	SP6519	R-F	SP6519
S4	R-F	SP6519	R-F	SP6519	R-F	SP6519
H1	R-F	SP6519	R-F	SP6519	R-F	SP6519

Indexable Inserts




XPNT-F




● first choice
○ alternate choice

P	●
M	●
K	○
N	○
S	●
H	○


catalog number	D	LI	S	RC	hm	SP6519
XPNT050522RF	.291	.685	.125	.312	.002	●
XPNT06062515RF	.336	.783	.156	.375	.002	●
XPNT080832RF	.433	1.023	.187	.500	.002	●
XPNT101043RF	.555	1.315	.249	.625	.002	●
XPNT121254RF	.669	1.575	.312	.750	.002	●
XPNT161654RF	.875	2.081	.336	1.000	.002	●



Very Important



Please do not remove this screw. The screw is glued into the body to keep the inserts in the correct position.



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .315 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.004	.008	.014	.003	.006	.010	.002	.004	.007	.002	.004	.006	.002	.004	.006	R-F

At .157 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.004	.009	.016	.003	.007	.011	.002	.005	.009	.002	.004	.007	.002	.004	.007	R-F

At .079 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.006	.012	.021	.004	.009	.015	.003	.007	.011	.003	.006	.010	.002	.005	.009	R-F

At .039 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.008	.017	.028	.006	.012	.020	.004	.009	.015	.004	.008	.013	.003	.007	.012	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

5505VX • 20mm • Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .394 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.004	.010	.016	.003	.007	.011	.002	.006	.008	.002	.005	.007	.002	.004	.007	R-F

At .197 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.004	.012	.018	.003	.009	.013	.002	.006	.010	.002	.006	.008	.002	.005	.008	R-F

At .098 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.006	.016	.024	.004	.011	.017	.003	.008	.013	.003	.007	.011	.002	.007	.010	R-F

At .049 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
R-F	.008	.021	.032	.006	.015	.023	.004	.012	.017	.004	.010	.015	.003	.009	.014	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .492 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.011	.019	.003	.008	.013	.002	.006	.010	.002	.005	.009	.002	.005	.008	R-F

At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.013	.021	.003	.010	.015	.002	.007	.012	.002	.006	.010	.002	.006	.009	R-F

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.006	.017	.028	.004	.012	.020	.003	.009	.015	.003	.008	.013	.002	.007	.012	R-F

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.008	.024	.038	.005	.017	.028	.004	.013	.021	.004	.011	.018	.003	.010	.016	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

5505VX • 32mm • Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .630 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.011	.019	.003	.008	.013	.002	.006	.010	.002	.005	.009	.002	.005	.008	R-F

At .315 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.013	.021	.003	.010	.015	.002	.007	.012	.002	.006	.010	.002	.006	.009	R-F

At .157 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.006	.017	.028	.004	.013	.020	.003	.009	.015	.003	.008	.013	.002	.007	.012	R-F

At .079 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.008	.024	.039	.006	.017	.028	.004	.013	.021	.004	.011	.018	.003	.010	.017	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .787 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.013	.022	.003	.009	.016	.002	.007	.012	.002	.006	.010	.002	.005	.010	R-F

At .394 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.015	.026	.003	.010	.019	.002	.008	.014	.002	.007	.012	.002	.006	.011	R-F

At .197 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.006	.019	.034	.004	.014	.024	.003	.010	.018	.003	.009	.016	.002	.008	.015	R-F

At .098 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.008	.026	.047	.006	.019	.033	.004	.014	.025	.004	.012	.022	.003	.011	.020	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

5505VX • 50mm • Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .984 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.015	.025	.003	.011	.018	.002	.008	.014	.002	.007	.012	.002	.006	.011	R-F

At .500 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.004	.017	.029	.003	.012	.021	.002	.009	.016	.002	.008	.014	.002	.007	.012	R-F

At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.006	.022	.038	.004	.016	.027	.003	.012	.020	.003	.010	.018	.002	.010	.016	R-F

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	5%			10%			20%			30%			40-100%			
R-F	.008	.031	.052	.005	.022	.038	.004	.016	.028	.004	.014	.024	.003	.013	.022	R-F

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Copy Milling

Service and Support

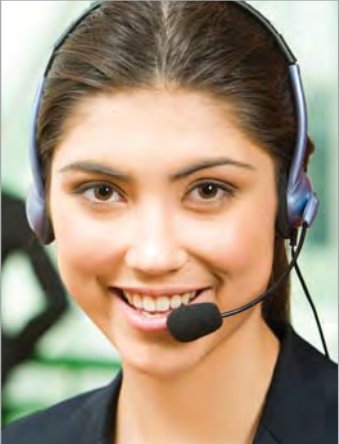
Customer Application Support (CAS)

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

SERVICE LEVEL EXCELLENCE	Fast telephone response. Quick technical solutions. Efficient case management.	
SERVICES	Operating parameters. Process optimization. Hardware support. Tooling selection. Troubleshooting.	
BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY	Materials database. Application calculators. Tooling performance experts.	

Originating Country	Language	Phone	E-mail
Australia	English	1800 666 667	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	k-cn.techsupport@kennametal.com
Denmark	English	808 89298	na.techsupport@kennametal.com
Finland	English	0800 919412	na.techsupport@kennametal.com
France	French	080 5540 367	eu.techsupport@kennametal.com
Germany	German	0800 0006651	eu.techsupport@kennametal.com
India	English	1 800 103 5227	in.techsupport@kennametal.com
Israel	English	1809 449889	na.techsupport@kennametal.com
Italy	Italian	800 916561	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	ap-kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	ap-kmt.techsupport@kennametal.com
Mexico	Spanish	1800 253 0758	na.techsupport@kennametal.com
Netherlands	English	0800 0201 130	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	ap-kmt.techsupport@kennametal.com
Norway	English	800 10080	na.techsupport@kennametal.com
Poland	Polish	0080 04411887	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643	na.techsupport@kennametal.com
Sweden	English	020799246	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	ap-kmt.techsupport@kennametal.com
UK	English	0800 032 8339	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	eu.techsupport@kennametal.com
USA	English	800 835 3668	na.techsupport@kennametal.com

Numbers shown only serve the originating country listed.

➤ KDMB™ • KDMT™

Indexable Copy Insert Platform

Primary Application

Ball nose and toroidal styles for roughing and finishing operations. Engineered with the ultimate technologies and supported with a wide range of diameters and insert styles to provide exceptional performance and productivity. The new high-feed insert style provides the highest metal removal rates for roughing applications.

Features and Benefits

Longer Tool Life and Improved Geometries

- Longer tool life for finishing operations, up to 63 HRC.
- High-accuracy inserts and holders: overall runout .0004".
- Improved geometries for roughing and finishing operations.
- Smaller diameters from .25" to replace SCEM, setting a more productive machining process.

Superior Productivity

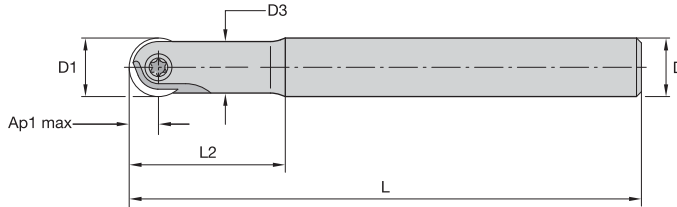
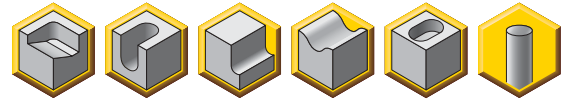
- Achieve better surface quality with the new helical geometry.
- New ultra-grain grade for outstanding tool life.
- Diameters .250" and .312" are a natural replacement for SEM tools.
- Better cost per edge.

Usability and Flexibility

- Wide diameter range enables use in a wide range of machining conditions.
- Many workpiece materials are possible — from hardened steel to aluminum.
- Large holder style offering: screw-on, cylindrical, and tapered steel and carbide holders.



- Cutting diameter ranges from .375–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and finishing operations.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.



■ Necked End Mills • Cylindrical Shank • Steel

order number	catalog number	D1	D	D3	L	L2	Ap1 max	Z	Z U	coolant supply	max ramp angle	max RPM	insert 1	lbs
2877812	KDMB0375R354A038SN	.375	.500	.335	3.543	1.378	.188	1	2	No	3.0°	40000	KDMB0375..	.07
2878434	KDMB0500R512A050SN	.500	.500	.413	5.120	1.260	.250	1	2	No	3.0°	40000	KDMB0500..	.22
2878433	KDMB0500R591A050SN	.500	.500	.413	5.906	1.810	.250	1	2	No	3.0°	40000	KDMB0500..	.22
2878435	KDMB0625R551A063SN	.625	.625	.551	5.512	1.420	.313	1	2	No	3.0°	40000	KDMB0625..	.44
2878436	KDMB0625R630A063SN	.625	.625	.551	6.299	2.090	.313	1	2	No	3.0°	40000	KDMB0625..	.44
2878437	KDMB0750R630A075SN	.750	.750	.709	6.281	1.753	.375	1	2	No	3.0°	40000	KDMB0750..	.88
2878438	KDMB0750R689A075SN	.750	.750	.709	6.890	2.362	.375	1	2	No	3.0°	40000	KDMB0750..	.88
2878439	KDMB0750R827A075SN	.750	.750	.709	8.268	2.360	.375	1	2	No	3.0°	40000	KDMB0750..	.99
2878440	KDMB1000R630A100SN	1.000	1.000	.882	6.299	1.770	.500	1	2	No	3.0°	40000	KDMB1000..	1.32
2878441	KDMB1000R748A100SN	1.000	1.000	.882	7.480	2.760	.500	1	2	No	3.0°	40000	KDMB1000..	1.54
2878442	KDMB1250R689A125SN	1.250	1.250	1.126	6.890	2.205	.625	1	2	No	3.0°	40000	KDMB1250..	2.20
2878443	KDMB1250R827A125SN	1.250	1.250	1.126	8.268	3.150	.625	1	2	No	3.0°	40000	KDMB1250..	2.57

■ Spare Parts

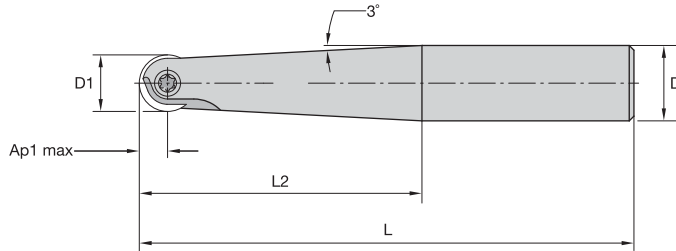
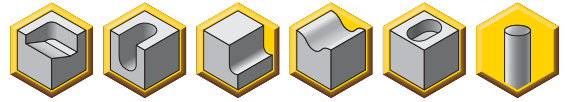

insert screw

in. lbs.

Torx wrench

D1	insert screw	in. lbs.	Torx wrench
.375	193.394	27	KT15
.500	193.393	35	KT20
.625	193.392	44	KT20
.750	193.391	53	KT20
1.000	193.390	58	KT30
1.250	193.389	58	KT30

- Available diameters: .312–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and finishing operations.
- Tapered version ideal for 5-axis applications.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.



■ Tapered End Mills • Cylindrical Shank • Steel

order number	catalog number	D1	D	L	L2	Ap1 max	Z	Z U	max ramp angle	max RPM	insert 1	lbs
2878444	KDMB0312R551A031ST	.312	.500	5.510	1.970	.156	1	2	3.0°	40000	KDMB0312..	.25
2878445	KDMB0375R591A038ST	.375	.500	5.910	1.380	.188	1	2	3.0°	40000	KDMB0375..	.29
2878446	KDMB0500R630A050ST	.500	.625	6.300	2.360	.250	1	2	3.0°	40000	KDMB0500..	.47
2878448	KDMB0750R748A075ST	.750	1.000	7.480	3.150	.375	1	2	3.0°	40000	KDMB0750..	1.41
2878449	KDMB1000R827A100ST	1.000	1.250	8.270	3.940	.500	1	2	3.0°	30000	KDMB1000..	2.52
2878450	KDMB1250R945A125ST	1.250	1.500	9.450	4.840	.625	1	2	3.0°	40000	KDMB1250..	3.82

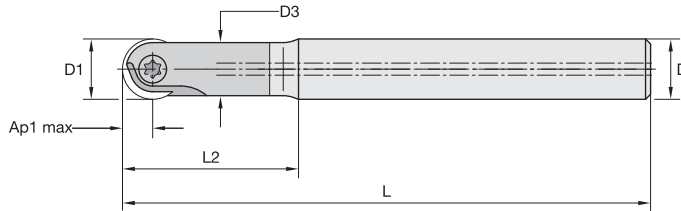
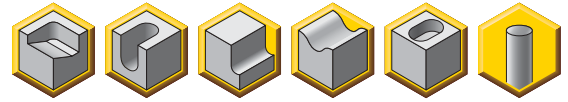
■ Spare Parts

D1	insert screw	in. lbs.	Torx wrench
.312	193.395	18	KT8
.375	193.394	27	KT15
.500	193.393	35	KT20
.750	193.391	53	KT20
1.000	193.390	58	KT30
1.250	193.389	58	KT30



Copy Milling

- Available diameters: .250–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and finishing operations.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.



■ Necked End Mills • Cylindrical Shank • Carbide

order number	catalog number	D1	D	D3	L	L2	Ap1 max	Z	Z U	coolant supply	max ramp angle	max RPM	insert 1	lbs
4177170	KDMB025R394A025HN	.250	.250	.211	3.937	1.575	.125	1	2	No	3.0°	40000	KDMB0250..	.11
4177171	KDMB025R591A025HN	.250	.250	.211	5.906	2.756	.125	1	2	No	3.0°	40000	KDMB0250..	.11
4177172	KDMB025R788A025HN	.250	.250	.211	7.874	3.937	.125	1	2	No	3.0°	40000	KDMB0250..	.11
4177167	KDMB025R394A038HN	.250	.375	.213	3.937	1.599	.125	1	2	No	3.0°	40000	KDMB0250..	.11
4177169	KDMB0312R591A038HN	.312	.375	.276	5.906	1.623	.156	1	2	No	3.0°	40000	KDMB0312..	.22
2879403	KDMB0375R472A038HNC	.375	.375	.350	4.730	1.310	.375	1	2	Yes	3.0°	30000	KDMB0375..	.23
2879404	KDMB0375R591A038HNC	.375	.375	.350	5.910	1.900	.188	1	2	Yes	3.0°	30000	KDMB0375..	.28
2879405	KDMB0500R472A050HNC	.500	.500	.420	4.730	1.392	.188	1	2	Yes	3.0°	40000	KDMB0500..	.39
2879406	KDMB0500R630A050HNC	.500	.500	.420	6.300	1.982	.313	1	2	Yes	3.0°	40000	KDMB0500..	.53
2879408	KDMB0625R689A063HNC	.625	.625	.560	6.890	2.163	.250	1	2	Yes	3.0°	40000	KDMB0625..	.87
2879409	KDMB0750R551A075HNC	.750	.750	.710	5.520	1.950	.250	1	2	Yes	3.0°	40000	KDMB0750..	1.04
2879410	KDMB0750R827A075HNC	.750	.750	.710	8.270	2.362	.500	1	2	Yes	3.0°	40000	KDMB0750..	.96
2879411	KDMB1000R630A100HNC	1.000	1.000	.890	6.307	2.370	.375	1	2	Yes	3.0°	30000	KDMB1000..	2.01
2879412	KDMB1000R906A100HNC	1.000	1.000	.890	8.270	3.539	.500	1	2	Yes	3.0°	30000	KDMB1000..	2.01

■ Spare Parts

D1	insert screw	in. lbs.	Torx wrench
.250	MS2236	18	KT6
.312	193.395	18	KT8
.375	193.394	27	KT15
.500	193.393	35	KT20
.625	193.392	44	KT20
.750	193.391	53	KT20
1.000	193.390	58	KT30



■ Insert Selection Guide

KDMB Ball Nose Platform • .250"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
P3-P4	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
P5-P6	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
M1-M2	.E..GP	KC515M	.E..GP	KC515M	-	-
M3	.E..GP	KC515M	.E..GP	KC515M	-	-
K1-K2	.E..GP	KC515M	.E..GP	KC515M	-	-
K3	.E..GP	KC515M	.E..GP	KC515M	-	-
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	.E..GP	KC515M	-	-
H1	.E..GP	KC515M	.E..GP	KC515M	-	-

KDMB Ball Nose Platform • .312"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
M1-M2	.E..GP	KC515M	.E..GP	KC515M	-	-
M3	.E..GP	KC515M	.E..GP	KC515M	-	-
K1-K2	.E..GP	KC515M	-	-	-	-
K3	.E..GP	KC515M	-	-	-	-
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	-	-
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GP	KC515M

KDMB Ball Nose Platform • .375"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
M1-M2	.E..GP	KC515M	.E..GP	KC515M	-	-
M3	.E..GP	KC515M	.E..GP	KC515M	-	-
K1-K2	.E..GP	KC515M	.E..GP	KC515M	-	-
K3	.E..GP	KC515M	.E..GP	KC515M	-	-
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	-	-
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GP	KC515M

KDMB Ball Nose Platform • .500"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..HC	KC530M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
M1-M2	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
M3	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
K1-K2	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
K3	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	.E..HC	KC530M
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GN	KC515M

KDMB Ball Nose Platform • .625"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..HC	KC530M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
M1-M2	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
M3	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
K1-K2	.E..GP	KC515M	.E..GP	KC515M	-	-
K3	.E..GP	KC515M	.E..GP	KC515M	-	-
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	.E..HC	KC530M
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GP	KC515M

KDMB Ball Nose Platform • .750"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..HC	KC530M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
M1-M2	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
M3	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
K1-K2	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
K3	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	.E..HC	KC530M
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GN	KC515M

Copy Milling

Insert Selection Guide
KDMB Ball Nose Platform • 1.00"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..HC	KC530M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..HC	KC530M
M1-M2	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
M3	.E..GP	KC515M	.E..HC	KC530M	.E..HC	KC530M
K1-K2	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
K3	.E..GP	KC515M	.E..GN	KC515M	.E..GN	KC515M
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	.E..HC	KC530M
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GN	KC515M

KDMB Ball Nose Platform • 1.25"

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GP	KC515M	.E..GP	KC515M	.E..GP	KC515M
P3-P4	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
P5-P6	.E..GP	KC505M	.E..GP	KC515M	.E..GP	KC515M
M1-M2	.E..GP	KC515M	.E..GP	KC515M	-	-
M3	.E..GP	KC515M	.E..GP	KC515M	-	-
K1-K2	.E..GP	KC515M	-	-	-	-
K3	.E..GP	KC515M	-	-	-	-
N1-N2	.E..LD	K115M	.E..LD	K115M	-	-
N3	.E..LD	K115M	.E..LD	K115M	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	.E..LD	K115M	.E..GP	KC515M	-	-
H1	.E..GP	KC505M	.E..GP	KC505M	.E..GP	KC515M

Insert Style
HC Geometry:

PSTS geometry with chipbreaker for roughing. Semi-finishing and rest material of steel, cast steel, and high-temperature alloys.



roughing, rest material

GP Geometry:

High-precision insert with helical geometry for semi-finishing and finishing of steel up to 63 HRC, cast steel, and high-temperature alloys.



semi-finishing, finishing

GN Geometry:

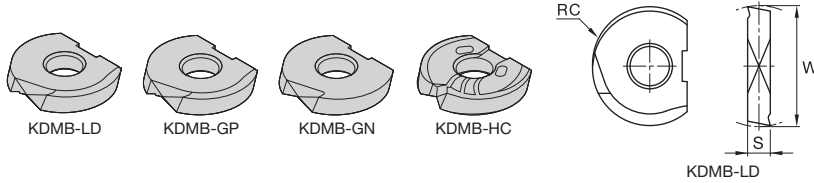
Geometry with extremely solid cutting edge for roughing cast steel, high-temperature alloys, and hardened steel up to 60 HRC.



finishing



- High-precision positive geometry.



- first choice
- alternate choice

P	●	○	○	○
M	○	○	○	○
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

■ **KDMB-LD • High-Precision Positive Geometry • Non-Ferrous and Titanium**

catalog number	W	S	RC	hm	K115M	KC505M	KC515M	KC530M
KDMB0250M0ERLD	.250	.063	.125	.002	●	-	-	-
KDMB0312M0ERLD	.313	.079	.156	.002	●	-	-	-
KDMB0375M0ERLD	.375	.098	.188	.002	●	-	-	-
KDMB0500M0ERLD	.500	.098	.250	.002	●	-	-	-
KDMB0625M0ERLD	.625	.118	.313	.002	●	-	-	-
KDMB0750M0ERLD	.750	.118	.375	.002	●	-	-	-
KDMB1000M0ERLD	1.000	.158	.500	.002	●	-	-	-
KDMB1250M0ERLD	1.250	.197	.625	.002	●	-	-	-

- High-precision helical geometry.

■ **KDMB-GP • High-Precision Helical Geometry and Lower Cutting Forces**

catalog number	W	S	RC	hm	K115M	KC505M	KC515M	KC530M
KDMB0250M0ERGP	.250	.063	.125	.002	-	-	●	-
KDMB0312M0ERGP	.312	.079	.156	.002	-	●	-	-
KDMB0375M0ERGP	.375	.098	.188	.002	-	●	●	-
KDMB0500M0ERGP	.500	.098	.250	.002	-	●	●	-
KDMB0500M0ERGP	.500	.098	.250	.002	-	●	-	-
KDMB0625M0ERGP	.625	.118	.313	.002	-	●	●	-
KDMB0750M0ERGP	.750	.118	.375	.002	-	●	●	-
KDMB1000M0ERGP	1.000	.158	.500	.002	-	●	●	-
KDMB1250M0ERGP	1.250	.197	.625	.002	-	●	●	-

- High-precision insert.

■ **KDMB-GN • High Precision • Extremely Solid Cutting Edge**

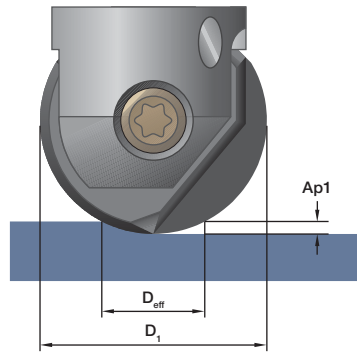
catalog number	W	S	RC	hm	K115M	KC505M	KC515M	KC530M
KDMB0500M0ERGN	.500	.098	.250	.003	-	-	●	-
KDMB0750M0ERGN	.750	.118	.375	.003	-	-	●	-
KDMB1000M0ERGN	1.000	.158	.500	.003	-	-	●	-

- Pressed insert.

■ **KDMB-HC • PSTS Insert Developed for Roughing and Rest Material Operations**

catalog number	W	S	RC	hm	K115M	KC505M	KC515M	KC530M
KDMB0500M0ERHC	.500	.098	.250	.004	-	-	-	●
KDMB0625M0ERHC	.625	.118	.313	.004	-	-	-	●
KDMB0750M0ERHC	.750	.118	.375	.004	-	-	-	●
KDMB1000M0ERHC	1.000	.158	.500	.004	-	-	-	●

Copy Milling


■ KDMB Ball Nose • .250"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.125	0.050	0.025	0.013
0.250	0.250	0.200	0.150	0.109

■ KDMB Ball Nose • .312"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.156	0.047	0.031	0.016
0.313	0.313	0.223	0.188	0.136

■ KDMB Ball Nose • .375"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.188	0.056	0.038	0.019
0.375	0.375	0.268	0.225	0.163

■ KDMB Ball Nose • .500"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.250	0.075	0.050	0.025
0.500	0.500	0.357	0.300	0.218

■ KDMB Ball Nose • .625"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.313	0.094	0.063	0.031
0.625	0.625	0.446	0.375	0.272

■ KDMB Ball Nose • .750"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.375	0.113	0.075	0.038
0.750	0.750	0.536	0.450	0.327

■ KDMB Ball Nose • 1.00"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.500	0.150	0.100	0.050
1.000	1.000	0.714	0.600	0.436

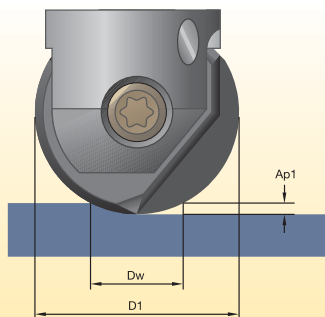
■ KDMB Ball Nose • 1.25"

D1 max	Working Diameter (Dw) at Axial Depth of Cut (ap)			
	0.625	0.188	0.125	0.063
1.250	1.250	0.893	0.750	0.545

NOTE: Working diameter (Dw) or effective diameter has to be considered when calculating appropriate RPMs.

Calculating Working Diameter and Resulting Surface Speed
Case 1:

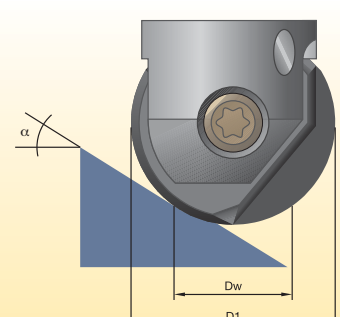
It is important to consider the effective diameter (Dw) when using light depths of cut in order to properly calculate RPM values. Use the following formula when machining flat surfaces or inclinations of 10° or less to find the Dw value. Then, use this for RPM calculations, as opposed to using the overall insert diameter (D1).



$$Dw = \sqrt{D1^2 - (D1 - 2Ap1)^2}$$

Case 2:

When machining inclinations between 11° and 55°, further modification of vc is required. Apply factor "k" from the given formula to calculate the correct vc (vceff). This corrected value is then used to calculate the proper RPM for the tool.



$$k = \frac{1}{\sin [\alpha + \arccos (1 - (2 (Ap1/D1)))]}$$

$$v_{ceff} = v_c \times k$$



■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .250"

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.006	.008	.015	.004	.006	.011	.004	.005	.010	.004	.005	.009	.004	.005	.009	.E..LD
.E..GP	.006	.008	.015	.004	.006	.011	.004	.005	.010	.004	.005	.009	.004	.005	.009	.E..GP

At .025 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP

At .013 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .312"

At .156 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP

At .047 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP

At .031 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP

At .016 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Copy Milling

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .375"

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .188 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP

At .056 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP

At .038 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP

At .019 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .500"
At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP
.E..GN	.007	.010	.018	.005	.008	.013	.004	.007	.011	.004	.006	.011	.004	.006	.011	.E..GN
.E..HC	.007	.014	.024	.005	.010	.018	.004	.009	.015	.004	.008	.014	.004	.008	.014	.E..HC

At .075 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP
.E..GN	.009	.014	.025	.007	.011	.019	.006	.009	.016	.006	.009	.015	.006	.008	.015	.E..GN
.E..HC	.009	.019	.034	.007	.014	.025	.006	.012	.021	.006	.011	.020	.006	.011	.020	.E..HC

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP
.E..GN	.011	.017	.030	.008	.013	.022	.007	.011	.019	.007	.010	.018	.007	.010	.018	.E..GN
.E..HC	.011	.023	.041	.008	.017	.030	.007	.015	.026	.007	.014	.024	.007	.013	.023	.E..HC

At .025 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP
.E..GN	.016	.024	.042	.012	.017	.031	.010	.015	.026	.009	.014	.025	.009	.014	.024	.E..GN
.E..HC	.016	.032	.057	.012	.023	.041	.010	.020	.035	.009	.019	.033	.009	.018	.032	.E..HC

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .625"
At .313 Axial Depth of Cut (ap)

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP
.E..HC	.007	.014	.024	.005	.010	.018	.004	.009	.015	.004	.008	.014	.004	.008	.014	.E..HC

At .094 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP
.E..HC	.009	.019	.034	.007	.014	.025	.006	.012	.021	.006	.011	.020	.006	.011	.020	.E..HC

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP
.E..HC	.011	.023	.041	.008	.017	.030	.007	.015	.026	.007	.014	.024	.007	.013	.023	.E..HC

At .031 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP
.E..HC	.016	.032	.057	.012	.023	.041	.010	.020	.035	.009	.019	.033	.009	.018	.032	.E..HC

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size .750"

At .375 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP
.E..GN	.007	.010	.018	.005	.008	.013	.004	.007	.011	.004	.006	.011	.004	.006	.011	.E..GN
.E..HC	.007	.014	.024	.005	.010	.018	.004	.009	.015	.004	.008	.014	.004	.008	.014	.E..HC

At .113 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP
.E..GN	.009	.014	.025	.007	.011	.019	.006	.009	.016	.006	.009	.015	.006	.008	.015	.E..GN
.E..HC	.009	.019	.034	.007	.014	.025	.006	.012	.021	.006	.011	.020	.006	.011	.020	.E..HC

At .075 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP
.E..GN	.011	.017	.030	.008	.013	.022	.007	.011	.019	.007	.010	.018	.007	.010	.018	.E..GN
.E..HC	.011	.023	.041	.008	.017	.030	.007	.015	.026	.007	.014	.024	.007	.013	.023	.E..HC

At .038 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP
.E..GN	.016	.024	.042	.012	.017	.031	.010	.015	.026	.009	.014	.025	.009	.014	.024	.E..GN
.E..HC	.016	.032	.057	.012	.023	.041	.010	.020	.035	.009	.019	.033	.009	.018	.032	.E..HC

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Copy Milling

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size 1.00"

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .500 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP
.E..GN	.007	.010	.018	.005	.008	.013	.004	.007	.011	.004	.006	.011	.004	.006	.011	.E..GN
.E..HC	.007	.014	.024	.005	.010	.018	.004	.009	.015	.004	.008	.014	.004	.008	.014	.E..HC

At .150 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP
.E..GN	.009	.014	.025	.007	.011	.019	.006	.009	.016	.006	.009	.015	.006	.008	.015	.E..GN
.E..HC	.009	.019	.034	.007	.014	.025	.006	.012	.021	.006	.011	.020	.006	.011	.020	.E..HC

At .100 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP
.E..GN	.011	.017	.030	.008	.013	.022	.007	.011	.019	.007	.010	.018	.007	.010	.018	.E..GN
.E..HC	.011	.023	.041	.008	.017	.030	.007	.015	.026	.007	.014	.024	.007	.013	.023	.E..HC

At .050 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP
.E..GN	.016	.024	.042	.012	.017	.031	.010	.015	.026	.009	.014	.025	.009	.014	.024	.E..GN
.E..HC	.016	.032	.057	.012	.023	.041	.010	.020	.035	.009	.019	.033	.009	.018	.032	.E..HC

■ Recommended Starting Feeds [IPT] • Ball Nose Insert Size 1.25"
At .625 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..LD
.E..GP	.005	.007	.012	.004	.005	.009	.003	.004	.008	.003	.004	.007	.003	.004	.007	.E..GP

At .188 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..LD
.E..GP	.007	.009	.017	.005	.007	.012	.004	.006	.011	.004	.006	.010	.004	.006	.010	.E..GP

At .125 Axial Depth of Cut (ap)

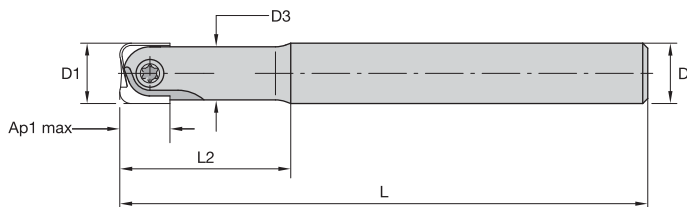
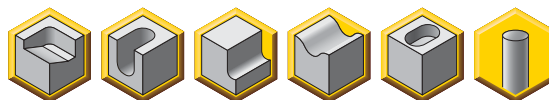
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..LD
.E..GP	.008	.011	.020	.006	.008	.015	.005	.007	.013	.005	.007	.012	.005	.007	.012	.E..GP

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..LD	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..LD
.E..GP	.011	.016	.028	.008	.012	.020	.007	.010	.018	.007	.009	.016	.006	.009	.016	.E..GP

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X32-X37 for recommended starting speeds.

- Cutting diameter ranges from .500–1.000".
- High precision and runout accuracy.
- Can be used with the heat shrink technology, h6 shank tolerance.
- Suitable for roughing and finishing operations.
- Works with toroidal and high-feed inserts.



■ Necked End Mills • Cylindrical Shank • Steel

order number	catalog number	D1	D	D3	L	L2	Ap1 max	Z	Z U	max ramp angle	max RPM	insert 1	lbs
2957828	KDMT0500R512A050SN	.500	.500	.420	5.120	1.339	.118	1	2	3.0°	40000	KDMT0500..	.22
2957829	KDMT0500R591A050SN	.500	.500	.420	5.909	1.890	.118	1	2	3.0°	40000	KDMT0500..	.22
2957831	KDMT0625R630A063SN	.625	.625	.560	6.300	2.165	.157	1	2	3.0°	40000	KDMT0625..	.44
2957832	KDMT0750R630A075SN	.750	.750	.710	6.300	1.850	.197	1	2	3.0°	40000	KDMT0750..	.88
2958143	KDMT0750R827A075SN	.750	.750	.710	8.270	2.362	.197	1	2	3.0°	40000	KDMT0750..	.88
2958144	KDMT1000R630A100SN	1.000	1.000	.890	6.300	1.850	.236	1	2	3.0°	40000	KDMT1000..	1.32
2958146	KDMT1000R906A100SN	1.000	1.000	.890	9.059	3.150	.236	1	2	3.0°	40000	KDMT1000..	1.76

■ Spare Parts

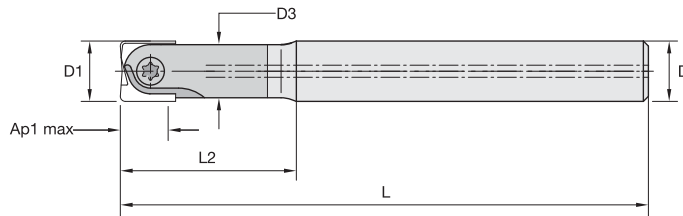


D1	insert screw	in. lbs.	Torx wrench
.500	193.393	35	KT20
.625	193.392	44	KT20
.750	193.391	53	KT20
1.000	193.390	58	KT30



Copy Milling

- Cutting diameter ranges from .500–1.000".
- High precision and runout accuracy.
- Can be used with the heat shrink technology, h6 shank tolerance.
- Suitable for roughing and finishing operations.
- Works with toroidal and high-feed inserts.



■ Necked End Mills • Carbide Shank with Through Coolant

order number	catalog number	D1	D	D3	L	L2	Ap1 max	Z	Z U	max ramp angle	max RPM	insert 1	lbs
2878733	KDMT0500R630A050HNC	.500	.500	.420	6.378	2.047	.118	1	2	3.0°	40000	KDMT0500..	.53
2878737	KDMT0750R748A075HNC	.750	.750	.710	7.559	3.032	.197	1	2	3.0°	40000	KDMT0750..	1.46

■ Spare Parts

D1	insert screw	in. lbs.	Torx wrench
.500	193.393	35	KT20
.750	193.391	53	KT20

■ Insert Selection Guide

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GC	KC515M	.E..GC	KC515M	.E..GN	KC515M
P3-P4	.E..GN	KC515M	.E..GN	KC515M	.E..GN	KC515M
P5-P6	.E..GN	KC515M	.E..GN	KC515M	.E..GN	KC515M
M1-M2	-	-	.E..GN	KC515M	-	-
M3	-	-	.E..GN	KC515M	-	-
K1-K2	.E..GN	KC515M	.E..GN	KC515M	.E..GN	KC515M
K3	.E..GN	KC515M	.E..GN	KC515M	.E..GN	KC515M
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	-	-	-	-	-	-
S3	-	-	-	-	-	-
S4	-	-	-	-	-	-
H1	-	-	.E..GN	KC515M	-	-

Indexable Inserts • KDMT...

KDMT-GC KDMT-GN

KDMT-GC
KDMT-GN

● first choice
○ alternate choice

P	●
M	○
K	●
N	○
S	○
H	○

■ KDMT-GC • High-Tolerance Helical Geometry • Finishing Lower Cutting Force

catalog number	LI	W	S	RR	hm	KC515M
KDMT05002ERGC	.550	.500	.098	.032	.003	●
KDMT05004ERGC	.550	.500	.098	.063	.003	●
KDMT07502ERGC	.700	.750	.118	.032	.003	●
KDMT10002ERGC	.925	1.000	.157	.032	.003	●
KDMT10004ERGC	.925	1.000	.157	.063	.003	●

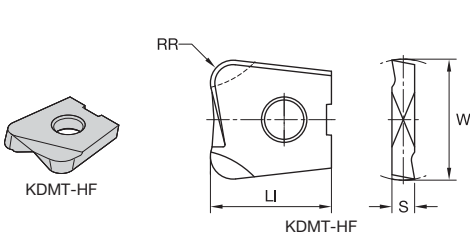
NOTE: Ap1 max is equal to RR
RT = Programming Radius

■ KDMT-GN • High-Precision Insert • Semi-Finishing and Finishing

catalog number	LI	W	S	RR	hm	KC515M
KDMT05002ERGN	.550	.500	.098	.032	.003	●
KDMT05004ERGN	.550	.500	.098	.063	.003	●
KDMT06254ERGN	.625	.625	.118	.063	.003	●
KDMT07502ERGN	.700	.750	.118	.032	.003	●
KDMT07504ERGN	.700	.750	.118	.063	.003	●

NOTE: Ap1 max is equal to RR.

Copy Milling



- first choice
- alternate choice

P	●
M	○
K	●
N	○
S	○
H	○

■ KDMT-HF • Geometry Developed for High-Feed Machining up to 55 HRC

catalog number	LI	W	S	RT	hm	KC515M
KDMT0750SRHF	.710	.750	.118	.080	.003	

NOTE: RT = Programming Radius

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.E..GC	.007	.010	.014	.005	.008	.010	.004	.007	.009	.004	.006	.008	.004	.006	.008	.E..GC
.E..GN	.007	.010	.014	.005	.008	.010	.004	.007	.009	.004	.006	.008	.004	.006	.008	.E..GN

■ Recommended Starting Feeds [IPT] • KDMT High-Feed

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
.S..HF	.059	.092	.131	.042	.064	.086	.036	.054	.073	.034	.050	.067	.033	.049	.066	.S..HF

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

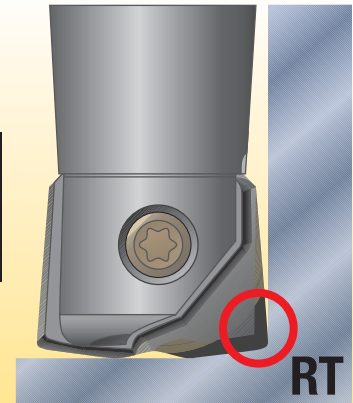


Copy Milling

■ Application Advice for KDMT-HF Insert Style

For CAM programming, the tools can be programmed as a toroidal tool type requiring the diameter and the RT values only.

insert type	inch			
	Ap max	diameter	RT	max fz
KDMT0500SRHF	0.025	0.500	0.045	0.050
KDMT0625SRHF	0.030	0.625	0.050	0.050
KDMT0750SRHF	0.040	0.750	0.080	0.050



■ Data for Face Milling, Pocketing, and Profiling Operations

Starting Values

tool diameter	Ø.500"	Ø.625"	Ø.750"
Ap max (mm)	0.024	0.031	0.039
fz recommended for 45 HRC (approximately)	0.020	0.022	0.026
fz recommended for 55 HRC (approximately)	0.016	0.020	0.022
fz recommended for general purpose	0.026	0.028	0.031

NOTE: Use two effective teeth for feed calculations.

For materials above 45 HRC, we recommend to adjust the Ae max to 55% of cutting diameter.
Steel shanks for roughing operations are recommended.

Proven Solutions:

KDMB™ Indexable Milling Cutter vs. Solid Carbide End Mills

1.

Workpiece:

Forging die

Material:

X38 CrMoV 5 3 (1.2367)

Size:

154mm x 115mm x 80mm

Machine:

Vertical milling machine center

Kennametal

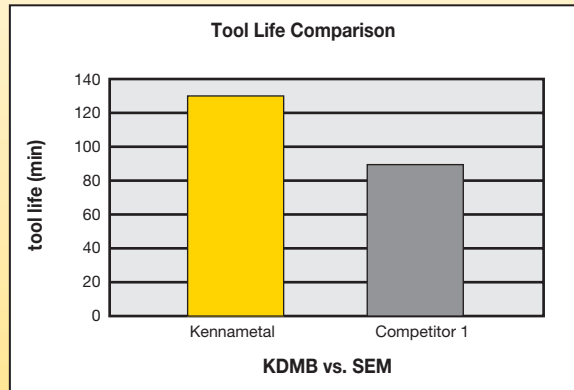
Tool: KDMB06R100A06HN

Insert: KDMB06M0ERGN KC505M

Competitor 1

Solid Carbide End Mill

Ø 6 R3



Cutting data:

vc = 825 SFM (250 m/min)

Ap = .099" (0,28mm)

ae = .052" (1,32mm)

fz = .0052" (0,131mm)

Superior Productivity:

Higher tool life and cost per piece

2.

Workpiece:

Pressing die component

Material:

1.2479 (D2)

Size:

410mm x 320mm x 210mm

Machine:

Vertical milling machine

Kennametal

Tool: KDMB06R100A06HN

Insert: KDMB06M0ERGP KC515M

Competitor 1

Solid Carbide End Mill

Ø 6 R3

Cost Performance Ratio:

Costs for diameter 6mm

MMC:

solid carbide end mill +

2 x regrinding

Reference: 100%

KMT:

3 x inserts +

3 x toolholder share:

Cost savings: 31.15%



➤ Z-Axis Plunge Mill

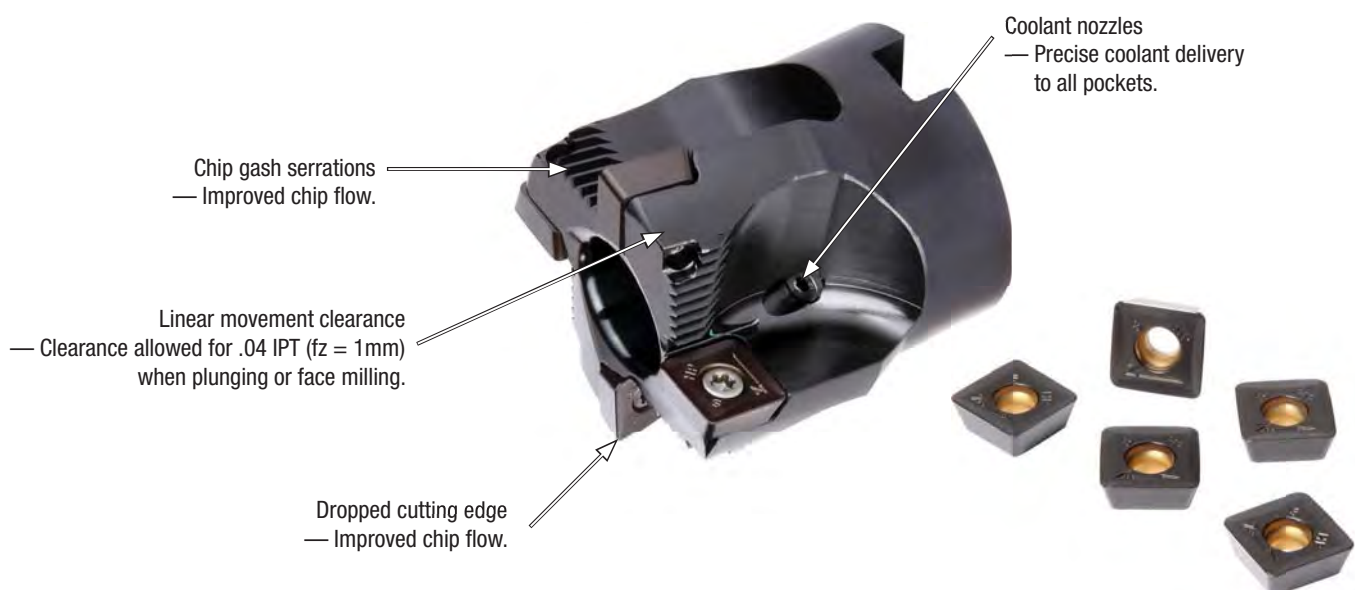
Primary Application

Specifically engineered to eliminate vibration and improve metal removal rates in roughing applications. Ideally suited for rough slotting applications in aerospace, general engineering, die and mold, and power generation.

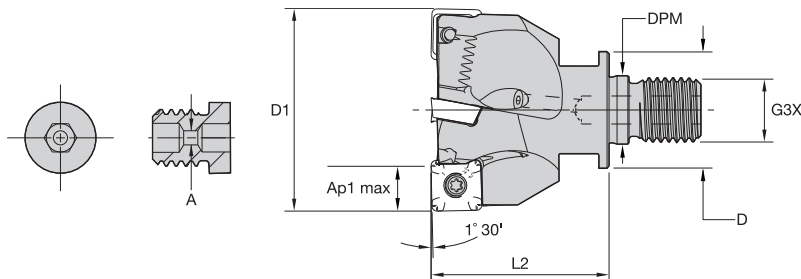
Features and Benefits

Platform Features

- Nine coolant nozzle sizes enable customized flow by machine tool.
- Unique design is unmatched for chip evacuation.
- Improved performance at a reduced cost per cutting edge.
- Positive geometry lowers cutting force and reduces power requirements, enabling higher feed rates.
- Improved chip control when slotting.
- Fast and easy insert indexing.



- Most stable cutting due to force directions.
- Excellent for long-reach applications.
- Extended tool life.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Unique coolant delivery.
- Chip control when slotting.



■ Screw-On End Mills

order number	catalog number	D1	D	DPM	G3X	L2	Ap1 max	Z	max RPM	lbs	insert 1
3449167	KTSZR125SD430CM16A02	1.250	1.142	.669	M16	1.750	.433	2	25800	.33	SD_T43_PD_N_Z
3449168	KTSZR150SD430CM16A03	1.500	1.142	.669	M16	1.750	.433	3	23550	.40	SD_T43_PD_N_Z
3449169	KTSZR200SD430CM16A04	2.000	1.142	.669	M16	1.750	.433	4	20400	.62	SD_T43_PD_N_Z

■ Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver	coolant nozzle screw	T-handle hex wrench
1.250	MS2197	35	DT15IP	MS2191C20	THW2M
1.500	MS2197	35	DT15IP	MS2191C20	THW2M
2.000	MS2197	35	DT15IP	MS2191C20	THW2M

■ Coolant Screw Detail

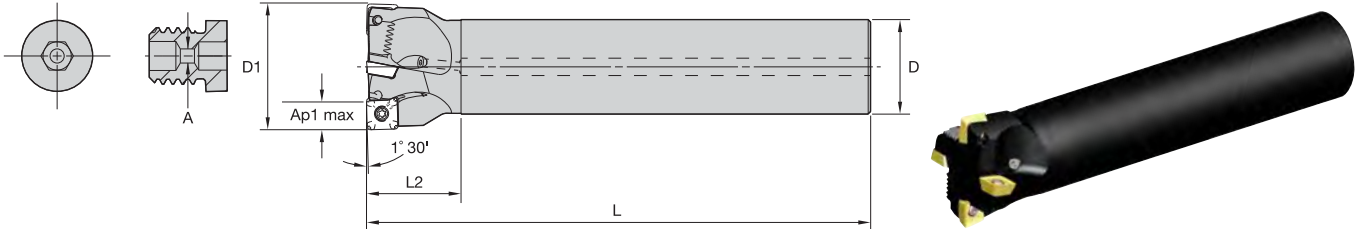
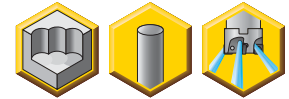
order number	catalog number	A
3400611	MS2191C00	—
3400612	MS2191C06	.024
3400613	MS2191C08	.032
3400616	MS2191C12	.047
3400617	MS2191C14	.055
3400618	MS2191C16	.063
3400619	MS2191C18	.071
3400620	MS2191C20	.079

■ Coolant Nozzle Key

order number	catalog number	drive size
1993552	THW2M	2 MM

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters. If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure. Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

- Most stable cutting due to force directions.
- Excellent for long reach applications.
- Extended tool life.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Unique coolant delivery.
- Chip control when slotting.



End Mills

order number	catalog number	D1	D	L	L2	Ap1 max	Z	max RPM	insert 1	lbs
3064601	KISZR125SD430C4A02	1.250	1.000	8.000	1.500	.433	2	25800	SD_T43_PD_N_Z	1.59
3107215	KISZR150SD430C5A03	1.500	1.250	8.000	1.500	.433	3	23550	SD_T43_PD_N_Z	2.47
3107216	KISZR200SD430C6A04	2.000	1.500	8.000	1.500	.433	4	20450	SD_T43_PD_N_Z	3.72

Spare Parts

D1	insert screw	in. lbs.	Torx Plus driver	T-handle hex wrench	coolant nozzle screw
1.250	MS2197	35	DT15IP	THW2M	MS2191C20
1.500	MS2197	35	DT15IP	THW2M	MS2191C20
2.000	MS2197	35	DT15IP	THW2M	MS2191C20

Coolant Screw Detail

order number	catalog number	A
3400611	MS2191C00	—
3400612	MS2191C06	.024
3400613	MS2191C08	.032
3400616	MS2191C12	.047
3400617	MS2191C14	.055
3400618	MS2191C16	.063
3400619	MS2191C18	.071
3400620	MS2191C20	.079

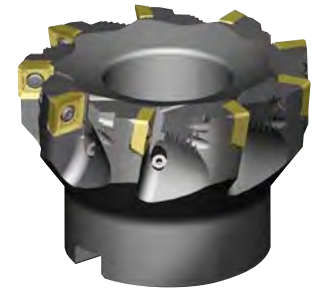
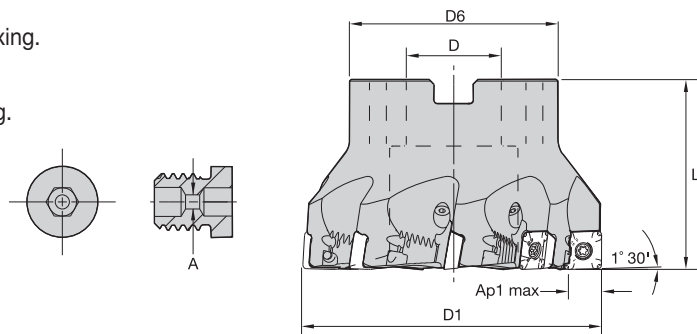
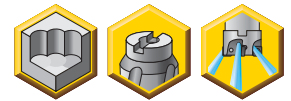
Coolant Nozzle Key

order number	catalog number	drive size
1993552	THW2M	2 MM

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters. If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure. Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

Copy Milling

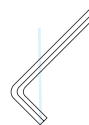
- Easy cutting.
- Four cutting edges.
- Consumes less power.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Fast and easy insert indexing.
- Unique coolant delivery.
- Chip control when slotting.



Shell Mills

order number	catalog number	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
3054849	KSSZR200SD430C3A04	2.000	.750	1.664	1.750	.433	4	1.5°	20450	SD_T43_PD_N_Z	.66
3064755	KSSZR200SD430M3A05	2.000	.750	1.664	1.750	.433	5	1.5°	20450	SD_T43_PD_N_Z	.72
3448592	KSSZR250SD430C3A05	2.500	.750	1.664	1.750	.433	5	.6°	18290	SD_T43_PD_N_Z	.98
3448913	KSSZR250SD430M3A06	2.500	.750	1.664	1.750	.433	6	.6°	18290	SD_T43_PD_N_Z	1.03
3064493	KSSZR300SD430C4A05	3.000	1.000	2.190	2.000	.433	5	.7°	16700	SD_T43_PD_N_Z	1.94
3064902	KSSZR300SD430F4A07	3.000	1.000	2.190	2.000	.433	7	.7°	16700	SD_T43_PD_N_Z	1.97
3064602	KSSZR300SD430M4A06	3.000	1.000	2.190	2.000	.433	6	.7°	16700	SD_T43_PD_N_Z	1.96
3448914	KSSZR400SD430C5A07	4.000	1.250	2.880	2.500	.433	7	.5°	14460	SD_T43_PD_N_Z	4.23
3066674	KSSZR400SD430F5A09	4.000	1.250	2.880	2.500	.433	9	.5°	14460	SD_T43_PD_N_Z	4.41
3448915	KSSZR400SD430M5A08	4.000	1.250	2.880	2.500	.433	8	.5°	14460	SD_T43_PD_N_Z	4.34
3448916	KSSZR400SD430C6A07	4.000	1.500	3.375	2.500	.433	7	.5°	14460	SD_T43_PD_N_Z	4.51
3448918	KSSZR400SD430F6A09	4.000	1.500	3.375	2.500	.433	9	.5°	14460	SD_T43_PD_N_Z	4.72
3448917	KSSZR400SD430M6A08	4.000	1.500	3.375	2.500	.433	8	.5°	14460	SD_T43_PD_N_Z	4.64
3448920	KSSZR500SD430M6A09	5.000	1.500	3.810	2.500	.433	9	.5°	12940	SD_T43_PD_N_Z	7.40

Spare Parts



order number	D1	insert screw	in. lbs.	Torx Plus wrench	coolant nozzle screw	T-handle hex wrench	coolant lock screw assembly	socket head cap screw with coolant groove
3054849	2.000	MS2197	35	DT15IP	MS2191C12	THW2M	—	S445CG
3064755	2.000	MS2197	35	DT15IP	—	THW2M	—	S445CG
3448592	2.500	MS2197	35	DT15IP	—	THW2M	—	S445CG
3448913	2.500	MS2197	35	DT15IP	—	THW2M	—	S445CG
3064493	3.000	MS2197	35	DT15IP	—	THW2M	—	S458CG
3064902	3.000	MS2197	35	DT15IP	MS2191C08	THW2M	—	S458CG
3064602	3.000	MS2197	35	DT15IP	—	THW2M	—	S458CG
3448914	4.000	MS2197	35	DT15IP	—	THW2M	S2162C	—
3448916	4.000	MS2197	35	DT15IP	—	THW2M	S2163C	—
3066674	4.000	MS2197	35	DT15IP	—	THW2M	S2162C	—
3448918	4.000	MS2197	35	DT15IP	—	THW2M	S2163C	—
3448915	4.000	MS2197	35	DT15IP	—	THW2M	S2162C	—
3448917	4.000	MS2197	35	DT15IP	—	THW2M	S2163C	—
3448920	5.000	MS2197	35	DT15IP	—	THW2M	S2163C	—

(continued)

(Shell Mills — continued)

■ **Coolant Screw Detail**

order number	catalog number	A
3400611	MS2191C00	—
3400612	MS2191C06	.024
3400613	MS2191C08	.032
3400616	MS2191C12	.047
3400617	MS2191C14	.055
3400618	MS2191C16	.063
3400619	MS2191C18	.071
3400620	MS2191C20	.079

■ **Coolant Nozzle Key**

order number	catalog number	drive size
1993552	THW2M	2 MM

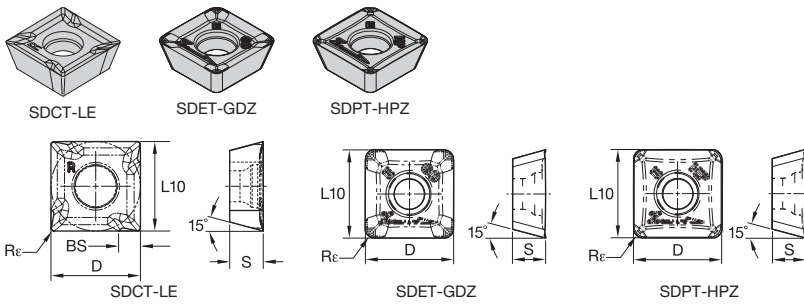
NOTE: Check the Spare Parts table for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

Inserts

■ **Insert Selection Guide**

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		↔		toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.E..GDZ	KC725M	.S..GDZ	KC725M	.E..HPZ	KC725M
P3-P4	.S..GDZ	KCPK30	.E..HPZ	KCPK30	.S..HPZ	KCPK30
P5-P6	.S..GDZ	KCPK30	—	—	—	—
M1-M2	.E..GDZ	KC725M	.S..GDZ	KC725M	.E..HPZ	KC725M
M3	.S..GDZ	KCPK30	.E..HPZ	KCPK30	.S..HPZ	KCPK30
K1-K2	.E..GDZ	KCPK30	.S..GDZ	KCPK30	.E..HPZ	KCPK30
K3	.S..GDZ	KCPK30	.E..HPZ	KCPK30	.S..HPZ	KCPK30
N1-N2	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
N3	.F..LE	KC410M	.F..LE	KC410M	.F..LE	KC410M
S1-S2	.E..GDZ	KC725M	.S..GDZ	KC725M	.E..HPZ	KC725M
S3	.S..GDZ	KC725M	.E..HPZ	KC725M	.S..HPZ	KC725M
S4	.E..HPZ	KC725M	.S..HPZ	KC725M	—	—
H1	—	—	—	—	—	—

Copy Milling



P	●	○	●	●	●	●	●
M	●	●	●	●	○	○	○
K	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● first choice
○ alternate choice

• High positive rake insert.

■ SDCT-LE

catalog number	D	L10	S	BS	Re	hm	cutting edges	KC410M	KC522M	KC525M	KC725M	KCK15	KCPK30	KCPM40	KCSM30
SDCT431PDFL8LE	.500	.500	.188	.106	.016	.001	4	●	-	-	-	-	-	-	-
SDCT431PDFR8LE	.500	.500	.188	.106	.016	.001	4	○	-	-	-	-	-	-	-
SDCT433PDFL8LE	.500	.500	.188	.106	.047	.001	4	●	-	-	-	-	-	-	-
SDCT433PDFR8LE	.500	.500	.188	.106	.047	.001	4	○	-	-	-	-	-	-	-
SDCT434FNLE	.500	.500	.188	-	.063	.001	4	●	-	-	-	-	-	-	-
SDCT435FNLE	.500	.500	.188	-	.078	.001	4	○	-	-	-	-	-	-	-
SDCT436FNLE	.500	.500	.188	-	.094	.001	4	●	-	-	-	-	-	-	-
SDCT438FNLE	.500	.500	.188	-	.125	.001	4	○	-	-	-	-	-	-	-
SDCT43PDFL8LE	.500	.500	.188	.106	.031	.001	4	●	-	-	-	-	-	-	-
SDCT43PDFR8LE	.500	.500	.188	.106	.031	.001	4	○	-	-	-	-	-	-	-

• Precision ground insert.

■ SDET-GDZ

catalog number	D	L10	S	BS	Re	hm	cutting edges	KC410M	KC522M	KC525M	KC725M	KCK15	KCPK30	KCPM40	KCSM30
SDET433PDENGZ	.500	.500	.188	-	.047	.003	4	-	-	-	●	-	●	●	-
SDET433PDSNGZ	.500	.500	.188	-	.047	.005	4	-	●	●	-	-	●	●	-

• Pressed to size insert.

■ SDPT-HPZ

catalog number	D	L10	S	BS	Re	hm	cutting edges	KC410M	KC522M	KC525M	KC725M	KCK15	KCPK30	KCPM40	KCSM30
SDPT433PDENHPZ	.500	.500	.188	-	.047	.003	4	-	-	-	●	-	●	●	-
SDPT433PDSNHPZ	.500	.500	.188	-	.047	.006	4	-	-	-	●	-	●	●	-

Recommended Starting Feeds

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)												Insert Geometry			
	10%			20%			30%			40%				50-100%		
.F..LE	-	-	-	-	-	-	-	-	-	-	-	-	.002	.004	.008	.F..LE
.E..GDZ	-	-	-	-	-	-	-	-	-	-	-	-	.004	.010	.016	.E..GDZ
.S..GDZ	-	-	-	-	-	-	-	-	-	-	-	-	.004	.010	.016	.S..GDZ
.E..HPZ	-	-	-	-	-	-	-	-	-	-	-	-	.004	.010	.016	.E..HPZ
.S..HPZ	-	-	-	-	-	-	-	-	-	-	-	-	.004	.010	.016	.S..HPZ

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.

Z-Axis

Best Machining Practices

When finishing a workpiece, you sometimes have to use a Z-axis solution versus a conventional end mill solution to get the best results.

When the length-to-diameter ratio protrudes farther than 3:1, you will need to use a Z-axis solution. This is when the end mill starts to vibrate and the surface finish and noise are unacceptable.

When vibration occurs, the feed rates are compromised, which normally slows down the production of the workpiece.

Programming

At this point, there is very little software for this type of application on the market. We suggest that a simple macro is created for this type of application, which can be recalled and the "X" and "Y" movement changed.

The process can be repeated, so the cutter can be removed from the workpiece in the rapid (G00) movement. Tool life will be improved by not allowing the insert to rub on the retract path.

Slotting

There are several differing ways to machine a slot in a component using the Z-axis cutter solution.

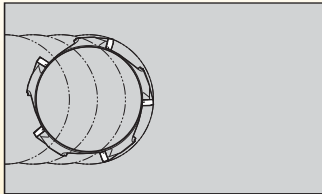


Figure 1

This shows the typical way of machining a slot. The movements are feeding down and straight back up (Z+) in the same axis and will have a negative impact on the insert radii (cutting edge) that could lead to premature failure of the nose radii. When looking at the component, it will show the rapid travel in the Z+ direction. This will highlight the spiral of the insert/cutter operating at a high feed. It looks similar to an oil groove spiraling upwards.

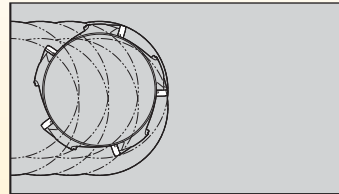


Figure 2

Using a cutter that is smaller than the slot width allows the insert/cutter to be removed from the material when (G00) rapid motion is retracting from the component. Because this type of cutter can be used across various types of machines, assume a 2.00" (50mm) diameter cutter is being used to machine a slot of 2.50" (63mm) wide on a vertical 3-axis machine.

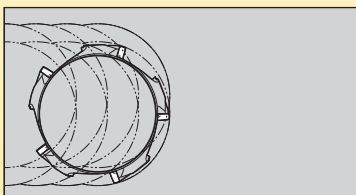


Figure 3

Align the cutter with the center of the slot on the component and define the stepover that's required. Move the Y-axis into a position for the first cut, take the first pass to a depth in the Z-axis, and when it reaches the bottom of the slot, program a 2-axis move to retract the cutting edge for the workpiece.

The 2-axis move will move the Z-axis in a positive direction at 45° (.010") away from the component, and the Y-axis will move away from the workpiece by the same amount at the same angle. Now the cutter can be retracted from the component, and the insert will not rub on the retract move.

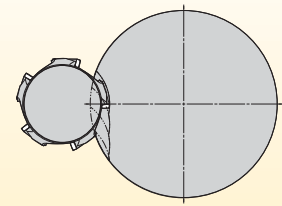
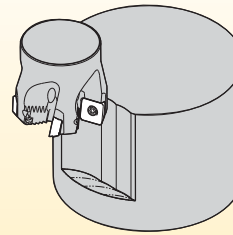
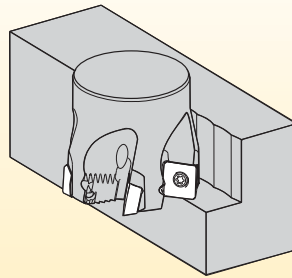
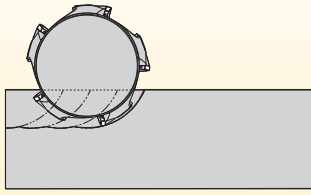
Move the cutter to the left of the slot to define the new position and make the cut. When reaching the base, a 3-axis move will need to be made. Again, the Z-axis will be in a positive direction at 45° (.010"), and the corresponding Y-axis will move away the same respective amount from the wall.

The insert/cutter has now moved away from the workpiece, and the rapid Z+ can take place. Repeat the process on the other side of the slot, remembering the X-axis move needs to be moving the other way.

NOTE: When starting the process, it's better to start at the center of the slot. After the slot has been defined, you no longer need to put the cutter on the center path. Passes from both sides create the slot width and enable clearance for the subsequent moves, so the insert/cutter can be moved away from the side walls of the material.

(continued)

■ Z-Axis (continued)



Linear Plunge Milling

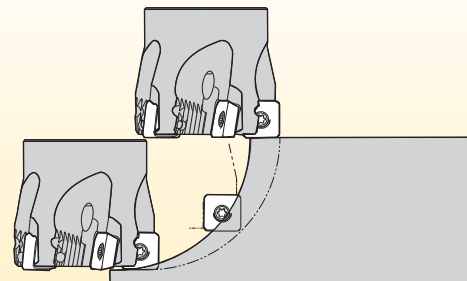
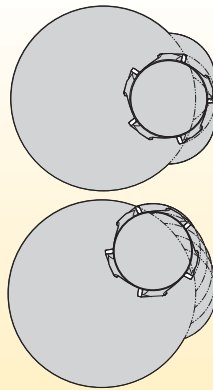
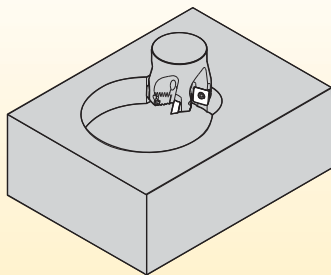
Entering the cutter along a parallel axis, the radial width of cut needs to be defined because the cutter might need to move away from the workpiece material.

If the radial width of cut takes more than 60% of the cutter diameter, it is more difficult to remove the insert/cutter because the machine program wants to move the cutter upwards to (G00) Z+. When taking more than 60% of the cutter diameter, the material is enveloping the cutter and is difficult to remove because a cusp has been created.

It is suggested to make the radial width of cut 50% of the cutter diameter to allow the insert/cutter to be removed without any problems.

External Profiling

This artwork represents the typical application for this type of process. Move into the cut and follow the external profile of the workpiece. When moving the cutter back to the start position, it's always advisable to move the insert from contacting the workpiece. This should be done with a 2- or 3-axis move (use .010") at 0,25mm. All axes moving in a Z+ direction will stop the rubbing in the retract move.



Internal Profiling

When taking the first pass of a depth, there is also a need to move the insert/cutter away from the material on the retract motion. Each of the passes that follow should adopt the same method on the retract move. Follow the cutter path until the component has been finished.

Machining Around a Radii

This artwork shows the cutter taking a larger radial width of cut. When moving down in the Z-axis, the insert could start to take a larger radial width of cut. Typical application could be the manufacture of a turbine blade from a rectangular piece of material. Always remember that it's advisable to move the insert/cutter away from the material on the retract motion.

➤ KCRA

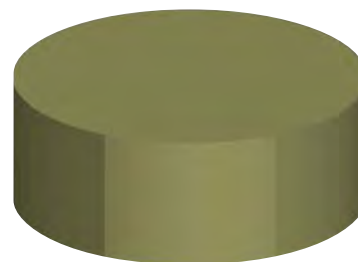
Double-Sided Ceramic Round Insert

KCRA is our newest (patent pending) indexable milling ceramic round platform specifically engineered to maximize productivity while machining high-temperature alloys. Featuring double-sided inserts with increased tooth density, KCRA provides the highest Metal Removal Rate (MRR) with the most effective machining.

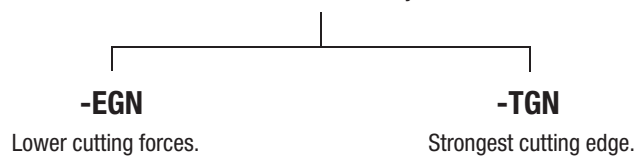
Kennametal ceramics dramatically increase your productivity when machining Ni- and Co-based alloys.

Features and Benefits

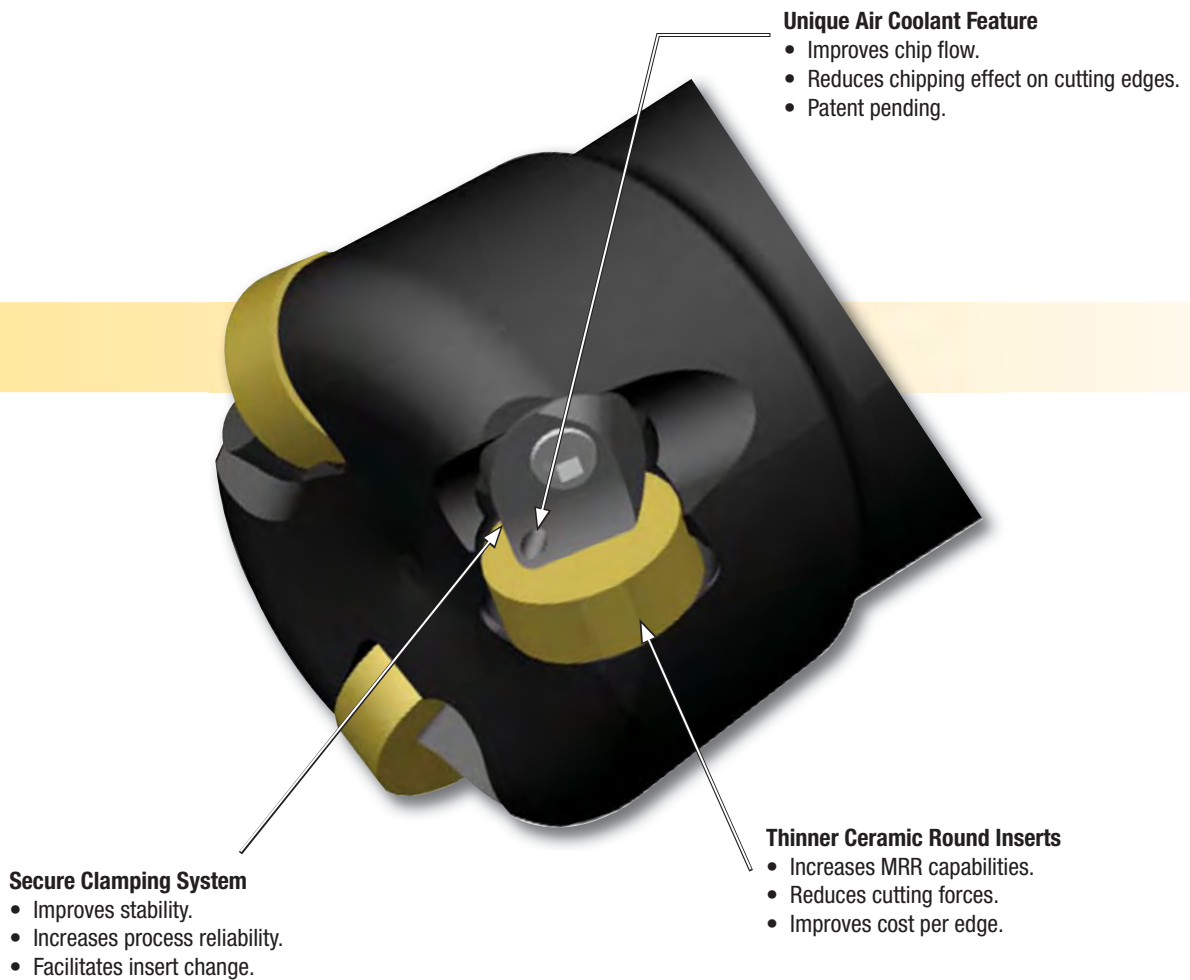
- First choice for face and shoulder milling of high-temperature alloys.
- Higher metal removal rate due to fine-pitch cutters.
- Secure clamping system improves process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.



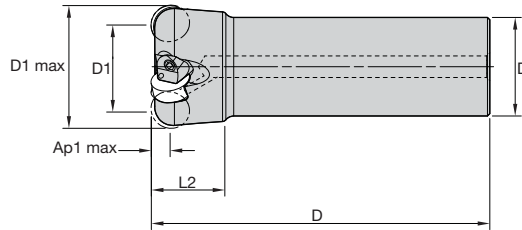
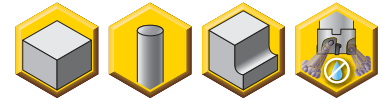
Flat-top geometry for roughing applications in Ni- and Co-based alloys.



*Alternative for unstable situations.







- First choice for face and shoulder milling high-temperature alloys.
- Higher material removal rate due to fine pitch cutters.
- Secure clamping system, improving process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.



■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z	max RPM	lbs	insert 1
5703935	KCRA150RN4303C125L400	1.500	1.000	1.250	4.000	.934	.250	3	28700	1.32	RNGN120400

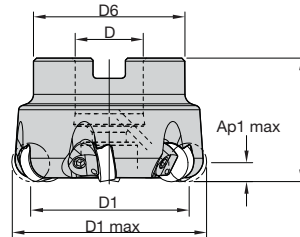
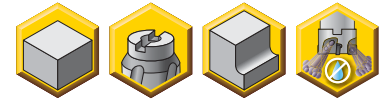
■ Spare Parts

				
D1 max	clamp screw	in. lbs.	Torx driver	wedge
1.500	STCM25	29	MW25	KW1008



Copy Milling

- First choice for face and shoulder milling high-temperature alloys.
- Higher material removal rate due to fine pitch cutters.
- Secure clamping system, improving process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.



Shell Mills

order number	catalog number	D1 max	D1	D	D6	L	Ap1 max	Z	max RPM	lbs	insert 1
5703936	KCRA200RN4304S075L175	2.000	1.500	.750	1.654	1.750	.250	4	23400	.99	RNGN120400
5703937	KCRA200RN4306S075L175	2.000	1.500	.750	1.654	1.750	.250	6	23400	.94	RNGN120400
5703938	KCRA250RN4306S075L175	2.500	2.000	.750	1.750	1.750	.250	6	20300	1.41	RNGN120400
5703939	KCRA250RN4309S075L175	2.500	2.000	.750	1.750	1.750	.250	9	20300	1.34	RNGN120400
5704050	KCRA300RN4308S100L200	3.000	2.500	1.000	2.750	2.000	.250	8	18100	2.92	RNGN120400
5704051	KCRA300RN4311S100L200	3.000	2.500	1.000	2.750	2.000	.250	11	18100	2.82	RNGN120400

Spare Parts

D1 max	socket-head cap screw	clamp screw	in. lbs.	Torx driver	wedge
2.000	S446	STCM25	29	MW25	KW1008
2.500	S446	STCM25	29	MW25	KW1008
3.000	S459	STCM25	29	MW25	KW1008



Insert Selection Guide

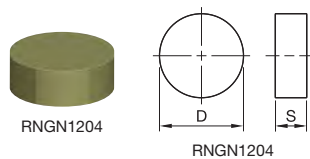
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance ←————→ toughness					
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	-	-	-	-	-	-
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	.EGN	KYS30	.EGN	KYS30	.TGN	KYS30
S3	.EGN	KYSP30	.EGN	KYSP30	.TGN	KYSP30
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Inserts

- -EGN geometry is the first choice for unstable situations and/or lower cutting forces.
- -TGN geometry has a stronger cutting edge.
- KYSP30 is the first choice for S3 group materials, Ni-based alloys.

- first choice
- alternate choice

P	●		
M	●		
K	●		
N	●		
S	●	●	
H			



RNGN43

catalog number	D	S	KYS30	KYSP30
RNGN43EGN	.500	.188	●	●
RNGN43TGN	.500	.188	●	●

NOTE: A – Use these tools with the appropriate equipment/machines. Machines have to be covered for safety reasons: Hot flowing chips and loud noises are involved, which is common during the milling process.
 B – Use only air flow as coolant method.
 C – Higher RPMs are involved; use balanced toolholder for higher tool life and safer operation.



Copy Milling

■ Recommended Starting Feeds [IPT]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.EGN	.003	.004	.005	.003	.003	.003	.002	.002	.003	.002	.002	.003	.002	.002	.003	.EGN
.TGN	.005	.007	.008	.004	.005	.006	.003	.004	.005	.003	.004	.005	.003	.004	.005	.TGN

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.EGN	.004	.004	.005	.003	.003	.004	.003	.003	.003	.002	.003	.003	.002	.003	.003	.EGN
.TGN	.006	.008	.009	.004	.006	.007	.004	.005	.006	.004	.005	.005	.003	.005	.005	.TGN

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.EGN	.005	.006	.007	.004	.004	.005	.003	.004	.004	.003	.003	.004	.003	.003	.004	.EGN
.TGN	.008	.010	.012	.006	.008	.009	.005	.007	.008	.005	.006	.007	.005	.006	.007	.TGN

At .031 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.EGN	.007	.008	.009	.005	.006	.007	.005	.005	.006	.004	.005	.006	.004	.005	.006	.EGN
.TGN	.010	.014	.016	.008	.010	.012	.007	.009	.010	.006	.008	.010	.006	.008	.010	.TGN

NOTE: Use "Light Machining" values as starting feed rate.
 Please see pages X22-X37 for recommended starting speeds.



■ Insert Assembly Guide

Safety Notes					
Read all instructions carefully	Wear eye protection	Inspect and tighten fasteners regularly	Warning: Cutting hazard	Warning: Hot surfaces	Do not exceed maximum RPM

Assembly Instructions	
<p>1 Assemble STCM-25 screw to KW1008 wedge, 1 to 1 1/2 turns.</p>	<p>2 Wedge/screw assembly.</p>
<p>3 Install wedge/screw assembly into cutter body, but maintain assembly gap for installing insert.</p>	<p>4 Slide insert, RNGN12... into pocket and torque wedge/insert assembly to 3,5 Nm (31 in/lbs). Repeat for each pocket.</p>

Kennametal on the Web

kennametal.com

FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.

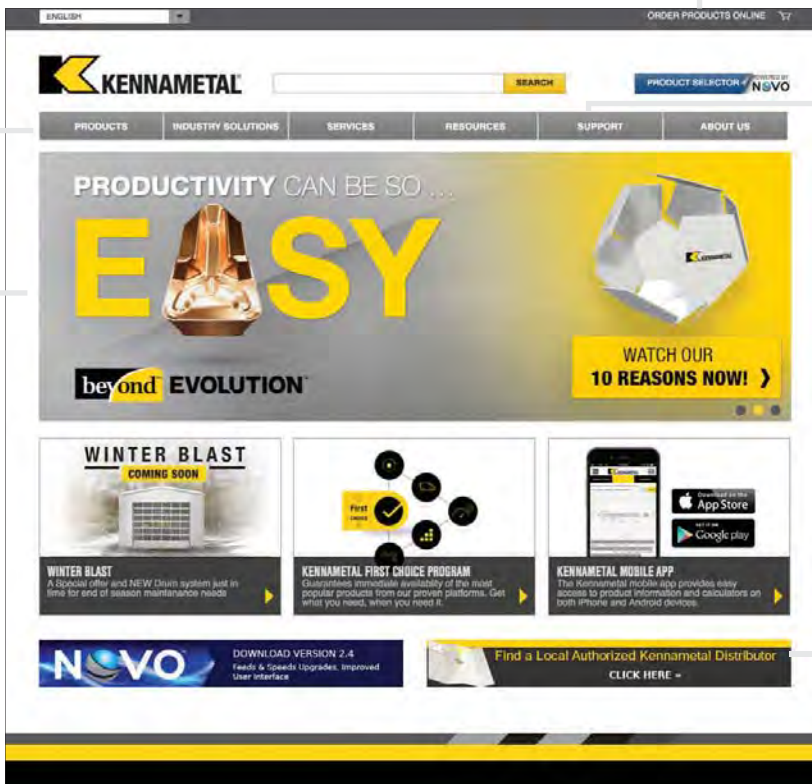
Register on **Konnect** for the full functionality of the Kennametal online ordering website.

CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.



KIPR™

Ceramic Milling Cutters

Primary Application

The Kennametal ceramic milling platform has been specifically engineered to machine high-temperature alloys, PH series, stainless steel, and hardened materials. With excellent productivity through the massive reduction of machining time, Kennametal ceramics can run more than 10 times faster than comparable carbide grades.



Features and Benefits

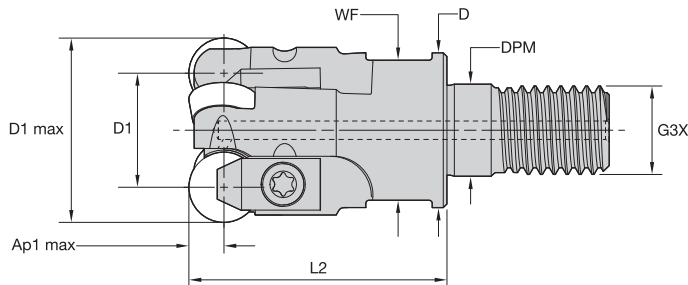
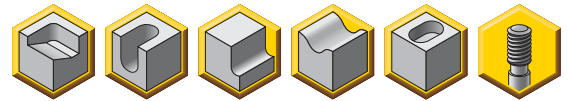
Unbeatable Productivity

- Engineering to provide outstanding metal removal rates and productivity in nickel-based and/or cobalt-based alloys, stellites, stainless steel, and PH series through HSM.
- High axial and radial runout accuracy.
- Improved insert clearance and thickness tolerance to increase overall performance.
- New clamping system design provides higher spare part tool life and reliability and higher RPM.

Usability and Offering

- Three grades and three insert sizes available to cover a wide range of applications.
- Wide diameter range with end mills and Screw-On cutters from diameter 0.625".
- High clearance on the cutters for superior ramping capacities.
- Through-coolant option in all the cutters. Only for air use.

- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.
- Excellent productivity through massive reduction of machining time.
- Face milling, pocketing, and ramping capabilities.
- Through-body coolant delivery for internal air supply only.



■ **Screw-On End Mills**

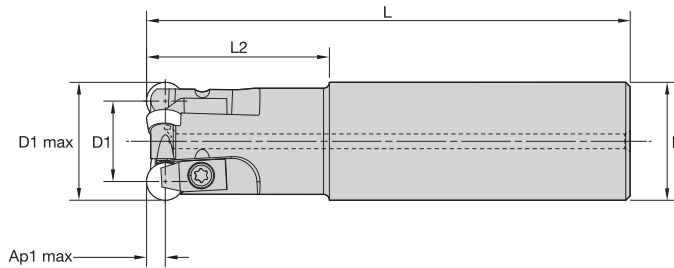
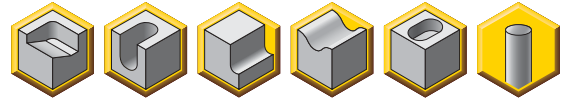
order number	catalog number	D1 max	D1	D	DPM	G3X	L2	WF	Ap1 max	Z	max ramp angle	max RPM	lbs	insert 1
3760369	KIPR100RP32M1203	1.000	.625	.827	.492	M12	1.250	.709	.188	3	8.0°	20450	.17	RP_32_
3760370	KIPR125RP43M1603	1.250	.750	1.142	.669	M16	1.500	.866	.250	3	2.5°	21000	.32	RP_43_

■ **Spare Parts**



D1 max	clamp	clamp screw	in. lbs.	Torx driver	Torx Plus wrench
1.000	KCI2	191.725	31	DT15	—
1.250	KCI3M	193.409	53	—	TTP20

- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.
- Excellent productivity through massive reduction of machining time.
- Face milling, pocketing, and ramping capabilities.
- Through-body coolant delivery for internal air supply only.



■ Cylindrical End Mills

order number	catalog number	D1 max	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	insert 1	lbs
3759533	KIPR062RP21229	.625	.375	.625	2.950	1.021	.125	2	12.0°	37400	RP_2150_	.21
3759534	KIPR075RP21332	.750	.500	.750	3.200	1.192	.125	3	10.0°	34150	RP_2150_	.33
3759535	KIPR100RP32438	1.000	.625	1.000	3.800	1.556	.188	3	8.0°	20450	RP_32_	.70
1873486	KIPR125RP43540	1.250	.761	1.250	4.000	1.610	.249	3	4.3°	21000	RP_43_	1.09
1775726	KIPR125RP43555	1.250	.761	1.250	5.500	3.110	.249	3	4.3°	21000	RP_43_	1.54
1775728	KIPR150RP43655	1.500	1.009	1.500	5.500	3.500	.249	3	3.0°	19500	RP_43_	2.28

■ Spare Parts

D1 max	clamp	clamp screw	in. lbs.	Torx driver	Torx Plus wrench
.625	KC11	191.924	17	DT9	—
.750	KC11	191.924	17	DT9	—
1.000	KC12	191.725	31	DT15	—
1.250	KC13M	193.409	55	—	TTP20
1.500	KC13M	193.409	55	—	TTP20



Copy Milling

Insert Selection Guide
RPG2150... High Temp

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	..E	KYSP30	..E	KYSP30	..E	KYSP30
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	..E	KYS30	..E	KYS30	..E	KYS30
S3	..E	KYS30	..E	KYS30	..E	KYS30
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

RPG32... High Temp

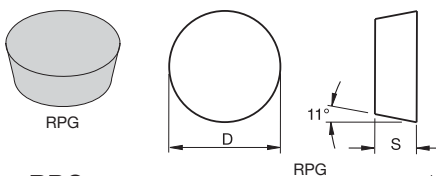
Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	..E	KYSP30	..E	KYSP30	..E	KYSP30
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	..E	KYS30	..E	KYS30	..T	KYS30
S3	..E	KYS30	..T	KYS30	..T	KYS30
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

RPG43... High Temp

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance		toughness			
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	-	-	-	-	-	-
P3-P4	-	-	-	-	-	-
P5-P6	..E	KYSP30	..E	KYSP30	..E	KYSP30
M1-M2	-	-	-	-	-	-
M3	-	-	-	-	-	-
K1-K2	-	-	-	-	-	-
K3	-	-	-	-	-	-
N1-N2	-	-	-	-	-	-
N3	-	-	-	-	-	-
S1-S2	..E	KYS30	..E	KYS30	..T	KYS30
S3	..E	KYS30	..T	KYS30	..T	KYS30
S4	-	-	-	-	-	-
H1	-	-	-	-	-	-

Indexable Ceramic Inserts • KIPR

- Two grades and three insert sizes with positive clearances for ramping.
- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.


RPG

catalog number	D	S	KYS30	KYSP30
RPG2150E	.250	.094	●	●
RPG32E	.375	.125	●	●
RPG32T0420	.375	.125	●	-
RPG43E	.500	.188	●	●
RPG43T0420	.500	.188	●	-

NOTE: A – Use these tools with the appropriate equipment/machines. Machines have to be covered for safety reasons: Hot flowing chips and loud noise are involved, which is common during the milling process.

B – Use only air flow as coolant method.

C – Higher RPMs are involved; use balanced toolholder for higher tool life and safer operation.

D – Consider increasing the fz in hard machining when smaller Ap are applied.

- first choice
- alternate choice

P	●	○	○
M	●	○	○
K	●	○	○
N	●	○	○
S	●	●	●
H	○	○	○



Copy Milling

■ Recommended Starting Feeds [IPT] RPG2150..

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.005	.007	.004	.004	.005	.003	.003	.004	.003	.003	.004	.003	.003	.004	..E

At .063 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.006	.008	.004	.004	.006	.004	.004	.005	.003	.004	.005	.003	.004	.005	..E

At .031 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.007	.008	.010	.005	.006	.008	.005	.005	.007	.004	.005	.006	.004	.005	.006	..E

At .016 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.010	.011	.014	.007	.008	.010	.006	.007	.009	.006	.007	.008	.006	.006	.008	..E

■ Recommended Starting Feeds [IPT] RPG32..

At .188 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.005	.007	.004	.004	.005	.003	.003	.004	.003	.003	.004	.003	.003	.004	..E
..T	.007	.008	.010	.005	.006	.008	.004	.005	.007	.004	.005	.006	.004	.005	.006	..T

At .094 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.006	.008	.004	.004	.006	.004	.004	.005	.003	.004	.005	.003	.004	.005	..E
..T	.008	.009	.012	.006	.007	.009	.005	.006	.008	.005	.006	.007	.005	.006	.007	..T

At .047 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.007	.008	.010	.005	.006	.008	.005	.005	.007	.004	.005	.006	.004	.005	.006	..E
..T	.010	.012	.015	.008	.009	.011	.007	.008	.010	.006	.007	.009	.006	.007	.009	..T

At .023 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.010	.011	.014	.007	.008	.010	.006	.007	.009	.006	.007	.008	.006	.006	.008	..E
..T	.014	.017	.021	.010	.012	.016	.009	.011	.014	.008	.010	.013	.008	.010	.012	..T

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.



Copy Milling

■ Recommended Starting Feeds [IPT] RPG43..

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At .250 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.005	.007	.004	.004	.005	.003	.003	.004	.003	.003	.004	.003	.003	.004	..E
..T	.007	.010	.011	.005	.008	.009	.004	.007	.007	.004	.006	.007	.004	.006	.007	..T

At .125 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.005	.006	.008	.004	.004	.006	.004	.004	.005	.003	.004	.005	.003	.004	.005	..E
..T	.008	.012	.013	.006	.009	.010	.005	.008	.009	.005	.007	.008	.005	.007	.008	..T

At .063 Axial Depth of Cut (ap)

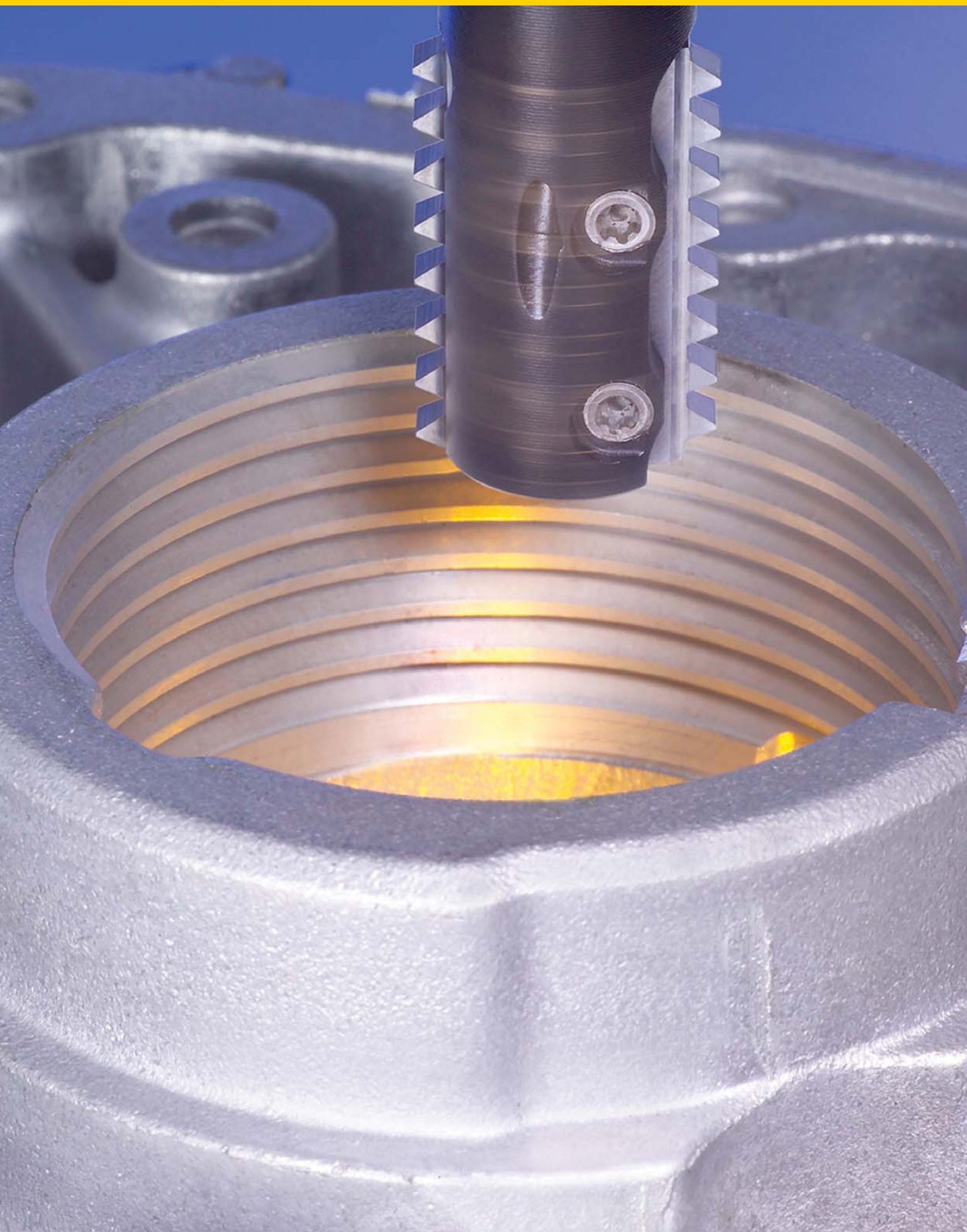
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.007	.008	.010	.005	.006	.008	.005	.005	.007	.004	.005	.006	.004	.005	.006	..E
..T	.010	.016	.017	.008	.012	.013	.007	.010	.011	.006	.010	.010	.006	.009	.010	..T

At .031 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)														Insert Geometry	
	10%			20%			30%			40%			50-100%			
..E	.010	.011	.014	.007	.008	.010	.006	.007	.009	.006	.007	.008	.006	.006	.008	..E
..T	.014	.022	.024	.010	.016	.018	.009	.014	.015	.008	.013	.014	.008	.013	.014	..T

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22-X37 for recommended starting speeds.





Indexable Milling • Indexable Thread Milling

TM Series	W2-W27
TM24	W4-W8
TM25	W10-W16
TM40	W17-W22
TM41	W24-W27
KTMD U Series	W28-W37
TMS • Thread Milling System	W38-W47
Thread Milling • Application and Technical Information	W48-W55

➤ TM Series

The latest Kennametal indexable thread milling tools deliver longer tool life and higher productivity while offering a comprehensive range of thread styles and sizes:

- TM24 Series — Small-bore threading applications with one cutting edge per insert.
- TM25 Series — Standard threading applications with two cutting edges per insert.
- TM40 Series — Long-thread threading applications with two cutting edges per insert.
- TM41 Series — Large-pitch threading applications with two cutting edges per insert.

Features and Benefits

Cutter Body Offering

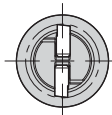
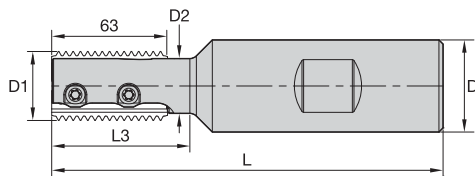
- Number of flutes:
 - TM24: 1–2 per body
 - TM25: 2–8 per body
 - TM40: 3–8 per body
 - TM41: 2–6 per body
- Short and long toolholders for multiple applications.
- Cutters available in parallel Weldon® and conical Weldon holders.
- Effective through coolant for each flute.
- Better chip evacuation.

Insert Offering

- Robust design.
- Inserts for ISO, UN, W, NPT, NPTF, and BSPT thread profiles.
- Pitch:
 - TM24: 32–10 TPI (0,50–2,50mm)
 - TM25: 20–8 TPI (1,00–3,00mm)
 - TM40: 32–10 TPI (1,00–3,00mm)
 - TM41: 8–4 TPI (3,00–6,00mm)
- Grades for most workpiece materials.
- Easy clamping systems.
- Fast indexing of inserts.



- .530-.630" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



■ Thread Mill • Weldon Shank • Parallel Threads

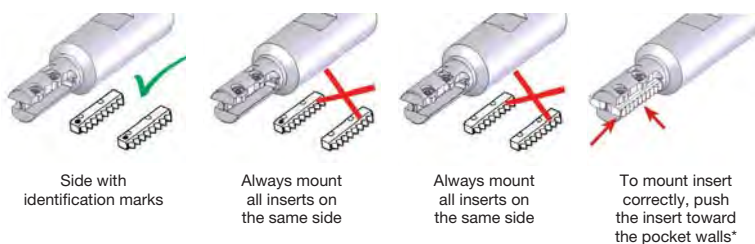
order number	catalog number	D1	D	D2	L	L3	Z	insert screw	Torx Plus driver
5593154	TM24D053L102Z1	.530	.750	.420	3.270	1.020	1	TM25INSERTSCREW	DT8IP
5593155	TM24D059L118Z1	.590	.750	.470	3.390	1.180	1	TM25INSERTSCREW	DT8IP
5593156	TM24D063L110Z2	.630	.750	.490	3.310	1.100	2	TM25INSERTSCREW	DT8IP
5593157	TM24D063L142Z1	.630	.750	.460	3.630	1.420	1	TM25INSERTSCREW	DT8IP

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Through coolant is recommended, especially when D2 > 0.7 x nominal thread diameter.

Thread Application per Toolholder							
min thread Ø							
toolholder	D1	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSF	BSP(G)
TM24D053L102Z1	.530	M16 x 2	M14.5 x 0.5; M15 x 0.75; M15 x 1; M15 x 1.25; M16 x 1.5; M16 x 1.75	-	11/16-12UN; 5/8-14UNS; 5/8-16UN; 5/8-18UNF; 5/8-20UN; 5/8-24UNEF; 5/8-28UN; 5/8-32YB	11/16-14; 3/4-12	3/8-19
TM24D059L118Z1	.590	M18 x 2.5	M16 x 0.5; M17 x 0.75; M17 x 1; M17 x 1.25; M17 x 1.5; M18 x 1.75; M18 x 2	3/4-10	3/4-12UN; 3/4-14UNS; 1 1/16-16UN; 1 1/16-20UN; 1 1/16-24UNEF; 1 1/16-28UN; 1 1/16-32UN	3/4-12	-
TM24D063L110Z2	.630	M20 x 2.5	M17 x 0.5; M17 x 0.75; M18 x 1; M18 x 1.25; M18 x 1.5; M18 x 1.75; M19 x 2	3/4-10	3/4-12UN; 3/4-UNS; 3/4-16UN; 3/4-18UNS; 3/4-20UNEF; 11/16-24UNEF; 1 1/16-28UN; 1 1/16-32UN	3/4-12	-
TM24D063L142Z1	.630	M20 x 2.5	M17 x 0.5; M17 x 0.75; M18 x 1; M18 x 1.25; M18 x 1.5; M18 x 1.75; M19 x 2	3/4-10	3/4-12UN; 3/4-14UNS; 3/4-16UN; 3/4-18UNS; 3/4-20UNEF; 1 1/16-24UNEF; 1 1/16-28UN; 1 1/16-32UN	3/4-12	-

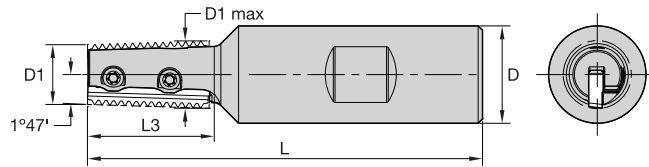


Thread Milling



* When not using an insert in each pocket, protect the pocket by using a TM24 blank insert.

- .550" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



■ Thread Mill • Weldon Shank • Conical Threads

order number	catalog number	D1	D1 max	D	L	L3	Z	insert screw	Torx Plus driver
5593158	TMT24D055L102Z1	.450	.550	.750	3.230	1.020	1	TM25INSERTSCREW	DT8IP

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

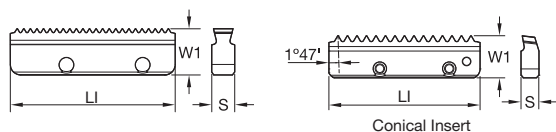
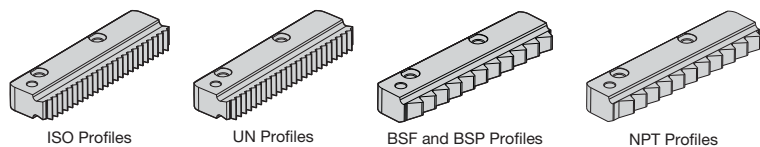
toolholder	Thread Application per Toolholder min thread Ø			
	D1 max	NPT	NPTF	BSPT
TMT24D055L102Z1	.550	3/8-18	3/8-18	3/8-19



On Conical inserts, the identification mark must face up

On Conical inserts, the identification mark must face up

To mount insert correctly, push the insert toward the pocket walls



● first choice
○ alternate choice

P	●	○	●
M	●	○	●
K	●	○	●
N	●	○	●
S	●	○	●
H	●	○	●

■ ISO Profiles • Internal

catalog number	thread pitch mm	LI	W1	S	number of teeth	KC610M	KC635M
TM24N050ISO	0,5	.945	.276	.118	49	●	●
TM24N075ISO	0,75	.945	.276	.118	33	●	●
TM24N100ISO	1,0	.945	.276	.118	24	●	●
TM24N150ISO	1,5	.945	.276	.118	16	●	●
TM24N125ISO	1,25	.945	.276	.118	20	●	●
TM24N175ISO	1,75	.945	.276	.118	14	●	●
TM24N200ISO	2,0	.945	.276	.118	12	●	●
TM24N250ISO	2,5	.945	.276	.118	10	●	●

■ UN Profiles • Internal

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM24N10UN	10	.945	.276	.118	9	●	●
TM24N12UN	12	.945	.276	.118	11	●	●
TM24N14UN	14	.945	.276	.118	13	●	●
TM24N16UN	16	.945	.276	.118	15	●	●
TM24N18UN	18	.945	.276	.118	17	●	●
TM24N20UN	20	.945	.276	.118	19	●	●
TM24N24UN	24	.945	.276	.118	23	●	●
TM24N28UN	28	.945	.276	.118	27	●	●
TM24N32UN	32	.945	.276	.118	31	●	●

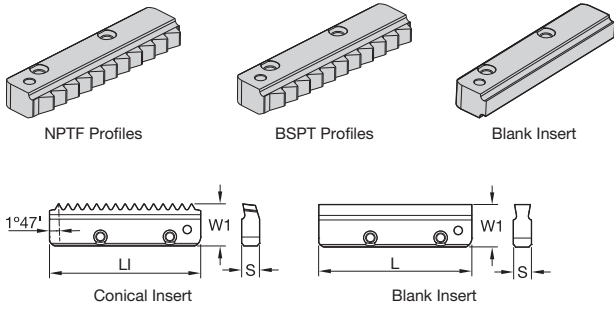
■ BSF and BSP Profiles • Internal and External

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM24EN14BSF	14	.945	.276	.118	13	●	●
TM24EN19BSF	19	.984	.276	.118	18	●	●

■ NPT Profiles • Internal and External

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM24EN18NPT	18	.945	.276	.118	17	●	●

Thread Milling



● first choice
○ alternate choice

P	<input type="radio"/>	<input type="radio"/>
M	<input type="radio"/>	<input type="radio"/>
K	<input type="radio"/>	<input type="radio"/>
N	<input type="radio"/>	<input type="radio"/>
S	<input type="radio"/>	<input type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

■ **NPTF Profiles • Internal and External**

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM24EN18NPTF	18	.945	.276	.118	17	●	●

■ **BSPT Profiles • Internal and External**

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM24EN19BSPT	19	.945	.276	.118	18	●	●

■ **Blank/Plug-In Insert • Internal and External**

catalog number	L	W1	S
TM24ENBLANK	.945	.276	.118

■ **TM24 Inserts**

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.

NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

Before NOVO: The programmer would be in their CAD/CAM software, programming a part. Using the outdated method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

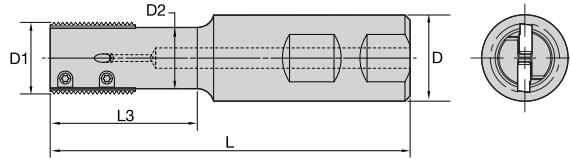
The concern is that assumptions are made, and only partial tooling information is entered.

With NOVO: The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kennametal.com/novo



- .670–2.047" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



■ Thread Mill • Weldon Shank • Parallel Threads

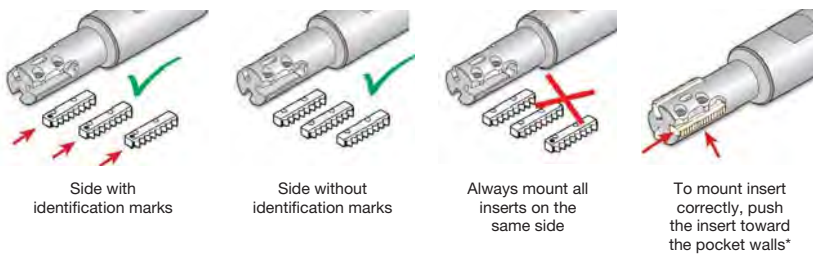
order number	catalog number	D1	D	D2	L	L3	Z	insert screw	Torx Plus driver
3030845	TM25D17L26Z2	.669	.984	.551	3.347	1.024	2	TM25INSERTSCREW	DT8IP
3030846	TM25D17L36Z2	.669	.984	.551	3.740	1.417	2	TM25INSERTSCREW	DT8IP
3030848	TM25D20L37Z3	.807	.984	.649	3.780	1.457	3	TM25INSERTSCREW	DT8IP
3030849	TM25D20L44Z3	.807	.984	.649	4.055	1.732	3	TM25INSERTSCREW	DT8IP
3030850	TM25D22L43Z3	.866	.984	.709	4.016	1.693	3	TM25INSERTSCREW	DT8IP
3030852	TM25D22L55Z3	.866	.984	.709	4.488	2.165	3	TM25INSERTSCREW	DT8IP
3031703	TM25D30L55Z5	1.181	.984	1.024	4.528	2.165	5	TM25INSERTSCREW	DT8IP
3031705	TMC25D30L80Z4	1.181	.984	1.024	5.512	3.150	4	TM25INSERTSCREW	DT8IP
5593142	TMS25D36L34Z5	1.417	.630	1.498	1.319	—	5	TM25INSERTSCREW	DT8IP
5593143	TMS25D44L38Z6	1.732	.866	1.575	1.496	—	6	TM25INSERTSCREW	DT8IP
5593141	TMS25D52L40Z8	2.047	1.063	1.890	1.575	—	3	TM25INSERTSCREW	DT8IP

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

Kennametal thread mill software: TM – CNC Generator: <http://www.kennametal.com/en/resources/software.html>.

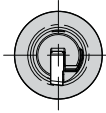
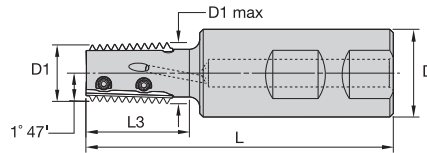
Thread Application per Toolholder						
min thread Ø						
toolholder	D1	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSF
TM25D17L26Z2	.669	M20 x 2.5	M19 x 1; M19 x 1.5;	—	7/8–10UNS; 13/16–12UN; 7/8–14UNF;	7/8–11; 7/8–12;
TM25D17L36Z2			M20 x 2		3/4–16UNF; 3/4–18UNS; 3/4–20UNEF	7/8–14; 7/8–16
TM25D20L37Z3	.807	M24 x 3.0	M22 x 1.; M23 x 1.5;	1–8	15/16–9UN; 1.0–10UNS; 15/16–12UN;	1–11; 1–12;
TM25D20L44Z3			M23 x 2.; M23.5 x 2.5		1.0–14UNS; 15/16–16UN; 7/8–18UNS; 7/8–20UNEF	1.14; 1.16
TM25D22L43Z3	.866	M27 x 3.0	M24 x 1.; M24 x 1.5;	—	11/16–8UN; 1.0–9UN; 1.0–10UNS; 1.0–12UNF;	1–11; 1–12;
TM25D22L55Z3			M25 x 2.; M25 x 2.5		1.0–14UNS; 1.0–16UN; 1.0–18UN; 15/16–20UNEF	1–14; 1–16
TM25D30L55Z5	1.181	—	M32 x 1.; M32 x 1.5;	—	1 3/8–8UN; 1 3/8–9UN; 1 3/8–10UN; 1 5/16–12UN;	1 3/8–11; 1 3/8–12;
TMC25D30L80Z4			M33 x 2.; M33 x 2.5; M34 x 3		1 3/8–14UNS; 1 5/16–16UN; 1 5/16–18UNEF; 1 5/16–20UN	1 3/8–14; 1 3/8–16

Thread Milling



* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- .670–1.100" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



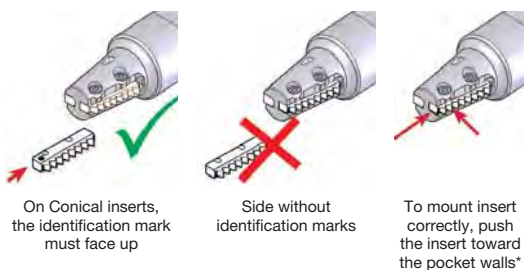
■ Thread Mill • Weldon Shank • Conical Threads

order number	catalog number	D1	D1 max	D	L	L3	Z	insert screw	in. lbs.	Torx Plus driver
3031708	TMT25D067L110Z2	.608	.670	1.000	3.500	1.100	2	TM25INSERTSCREW	35	DT8IP
3031712	TMT25D087L170Z3	.802	.870	1.000	4.090	1.700	3	TM25INSERTSCREW	35	DT8IP
3031715	TMT25D110L170Z4	1.039	1.100	1.000	4.060	1.700	4	TM25INSERTSCREW	35	DT8IP

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

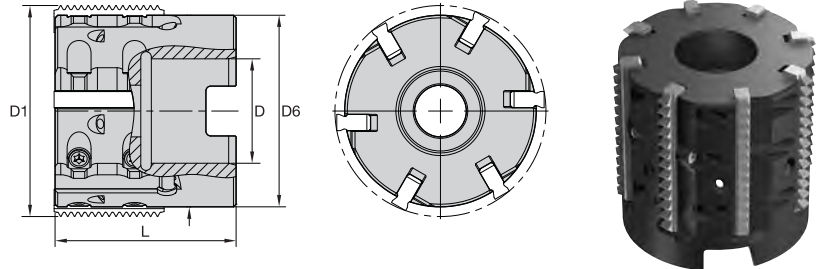
Kennametal thread mill software: TM – CNC Generator: <http://www.kennametal.com/en/resources/software.html>.

toolholder	D1 max	Thread Application per Toolholder min thread Ø		
		NPT	NPTF	BSPT
TMT25D17L26Z2	.669	1/2–14; 3/4–14; 1–11.5; 2–11.5	1/2–14; 3/4–14; 1–11.5; 2–11.5	1/2–14; 3/4–14; 1–11; 1 1/4–11; 1 1/2–11; 2–11
TMT25D22L43Z3	.866	3/4–14; 1–11.5; 2–11.5	3/4–14; 1–11.5; 2–11.5	3/4–14; 1–11; 1 1/4–11; 1 1/2–11; 2–11; 2 1/2–11; 3–11; 4–11; 5–11; 6–11
TMT25D28L43Z4	1.102	1–11.5; 2–11.5	1–11.5; 2–11.5	1–11; 1 1/4–11; 1 1/2–11; 2–11; 2 1/2–11; 3–11; 4–11; 5–11; 6–11



* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- 1.540–2.320" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



Thread Mill • Shell Mill • Parallel Threads

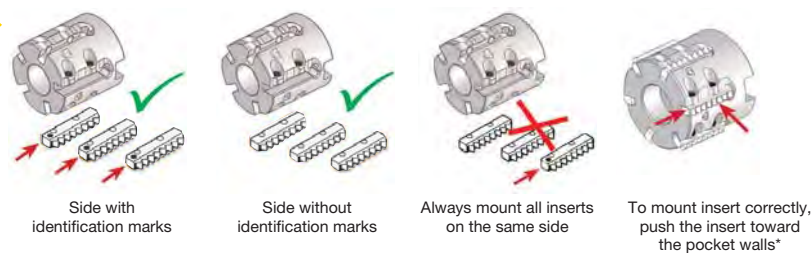
order number	catalog number	D1	D	D6	L	Z	insert screw	Torx Plus driver	socket-head cap screw
5593147	TMS25D154L126Z5	1.540	.500	1.382	1.260	5	TM25INSERTSCREW	DT8IP	MS5007
5593146	TMS25D193L138Z7	1.930	.750	1.772	1.380	7	TM25INSERTSCREW	DT8IP	MS5008
5593145	TMS25D232L158Z9	2.320	1.000	2.169	1.580	9	TM25INSERTSCREW	DT8IP	MS5006

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

Kennametal thread mill software: TM – CNC Generator: <http://www.kennametal.com/en/resources/software.html>.

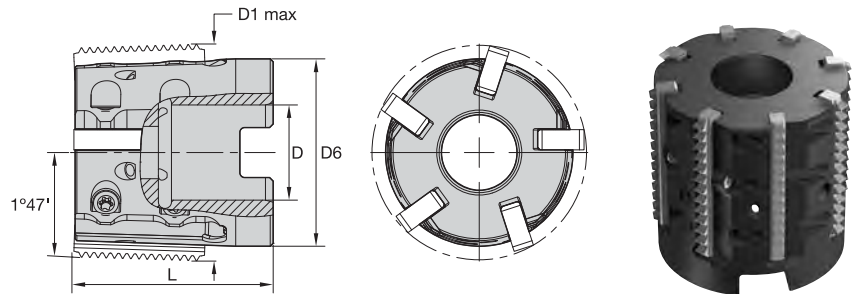
Thread Application per Toolholder					
min thread Ø					
toolholder	D1	ISO (fine)	UN/UNF/UNEF/UNS	BSW	BSP(G)
TMS25D154L126Z5	1.540	M42 x 1; M42 x 1.5; M45 x 2; M45 x 3	1 11/16–12UNF; 1 3/4–14UNS; 1 5/8–16UN; 1 5/8–18UNEF; 1 5/8–20UN	1 3/4–16; 1 3/4–12	1 1/2–11
TMS25D193L138Z7	1.930	M52 x 1; M55 x 1.5; M55 x 2; M55 x 3	2 1/8–12UN; 2 1/16–16UN; 2 1/8–20UN; 2 1/8–8UN; 2 1/4–10UNS; 2 1/4–14UNS; 2 1/4–18UNS	2 1/4–16; 2 1/4–12	1 3/4–11
TMS25D232L158Z9	2.320	M64 x 1; M64 x 1.5; M64 x 2; M65 x 3	2 1/2–18UN; 2 1/2–20UN; 2 1/2–8UN; 2 1/2–12UN; 2 1/2–10UN; 2 1/2–14UN; 2 1/2–16UN	2 1/2–16; 2 1/2–12	2 1/4–11

Thread Milling



* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- 1.478" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



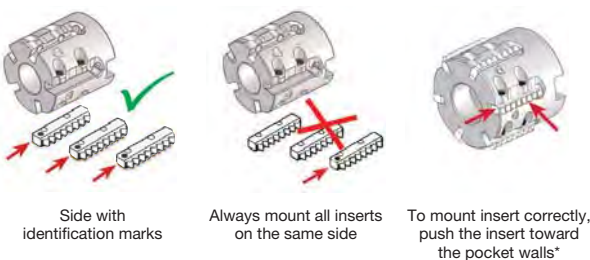
■ Thread Mill • Shell Mill • Conical Threads

order number	catalog number	D1 max	D	D6	L	Z	insert screw	Torx Plus driver	socket-head cap screw
5593148	TMST25D154L126Z5	1.538	.500	1.358	1.260	5	TM25INSERTSCREW	DT8IP	MS5007

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

Kennametal thread mill software: TM – CNC Generator: <http://www.kennametal.com/en/resources/software.html>.

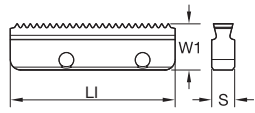
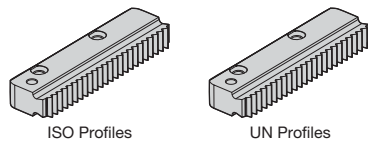
toolholder	Thread Application per Toolholder min thread Ø			
	D1	NPT	NPTF	BSPT
TMST25D154L126Z5	1.478	1 1/2–11.5; 2–11.5	1 1/2–11.5; 2–11.5	1 1/2–6 x 11



* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

NOTE: On conical inserts the identification mark must be face up.

- ISO metric screw thread style.



● first choice
○ alternate choice

P	●	○	●
M	●	○	●
K	●	○	●
N	●	○	●
S	○	○	○
H	○	○	○

■ ISO Profiles • Internal

catalog number	thread pitch mm	LI	W1	S	number of teeth	KC610M	KC635M
TM25N300ISO	3	.984	.300	.140	8	●	●
TM25N250ISO	2,5	.984	.300	.140	10	●	●
TM25N200ISO	2	.984	.300	.140	12	●	●
TM25N150ISO	1,5	.984	.300	.140	16	●	●
TM25N100ISO	1	.984	.300	.140	24	●	●

- Unified Thread Standard Style.

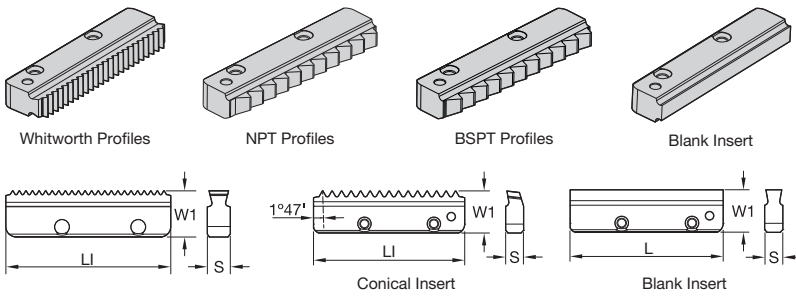
■ UN Profiles • Internal

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM25N8UN	8	.984	.300	.140	7	●	●
TM25N9UN	9	.984	.300	.140	8	●	●
TM25N10UN	10	.984	.300	.140	9	●	●
TM25N12UN	12	.984	.300	.140	11	●	●
TM25N14UN	14	.984	.300	.140	13	●	●
TM25N16UN	16	.984	.300	.140	15	●	●
TM25N18UN	18	.984	.300	.140	17	●	-
TM25N20UN	20	.984	.300	.140	19	●	●



Thread Milling

- British Standard Whitworth Thread Style.



- first choice
- alternate choice

P	●	○	●
M	●	○	●
K	●	○	●
N	●	○	●
S	●	○	●
H	●	○	○

Whitworth Profiles • Internal/External

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM25EN11W	11	.984	.300	.140	10	●	●
TM25EN12W	12	.984	.300	.140	11	●	○
TM25EN14W	14	.984	.300	.140	13	●	●

- National Pipe Thread Taper Style.

NPT Profiles • Internal/External

catalog number	TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM25EN115NPT	11.5	.984	.300	.140	11	●	●
TM25EN14NPT	14	.984	.300	.140	11	●	●

- British Standard Pipe Standard Thread Style.

BSPT Profiles • Internal/External

catalog number	internal TPI	LI	W1	S	number of teeth	KC610M	KC635M
TM25EN11BSPT	11.0	.984	.300	.140	10	●	○
TM25EN14BSPT	14.0	.984	.300	.140	11	●	○

Blank Insert Form • Internal/External

catalog number	L	W1	S
TM25BLANK	.988	.220	.140



Thread Milling

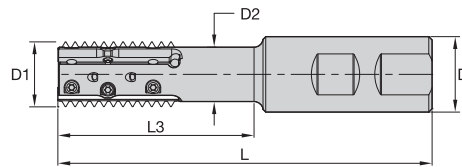
■ **TM25 Inserts**

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.



- .870–1.180" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

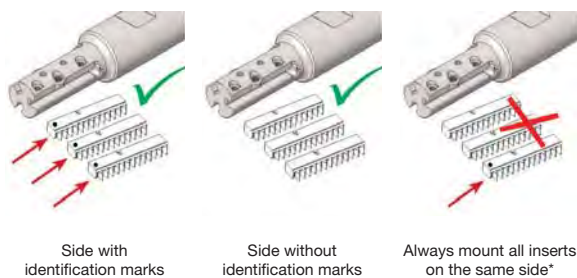


■ Thread Mill • Weldon Shank • Parallel Threads

order number	catalog number	D1	D	D2	L	L3	Z	insert screw	Torx Plus driver	screw
5593191	TM40D087L169Z3	.870	1.000	.710	4.000	1.690	3	TM25INSERTSCREW	DT8IP	MS9000
5593192	TM40D087L256Z3	.870	1.000	.710	4.870	2.560	3	TM25INSERTSCREW	DT8IP	MS9000
5593193	TM40D118L215Z4	1.180	1.250	1.020	4.550	2.150	4	TM25INSERTSCREW	DT8IP	MS9000
5593194	TM40D118L315Z3	1.180	1.250	1.020	5.350	3.150	3	TM25INSERTSCREW	DT8IP	MS9000

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

Thread Application per Toolholder min thread Ø						
toolholder	D1	ISO (coarse)	ISO (fine)	UN/UNF/UNEF/UNS	BSF	BSP(G)
TM40D087L169Z3	.870	M27 x 3	M24 x 1; M24 x 1.5; M25 x 2; M25 x 2.5	1 11/16-8UN; 1-9UN; 1-10UNS; 1-12UNF; 1-14UNS; 1-16UN; 1-18UN; 15/16-20UNEF	1-11; 1-12; 1-14; 1-16	3/4-14
TM40D087L256Z3	.870	M27 x 3	M24 x 1; M24 x 1.5; M25 x 2; M25 x 2.5	1 11/16-8UN; 1-9UN; 1-10UNS; 1-12UNF; 1-14UNS; 1-16UN; 1-18UN; 15/16-20UNEF	1-11; 1-12; 1-14; 1-16	3/4-14
TM40D118L215Z4	1.180	-	M32 x 1; M32 x 1.5; M33 x 2; M33 x 2.5; M34 x 3	1 3/8-8UN; 1 3/8-9UN; 1 3/8-10UN; 15/16-12UN; 1 3/8-14UNS; 15/16UN; 15/16-18UNEF; 15/16-20UN	1 3/8-11; 1 3/8-12; 1 3/8-14; 1 3/8-16	1-11
TM40D118L315Z3	1.180	-	M32 x 1; M32 x 1.5; M33 x 2; M33 x 2.5; M34 x 3	1 3/8-8UN; 1 3/8-9UN; 1 3/8-10UN; 15/16-12UN; 1 3/8-14UNS; 15/16UN; 15/16-18UNEF; 15/16-20UN	1 3/8-11; 1 3/8-12; 1 3/8-14; 1 3/8-16	1-11



* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

2 Step Clamping System

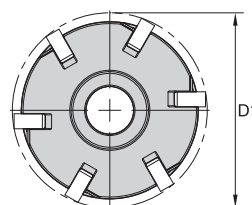
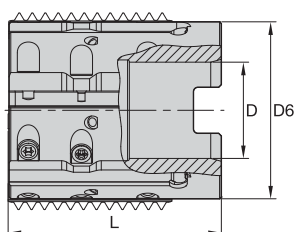
Step 1. Location Screw



Step 2. Clamping Screw (2)



- 1.930–2.320" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



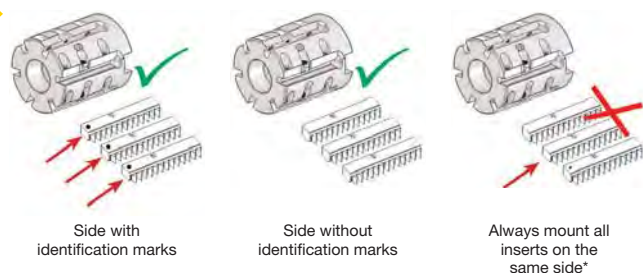
■ Thread Mill • Shell Mill • Parallel Threads

order number	catalog number	D1	D	D6	L	Z	insert screw	Torx Plus driver	socket-head cap screw	screw
5593195	TMS40D193L197Z7	1.930	.750	1.770	1.970	7	TM25INSERTSCREW	DT8IP	MS5008	MS9000
5593196	TMS40D232L200Z9	2.320	1.000	2.170	2.000	9	TM25INSERTSCREW	DT8IP	MS5009	MS9000

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

Thread Application per Toolholder					
min thread Ø					
toolholder	D1	ISO (fine)	UN/UNF/UNEF/UNS	BSW	BSP(G)
TMS40D193L197Z7	1.930	M52 x 1; M55 x 1.5; M55 x 2; M55 x 3	1 7/8–12UN; 1 13/16–16UN; 1 13/16–20UN; 1 15/16–8UN; 1 7/8–10UNS; 1 7/8–14UNS	2 1/4–12; 2 1/4–16	1 3/4–11
TMS40D232L200Z9	2.320	M64 x 1; M64 x 1.5; M64 x 2; M65 x 3	2 1/4–8UN; 2 1/4–10UN; 2 1/4–12UN; 2 1/4–14UN; 2–1/4–16UN; 2 1/4–18UN; 2 1/4–20UN	2 1/2–12; 2 1/2–16	2 1/4–11

Thread Milling

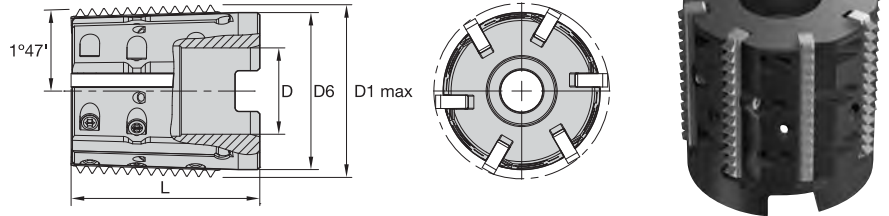


* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

2 Step Clamping System!



- 1.930" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

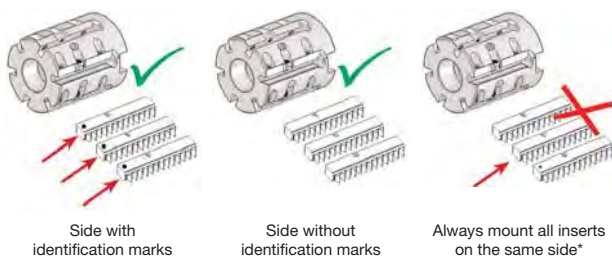


■ Thread Mill • Shell Mill • Conical Threads

order number	catalog number	D1 max	D	D6	L	Z	insert screw	Torx Plus driver	socket-head cap screw	screw
5593197	TMST40D193L197Z7	1.930	.750	1.770	1.970	7	TM25INSERTSCREW	DT8IP	MS5006	MS9000

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

toolholder	Thread Application per Toolholder min thread Ø			
	D1 max	NPT	NPTF	BSPT
TMST40D193L197Z7	1.930	2 -11.5; 2 1/2-8 (and up)	2-11.5; 2 1/2-8; 3/8	2-6 x 11



* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

2 Step Clamping System!

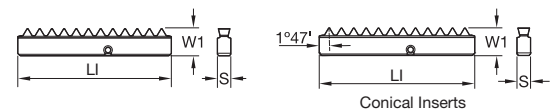
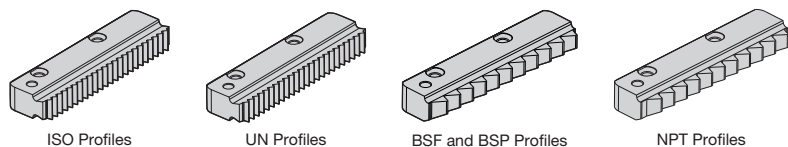
Step 1. Location Screw



Step 2. Clamping Screw (2)



Thread Milling



● first choice
○ alternate choice

P	●	○	●
M	●	○	●
K	●	○	●
N	●	○	●
S	○	○	●
H	○	○	○

■ ISO Profiles • Internal

catalog number	thread pitch mm	LI	W1	S	KC610M	KC635M
TM40N100ISO	1,0	1.575	.278	.137	●	●
TM40N150ISO	1,5	1.575	.278	.137	●	●
TM40N200ISO	2,0	1.575	.278	.137	●	●
TM40N250ISO	2,5	1.575	.278	.137	●	-
TM40N300ISO	3,0	1.575	.278	.137	●	●

■ UN Profiles • Internal

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM40N8UN	8	1.575	.278	.138	●	●
TM40N9UN	9	1.575	.278	.137	●	-
TM40N10UN	10	1.575	.278	.137	●	-
TM40N12UN	12	1.575	.278	.137	●	●
TM40N14UN	14	1.575	.278	.137	●	-
TM40N16UN	16	1.575	.278	.137	●	●
TM40N18UN	18	1.575	.278	.137	●	-
TM40N20UN	20	1.575	.278	.137	●	●

■ BSF and BSP Profiles • Internal and External

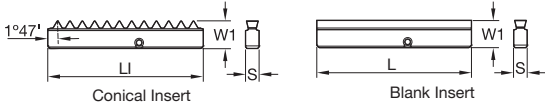
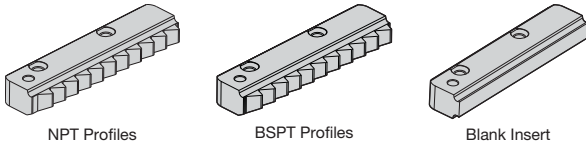
catalog number	TPI	LI	W1	S	KC610M	KC635M
TM40EN11BSF	11	1.575	.278	.138	●	●
TM40EN12BSF	12	1.575	.278	.138	●	-
TM40EN14BSF	14	1.575	.278	.138	●	-
TM40EN16BSF	16	1.575	.278	.138	●	-

■ NPT Profiles • Internal and External

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM40EN008NPT	8.0	1.575	.287	.138	●	●
TM40EN115NPT	11.5	1.575	.287	.138	●	-



Thread Milling



● first choice
○ alternate choice

P	●	○	●
M	●	○	●
K	●	○	●
N	●	○	●
S	○	○	●
H	○	○	○

■ **NPTF Profiles • Internal and External**

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM40EN008NPTF	8.0	1.575	.287	.138	●	●
TM40EN115NPTF	11.5	1.575	.287	.138	●	-

■ **BSPT Profiles • Internal and External**

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM40EN011BSPT	11	1.575	.287	.138	●	●

■ **Blank/Plug-In Insert • Internal and External**

catalog number	L	W1	S
TM40ENBLANK	1.575	.278	.137



Thread Milling

■ **TM40 Inserts**

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.



Thread Milling



Carbide Recycling

Help preserve and protect our planet!



It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

By using the Kennametal Carbide Recycling Program, you will receive:

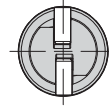
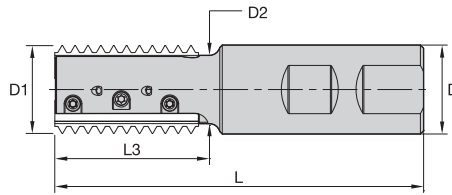
- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit [kennametal.com/carbiderecycling](https://www.kennametal.com/carbiderecycling).



[kennametal.com](https://www.kennametal.com)

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



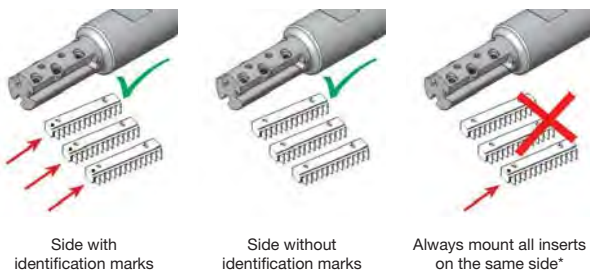
■ Thread Mill • Weldon Shank • Parallel Threads

order number	catalog number	D1	D	D2	L	L3	Z	insert screw	Torx Plus driver	screw
5593177	TM41D083L177Z1	.835	1.000	.630	4.130	1.770	1	TM25INSERTSCREW	DT8IP	MS9000
5593178	TM41D097L169Z2	.970	1.000	.760	4.130	1.690	2	TM25INSERTSCREW	DT8IP	MS9000
5593179	TM41D118L256Z3	1.180	1.250	.953	5.000	2.560	3	TM25INSERTSCREW	DT8IP	MS9000
5593180	TM41D142L169Z5	1.420	1.250	1.110	4.130	1.690	5	TM25INSERTSCREW	DT8IP	MS9000
5593181	TM41D142L256Z4	1.420	1.250	1.110	4.980	2.560	4	TM25INSERTSCREW	DT8IP	MS9000

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

toolholder	D1	Thread Application per Toolholder min thread Ø						
		ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSW/BSF	NPT	NPTF
TM41D083L177Z1	.835	M30 x 3.5; M36 x 4	M28 x 3; M45 x 4	1 1/8-7; 1 3/8-6	1 1/8-8UN; 1 7/16-6UN	1 3/8-8BSF; 1 1/4-7BSW	-	-
TM41D097L169Z2	.970	M30 x 3.5; M36 x 4	M28 x 3; M45 x 4	1 1/8-7; 1 3/8-6	1 1/8-8UN; 1 7/16-6UN	1 3/8-8BSF; 1 1/4-7BSW	-	-
TM41D118L256Z3	1.180	M36 x 4; M42 x 4.5	M34 x 3; M34 x 3.5; M45 x 4	1 3/8-6	1 3/8-8UN; 1 7/16-6UN	1 3/8-8BSF; 1 3/4-7BSF; 1 1/2-6BSW	-	-
TM41D142L169Z5	1.420	M42 x 4.5; M48 x 5; M56 x 5.5; M64 x 6	M40 x 3; M40 x 3.5; M42 x 4; M70 x 6	1 3/4-5; 2-4.5; 2 1/2-4	1 5/8-8UN; 1 5/8-6UN	1 5/8-8BSF; 1 3/4-7BSF; 1 7/8-6BSF	2 1/2-8	2 1/2-8
TM41D142L256Z4	1.420	M42 x 4.5; M48 x 5; M56 x 5.5; M64 x 6	M40 x 3; M40 x 3.5; M42 x 4; M70 x 6	1 3/4-5; 2-4.5; 2 1/2-4	1 5/8-8UN; 1 5/8-6UN	1 5/8-8BSF; 1 3/4-7BSF; 1 7/8-6BSF	2 1/2-8	2 1/2-8

Thread Milling



* When not using an insert in each pocket, protect the pocket by using a TM41 blank insert.

2 Step Clamping System!

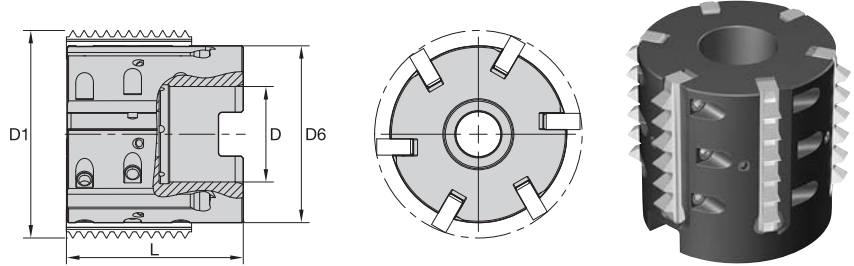
Step 1. Location Screw (2)



Step 2. Clamping Screw



- 2.090–2.480" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

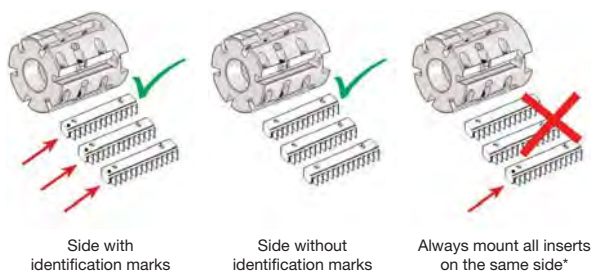


■ Thread Mill • Shell Mill • Parallel Threads

order number	catalog number	D1	D	D6	L	Z	insert screw	Torx Plus driver	socket-head cap screw	screw
5593182	TMS41D210L200Z5	2.090	.750	1.770	2.000	5	TM25INSERTSCREW	DT8IP	MS5008	MS9000
5593183	TMS41D250L200Z6	2.480	1.000	2.170	2.000	6	TM25INSERTSCREW	DT8IP	MS5009	MS9000

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

toolholder	D1	Thread Application per Toolholder						
		ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSF	NPT	NPTF
TMS41D210L200Z5	2.090	M64 x 6	M58 x 4; M70 x 6	2 1/2–4	2 3/8–6UN; 2 3/8–8UN	2 3/8–8; 2 1/2–6	2 1/2–8	2 1/2–8
TMS41D250L200Z6	2.480	–	M68 x 4; M70 x 6	3–4	2 3/4–6UN; 2 3/4–8UN	2 3/4–8; 2 3/4–6	2 1/2–8	2 1/2–8



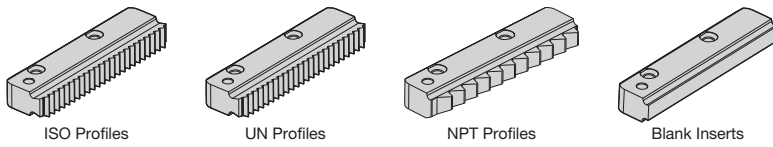
* When not using an insert in each pocket, protect the pocket by using a TM41 blank insert.

2 Step Clamping System

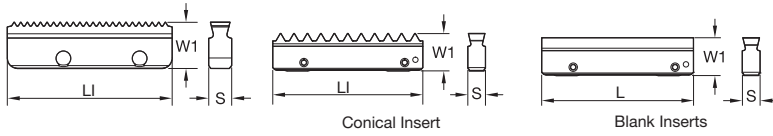
Step 1. Location Screw (2)

Step 2. Clamping Screw

Thread Milling



● first choice
○ alternate choice



P	○	●
M	○	●
K	○	●
N	○	●
S	○	●
H	○	●

■ ISO Profiles • Internal

catalog number	thread pitch mm	LI	W1	S	KC610M	KC635M
TM41N300ISO	3,0	1.614	.392	.187	●	●
TM41N350ISO	3,5	1.614	.392	.187	●	●
TM41N400ISO	4,0	1.614	.392	.187	●	●
TM41N450ISO	4,5	1.614	.392	.187	●	●
TM41N500ISO	5,0	1.614	.392	.187	●	●
TM41N550ISO	5,5	1.614	.392	.187	●	●
TM41N600ISO	6,0	1.614	.392	.187	●	●

■ UN Profiles • Internal

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM41N4UN	4	1.614	.392	.187	●	●
TM41N45UN	4.5	1.614	.392	.187	●	●
TM41N5UN	5	1.614	.392	.187	●	●
TM41N6UN	6	1.614	.392	.187	●	●
TM41N7UN	7	1.614	.392	.187	●	●
TM41N8UN	8	1.614	.392	.187	●	●

■ NPT Profiles • Internal and External

catalog number	TPI	LI	W1	S	KC610M	KC635M
TM41EN8NPT	8	1.614	.392	.187	●	●

■ Blank/Plug-In Insert • Internal and External

catalog number	L	W1	S
TM41ENBLANK	1.614	.392	.187

Thread Milling

■ **TM41 Inserts**

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.

➤ KTMD U Series

Primary Application

With a wide range of insert thread sizes and grades for most materials, KTMD U is a multiflute, single-point, high-productivity, and economical solution for milling threads in deep-hole applications.

Features and Benefits

Smooth Cutting Action

- Reduced load on the cutting edges due to single-point insert.
- Low cutting forces enable fast machining.
- Suitable for hard material applications.
- Wide range of applications, with partial profile insert (60°/55°).
- Pitch range 16–3 TPI (1,5–8mm).

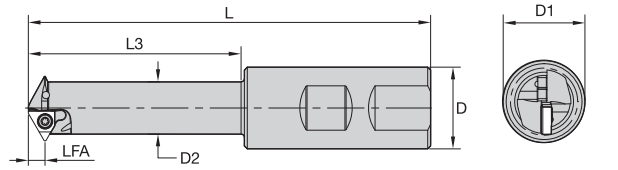
Cost-Effective Solution

- Up to three cutting edges per insert.
- Very high feed per tooth.
- Fast machining.
- Multiflute — up to 7 cutting edges (inserts).

Comprehensive cutter bodies offering:

- Weldon®, steel, carbide, and shell mill cutters available.
- Long overhang capability.
- Through coolant capability.
- Diameter range 0.5–1.2" (2" with shell mills).
- Improved chip evacuation and cooling.



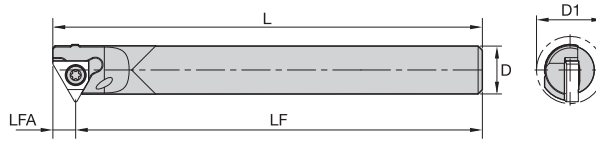


■ Thread Mill • U Style • Weldon® Shank • 1/4" IC

order number	catalog number	D1	D	D2	L	L3	LFA	Z	max RPM	insert screw	Torx driver
5593105	KTMDUWD058L157Z1	.580	.625	.420	3.760	1.780	.210	1	7970	KTMDUSCREW1	DT8
5593106	KTMDUWD081L236Z2	.810	1.000	.630	4.920	2.570	.210	2	6740	KTMDUSCREW1	DT8
5593107	KTMDUWD091L276Z2	.910	1.000	.700	5.380	2.960	.210	2	6380	KTMDUSCREW1	DT8
5593108	KTMDUWD102L315Z3	1.020	1.000	.800	5.790	3.360	.210	3	6000	KTMDUSCREW1	DT8
5593120	KTMDUWD122L374Z4	1.220	1.250	1.010	6.370	3.950	.210	4	5500	KTMDUSCREW1	DT8



toolholder	D1	Thread Application per Toolholder min thread Ø						
		ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
KTMDUWD058L157Z1	.580	M18 x 2.5; M24 x 3.0	M16 x 0.5; M16 x 0.75; M16 x 1.0; M17 x 1.25; M17 x 1.5; M17 x 2.0	3/4-10	5/8-32UN; 5/8-28UN; 5/8-27UN; 11/16-24UN; 11/16-20UN; 11/16-16UN; 3/4-14UNS; 3/4-12UN	3/8-19; 1/2-14; 1-11	11/16-14; 3/4-12; 7/8-11; 3/4-10; 7/8-9; 1-8; 1 1/8-7	TR22 x 3; TR24 x 3
KTMDUWD081L236Z2	.810	M24 x 3.0; M30 x 3.5	M22 x 0.5; M22 x 0.75; M22 x 1.0; M23 x 1.25; M23 x 1.5; M23 x 2.0	1-8; 1 1/8-7; 1 3/8-6	7/8-32UN; 7/8-28UN; 7/8-27UN; 7/8-24UN; 7/8-20UNEF; 1/18UNS; 15/16-16UN; 1-14UNS; 15/16-12UN; 1-10UNS	3/4-14; 1-11	1-26; 1-20; 1-16; 1-12; 1-10; 1 1/8-9; 1-8; 1 1/8-7	(TR26-TR60 x 3)
KTMDUWD091L276Z2	.910	M27 x 3.0; M30 x 3.5; M36 x 4.0	M24 x 0.5; M24 x 0.75; M25 x 1.0; M25 x 1.25; M26 x 1.5; M26 x 2.0; M27 x 2.5	1 1/8-7	1-32UN; 1-28UN; 1-27UN; 1-24UN; 1-20UNEF; 1-18UNS; 1-16UN; 1-14UNS; 1-12UNF; 1 1/8-10UNS; 1 1/8UN	3/4-14; 1-11	1-26; 1-20; 1-16; 1 1/16-12; 1 1/8-9; 1 1/8-7	-
KTMDUWD102L315Z3	1.020	M30 x 3.5; M36 x 4.0	M27 x 0.5; M27 x 0.75; M28 x 1.0; M28 x 1.25; M28 x 1.5; M29 x 2.0; M30 x 2.5; M30 x 3.0	1 1/4-7; 1 3/8-6	1 1/8-28UN; 1 1/8-24UNS; 1 1/8-20UN; 1 1/8-18UNEF; 1 1/8-16UN; 1 1/8-14UNS; 1 1/8-12UNF; 1 1/4-10UNS; 1 3/16-8UN	7/8-14; 1-11	1 1/8-26; 1 1/8-20; 1 3/8-16; 1 3/8-12; 1 3/16-8; 1 1/4-7	-
KTMDUWD122L374Z4	1.220	M36 x 4.0	M32 x 0.5; M32 x 0.75; M33 x 1.0; M33 x 1.25; M33 x 1.5; M34 x 2.0; M34 x 2.5; M35 x 3.0; M36 x 3.5	1 1/2-6	1 5/16-28UN; 1 3/8-24UNS; 1 5/16-20UN; 1 5/16-18UNEF; 1 5/16-16UN; 1 3/8-14UNS; 1 3/8-12UNF; 1 3/8-10UNS; 1 3/8-8UN	1 1/8-11	1 3/8-26; 1 3/8-20; 1 3/8-16; 1 3/8-12; 1 7/16-8	-



■ Thread Mill • U Style • Carbide Cylindrical Shank • 1/4" IC

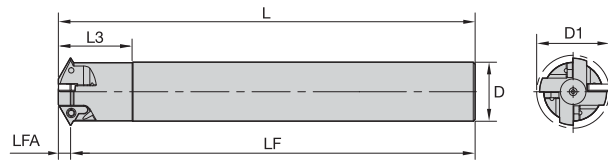
order number	catalog number	D1	D	L	LF	LFA	Z	max RPM	insert screw	Torx driver
5593125	KTMDUCD058L236Z1	.600	.438	4.720	4.510	.210	1	7970	KTMDUSCREW1	DT8
5593126	KTMDUCD068L256Z2	.680	.563	5.350	5.140	.210	2	7380	KTMDUSCREW1	DT8
5593127	KTMDUCD081L315Z2	.810	.625	5.300	5.090	.210	2	6740	KTMDUSCREW1	DT8



toolholder	D1	Thread Application per Toolholder						
		ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°	Trapez
KTMDUCD058L236Z1	.600	M18 x 2.5; M24 x 3.0	M16 x 0.5; M16 x 0.75; M16 x 1.0; M17 x 1.25; M17 x 1.5; M17 x 2.0	3/4-10; 7/8-9; 1-8	5/8-32UN; 5/8-28UN; 5/8-27UNS; 11/16-28UNEF; 11/16-20UN; 11/16-16UN; 3/4-14UNS; 11/16-12UN	1/2-14; 1-11	11/16-26; 11/16-20; 11/16-16; 11/16-14; 3/4-12; 7/8-11; 3/4-10; 7/8-9	TR22 x 3; TR24 x 3
KTMDUCD068L256Z2	.680	M20 x 2.5; M22 x 2.5	M21 x 2.0	7/8-9	7/8-10UNS; 13/16/12UN	-	-	-
KTMDUCD081L315Z2	.810	M24 x 3.0; M30 x 3.5	M22 x 0.5; M22 x 0.75; M22 x 1.0; M23 x 1.25; M23 x 1.5; M23 x 2.0	1-8; 1 1/8-7; 1 3/8-6	7/8-32UN; 7/8-28UN; 7/8-27UNS; 7/8-24UNS; 7/8-20UNEF; 1-18UNS; 15-16UN; 1-14UNS; 15/16-12UN; 1-10UNS	3/4-14; 1-11	1-26; 1-20; 1-16; 1-12; 1-10; 1 1/8-9; 1-8; 1 1/8-7	(TR26-TR60) x 3



Thread Milling

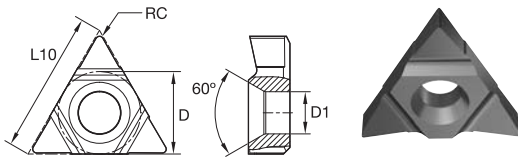


■ Thread Mill • U Style • Steel Cylindrical Shank • 1/4" IC

order number	catalog number	D1	D	L	L3	LF	LFA	Z	max RPM	insert screw	Torx driver
5593132	KTMDUED091L300Z2	.910	.625	5.600	3.210	5.390	.210	2	6340	KTMDUSCREW1	DT8
5593133	KTMDUED102L415Z3	1.020	.750	7.200	4.360	6.990	.210	3	6000	KTMDUSCREW1	DT8
5593135	KTMDUED122L452Z4	1.220	1.000	7.700	4.730	7.490	.210	4	5500	KTMDUSCREW1	DT8



toolholder	D1	Thread Application per Toolholder min thread Ø					
		ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°
KTMDUED091L300Z2	.910	M27 x 3.0; M30 x 3.5; M36 x 4.0	M24 x 0.5; M25 x 0.75; M25 x 1.0; M25 x 1.25 M26 x 1.5; M26 x 2.0; M27 x 2.5	1 1/8-7	1-32UN; 1-28UN; 1-27UN; 1-24UNS; 1-20UNEF; 1-18UNS; 1-16UN; 1-14UNS; 1 1/16-12UN; 1 1/8-10UNS; 1 1/8-8UN	3/4-14; 1-11	1-26; 1-20; 1 1/8-16; 1 1/8-12; 1 1/8-9; 1 1/8-7
KTMDUED102L415Z3	1.020	M30 x 3.5; M36 x 4.0	M27 x 0.5; M27 x 0.75; M28 x 1.0; M28 x 1.25; M28 x 1.5; M29 x 2.0; M30 x 2.5; M30 x 3.0	1 1/7-7; 1 3/8-6	1 1/8-28UN; 1 1/8-24UNS; 1 1/8-20UN; 1 1/8-18UNEF; 1 1/8-16UN; 1 1/8-14UNS; 1 1/8-16UN; 1 1/8-14UNS; 1 1/8-12UNEF; 1 3/8-10UNS; 1 7/16-8UN	3/4-14; 1-11	1 1/8-26; 1 1/8-20; 1 3/16-16; 1 3/16-12; 1 3/16-8; 1 1/4-7
KTMDUED122L452Z4	1.220	M36 x 4.0	M32 x 0.5; M32 x 0.75; M33 x 1.0; M33 x 1.25; M33 x 1.5; M34 x 2.0; M34 x 2.5; M35 x 3.0; M36 x 3.5	1 1/2-6	1 5/16-28UN; 1 1/2-24UNS; 1 1/2-20UN; 1 1/2-18UNEF; 1 3/8-16UN; 1 3/8-14UNS; 1 3/8-12UNEF; 1 3/8-10UNS; 1 7/16-8UN	1 1/8-11	15/16-26; 15-16-20; 1 3/8-16; 1 3/8-12; 1 7/16-8



P	●	○
M	○	●
K	●	○
N	●	○
S	○	●
H	○	●

● first choice
○ alternate choice

■ **KTMD • 1/4" IC • Partial Profile 60°**

catalog number	Thread Pitch min	Thread Pitch max	TPI min	TPI max	D1	D	L10	RC	KC610M	KC635M
KTMDU11L0515N60	1	2	16	48	.128	.250	.433	.002	●	●
KTMDU11L2025N60	2	3	9	12	.103	.250	.433	.004	●	●
KTMDU11L1520N60	2	2	12	16	.128	.250	.433	.002	●	●
KTMDU11L2540N60	3	4	6	10	.128	.250	.433	.006	●	●
KTMDU11L2525N60	3	3	10	10	.082	.250	.433	.004	●	●

NOTE: KTMDU11L2525N60 can only be used with holder KTMDUCD17L065Z2.

■ **KTMD • 1/4" IC • Partial Profile 55°**

catalog number	TPI min	TPI max	D1	D	L10	RC	KC610M	KC635M
KTMDU11L1107N55	7	11	.128	.250	.433	.009	●	●
KTMDU11L1612N55	12	16	.128	.250	.433	.003	●	●
KTMDU11L4816N55	16	48	.128	.250	.433	.004	●	●

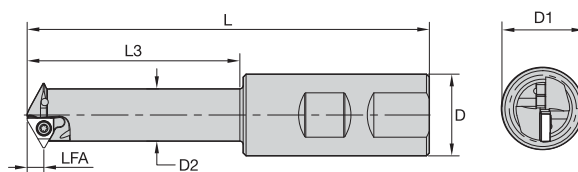


Thread Milling

■ **KTMD • 1/4" IC**

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.

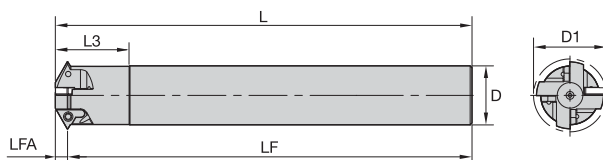


■ Thread Mill • U Style • Weldon® Shank • 3/8" IC

order number	catalog number	D1	D	D2	L	L3	LFA	Z	max RPM	insert screw	Torx Plus driver
5593109	KTMDUWD144L374Z3	1.440	1.250	1.140	6.450	4.060	.320	3	3680	KTMDUSCREW2	DT31P
5593121	KTMDUWD165L472Z4	1.660	1.500	1.350	7.820	5.040	.320	4	3430	KTMDUSCREW2	DT31P



Thread Application per Toolholder							
min thread Ø							
toolholder	D1	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°
KTMDUWD144L374Z3	1.440	M42 x 4.5; M48 x 5.0; M56 x 5.5; M64 x 6.0	M39 x 1.5; M39 x 2.0; M40 x 2.5; M41 x 3.0; M42 x 3.5; M42 x 4.0	1 3/4-5; 2-4.5; 2 1/2-4	1 9/16UN; 1 5/8UNS; 1 9/16-12UN; 1 5/8-10UNS; 1 5/8-8UN; 1 5/8-6UN	1 1/4-11	1 5/8-16; 1 5/8-12; 1 5/8-8; 2 1/4-6; 1 3/4-5
KTMDUWD165L472Z4	1.660	M48 x 5.0; M56 x 5.5; M64 x 6.0	M45 x 1.5; M45 x 2.0; M46 x 2.5; M48 x 3.0; M48 x 3.5; M48x4.0	2-4.5; 2 1/2-4	1 3/4-16UN; 1 3/4-14UNS; 1 13/16-12UN; 1 13/16-8UN; 1 15/16-6UN	1 1/2-11	1 7/8-16; 1 7/8-12; 1 7/8-8; 1 7/8-6; 2-4.5



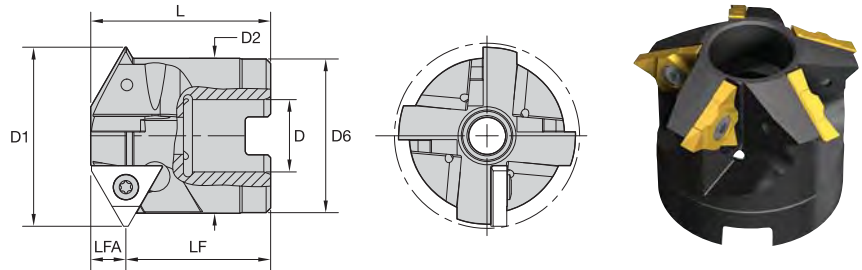
■ Thread Mill • U Style • Steel Cylindrical Shank • 3/8" IC

order number	catalog number	D1	D	L	L3	LF	LFA	Z	max RPM	insert screw	Torx Plus driver
5593134	KTMDUED144L512Z3	1.440	1.000	8.350	5.430	8.040	.310	3	3680	KTMDUSCREW2	DT31P



Thread Application per Toolholder							
min thread Ø							
toolholder	D1	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP(G)	Partial 55°
KTMDUED144L512Z3	1.4400	M42.5 x 4.5; M48 x 5.0; M56 x 5.5; M64 x 6.0	M39 x 1.5; M40 x 2.5; M41 x 3.0; M42 x 3.5; M42 x 4.0	1 3/4-5; 2-4.5; 2 1/2-4	1 9/16-16UN; 1 5/8-14UNS; 1 9/16-12UN; 1 5/8-10UNS; 1 5/8-8UN; 1 5/8-6UN	1 1/4-11	1 5/8-16; 1 5/8-12; 1 5/8-8; 2 1/4-6; 1 3/4-5

Thread Milling

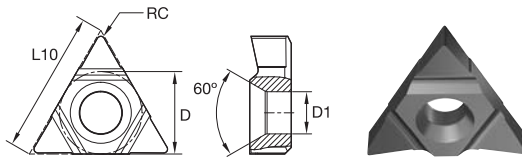


■ Thread Mill • U Style • Shell Mill • 3/8" IC

order number	catalog number	D1	D	D2	D6	L	LF	LFA	Z	max RPM	insert screw	Torx Plus driver
5593139	KTMDUSD169L158Z4	1.653	.500	1.350	1.339	1.580	1.268	.310	4	3430	KTMDUSCREW2	DT3IP
5593140	KTMDUSD209L158Z5	2.046	.750	1.756	1.740	1.580	1.268	.299	5	3210	KTMDUSCREW2	DT3IP



Thread Application per Toolholder min thread Ø							
toolholder	D1	ISO (coarse)	ISO (fine)	UNC	UN/UNF/UNEF/UNS	BSP (G)	Partial 55°
KTMDUSD169L158Z4	1.6530	M56 x 5.5; M64 x 6.0	M45 x 1.5; M48 x 2.0; M48 x 3.0; M48 x 4.0	2-4.5; 2 1/2-4	1 13/16-16UN; 1 7/8-14UNS; 1 13/16-12UN; 1 7/8-10UNS; 1 7/8-8UN; 1 15/16-6UN	1 1/2-11	1 7/8-16; 1 7/8-12; 1 7/8-8; 2 1/8-6; 2-4.5; 2 1/4-4
KTMDUSD209L158Z5	2.0460	M64 x 6.0	M55 x 1.5; M56 x 2.0; M58 x 3.0; M58 x 4.0	2 1/2-4	2 1/4-16UN; 2 1/4-14UNS; 3 1/4-12UN; 2 1/4-10UNS; 2 1/4-8UN; 2 3/8-6UN	2-11	2 1/4-16; 2 1/4-12; 3/8-8; 2 3/8-6; 3-5; 3 1/2-4.5



● first choice
○ alternate choice

P	●	○
M	○	●
K	●	○
N	●	○
S	○	●
H	○	●

■ **KTMD • 3/8" IC • Partial Profile 60°**

catalog number	Thread Pitch min	Thread Pitch max	TPI min	TPI max	D1	D	L10	RC	KC610M	KC635M
KTMDU16L1520N60	2	2	12	16	.152	.375	.630	.002	●	●
KTMDU16L2535N60	3	4	7	10	.152	.375	.630	.006	●	●
KTMDU16L4060N60	4	6	4	6	.152	.375	.630	.010	●	●

■ **KTMD • 3/8" IC • Partial Profile 55°**

catalog number	TPI min	TPI max	D1	D	L10	RC	KC610M	KC635M
KTMDU16L0604N55	5	6	.152	.375	.630	.011	●	●
KTMDU16L1107N55	7	11	.152	.375	.630	.009	●	●
KTMDU16L1612N55	12	16	.152	.375	.630	.003	●	-



Thread Milling

■ KTMD • 3/8" IC

materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.

➤ TMS Series

Primary Application

The TMS series, a Kennametal Thread Milling System, is a versatile thread milling product with proven solutions. This tool is specially designed for internal and external threading on most types of workpiece materials. The cutter body utilizes inserts with various profiles and pitches.

Features and Benefits

Proven solution and versatile indexable thread milling product family.

Comprehensive Offering of Cutter Bodies

- Standard Weldon®, Mini Weldon, long-thread Weldon, conical shank, and double-sided Weldon cutters are available.
- One tool is used for both right- and left-hand threads.
- All cutters have through coolant capability.

Double-Sided Weldon Cutter Bodies

- Provides faster machining capabilities.
- Good surface finish.

Inserts:

- Insert grades for most workpiece materials.
- Inserts for ISO, UN, BSPT, and NPT thread profiles.
- Indexable inserts.
- Economical and cost effective.
- Versatile application.



Internal Threads • Insert and Holder Recommendations

thread	tap hole fl (in)	indexable insert	largest milling cutter
M11 x 0,75	.401	STN10075ISO-I	9X1R .. STN10M
M12	.398	STN10175ISO-I-C	9X1R015B20-STN10C
M12 x 1,00	.430	STN10100ISO-I	9X1R .. STN10M
M14	.466	STN11200ISO-I-C	11X1R .. STN11N
M16	.545	STN11200ISO-I-C	11X1R .. STN11N
M20	.681	STN16250ISO-I-C	15X1R020B16-STN16C
M20 x 1,50	.724	STN11150ISO-I	11X1R .. STN11N
M20 x 1,00	.745	STN11100ISO-I	11X1R .. STN11N
M24	.817	STN22300ISO-I-C	18X1R030B25-STN22C
M24 x 2,00	.860	STN16200ISO-I	17X1R022B16-STN16N
M24 x 1,50	.881	STN11150ISO-I	11X1R .. STN11N
M24 x 1,50	.881	STN16150ISO-I	17X1R022B16-STN16N
M27	.935	STN22300ISO-I-C	18X1R030B25-STN22C
M30	1.032	STN27350ISO-I-C	25X1R040B25-STN27C
M30 x 2,00	1.096	STN16200ISO-I	22X1R025B25-STN16L
M33	1.150	STN27350ISO-I-C	25X1R040B25-STN27C
M33 x 2,00	1.214	STN16200ISO-I	22X1R025B25-STN16L
M33 x 1,50	1.254	STN16150ISO-I	22X1R025B25-STN16L
M35 x 1,50	1.314	STN16150ISO-I	22X1R025B25-STN16L
M36 x 2,00	1.332	STN16200ISO-I	22X1R025B25-STN16L
M42 x 2,00	1.569	STN27200ISO-I	30X1R052B25-STN27N
M45 x 2,00	1.687	STN27200ISO-I	37X1R .. STN27N or L
M48 x 2,00	1.805	STN27200ISO-I	37X1R058B32-STN27N or L
M55 x 2,00	2.080	STN27200ISO-I	37X1R .. STN27N or L
M56 x 2,00	2.120	STN27200ISO-I	37X1R .. STN27N or L
M72 x 2,00	2.750	STN27200ISO-I	37X1R .. STN27N or L

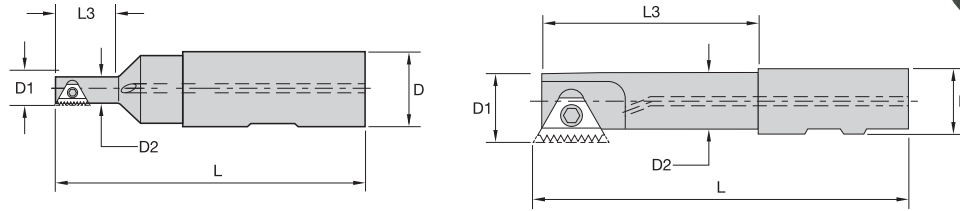
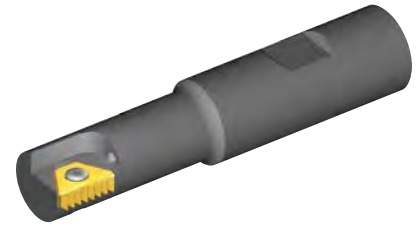
Tool Selection • UN Internal Threads
Internal Threads • Insert and Holder Recommendations

thread	tap hole fl (in)	indexable insert	largest milling cutter
9/16 - 18UNF	.502	STN1018UN-I	9X1R .. STN10M
5/8 - 24UNEF	.580	STN1124UN-I	11X1R .. STN11N
5/8 - 18UNF	.565	STN1118UN-I	11X1R .. STN11N
3/4 - 20UNEF	.696	STN1120UN-I	11X1R .. STN11N
3/4 - 16UNF	.682	STN1116UN-I	11X1R .. STN11N
7/8 - 14UNF	.798	STN1114UN-I	11X1R .. STN11N
1 - 16UN	.932	STN1616UN-I	18X1R030B25-STN22C
1 - 12UNF	.910	STN1612UN-I	17X1R .. STN16N
1 1/8 - 12UNF	1.035	STN1612UN-I	22X1R .. STN16L
1 1/4 - 12UNF	1.160	STN1612UN-I	22X1R .. STN16L
1 3/8 - 12UNF	1.285	STN1612UN-I	22X1R .. STN16L

Whitworth Pipe Thread (Internal) to DIN 259

thread	tap hole fl (in)	indexable insert	largest milling cutter
R 5/8	.811	STN1614BSW	17X1R022B16-STN16N
R 3/4	.950	STN1614BSW	20X1R043B20-STN16N
R 7/8	1.098	STN1614BSW	22X1R025B25-STN16L
R 1	1.271	STN1611BSW	22X1R025B25-STN16L

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



■ Thread Mill • Mini

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx driver
1132616	9X1R012B12STN10M	.354	.472	.268	2.717	.472	1	39935	STN10	SN7T	DT7
1191395	9X1R017B20STN10M	.354	.787	.280	3.307	.669	1	39935	STN10	SN7T	DT7

■ Thread Mill • Normal Shank • STN11

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx driver
1294964	11X1R012B12STN11N	.453	.472	.350	2.756	.472	1	36825	STN11	SN2TPKG	DT8
1130302	11X1R020B20STN11N	.453	.787	.350	3.347	.787	1	36825	STN11	SN2TPKG	DT8

■ Thread Mills • Normal Shank • STN16

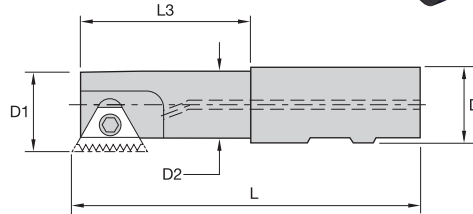
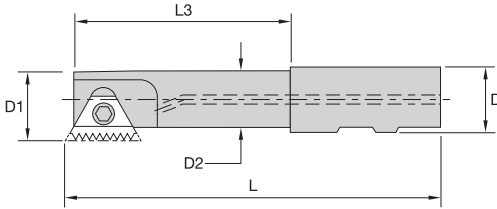
order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx driver
1130686	17X1R022B16STN16N	.669	.630	.535	3.543	.866	1	25750	STN16	SN3TM	DT10
1130740	20X1R043B20STN16N	.787	.787	.654	3.740	1.693	1	23330	STN16	SN3TPKG	DT10

■ Thread Mills • Normal Shank • STN27

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx wrench
1130969	30X1R052B25STN27N	1.181	.984	.945	4.331	2.047	1	12900	STN27	SN5TM	TT25
1131069	37X1R058B32STN27N	1.457	1.260	1.063	4.724	2.283	1	11600	STN27	SN5TM	TT25

Thread Milling

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



■ Thread Mills • Normal Shank • STN.38

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx wrench
1178986	35X1R055B32STNB38N	1.378	1.260	1.221	4.528	2.165	1	11000	STNB38	SM7TPKG	TT30

■ Thread Mill • Long Shank • STN16

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx driver
1130837	22X1R025B25STN16L	.866	.984	.732	4.921	.984	1	22230	STN16	SN3TPKG	DT10

■ Thread Mill • Long Shank • STN27

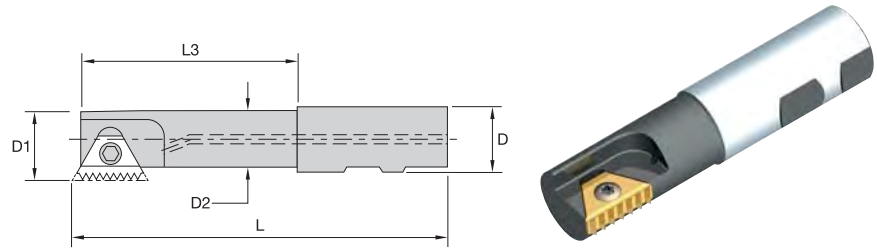
order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx wrench
1130977	30X1R092B25STN27L	1.181	.984	.945	5.906	3.622	1	12900	STN27	SN5TM	TT25
1131086	37X1R098B32STN27L	1.457	1.260	1.221	6.299	3.858	1	11600	STN27	SN5TM	TT25

■ Thread Mill • Long Shank • STN38

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1	insert screw	Torx wrench
1566071	46X1R100B40STNB38L	1.811	1.575	1.496	6.693	3.937	1	10000	STNB38	SM7TPKG	TT30

Thread Milling

- Thread milling system.

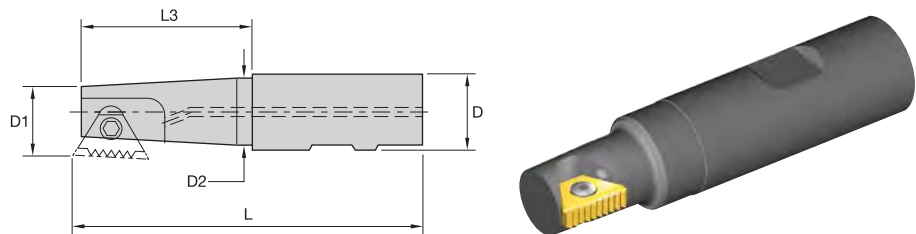


■ Thread Mill • Internal Coarse Pitch Thread

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1
1176964	15X1R020B16STN16C	.610	.630	.480	3.583	—	1	26550	STN16__C
1176967	25X1R040B25STN27C	.984	.984	.748	3.858	1.575	1	22000	STN27__C

■ Spare Parts

D1	insert screw	Nm	Torx driver	Torx wrench
.610	SN3TPKG	2,3	DT10	—
.984	SN5TM	5,0	—	TT25



■ Thread Mill • Tapered Shank • Right Hand

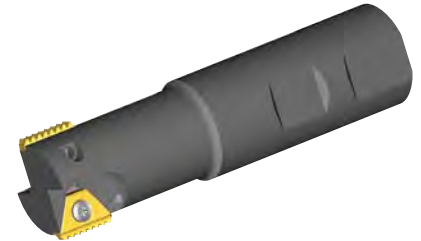
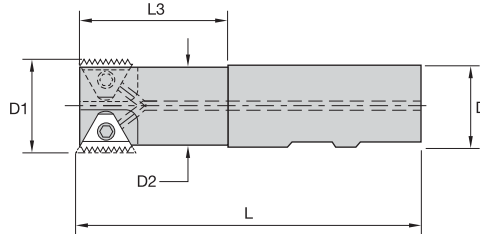
order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1
1176970	10X1R015B20STN11T	.390	.787	.291	3.032	.610	1	36500	STN11
1132781	15X1R022B16STN16T	.610	.630	.492	3.150	.866	1	26550	STN16
1135826	19X1R023B20STN16T	.748	.787	.591	3.347	.906	1	24350	STN16

■ Spare Parts

D1	insert screw	Nm	Torx driver
.390	SN2TPKG	1,7	DT8
.610	SN3TPKG	2,3	DT10
.748	SN3TM	2,3	DT10

Thread Milling

- Cutting diameter ranges from .670–1.654".
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

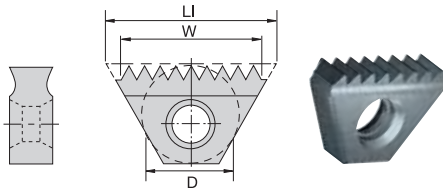


■ **Thread Mill • Double Insert**

order number	catalog number	D1	D	D2	L	L3	Z	max RPM	insert 1
1280494	K067TM2RW075STN11D	.670	.750	.537	3.420	1.340	2	30275	STN11
1124019	26X2R043B25STN16D	1.024	.984	.886	3.937	1.693	2	20530	STN16
1280517	K102TM2RW100STN16D	1.024	1.000	.891	4.020	1.690	2	20530	STN16
1131118	42X2R045B32STN27D	1.654	1.260	1.417	4.724	1.772	2	10900	STN27
1280598	K165TM2RW125STN27D	1.654	1.250	1.417	4.650	1.770	2	10900	STN27

■ **Spare Parts**

D1	insert screw	Nm	Torx driver	Torx wrench
.670	SN2TPKG	2,0	DT8	—
1.024	SN3TPKG	2,3	DT10	—
1.654	SN5TM	5,0	—	TT25



● first choice
○ alternate choice

P	●	○	○
M	○	●	●
K	●	○	○
N	●	○	○
S	○	●	●
H	○	●	●

■ Internal • UN Thread • Unified Thread Standard Style

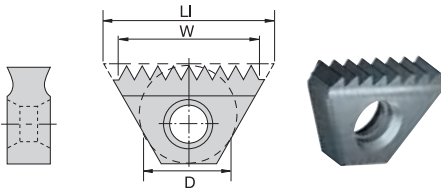
catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN1612UNI	12	.375	.630	.580	7	-	-	●
STN1114UNI	14	.250	.430	.360	5	-	-	●
STN1614UNI	14	.375	.630	.570	8	-	-	●
STN1116UNI	16	.250	.430	.380	6	-	-	●
STN1616UNI	16	.375	.630	.560	9	●	-	-
STN1018UNI	18	.236	.410	.330	6	-	-	●
STN1118UNI	18	.250	.430	.390	7	-	-	●
STN1120UNI	20	.250	.430	.400	8	-	-	●
STN1020UNI	20	.236	.410	.350	7	-	-	●
STN1124UNI	24	.250	.430	.380	9	-	-	●
STN1624UNI	24	.375	.630	.580	14	-	-	●
STN1627UNI	27	.375	.630	.560	15	-	-	●
STN1632UNI	32	.375	.630	.590	9	-	-	●

■ External • UN Thread • Unified Thread Standard Style

catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN1118UNE	18	1/4	.430	.390	7	-	-	●
STN1614UNE	14	3/8	.630	.570	8	-	-	●
STN1616UNE	16	3/8	.630	.560	9	-	-	●
STN1620UNE	20	3/8	.630	.550	11	-	-	●
STN1624UNE	24	3/8	.630	.580	14	-	-	●



Thread Milling



● first choice
○ alternate choice

P	●	○	○
M	○	●	●
K	●	○	○
N	●	○	○
S	○	●	●
H	○	○	○

■ Internal • ISO Thread • ISO Metric Screw Thread Style

catalog number	thread pitch mm	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN10075ISOI	0,750	.236	.410	.380	13	-	-	●
STN10100ISOI	1,000	.236	.410	.350	9	-	●	●
STN10125ISOI	1,250	.236	.410	.340	7	-	-	●
STN10150ISOI	1,500	.236	.410	.350	6	-	-	●
STN11100ISOI	1,000	.250	.430	.390	10	-	-	●
STN11150ISOI	1,500	.250	.430	.410	7	-	-	●
STN16100ISOI	1,000	.375	.630	.590	15	-	-	●
STN16150ISOI	1,500	.375	.630	.590	10	-	-	●
STN16175ISOI	1,750	.375	.630	.550	8	-	-	●
STN16200ISOI	2,000	.375	.630	.550	7	-	-	●

■ External • ISO Thread • ISO Metric Screw Thread Style • Coarse

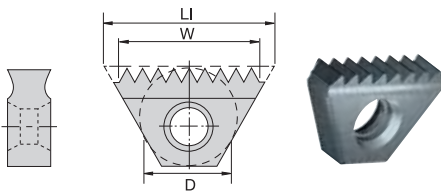
catalog number	thread pitch mm	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN22300ISOIC	3,000	.500	.870	.700	6	●	-	-
STN27350ISOIC	3,500	.625	1.060	.960	7	●	-	-

■ External • ISO Thread • ISO Metric Screw Thread Style

catalog number	thread pitch mm	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN16150ISOE	1,500	.375	.630	.590	10	●	●	-
STN27200ISOE	2,000	.625	1.060	.940	12	●	-	-



Thread Milling



● first choice
○ alternate choice

P	●	○	○
M	○	●	●
K	●	○	○
N	●	○	○
S	○	●	●
H	○	●	●

■ BSW Thread • British Standard Whitworth Thread Style

catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN1119BSW	19	1/4	.430	.370	7	-	-	●
STN1614BSW	14	3/8	.630	.570	8	●	-	●
STN1612BSW	12	3/8	.630	.580	7	-	-	●
STN1611BSW	11	3/8	.630	.550	6	●	-	●
STN2711BSW	11	5/8	1.060	.910	10	-	-	●

■ NPS Thread • Nominal Pipe Size Style

catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN16115NPS	11.5	.375	.630	.520	6	-	-	●
STN1614NPS	14	.375	.630	.570	8	-	-	●

■ NPT Thread • National Pipe Thread Taper Style

catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN1118NPT	18	.250	.430	.390	7	-	-	●
STN16115NPT	11.5	.375	.630	.520	6	-	-	●
STN1614NPT	14	.375	.630	.570	8	-	-	●

■ NPTF Thread • ISO Metric Screw Thread Style

catalog number	TPI	D	LI	W	number of teeth	KC610M	KC620M	KC635M
STN1118NPTF	18	.250	.430	.390	7	-	-	●
STN16115NPTF	11.5	.375	.630	.520	6	-	-	●
STN1614NPTF	14	.375	.630	.570	8	-	-	●

NOTE: NPTF = Dry Seal
NPT and NPTF inserts possess right- and left-hand edges.
Must order left-hand bar for left-hand inserts.

Thread Milling

■ STN Series

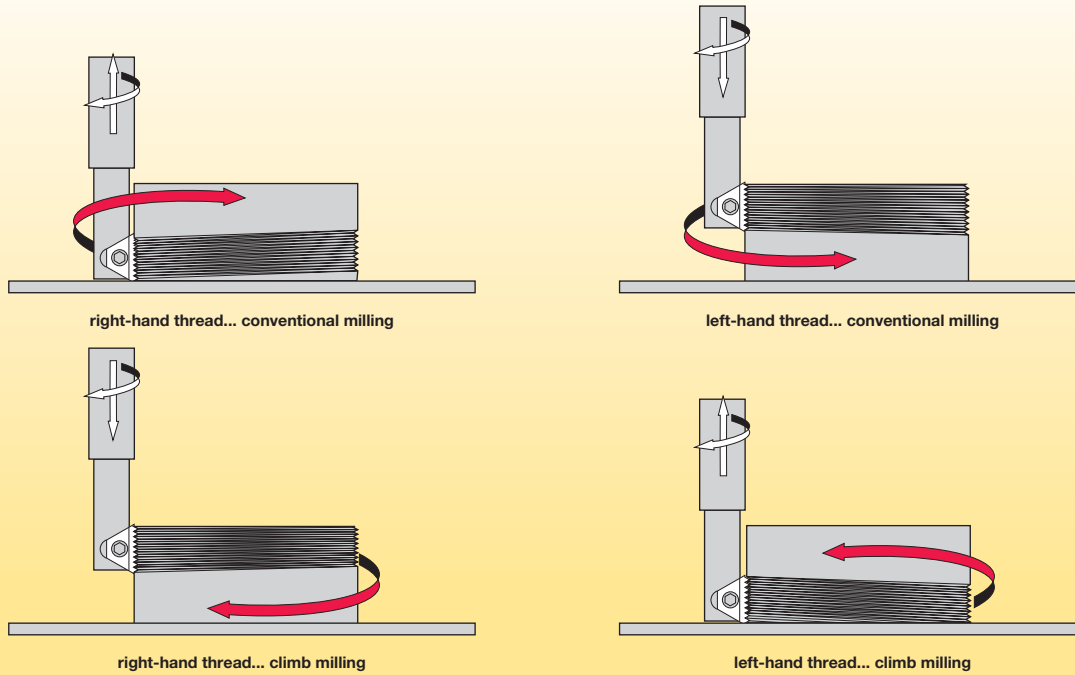
materials	Brinell	surface speeds		indexable inserts
		KC610M	KC635M	
steel	HB			feed fz (IPT)
P1	125	325-675	290-590	.002-.008
P2	180	290-550	290-520	.002-.008
P3	225	200-425	225-375	.002-.008
P4	250	250-490	250-500	.002-.008
P5	275	250-425	250-500	.002-.006
P6	325	225-350	200-325	.002-.004
stainless steel				
M1	180	325-550	375-590	.002-.004
M2	250	225-450	325-450	.002-.004
M3	330	225-375	325-375	.002-.004
cast iron				
K1	180	200-425	325-450	.001-.003
K2	220	200-390	250-325	.002-.006
K3	260	160-290	200-275	.002-.004
non-ferrous				
N1	60-100	325-820	-	.002-.010
high-temp alloys				
S1	200	65-140	65-130	.002-.004
S2	250	65-90	65-90	.001-.002
S3	280	50-65	50-65	.001-.002
S4	350	30-50	30-50	.001-.002
hardened steel				
H1	55HRc	65-140	65-140	.0004-.001

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: <http://www.kennametal.com/en/resources/software.html>.

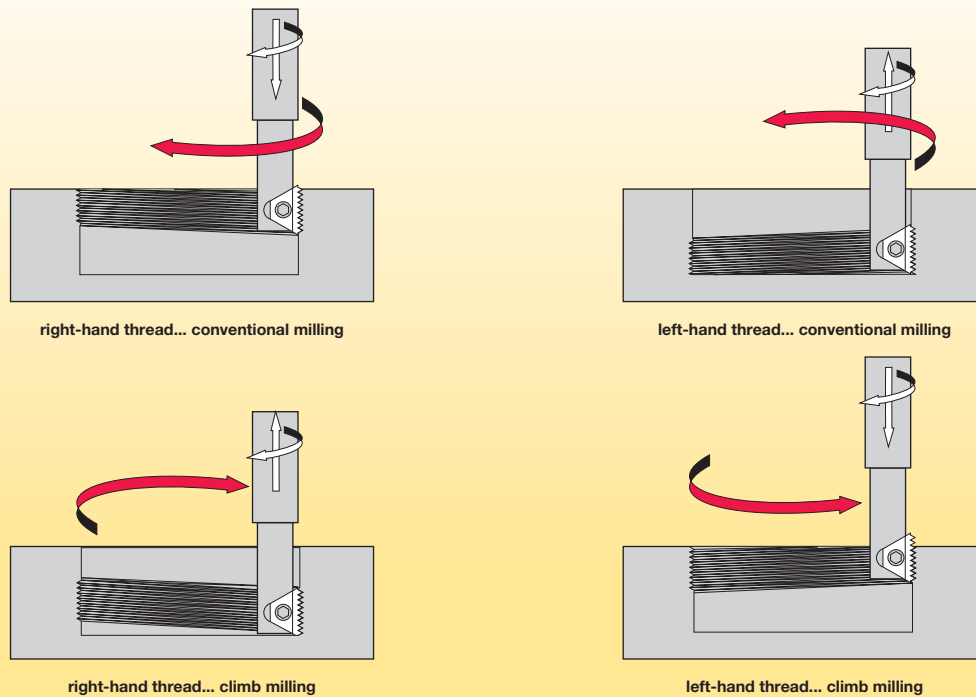
The Following Are a Few Thread Milling Methods (Work Directions)

NOTE: Climb milling results in lower cutting forces, better chip development, higher thread surface quality, and longer insert life. Therefore, it should be used whenever possible. But, in the case of some hardened materials or when milling certain difficult-to-machine exotic materials, conventional milling may be preferred.

■ Methods of External Thread Milling



■ Methods of Internal Thread Milling



■ Application Guidelines

- All thread milling inserts are full profile or cresting type.
- Inserts are designed to mill full thread depth in one revolution or pass.
- When machining difficult materials, two passes may be desired. A 60% thread depth on the first pass and a 40% thread depth on the second pass is recommended.
- Thread relief grooves in blind holes are not necessary.
- Thread milling large parts requires considerably less horsepower compared to other threading methods.
- Thread milling produces short chips compared to stringy chips of other threading methods.
- One holder is suitable for many different thread pitches.
- PVD-coated inserts provide maximum tool life for a wide variety of materials.

■ Minimum Bore Diameters

UN-ISO-BSW

cutter	TPI	48	32	24	20	16	12	10	8	7	6	5.5	5	4.5	4.5	4	4
	pitch mm	0,5	0,75	1,0	1,25	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	-	6,0	-
	cutter diameter (D1)	minimum bore diameter (D) (inches)															
K035TM1RW050-STN10	.35	.374	.394	.421	.449												
K045TM1RW050-STN11N	.45	.472	.492	.520	.547	.571											
K049TM1RW037LT11S	.49	.512	.531	.559	.587	.610											
K061TM1RW062-STN16T	.61	.630	.650	.667	.705	.728	.768										
K067TM2RW075-STN11D	.67	.693	.717	.748	.772	.787	.827										
K075TM1RW075-STN16T	.75	.776	.803	.827	.850	.866	.906										
K079TM1RW075-STN16N	.79	.815	.843	.866	.890	.906	.945										
K087TM1RW100-STN16L	.87	.893	.921	.945	.969	.984	1.024										
K102TM2RW100-STN16D	1.02	1.051	1.079	1.102	1.130	1.154	1.193										
K118TM1RW100-STN27N	1.18	1.209	1.236	1.260	1.291	1.319	1.362	1.441	1.535	1.654	1.772	1.890					
K146TM1RW125-STN27N	1.46	1.496	1.520	1.555	1.591	1.614	1.654	1.732	1.830	1.929	2.047	2.185					
K165TM2RW125-STN27D	1.65	1.701	1.724	1.772	1.811	1.831	1.866	1.929	2.047	2.146	2.268	2.401					
-	1.38 (UN)	-	-	-	-	-	-	-	-	-	1.969	-	1.843	-	1.756	-	2.228
-	1.38 (ISO)	-	-	-	-	-	-	-	-	-	1.969	2.102	1.673	1.969	-	2.264	-
-	1.38 (BSW)	-	-	-	-	-	-	-	-	-	1.961	-	1.831	-	1.866	-	-

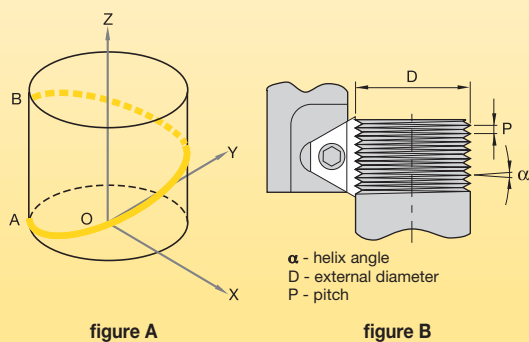
■ Cutting Data Recommendation

workpiece material	Cutting Speed – vc SFM	feed rate per revolution (inch)
	KC635M	
carbon steels <187 HB	300–700	.004–.008
carbon steels 187–220 HB	300–500	.004–.006
alloy steel 200–250 HB	200–425	.004–.006
alloy steel 250–325 HB	150–300	.004–.006
stainless steel, austenitic <210 HB	300–450	.004–.006
stainless steel, martensitic <321 HB	250–350	.002–.006
stainless steel, ferritic <245 HB	350–550	.002–.004
cast steel <140 HB	350–550	.002–.006
cast steel 220–302 HB	225–425	.002–.004
titanium alloys	200–400	.001–.003
high-temperature (nickel and iron base)	75–150	.001–.002
high-temperature (cobalt base)	50–100	.001–.002
cast iron	250–350	.002–.006
malleable iron	250–400	.001–.003

NOTE: Applications in this area may be machined with special inserts and cutter bodies. Quoted on request.

Understanding Thread Milling

In order to perform a thread milling operation, a milling machine with three-axis control, capable of helical interpolation, is required. Helical interpolation is a CNC function producing tool movement along a helical path. This helical travel combines circular movement in one plane with a simultaneous linear motion in a plane perpendicular to the first. For example, the path from point A to point B (figure A) on the envelope of the cylinder combines a circular movement in the X and Y plane with a linear movement in the Z direction.



On most CNC systems, this function can be executed in two different ways:

- G02: helical interpolation in a clockwise direction
- G03: helical interpolation in a counterclockwise direction

The thread milling operation (figure B) consists of circular rotation of the tool about its own axis together with an orbiting motion along the bore or workpiece circumference.

During one such orbit, the tool will move vertically one pitch length. These movements, combined with the insert geometry, create the required thread form.

There are two acceptable ways of approaching the workpiece with the tool to initiate production of the thread:

1. Along a tangential arc.
2. Along a tangential straight line.

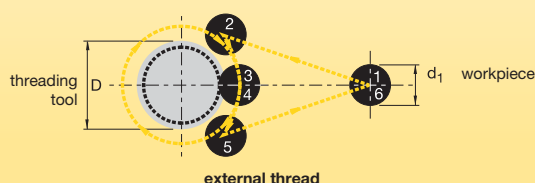
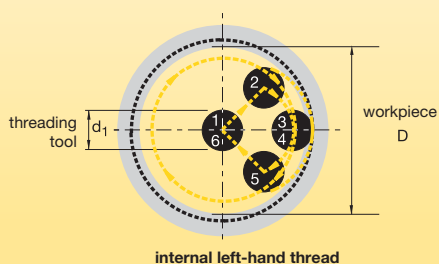
NOTE: Climb milling is preferred.

Tangential Approach (Arc)

With this method, the tool enters and exits the workpiece smoothly. No marks are left on the workpiece and there is no vibration, even with harder materials.

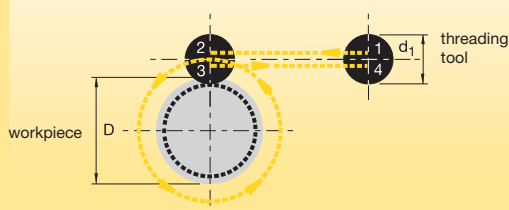
Although it requires slightly more complex programming, this is the method recommended for machining the highest quality threads.

1-2:	rapid approach
2-3:	tool entry along tangential arc with simultaneous feed along Z-axis
3-4:	helical movement during one full orbit (360°)
4-5:	tool exit along tangential arc with continuing feed along the Z-axis
5-6:	rapid return



Tangential Approach (Line)

This method is very simple and has all of the advantages of the tangential arc method. However, it is applicable only to external threads.

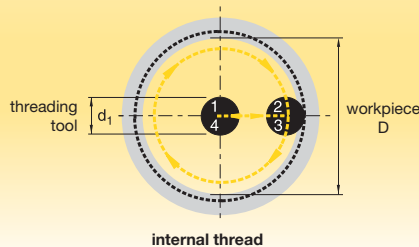


1-2:	radial entry with simultaneous feed along the Z-axis
2-3:	helical movement during one full orbit (360°)
3-4:	radial exit

Radial Approach

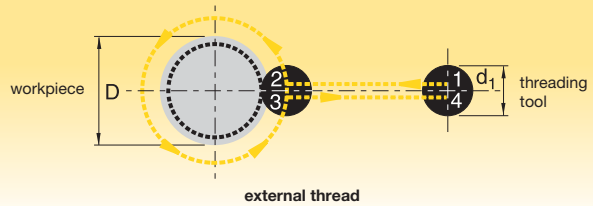
This radial approach is often considered the simplest. There are two characteristics worth noting about the radial approach:

- A small vertical mark may be left at the entry (and exit) point. This is of no significance to the thread itself.
- When using this method with very hard materials, there may be a tendency for the tool to vibrate as it approaches the full cutting depth.



1-2:	radial entry
2-3:	helical movement during one full orbit (360°)
3-4:	radial exit

NOTE: Radial feed during entry to the full profile depth should be only 1/3 of the subsequent circular feed.



Calculation of Feed Rates at the Cutting Edge

The first step is to calculate the tool feed rate at the cutting edge:

$$F_1 = fz \times Z \times n$$

- F_1 = tool feed rate at the cutting edge (in/min)
- fz = inch per tooth (feed rate)
- Z = number of effective inserts in cutter
- n = rotational speed (spindle RPM)

The rotational speed (RPM) is calculated by the following formula:

$$RPM = \frac{12 \times SFM}{\pi \times d_1}$$

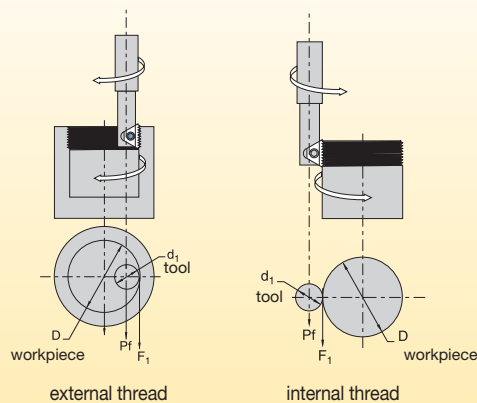
- SFM = cutting speed, surface feet per minute
- d_1 = cutter diameter, over insert
- $\pi = 3.1416$

Calculation of Program Feed Rate

On most CNC machines, the feed rate required for programming is at the centerline of the tool. When dealing with linear tool movement, the feed rate at the cutting edge and the centerline are identical. With circular tool movement this is not the case. The following equations define the relationship between feed rates at the cutting edge and at the tool centerline.

$$P_1 = F_1 + \frac{(F_1 \times d_1)}{D}$$

- P_1 = program feed rate (in/min)
- D = major diameter (external thread)
- D = minor diameter (internal thread)
- d_1 = cutting diameter, over insert



tool workpiece

Step-by-Step Thread Milling Example

thread: internal right hand 11/4 x 16 UN-2B-RH(21)

material: AISI 4140 (300 HB)

thread diameters: D (minimum bore dia.) = 1.182"

Do (nominal dia.) = 1.25"

thread length: .50"

For best thread quality, the cutter with the largest d₁ (cutter diameter) should be used. This cutter diameter can be found in the table on page W49, as a function of pitch and minimum bore diameter "D". The result for the above example is that any cutter diameter 1.02" or smaller can be utilized.

A cutter with a smaller d₁ will perform the thread milling operation in less time. The smaller d₁ may result in less tool rigidity, so it should be used with caution on very tough materials.

Find the appropriate normal-length shank cutter diameter on pages W40–W43. Use the minimum bore diameter table below for reference.

pitch (TPI)	24	20	16	12
pitch mm	1,0	1,25	1,5	2,0
cutter dia. d ₁	minimum bore diameter D			
.67	.748	.772	.787	.827
.75	.827	.850	.866	.906
.79	.866	.890	.906	.945

Figure B: cutter selected: K079TMIRW075STN16N
outer dimensions: d₁ = .79, R_t (radius of tool) = d₁ ÷ 2 = .395"

Choosing Insert Size

The insert IC is defined by the selected cutter (STN16). Use the appropriate insert table on pages W44–W46.

insert IC	a inch (mm)	pitch (TPI)	internal thread	b inch thread length (in)	number of teeth	grade		external thread	b inch thread length (in)	number of teeth	grade		cutter type
			catalog number			KC610M	KC620M	catalog number			KC610M	KC620M	
		32	STN16 32UN-I	.59	19	<input type="checkbox"/>	<input type="checkbox"/>	STN16 32UN-E	.59	19	<input type="checkbox"/>	<input type="checkbox"/>	
		28	STN16 28UN-I	.57	16	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 28UN-E	.57	16	<input type="checkbox"/>	<input type="checkbox"/>	
		27	STN16 27UN-I	.56	15	<input type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 27UN-E	.56	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		24	STN16 24UN-I	.55	14	<input type="checkbox"/>	<input type="checkbox"/>	STN16 24UN-E	.58	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3/8	.63 (16)	20	STN16 20UN-I	.55	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 20UN-E	.55	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16
		18	STN16 18UN-I	.56	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 18UN-E	.56	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		16	STN16 16UN-I	.56	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 16UN-E	.56	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		14	STN16 14UN-I	.57	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 14UN-E	.57	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
		13	STN16 13UN-I	.54	7	<input type="checkbox"/>	<input type="checkbox"/>	STN16 13UN-E	.54	7	<input type="checkbox"/>	<input type="checkbox"/>	
		12	STN16 12UN-I	.58	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	STN16 12UN-E	.58	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

insert selected: STN16 16UN-I

- stock standard
- non-stock standard

Step-by-Step Thread Milling Example

Calculate the feed rates:

First, find the RPM.

$$\text{RPM} = \frac{12 \times \text{SFM}}{\pi \times d_1} = \frac{12 \times 500}{3.14 \times .79} = 2418 \text{ RPM}$$

Next, calculate the feed rate at the insert cutting edge (F₁):

(using the chosen feed per tooth of .004.)

$$F_1 = \text{IPT} \times n_t \times \text{RPM} = .004 \times 1 \times 2418 = 9.67 \text{ in/min}$$

Finally, calculate the feed rate at the cutter centerline (F₂):

$$F_2 = \frac{F_1 \times (D - d_1)}{D} = \frac{9.67 \times (1.182 - .79)}{1.182} = 3.207 \text{ in/min}$$

Select the thread milling method.

Climb milling (preferred) see page W48.

Calculate the radius of the tangential arc R_e:

$$R_e = \frac{(R_i - C_L)^2 + R_0^2}{2R_0} = \frac{(.591 - .02)^2 + .625^2}{2 \times .625}$$

$$R_e = .573333 \text{ in.}$$

Calculate the angle (β):

$$\beta = 90^\circ + \arcsin \frac{R_0 - R_e}{R_e}$$

$$\beta = 90^\circ + \arcsin \frac{.625 - .573333}{.57333}$$

$$\beta = 90^\circ + 5.17^\circ = 95.17^\circ = 95^\circ 10'$$

Calculate the movement along the Z-axis during the entry approach from point "A" to point "B" (Z_α). (NOTE: P = pitch)

$$Z_\alpha = P \text{ (in)} \times \frac{\alpha^\circ}{360^\circ} = \frac{.0625}{4} = .0156 \text{ in, because } \alpha = 90^\circ$$

Calculate the "X" and "Y" values at the start of the entry approach.

$$X = 0Y = -R_i + C_L = -.591 + .02 = -.571 \text{ in.}$$

Define Z-axis location at the start of the entry approach. (NOTE: L = length of thread)

$$Z = -(L + Z_\alpha) = -(.50 + .0156) = -.5156 \text{ in.}$$

Define the starting point.

$$X_a = 0$$

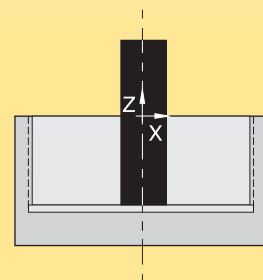
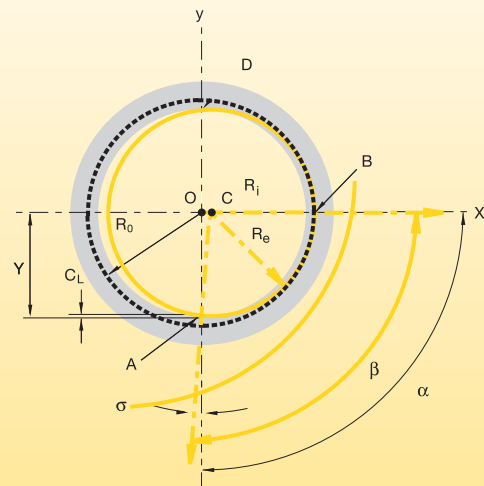
$$Y_a = 0$$

CNC Program (Fanuc 11M)

```
%
N10G90G00G57X0.000Y0.000
N20G43H10Z0.M3S2417
N30G91G00X0.Y0.Z-0.5156
N40G41D60X0.000Y-0.5710Z0.
N50G03X0.625Y0.5710Z0.0156R0.5733F3.206
N60G03X0.Y0.Z0.0625I-0.625J0.
N70G03X-0.625Y0.5710Z0.0156R0.5733
N80G00G40X0.Y-0.5710Z0.
N90G49G57G00Z8.0M5
N100M30
%
```

$$R_i = \frac{D}{2} \quad R_0 = \frac{D_0}{2}$$

D = minor diameter D₀ = nominal diameter
α 90°



■ **Step-by-Step Thread Milling Example**

Appendix A

Derivation of Formulas for Internal Thread Milling

R_e , β , and X can be found by a geometric analysis of the entry path.

This entry path is defined by the tool traveling along a circular path, with a radius of R_e about the point C.

$$R_e = \frac{(R_i - C_L)^2 + R_o^2}{2R_o}$$

Triangle OAC enables us to simply solve for R_e . Note that OAC is a right angle triangle, and that:

$$\begin{aligned} OA &= R_i - C_L \\ CA &= R_e \\ OC &= R_o - R_e \end{aligned}$$

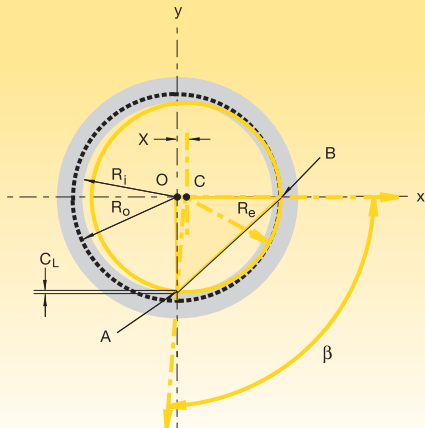
Pythagoras' law states: $OA^2 + OC^2 = AC^2$

Replacing actual values, we get:

$$(R_i - C_L)^2 + (R_o - R_e)^2 = R_e^2$$

Simplifying, we get:

$$R_e = \frac{(R_i - C_L)^2 + R_o^2}{2R_o}$$



Appendix B

Derivation of Formulas for External Thread Milling

R_e , β , and X can be found by a geometric analysis of the entry path.

This entry path is defined by the tool traveling along a circular path, with a radius of R_e about the point C.

$$R_e = \frac{(R_o - C_L)^2 + R_i^2}{2R_i}$$

Triangle OAC enables us to simply solve for R_e . Note that OAC is a right angle triangle, and that:

$$\begin{aligned} OA &= R_o - C_L \\ CA &= R_e \\ OC &= R_e - R_i \end{aligned}$$

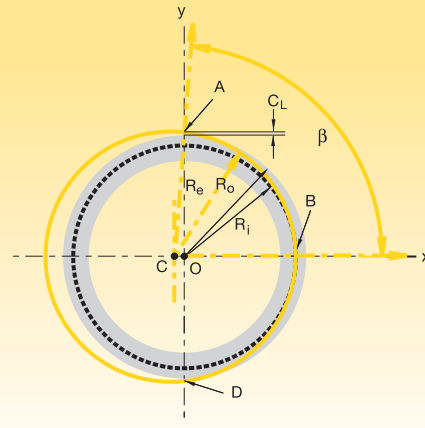
Pythagoras' law states: $OA^2 + OC^2 = AC^2$

Replacing actual values, we get:

$$(R_o - C_L)^2 + (R_e - R_i)^2 = R_e^2$$

Simplifying, we get:

$$R_e = \frac{(R_o - C_L)^2 + R_i^2}{2R_i}$$



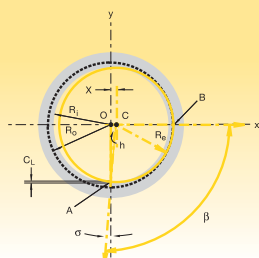
Find the angle β .

$$\beta = 90^\circ + \sigma$$

$$\sin \sigma = \frac{OC}{CA} = \frac{(R_o - R_e)}{R_e}$$

$$\sigma = \arcsin \left(\frac{R_o - R_e}{R_e} \right)$$

$$\text{Therefore, } \beta = 90^\circ + \arcsin \left(\frac{R_o - R_e}{R_e} \right)$$

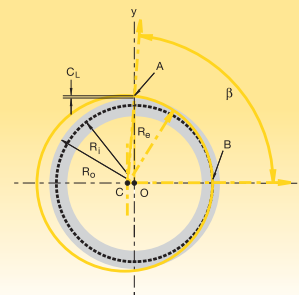


Find the angle β .




β can be easily found using the same triangle:

$$\sin \beta = \frac{AO}{AC} = \frac{(R_o + C_L)}{R_e}$$

$$\beta = \arcsin \left(\frac{R_o + C_L}{R_e} \right)$$

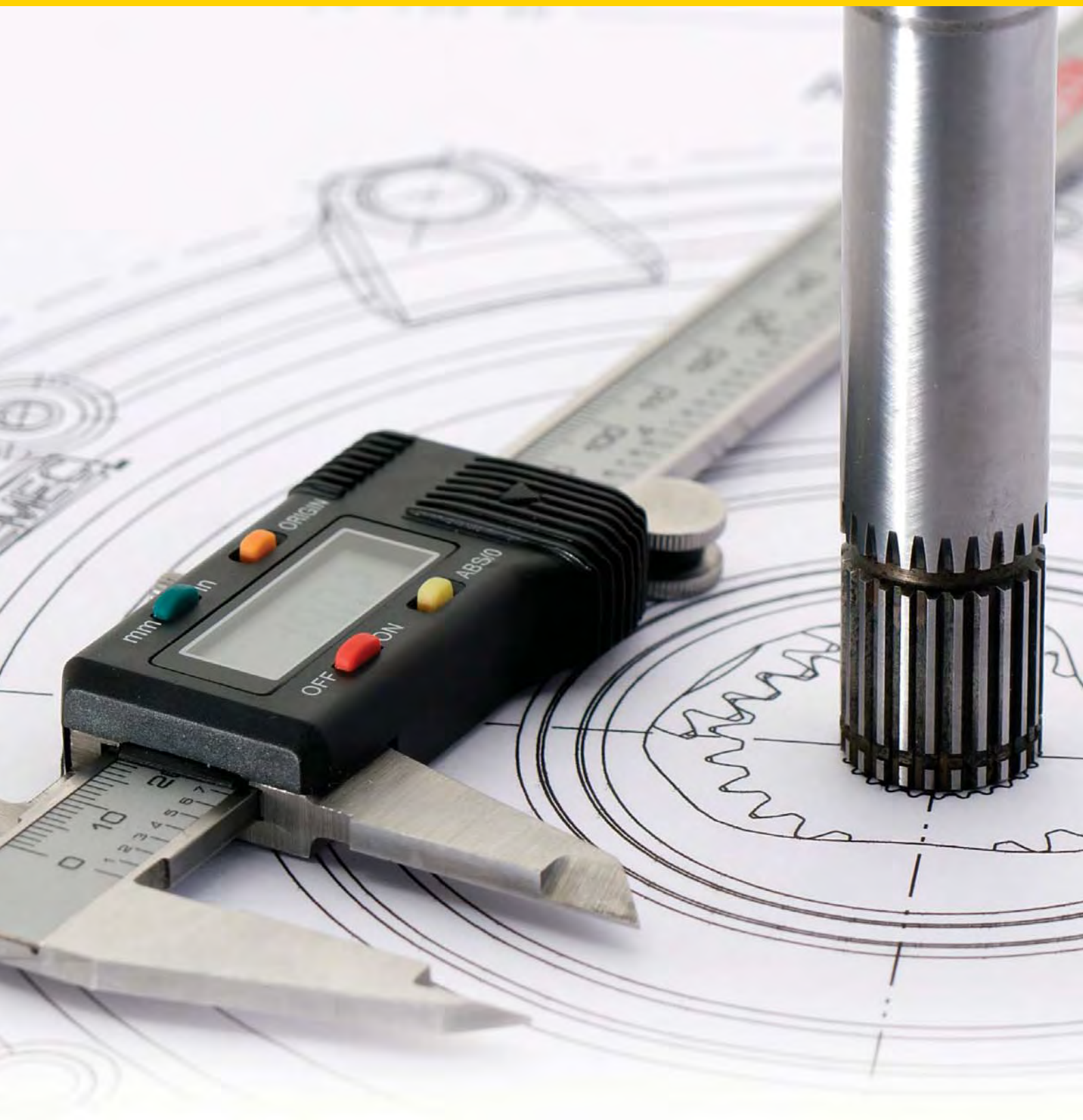


■ **Thread Mill Troubleshooting**

problem	possible cause	solution
excessive insert flank wear 	• Cutting speed too high.	• Reduce cutting speed.
	• Chip is too thin.	• Increase feed rate.
	• Insufficient coolant.	• Increase coolant quantity/pressure.
chipping of cutting edge 	• Chip is too thick.	<ul style="list-style-type: none"> • Reduce feed rate. • Use the tangential arc method of entrance. • Increase RPM.
	• Vibration.	• Check rigidity.
material build-up on the cutting edge 	• Cutting speed too slow.	• Increase cutting speed.
	• Chip thickness too small.	• Increase feed rate.
chatter/vibration	• Feed rate is too high.	• Reduce the feed.
	• Profile is too deep (coarse pitch threads).	<ul style="list-style-type: none"> • Execute two passes, each with increased cutting depth. • Execute two passes, each cutting only half the thread length.
	• Thread length is too long.	• Execute two passes, each cutting only half of the thread length.
insufficient thread accuracy	• Tool deflection.	<ul style="list-style-type: none"> • Reduce feed rate. • Execute a zero cut.

■ **Insert Tolerance Classes**

thread designation	standard designation	tolerance class
UN	ANSI B 1.174	2A/2B
UNJ	MIL-S-8879A	3A/3B
ISO	R262 (DIN 13)	6g/6H
NPT	USAS B2.1 : 1968	standard NPT
NPTF	ANSI B 1.20.3-1976	standard
BSW	B.S. 84 : 1956, DIN 259, ISO 228/1 : 1982	medium class A
BSPT	B.S. 21 : 1985	standard BSPT
ACME	ANSI B1/5 : 1988	3G
PG	DIN 40430	standard
TR	DIN 103	7e/7H



Indexable Milling • Technical Information • Recommended Starting Speeds







Overview Wrenches	X2-X3
Technical Information	X4-X20
Recommended Starting Speeds	X22-X37

Overview Wrenches

Screwdrivers, Bits, Torque Wrench, and Bit Drivers



NOTE: Kennametal screw drivers, bits, torque wrenches, and bit drivers can be ordered separately, if needed.

drive size												
	1/4" bit 25mm length	order number	1/4" bit extended length	order number	screw driver	order number	Flag-Type Screw Driver	order number	Allen key	order number	T-Handle Screw Driver	order number
hex 1,5	—	—	—	—	170.270	1126021	—	—	170.000	1138273	—	—
hex 2,0	—	—	—	—	170.222	1191006	—	—	170.001	1138280	—	—
hex 2,5	170.179	1138851	—	—	170.224	1138870	—	—	170.002	1138297	—	—
hex 3,0	170.180	1150198	BTQSW3L90	6205876	170.225	1138879	—	—	170.003	1138307	THW3M	2229285
hex 3,5	—	—	—	—	—	—	—	—	—	—	THW35M	1931555
hex 3,5/Torx 15,0	—	—	—	—	—	—	FT1535	1021609	—	—	—	—
hex 4,0/Torx 15,0	—	—	—	—	—	—	FT154	1021611	—	—	—	—
hex 4,0	170.181	1138857	—	—	170.226	1191007	—	—	170.004	1138315	THW4M	1931556
hex 5,0	—	—	—	—	—	—	—	—	170.005	1138323	170.135	1138748
hex 6,0	—	—	—	—	—	—	—	—	170.006	1138331	170.136	1138755
hex 8,0	—	—	—	—	170.229	1191010	—	—	170.008	1135984	—	—
hex 9,0	—	—	—	—	—	—	—	—	170.009	2272577	—	—
hex 10,0	—	—	—	—	—	—	—	—	—	—	—	—
hex 12,0	—	—	—	—	—	—	—	—	—	—	—	—
hex 5/64	—	—	—	—	—	—	—	—	—	—	KW078	1022575
hex 3/32	—	—	—	—	—	—	—	—	—	—	KW093	1022581
hex 7/64	—	—	—	—	—	—	—	—	—	—	KW109	1022537
hex 1/8	—	—	—	—	—	—	—	—	—	—	—	—
hex 5/32	—	—	—	—	—	—	—	—	—	—	KW156	1022565
hex 3/16	—	—	—	—	—	—	—	—	—	—	KW187	1022579
hex 7/32	—	—	—	—	—	—	—	—	—	—	—	—
Torx 5	—	—	—	—	—	—	FT5	1021589	KT5	1099677	—	—
Torx 6	BT6	1962981	—	—	DT6	1022463	FT6	1126361	KT6	1022691	—	—
Torx 7	BT7	1963853	—	—	DT7	1022485	FT7	1021591	KT7	1022693	—	—
Torx 8	BT8	1963855	—	—	DT8	1022487	FT8	1021593	KT8	1022695	—	—
Torx 9	BT9	1963854	—	—	DT9	1022489	FT9	1020533	KT9	1022697	—	—
Torx 10	BT10	1963856	—	—	DT10	1022491	FT10	1099651	KT10	1022699	—	—
Torx 10/15	—	—	—	—	—	—	FT1015	1099652	—	—	—	—
Torx 15	170.182	2261642	170.177	1138829	DT15	1022493	FT15	1021605	KT15	1022701	TT15	1022315
Torx 15	—	—	BTQT15L90	6205877	—	—	—	—	—	—	—	—
Torx 20	170.176	1138822	BTQT20L90	6205878	—	—	FT20	1021607	KT20	1022703	TT20	1022317
Torx 25	—	—	170.259	1994579	—	—	—	—	KT25	1022725	TT25	1022519
Torx 25	—	—	BTQT25L90	6205879	—	—	—	—	—	—	—	—
Torx 27	170.256	1984243	170.257	1985840	—	—	—	—	KT27	1022727	—	—
Torx 30	—	—	—	—	—	—	—	—	KT30	1099676	TT30	1022521
Torx 40	—	—	—	—	—	—	—	—	—	—	—	—
Torx 45	—	—	—	—	—	—	—	—	KT45	1018227	—	—
Torx Plus 7	—	—	—	—	DT7IP	3644073	—	—	—	—	—	—
Torx Plus 8	—	—	—	—	DT8IP	2388424	—	—	K8IP	2388488	TTP8	1931553
Torx Plus 9	—	—	—	—	DT9IP	2269913	—	—	K9IP	1985786	TTP9	1985792
Torx Plus 10	—	—	—	—	DT10IP	2388425	—	—	K10IP	2388489	TTP10	2504383
Torx Plus 15	—	—	BTQTP15L90	6205880	DT15IP	2269914	—	—	K15IP	1867353	TTP15	1931554
Torx Plus 20	—	—	BTQTP20L90	6205891	DT20IP	2388427	—	—	K20IP	2388491	TTP20	1994291
Torx Plus 25	BT25IP	2244316	BTQTP25L90	6205892	DT25IP	2269915	—	—	K25IP	2050113	TTP25	4064258
Torx Plus 27	BT27IP	2244317	BTE27IP	2244319	—	—	—	—	K27IP	1985787	TTP27	1985793
Torx Plus 30	—	—	—	—	DT30IP	2388426	—	—	K30IP	2388490	—	—

Technical Information





■ Torque-Controlled Wrenches • 5.3–47.8 in. lbs. (0,6–5,4 Nm)

Order Number	Catalog Number	Drive Size	Description
3641463	DTQ0615	—	Torque Control Wrench Handle 0.6–1.5 Nm
3641464	DTQ1530	—	Torque Control Wrench Handle 1.5–3.0 Nm
3641465	DTQ3054	—	Torque Control Wrench Handle 3.0–5.4 Nm
3641466	BTQT6	T6	Blade for screw driver
3641467	BTQT7	T7	Blade for screw driver
3641468	BTQT8	T8	Blade for screw driver
3641469	BTQT9	T9	Blade for screw driver
3641470	BTQT10	T10	Blade for screw driver
3641471	BTQT15	T15	Blade for screw driver
3641472	BTQT20	T20	Blade for screw driver
3641473	BTQT25	T25	Blade for screw driver
3641474	BTQ6IP	Torx Plus 6	Blade for screw driver
3641475	BTQ7IP	Torx Plus 7	Blade for screw driver
3641476	BTQ8IP	Torx Plus 8	Blade for screw driver
3641477	BTQ9IP	Torx Plus 9	Blade for screw driver
3641478	BTQ10IP	Torx Plus 10	Blade for screw driver
3641479	BTQ15IP	Torx Plus 15	Blade for screw driver
3641481	BTQW3M	hex 3mm	Blade for screw driver
3641480	DTQCAP	—	Cover Cap



■ Torque-Controlled Wrenches • 3.7–10.3 in. lbs. (5–14 Nm)

Order Number	Catalog Number	Drive Size	Description
6197561	DTQ50140	hex 1/4"	T-handle torque wrench, adjustable 5–14 Nm
6205876	BTQSW3L90	hex 3mm	Bit Hex 3mm L = 90mm
6205877	BTQT15L90	T15	Bit Torx 15 L = 90mm
6205878	BTQT20L90	T20	Bit Torx 20 L = 90mm
6205879	BTQT25L90	T25	Bit Torx 25 L = 90mm
6205880	BTQTP15L90	Torx Plus 15	Bit Torx Plus 15 L = 90mm
6205891	BTQTP20L90	Torx Plus 20	Bit Torx Plus 20 L = 90mm
6205892	BTQTP25L90	Torx Plus 25	Bit Torx Plus 25 L = 90mm

■ Bit Adapter



Order Number	Catalog Number	Drive Size	Description
1963869	DRIVER	hex 1/4"	Bit Adapter suitable for standard and extended length 1/4" drive bits

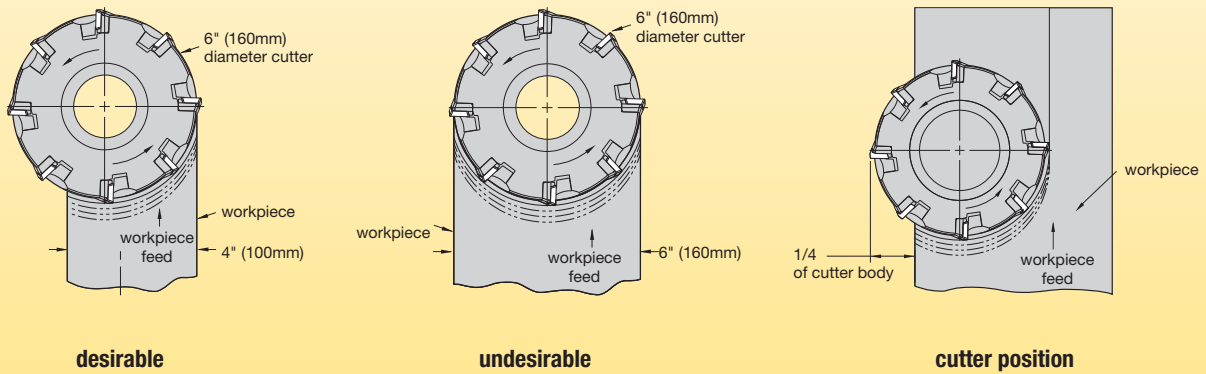
Workpiece dimensions determine the best face mill diameter to select.

Cutter-to-part width-of-cut ratio should be approximately 3:2 or 1 1/2 times the part width. For example, if the width of cut is 4" (100mm), choose a 6" (160mm) diameter cutter. If the width is extremely wide, select a cutter diameter that matches the spindle capacity and take multiple passes. For example, if the width of cut is 24" (610mm) and the machine has a standard #50 taper spindle, you should use an 8" (200mm) diameter cutter and take five passes, at slightly less than 5" (125mm) per pass, or four passes at 6" (160mm) per pass, depending on horsepower and rigidity.

An undesirable situation is when the cutter diameter is about equal to the width of cut. The chip being formed at the entrance and exit of the cut will be very thin. The thin chips formed cannot carry away heat as well as thicker chips; therefore, the heat is transferred back into the insert causing premature edge failure. Work-hardening is also more likely to occur in the entry and exit area.

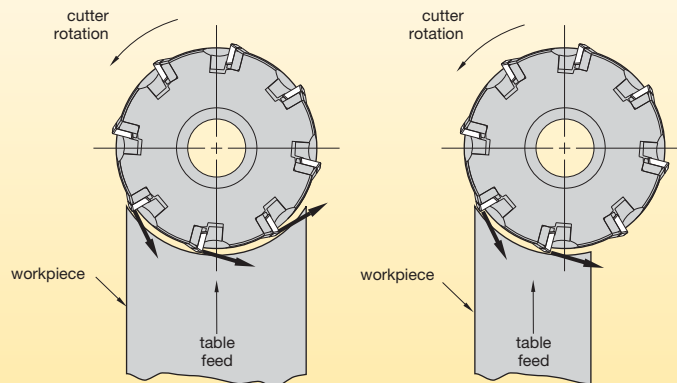
When the proper cutter diameter is not available, proper cutter positioning will provide positive results.

- Position cutter with approximately 1/4 of the cutter body outside the workpiece and make two passes.
- Produces negative angle of entry (desirable).
- Can result in longer tool life.



Cutter Positioning/Cutting Forces

The cutting forces are constantly changing as the inserts move through the cut. We should understand that in changing the position of the cutter in relation to the workpiece, we can re-direct the cutting forces. This is important to ensure a safe operation based on fixture design, workpiece design, and workpiece considerations.



Pitch, or density, refers to the number of inserts in a cutter. Cutters can be classified as having either coarse, medium, or fine pitch. When designing a cutter, the engineer must take the depth of cut and feed per tooth into consideration. He then must provide the necessary chip clearance in the body so that the chip can pass without restricting its formation. For this reason, cutters designed for heavy metal removal have maximum chip clearance. This, therefore, restricts the number of inserts in the cutter, making it a coarse pitch cutter.

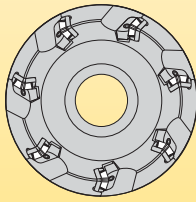
In medium pitch cutters, the chip clearance area in the body is usually slightly smaller than a coarse pitch cutter. And, in fine pitch cutters, the chip clearance is considerably less.

Coarse pitch is recommended for general purpose milling where adequate horsepower is available, and where maximum depth of cut is required.

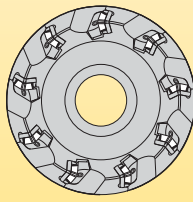
Medium pitch is recommended when moderate feed per insert is required, and where it is more advantageous to have more than one insert in the cut. Medium pitch also reduces entry shock and cutting pressure while maintaining feed rates.

Fine pitch is ideal when milling a severely interrupted surface such as a manifold block. Fine pitch cutters are capable of higher inch/mm per minute feed rates than medium or coarse pitch cutters. They also experience higher cutting forces and greater horsepower consumption than medium or coarse pitch cutters do.

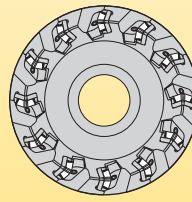
Differential pitch is a differential-pitch milling cutter with unequally spaced inserts. This configuration breaks up the harmonics that result from equally spaced inserts, greatly reducing the chance of vibration. Most cutters use this design regardless of the cutter pitch.



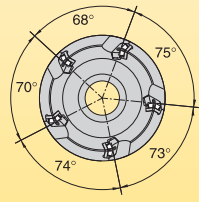
coarse pitch



medium pitch



fine pitch



differential pitch

Lead Angles/Cutting Forces on Workpiece and Fixturing

Cutting forces produced during the milling process are constantly changing as the insert moves through the cut. Understanding the relationship of these forces will help ensure safe operation by preventing workpiece movement during the cut. For example, fixture design and clamp positioning are determined by the cutting forces produced in milling. Equally important is an understanding of the effect lead angle has on cutting force direction, actual chip thickness, and tool life.

0° Lead Angle

Advantages:

- When 90° shoulder is required.
- Can be a problem solver on thin wall workpieces.

Disadvantages:

- Highest radial cutting forces.
- High entry shock load.
- Increased chance of bur on insert exit side of part.

15° and 20° Lead Angle

Advantages:

- For general milling applications and relatively rigid conditions.
- Good relation of insert size and maximum depth of cut.
- Reduced entry shock load.

Disadvantages:

- Higher radial forces can cause problems in weak machine/workpiece/fixture conditions.

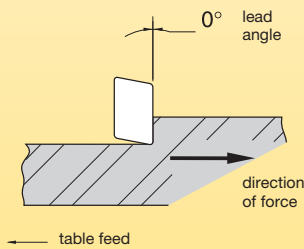
45° Lead Angle

Advantages:

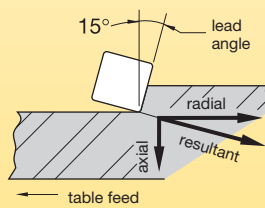
- Well-balanced axial and radial cutting forces.
- Less breakout on workpiece corner.
- Entry shock minimized.
- Less radial forces directed into spindle bearings.
- Higher feed rates possible.

Disadvantages:

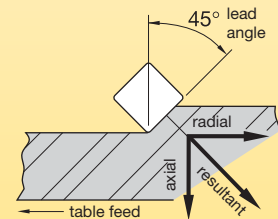
- Reduced maximum depth of cut due to lead angle.
- Larger body diameter can cause fixture clearance problems.



0° lead



15° and 20° lead



45° lead

(continued)

(continued)

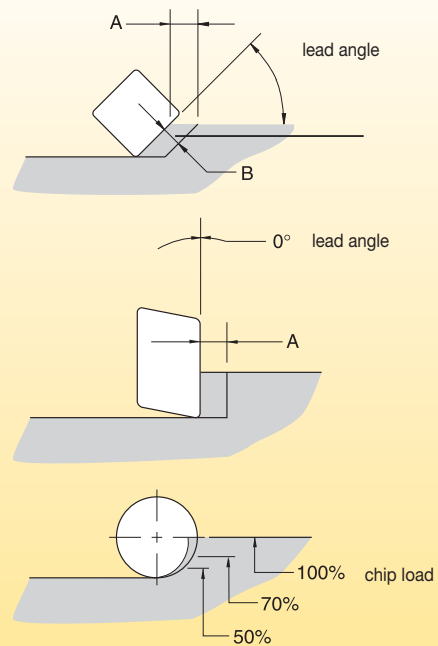
Lead Angle/Chip Thickness

Chip thickness is affected by lead angle. The greater the lead angle, the thinner the chip will be since it's distributed over a greater length of the cutting edge. To achieve greater productivity and problem-free milling, use a lead angle cutter whenever possible.

lead angle	feed per tooth	actual chip thickness "B"
0°	A	A
15°	A	.96 x A
20°	A	.94 x A
30°	A	.86 x A
45°	A	.707 x A

example:

0°	.010" (0,25mm)	.010" (0,25mm)
15°	.010" (0,25mm)	.0096" (0,25mm)
20°	.010" (0,25mm)	.0094" (0,24mm)
30°	.010" (0,25mm)	.0086" (0,22mm)
45°	.010" (0,25mm)	.0071" (0,18mm)



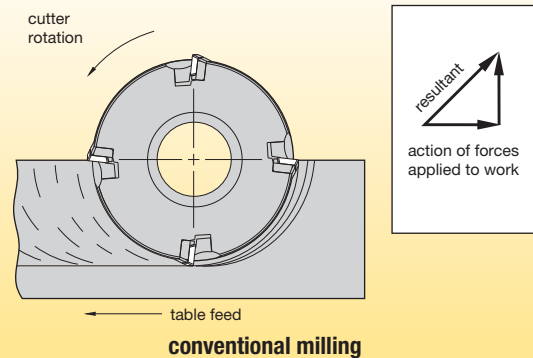
On round inserts, the chip load and lead angle vary with the depth of cut.

lead angle/chip thickness

Conventional Milling

For many years, it was common practice to mill against the direction of the feed due to the use of high-speed steel cutters and an absence of backlash-eliminating devices. The milling procedure became known as conventional, or up-milling.

In conventional milling, friction and rubbing occur as the insert enters into the cut, resulting in chip welding and heat dissipation into the insert and workpiece. Resultant forces in conventional milling are against the direction of the feed. Work-hardening is also likely to occur.

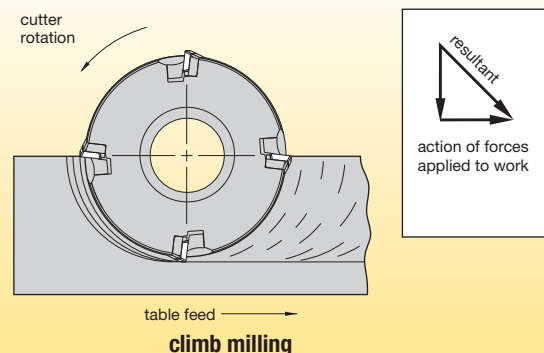


conventional milling

Climb Milling (preferred)

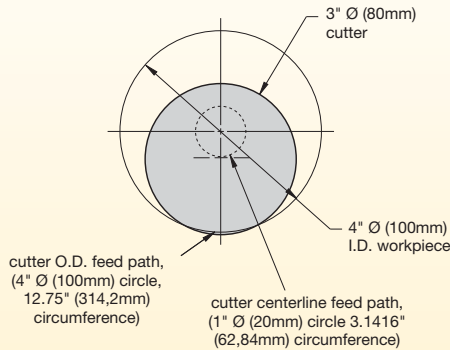
Climb milling is normally recommended. The insert enters the workpiece material with some chip load and produces a chip that thins as it exits the cut. This reduces the heat by dissipating it into the chip. Work-hardening is minimized.

Climb milling forces tend to push the workpiece toward the fixture and in the direction of the feed. Climb milling is preferred over conventional milling in most situations.



climb milling

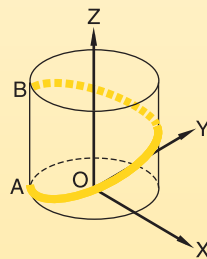
Circular Interpolation: Consists of a cutter rotating about its own axis while traveling in an orbiting motion about an I.D. or O.D. workpiece circumference without any vertical shift during the operation. This orbiting movement utilizes the "X" and "Y" axis.



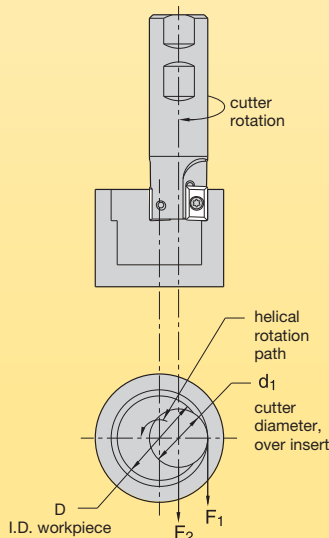
I.D. circular interpolation

Helical Interpolation: This application requires a milling machine with three-axis control capability. The operation consists of a cutter rotating about its own axis together in an orbiting motion about an ID or OD workpiece circumference in the "X" and "Y" plane. The circular movement about the "X" and "Y" plane, with a simultaneous linear movement in the Z-axis plane (which is perpendicular to the "X" and "Y" plane), creates the helical movement. For example, the path from point A to point B on the envelope of the cylinder combines a circular movement in the "X" and "Y" plane with a linear movement in the "Z" direction. On most CNC systems, this function can be executed in two different ways:

- G02: helical interpolation in a clockwise direction.
- G03: helical interpolation in a counterclockwise direction.



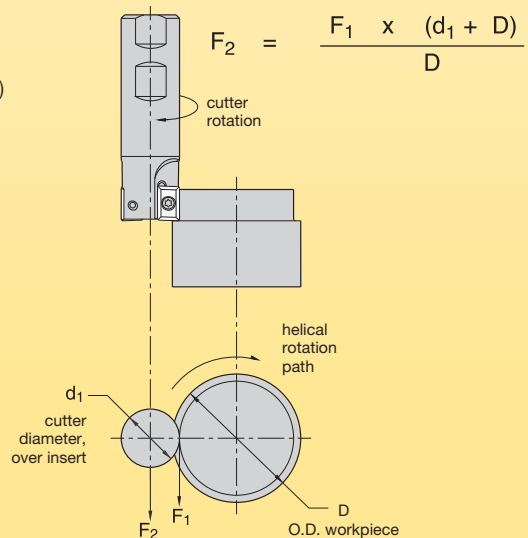
helical interpolation



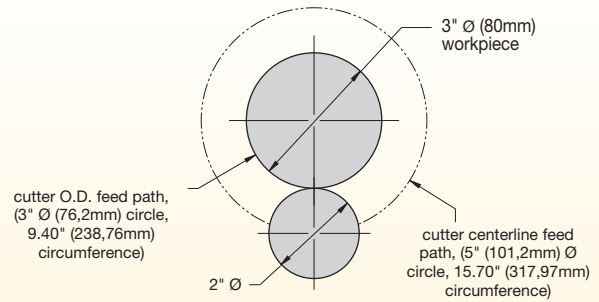
inside diameter (I.D.) helical interpolation

$$F_2 = \frac{F_1 \times (D - d_1)}{D}$$

F_1 = tool feed rate at the cutting edge (in./min.)
 F_2 = tool centerline feed rate (in./min.)
 D = O.D. workpiece diameter
 d_1 = I.D. workpiece diameter
 d_1 = cutter diameter, over insert



outside diameter (O.D.) helical interpolation



O.D. circular interpolation

Calculation of Feed Rate for Circular and Helical Interpolation: On most CNC machines, the feed rate required for programming contour (circular or helical) milling is calculated based on the centerline of the tool. When dealing with linear tool movement, the feed rate at the cutting edge and centerline are identical, but with circular tool movement, this is not the case.

Calculate Feed Rate at the Cutting Edge: First calculate the tool feed rate at the cutting edge with the following formula.

$$F_1 = f_z \times z \times n$$

F_1 = tool feed rate at the cutting edge (in./min.)
 f_z = inch per tooth (chip load)
 z = number of effective inserts in the cutter
 n = revolutions per minute

Calculation of the Feed Rate at the Tool Centerline: Use the following equations to define the relationship between feed rates at the cutting edge and at the tool centerline.

(continued)

(continued)

In I.D. contour applications, you will find the tool centerline feed is always less than the cutting edge feed rate.

Example for I.D.

D = 4" (100mm) I.D. workpiece
 d₁ = 3" (80mm) cutter diameter
 fz = .008 IPT (0,2 mm/tooth)
 n = 637 RPM
 z = 7 effective inserts

1. Calculate feed rate at the cutting edge.

$$F_1 = f_z \times z \times n$$

$$F_1 = .008 \times 7 \times 637 = 35.7 \text{ in./min} \quad (0.2 \times 7 \times 637 = 892 \text{ mm/min})$$

2. Calculate feed rate at the tool centerline.

$$F_2 = \frac{F_1 \times (D - d_1)}{D}$$

$$F_2 = \frac{35.7 \times (4.0 - 3.0)}{4.0} = 8.9 \text{ in./min}$$

$$F_2 = \frac{892 \times (100 - 80)}{100} = 178 \text{ mm/min}$$

To have (F₁) 35.7 in/min (892 mm/min) at the cutting edge feed rate, we must program the machine tool for (F₂) 8.9 in/min (178 mm/min) at the tool centerline feed rate. This is a difference of approximately 75% less feed than the cutting edge feed rate (F₁).

In O.D. contour applications, you will find the tool centerline feed rate is always larger than the cutting edge feed rate.

Example for O.D.

D = 5" (125mm) O.D. workpiece
 d₁ = 2" (50mm) cutter diameter
 fz = .008 IPT (0,2 mm/tooth)
 n = 955 RPM
 z = 5 effective teeth

1. Calculate feed rate at the cutting edge.

$$F_1 = f_z \times z \times n$$

$$F_1 = .008 \times 5 \times 955 = 38.2 \text{ in./min} \quad (0.2 \times 5 \times 955 = 955 \text{ mm/min})$$

2. Calculate feed rate at the tool centerline.

$$F_2 = \frac{F_1 \times (d_1 + D)}{D}$$

$$F_2 = \frac{38.2 \times (2 + 5)}{5} = 53.5 \text{ in./min}$$

$$F_2 = \frac{955 \times (50 + 125)}{125} = 1,337 \text{ mm/min}$$

To have (F₁) 38.2 in/min (955 mm/min) at the cutting edge feed rate, we must program the machine tool for (F₂) 53.5 in/min (1,337 mm/min) at the tool centerline feed rate. This translates to an increase of about 40% more feed rate than the cutting edge feed rate (F₁).

Large Surfaces

Interpolating with a smaller cutter may be faster than using a large diameter cutter. Also, keep the cutter in contact with the workpiece rather than exiting and re-entering.

Maximize Metal Removal Rate

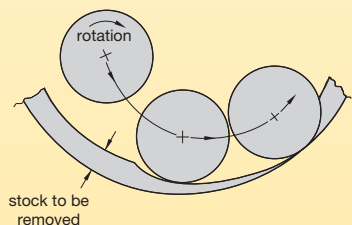
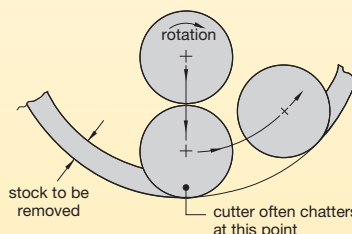
Concentrate on Metal Removal Rate (MRR), not just on higher SFM (cutting speeds). Increasing spindle speed without increasing chip load will not improve MRR. However, by doubling fz, MRR does increase and horsepower consumption only increases by approximately 50%.

Preset

Use cutter preset areas for proper setting of cutters rather than indexing cutters at the machine, if possible.

Ramp In and Out

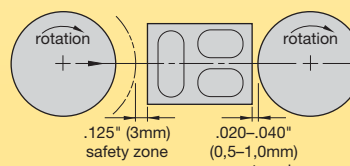
As shown below, ramping gradually into the cut will provide greater tool life. Also, by keeping the cutter constantly moving when entering and exiting the cut, dwell marks will be eliminated on the workpiece.



Safety and Over Travel

Program the milling cutter to rapid advance up to the part, within a range of .125" (3mm) before engaging the workpiece. This allows the machine to reach its proper operating parameters before actual chip making begins.

Rapid advance to the next cutting location, when the cutter is .020" (0,5mm) to .040" (1mm) past the edge of the part. If the spindle has built-in tilt or programmed runout, the cutter can be advanced to the next cutting location while the back half of the cutter is still over the finished milled surface.

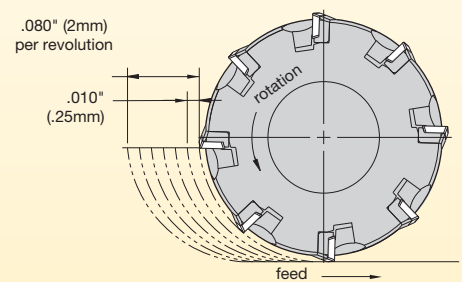


to find	given	formula
Vc	D n	$Vc = \frac{\pi \times D \times n}{12}$
n	D Vc	$n = \frac{12 \times Vc}{\pi \times D}$
Vf	fz n z	$Vf = fz \times z \times n$
fz	z Vf n	$fz = \frac{Vf}{2 \times n}$

given	calculated
D = 6" cutter diameter Z = 8 teeth in cutter Vc = 600 SFM fz = .010 IPT	$n = \frac{12 \times 600}{3.1416 \times 6} = 382$ Vf (IPM) = .010 x 8 x 382 = 30.6

legend

Vc = surface feed per minute
n = revolutions per minute
D = cutter diameter
Vf = feed (inch per minute)
fz = inch per tooth (chip load)
z = number of effective teeth or inserts in cutter
 $\pi = 3.1416$

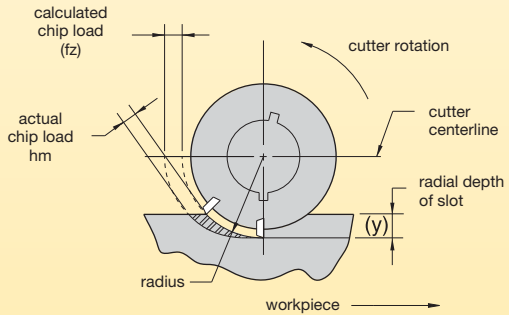


Slotting or Periphery Milling

True or actual chip load on the cutting edge of the insert is equal to the programmed chip load only when 50% or more of the cutter's diameter is engaged in the cut (lead angle not considered). Anything less than half the diameter of the cutter means that the actual chip load is reduced by some percentage. The smaller the radial depth of cut, the greater the decrease in actual chip load.

It's very important to maintain a chip load which is great enough to ensure heat dissipation and prevent work hardening. A sufficient chip load will also create stability between the cutter and the workpiece.

The formulas shown below are used to determine the programmed chip load, or feed rate necessary to obtain the desired load on the insert cutting edge as it enters the workpiece. These formulas should be applied whenever an arbor mounted slotting cutter is being used, or when less than half the diameter of a face mill or end mill is engaged in the cut. The lighter the radial depth of cut, the more important it becomes to apply these productivity formulas.

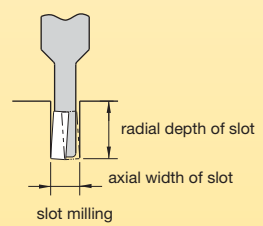


Productivity Formulas

$$\text{chip load (fz)} = \frac{\left(\frac{\sqrt{(\text{dia.} - y) \times (y)}}{\text{radius}} \right) \times \left(\frac{vf}{n} \right)}{z}$$

or

$$F = \frac{n \times z \times fz}{\left(\frac{\sqrt{(\text{dia.} - y) \times (y)}}{\text{radius}} \right)}$$



Technical Information

Operations such as **periphery milling with a light radial depth of cut or slotting with an arbor mounted cutter** require a calculation for feed rate compensation to maintain the proper chip load on the insert edge at entry into the cut. The calculated chip load and actual chip load can be dramatically different, depending on the radial depth and the cutter diameter. For instance, the actual chip load on entry for a 3/4" diameter cutter taking a .010" radial depth cut is only 23% of the calculated chip load. It is not uncommon to encounter built-up edge, work-hardening, or chatter problems if the following formula is not applied. Minimal cutter runout is critical to obtaining an equal chip load on each flute of the cutter too. A side benefit to applying this formula is increased productivity as feed rates can increase dramatically.

radial depth of cut	actual chip load (IPT)	feed required (IPM) to maintain .004 IPT	increase
.750	.0040	5.5	0%
.100	.0020	11.5	109%
.050	.0014	15.3	178%
.030	.0011	19.6	256%
.020	.0009	23.9	335%
.010	.0006	33.8	515%

Formulas — Horsepower

Metal Removal Rate

The Metal Removal Rate (MRR) calculation is a good basis for determining metalcutting efficiency.

$$MRR = doc \times woc \times F = cu. \text{ inches/min.}$$

Horsepower Consumption

Milling cutters can consume significant amounts of horsepower. Very often it is the lack of horsepower that is the limiting factor when deciding on a particular operation. On applications where large diameter cutters or heavy stock removal is necessary, it's advantageous to first calculate the necessary horsepower requirements.

NOTE: Spindle efficiency "E" varies from 75 to 90%.

$$(E = .75 \text{ to } .90)$$

A suitable formula for calculating horsepower (HP_c) at the cutter is:

HP_c = $\frac{MRR}{K}$ **example:**
 width of cut 1.64"
 depth of cut200
 feed 19.5 IPM
 4140 220 HB "K" factor 1.56

$$MRR = .200 \times 1.64 \times 19.5 = 6.4 \text{ cu. in/mi}$$

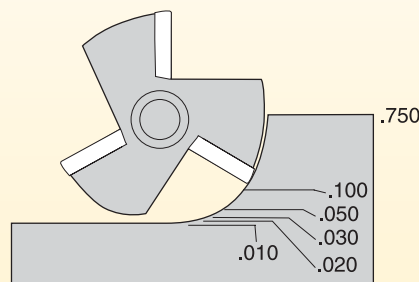
$$HP_c = \frac{6.4}{1.56} = 4.1 \text{ HP at the cutter}$$

For horsepower at the motor (HP_m), use formula:

$$HP_m = \frac{HP_c}{E} \quad HP_m = \frac{4.1}{.8} = 5.1$$

In determining horsepower consumption, "K" factors must be used. The "K" factor is a power constant that represents the number of cubic inches of metal per minute that can be removed by one horsepower.

NOTE: "K" factors vary depending on the hardness of the material.



1.5" B end mill – 6 flutes
90 SFM 230 RPM
.004 IPT 5.5 IPM

"K" Factors

workpiece material	hardness	"K" factor
steels, and wrought and cast irons (plain carbon alloy steels, and tool steels)	85-200	1.64
	201-253	1.56
	254-286	1.28
	287-327	1.10
	328-371	.88
	372-481	.69
precipitation hardening stainless steels	482-560	.59
	561-615	.54
	150-450	1.27-.42
cast irons (gray, ductile, and malleable)	150-175	2.27
	110-190	2.0
	176-200	1.89
	201-250	1.52
	251-300	1.27
stainless steels, and wrought and cast irons (ferritic, austenitic, and martensitic)	301-320	1.19
	135-275	1.54-.76
titanium	286-421	.74-.50
	250-375	1.33-.87
high-temperature alloys, nickel, cobalt base	200-360	.83-.48
iron base	180-320	.91-.53
nickel alloys	80-360	.91-.53
aluminum alloys	30-150 (500 kg)	6.25-3.33
magnesium alloys	40-90 (500 kg)	10.0-6.67
copper	150	3.33
copper alloys	100-150	3.33
	151-243	2.0



Over the past 50 years, Metal Removal Rates (MRR) and power constants have served as the conventional values used to calculate horsepower. Although this is a relatively common method of calculating horsepower, a more accurate method has been developed when milling with high shear cutters. This new approach utilizes the following information:

1. calculating tangential force (F_t)
2. ultimate material strength
3. cross-sectional area of the chip
4. number of inserts in the cut
5. machinability factor
6. tool wear factor
7. calculating torque
8. calculating horsepower at cutter
9. calculating horsepower at motor

Tangential Force, Torque, and Horsepower Calculations in Face Milling with High Shear Milling Cutters

1. Calculation of tangential force (ft. lbs.)

Calculation of tangential force is important since it produces torque at the spindle and accounts for the greatest portion of machining power at the cutting tool. Using this tangential force formula is a quick way to determine the approximate forces that fixtures, part wall sections, or spindle bearings will endure. Tangential force is calculated with the following formula:

$$F_t = S \times A \times Z_c \times C_m \times C_w \text{ (N)}$$

where: S = ultimate strength of the work material (psi)
 A = cross-sectional area of the chip removed by the milling insert (in^2)
 Z_c = number of inserts in cut
 C_m = machinability factor
 C_w = tool wear factor

2. Ultimate material strength (psi)

The approximate relationship between the ultimate material strength and hardness of the most commonly used work materials such as steels, irons (for example: gray cast iron), titanium alloys (Ti – 6Al – 4V), and aluminum alloys (2024, 5052) can be expressed by the empirical formula:

$$S = 500 \times \text{HB} \text{ (psi)}$$

Where HB = Brinell hardness numbers obtained, primarily, at the 3000-kgf load. When testing soft metals such as aluminum alloys, the 500-kgf load is used. Hardness obtained at the 500-kgf load should be converted into the hardness equivalent of the 3000-kgf load by using the load factor of 1.15. For example, 130 HB at the 500-kgf load is equivalent to 150 HB at the 3000-kgf load ($130 \times 1.15 = 150$). If hardness is given in Rockwell “B” or Rockwell “C” numbers, see the Material Listing Overview on pages Y210-Y211.

3. Cross-sectional area of the chip (A)

Cross-sectional area of the chip (Fig. 1) is defined by:

where: $A = d f \text{ (in}^2, \text{ or mm}^2)$
 d = axial depth of cut (in, or mm)
 fz = feed per tooth (in, or mm)

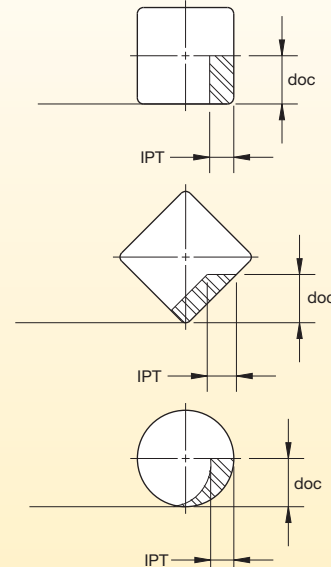


Figure 1: Cross-sectional area of the chip and insert's shape

4. Number of inserts in cut (Z_c)

The number of inserts in the cut (simultaneously engaged with work material) depends on the number of inserts in the cutter “Z” and the engagement angle (α). This relationship is shown by the formula:

$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ}$$

The engagement angle depends on the width of cut “W” and cutter diameter “D”. This angle is found from the geometry of figure 2 (formulas to calculate engagement angle and the number of inserts in the cut at any width of cut are given in the appendix on page X20).

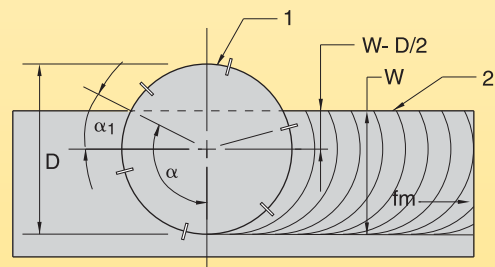


Figure 2: Schematic for calculating the number of inserts in cut

- 1 = milling cutter
- 2 = workpiece
- α = engagement angle
- α_1 = the angle between cutter centerline and cutter radius to the peripheral point of exit or entry
- W = width of cut (woc)
- D = cutter diameter
- fm = workpiece feed motion

(continued)

(continued)

If the width of cut equals cutter diameter ($W/D = 1.0$), the engagement angle $\alpha = 180^\circ$ and $Z_c = \frac{Z \times 180^\circ}{360^\circ} = 0.5Z$.

If the width of cut is equal to half of the cutter diameter ($W/D = 0.5$), the engagement angle $\alpha = 90^\circ$ and $Z_c = \frac{Z \times 90^\circ}{360^\circ} = 0.25Z$.

The values of Z_c depending on the given W/D ratios, are shown in table 1.

Table 1

W/D	.88	.80	.75	.67	.56	.38	.33	.19	.125
Z_c	.38Z	.35Z	.33Z	.30Z	.27Z	.21Z	.20Z	.14Z	.12Z

5. Machinability factor (C_m)

Machinability factor is used to indicate degree of difficulty in machining various workpiece materials. Table 2 shows machinability factor values for some of the most common workpiece materials.

Table 2

workpiece material	C_m		
	$W/D \leq .67$	$.67 < W/D < 1.0$	$W/D = 1.0$
carbon and alloy steels	1.0	1.15	1.3
stainless steel	2.0	2.15	2.3
gray cast iron	1.0	1.15	1.3
titanium alloys	1.0	1.20	1.4
aluminum alloys	1.0	1.05	1.1

The values of C_m are based on milling tests with a torque dynamometer at different cutting conditions. It has been found that machinability factor depends on type of work material and the ratio of radial width of cut to cutter diameter (W/D).

This ratio determines the uniformity of the chip thickness. When $W/D = 1.0$, the chip at the point of entry starts off at zero thickness. It increases to a maximum thickness at the centerline of the cutter, and thins off to zero again at the point of exit. This type of cut generates maximum friction at the cutting edge, and machinability factor reaches its maximum value. The optimal cutting conditions are obtained when $W/D = 2/3 = .67$. The thickness of the chip is practically uniform, the friction is minimal, and machinability factor decreases to its minimum value.

More extensive testing will determine machinability factors for a larger variety of work materials and improve the accuracy for calculating tangential force and power consumption.

6. Tool wear factor (C_w)

For milling with sharp cutting tools (short time operation), tool wear factor $C_w = 1.0$. For a longer operation (before the inserts are indexed), the following tool wear factors are considered:

- light face milling $C_w = 1.1$
- general face milling $C_w = 1.2$
- heavy-duty face milling $C_w = 1.3$

7. Calculation of torque (ft. lbs.)

The torque "T" generated by tangential force is calculated using the following formula:

$$T = F_t \times D/2 \text{ (in.-lb.)}$$

where D = cutter diameter inch

8. Calculating horsepower (HP_c or HP_m)

The machining power at the cutter (sharp edges) is calculated by either of these two formulas:

$$HP_c = \frac{F_t \times SFM}{33,000}$$

or

$$HP_c = \frac{T \times RPM}{63,000}$$

where SFM = peripheral cutting speed (SFM)
 RPM = spindle speed (RPM)
 33,000 and 63,000 = conversion factors

9. The required power at the motor is calculated using the following formula (HP_m):

$$HP_m = \frac{HP_c}{E}$$

where E = machine tool efficiency factor (E = .75-.90)

NOTE: Spindle efficiency varies from 75-90%.

(continued)



(continued)

Example for Calculating Horsepower

given values:

milling cutter KSSISR – 492 – SE443 – 45 – 06:

effective diameter D = 4.92"

number of inserts Z = 6

workpiece material:

alloy steel AISI 4140

hardness 220 HB

machining conditions:

spindle speed n = 349

cutting speed Vc = 450

machine feed rate F = 19.5

inch per tooth (chip load) fz = .008"

axial depth of cut doc = .200"

radial width of cut woc = 1.64"

W/D ratio W/D = .33

Step-By-Step Calculations

1. Calculating tangential force

1.1 ultimate strength of the workpiece material
S = 500 x HB = 500 x 220 = 110,000 psi

1.2 cross-sectional area of the chip
A = doc x IPT = .200 x .008 = .0016 in.²

1.3 number of inserts in cut:
width of cut-to-diameter ratio (w/d)
W/D = 1.64 / 4.92 = .33 (See Table 1, page X12).
Now use Z_C value shown in Table 1 under .33.
Z_C = .20 x Z = .20 x 6 = 1.2 inserts in cut.

NOTE: Z = number of inserts in cutter.

1.4 tangential force
F_t = S x A x Z_C x C_m x C_w
F_t = 110,000 x .0016 x 1.2 x 1.1 x 1.1 = 256 lbs.

NOTE: C_m = 1.1 and C_w = 1.1

2. Calculating torque at the cutter

$$T = (F_t \times D) / 2 = \frac{256 \times 4.92}{2} = 630 \text{ in.-lb.}$$

3. Calculating horsepower

- At the cutter...reference formulas in paragraph 8 on page X12.

$$HP_C = \frac{F_t \times SFM}{33,000} = \frac{256 \times 450}{33,000} = 3.5 \text{ hp}$$

or

$$HP_C = \frac{T \times RPM}{63,000} = \frac{630 \times 349}{63,000} = 3.5 \text{ hp}$$

- At the motor...reference formula in paragraph 9 on page X12.
- Where E = machine tool efficiency factor (E = .75 to .90).

$$HP_m = \frac{HP_C}{E} = \frac{3.5}{.8} = 4.4 \text{ hp}$$

Surface finish may be an important specification on a machined part. Finishes produced by indexable insert cutters usually range from 0.80–3.2 (32–150) Ra. This broad range can be affected by several variables such as work material, machine rigidity, spindle alignment, fixturing, insert nose geometry, insert wear, cutting feed and speed, heat-generated chip welding, and chatter.

Good finishes will result when you use the right combination of cutter geometry, insert style, and cutting speeds and feeds for the material being milled. It is also important to have the part adequately fixtured, and the machine properly maintained.

Figure 1 illustrates that finer finishes can be obtained by using a larger corner radius, flat, or wiper on the insert. This tends to wipe out or reduce feed marks. In addition to the corner geometry of the insert, it is important to correctly set each insert relative to the other inserts. For example, if all of the inserts have the same corner geometry, and are set in the cutter body to a face height of approximately .001" (0,025mm) relative to each other, the finish produced will be better than if the inserts were set to within .003" (0,07mm).

Improved finishes can also be obtained by increasing speeds and reducing feeds. Be aware, however, that increased speed also increases cutting temperatures, and may reduce insert edge life.

Finish will not necessarily be the same on all areas of the milled area. Figure 2 shows that the Ra finish will be lower on the area where the feed marks are close to each other, and higher where feed marks are farther apart.

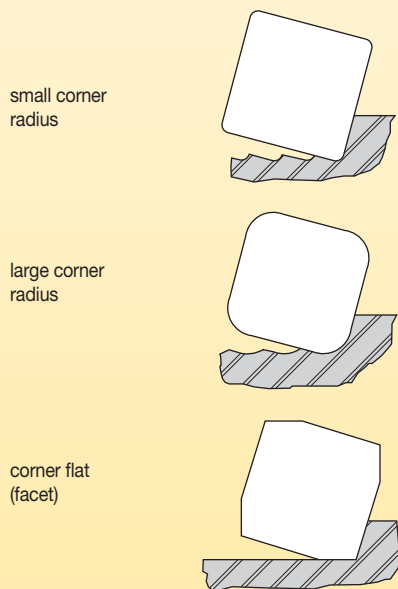


Figure 1: Larger insert corner radii or flats produce finer milling finishes.

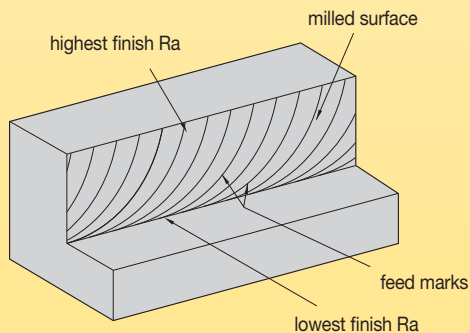


Figure 2: Quality of Ra finish corresponds to the distance between feed marks.

In figure 3, the Ra value will be lower near the outside diameter of the cut where the feed marks are at their closest, and higher at the center where the feed marks are farthest apart. Peaks produced are highest at the center of the cutter as it is positioned in the cut, and lowest at the outside diameter of the cutter, as illustrated below in figures 3 and 4.

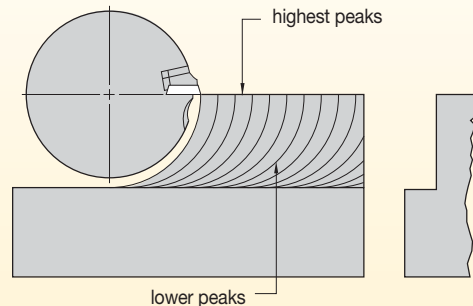


Figure 3: Ra finish is higher at the widest feed marks.

Both finish and flatness are affected by feed marks. A taper will be produced from the high peaks down to the low peaks.

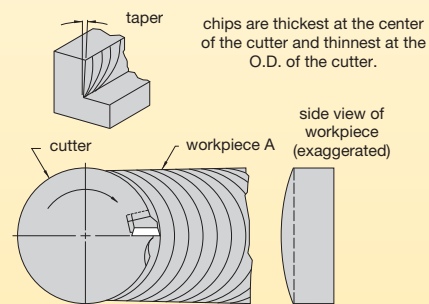


Figure 4: A taper is produced from the high peaks to the low ones.

Flatness also affects part tolerance. This effect is more predominant in side milling both sides of a part as shown in figure 5.

An obvious solution to obtaining a more consistent and improved surface finish with a minimum of taper is to reduce or flatten the peaks between feed marks. This can be done by introducing an insert with a corner configuration capable of wiping out or reducing these peaks. Shown in figure 5 is an exaggerated change in part width due to flatness and taper.

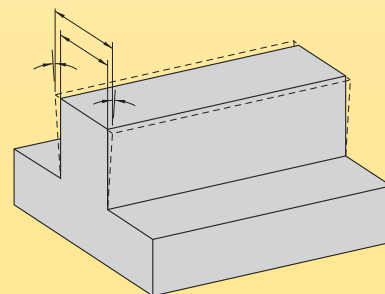


Figure 5: Flatness affects part tolerance more when milling both sides of a part.

(continued)

Figures 6 and 7 compare the feed marks produced with a nose radius insert to those produced with a wiper insert. A wiper insert with a large radius for wiping out or reducing peaks (figure 7) has been effective in producing finishes below 3.2 (100) Ra. Figures 6 and 7 show the wiper insert is designed to "top off" the peaks of the feed marks. An improved surface finish, surface flatness, and reduced taper will result.

Wiper inserts are normally set at .001-.0015" (0,025-0,04mm) above the highest positioned insert in the cutter to ensure a good wiping action. Kennametal wiper inserts are typically designed to fit into any pocket in the cutter body. This means one or more wiper inserts can be used. Interchangeable wipers can be used to share the load on the periphery of the cut in feed per tooth.

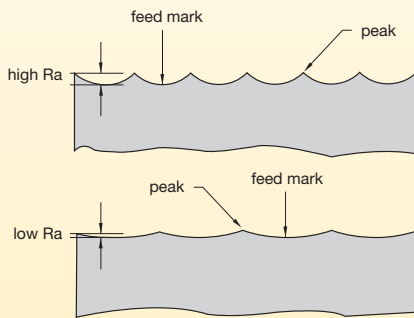


Figure 6: Peaks produced with a standard radii insert (top) compared to those produced with a large radius wiper insert (bottom).

Poor Surface Finish

cause	solution
cutter runout	Check for high insert, dirt in the pockets, or dirty spindle and cutter mounting face. Also, look for burrs on the cutter and damaged cutter pocket.
worn or chipped insert	Index insert.
feed per revolution exceeding flat on wiper	Reduce feed rate or install wiper with greater effective insert facet width.
wiper insert is set too high	Set the wiper insert .001-.0015" (0,025-0,04mm) above highest insert.
chatter	Check rigidity of machine and table fixturing. Check arbor and spindle, adjust feed rates, adjust RPM, or reduce cut width. Consider cutter with fewer pockets.

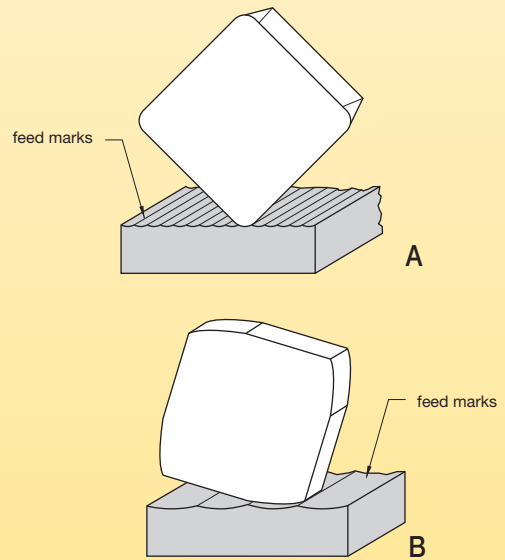


Figure 7: Feed marks produced with a nose radius insert (A) compared to marks produced with a wiper insert (B).

(continued)

(continued)

Measuring Finish Produced in a Milling Operation

Do not rely on your eye or fingernail to determine surface finish. Fingernails are about 25 times as thick as the stylus tip of a surface measuring instrument. They will skid across surface peaks, missing the valleys. Use a surface measuring instrument since the appearance of the surface finish may be deceiving. For example, reflected light on a uniformly milled surface pattern will look smoother than a random pattern. Also, a shiny surface will appear smoother than a dull surface.

Placement of the measuring device in a specific area on the milled surface will affect the reading. Also, a surface finish measured perpendicular to the feed direction is better than measuring parallel to the feed direction. This is usually the case regardless of workpiece condition and material (see figure 8).

Changing the cut-off width of the surface measuring instrument will affect the Ra value of the measurement.

Surface Profile Record

Figure 9 shows the variation in roughness created by increasing the cut-off width on the instrument. The greater the cut-off, (see figure 9), the higher the Ra finish. For example, figure 10 illustrates that a .010" (0,25mm) cut-off width will produce a .6 (25) Ra finish; whereas, a .100" (0,76mm) cut-off width will produce a 2.0 (75) Ra finish.

Also, figure 10 demonstrates that most measuring devices are provided with .010" (0,25mm), .030" (0,76mm), and .100" (2,54mm) cut-offs. In most cases, the .030" (0,76mm) width cut-off is preferred.

Figure 11 shows the standard surface symbols specifying maximum and minimum roughness, waviness, and lay, which is the direction in which the measurement is taken.

Preferred Method

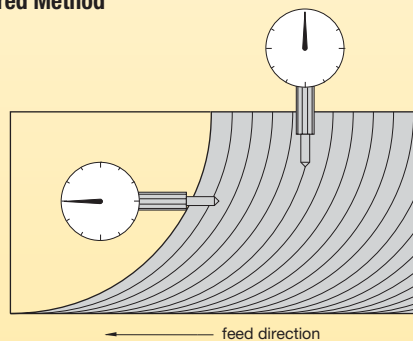


Figure 8: Measuring surface finish

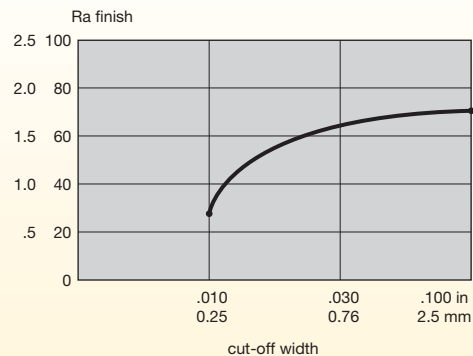


Figure 10: Finish quality is directly proportional to the cut-off width.

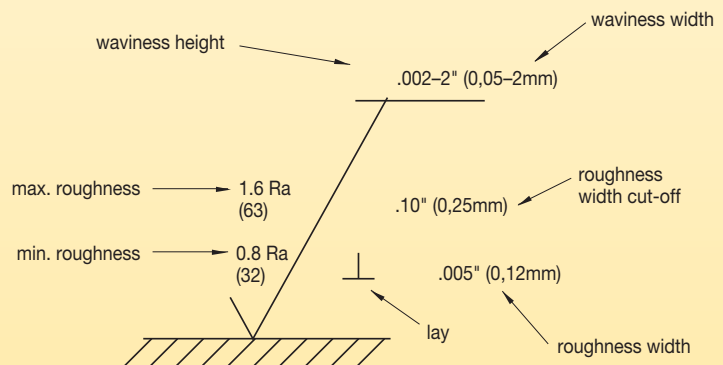


Figure 11: Standard surface symbols

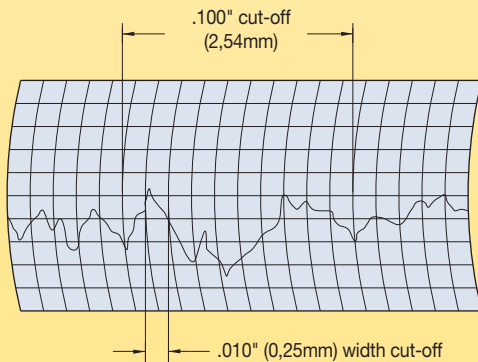


Figure 9: Increasing the cut-off width creates a variation in roughness.

Troubleshooting Introduction

Troubleshooting should be performed in a sequential method to identify and solve your milling problems. These problems can be recognized as premature insert edge failure, part appearance, machine noise or vibration, and the cutter's appearance. Successful troubleshooting requires that we correctly identify the problem, then take the necessary corrective action one step at a time. The five key areas of concern are:

1. cutting tool material (grade)
2. cutter/adaptor
3. machine
4. workpiece
5. set-up/fixturing

This section will discuss possible causes and will recommend corrective actions for each of the five areas listed. Remember, if more than one step is taken concurrently, the real cause of the problem may never be discovered. Always perform one corrective measure at a time.

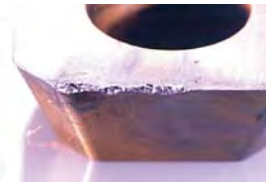
Edge Condition Problems and Solutions

Chipping:

Appears like normal flank wear to the untrained eye. Actually, normal flank wear lands have a fine, smooth wear pattern, while a land formed by chipping has a saw-toothed, uneven surface. If chipping is not detected soon enough, it may be perceived as depth-of-cut notching.


Chipping can also be caused by recutting of chips. A good example of this would be a slotting operation where chip clearance or chip gullet space does not allow the chips to evacuate cleanly. In this instance, packing of the chips also occurs.

In most cases, by changing to a stronger grade and/or to a different edge preparation such as a larger hone or T-land, or from a 90° (0°) cutter geometry to a lead angle cutter geometry, will resolve the problem.

problem	cause	solution
chipping 	<ul style="list-style-type: none"> • chatter 	<ul style="list-style-type: none"> • Check system rigidity for proper part clamping. • Correct worn gibs/bearings. • Check for improper cutter mounting.
	<ul style="list-style-type: none"> • edge prep 	<ul style="list-style-type: none"> • Use largest hone or T-land possible.
	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use a tougher grade.
	<ul style="list-style-type: none"> • built-up edge 	<ul style="list-style-type: none"> • Increase speed.
	<ul style="list-style-type: none"> • feed 	<ul style="list-style-type: none"> • Reduce feed per tooth.
	<ul style="list-style-type: none"> • recutting chips 	<ul style="list-style-type: none"> • Choose cutter geometry with correct pitch for chip clearance. • Use air blast or coolant to remove chips.

Depth-of-cut notching:


Appears when chipping or localized wear at the depth-of-cut line on the rake face and flank of the insert occurs. Notching is primarily caused by the condition of the workpiece material. Material conditions prone to depth-of-cut notch include: an abrasive workpiece skin of scale, abrasive properties of high-temperature alloys like Inconel®, a work-hardened outer layer resulting from a previous machining operation, or heat-treated material above 55 HRC.

problem	cause	solution
depth-of-cut notching 	<ul style="list-style-type: none"> • cutter geometry 	<ul style="list-style-type: none"> • Change to a lead angle cutter.
	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use a more wear-resistant grade of carbide.
	<ul style="list-style-type: none"> • feed 	<ul style="list-style-type: none"> • Reduce feed per tooth.
	<ul style="list-style-type: none"> • speed 	<ul style="list-style-type: none"> • Reduce speed.
	<ul style="list-style-type: none"> • edge-prep 	<ul style="list-style-type: none"> • Use honed or T-land inserts.
	<ul style="list-style-type: none"> • programming 	<ul style="list-style-type: none"> • Vary depth of cut on very abrasive materials.

Thermal cracks:


These cracks run perpendicular to the insert's cutting edge and are caused by the extreme temperature variations involved in milling. In one revolution of a milling cutter, the insert starts to cut and the temperature quickly rises as the insert enters the cut. The varying chip thickness also changes the temperature throughout the cut. When the insert comes out of the cut, air or coolant flow rapidly cools the insert before it re-enters the cut.

These temperature variations create heat stresses in the insert which can result in thermal cracks. To the untrained eye, advanced thermal cracking could appear as chipping.

problem	cause	solution
thermal cracks 	<ul style="list-style-type: none"> • speed and feed 	<ul style="list-style-type: none"> • Reduce cutting edge temperature by reducing the cutting speed and possibly the feed per tooth.
	<ul style="list-style-type: none"> • coolant 	<ul style="list-style-type: none"> • Shut off coolant.
	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use coated grade designed for wet milling.

Built-up edge:

This condition involves the adhesion of layers of workpiece material to the top surface of the insert. Hardened pieces of the adhered material periodically break free, leaving an irregularly shaped depression along the cutting edge. This causes damage to the part and insert. Cutting forces also will be increased due to built-up edge.

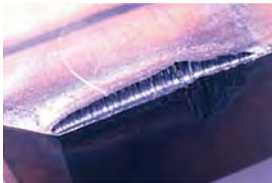
problem	cause	solution
built-up edge 	<ul style="list-style-type: none"> • speed 	<ul style="list-style-type: none"> • Increase SFM.
	<ul style="list-style-type: none"> • feed 	<ul style="list-style-type: none"> • Increase feed per tooth.
	<ul style="list-style-type: none"> • coolant 	<ul style="list-style-type: none"> • Use mist or flood coolant to avoid chips sticking to the insert when machining stainless steel and aluminum alloys.
	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use sharp edge PVD inserts.
		<ul style="list-style-type: none"> • Higher speeds require diamond-tipped inserts or diamond-coated inserts on certain non-ferrous alloys.
<ul style="list-style-type: none"> • edge-prep 	<ul style="list-style-type: none"> • Use sharp edge, positive rake PVD inserts, or polished inserts. 	

Crater wear:

A relatively smooth, regular depression is produced on the insert's rake face. Crater wear occurs in two ways:

1. Material adhering to the insert's top surface is dislodged, carrying away minute fragments of the top surface of the insert.
2. Frictional heat builds up from the flow of chips over the top surface of the insert. Eventually, this heat buildup softens the insert behind the cutting edge and removes minute particles of the insert until a crater forms.

Crater wear is rarely encountered in milling, but can appear when machining certain steel and cast iron alloys. If crater wear becomes severe, there is a risk that the cutting edge will break, destroying the insert.

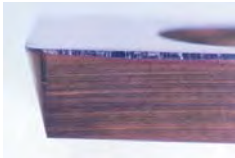
problem	cause	solution
crater wear 	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use a more wear-resistant grade.
	<ul style="list-style-type: none"> • speed 	<ul style="list-style-type: none"> • Reduce cutting speed.
	<ul style="list-style-type: none"> • edge-prep 	<ul style="list-style-type: none"> • Use smaller T-land or increase feed to proper range for T-land.



Flank wear:


Uniform flank wear is the preferred method of insert failure because it can be predicted. Excessive flank wear increases cutting forces and contributes to poor surface finish. When wear occurs at an unacceptable rate or becomes unpredictable, the key elements that must be investigated are speed, feed, grade, and insert/cutter geometry.

NOTE: Inserts should be indexed for roughing applications when flank wear reaches .015–.020" (0,38–0,50mm). For finish applications, inserts should be indexed once flank wear reaches 0.01–0.015" (0,25–0,38mm), if not sooner.

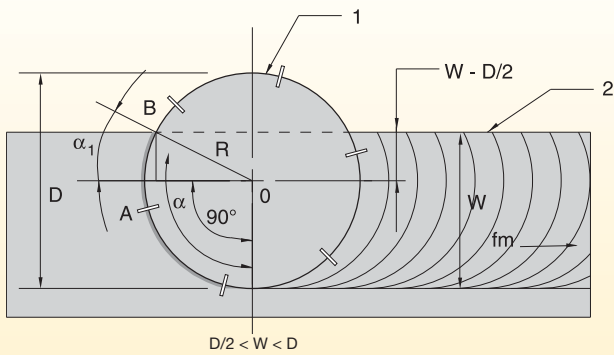
problem	cause	solution
flank wear 	<ul style="list-style-type: none"> • speed 	<ul style="list-style-type: none"> • Check this area first. Recalculate SFM (Vc) to assure correctness. • Speed should be reduced without changing feed per tooth.
	<ul style="list-style-type: none"> • feed 	<ul style="list-style-type: none"> • Increase feed per tooth (feed should be high enough to avoid the pure rubbing, which occurs with small chip thickness).
	<ul style="list-style-type: none"> • grade 	<ul style="list-style-type: none"> • Use more wear-resistant grade. • Change to a coated grade if you are now using an uncoated grade.
	<ul style="list-style-type: none"> • insert geometry 	<ul style="list-style-type: none"> • Inspect insert to determine if proper style is being used in the cutter.

Multiple factors:

When wear, chipping, thermal cracking, and breakage occur at once, the machine operator must look beyond the normal feed, speed, and depth-of-cut adjustments to find the root cause of the problem. Speed, feed, and depth-of-cut parameters should be re-examined for accuracy, but the system's rigidity should also be closely inspected for loose or worn parts as well.

problem	cause	solution
multiple factors 	<ul style="list-style-type: none"> • system rigidity 	<ul style="list-style-type: none"> • Check system for loose cutter mounting. • Improve fixture and cutter rigidity. • Check for worn hardware or improper insert installation. • Reduce the gauge length of the cutter and arbor assembly.
	<ul style="list-style-type: none"> • feed 	<ul style="list-style-type: none"> • Reduce feed rate to relieve cutting forces.
	<ul style="list-style-type: none"> • cutter geometry 	<ul style="list-style-type: none"> • If possible, use a lead angle cutter to redirect cutting forces away from the insert nose.
	<ul style="list-style-type: none"> • insert/grade 	<ul style="list-style-type: none"> • If possible, use a larger nose radius. • Use T-land insert. • Use a tougher grade of carbide.

Appendix • Engagement Angle and Number of Inserts in Cut

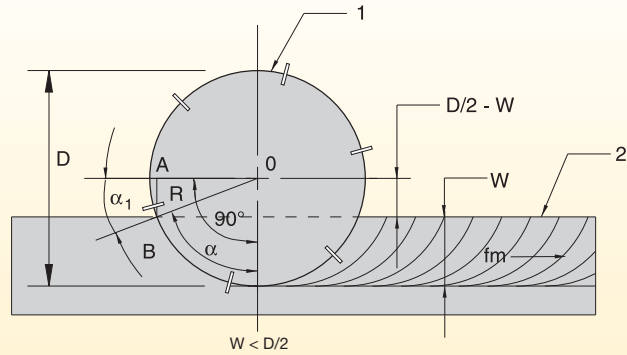


$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ} \quad \alpha = 90^\circ + \alpha_1$$

$$\sin \alpha_1 = \frac{AB}{OB} = \frac{W - D/2}{D/2} = \frac{2(W - D/2)}{D} = \frac{2W - D}{D};$$

$$\alpha_1 = \arcsin \frac{2W - D}{D};$$

$$Z_c = \frac{Z \left(90^\circ + \arcsin \frac{2W - D}{D} \right)}{360^\circ}$$



$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ} \quad \alpha = 90^\circ - \alpha_1$$

$$\sin \alpha_1 = \frac{AB}{OB} = \frac{D/2 - W}{D/2} = \frac{2(D/2 - W)}{D} = \frac{D - 2W}{D};$$

$$\alpha_1 = \arcsin \frac{D - 2W}{D}$$

$$Z_c = \frac{Z \left(90^\circ - \arcsin \frac{D - 2W}{D} \right)}{360^\circ}$$

D = cutter diameter

W = width of cut (woc)

α = engagement angle

α₁ = angle between cutter centerline and cutter radius to the peripheral point of exit or entry

Z = number of inserts in cutter

Z_c = number of inserts in cut



Service and Support

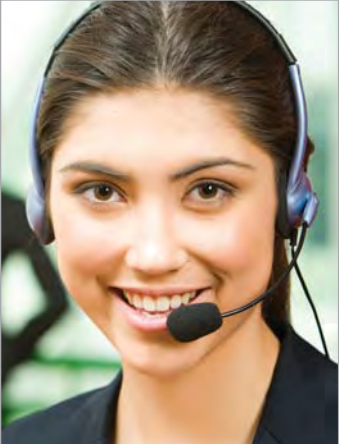
Customer Application Support (CAS)

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

SERVICE LEVEL EXCELLENCE	Fast telephone response. Quick technical solutions. Efficient case management.	
SERVICES	Operating parameters. Process optimization. Hardware support. Tooling selection. Troubleshooting.	
BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY	Materials database. Application calculators. Tooling performance experts.	

Originating Country	Language	Phone	E-mail
Australia	English	1800 666 667	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	k-cn.techsupport@kennametal.com
Denmark	English	808 89298	na.techsupport@kennametal.com
Finland	English	0800 919412	na.techsupport@kennametal.com
France	French	080 5540 367	eu.techsupport@kennametal.com
Germany	German	0800 0006651	eu.techsupport@kennametal.com
India	English	1 800 103 5227	in.techsupport@kennametal.com
Israel	English	1809 449889	na.techsupport@kennametal.com
Italy	Italian	800 916561	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	ap-kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	ap-kmt.techsupport@kennametal.com
Mexico	Spanish	1800 253 0758	na.techsupport@kennametal.com
Netherlands	English	0800 0201 130	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	ap-kmt.techsupport@kennametal.com
Norway	English	800 10080	na.techsupport@kennametal.com
Poland	Polish	0080 04411887	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643	na.techsupport@kennametal.com
Sweden	English	020799246	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	ap-kmt.techsupport@kennametal.com
UK	English	0800 032 8339	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	eu.techsupport@kennametal.com
USA	English	800 835 3668	na.techsupport@kennametal.com

Numbers shown only serve the originating country listed.

■ Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		GH1			GH2			K110M			K115M			K313			KBK50			KC410M*		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	1	1150	855	525	985	720	475	510	475	460	720	590	475	755	675	590	3935	2625	1970	-	-	-
	2	970	720	475	855	625	410	460	410	395	590	475	360	-	-	-	3935	2625	1970	-	-	-
	3	785	625	460	720	575	395	395	360	310	360	295	230	-	-	-	3935	2625	1970	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KC422M*			KC505M			KC510M			KC515M			KC520M			KC522M			KC524M		
P	1	-	-	-	-	-	-	-	-	-	1085	970	855	-	-	-	1295	1115	1065	-	-	-
	2	-	-	-	-	-	-	-	-	-	1015	900	785	-	-	-	1085	950	785	-	-	-
	3	-	-	-	-	-	-	-	-	-	900	785	675	-	-	-	1000	855	690	-	-	-
	4	-	-	-	1180	870	705	970	785	675	785	675	525	-	-	-	885	720	590	-	-	-
	5	-	-	-	1180	870	705	-	-	-	675	525	410	-	-	-	720	675	590	-	-	-
	6	-	-	-	1150	785	625	-	-	-	525	410	360	-	-	-	655	490	395	-	-	-
M	1	-	-	-	-	-	-	-	-	1085	900	785	-	-	-	805	705	655	-	-	-	
	2	-	-	-	-	-	-	-	-	900	720	525	-	-	-	720	625	510	-	-	-	
	3	-	-	-	-	-	-	-	-	720	590	475	-	-	-	560	475	375	-	-	-	
K	1	-	-	-	755	675	590	1165	1050	950	1445	1085	720	1065	970	855	900	805	720	1475	1050	755
	2	-	-	-	690	605	525	900	805	755	1085	855	590	820	755	690	705	625	590	1280	805	625
	3	-	-	-	460	375	295	770	690	625	475	360	230	690	625	575	590	525	475	985	720	510
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	870	675	560	625	510	360	560	395	310	-	-	-	475	360	280	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

(continued)

Dry

Wet

(continued)

Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		KC525M			KC530M			KC725M			KC735M			KCK15			KCK20			KCPK30		
P	1	870	785	705	900	785	675	1015	900	855	510	475	395	-	-	-	-	-	-	1790	1560	1460
	2	705	625	590	785	675	525	870	755	625	475	425	410	-	-	-	-	-	-	1100	1000	900
	3	625	590	560	675	590	525	785	675	560	425	395	360	-	-	-	-	-	-	1000	900	805
	4	560	510	475	590	525	475	705	590	475	395	360	310	-	-	-	-	-	-	755	690	625
	5	590	560	510	525	475	410	590	525	475	360	310	295	-	-	-	-	-	-	1015	900	820
	6	510	475	425	410	360	295	510	395	310	310	295	280	-	-	-	-	-	-	625	525	-
M	1	590	560	510	900	720	590	675	590	525	410	360	310	-	-	-	-	-	-	805	720	605
	2	510	475	425	590	475	410	605	510	425	375	330	295	-	-	-	-	-	-	720	625	560
	3	360	310	280	475	410	360	460	395	310	280	230	-	-	-	-	-	-	-	575	510	460
K	1	-	-	-	-	-	-	-	-	-	-	-	-	1655	1510	1345	1150	1000	855	1165	1050	950
	2	-	-	-	-	-	-	-	-	-	-	-	-	1310	1165	1085	900	785	690	920	820	755
	3	-	-	-	-	-	-	-	-	-	-	-	-	1100	985	900	755	675	575	770	690	625
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KCPM40			KCSM30			KCSM40			KD1400*			KD1410*			KD1415*			KD1425*		
P	1	1165	1015	970	1460	1265	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	985	855	705	1200	1065	870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	900	770	625	1115	950	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	805	675	525	985	805	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	675	605	525	805	755	655	675	575	475	-	-	-	-	-	-	-	-	-	-	-	-
	6	590	460	360	720	560	425	590	425	310	-	-	-	-	-	-	-	-	-	-	-	-
M	1	770	675	605	885	785	720	820	675	560	-	-	-	-	-	-	-	-	-	-	-	-
	2	690	590	490	805	705	575	705	575	475	-	-	-	-	-	-	-	-	-	-	-	-
	3	510	460	360	605	525	410	575	425	330	-	-	-	-	-	-	-	-	-	-	-	-
K	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	525	395	295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

(continued)

Dry
 Wet

(continued)

■ Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		KTPK20			KY3500			KYS30			KYSP30			MP91M			SC3025			SC6525		
P	1	1445	1180	1000	-	-	-	-	-	-	-	-	-	1360	970	560	-	-	-	1460	1000	560
	2	885	755	625	-	-	-	-	-	-	-	-	-	1200	855	475	-	-	-	1280	885	475
	3	805	675	575	-	-	-	-	-	-	-	-	-	1065	755	410	-	-	-	1150	785	410
	4	590	510	425	-	-	-	-	-	-	-	-	-	805	575	310	-	-	-	820	575	310
	5	820	690	575	-	-	-	2985	2395	1790	2985	2395	1790	-	-	-	-	-	-	625	475	310
	6	510	410	-	-	-	-	2985	2395	1790	2985	2395	1790	-	-	-	-	-	-	560	395	230
M	1	950	770	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	785	705	560
	2	855	720	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	755	625	475
	3	625	525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	575	510	360
K	1	900	770	625	3165	2870	2560	-	-	-	-	-	-	1445	1000	575	1560	1085	590	1540	1065	575
	2	720	590	510	2495	2245	2085	-	-	-	-	-	-	1115	785	460	1310	900	475	1200	820	460
	3	590	510	410	-	-	-	-	-	-	-	-	-	1015	720	410	1085	755	410	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	2640	2165	1675	2640	2165	1675	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	2640	2165	1675	2640	2165	1675	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	3840	3135	2395	3840	3135	2395	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	410	310	195	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	375	280	165	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		SP4019			SP6519			X400			X500			X700		
P	1	1245	900	560	1165	855	510	1015	755	475	1065	785	510	-	-	-
	2	1085	785	475	1015	755	460	900	675	410	950	705	460	-	-	-
	3	970	690	410	900	655	395	785	590	375	820	605	395	-	-	-
	4	755	525	310	690	490	295	590	425	280	625	475	295	-	-	-
	5	590	425	280	560	410	280	-	-	-	510	395	280	525	410	280
	6	510	360	195	475	330	195	-	-	-	425	310	195	460	330	195
M	1	1100	785	475	1065	770	460	-	-	-	985	720	460	1015	755	460
	2	985	705	425	920	675	410	-	-	-	870	625	395	900	675	410
	3	785	575	360	770	560	330	-	-	-	705	510	310	755	560	330
K	1	1295	950	575	1165	870	560	-	-	-	1015	870	675	-	-	-
	2	1000	720	460	950	690	425	-	-	-	870	705	510	-	-	-
	3	920	675	410	870	625	395	-	-	-	675	560	395	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	395	295	195	-	-	-	375	280	180	-	-	-	-	-	-
	2	360	260	165	-	-	-	310	230	130	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Dry

Wet

■ Inch • Shoulder Milling, Slotting, and Thread Mills

Material Group		GH1			GH2			K110M			K115M			K313			KBK50			KC410M*		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	1	950	705	445	820	605	395	425	395	375	605	490	395	625	560	490	3280	2180	1640	-	-	-
	2	805	605	395	705	525	345	375	345	330	490	395	295	-	-	-	3280	2180	1640	-	-	-
	3	655	525	375	605	475	330	330	295	260	295	245	195	-	-	-	3280	2180	1640	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KC422M *			KC505M			KC510M			KC515M			KC520M			KC522M			KC524M		
P	1	-	-	-	-	-	-	-	-	-	900	805	705	-	-	-	1085	935	885	-	-	-
	2	-	-	-	-	-	-	-	-	-	855	755	655	-	-	-	900	785	655	-	-	-
	3	-	-	-	-	-	-	-	-	-	755	655	560	-	-	-	835	705	575	-	-	-
	4	-	-	-	985	720	590	805	655	560	655	560	445	-	-	-	740	605	490	-	-	-
	5	-	-	-	985	720	590	-	-	-	560	445	345	-	-	-	605	560	490	-	-	-
	6	-	-	-	950	655	525	-	-	-	445	345	295	-	-	-	540	410	330	-	-	-
M	1	-	-	-	-	-	-	-	-	-	900	755	655	-	-	-	675	590	540	-	-	-
	2	-	-	-	-	-	-	-	-	-	755	605	445	-	-	-	605	525	425	-	-	-
	3	-	-	-	-	-	-	-	-	-	605	490	395	-	-	-	460	395	310	-	-	-
K	1	-	-	-	625	560	490	970	870	785	1200	900	605	885	805	705	755	675	605	1230	870	625
	2	-	-	-	575	510	445	755	675	625	900	705	490	690	625	575	590	525	490	1065	675	525
	3	-	-	-	375	310	245	640	575	525	395	295	195	575	525	475	490	445	395	820	605	425
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	720	560	460	525	425	295	460	330	260	-	-	-	395	295	230	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

(continued)

- Dry
- Wet

(continued)

Inch • Shoulder Milling, Slotting, and Thread Mills

Material Group		KC525M			KC530M			KC725M			KC735M			KCK15			KCK20			KCPK30		
P	1	720	655	590	755	655	560	855	755	705	425	395	330	-	-	-	-	-	-	1495	1295	1215
	2	590	525	490	655	560	445	720	625	525	395	360	345	-	-	-	-	-	-	920	835	755
	3	525	490	460	560	490	445	655	560	460	360	330	295	-	-	-	-	-	-	835	755	675
	4	460	425	395	490	445	395	590	490	395	330	295	260	-	-	-	-	-	-	625	575	525
	5	490	460	425	445	395	345	490	445	395	295	260	245	-	-	-	-	-	-	855	755	690
	6	425	395	360	345	295	245	425	330	260	260	245	230	-	-	-	-	-	-	525	445	-
M	1	490	460	425	755	605	490	560	490	445	345	295	260	-	-	-	-	-	-	675	605	510
	2	425	395	360	490	395	345	510	425	360	310	280	245	-	-	-	-	-	-	605	525	460
	3	295	260	230	395	345	295	375	330	260	230	195	-	-	-	-	-	-	-	475	425	375
K	1	-	-	-	-	-	-	-	-	-	-	-	-	1380	1265	1115	950	835	705	970	870	785
	2	-	-	-	-	-	-	-	-	-	-	-	-	1100	970	900	755	655	575	770	690	625
	3	-	-	-	-	-	-	-	-	-	-	-	-	920	820	755	625	560	475	640	575	525
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KCPM40			KCSM30			KCSM40			KD1400*			KD1410*			KD1415*			KD1425*		
P	1	970	855	805	1215	1050	985	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	820	705	590	1000	885	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	755	640	525	935	785	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	675	560	445	820	675	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	560	510	445	675	625	540	560	475	395	-	-	-	-	-	-	-	-	-	-	-	-
	6	490	375	295	605	460	360	490	360	260	-	-	-	-	-	-	-	-	-	-	-	-
M	1	640	560	510	740	655	605	690	560	460	-	-	-	-	-	-	-	-	-	-	-	-
	2	575	490	410	675	590	475	590	475	395	-	-	-	-	-	-	-	-	-	-	-	-
	3	425	375	295	510	445	345	475	360	280	-	-	-	-	-	-	-	-	-	-	-	-
K	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	445	330	245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

(continued)

- Dry
- Wet

(continued)

■ Inch • Shoulder Milling, Slotting, and Thread Mills

Material Group		KTPK20	KY3500	KYS30	KYSP30	MP91M	SC3025	SC6525
P	1	1200 985 835	- - -	- - -	- - -	1130 805 460	- - -	1215 835 460
	2	740 625 525	- - -	- - -	- - -	1000 705 395	- - -	1065 740 395
	3	675 560 475	- - -	- - -	- - -	885 625 345	- - -	950 655 345
	4	490 425 360	- - -	- - -	- - -	675 475 260	- - -	690 475 260
	5	690 575 475	- - -	2495 2000 1495	2495 2000 1495	- - -	- - -	525 395 260
	6	425 345 -	- - -	2495 2000 1495	2495 2000 1495	- - -	- - -	460 330 195
M	1	785 640 540	- - -	- - -	- - -	- - -	- - -	655 590 460
	2	705 605 490	- - -	- - -	- - -	- - -	- - -	625 525 395
	3	525 445 -	- - -	- - -	- - -	- - -	- - -	475 425 295
K	1	755 640 525	2640 2395 2135	- - -	- - -	1200 835 475	1295 900 490	1280 885 475
	2	605 490 425	2085 1870 1740	- - -	- - -	935 655 375	1100 755 395	1000 690 375
	3	490 425 345	- - -	- - -	- - -	855 605 345	900 625 345	- - -
N	1	- - -	- - -	- - -	- - -	- - -	- - -	- - -
	2	- - -	- - -	- - -	- - -	- - -	- - -	- - -
	3	- - -	- - -	- - -	- - -	- - -	- - -	- - -
S	1	- - -	- - -	2200 1805 1395	2200 1805 1395	- - -	- - -	- - -
	2	- - -	- - -	2200 1805 1395	2200 1805 1395	- - -	- - -	- - -
	3	- - -	- - -	3200 2610 2000	3200 2610 2000	- - -	- - -	- - -
	4	- - -	- - -	- - -	- - -	- - -	- - -	- - -
H	1	- - -	- - -	- - -	- - -	345 260 165	- - -	- - -
	2	- - -	- - -	- - -	- - -	310 230 130	- - -	- - -
	3	- - -	- - -	- - -	- - -	- - -	- - -	- - -

Material Group		SP4019	SP6519	X400	X500	X700
P	1	1035 755 460	970 705 425	855 625 395	885 655 425	- - -
	2	900 655 395	855 625 375	755 560 345	785 590 375	- - -
	3	805 575 345	755 540 330	655 490 310	690 510 330	- - -
	4	625 445 260	575 410 245	490 360 230	525 395 245	- - -
	5	490 360 230	460 345 230	- - -	425 330 230	445 345 230
	6	425 295 165	395 280 165	- - -	360 260 165	375 280 165
M	1	920 655 395	885 640 375	- - -	820 605 375	855 625 375
	2	820 590 360	770 560 345	- - -	720 525 330	755 560 345
	3	655 475 295	640 460 280	- - -	590 425 260	625 460 280
K	1	1085 785 475	970 720 460	- - -	855 720 560	- - -
	2	835 605 375	785 575 360	- - -	720 590 425	- - -
	3	770 560 345	720 525 330	- - -	560 460 330	- - -
N	1	- - -	- - -	- - -	- - -	- - -
	2	- - -	- - -	- - -	- - -	- - -
	3	- - -	- - -	- - -	- - -	- - -
S	1	- - -	- - -	- - -	- - -	- - -
	2	- - -	- - -	- - -	- - -	- - -
	3	- - -	- - -	- - -	- - -	- - -
	4	- - -	- - -	- - -	- - -	- - -
H	1	330 245 165	- - -	310 230 150	- - -	- - -
	2	295 215 130	- - -	260 195 115	- - -	- - -
	3	- - -	- - -	- - -	- - -	- - -

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Dry

Wet

■ Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		GH1			GH2			K110M			K115M			K313			KBK50*			KC410M		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	1	920	685	420	790	575	380	410	380	370	575	470	380	605	540	470	3150	2100	1575	-	-	-
	2	775	575	380	685	500	330	370	330	315	470	380	290	-	-	-	3150	2100	1575	-	-	-
	3	630	500	370	575	460	315	315	290	250	290	235	185	-	-	-	3150	2100	1575	-	-	-
N	1	3780	2940	1260	3780	2980	1260	1590	1495	1415	1155	870	575	2510	2190	1890	-	-	-	3830	3400	3135
	2	3780	2940	1260	3780	2980	1260	1290	1155	1010	775	575	470	-	-	-	-	-	-	3400	3135	2890
	3	2785	2585	930	2785	2295	930	1290	1155	1010	775	575	470	-	-	-	-	-	-	3400	3135	2890
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	235	185	145	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Material Group		KC422M			KC505M			KC510M			KC515M			KC520M			KC522M			KC524M		
P	1	-	-	-	-	-	-	-	-	-	870	775	685	-	-	-	1035	890	850	-	-	-
	2	-	-	-	-	-	-	-	-	-	810	720	630	-	-	-	870	760	630	-	-	-
	3	-	-	-	-	-	-	-	-	-	720	630	540	-	-	-	800	685	550	-	-	-
	4	-	-	-	945	695	565	775	630	540	630	540	420	-	-	-	710	575	470	-	-	-
	5	-	-	-	945	695	565	-	-	-	540	420	330	-	-	-	575	540	470	-	-	-
	6	-	-	-	920	630	500	-	-	-	420	330	290	-	-	-	525	390	315	-	-	-
M	1	-	-	-	-	-	-	-	-	-	870	720	630	-	-	-	645	565	525	-	-	-
	2	-	-	-	-	-	-	-	-	-	720	575	420	-	-	-	575	500	410	-	-	-
	3	-	-	-	-	-	-	-	-	-	575	470	380	-	-	-	450	380	300	-	-	-
K	1	-	-	-	605	540	470	930	840	760	1155	870	575	850	775	685	720	645	575	1180	840	605
	2	-	-	-	550	485	420	720	645	605	870	685	470	655	605	550	565	500	470	1025	645	500
	3	-	-	-	370	300	235	615	550	500	380	290	185	550	500	460	470	420	380	790	575	410
N	1	3385	2980	2755	-	-	-	2020	1795	1650	-	-	-	-	-	-	-	-	-	-	-	-
	2	2980	2755	2390	-	-	-	1825	1680	1550	-	-	-	-	-	-	-	-	-	-	-	-
	3	2980	2755	2390	-	-	-	1825	1680	1550	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	105	80	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	105	80	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155	130	80	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225	155	105	-	-	-
H	1	-	-	-	695	540	450	500	410	290	450	315	250	-	-	-	380	290	225	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

*Recommended for dry machining only.

(continued)

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Dry

Wet

(continued)

■ Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		KC525M			KC530M			KC725M			KC735M			KCK15			KCK20			KCPK30		
P	1	695	630	565	720	630	540	810	720	685	410	380	315	-	-	-	-	-	-	1430	1250	1170
	2	565	500	470	630	540	420	695	605	500	380	340	330	-	-	-	-	-	-	880	800	720
	3	500	470	450	540	470	420	630	540	450	340	315	290	-	-	-	-	-	-	800	720	645
	4	450	410	380	470	420	380	565	470	380	315	290	250	-	-	-	-	-	-	605	550	500
	5	470	450	410	420	380	330	470	420	380	290	250	235	-	-	-	-	-	-	810	720	655
	6	410	380	340	330	290	235	410	315	250	250	235	225	-	-	-	-	-	-	500	420	-
M	1	470	450	410	720	575	470	540	470	420	330	290	250	-	-	-	-	-	-	645	575	485
	2	410	380	340	470	380	330	485	410	340	300	265	235	-	-	-	-	-	-	575	500	450
	3	290	250	225	380	330	290	370	315	250	225	185	-	-	-	-	-	-	-	460	410	370
K	1	-	-	-	-	-	-	-	-	-	-	-	-	1325	1210	1075	920	800	685	930	840	760
	2	-	-	-	-	-	-	-	-	-	-	-	-	1050	930	870	720	630	550	735	655	605
	3	-	-	-	-	-	-	-	-	-	-	-	-	880	790	720	605	540	460	615	550	500
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	185	170	155	-	-	-	105	90	80	-	-	-	-	-	-	-	-	-	-	-	-
	2	185	170	155	-	-	-	105	90	80	-	-	-	-	-	-	-	-	-	-	-	-
	3	155	145	130	-	-	-	145	105	80	-	-	-	-	-	-	-	-	-	-	-	-
	4	185	155	130	210	155	145	170	145	90	-	-	-	-	-	-	-	-	-	210	155	105
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KCPM40			KCSM30			KCSM40			KD1400			KD1410			KD1415			KD1425		
P	1	930	810	775	1170	1010	945	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	790	685	565	960	850	695	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	720	615	500	890	760	615	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	645	540	420	790	645	525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	540	485	420	645	605	525	540	460	380	-	-	-	-	-	-	-	-	-	-	-	-
	6	470	370	290	575	450	340	470	340	250	-	-	-	-	-	-	-	-	-	-	-	-
M	1	615	540	485	710	630	575	655	540	450	-	-	-	-	-	-	-	-	-	-	-	-
	2	550	470	390	645	565	460	565	460	380	-	-	-	-	-	-	-	-	-	-	-	-
	3	410	370	290	485	420	330	460	340	265	-	-	-	-	-	-	-	-	-	-	-	-
K	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	2390	5195	12810	12625	11035	9425	12625	11035	9425	2390	5195	12810
	2	-	-	-	-	-	-	-	-	-	2390	5195	12810	5040	4710	4410	5040	4710	4410	2390	5195	12810
	3	-	-	-	-	-	-	-	-	-	1210	1600	1865	5040	4710	4410	5040	4710	4410	1210	1600	1865
S	1	130	105	90	145	130	90	130	105	80	-	-	-	-	-	-	-	-	-	-	-	-
	2	130	105	90	145	130	90	130	105	80	-	-	-	-	-	-	-	-	-	-	-	-
	3	155	130	90	170	145	90	155	130	80	-	-	-	-	-	-	-	-	-	-	-	-
	4	210	155	105	225	185	130	185	155	90	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	420	315	235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

(continued)

Dry
 Wet

(continued)

■ Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

Material Group		KTPK20			KY3500			KYS30*			KYP30*			SC3025			SC6525			SP4019		
P	1	1155	945	800	-	-	-	-	-	-	-	-	-	-	-	-	1170	800	450	995	720	450
	2	710	605	500	-	-	-	-	-	-	-	-	-	-	-	-	1025	710	380	870	630	380
	3	645	540	460	-	-	-	-	-	-	-	-	-	-	-	-	920	630	330	775	550	330
	4	470	410	340	-	-	-	-	-	-	-	-	-	-	-	-	655	460	250	605	420	250
	5	655	550	460	-	-	-	-	-	-	-	-	-	-	-	-	500	380	250	470	340	225
	6	410	330	-	-	-	-	-	-	-	-	-	-	-	-	-	450	315	185	410	290	155
M	1	760	615	525	-	-	-	-	-	-	-	-	-	-	-	-	630	565	450	880	630	380
	2	685	575	470	-	-	-	-	-	-	-	-	-	-	-	-	605	500	380	790	565	340
	3	500	420	-	-	-	-	-	-	-	-	-	-	-	-	-	460	410	290	630	460	290
K	1	720	615	500	2530	2295	2050	-	-	-	-	-	-	1250	870	470	1230	850	460	1035	760	460
	2	575	470	410	1995	1795	1670	-	-	-	-	-	-	1050	720	380	960	655	370	800	575	370
	3	470	410	330	-	-	-	-	-	-	-	-	-	870	605	330	-	-	-	735	540	330
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9120	5195	1260
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9120	5195	1260
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7310	4120	930
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195	145	80
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155	130	80
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	145	80
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265	185	120
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	315	235	155
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290	210	130
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		SP6519			X400			X500			X700		
P	1	930	685	410	810	605	380	850	630	410	-	-	-
	2	810	605	370	720	540	330	760	565	370	-	-	-
	3	720	525	315	630	470	300	655	485	315	-	-	-
	4	550	390	235	470	340	225	500	380	235	-	-	-
	5	450	330	225	-	-	-	410	315	225	420	330	225
	6	380	265	155	-	-	-	340	250	155	370	265	155
M	1	850	615	370	-	-	-	790	575	370	810	605	370
	2	735	540	330	-	-	-	695	500	315	720	540	330
	3	615	450	265	-	-	-	565	410	250	605	450	265
K	1	930	695	450	-	-	-	810	695	540	-	-	-
	2	760	550	340	-	-	-	695	565	410	-	-	-
	3	695	500	315	-	-	-	540	450	315	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	170	130	80	-	-	-	155	105	80	155	130	80
	2	155	105	65	-	-	-	145	105	65	145	105	65
	3	170	130	80	-	-	-	155	130	80	170	130	80
	4	250	185	120	-	-	-	235	170	105	235	170	120
H	1	-	-	-	300	225	145	-	-	-	-	-	-
	2	-	-	-	250	185	105	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in bold type.

As the average chip thickness increases, the speed should be decreased.

Dry

Wet

■ Inch • Shoulder and Slotting Cutters, Thread Mills

Material Group		GH1			GH2			K110M			K115M			K313			KBK50 *			KC410M		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
K	1	760	565	355	655	485	315	340	315	300	485	390	315	500	450	390	2625	1745	1310	-	-	-
	2	645	485	315	565	420	275	300	275	265	390	315	235	-	-	-	2625	1745	1310	-	-	-
	3	525	420	300	485	380	265	265	235	210	235	195	155	-	-	-	2625	1745	1310	-	-	-
N	1	3150	2455	1050	3150	2480	1050	1325	1250	1180	960	720	485	2090	1825	1575	-	-	-	3190	2835	2610
	2	3150	2455	1050	3150	2480	1050	1075	960	840	645	485	390	-	-	-	-	-	-	2835	2610	2400
	3	2325	2150	775	2325	1915	775	1075	960	840	645	485	390	-	-	-	-	-	-	2835	2610	2400
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	195	155	120	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Material Group		KC422M			KC505M			KC510M			KC515M			KC520M			KC522M			KC524M		
P	1	-	-	-	-	-	-	-	-	-	720	645	565	-	-	-	870	750	710	-	-	-
	2	-	-	-	-	-	-	-	-	-	685	605	525	-	-	-	720	630	525	-	-	-
	3	-	-	-	-	-	-	-	-	-	605	525	450	-	-	-	670	565	460	-	-	-
	4	-	-	-	790	575	470	645	525	450	525	450	355	-	-	-	590	485	390	-	-	-
	5	-	-	-	790	575	470	-	-	-	450	355	275	-	-	-	485	450	390	-	-	-
	6	-	-	-	760	525	420	-	-	-	355	275	235	-	-	-	430	330	265	-	-	-
M	1	-	-	-	-	-	-	-	-	-	720	605	525	-	-	-	540	470	430	-	-	-
	2	-	-	-	-	-	-	-	-	-	605	485	355	-	-	-	485	420	340	-	-	-
	3	-	-	-	-	-	-	-	-	-	485	390	315	-	-	-	370	315	250	-	-	-
K	1	-	-	-	500	450	390	775	695	630	960	720	485	710	645	565	605	540	485	985	695	500
	2	-	-	-	460	410	355	605	540	500	720	565	390	550	500	460	470	420	390	850	540	420
	3	-	-	-	300	250	195	510	460	420	315	235	155	460	420	380	390	355	315	655	485	340
N	1	2820	2480	2295	-	-	-	1680	1495	1380	-	-	-	-	-	-	-	-	-	-	-	-
	2	2480	2295	1995	-	-	-	1525	1405	1290	-	-	-	-	-	-	-	-	-	-	-	-
	3	2480	2295	1995	-	-	-	1525	1405	1290	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	90	65	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	90	65	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	105	65	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185	130	90	-	-	-
H	1	-	-	-	575	450	370	420	340	235	370	265	210	-	-	-	315	235	185	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for dry machining only.
NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

(continued)

Dry
 Wet

(continued)

Inch • Shoulder and Slotting Cutters, Thread Mills

Material Group		KC525M			KC530M			KC725M			KC735M			KCK15			KCK20			KCPK30		
P	1	575	525	470	605	525	450	685	605	565	340	315	265	-	-	-	-	-	-	1195	1035	970
	2	470	420	390	525	450	355	575	500	420	315	290	275	-	-	-	-	-	-	735	670	605
	3	420	390	370	450	390	355	525	450	370	290	265	235	-	-	-	-	-	-	670	605	540
	4	370	340	315	390	355	315	470	390	315	265	235	210	-	-	-	-	-	-	500	460	420
	5	390	370	340	355	315	275	390	355	315	235	210	195	-	-	-	-	-	-	685	605	550
	6	340	315	290	275	235	195	340	265	210	210	195	185	-	-	-	-	-	-	420	355	-
M	1	390	370	340	605	485	390	450	390	355	275	235	210	-	-	-	-	-	-	540	485	410
	2	340	315	290	390	315	275	410	340	290	250	225	195	-	-	-	-	-	-	485	420	370
	3	235	210	185	315	275	235	300	265	210	185	155	-	-	-	-	-	-	-	380	340	300
K	1	-	-	-	-	-	-	-	-	-	-	-	-	1105	1010	890	760	670	565	775	695	630
	2	-	-	-	-	-	-	-	-	-	-	-	-	880	775	720	605	525	460	615	550	500
	3	-	-	-	-	-	-	-	-	-	-	-	-	735	655	605	500	450	380	510	460	420
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	155	145	130	-	-	-	90	80	65	-	-	-	-	-	-	-	-	-	-	-	-
	2	155	145	130	-	-	-	90	80	65	-	-	-	-	-	-	-	-	-	-	-	-
	3	130	120	105	-	-	-	120	90	65	-	-	-	-	-	-	-	-	-	-	-	-
	4	155	130	105	170	130	120	145	120	80	-	-	-	-	-	-	-	-	-	170	130	90
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		KCPM40			KCSM30			KCSM40			KD1400			KD1410			KD1415			KD1425		
P	1	775	685	645	970	840	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	655	565	470	800	710	575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	605	510	420	750	630	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	540	450	355	655	540	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	450	410	355	540	500	430	450	380	315	-	-	-	-	-	-	-	-	-	-	-	-
	6	390	300	235	485	370	290	390	290	210	-	-	-	-	-	-	-	-	-	-	-	-
M	1	510	450	410	590	525	485	550	450	370	-	-	-	-	-	-	-	-	-	-	-	-
	2	460	390	330	540	470	380	470	380	315	-	-	-	-	-	-	-	-	-	-	-	-
	3	340	300	235	410	355	275	380	290	225	-	-	-	-	-	-	-	-	-	-	-	-
K	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	1995	4330	10670	10525	9200	7850	10525	9200	7850	1995	4330	10670
	2	-	-	-	-	-	-	-	-	-	1995	4330	10670	4200	3925	3675	4200	3925	3675	1995	4330	10670
	3	-	-	-	-	-	-	-	-	-	1010	1340	1550	4200	3925	3675	4200	3925	3675	1010	1340	1550
S	1	105	90	80	120	105	80	105	90	65	-	-	-	-	-	-	-	-	-	-	-	-
	2	105	90	80	120	105	80	105	90	65	-	-	-	-	-	-	-	-	-	-	-	-
	3	130	105	80	145	120	80	130	105	65	-	-	-	-	-	-	-	-	-	-	-	-
	4	170	130	90	185	155	105	155	130	80	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	355	265	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

(continued)

- Dry
- Wet

(continued)

■ Inch • Shoulder and Slotting Cutters, Thread Mills

Material Group		KTPK20			KY3500 *			KYS30*			KYSP30*			SC3025			SC6525			SP4019		
P	1	960	790	670	-	-	-	-	-	-	-	-	-	-	-	-	970	670	370	830	605	370
	2	590	500	420	-	-	-	-	-	-	-	-	-	-	-	-	850	590	315	720	525	315
	3	540	450	380	-	-	-	-	-	-	-	-	-	-	-	-	760	525	275	645	460	275
	4	390	340	290	-	-	-	-	-	-	-	-	-	-	-	-	550	380	210	500	355	210
	5	550	460	380	-	-	-	-	-	-	-	-	-	-	-	-	420	315	210	390	290	185
	6	340	275	-	-	-	-	-	-	-	-	-	-	-	-	-	370	265	155	340	235	130
M	1	630	510	430	-	-	-	-	-	-	-	-	-	-	-	-	525	470	370	735	525	315
	2	565	485	390	-	-	-	-	-	-	-	-	-	-	-	-	500	420	315	655	470	290
	3	420	355	-	-	-	-	-	-	-	-	-	-	-	-	-	380	340	235	525	380	235
K	1	605	510	420	2110	1915	1710	-	-	-	-	-	-	1035	720	390	1025	710	380	870	630	380
	2	485	390	340	1670	1495	1390	-	-	-	-	-	-	880	605	315	800	550	300	670	485	300
	3	390	340	275	-	-	-	-	-	-	-	-	-	720	500	275	-	-	-	615	450	275
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7600	4330	1050
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7600	4330	1050
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6090	3440	775
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	165	120	65
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	135	105	60
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155	120	70
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	155	95
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265	195	130
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235	170	105
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Material Group		SP6519			X400			X500			X700		
P	1	775	565	340	685	500	315	710	525	340	-	-	-
	2	685	500	300	605	450	275	630	470	300	-	-	-
	3	605	430	265	525	390	250	550	410	265	-	-	-
	4	460	330	195	390	290	185	420	315	195	-	-	-
	5	370	275	185	-	-	-	340	265	185	355	275	185
	6	315	225	130	-	-	-	290	210	130	300	225	130
M	1	710	510	300	-	-	-	655	485	300	685	500	300
	2	615	450	275	-	-	-	575	420	265	605	450	275
	3	510	370	225	-	-	-	470	340	210	500	370	225
K	1	775	575	370	-	-	-	685	575	450	-	-	-
	2	630	460	290	-	-	-	575	470	340	-	-	-
	3	575	420	265	-	-	-	450	370	265	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	145	105	60	-	-	-	125	90	60	135	105	60
	2	125	90	55	-	-	-	115	90	55	120	90	55
	3	145	105	65	-	-	-	130	105	65	140	105	65
	4	210	155	95	-	-	-	190	145	90	195	145	95
H	1	-	-	-	250	185	120	-	-	-	-	-	-
	2	-	-	-	210	155	90	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for dry machining only.
NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry
 Wet

■ Inch • Extra Fine Pitch Cutters from Platforms Mill 16™, HexaCut™, KSSR™ • Dry Machining

Material Group		KC514M			KC524M			KCK15			KCK20			KCPK30			KY3500		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	1	900	590	425	1410	1000	720	1050	690	475	1050	690	475	920	820	755	3035	2770	2460
	2	705	510	360	1215	785	590	785	575	395	785	575	395	755	675	590	2395	2165	2000
	3	590	425	360	950	705	510	690	475	375	690	475	375	605	560	510	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technical Information

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

(continued)

- Dry
- Wet

■ Inch • Extra Fine Pitch Cutters from Platforms Mill 16™, HexaCut™, KSSR™ • Wet Machining

Material Group		KC514M			KC524M			KCK15			KCK20			KCPK30			KY3500*		
P	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	1	720	470	340	1130	800	575	840	550	380	840	550	380	735	655	605	-	-	-
	2	565	410	290	970	630	470	630	460	315	630	460	315	605	540	470	-	-	-
	3	470	340	290	760	565	410	550	380	300	550	380	300	485	450	410	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Dry

Wet

■ Inch • High Speed Cutting • Face Milling, Round Insert, Profiling, Chamfer, and Die & Mold

Material Group		GH1			GH2		
P	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
	5	-	-	-	-	-	-
	6	-	-	-	-	-	-
M	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
K	1	920	685	420	790	575	380
	2	775	575	380	685	500	330
	3	630	500	370	575	460	315
N	1	9610	5430	1260	8650	4960	1260
	2	9610	5430	1260	8650	4960	1260
	3	7690	4315	930	6720	3830	930
S	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
H	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-

Technical Information

NOTE: FIRST choice starting speeds are in bold type.
As the average chip thickness increases, the speed should be decreased.

(continued)

Dry

Wet

■ Inch • High Speed Cutting • Shoulder and Slotting Cutters, Thread Mills

Material Group		GH1			GH2		
P	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
	5	-	-	-	-	-	-
	6	-	-	-	-	-	-
M	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
K	1	760	565	355	655	485	315
	2	645	485	315	565	420	275
	3	525	420	300	485	380	265
N	1	8005	4530	1050	7205	4135	1050
	2	8005	4530	1050	7205	4135	1050
	3	6405	3595	775	5605	3190	775
S	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
H	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1015658	.....SUWTCR	.....E64	1017298	.....ICSN533 K9	.....B61-65, B67-69, B71, B74-76	1019436	.....STC20	.....B60-64, B66, B69-71, B75-76, B89-90, B92, B96, B98-99, B120, B155, B163, B371-372, B374	1020943	.....SSA3T	.....D71-72, D74-79
1015659	.....SUWTCR	.....E64	1017300	.....ISSN633 K9	.....B111-115, B119-120	1019480	.....STC27	.....B183-185, B388-390, B392	1020965	.....SSA4T	.....D71-72, D74-79
1015684	.....NUWTC	.....E65	1017302	.....IRSN63 K9	.....B98	1019640	.....S111	.....B165, B172-173, B179-182, B184, B188, B372-382, B390, B393, C184, D28, D38, E40, E48-49	1020973	.....MS412	.....C196, D41
1015687	.....FUWTCR	.....E63	1017334	.....ICSN633 K9	.....B59, B61-65, B68, B71, B74-76	1019656	.....S125	.....B172-173, B179-184, B188, B375-382, B389-390, B393	1020975	.....MS125	.....B186, B397
1015688	.....FUWTCR	.....E63	1018325	.....CK6	.....B63, B71, B98, B111, B113, B132-137, B163, B373	1019694	.....S19	.....B165, B183, B376, B389	1020977	.....MS1273	.....C52-55, T119-120
1015689	.....NUFR	.....E64	1018327	.....CK7	.....B69, B76, B89-90, B93, B96, B133, B139, B143, B165, B172, B183-185, B376, B389-390, B392	1019696	.....S112	.....C184, D28	1021007	.....MS1321	.....B168-169, B386-387
1015690	.....NUFR	.....E64	1018329	.....CK9	.....B62, B65, B98, B111-114, B132-139, B143, B172-173, B179, B181-184, B374-382, B389-390	1019818	.....S625	.....E41, E45	1021037	.....MS1027	.....B209-212, B216
1015723	.....HUWTCR	.....E63	1018331	.....CK10	.....B172-173, B179, B181-184, B188, B374-382, B389-390, B393	1019858	.....S518	.....E44-46	1021039	.....MS1028	.....B210-211
1015754	.....HUWTCR	.....E63	1018333	.....CK7LP	.....B170, B388, B392-393	1019864	.....S524	.....E41-42, E44-46	1021051	.....MS1025	.....C196, D41
1016432	.....MCLNL164C	.....B63	1018345	.....CK12	.....B61-65, B69, B71, B75-76, B89-90, B93, B96, B98, B111-112, B114, B120, B133-134, B137, B165, B373, B376	1019888	.....S325	.....B409	1021143	.....MS364	.....B74, B115, B119
1016454	.....MDJNR204D	.....B89	1018347	.....CK13	.....B165, B180, B376, B379-380	1019892	.....S327	.....B406-407, B409	1021183	.....MS1375	.....K89-90
1016456	.....A16TMCLNR4	.....B71	1018349	.....CK19	.....B132, B135-136, B179, B181-185, B378, B381-382, B389-390, B392	1019924	.....S330	.....B406-407, B409	1021301	.....MS1571	.....C135-136
1016462	.....NSR163D	.....C182, D27	1018351	.....CK20	.....B60-64, B69-71, B75-76, B89-90, B163, B165, B183-185, B372-374, B389-390, B392	1019926	.....S415	.....B407-408	1021337	.....MS1152	.....B273, B276-278, J25, J27, J29, J31, J33, J35, J37, J39
1016474	.....NSR245D	.....C182, D27	1018353	.....CK21	.....B61, B66, B69, B89-99, B120, B371-372	1019932	.....S425	.....B408, S122	1021339	.....MS1153	.....B193-197, B209-215, B217-223, B227-230, B234-237, B243-245, B259-262, B270-279, B282-285, B287, B289-290, B292, K78-80, K85, K89-90
1016544	.....SM837 K9	.....B186, B397	1018365	.....CK22	.....B92, B96, B155, B165, B389	1019938	.....S39	.....C191, C193, D35-37	1021341	.....MS1155	.....B193, B195-198, B212-215, B217, B220, B227-230, B234-235, B237, B245, B254-255, B261-262, B271-279, B282-285, B287, B289-290
1016582	.....SM449 K9	.....T113	1018367	.....CK23	.....B89-90, B180, B379-380	1019988	.....S325	.....B409	1021343	.....MS1156	.....B193-196, B227-229, B243-244, B259-260, B282, C127-128
1016596	.....SM414 K9	.....E40, E48-49	1018369	.....CK24	.....B63-64, B98, B111-112	1020018	.....S337	.....B406-407, B409	1021375	.....MS1158	.....B194, B243
1016598	.....SM432 K9	.....B372-373	1018373	.....CK27	.....B183-185, B388-390, B392	1020044	.....S340	.....B406-407, B409	1021393	.....MS1281	.....U17-18
1016602	.....SKTP343 K9	.....B259-260	1018395	.....CK28	.....B374	1020056	.....S350	.....B406-407, B409	1021415	.....MS1282	.....U17-18
1016624	.....SKCP343 K9	.....B193-196	1018401	.....CK43	.....B152-155	1020058	.....S352	.....C182, C187, C191, D26-27, D35	1021417	.....MS1284	.....U17-18
1016626	.....SKDP343 K9	.....B227-229	1018407	.....CM105	.....E45	1020060	.....S353	.....B406-407, B409	1021419	.....MS1285	.....C52-55
1016628	.....SKCP453 K9	.....B194	1018413	.....CM109	.....C190, D36-37	1020272	.....S965	.....D29	1021421	.....STCM9	.....B72-74, B94-95, B115-117, B119, B140-142
1016644	.....IVSN433 K9	.....B163	1018447	.....CM111	.....E46	1020355	.....SL344	.....B170, B172, B179, B181-182, B372-374, B376, B378, B381-382, B393, C184, D28, E41, E45	1021423	.....STCM11	.....U28-29, U35-36
1016646	.....SMRN42B K9	.....B170, B385	1018449	.....CM112	.....E46	1020361	.....S959	.....E41-47, E49	1021455	.....STCM8	.....B74, B115, B119, B186, B397
1016648	.....ITSN433 K9	.....B131-135, B137, B139, B143	10184525	.....CM66	.....E41, E45	1020545	.....MS1861	.....H100	1021463	.....STCM20	.....B74
1016650	.....ITSN636 K9	.....B134, B137	10184527	.....CM68	.....E41-42, E44-46	1020567	.....CKM41	.....B74, B94	1021503	.....STCM32	.....U28
1016652	.....ISSN322 K9	.....B111, B113	10184529	.....CM71	.....E41, E44-45	1020787	.....KUAM20	.....B217-223, B245, B276-278	1021505	.....STCM37	.....B140-142
1016674	.....ISSN433 K9	.....B109, B111-113, B120	1018531	.....CM-72	.....C193, D31-33, D36, D39	1020789	.....KUAM22	.....B72-74, B94, B115-119, B140-142, B174, B186-187, B394, B397-398	1021507	.....STCM38	.....B72-74, B94, B115-119, B140-142, B174-176, B186-187, B394-398
1016678	.....ICSN433 K9	.....B58-65, B67-71, B75-76	1018533	.....CM73	.....C193, D31-33, D36, D39	1020809	.....KUAM28	.....B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397	1021511	.....STCM40	.....B74, B94, B115-117, B119
1016682	.....IDSN443 K9	.....B87-93, B96	1018567	.....CM79	.....E41, E44-46	1020811	.....KUAM30	.....B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397	1021515	.....KLM43	.....B72-74, B115-119
1016694	.....IDSN533 K9	.....B89-90	1018569	.....CM80	.....C182, C187, C191, D26-27, D32, D35	1020813	.....KUAM31	.....B72-74, B94, B115-119, B140-142, B174, B186-187, B198, B245, B249-251, B276-279, B394, B397-398, C196, D41	1021537	.....KLM46	.....B72, B74, B94-95, B140-142
1016694	.....IDSN533 K9	.....B89-90	1018571	.....CM81	.....C182, C187, D26-27, D32	1020805	.....KUAM26	.....B74, C196, D41	1021539	.....KLM58	.....B74
1016700	.....SM26 K9	.....B375	1018647	.....MW25	.....U28-29, V148-149	1020807	.....KUAM27	.....B74, B115, B119, T91-92	1021541	.....KLM68	.....B74, B115, B119
1016724	.....SM36 K9	.....B172-173, B376-378	1018649	.....MW3	.....U35-37	1020809	.....KUAM28	.....B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397	1021543	.....KLM33L	.....B94, B140-142
1016726	.....SM37 K9	.....B179-184, B188, B378-382, B389-390, B393	1019380	.....STC4	.....B61-65, B69, B71, B75-76, B89-90, B93, B96, B98, B111-114, B120, B132-139, B143, B152-155, B165, B172-173, B179-184, B188, B373-382, B389-390, B393	1020811	.....KUAM30	.....B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397	1021565	.....KLM34L	.....B140-142
1016728	.....SM40 K9	.....B172-173, B376-378	1019382	.....STC5	.....B63, B71, B89-90, B93, B96, B98, B111, B113, B132-137, B163, B172, B179, B373, B376, B378	1020835	.....KUAM32	.....B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	1021569	.....KLM46S	.....B72-74, B94-95, B115-117, B119
1016730	.....SM41 K9	.....B179-184, B188, B378-382, B389-390, B393	1019388	.....STC8	.....B165, B172-173, B179-184, B188, B376-382, B389-390, B393	1020839	.....KUAM34	.....B217-223, B245, B276-278	1021589	.....FT5	.....K78
1016746	.....SM45 K9	.....B373	1019390	.....STC9	.....B69, B76, B132-133, B135-136, B139, B143, B165, B170, B179, B181-185, B376, B378, B381-382, B388-390, B392-393	1020841	.....KUAM35	.....B217, B220, B222-223	1021591	.....FT7	.....K78-80, K85, K89-90, K124-125
1016748	.....SM46 K9	.....B373	1019398	.....STC9	.....B69, B76, B132-133, B135-136, B139, B143, B165, B170, B179, B181-185, B376, B378, B381-382, B388-390, B392-393	1020843	.....KUAM25	.....B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	1021593	.....FT8	.....K42, K85
1016750	.....SM47 K9	.....B374	1019392	.....STC11	.....B71, B165, B180, B183-185, B372-373, B379-380, B389-390, B392	1020843	.....KUAM25	.....B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	1021605	.....FT15	.....K85, K124-125
1016752	.....SM48 K9	.....B375	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020917	.....SRS3	.....B193-196, B227-229, B259-260, B282, S39, T113	1021607	.....FT20	.....K124-125
1016820	.....SM119 K9	.....B179, B181-182, B378, B381-382	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020919	.....SRS4	.....B194	1021657	.....CM113	.....E43, E47, E49
1016822	.....SM120 K9	.....B172, B376	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020923	.....SSY3T	.....D71-72, D74-79	1021659	.....CM114	.....E43
1016922	.....SM216 K9	.....B375	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020935	.....SSY4T	.....D71-72, D74-79	1021661	.....CM116	.....E40, E48
1016944	.....SM218 K9	.....B373	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020939	.....MS1374	.....T89-92	1021663	.....CM117	.....E40
1016950	.....SM271 K9	.....E41, E45	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021675	.....CM118	.....E48-49
1016952	.....SM272 K9	.....E41	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021677	.....CM119	.....E49
1016964	.....SM285 K9	.....E41-42, E44-46	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021679	.....CM120	.....C184, C187, C191, D26, D28, D32, D35
1016966	.....SM286 K9	.....E41-42, E44-46	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021681	.....CM121	.....C184, C187, C191, C195, D26, D28, D32, D35, D38
1017084	.....SM369 K9	.....B165, B376, B389	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021711	.....CM145	.....C195, D38
1017166	.....SM396 K9	.....B372	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021827	.....BP812	.....B170, B385
1017168	.....SM412 K9	.....E43, E47, E49	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021829	.....BP46	.....B170, B385
1017170	.....SM417 K9	.....B210-211	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021831	.....BP68	.....B170, B385
1017172	.....SM420 K9	.....C184, D28	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1021895	.....SU3	.....E65
1017174	.....SMY43 K9	.....D71-72, D74-75, D77-79	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1022051	.....CM144	.....C184, D28
1017176	.....SMY3 K9	.....D71, D74-79	1019434	.....STC19	.....B63-64, B98, B111-112, B172, B376	1020941	.....SSN2T	.....D74-75	1022075	.....KL23	.....B132, B134-136
1017178	.....SMY4 K9	.....D71-72, D74, D77-78	1019434	.....STC19	.....B63-64, B98, B111-112,						

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1022115	KL34L	B63, B89-90, B96, B98, B132-137, B139, B143, B152-155	1025932	KS64LINE1240	U17	1094494	SCLCLF082D	B195	1094618	SVJBLF082D	B283
1022117	KL46	B60-65, B69-71, B75-76, B98, B111-113, B120, B132-139, B143, B152-155, B163	1025933	KS84LINE1240	U17	1094495	SCLCRF083D	B195	1094621	SROCN203	B244
1022119	KL46L	B66, B89-90, B92-93, B96, B99, B371	1025964	KS45LINE1245	U17	1094496	SCLCLF083D	B195	1094651	A0506STFPR18	B273
1022121	KL58	B61-65, B69, B71, B75-76, B89-90, B111-113, B133-137	1025965	KS65LINE1245	U17	1094497	SCMCN062	B195	1094653	A06MSTFPR2	B271
1022123	KL68	B61-65, B71, B75-76, B98, B111-114, B120	1025966	KS46LINE1245	U17	1094498	SCMCN082	B195	1094654	A06MSTFPL2	B271
1022135	KL44	B69, B71, B76, B114	1025967	KS66LINE1245	U17	1094500	SCMCN083	B195	1094655	A08RSTFPR2	B271
1022141	KL810	B63-64, B98, B111-112	1025968	KS86LINE1245	U17	1094501	SCMCN103	B195	1094656	A08RSTFPL2	B271
1022315	TT15	K42-43, T119-120, U17-18	1025969	KS48LINE1255	U17	1094502	SCMCN123	B195	1094657	A10SSTFPR2	B271
1022436	CKM37	B74, B115-117, B119	1025970	KS68LINE1255	U17	1094511	SCRCR083	B196	1094659	A12SSTFPR3	B271
1022485	DT7	U13, W40	1025971	KS88LINE1255	U17	1094512	SCRCL083	B196	1094660	A12SSTFPL3	B271
1022487	DT8	U3, W29-31, W40, W42-43	1067613	CM74	C182-183, C185-188, C191-193, C196, D25-27, D29-31, D33, D35-36, D39, D41	1094513	SCRCR102	B196	1094661	A16SSTFPR3	B271
1022489	DT9	V156	1067614	CM75	C182-183, C185, C187-188, C191-193, C196, D25-27, D30-31, D33, D35-37, D39, D41	1094519	SDJCR062	B228	1094663	A0306GSCDLR12	B203
1022491	DT10	U3, W40-43	1067630	CM146	C191-193, D35-37, D39-40	1094520	SDJCL062	B228	1094664	A0306GSCDLR12	B203
1022493	DT15	S56, S58, T89-92, U3, V155-156	1067631	CM147	C191-193, D35-37, D39-40	1094521	SDJCR082	B228	1094665	A0406HSCDLR12	B203
1022519	TT25	K42-43, V87-88, V91, W40-43	1067765	KS254BLNE1240	U18	1094522	SDJCL082	B228	1094666	A0406HSCDL12	B203
1022521	TT30	K42-43, W41	1067766	KS255BLNE1245	U18	1094523	SDJCR102	B228	1094667	A0506KSCPLR18	B215
1022649	S319PKG	B406-407	1080487	S4440W	B406	1094524	SDJCL102	B228	1094669	A06MSCPLR2	B213
1022691	KT6	V123	1082075	D24TTB21	B409	1094525	SDJCR083	B228	1094670	A06MSCPL2	B213
1022695	KT8	K76, V122-123	1082671	SCFPR08CA06	B217	1094526	SDJCL083	B228	1094671	A08RSCPLR2	B213
1022697	KT9	S64, S67, S70	1083005	MCLNRI164C	B63	1094527	SDJCR103	B228	1094672	A08RSCPL2	B213
1022701	KT15	K76, K89-90, S122-123, V121-123	1085234	CSPRI164D	B173, B378	1094528	SDJCL103	B228	1094673	A10SSCPLR2	B213
1022703	KT20	V121-123, V132-133	1085914	D20TTB18	B409	1094529	SDJCR123	B228	1094674	A10SSCPL2	B213
1022725	KT25	C143, C145	1086536	SCSPR08CA06	B222	1094530	SDJCL123	B228	1094675	A10SSCPLR3	B213
1022727	KT27	K77-78, K88	1086694	D28TTB25	B409	1094531	SDJCR163	B228	1094676	A10SSCPL3	B213
1023055	S1006PKG	E65	1091551	D16TTB16	B409	1094532	SDJCL163	B228	1094677	A12SSCPLR3	B213
1023244	S422	B408, C184, C195, D28, D38, T109, V47, V54	1091555	D40TTB35	B409	1094533	SVJBR062	B282	1094678	A12SSCPLR3	B213
1023315	S458	S5, S10, S14, S17, S20, S24, S32, S45, S50, S56, S58, S64, S67, S121-123, T7, T33, T113, U18, U29, V38, V54, V58	1092071	STC26	B165, B389	1094534	SVJBL062	B282	1094679	A16TSCPLR3	B213
1024853	D32TTB28	B409	1093271	75HC060M	G79	1094535	SVJBR082	B282	1094680	A16TSCPL3	B213
1024930	KSSISR300SD430C4	T113	1093272	75HC080M	G79	1094536	SVJBL082	B282	1094681	A08RSDXP2	B235
1024931	KSSISR300SD430M4	T113	1093273	75HC100M	G79	1094537	SVJBR102	B282	1094682	A08RSDXP2	B235
1024932	KSSISR300SD430F4	T113	1093524	75HC120M	G79	1094538	SVJBL102	B282	1094683	A10SSDXPR2	B235
1024933	KSSISR500SD430C6	T113	1093525	75HC140M	G79	1094539	SVJBR123	B282	1094684	A10SSDXPL2	B235
1024964	KSSISR500SD430M6	T113	1093526	75HC160M	G79	1094540	SVJBL123	B282	1094685	A12SSDXPR3	B235
1024965	KSSISR500SD430F6	T113	1094300	MS1595	C34-41, C46-47, C49-50, C52-55, C122-126, C129, C131-133	1094541	SVJBR163	B282	1094687	A16TSDXP3	B235
1024966	KSSISR600SD430C6	T113	1094409	STFCR062	B259	1094542	SVJBL163	B282	1094688	A16TSDXPL3	B235
1024967	KSSISR600SD430M6	T113	1094410	STFCL062	B259	1094543	SROCN102	B244	1094689	A06MSDUPR2	B234
1024968	KSSISR600SD430F6	T113	1094421	STGCR062	B260	1094544	SROCN122	B244	1094690	A06MSDUP2	B234
1024970	KSSISR200SD430C3	T113	1094422	STGCL062	B260	1094545	SROCN162	B244	1094691	A08RSDUPR2	B234
1024972	KSSISR200SD430M3	T113	1094423	STGCR082	B260	1094546	SROCN123	B244	1094692	A08RSDUP2	B234
1024974	KSSISR200SD430F3	T113	1094424	STGCL082	B260	1094547	SROCN163	B244	1094693	A10SSDUPR2	B234
1024998	KSSISR250SD430M4	T113	1094427	STGCR103	B260	1094548	SRGCR122	B244	1094694	A10SSDUP2	B234
1025000	KSSISR250SD430F4	T113	1094428	STGCL103	B260	1094550	SRGCR162	B244	1094695	A12SSDUPR3	B234
1025025	KSSISR400SD430C5	T113	1094429	STGCR123	B260	1094551	SRGCL162	B244	1094696	A12SSDUP3	B234
1025027	KSSISR400SD430C6	T113	1094430	STGCL123	B260	1094554	SRGCR163	B244	1094697	A16TSDUPR3	B234
1025029	KSSISR400SD430M5	T113	1094433	SCACR052D	B193	1094556	SRGCR203	B244	1094698	A16TSDUP3	B234
1025031	KSSISR400SD430M6	T113	1094435	SCACR062D	B193	1094557	SRGCL203	B244	1094699	A12SSVUBR2	B285
1025033	KSSISR400SD430F5	T113	1094436	SCACR062D	B193	1094572	SCGCR163	B194	1094700	A12SSVUBL2	B285
1025065	KSSISR400SD430F6	T113	1094437	SCACR083D	B193	1094573	SCGCL163	B194	1094701	A16TSSVUBR3	B285
1025071	KSSISR600SD430C8	T113	1094438	SCACR083D	B193	1094576	SCLCR163	B194	1094702	A16TSSVUBL3	B285
1025094	KSSISR600SD430M8	T113	1094443	SCACR103	B193	1094577	SCLCL163	B194	1094703	A0306SWLPR15	B291
1025102	KSSISR800SD430C10	T113	1094444	SCFCR082	B193	1094578	SCMCN163	B195	1094704	A0306SWLPL15	B291
1025134	KSSISR800SD430M10	T113	1094445	SCGCR082	B194	1094581	STFCR163	B259	1094705	A0406SWLPR15	B291
1025136	KSSISR800SD430F10	T113	1094457	SCGCR102	B194	1094583	STGCR163	B260	1094707	A0506KSWLPR15	B291
1025140	KSSISR1000SD430M10	T113	1094459	SCGCR103	B194	1094584	STGCL163	B260	1094709	A06MSWLP2	B289
1025612	HSFS0125	H86, H128-129, J13-15, J52-53, J89	1094476	SCGCR123	B194	1094589	SCACR103B	B193	1094711	A08RSLWPR2	B289
1025861	KS44BLNE1240	U18	1094477	SCLCR062	B194	1094590	SCACL103B	B193	1094712	A08RSLWPL2	B289
1025862	KS45BLNE1245	U18	1094478	SCLCL062	B194	1094591	SCLCRF523Z	B195	1094713	A10SSVULPR3	B289
1025863	KS46BLNE1245	U18	1094479	SCLCR082	B194	1094593	SCLCRF103B	B195	1094714	A10SSVULP3	B289
1025894	KS48BLNE1255	U18	1094480	SCLCL082	B194	1094594	SCLCLF103B	B195	1094715	A12SSVULPR3	B289
1025895	KS54BLNE1240	U17	1094481	SCLCR102	B194	1094595	SDACR062D	B227	1094716	A12SSVULP3	B289
1025896	KS55BLNE1245	U17	1094482	SCLCL102	B194	1094596	SDACL062D	B227	1094717	A16SWLPR3	B289
1025897	KS85BLNE1245	U17	1094483	SCLCR103	B194	1094597	SDACR082D	B227	1094719	A10SSVQBR2	B284
1025898	KS56BLNE1245	U17	1094484	SCLCL103	B194	1094598	SDACL082D	B227	1094720	A10SSVQBR2	B284
1025899	KS58BLNE1255	U17	1094485	SCLCR123	B194	1094599	SDACR103B	B227	1094721	A12SSVQBR2	B284
1025930	KS34BLNE1240	U17	1094486	SCLCL123	B194	1094600	SDACL103B	B227	1094722	A12SSVQBL2	B284
1025931	KS44BLNE1240	U17	1094491	SCLCRF062D	B195	1094601	SDJCRF062D	B228	1094723	A16TSSVQBR3	B284
			1094492	SCLCLF062D	B195	1094602	SDJCLF062D	B228	1094724	A16TSSVQBL3	B284
			1094493	SCLCRF082D	B195	1094603	SDJCRF082D	B228	1094725	A06MSCFPR2	B212
						1094604	SDJCLF082D	B228	1094726	A06MSCFPL2	B212
						1094605	SDJCRF103B	B228	1094727	A08RSCFPR2	B212
						1094606	SDJCLF103B	B228	1094728	A08RSCFPL2	B212
						1094607	SVABR062D	B282	1094729	A10SSCFPR2	B212
						1094608	SVABL062D	B282	1094730	A10SSCFPL2	B212
						1094609	SVABR082D	B282	1094731	A12SSCFPR3	B212
						1094610	SVABL082D	B282	1094732	A12SSCFPL3	B212
						1094611	SVABR103B	B282	1094733	A16SCFPR3	B212
						1094612	SVABL103B	B282	1094745	A06MSTLPR2	B274
						1094613	SVJBRF103B	B283	1094746	A06MSTLPL2	B274
						1094614	SVJBLF103B	B283	1094747	A08RSTLPR2	B274
						1094615	SVJBRF062D	B283	1094748	A08RSTLPL2	B274
						1094616	SVJBLF062D	B283	1094749	A10SSTLPR2	B274
						1094617	SVJBRF082D	B283	1094750	A10SSTLPL2	B274

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1094751	A12SSTLPR3	B274	1094956	A10SSCLPL3AP5	B216	1095539	H40MVUNL4	B155	1095832	B16CTFPR3	B184, B390
1094752	A12SSTLPL3	B274	1094957	A12SSCLPL3AP5	B216	1095540	H40MCKNR5	B75	1095833	B20CTFPR3	B184, B390
1094753	A16STLPR3	B274	1094958	A16SCLPL3AP5	B216	1095541	H40MCKNL5	B75	1095834	B24CTFPR4	B184, B390
1094755	A05KSTFPR18	B271	1095001	H24CRGNR4	B170, B393	1095542	H40CTFPR4W	B188, B393	1095836	B32CTFPR4	B184, B390
1094757	A08SCLPR2D	B217	1095003	H32CRGNR4	B170, B393	1095548	H40MCLNR5	B76	1095839	D5420W	B407
1094758	A10SCLPR2D	B217	1095216	H16LSER3	D76	1095549	H40MCLNL5	B76	1095840	D5424W	B407
1094759	A12SCLPR3D	B217	1095218	H20LSER3	D76	1095550	H40MCLNR6	B76	1095841	D5428W	B407
1094792	A16CRGNR3	B388	1095220	H24LSER3	D76	1095551	H40MCLNL6	B76	1095842	D5432W	B407
1094793	A16CRGNL3	B388	1095222	H32LSER3	D76	1095553	H40MDUNR4	B96	1095844	D5440W	B407
1094816	A08RCTLNR2	B388	1095224	H24LSER4	D76	1095556	H40MDUNL4	B96	1095901	A10NKLCR05	E44
1094818	A10SCTLNR2	B388	1095226	H32LSER4	D76	1095558	H40MCKNR6	B120	1095902	A12SNKLCR05	E44
1094819	A10CTLNL2	B388	1095291	H40MCKNR6	B75	1095560	H40MCKNL6	B120	1095903	A16NKLCR05	E44
1094824	A08NER2	C191, D35	1095308	H16MCLNR4	B76	1095571	H40NER6W	C195, D38	1095904	A24NKLCR05	E44
1094825	A08NEL2	C191, D35	1095309	H16MCLNL4	B76	1095573	H40MTFNR4	B143	1095905	A24NKLCR05	E44
1094826	A06NER1	C190, D36	1095313	H20MTFNR3	B143	1095574	NASR083D	C185, D25	1095908	A10SNKLC05	E44
1094827	A08NER1	C190, D36	1095314	H20NER3W	C195, D38	1095575	NASL083D	C185, D25	1095909	A12SNKLC05	E44
1094828	A10NER1	C190, D36	1095315	H20NEL3W	C195, D38	1095576	NASR102B	C185, D25	1095910	A16TNKLC05	E44
1094829	A10SNER2	C191, D35	1095317	H20MVUNR3	B155	1095577	NASL102B	C185, D25	1095915	A08NKQCR05	E46
1094830	A10SNEL2	C191, D35	1095318	H20MVUNL3	B155	1095580	NEL062	C187, D26	1095916	A12SNKQCR05	E46
1094831	A12SNER2	C191, D35	1095321	H20CTFPR3W	B188, B393	1095581	NER062	C187, D26	1095917	A16NKQCR05	E46
1094832	A12NEL2	C191, D35	1095325	H20MCLNR4	B76	1095582	NSL062	C182, D27	1095918	A08NKQCL05	E46
1094833	A16TNER2	C191, D35	1095326	H20MCLNL4	B76	1095583	NSR062	C182, D27	1095919	A24NKQCL05	E46
1094834	A16TNEL2	C191, D35	1095334	H20MDUNR4	B96	1095588	STGPR062	B270	1095920	A16NKQCL05	E46
1094835	A16NER3	C191, D35	1095335	H20MDUNL4	B96	1095589	STGPR082V	B270	1095921	A12NKQCR05	E46
1094836	A16NL3	C191, D35	1095341	H20MVLNR4	B163	1095590	STFPR062	B270	1095922	A16NKQCR05	E46
1094837	A20NER3	C191, D35	1095360	H24MSSNR4	B120	1095592	SCLPR123B	B210	1095926	A20NVLCR3	E47
1094838	A20NEL3	C191, D35	1095361	H24MTFNR3	B143	1095594	SCLPR062	B210	1095927	A32NVLCR3	E47
1094839	A24NER3	C191, D35	1095362	H24NER3W	C195, D38	1095595	SCLPR083V	B210	1095928	A24NVLCR3	E47
1094840	A24NEL3	C191, D35	1095363	H24NEL3W	C195, D38	1095596	SCGPR123B	B210	1095943	H32NDPL4W	E48
1094841	A28NER3	C191, D35	1095365	H24MVUNR3	B155	1095597	SCGPR062	B210	1095945	H20NDLPR4W	E48
1094842	A28NEL3	C191, D35	1095366	H24MVUNL3	B155	1095598	SCGPR083V	B210	1095946	H24NDLPR4W	E48
1094843	A32NER3	C191, D35	1095367	H24NER8W	C195, D38	1095600	SCFPR083V	B209	1095956	H24NDXPR4W	E49
1094844	A32NEL3	C191, D35	1095369	H24MCKNR4	B75	1095601	SCRPR062	B212	1095959	H20NDXPL4W	E49
1094845	A40NER3	C191, D35	1095377	H24MCLNR4	B76	1095602	SCRPR083V	B212	1095962	H40NDXPL4W	E49
1094846	A40NEL3	C191, D35	1095378	H24MCLNL4	B76	1095605	SCMPN123B	B211	1095964	H24NVLPR3W	E49
1094847	A28NER4	C191, D35	1095379	H24MCLNR5	B76	1095606	SCMPN062	B211	1095975	MRGNR163D	B98
1094848	A28NEL4	C191, D35	1095380	H24MCLNL5	B76	1095607	SCMPN083V	B211	1095981	MRGNR166D	B98
1094849	A32NER4	C191, D35	1095383	H24MDPNR4	B96	1095632	SVUBR082	B283	1095982	MRGNL166D	B98
1094850	A32NEL4	C191, D35	1095385	H24MDUNR3	B96	1095633	SVUBR102	B283	1096002	MVNN123B	B153
1094853	A40NER4	C191, D35	1095388	H24MDUNR4	B96	1095634	SVUBL082	B283	1096003	MVNN163C	B153
1094856	A32NEL5	C191, D35	1095389	H24MDUNL4	B96	1095635	SVUBL102	B283	1096004	MVNN163D	B153
1094859	A32NER6	C191, D35	1095392	H24MSKNR4	B120	1095644	SDUCR083	B229	1096005	MVNN164D	B153
1094860	A32NEL6	C191, D35	1095395	H24MVLNR4	B163	1095645	SDUCR082	B229	1096006	MVNN203D	B153
1094863	A16CTPL3	B185, B390	1095400	H24MVLNL4	B163	1095647	SDUCR103	B229	1096007	MVNN204D	B153
1094872	A06RCTFPR2	B183, B389	1095417	H28MTFNR3	B143	1095648	SDUCL083	B229	1096008	MTJNR082B	B136
1094874	A08RCTFPR2	B183, B389	1095418	H28NER3W	C195, D38	1095649	SDUCL082	B229	1096009	MTJNL082B	B136
1094875	A08RCTFPL2	B183, B389	1095419	H28NEL3W	C195, D38	1095651	SDUCL103	B229	1096012	MTJNR103B	B136
1094876	A10SCTFPR2	B183, B389	1095421	H28NER4W	C195, D38	1095654	SDUCL062D	B211	1096013	MTJNL103B	B136
1094877	A10CTFPL2	B183, B389	1095429	H28MCLNR4	B76	1095655	SCLPRF083D	B211	1096014	MTJNR123B	B136
1094878	A12SCTFPR3	B183, B389	1095430	H28MCLNL4	B76	1095658	SCLPLF062D	B211	1096015	MTJNL123B	B136
1094879	A12SCTFPL3	B183, B389	1095436	H28MDUNR4	B96	1095659	SCLPLF083D	B211	1096016	MTJNR163C	B136
1094880	A16CTFPR3	B183, B389	1095437	H28MDUNL4	B96	1095661	SCAPR052D	B209	1096017	MTJNL163C	B136
1094882	A20UCTFPR3	B183, B389	1095442	H28MVLNR4	B163	1095662	SCAPR062D	B209	1096018	MTJNR163D	B136
1094884	A24CTFPR3	B183, B389	1095452	H28NER6W	C195, D38	1095663	SCAPR083D	B209	1096019	MTJNL163D	B136
1094888	A24CTFPR4	B183, B389	1095456	H32NER3W	C195, D38	1095665	SCAPL052D	B209	1096022	MTJNR164D	B136
1094889	A24CTFPL4	B183, B389	1095457	H32NEL3W	C195, D38	1095667	SCAPL083D	B209	1096023	MTJNL164D	B136
1094892	A32CTFPR4	B183, B389	1095458	H32NER4W	C195, D38	1095668	NASR103B	C185, D25	1096024	MTJNR204D	B136
1094896	A16CCLPR4	B165, B389	1095459	H32NEL4W	C195, D38	1095670	NASR082D	C185, D25	1096025	MTJNL204D	B136
1094900	A24CCLPR4	B165, B389	1095461	H32MVUNR4	B155	1095671	NASR062D	C185, D25	1096026	MTJNR205D	B136
1094904	A06MCTLPR2	B185, B390	1095464	H32MCKNR4	B75	1095672	NASL103B	C185, D25	1096027	MTJNL205D	B136
1094906	A08RCTLPR2	B185, B390	1095469	H32MCLNR4	B76	1095674	NASL082D	C185, D25	1096029	MSRNL204D	B112
1094907	A08RCTLPL2	B185, B390	1095472	H32MCLNL4	B76	1095675	NASL062D	C185, D25	1096032	MCFNR124B	B60
1094908	A12SCTLPR3	B185, B390	1095474	H32MCLNR5	B76	1095681	STGPL062	B270	1096033	MCFNR164C	B60
1094909	A12SCTLPL3	B185, B390	1095475	H32MCLNL5	B76	1095682	STGPL082V	B270	1096034	MCFNR164D	B60
1094910	A16CTLPR3	B185, B390	1095476	H32MCLNR6	B76	1095685	SCLPL123B	B210	1096037	MCFNL164D	B60
1094911	A16TNSR3	C194	1095477	H32MCLNL6	B76	1095686	SCLPL062	B210	1096038	MTJNR123B	B113
1094912	A16TNSL3	C194	1095479	H32MDUNR3	B96	1095687	SCLPL083V	B210	1096039	MSSNR124B	B113
1094913	A20UNSR3	C194	1095480	H32MDUNR4	B96	1095688	SCGPL123B	B210	1096040	MSSNR164C	B113
1094915	A24UNSR3	C194	1095483	H32MDUNL4	B96	1095689	SCGPL062	B210	1096041	MSSNR164D	B113
1094916	A24UNSL3	C194	1095485	H32MSKNR4	B120	1095690	SCGPL083V	B210	1096042	MSSNR206D	B113
1094919	A32VNSR3	C194	1095489	H32MVLNR4	B163	1095692	SCFPL083V	B209	1096047	MSSNL164C	B113
1094920	A32VNSL3	C194	1095495	H32MVLNL4	B163	1095693	SCRPL062	B212	1096048	MSSNL164D	B113
1094921	A40VNSR3	C194	1095512	H32NER6W	C195, D38	1095694	SCRPL083V	B212	1096049	MSSNL206D	B113
1094941	S4416W	B406	1095514	H32MTFNR4	B143	1095802	PROON164D	B170, B385	1096052	MTANR123B	B132
1094942	S4420W	B406	1095515	H32MVUNL4	B155	1095803	PROON204D	B170, B385	1096053	MTANR164D	B132
1094943	S4424W	B406	1095516	H36NER4W	C195, D38	1095804	PROON206D	B170, B385	1096056	MTANR082B	B132
1094944	S4428W	B406	1095531	H40MSSNR6	B120	1095805	PROON208D	B170, B385	1096058	MTANR103B	B132
1094945	S4432W	B406	1095533	H40NER3W	C195, D38	1095806	PROON244D	B170, B385	1096059	MTANR123B	B132
1094947	S4440W48	B406	1095534	H40NEL3W	C195, D38	1095808	PROON246	B170, B385	1096060	MTANR164D	B132
1094953	A10SSCLPR3AP5	B216	1095535	H40NER4W	C195, D38	1095829	B10CTFPR2	B184, B390	1096065	MCLNL103B	B132
1094954	A12SSCLPR3AP5	B216	1095536	H40NEL4W	C195, D38	1095830	B12CTFPR3	B184, B390	1096066	MCLNR123B	B63
1094955	A16SCLPR3AP5	B216	1095538	H40MVUNR4	B155	1095831	B14CTFPR3	B184, B390	1096067	MCLNR124B	B63

For page references A-E, please see Volume I • Turning Tools Catalog.



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1096068	MCLNR163C	B63	1096164	MSRNL246D	B112	1096290	MVJNR164C	B152	1096436	A32MCLNL5	B71
1096069	MCLNR163D	B63	1096165	MSRNL246E	B112	1096291	MVJNR164D	B152	1096437	A32VMCLNL6	B71
1096070	MCLNR164D	B63	1096169	MSKNR124B	B111	1096292	MVJNR203D	B152	1096440	A20MCKNR4	B70
1096071	MCLNR165C	B63	1096170	MSKNR164C	B111	1096293	MVJNR204D	B152	1096441	A24UMCKNR4	B70
1096072	MCLNR165D	B63	1096171	MSKNR164D	B111	1096294	MVJNR244D	B152	1096442	A20MCKNL4	B70
1096073	MCLNR166D	B63	1096180	MSDNN083	B111	1096295	MVJNL123B	B152	1096443	A24MCKNL4	B70
1096075	MCLNR204D	B63	1096181	MSDNN103	B111	1096297	MVJNL163C	B152	1096444	A16TMDUNR3	B93
1096076	MCLNR205D	B63	1096182	MSDNN123	B111	1096298	MVJNL163D	B152	1096447	A20UMDUNR4	B93
1096077	MCLNR206D	B63	1096183	MSDNN124	B111	1096299	MVJNL164C	B152	1096448	A24UMDUNR4	B93
1096079	MCLNR244D	B63	1096184	MSDNN164	B111	1096300	MVJNL164D	B152	1096449	A28MDUNR4	B93
1096080	MCLNR245E	B63	1096185	MSDNN854	B111	1096301	MVJNL203D	B152	1096450	A32VMDUNR4	B93
1096081	MCLNR246D	B63	1096186	MSDNN855	B111	1096302	MVJNL204D	B152	1096455	A16TMDUNL3	B93
1096082	MCLNR246E	B63	1096187	MSDNN856	B111	1096303	MVJNL244D	B152	1096458	A20UMCKNR4	B93
1096083	MCLNR854D	B63	1096188	MTGNR123B	B135	1096304	MRGNR123B	B98	1096459	A24UMDUNL4	B93
1096086	MCLNR083A	B63	1096189	MTGNR124B	B135	1096305	MRGNR124B	B98	1096460	A28MDUNL4	B93
1096087	MCLNR103A	B63	1096192	MTGNR164C	B135	1096306	MRGNR164C	B98	1096461	A16TMDUNL4	B93
1096088	MCLNL123B	B63	1096193	MTGNR164D	B135	1096307	MRGNR164D	B98	1096466	A20UMUNR3	B154
1096089	MCLNL124B	B63	1096194	MTGNR204D	B135	1096308	MRGNR204D	B98	1096467	A24UMUNR3	B154
1096092	MCLNL164D	B63	1096195	MTGNR205D	B135	1096309	MRGNR206D	B98	1096468	A28MDUNR4	B154
1096093	MCLNL165C	B63	1096197	MTGNR082B	B135	1096314	MRGNL164D	B98	1096469	A24UMUNL3	B154
1096094	MCLNL165D	B63	1096199	MTGNR103B	B135	1096315	MRGNL204D	B98	1096470	A20UMQNR4	B93
1096095	MCLNL166D	B63	1096200	MTGNL123B	B135	1096316	MRGNL206D	B98	1096471	A24UMQNR4	B93
1096097	MCLNL204D	B63	1096201	MTGNL124B	B135	1096318	MTCNN083	B133	1096472	A20MDQNL4	B93
1096101	MCLNL244D	B64	1096204	MTGNL164C	B135	1096319	MTCNN124	B133	1096473	A24MDQNL4	B93
1096102	MCLNL245E	B64	1096205	MTGNL164D	B135	1096320	MTCNN443	B133	1096481	H16MDUNL3	B96
1096103	MCLNL246D	B64	1096206	MTGNL204D	B135	1096321	MTCNN644	B133	1096482	H16MVLNL3	B163
1096104	MCLNL246E	B64	1096207	MTGNL205D	B135	1096324	MTRNR164D	B138	1096484	H16MDUNR3	B96
1096105	MCLNL854D	B64	1096211	MTGNL103B	B135	1096336	MTJNRS123	B137	1096643	MCLNRC164D	B66, B371
1096107	MCLNL866E	B64	1096212	MTFNR123B	B134	1096337	MTJNRS124	B137	1096646	MRGNRC244D	B99, B371
1096108	MCLNL083A	B63	1096216	MTFNR164C	B134	1096338	MTJNRS164	B137	1096647	MRGNRC164D	B99, B371
1096109	MCLNL103A	B63	1096217	MTFNR164D	B134	1096339	MTJNRS164	B137	1096648	MRGNRC204D	B99, B371
1096110	MCGNR124B	B61	1096218	MTFNR204D	B134	1096340	MTJNRS165	B137	1096672	MRGNL244D	B99, B371
1096111	MCGNR164C	B61	1096219	MTFNR205D	B134	1096341	MTJNRS204	B137	1096673	MRGNL164D	B99, B371
1096112	MCGNR164D	B61	1096221	MTFNR246E	B134	1096342	MTJNRS205	B137	1096674	MRGNL204D	B99, B371
1096113	MCGNL124B	B61	1096226	MTFNL123B	B134	1096343	MTJNLS123	B137	1096690	NKPCN1205B	E42
1096114	MCGNL164C	B61	1096230	MTFNL164C	B134	1096344	MTJNLS124	B137	1096691	CSSPL164D	B173, B378
1096115	MCGNL164D	B61	1096231	MTFNL164D	B134	1096345	MTJNLS163	B137	1096693	CSSPL856D	B173, B378
1096116	MCRNR124B	B65	1096232	MTFNL204D	B134	1096346	MTJNLS164	B137	1096696	CTGPR082B	B182, B382
1096117	MCRNR164C	B65	1096234	MTFNL245D	B134	1096347	MTJNLS165	B137	1096698	CCLNRP163D	B372
1096118	MCRNR164D	B65	1096235	MTFNL246E	B134	1096348	MTJNLS204	B137	1096699	CCLNRP163D	B372
1096119	MCRNR165D	B65	1096240	MDJNR123B	B89	1096349	MTJNLS205	B137	1096701	CCRNRP163D	B373
1096120	MCRNR166D	B65	1096241	MDJNR124B	B89	1096350	MTENNS082	B134	1096703	CRGNRP163D	B374
1096121	MCRNR204D	B65	1096242	MDJNR163C	B89	1096351	MTENNS103	B134	1096705	CRGNRP164D	B374
1096122	MCRNR206D	B65	1096243	MDJNR163D	B89	1096352	MTENNS123	B134	1096706	CRGNLP204D	B374
1096123	MCRNR246E	B65	1096244	MDJNR164C	B89	1096353	MTENNS163	B134	1096707	CRGNRP204D	B374
1096124	MCRNL124B	B65	1096245	MDJNR164D	B89	1096354	MTENNS164	B134	1096717	CCLNL164	B372
1096125	MCRNL164C	B65	1096246	MDJNR165D	B89	1096355	MTENNS205	B134	1096722	CCLNRP164	B372
1096126	MCRNL164D	B65	1096247	MDJNR203D	B89	1096356	MTENNS246	B134	1096728	CRGNL123	B373
1096127	MCRNL165D	B65	1096248	MDJNR205D	B89	1096367	A40VMCLNR4	B71	1096729	CRGNL163	B373
1096128	MCRNL166D	B65	1096250	MDJNR245D	B89	1096368	A40MCLNL4	B71	1096730	CRGNL164	B373
1096129	MCRNL204D	B65	1096251	MDJNR854D	B89	1096369	A16MCLNR4D	B69	1096733	CRGNR123	B373
1096130	MCRNL206D	B65	1096252	MDJNL123B	B89	1096370	A20MCLNR4D	B69	1096734	CRGNR163	B373
1096131	MCRNL246E	B65	1096253	MDJNL124B	B89	1096371	A24MCLNR4D	B69	1096735	CRGNR164	B373
1096132	MCKNR124B	B62	1096254	MDJNL163C	B89	1096372	A32MCLNR4D	B69	1096739	CSDNRP164	B374
1096133	MCKNR164C	B62	1096255	MDJNL163D	B89	1096373	A32MCLNR5D	B69	1096750	CSKNR856	B375
1096134	MCKNR164D	B62	1096256	MDJNL164C	B89	1096381	A20MTNRP3D	B139	1096772	CSDNN124	B374
1096135	MCKNR204D	B62	1096257	MDJNL164D	B89	1096385	A16MTFNR3	B139	1096798	CTANR123	B375
1096136	MCKNR206D	B62	1096259	MDJNL203D	B89	1096386	A20UMTFNR3	B139	1096887	CTGNR164	B375
1096137	MCKNL124B	B62	1096260	MDJNL204D	B89	1096387	A24UMTFNR3	B139	1096898	CCLPL124B	B165, B376
1096138	MCKNL164C	B62	1096261	MDJNL205D	B89	1096388	A28MTFNR3	B139	1096899	CCLPL164C	B165, B376
1096139	MCKNL164D	B62	1096263	MDJNL245D	B89	1096389	A24UMTFNR4	B139	1096902	CCLPR084D	B165, B376
1096140	MCKNL204D	B62	1096265	MDQNR124B	B90	1096390	A28MTFNR4	B139	1096903	CCLPR124B	B165, B376
1096141	MCKNL206D	B62	1096266	MDQNR164C	B90	1096391	A32MTFNR4	B139	1096904	CCLPR164C	B165, B376
1096142	MCMNN124B	B64	1096267	MDQNR164D	B90	1096394	A16MTFNL3	B139	1096909	CSDPN103	B172, B376
1096143	MCMNN164C	B64	1096268	MDQNR204D	B90	1096403	A20MSKNR4	B114	1096910	CSDPN124	B172, B376
1096144	MCMNN164D	B64	1096269	MDQNR244D	B90	1096408	A40MSKNR6	B114	1096911	CSDPN164	B172, B376
1096145	MCMNN166D	B64	1096270	MDQNR244E	B90	1096415	A16MCLNR3	B71	1096912	CSDPN644	B172, B376
1096146	MCMNN204D	B64	1096271	MDQNL124B	B90	1096418	A20UMCLNR4	B71	1096914	CSDPN856	B172, B376
1096147	MCMNN206D	B64	1096272	MDQNL164C	B90	1096419	A24UMCLNR4	B71	1096917	CSKPL164D	B173, B377
1096149	MSRNR124B	B112	1096273	MDQNL164D	B90	1096420	A28UMCLNR4	B71	1096920	CSKPR164D	B172, B377
1096150	MSRNR164C	B112	1096274	MDQNL204D	B90	1096421	A32VMCLNR4	B71	1096925	CSRPL124B	B173, B377
1096151	MSRNR164D	B112	1096275	MDQNL244D	B90	1096422	A24MCLNR5	B71	1096926	CSRPL164D	B173, B377
1096152	MSRNR205D	B112	1096276	MDQNL244E	B90	1096423	A32MCLNR5	B71	1096927	CSRPL856D	B173, B377
1096153	MSRNR206D	B112	1096277	MDPNN123B	B90	1096424	A32VMCLNR6	B71	1096928	CSRPL866E	B173, B377
1096154	MSRNR246D	B112	1096279	MDPNN163D	B90	1096426	A40MCLNR6	B71	1096932	CSRPR164D	B173, B377
1096155	MSRNR246E	B112	1096280	MDPNN164D	B90	1096427	A16MCLNL3	B71	1096934	CSRPR866E	B173, B377
1096156	MSRNR856D	B112	1096282	MDPNN205D	B90	1096430	A16TMCLNL4	B71	1096935	CSSPL854D	B173, B378
1096159	MSRNL124B	B112	1096284	MDPNN245D	B90	1096431	A20UMCLNL4	B71	1096937	CSSPR854D	B173, B378
1096160	MSRNL164C	B112	1096286	MVJNR123B	B152	1096432	A24UMCLNL4	B71	1096941	CTAPL123B	B179, B378
1096161	MSRNL164D	B112	1096287	MVJNR124B	B152	1096433	A28UMCLNL4	B71	1096944	NDLPR164D	E40
1096162	MSRNL205D	B112	1096288	MVJNR163C	B152	1096434	A32VMCLNL4	B71	1096946	CTAPL854D	B179, B378
1096163	MSRNL206D	B112	1096289	MVJNR163D	B152	1096435	A24MCLNL5	B71	1096948	CTAPR082B	B179, B378

For page references A-E, please see Volume I • Turning Tools Catalog.



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1096949	CTAPR102B	B179, B378	1097246	NEL205D	C187, D26	1097608	NSR082V	C182, D27	1098796	NSR2525M3	C183
1096950	CTAPR123B	B179, B378	1097247	NEL082V	C187, D26	1097609	NSR102B	C182, D27	1098797	NSR3225P3	C183
1096951	CTAPR163D	B179, B378	1097248	NEL102B	C187, D26	1097644	NSRDH122B	C186, D29	1098798	NSR3232P3	C183
1096952	CTAPR854D	B179, B378	1097249	NRL123B	C189	1097645	NSRDH162C	C186, D29	1098799	NSR2525M4	C183
1096955	CTBPL123B	B179, B379	1097250	NRL163C	C189	1097646	NSRDH163C	C186, D29	1098800	NSR3225P4	C183
1096959	CTBPR123B	B179, B379	1097251	NRL203D	C189	1097647	NSRDH203D	C186, D29	1098801	NSR3232P4	C183
1096960	CTBPR163D	B179, B379	1097253	NRL163D	C189	1097648	NSRDH163D	C186, D29	1098803	NER1161H2	C188
1096963	CTCPL163C	B180, B379	1097254	NSL122B	C182, D27	1097649	NSRDH123A	C186, D29	1098804	NER2020K2	C188
1096965	CTCPL164D	B180, B379	1097255	NSL162C	C182, D27	1097650	NSRDH204D	C186, D29	1098805	NER2525M2	C188
1096966	CTCPL204D	B180, B379	1097256	NSL123B	C182, D27	1097673	NSUR124C	C182, D29	1098806	NER2525M3	C188
1096968	CTCPL244D	B180, B379	1097257	NSL163C	C182, D27	1097676	NSUR164D	D29	1098807	NER3225P3	C188
1096971	CTCPN124	B180, B380	1097258	NSL203D	C182, D27	1097680	NSUL164D	D29	1098808	NER2525M4	C188
1096972	CTCPN443	B180, B380	1097259	NSL243D	C182, D27	1097681	NSLDH203D	C186, D29	1098809	NER2525P4	C188
1096973	CTCPN644	B180, B380	1097260	NSL163D	C182, D27	1098328	SCSPR06CA05	B222	1098810	NER3232P4	C188
1096974	CTCPN664	B180, B380	1097261	NSL123A	C182, D27	1098380	NER12CA2	C196, D41	1098812	NRR2020K3	C189
1096976	CTCPR123B	B180, B379	1097262	NSL853D	C182, D27	1098436	MSRPH10CA3	B116	1098813	NRR2525M3	C189
1096977	CTCPR163C	B180, B379	1097263	NSL164C	C184, D28	1098465	MSYNR25CA19	B119	1098814	NRR3225P3	C189
1096978	CTCPR164C	B180, B379	1097264	NSL204D	C184, D28	1098529	MTUNL12CA3	B142	1098857	NASL1616K3Q	C185
1096979	CTCPR164D	B180, B379	1097265	NSL244D	C184, D28	1098535	MTUNL16CA3	B142	1098859	NASL1010M2Q	C185
1096980	CTCPR204D	B180, B379	1097266	NSL164D	C184, D28	1098536	MTUNR20CA4	B142	1098860	NASL1212M2Q	C185
1096982	CTCPR244D	B180, B379	1097267	NSL243E	C182, D27	1098541	SCLPR06CA05	B220	1098861	NSL1012E2	C183
1096985	CTEPR123B	B181, B380	1097268	NSL244E	C184, D28	1098542	SCLPR08CA06	B220	1098862	NSL1212F2	C183
1096989	CTEPL854D	B181, B380	1097269	NSL854D	C184, D28	1098543	SCLPR10CA09	B220	1098863	NSL1616H2	C183
1096992	CTEPR163D	B181, B380	1097271	NSL204C	C184, D28	1098544	SCLCR12CA12	B198	1098864	NSL2020K2	C183
1096993	CTEPR854D	B181, B380	1097272	NSL205D	C182, D27	1098545	SCLCR16CA12	B198	1098865	NSL2525M2	C183
1096997	CTFPL123B	B181, B381	1097273	NSL206D	C184, D28	1098548	SCSPL06CA05	B222	1098866	NSL2020K3	C183
1096999	CTFPL163D	B181, B381	1097274	NSL246D	C184, D28	1098549	SCSPL08CA06	B222	1098867	NSL2525M3	C183
1097001	CTFPL164D	B181, B381	1097275	NSL166D	C184, D28	1098551	SCFPR06CA05	B217	1098868	NSL3225P3	C183
1097004	CTFPL854D	B181, B381	1097278	NSL082V	C182, D27	1098552	SCPR08CA06	B219	1098869	NSL3232P3	C183
1097008	CTFFR082V	B181, B381	1097279	NSL102B	C182, D27	1098554	SCGPR08CA06	B218	1098870	NSL2525M4	C183
1097011	CTFFR123B	B181, B381	1097314	NDPPN164D	E40	1098555	SCPR08CA06	B221	1098871	NSL3225P4	C183
1097013	CTFFR163D	B181, B381	1097454	NKLCRF0805D	E42	1098556	SCTPR06CA05	B223	1098872	NSL3232P4	C183
1097014	CTFFR164C	B181, B381	1097455	NKLCRF0805D	E42	1098557	SCTPR08CA06	B223	1098874	NEL1616H2	C188
1097015	CTFFR164D	B181, B381	1097508	NKLCR1205A	E41	1098558	STFPL12CA16	B276	1098875	NEL2020K2	C188
1097016	CTFFR204D	B181, B381	1097511	NKLCR1205B	E41	1098559	STFPL10CA11	B276	1098876	NEL2525M2	C188
1097018	CTFFR854D	B181, B381	1097512	NKLN121B	E41	1098561	STFPL08CA09	B276	1098877	NEL2525M3	C188
1097021	CTGPL102B	B182, B382	1097513	NKLN161C	E41	1098562	STFPR12CA16	B276	1098878	NEL3225P3	C188
1097022	CTGPL123B	B182, B382	1097515	NKLCR0805V	E41	1098563	STFPR10CA11	B276	1098879	NEL2525M4	C188
1097023	CTGPL163C	B182, B382	1097516	NKLCR1005B	E41	1098565	STFPR08CA09	B276	1098880	NEL3225P4	C188
1097024	CTGPL163D	B182, B382	1097559	NER122B	C187, D26	1098566	STGPR12CA16	B277	1098881	NEL3232P4	C188
1097026	CTGPL164D	B182, B382	1097560	NER162C	C187, D26	1098567	STGPR10CA11	B277	1098883	NRL2020K3	C189
1097027	CTGPL204D	B182, B382	1097561	NER123B	C187, D26	1098570	SSKPR10CA09	B254	1098884	NRL2525M3	C189
1097033	NDLPL164D	E40	1097562	NER163C	C187, D26	1098572	SSSPR10CA09	B255	1098885	NRL3225P3	C189
1097035	CTGPR102B	B182, B382	1097563	NER203D	C187, D26	1098574	SSRPR10CA09	B254	1098943	A10KNNTOR1	C190
1097036	CTGPR123A	B182, B382	1097564	NER243D	C187, D26	1098624	NEL12CA2	C196, D41	1098944	A12MNNTOR1	C190
1097037	CTGPR123B	B182, B382	1097565	NER163D	C187, D26	1098626	NEL25CA3	C196, D41	1098945	A12MNNTOR2	C192
1097038	CTGPR163C	B182, B382	1097566	NER853D	C187, D26	1098691	MSYNL20CA15	B119	1098946	A12MNNTOL2	C192
1097039	CTGPR163D	B182, B382	1097567	NER164C	C187, D26	1098711	SRGCR08CA06	B245	1098947	A16MNNTOR2	C192
1097041	CTGPR164C	B182, B382	1097568	NER204D	C187, D26	1098713	SRGCR12CA10	B245	1098948	A16MNNTOL2	C192
1097042	CTGPR164D	B182, B382	1097569	NER244D	C187, D26	1098719	SSKCR12CA12	B249	1098949	A20QNTOR2	C192
1097043	CTGPR204D	B182, B382	1097570	NER164D	C187, D26	1098720	SSKCR16CA12	B249	1098950	A20QNTOL2	C192
1097048	NKLCR1605C	E41	1097571	NER206D	C187, D26	1098721	SSKCL12CA12	B249	1098951	A25RNNTOR2	C192
1097049	NKLC1605C	E41	1097575	NER205D	C187, D26	1098723	SSRCR12CA12	B250	1098952	A25RNNTOL2	C192
1097118	NVLCR123B	E43	1097577	NER082V	C187, D26	1098725	SSRCL12CA12	B250	1098953	A25RNNTOR3	C192
1097119	NVLCR203D	E43	1097578	NER102B	C187, D26	1098728	SDUPR10CA07	B237	1098954	A25RNNTOL3	C192
1097120	NVLCR243D	E43	1097579	NRR123B	C189	1098730	SCLPL08CA06	B220	1098955	A32SNNTOR3	C192
1097121	NVLCR163D	E43	1097580	NRR163C	C189	1098731	SCLPL10CA09	B220	1098956	A32SNNTOL3	C192
1097122	NVLC123B	E43	1097581	NRR203D	C189	1098732	SCLCL12CA12	B198	1098957	A40TNNTOR3	C192
1097123	NVLC203D	E43	1097582	NRR243D	C189	1098736	SCTPL08CA06	B223	1098958	A40TNNTOL3	C192
1097124	NVLC243D	E43	1097583	NRR163D	C189	1098737	SSSCR12CA12	B251	1099001	A40TNNTOR4	C192
1097125	NVLC163D	E43	1097584	NSR122B	C182, D27	1098739	SSSCL12CA12	B251	1099002	A40TNNTOL4	C192
1097128	NVVCN163D	E43	1097585	NSR162C	C182, D27	1098741	STTPR12CA16	B278	1099003	A50UNNTOR4	C192
1097182	NKLC1205A	E41	1097586	NSR123B	C182, D27	1098742	STTPR10CA11	B278	1099162	KRCSFPR061A	K86
1097185	NKLC1205B	E41	1097587	NSR163C	C182, D27	1098744	STTPR08CA09	B278	1099163	KRCSFPR062A	K86
1097186	NKLN121B	E41	1097588	NSR203D	C182, D27	1098749	STWPR12CA16	B279	1099164	KRCSFPR063A	K86
1097187	NKLN161C	E41	1097589	NSR243D	C182, D27	1098750	STWPR10CA11	B279	1099165	KRCSFPR061B	K86
1097189	NKLC0805V	E41	1097590	NSR123A	C182, D27	1098757	SDJPR10CA07	B236	1099166	KRCSFPR062B	K86
1097190	NKLC1005B	E41	1097591	NSR853D	C182, D27	1098758	SDJPL10CA07	B236	1099167	KRCSFPR063B	K86
1097191	NKLCRF1005B	E42	1097592	NSR164C	C184, D28	1098760	STGPL10CA11	B277	1099168	KRCSFPR061C	K86
1097231	NEL122B	C187, D26	1097593	NSR204D	C184, D28	1098762	STGPL08CA09	B277	1099169	KRCSFPR062C	K86
1097232	NEL162C	C187, D26	1097594	NSR244D	C184, D28	1098763	SCKPL08CA06	B219	1099170	KRCSFPR063C	K86
1097233	NEL123B	C187, D26	1097595	NSR164D	C184, D28	1098764	SSSPL10CA09	B255	1099171	KRCSFPR061D	K86
1097234	NEL163C	C187, D26	1097596	NSR243E	C182, D27	1098766	SCFPL08CA06	B217	1099172	KRCSFPR062D	K86
1097235	NEL203D	C187, D26	1097597	NSR244E	C184, D28	1098786	NASR1616K3Q	C185	1099173	KRCSFPR063D	K86
1097236	NEL243D	C187, D26	1097598	NSR854D	C184, D28	1098788	NASR1010M2Q	C185	1099174	KRCSFPR061E	K89, K108-109
1097237	NEL163D	C187, D26	1097599	NSR864E	C184, D28	1098789	NASR1212M2Q	C185	1099175	KRCSFPR062E	K89, K108-109
1097238	NEL853D	C187, D26	1097600	NSR204C	C184, D28	1098790	NSR1010E2	C183	1099176	KRCSFPR063E	K89, K108-109
1097239	NEL164C	C187, D26	1097601	NSR205D	C182, D27	1098791	NSR1212F2	C183	1099177	KRCSFPR061F	K89, K110-114
1097240	NEL204D	C187, D26	1097602	NSR206D	C184, D28	1098792	NSR1616H2	C183	1099178	KRCSFPR062F	K89, K110-114
1097241	NEL244D	C187, D26	1097603	NSR246D	C184, D28	1098793	NSR2020K2	C183	1099179	KRCSFPR063F	K89, K110-114
1097242	NEL164D	C187, D26	1097604	NSR166D	C184, D28	1098794	NSR2525M2	C183	1099379	CM180	E42
1097243	NEL206D	C187, D26	1097605	NSR168D	C184, D28	1098795	NSR2020K3	C183	1099380	CM181	E42

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1099381	CM182	C185, D25	1113257	NG3094R K313	C170	1126088	170.277	H88	1132599	ISSN846 K9	B111-112
1099382	CM183	C185, D25	1113261	NG3125L K313	C171	1126361	FT6	K79, T24	1132616	9X1R012B12STN10M	W40
1099433	SM427 K9	D38	1113265	NG3047L K313	C170	1126830	EB28035300	K143	1132781	15X1R022B16STN16T	W42
1099435	SM434 K9	B374	1113266	NG3062L K313	C170	1126838	AFB27115SCFCR09	K134	1132857	EB23035250	K143
1099437	SM437 K9	B170, B374, B393	1113268	NG3094L K313	C170	1127019	MS1162	C52-57, C65-73, C143-151, S94, S98, S100, V87-88, V91	1132931	192.057	I27
1099445	SKSN566K K9	B115-117, B119	1113269	NG4125R K313	C170				1132990	DCMT2151LF K313	B225
1099450	ITSN333 K9	B135-136	1113270	NG4189R K313	C170				1133075	192.111	J84-85
1099451	ICSN332 K9	B59, B63	1113272	NG4125L K313	C171	1127184	PKG7001	K128	1133083	192.112	J84-85
1099452	IDSN322 K9	B87, B89-90, B92, B96	1113276	NF3125R K313	C175	1127271	AFB34115SCFCR09	K134	1133110	192.126	J92
1099453	IDSN543 K9	B87	1113277	NF3125L K313	C175	1127907	B510S08000 ASS	J86	1133202	PKG3242	K134, K136
1099454	IVSN433 K9	B152-155	1113477	NJF3009R18 K68	D15	1127915	B510S25000 ASS	J86	1133229	192.156	J87-90
1099461	SM416 K9	C184, D28	1113486	NA3L4 K68	D11	1127923	B510S30000 ASS	J86	1133236	192.157	J87-91
1099463	SM419 K9	C184, D28	1113499	NTF2L K68	D21	1128324	AFB24115SCFCR09	K134	1133280	EB13030150	K143
1099469	ITSN443 K9	B131	1113500	NTF3L K68	D21	1128691	NPR13M10N K68	E35	1133349	SN3TPKG	D74-75, W40-43
1099614	MS1933	B214-215, B217, B220, B222-223, B271-272	1113501	NTF2R K68	D21	1129375	5.34050-028450	J88	1133581	DV50BT13069	K142
			1113502	NTF3R K68	D21	1129376	5.34050032350	J88	1133669	R31FBH506	K140
			1113504	NT2L K68	D17	1129377	5.34050-032500	J88	1133883	AFB13085SCFCR06	K134
1099615	MS1939	B197, B212-215, B287, B289	1113505	NT3L K68	D17	1129378	5.34050-040450	J88	1133894	AFB17100SCFCR06	K134
			1113506	NT4L K68	D17	1129379	5.34050-040600	J88	1133903	PKG2025	K134, K136
1099640	MS1034	C190	1113507	NT2R K68	D17	1129380	5.34050-048450	J88	1133914	RS1608	K129
1099644	MS1157	B198, B249-251	1113508	NT3R K68	D17	1129381	5.34050-048600	J88	1134129	840.142.550	K122-123
1099645	MS1160	C34-45, C52-57, C122-129, C134	1113509	NT4R K68	D17	1129382	5.34050-058450	J88	1134246	192.416	J10-15, J75
			1113510	NTP2L K68	D22	1129383	5.34050-058600	J88	1134271	192.419	J87-90
1099646	MS1200	C183, C185, C188, C192-193, D30	1113511	NTP3L K68	D22	1130286	364.010	H72-73, H75, H77, H79, H81-82, H84-86, H123	1134279	192.420	J87-90
			1113513	NTP2R K68	D22				1134285	SNMA432 K68	B100
1099649	KLM33	B72, B115-119	1113514	NTP3R K68	D22	1130295	364.011	H72-75, H77-79, H81-82, H84-86, H122-123	1134298	192.421	J87-91
1099650	KLM54	B115-117, B119	1113559	NJ3010R16 K68	D15				1134307	192.422	J87-90
1099651	FT10	K42	1114462	NGD3189R K313	C171				1134316	192.423	J87-91
1099661	KL68L	B134, B137	1114463	NGD4250R K313	C171	1130302	11X1R020B20STN11N	W40	1134324	192.424	J87, J89-92
1099675	MS-1896	K85	1114464	NGD4250L K313	C171	1130303	364.012	H72, H74-76, H78-86, H122-123	1134333	192.425	J87, J89-92
1099676	KT30	V121-123, V132	1114465	NGD3189L K313	C171				1134342	192.426	J91-92
1100493	MCLNR12CA4	B74	1114470	NRP3047R K313	C169	1130313	364.013	H72, H74, H76, H78, H80-81, H83-86, H123	1134353	5.34032-028115	J88
1102784	E12STFPR3 KWH	B272	1114483	NGD3125RK K313	C165				1134361	5.34032-028200	J88
1104600	TRAOR242E	E70	1114484	NGD3062RK K313	C165				1134385	192.432	H122, I14-15, J10-15, J25, J27, J29, J31, J33, J35, J37, J39, J75, J84-85, J114
1105612	191.924	H122, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J84-85, J114, V156	1114486	NGD3094RK K313	C165	1130686	17X1R022B16STN16N	W40	1134388	5.34032-032125	J88
			1114487	NGD3125LK K313	C165	1130740	20X1R043B20STN16N	W40	1134393	192.433	J25, J27, J29, J31, J33, J35, J37, J39
			1114490	NGD3094LK K313	C165	1130837	22X1R025B25STN16L	W41			
1106230	LSASR83	D71	1114624	NTK2R K68	D21	1130969	30X1R052B25STN27N	W40			
1106359	TRAOL2415E	E70	1114625	NTK3R K68	D21	1130977	30X1R092B25STN27L	W41	1134415	5.34050-028300	J88
1106668	MS1970	C34-41, C46-51, C122-126, C129-133	1114626	NTK2L K68	D21	1131036	B510S08000 A30	J86	1134425	5.34050-032200	J88
			1114627	NTK3L K68	D21	1131051	B510S15000 A30	J86	1134434	5.34050-040148	J88
1106715	A2732SVSPRW4	B285	1114680	NJP3014R12 K68	D16	1131060	B510S20000 A30	J86	1134440	5.34050-040300	J88
1107188	HSK100AKR50085M	K92	1116320	TRAOL1615D	E70	1131069	37X1R058B32STN27N	W40	1134457	5.34050-048168	J88
1112602	SNHX1102T KC725M	U14	1116889	CKM34	B72-74, B94-95, B115-119, B140-142, B174-176, B186-187, B394-398	1131070	B510S25000 A30	J86	1134464	5.34050-048300	J88
1112603	SNHX1103T KC725M	U14				1131086	37X1R098B32STN27L	W41	1134472	5.34050-058186	J88
1112604	SNHX1203T KC725M	U14	1120731	AFB31115SCFCR09	K134	1131090	B510S30000 A30	J86	1134482	5.34050-058300	J88
1112605	SNHX1204T KC725M	U14	1121036	EB43040450	K143	1131111	KM40FBHO1660	K128	1134503	5.34128R028150	J87
1112606	SNHX12045T KC725M	U14	1121195	112.244	E16	1131118	42X2R045B32STN27D	W43	1134512	5.34132R032100	J87
1112607	SNHX1205T KC725M	U14	1121205	552.232	B383-384	1131119	B510S10000 ASS	J86	1134523	5.34132R032200	J87
1113180	NBD2R K313	C177	1121232	552.221	B383, B391	1131128	B510S15000 ASS	J86	1134530	5.34140R042000	J87
1113182	NBD3R K313	C177	1121302	552.230	B391	1131134	B510S20000 ASS	J86	1134547	5.34148R048200	J87
1113183	NBD3L K313	C177	1121703	EB33040350	K143	1131459	MS1488	D31, D33, D39-40	1134555	5.34158R058300	J87
1113194	NB2L K313	C176	1121711	BT50BT13088	K142	1131479	191.282	K76	1134564	5.34170R070186	J87
1113195	NB3L K313	C176	1121716	880.252.550	K137-138	1131602	191.375	J49, J52	1134570	5.34170R070300	J87
1113196	NB4L K313	C176	1122168	PKG1565	K141-143	1131646	191.405	B72, B115-119, B175-176, B186, B219, B220, B236-237, B254-255, B276-279, B395-397	1134581	5.34170R070500	J87
1113197	NB2R K313	C176	1122180	191.726	H122-123, J49, J52-53	1131653	191.406	B72-74, B94, B115-119, B140-142, B174, B186-187, B198, B245, B249-251, B276-279, B394, B397-398, C196, D41	1134588	5.34180R080204	J87
1113198	NB3R K313	C176							1134597	5.34180R080300	J87
1113199	NB4R K313	C176	1122185	CV50BT13069	K142				1134609	5.36050154040	J91
1113205	NT2L K313	D17	1122328	192.759	J92				1134614	5.34180R080500	J87
1113208	NT2R K313	D17	1122397	CPGM2151 K313	B205				1134624	5.34240R032100	J87
1113209	NT3R K313	D17	1123620	TRAOR202D	E70				1134631	5.34248R040100	J87
1113216	NR3031R K313	C172	1124019	26X2R043B25STN16D	W43				1134639	5.34258R048100	J87
1113217	NR3047R K313	C172	1124104	MS1163	C65-73, C143-151				1134650	5.34280R040080	J87
1113218	NR3062R K313	C172							1134657	5.34280R058080	J87
1113219	NR3078R K313	C172	1124195	SPMT3252LF K68	B252				1134666	5.34280R070150	J87
1113221	NR4094R K313	C172	1124300	TNMA432 K68	B122				1134674	5.34350-090100	J92
1113224	NR3031L K313	C172	1124975	PKG0002	K145				1134725	192.530	U13
1113225	NR3047L K313	C172	1125085	EB18030200	K143	1131977	SN2TPKG	W40, W42-43	1134879	193.113	I27
1113226	NR3062L K313	C172	1125092	RS1606	K129	1132036	KM50FBHO1670	K128	1134964	192.592	J75, J84
1113231	NR3094L K313	C172	1125110	AFB09075SCFCR06	K134	1132063	191.698	H122, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J84-85	1134971	192.593	J84-85
1113233	NG2031R K313	C170	1125440	TNMA332 K68	B122				1135110	193.114	I27
1113234	NG2041R K313	C170	1125685	NPL13M10N K68	E35				1135177	NPL5M05 K68	E36
1113237	NG2062R K313	C170	1126021	170.270	H72, H81, H85-86, H88				1135184	NPR5M02 K68	E36
1113238	NG2094R K313	C170							1135192	NPL5M02 K68	E36
1113240	NG2031L K313	C170	1126032	170.271	H84, H88				1135217	NPR13M05N K68	E35
1113244	NG2062L K313	C170	1126040	170.272	H72, H81, H85-86, H88				1135224	NPR5M05 K68	E36
1113245	NG2094L K313	C170	1126049	170.273	H88				1135346	PKG156502	K143-144
1113248	NG3125R K313	C170	1126066	170.274	H72, H81, H85-86, H88				1135358	PKG7994	K145
1113252	NG3189R K313										

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1135387	192.718	114-15	1139210	190.076	127	1152735	E12SCLPL3 KWH	B214	1161112	CNPG431 K313	B46
1135404	192.720	114-15	1139321	190.116	J75	1152736	E16SCLPR3 KWH	B214	1161113	CNPG432 K313	B46
1135473	192.730	J92	1139429	190.195	127	1152737	E16SCLPL3 KWH	B214	1161114	CNPG433 K313	B46
1135481	192.731	J92	1139563	360.513	I25-26	1152738	E06SDUPR2 KWH	B234	1161116	CNPG543K K313	B47
1135617	840.142.720	K122-123	1139601	B510S10000 A30	J86	1152739	E06SDUPL2 KWH	B234	1161118	DNPG431 K313	B77
1135623	840.142.940	K122-123	1139637	190.371	127	1152740	E08SDUPR2 KWH	B234	1161119	DNPG432 K313	B77
1135642	RS1610	K129	1140602	EB38040400	K143	1152741	E08SDUPL2 KWH	B234	1161121	DNPG441 K313	B77
1135662	RS1612	K129	1146699	CKM35	B74, B115, B140-142, B186, B397	1152742	E10SDUPR2 KWH	B234	1161124	VNMP331 K313	B149
1135739	NPL13M05N K68	E35	1147002	ICSN846 K9	B63-64	1152743	E10SDUPL2 KWH	B234	1161125	VNMP332 K313	B149
1135802	KM63BT13065	K141	1147269	MS1454	B203, K79	1152744	E12SDUPR2 KWH	B234	1161127	VNPG432 K313	B144
1135826	19X1R023B20STN16T	W42	1150356	460.716	J92	1152746	E12SSDUPR3 KWH	B234	1161146	CNMP431 K68	B56
1135984	170.008	J90-92	1150624	5.34280R048080	J87	1152747	E12SSDUPR3 KWH	B234	1161147	CNMP432 K68	B56
1136105	192.888	114-15	1150802	A20NVJCR3	E47	1152748	E16TSDUPR2 KWH	B234	1161148	CNMP433 K68	B56
1136108	112.403	E15-16	1151411	MS1276	J91	1152749	E16TSDUPL3 KWH	B234	1161155	CNMS432 K68	B57
1136114	192.889	114-15	1152199	SPG422 K68	B171	1152750	E03HSWLP15 KWH	B290	1161157	CNMS642 K68	B57
1136116	112.404	E15-17, E20, E22	1152584	E08KCTFPR2 KWH	B184, B392	1152752	E04HSWLP15 KWH	B290	1161158	CNMP543 K68	B57
1136144	112.505	E16	1152586	E08KCTFPR2 KWH	B184, B392	1152753	E04HSWLP15 KWH	B290	1161159	DNMP431 K68	B85
1136174	114.114	E17, E20, E22	1152588	E10MCTFPR2 KWH	B184, B392	1152754	E05SWLP15 KWH	B290	1161160	DNMP432 K68	B85
1136242	192.902	J75, J84-85	1152590	E10SCTFPR2 KWH	B184, B392	1152755	E05SWLP15 KWH	B290	1161161	DNMP433 K68	B85
1136247	118.204	E18-19	1152592	E12QCTFPR3 KWH	B184, B392	1152756	E06SWLP2 KWH	B290	1161168	DNMS432 K68	B86
1136251	192.903	J84-85	1152593	E12QCTFPL3 KWH	B184, B392	1152757	E06SWLP2 KWH	B290	1161172	SNMP643 K68	B108
1136295	118.314	E18-19	1152594	E12SCTFPR3 KWH	B184, B392	1152758	E08SWLP2 KWH	B290	1161173	SNMP643 K68	B108
1136414	192.932	V58	1152595	E12SCTFPL3 KWH	B184, B392	1152759	E08SWLP2 KWH	B290	1161175	SNMP643 K68	B108
1136436	193.115	127	1152598	E16TCTFPR3 KWH	B184, B392	1152760	E10SWLP3 KWH	B290	1161182	CNMP434 K68	B129
1136445	193.116	127	1152600	E08NKLCR05 KWH	E45	1152761	E10SWLP3 KWH	B290	1161186	CNMP431 K68	B46
1136625	121.612	E15-16, E18, S64, S67	1152601	E08NKLCR05 KWH	E45	1152762	E12SWLP3 KWH	B290	1161187	CNMP432 K68	B46
1136633	121.616	E15-17, E19-20, E22, E55, E61, S70	1152602	E10NKLCR05 KWH	E45	1152764	E16SWLP3 KWH	B290	1161191	TNMS331 K68	B130
1136675	121.808	K48-50	1152603	E10NKLCR05 KWH	E45	1152766	E16STLPL3 KWH	B275	1161192	TNMS332 K68	B130
1136703	121.812	E17, K48-50	1152604	E12NKLCR05 KWH	E45	1152767	E06STLPR2 KWH	B275	1161194	TNMS432 K68	B130
1136713	121.816	E17-23	1152605	E12NKLCR05 KWH	E45	1152768	E06STLPL2 KWH	B275	1161199	VNMP331 K68	B149
1136743	121.825	E19, E21, E23	1152606	E10NER2 KWH	C193, D36	1152769	E08STLPR2 KWH	B275	1161200	VNMP332 K68	B149
1136819	199.123	H87	1152607	E10NER2 KWH	C193, D36	1152770	E08STLPL2 KWH	B275	1161201	VNMP331 K68	B149
1136858	5.36050-154050	J91	1152608	E12NER2 KWH	C193, D36	1152771	E10STLPR2 KWH	B275	1161202	VNMP332 K68	B149
1136949	360.510	I25-26	1152609	E12NEL2 KWH	C193, D36	1152772	E10STLPL2 KWH	B275	1161203	VNMS331 K68	B149
1136955	360.511	I25-26	1152610	E16NER3 KWH	C193, D36	1152777	C6420W KWH	B408	1161204	VNMS332 K68	B149
1137111	125.625	K48-50	1152611	E16NEL3 KWH	C193, D36	1152778	C6428W KWH	B408	1162181	CGGT21505HP K313	B189
1137209	125.820	J84-85	1152668	E12CTLNR2 KWH	B392	1152779	C6428W KWH	B408	1162182	CGGT2151HP K313	B189
1137229	125.830	J84-85	1152676	E06LSER2 KWH	D75	1152780	C6432W KWH	B408	1162183	CGGT32505HP K313	B189
1137405	128.508	H87	1152677	E06LSER2 KWH	D75	1152782	C6440W KWH	B408	1162184	CGGT3251HP K313	B189
1137412	128.510	H87	1152678	E08LSER2 KWH	D75	1152783	C11816W KWH	B407	1162185	CGGT431HP K313	B189
1137420	128.610	J75	1152679	E08LSER2 KWH	D75	1152784	C11820W KWH	B407	1162186	CGGT432HP K313	B189
1137479	R51FBHS06	K140	1152680	E10LSER3 KWH	D75	1152787	C11932W KWH	B409	1162187	CCMT2151LF K313	B191
1137487	R24FBHS06	K140	1152681	E10LSER3 KWH	D75	1152789	C11940W KWH	B409	1162189	CCMT32505LF K313	B191
1137505	R67FBHS09	K140	1152682	E12LSER3 KWH	D75	1152790	C6420 KWH	B408	1162190	CCMT3251LF K313	B191
1137520	129.612	J84-85	1152683	E12LSER3 KWH	D75	1152834	E16RNNTOR2 KWH	C193	1162191	CCMT3252LF K313	B191
1137528	129.616	J84-85	1152684	E16LSER3 KWH	D75	1152835	E16RNNTOL2 KWH	C193	1162192	CDHB120605 K313	B199
1137713	360.550	I25-27	1152686	E16LSER4 KWH	D75	1152836	E20SNNTOR2 KWH	C193	1162194	CPGT32505HP K313	B205
1137720	360.551	H87, I25-27	1152688	E08NER2 KWH	C193, D36	1153403	HSK63AKR32075M	K92	1162195	CPGT3251HP K313	B205
1137835	AFB21110SFCR09	K134	1152689	E08NEL2 KWH	C193, D36	1153604	HSK63AKR50080M	K92	1162199	CPMT2151LF K313	B207
1137910	STCM25	V148-149	1152690	E16NKLN1 KWH	E45	1153606	HSK100AKR32075M	K92	1162200	CPMT2152LF K313	B207
1137929	STN10100S0I KC620M	W45	1152692	E12SCLPR3AP5 KWH	B216	1153612	HSK100AKR80090M	K92	1162204	CPMT21505HP K313	B224
1137965	STN161BSW KC610M	W46	1152693	E16SCLPR3AP5 KWH	B216	1156428	SNMA643 K68	B100	1162205	DCGT2151HP K313	B224
1138019	STN1614BSW KC610M	W46	1152694	E12SCLPL3AP5 KWH	B216	1156449	4111593VRS	B168, B386	1162206	DCGT32505HP K313	B224
1138033	STN16150S0E KC610M	W45	1152695	E16SCLPL3AP5 KWH	B216	1156961	CNMG432 K313	B47	1162207	DCGT3251HP K313	B224
1138041	STN16150S0E KC620M	W45	1152698	E08NELR05 KWH	E44	1159964	CNMG432P K313	B52	1162208	DCGT3252HP K313	B224
1138136	STN27200S0E KC610M	W45	1152704	E12STLPR3 KWH	B275	1159971	SNMG432 K313	B100	1162209	DCMT21505LF K313	B225
1138273	170.000	K76	1152705	E12STLPL3 KWH	B275	1159980	VNMG332P K313	B147	1162211	DCMT3251LF K313	B225
1138297	170.002	K51	1152706	E16STLPR3 KWH	B275	1160004	RNMA43 K68	B97	1162212	DCMT3252LF K313	B225
1138307	170.003	E15-20, E22, E55, E61, I14, K51, S64, S67, S70, S121-123	1152707	E05STFPR18	B272	1160005	RNMA54 K68	B97	1162216	DPGT3251HP K313	B231
1138315	170.004	E17-23, J90, K48-51	1152708	E05STFPL18 KWH	B272	1160013	CNMA432 K68	B47	1162223	TPMT2151LF K313	B268
1138323	170.005	I14, J91, K48-50	1152709	E06STFPR2 KWH	B272	1160018	CNMG431 K68	B47	1162225	VBGT221LF K313	B280
1138331	170.006	J90-91, K48-50	1152710	E06STFPL2 KWH	B272	1160019	CNMG432 K68	B47	1162226	VBGT3305LF K313	B280
1138413	170.023	J10-15, J25, J27, J29, J31, J33, J35, J37, J39	1152711	E08STFPR2 KWH	B272	1160020	CNMG433 K68	B47	1162228	VBGT3325LF K313	B280
1138430	170.024	I25-27, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J114	1152712	E08STFPL2 KWH	B272	1160025	CNMG643 K68	B47	1162229	VBGT332HP K313	B280
1138438	170.025	I14-15, I25-27, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J114, S4-5, S8-10, S14, S17, S20, V44-47, V51-54, V62	1152713	E10STFPR2 KWH	B272	1160027	DNMG432 K68	B78	1162230	VBMT221LF K313	B281
1138446	170.026	J49, J52-53, V58	1152714	E10STFPL2 KWH	B272	1160039	SNMG433 K68	B100	1162233	VBMT3325LF K313	B281
1138455	170.027	J10-15	1152715	E12STFPL3 KWH	B272	1160060	TNMG433 K68	B122	1162234	VBMT331LF K313	B281
1138465	170.028	I14-15, J10-15, J25, J27, J29, J31, J33, J35, J37, J39, J114	1152716	E16STFPR3 KWH	B272	1160068	VNMG332 K68	B145	1162235	VBMT332LF K313	B281
1138748	170.135	K51	1152717	E16STFPR3 KWH	B272	1160069	VNMG333 K68	B145	1162241	RCGT0830MHP K313	B238
1138755	170.136	K51	1152722	E05KSCLPR18 KWH	B214	1160070	VNMG432 K68	B145	1162242	RCGT10T3MHP K313	B238
			1152723	E05KSCLPL18 KWH	B214	1160071	VNMG433 K68	B145	1162243	RCGT1204MHP K313	B238
			1152724	E06SCLPR2 KWH	B214	1160077	VNMG431 K68	B144	1162245	RCMT325 K313	B240
			1152725	E06SCLPL2 KWH	B214	1160078	VNMG432 K68	B144	1162246	RCMT0602M0 K313	B240
			1152726	E08SCLPR2 KWH	B214	1161093	VNMG332LF K313	B144	1162247	RCMT0903M0 K313	B240
			1152727	E08SCLPL2 KWH	B214	1161095	CNMP431 K313	B56	1162249	RCMT1204M0 K313	B240
			1152728	E10SCLPR2 KWH	B214	1161096	CNMP432 K313	B56	1162250	RCMT1605M0 K313	B240
			1152729	E10SCLPL2 KWH	B214	1161098	CNMP643 K313	B56	1162251	RCMT2006M0 K313	B240
			1152730								



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1162288	VBGT2205LF K68	B280	1182000	SNGA544T KY3500	B314	1184103	LINEQ1245R04 KC725M	U20	1191446	B105A10000 K10	G25
1162289	VBGT331HP K68	B280	1182002	DNGA432T0820 KY3500	B314	1184105	LINEQ1255R04 KC725M	U20	1191448	B105A10200 K10	G25
1162296	RCGT0803MHP K68	B238	1182003	DNGA433T0820 KY3500	B314	1184106	LINEQ1260R04 KC725M	U20	1191449	B105A10300 K10	G25
1162297	RCMT0602M0 K68	B240	1182004	DNGA434T0820 KY3500	B314	1185809	S447	T64	1191450	B105A10500 K10	G25
1162586	SPU422 K68	B171	1182005	DNGA434T0820 KY3500	B314	1185937	DFT370R4WD40M	J50	1191451	B105A10700 K10	G25
1162732	TPU221 K68	B178	1182006	VNGA332T0820 KY3500	B315	1185959	DFT410R4WD40M	J50	1191452	B105A11000 K10	G25
1162733	TPU222 K68	B178	1182008	TNGA334T0820 KY3500	B314	1186677	SNGX654T0820 KY3500	B318	1191453	B105A11800 K10	G25
1162734	TPU321 K68	B178	1182363	NT1L K68	D23	1190977	1.78025R300	E19	1191454	B105A12000 K10	G25
1162735	TPU322 K68	B178	1182370	NTB3RB K68	D18	1191046	3.37052R320	I14	1191455	B105A12500 K10	G25
1162737	TPU432 K68	B178	1182373	NTB3LB K68	D18	1191047	3.37052R820	I14	1191456	B105A12700 K10	G25
1162738	TPU433 K68	B178	1182375	NTB2RA K68	D17	1191048	3.37061R320	I14	1191457	B105A12800 K10	G25
1163009	CPGM3251 K313	B205	1182379	NTB3LA K68	D17	1191049	3.37061R820	I14	1191458	B105A13000 K10	G25
1163010	CPGM3252 K313	B205	1182853	SPG422 K313	B171	1191050	3.37071R320	I14	1191459	B105A13800 K10	G25
1163033	TD6P K68	B266	1182856	SPG633 K313	B171	1191051	3.37071R820	I14	1191460	B105A14000 K10	G25
1163051	CPGM21505 K68	B205	1182877	SNG322T0820 KY3500	B318	1191052	3.37091R320	I14	1191461	B105A14200 K10	G26
1163052	CPGM2151 K68	B205	1182878	SNG432T0820 KY3500	B318	1191053	3.37091R820	I14	1191462	B105A14500 K10	G26
1163054	CPGM32505 K68	B205	1182879	SNG433T0820 KY3500	B318	1191054	3.37100R720	I26	1191463	B105A15000 K10	G26
1163055	CPGM3251 K68	B205	1182880	SNG434T0820 KY3500	B318	1191055	3.37101R832	I14	1191464	B105A15100 K10	G26
1163056	CPGM3252 K68	B205	1182882	SNG438T0820 KY3500	B318	1191056	3.37111R332	I14	1191465	B105A15800 K10	G26
1163276	NPR508 K313	E35	1182884	SNG454T0820 KY3500	B318	1191057	3.37111R832	I14	1191466	B105A16000 K10	G26
1163277	NPL508 K313	E35	1182886	SNG634T0820 KY3500	B318	1191058	3.37120R732	I26	1191467	B105A16500 K10	G26
1163280	NPR505 K313	E35	1182921	SPG321 K68	B171	1191059	3.37121R832	I14	1191468	B105A18000 K10	G26
1163281	NPR51 K313	E35	1182922	SPG322 K68	B171	1191060	3.37131R332	I14	1191469	B105A20000 K10	G26
1163283	NPL505 K313	E35	1182925	SPG421 K68	B171	1191061	3.37140R732	I26	1191470	B105A20500 K10	G26
1163284	NPL51 K313	E35	1182926	SPG423 K68	B171	1191062	3.37141R832	I26	1191612	B411A05000 KF1	G94
1163285	NPL52 K313	E35	1182929	SPG632 K68	B171	1191063	3.37151R332	I14	1191613	B411A06000 KF1	G94
1163286	VPGR331 K313	B369, E38	1183203	TPG221 K313	B177	1191072	3.42805R001 CS5	I30	1191614	B411A08000 KF1	G94
1163287	VPGR332 K313	B369, E38	1183205	TPG321 K313	B177	1191073	3.42807R001 CS5	I30	1191616	B411A10000 KF1	G95
1163311	NPR505 K68	E35	1183206	TPG322 K313	B177	1191074	CBTF200R2WD20N3M	J114	1191617	B411A12000 KF1	G95
1163312	NPR51 K68	E35	1183207	TPG323 K313	B177	1191075	CBTF220R2WD20N3M	J114	1191618	B411A14000 KF1	G95
1163313	NPR52 K68	E35	1183209	TPG3205 K313	B177	1191076	CBTF260R2WD20N2M	J114	1191619	B411A16000 KF1	G95
1163314	NPL505 K68	E35	1183210	TPG431 K313	B177	1191103	DFT260R4WD32M	J50	1191620	B501Z06000 K10	G144
1163315	NPL51 K68	E35	1183211	TPG432 K313	B177	1191130	3.76055R032V	J82-83	1191628	B505Z04000 K10	G144
1163316	NPL52 K68	E35	1183232	TNG332T0820 KY3500	B319	1191131	3.76063R032V	J82-83	1191629	B505Z06000 K10	G144
1163317	NPR1305 K68	E34	1183236	TNG434T0820 KY3500	B319	1191132	3.76073R040V	J82-83	1191630	B505Z10000 K10	G144
1163323	NPL132F K68	E34	1183237	TPG322T0820 KY3500	B320	1191133	3.76084R048V	J82-83	1191631	B505Z12000 K10	G144
1163325	VPGR3305 K68	E38	1183238	TPG323T0820 KY3500	B320	1191134	3.76102R058V	J82-83	1191632	B505Z16000 K10	G144
1163326	VPGR331 K68	E38	1183239	TPG432T0820 KY3500	B320	1191135	3.77000R024V	J84	1191633	B505Z20000 K10	G144
1163327	VPGR332 K68	E38	1183254	TPG221 K68	B177	1191136	3.77000R025V	J84	1191970	DV50BKRS2040M	K91
1163328	VPGR333 K68	B369, E38	1183255	TPG222 K68	B177	1191137	3.77000R026V	J84	1191971	DV50BKRS0040M	K91
1163336	NPRGR51R K68	E33	1183257	TPG321 K68	B177	1191138	3.77000R027V	J84	1192275	KR32KR32038100M	K93
1163338	NPRGR51L K68	E33	1183258	TPG322 K68	B177	1191139	3.77000R029V	J84	1192276	KR32KR32047100M	K93
1163341	DPGR432 K68	E32	1183260	TPG324 K68	B177	1191140	3.77000R038V	J84	1192280	KR50KR50065100M	K93
1163532	RCMK23 K313	E69	1183262	TPG3205 K68	B177	1191141	3.77000R039V	J84	1192281	KR50SVS4B094M	K83
1163533	RCMK35 K313	E69	1183264	TPG431 K68	B177	1191142	3.77000R081V	J84	1192295	KRDCKR32M	K91-93
1163535	RCMK152 K313	E69	1183265	TPG432 K68	B177	1191143	3.77000R082V	J84	1192296	KRDKR350M	K91-93
1164694	SPU421 K68	B171	1183266	TPG433 K68	B177	1191300	SPHX15762CSRGP K110M	S71	1192326	LSR2040D	D71
1173988	HSK100AKR63100M	K92	1183267	TPG434 K68	B177	1191346	SNHX1102PZTNGP K110M	U15	1192442	S20ZLSER3	D74
1175211	3.77000R028V	J84	1183421	CPG421 K313	B164	1191347	SNHX1203PZTNGP K110M	U15	1192530	SPHX060204R21 KM1	J116
1175212	3.77000R031V	J84	1183422	CPG422 K313	B164	1191395	9X1R017B20STN10M	W40	1192534	SPHX070304R21 KM1	J116
1175225	193.281	J10-15, J25, J27, J33, J35	1183435	CNG432T0820 KY3500	B316	1191414	B105A03000 K10	G24	1192535	SPHX070304R22 KM1	J117
1176134	B105A08200 K10	G25	1183436	CNG433T0820 KY3500	B316	1191415	B105A03100 K10	G24	1192538	SPHX090304R21 KM1	J116
1176636	TRAO1202D	E70	1183437	CNG434T0820 KY3500	B316	1191416	B105A03200 K10	G24	1192539	SPHX090304R22 KM1	J117
1176804	STN22300ISOIC KC610M	W45	1183439	CNG453T0820 KY3500	B316	1191417	B105A03300 K10	G24	1192616	TRAO1615D	E70
1176808	STN27350ISOIC KC610M	W45	1183457	CPG421 K68	B164	1191418	B105A03500 K10	G24	1192617	TRAO2015D	E70
1176808	STN27350ISOIC KC610M	W45	1183458	CPG422 K68	B164	1191419	B105A04000 K10	G24	1192618	TRAO243E	E70
1176964	15X1R020B16STN16C	W42	1183542	RPG42 K313	B166	1191420	B105A04200 K10	G24	1192621	TRAO1615D	E71
1176967	25X1R040B25STN27C	W42	1183544	RCGV45 K313	B166	1191421	B105A04500 K10	G24	1196489	MS1438	B290-291
1176970	10X1R015B20STN11T	W42	1183553	DNGX120708T02020 KY3500	B317	1191422	B105A05000 K10	G24	1197315	KM80BT13070	K141
1178986	35X1R055B32STN38N	W41	1183554	DNGX120712T02020 KY3500	B317	1191423	B105A05100 K10	G24	1197539	SPHX1205ZCERGP KCK15	S65
1180107	RNMG64 K313	B97	1183555	DNGX120716T02020 KY3500	B317	1191424	B105A05500 K10	G24	1197540	SPHX1205ZCELGP KCK15	S65
1180737	TPG433T0820 KY3500	B320	1183557	SNGX453T0820 KY3500	B318	1191425	B105A05700 K10	G24	1197721	410.081	E15, S64, S67
1180917	SDET43PDSR86B KC725M	T116, T123, U39	1183558	SNGX454T0820 KY3500	B318	1191426	B105A05800 K10	G24	1197803	3.37530R010	I27
1181980	DNGA442T0820 KY3500	B314	1183560	RNG65T0820 KY3500	B318	1191427	B105A06000 K10	G24	1198114	SNHX12L5PZTNGP K110M	U15
1181982	SNGA643T0820 KY3500	B314	1183562	DNGX452T0820 KY3500	B317	1191428	B105A06300 K10	G24	1198117	SNHX12L5PZFNKE K110M	U14
1181984	TNGA332T0820 KY3500	B314	1183563	DNGX453T0820 KY3500	B317	1191429	B105A06400 K10	G24	1198178	SCMT325211 KT315	B246
1181985	TNGA333T0820 KY3500	B314	1183564	DNGX454T0820 KY3500	B317	1191430	B105A06500 K10	G24	1198179	DCMT2150511 KT315	B224
1181986	WNGA432T0820 KY3500	B315	1183567	ENGX454T0820 KY3500	B317	1191431	B105A06700 K10	G25	1198180	VBMT220511 KT315	B280
1181987	WNGA433T0820 KY3500	B315	1183572	SNGX556T0820 KY3500	B318	1191432	B105A06800 K10	G25	1198181	SCMT325111 KT315	B246
1181988	WNGA434T0820 KY3500	B315	1183574	RNG43T0820 KY3500	B318	1191433	B105A07000 K10	G25	1198182	SCMT43111 KT315	B246
1181989	CNGA432T0820 KY3500	B313	1183575	RNG45T0820 KY3500	B318	1191434	B105A07100 K10	G25	1198183	VBMT33111 KT315	B280
1181990	CNGA433T0820 KY3500	B313	1184088	LNEU1245R08 KC725M	U19	1191435	B105A07500 K10	G25	1198184	VBMT33211 KT315	B280
1181991	CNGA434T0820 KY3500	B313	1184089	LNEU1245R16 KC725M	U19	1191436	B105A07800 K10	G25	1198185	TCMT215111 KT315	B256
1181992	CNGA543T0820 KY3500	B313	1184090	LNEU1245R32 KC725M	U19	1191437	B105A08000 K10	G25	1198186	TCMT325111 KT315	B256
1181993	CNGA544T0820 KY3500	B313	1184091	LNEU1250R08 KC725M	U19	1191438</					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1198570	B411A04000 KF1	G94	1199424	B105A11500 K10	G25	1245255	1.18016R110	E16	1245827	3.77000R074V	J84
1198572	B411A04200 KF1	G94	1199434	B105A13100 K10	G25	1245256	1.18020L110	E16	1245828	3.77000R075V	J84
1198574	B411A04500 KF1	G94	1199438	B105A13500 K10	G25	1245257	1.18020R110	E16	1245829	3.77000R076V	J84
1198576	B411A04600 KF1	G94	1199455	B105A15500 K10	G26	1245258	1.18020R310	E16	1245830	3.77000R077V	J84
1198578	B411A04650 KF1	G94	1199469	B105A17000 K10	G26	1245259	1.18025R310	E16	1245831	3.77000R078V	J84
1198580	B411A04800 KF1	G94	1199472	B105A17500 K10	G26	1245260	1.18032L315	E16	1245832	3.77000R079V	J84
1198582	B411A04900 KF1	G94	1199480	B105A18500 K10	G26	1245261	1.18032R315	E16	1245833	3.77000R080V	J84
1198586	B411A05100 KF1	G94	1199488	B105A19000 K10	G26	1245277	1.17125L330	E16	1245834	3.77000R085V	J84
1198588	B411A05200 KF1	G94	1199492	B105A19500 K10	G26	1245287	1.18016L110	E16	1245835	3.77000R087V	J84
1198590	B411A05500 KF1	G94	1199675	B105A21000 K10	G26	1245292	1.18025L330	E17	1245836	3.77000R088V	J84
1198592	B411A05550 KF1	G94	1199682	B105A04100 K10	G24	1245326	1.18025L315	E16	1245980	KSEM160R3WN20M	H73
1198594	B411A05800 KF1	G94	1199685	B105A08600 K10	G25	1245338	1.38020R021	E17	1245983	KSEM160R5WN20M	H73
1198597	B411A06300 KF1	G94	1201617	B105A03400 K10	G24	1245339	1.38025L021	E17	1245986	KSEM165R3WN20M	H73
1198599	B411A06400 KF1	G94	1201621	B105A03600 K10	G24	1245340	1.38025R021	E17	1245988	KSEM165R5WN20M	H73
1198602	B411A06500 KF1	G94	1201661	B105A04900 K10	G24	1245357	1.77132R400	E18	1245991	KSEM170R3WN20M	H73
1198606	B411A06600 KF1	G94	1201677	B105A05600 K10	G24	1245364	1.78032R400	E19	1245993	KSEM170R5WN20M	H73
1198608	B411A06800 KF1	G94	1201708	B105A06200 K10	G24	1245371	1.77120L100	E18	1245995	KSEM175R3WN20M	H73
1198610	B411A07000 KF1	G94	1201713	B105A06350 K10	G24	1245372	1.77120R100	E18	1245997	KSEM175R5WN20M	H73
1198613	B411A07400 KF1	G94	1201892	B105A10400 K10	G25	1245374	1.77125R300	E18	1245999	KSEM180R3WN20M	H73
1198617	B411A07500 KF1	G94	1202275	B411A08800 KF1	G95	1245382	1.77225R301	E19	1246001	KSEM180R5WN20M	H73
1198620	B411A07800 KF1	G94	1208579	3.41020R901 CS5	I16	1245388	1.77725R301	E18	1246003	KSEM185R3WN25M	H73
1198625	B411A08400 KF1	G94	1208588	3.41020R902 CS5	I16	1245392	1.78012R103	E19	1246005	KSEM185R5WN25M	H73
1198628	B411A08500 KF1	G94	1208594	3.41020R903 CS5	I16	1245394	1.78016R100	E19	1246007	KSEM190R3WN25M	H73
1198630	B411A09000 KF1	G95	1208601	3.41220R901 CS5	I16	1245397	1.78020R100	E19	1246008	KSEM190R5WN25M	H73
1198632	B411A09300 KF1	G95	1208606	3.41220R902 CS5	I16	1245398	1.78025L300	E19	1246011	KSEM195R3WN25M	H73
1198635	B411A09500 KF1	G95	1208615	3.41220R903 CS5	I16	1245712	302.014	J92	1246013	KSEM195R5WN25M	H73
1198637	DNMG32323 KT315	B78	1208627	3.41020R900 KMF	I17	1245716	3.37042R320	I14	1246014	KSEM200R3WN25M	H73
1198640	B411A09800 KF1	G95	1208635	3.42805R001 KMF	I30	1245717	3.37042R820	I14	1246017	KSEM200R5WN25M	H73
1198644	B411A10200 KF1	G95	1208642	3.42807R001 KMF	I30	1245718	3.37051R320	I14	1246018	KSEM205R3WN25M	H73
1198645	DNMG33133 KT315	B78	1208648	3.41220R900 KMF	I17	1245719	3.37051R820	I14	1246021	KSEM205R5WN25M	H73
1198648	B411A10500 KF1	G95	1208764	SPHX060204R22 KM1	J17	1245720	3.37062R320	I14	1246022	KSEM210R3WN25M	H73
1198650	B411A11000 KF1	G95	1208782	SPHX120404R21 KM1	J16	1245721	3.37062R820	I14	1246024	KSEM210R5WN25M	H73
1198652	B411A11200 KF1	G95	1208789	SPHX120404R22 KM1	J17	1245722	3.37081R320	I14	1246026	KSEM215R3WN25M	H73
1198656	B411A11500 KF1	G95	1208830	SPHX150504R21 KM1	J16	1245723	3.37081R820	I14	1246028	KSEM215R5WN25M	H73
1198658	B411A11800 KF1	G95	1208833	SPHX150504R22 KM1	J17	1245724	3.37101R332	I14	1246031	KSEM220R3WN25M	H73
1198663	B411A12500 KF1	G95	1221501	SPHX120508PCSRGP KCK15	S68	1245725	3.37121R332	I14	1246032	KSEM220R5WN25M	H73
1198665	B411A13000 KF1	G95	1223594	SPHX1205PCERGPB KCK15	S68	1245726	3.37131R832	I14	1246034	KSEM225R3WN25M	H74
1198667	B411A13500 KF1	G95	1229047	KSSR150SP10T30F	T109	1245727	3.37141R332	I14	1246036	KSEM225R5WN25M	H74
1198670	B411A13800 KF1	G95	1229078	KSSR200SP10T30F3	T109	1245728	3.37151R832	I14	1246037	KSEM230R3WN25M	H74
1198679	B411A14500 KF1	G95	1229079	KSSR250SP10T30F4	T109	1245729	3.37161R332	I14	1246040	KSEM230R5WN25M	H74
1198682	B411A15000 KF1	G95	1229080	KSSR300SP10T30F4	T109	1245730	3.37161R832	I14	1246041	KSEM235R3WN25M	H74
1198684	B411A15500 KF1	G95	1229081	KSSR400SP10T30F5	T109	1245731	3.37171R332	I14	1246044	KSEM235R5WN25M	H74
1198686	CNMG43233 KT315	B48	1229091	KISR075SP10T30F	T108	1245732	3.37171R832	I14	1246046	KSEM240R3WN25M	H74
1198689	DNMG44133 KT315	B78	1229092	KISR100SP10T30F	T108	1245733	3.37181R332	I14	1246048	KSEM240R5WN25M	H74
1198691	B411A16500 KF1	G95	1229095	KISR125SP10T30F	T108	1245734	3.37181R832	I14	1246051	KSEM245R3WN32M	H74
1198693	DNMG44233 KT315	B78	1229096	KISR150SP10T30F	T108	1245735	3.37060R720	I26	1246053	KSEM245R5WN32M	H74
1198694	B411A17000 KF1	G95	1229112	KISBR150SP10T30F	T107	1245736	3.37080R720	I26	1246055	KSEM250R3WN32M	H74
1198697	B411A17500 KF1	G95	1229113	KISBR200SP10T30F	T107	1245737	3.37160R732	I26	1246057	KSEM250R5WN32M	H74
1198701	B411A18000 KF1	G95	1230196	B105A04300 K10	G24	1245738	3.37180R732	I26	1246059	KSEM255R3WN32M	H74
1198703	B411A19000 KF1	G95	1230373	CKM36	B72, B94-95, B115-119	1245739	3.37526R006	I27	1246061	KSEM255R5WN32M	H74
1198704	B411A19500 KF1	G95	1232019	SDJCRF083D	B228	1245740	3.37528R008	I27	1246063	KSEM260R3WN32M	H74
1198707	B411A20000 KF1	G95	1232519	3.76068R040V	J82-83	1245741	3.37532R012	I27	1246065	KSEM260R5WN32M	H74
1198711	B411A21000 KF1	G95	1236002	A08R5VMBR2E	B284	1245742	3.37534R014	I27	1246067	KSEM265R3WN32M	H74
1198714	B411A22000 KF1	G95	1236006	A10SSVMBR2E	B284	1245743	3.37538R016	I27	1246069	KSEM265R5WN32M	H74
1198716	B411A23000 KF1	G95	1236007	A12SSVMBR3E	B284	1245744	3.37540R018	I27	1246071	KSEM270R3WN32M	H74
1198718	B411A24000 KF1	G95	1236018	A16T5VMBR3E	B284	1245745	3.37542R020	I27	1246073	KSEM270R5WN32M	H74
1198721	B411A25000 KF1	G95	1242260	PT00163	E60	1245746	3.76063R040V	J82-83	1246075	KSEM275R3WN32M	H74
1198724	B501Z04000 K10	G144	1243476	114.111	E17	1245747	3.76078R048V	J82-83	1246077	KSEM275R5WN32M	H74
1198733	B501Z10000 K10	G144	1243527	132.151	E16	1245748	3.76096R058V	J82-83	1246079	KSEM280R3WN32M	H74
1198743	B505Z08000 K10	G144	1243529	132.156	E16	1245749	3.76045R028V	J82-83	1246081	KSEM280R5WN32M	H74
1198753	B501Z12000 K10	G144	1243735	192.158	J92	1245750	3.76050R028V	J82-83	1246083	KSEM285R3WN32M	H74
1199223	B105A12100 K10	G25	1243752	3.77000R083V	J84	1245751	3.76058R032V	J82-83	1246085	KSEM285R5WN32M	H74
1199225	B105A08300 K10	G25	1243753	3.77000R084V	J84	1245752	3.76078R040V	J82-83	1246088	KSEM290R3WN32M	H74
1199228	B105A04700 K10	G24	1243754	3.77000R086V	J84	1245753	3.76090R048V	J82-83	1246089	KSEM295R3WN32M	H74
1199229	B105A06100 K10	G24	1243769	302.009	J90	1245754	3.76096R048V	J82-83	1246092	KSEM295R5WN32M	H74
1199238	B105A08100 K10	G25	1243770	302.010	J90	1245755	3.76108R058V	J82-83	1246093	KSEM300R3WN32M	H74
1199243	B105A10100 K10	G25	1243771	302.011	J90	1245756	3.76115R070V	J82-83	1246095	KSEM300R5WN32M	H74
1199251	B105A10800 K10	G25	1243777	360.630	I26, I29	1245757	3.76122R070V	J82-83	1246098	KSEM305R3WN32M	H74
1199306	B105A07600 K10	G25	1243778	360.631	I26, I29	1245758	3.76130R070V	J82-83	1246099	KSEM305R5WN32M	H74
1199308	B105A11100 K10	G25	1243779	360.632	I26, I29	1245759	3.76140R080V	J82-83	1246102	KSEM310R3WN32M	H74
1199311	B105A09100 K10	G25	1243780	360.633	I26, I29	1245760	3.76150R080V	J82-83	1246103	KSEM310R5WN32M	H74
1199316	B105A11700 K10	G25	1243781	360.634	I26	1245761	3.76162R080V	J82-83	1246106	KSEM315R3WN32M	H74
1199334	B105A03700 K10	G24	1243782	360.635	I26, I29	1245762	3.76162R080V	J82-83	1246107	KSEM315R5WN32M	H74
1199337	B105A03800 K10	G24	1243783	360.636	I26, I29	1245818	3.77000R023V	J84	1246109	KSEM320R3WN32M	H74
1199348	B105A04650 K10	G24	1244281	1.78025R300Z	E21, E23	1245819	3.77000R030V	J84	1246112	KSEM320R5WN32M	H74
1199351	B105A04800 K10	G24	1245236	1.18025L310	E16	1245820	3.77000R048V	J84	1246166	CBTF300R2WD20N3M	J114
1199360	B105A05200 K10	G24	1245237	1.18025R315	E16	1245821	3.77000R049V	J84	1246168	CBTF420R2WD32N3M	J114
1199365	B105A05550 K10	G24	1245244	1.10820R310	E15	1245822	3.77000R050V	J84	1246170	CBTF180R2WD20N3M	J114
1199380	B105A06600 K10	G25	1245245	1.10825L310	E15	1245823	3.77000R051V	J84	1246187	CBTF330R2WD20N3M	J114
1199387	B105A07400 K10	G25	1245247	1.10825R310	E15	1245824	3.77000R052V	J84	1246188	CBTF360R2WD32N3M	J114
1199406	B105A09300 K10	G25	1245248	1.10825R700	E15	1245825	3.77000R053V	J84	1246195	CBTF400R2WD32N3M	J114
1199421	B105A11200 K10	G25				1245826	3.77000R073V	J84	1246203	CBTF240R2WD20N2M	J114

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1246205	CBTF280R2WD20N3M	J114	1251261	WXXNL4455X-FL	E60	1279867	KSEM200R7WN25M	H75	1291031	TRAOL204D	E70
1246207	CBTF320R2WD20N3M	J114	1251262	WXXNR4455X-FL	E60	1279868	KSEM205R7WN25M	H75	1291032	TRAOL242E	E70
1246216	CBTF460R2WD32N3M	J114	1253759	TRAOR1615D	E70	1279872	KSEM210R7WN25M	H75	1291033	TRAOL243E	E70
1246234	DFT250R4WD32M	J50	1255899	170.285	H88	1279873	KSEM215R7WN25M	H75	1291034	TRAOL244E	E70
1246238	DFT270R4WD32M	J50	1255900	170.286	H88	1279874	KSEM220R7WN25M	H75	1291035	TRAOR162D	E70
1246239	DFT280R4WD32M	J50	1255901	170.287	H88	1279878	KSEM225R7WN25M	H75	1291037	TRAOR163D	E70
1246242	DFT290R4WD32M	J50	1255902	170.288	H88	1279881	KSEM230R7WN25M	H75	1291038	TRAOR164D	E70
1246243	DFT300R4WD32M	J50	1255968	B105A05400 K10	G24	1279882	KSEM235R7WN25M	H75	1291039	TRAOR2015D	E70
1246245	DFT310R4WD32M	J50	1258625	B105A03900 K10	G24	1279889	KSEM245R7WN32M	H75	1291040	TRAOR203D	E70
1246247	DFT320R4WD32M	J50	1260086	CC09	B200-204	1279891	KSEM250R7WN32M	H75	1291041	TRAOR204D	E70
1246248	DFT250R4WD40M	J50	1260087	CC11	B200-203	1279892	KSEM255R7WN32M	H75	1291042	TRAOR2415E	E70
1246249	DFT260R4WD40M	J50	1261328	CSKPR12CA4	B174, B394	1279893	KSEM260R7WN32M	H76	1291043	TRAOR244E	E70
1246250	DFT270R4WD40M	J50	1261379	CSSPR10CA3	B176, B396	1279894	KSEM265R7WN32M	H76	1291085	TRHOR1615D	E70
1246251	DFT280R4WD40M	J50	1263816	DV40BKR50060M	K91	1279895	KSEM270R7WN32M	H76	1291086	TRHOR162D	E70
1246253	DFT290R4WD40M	J50	1263825	DV40BT13069	K142	1279896	KSEM275R7WN32M	H76	1291089	TRHOR2015D	E70
1246256	DFT300R4WD40M	J50	1264135	DV50BKR63060M	K91	1279898	KSEM280R7WN32M	H76	1291123	TROR162D	E71
1246258	DFT310R4WD40M	J50	1264136	DV50BKR80070M	K91	1279902	KSEM285R3WN32M	H74	1291126	TRTOR2015D	E71
1246260	DFT320R4WD40M	J50	1270619	EB48040500	K143	1279903	KSEM290R7WN32M	H76	1291127	TRTOR202D	E71
1246262	DFT330R4WD40M	J50	1270620	EB53050550	K143	1279905	KSEM290R7WN32M	H76	1291909	VBMT22111 KT315	B280
1246263	DFT340R4WD40M	J50	1270621	EB58050600	K143	1279906	KSEM295R7WN32M	H76	1294964	11X1R012B125TN11N	W40
1246266	DFT350R4WD40M	J50	1270939	E03HSCFDR12	B200	1279908	KSEM300R7WN32M	H76	1298873	4111492VRS	B168, B386
1246267	DFT360R4WD40M	J50	1270940	E03HSCDL12A	B202	1279911	KSEM305R7WN32M	H76	1298876	4111573VRS	B168, B386
1246271	DFT380R4WD40M	J50	1270941	E03HSCDLR12A	B202	1279913	KSEM310R7WN32M	H76	1298879	4111603VRS	B168, B386
1246273	DFT390R4WD40M	J50	1270944	E03HSTLDR128	B265	1279914	KSEM315R7WN32M	H76	1298882	4111654VRS	B168, B386
1246275	DFT400R4WD40M	J50	1270946	E03MSCFDR12	B200	1279915	KSEM320R7WN32M	H76	1298883	4111664VRS	B168, B386
1246278	DFT420R4WD40M	J50	1270947	E03MSCDLR12	B202	1280494	K067TMRW075STN1D	W43	1298884	4111674VRS	B168, B386
1246279	DFT430R4WD40M	J50	1270950	E03MSTLDR12A	B265	1280517	K1012M2RW100STN16D	W43	1300343	5.34270R058100	J87
1246282	DFT440R4WD40M	J50	1270952	E04HSCFDR12	B200	1280598	K165TMRW125STN27D	W43	1300344	5.34280R032080	J87
1246284	DFT450R4WD40M	J50	1270953	E04HSCDL12	B202	1281796	LSASL103	D71	1309256	D48TB42	B409
1246285	DFT460R4WD40M	J50	1270954	E04HSCDLR12	B202	1281797	LSASL123	D71	1310704	DPGT2151LF KC5010	B231
1246288	DFT470R4WD40M	J50	1270956	E04HSTFDR128	B264	1281798	LSASL163	D71	1310705	DPGT32505LF KC5010	B231
1246289	DFT480R4WD40M	J50	1270958	E04HSTLDR128	B265	1281799	LSASL164	D71	1310707	DPGT32505LF KC5010	B231
1246688	KBFI4	I15	1270960	E04MSCFDR12	B200	1281800	LSASL83	D71	1310718	CCGT21505LF KC5010	B189
1246691	KBFI5	I15	1270961	E04MSCDL12	B202	1281801	LSASR103	D71	1310719	DPGT3251HP KC5010	B231
1246696	KBFI6	I15	1270962	E04MSCDLR12	B202	1281802	LSASR123	D71	1310720	DPGT3251LF KC5010	B231
1246700	KBFI7	I15	1270964	E04MSTLDR128	B265	1281803	LSASR163	D71	1310721	CCGT21505LF KC5010	B189
1246703	KBFI8	I15	1270965	E04MSTLDR128	B265	1281804	LSASR164	D71	1310723	DPGT3252HP KC5010	B231
1246704	KBFI9	I15	1270968	E05HSTFDR128	B264	1281805	LSASR203	D71	1310724	CCGT2151HP KC5010	B189
1246707	KBFI10	I15	1270970	E05HSTLDR128	B265	1281812	LSSL123D	D71	1310725	DPGT3252LF KC5010	B231
1246708	KBFI11	I15	1270971	E05MSTFDR128	B264	1281813	LSSL163D	D71	1310726	CCGT2151LF KC5010	B189
1246710	KBFI12	I15	1270973	E05MSTLDR128	B265	1281814	LSSL164D	D71	1310728	CCGT2152LF KC5010	B189
1246714	KBFI13	I15	1270981	E06MSTLDR07	B265	1281815	LSSRDH123C	D72	1310730	CCGT32505HP KC5010	B189
1246716	KBFI15	I15	1270982	E06MSTLDR07	B265	1281816	LSSRDH164D	D72	1310733	CCGT32505LF KC5010	B189
1246718	KBFI16	I15	1270991	E08MSTLDR07	B265	1281817	LSSR123D	D71	1310735	CCGT32505LF KC5010	B189
1246720	KBFI18	I15	1270992	E08MSTLDR07	B265	1281818	LSSR163D	D71	1310737	CCGT3251HP KC5010	B189
1247650	KAP1250632	U7-8	1271036	E25MSC7DR12	B204	1281819	LSSR164D	D71	1310739	CCGT3251HP KC5010	B189
1247652	KAP1250634	U7-8	1271038	E03HSCDLR12	B202	1281820	LSSR203D	D71	1310740	CCGT3252LF KC5010	B189
1247660	KAP1871004	U7-8	1271040	E03MSCDLR12	B202	1282100	MCLR16CA4	B74	1310746	CCGT4305HP KC5010	B189
1247663	KAP2251254	U7-8	1271092	FC11	B265	1282677	KSEM240R7WN25M	H75	1310750	CCGT431HP KC5010	B189
1247666	KAP3121254	U7-8	1271093	FC14	B264-265	1282803	MSRNL12CA4	B116	1310777	CNGP432K KC5010	B47
1247668	KAP3502004	U7-8	1274022	ICSN643 K9	B58-60	1282807	MSRNL2CA4	B117	1310793	TPGT21505HP KC5010	B267
1247669	KAP5502004	U8	1274659	IRSN84 K9	B98	1287636	SN5TM	W40-43	1310800	CPGT3251HP KC5010	B267
1247675	KAP1250764	U7-8	1274800	ISSN443 K9	B109-110	1288604	STN1616UN KC610M	W44	1310802	TPGT3252HP KC5010	B267
1247681	KS426SNH1102	U13	1274807	ISSN643 K9	B109-110	1288661	A03XSCFDR12	B200	1310803	CPGT21515LF KC5010	B205
1247684	KS526SNH1102	U13	1279732	KRCSTFPR113F	K90	1288862	A03XSCDLR12	B201	1310805	TPGT3252LF KC5010	B267
1247686	KS33SNH1103	U13	1279733	KRDCKR63M	K91-93	1288863	A03XSCDLR12	B201	1310838	CPGT21505LF KC5010	B206
1247688	KS43SNH1103	U13	1279734	KRDCKR80M	K91-93	1288867	A03GSLDR128	B265	1310839	CPGT21505LF KC5010	B206
1247691	KS53SNH1103	U13	1279736	KRDE070019M	K89, K108	1288869	A04FSCFDR12	B200	1310841	VBMT2205LF KC5010	B281
1247694	KS63SNH1103	U13	1279739	KRDE083019M	K89, K108	1288870	A04FSCDL12	B201	1310842	CPGT2151LF KC5010	B206
1247698	KWS020630D	U7	1279740	KRDE096019M	K89, K109	1288871	A04FSCDLR12	B201	1310844	CPGT32505HP KC5010	B205
1247704	KWS021180D	U7	1279741	KRDE101023M	K89, K110	1288873	A04HSTFDR128	B264	1310845	VBMT2211LF KC5010	B281
1247710	KWS030630D	U7	1279742	KRDE120023M	K89, K110-111	1288875	A04HSTLDR128	B265	1310846	CPGT32505LF KC5010	B206
1247712	KWS030870D	U7	1279743	KRDE139026M	K89, K111	1288881	A05HSTLDR128	B265	1310849	VBMT3311LF KC5010	B281
1247716	KWS031180D	U7	1279745	KRDE156026M	K89, K112	1288895	S0612LSEL2	D74	1310850	CPGT3251HP KC5010	B205
1247718	KWS031580D	U7	1279746	KRDE175026M	K89, K113	1288896	S0612LSEL2	D74	1310878	CPGT3251LF KC5010	B206
1247721	KWS031970D	U8	1279748	KRDE193026M	K89, K114	1288907	S0812LSEL2	D74	1310880	DCGT32505HP KC5010	B224
1247722	KWS032360D	U8	1279772	KR32KR32038050M	K93	1288908	S0812LSEL2	D74	1310881	DCGT3251HP KC5010	B224
1247725	KWS040630D	U7	1279775	KR32KR32047050M	K93	1288920	S1012LSEL3	D74	1310882	DCGT3252HP KC5010	B224
1247727	KWS040870D	U7	1279785	KR50KR50065050M	K93	1288921	S1012LSEL3	D74	1310885	DCMT2151LF KC5010	B225
1247730	KWS041180D	U7	1279787	KR50SV58094M	K83	1288936	S1212LSEL3	D74	1310887	DCMT32505LF KC5010	B225
1247732	KWS041580D	U7	1279791	KR63KR63085050M	K93	1288937	S1212LSEL3	D74	1310890	DCMT3251LF KC5010	B225
1247735	KWS042360D	U8	1279792	KR63KR63085100M	K93	1288958	S1620LSEL3	D74	1310939	TPGT2151HP KC5010	B267
1247738	KWS050630D	U7	1279793	KR63SV58B126M	K83	1288960	S1620LSEL4	D74	1310943	TPGT2151LF KC5010	B267
1247740	KWS050870D	U7	1279797	KR80KR80095050M	K93	1288961	S1620LSEL4	D74	1310944	DPGT21505HP KC5010	B231
1247742	KWS051180D	U7	1279798	KR80KR80095100M	K93	1288962	S1620LSEL4	D74	1310945	DPGT2151HP KC5010	B231
1247746	KWS051580D	U7	1279856	KSEM165R7WN20M	H75	1288982	S2020LSE4	D74	1310946	TPGT3251LF KC5010	B267
1247753	KWS060870D	U7	1279857	KSEM170R7WN20M	H75	1289015	A03XSC7DL12	B204	1310947	DPGT21505LF KC5010	B231
1247757	KWS061180D	U7	1279858	KSEM175R7WN20M	H75	1289016	A03XSC7DR12	B204	1310948	VBMT332LF KC5010	B281
1247768	KWS081180D	U7	1279859	KSEM180R7WN20M	H75	1289024	A03XSCDLR12A	B201	1310950	WNGP432K KC5010	B156
1247778	KWS101180D	U7	1279863	KSEM185R7WN25M	H75	1291027	TRAOL162D	E70	1310951	DCMT21505LF KC5010	B225
1247785	KWS102360D	U8	1279864	KSEM190R7WN25M	H75	1291029	TRAOL164D	E70	1310954	CCGT432HP KC5010	B189
1249028	5.34280R028080	J87	1279866	KSEM195R7WN25M	H75	1291030	TRAOL203D	E70	1310955	CNMG432 KC5010	B47

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1310956	CNMG432MG KC5010	B57	1329705	KSEM1000R5SS125	H78	1517212	KSEM1000R8SSF125	H84	1522133	DFT1000R4SSF100	J53
1311193	KSEM160R7WN20M	H75	1329706	KSEM0984R5SS100	H78	1517234	KSEM0750R8SSF075	H84	1522135	DFT0984R4SSF100	J53
1312498	364.015	H72, H74, H81, H83, H85-86, H123	1329707	KSEM1000R5SS100	H78	1517235	KSEM0938R8SSF100	H84	1522242	DFT1000R4SSF125	J53
1314840	DCMT3252LF KC5010	B225	1329708	KSEM0969R5SS100	H78	1517236	KSEM0984R8SSF100	H84	1522248	DFT2000R4SSF100	J53
1315965	MS1489	D31-33, D39	1329709	KSEM0938R5SS100	H78	1517238	KSEM0625R8SSF075	H84	1522249	DFT2125R4SSF150	J53
1316525	3.42805R001 KC7215	I30	1329710	KSEM0875R5SS100	H77	1517239	KSEM0875R8SSF125	H84	1522250	DFT2000R4SSF200	J53
1316526	3.42807R001 KC7215	I30	1329711	KSEM0844R5SS100	H77	1517240	KSEM1250R8SSF125	H84	1522321	DFT2125R2SSF200	J53
1319470	IWSN322 K9	B163	1329732	KSEM0813R5SS100	H77	1517254	KSEM1188R8SSF125	H84	1522517	DFT1688R4SSF125	J53
1319576	S316	B409	1329733	KSEM0781R5SS100	H77	1517255	KSEM1125R8SSF125	H84	1522848	TPGT18151LF KC5010	B267
1321012	410.083	S121-123	1329734	KSEM0750R5SS100	H77	1517256	KSEM1000R8SSF100	H84	1522850	TPGT32505HP KC5010	B267
1322363	ODG1063ISGB KC735M	U9	1329735	KSEM0719R5SS075	H77	1517257	KSEM0688R8SSF075	H84	1522905	CPGT21505HP KC5010	B205
1322365	ODG2087ISGB KC735M	U9	1329737	KSEM0656R5SS075	H77	1517764	SPHX1205PCR-GP1WB KCK15	S69	1522907	CPGT2151HP KC5010	B205
1322366	ODG3125ISGB KC735M	U9	1329932	KSEM1250R5SS125	H78	1519227	KSEM0625R7SS075	H79	1522942	TGCT2151HP KC5010	B256
1322367	ODG4158ISGB KC735M	U9	1329933	KSEM1250R5SS150	H78	1519229	KSEM0656R7SS075	H79	1522943	TGCT32505HP KC5010	B256
1322368	ODC2087IEG KMF	U9	1329934	KSEM1156R5SS125	H78	1519230	KSEM0688R7SS075	H79	1522945	TGCT3251HP KC5010	B256
1322370	ODC3125IEGD KMF	U9	1329935	KSEM1188R5SS125	H78	1519262	KSEM0719R7SS075	H79	1522947	TGCT32505L KC5010	B256
1322371	ODC4158IEGD KMF	U9	1329936	KSEM1219R5SS125	H78	1519263	KSEM0750R7SS075	H79	1522948	TGCT32515L KC5010	B256
1322958	SPHX1205ZCTRGPB KY3500	S65	1329937	KSEM1125R5SS125	H78	1519264	KSEM0750R7SS100	H79	1522949	TGCT3251HP KC5010	B256
1324700	193.297	C130-131	1329938	KSEM1094R5SS125	H78	1519265	KSEM0781R7SS100	H79	1523196	TGCT21505HP KC5010	B256
1328560	A06MSFCR2	B196	1330471	KSEM0625R5SS075	H77	1519267	KSEM0813R7SS100	H79	1523329	TPGT181505LF KC5010	B267
1328572	A08RSCFCR2	B196	1330472	KSEM1063R5SS125	H78	1519269	KSEM0844R7SS100	H79	1523354	TPGT3252HP KC5010	B256
1328575	A10SSCFCR2	B196	1339151	MCKNFR1650	B62	1519270	KSEM0875R7SS100	H79	1523501	RCGK152HP K313	E69
1328577	A10SSCFC2	B196	1339367	MSSNFR10CA3	B117	1519271	KSEM0875R7SS125	H79	1527051	SCMT43211 KT315	B246
1328578	A12SSCFCR3	B196	1500650	KRCSCFPR062L	K86	1519272	KSEM0906R7SS100	H79	1527689	DFT0906R2SSF125	J51
1328579	A12SSCFC3	B196	1501356	KRCSCFPR061L	K86	1519274	KSEM0938R7SS100	H79	1527992	DCMT325211 KT315	B224
1328580	A16TSCFCR3	B196	1501357	KRCSCFPR063L	K86	1519275	KSEM0969R7SS100	H79	1527995	TGCT325211 KT315	B256
1328582	A06MSCLCR2	B197	1503488	KSEM0688R5SS075	H77	1519276	KSEM0984R7SS100	H79	1528316	DFT0938R2SSF125	J51
1328583	A06MSCLCR2	B197	1504247	SPHX1205ZCTRGPB KY3500	S65	1519277	KSEM1000R7SS100	H79	1528317	DFT0969R2SSF125	J51
1328584	A08RSCCLCR2	B197	1505110	KSEM0625R5SS075	H82	1519280	KSEM1000R7SS125	H79	1528318	DFT0984R2SSF125	J51
1328585	A08RSCCLCR2	B197	1505111	KSEM0688R3SSF075	H82	1519282	KSEM1031R7SS125	H80	1528319	DFT1000R2SSF125	J51
1328586	A10SSCLCR2	B197	1505112	KSEM0750R3SSF075	H82	1519285	KSEM1063R7SS125	H80	1528320	DFT1031R2SSF125	J51
1328587	A10SSCLCR2	B197	1505113	KSEM0750R3SSF100	H82	1519286	KSEM1094R7SS125	H80	1528328	DV50BK32041M	K91
1328588	A10SSCLCR3	B197	1505115	KSEM0813R3SSF100	H82	1519288	KSEM1125R7SS125	H80	1528341	DFT1063R2SSF125	J51
1328589	A10SSCLCR3	B197	1505116	KSEM0875R3SSF100	H82	1519289	KSEM1156R7SS125	H80	1528342	DFT1094R2SSF125	J51
1328590	A12SSCLCR3	B197	1505117	KSEM0875R3SSF125	H82	1519292	KSEM1188R7SS125	H80	1528343	DFT1125R2SSF125	J51
1328591	A12SSCLCR3	B197	1505119	KSEM0938R3SSF100	H82	1519294	KSEM1219R7SS125	H80	1528344	DFT1156R2SSF125	J51
1328592	A16TSCCLCR3	B197	1505120	KSEM0984R3SSF100	H82	1519296	KSEM1250R7SS125	H80	1528345	DFT1188R2SSF125	J51
1328593	A16TSCCLCR3	B197	1505122	KSEM1000R3SSF100	H83	1519297	KSEM1250R7SS150	H80	1528346	DFT1192R2SSF125	J51
1328594	A06MSTFCR2	B261	1505123	KSEM1000R3SSF125	H83	1520056	ODG1063ISGD KC735M	U9	1528347	DFT1250R2SSF125	J51
1328596	A08RSTFCR2	B261	1505125	KSEM1063R3SSF125	H83	1520057	ODG2087ISGD KC735M	U9	1528348	DFT1250R2SSF150	J51
1328598	A08RSTFC2	B261	1505127	KSEM1125R3SSF125	H83	1520058	ODG3125ISGD KC735M	U9	1528349	DFT1281R2SSF125	J51
1328599	A10SSTFCR2	B261	1505128	KSEM1188R3SSF125	H83	1520059	ODG4158ISGD KC735M	U9	1528350	DFT1375R2SSF125	J51
1328601	A12SSTFCR2	B261	1505130	KSEM1250R3SSF125	H83	1520076	ODC1063IEGD KMF	U9	1528361	DFT1406R2SSF125	J51
1328602	A12SSTFC3	B261	1505132	KSEM1250R3SSF150	H83	1522026	DFT1813R4SSF150	J53	1528362	DFT1438R2SSF125	J51
1328603	A16STFCR3	B261	1505138	KSEM0625R5SS075	H82	1522027	DFT1625R4SSF150	J53	1528363	DFT1469R2SSF125	J51
1328604	A16STFC3	B261	1505171	KSEM0688R5SS075	H82	1522028	DFT1563R4SSF150	J53	1528364	DFT1469R2SSF150	J51
1328605	A06MSTLCR2	B262	1505174	KSEM0750R5SS075	H82	1522029	DFT1875R4SSF150	J53	1528365	DFT1531R2SSF125	J51
1328606	A06MSTLC2	B262	1505177	KSEM0750R5SS100	H82	1522030	DFT1688R4SSF150	J53	1528366	DFT1563R2SSF125	J51
1328607	A08RSTLCR2	B262	1505179	KSEM0813R5SS100	H82	1522062	KRBB16SCLDRS406A	K79, K102	1528367	DFT1625R2SSF125	J51
1328608	A08RSTLC2	B262	1505180	KSEM0875R5SS100	H82	1522063	KRBB16SCFPR06085A	K79, K102	1528368	DFT1625R2SSF150	J51
1328610	A10SSTLCR2	B262	1505181	KSEM0875R5SS125	H82	1522064	KRBB16SCFPR0611A	K79, K102	1528369	DFT1625R2SSF150	J51
1328611	A10SSTLCR2	B262	1505183	KSEM0938R5SS100	H82	1522068	KRBB16SCFPR06135A	K79, K102	1528370	DFT1625R2SSF150	J51
1328612	A12SSTLCR3	B262	1505184	KSEM0969R5SS100	H82	1522069	KRBB16SCFPR0616A	K79, K103	1528371	DFT1625R2SSF150	J51
1328613	A12SSTLCR3	B262	1505188	KSEM1000R5SS100	H83	1522070	KRBB16SCFPR0619A	K79, K103	1528372	DFT1625R2SSF150	J51
1328614	A16STLCR3	B262	1505189	KSEM1000R5SS125	H83	1522071	KRBB16SCFPR0622A	K79, K103	1528373	DFT1625R2SSF150	J51
1328615	A16STLC3	B262	1505190	KSEM1063R5SS125	H83	1522101	DFT1438R4SSF150	J53	1528374	DFT1625R2SSF150	J51
1328616	A06MSDUCR2	B230	1505191	KSEM1125R5SS125	H83	1522102	DFT1750R4SSF150	J53	1528375	DFT1625R2SSF150	J51
1328617	A06MSDUCR2	B230	1505194	KSEM1188R5SS125	H83	1522103	DFT1531R4SSF150	J53	1528376	DFT1625R2SSF150	J51
1328619	A08RSDUCR2	B230	1505196	KSEM1250R5SS125	H83	1522104	DFT1938R4SSF150	J53	1528377	DFT1625R2SSF150	J51
1328621	A08RSDUC2	B230	1505198	KSEM1250R5SS150	H83	1522105	DFT1375R4SSF150	J53	1528378	DFT1625R2SSF150	J51
1328623	A10SSDUCR2	B230	1505208	KSEM0984R5SS100	H82	1522106	DFT1500R4SSF150	J53	1528379	DFT1625R2SSF150	J51
1328624	A10SSDUC2	B230	1505366	SPHX1205ZCTR-GP1WK KY3500	S66	1522107	DFT1250R4SSF150	J53	1528380	DFT1625R2SSF150	J51
1328625	A12SSDUCR3	B230	1505370	SPHX1205PCTRGPK KY3500	S68	1522108	DFT1000R4SSF150	J53	1528381	DFT1625R2SSF150	J51
1328626	A12SSDUC3	B230	1505394	SPHX1205PCTRGPA4SBK KY3500	S68	1522109	DFT1125R4SSF150	J53	1528382	DFT1625R2SSF150	J51
1328628	A16TSDUCR3	B230	1505400	SPHX1205PCTRG-P1WBK KY3500	S69	1522110	DFT1625R4SSF125	J53	1528383	DFT1625R2SSF150	J51
1328629	A16TSDUC3	B230	1505865	SPHX1205PCRGPB KC725M	S68	1522111	DFT1563R4SSF125	J53	1528384	DFT1625R2SSF150	J51
1328630	A08RSDXCR2	B230	1505881	SPHX1205ZCERGP4S KCK15	S65	1522112	DFT1531R4SSF125	J53	1528385	DFT1625R2SSF150	J51
1328632	A08RSDXCL2	B230	1505883	479.100	S64, S67, S70	1522113	DFT1500R4SSF125	J53	1528386	DFT1625R2SSF150	J51
1328633	A16TSDXCR3	B230	1505923	SPHX1205PCRGP4SB KCK15	S68	1522114	DFT1469R4SSF125	J53	1528387	DFT1625R2SSF150	J51
1328639	A16TSDXCR3	B230	1510773	170.281	H84, H88	1522115	DFT1438R4SSF125	J53	1528388	DFT1625R2SSF150	J51
1328640	A16TSDXCL3	B230	1510776	170.282	H84, H88	1522117	DFT1375R4SSF125	J53	1528389	DFT1625R2SSF150	J51
1328642	A06MSWLCR2	B287	1510779	170.283	H84, H88	1522118	DFT1406R4SSF125	J53	1528390	DFT1625R2SSF150	J51
1328644	A08RSWLCR2	B287	1510781	170.284	H84, H88	1522119	DFT1313R4SSF125	J53	1528391	DFT1625R2SSF150	J51
1328646	A10SSWLCR3	B287	1511189	VPGR331 KT315	E38	1522120	DFT1281R4SSF125	J53	1528392	DFT1625R2SSF150	J51
1329168	S424	S10, S14, S45, T7, V38, V70	1514498	50A05PR90SP12CJUPP	S67	1522121	DFT1250R4SSF125	J53	1528393	DFT1625R2SSF150	J51
1329354	KSEM0906R5SS100	H78	1515716	KSEM0813R5SS100	H84	1522123	DFT1219R4SSF125	J53	1528394	DFT1625R2SSF150	J51
1329355	KSEM0875R5SS125	H77	1515717	KSEM0750R8SSF100	H84	1522124	DFT				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1531205	KSEM1011R7SS125	H79	1541627	KHSST08239	M127	1542158	KHSST08332	M36	1543738	KHSST27723	M41
1532254	250C20RP70SP12C4WUFP	S64	1541629	KHSST08243	M36	1542159	KHSST08333	M40	1543744	KHSST27729	M130
1532255	200C16RP70SP12C4WUFP	S64	1541632	KHSST08245	M36	1542228	KHSST08336	M36	1543746	KHSST27730	M131
1532257	125B10RP70SP12C2WUFP	S64	1541651	KHSST08235	M127	1542250	KHSST08353	M125	1543749	KHSST27731	M41
1532258	100B08RP70SP12C2WUFP	S64	1541654	KHSST08238	M124	1542251	KHSST08354	M128	1543826	KHSST27733	M130
1533937	KSEM0759R7SS075	H79	1541742	A24CCLNL4MX5	B391	1542252	KHSST08355	M125	1543830	KHSST27781	M130
1533938	KSEM0634R5SS075	H77	1541743	A32CCLNL4MX5	B391	1542254	KHSST08356	M128	1544072	KHSST27737	M130
1533939	KSEM0759R5SS075	H77	1541847	DFT250R2WD40M	J48	1542258	KHSST08364	M36	1544075	KHSST27738	M131
1533940	KSEM0884R5SS100	H77	1541848	DFT260R2WD40M	J48	1542454	KHSST08380	M125	1544079	KHSST27739	M41
1533981	KSEM1011R5SS125	H78	1541849	DFT270R2WD40M	J48	1542455	KHSST08381	M128	1544083	KHSST27741	M130
1535836	SDET433PDER8GB KC725M	T116, T123, U39	1541850	DFT280R2WD40M	J48	1542465	KHSST08391	M36	1544086	KHSST27742	M131
1536224	SDET433PDER8GB KC520M	T116, T123, U39	1541851	DFT290R2WD40M	J48	1542493	KHSST08392	M128	1544092	KHSST27743	M41
1539005	DV40BKR32041M	K91	1541852	DFT300R2WD40M	J48	1542494	KHSST08393	M36	1544096	KHSST27749	M130
1539678	KHSST08003	M124	1541853	DFT310R2WD40M	J48	1542567	KHSST08409	M125	1544097	KHSST27750	M131
1540114	KHSST08039	M124	1541854	DFT320R2WD40M	J48	1542570	KHSST08411	M125	1544101	KHSST27751	M41
1540142	KHSST08015	M124	1541855	DFT330R2WD40M	J48	1542586	KHSST08419	M36	1544107	KHSST27757	M130
1540362	KHSST08043	M36	1541856	DFT340R2WD40M	J48	1542589	KHSST08434	M125	1544108	KHSST27758	M131
1540367	KHSST08044	M40	1541857	DFT350R2WD40M	J48	1542590	KHSST08435	M128	1544109	KHSST27759	M41
1540369	KHSST08061	M36	1541858	DFT360R2WD40M	J48	1542598	KHSST08443	M36	1544112	KHSST27765	M130
1540411	KHSST08067	M124	1541859	DFT370R2WD40M	J48	1542599	KHSST08444	M36	1544113	KHSST27766	M131
1540415	KHSST08082	M124	1541860	DFT480R2WD40M	J48	1542610	KHSST08459	M125	1544114	KHSST27767	M41
1540432	KHSST08083	M127	1541871	DFT380R2WD40M	J48	1542611	KHSST08460	M128	1544146	KHSST27787	M41
1540437	KHSST08087	M124	1541872	DFT390R2WD40M	J48	1542612	KHSST08461	M125	1544148	KHSST27793	M130
1540438	CCLNR164DMX5	B383	1541873	DFT400R2WD40M	J48	1542613	KHSST08467	M36	1544150	KHSST27796	M130
1540440	KHSST08088	M127	1541874	DFT410R2WD40M	J48	1542625	KHSST08477	M125	1544152	KHSST27798	M41
1540442	KHSST08090	M36	1541875	DFT420R2WD40M	J48	1542628	KHSST08478	M128	1544153	KHSST27800	M130
1540443	CCLNL164DMX5	B383	1541876	DFT430R2WD40M	J48	1542654	KHSST08484	M36	1544155	KHSST27809	M130
1540445	CCLNR204DMX5	B383	1541877	DFT440R2WD40M	J48	1542699	KHSST08493	M125	1544236	KHSST09000	M124
1540447	CCLNL204DMX5	B383	1541878	DFT450R2WD40M	J48	1542702	KHSST08494	M128	1544245	KHSST09003	M127
1540453	KHSST08091	M40	1541879	DFT460R2WD40M	J48	1542752	KHSST08498	M36	1544247	KHSST09004	M124
1540467	KHSST08101	M124	1541880	DFT470R2WD40M	J48	1542757	KHSST08508	M125	1544263	KHSST09008	M124
1540473	KHSST08104	M36	1541901	DFT490R2WD40M	J48	1542759	KHSST08510	M125	1544266	KHSST09009	M127
1540474	KHSST08112	M124	1541902	DFT500R2WD40M	J48	1542781	DFT710R2WD50M	J49	1544268	KHSST09010	M124
1540475	KHSST08116	M124	1541903	DFT510R2WD40M	J48	1542782	DFT720R2WD50M	J49	1544364	DFT590R2WD50M	J48
1540476	KHSST08117	M127	1541904	DFT520R2WD40M	J48	1542787	KHSST08703	M157	1544512	KHSST09011	M127
1540479	KHSST08119	M36	1541905	DFT530R2WD40M	J48	1542790	KHSST08704	M157	1544513	KHSST09012	M124
1540492	CSDN1164DMX5	B383	1541906	DFT540R2WD40M	J48	1542871	KHSST08516	M36	1544514	KHSST09013	M127
1540495	CSKNR164DMX5	B384	1541931	DFT450R2WD50M	J48	1542879	KHSST08530	M125	1544515	KHSST09014	M124
1540519	KHSST08140	M124	1541932	DFT460R2WD50M	J48	1542880	KHSST08531	M128	1544516	KHSST09015	M127
1540523	KHSST08148	M124	1541933	DFT470R2WD50M	J48	1542881	KHSST08537	M36	1544520	KHSST09018	M125
1540524	KHSST08149	M127	1541934	DFT480R2WD50M	J48	1542883	KHSST08545	M125	1544531	KHSST09019	M128
1540531	A24CCLNR4MX5	B391	1541935	DFT490R2WD50M	J48	1542884	KHSST08546	M128	1544533	KHSST09021	M128
1540552	A32CCLNR4MX5	B391	1541936	DFT500R2WD50M	J48	1542886	KHSST08553	M125	1544534	KHSST09022	M125
1541345	KHSST08205	M36	1541951	DFT510R2WD50M	J48	1542887	KHSST08554	M128	1544537	KHSST09025	M128-129
1541367	DFT250R2WD32M	J48	1541952	DFT520R2WD50M	J48	1542891	KHSST08561	M125	1544538	KHSST09026	M125
1541368	DFT260R2WD32M	J48	1541953	DFT530R2WD50M	J48	1542893	KHSST08562	M128	1544539	KHSST09027	M128
1541369	DFT270R2WD32M	J48	1541954	DFT670R2WD50M	J49	1542894	KHSST08566	M36	1544540	KHSST09028	M125
1541370	DFT280R2WD32M	J48	1542020	KHSST08334	M36	1542895	KHSST08574	M125	1544562	KHSST09029	M128
1541374	CSKNL164DMX5	B384	1542043	DFT540R2WD50M	J48	1542896	KHSST08575	M128	1544563	KHSST09030	M125
1541381	DFT290R2WD32M	J48	1542044	KHSST08246	M40	1542897	KHSST08578	M36	1544574	KHSST09035	M128
1541382	DFT300R2WD32M	J48	1542071	DFT550R2WD50M	J48	1542912	KHSST08595	M125-126	1544579	KHSST09039	M128
1541383	DFT310R2WD32M	J48	1542072	DFT560R2WD50M	J48	1542913	KHSST08596	M128	1544601	KHSST09041	M128
1541384	DFT320R2WD32M	J48	1542073	KHSST08261	M124	1542914	KHSST08599	M36	1544603	KHSST09042	M126
1541385	DFT330R2WD32M	J48	1542074	DFT570R2WD50M	J48	1542915	KHSST08608	M126	1544748	KHSST09043	M128
1541386	DFT340R2WD32M	J48	1542075	KHSST08262	M127	1542917	KHSST08609	M128	1544769	KHSST09047	M129
1541387	DFT350R2WD32M	J48	1542076	DFT580R2WD50M	J48	1542920	KHSST08616	M126	1544771	KHSST09048	M126
1541388	DFT360R2WD32M	J48	1542079	KHSST08268	M124	1542921	KHSST08617	M128-129	1544781	KHSST09054	M130
1541389	DFT370R2WD32M	J48	1542080	KHSST08269	M127	1542924	KHSST08630	M126	1544798	KHSST09101	M36
1541390	DFT380R2WD32M	J48	1542081	DFT600R2WD50M	J48	1542925	KHSST08631	M129	1544800	KHSST09103	M36
1541391	DFT390R2WD32M	J48	1542082	KHSST08272	M124	1542941	KHSST08705	M157	1544801	KHSST09104	M36
1541392	DFT400R2WD32M	J48	1542083	DFT610R2WD50M	J49	1542943	KHSST08709	M157	1544802	KHSST09105	M36
1541393	DFT410R2WD32M	J48	1542084	KHSST08273	M127	1542945	KHSST08712	M157	1544804	KHSST09106	M36
1541394	DFT420R2WD32M	J48	1542089	KHSST08280	M36	1542947	KHSST08715	M157	1544807	KHSST09108	M36
1541395	DFT430R2WD32M	J48	1542090	DFT620R2WD50M	J49	1542952	KHSST08724	M157	1544808	KHSST09109	M36
1541396	DFT440R2WD32M	J48	1542092	DFT630R2WD50M	J49	1543065	551.326	B383-384, B391	1544811	KHSST09111	M36
1541498	KHSST08193	M127	1542093	DFT640R2WD50M	J49	1543077	554.260	B383-384, B391	1544812	KHSST09112	M36
1541500	KHSST08197	M127	1542096	DFT650R2WD50M	J49	1543235	DFT730R2WD50M	J49	1544813	KHSST09113	M36
1541511	KHSST08151	M124	1542099	DFT660R2WD50M	J49	1543236	DFT740R2WD50M	J49	1544816	KHSST09114	M36
1541532	KHSST08152	M127	1542105	DFT690R2WD50M	J49	1543237	DFT750R2WD50M	J49	1544817	KHSST09115	M36
1541538	KHSST08156	M36	1542107	DFT700R2WD50M	J49	1543238	DFT760R2WD50M	J49	1544820	KHSST09116	M36
1541545	KHSST08157	M36	1542112	KHSST08282	M36	1543239	DFT770R2WD50M	J49	1544852	KHSST09119	M36
1541552	KHSST08159	M40	1542133	KHSST08294	M124	1543240	DFT780R2WD50M	J49	1544853	KHSST09120	M36
1541555	KHSST08160	M40	1542134	KHSST08295	M127	1543311	DFT790R2WD50M	J49	1544854	KHSST09121	M36
1541574	KHSST08173	M127	1542137	KHSST08296	M36	1543312	DFT800R2WD50M	J49	1544855	KHSST09122	M36
1541576	KHSST08175	M36	1542145	KHSST08316	M125	1543313	DFT810R2WD50M	J49	1544856	KHSST09123	M36
1541592	KHSST08203	M36	1542146	KHSST08317	M128	1543314	DFT820R2WD50M	J49	1545009	KHSST09133	M41
1541605	KHSST08172	M124	1542148	KHSST08320	M125	1543707	KHSST27709	M130	1545192	KHSST09124	M36
1541608	KHSST08192	M124	1542149	KHSST08321	M128	1543711	KHSST27710	M131	1545200	KHSST09125	M36
1541621	KHSST08218	M124	1542157	KHSST08327	M128	1543717	KHSST27711	M41	1545203	KHSST09126	M36
1541624	KHSST08234	M124	1542158	KHSST08331	M36	1543733	KHSST27719	M41	1545209	KHSST09127	M36
						1543736	KHSST27721	M130	1545210	KHSST09128	M36
						1543737	KHSST27722	M131	1545211	KHSST09129	M41

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1545213	KHSST09130	M41	1582600	KR50SVU65110MCLB	K88	1605207	CNMG431FN KT315	B49	1611443	KSEM281R10WN32M	H76
1545215	KHSST09131	M41	1582734	3.76180R110	J82-83	1605242	CNMG432FN KT315	B49	1611444	KSEM285R10WN32M	H76
1545216	KHSST09132	M41	1582739	3.76195R110	J82-83	1605250	CNMG433FN KT315	B49	1611445	KSEM295R10WN32M	H76
1545225	KHSST09135	M41	1582742	3.76213R125	J82-83	1605279	DNMG432FN KT315	B79	1611446	KSEM301R10WN32M	H76
1545228	KHSST09137	M157	1582745	3.76230R160	J82-83	1605334	DNMG442FN KT315	B79	1612009	RCGT86ELF KC725M	V92
1545233	KHSST09140	M157	1582750	3.76260R160	J82-83	1606050	50HC040M	G79	1612562	DNMG431FF KC5010	B79
1545236	KHSST09143	M157	1592413	KSEM160R1WN20M	H72	1606061	50HC060M	G79	1612565	DNMG431FF KT315	B79
1545242	KHSST09147	M157	1592414	KSEM181R1WN25M	H72	1606062	50HC080M	G79	1612950	DNMG431FN KT315	B79
1545250	KHSST09151	M157	1592416	KSEM200R1WN25M	H72	1606064	50HC100M	G79	1613451	360.516	I25
1546392	SMYE5 K9	D78	1592417	KSEM221R1WN25M	H72	1606360	SNMG432FN KT315	B101	1613623	KSEM0634R3SSF075	H82
1546393	SMY5 K9	D76, D78-79	1592418	KSEM241R1WN32M	H72	1606485	TNMG332FN KT315	B123	1613627	KSEM0641R3SSF075	H82
1549256	SN3TM	W40, W42	1592419	KSEM261R1WN32M	H72	1606537	H16SDUPL3	B237	1613628	KSEM0672R3SSF075	H82
1551609	KSEM160R10WN20M	H75	1592420	KSEM281R1WN32M	H72	1606718	WNMG432FN KT315	B157	1613632	KSEM0703R3SSF075	H82
1551610	KSEM165R10WN20M	H75	1592461	KSEM301R1WN32M	H72	1606881	KSEM0641R5SS075	H77	1613633	KSEM0734R3SSF075	H82
1551831	KSEM170R10WN20M	H75	1592463	KSEM321R1WD50M	H72	1606882	KSEM0672R5SS075	H77	1613634	KSEM0759R3SSF100	H82
1551833	KSEM175R10WN20M	H75	1592464	KSEM361R1WD50M	H72	1606883	KSEM0703R5SS075	H77	1613635	KSEM0766R3SSF100	H82
1551834	KSEM180R10WN20M	H75	1592465	KSEM181R5WN25M	H73	1606884	KSEM0734R5SS075	H77	1613636	KSEM0781R3SSF100	H82
1551835	KSEM185R10WN25M	H75	1592466	KSEM221R5WN25M	H73	1606885	KSEM0766R5SS100	H77	1613637	KSEM0797R3SSF100	H82
1551836	KSEM190R10WN25M	H75	1592467	KSEM241R5WN32M	H74	1606886	KSEM0797R5SS100	H77	1613638	KSEM0859R3SSF100	H82
1551837	KSEM195R10WN25M	H75	1592468	KSEM261R5WN32M	H74	1606887	KSEM0859R5SS100	H77	1613639	KSEM0884R3SSF100	H82
1551838	KSEM200R10WN25M	H75	1592469	KSEM281R5WN32M	H74	1606888	KSEM0922R5SS100	H78	1613640	KSEM0906R3SSF100	H82
1551839	KSEM210R10WN25M	H75	1592491	KSEM301R5WN32M	H74	1606889	KSEM1047R5SS125	H78	1613651	KSEM0922R3SSF100	H82
1551840	KSEM220R10WN25M	H75	1592492	KSEM321R5WD50M	H74	1606890	KSEM1109R5SS125	H78	1613652	KSEM0969R3SSF100	H82
1551841	KSEM230R10WN25M	H75	1592493	KSEM330R5WD50M	H74	1606901	KSEM1172R5SS125	H78	1613653	KSEM1011R3SSF100	H83
1551842	KSEM240R10WN25M	H75	1592494	KSEM340R5WD50M	H74	1606902	KSEM1203R5SS125	H78	1613654	KSEM1031R3SSF125	H83
1551843	KSEM250R10WN32M	H75	1592496	KSEM350R5WD50M	H74	1606903	KSEM1281R5SS150	H78	1613655	KSEM1047R3SSF125	H83
1551844	KSEM260R10WN32M	H76	1592498	KSEM360R5WD50M	H74	1606904	KSEM1297R5SS150	H78	1613656	KSEM1094R3SSF125	H83
1551845	KSEM265R10WN32M	H76	1592502	KSEM361R5WD50M	H74	1606905	KSEM131R5SS150	H78	1613657	KSEM1109R3SSF125	H83
1551846	KSEM270R10WN32M	H76	1592504	KSEM370R5WD50M	H74	1606906	KSEM1328R5SS150	H78	1613658	KSEM1156R3SSF125	H83
1551847	KSEM280R10WN32M	H76	1592505	KSEM380R5WD50M	H74	1606907	KSEM1344R5SS150	H78	1613659	KSEM1203R3SSF125	H83
1551848	KSEM290R10WN32M	H76	1592507	KSEM390R5WD50M	H74	1606908	KSEM1375R5SS150	H78	1616097	KSEM1281R3SSF150	H83
1551849	KSEM300R10WN32M	H76	1592509	KSEM400R5WD50M	H74	1606909	KSEM1406R5SS150	H78	1616099	KSEM1297R3SSF150	H83
1551850	KSEM310R10WN32M	H76	1597226	SDCW43PDR8GN KY3500	T117, T124	1606910	KSEM1422R5SS150	H78	1616100	KSEM1313R3SSF150	H83
1551861	KSEM320R10WN32M	H76	1597228	SDCW43PDR8GN KY3500	T117, T124	1606911	KSEM1438R5SS150	H78	1616101	KSEM1328R3SSF150	H83
1553521	SPHX1205ZCTLGPX KY3500	S65	1599327	KSEM225R10WN25M	H75	1606912	KSEM1469R5SS150	H78	1616102	KSEM1344R3SSF150	H83
1556483	LNEQ1245R04 KC520M	U20	1600245	KGMSR1650N	C143	1606913	KSEM1500R5SS150	H78	1616105	KSEM1375R3SSF150	H83
1556531	LNEU1245R04 KC520M	U19	1600246	KGMSL1650N	C143	1606914	KSEM1514R5SS150	H78	1616106	KSEM1406R3SSF150	H83
1556533	LNEU1245R08 KC520M	U19	1600249	KGMSR2525M50	C144	1608363	DFR125R2WD20M	J10	1616107	KSEM1422R3SSF150	H83
1556535	LNEU1245R16 KC520M	U19	1600250	KGMSL2525M50	C144	1608364	DFR127R2WD20M	J10	1616110	KSEM1438R3SSF150	H83
1556536	LNEU1245R32 KC520M	U19	1600263	KGMSL2525M50	C144	1608365	DFR130R2WD20M	J10	1616132	KSEM1469R3SSF150	H83
1556542	LNEU1255R08 KC520M	U19	1600263	KGMSL2525M50	C144	1608366	DFR135R2WD20M	J10	1616135	KSEM1500R3SSF150	H83
1558021	A32CRGNR4MNS	B391	1600263	KGMSL2525M50	C144	1608367	DFR140R2WD20M	J10	1616141	KSEM1514R3SSF150	H83
1560389	COGT2151HP KC5410	B189	1600264	KGMSL2525M50	C144	1608368	DFR145R2WD20M	J10	1617400	KGMSR2050N	C143
1560390	COGT32505HP KC5410	B189	1600270	KGMSL2525M50	C144	1608369	DFR150R2WD20M	J10	1617589	DNMG433FN KT315	B79
1560600	COGT21505HP KC5410	B189	1600271	KGMSL2525M50	C144	1608370	DFR155R2WD20M	J10	1617591	DNMG2050N	C143
1560651	COGT3251HP KC5410	B189	1600515	DFT0875R2SSF125	J51	1608391	DFR160R2WD20M	J10	1617592	KGMSR2050N	C145
1560653	COGT431HP KC5410	B189	1601557	CNMG431FF KC5010	B48	1608392	DFR125R3WD20M	J11	1617593	KGMSL2050N	C145
1560655	COGT432HP KC5410	B189	1601631	CNMG431FF KT315	B48	1608393	DFR127R3WD20M	J11	1620372	NPGR51R KT315	E33
1560692	CPGT2151LF KC5410	B206	1601632	CNMG432FF KC5010	B48	1608394	DFR130R3WD20M	J11	1620373	TPMT2151LF KT315	B268
1560693	CPGT32505HP KC5410	B205	1601636	CNMG432FF KT315	B48	1608395	DFR135R3WD20M	J11	1620374	CPMT2152LF KT315	B207
1560694	CPGT3251HP KC5410	B205	1601637	DNMG442FF KC5010	B79	1608396	DFR140R3WD20M	J11	1621083	KGMSR3232P50	C144
1560698	CPGT3251LF KC5410	B206	1601651	DNMG442FF KT315	B79	1608397	DFR145R3WD20M	J11	1621084	KGMSL3232P50	C144
1560699	DCGT32505HP KC5410	B224	1601652	WNMG432FF KC5010	B157	1608398	DFR150R3WD20M	J11	1621085	KGMSR3232P50	C145
1560714	DCGT3251HP KC5410	B224	1601656	TNMG332FF KC5010	B123	1608399	DFR155R3WD20M	J11	1621086	KGMSL3232P50	C145
1560715	DCGT3252HP KC5410	B224	1601886	TNMG332FF KT315	B123	1608400	DFR160R3WD20M	J11	1621087	MS2002	C65-73, C143-151
1560717	DNPG4305 KC5410	B231	1601888	VNMG331FF KC5010	B146	1608497	DNMG331FF KC5010	B79	1623193	COGT2152HP KC5410	B189
1560721	DPGT2151HP KC5410	B231	1601890	VNMG332FF KC5010	B146	1608500	DNMG331FF KT315	B79	1623194	COGT3252HP KC5410	B189
1560723	DPGT3251HP KC5410	B231	1601953	VNMG332FF KT315	B146	1608944	DNMG332FF KT315	B79	1623200	DCGT21505HP KC5410	B224
1560751	RCGK23HP KC5410	E69	1602247	VNMG331FF KT315	B146	1608949	TNMG331FN KT315	B123	1623271	DCGT2151HP KC5410	B224
1560752	RCGK35HP KC5410	E69	1602250	WNMG332FF KC5010	B157	1610085	TNMG332FN KT315	B123	1623272	TCGT21505HP KC5410	B256
1560753	RCGK46HP KC5410	E69	1602304	WNMG332FF KT315	B157	1610089	DNMG331FN KT315	B79	1623273	TCGT2151HP KC5410	B256
1560756	TPGT2151HP KC5410	B267	1602579	TNMG331FF KT315	B123	1610905	VPR332 KT315	E38	1623274	TCGT3251HP KC5410	B256
1560757	TPGT3251HP KC5410	B267	1602604	TNMG331FF KC5010	B123	1610983	DNMG332FN KT315	B79	1623275	TCGT3252HP KC5410	B256
1560759	TPGT3252HP KC5410	B267	1604140	SEF040060RSS075M	I26	1610985	DNMG441FF KC5010	B79	1623278	VBGT331HP KC5410	B280
1560781	VPR331 KC5410	E38	1604271	SEF060080RSS075M	I26	1610988	DNMG441FF KT315	B79	1623279	VBGT332HP KC5410	B280
1560783	VPR332 KC5410	E38	1604272	SEF080100RSS100M	I26	1611279	DNMG441FN KT315	B79	1624156	CNMG321FF KC5010	B48
1560784	WNGP432K KC5410	B156	1604273	SEF100120RSS125M	I26	1611325	DNMG443FN KT315	B79	1624159	CNMG322FF KC5010	B48
1560790	CNMP431 KC5410	B56	1604274	SEF120140RSS125M	I26	1611330	VNMG331FN KT315	B157	1624223	SNMG321FF KC5010	B101
1560795	CNMP432 KC5410	B56	1604275	SEF140160RSS125M	I26	1611335	WNMG332FN KT315	B157	1624227	SNMG322FF KC5010	B101
1560797	CNMS432 KC5410	B57	1604276	SEF160180RSS125M	I26	1611338	VNMG431FF KC5010	B157	1624229	SNMG322FF KT315	B101
1560799	CNMS442 KC5410	B57	1604277	SEF156187RSS075	I25	1611360	KSEM181R10WN25M	H75	1624233	TNMG222FF KC5010	B123
1560801	CNMS442 KC5410	B57	1604278	SEF218250RSS075	I25	1611414	WNMG431FN KT315	B157	1624424	CNMG321FN KT315	B49
1560803	DNMS432 KC5410	B86	1604279	SEF265312RSS075	I25	1611417	SNMG432FF KC5010	B101	1624431	VNMG331FN KT315	B146
1560808	SNMS443 KC5410	B108	1604280	SEF328375RSS075	I25	1611434	KSEM205R10WN25M	H75	1624432	WNMG332FN KT315	B146
1560829	TNMS432 KC5410	B130	1604301	SEF390437RSS100	I25	1611435	KSEM215R10WN25M	H75	1624878	EBURF1975PKG	K145
1560833	VNMS331 KC5410	B149	1604302	SEF453500RSS100	I25	1611436	KSEM221R10WN25M	H75	1679773	LT11NRA60CB KC5025	D61
1560834	VNMS332 KC5410	B149	1604								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1679780	.....LT16ERAG60CB KC5025	D51	1713359	.....VBGT220LF KC5010	B280	1724424	.....160B12RP90SP12C3WUFP	S67	1729924	.....KSEM0813R1OSS100	H79
1690871	.....LT16ER05S0CB KC5010	D54	1713402	.....840.142.200	K122-124	1724426	.....LT16ERAG55 KC5010	D51	1729925	.....KSEM0844R1OSS100	H79
1690872	.....LT16ER05S0CB KC5025	D54	1713440	.....DFT070408MD KC7140	J101	1724429	.....50A04FP70SP12CUFP	S64	1729926	.....KSEM0875R1OSS100	H79
1690873	.....LT16ER075S0CB KC5010	D54	1713512	.....DFT06T308MD KC7140	J101	1724432	.....80A06RP70SP12C1WUFP	S64	1729927	.....KSEM0884R1OSS100	H79
1690874	.....LT16ER075S0CB KC5025	D54	1713513	.....DFT05T308MD KC7140	J101	1724434	.....160B12RP70SP12C3WUFP	S64	1729928	.....KSEM0906R1OSS100	H79
1690875	.....LT16ER10S0CB KC5010	D54	1713515	.....DFT030304MD KC7140	J101	1724437	.....LT11NL10ISO KC5025	D63	1729929	.....KSEM0938R1OSS100	H79
1690876	.....LT16ER10S0CB KC5025	D54	1713517	.....DFT030204MD KC7140	J101	1724439	.....LT11NL15ISO KC5025	D63	1729952	.....KSEM0969R1OSS100	H79
1690877	.....LT16ER125S0CB KC5010	D54	1715069	.....DFR0500R3SSF075	J14	1724494	.....LT16NL10ISO KC5025	D63	1729953	.....KSEM0984R1OSS100	H79
1690878	.....LT16ER125S0CB KC5025	D54	1715070	.....DFR0531R3SSF075	J14	1724495	.....LT16ER10ISO KC5010	D54	1729954	.....KSEM1000R1OSS100	H79
1690879	.....LT16ER15S0CB KC5010	D54	1715091	.....DFR0563R3SSF075	J14	1724497	.....LT16NL15ISO KC5025	D63	1729955	.....KSEM1031R1OSS125	H80
1690880	.....LT16ER15S0CB KC5025	D54	1715092	.....DFR0594R3SSF075	J14	1724499	.....LT16NL20ISO KC5025	D63	1729956	.....KSEM1011R1OSS125	H79
1692101	.....LT16ER175S0CB KC5010	D54	1715093	.....DFR0625R3SSF075	J14	1724524	.....LT16ER05ISO KC5025	D54	1729957	.....KSEM1031R1OSS125	H80
1692102	.....LT16ER175S0CB KC5025	D54	1715530	.....841.142.250	K122-124	1724525	.....LT16NL25ISO KC5025	D63	1729958	.....KSEM1063R1OSS125	H80
1692103	.....LT16ER20S0CB KC5010	D54	1721296	.....SPHX1205PCLGPB KCK15	S68-69	1724526	.....LT16NL30ISO KC5025	D63	1729959	.....KSEM1094R1OSS125	H80
1692109	.....LT16ER20S0CB KC5025	D54	1723607	.....NG3094RK KC5010	C162	1724527	.....LT16ER075ISO KC5025	D54	1729960	.....KSEM1125R1OSS125	H80
1698205	.....LT16ER25S0CB KC5025	D54	1723608	.....SPGT3252LF KC5410	B252	1724562	.....LT16ER48UN KC5025	D57	1730118	.....KSEM1156R1OSS125	H80
1698206	.....LT16ER30S0CB KC5010	D54	1723693	.....LT16ER15ISO KC5010	D54	1724563	.....LT16ER40UN KC5025	D57	1730120	.....KSEM1188R1OSS125	H80
1698207	.....LT16ER30S0CB KC5025	D54	1723694	.....LT16ER125ISO KC5010	D54	1724564	.....LT16ER36UN KC5025	D57	1730124	.....KSEM1219R1OSS125	H80
1698208	.....LT16NRAG60CB KC5025	D61	1723695	.....LT16ER175ISO KC5010	D54	1724565	.....LT16ER32UN KC5025	D57	1730131	.....KSEM1063R1OSS125	H80
1698209	.....LT16NRAG60CB KC5025	D61	1723696	.....LT16ER20ISO KC5010	D54	1724566	.....LT16ER28UN KC5025	D57	1730132	.....KSEM1250R1OSS150	H80
1698210	.....LT16NR10ISO KC5025	D64	1723697	.....LT16ER25ISO KC5010	D54	1724591	.....S446	S67, S121-122, V58, V70, V77, V83, V149	1730321	.....DFR020204LD KC7140	J97
1712545	.....840.142.250	K122-124	1723698	.....LT16ER30ISO KC5010	D54				1732924	.....MS1944	C38-41, C122-125, C127-128
1712546	.....840.142.320	K122-123	1723726	.....LT16EL15ISO KC5010	D54						
1712547	.....840.142.420	K122-123	1724012	.....LT11NR15ISO KC5010	D63	1724734	.....LT16ER24UN KC5025	D57	1743686	.....LT16EL8APIRD KC5025	D53
1712552	.....LT16NR15S0CB KC5025	D64	1724013	.....LT16NR10ISO KC5010	D63	1724735	.....LT16ER20UN KC5025	D57	1743696	.....LT16EL16UNJ KC5025	D58
1712554	.....LT16NR20S0CB KC5025	D64	1724014	.....LT16NR15ISO KC5010	D63	1724736	.....LT16ER18UN KC5025	D57	1743701	.....LT16ELA60 KC5025	D51
1712555	.....LT16NR25S0CB KC5025	D64	1724031	.....LT16NR20ISO KC5010	D63	1724737	.....LT16ER16UN KC5025	D57	1743702	.....LT16ELAG60 KC5025	D51
1712556	.....LT11NR16UNJ KC5025	D68	1724040	.....LT16NR30ISO KC5010	D63	1724738	.....LT16ER14UN KC5025	D57	1743703	.....LT16ELG60 KC5025	D51
1712557	.....LT11NR18UNJ KC5025	D68	1724291	.....LT16ER32UN KC5010	D57	1724834	.....LT16ER12UN KC5025	D57	1743704	.....LT16ELG60 KC5025	D51
1712558	.....LT11NR20UNJ KC5025	D68	1724292	.....LT16ER28UN KC5010	D57	1724835	.....LT16ER10UN KC5025	D57	1743705	.....LT22ELN60 KC5025	D51
1712559	.....LT11NR24UNJ KC5025	D68	1724293	.....LT16ER24UN KC5010	D57	1724836	.....LT16ER8UN KC5025	D57	1743706	.....LT16ELAG55 KC5025	D51
1712561	.....LT11NR32UNJ KC5025	D68	1724294	.....LT16ER20UN KC5010	D57	1724878	.....NG3047RK KC5010	C162	1743715	.....LT16EL14W KC5025	D59
1712563	.....LT16ER8UNCB KC5010	D58	1724295	.....LT16ER18UN KC5010	D57	1725015	.....LT16EL28UN KC5025	D57	1743717	.....LT16EL11W KC5025	D59
1712564	.....LT16ER8UNCB KC5025	D58	1724296	.....LT16ER16UN KC5010	D57	1725017	.....LT16EL24UN KC5025	D57	1743734	.....LT16ER32UNJ KC5025	D58
1712566	.....LT16ER10UNCB KC5025	D58	1724297	.....LT16ER14UN KC5010	D57	1725018	.....LT16EL20UN KC5025	D57	1743735	.....LT16ER28UNJ KC5025	D58
1712567	.....LT16ER12UNCB KC5010	D58	1724298	.....LT16ER12UN KC5010	D57	1725053	.....LT16EL18UN KC5025	D57	1743736	.....LT16ER24UNJ KC5025	D58
1712568	.....LT16ER12UNCB KC5025	D58	1724299	.....LT11NR16UN KC5010	D67	1725054	.....LT16EL16UN KC5025	D57	1743737	.....LT16ER20UNJ KC5025	D58
1712569	.....LT16ER14UNCB KC5010	D58	1724300	.....LT16EL05ISO KC5025	D54	1725055	.....LT16EL14UN KC5025	D57	1743738	.....LT16ER18UNJ KC5025	D58
1712570	.....LT16ER14UNCB KC5025	D58	1724331	.....LT16NR12UN KC5010	D67	1725056	.....LT16EL12UN KC5025	D57	1743739	.....LT16ER16UNJ KC5025	D58
1712586	.....SPHX1205ZCERG KC520M	S65	1724333	.....LT16EL075ISO KC5025	D54	1725058	.....LT16EL8UN KC5025	D57	1743740	.....LT16ER14UNJ KC5025	D58
1712601	.....LT16ER16UNCB KC5010	D58	1724334	.....LT16ER20UNJ KC5010	D58	1725060	.....LT11NR40UN KC5025	D67	1743741	.....LT16ER12UNJ KC5025	D58
1712602	.....LT16ER16UNCB KC5025	D58	1724335	.....LT16EL10ISO KC5025	D54	1725108	.....LT16ER10ISO KC5025	D54	1743744	.....LT16ERA60 KC5025	D51
1712603	.....LT16ER18UNCB KC5010	D58	1724337	.....LT16ER18UNJ KC5010	D58	1725109	.....LT16ER125ISO KC5025	D54	1743745	.....LT16ERAG60 KC5025	D51
1712604	.....LT16ER18UNCB KC5025	D58	1724338	.....LT16ER16UNJ KC5010	D58	1725110	.....LT16ER15ISO KC5025	D54	1743746	.....LT16ERAG60 KC5025	D51
1712605	.....LT16ER20UNCB KC5010	D58	1724339	.....80A08RP90SP12C2WUFP	S67	1725221	.....LT16ER175ISO KC5025	D54	1743747	.....LT22ERN60 KC5025	D51
1712606	.....LT16ER20UNCB KC5025	D58	1724340	.....LT16ER14UNJ KC5010	D58	1725222	.....LT16ER20ISO KC5025	D54	1743748	.....LT16ERA55 KC5025	D51
1712607	.....LT16ER24UNCB KC5010	D58	1724351	.....100B12RP90SP12C3WUFP	S67	1725223	.....LT16ER25ISO KC5025	D54	1743749	.....LT16ERAG55 KC5025	D51
1712608	.....LT16ER24UNCB KC5025	D58	1724352	.....LT16EL125ISO KC5025	D54	1725224	.....LT16ER30ISO KC5025	D54	1743750	.....LT16ERG55 KC5025	D51
1712609	.....LT16ER28UNCB KC5010	D58	1724353	.....125B15RP90SP12C3WUFP	S67	1725225	.....LT22ER35ISO KC5025	D54	1743751	.....LT22ERN55 KC5025	D51
1712610	.....LT16ER28UNCB KC5025	D58	1724354	.....LT16ER12UNJ KC5010	D58	1725461	.....LT22ER40ISO KC5025	D54	1743752	.....LT16ER28W KC5025	D59
1712611	.....LT16ER32UNCB KC5010	D58	1724356	.....LT16ER19W KC5010	D59	1725462	.....LT22ER45ISO KC5025	D54	1743753	.....LT16ER24W KC5025	D59
1712612	.....LT16ER32UNCB KC5025	D58	1724358	.....LT16EL15ISO KC5025	D54	1725463	.....LT22ER50ISO KC5025	D54	1743754	.....LT16ER20W KC5025	D59
1712614	.....LT16ER11WCB KC5025	D59	1724360	.....LT16ER14W KC5010	D59	1725464	.....LT11NR05ISO KC5025	D63	1743755	.....LT16ER19W KC5025	D59
1712615	.....LT16ER14WCB KC5010	D59	1724372	.....LT16EL175ISO KC5025	D54	1725465	.....LT11NR075ISO KC5025	D63	1743756	.....LT16ER17W KC5025	D59
1712616	.....LT16ER14WCB KC5025	D59	1724373	.....LT16ER11W KC5010	D59	1725466	.....LT11NR10ISO KC5025	D63	1743757	.....LT16ER16W KC5025	D59
1712617	.....LT16ER14NPTCB KC5010	D55	1724377	.....LT16EL20ISO KC5025	D54	1725467	.....LT11NR125ISO KC5025	D63	1743758	.....LT16ER14W KC5025	D59
1712618	.....LT16ER14NPTCB KC5025	D55	1724378	.....50A05RP70SP12CUFP	S64	1725468	.....LT11NR15ISO KC5025	D63	1743759	.....LT16ER12W KC5025	D59
1712620	.....LT16ER15NPTFCB KC5025	D56	1724379	.....63A07RP70SP12CUFP	S64	1725469	.....LT11NR175ISO KC5025	D63	1743760	.....LT16ER11W KC5025	D59
1712661	.....LT16NR8UNCB KC5025	D68	1724380	.....80A08RP70SP12C2WUFP	S64	1725471	.....LT11NR20ISO KC5025	D63	1743761	.....LT16ER10W KC5025	D59
1712663	.....LT16NR10UNCB KC5025	D68	1724391	.....100B12RP70SP12C3WUFP	S64	1725472	.....LT16NR05ISO KC5025	D63	1743762	.....LT16ER9W KC5025	D59
1712664	.....LT16NR12UNCB KC5025	D68	1724392	.....LT16NR11W KC5010	D69	1725474	.....LT16NR075ISO KC5025	D63	1743763	.....LT16ER8W KC5025	D59
1712665	.....LT16NR14UNCB KC5025	D68	1724394	.....LT16EL25ISO KC5025	D54	1725475	.....LT16NR10ISO KC5025	D63	1743764	.....LT22ER7W KC5025	D59
1712666	.....LT16NR16UNCB KC5025	D68	1724395	.....160B12RP70SP12C3WUFP	S64	1725476	.....LT16NR125ISO KC5025	D63	1743765	.....LT22ER6W KC5025	D59
1712667	.....LT16NR18UNCB KC5025	D68	1724398	.....LT16ER18NPT KC5010	D55	1725477	.....LT16NR15ISO KC5025	D63	1743767	.....LT16ER14BSPT KC5025	D53
1712668	.....LT16NR20UNCB KC5025	D68	1724400	.....LT16EL30ISO KC5025	D54	1725478	.....LT16NR175ISO KC5025	D63	1743768	.....LT16ER11BSPT KC5025	D53
1712669	.....LT16NR11WCB KC5025	D69	1724401	.....LT16ER14NPT KC5010	D55	1725511	.....LT16NR20ISO KC5025	D63	1743769	.....LT16ER12NPT KC5025	D55
1712670	.....LT16NR14WCB KC5025	D69	1724402	.....LT16ER115NPT KC5010	D55	1725512	.....LT16NR25ISO KC5025	D63	1743770	.....LT16ER18NPT KC5025	D55
1712671	.....LT16NR115NPTCB KC5025	D65	1724403	.....LT11NR14NPT KC5010	D64	1725513	.....LT16NR30ISO KC5025	D63	1743771	.....LT16ER14NPT KC5025	D55
1712672	.....LT16NR14NPTCB KC5025	D65	1724405	.....LT16NR115NPT KC5010	D64	1725515	.....LT22NR35ISO KC5025	D63	1743772	.....LT16ER115NPT KC5025	D55
1712711	.....SPHX1205ZCERG-P1W KC520M	S66	1724406	.....LT16ERAG60 KC5010	D51	1725516	.....LT22NR40ISO KC5025	D63	1743773	.....LT16ER8NPT KC5025	D55
1712714	.....SPHX1205PCERGPB KC520M	S68	1724407	.....50A04RP90SP12CUFP	S67	1725519	.....LT22NR45ISO KC5025	D63	1743774	.....LT16ER14NPT KC5025	D55
1712730	.....NG2M150LK KC5025	C163	1724408	.....LT22EL35ISO KC5025	D54	1725520	.....LT22NR50ISO KC5025	D63	1743775	.....LT16ER115NPTF KC5025	D55
1712734	.....NG2M150RK KC5025	C162	1724409	.....63A05RP90SP12CUFP	S67	1727704	.....LT16NR8UN KC5025	D67	1743776	.....LT16ER16ACME KC5025	D52
1712949	.....SPHX1205PCERGPASB KC520M	S68	1724411	.....LT16ERAG60 KC5010	D51	1729874	.....KSEM0625R1OSS075	H79	1743778	.....LT16ER12ACME KC5025	D52
1712981	.....SPHX1205PCERGP-P1WB KC520M	S69	1724412	.....LT16ERAG60 KC5010	D51	1729875	.....KSEM0634R1OSS075	H79	1743779	.....LT16ER10ACME KC5025	D52
1713203	.....DFT090508MD KC7140	J101	1724414	.....LT11NRAG60 KC5010	D60	1729876	.....KSEM0656R1OSS075	H79	1743780	.....LT16ER8ACME KC5025	D52
1713307	.....RCGT0803MOHP KC5410	B238	1724415	.....LT16NRAG60 KC5010	D60	1729877	.....KSEM0688R1OSS075	H79	1743781	.....LT22ER6ACME KC5025	D52
1713308	.....RCGT1073MOHP KC5410	B238	1724417	.....80A06RP90SP12C1WUFP	S67	1729878	.....KSEM0719R1OSS075	H79	1743782	.....LT22ER5ACME KC5025	D52
1713											

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1743788	LT16ER6STACME KC5025	D56	1743993	LT22NR4TR KC5025	D66	1772115	SDPCN103B	B229	1785481	TCGT2152HP KC5010	B256
1743789	LT22ERSSTACME KC5025	D56	1743994	LT22NR5TR KC5025	D66	1772116	STACR062D	B259	1785482	TPGT2152HP KC5010	B267
1743791	LT16ER2TR KC5025	D57	1743996	LT16NR8RD KC5025	D65	1772118	STACR082D	B259	1785501	NG2M300LK KC5025	C163
1743792	LT16ER3TR KC5025	D57	1743997	LT22NR6RD KC5025	D65	1772122	STACR103B	B259	1785713	VBGT331HP KC5010	B280
1743793	LT22ER4TR KC5025	D57	1743998	LT16NR10APIRD KC5025	D62	1772124	STJCRF062D	B261	1785714	VBGT332HP KC5010	B280
1743794	LT22ER3TR KC5025	D57	1743999	LT16NR8APIRD KC5025	D62	1772126	STJCRF082D	B261	1785715	CNGP430 KC5410	B46
1743796	LT16ER8RD KC5025	D56	1744000	LT22NR4API382 KC5025	D62	1772128	STJCRF102B	B261	1785716	CNGP4305 KC5410	B46
1743797	LT22ER6RD KC5025	D56	1744002	LT22NR5API403 KC5025	D62	1772144	SWLCRF082D	B287	1785717	CNGP431 KC5410	B46
1743798	LT16ER10APIRD KC5025	D53	1744003	LT22NR4API502 KC5025	D62	1772477	KSEM125R5WN16M	H73	1785718	CNGP432 KC5410	B46
1743799	LT16ER8APIRD KC5025	D53	1744005	LT22NR5BUT175 KC5025	D63	1772748	KSEM140R5WN16M	H73	1785719	CNGP433 KC5410	B46
1743800	LT22ER4API382 KC5025	D52	1744006	LT22NR5BUT1 KC5025	D63	1772749	KSEM150R5WN20M	H73	1785733	DNGP431 KC5410	B77
1743803	LT22ER4API502 KC5025	D52	1744444	KJAM33	B119, B142, C196, D41	1773924	360.637	I26, I29	1785734	DNGP432 KC5410	B77
1743805	LT22ERSBUT75 KC5025	D53	1744665	NG3094R KC5010	C170	1774499	KSEM125R3WN16M	H73	1785735	CNGP441 KC5410	B77
1743810	LT11NL32UN KC5025	D67	1745243	193.326	B186, B397	1775033	NG3125RK KC5025	C162	1785740	TNGP331 KC5410	B121
1743824	LT16NL16UN KC5025	D67	1746442	CTFPR12CA3	B186, B397	1775034	NG3125LK KC5010	C164	1785741	TNGP332 KC5410	B121
1743826	LT16NL12UN KC5025	D67	1747635	DCGT21505HP KC5010	B224	1775035	NG3125LK KC5025	C164	1785746	NG3125LK KC5410	B144
1743827	LT16NL10UN KC5025	D67	1748698	NG3062RK KC5010	C162	1775036	NG3047RK KC5025	C162	1785747	VNGP3305 KC5410	B144
1743829	LT11NL16A0 KC5025	D60	1749102	KSEM321R3WD50M	H74	1775037	NG3062RK KC5025	C162	1785748	CPGT21505HP KC5410	B205
1743830	LT16NL16A0 KC5025	D60	1749103	KSEM330R3WD50M	H74	1775478	CM72LP	C182-184, C186-189, C191-192, C194-196, D26-30, D35, D38, D41	1785749	CNGP2151HP KC5410	B205
1743831	LT16NL16A60 KC5025	D60	1749106	KSEM340R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1785750	CPGT2152HP KC5410	B205
1743832	LT16NL16G0 KC5025	D60	1749109	KSEM350R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1785752	CPGT3252HP KC5410	B205
1743833	LT22NL60 KC5025	D60	1749110	KSEM360R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1785753	CNGP2152HP KC5410	B224
1743847	LT16NL11W KC5025	D69	1749131	KSEM361R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1785756	TPGT2152HP KC5410	B267
1743899	LT11NR32UN KC5025	D67	1749132	KSEM370R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786055	KSEM0500RSS075	H77
1743900	LT11NR24UN KC5025	D67	1749133	KSEM380R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786056	KSEM0500RSS075	H77
1743902	LT11NR20UN KC5025	D67	1749207	CV50RMHTS27M394	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786058	KSEM0509RSS075	H77
1743903	LT11NR18UN KC5025	D67	1749208	CV50RMHTS32M394	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786059	KSEM0516RSS075	H77
1743904	LT11NR16UN KC5025	D67	1749210	CV50RMHTS40M413	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786060	KSEM0531RSS075	H77
1743908	LT16NR32UN KC5025	D67	1749263	CV50BHTS13M295	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786061	KSEM0547RSS075	H77
1743909	LT16NR28UN KC5025	D67	1749264	CV50BHTS16M295	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786062	KSEM0563RSS075	H77
1743910	LT16NR24UN KC5025	D67	1749266	CV50BHTS22M295	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786094	KSEM0578RSS075	H77
1743921	LT16NR20UN KC5025	D67	1749273	CV50RMHTS50M413	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786095	KSEM0594RSS075	H77
1743922	LT16NR18UN KC5025	D67	1749281	BT50BHTS22075M	J91	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1786097	KSEM0609RSS075	H77
1743923	LT16NR16UN KC5025	D67	1749285	BT50BHTS32080M	J91	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1787513	WNGX453T0820 KY3500	B319
1743924	LT16NR14UN KC5025	D67	1749286	BT50BHTS40080M	J91	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1791528	410.084	E18-19, E21, E23, S70
1743925	LT16NR12UN KC5025	D67	1749287	BT50BHTS50080M	J91	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792224	KSEM0625R1SSF075	H81
1743926	LT16NR10UN KC5025	D67	1749428	CV50BHTS27M295	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792225	KSEM0709R1SSF075	H81
1743927	LT11NR16A0 KC5025	D60	1749429	CV50BHTS32M314	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792226	TPGT18151LF KC5410	B267
1743928	LT16NR16A0 KC5025	D60	1749430	CV50BHTS40M314	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792227	KSEM0867R1SSF100	H81
1743929	LT16NR16A60 KC5025	D60	1749461	CV50BHTS50M314	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792228	KSEM0945R1SSF100	H81
1743930	LT16NR660 KC5025	D60	1749491	CV50RMHTS13M394	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792229	KSEM1024R1SSF125	H81
1743931	LT22NR160 KC5025	D60	1749492	CV50RMHTS16M394	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792230	KSEM1103R1SSF125	H81
1743932	LT11NR455 KC5025	D60	1749493	CV50RMHTS22M394	J90	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792231	KSEM1182R1SSF125	H81
1743933	LT16NR455 KC5025	D60	1749607	KSEM390R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792232	DNMG432FW KT315	B80
1743934	LT16NR455 KC5025	D60	1749610	KSEM400R3WD50M	H74	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792233	DNMG431FW KT315	B80
1743935	LT16NR655 KC5025	D60	1749648	DFR020204GD KC7140	J97	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792234	DNMG432FW KT315	B80
1743936	LT22NR165 KC5025	D60	1749718	420.060	S121-123	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792235	DNMG431FW KT315	B80
1743937	LT11NR19W KC5025	D69	1750433	B411A07700 KF1	G94	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792236	WVMG332FW KT315	B158
1743938	LT11NR14W KC5025	D69	1753934	B411A08700 KF1	G95	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792237	WVMG431FW KT315	B158
1743939	LT16NR20W KC5025	D69	1754251	DFR165R2WD32M	J10	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792238	WVMG432FW KT315	B158
1743940	LT16NR19W KC5025	D69	1756488	MSSNR246D	B113	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792239	WVMG431FW KC5010	B49
1743942	LT16NR16W KC5025	D69	1756489	MSSNL246D	B113	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792240	WVMG432FW KC5010	B49
1743943	LT16NR14W KC5025	D69	1756550	KM63XMKZGMSR50Y	C148	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792242	WVMG431FW KC5010	B49
1743944	LT16NR12W KC5025	D69	1756574	KM63XMKZGMSL50Y	C148	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792243	WVMG432FW KC5010	B49
1743945	LT16NR11W KC5025	D69	1762261	B411A05600 KF1	G94	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792244	WVMG431FW KC5010	B49
1743946	LT16NR10W KC5025	D69	1762299	NG3062LK KC5010	C163	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792245	WVMG432FW KC5010	B49
1743948	LT16NR8W KC5025	D69	1762381	NG3125RK KC5010	C162	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792246	WVMG431FW KC5010	B49
1743949	LT22NR7W KC5025	D69	1763116	HSK63ASVS4B139M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792247	WVMG432FW KC5010	B49
1743962	LT11NR14BSPT KC5025	D62	1763118	HSK63ASVS5B139M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792248	WVMG431FW KC5010	B49
1743963	LT16NR14BSPT KC5025	D62	1763375	KM50SVS4B125M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792249	WVMG432FW KC5010	B49
1743964	LT16NR11BSPT KC5025	D62	1763376	KM63SVS4B110M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792250	WVMG431FW KC5010	B49
1743966	LT11NR18NPT KC5025	D64	1763378	KM50SVS5B125M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792251	WVMG432FW KC5010	B49
1743967	LT11NR14NPT KC5025	D64	1763379	KM63SVS5B110M	K84	1775479	CM73LP	C182-184, C186-189, C191-192, C194-195, D26-30, D35, D37-38	1792252	WVMG431FW KC5010	B49
1743970	LT16NR14NPT KC5025	D64	1763382	KM80SVS6B150M	K84	1					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1795789	NT4RK KC5025	D22	1796395	NJF3007R24 KC5010	D15	1797212	KSEM146R10WN20M	H75	1799513	ND3038L KC5025	D12
1795790	NT4LK KC5025	D22	1796396	NJF3007R24 KC5025	D15	1797233	KSEM150R10WN20M	H75	1799521	NDC3040R3 KC5025	D13
1795791	NTF2R KC5025	D21	1796397	NJF3007L24 KC5010	D15	1797234	KSEM155R10WN20M	H75	1799522	NDC3040L3 KC5010	D13
1795792	NTF2L KC5025	D21	1796399	NJF3006R28 KC5010	D15	1797235	SCFPR10CA09	B217	1799525	NDC4038R2 KC5025	D13
1795793	NTF3R KC5025	D21	1796400	NJF3006R28 KC5025	D15	1798189	KSEM0500R7SS075	H79	1799527	NDC4038L2 KC5025	D13
1795794	NTF3L KC5025	D21	1796403	NJF3005R32 KC5010	D15	1798190	KSEM0500R7SS075	H79	1799529	NDC4040R3 KC5025	D13
1795795	NTK2R KC5025	D21	1796407	NJK3012R14 KC5010	D16	1798191	KSEM0509R7SS075	H79	1799533	NDC4050R2 KC5025	D13
1795796	NTK2L KC5025	D21	1796408	NJK3012R14 KC5025	D16	1798192	KSEM0516R7SS075	H79	1799555	NDC4050L2 KC5025	D13
1795797	NJP3014R12 KC5025	D16	1796411	NJK3010R16 KC5010	D16	1798203	KSEM0531R7SS075	H79	1799557	NDC4050R3 KC5025	D13
1795799	NJP3010R16 KC5025	D16	1796412	NJK3010R16 KC5025	D16	1798204	KSEM0547R7SS075	H79	1799560	NDC38RD75 KC5010	D13
1795800	NJP3010L16 KC5025	D16	1796425	NJK3009R18 KC5010	D16	1798205	KSEM0563R7SS075	H79	1799561	NDC38RD75 KC5025	D13
1795801	NA3R4 KC5025	D11	1796426	NJK3009R18 KC5025	D16	1798206	KSEM0578R7SS075	H79	1799562	NDC38RD75 KC5010	D13
1795802	NA3L4 KC5025	D11	1796429	NJK3008R20 KC5010	D16	1798207	KSEM0594R7SS075	H79	1799563	NDC38RD75 KC5025	D13
1795809	364.016	H72-73, H75, H81-82, H85-86, H122	1796430	NJK3008R20 KC5025	D16	1798208	KSEM0609R7SS075	H79	1799565	NDC310RD75 KC5025	D13
1795810	364.017	H72-73, H75, H81-82, H85-86	1796443	NJK3007R24 KC5010	D16	1798211	KSEM0500R1OSS075	H79	1799567	NDC310RD75 KC5025	D13
1795811	170.289	H72, H81, H86, H88	1796446	NJK3007R24 KC5025	D16	1798212	KSEM0509R1OSS075	H79	1799576	NTB3RA KC5025	D17
1795956	170.290	H88	1796449	NJK3006R28 KC5010	D16	1798228	KSEM0516R1OSS075	H79	1799577	NTB3LA KC5010	D17
1795960	170.291	H88	1796452	NJK3006L28 KC5025	D16	1798231	KSEM0531R1OSS075	H79	1799578	NTB3LA KC5025	D17
1796047	NT2L KC5010	D17	1796473	NJK3005R32 KC5010	D16	1798243	KSEM0547R1OSS075	H79	1799583	NTB2R KC5010	D18
1796048	NT2L KC5025	D17	1796474	NJK3005R32 KC5025	D16	1798244	KSEM0563R1OSS075	H79	1799585	NTB2L KC5010	D18
1796049	NT2R KC5010	D17	1796476	NJK3005L32 KC5025	D16	1798248	KSEM0578R1OSS075	H79	1799587	NTB3RB KC5010	D18
1796050	NT2R KC5025	D17	1796497	NA3R12 KC5025	D11	1798249	KSEM0594R1OSS075	H79	1799588	NTB3RB KC5025	D18
1796051	NT3R KC5010	D17	1796499	NA3L12 KC5010	D11	1798250	KSEM0609R1OSS075	H79	1799589	NTB3LB KC5010	D18
1796052	NT3R KC5025	D17	1796500	NA3L12 KC5025	D11	1798962	DFR170R3WD32M	J11	1799591	NTB3LB KC5025	D18
1796083	NT3L KC5010	D17	1796501	NA3R10 KC5010	D11	1799053	DFR180R3WD32M	J11	1799603	NTB4R KC5010	D18
1796084	NT3L KC5025	D17	1796502	NA3R10 KC5025	D11	1799055	DFR200R3WD32M	J11	1799604	NTB4R KC5025	D18
1796085	NT4L KC5010	D17	1796504	NA3L10 KC5025	D11	1799056	DFR210R3WD25M	J11	1799605	NTB4L KC5010	D18
1796086	NT4L KC5025	D17	1796505	NA3R8 KC5010	D11	1799059	DFR220R3WD25M	J11	1799606	NTB4L KC5025	D18
1796087	NT4R KC5010	D17	1796506	NA3R8 KC5025	D11	1799238	NT1L KC5010	D23	1799693	DFR190R2WD32M	J10
1796088	NT4R KC5025	D17	1796507	NA3L8 KC5010	D11	1799239	NT1L KC5025	D23	1799695	DFR220R3WD32M	J11
1796090	NTP2R KC5010	D22	1796508	NA3L8 KC5025	D11	1799241	NTC3R7E KC5025	D20	1801017	NG3M400LK KC5025	C164
1796091	NTP2R KC5025	D22	1796509	NA3R6 KC5010	D11	1799363	NTC3L8E KC5010	D20	1801125	3.41020R900STF CS5	.117
1796103	NTP2L KC5010	D22	1796510	NA3R6 KC5025	D11	1799366	NTC3L8I KC5025	D18	1801126	3.41220R900STF CS5	.117
1796104	NTP2L KC5025	D22	1796511	NA3L6 KC5010	D11	1799369	NTC3R10E KC5010	D20	1801129	3.41220R900STF KMF	.117
1796105	NTP3R KC5010	D22	1796512	NA3L6 KC5025	D11	1799370	NTC3R10E KC5025	D20	1801533	SSF200HTS130239	J89
1796106	NTP3R KC5025	D22	1796514	NA3R5 KC5010	D11	1799384	NTC3L10I KC5025	D18	1801534	SSF200HTS130664	J89
1796107	NTP3R KC5410	D22	1796515	NA3R5 KC5025	D11	1799386	NTC3R11E KC5025	D20	1801535	SSF200HTS131114	J89
1796109	NTP4R KC5010	D22	1796516	NA3L5 KC5010	D11	1799389	NTC3R12I KC5025	D18	1801536	SSF200HTS131764	J89
1796110	NTP4R KC5025	D22	1796517	NA3L5 KC5025	D11	1799390	NTC3L12I KC5025	D18	1801537	SSF200HTS160239	J89
1796112	NTP4L KC5010	D22	1796518	NA3R4 KC5010	D11	1799391	NTC3R13E KC5010	D20	1801538	SSF200HTS160714	J89
1796113	NTP4L KC5025	D22	1796519	NA3L4 KC5010	D11	1799392	NTC3R13E KC5025	D20	1801539	SSF200HTS161214	J89
1796115	NT2RK KC5010	D22	1796520	NAS3R16 KC5025	D12	1799393	NTC3R14E KC5010	D20	1801540	SSF200HTS161964	J89
1796116	NT2LK KC5010	D22	1796524	NAS3R12 KC5025	D12	1799394	NTC3R14E KC5025	D20	1801541	SSF200HTS220297	J89
1796117	NT3RK KC5010	D22	1796525	NAS3L12 KC5025	D12	1799398	NTC3L14I KC5025	D18	1801542	SSF200HTS220922	J89
1796118	NT3LK KC5010	D22	1796526	NAS3R10 KC5010	D12	1799399	NTC3R16E KC5010	D20	1801553	SSF200HTS221572	J89
1796119	NT4RK KC5010	D22	1796527	NAS3R10 KC5025	D12	1799400	NTC3R16E KC5025	D20	1801554	SSF200HTS222572	J89
1796120	NT4LK KC5010	D22	1796529	NAS3L10 KC5025	D12	1799404	NTC3L16I KC5025	D18	1801555	SSF200HTS270297	J89
1796121	NT3RCK KC5010	D19	1796530	NAS3R8 KC5010	D12	1799405	NTC3R18E KC5010	D20	1801556	SSF200HTS271122	J89
1796122	NT3RCK KC5025	D19	1796531	NAS3R8 KC5025	D12	1799406	NTC3R18E KC5025	D20	1801558	SSF200HTS271922	J89
1796133	NT3LCK KC5025	D19	1796532	NAS3L8 KC5010	D12	1799409	NTC3R20E KC5010	D20	1801559	SSF200HTS273122	J89
1796134	NT4RCK KC5010	D19	1796543	NAS3L8 KC5025	D12	1799410	NTC3R20E KC5025	D20	1801560	SSF200HTS282035	J89
1796135	NT4RCK KC5025	D19	1796544	NAS3R6 KC5010	D12	1799413	NTC3R24E KC5010	D20	1801561	SSF200HTS320805	J89
1796137	NT4LCK KC5025	D19	1796545	NAS3R6 KC5025	D12	1799414	NTC3R24E KC5025	D20	1801562	SSF200HTS321305	J89
1796138	NTF2R KC5010	D21	1796546	NAS3L6 KC5010	D12	1799416	NTC3R28E KC5025	D20	1801573	SSF200HTS321805	J89
1796139	NTF2L KC5010	D21	1796547	NAS3L6 KC5025	D12	1799418	NTC3R32E KC5025	D20	1801574	SSF200HTS400355	J89
1796140	NTF3R KC5010	D21	1796549	NAS3R5 KC5025	D12	1799439	NA4R6 KC5025	D11	1801575	SSF200HTS401055	J89
1796141	NTF3L KC5010	D21	1796551	NAS3L5 KC5025	D12	1799441	NA4L6 KC5025	D11	1801576	SSF200HTS401555	J89
1796153	NTF4R KC5025	D21	1796552	NJ3020R8 KC5010	D15	1799443	NA4R6 KC5025	D11	1801577	SSF200HTS402555	J89
1796156	NTK2R KC5010	D21	1796553	NJ3020R8 KC5025	D15	1799445	NA4L5 KC5025	D11	1801578	SSF300HTS500413	J89
1796157	NTK2L KC5010	D21	1796555	NJ3020L8 KC5025	D15	1799446	NA4R4 KC5010	D11	1801579	SSF300HTS501313	J89
1796158	NTK3R KC5010	D21	1796556	NJ3014R12 KC5010	D15	1799447	NA4R4 KC5025	D11	1801580	SSF300HTS502113	J89
1796159	NTK3R KC5025	D21	1796557	NJ3014R12 KC5025	D15	1799449	NA4L4 KC5025	D11	1801581	SSF300HTS503113	J89
1796160	NTK3L KC5010	D21	1796558	NJ3014L12 KC5010	D15	1799450	NA6R2 KC5010	D11	1801779	NR3031R KC5010	C172
1796161	NTK3L KC5025	D21	1796559	NJ3014L12 KC5025	D15	1799451	NA6R2 KC5025	D11	1801793	NG3047R KC5010	C170
1796176	NJP3020R8 KC5010	D16	1796561	NJ3010R16 KC5025	D15	1799452	NA6L2 KC5010	D11	1802547	CCMT3251MW KT315	B192
1796177	NJP3020R8 KC5025	D16	1796583	NJ3010L16 KC5025	D15	1799463	NA6L2 KC5025	D11	1802549	CCMT3252MW KT315	B192
1796179	NJP3020L8 KC5025	D16	1796705	470.232	S32	1799465	NA6R25 KC5025	D11	1802551	WNG6432LF KC5010	B156
1796180	NJP3014R12 KC5010	D16	1797157	KSEM125R7WN16M	H75	1799469	NA6R3 KC5025	D11	1802564	CCMT3251MW KC5010	B192
1796181	NJP3014L12 KC5010	D16	1797158	KSEM130R7WN16M	H75	1799471	NA6L3 KC5025	D11	1802566	CCMT3252MW KC5010	B192
1796182	NJP3010R16 KC5010	D16	1797159	KSEM135R7WN16M	H75	1799483	NDC38VR75 KC5010	D14	1802567	CCMT3252MW KC5010	B208
1796183	NJP3010R16 KC5025	D16	1797160	KSEM136R7WN16M	H75	1799484	NDC38VL75 KC5010	D14	1802568	CCMT431MW KC5010	B192
1796194	NJF3012R14 KC5010	D15	1797161	KSEM140R7WN16M	H75	1799485	NDC3115VR75 KC5010	D14	1802569	CCMT432MW KC5010	B192
1796195	NJF3012R14 KC5025	D15	1797162	KSEM145R7WN20M	H75	1799486	NDC3115VL75 KC5010	D14	1802813	CCMT21505FW KT315	B190
1796196	NJF3012R14 KC5025	D15	1797203	KSEM146R7WN20M	H75	1799490	NDC88VR75M KC5010	D14	1802843	CCMT21505FW KT315	B206
1796198	NJF3010R16 KC5010	D15	1797204	KSEM150R7WN20M	H75	1799491	NDC88VL75M KC5010	D14	1802844	CCMT2151FW KT315	B190
1796199	NJF3010R16 KC5025	D15	1797205	KSEM155R7WN20M	H75	1799497	NTU4R KC5025	D22	1802845	CCMT2151FW KT315	B206
1796200	NJF3010L16 KC5010	D15	1797206	KSEM125R10WN16M	H75	1799500	NWC3R11E KC5010	D			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)			
1802992	CMMT21505FW KC5010	.....	B190	1808179	.....	MIRGNR248E	.....	B98	1810364	.....	DFR240R2WD32M	.....	J10
1803013	CPMT21505FW KC5010	.....	B206	1808182	.....	MSDNN206	.....	B111	1810365	.....	DFR165R3WD32M	.....	J11
1803014	CMMT2151FW KC5010	.....	B190	1808183	.....	MSDNN246	.....	B111	1810366	.....	DFR175R3WD32M	.....	J11
1803015	CPMT2151FW KC5010	.....	B206	1808185	.....	MSKNL205D	.....	B111	1810367	.....	DFR185R3WD32M	.....	J11
1803016	CMMT2152FW KC5010	.....	B190	1808186	.....	MSKNL206D	.....	B111	1810368	.....	DFR190R3WD32M	.....	J11
1803018	CPMT2152FW KC5010	.....	B206	1808187	.....	MSKNL246D	.....	B111	1810369	.....	DFR195R3WD32M	.....	J11
1803020	CMMT2151FW KC5010	.....	B190	1808189	.....	MSKNR205D	.....	B111	1810370	.....	DFR205R3WD32M	.....	J11
1803021	CPMT2151FW KC5010	.....	B206	1808190	.....	MSKNR206D	.....	B111	1810371	.....	DFR210R3WD32M	.....	J11
1803022	CMMT2152FW KC5010	.....	B190	1808191	.....	MSKNR248	.....	B111	1810372	.....	DFR230R3WD32M	.....	J11
1803023	CPMT2152FW KC5010	.....	B206	1808194	.....	MSRNL165C	.....	B112	1810373	.....	DFR240R3WD32M	.....	J11
1803174	40A02RP90BG15C1WUPM	.....	S122	1808195	.....	MSRNL854D	.....	B112	1816891	.....	LT11NR14UNJ KC5025	.....	D68
1803175	50A03RP90BG15C1WUPM	.....	S122	1808196	.....	MSRNL165C	.....	B112	1816893	.....	LT11NR16UNJ KC5025	.....	D68
1803177	63A04RP90BG15C1WUPM	.....	S122	1808197	.....	MSRNL248	.....	B112	1816890	.....	LT11NR18UNJ KC5025	.....	D68
1803178	80A05RP90BG15C1WUPM	.....	S122	1808198	.....	MSRNR328	.....	B112	1817050	.....	LT16NR16UNJ KC5025	.....	D68
1803179	100B06RP90BG15C2WUPM	.....	S122	1808203	.....	A20MDPNL4	.....	B92	1817054	.....	LT16NR12UNJ KC5025	.....	D68
1803284	NTC3MR150E KC5025	.....	D19	1808204	.....	A20MDPNR4	.....	B92	1817487	.....	LT22ER5AP403 KC5010	.....	D52
1803285	NTC3MR150E KC5025	.....	D19	1808205	.....	A24MCFNL4	.....	B69	1817512	.....	LT22ER4AP502 KC5010	.....	D52
1803292	NTC3MR200E KC5010	.....	D19	1808206	.....	A24MCFNR4	.....	B69	1817533	.....	LT22ER4AP503 KC5010	.....	D52
1803924	NG2062L KC5025	.....	C170	1808207	.....	A24MDPNL4	.....	B92	1817570	.....	NF3125LK KC5025	.....	C173
1804265	SPHX1205ZCEJGP KC520M	.....	S65	1808208	.....	A24MDPNR4	.....	B92	1817571	.....	NF3125RK KC5025	.....	C173
1804638	NG2062L KC5010	.....	C170	1808212	.....	A32MCKNR4	.....	B70	1817572	.....	CNMG431FP KC5010	.....	B49
1804784	DFT05T308HP KMF	.....	J101	1808225	.....	A32MVUNL4	.....	B154	1817588	.....	NF3125LK KC5025	.....	C174
1804785	DFT06T308HP KMF	.....	J101	1808226	.....	A32MVUNR4	.....	B154	1817614	.....	CNMG432FP KC5010	.....	B49
1804790	DFT070408HP KMF	.....	J101	1808227	.....	A40VMCLNL5	.....	B71	1817616	.....	CNMG6331FP KC5010	.....	B80
1804791	DFT090508HP KMF	.....	J101	1808228	.....	A40VMCLNR5	.....	B71	1817617	.....	DNMG632FP KC5010	.....	B80
1804829	DFT05T308HP KC7140	.....	J101	1808229	.....	A40MVUNL4	.....	B154	1817618	.....	NG3189RK KC5025	.....	C163
1804830	DFT06T308HP KC7140	.....	J101	1808230	.....	A40MVUNR4	.....	B154	1817619	.....	NG3M100LK KC5025	.....	C163
1804832	DFT070408HP KC7140	.....	J101	1808338	.....	MSSNL165D	.....	B113	1817620	.....	NG3M100RK KC5025	.....	C162
1805013	DFT090508HP KC7140	.....	J101	1808339	.....	MSSNL205D	.....	B113	1817623	.....	NG3M120LK KC5025	.....	C163
1805715	80A06RP90BG15C2WUPM	.....	S122	1808341	.....	MSSNL854D	.....	B113	1817626	.....	NG3M120RK KC5025	.....	C162
1805716	100B08RP90BG15C2WUPM	.....	S122	1808384	.....	MSSNR165D	.....	B113	1817627	.....	NG3M150LK KC5025	.....	C163
1805720	63A04RP90BG15C4WUHPM	.....	S123	1808445	.....	MSSNR205D	.....	B113	1817629	.....	NG3M150RK KC5025	.....	C162
1805745	80A05RP90BG15C5WUHPM	.....	S123	1808448	.....	MSSNR854D	.....	B113	1817630	.....	NG3M175LK KC5025	.....	C163
1806435	DFR030204GD KC7140	.....	J97	1808452	.....	MTANLS123	.....	B133	1817631	.....	NG3M175RK KC5025	.....	C162
1806437	DFR040304GD KC7140	.....	J97	1808487	.....	NG2031RK KC5010	.....	C162	1817632	.....	NG3M200LK KC5025	.....	C163
1806465	125B08RP90BG15C2WUPM	.....	S122	1808488	.....	NG4189RK KC5010	.....	C163	1817633	.....	NG3M200RK KC5025	.....	C162
1806466	160B10RP90BG15C2WUPM	.....	S122	1808491	.....	NR3047LK KC5025	.....	C166	1817636	.....	NG3M220LK KC5025	.....	C164
1806847	125B08RP70SP15C2WUPM	.....	S70	1808493	.....	MTANLS163	.....	B133	1817637	.....	NG3M220RK KC5025	.....	C162
1806848	160B10RP70SP15C2WUPM	.....	S70	1808494	.....	MTANLS164	.....	B133	1817640	.....	NG3M225RK KC5010	.....	C162
1806927	360.650	.....	I25, I29	1808495	.....	MTANLS205	.....	B133	1817658	.....	NFD3125RK KC5025	.....	C174
1806928	360.651	.....	I25, I29	1808498	.....	MTANRS123	.....	B133	1817659	.....	NFD3125RK KC5025	.....	C174
1806929	360.652	.....	I25, I29	1808499	.....	MTANRS163	.....	B133	1817662	.....	NFD4189LK KC5025	.....	C174
1806930	360.653	.....	I25, I29	1808500	.....	MTANRS164	.....	B133	1817675	.....	NG3M250LK KC5025	.....	C164
1806943	360.654	.....	I25, I29	1808501	.....	MTANRS205	.....	B133	1817676	.....	NG3M250RK KC5025	.....	C162
1806945	360.655	.....	I25, I29	1808504	.....	MTENNS854	.....	B134	1817678	.....	NG3M275LK KC5025	.....	C164
1807220	COGT3251LF KC5410	.....	B189	1808506	.....	MTFNLS164	.....	B135	1817679	.....	NG3M275RK KC5010	.....	C162
1808097	H20MCFNR4	.....	B75	1808512	.....	MTFNRS164	.....	B135	1817680	.....	NG3M275RK KC5025	.....	C162
1808100	H24MCFNR4	.....	B75	1808515	.....	MTGNR165C	.....	B135	1817681	.....	NG3M300LK KC5010	.....	C164
1808102	H32MCFNR5	.....	B75	1808516	.....	MTJNL5246	.....	B137	1817682	.....	NG3M300LK KC5025	.....	C164
1808109	A16TMCFN4	.....	B69	1808518	.....	MTJNRS246	.....	B137	1817699	.....	NG1047L KC5025	.....	C170
1808110	A16MCFNR4	.....	B69	1808522	.....	MTJNRS864	.....	B137	1817700	.....	NG1062L KC5025	.....	C170
1808112	A20MCFNR4	.....	B69	1808531	.....	H40MCFNR6	.....	B75	1817702	.....	NG1094L KC5025	.....	C170
1808120	MCHNN164C	.....	B61	1808532	.....	SRACR164D	.....	B243	1817703	.....	NG3M300RK KC5010	.....	C162
1808121	MCHNN205D	.....	B61	1808533	.....	SRACL164D	.....	B243	1817704	.....	NG3M300RK KC5025	.....	C162
1808122	MCHNN246D	.....	B61	1808534	.....	SRACR204D	.....	B243	1817705	.....	NG3M320LK KC5025	.....	C164
1808134	MCKNL165D	.....	B62	1808535	.....	SRACL204D	.....	B243	1817706	.....	NG3M320RK KC5025	.....	C162
1808135	MCKNL205D	.....	B62	1808536	.....	SRACR163D	.....	B243	1817707	.....	NG3M325LK KC5025	.....	C164
1808138	MCKNR205D	.....	B62	1808538	.....	SRACR162D	.....	B243	1817708	.....	NG3M325RK KC5025	.....	C162
1808140	MCKNR246D	.....	B62	1808539	.....	SRACL162D	.....	B243	1817709	.....	NG3M350LK KC5025	.....	C164
1808143	MCLNL124A	.....	B63	1808540	.....	SRACR203D	.....	B243	1817710	.....	NG3M350RK KC5025	.....	C162
1808144	MCLNL166C	.....	B63	1808541	.....	SRACL203D	.....	B243	1817713	.....	NG2031LK KC5010	.....	C163
1808145	MCLNL245D	.....	B64	1808542	.....	SRACR202D	.....	B243	1817718	.....	NG2031LK KC5025	.....	C163
1808146	MCLNL248E	.....	B64	1808543	.....	SRACL202D	.....	B243	1817719	.....	NG2031RK KC5025	.....	C162
1808147	MCLNL326F	.....	B64	1808550	.....	MVJNL123A	.....	B152	1817720	.....	NG2041L KC5025	.....	C170
1808149	MCLNR124A	.....	B63	1808554	.....	MVWNN244E	.....	B153	1817721	.....	NG2041R KC5025	.....	C170
1808150	MCLNR166C	.....	B63	1808555	.....	MVUNR244D	.....	B153	1817722	.....	NG2041R KC5010	.....	C163
1808151	MCLNR245D	.....	B63	1808556	.....	MVUNR204D	.....	B153	1817740	.....	NG3M400RK KC5010	.....	C162
1808152	MCLNR248E	.....	B63	1808557	.....	MVUNL204D	.....	B153	1817741	.....	NG3M400RK KC5025	.....	C162
1808153	MCLNR326F	.....	B63	1808563	.....	MVJNR243D	.....	B152	1817866	.....	KSSISR197SE44345C3	.....	S39
1808156	MCMNN246D	.....	B64	1808583	.....	NGD3125RK KC5025	.....	C165	1817867	.....	KSSISR197SE44345M3	.....	S39
1808157	MCMNN246E	.....	B64	1809057	.....	HSK100AHTS40085M	.....	J92	1817868	.....	KSSISR248SE44345C4	.....	S39
1808160	MCRNL205D	.....	B65	1809059	.....	HSK100AHTS50090M	.....	J92	1817869	.....	KSSISR248SE44345M4	.....	S39
1808162	MCRNL246D	.....	B65	1810334	.....	DFR170R2WD32M	.....	J10	1817870	.....	KSSISR315SE44345C4	.....	S39
1808163	MCRNR205D	.....	B65	1810335	.....	DFR175R2WD32M	.....	J10	1817871	.....	KSSISR315SE44345M4	.....	S39
1808165	MCRNR246D	.....	B65	1810336	.....	DFR180R2WD32M	.....	J10	1817872	.....	KSSISR394SE44345C5	.....	S39
1808167	MDJNL124A	.....	B89	1810337	.....							



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1818456	NG2M170LK KC5025	C163	1819211	DNMG332FP KT315	B80	1832379	WNMG433MP KC5010	B159	1852181	CS412	B168-169, B386-387
1818457	NG2M170RK KC5010	C162	1819335	DNMG431FP KT315	B80	1833500	SPHX1205PCFRGNT1WB KB1340	S69	1852652	S432	B408
1818458	NR30311LK KC5010	C166	1819336	DNMG432FP KT315	B80	1833501	SPHX1205ZCERGNT1WB KB1340	S69	1852683	S435	B408
1818459	NR30311RK KC5025	C166	1819340	DNMG443FP KT315	B80	1833766	B411A06100 KF1	G94	1854201	CPMT18151LF KC5010	B207
1818460	NR30311RK KC5010	C166	1819354	TNMG331FP KT315	B123	1834274	R67FBHS06	K140	1854340	HTRS040R025M	J75
1818461	NG2M170RK KC5025	C162	1819355	TNMG332FP KT315	B123	1834295	SNMG433PW KT315	B102	1854342	HTRS046R028M	J75
1818462	NR30311RK KC5025	C166	1819357	VNMG331FP KT315	B146	1834819	170.294	H72, H81, H88	1854378	B514S08000 KC7030	J76
1818473	NR3047LK KC5010	C166	1819358	VNMG332FP KT315	B146	1836470	170.295	H88	1854379	B514S10000 KC7030	J76
1818474	NG2M175LK KC5025	C163	1819440	DNMG431FP KC5010	B80	1836471	170.296	H88	1854539	NG3M200RK KT315	C162
1818476	NG2M195LK KC5010	C163	1819441	DNMG432FP KC5010	B80	1841815	SPR51 KC5410	E35	1855476	NG302RK KT315	C162
1818478	NR3062LK KC5010	C166	1819451	SPHX1205PCTRGPB KTKP20	S68	1841355	VPRG334 KC5010	E38	1855479	NG2047RK KT315	C162
1818479	NG2M195RK KC5010	C162	1819494	DNMG441FP KC5010	B80	1841782	MS2038	V62	1855504	NG2062RK KT315	C162
1818480	NG2M195RK KC5025	C162	1819495	DNMG442FP KC5010	B80	1841815	S2043	S39	1855506	NG2094RK KT315	C162
1818481	NR3062LK KC5025	C166	1819500	TNMG331FP KC5010	B123	1841853	S2044	S39, U27	1855508	NG2155RK KT315	C162
1818482	NG2M200LK KC5010	C163	1819501	TNMG332FP KC5010	B123	1843874	SCLCL124B	B194	1855556	NG2M200RK KT315	C162
1818483	NG2M200LK KC5025	C163	1819502	TNMG333FP KC5010	B123	1843875	SCLCR124B	B194	1855576	NG3062RK KT315	C162
1818484	NG2M200RK KC5010	C162	1819513	VNMG331FP KC5010	B146	1843876	SCLCL164D	B194	1855577	NG3094LK KT315	C164
1818485	NG2M200RK KC5025	C162	1819514	VNMG332FP KC5010	B146	1843877	SCLCR164D	B194	1855578	NG3094RK KT315	C162
1818487	NG2M220RK KC5025	C162	1819515	VNMG331FP KC5010	B158	1843886	MCKN1246D	B62	1855910	SPHX1205ZCERGPB KCK15	S65
1818489	NG2M225LK KC5025	C163	1819516	VNMG332FP KC5010	B158	1843889	MVUM1244D	B153	1855964	VBM331LF KT315	B281
1818491	NG2M225RK KC5025	C162	1819517	VNMG431FP KC5010	B158	1843976	RCMT1204M KC5010	B240	1860701	190.458	J75
1818492	NG2M250LK KC5025	C163	1819518	VNMG432FP KC5010	B158	1845216	TCMT1215LF KC5010	B257	1860827	WNMG332MP KC5010	C170
1818493	NG2M250RK KC5025	C162	1819519	VNMG433FP KC5010	B158	1845218	CCMT432LF KC5010	B191	1861004	FAS120302GD KC7015	H42
1818494	NG2M275LK KC5010	C163	1819846	SPHX1205PCFRGN1WB KCK15	S69	1845219	TPMT1215LF KC5010	B268	1862656	S321	B409
1818497	NG2M275RK KC5025	C162	1819848	SPHX1205PCFRGN1WB KC725M	S69	1845227	CCMT3251LF KC5010	B191	1863297	MFTN1854D	B134
1818498	NG2M300LK KC5010	C163	1819849	SPHX1205PCFRGN1WB KC520M	S69	1845230	SCMT3251LF KC5010	B246	1863299	MVJNR123A	B152
1818503	NG3072LK KC5025	C163	1819850	SPHX1205PCFRGN1WB KTKP20	S69	1845775	470.243	S20, S24, S32	1863302	MVUNR204C	B153
1818504	NG3072RK KC5010	C162	1819852	SPHX1205PCFRGN1WB KY3500	S69	1845807	420.201	S17, S20, S24, S32, S45, S50, S121-122, T17	1863407	552.210	B384
1818505	NG3072RK KC5025	C162	1819853	SPHX1205ZCERGPB KTKP20	S65	1847935	CNGA433T0420FW KY3500	B313	1864501	VCMR331 KC5010	E37
1818506	NG3078LK KC5010	C163	1819858	SPHX1205ZCERGN1WB KCK15	S66	1848593	SPG060304RHP KC7140	J103	1864502	VCMR332 KC5010	E37
1818507	NG3078LK KC5025	C163	1819861	SPHX1205ZCERGN1WB KC520M	S66	1848597	SPGX070304RHP KC7140	J103	1864543	VCMR333 KC5025	E37
1818508	NG3078RK KC5010	C162	1819864	SPHX1205ZCERGN1WB KY3500	S66	1848601	SPPX097308RHP KC7140	J103	1864544	VCMR332 KC5025	E37
1818509	NG3078RK KC5025	C162	1824861	TCMT3252LF KC5010	B257	1848605	SPPX120408RHP KC7140	J103	1864562	VCMR331 KT315	E37
1818514	SPHX15T6ZCERGPB KCK15	S71	1824882	TCMT3251LF KC5010	B257	1848655	ICSN443 K9	B58-60	1864583	VCMR332 KT315	E37
1818721	SPHX15T6ZCERGPB KY3500	S71	1826709	S445	S5, S10, S14, S17, S20, S32, S45, S50, S56, S58, S64, S67, S121-123, T7, T33, T109, T113, V38, V47, V54	1849051	DPGR431 KC5010	E32	1864815	SNHX1102PZTNGP KC725M	U15
1818755	SPHX15T6ZCERGPB KCK15	S71	1829218	TNMG331FW KT315	B124	1849052	DPGR432 KC5010	E32	1864816	SNHX1113PZTNGP KC725M	U15
1818766	NG3094LK KC5010	C164	1829219	TNMG332FW KT315	B124	1849053	DPGR433 KC5010	E32	1864817	SNHX1203PZTNGP KC725M	U15
1818768	NG3094LK KC5025	C164	1829220	TNMG331FW KC5010	B124	1849054	NPR505 KC5010	E35	1864825	SNHX12L5PZTNGP KC725M	U15
1818769	NG3094RK KC5025	C162	1831439	841.142.200	K122-124	1849055	NPL505 KC5010	E35	1864829	SNHX1113PZFNGE KC510M	U14
1818824	NG3105R KC5025	C170	1831441	841.142.320	K122-123	1849056	NPR508 KC5010	E35	1864830	SNHX1203PZFNGE KC510M	U14
1818825	NG3110L KC5025	C171	1831442	841.142.420	K122-123	1849058	NPR51 KC5010	E35	1864831	SNHX12L5PZFNGE KC510M	U14
1818827	NR3078LK KC5010	C166	1831590	KMG3XMKZR5060Y	K92	1849059	NPL51 KC5010	E35	1865174	SPGF221 KC5010	B171
1818828	NR3078LK KC5025	C166	1831749	NG3062L KC5010	C170	1849060	NPR52 KC5010	E35	1865210	TPFG321 KC5010	B177
1818829	NR3078RK KC5010	C166	1832293	DNMG331FW KC5010	B51	1849243	NPL52 KC5010	E35	1865214	TPFG321 KC5010	B177
1818831	NR3094L KC5010	C172	1832294	CNMG431MP KC5010	B51	1849249	NPR131F KC5010	E34	1865218	TPFG322 KC5010	B177
1818833	NR3094L KC5025	C172	1832295	CNMG432MP KC5010	B51	1849250	NPL131F KC5010	E34	1865436	SPG321 KC5010	B171
1818834	NR3094R KC5010	C172	1832296	CNMG433MP KC5010	B51	1849251	NPR132F KC5010	E34	1865452	SPG322 KC5010	B171
1818835	NR3094R KC5025	C172	1832297	CNMG434MP KC5010	B51	1849252	NPL132F KC5010	E34	1865483	SPG421 KC5010	B171
1818836	NR4062LK KC5010	C166	1832298	CNMG435MP KC5010	B51	1849274	NPR51R KC5010	E33	1865484	SPG422 KC5010	B171
1818838	NR4062RK KC5010	C166	1832299	CNMG436MP KC5010	B51	1849275	NPR51L KC5010	E33	1865486	SPG423 KC5010	B171
1818840	NR4094LK KC5010	C166	1832300	CNMG437MP KC5010	B51	1849279	VBMR221 KC5010	E36	1865534	TPG321 KC5010	B177
1818841	NR4094LK KC5025	C166	1832301	CNMG438MP KC5010	B51	1849281	VPRG3305 KC5010	E38	1865535	TPG322 KC5010	B177
1818842	NR4094RK KC5010	C166	1832302	CNMG439MP KC5010	B51	1849301	VPRG331 KC5010	E38	1865536	TPG323 KC5010	B177
1818854	NR4125LK KC5010	C166	1832303	CNMG622MP KC5010	B51	1849302	VPRG332 KC5010	E38	1865537	TPG324 KC5010	B177
1818856	NR4125RK KC5010	C166	1832313	CNMG643MP KC5010	B51	1849323	VPRG333 KC5010	E38	1865538	TPG431 KC5010	B177
1818857	NR4125RK KC5025	C166	1832315	CNMG644MP KC5010	B51	1849846	NPR51L KT315	E33	1865539	TPG432 KC5010	B177
1818858	NRD3031L KC5010	C173	1832316	DNMG332MP KC5010	B81	1849866	NPR52R KT315	E33	1865540	TPG433 KC5010	B177
1818859	NRD3031L KC5025	C173	1832318	DNMG431MP KC5010	B81	1849869	NPR508 KT315	E35	1865541	TPG434 KC5010	B177
1818860	NRD3031R KC5010	C173	1832319	DNMG432MP KC5010	B81	1849871	NPR51 KT315	E35	1865570	RCMK152 KC5010	E69
1818861	NRD3031R KC5025	C173	1832321	DNMG433MP KC5010	B81	1849874	NPR52 KT315	E35	1865571	RCMK235 KC5010	E69
1818862	NRD3062L KC5010	C173	1832322	DNMG441MP KC5010	B81	1849885	VBMR221 KT315	E36	1865953	RCMK35 KC5010	E69
1818863	NRD3062R KC5025	C173	1832323	DNMG442MP KC5010	B81	1849903	NPR52L KC5025	E33	1865954	RCMK46 KC5010	E69
1818864	NRD3062R KC5010	C173	1832324	DNMG443MP KC5010	B81	1849906	VBMR221 KC5025	E36	1865955	RCGX152HP KC5010	E69
1818865	NRD3062R KC5025	C173	1832325	SNMG432MP KC5010	B102	1849908	VPRG3305 KC5025	E38	1865956	RCGX23HP KC5010	E69
1818866	NRD4062L KC5025	C173	1832327	SNMG433MP KC5010	B102	1849909	VPRG331 KC5025	E38	1865959	RCGX23 KC5010	B166
1818874	NUJ3094L KC5025	C175	1832330	SNMG434MP KC5010	B102	1849910	VPRG332 KC5025	E38	1865960	RCGX35 KC5010	B166
1818875	NUJ3094R KC5025	C175	1832353	SNMG644MP KC5010	B102	1849983	NPR505 KC5025	E35	1865961	RCGX45 KC5010	B166
1818876	NUJ3125L KC5025	C175	1832354	TNMG331MP KC5010	B124	1849998	NPR51 KC5025	E35	1865962	RCGX35 KC5010	B167
1818878	NUJ3156L KC5025	C175	1832355	TNMG332MP KC5010	B124	1850011	NPL51 KC5025	E35	1865963	RCMX152HP KC5010	B240
1818891	NG3156LK KC5010	C164	1832356	TNMG333MP KC5010	B124	1850012	NPR52 KC5025	E35	1866000	RCMT0803MO KC5010	B240
1818892	NG3156LK KC5025	C164	1832357	TNMG432MP KC5010	B124	1850067	NPR51R KC5025	E33	1866001	RCMT10T3MO KC5010	B240
1818913	NG3156RK KC5010	C162	1832358	TNMG433MP KC5010	B124	1850070	NPR51R KC5025	E33	1866014	RCMT1605MO KC5010	B240
1818914	NG3156RK KC5025	C162	1832359	TNMG434MP KC5010	B124	1851263	CNGA432T0420FW KY3500	B313	1866015	RCMT2006MO KC5010	B240
1818916	NG3178R KC5025	C170	1832360	VNMG331MP KC5010	B147	1851264	CNGA434T0420FW KY3500	B313	1866017	RCMT215 KC5010	B240
1818917	NG3185L KC5025	C171	1832361	VNMG332MP KC5010	B147	1851265	WVNG432T0420FW KY3500	B315			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1866358	.....SNMX554T0820 KY3500	B319	1867042	.....TPGT3251HP KC5025	B267	1870337	.....DPMT3251LF KT315	B232	1873486	.....KIPR125RP43540	V156
1866564	.....COGT2150XLF KC5025	B189	1867046	.....VBGT331HP KC5025	B280	1870339	.....SPMT3251LF KT315	B252	1874234	.....SPHX1205PCTLPK KY3500	S68
1866565	.....COGT2150LF KC5025	B189	1867049	.....VBGT332HP KC5025	B280	1870342	.....TPMT18151LF KT315	B268	1874862	.....DCLNR164DKC3	B59
1866566	.....COGT21505LF KC5025	B189	1867050	.....VBGT221HP KC5025	B280	1870365	.....TPMT2152LF KT315	B268	1875133	.....DCLNL164DKC3	B59
1866567	.....COGT2151LF KC5025	B189	1867051	.....VBGT2205HP KC5025	B280	1870366	.....TPMT3251LF KT315	B268	1875134	.....DCLNR164DKC3	B59
1866569	.....COGT325XOLF KC5025	B189	1867060	.....VBGT221HP KC5010	B280	1870367	.....TPMT3252LF KT315	B268	1875135	.....DCLNL164DKC3	B59
1866570	.....COGT3250LF KC5025	B189	1867061	.....VBGT2205HP KC5010	B280	1870619	.....TNGG3305LF KC5010	B121	1875136	.....DDJNL164DKC3	B87
1866571	.....COGT32505LF KC5025	B189	1867212	.....SSPO25016M.....	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B113, B131, B138, B150-151, B154, B163	1870983	.....CCMT2152LF KC5010	B191	1875137	.....DCLNR124BK3	B59
1866572	.....COGT3251LF KC5025	B189	1867278	.....KMSP415IP.....	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B131, B150-151, B163	1870984	.....CCMT32505LF KC5010	B191	1875138	.....DWLNR164DKC3	B163
1866593	.....COGT3252LF KC5025	B189	1867314	.....KMSP515IP.....	B59-60, B67-68, B87	1870986	.....CCMT3252LF KC5010	B191	1875139	.....DDJNL164DKC3	B87
1866616	.....COGT3252LF K313	B189	1867620	.....CNGP432 KC5010	B46	1870987	.....CCMT431LF KC5010	B191	1875140	.....DDJNL164DKC3	B87
1866617	.....CPGT2150LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1870990	.....CPMT181505LF KC5010	B207	1875141	.....DCLNR204DKC3	B59
1866618	.....CPGT21505LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1870992	.....CPMT21505LF KC5010	B207	1875142	.....DCLNL164DKC3	B59
1866619	.....CPGT2151LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1870998	.....DPMT32505LF KC5010	B232	1875143	.....DWLNL164DKC3	B163
1866620	.....CPGT2152LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1870999	.....DPMT3251LF KC5010	B232	1875144	.....DWLNR164DKC3	B163
1866621	.....CPGT32505LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1871000	.....DPMT3252LF KC5010	B232	1875145	.....DWLNR164DKC3	B59
1866622	.....CPGT3251LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1871002	.....SCMT3252LF KC5010	B246	1875146	.....DCLNL204DKC3	B59
1866623	.....CPGT3252LF KC5025	B206	1867620	.....CNGP432 KC5010	B46	1871013	.....CPMT2151LF KC5010	B207	1875147	.....DCLNL165DKC4	B59
1866625	.....CPGT2150LF KC5410	B206	1867620	.....CNGP432 KC5010	B46	1871014	.....CPMT2152LF KC5010	B207	1875148	.....DDJNL164DKC3	B87
1866638	.....TPGT18151LF KC5025	B267	1867620	.....CNGP432 KC5010	B46	1871015	.....CPMT32505LF KC5010	B207	1875149	.....DDJNL164DKC3	B87
1866640	.....TPGT21505LF KC5025	B267	1867620	.....CNGP432 KC5010	B46	1871016	.....CPMT3251LF KC5010	B207	1875150	.....DCLNR205DKC4	B59
1866641	.....TPGT2151LF KC5025	B267	1867620	.....CNGP432 KC5010	B46	1871017	.....CPMT3252LF KC5010	B207	1875151	.....DDJNL204DKC3	B87
1866643	.....DCGT2150XLF KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871019	.....DCMT3253LF KC5010	B225	1875152	.....DTGNR164DKC3	B131
1866646	.....DCGT2150LF KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871020	.....DCMT431LF KC5010	B225	1875153	.....DCLNL205DKC4	B59
1866647	.....DCGT3250LF KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871021	.....DCMT432LF KC5010	B225	1875155	.....DWLNL164DKC3	B163
1866648	.....DCGT3250XLF KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871022	.....DPMT21505LF KC5010	B232	1875156	.....DCRNR164DKC3	B60
1866650	.....DCGT2150LF KC5010	B224	1867620	.....CNGP432 KC5010	B46	1871033	.....DPMT2151LF KC5010	B232	1875157	.....DCLNR244DKC3	B59
1866651	.....DCGT3250LF KC5010	B224	1867620	.....CNGP432 KC5010	B46	1871035	.....VBMT222LF KC5010	B281	1875159	.....DCLNL164DKC3	B60
1866652	.....DCGT432LF KC5010	B224	1867620	.....CNGP432 KC5010	B46	1871036	.....VBMT3305LF KC5010	B281	1875160	.....DCLNL244DKC3	B59
1866653	.....TPGT3251LF KC5025	B267	1867620	.....CNGP432 KC5010	B46	1871038	.....WPM2151LF KC5010	B288	1875161	.....DCLNR165DKC4	B59
1866655	.....TPGT2151LF KC5010	B267	1867620	.....CNGP432 KC5010	B46	1871039	.....WPM2152LF KC5010	B288	1875163	.....DSSNR164DKC3	B110
1866661	.....TPGT2151LF KC5410	B267	1867620	.....CNGP432 KC5010	B46	1871040	.....WPM2152LF KC5010	B288	1875164	.....DCRNR244DKC3	B60
1866665	.....DPGT2151LF KC5025	B231	1867620	.....CNGP432 KC5010	B46	1871041	.....WPM2151LF KC5010	B288	1875165	.....DCRNR204DKC3	B60
1866667	.....DPGT32505LF KC5025	B231	1867620	.....CNGP432 KC5010	B46	1871042	.....WPM2152LF KC5010	B288	1875166	.....DWLNR204DKC3	B163
1866668	.....DPGT3251LF KC5025	B231	1867620	.....CNGP432 KC5010	B46	1871083	.....SCMT431LF KC5010	B246	1875167	.....DDJNL165DKC4	B87
1866674	.....TPGT3252LF KC5410	B267	1867620	.....CNGP432 KC5010	B46	1871084	.....SCMT432LF KC5010	B246	1875168	.....DSRNL164DKC3	B110
1866675	.....VBGT220XLF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871085	.....SCMT433LF KC5010	B246	1875169	.....DCRNL204DKC3	B60
1866676	.....VBGT220LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871086	.....SPMT3251LF KC5010	B252	1875170	.....DDJNL165DKC4	B87
1866677	.....VBGT2205LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871087	.....SPMT3252LF KC5010	B252	1875172	.....DWLNL204DKC3	B163
1866678	.....VBGT221LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871088	.....TCMT21505LF KC5010	B257	1875173	.....DCLNL165DKC4	B59
1866679	.....VBGT330XLF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871090	.....TCMT2152LF KC5010	B257	1875177	.....DDJNL205DKC4	B87
1866681	.....VBGT330LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871091	.....TCMT32505LF KC5010	B257	1875178	.....DWLNR245DKC4	B87
1866682	.....VBGT3305LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871104	.....TCMT3253LF KC5010	B257	1875179	.....DSSNL164DKC3	B110
1866683	.....VBGT331LF KC5025	B280	1867620	.....CNGP432 KC5010	B46	1871105	.....TCMT432LF KC5010	B257	1875180	.....DCRNR245DKC4	B60
1866685	.....VBGT2205LF KC5010	B280	1867620	.....CNGP432 KC5010	B46	1871106	.....TPMT181505LF KC5010	B268	1875184	.....DCLNR124BK3	B110
1866686	.....VBGT221LF KC5010	B280	1867620	.....CNGP432 KC5010	B46	1871107	.....TPMT18151LF KC5010	B268	1875186	.....DDPNR164DKC3	B88
1866754	.....VBGT330LF KC5010	B280	1867620	.....CNGP432 KC5010	B46	1871108	.....TPMT21505LF KC5010	B268	1876838	.....TNGG333FP KT315	B124
1866756	.....VBGT3305LF KC5010	B280	1867620	.....CNGP432 KC5010	B46	1871110	.....TPMT2152LF KC5010	B268	1876849	.....TNGG431FP KC5010	B123
1866757	.....VBGT220LF KC5410	B280	1867620	.....CNGP432 KC5010	B46	1871111	.....TPMT3251LF KC5010	B268	1877480	.....DNG451T0820 KY1615	B333
1866761	.....VBGT3305LF KC5410	B280	1867620	.....CNGP432 KC5010	B46	1871112	.....TPMT3252LF KC5010	B268	1877482	.....DNG452T0820 KY1615	B333
1866762	.....VBGT331LF KC5410	B280	1867620	.....CNGP432 KC5010	B46	1871113	.....TPMT432LF KC5010	B268	1877594	.....DNG453T0820 KY1615	B333
1866781	.....DPGT2150LF KC5010	B231	1867620	.....CNGP432 KC5010	B46	1871163	.....CCMT2151UF KC5010	B192	1877595	.....DNG454T0820 KY1615	B333
1866782	.....SPGT3251LF KC5025	B252	1867620	.....CNGP432 KC5010	B46	1871164	.....CCMT32505UF KC5010	B192	1877596	.....ENG451T0820 KY1615	B335
1866793	.....SPGT3252LF KC5025	B252	1867620	.....CNGP432 KC5010	B46	1871165	.....CCMT3251UF KC5010	B192	1877597	.....ENG452T0820 KY1615	B335
1866795	.....SPGT3251LF KC5010	B252	1867620	.....CNGP432 KC5010	B46	1871166	.....CCMT3252UF KC5010	B192	1877598	.....ENG453T0820 KY1615	B335
1866796	.....SPGT3250LF KC5010	B252	1867620	.....CNGP432 KC5010	B46	1871167	.....CPMT2151UF KC5010	B208	1877599	.....ENG454T0820 KY1615	B335
1866801	.....TCGT2150LF KC5025	B256	1867620	.....CNGP432 KC5010	B46	1871168	.....CPMT3251UF KC5010	B208	1877601	.....RNG45T0820 KY1615	B336
1866802	.....TCGT2151LF KC5025	B256	1867620	.....CNGP432 KC5010	B46	1871169	.....DCMT2151UF KC5010	B226	1877602	.....RNG45T4015 KY1615	B336
1866805	.....COGT21505HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871170	.....DCMT32505UF KC5010	B226	1877603	.....RNG45T8015 KY1615	B336
1866956	.....COGT2151HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871171	.....DCMT3251UF KC5010	B226	1881130	.....CNGA43T0820 KY1615	B329
1866959	.....COGT32505HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871172	.....DCMT3252UF KC5010	B226	1881131	.....CNGA432T0220 KY1615	B329
1866960	.....COGT3251HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871193	.....DPMT2151UF KC5010	B233	1881132	.....CNGA432T0820 KY1615	B313, B329
1866961	.....COGT3252HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871196	.....SCMT3252UF KC5010	B247	1881199	.....NPR5M02 KC5010	E36
1866994	.....COGT431HP KC5025	B189	1867620	.....CNGP432 KC5010	B46	1871197	.....SPMT3251UF KC5010	B253	1881200	.....NPR5M05 KC5010	E36
1866996	.....CPGT21505HP KC5025	B205	1867620	.....CNGP432 KC5010	B46	1871198	.....TCMT2151UF KC5010	B258	1881201	.....NPL5M02 KC5010	E36
1866997	.....CPGT2151HP KC5025	B205	1867620	.....CNGP432 KC5010	B46	1871199	.....TCMT2152UF KC5010	B258	1881202	.....NPL5M05 KC5010	E36
1867001	.....CPGT32505HP KC5025	B205	1867620	.....CNGP432 KC5010	B46	1871200	.....TCMT3252UF KC5010	B258	1881203	.....NPR13M05F KC5010	E35
1867002	.....CPGT3251HP KC5025	B205	1867620	.....CNGP432 KC5010	B46	1871202	.....TPMT2151UF KC5010	B269	1881243	.....CNGA43T0820 KY1615	B313, B329
1867004	.....DCGT21505HP KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871286	.....TNGG331LF KC5010	B121	1881244	.....CNGA434T0820 KY1615	B313, B329
1867006	.....DCGT2151HP KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871287	.....TNGG332LF KC5010	B121	1881246	.....CNGA543T0820 KY1615	B313, B329
1867007	.....DCGT2152HP KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871288	.....VNGG3305LF KC5010	B144	1881249	.....CNGA644T0820 KY1615	B313, B329
1867009	.....DCGT32505HP KC5025	B224	1867620	.....CNGP432 KC5010	B46	1871289	.....V				



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1881278	.....DNGA431T0820 KY1615	.....B333	1884632	.....470.242	.....S20, S24, S32	1913511	.....B966A15000 KC7315	.....G132	1913594	.....B977A11200 KC7315	.....G137
1881279	.....DNGA432T0820 KY1615	.....B333	1886490	.....SDJCLF083D	.....B228	1913512	.....B966A15500 KC7315	.....G132	1913595	.....B977A11500 KC7315	.....G137
1881280	.....DNGA433T0820 KY1615	.....B333	1887616	.....NG3094L KC5010	.....C170	1913513	.....B966A15700 KC7315	.....G132	1913596	.....B977A11700 KC7315	.....G137
1881281	.....DNGA434T0820 KY1615	.....B333	1893419	.....DTJNR164DKC3	.....B131	1913514	.....B966A16000 KC7315	.....G132	1913597	.....B977A12000 KC7315	.....G137
1881282	.....DNGA441T0820 KY1615	.....B333	1893421	.....DDQNR164CKC3	.....B88	1913515	.....B976A04000 KC7315	.....G134	1913598	.....B977A12500 KC7315	.....G137
1881283	.....DNGA442T0820 KY1615	.....B333	1893422	.....DDQNL164CKC3	.....B88	1913516	.....B976A04200 KC7315	.....G134	1913599	.....B977A12700 KC7315	.....G137
1881285	.....DNGA443T0820 KY1615	.....B333	1895492	.....SPHX1205PCFLGN1WB KCK15	.....S69	1913517	.....B976A04500 KC7315	.....G135	1913600	.....B977A13000 KC7315	.....G137
1881297	.....DNGX452T0820 KY1615	.....B317, B335	1897657	.....TPGX0902ZPRGD KC7015	.....H85	1913518	.....B976A04600 KC7315	.....G135	1913601	.....B977A13500 KC7315	.....G137
1881305	.....RCGW1204M0T01020 KY1615	.....B336	1897658	.....TPGX1102ZPRGD KC7015	.....H85	1913519	.....B976A04800 KC7315	.....G135	1913602	.....B977A13700 KC7315	.....G137
1881310	.....RCGV35T0420 KY1615	.....B335	1897659	.....TPGX1303ZPRGD KC7015	.....H85	1913520	.....B976A05000 KC7315	.....G135	1913603	.....B977A14000 KC7315	.....G137
1881311	.....RCGV35T0820 KY1615	.....B335	1897660	.....TPGX1603ZPRGD KC7015	.....H85	1913521	.....B976A05500 KC7315	.....G135	1913604	.....B977A14500 KC7315	.....G137
1881313	.....RCGV35T4015 KY1615	.....B335	1897830	.....BGHX15L508PCFRGG KC510M	.....S125	1913522	.....B976A05700 KC7315	.....G135	1913605	.....B977A14700 KC7315	.....G137
1881314	.....RCGV35T8015 KY1615	.....B335	1903553	.....KGMRSR2450N	.....C143	1913523	.....B976A05800 KC7315	.....G135	1913606	.....B977A15000 KC7315	.....G137
1881316	.....RCGV45T0820 KY1615	.....B335	1906695	.....CNMG643RP KC5010	.....B53	1913524	.....B976A06000 KC7315	.....G135	1913607	.....B977A15500 KC7315	.....G137
1881318	.....RCGV45T4015 KY1615	.....B335	1906272	.....MCFNL12CA4	.....B72	1913525	.....B976A06500 KC7315	.....G135	1913608	.....B977A15700 KC7315	.....G137
1881319	.....RCGV45T8015 KY1615	.....B335	1907344	.....KGMER2450N	.....C145	1913526	.....B976A06800 KC7315	.....G135	1913609	.....B977A16000 KC7315	.....G138
1881320	.....RCGX151000T20015 KY1615	.....B335	1908809	.....DCLNR245DKC4	.....B59	1913527	.....B976A07000 KC7315	.....G135	1913610	.....B977A16500 KC7315	.....G138
1881321	.....RCGX191000T20015 KY1615	.....B335	1908811	.....DCLNL245DKC4	.....B59	1913528	.....B976A07400 KC7315	.....G136	1913611	.....B977A17000 KC7315	.....G138
1881322	.....RCGV88T8015 KY1615	.....B335	1908834	.....DSDNN164KC3	.....B109	1913529	.....B976A07500 KC7315	.....G136	1913612	.....B977A17500 KC7315	.....G138
1881325	.....RNGA32T0820 KY1615	.....B336	1908835	.....DSDNN204KC3	.....B109	1913530	.....B976A07800 KC7315	.....G136	1913613	.....B977A18000 KC7315	.....G138
1881326	.....RNGA43T0820 KY1615	.....B336	1908976	.....SRCCR122B	.....B243	1913531	.....B976A08000 KC7315	.....G136	1913614	.....B977A18500 KC7315	.....G138
1881327	.....RNG32T0820 KY1615	.....B336	1908978	.....SRCCR162D	.....B243	1913532	.....B976A08500 KC7315	.....G136	1913615	.....B977A19000 KC7315	.....G138
1881328	.....RNG33T0820 KY1615	.....B336	1908980	.....SRCLL162D	.....B243	1913533	.....B976A08800 KC7315	.....G136	1913616	.....B977A19500 KC7315	.....G138
1881329	.....RNG42T0820 KY1615	.....B336	1908981	.....SRCCR123B	.....B243	1913534	.....B976A09000 KC7315	.....G136	1913617	.....B977A20000 KC7315	.....G138
1881330	.....RNG43T0820 KY1615	.....B336	1908994	.....SRCCR163D	.....B243	1913535	.....B976A09300 KC7315	.....G136	1913618	.....B978A05000 KC7315	.....G139
1881332	.....RNG65T0820 KY1615	.....B336	1908995	.....SRCLL163D	.....B243	1913536	.....B976A09500 KC7315	.....G136	1913619	.....B978A05500 KC7315	.....G139
1881347	.....SNGA432T0820 KY1615	.....B337	1908996	.....SRCCR203D	.....B243	1913537	.....B976A09800 KC7315	.....G136	1913620	.....B978A06000 KC7315	.....G139
1881348	.....SNGA433T0820 KY1615	.....B337	1909002	.....SRCLL203D	.....B243	1913538	.....B976A10000 KC7315	.....G136	1913621	.....B978A06500 KC7315	.....G139
1881351	.....SNG322T0820 KY1615	.....B337	1909004	.....KGMSL2450N	.....C143	1913539	.....B976A10200 KC7315	.....G136	1913622	.....B978A06800 KC7315	.....G139
1881355	.....SNG432T0220 KY1615	.....B337	1909005	.....SRACR244D	.....B243	1913540	.....B976A10500 KC7315	.....G136	1913623	.....B978A07000 KC7315	.....G139
1881356	.....SNG432T0820 KY1615	.....B337	1909006	.....SRACL244D	.....B243	1913541	.....B976A10700 KC7315	.....G137	1913624	.....B978A07500 KC7315	.....G140
1881357	.....SNG433T0820 KY1615	.....B337	1909159	.....D64TTB56	.....B409	1913542	.....B976A11000 KC7315	.....G137	1913625	.....B978A07800 KC7315	.....G140
1881358	.....SNG434T0820 KY1615	.....B337	1909790	.....CPGT2152LF KC5010	.....B206	1913543	.....B976A11200 KC7315	.....G137	1913626	.....B978A08000 KC7315	.....G140
1881361	.....SNG451T0820 KY1615	.....B337	1909791	.....TPGT21505LF KC5010	.....B267	1913544	.....B976A11500 KC7315	.....G137	1913627	.....B978A08500 KC7315	.....G140
1881362	.....SNG452T0820 KY1615	.....B337	1910043	.....VBGT2205HP KC5410	.....B280	1913545	.....B976A11700 KC7315	.....G137	1913628	.....B978A09000 KC7315	.....G140
1881364	.....SNG453T0820 KY1615	.....B337	1910044	.....VBGT221HP KC5410	.....B280	1913546	.....B976A12000 KC7315	.....G137	1913629	.....B978A09500 KC7315	.....G140
1881365	.....SNG454T0820 KY1615	.....B337	1910215	.....CNMG643RP KC5010	.....B53	1913547	.....B976A12500 KC7315	.....G137	1913630	.....B978A10000 KC7315	.....G140
1881366	.....SNG455T0820 KY1615	.....B337	1912477	.....STN1612UNI KC635M	.....W44	1913548	.....B976A12700 KC7315	.....G137	1913631	.....B978A10200 KC7315	.....G140
1881367	.....SNG455T4015 KY1615	.....B337	1913052	.....B966A03000 KC7315	.....G130	1913549	.....B976A13000 KC7315	.....G137	1913632	.....B978A10500 KC7315	.....G140
1881368	.....SNG455T8015 KY1615	.....B337	1913458	.....B966A03500 KC7315	.....G130	1913550	.....B976A13500 KC7315	.....G137	1913633	.....B978A11000 KC7315	.....G140
1881371	.....SNG554T0820 KY1615	.....B337	1913459	.....B966A03700 KC7315	.....G130	1913551	.....B976A13700 KC7315	.....G137	1913634	.....B978A11500 KC7315	.....G140
1881396	.....SNGX453T0820 KY1615	.....B338	1913460	.....B966A03800 KC7315	.....G130	1913552	.....B976A14000 KC7315	.....G137	1913635	.....B978A12000 KC7315	.....G140
1881402	.....SPG322T0420 KY1615	.....B338	1913461	.....B966A04000 KC7315	.....G130	1913553	.....B976A14500 KC7315	.....G137	1913636	.....B978A12500 KC7315	.....G140
1881405	.....SPG422T0420 KY1615	.....B338	1913462	.....B966A04200 KC7315	.....G130	1913554	.....B976A14700 KC7315	.....G137	1913637	.....B978A13000 KC7315	.....G140
1881413	.....TNGA332T0820 KY1615	.....B339	1913473	.....B966A04500 KC7315	.....G130	1913555	.....B976A15000 KC7315	.....G137	1913638	.....B978A13500 KC7315	.....G140
1881414	.....TNGA333T0820 KY1615	.....B339	1913474	.....B966A04600 KC7315	.....G130	1913556	.....B976A15500 KC7315	.....G137	1913639	.....B978A14000 KC7315	.....G140
1881416	.....TNGA432T0820 KY1615	.....B339	1913475	.....B966A04800 KC7315	.....G130	1913557	.....B976A16000 KC7315	.....G138	1913640	.....B978A14500 KC7315	.....G141
1881417	.....TNGA433T0820 KY1615	.....B339	1913476	.....B966A05000 KC7315	.....G130	1913558	.....B976A16500 KC7315	.....G138	1913641	.....B978A15000 KC7315	.....G141
1881422	.....TNG222T0820 KY1615	.....B339	1913477	.....B966A05500 KC7315	.....G130	1913559	.....B976A17000 KC7315	.....G138	1913642	.....B978A15500 KC7315	.....G141
1881423	.....TNG331T0820 KY1615	.....B339	1913478	.....B966A05700 KC7315	.....G130	1913560	.....B976A17500 KC7315	.....G138	1913643	.....B978A16000 KC7315	.....G141
1881424	.....TNG332T0820 KY1615	.....B319, B339	1913479	.....B966A05800 KC7315	.....G130	1913561	.....B976A18000 KC7315	.....G138	1913644	.....B978A16500 KC7315	.....G141
1881425	.....TNG333T0820 KY1615	.....B339	1913480	.....B966A06000 KC7315	.....G130	1913562	.....B976A18500 KC7315	.....G138	1913645	.....B978A17000 KC7315	.....G141
1881426	.....TNG334T0820 KY1615	.....B339	1913481	.....B966A06500 KC7315	.....G131	1913563	.....B976A18800 KC7315	.....G138	1913646	.....B978A17500 KC7315	.....G141
1881427	.....TNG352T0820 KY1615	.....B339	1913482	.....B966A06800 KC7315	.....G131	1913564	.....B976A19000 KC7315	.....G138	1913647	.....B978A18000 KC7315	.....G141
1881428	.....TNG353T0820 KY1615	.....B339	1913483	.....B966A07000 KC7315	.....G131	1913565	.....B976A19500 KC7315	.....G138	1913648	.....B978A18500 KC7315	.....G141
1881430	.....TNG432T0820 KY1615	.....B339	1913484	.....B966A07400 KC7315	.....G131	1913566	.....B976A20000 KC7315	.....G138	1913649	.....B978A19000 KC7315	.....G141
1881437	.....TPG221T0420 KY1615	.....B340	1913485	.....B966A07500 KC7315	.....G131	1913567	.....B977A04000 KC7315	.....G134	1913650	.....B978A19500 KC7315	.....G141
1881438	.....TPG222T0420 KY1615	.....B340	1913486	.....B966A07800 KC7315	.....G131	1913568	.....B977A04200 KC7315	.....G134	1913651	.....B978A20000 KC7315	.....G141
1881439	.....TPG223T0420 KY1615	.....B340	1913487	.....B966A08000 KC7315	.....G131	1913569	.....B977A04500 KC7315	.....G134	1914363	.....NG4250L KC5025	.....C171
1881440	.....TPG321T0420 KY1615	.....B340	1913488	.....B966A08500 KC7315	.....G131	1913570	.....B977A04600 KC7315	.....G135	1914364	.....NG4250R KC5025	.....C170
1881441	.....TPG322T0420 KY1615	.....B340	1913489	.....B966A08800 KC7315	.....G131	1913571	.....B977A04800 KC7315	.....G135	1915367	.....881.252.320	.....K137-139
1881442	.....TPG323T0420 KY1615	.....B340	1913490	.....B966A09000 KC7315	.....G131	1913572	.....B977A05000 KC7315	.....G135	1915629	.....MS2089	.....C132-133
1881447	.....TPU221T0220 KY1615	.....B341	1913491	.....B966A09300 KC7315	.....G131	1913573	.....B977A05500 KC7315	.....G135	1916212	.....LNEU1245R04SGP KC725M	.....U20
1881448	.....TPU222T0220 KY1615	.....B341	1913492	.....B966A09500 KC7315	.....G131	1913574	.....B977A05800 KC7315	.....G135	1916215	.....LNEU1245R08SGP KC725M	.....U20
1881449	.....TPU321T0220 KY1615	.....B341	1913493	.....B966A09800 KC7315	.....G131	1913575	.....B977A06000 KC7315	.....G135			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)		
1923834	A4R0500M05P00GMP	KC5025	1937136	SSF150HTS130664	J89	1940967	DNMG434RP	KC5010	B84	1952746	A4G0305M03U04GMP	KC5010	C105
1923835	A4G0500M05P04GMP	KC5010	1937137	SSF150HTS131114	J89	1940968	DNMG442RP	KC5010	B84	1952747	A4G0305M03U04GMP	KC5025	C105
1923836	A4G0505M05U04GMN	KC5025	1937138	SSF150HTS131764	J89	1940971	SNMG432RP	KC5010	B105	1952748	A4G0405M04U04GMP	KT315	C105
1923837	A4G0505M05U08GMN	KC5025	1937503	CDHB120601	KC5010	1940972	SNMG433RP	KC5010	B105	1952749	A4G0405M04U04GMP	KC5010	C105
1923838	A4G0505M05U04GMP	KC5025	1937504	CDHB120601	KC5025	1940975	SNMG643RP	KC5010	B105	1952750	A4G0405M04U04GMP	KC5025	C105
1923839	A4G0505M05U08GMP	KC5025	1937506	CDHB12061	KC5010	1940977	TNMG332RP	KC5010	B127	1952751	A4G0405M04U08GMP	KT315	C105
1923840	A4G0500M05P08GMP	KC5010	1937507	CDHB12061	KC5025	1940979	TNMG432RP	KC5010	B127	1952752	A4G0405M04U08GMP	KC5010	C105
1924131	HPFSS125S3025	KC635M	1937508	CDHB12061	KT315	1940984	VNMG332RP	KC5010	B148	1952753	A4G0405M04U08GMP	KC5025	C105
1924283	HPFSS188S3031	KC635M	1937509	CDHB120605	KC5010	1940986	VNMG432RP	KC5010	B161	1952755	A4G0505M05U04GMP	KC5010	C105
1924285	HPFSS250S3038	KC635M	1937510	CDHB120605	KC5025	1940987	VNMG433RP	KC5010	B161	1952758	A4G0505M05U08GMP	KC5010	C105
1924288	HPFSS312S3081	KC635M	1937511	CDHB120605	KT315	1941189	B977A12800	KT315	G137	1952760	A4G0300M03P02GMP	KC5010	C105
1924289	HPFSS375S3050	KC635M	1937512	CDHB120605	KC5010	1941190	B977A15800	KT315	G138	1952762	A4G0300M03P04GMP	KC5010	C105
1924290	HPFSS375S3088	KC635M	1937513	CDHB120605R	KC5010	1942322	TNMG43200	KT315	J75	1952763	A4G0400M04P02GMP	KC5025	C105
1924291	HPFSS500S3063	KC635M	1937514	CDHB120605L	KC5025	1942327	HTSR049R028M	J75	J75	1952764	A4G0400M04P02GMP	KC5010	C105
1924292	HPFSS500S3125	KC635M	1937515	CDHB120605R	KC5025	1942328	HTSR052R028M	J75	J75	1952765	A4G0400M04P02GMP	KC5025	C105
1924576	HPFT250S6075	KC635M	1937516	CDHB120605L	KT315	1942450	B978A43200	KT315	G140	1952766	A4G0400M04P02GMP	KC5010	C105
1924577	HPFT312S6081	KC635M	1937517	CDHB120605R	KT315	1942715	193.397	J75	J75	1952767	A4G0400M04P04GMP	KC5025	C105
1924578	HPFT375S6088	KC635M	1937518	CDHB12061L	KC5010	1949633	A4SMR1616K0314	C124	C124	1952768	A4G0400M04P08GMP	KC5010	C105
1924579	HPFT500S6100	KC635M	1937519	CDHB12061R	KC5010	1949634	A4SML1616K0314	C125	C125	1952769	A4G0505M05U08GMP	KC5025	C105
1924580	HPFT500S6200	KC635M	1937520	CDHB12061L	KC5025	1949635	A4SML2020K0314	C124	C124	1952771	A4G0500M05P04GMP	KC5025	C105
1924581	HPFT625S6125	KC635M	1937520	GPCD505	KC5025	1949636	A4SML2020K0314	C125	C125	1952773	A4G0500M05P08GMP	KC5025	C105
1924743	HPFT750S6150	KC635M	1937532	TDHB12807501	KC5010	1949637	A4SMR2525M0317	C124	C124	1952774	A4R0405M04P00GMP	KC5010	C107
1924744	HPFT750S6225	KC635M	1937534	TDHB12807501	KT315	1949638	A4SML2525M0317	C125	C125	1952775	A4R0405M04U00GMN	KC5025	C107
1924745	HPFT1000S6150	KC635M	1937535	TDHB12807505	KC5010	1949639	A4SMR2020K0414	C124	C124	1952776	A4R0505M05U00GMN	KC5010	C107
1924746	HPFT1000S6225	KC635M	1937536	TDHB12807505	KC5025	1949640	A4SML2020K0414	C125	C125	1952777	A4R0505M05U00GMP	KC5025	C107
1925120	HPRDM188S3019	KC633M	1937538	TDHB1280751	KC5010	1949641	A4SMR2525M0417	C124	C124	1952778	A4R0400M04P00GMP	KC5010	C106
1925121	HPRDM250S4025	KC633M	1937539	TDHB1280751	KC5025	1949642	A4SML2525M0417	C125	C125	1952779	A4R0400M04P00GMP	KC5025	C106
1925122	HPRDM312S4031	KC633M	1937540	TDHB1280751	KT315	1949643	A4SMR2525P0417	C124	C124	1952780	A4R0500M05P00GMP	KC5010	C106
1925133	HPRDM375S4038	KC633M	1937542	TDHB1280752	KC5025	1949644	A4SML3225P0417	C125	C125	1952847	A4C0305M00C0F02	KC5025	C112
1925134	HPRDM500S4050	KC633M	1937544	TDHB1280752	KC5025	1949645	A4SML3225P0519	C124	C124	1952848	A4C0305M00C0F02	KC5025	C113
1925138	HPBNDM1254031	KC633M	1937550	TDHB1280751L	KC5010	1949646	A4SML2020K0519	C125	C125	1952849	A4C0305M00C0F02	KC5025	C113
1925140	HPBNDM188S4019	KC633M	1937562	WPGT1510UF	KC5010	1949647	A4SMR2525M0520	C124	C124	1953085	A4G0300M03P02GMP	K313	C105
1925141	HPBNDM250S4025	KC633M	1937563	WPGT1510UF	KC5010	1949648	A4SML2525M0520	C125	C125	1953086	A4G0300M03P04GMP	K313	C105
1925143	HPBNDM375S4038	KC633M	1937571	TPCB2205	KC5010	1949649	A4SMR3225P0522	C124	C124	1953087	A4G0400M04P02GMP	K313	C105
1925144	HPBNDM500S4050	KC633M	1937580	TPCG2205L	KC5010	1949650	A4SML3225P0522	C125	C125	1953088	A4G0400M04P04GMP	K313	C105
1925145	HPBNDM625S4063	KC633M	1937586	TPCG221L	KC5010	1949651	A4ENW2020K0407	C131	C131	1953090	A4G0500M05P00GMP	K313	C105
1925146	HPBNDM750S4075	KC633M	1937592	TPCG222L	KC5010	1949652	A4ENW2525M0407	C131	C131	1953091	A4G0500M05P08GMP	K313	C105
1925147	HPFDM250S4038	KC633M	1937598	TPCH2205	KC5010	1949654	A4ENW2525M0509	C131	C131	1953092	A4R0400M04P00GMP	K313	C106
1925148	HPFDM250S4063	KC633M	1937601	TPCH221	KC5010	1949655	A20RA4EMR0307M	C133	C133	1953153	A4R0500M05P00GMP	K313	C106
1925149	HPFDM250S4088	KC633M	1937615	TD6P05	KC5010	1949656	A20RA4EML0307M	C133	C133	1953177	A4SMR100314	C122	C122
1925150	HPFDM312S4050	KC633M	1937618	TD6P1	KC5010	1949657	A25RA4EMR0310M	C133	C133	1953178	A4SML100314	C123	C123
1925151	HPFDM312S4075	KC633M	1937621	TD6P2	KC5010	1949658	A25RA4EML0310M	C133	C133	1953179	A4SMR120314	C122	C122
1925152	HPFDM312S4113	KC633M	1937645	TPGH322	KC5010	1949659	A32SA4EMR0312M	C133	C133	1953180	A4SML120314	C123	C123
1925153	HPFDM375S4056	KC633M	1937946	E04HSCFDL12	B200	1949660	A32SA4EML0312M	C133	C133	1953181	A4SMR160317	C122	C122
1925154	HPFDM375S5094	KC633M	1937955	E05MSCFDR12	B202	1949661	A20RA4EMR0407M	C133	C133	1953182	A4SML160317	C123	C123
1925155	HPFDM375S5131	KC633M	1937956	E05MSCDLR12	B202	1949662	A20RA4EML0407M	C133	C133	1953323	A4SMR120414	C122	C122
1925156	HPFDM500S4075	KC633M	1937957	E05MSCDLR12	B202	1949663	A25RA4EMR0410M	C133	C133	1953324	A4SML120414	C123	C123
1925157	HPFDM500S6125	KC633M	1937958	E03MSCDLR12A	B202	1949664	A25RA4EML0410M	C133	C133	1953325	A4SMR160417	C122	C122
1925158	HPFDM500S6175	KC633M	1937960	A2906XCLDR1205	B203	1949665	A32SA4EMR0412M	C133	C133	1953326	A4SML160417	C123	C123
1925159	HPFDM625S4094	KC633M	1937962	A2906XCLDR121	B203	1949666	A32SA4EML0412M	C133	C133	1953327	A4SMR120519	C122	C122
1925160	HPFDM625S6156	KC633M	1937966	A3206XCLDR1205	B203	1949667	A40TA4EMR0416M	C133	C133	1953328	A4SML120519	C123	C123
1925161	HPFDM625S6219	KC633M	1937970	A3206XCLDR121	B203	1949668	A40TA4EML0416M	C133	C133	1953329	A4SMR160520	C122	C122
1925162	HPFDM750S4113	KC633M	1937974	A0406XCLDR12075	B203	1949669	A32SA4EMR0516M	C133	C133	1953330	A4SMR160520	C123	C123
1925163	HPFDM750S6188	KC633M	1937976	A0406XCLDR12125	B201	1949670	A32SA4EML0516M	C133	C133	1953331	A4ENN120407	C130	C130
1925164	HPFDM750S6263	KC633M	1937978	A0406XCLDR12125	B203	1949671	A40TA4EMR0516M	C133	C133	1953332	A4ENN160407	C130	C130
1925165	HPFDM1000S5150	KC633M	1937982	A2908XCLDR121	B203	1949672	A40TA4EML0516M	C133	C133	1953334	A4ENN160509	C130	C130
1925166	HPFDM1000S6250	KC633M	1937990	A3208XCLDR121	B203	1950263	E0408XCLDR1225	B203	B203	1953335	A12RA4EMR0307N	C132	C132
1925167	HPFDM1000S6350	KC633M	1937992	A0408XCLDR12075	B201	1950374	A04HSWUPR15	B291	B291	1953336	A12RA4EML0307N	C132	C132
1926594	CNMG4305FN	KT315	1938000	E2910XCLDR12088	B203	1950376	A05HSWUPR15	B291	B291	1953337	A16RA4EMR0310N	C132	C132
1926595	CNMG4305FN	KC5010	1938010	E3210KSLDR122	B203	1950378	E03MSWUPR15	B292	B292	1953338	A16RA4EML0310N	C132	C132
1927913	KSEM125R1WN16F45M	H85-86	1938013	E0410HSCDLR12125	B203	1950380	E04MSWUPR15	B292	B292	1953339	A20SA4EMR0312N	C132	C132
1927914	KSEM160R1WN20F45M	H85-86	1938018	E2908XCLDR12088	B203	1950382	E05MSWUPR15	B292	B292	1953341	A12RA4EMR0407N	C132	C132
1927915	KSEM200R1WN25F45M	H85-86	1938022	E3208XCLDR121	B203	1950388	E06MSWUPR2	B292	B292	1953342	A12RA4EML0407N	C132	C132
1927916	KSEM241R1WN32F45M	H85-86	1939528	B977A09700	KT315	1950390	E08RSWUPR2	B292	B292	1953343	A16RA4EMR0410N	C132	C132
1928470	193.371	J87-89	1940731	HTSR10C1	J75	1950413	E06SSTLDR2	B261	B261	1953344	A16RA4EML0410N	C132	C132
1928504	193.372	J87-89	1940732	HTSR11C1	J75	1950709	SECV443AESN7GN	KY3500	S45	1953345	A20SA4EMR0412N	C132	C132
1928643	5.34032-025115	J88	1940738	B513S0800									

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
1959664	B977A05600	KC7315	1998287	VNMS331E	KD1405	2036673	DFR0844R3SSF075	J14	2047425	KSEM0797HP	KC7315
1959665	B977A03300	KC7315	1998288	VNMS332E	KD1405	2036674	DFR0875R3SSF075	J14	2047426	KSEM0813HP	KC7315
1959666	B977A06900	KC7315	1998291	CPGW2151E	KD1405	2036675	DFR1000R3SSF125	J14	2047427	KSEM0844HP	KC7315
1960078	B977A14900	KC7315	1998293	CPGW3251E	KD1405	2036695	DFR0781R3SSF100	J14	2047428	KSEM0859HP	KC7315
1960079	B977A15100	KC7315	1998296	DPGW3251E	KD1405	2036703	KSEM3300HPM	KC7315	2047429	KSEM0875HP	KC7315
1961106	B976A09700	KC7315	1998302	VBGW332E	KD1405	2036704	KSEM2700HPM	KC7315	2047430	KSEM0884HP	KC7315
1961108	B966A03200	KC7315	1998336	A4G0300M03P04E	KD1405	2036705	KSEM2100HPM	KC7315	2047431	KSEM0922HP	KC7315
1962982	CT15	B291-292	1998337	A4G0400M04P04E	KD1405	2036706	KSEM2050HPM	KC7315	2047432	KSEM2350HPM	KC7315
1963407	DFR200R4WD32M	J12	1998338	A4G0500M05P08E	KD1405	2036882	KSEM1800HPM	KC7315	2047433	KSEM0938HP	KC7315
1963863	QC21	B265	1998340	A4R0500M05P00E	KD1405	2036903	KSEM2300HPM	KC7315	2047434	KSEM2450HPM	KC7315
1967470	SN71	W40	1998947	B966A09600	KC7315	2036904	KSEM2400HPM	KC7315	2047435	KSEM0969HP	KC7315
1971584	B978A09750	KC7315	2006399	12748308500	S82	2036905	KSEM3000HPM	KC7315	2047436	KSEM1000HP	KC7315
1971763	B977A08900	KC7315	2008288	12748601000	S30-31	2036906	KSEM1250HPM	KC7315	2047437	KSEM1047HP	KC7315
1972376	B966A13200	KC7315	2018142	12748358200	S77, S82, S88	2036907	KSEM1450HPM	KC7315	2047438	KSEM1011HP	KC7315
1974209	SPHX09031OR20	KC7215	2018164	12748500200	S83	2036909	KSEM1300HPM	KC7315	2047439	KSEM1031HP	KC7315
1974252	S411	B285	2018166	12748500400	S83	2036910	KSEM2500HPM	KC7315	2047440	KSEM1047HP	KC7315
1975006	B977A05200	KC7315	2018285	12148006000	T24	2036911	KSEM1650HPM	KC7315	2047441	KSEM2750HPM	KC7315
1980539	BGHX15L504PCFRGG	K110M	2018296	MS2260	V58	2036912	KSEM3900HPM	KC7315	2047442	KSEM1094HP	KC7315
1981264	BGHX15L508PCFRGG	K110M	2018679	12148068700	K116-117	2036923	KSEM2900HPM	KC7315	2047443	KSEM2850HPM	KC7315
1981758	BGHX15L515PCFRGG	K110M	2029553	12148044900	S30-31, S77, S82, S88	2036924	KSEM1350HPM	KC7315	2047444	KSEM1109HP	KC7315
1981759	BGHX15L515PCFRGG	KC510M	2032259	12748600900	S77, S82, S88	2036925	KSEM3050HPM	KC7315	2047445	KSEM2850HPM	KC7315
1982315	DFT030204HP	KMF	2033468	12748503400	S83	2036954	KSEM1560HPM	KC7315	2047446	KSEM1125HP	KC7315
1982316	DFT030304HP	KMF	2033852	360.660	H87	2036955	KSEM1900HPM	KC7315	2047447	KSEM1156HP	KC7315
1982397	B966A06200	KC7315	2033863	360.661	H87	2036956	KSEM2150HPM	KC7315	2047448	KSEM1172HP	KC7315
1983309	3.42805R081	KC7215	2033865	360.663	H87	2036957	KSEM3500HPM	KC7315	2047449	KSEM3100HPM	KC7315
1983310	3.42807R081	KC7215	2033866	360.664	H87	2037058	B966A06400	KC7315	2047450	KSEM3150HPM	KC7315
1983992	COMT432LF	KC5025	2033867	360.665	H87	2037059	B967A10000	KC7315	2047451	KSEM1250HP	KC7315
1984003	COMT3252MF	KC5025	2033868	360.666	H87	2038133	B966A06050	KC7315	2047452	KSEM3250HPM	KC7315
1984183	B976A05200	KC7315	2033871	360.669	H87	2039536	SR3	KWH	2047453	KSEM1313HP	KC7315
1984545	B978A11200	KC7315	2033872	360.670	H87	2039537	SR4	B243	2047456	KSEM3400HPM	KC7315
1985037	B966A06700	KC7315	2035319	DFR190R4WD32M	J12	2040139	DFR220R4WD32M	J12	2047458	KSEM3550HPM	KC7315
1985038	B966A08200	KC7315	2035688	OFPT64AFSN6HB	KC725M	2040680	B977A04300	KC7315	2047460	KSEM3600HPM	KC7315
1985784	KMSP3151P	B59, B87, B92, B113, B131, B150-151, B154, B163	2035689	OFPT64AFEN6GB	KC725M	2040682	B966A03900	KC7315	2047464	KSEM3750HPM	KC7315
1985792	TTP9	U28-29	2036154	B976A08100	KC7315	2043136	B966A10600	KC7315	2047465	KSEM3800HPM	KC7315
1985985	B978A10800	KC7315	2036529	KSEM1700HPM	KC7315	2043137	B966A11600	KC7315	2047466	KSEM1500HP	KC7315
1986652	B977A08200	KC7315	2036530	KSEM2200HPM	KC7315	2043415	B978A05700	KC7315	2047468	KSEM3850HPM	KC7315
1986773	B976A06200	KC7315	2036531	KSEM1750HPM	KC7315	2043417	B977A10600	KC7315	2047469	KSEM4000HPM	KC7315
1987659	SPHX1205PCSRGPB	KCK15	2036532	KSEM2000HPM	KC7315	2043418	B977A14600	KC7315	2047470	KSEM0625HP	KC7315
1988099	B966A06900	KC7315	2036592	DFR0656R3SSF075	J14	2043552	KSEM3950HPM	KC7315	2047471	KSEM0766HP	KC7315
1988100	B966A07900	KC7315	2036604	KSEM3200HPM	KC7315	2043779	B977A06100	KC7315	2047472	KSEM1188HP	KC7315
1988931	B977A05700	KC7315	2036605	KSEM1400HPM	KC7315	2044606	B978A11800	KC7315	2047474	KSEM1219HP	KC7315
1988932	B976A05300	KC7315	2036606	KSEM1500HPM	KC7315	2044834	B976A19700	KC7315	2047477	KSEM1344HP	KC7315
1988983	B976A08700	KC7315	2036607	KSEM2250HPM	KC7315	2045222	B966A05300	KC7315	2047478	KSEM1375HP	KC7315
1989347	A4M50L0314M	C138	2036608	KSEM1600HPM	KC7315	2045293	DFT030204HP	KC7140	2047698	OFPT64AFSN6HB	KC522M
1989348	A4M50R0314M	C138	2036609	KSEM2600HPM	KC7315	2045294	DFT030304HP	KC7140	2047701	OFPT64AFEN6GB	KC522M
1989349	A4M50L0414M	C138	2036612	KSEM2650HPM	KC7315	2045616	B978A11400	KC7315	2049487	B977A05100	KC7315
1989350	A4M50R0414M	C138	2036643	DFR0688R3SSF075	J14	2045646	KSEM2950HPM	KC7315	2049488	B977A11800	KC7315
1989351	A4M50L0519M	C138	2036644	DFR0703R3SSF075	J14	2045820	B977A12300	KC7315	2049489	B977A12200	KC7315
1989352	A4M50R0519M	C138	2036645	DFR0734R3SSF075	J14	2045822	B977A11600	KC7315	2050081	MS2111	C183, C185, C189-189, C192, D30
1990689	SECW443AEEN22GNW	KC725M	2036646	DFR0734R3SSF075	J14	2045867	B976A16800	KC7315	2050082	S2112	C182, C184-187, C189, C191, C194-195, D25-29, D35, D37-38
1991229	B966A12600	KC7315	2036647	DFR0813R3SSF100	J14	2047379	KSEM0547HP	KC7315	2050230	B978A09800	KC7315
1992230	B977A07700	KC7315	2036648	DFR0844R3SSF100	J14	2047397	KSEM1041HP	KC7315	2057426	MTFNL2CA3	B140
1992232	B966A10400	KC7315	2036649	DFR0875R3SSF100	J14	2047398	KSEM1410HPM	KC7315	2071739	MSSNL2CA4	B117
1992822	B105A04600	K10	2036650	DFR0906R3SSF100	J14	2047399	KSEM1420HPM	KC7315	2071758	MSSNL10CA3	B117
1993391	KSEM136R1WN16F45M	H85-86	2036651	DFR0938R3SSF100	J14	2047400	KSEM0563HP	KC7315	2072222	MSKFN10CA5	B115
1993392	KSEM146R1WN20F45M	H85-86	2036652	DFR0969R3SSF100	J14	2047401	KSEM1440HPM	KC7315	2074429	MTFNR16CA3	B140
1993403	KSEM181R1WN25F45M	H85-86	2036653	DFR0984R3SSF100	J14	2047403	KSEM0578HP	KC7315	2074430	MSKFN16CA4	B115
1993404	KSEM221R1WN25F45M	H85-86	2036654	DFR1000R3SSF100	J14	2047404	KSEM1480HPM	KC7315	2074432	MSRNR16CA4	B116
1993405	KSEM261R1WN32F45M	H85-86	2036655	DFR0500R2SSF075	J13	2047405	KSEM0594HP	KC7315	2074433	MCFNR16CA4	B72
1993406	KSEM281R1WN32F45M	H85-86	2036656	DFR0563R2SSF075	J13	2047406	KSEM1530HPM	KC7315	2074904	MSTRNR12CA4	B118
1993407	KSEM301R1WN32F45M	H85-86	2036657	DFR0625R2SSF075	J13	2047408	KSEM1550HPM	KC7315	2077947	MCLNL12CA4	B74
1993408	KSEM321R1WD50F45M	H85-86	2036658	DFR0750R2SSF100	J13	2047409	KSEM1570HPM	KC7315	2078231	MSRNR12CA4	B116
1993409	KSEM361R1RW50F45M	H85-86	2036659	DFR0750R2SSF100	J13	2047410	KSEM1580HPM	KC7315	2078236	MTFNR12CA3	B140
1993552	THW2M	T63, T65, V77, V139-142	2036660	DFR0813R2SSF100	J13	2047411	KSEM1634HP	KC7315	2079654	NG3189R	KC5010
1994080	FAS100302GD	KC7215	2036661	DFR0875R2SSF100	J13	2047412	KSEM1620HPM	KC7315	2114011	MSKNR10CA3	B115
1994291	TTP20	S32, S50, V155-156	2036662	DFR0938R2SSF100	J13	2047413	KSEM0641HP	KC7315	2114013	MSKNR12CA4	B115
1995000	B966A05100	KC7315	2036663	DFR1000R2SSF100	J13	2047414	KSEM0656HP	KC7315	2114015	MSKFN10CA3	B119
1995002	B966A08600	KC7315	2036664	DFR1000R2SSF100	J13	2047415	KSEM0672HP	KC7315	2114034	CTFFL10CA2	B186, B397
1995073	B966A09400	KC7315	2036665	DFR0625R3SSF100	J14	2047416	KSEM0688HP	KC7315	2114041	MTGFR12CA3	B141
1995074	B966A10100	KC7315	2036666	DFR0656R3SSF100	J14	2047417	KSEM0703HP	KC7315	2116588	MTFNR10CA2	B186, B397
1995075	B966A11400	KC7315	2036667	DFR0688R3SSF100	J14	2047418	KSEM0719HP	KC7315	2193621	MTFNL16CA3	B140
1995076	B966A12100	KC7315	2036668	DFR0703R3SSF100	J14	2047419	KSEM1850HPM	KC7315	2202438	KRBB10FABDRS204C	K78, K100
1997389	B966A08100	KC7315	2036669	DFR0734R3SSF100	J14	2047420	KSEM0734HP	KC7315	2202439	KRBB10SLDR4060C	K78, K100
1997391	B966A11800	KC7315	2036670	DFR0734R3SSF100	J14	2047421	KSEM0750HP	KC7315	2202440	KRBB10SCFFR06085C	K78, K100
1998276	CNGA431E	KB362	2036671	DFR0750R3SSF075	J14	2047422	KSEM0759HP	KC7315	2202450	KRBB10SCFFR06110C	K78, K101
1998277	CNGA432E	KB362	2036672	DFR0813R3SSF075	J14	2047423	KSEM1950HPM	KC7315	2202451	KRBB10SCFFR06135C	K78, K101
1998279	CNMS432E	KB36									

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2203486	B966A08400 KC7315	G131	2227133	ODG6236ISGB KCPK30	U10	2238524	KSEM0547R3SS075	H77	2244914	VNMG432MS KC5010	B147
2203489	B977A03900 KC7315	G134	2227145	SNHX1102PZTNGP KCPK30	U15	2238525	KSEM0563R3SS075	H77	2244916	VNMG4305MS KC5010	B160
2203577	B977A12600 KC7315	G137	2227147	SNHX1203PZTNGP KCPK30	U15	2238526	KSEM0578R3SS075	H77	2244917	VNMG431MS KC5010	B160
2203579	B977A07100 KC7315	G135	2227149	SNHX12L4PZTNGP KCPK30	U15	2238527	KSEM0594R3SS075	H77	2244918	VNMG432MS KC5010	B160
2203787	B977A16200 KC7315	G138	2227150	SNHX12L5PZTNGP KCPK30	U15	2238528	KSEM0609R3SS075	H77	2244919	VNMG433MS KC5025	B52
2203834	B977A08700 KC7315	G136	2227155	SPHX1205PCERGPP KCPK30	S68	2238529	KSEM0625R3SS075	H77	2244920	VNMG434MS KC5025	B52
2204358	B966A13300 KC7315	G132	2227156	SPHX1205PCERGIN1WB KCPK30	S69	2238530	KSEM0634R3SS075	H77	2244921	VNMG435MS KC5025	B52
2204393	CBTF150R2WD20N2M	J114	2227157	SPHX1205PCSRGPP KCPK30	S68	2238531	KSEM0641R3SS075	H77	2244922	VNMG436MS KC5025	B52
2204394	CBTF160R2WD20N2M	J114	2227159	SPHX1205ZCERGP KCPK30	S65	2238532	KSEM0656R3SS075	H77	2244923	VNMG437MS KC5025	B52
2204395	CBTF170R2WD20N2M	J114	2227160	SPHX1205ZCSRGP KCPK30	S65	2238533	KSEM0672R3SS075	H77	2244924	VNMG438MS KC5025	B52
2204396	CBTF200R2WD20N2M	J114	2227164	SPHX15T6ZCERGP KCPK30	S71	2238534	KSEM0688R3SS075	H77	2244929	VNMG441MS KC5025	B82
2204397	CBTF210R2WD20N2M	J114	2227165	SPHX15T6ZCSRGP KCPK30	S71	2238535	KSEM0703R3SS075	H77	2244930	VNMG442MS KC5025	B82
2204398	CBTF220R2WD20N2M	J114	2227338	B966A10300 KC7315	G131	2238536	KSEM0719R3SS075	H77	2244931	VNMG443MS KC5025	B82
2204399	CBTF220R2WD20N2M	J114	2227374	OFKT64AFEN6GB KC520M	S52	2238537	KSEM0734R3SS075	H77	2244932	VNMG444MS KC5025	B103
2204400	CBTF230R2WD20N3M	J114	2227380	OFKT64AFS6N6HB KC520M	S52	2238538	KSEM0750R3SS075	H77	2244936	VNMG445MS KC5025	B103
2204401	CBTF250R2WD20N3M	J114	2227984	B976A12800 KC7315	G137	2238539	KSEM0781R3SS100	H77	2244937	VNMG446MS KC5025	B125
2204402	CBTF340R2WD32N3M	J114	2228362	B977A05900 KC7315	G135	2238540	KSEM0759R3SS075	H77	2244938	VNMG447MS KC5025	B125
2204403	CBTF350R2WD32N3M	J114	2229054	B977A19200 KC7315	G138	2238541	KSEM0766R3SS100	H77	2244939	VNMG448MS KC5025	B125
2204404	CBTF380R2WD32N3M	J114	2229055	B966A10800 KC7315	G131	2238542	KSEM0781R3SS100	H77	2244940	VNMG449MS KC5025	B125
2204405	CBTF180R2WD20N2M	J114	2229138	B977A13300 KC7315	G137	2238543	KSEM0797R3SS100	H77	2244941	VNMG450MS KC5025	B125
2204406	CBTF230R2WD20N2M	J114	2229285	THW3M	U28-29, U35-37	2238544	KSEM0813R3SS100	H77	2244942	VNMG451MS KC5025	B125
2204407	CBTF250R2WD20N2M	J114	2229362	B256A16000 KC7315	G58	2238545	KSEM0844R3SS100	H77	2244943	VNMG452MS KC5025	B147
2204408	CBTF240R2WD20N3M	J114	2229364	B256A13500 KC7315	G58	2238546	KSEM0859R3SS100	H77	2244944	VNMG453MS KC5025	B147
2204409	CBTF270R2WD20N3M	J114	2229365	B256A11000 KC7315	G58	2238547	KSEM0875R3SS100	H77	2244945	VNMG454MS KC5025	B147
2210084	LNQ1245R04 KCPK30	U20	2229366	B256A14000 KC7315	G58	2238548	KSEM0875R3SS125	H77	2244953	VNMG455MS KC5025	B160
2210086	LNQ1245R04 KCPK30	U19	2229393	B256A08800 KC7315	G58	2238549	KSEM0884R3SS100	H77	2244954	VNMG456MS KC5025	B160
2210095	SDET43PDSR8GB KCPK30	T116, T123, U39	2229412	OFKT64AFS6N6HB KCPK30	S52	2238550	KSEM0906R3SS100	H78	2244955	VNMG457MS KC313	B52
2210766	OFPT64AFS6N6HB KCPK30	S52	2229543	OFKT64AFEN6GB KC522M	S52	2238551	KSEM0922R3SS100	H78	2244958	VNMG458MS KC313	B52
2210767	OFPT64AFEN6GB KCPK30	S52	2229547	CNGG431FS KC5010	B46	2238552	KSEM0938R3SS100	H78	2244965	VNMG459MS KC313	B82
2212773	OFKT64AFS6N6HB KC522M	S52	2229549	CNGG432FS KC5025	B46	2238553	KSEM0969R3SS100	H78	2244966	VNMG460MS KC313	B82
2213696	B966A03300 KC7315	G130	2229550	CNGG432FS KC5025	B46	2238554	KSEM0984R3SS100	H78	2244977	VNMG461MS KC313	B125
2213700	B966A04300 KC7315	G130	2229551	CNGG432FS KC5025	B46	2238555	KSEM1000R3SS100	H78	2244981	VNMG462MS KC313	B125
2213701	B966A04400 KC7315	G130	2229552	DNGG4305FS KC5010	B77	2238556	KSEM1011R3SS125	H78	2244983	VNMG463MS KC313	B147
2213842	193.409	S50, V155-156	2229564	DNGG431FS KC5010	B77	2238558	KSEM1031R3SS125	H78	2244984	VNMG464MS KC313	B147
2213947	VNMG332RP KC5010	B161	2229645	DNGG431FS KC5025	B77	2238560	KSEM1063R3SS125	H78	2244989	VNMG465MS KC313	B160
2213962	CCMT433MF KC5025	B191	2229646	DNGG432FS KC5010	B77	2238562	KSEM1109R3SS125	H78	2244990	VNMG466MS KC313	B160
2214237	B978A15200 KC7315	G141	2229648	CNMG4305MS KC5010	B52	2238563	KSEM1125R3SS125	H78	2245036	VNMG467MS KC5010	B127
2214926	B966A11300 KC7315	G131	2229649	CNMG4305MS KC5025	B52	2238564	KSEM1156R3SS125	H78	2245037	VNMG468MS KC5010	B127
2217005	B966A07700 KC7315	G131	2229651	CNMG4305MS KC5010	B52	2238565	KSEM1172R3SS125	H78	2245045	VNMG469MS KC5025	B53
2217646	NTB3L12B KC5010	D18	2229652	CNMG4305MS KC5025	B52	2238566	KSEM1188R3SS125	H78	2245046	VNMG470MS KC5025	B53
2217647	NTB3R12B KC5010	D18	2229653	CNMG431MS KC313	B52	2238568	KSEM1219R3SS125	H78	2245048	VNMG471MS KC5025	B53
2217898	B976A13300 KC7315	G137	2229654	CNMG431MS KC5010	B52	2238569	KSEM1250R3SS125	H78	2245049	VNMG472MS KC5025	B53
2218437	SNHX1103T KCPK30	U14	2229655	CNMG431MS KC5025	B52	2238570	KSEM1250R3SS150	H78	2245050	VNMG473MS KC5025	B53
2218492	B977A09200 KC7315	G136	2229656	CNMG432MS KC313	B52	2238571	KSEM1281R3SS150	H78	2245051	VNMG474MS KC5025	B53
2220306	LNQ1245R04 KCK15	U20	2229657	CNMG432MS KC5010	B52	2238572	KSEM1297R3SS150	H78	2245053	VNMG475MS KC5025	B84
2220307	LNQ1250R04 KCK15	U20	2229659	CNMG432MS KC5025	B52	2238573	KSEM1313R3SS150	H78	2245056	VNMG476MS KC5025	B84
2220308	LNQ1255R04 KCK15	U20	2229660	DNMG431MS KC313	B82	2238574	KSEM1328R3SS150	H78	2245059	VNMG477MS KC5025	B105
2220309	LNQ1260R04 KCK15	U20	2229661	DNMG431MS KC5010	B82	2238576	KSEM1375R3SS150	H78	2245060	VNMG478MS KC5025	B105
2220334	SPG322 KCK15	B171	2229662	DNMG431MS KC5025	B82	2238577	KSEM1406R3SS150	H78	2245063	VNMG479MS KC5025	B105
2220855	B966A06100 KC7315	G130	2229663	DNMG432MS KC313	B82	2238579	KSEM1438R3SS150	H78	2245064	VNMG480MS KC5025	B105
2220856	B966A06600 KC7315	G131	2229694	DNMG432MS KC5010	B82	2238581	KSEM1500R3SS150	H78	2245065	VNMG481MS KC5025	B127
2220857	B966A14800 KC7315	G132	2229695	DNMG432MS KC5025	B82	2238582	KSEM1514R3SS150	H78	2245066	VNMG482MS KC5025	B127
2221944	OFPT64AFEN6GB KCK15	S52	2229696	VNMG331MS KC5010	B147	2239620	DCMT3252FW KT315	B225	2245067	VNMG483MS KC5025	B127
2221945	OFPT64AFS6N6HB KCK15	S52	2229697	VNMG331MS KC5025	B147	2239685	DCMT3251FW KC5010	B225	2245074	VNMG484MS KC5025	B148
2222651	B976A08600 KC7315	G136	2230406	B977A14200 KC7315	G137	2240351	B977A10300 KC7315	G136	2245076	VNMG485MS KC5025	B161
2223775	KSEM0493R1SSF075F45	H86	2230539	B977A06700 KC7315	G135	2240426	HNEN0905XNSN KY3500	S79	2245079	VNMG486MS KC5025	B84
2223776	KSEM0532R1SSF075F45	H86	2231579	B966A07200 KC7315	G131	2240427	HNEN0905ANSN KY3500	S79	2245088	VNMG487MS KC5025	B105
2223777	KSEM0571R1SSF075F45	H86	2231776	B976A06600 KC7315	G135	2242390	B966A05600 KC7315	G130	2245191	B977A09900 KC7315	G136
2223778	KSEM0625R1SSF075F45	H86	2231777	B976A08300 KC7315	G136	2242780	B978A06600 KC7315	G139	2245263	B977A15900 KC7315	G138
2223779	KSEM0709R1SSF075F45	H86	2231778	B976A09600 KC7315	G136	2244229	B977A08100 KC7315	G136	2245484	A4SMR2525M0620	C124
2223780	KSEM0788R1SSF100F45	H86	2231830	B966A12300 KC7315	G132	2244276	B977A18800 KC7315	G138	2245485	A4SMR2525M0820	C124
2223781	KSEM0867R1SSF100F45	H86	2233364	B977A16600 KC7315	G138	2244883	CNMG433MS KC5010	B52	2245486	A4SML2525M0620	C125
2223782	KSEM0945R1SSF100F45	H86	2234423	OFKT64AFEN6GB KCPK30	S52	2244884	CNMG434MS KC5010	B52	2245487	A4SML2525M0820	C125
2223993	KSEM1024R1SSF125F45	H86	2234816	A4C0405N00CF02 KC5025	C112	2244885	CNMG435MS KC5010	B52	2245738	SPHX06020R20 KC7215	J115
2223994	KSEM1103R1SSF125F45	H86	2234819	A4C0305R10CF02 KC5025	C113	2244886	CNMG436MS KC5010	B52	2245739	SPHX06020R20 KC7215	J115
2223995	KSEM1182R1SSF125F45	H86	2234821	A4C0405R10CF02 KC5025	C113	2244887	CNMG437MS KC5010	B52	2245740	SPHX06020R20 KC7215	J115
2223996	KSEM1260R1SSF125F45	H86	2234823	A4R0305M30U00GMN KC5025	C107	2244888	CNMG438MS KC5010	B52	2245741	SPHX07030R20 KC7215	J115
2223997	KSEM1418R1SSF125F45	H86	2234824	A4R0305M30U00GMN KC5010	C107	2244891	DNMG4305MS KC5010	B82	2245742	SPHX07030R20 KC7215	J115
2224587	B976A05600 KC7315	G135	2234825	A4R0300M3P00GMP KC5025	C106	2244892	DNMG433MS KC5010	B82	2245833	SPHX07030R20 KC7215	J115
2224588	B976A09100 KC7315	G136	2234826	A4R0300M3P00GMP KC5010	C106	2244893	DNMG441MS KC5010	B82	2245834	SPHX07031R20 KC7215	J115
2226032	VNMG6331MS K313	B147	2235052	50A03RP90BG15CUM	S121	2244894	DNMG442MS KC5010	B82	2245836	SPHX09031R20 KC7215	J115
2226630	B976A14100 KC7315	G137	2235053	63A03RP90BG15CUM	S121	2244896	CNMG432MS KC5010	B103	2245837	SPHX09031R20 KC7215	J115
2226662	B977A12900 KC7315	G137	2235054	80A03RP90BG15CUM	S121	2244897	CNMG433MS KC5010	B103	2245839	SPHX120410R2	

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2245851	SPHX070310R21	KC7215	J116	2257646	B256A09500	KC7315	G58	2263727	B978A15100	KC7315	G141
2245853	SPHX090310R21	KC7215	J116	2258040	KTIP080R5SS10M		H38	2264017	B977A16700	KC7315	G138
2245854	SPHX090312R21	KC7215	J116	2258041	KTIP100R5SS12M		H38	2264019	B977A07200	KC7315	G136
2245855	SPHX090316R21	KC7215	J116	2258042	KTIP120R5SS14M		H38	2264020	B977A11100	KC7315	G137
2245856	SPHX120408R21	KC7215	J116	2258053	KTIP160R5SS18M		H38	2264538	B976A05400	KC7315	G135
2245857	SPHX120410R21	KC7215	J116	2259958	170.306		H38-41	2264889	B978A05300	KC7315	G139
2245858	SPHX120416R21	KC7215	J116	2259959	170.307		H38-41	2264901	B978A15800	KC7315	G141
2245859	SPHX120420R21	KC7215	J116	2259960	170.308		H38-41	2264928	B978A06200	KC7315	G139
2245860	SPHX070310R20	KC7215	J115	2259961	170.309		H38-41	2264933	B978A05100	KC7315	G139
2245861	SPHX120412R20	KC7215	J115	2259981	MS2126		T75-80	2264934	B978A05200	KC7315	G139
2245862	SPHX120412R21	KC7215	J116	2261701	B978A06100	KC7315	G139	2264938	B978A10100	KC7315	G140
2245972	HNE090508S	KY3500	S79	2262952	KSSC551-630R		U28-29	2264939	B978A10300	KC7315	G140
2246044	A4G0605M06U08GMP	KC5025	C105	2262953	KSSC551-630L		U28-29	2264953	B978A08100	KC7315	G140
2246045	A4G0605M06U08GMP	KC5010	C105	2262954	KSSC630-709R		U28	2264954	B978A08600	KC7315	G140
2246047	A4G0600M06P08GMP	KC5025	C105	2262955	KSSC630-709L		U28	2264955	B978A08700	KC7315	G140
2246074	TPMT21151LF	KC5025	B268	2262956	KSSC709-813R		U35, U37	2264956	B978A09900	KC7315	G140
2246494	SECT443AFEN7LE	KC410M	S40	2262957	KSSC709-813L		U35, U37	2264970	B978A06300	KC7315	G139
2248306	B966A14300	KC7315	G132	2262958	KSSC813-917R		U36	2264971	B978A06400	KC7315	G139
2248993	50HC030M		G79	2262959	KSSC813-917L		U36	2264972	B978A06700	KC7315	G139
2248994	50HC050M		G79	2262960	KSSW551-630		U28-29	2266804	B966A03960	KC7315	G130
2248995	75HC030M		G79	2262961	KSSW630-709		U28	2267534	M1D100E1802C100L800		T77
2248996	75HC040M		G79	2262962	KSSW709-813		U35, U37	2267535	M1D100E1802C100L1000		T77
2248997	75HC050M		G79	2262963	KSSW813-917		U36	2267536	M1D125E1802C125L800		T77
2249180	B978A09700	KC7315	G140	2262964	KSSCP551-709		U28-29	2267537	M1D125E1802C125L1000		T77
2250674	KTIP0335R5SS038		H39	2262965	KSSCP709-917		U35-37	2267538	M1D150E1803C125L800		T77
2250675	KTIP0354R5SS038		H39	2263089	A4SMR3225P0626		C124	2267539	M1D150E1803C125L1000		T77
2250676	KTIP0374R5SS038		H39	2263090	A4SML3225P0626		C125	2267542	M1D200E1803S075L157		T78
2250677	KTIP0374R5SS044		H39	2263091	A4SMR3225P0826		C124	2267545	M1D097E1802W100L175		T75
2250678	KTIP0394R5SS044		H39	2263092	A4SML3225P0826		C125	2267546	M1D100E1802W100L175		T75
2250679	KTIP0413R5SS044		H39	2263173	A4SMR3225P1026		C124	2267547	M1D100E1802W100L375		T75
2250680	KTIP0433R5SS044		H39	2263174	A4SML3225P1026		C125	2267548	M1D150E1804CV40L288		T79
2250681	KTIP0453R5SS050		H39	2263175	A4SMR120620		C122	2267549	M1D100E1802CV40L250		T79
2250682	KTIP0472R5SS050		H39	2263176	A4SMR160620		C122	2267550	M1D100E1802W100L175R		T75
2250683	KTIP0492R5SS050		H39	2263177	A4SMR160624		C122	2267551	M1D125E1803CV40L288		T79
2250684	KTIP0492R5SS056		H39	2263178	A4SMR200626		C122	2267552	M1D100E1802W100L375R		T75
2250685	KTIP0512R5SS056		H39	2263179	A4SMR240626		C122	2267616	M1D300E1805S100L175		T78
2250686	KTIP0532R5SS056		H39	2263180	A4SML120620		C123	2267617	M1D400E1806S150L200		T78
2250687	KTIP0551R5SS063		H39	2263181	A4SML160620		C123	2267618	M1D600E1808S200L200		T78
2250688	KTIP0571R5SS063		H39	2263182	A4SML160624		C123	2267620	M1D800E1812S250L250		T78
2250689	KTIP0591R5SS063		H39	2263183	A4SML200626		C123	2267621	M1D200E1805W125L225		T76
2250690	KTIP0630R5SS069		H39	2263184	A4SML240626		C123	2267623	M1D125E1803W125L225		T75
2250704	KTIP0313R3SS038		H39	2263185	A4SMR160820		C122	2267624	M1D125E1803W125L225R		T75
2250705	KTIP0335R3SS038		H39	2263186	A4SMR160824		C122	2267625	M1D125E1803W125L425		T75
2250706	KTIP0354R3SS038		H39	2263187	A4SMR200826		C122	2267626	M1D125E1803W125L425R		T75
2250707	KTIP0374R3SS038		H39	2263188	A4SMR240826		C122	2267627	M1D150E1803W125L225		T76
2250708	KTIP0374R3SS044		H39	2263189	A4SML160824		C123	2267628	M1D150E1804W125L225R		T76
2250709	KTIP0394R3SS044		H39	2263193	A4SMR201026		C122	2267629	M1D150E1804W125L225		T76
2250710	KTIP0413R3SS044		H39	2263194	A4SML201026		C123	2267631	M1D150E1803W125L425R		T76
2250711	KTIP0433R3SS044		H39	2263197	A40TA4EMR0616M		C133	2267632	M1D250E1806S075L157		T78
2250712	KTIP0453R3SS050		H39	2263198	A40TA4EML0616M		C133	2267643	M1D300E1807S100L175		T78
2250723	KTIP0472R3SS050		H39	2263199	A24TA4EMR0616N		C132	2267644	M1D400E1808S150L200		T78
2250724	KTIP0492R3SS050		H39	2263200	A32TA4EMR0616N		C132	2267645	M1D500E1809S150L200		T78
2250725	KTIP0492R3SS056		H39	2263201	A24TA4EML0616N		C132	2267646	M1D600E1808S150L200		T78
2250726	KTIP0512R3SS056		H39	2263203	A20SA4EMR0616N		C132	2267650	M1D200E1805S075L157		T78
2250727	KTIP0532R3SS056		H39	2263299	MS1490		C34-41, C47-48, C50-51, C122-125, C130, D32	2267651	M1D150E1803W125L425		T76
2250728	KTIP0551R3SS056		H39	2263361	A4G0605M06U04GMN	KC5010	C106	2268052	KSSS400ASP10N551-630		U28
2250729	KTIP0571R3SS063		H39	2263362	A4G0605M06U04GMN	KC5025	C106	2268303	KTIP080R3SS10M		H38
2250730	KTIP0591R3SS063		H39	2263373	A4G0605M06U08GMN	KC7315	C106	2268304	KTIP085R3SS10M		H38
2250731	KTIP0630R3SS069		H39	2263374	A4G0605M06U08GMN	KC5010	C106	2268305	KTIP090R3SS10M		H38
2250771	CNGG430FS	KC5010	B46	2263375	A4G0605M06U08GMN	KC5025	C106	2268306	KTIP095R3SS10M		H38
2250772	CNGG430FS	KC5010	B46	2263376	A4G0605M06U12GMN	KC5010	C106	2268307	KTIP100R3SS12M		H38
2250775	DNNG3305FS	KC5010	B77	2263377	A4G0605M06U12GMN	KC5025	C106	2268308	KTIP105R3SS12M		H38
2250784	TNGG331FS	KC5010	B121	2263378	A4G0605M06U12GMN	KC5025	C106	2268309	KTIP110R3SS12M		H38
2250789	VNGG3305FS	KC5010	B144	2263379	A4G0605M06U12GMN	KC5010	C106	2268310	KTIP115R3SS12M		H38
2250790	VNGG331FS	KC5010	B144	2263380	A4G0805M08U12GMN	KC5010	C106	2268311	KTIP120R3SS14M		H38
2250791	VNGG332FS	KC5010	B144	2263381	A4G0805M08U12GMN	KC5010	C106	2268312	KTIP125R3SS14M		H38
2250809	TNGG3305FS	KC5025	B121	2263382	A4G1005M10U08GMN	KC5025	C106	2268313	KTIP130R3SS14M		H38
2250810	TNGG331FS	KC5025	B121	2263383	A4G1005M10U12GMN	KC5025	C106	2268314	KTIP135R3SS14M		H38
2250816	VNGG331FS	KC5025	B144	2263384	A4G0605M06U04GMP	KC5010	C105	2268315	KTIP140R3SS16M		H38
2250817	VNGG332FS	KC5025	B144	2263387	A4G0605M06U04GMP	KC5025	C105	2268316	KTIP145R3SS16M		H38
2250824	B966A05200	KC7315	G130	2263392	A4G0805M08U08GMP	KC5025	C105	2268317	KTIP150R3SS16M		H38
2251521	SSP025018M		B67-68	2263397	A4R0605M06U00GMN	KC5010	C107	2268318	KTIP160R3SS18M		H38
2251639	B977A13800	KC7315	G137	2263398	A4R0605M06U00GMN	KC5025	C107	2268625	KSSS400BSP10N551-630		U29
2252989	KSEM1250PCM	KC7135	H70	2263399	A4R0805M08U00GMN	KC5010	C107	2268634	KSSS500ASP10N630-709		U28
2252992	KSEM1750PCM	KC7135	H70	2263400	A4R0805M08U00GMN	KC5025	C107	2268640	KSSS600ASP10N551-630		U28
2253024	KSEM2600PCM	KC7135	H70, H11	2263403	A4R0600M06P00GMP	KC5010	C106	2268652	KSSS800ASP10N551-630		U28
2255896	B978A08800	KC7315	G140	2263404	A4R0600M06P00GMP	KC5025	C106	2268670	KSSS1200ASP10N630-709		U28
2256128	NGP2062R	KC5010	C168	2263406	A4R0800M08P00GMP	KC5010	C106	2268676	KSSS500ASD43N709-813		U35
2256252	B966A09900	KC7315	G131	2263414	A4G0600M06P04GMP	KC5010	C105	2268679	KSSS500BSD43N709-813		U37
2256916	B966A04700	KC7315	G130	2263415	A4G0600M06P08GMP	KC5010	C105	2268688	KSSS600ASD43N709-813		U35
2256918	B977A10800	KC7315	G137	2263416	A4G0800M08P08GMP	KC5010	C105	2268698	KSSS800ASD43N813-917		U36
2257597	B256A10500	KC7315	G58	2263578	RCGH43	KC5010	B238	2268706	KSSS800ASD43N813-917		U36
2268712	KSSS1000ASD43N709-813		U35								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2273388	EP1848E KC725M	T83	2383596	SDCT433PDFL8LE KC410M	T114, T121, U38, V143	2390275	SPET3125PPER8GB2 KCPK30	T111, U31	2398772	A4M50L0314B090160	C142
2274469	NG2062R KC5010	C170				2390276	SPET3125PPER8GB2 KC520M	T111, U31	2398773	A4M50L0314B130300	C142
2274946	A4G125I03P05GMN KC5025	C107	2383597	SDCT434FNL KC410M	T114, T121, U38, V143				2398774	A4M50L0314B290999	C142
2274947	A4G125I03P1GMN KC5025	C107				2390277	SPET3125PPSR8GB2 KC725M	T111, U31	2398775	A4M50R0414B048072	C141
2274949	A4G187I04P2GMN KC5025	C107	2383598	SDCT435FNL KC410M	T114, T121, U38, V143				2398776	A4M50R0414B064100	C141
2275076	A4R125I03P00GMN KC5025	C107				2390278	SPET3125PPSR8GB2 KCK15	T111, U31	2398777	A4M50R0414B092150	C141
2275077	A4R187I04P00GMN KC5025	C107	2383599	SDCT436FNL KC410M	T114, T121, U38, V143				2398778	A4M50R0414B132300	C141
2275078	A4R250I06P00GMN KC5025	C107				2390279	SPET3125PPSR8GB2 KCPK30	T111, U31	2398779	A4M50R0414B290999	C141
2275080	A4R375I10P00GMN KC5025	C107	2383600	SDCT438FNL KC410M	T114, T121, U38, V143				2398780	A4M50L0414B048072	C142
2275081	A4G125I03P05GMN KC5010	C107				2390280	SPET3125PPSR8GB2 KC520M	T111, U31	2398781	A4M50L0414B064100	C142
2275082	A4G125I03P1GMN KC5010	C107	2383601	SPCT31251PPFR8LE KC410M	T110, U30				2398782	A4M50L0414B092150	C142
2275083	A4G187I04P1GMN KC5010	C107				2390281	SDET43PDEL8GB2 KC520M	T115, T122, U39	2398783	A4M50L0414B132300	C142
2275084	A4G187I04P2GMN KC5010	C107	2383602	SPCT31251PPFL8LE KC410M	T110, U30				2398784	A4M50L0414B290999	C142
2275085	A4G250I06P1GMN KC5010	C107				2390282	SDET43PDEL8GB2 KCK15	T115, T122, U39	2398785	A4M50R0519B058094	C141
2275086	A4G250I06P2GMN KC5010	C107	2383603	SPCT3125PPFR8LE KC410M	T110, U30				2398786	A4M50R0519B080136	C141
2275087	A4G312I08P1GMN KC5010	C107				2390283	SDET43PDEL8GB2 KCPK30	T115, T122, U39	2398787	A4M50R0519B132300	C141
2275089	A4G375I10P1GMN KC5010	C107	2383604	SPCT3125PPFL8LE KC410M	T110, U30				2398788	A4M50R0519B250999	C141
2275090	A4G375I10P2GMN KC5010	C107				2390284	SDET43PDEL8GB2 KC725M	T115, T122, U39	2398789	A4M50L0519B058094	C142
2275091	A4R125I03P00GMN KC5010	C107	2383605	SPCT31253PPFR8LE KC410M	T110, U30				2398790	A4M50L0519B080136	C142
2275092	A4R187I04P00GMN KC5010	C107				2390285	SDET43PDER8GB2 KC520M	T115, T122, U39	2398791	A4M50L0519B132300	C142
2275093	A4R250I06P00GMN KC5010	C107	2383608	SPCT31255FNL KC410M	T110, U30				2398792	A4M50L0519B250999	C142
2275452	B978A19800 KC7315	G141	2383778	B977A06400 KC7315	G135	2390286	SDET43PDER8GB2 KCK15	T115, T122, U39	2399462	KM25NER230	D30
2275583	MS2148	T63-64, T107-109, U25-29	2384123	TPGX1102ZPRGD KC7140	H85				2399494	KM25NER330	D30
			2384124	TPGX1303ZPRGD KC7140	H85	2390287	SDET43PDER8GB2 KCPK30	T115, T122, U39	2399496	KM25NER430	D30
2276088	B976A04300 KC7315	G135	2384125	TPGX1603ZPRGD KC7140	H85				2399497	KM25NER430	D30
2276090	B977A18400 KC7315	G138	2384430	B977A12100 KC7315	G137	2390288	SDET43PDER8GB2 KC725M	T115, T122, U39	2399498	KM25NSR230	D30
2276698	B977A18600 KC7315	G138	2384504	STN1018UNI KC635M	W44				2399499	KM25NSR330	D30
2277900	VBMT221LF KC5025	B281	2384505	STN1020UNI KC635M	W44	2390289	SDET43PDR8GB2 KC520M	T115, T122, U39	2399500	KM25NSR330	D30
2383518	TPGX0902ZPRGD KC7315	H85	2384509	STN1114UNI KC635M	W44				2399501	KM25NSL330	D30
2383519	TPGX1102ZPRGD KC7315	H85	2384510	STN1116UNI KC635M	W44	2390290	SDET43PDR8GB2 KCK15	T115, T122, U39	2399503	KM25NSL430	D30
2383520	TPGX1303ZPRGD KC7315	H85	2384511	STN1118UNI KC635M	W44				2399504	KM25SSR1630	D77
2383521	TPGX1603ZPRGD KC7315	H85	2384512	STN1120UNI KC635M	W44	2390291	SDET43PDR8GB2 KCPK30	T115, T122, U39	2399505	KM25SSL1630	D77
2383522	TPGX0902ZPRGD KC7140	H85	2384513	STN1124UNI KC635M	W44				2399506	KM25LSER1630	D77
2383552	B977A06350 KC7315	G135	2384517	STN1161UNI KC635M	W44	2390292	SDET43PDR8GB2 KC725M	T115, T122, U39	2399507	KM25LSL1630	D77
2383555	SDCT431PDER8LD2 KC725M	T115, T122, U38	2384521	STN1162UNI KC635M	W44				2400680	KSSP200R3SD43L168	T120
			2384522	STN1167UNI KC635M	W44	2390293	SDET433PDEL8GB2 KC520M	T115, T122, U39	2400681	KSSP250R3SD43L200	T120
2383556	SDCT431PDEL8LD2 KC725M	T115, T122, U38	2384524	STN1163UNI KC635M	W44				2400682	KSSP300R3SD43L240	T120
2383557	SDCT43PDEL8LD2 KC725M	T115, T122, U38	2384961	H40MCLN4	B76	2390294	SDET433PDEL8GB2 KCK15	T115, T122, U39	2401853	B977A13100 KC7315	G137
			2384973	H40MCLNR4	B76				2402283	KTIPO85R5SS10M	H38
2383558	SDCT433PDER8LD2 KC725M	T115, T122, U38	2384977	H40MVUNR3	B155	2390296	SDET433PDEL8GB2 KC725M	T115, T122, U39	2402284	KTIPO90R5SS10M	H38
			2384978	H40MVUNL3	B155				2402285	KTIPO95R5SS10M	H38
2383559	SDCT433PDEL8LD2 KC725M	T115, T122, U38	2384979	H32MVUNR3	B155	2390297	SDET433PDER8GB2 KC520M	T115, T122, U39	2402286	KTIPI05R5SS12M	H38
			2384980	H32MVUNL3	B155				2402287	KTIPI10R5SS12M	H38
2383560	SDCT434ENLD2 KC725M	T115, T122, U38	2385356	B976A05100 KC7315	G135	2390298	SDET433PDER8GB2 KCK15	T115, T122, U39	2402288	KTIPI15R5SS12M	H38
			2386534	420.162	S32				2402289	KTIPI25R5SS14M	H38
2383561	SDCT435ENLD2 KC725M	T115, T122, U38	2386665	B977A19700 KC7315	G138	2390299	SDET433PDER8GB2 KCPK30	T115, T122, U39	2402290	KTIPI30R5SS14M	H38
			2388424	DT8P	W4-5, W10-13, W17-19, W24-25				2402291	KTIPI35R5SS14M	H38
2383562	SDCT436ENLD2 KC725M	T115, T122, U38	2388784	B976A10800 KC7315	G137	2390300	SDET433PDER8GB2 KC725M	T115, T122, U39	2402292	KTIPI40R5SS16M	H38
			2389802	PMT04525	C71, C149				2402293	KTIPI45R5SS16M	H38
2383583	SDCT438ENLD2 KC725M	T115, T122, U38	2390123	B977A08300 KC7315	G136	2390961	B976A08200 KC7315	G136	2402294	KTIPI45R5SS16M	H38
			2390253	SDCT43PDER8LD2 KC725M	T115, T122, U38	2391872	B977A17700 KC7315	G138	2402838	K400B14RF45HN09C	S77
2383584	SPCT31251PPER8LD2 KC725M	T111, U30				2391902	B966A06350 KC7315	G131	2402839	K500B18RF45HN09C	S77
			2390254	SPCT3125PPER8LD2 KC725M	T111, U30	2391925	B966A05040 KC7315	G130	2402999	AADF0125J2B K600	P126
2383585	SPCT31251PPEL8LD2 KC725M	T111, U30				2392360	B976A03800 KC7315	G134	2403000	AADF0188J2B K600	P126
			2390256	SEKT443AEEN7LD2 KC725M	S40	2392361	B976A03900 KC7315	G134	2403001	AADF0250J2B K600	P126
2383586	SPCT3125PPEL8LD2 KC725M	T111, U30	2390257	SEKT443AEEN7GP2 KC725M	S40	2393422	STN1118UNI KC635M	W44	2403013	AADF0375J2B K600	P126
			2390258	SEKT443AEEN7GP2 KC520M	S40	2393667	STN1162UNI KC635M	W44	2403014	AADF0500J2B K600	P127
2383587	SPCT31253PPER8LD2 KC725M	T111, U30	2390259	SEKT443AEEN7GP2 KCK15	S40	2393668	STN1162UNI KC635M	W44	2403016	AADF0750J2B K600	P127
			2390260	SEKT443AEEN7GP2 KCPK30	S40	2393670	STN1161UNI KC635M	W44	2403807	B966A08300 KC7315	G131
2383588	SPCT31253PPEL8LD2 KC725M	T111, U30	2390261	SEKT443AESN7GP2 KC725M	S40	2393671	STN1161UNI KC635M	W44	2404108	B976A14200 KC7315	G137
			2390262	SEKT443AESN7GP2 KC520M	S40	2396971	B977A04900 KC7315	G135	2404433	B978A11700 KC7315	G140
2383589	SPCT31254ENLD2 KC725M	T111, U30	2390263	SEKT443AESN7GP2 KCK15	S40	2397289	B976A17100 KC7315	G138	2404438	B966A06300 KC7315	G131
			2390264	SEKT443AESN7GP2 KCPK30	S40	2397687	B976A04900 KC7315	G135	2404444	STN10075ISOI KC635M	W45
2383590	SPCT31255ENLD2 KC725M	T111, U30	2390265	SPET3125PPEL8GB2 KC725M	T111, U31	2397689	B976A07900 KC7315	G136	2404445	STN10100ISOI KC635M	W45
						2397697	DRGNL164DKC3	B98	2404446	STN10125ISOI KC635M	W45
2383591	SDCT431PDR8LE KC410M	T114, T121, U38, V143	2390266	SPET3125PPEL8GB2 KCK15	T111, U31	2397698	DRGNL164DKC3	B98	2404447	STN10150ISOI KC635M	W45
						2397700	DRGNL204DKC3	B98	2404448	STN11100ISOI KC635M	W45
2383592	SDCT431PDFL8LE KC410M	T114, T121, U38, V143	2390267	SPET3125PPEL8GB2 KCPK30	T111, U31	2397707	DRGNR206DKC4	B98	2404451	STN11150ISOI KC635M	W45
						2397767	KMP625IP	B58-60, B68, B98, B109-110	2404454	STN116100ISOI KC635M	W45
2383593	SDCT43PDFR8LE KC410M	T114, T121, U38, V143	2390268	SPET3125PPEL8GB2 KC520M	T111, U31				2404456	STN116150ISOI KC635M	W45
						2398751	A4M50R0314B036048	C140	2404457	STN116175ISOI KC635M	W45
2383594	SDCT43PDFL8LE KC410M	T114, T121, U38, V143	2390269	SPET3125PPSL8GB2 KC725M	T111, U31	2398752	A4M50R0314B042058	C141	2404458	STN16200ISOI KC635M	W45
						2398763	A4M50R0314B052074	C141	2404707	A4G0305M03U02B KC5025	C108
2383594	SDCT43PDFL8LE KC410M	T114, T121, U38, V143	2390271	SPET3125PPSL8GB2 KCPK30	T111, U31	2398764	A4M50R0314B068100	C141	2404708	A4G0405M04U04B KC5025	C108
						2398765	A4M50R0314B090160	C141	2405161	KTIPO80R3SCF12M	H40
2383595	SDCT43PDFR8LE KC410M	T114, T121, U38, V143	2390273	SPET3125PPER8GB2 KC725M	T111, U31	2398766	A4M50R0314B130300	C141	2405162	KTIPO85R3SCF12M	H40
						2398767	A4M50R0314B290999	C141	2405203	KTIPO90R3SCF12M	H40
2383595	SDCT43PDFR8LE KC410M	T114, T121, U38, V143	2390274	SPET3125PPER8GB							

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2405208	KTIP115R3SCF16M	H40	2408520	A24UDCLNR4KC3	B68	2425773	CCMT3251LF KC5025	B191	2435188	WLFNL32CA19S	E61
2405209	KTIP120R3SCF16M	H40	2408521	A24UDCLNR5KC4	B68	2425775	CCMT431LF KC5025	B191	2435196	KSEM3800PCM KC7135	H70, H11
2405210	KTIP125R3SCF16M	H40	2408522	A28UDCLNR4KC3	B68	2425779	CPMT18151LF KC5025	B207	2435297	CNMG431P KC5010	B52
2405211	KTIP130R3SCF16M	H40	2408523	A32VDCLNR4KC3	B68	2425780	CPMT21505LF KC5025	B207	2435298	CNMG432P KC5010	B52
2405212	KTIP135R3SCF16M	H40	2408524	A32VDCLNR5KC4	B68	2425781	CPMT2151LF KC5025	B207	2435299	CNMG433P KC5010	B52
2405213	KTIP140R3SCF16M	H40	2408526	A40VDCLNR4KC3	B68	2425782	CPMT2152LF KC5025	B207	2435301	DNMG431P KC5010	B83
2405214	KTIP145R3SCF16M	H40	2408527	A40VDCLNR6KC4	B68	2425784	CPMT3251LF KC5025	B207	2435302	CNMG432P KC5010	B83
2405215	KTIP150R3SCF20M	H40	2408528	A16TDDUNL3KC3	B92	2425785	CPMT3252LF KC5025	B207	2435315	TNMG331P KC5010	B126
2405216	KTIP160R3SCF20M	H40	2408544	A24JDDPNL4KC3	B91	2425786	DCMT21505LF KC5025	B225	2435320	WNMG331P KC5010	B147
2405248	KTIP080R5SCF12M	H40	2408545	A20UDDPNR4KC3	B91	2425788	DCMT431LF KC5025	B225	2435321	WNMG332P KC5010	B147
2405249	KTIP085R5SCF12M	H40	2408546	A24UDDPNR4KC3	B91	2425789	DCMT432LF KC5025	B225	2435322	WNMG431P KC5010	B160
2405250	KTIP090R5SCF12M	H40	2408547	A20UDDQNL4KC3	B91	2425790	DPMT21505LF KC5025	B232	2435323	WNMG432P KC5010	B160
2405251	KTIP095R5SCF12M	H40	2408548	A24UDDQNL4KC3	B91	2425791	DPMT2151LF KC5025	B232	2435325	DNMG442P KC5010	B83
2405252	KTIP100R5SCF16M	H40	2408549	A20UDDQNR4KC3	B91	2425793	DPMT3251LF KC5025	B232	2436719	B978A1 1300 KC7315	G140
2405273	KTIP105R5SCF16M	H40	2408550	A24UDDQNR4KC3	B91	2425794	DPMT3252LF KC5025	B232	2436798	DPMT3251LF KC7315	G141
2405274	KTIP110R5SCF16M	H40	2412903	RCGT86ELF KCPK30	V92	2425795	SCMT3251LF KC5025	B246	2438407	NG3125R KC5010	C170
2405275	KTIP115R5SCF16M	H40	2414136	A4ENN2020K0305	C131	2425796	SCMT3252LF KC5025	B246	2438408	NG3125R KC5025	C170
2405276	KTIP120R5SCF16M	H40	2414137	A4ENN2525M0305	C131	2425798	SCMT432LF KC5025	B246	2438663	BGH15L5PCTRHET KD1410	S124
2405277	KTIP125R5SCF16M	H40	2414138	A4ENN120305	C130	2425800	SPMT3251LF KC5025	B252	2438664	BGHX15L5PCTRHET KD1410	S125
2405278	KTIP130R5SCF16M	H40	2414139	A4ENN160305	C130	2425801	SPMT3252LF KC5025	B252	2438665	BGH15L504ERGET KD1415	S125
2405279	KTIP135R5SCF16M	H40	2416198	B977A16400 KC7315	G138	2425802	TCMT21505LF KC5025	B257	2440526	KTIP085R8PM10M	H38
2405280	KTIP140R5SCF16M	H40	2416279	B977A04100 KC7315	G134	2425803	TCMT2151LF KC5025	B257	2440527	KTIP160R8SS18M	H38
2405281	KTIP145R5SCF16M	H40	2417292	DCLNR123BK3	B59	2425804	TCMT2152LF KC5025	B257	2442348	RCGT64SHF KCPK30	V89
2405282	KTIP150R5SCF20M	H40	2417293	DCLNL123BK3	B59	2425805	TCMT32505LF KC5025	B257	2442642	B978A09100 KC7315	G140
2405283	KTIP160R5SCF20M	H40	2417294	DCLNR163DKC3	B59	2425806	TCMT3251LF KC5025	B257	2443608	KTIP0472R8SS050	H39
2405361	SEPT443AEEN7GB2 KCK15	S41	2417295	DCLNL163DKC3	B59	2425807	TCMT3252LF KC5025	B257	2444419	RCGT325F KC5010	E69
2405362	SEPT443AEEN7GB2 KCK15	S41	2417433	IRSN64 K9	B98	2425809	TCMT432LF KC5025	B257	2444420	RCGT325F KC5010	E69
2405373	SEPT443AEEN7GB2 KCPK30	S41	2419790	B976A12300 KC7315	G137	2425811	TPMT18151LF KC5025	B268	2444424	RCGT325F KC5025	E69
2405375	SEPT443AEEN7GB2 KCK15	S41	2421384	SSY5T K9	D76, D78-79	2425813	TPMT2152LF KC5025	B268	2445393	KMSP4515P	B68
2405376	SEPT443AEEN7GB2 KCK15	S41	2421386	SSA5T	D76, D78-79	2425814	TPMT3251LF KC5025	B268	2445394	KMSP515P	B68
2405377	SEPT443AEEN7GB2 KCPK30	S41	2424997	B967A12500 KC7315	G132	2425815	TPMT3252LF KC5025	B268	2446615	RPV45 KC5010	B167
2405379	SPPT3125PPER8GB2 KCK15	T112, U31	2425000	B967A09000 KC7315	G131	2425817	TPMT432LF KC5025	B268	2446618	RPV23 KC5010	B167
2405380	SPPT3125PPER8GB2 KCPK30	T112, U31	2425052	B967A10800 KC7315	G131	2425818	VBMT222LF KC5025	B281	2447377	EC1808E2 KC522M	T82
2405381	SPPT3125PPSR8GB2 KCK15	T112, U31	2425073	B967A08500 KC7315	G131	2425819	VBMT3305LF KC5025	B281	2447380	EC1848E KC522M	T82
2405382	SPPT3125PPSR8GB2 KCPK30	T112, U31	2425113	B966A04100 KC7315	G130	2425820	WPMT15121LF KC5025	B288	2449473	KSEM2600HPGM KC7315	H55
2405383	SPPT3125PPSR8GB2 KTKP20	T112, U31	2425114	B966A04900 KC7315	G130	2425821	WPMT2151LF KC5025	B288	2449475	KSEM3000HPGM KC7315	H55
2405384	SDPT43PDER8GB2 KC725M	T116, T123, U39	2425115	B966A05400 KC7315	G130	2425825	WCMT3252LF KC5025	B286	2449476	KSEM4000HPGM KC7315	H55
2405385	SDPT43PDER8GB2 KCK15	T116, T123, U39	2425117	B966A03600 KC7315	G130	2425826	CNMG431RP KC5010	B53	2449518	KSEM2500HPGM KC7315	H55
2405386	SDPT43PDER8GB2 KCPK30	T116, T123, U39	2425118	B966A07100 KC7315	G131	2425828	CNMG431RP KC5025	B53	2449924	KSEM1200HPGM KC7315	H54
2405387	SDPT43PDR8GB2 KC725M	T116, T123, U39	2425119	B966A07300 KC7315	G131	2425841	DNGG433FS KC5010	B77	2450291	B707A04000FBG KC7315	G110
2405388	SDPT43PDR8GB2 KCK15	T116, T123, U39	2425120	B966A07600 KC7315	G131	2425843	DCMT2151LF KC5025	B225	2450292	B707A05000FBG KC7315	G110
2405389	SDPT43PDR8GB2 KCPK30	T116, T123, U39	2425143	B966A08700 KC7315	G131	2425844	DCMT32505LF KC5025	B225	2450343	B707A06000FBG KC7315	G110
2405616	KSEM3200PCM KC7135	H70, H11	2425145	B966A08900 KC7315	G131	2425845	DCMT3251LF KC5025	B225	2450344	B707A08000FBG KC7315	G111
2405618	KSEM4000PCM KC7135	H70, H11	2425146	B966A09100 KC7315	G131	2425846	DCMT3252LF KC5025	B225	2450345	B707A13000FBG KC7315	G111
2407294	B977A10100 KC7315	G136	2425149	B966A09700 KC7315	G131	2425847	VBMT331LF KC5025	B281	2450346	B707A20000FBG KC7315	G112
2407297	B978A07700 KC7315	G140	2425151	B966A10900 KC7315	G131	2425848	VBMT332LF KC5025	B281	2450909	KSEM2000HPGM KC7315	H54
2408209	B977A09400 KC7315	G136	2425173	B966A11100 KC7315	G131	2425863	DNMG332MS KC5010	B82	2451576	EC1808E2 KC725M	T83
2408266	B966A03400 KC7315	G130	2425176	B966A11900 KC7315	G132	2425864	DNMG332MS KC5025	B82	2451578	EC1812F KC410M	T81
2408308	B976A09200 KC7315	G136	2425178	B966A12200 KC7315	G132	2425869	WNMG332MS KC5010	B160	2451579	EC1812E KC725M	T83
2408389	A16TDDUNR3KC3	B92	2425203	B966A12400 KC7315	G132	2425870	WNMG332MS KC5025	B160	2451580	EC1824F KC410M	T81
2408390	A20UDDUNR3KC3	B92	2425205	B966A12800 KC7315	G132	2425871	WNMG332MS K313	B160	2451581	EC1840F KC410M	T81
2408391	A20UDDUNR4KC3	B92	2425206	B966A12900 KC7315	G132	2426878	SDET43PDSL8GB2 KCPK30	T115, T122, U39	2451582	EC1840E KC522M	T82
2408392	A24UDDUNR4KC3	B92	2425233	B966A14200 KC7315	G132	2426879	SDET43PDSL8GB2 KC725M	T115, T122, U39	2451684	EC1848F KC410M	T81
2408464	A32VDDUNR4KC3	B92	2425285	B977A03000 KC7315	G134	2428744	B978A15300 KC7315	G141	2452135	OFK764AFEN6GB KC725M	S52
2408469	A16TDTFNR3KC3	B138	2425288	B977A03100 KC7315	G134	2429563	STN118NPT KC635M	W46	2452136	OFK764AFSN6GB KC725M	S52
2408487	A32VDCNKL4KC3	B67	2425290	B977A03200 KC7315	G134	2429564	STN1614NPT KC635M	W46	2452372	M1D100E1802W075L175	T76
2408488	A32VDCNKL5KC4	B67	2425292	B977A03400 KC7315	G134	2429565	STN1615NPT KC635M	W46	2452414	M1D125E1802W100L225	T76
2408494	A20UDSKNL3KC2	B113	2425303	B977A03500 KC7315	G134	2429566	STN1118NPT KC635M	W46	2453684	OPFT53AFEN4GB KC725M	S48
2408503	A16TDCFNK4KC3	B67	2425304	B977A03600 KC7315	G134	2429570	STN1118NPT KC635M	W46	2453686	OPFT53AFSN4HB KC725M	S48
2408505	A24UDCFNR4KC3	B67	2425305	B977A03700 KC7315	G134	2429571	STN1614NPTF KC635M	W46	2453687	OPFT53AFEN4GB KC725M	S47
2408507	A16TDCLNL4KC3	B68	2425306	B977A03800 KC7315	G134	2429572	STN16115NPTF KC635M	W46	2453688	OPFT53AFSN4HB KC725M	S47
2408508	A20UDCLNL4KC3	B68	2425309	B977A04400 KC7315	G135	2429575	STN1614NPS KC635M	W46	2455054	B976A06100 KC7315	G135
2408509	A24UDCLNL4KC3	B68	2425310	B977A04700 KC7315	G135	2429576	STN16115NPS KC635M	W46	2455056	B976A07300 KC7315	G136
2408511	A28UDCLNL4KC3	B68	2425311	B977A05400 KC7315	G135	2429577	STN1119BSW KC635M	W46	2455057	B976A07700 KC7315	G136
2408512	A32VDCLNL4KC3	B68	2425323	B977A06200 KC7315	G135	2429582	STN1119BSW KC635M	W46	2455430	A4R0500M05P00T01025 Ky3500	B321, C110
2408514	A32VDCLNL6KC4	B68	2425324	B977A06300 KC7315	G135	2429587	STN1614BSW KC635M	W46	2455801	OPFT53AFEN4GB KCK15	S48
2408515	A40VDCLNL4KC3	B68	2425325	B977A06600 KC7315	G135	2429588	STN1612BSW KC635M	W46	2455802	OPFT53AFSN4HB KCK15	S48
2408516	A40VDCLNL6KC4	B68	2425326	B977A07300 KC7315	G136	2429589	STN1611BSW KC635M	W46	2455814	OPFT53AFEN4GB KCK15	S47
2408517	A16TDCLNR3KC2	B68	2425328	B977A07900 KC7315	G136	2429593	STN2711BSW KC635M	W46	2455816	OPFT53AFEN4GB KCPK30	S48
2408518	A16TDCLNR4KC3	B68	2425330	B977A07600 KC7315	G136	2429851	CNMG432CT KC5010	B48	2455818	OPFT53AFSN4HB KCPK30	S48
2408519	A20UDCLNR4KC3	B68	2425331	B977A08600 KC7315	G136	2429979	DNMG431CT KC5010	B79	2455819	OPFT53AFEN4GB KCPK30	S47
			2425332	B977A09100 KC7315	G136	2430006	DNMG443CT KC5010	B79	2455820	OPFT53AFSN4HB KCPK30	S47
			2425344	B977A09600 KC7315	G136	2430830	K315A62RF60HN09C	S82	2455821	OPFT53AFEN4GB KC520M	S48
			24								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2456910	DFR140R4WD20M	J12	2499007	DFR240R3WD25M	J11	2499857	KSEM0781HPG KC7315	H54	2511471	A4ENN160811	C130
2456911	DFR145R4WD20M	J12	2499516	B707A11000FBG KC7315	G111	2499858	KSEM0797HPG KC7315	H54	2526351	KG2531ELDJ KC410M	T93
2456912	DFR150R4WD20M	J12	2499607	KSEM0500HPG KC7315	H54	2499859	KSEM0813HPG KC7315	H54	2526385	KG2508ELDJ KC410M	T93
2457733	DFR155R4WD20M	J12	2499608	KSEM0509HPG KC7315	H54	2499860	KSEM0844HPG KC7315	H55	2526387	KG2564ELDJ KC410M	T93
2457734	DFR160R4WD20M	J12	2499609	KSEM0516HPG KC7315	H54	2499861	KSEM0859HPG KC7315	H55	2526757	KG2516ELDJ KC410M	T93
2457735	DFR165R4WD32M	J12	2499610	KSEM0547HPG KC7315	H54	2499862	KSEM0875HPG KC7315	H55	2528269	KSSP200R3SD43W125L169	T119
2457736	DFR170R4WD32M	J12	2499611	KSEM0563HPG KC7315	H54	2499863	KSEM0884HPG KC7315	H55	2530317	M1D150K2502W125L200	T89
2457737	DFR175R4WD32M	J12	2499612	KSEM0578HPG KC7315	H54	2499864	KSEM0922HPG KC7315	H55	2530318	M1D150K2502C125L200	T89
2457738	DFR180R4WD32M	J12	2499723	KSEM1260HPGM KC7315	H54	2499865	KSEM0938HPG KC7315	H55	2530320	M1D150K2502C125L400	T89
2457739	DFR185R4WD32M	J12	2499725	KSEM1280HPGM KC7315	H54	2499866	KSEM0969HPG KC7315	H55	2530322	M1D200K2503C125L200	T89
2457741	DFR195R4WD32M	J12	2499727	KSEM1300HPGM KC7315	H54	2499867	KSEM1000HPG KC7315	H55	2530357	M1D150K2502HSG63L477	T91
2457743	DFR205R4WD32M	J12	2499729	KSEM1320HPGM KC7315	H54	2499868	KSEM1011HPG KC7315	H55	2530374	M1D200K2503CV50L700	T92
2457744	DFR210R4WD32M	J12	2499730	KSEM1350HPGM KC7315	H54	2499869	KSEM1031HPG KC7315	H55	2539334	CM184LP	C185, D25
2457746	DFR230R4WD32M	J12	2499731	KSEM1360HPGM KC7315	H54	2499870	KSEM1047HPG KC7315	H55	2539335	CM185LP	C185, D25
2457747	DFR240R4WD32M	J12	2499732	KSEM1370HPGM KC7315	H54	2499871	KSEM1094HPG KC7315	H55	2541018	KSEM1800PCM KC7135	H70, H11
2458790	OFKT53AFEN4GB KC522M	S47	2499733	KSEM1380HPGM KC7315	H54	2499872	KSEM1109HPG KC7315	H55	2541019	KSEM1850PCM KC7135	H70
2458791	OFKT53AFSN4HB KC522M	S47	2499735	KSEM1400HPGM KC7315	H54	2499873	KSEM1251HPG KC7315	H55	2541020	KSEM2300PCM KC7135	H70, H11
2458833	OFKT53AFNN4LNJ KC410M	S46	2499736	KSEM1410HPGM KC7315	H54	2499874	KSEM1156HPG KC7315	H55	2541133	B707A0700FBG KC7315	G110
2458914	SDET434SNGB2 KCPK30	T115, T122, U39	2499737	KSEM1420HPGM KC7315	H54	2499875	KSEM1172HPG KC7315	H55	2541200	KRDEA046AM	K79
2458915	SDET434SNGB2 KCPK30	T115, T122, U39	2499739	KSEM1440HPGM KC7315	H54	2499876	KSEM1188HPG KC7315	H55	2541201	KRDEA051AM	K79
2458916	SDET434SNGB2 KCPK30	T115, T122, U39	2499740	KSEM1450HPGM KC7315	H54	2499877	KSEM1203HPG KC7315	H55	2541202	KRDEA012AM	K79
2458917	SDET434SNGB2 KCPK30	T115, T122, U39	2499741	KSEM1460HPGM KC7315	H54	2499878	KSEM1219HPG KC7315	H55	2541213	KRDE025010M	K80
2458918	SDET435SNGB2 KCPK30	T115, T122, U39	2499743	KSEM1480HPGM KC7315	H54	2499879	KSEM1250HPG KC7315	H55	2541214	KRDE033010M	K80
2458919	SDET435SNGB2 KCPK30	T115, T122, U39	2499744	KSEM1500HPGM KC7315	H54	2499880	KSEM1281HPG KC7315	H55	2541215	KRDE043010M	K80
2458920	SDET435SNGB2 KCK15	T115, T122, U39	2499746	KSEM1530HPGM KC7315	H54	2499881	KSEM1297HPG KC7315	H55	2541216	KRDE065012M	K80
2458921	SDET435SNGB2 KCK15	T115, T122, U39	2499748	KSEM1550HPGM KC7315	H54	2499882	KSEM1313HPG KC7315	H55	2541217	KRCW032A	K80
2458922	SDET436SNGB2 KCPK30	T115, T122, U39	2499749	KSEM1560HPGM KC7315	H54	2499883	KSEM1328HPG KC7315	H55	2541511	KSEM1300PCM KC7135	H70, H11
2458923	SDET436SNGB2 KCPK30	T115, T122, U39	2499750	KSEM1570HPGM KC7315	H54	2499884	KSEM1344HPG KC7315	H55	2541512	KSEM1350PCM KC7135	H70
2458924	SDET436SNGB2 KCK15	T115, T122, U39	2499751	KSEM1580HPGM KC7315	H54	2499885	KSEM1375HPG KC7315	H55	2541535	B976A05530 KC7315	G135
2458925	SDET436SNGB2 KCK15	T115, T122, U39	2499753	KSEM1600HPGM KC7315	H54	2499886	KSEM1406HPG KC7315	H55	2541967	M1D100E1802CV40L450	T79
2458926	SDET436SNGB2 KCK15	T115, T122, U39	2499755	KSEM1620HPGM KC7315	H54	2499887	KSEM1422HPG KC7315	H55	2541969	M1D100E1802B40L450	T80
2458927	SDET436SNGB2 KCK15	T115, T122, U39	2499757	KSEM1650HPGM KC7315	H54	2499888	KSEM1438HPG KC7315	H55	2541970	M1D125E1803CV40L488	T79
2458928	SDET436SNGB2 KCK15	T115, T122, U39	2499759	KSEM1700HPGM KC7315	H54	2499889	KSEM1469HPG KC7315	H55	2541972	M1D150E1804CV40L488	T79
2458929	SDET436SNGB2 KCK15	T115, T122, U39	2499763	KSEM1800HPGM KC7315	H54	2499890	KSEM1500HPG KC7315	H55	2541984	M1D150E1804B40L488	T80
2458930	SDET436SNGB2 KCK15	T115, T122, U39	2499765	KSEM1850HPGM KC7315	H54	2499891	KSEM1514HPG KC7315	H55	2542068	KTIPO313R8SS038	H39
2458931	SDET436SNGB2 KCK15	T115, T122, U39	2499767	KSEM1900HPGM KC7315	H54	2500876	LT16EPA660K KU25T	D52	2542069	KTIPO335R8SS038	H39
2458932	SDET436SNGB2 KCK15	T115, T122, U39	2499771	KSEM1950HPGM KC7315	H54	2500931	LT16NRA660K KU25T	D61	2542071	KTIPO354R8SS038	H39
2458933	SDET436SNGB2 KCK15	T115, T122, U39	2499775	KSEM2100HPGM KC7315	H54	2503543	A4ENN2020K0611	C131	2542072	KTIPO374R8SS038	H39
2458934	SDET436SNGB2 KCK15	T115, T122, U39	2499777	KSEM2150HPGM KC7315	H55	2503544	A4ENN2525M0611	C131	2542083	KTIPO374R8SS044	H39
2458935	SDET438SNGB2 KCPK30	T115, T122, U39	2499779	KSEM2200HPGM KC7315	H55	2503545	A4ENN2322P0611	C131	2542084	KTIPO394R8SS044	H39
2458936	SDET438SNGB2 KCPK30	T115, T122, U39	2499782	KSEM2250HPGM KC7315	H55	2503550	A4SML2020K0317	C125	2542085	KTIPO413R8SS044	H39
2458937	SDET438SNGB2 KCPK30	T115, T122, U39	2499784	KSEM2350HPGM KC7315	H55	2503551	A4SMR2020K0317	C124	2542086	KTIPO433R8SS044	H39
2458938	SDET438SNGB2 KCK15	T115, T122, U39	2499786	KSEM2400HPGM KC7315	H55	2503552	A4SML2020K0417	C125	2542087	KTIPO453R8SS050	H39
2458939	SDET438SNGB2 KCK15	T115, T122, U39	2499787	KSEM2450HPGM KC7315	H55	2503553	A4SMR2020K0417	C124	2542088	KTIPO492R8SS050	H39
2460124	EP1812S KC725M	T85	2499789	KSEM2500HPGM KC7315	H55	2503554	A4SML2020K0620	C125	2542089	KTIPO492R8SS056	H39
2460125	EP1812S KCPK30	T85	2499791	KSEM2550HPGM KC7315	H55	2503555	A4SMR2020K0620	C124	2542090	KTIPO512R8SS056	H39
2460185	EP1812S KCK15	T85	2499795	KSEM2700HPGM KC7315	H55	2503556	A4SML2016K0317	C125	2542091	KTIPO532R8SS056	H39
2460273	881.252.200	K137-139	2499796	KSEM2750HPGM KC7315	H55	2503557	A4SMR2016K0317	C124	2542092	KTIPO551R8SS056	H39
2465988	KSEM2050HPGM KC7315	H54	2499798	KSEM2800HPGM KC7315	H55	2503558	A4SMR2016K0417	C124	2542093	KTIPO571R8SS063	H39
2466477	KSEM3500HPGM KC7315	H55	2499800	KSEM2850HPGM KC7315	H55	2503996	DVJNL123CKC3	B150	2542094	KTIPO591R8SS063	H39
2466478	KSEM3800HPGM KC7315	H55	2499802	KSEM2900HPGM KC7315	H55	2503997	DVJNL123CKC3	B150	2542095	KTIPO630R8SS069	H39
2466598	KSEM3700HPGM KC7315	H55	2499803	KSEM2950HPGM KC7315	H55	2503998	DVJNR163DKC3	B150	2542517	A4M50R0314A036048	C139
2476832	KSSR25OSN434M3	S88	2499807	KSEM3050HPGM KC7315	H55	2503999	DVJNL163DKC3	B150	2542518	A4M50R0314A042058	C139
2476963	KSSR300SN434M4	S88	2499810	KSEM3100HPGM KC7315	H55	2504000	DVJNR853DKC3	B150	2542519	A4M50R0314A052074	C139
2476964	KSSR400SN434M5	S88	2499811	KSEM3150HPGM KC7315	H55	2504001	DVJNL853DKC3	B150	2542520	A4M50R0314A068100	C139
2479506	M1D125E1404W125L225	T49	2499813	KSEM3200HPGM KC7315	H55	2504002	DVJNR164DKC3	B150	2542521	A4M50R0314A090160	C139
2479507	M1D100E1403W075L175	T50	2499814	KSEM3250HPGM KC7315	H55	2504003	DVJNL164DKC3	B150	2542522	A4M50R0314A130300	C139
2479508	M1D100E1403W100L175	T49	2499818	KSEM3350HPGM KC7315	H55	2504004	DVJNR854DKC3	B150	2542523	A4M50R0314A290999	C139
2479509	M1D125E1404S050L157	T53	2499820	KSEM3400HPGM KC7315	H55	2504005	DVJNL854DKC3	B150	2542524	A4M50L0314A036048	C140
2479510	M1D200E1406S075L157	T53	2499822	KSEM3450HPGM KC7315	H55	2504006	DVONR123CKC3	B151	2542527	A4M50L0314A068100	C140
2479512	M1D125E1404W100L225	T50	2499824	KSEM3550HPGM KC7315	H55	2504007	DVONL123CKC3	B151	2542528	A4M50L0314A090160	C140
2487433	KSEM1750HPGM KC7315	H54	2499826	KSEM3600HPGM KC7315	H55	2504008	DVONR163DKC3	B151	2542529	A4M50L0314A130300	C140
2488036	EC1820FJ KC410M	T81	2499828	KSEM3650HPGM KC7315	H55	2504009	DVONL163DKC3	B151	2542530	A4M50L0314A290999	C140
2488096	193.433	S44-45	2499831	KSEM3750HPGM KC7315	H55	2504010	DVONR853DKC3	B151	2542531	A4M50R0414A048072	C139
2488759	S2044CG	T53, T78	2499834	KSEM3850HPGM KC7315	H55	2504011	DVONL853DKC3	B151	2542532	A4M50R0414A064100	C139
2490989	B976A11300 KC7315	G137	2499835	KSEM3900HPGM KC7315	H55	2504012	DVNN123CKC3	B151	2542533	A4M50R0414A092150	C139
2494500	KSEM2650HPGM KC7315	H55	2499836	KSEM3950HPGM KC7315	H55	2504013	DVNN163DKC3	B151	2542534	A4M50R0414A132300	C139
2494501	KSEM3300HPGM KC7315	H55	2499837	OFKT64AFFN6LNJ KC410M	S51	2504014	DVNN1853DKC3	B151	2542535	A4M50R0414A290999	C139
2496015	KSEM2133HPGM KC7315	H55	2499843	KSEM0594HPG KC7315	H54	2504015	DVNN164DKC3	B151	2542537	A4M50L0414A064100	C140
2496669	M1D300K2503C100L225	T90	2499844	KSEM0609HPG KC7315	H54	2504223	KSEM1970HPGM KC7315	H54	2542538	A4M50L0414A092150	C140
2498749	DFR175R3WD25M	J11	2499845	KSEM0625HPG KC7315	H54	2505276	193.407	C130	2542539	A4M50L0414A132300	C140
2498750	DFR180R3WD25M	J11	2499846	KSEM0634HPG KC7315	H54	2506705	B977A15200 KC7315	G137	2542540	A4M50R0414A290999	C140
2498751	DFR185										

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2544200	SPCT3125PPER8LD2 KC520M	T111, U30	2599509	NR3062L KC5010	C172	2618969	KSSS600ASD43R750	U32	2635436	B977A15300 KC7315	G137
2544413	SDCT43PDER8LD2 KC520M	T115, T122, U38	2599510	NRP3031R KC5010	C169	2619033	B707A05560FBG KC7315	G110	2635710	M1D125E1803W100L225	T76
2545095	OFKT64AFEN6LB CKPK30	S51	2599511	NRP3031L KC5010	C169	2620169	B978A04600 KC7315	G139	2636514	B707A12800FBG KC7315	G111
2545097	OFKT64AFNS6LB CKPK30	S51	2599512	NRP3047R KC5010	C169	2620370	B707A16000FBG KC7315	G112	2636741	S2160	V87, V91
2546816	BGHX15L5PCSRLET KD1410	S125	2599513	NRP3047L KC5010	C169	2623553	B256A05100 KC7315	G58	2636813	S446CG	V70, V77
2548776	KTIPO90R8SS10M	H38	2599514	NRP3062R KC5010	C169	2623856	M1D075E1402W075L175	T49	2636819	S2162C	S17, S20, S24, S45, S50, V70, V77, V88, V141
2548777	KTIPO90R8SS10M	H38	2599515	NRP3062L KC5010	C169	2623857	M1D100E1402W100L175	T49	2636820	S2163C	S10, S14, S58, V77, V88, V91, V141
2548778	KTIPO95R8SS10M	H38	2599516	NRP3094R KC5010	C169	2623858	M1D125E1403W100L225	T50	2636821	S2164C	T90, V91
2548779	KTIPI00R8SS12M	H38	2599519	NG3047R KC5025	C170	2623859	M1D150E1402W125L225	T50	2636822	S445CG	S17, S20, T53, T78, T90, V54, V88, V91, V141
2548780	KTIPI05R8SS12M	H38	2599521	NG3062R KC5025	C170	2623860	KSEM2000PCM KC7135	H70, H111	2636823	S458CG	S17, S20, S24, T90, V54, V88, V141
2548781	KTIPI10R8SS12M	H38	2599522	NG3062L KC5025	C170	2624187	M1D075E1402W075L175DE	T51	2637756	MS2060	S32
2548782	KTIPI15R8SS12M	H38	2599523	NG3094R KC5025	C170	2624189	M1D097E1403W100L175	T49	2637762	MS2066	B197
2548913	KTIPI20R8SS14M	H38	2599524	NG3094L KC5025	C170	2624190	M1D100E1403C100L750	T52	2637805	F7IP	T29, T40
2548914	KTIPI25R8SS14M	H38	2599525	NG3125L KC5025	C171	2624191	M1D100E1403W100L175DE	T51	2639052	B707A1800FBG KC7315	G111
2548915	KTIPI30R8SS14M	H38	2599526	NG3156R KC5025	C170	2624192	M1D125E1404C125L800	T52	2639144	B707A15250FBG KC7315	G112
2548916	KTIPI35R8SS14M	H38	2599527	NG3156L KC5025	C171	2624194	M1D150E1404W125L225	T50	2639491	KSEM3900PCM KC7135	H70, H111
2548917	KTIPI40R8SS16M	H38	2599528	NG3189R KC5025	C170	2624197	M1D075E1402C075L800	T52	2641904	B966A16500 KC7315	G132
2548918	KTIPI45R8SS16M	H38	2599529	NG3189L KC5025	C171	2624198	M1D100E1402C100L1000	T52	2646000	B707A15000FBG KC7315	G111
2548919	KTIPI50R8SS16M	H38	2599530	NR3031R KC5025	C172	2624199	M1D100E1403W100L175R	T50	2646064	KSEM1280PCM KC7135	H70
2548920	KTIPO80R8SCF12M	H40	2599531	NR3031L KC5025	C172	2624200	M1D125E1404C125L225R	T50	2646067	KSEM1380PCM KC7135	H70
2548921	KTIPO85R8SCF12M	H40	2599534	NR3062R KC5025	C172	2624201	M1D125E1404W125L225R	T50	2646068	KSEM1400PCM KC7135	H70, H111
2548922	KTIPO90R8SCF12M	H40	2599535	NR3062L KC5025	C172	2624202	M1D150E1404C125L1000	T52	2646069	KSEM1410PCM KC7135	H70
2548923	KTIPO95R8SCF12M	H40	2599536	NRD4062R KC5010	C173	2624243	M1D062E1401W075L150	T49	2646072	KSEM1450PCM KC7135	H70
2548924	KTIPI00R8SCF16M	H40	2599537	NRD4062L KC5010	C173	2624245	M1D088E1402W100L175	T49	2646073	KSEM1460PCM KC7135	H70
2548925	KTIPI05R8SCF16M	H40	2599538	NRD4094R KC5010	C173	2624246	M1D100E1403CV40L300	T54	2646074	KSEM1480PCM KC7135	H70
2548926	KTIPI10R8SCF16M	H40	2599539	NRD4094L KC5010	C173	2624248	M1D125E1404CV40L300	T54	2646075	KSEM1500PCM KC7135	H70, H111
2548927	KTIPI15R8SCF16M	H40	2599540	NRD4125L KC5010	C173	2624250	M1D150E1405C125L800	T52	2646077	KSEM1500PCM KC7135	H70
2548928	KTIPI20R8SCF16M	H40	2599550	NR4125L KC5010	C172	2624253	M1D150E1405CV40L300	T54	2646078	KSEM1560PCM KC7135	H70
2548929	KTIPI25R8SCF16M	H40	2599571	NG2031R KC5010	C170	2624254	M1D250E1407S075L157	T53	2646080	KSEM1580PCM KC7135	H70
2548930	KTIPI30R8SCF16M	H40	2599572	NG2031L KC5010	C170	2624255	M1D150E1405S075L157	T53	2646081	KSEM1600PCM KC7135	H70, H111
2548931	KTIPI35R8SCF16M	H40	2599743	NG2041R KC5010	C170	2624270	M1D200E1405S075L157	T53	2646082	KSEM1620PCM KC7135	H70
2548932	KTIPI40R8SCF16M	H40	2599744	NG2041L KC5010	C170	2624271	M1D150E1405W125L225R	T50	2646083	KSEM1650PCM KC7135	H70
2548933	KTIPI45R8SCF16M	H40	2599745	NG2047R KC5010	C170	2624272	M1D150E1405S075L157	T53	2646084	KSEM1700PCM KC7135	H70, H111
2548934	KTIPI50R8SCF20M	H40	2599746	NG2047L KC5010	C170	2624275	M1D300E1408S100L175	T53	2646085	KSEM1700PCM KC7135	H70, H111
2548935	KTIPI60R8SCF20M	H40	2599748	NG2094R KC5010	C170	2624277	M1D300E1406S100L175	T53	2646086	KSEM1950PCM KC7135	H70
2549023	NG3047L KC5010	C170	2599749	NG2094L KC5010	C170	2624278	M1D400E1410S150L200	T53	2646087	KSEM2050PCM KC7135	H70
2549978	OFPT64AFEN6GB KC520M	S52	2599750	NG2125R KC5010	C170	2624279	M1D400E1408S150L200	T53	2646088	KSEM2100PCM KC7135	H70, H111
2576202	S459	V70, V77, V83, V149	2599751	NG2125L KC5010	C170	2625682	B256A07000 KC7315	G58	2646089	KSEM2150PCM KC7135	H70, H111
2579622	B976A06900 KC7315	G135	2599752	NGP2031R KC5010	C168	2625743	B256A08000 KC7315	G58	2646090	KSEM2200PCM KC7135	H70, H111
2581445	M1D200K2502S075L200	T90	2599757	NR2031R KC5010	C172	2627240	B967A12000 KC7315	G132	2646091	KSEM2250PCM KC7135	H70
2581447	M1D250K2503S100L225	T90	2599758	NR2031L KC5010	C172	2628928	B707A11570FBG KC7315	G111	2646092	KSEM2300PCM KC7135	H70
2581449	M1D400K2504S125L225	T90	2599759	NR2062R KC5010	C172	2629032	B707A04900FBG KC7315	G110	2646093	KSEM2350PCM KC7135	H70
2582207	CTFPR20CA4	B186, B397	2599760	NR2062L KC5010	C172	2629368	B707A12000FBG KC7315	G111	2646094	KSEM2400PCM KC7135	H70
2582790	B707A17000FBG KC7315	G112	2599765	NG2062R KC5025	C170	2629768	KSSS400ASP10N625	U26	2646095	KSEM2450PCM KC7135	H70
2584849	B707A21000FBG KC7315	G112	2599766	NG2062L KC5025	C170	2629769	KSSS400ASP10L625	U25	2646096	KSEM2500PCM KC7135	H70
2598551	E06MNSCLCL2	B197	2599887	B976A04100 KC7315	G134	2629770	KSSS400ASP10R625	U25	2646097	KSEM2550PCM KC7135	H70
2598552	E06MNSCLCR2	B197	2601012	KSP200R32D43L125	T120	2629774	KSSS600ASP10N625	U26	2646098	KSEM2600PCM KC7135	H70
2598569	E08RNSCLCR2	B197	2603030	KSEM2430HPGM KC7315	H55	2629777	KSSS600ASP10N625	U26	2646099	KSEM2700PCM KC7135	H70, H111
2598696	E10SSCLCR2	B197	2603454	RNM643RN KC5010	B97	2629780	KSSS400ASP10N625	U27	2646100	KSEM2800PCM KC7135	H70
2598697	E10SSCLCL3	B197	2605982	RCGT64ELF CKPK30	V89	2629781	KSSS500ASP10N625	U27	2646101	KSEM2850PCM KC7135	H70
2598698	E10SSCLCR3	B197	2606186	RCGT64SHF KC725M	V89	2629783	KSSS800BSP10N625	U27	2646102	KSEM2900PCM KC7135	H70, H111
2598699	E12SSCLCL3	B197	2607377	B707A10000FBG KC7315	G111	2629784	KSSS800ASD43L750	U32	2646103	KSEM3050PCM KC7135	H70
2598700	E12SSCLCR3	B197	2607667	BMD200R6403W150L200	V87	2629785	KSSS800ASD43R750	U32	2646104	KSEM3100PCM KC7135	H70, H111
2598702	E16TSSCLCR3	B197	2610668	BMD250R6404S075L200	V88	2629786	KSSS800ASD43N750	U33	2646105	B343S02411HPG KC7315	I10
2598759	NG3072R KC5010	C170	2610670	BMD300R6405S100L200	V88	2629787	KSSS800ASD43N750	U32	2646108	B343S04921HPG KC7315	I10
2598760	NG3072L KC5010	C170	2610672	BMD400R6405S125L200	V88	2629788	KSSS1000ASD43N750	U33	2646109	B343S05000HPG KC7315	I10
2598761	NG3078R KC5010	C170	2610683	BMD400R6406S125L200	V88	2629789	KSSS1000ASD43R750	U32	2646110	B343S0500HPG KC7315	I10
2598803	NG3088R KC5010	C170	2610684	BMD500R6406S150L250	V88	2629790	KSSS600BSP43N750	U34	2646111	B343S05118HPG KC7315	I10
2598804	NG3097R KC5010	C170	2610686	BMD600R6407S150L250	V88	2633016	B707A1800FBG KC7315	G112	2646112	B343S02402HPG KC7315	I8
2598806	NG3105R KC5010	C170	2610687	BMD600R6408S150L250	V88	2633730	KTIPO80R3BF08M	I11	2646253	B343S02441HPG KC7315	I8
2598807	NG3105L KC5010	C171	2610688	BMD800R6409S250L250	V88	2633731	KTIPO90R5BF10M	I13	2646254	B343S02480HPG KC7315	I8
2598808	NG3125L KC5010	C171	2610689	BMD300R8603S075L200	V91	2633732	KTIPI60R3BF17M	I11	2646255	B343S02500HPG KC7315	I8
2598809	NG3142R KC5010	C170	2610691	BMD400R8605S125L250	V91	2634374	3.77000R229V	J85	2646256	B343S02500HPG KC7315	I8
2598811	NG3156R KC5010	C170	2610694	BMD600R8607S150L250	V91	2634375	3.77000R227V	J85	2646257	B343S02559HPG KC7315	I8
2598813	NG3189L KC5010	C171	2610696	BMD800R8608S250L250	V91	2634376	3.77000R229V	J85	2646258	B343S02570HPG KC7315	I8
2598816	NGP3125R KC5010	C168	2610697	BMD500R8606S150L250	V91	2634377	3.77000R231V	J85	2646259	B343S02598HPG KC7315	I8
2598817	NGP3125L KC5010	C168	2613790	3.41020R904 KC7315	I17	2634378	3.77000R239V	J85	2646260	B343S02638HPG KC7315	I8
2598823	NGD3189L KC5010	C171	2613791	3.41020R901 KC7315	I16	2634379	3.77000R249V	J85	2646261	B343S02656HPG KC7315	I8
2598824	NG3062R KC5010	C170	2613792	3.41020R902 KC7315	I16	2634380	3.77000R251V	J85	2646262	B343S02677HPG KC7315	I9
2599495	NG4189R KC5010	C170	2613858	B967A14000 KC7315	G132	2634381	3.77000R253V	J85	2646263	B343S02717HPG KC7315	I9
2599496	NR3031L KC5010	C172	2614153	MS2055	B197	2634382	3.77000R274V	J85	2646265	B343S02756HPG KC7315	I9
2599497	NG4189L KC5010	C171	2614817	B976A07100 KC7315	G135	26					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2646275	B343S03150HPG	KC7315	2649381	B976A12304	KC7315	2658030	B707A08800FBG	KC7315	2659240	A4R0600M06P00T01025	KY3500
2646276	B343S01250HPG	KC7315	2649382	B976A14288	KC7315	2658054	B256A08400	KC7315			B321, C110
2646277	B343S01339HPG	KC7315	2649383	B976A15875	KC7315	2658075	B967A10700	KC7315	2659241	A4R0800M08P00T01025	KY3500
2646278	B343S01378HPG	KC7315	2649384	B976A17463	KC7315	2658213	B977A06528	KC7315			B321, C110
2646279	B343S01495HPG	KC7315	2649385	B976A19050	KC7315	2658214	B977A09746	KC7315	2659244	A4R250I06P00T0425	KY3500
2646280	B343S01496HPG	KC7315	2649386	B977A03970	KC7315	2658215	B977A06909	KC7315			B321, C110
2646281	B343S01563HPG	KC7315	2649387	B977A04580	KC7315	2658216	B977A07145	KC7315	2659293	A20UDVJNR3K3C	B154
2646282	B343S01575HPG	KC7315	2649388	B977A04623	KC7315	2658217	B977A07541	KC7315	2659294	A24UDVJNL3K3C	B154
2646333	B343S01614HPG	KC7315	2649389	B977A04763	KC7315	2658218	B977A07938	KC7315	2659295	A24UDVJNR3K3C	B154
2646334	B343S01654HPG	KC7315	2649390	B977A05410	KC7315	2658219	B977A08334	KC7315	2660255	KG2502ELDJD KC410M	T93
2646335	B343S01693HPG	KC7315	2649391	B977A05558	KC7315	2658220	B977A08433	KC7315	2660255	KG2502ELDJD KC410M	T93
2646336	B343S01772HPG	KC7315	2649486	B967A10500	KC7315	2658221	B977A08733	KC7315	2660384	B707A05900FBG	KC7315
2646337	B343S01811HPG	KC7315	2649548	R30FBHS06	K140	2658222	B977A09129	KC7315	2818063	B977A21000	KC7315
2646338	B343S01820HPG	KC7315	2649549	R38FBHS06	K140	2658223	B977A09347	KC7315	2825941	QTM20 WG	B292
2646339	B343S01875HPG	KC7315	2649550	R48FBHS06	K140	2658224	B977A09525	KC7315	2832635	CT11 WG	B291-292
2646340	B343S01929HPG	KC7315	2649551	R65FBHS06	K140	2658225	B977A09921	KC7315	2668502	KG2502ER250V	J85
2646341	B343S01969HPG	KC7315	2649552	R85FBHS06	K140	2658227	B977A10320	KC7315	2669513	3.77000R252V	J85
2646342	B343S02008HPG	KC7315	2649553	R85FBHS09	K140	2658228	B977A10716	KC7315	2669514	3.77000R228V	J85
2646343	B343S02047HPG	KC7315	2649554	R12FBHS09	K140	2658229	B977A11113	KC7315	2669515	3.77000R230V	J85
2646344	B343S02087HPG	KC7315	2649555	R24FBHS06LF	K140	2658230	B977A11509	KC7315	2669516	3.77000R248V	J85
2646345	B343S02126HPG	KC7315	2649556	R31FBHS06LF	K140	2658231	B977A11908	KC7315	2872839	KSEM0757HP	KC7315
2646346	B343S02130HPG	KC7315	2649557	R40FBHS06LF	K140	2658232	B977A12304	KC7315	2875458	KG2550ELDJD KC410M	T93
2646347	B343S02165HPG	KC7315	2649558	R51FBHS06LF	K140	2658234	B977A13096	KC7315	2875584	B978A05800	KC7315
2646348	B343S02185HPG	KC7315	2649559	R67FBHS09LF	K140	2658235	B977A14288	KC7315	2876977	RPV45MP	KC5010
2646349	B343S02188HPG	KC7315	2649913	DH35M	S39, T113	2658236	B977A15875	KC7315	2877454	EP180EHD	KC725M
2646350	B343S02205HPG	KC7315	2650038	B707A08500FBG	KC7315	2658237	B977A16078	KC7315	2877455	EP180EHD	KCPK30
2646351	B343S02283HPG	KC7315	2651013	B343S03189HPG	KC7315	2658239	B977A17463	KC7315	2877456	EP1812EHD	KC725M
2646352	B343S02362HPG	KC7315	2651014	B343S03228HPG	KC7315	2658240	B977A19050	KC7315	2877457	EP1812EHD	KCPK30
2646385	B343S05197HPG	KC7315	2651015	B343S03268HPG	KC7315	2658241	B977A19253	KC7315	2877458	EP1816EHD	KC725M
2646386	B343S05315HPG	KC7315	2651016	B343S03281HPG	KC7315	2658242	B977A19446	KC7315	2877459	EP1816EHD	KCPK30
2646387	B343S05512HPG	KC7315	2651017	B343S03307HPG	KC7315	2658352	SFRHEC250S3075	K600	2877460	EP1832EHD	KC725M
2646389	B343S05591HPG	KC7315	2651018	B343S03320HPG	KC7315	2658393	B978A03970	KC7315	2877461	EP1832EHD	KCPK30
2646390	B343S05625HPG	KC7315	2651019	B343S03346HPG	KC7315	2658394	B978A04763	KC7315	2877462	KDMB0500MERGN	KC515M
2646391	B343S05906HPG	KC7315	2651020	B343S03386HPG	KC7315	2658395	B978A05558	KC7315	2877812	KDMB0375R35A0038SN	V121
2646392	B343S06102HPG	KC7315	2651021	B343S03425HPG	KC7315	2658396	B978A06350	KC7315	2878423	KDMB07500ERGN	KC515M
2646393	B343S06250HPG	KC7315	2651022	B343S03438HPG	KC7315	2658397	B978A06746	KC7315	2878424	KDMB10000ERGN	KC515M
2646394	B343S06299HPG	KC7315	2651023	B343S03465HPG	KC7315	2658398	B978A07145	KC7315	2878433	KDMB0500591A050SN	V121
2646395	B343S06496HPG	KC7315	2651025	B343S03543HPG	KC7315	2658399	B978A07541	KC7315	2878434	KDMB0500512A050SN	V121
2646396	B343S06562HPG	KC7315	2651026	B343S03583HPG	KC7315	2658400	B978A07938	KC7315	2878435	KDMB0625R551A063SN	V121
2646397	B343S06693HPG	KC7315	2651028	B343S03680HPG	KC7315	2658401	B978A08334	KC7315	2878436	KDMB0625R630A063SN	V121
2646399	B343S06890HPG	KC7315	2651029	B343S03701HPG	KC7315	2658402	B978A08733	KC7315	2878437	KDMB0750R630A075SN	V121
2646400	B343S06969HPG	KC7315	2651030	B343S03740HPG	KC7315	2658403	B978A09129	KC7315	2878438	KDMB0750R689A075SN	V121
2646401	B343S07087HPG	KC7315	2651031	B343S03750HPG	KC7315	2658404	B978A09525	KC7315	2878439	KDMB0750R827A075SN	V121
2646402	B343S08397HPG	KC7315	2651033	B343S03819HPG	KC7315	2658405	B978A09921	KC7315	2878440	KDMB1000R630A100SN	V121
2646423	B343S04016HPG	KC7315	2651034	B343S03858HPG	KC7315	2658406	B978A10320	KC7315	2878441	KDMB0750R748A100SN	V121
2646424	B343S04055HPG	KC7315	2651035	B343S03906HPG	KC7315	2658407	B978A10716	KC7315	2878442	KDMB1250R689A125SN	V121
2646425	B343S04063HPG	KC7315	2651036	B343S03937HPG	KC7315	2658408	B978A11113	KC7315	2878443	KDMB1250R827A125SN	V121
2646426	B343S04094HPG	KC7315	2651037	HSK63FBH01695	K128	2658409	B978A11509	KC7315	2878444	KDMB0312R551A031ST	V122
2646427	B343S04134HPG	KC7315	2651038	AFB38115SCFPR09	K134	2658410	B978A11908	KC7315	2878445	KDMB0375R591A038ST	V122
2646428	B343S04173HPG	KC7315	2651039	AFB42115SCFPR09	K134	2658411	B978A12304	KC7315	2878446	KDMB0500R630A050ST	V122
2646429	B343S04213HPG	KC7315	2651040	AFB47115SCFPR09	K134	2658412	B978A12700	KC7315	2878448	KDMB0750R748A075ST	V122
2646430	B343S04219HPG	KC7315	2651042	RS1605	K129	2658413	B978A14288	KC7315	2878449	KDMB1000R827A100ST	V122
2646431	B343S04252HPG	KC7315	2651163	CFB10082	K135	2658414	B978A15875	KC7315	2878450	KDMB1250R945A125ST	V122
2646432	B343S04331HPG	KC7315	2651164	CFB12096	K135	2658415	B978A16078	KC7315	2878591	B976A03300	KC7315
2646433	B343S04370HPG	KC7315	2651165	CFB14110	K135	2658416	B978A17463	KC7315	2878592	B976A03300	KC7315
2646434	B343S04375HPG	KC7315	2651166	CFB16120	K135	2658417	B978A19050	KC7315	2878733	KDMT0500R630A050HNC	V133
2646435	B343S04409HPG	KC7315	2651167	CFB18140	K135	2658418	B978A19253	KC7315	2878737	KDMT0500R748A075HNC	V133
2646436	B343S04449HPG	KC7315	2651168	HFB1023SCFPR06	K130	2658419	A4G0300M03P04T01025	KY3500	2879403	KDMB0375R472A038HNC	V123
2646437	B343S04528HPG	KC7315	2651169	HFB1223SCFPR06	K130			B321, C110	2879404	KDMB0375R591A038HNC	V123
2646438	B343S04531HPG	KC7315	2651170	HFB1627SCFPR06	K130	2658420	A4G0400M04P04T01025	KY3500	2879405	KDMB0500R472A050HNC	V123
2646439	B343S04606HPG	KC7315	2651171	HFB2127SCFPR06	K130			B321, C110	2879406	KDMB0500R630A050HNC	V123
2646440	B343S04646HPG	KC7315	2651172	HFB2427SCFPR06	K130	2658421	A4G0500M05P08T01025	KY3500	2879408	KDMB0625R689A063HNC	V123
2646441	B343S04688HPG	KC7315	2651173	HFB2727SCFPR06	K130			B321, C110	2879409	KDMB0750R551A075HNC	V123
2646442	B343S04724HPG	KC7315	2651174	HFB3127SCFPR06	K130	2658422	A4G0600M06P08T01025	KY3500	2879410	KDMB0750R827A075HNC	V123
2649363	B976A03970	KC7315	2651175	HFB3427SCFPR06	K130			B321, C110	2879411	KDMB1000R630A100HNC	V123
2649364	B976A04763	KC7315	2651176	HFB14FBHS1440	K130	2658444	SFRHEC375S3088	K600	2879412	KDMB1000R906A100HNC	V123
2649365	B976A05575	KC7315	2651177	HFB16FBHS1640	K130	2658445	SFRHEC500S3100	K600	2879415	KDMT05002ERGN	KC515M
2649366	B976A06350	KC7315	2651178	HFB19FBHS1840	K130	2658446	SFRHEC500S3200	K600	2879416	KDMT05004ERGN	KC515M
2649367	B976A06746	KC7315	2652755	B707A09000FBG	KC7315	2658448	SFRHEC625S3225	K600	2879418	KDMT06254ERGN	KC515M
2649368	B976A07145	KC7315	2652965	SYB24RBHT06F	K125	2658449	SFRHEC750S3150	K600	2879419	KDMT07502ERGN	KC515M
2649369	B976A07541	KC7315	2652967	SYB30RBHT06F	K125	2658450	SFRHEC750S3225	K600	2879420	KDMT07504ERGN	KC515M
2649370	B976A07938	KC7315	2652968	SYB40RBHT09F	K125	2658452	SFRHEC100S3225	K600	2879514	KDMT05004ERGC	KC515M
2649371	B976A08334	KC7315	2652969	SYB50RBHT09F	K125	2658685	B967A16000	KC7315	2879515	KDMT05002ERGC	KC515M
2649372	B976A08733	KC7315	2652970	SYB66RBHT12F	K125	2659233	A4G0800M08P08T01025	KY3500	2879519	KDMT0	



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
2884915	KSCMCA90UN KD1420	S110	2957732	SNXF43ZNSNGP KC524M	S89	2982077	EP1416SGD KC725M	T58, T70	3018928	KTIPO669R3SS069	H39
2884917	KSCMCA75HR KD1420	S111	2957734	SNXF433ENLD KC524M	S89	2982084	OFKT53AFENGLB KC522M	S47	3018929	KTIPO709R3SS075	H39
2884918	KSCMCA750F KD1420	S111	2957735	SNXF433SNHE KC524M	S89	2982086	OFKT53AFENGLB KCK15	S47	3018930	KTIPO748R3SS075	H39
2884919	KSCMCA75PT KD1420	S111	2957736	SNXF43ZINENLD KC514M	S89	2982087	OFKT53AFENGLB KCPK30	S47	3018931	KTIPO787R3SS081	H39
2885009	B707A12500FBG KC7315	G111	2957738	SNXF433SNGP KC514M	S89	2982090	EP1416SGD KC520M	T58, T70	3018932	KTIPO669R5SS069	H39
2886972	SDET438XENGB2 KC725M	T115, T122, U39	2957739	SNXF43ZNSNGP KC514M	S89	2982091	EP1416SGD KCPK30	T58, T70	3018933	KTIPO709R5SS075	H39
2887393	KSEM2120HPGM KC7315	H54	2957741	SNXF43ZNSNHE KC514M	S89	2982168	A4SCL2020K0113	C128	3018934	KTIPO787R5SS075	H39
2887394	KSEM2670HPGM KC7315	H55	2957828	KDMT0500R512A050SN	V132	2982169	A4SCL1616K0113	C128	3018935	KTIPO787R5SS081	H39
2887395	KSEM1170HPGM KC7315	H54	2957829	KDMT0500R591A050SN	V132	2982170	A4SCL1212K0113	C128	3020201	B707A10600FBG KC7315	G111
2887724	B707A03000FBG KC7315	G110	2957831	KDMT0625R630A063SN	V132	2982172	A4SCR2020K0113	C128	3022047	DFR0500R4SSF075	J15
2888086	KTIPO80R4BF09M	I12	2957832	KDMT0750R630A075SN	V132	2982223	A4SCR1616K0113	C128	3022048	DFR0531R4SSF075	J15
2888087	KTIPO85R4BF09M	I12	2958143	KDMT0750R827A075SN	V132	2982224	A4SCR1010K0113	C128	3022049	DFR0563R4SSF075	J15
2888088	KTIPO90R4BF10M	I12	2958144	KDMT1000R630A100SN	V132	2983278	EC1408ELD KC522M	T56, T67	3022050	DFR0594R4SSF075	J15
2888089	KTIPO95R4BF10M	I12	2958146	KDMT1000R906A100SN	V132	2983279	EC1408FLDJ KC410M	T55, T66	3022051	DFR0625R4SSF075	J15
2888090	KTIPO95R4BF11M	I12	2962052	SFRHEC312S3075 KC625M	P131	2983331	EC1408EGD KC725M	T57, T68	3022052	DFR0625R4SSF100	J15
2888091	KTIPO95R4BF11M	I12	2962053	SFRHEC375S3088 KC625M	P131	2983890	EC1404EGD KC725M	T57, T68	3022343	DFR0656R4SSF100	J15
2888092	KTIPO10R4BF12M	I12	2962054	SFRHEC500S3100 KC625M	P131	2983891	EC1431EGD KC725M	T57, T68	3022344	DFR0688R4SSF100	J15
2888306	B978A04000 KC7315	G139	2962055	SFRHEC500S3200 KC625M	P131	2983980	A4G0205M02U02GMN KC5010	C106	3022345	DFR0703R4SSF100	J15
2888501	KTIPO80R3BF09M	I11	2962057	SFRHEC625S3225 KC625M	P131	2983981	A4G0205M02U02GMN KC5025	C106	3022346	DFR0734R4SSF100	J15
2888502	KTIPO85R3BF09M	I11	2962058	SFRHEC750S3150 KC625M	P131	2983982	A4G0205M02U02GMP KC5010	C105	3022347	DFR0750R4SSF100	J15
2888503	KTIPO90R3BF09M	I11	2962059	SFRHEC750S3225 KC625M	P131	2984013	A4G0205M02U02GMP KC5025	C105	3022348	DFR0780R4SSF100	J15
2888504	KTIPO90R3BF10M	I11	2962060	SFRHEC100S3150 KC625M	P131	2984015	A4G0200M02P02GMP KC5010	C105	3022349	DFR0813R4SSF100	J15
2888505	KTIPO95R3BF10M	I11	2962061	SFRHEC100S3225 KC625M	P131	2984016	A4G0200M02P02GMP KC5025	C105	3022350	DFR0844R4SSF100	J15
2888506	KTIPO95R3BF10M	I11	2963631	B511S08000 KC7315	J86	2984018	A4G0255M2BU02GMN KC5025	C106	3022351	DFR0875R4SSF100	J15
2888507	KTIPO95R3BF10M	I11	2963632	B511S10000 KC7315	J86	2984020	A4G0255M2BU02GMP KC5025	C105	3022352	DFR0906R4SSF100	J15
2888508	KTIPO95R3BF11M	I11	2963663	B511S15000 KC7315	J86	2984022	A4G0250M2BP02GMP KC5010	C105	3022353	DFR0938R4SSF100	J15
2888509	KTIPO95R3BF11M	I11	2963664	B511S20000 KC7315	J86	2984024	A4R0205M02U00GMN KC5010	C107	3022354	DFR0969R4SSF100	J15
2888510	KTIPO95R3BF11M	I11	2963665	B511S25000 KC7315	J86	2984025	A4R0205M02U00GMN KC5025	C107	3022355	DFR0984R4SSF100	J15
2888511	KTIPO95R3BF12M	I11	2963666	B511S30000 KC7315	J86	2984026	A4R0200M02P00GMP KC5010	C106	3022356	DFR1000R4SSF100	J15
2888512	KTIPO95R3BF12M	I11	2964507	RNMG64RN KC5010	B97	2984027	A4R0200M02P00GMP KC5025	C106	3022357	DFR1000R4SSF125	J15
2888513	KTIPO95R3BF12M	I11	2965409	B977A04650 KC7315	G135	2984028	A4G0942BP05GMN KC5010	C107	3022625	A4M50L0214M	C138
2888514	KTIPO95R3BF13M	I11	2971371	RCGT64SGF KC522M	V89	2984053	EC1404ELD KC522M	T56, T67	3023165	EP1848EHD KC725M	T84
2888515	KTIPO95R3BF13M	I11	2972258	A4C0155N00CF01 KC5025	C112	2984054	EC1404FLDJ KC410M	T55, T66	3023166	EP1848EHD KCPK30	T84
2888516	KTIPO95R3BF13M	I11	2972259	A4C0155L06CF01 KC5025	C113	2984056	EC1431ELD KC522M	T56, T67	3023574	KSEM2210HPGM KC7315	H55
2888517	KTIPO95R3BF13M	I11	2972262	A4C0155R06CF01 KC5025	C113	2984057	EC1431FLDJ KC410M	T55, T66	3024727	B707A10200FBG KC7315	G111
2888518	KTIPO95R3BF14M	I11	2973094	A4C0155R16CF01 KC5025	C113	2984137	EC1412ELD KC522M	T56, T67	3024745	B966A13100 KC7315	G132
2888519	KTIPO95R3BF14M	I11	2974425	A4SMR2020K0217	C124	2984138	EC1412FLDJ KC410M	T55, T66	3026450	12MHC030M	G79
2888520	KTIPO95R3BF14M	I11	2975401	MS2166	T49-54	2984210	EC1412EGD KC725M	T57, T68	3026451	12MHC040M	G79
2888521	KTIPO95R3BF15M	I11	2975402	MS2167	T49, T51-52	2984359	EC1416ELD KC522M	T56, T67	3026452	12MHC050M	G79
2888522	KTIPO95R3BF15M	I11	2976491	A4SML100214	C123	2984360	EC1416FLDJ KC410M	T55, T66	3026643	12MHC060M	G79
2888523	KTIPO95R3BF15M	I11	2976493	A4SML120217	C123	2984773	EC1416EGD KC725M	T57, T68	3026644	12MHC070M	G79
2888524	KTIPO95R3BF16M	I11	2976494	A4SML160217	C123	2985272	B707A03500FBG KC7315	G110	3026645	12MHC080M	G79
2888525	KTIPO95R3BF16M	I12	2976495	A4SMR100214	C122	2985333	B707A04500FBG KC7315	G110	3026646	12MHC090M	G79
2888526	KTIPO95R3BF16M	I12	2976496	A4SMR120214	C122	2985334	B707A06500FBG KC7315	G110	3026647	12MHC100M	G79
2888527	KTIPO95R3BF16M	I12	2976497	A4SMR120217	C122	2985335	B707A09500FBG KC7315	G111	3026648	20MHC030M	G79
2888528	KTIPO95R3BF16M	I12	2976498	A4SMR160217	C122	2985336	B707A14000FBG KC7315	G111	3026649	20MHC040M	G79
2888529	KTIPO95R3BF16M	I12	2977923	KSP300R5SD43L400HC	T120	2985682	193.465	S109	3026650	20MHC050M	G79
2888530	KTIPO95R3BF16M	I12	2978378	A4SCR1212K0113	C128	2985876	193.462	S109	3026651	20MHC060M	G79
2888531	KTIPO95R3BF16M	I12	2979048	B978A05900 KC7315	G139	2987166	MSKNR25CA6	B115	3026652	20MHC070M	G79
2888532	KTIPO95R3BF16M	I12	2979110	A4C0205L10CF02 KC5025	C113	2993398	B707A07800FBG KC7315	G111	3026653	20MHC080M	G79
2888533	KTIPO95R3BF16M	I12	2979111	A4C0205N00CF02 KC5025	C112	3005898	B967A11000 KC7315	G131	3026654	20MHC090M	G79
2888534	KTIPO95R3BF16M	I12	2979112	A4C0205R06CF02 KC5025	C113	3005899	B967A13500 KC7315	G132	3026655	20MHC100M	G79
2888535	KTIPO95R3BF16M	I12	2979192	A20RA4EMR0207M	C133	3005956	B976A03100 KC7315	G134	3026656	20MHC110M	G79
2888536	KTIPO95R3BF16M	I12	2979216	A4C0255N00CF02 KC5025	C112	3013657	KSEM180R0HPGM KC7315	H54	3026657	20MHC120M	G79
2888537	KTIPO95R3BF16M	I12	2979217	A4C0255R06CF02 KC5025	C113	3015439	DFR030204MD KC7140	J97	3026658	20MHC130M	G79
2888538	KTIPO95R3BF16M	I12	2979223	A20RA4EMR0207M	C133	3015440	DFR040304MD KC7140	J97	3026659	20MHC140M	G79
2888539	KTIPO95R3BF16M	I12	2979224	A25RA4EMR0210M	C133	3016028	KSEM2305HPGM KC7315	H55	3026660	20MHC150M	G79
2888540	KTIPO95R3BF16M	I12	2979225	A25RA4EMR0210M	C133	3017334	A4SML2525M0217	C125	3026661	20MHC160M	G79
2888541	KTIPO95R3BF16M	I12	2979227	A12RA4EMR0207M	C132	3017335	A4SML2525M0214	C125	3026662	25MHC030M	G79
2888542	KTIPO95R3BF16M	I12	2979229	A16RA4EMR0210M	C132	3017336	A4SML2020K0214	C125	3026663	25MHC040M	G79
2888543	KTIPO95R3BF16M	I12	2980526	EP1412SGD KCPK30	T58, T70	3017337	A4SML2020K0217	C125	3026664	25MHC050M	G79
2888544	KTIPO95R3BF16M	I12	2980527	EP1412SGD KC520M	T58, T70	3017338	A4SML1616K0214	C125	3026665	25MHC060M	G79
2888545	KTIPO95R3BF16M	I12	2980530	EP1408SGD KC520M	T58, T70	3017339	A4SMR2525M0217	C124	3026666	25MHC070M	G79
2888546	KTIPO95R3BF16M	I12	2980531	EP1408SGD KCPK30	T58, T70	3017340	A4SMR2525M0214	C124	3026667	25MHC080M	G79
2888547	KTIPO95R3BF16M	I12	2980568	EP1412SGD KC725M	T58, T70	3017341	A4SMR2020K0214	C124	3026668	25MHC090M	G79
2888548	KTIPO95R3BF16M	I12	2981100	A4SCL120113	C127	3017342	A4SMR1616K0214	C124	3026669	25MHC100M	G79
2888549	KTIPO95R3BF16M	I12	2981101	A4SCL100113	C127	3017663	KTIPO70R3SS18M	H38	3026670	25MHC110M	G79
2888550	KTIPO95R3BF16M	I12	2981102	A4SCL080113	C127	3017664	KTIPO70R3SS20M	H38	3026671	25MHC120M	G79
2888551	KTIPO95R3BF16M	I12	2981194	A4SCR120113	C127	3017665	KTIPO70R3SS20M	H38	3026672	25MHC130M	G79
2888552	KTIPO95R3BF16M	I12	2981195	A4SCR100113	C127	3017666	KTIPO200R3SS25M	H38	3026673	25MHC140M	G79
2888553	KTIPO95R3BF16M	I12	2981196	A4SCR080113	C127	3017667	KTIPO70R3SCF20M	H40	3026674	25MHC150M	G79
2888554	KTIPO95R3BF16M	I12	2981197	A4SCR060113	C127	3017668	KTIPO70R3SCF25M	H40	3026675	25MHC160M	G79
2888555	KTIPO95R3BF16M	I12	2981644	EP1408SGD KC725M	T58, T70	3017669	KTIPO90R3SCF25M	H40	3026676	25MHC170M	G79
2888556	KTIPO95R3BF16M	I12	2982018	OFKT64AFENGLB KC725M	S51	3017670	KTIPO200R3SCF25M	H40	3026677	25MHC180M	G79

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3029372	PKG1602	K130	3033954	EP1416EHD KCPK30	T57, T68	3093561	HNGJ535ANENLD KC522M	S18, S21	3287987	CSWM 035 040	B217, B220, B222-223
3029373	PKG1802	K130	3033966	B707A06800FBG KC7315	G110	3093600	KSOM1250F5345F5	S44	3287988	CSWM 040 050	B217-223, B245, B276-278
3029375	PKG0011	K130	3039409	KSEM3400PCM KC7135	H70, H111	3093623	KSOM1500F5345F3	S44	3287989	CSWM 060 050	B72-74, B94, B115-119, B140-142, B174-176, B186-187, B198, B217, B220, B236-237, B245, B249-251, B394-398, C196, D41
3030845	TM25D17L26Z2	W10	3039410	KSEM3600PCM KC7135	H70, H111	3093625	KSOM1250F5345M3	S44			
3030846	TM25D17L36Z2	W10	3041312	B707A06100FBG KC7315	G110	3093627	KSOM1500F5345M3	S44			
3030847	TM25D17L26Z2	W11	3043944	KSEM3500PCM KC7135	H70, H111	3093632	KSOM5000F5345F6	S45			
3030848	TM25D20L37Z3	W10	3045090	KSSP200R3SD43L200HC	T120	3093634	KSOM2000F5345M3	S45			
3030849	TM25D20L44Z3	W10	3045800	S422CG	T53, V54, V70	3093635	KSOM2500F5345M3	S45			
3030850	TM25D22L43Z3	W10	3045801	S467	T7, U27, U37, V54, V58	3093636	KSOM3000F5345M4	S45			
3030851	TM25D22L43Z3	W11				3093637	KSOM4000F5345M5	S45			
3030852	TM25D22L55Z3	W10	3047641	T320MF140X150R6HX KC7542	M4	3093638	KSOM5000F5345M6	S45			
3031703	TM25D30L55Z5	W10	3048604	KL520C	T78	3093640	KSOM2500F6445F3	S50	3287990	CSWM 080 050	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397
3031704	TM25D28L43Z4	W11	3048803	KSEM3300PCM KC7135	H70, H111	3093641	KSOM2000F6445F4	S50			
3031705	TM2C25D30L80Z4	W10	3050716	DFR020204MD KC7140	J97	3093642	KSOM4000F6445F5	S50			
3031708	TM25D067L110Z2	W11	3050792	HPFSS250S3050 KC635M	P108	3093643	KSOM5000F6445F6	S50			
3031712	TM25D087L170Z3	W11	3050793	HPFSS1255S025 KC635M	P109	3093644	KSOM6000F6445F8	S50			
3031715	TM25D110L170Z4	W11	3050794	HPFSS188S5031 KC635M	P109	3093645	KSOM2500F6445M3	S50	3287991	CSWM 100 080	B74, B115, B119, C196, D41
3031717	TM25INSERTSCREW	W4-5, W10-13, W17-19, W24-25	3050799	HPFT375S6113 KC635M	P110	3093646	KSOM3000F6445M4	S50			
			3051244	EP1420EHD KC522M	T57, T68	3093647	KSOM4000F6445M5	S50			
			3051245	EP1420EHD KC725M	T57, T68	3093648	KSOM5000F6445M6	S50			
3031718	TM25N100ISO KC610M	W14	3051246	EP1420EHD KCPK30	T57, T68	3093649	KSOM6000F6445M8	S50			
3031719	TM25N150ISO KC610M	W14	3051247	EP1431EHD KC522M	T57, T68	3093719	HNGJ535ANENLD KCPK30	S18, S22			
3031720	TM25N200ISO KC610M	W14	3051248	EP1431EHD KC725M	T57, T68	3094010	843.006.000	K124-126, K140			
3031721	TM25N250ISO KC610M	W14	3051249	EP1431EHD KCPK30	T57, T68						
3031722	TM25N300ISO KC610M	W14	3051250	EP1440EHD KC522M	T57, T68	3094035	880.252.200	K137-139			
3031733	TM25N20UN KC610M	W14	3051251	EP1440EHD KC725M	T57, T68	3097294	KSEM1660HPGM KC7315	H54			
3031734	TM25N18UN KC610M	W14	3051252	EP1440EHD KCPK30	T57, T68	3097295	KSEM1860HPGM KC7315	H54			
3031735	TM25N16UN KC610M	W14	3051549	EP1424EHD KC522M	T57, T68	3098071	B707A04200FBG KC7315	G110			
3031736	TM25N14UN KC610M	W14	3051550	EP1424EHD KC725M	T57, T68	3102696	B977A08020 KC7315	G136			
3031737	TM25N12UN KC610M	W14	3051551	EP1424EHD KCPK30	T57, T68	3106096	SDPT433PDENHPZ KCPK30	V143			
3031738	TM25N10UN KC610M	W14	3051552	EP1404EHD KC522M	T57, T68	3106097	SDPT433PDENHPZ KCPK30	V143			
3031739	TM25N9UN KC610M	W14	3051623	A4M50L2B14M	C138	3106098	SDPT433PDENHPZ KC725M	V143			
3031740	TM25N8UN KC610M	W14	3051624	A4M50R0214M	C138	3106099	SDPT433PDENHPZ KC725M	V143			
3031742	TM25EN14W KC610M	W15	3051629	A4M50L0212A060084	C140	3107215	KISZR150SD430C5A03	V140			
3031743	TM25EN12W KC610M	W15	3051631	A4M50L0212A120254	C140	3107216	KISZR200SD430C6A04	V140			
3031744	TM25EN11W KC610M	W15	3051632	A4M50L0212A250999	C140	3110522	B976A03200 KC7315	G134			
3031745	TM25EN14NPT KC610M	W15	3051663	A4M50L0212B036046	C142	3110544	B976A03600 KC7315	G134			
3031746	TM25EN115NPT KC610M	W15	3051664	A4M50L0212B042054	C142	3110545	B976A07200 KC7315	G136			
3031747	TM25EN14BSPT KC610M	W15	3051665	A4M50L0212B050064	C142	3114313	KTP170R8SS18M	H38			
3031748	TM25EN11BSPT KC610M	W15	3051666	A4M50L0212B060084	C142	3114314	KTP180R8SS20M	H38			
3031749	TM25N100ISO KC635M	W14	3051667	A4M50L0212B080124	C142	3114315	KTP190R8SS20M	H38			
3031750	TM25N150ISO KC635M	W14	3051668	A4M50L0212B100254	C142	3114316	KTP200R8SS25M	H38			
3031751	TM25N200ISO KC635M	W14	3051668	A4M50R0212B120254	C139	3114317	KTP170R8SCF20M	H40			
3031752	TM25N250ISO KC635M	W14	3051670	A4M50R0212A036046	C139	3114318	KTP180R8SCF25M	H40			
3031753	TM25N300ISO KC635M	W14	3051671	A4M50R0212A042054	C139	3114319	KTP190R8SCF25M	H40			
3031754	TM25N20UN KC635M	W14	3051672	A4M50R0212A050064	C139	3114320	KTP200R8SCF25M	H40			
3031756	TM25N16UN KC635M	W14	3051673	A4M50R0212A060084	C139	3114636	RIQ09E1312 KC6305	K58			
3031757	TM25N14UN KC635M	W14	3051674	A4M50R0212A080124	C139	3117503	B967A09500 KC7315	G131			
3031758	TM25N12UN KC635M	W14	3051675	A4M50R0212A120254	C139	3119977	B976A10300 KC7315	G136			
3031759	TM25N10UN KC635M	W14	3051676	A4M50R0212A250999	C139	3120318	KSEM1270HPGM KC7315	H55			
3031760	TM25N9UN KC635M	W14	3051677	A4M50R0212B036046	C141	3121225	193.492	S4-5, S8-10, S14, S17, S20, S56, S58, V51-54, V62			
3031761	TM25N8UN KC635M	W14	3051678	A4M50R0212B042054	C141						
3031763	TM25EN14W KC635M	W15	3051679	A4M50R0212B050064	C141						
3031765	TM25EN11W KC635M	W15	3051680	A4M50R0212B060084	C141	3121287	B976A06700 KC7315	G135			
3031766	TM25EN14NPT KC635M	W15	3051681	A4M50R0212B080124	C141	3124549	193.491	J25, J27, J29, J31, J33, J35, J37, J39			
3031767	TM25EN115NPT KC635M	W15	3051682	A4M50R0212B100254	C141						
3031770	TM25BLANK	W15	3051683	A4M50R0212B250999	C141						
3031908	T320NC03750-16R3BX KC7542	M4	3051863	EP1404EHD KC725M	T57, T68	3124699	EP18645 KC725M	T85			
3031910	T320NC04375-14R3BX KC7542	M4	3051864	EP1404EHD KCK15	T57, T68	3127186	NAS3L4 KC5025	D12			
3031911	T320NC05000-13R3BX KC7542	M4	3051865	EP1404EHD KCPK30	T57, T68	3133459	MS1294CG	V62			
3031914	T320M060X100R6HX KC7542	M4	3051866	EP1404EHD KC520M	T57, T68	3135660	B256A12500 KC7315	G58			
3031915	T320M080X125R6HX KC7542	M4	3053564	SDET433PDENGDZ KCPK30	V143	3136510	EP1840EHD KC725M	T84			
3031916	T320M100X150R6HX KC7542	M4	3053565	SDET433PDSNGDZ KCPK30	V143	3138954	SNXF433AMSN KY3500	S90			
3031917	T320M120X175R6HX KC7542	M4	3054849	KSSZR200SD430CA04	V141	3138955	SNXF432NAMSN KY3500	S90			
3031919	T320M160X200R6HX KC7542	M4	3055223	B707A13500FBG KC7315	G111	3138957	S2172CG	V54, V58			
3032732	EP1412EHD KC520M	T57, T68	3057117	B978A03700 KC7315	G139	3139149	843.009.000	K124-126, K140			
3033024	KTIPO669R8SS069	H39	3057121	B978A07400 KC7315	G140	3176219	KM25LSSR2230	D77			
3033025	KTIPO709R8SS075	H39	3057122	B978A09300 KC7315	G140	3176220	KM25LSSL2230	D77			
3033026	KTIPO748R8SS075	H39	3058199	KSEM1008HPG KC7315	H55	3176596	TRM50R0640M	E71			
3033027	KTIPO787R8SS081	H39	3058984	B707A04400FBG KC7315	G110	3176598	TRM50L0640M	E71			
3033723	EP1412EHD KC522M	T57, T68	3064493	KSSZR300SD430CA05	V141	3176599	TRM50L0432M	E71			
3033724	EP1412EHD KC725M	T57, T68	3064549	KSEM2740HPGM KC7315	H55	3176600	TRM50R0432M	E71			
3033725	EP1412EHD KCK15	T57, T68	3064601	KISZR125SD430CA402	V140	3176601	TRM50R0920M	E71			
3033726	EP1412EHD KCPK30	T57, T68	3064602	KSSZR300SD430M4A06	V141	3176602	TRM50L0920M	E71			
3033727	EP1408EHD KC520M	T57, T68	3064755	KSSZR200SD430M3A05	V141	3176604	TRM50R0940M	E71			
3033728	EP1408EHD KC522M	T57, T68	3064902	KSSZR300SD430FA07	V141	3176605	TRM50R0620M	E71			
3033729	EP1408EHD KC725M	T57, T68	3066053	A4G0605M06U04B KCK20	C108	3176606	TRM50L0620M	E71			
3033730	EP1408EHD KCK15	T57, T68	3066133	SDET433PDENGDZ KC725M	V143	3176688	MS2173	B217, B220, B222-223			
3033731	EP1408EHD KCPK30	T57, T68	3066281	SDET433PDSNGDZ KC725M	V143	3176689	MS2175	B217-223, B245, B276-278			
3033751	EP1416EHD KC522M	T57, T68	3066375	SDET433PDSNGDZ KC522M	V143						
3033752	EP1416EHD KC725M	T57, T68	3066774	KSSZR400SD430FA09	V141	3180571	B977A14100 KC7315	G137			
3033953	EP1416EHD KCK15	T57, T68	3077140	SF150FBH01660	K129	3273589	EC1402FLDJ KC410M	T55, T66			
			3077141	SF100FBH01660	K129	3273590	EC1440FLDJ KC				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3331033	L16SSCFPR3	B213	3346273	MSYNL12CA4	B119	3381153	KSEM1936HPLM KC7320	H62	3383298	DCGW3251S0415MT KB1345	B312
3331034	L08RSCPL2	B215	3346274	MSYNR12CA4	B119	3381154	KSEM7066HPL KC7320	H62	3383314	DCGW3252S0415MT KB1345	B312
3331035	L06MNSCLP2	B215	3346275	MTGNL12CA3	B141	3381155	KSEM1950HPLM KC7320	H62	3383760	B707A0980FBG KC7315	G111
3331036	L05MNSCLP2	B215	3349309	HNEN0905ANSN KD200	S79	3381156	KSEM7081HPL KC7320	H62	3387723	RCGT645GF KC725M	V89
3331038	L12RSCPL3	B215	3352074	881.252.720	K137-138	3381157	KSEM2000HPLM KC7320	H62	3387724	RCGT86SFG KC725M	V92
3331039	L10RSCPL3	B215	3352573	KMDA0250J6ANA KC639M	P142	3381158	KSEM2010HPLM KC7320	H62	3387910	NR2M050L KC5010	C172
3331040	L16SSCPL3	B215	3352574	KMDA0312J6ANA KC639M	P142	3381159	KSEM7097HPL KC7320	H62	3387928	NR3M150L KC5010	C172
3331041	L08RSCPL2	B215	3352575	KMDA0375J6ANA KC639M	P142	3381160	KSEM2035HPLM KC7320	H62	3387935	NR2M050R KC5010	C172
3331042	L05MNSCLP2	B215	3352576	KMDA0500J6ANA KC639M	P142	3381161	KSEM2050HPLM KC7320	H62	3387936	NR2M075R KC5010	C172
3331043	L06MNSCLP2	B215	3352577	KMDA0625J6ANA KC639M	P142	3381162	KSEM0813HPL KC7320	H62	3387937	NR2M150R KC5010	C172
3331044	L10RSCPL2	B215	3352578	KMDA0750J6ANA KC639M	P142	3381163	KSEM2100HPLM KC7320	H62	3388407	NR2M100L KC5025	C172
3331045	L10RSCPL3	B215	3352730	KHDA0250J6ANA KC639M	P143	3381164	KSEM2115HPLM KC7320	H62	3388409	NR2M150L KC5025	C172
3331046	L12RSCPL3	B215	3352731	KHDA0312J6ANA KC639M	P143	3381165	KSEM2133HPLM KC7320	H62	3388411	NR2M150R KC5025	C172
3331047	L16SSCPL3	B215	3352732	KHDA0375J6ANA KC639M	P143	3381166	KSEM2810HPLM KC7320	H63	3388453	NR3M150L KC5025	C172
3331048	L06MSDUPL2	B235	3352773	KHDA0500J6ANA KC639M	P143	3381167	KSEM0844HPL KC7320	H63	3388455	NR3M200L KC5025	C172
3331049	L08RSDUPL2	B235	3352774	KHDA0625J6ANA KC639M	P143	3381168	KSEM2850HPLM KC7320	H63	3388460	NR2M050R KC5025	C172
3331052	L06MSDUPL2	B235	3352775	KHDA0750J6ANA KC639M	P143	3381169	KSEM2150HPLM KC7320	H62	3388462	NR2M100R KC5025	C172
3331073	L08RSDUPL2	B235	3353405	KSEM2973HPGM KC7315	H55	3381170	KSEM1125HPL KC7320	H63	3388463	NR2M125R KC5025	C172
3331074	L10RSDUPL2	B235	3362163	881.252.550	K137-138	3381171	KSEM0859HPL KC7320	H62	3388464	NR2M150R KC5025	C172
3331075	L12RSDUPL3	B235	3367371	B531A03200SPF KDF400	G100	3381172	KSEM2900HPLM KC7320	H62	3388465	NR2M175R KC5025	C172
3331079	L08RSTFPR2	B273	3367372	B531A05100SPF KDF400	G100	3381173	KSEM2200HPLM KC7320	H62	3388466	NR3M100R KC5025	C172
3331080	L10RSTFPR2	B273	3367373	B531A06500SPF KDF400	G100	3381174	KSEM1156HPL KC7320	H63	3388468	NR3M150R KC5025	C172
3331081	L06MNSTFPR2	B273	3367382	B532A03200SPF KDF400	G100	3381175	KSEM0875HPL KC7320	H62	3388470	NR3M200R KC5025	C172
3331082	L12RSTFPR3	B273	3367383	B532A05100SPF KDF400	G100	3381176	KSEM2950HPLM KC7320	H63	3396984	MS2085	T120, V81-82
3331084	L08RNER2	D37	3367384	B532A06500SPF KDF400	G100	3381177	KSEM0884HPL KC7320	H62	3397222	NGD2M200LK KC5010	C165
3331088	L06MNER1S	D37	3367385	B531A06000SPF KDF400	G100	3381178	KSEM1172HPL KC7320	H63	3397223	NGD2M250LK KC5010	C165
3331089	L08RNER1S	D37	3367386	B532A06000SPF KDF400	G100	3381179	KSEM2250HPLM KC7320	H62	3397226	NGD3M300LK KC5010	C165
3331090	L05MNER1S	D37	3379064	EP1864EHD KC725M	T84	3381180	KSEM3000HPLM KC7320	H63	3397243	NGD3M150R KC5010	C165
3331091	L08RNER2	D37	3379065	EP1864EHD KCPK30	T84	3381181	KSEM2277HPLM KC7320	H62	3397244	NGD2M200RK KC5010	C165
3331092	L12RNER2	D37	3380488	KSEM1250HPLM KC7320	H62	3381182	KSEM1188HPL KC7320	H63	3397246	NGD3M200RK KC5010	C165
3331103	L10RNER2	D37	3380490	KSEM0500HPL KC7320	H62	3381183	KSEM2300HPLM KC7320	H62	3397247	NGD3M150R KC5010	C165
3331105	L16SNER3	D37	3380491	KSEM1280HPLM KC7320	H62	3381184	KSEM3050HPLM KC7320	H63	3397248	NGD3M300RK KC5010	C165
3331106	CSRPR10CA3	B175, B395	3380492	KSEM0509HPL KC7320	H62	3381185	KSEM0922HPL KC7320	H62	3397250	NGD3M400RK KC5010	C165
3331143	CSSPL10CA3	B176, B396	3381103	KSEM1300HPLM KC7320	H62	3381186	KSEM3100HPLM KC7320	H63	3397259	NGD2M150LK KC5025	C165
3331145	MCN1L10CA3	B72	3381104	KSEM1350HPLM KC7320	H62	3381187	KSEM2350HPLM KC7320	H62	3397273	NGD2M200LK KC5025	C165
3331146	MCN1R10CA3	B72	3381105	KSEM1360HPLM KC7320	H62	3381188	KSEM3150HPLM KC7320	H63	3397274	NGD2M250LK KC5025	C165
3331149	MSTNR10CA3	B118	3381106	KSEM1380HPLM KC7320	H62	3381189	KSEM0938HPL KC7320	H62	3397275	NGD3M200LK KC5025	C165
3331150	MSYNL10CA3	B119	3381107	KSEM0547HPL KC7320	H62	3381190	KSEM1250HPL KC7320	H63	3397276	NGD3M250LK KC5025	C165
3331173	HNGJ535ANSNGD KCK15	S18, S22	3381108	KSEM1400HPLM KC7320	H62	3381191	KSEM2400HPLM KC7320	H62	3397277	NGD3M300LK KC5025	C165
3331174	HNGJ535ANENLD KC520M	S18, S21	3381109	KSEM1410HPLM KC7320	H62	3381192	KSEM3200HPLM KC7320	H63	3397279	NGD3M350LK KC5025	C165
3331175	HNGJ535ANENLD KC725M	S18, S21	3381110	KSEM1415HPLM KC7320	H62	3381193	KSEM2450HPLM KC7320	H62	3397280	NGD3M400LK KC5025	C165
3331176	HNGJ535ANSNGD KC725M	S18, S22	3381111	KSEM1420HPLM KC7320	H62	3381194	KSEM3300HPLM KC7320	H63	3397286	NGD2M150RK KC5025	C165
3331178	HNGJ535ANENLD KCPK30	S18, S21	3381112	KSEM0563HPL KC7320	H62	3381195	KSEM0969HPL KC7320	H62	3397287	NGD2M200RK KC5025	C165
3331465	HPHVT500S4063 KC643M	P24	3381113	KSEM1450HPLM KC7320	H62	3381196	KSEM1375HPL KC7320	H63	3397288	NGD2M250RK KC5025	C165
3331466	HPHVT500S4063CH KC643M	P24	3381114	KSEM1460HPLM KC7320	H62	3381197	KSEM1406HPL KC7320	H63	3397289	NGD3M200RK KC5025	C165
3331467	HPHVT500S4125 KC643M	P24	3381115	KSEM0578HPL KC7320	H62	3381198	KSEM1500HPL KC7320	H63	3397290	NGD3M250RK KC5025	C165
3331468	HPHVT500S4125CH KC643M	P24	3381116	KSEM1480HPLM KC7320	H62	3381199	KSEM1514HPL KC7320	H63	3397291	NGD3M300RK KC5025	C165
3331469	HPHVT625S4075 KC643M	P24	3381117	KSEM1500HPLM KC7320	H62	3381615	KSEM3400HPLM KC7320	H63	3397293	NGD3M400RK KC5025	C165
3331470	HPHVT625S4075CH KC643M	P24	3381118	KSEM0594HPL KC7320	H62	3381616	KSEM2500HPLM KC7320	H62	3397369	NGD2M050LK KC5010	C163
3331471	HPHVT625S4125 KC643M	P24	3381119	KSEM0609HPL KC7320	H62	3381617	KSEM3500HPLM KC7320	H63	3397370	NGD2M050RK KC5010	C162
3331472	HPHVT625S4125CH KC643M	P24	3381120	KSEM1550HPLM KC7320	H62	3381618	KSEM2507HPLM KC7320	H62	3397613	NFM2M200LK KC5025	C173
3331473	HPHVT750S4088 KC643M	P24	3381121	KSEM1560HPLM KC7320	H62	3381619	KSEM3600HPLM KC7320	H63	3397614	NFM3M300LK KC5025	C173
3331474	HPHVT750S4088CH KC643M	P24	3381122	KSEM0625HPL KC7320	H62	3381620	KSEM1000HPL KC7320	H62	3397615	NFD3M300LK KC5025	C174
3331475	HPHVT750S4150 KC643M	P24	3381123	KSEM1600HPLM KC7320	H62	3381621	KSEM3700HPLM KC7320	H63	3397616	NFM2M200RK KC5025	C173
3331476	HPHVT750S4150CH KC643M	P24	3381124	KSEM0634HPL KC7320	H62	3381622	KSEM2550HPLM KC7320	H62	3397617	NFM3M300RK KC5025	C173
3331477	HPHVT1000S4150 KC643M	P24	3381125	KSEM1610HPLM KC7320	H62	3381623	KSEM3750HPLM KC7320	H63	3397618	NFD3M300RK KC5025	C174
3331478	HPHVT1000S4150CH KC643M	P24	3381126	KSEM1615HPLM KC7320	H62	3381624	KSEM1008HPL KC7320	H62	3396919	KSEM3700PCM KC7135	H70, H11
3331481	HPRST250S4038 KC643M	P92	3381127	KSEM1620HPLM KC7320	H62	3381625	KSEM3800HPLM KC7320	H63	3400552	MS2197	V139-141
3331482	HPRST250S4075 KC643M	P92	3381128	KSEM0641HPL KC7320	H62	3381626	KSEM2565HPLM KC7320	H63	3400611	MS2191C00	T63, T65, V139-140, V142
3331483	HPRST375S4050 KC643M	P92	3381129	KSEM1650HPLM KC7320	H62	3381627	KSEM3900HPLM KC7320	H63	3400612	MS2191C06	T63, T65, V139-140, V142
3331484	HPRST375S4088 KC643M	P92	3381130	KSEM0656HPL KC7320	H62	3381628	KSEM1011HPL KC7320	H63	3400613	MS2191C08	T63, T65, V139-142
3331485	HPRST500S4063 KC643M	P92	3381131	KSEM1700HPLM KC7320	H62	3381630	KSEM2600HPLM KC7320	H63	3400616	MS2191C12	T63, T65, V139-142
3331486	HPRST500S4125 KC643M	P92	3381132	KSEM0672HPL KC7320	H62	3381631	KSEM4000HPLM KC7320	H63	3400617	MS2191C14	T63, T65, V139-140, V142
3331487	HPRST625S4075 KC643M	P92	3381133	KSEM0688HPL KC7320	H62	3381632	KSEM1016HPL KC7320	H63	3400618	MS2191C18	T63, T65, V139-140, V142
3331488	HPRST625S4125 KC643M	P92	3381134	KSEM1750HPLM KC7320	H62	3381633	KSEM1031HPL KC7320	H63	3400619	MS2191C18	T63, T65, V139-140, V142
3331489	HPRST625S6125 KC643M	P92	3381135	KSEM1775HPLM KC7320	H62	3381634	KSEM0516HPL KC7320	H62	3400620	MS2191C20	T63-65, V139-140, V142
3331490	HPRST750S4088 KC643M	P92	3381136	KSEM1780HPLM KC7320	H62	3381635	KSEM2650HPLM KC7320	H63	3400879	12748500500	S83
3331491	HPRST750S4150 KC643M	P92	3381137	KSEM0703HPL KC7320	H62	3381636	KSEM1047HPL KC7320	H63	3403362	CNMG431UP KC5010	B54
3331492	HPRST750S6150 KC643M	P92	3381138	KSEM1790HPLM KC7320	H62	3381637	KSEM1094HPL KC7320	H63	3403423	CNMG432UP KC5010	B54
3331493	HPRST1000S4150 KC643M	P92	3381139	KSEM1800HPLM KC7320	H62	3381638	KSEM2670HPLM KC7320	H63	3403424	CNMG433UP KC5010	B54
3331494	HPRST1000S6150 KC643M	P92	3381140	KSEM0719HPL KC7320	H62	3381639	KSEM1109HPL KC7320	H63	3403430	CNMG432UP KC5010	B84
3332362	MCLN125CA6	B74	3381142	KSEM1850HPLM KC7320	H62	3381640	KSEM2700HPLM KC7320	H63	3403433	CNMG442UP KC5010	B84
3332803	MCLNR25CA4	B74	3381143	KSEM1860HPLM KC7320	H62	3381641	KSEM1281HPL KC7320	H63	3403435	CNMG432UP KC501	

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3403449	WNMG433UP KC5010	B162	3554367	CV40BKR50236	K91	3560480	SDCT4316ENLD2 KC725M	T115, T122, U38	3583765	SDMT060304EGG KC735M	U4
3448592	KSSZR250SD430C3A05	V141	3554368	CV50BKR32157	K91				3583766	SDMT060304EGG KC730M	U4
3448913	KSSZR250SD430M3A06	V141	3554369	CV50BKR50157	K91	3560482	SDET4316SNGB2 KCPK30	T115, T122, U39	3583768	SDMT080308EGG KC505M	U4
3448914	KSSZR400SD430C5A07	V141	3554370	CV50BKR63236	K91				3583769	SDMT080308EGG KC735M	U4
3448915	KSSZR400SD430M5A08	V141	3554371	CV50BKR80275	K91	3563231	B707A12700FBG KC7315	G111	3583770	SDMT080308EGG KC730M	U4
3448916	KSSZR400SD430C6A07	V141	3554372	BT40BKR32030M	K91	3575847	193.531	S24	3583784	SDMT120408EGG KC505M	U4
3448917	KSSZR400SD430M6A08	V141	3554373	BT40BKR50050M	K91	3577119	KTMS21525SD06H	U3	3583785	SDMT120408EGG KC735M	U4
3448918	KSSZR400SD430F6A09	V141	3554374	BT50BKR32040M	K91	3577121	KTMS2525SD06H	U3	3583786	SDMT120408EGG KC730M	U4
3448920	KSSZR500SD430M6A09	V141	3554375	BT50BKR50040M	K91	3577133	KTMS3235SD08H	U3	3585206	B531A03300SPF KDF400	G100
3449167	KTZR125SD430CM16A02	V139	3554376	BT50BKR63060M	K91	3577135	KTMS40S32SD12H	U3	3585207	B531A03600SPF KDF400	G100
3449168	KTZR150SD430CM16A03	V139	3554377	BT50BKR80060M	K91	3577137	KTMS50S32SD12H	U3	3585208	B531A04000SPF KDF400	G100
3449169	KTZR200SD430CM16A04	V139	3556330	HNGJ535ANSNHD KCK15	S19, S22	3579858	KSEM2070HPGM KC7315	H54	3585209	B531A04366SPF KDF400	G100
3450355	MS1234CG	V62	3556331	HNGJ535ANSNHD KC725M	S19, S22	3580522	UCDE250J5SARA KC643M	P32	3585210	B531A04851SPF KDF400	G100
3480435	B977A03250 KC7315	G134	3556332	HNGJ535ANSNHD KCPK30	S19, S22	3580763	UCDE375J5SARA KC643M	P32	3585211	B531A04864SPF KDF400	G100
3482532	COMT3252FP KCU10	B190	3556346	MB24RBHT06F	K124	3580764	UCDE500K5ARB KC643M	P32	3585212	B531A05200SPF KDF400	G100
3482959	T331NC2500-20R3BX KC7542	M44	3556347	MB30RBHT06F	K124	3580765	UCDE625K5ARB KC643M	P32	3585213	B531A06375SPF KDF400	G100
3482960	T331NF2500-28R3BX KC7542	M44	3556348	MB40RBHT09F	K124	3580766	UCDE750K5ARB KC643M	P32	3585214	B531A06400SPF KDF400	G100
3482961	T331NC125-18R3BX KC7542	M44	3556349	MB50RBHT09F	K124	3580767	UCDE1000K5ARB KC643M	P32	3585215	B531A07938SPF KDF400	G100
3482962	T331NC3750-16R3BX KC7542	M44	3556350	MB66RBHT12F	K124	3580769	UCDE500K5SBR KC643M	P30	3585217	B531A112725SPF KDF400	G100
3483053	T331NC4375-14R3BX KC7542	M44	3556352	MB66RBHT12LF	K124	3580770	UCDE500K5SBR KC643M	P30	3585218	B531A09563SPF KDF400	G100
3483054	T331NC5000-13R3BX KC7542	M44	3556374	HNGJ5351ANSNHD KC725M	S19, S22	3580771	UCDE500K5SBR KC643M	P30	3585219	B531A11125SPF KDF400	G100
3483057	T331M060X100R6HX KC7542	M45	3556375	HNGJ5351ANSNHD KCPK30	S19, S22	3580772	UCDE500K5SBR KC643M	P30	3585220	B531A09366SPF KDF400	G100
3483058	T331M080X125R6HX KC7542	M45	3556393	MB87RBHT12F	K124	3580783	UCDE625K5SBR KC643M	P30	3585221	B532A03300SPF KDF400	G100
3483059	T331M100X150R6HX KC7542	M45	3556394	MB87RBHT12LF	K124	3580784	UCDE625K5SBR KC643M	P30	3585222	B532A03600SPF KDF400	G100
3483061	T331M120X175R6HX KC7542	M45	3556395	MB115RBHT12F	K124	3580785	UCDE750K5SBR KC643M	P31	3585224	B532A04366SPF KDF400	G100
3483062	T331MF120X150R6HX KC7542	M45	3556396	MB115RBHT16LF	K124	3580786	UCDE750K5SBR KC643M	P31	3585225	B532A04851SPF KDF400	G100
3483073	T331M140X200R6HX KC7542	M45	3556397	MB24RBHT06K	K125	3580787	UCDE750K5SBR KC643M	P31	3585227	B532A05200SPF KDF400	G100
3483074	T331MF140X150R6HX KC7542	M45	3556398	MB30RBHT06K	K125	3580788	UCDE1000K5SBR KC643M	P31	3585228	B532A06375SPF KDF400	G100
3483075	T331M160X200R6HX KC7542	M45	3556399	MB40RBHT09K	K125	3580789	UCDE1000K5SBR KC643M	P31	3585229	B532A06400SPF KDF400	G100
3491692	B978A13100 KC7315	G140	3556400	MB50RBHT09K	K125	3580790	UCDE1000K5SBR KC643M	P31	3585230	B532A07938SPF KDF400	G100
3492010	MCC080001	V88, V91	3556401	MB66RBHT12K	K125	3580791	UCDE500J5SBR KC643M	P33	3585233	B532A09563SPF KDF400	G100
3492053	S2192C	T17	3556402	MB66RBHT12LK	K125	3580792	UCDE500J5SBR KC643M	P33	3585235	B532A12725SPF KDF400	G100
3494648	KSHR800HN5345C10	S20	3556403	MB87RBHT12K	K125	3580803	UCDE500J5SBR KC643M	P33	3586088	KSEM125SEFM	H87
3494649	KSHR1000HN5345C10	S20	3556404	MB87RBHT16LK	K125	3580804	UCDE500J5SBR KC643M	P33	3586089	KSEM130SEFM	H87
3494650	KSHR1200HN5345C10	S20	3556405	MB115RBHT16LK	K125	3580805	UCDE625J5SBR KC643M	P33	3586090	KSEM135SEFM	H87
3503895	EC1864EJ KC422M	T82	3556992	KGMSR1665N	C143	3580806	UCDE625J5SBR KC643M	P33	3586091	KSEM140SEFM	H87
3505052	B707A03175FBG KC7315	G110	3557103	KGMSL1665N	C143	3580807	UCDE750J5SBR KC643M	P33	3586092	KSEM145SEFM	H87
3505133	B707A03970FBG KC7315	G110	3557104	KGMSR2065N	C143	3580808	UCDE750J5SBR KC643M	P33	3586183	KSEM150SEFM	H87
3505134	B707A04763FBG KC7315	G110	3557105	KGMSL2065N	C143	3580809	UCDE750J5SBR KC643M	P33	3586184	KSEM155SEFM	H87
3505135	B707A06350FBG KC7315	G110	3557106	KGMSR2465N	C143	3580810	UCDE1000J5SBR KC643M	P33	3586185	KSEM160SEFM	H87
3505136	B707A07145FBG KC7315	G111	3557107	KGMSL2465N	C143	3580811	UCDE1000J5SBR KC643M	P33	3586186	KSEM165SEFM	H87
3505137	B707A07938FBG KC7315	G111	3557108	KGMSR1665N	C145	3580812	UCDE1000J5SBR KC643M	P33	3586187	KSEM170SEFM	H87
3505138	B707A08334FBG KC7315	G111	3557109	KGMEL1665N	C145	3580813	UCDE500K5SBR KC643M	P33	3586188	KSEM175SEFM	H87
3505139	B707A09129FBG KC7315	G111	3557110	KGMER2065N	C145	3580814	UCDE500K5SBR KC643M	P33	3586189	KSEM180SEFM	H87
3505140	B707A09525FBG KC7315	G111	3557111	KGMEL2065N	C145	3580815	UCDE500K5SBR KC643M	P33	3586190	KSEM185SEFM	H87
3505141	B707A10320FBG KC7315	G111	3557113	KGMEL2465N	C145	3580816	UCDE500K5SBR KC643M	P33	3586191	KSEM190SEFM	H87
3505142	B707A11111FBG KC7315	G111	3557114	A4M65R0620M	C138	3580817	UCDE625K5SBR KC643M	P33	3586192	KSEM195SEFM	H87
3505143	B707A11509FBG KC7315	G111	3557115	A4M65L0620M	C138	3580818	UCDE625K5SBR KC643M	P33	3586193	KSEM200SEFM	H87
3505144	B707A11908FBG KC7315	G111	3557116	A4M65R0626M	C138	3580819	UCDE750K5SBR KC643M	P33	3586194	KSEM205SEFM	H87
3505145	B707A14288FBG KC7315	G111	3557117	A4M65L0626M	C138	3580820	UCDE750K5SBR KC643M	P33	3586195	KSEM210SEFM	H87
3505146	B707A15875FBG KC7315	G112	3557119	A4M65L0820M	C138	3580821	UCDE750K5SBR KC643M	P33	3586196	KSEM215SEFM	H87
3505147	B707A17463FBG KC7315	G112	3557120	A4M65R0826M	C138	3580822	UCDE1000K5SBR KC643M	P33	3586197	KSEM220SEFM	H87
3505148	B707A19050FBG KC7315	G112	3557121	A4M65L0826M	C138	3580833	UCDE1000K5SBR KC643M	P33	3586198	KSEM225SEFM	H87
3505149	B707A15500FBG KC7315	G112	3557123	A4M65L1020M	C138	3580834	UCDE1000K5SBR KC643M	P33	3586199	KSEM230SEFM	H87
3505150	B707A16500FBG KC7315	G112	3557124	A4M65R1026M	C138	3580836	UCDE188J5SBR KC643M	P30	3586200	KSEM235SEFM	H87
3505151	B707A17500FBG KC7315	G112	3557125	A4M65L1026M	C138	3580837	UCDE188J5SBR KC643M	P30	3586201	KSEM240SEFM	H87
3505152	B707A18500FBG KC7315	G112	3557131	A4M65R0624A070-112	C139	3580838	UCDE188J5SBR KC643M	P30	3586202	KSEM245SEFM	H87
3505952	B966A20000 KC7315	G132	3557132	A4M65L0624A070-112	C140	3580839	UCDE250J5SBR KC643M	P30	3586203	KSEM250SEFM	H87
3519355	B707A10800FBG KC7315	G111	3557163	A4M65R0624A100-212	C139	3580840	UCDE250J5SBR KC643M	P30	3586204	KSEM255SEFM	H87
3521303	KSEM2330HPGM KC7315	H55	3557164	A4M65L0624A100-212	C140	3580841	UCDE250J5SBR KC643M	P30	3586205	KSEM260SEFM	H87
3526417	KSEM1935HPGM KC7315	H54	3557165	A4M65R0624A200-999	C139	3580842	UCDE312J5SBR KC643M	P30	3586206	KSEM265SEFM	H87
3528124	B976A03180 KC7315	G134	3557166	A4M65L0624A200-999	C140	3580863	UCDE312J5SBR KC643M	P30	3586207	KSEM270SEFM	H87
3528125	B976A03500 KC7315	G134	3557167	A4M65R0824A090-200	C139	3580864	UCDE312J5SBR KC643M	P30	3586208	KSEM275SEFM	H87
3528126	B976A04620 KC7315	G135	3557169	A4M65R0824A184-999	C139	3580865	UCDE375J5SBR KC643M	P30	3586209	KSEM280SEFM	H87
3528127	B976A05250 KC7315	G135	3557173	A4M65R1024A200-999	C139	3580866	UCDE375J5SBR KC643M	P30	3586210	KSEM285SEFM	H87
3528128	B976A06530 KC7315	G135	3557174	A4M65L1024A200-999	C140	3580867	UCDE375J5SBR KC643M	P30	3586211	KSEM290SEFM	H87
3528129	B976A06750 KC7315	G135	3557175	A4M65R0624B070-112	C141	3580868	UCDE500J5SBR KC643M	P30	3586212	KSEM295SEFM	H87
3528131	B976A08430 KC7315	G136	3557176	A4M65L0624B070-112	C142	3580869	UCDE500J5SBR KC643M	P30	3586213	KSEM300SEFM	H87
3528132	B976A09750 KC7315	G136	3557177	A4M65R0624B100-212	C141	3580870	UCDE500J5SBR KC643M	P30	3586214	KSEM305SEFM	H87
3547022	XNGJ535ANSNGD3W KCK15	S21	3557178	A4M65L0624B100-212	C142	3580871	UCDE500J5SBR KC643M	P30	3586215	KSEM310SEFM	H87
3547033	XNGJ535ANSNGD3W KC725M	S21	3557179	A4M65R0624B200-999	C141	3580872	UCDE625J5SBR KC643M	P30	3586216	KSEM315SEFM	H87
3547035	XNGJ535ANSNGD3W KCPK30	S21	3557180	A4M65L0624B200-999	C142	3580873	UCDE625J5SBR KC643M	P30	3586217	KSEM320SEFM	H87
3553429	KGMSR2525M65	C144	3557181	A4M65R0824B090-200	C141	3580874	UCDE750J5SBR KC643M	P31	3586519		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3586549	HSK63RBHT40	K122	3616778	KSEM3220HPGM KC7315	H55	3640744	B292A04200YPL KC7315	G88	3642028	EP1012EHD KC522M	T36, T46
3586550	HSK63RBHT50	K122	3617131	RIQ06E1306 KC6305	K58	3640745	B292A04300YPL KC7315	G88	3642029	EP1012EHD KC725M	T36, T46
3586551	HSK63RBHT66	K122	3636039	RP2150E KYSP30	V157	3640746	B292A04500YPL KC7315	G88	3642031	EP1012EHD KCPK30	T36, T46
3586563	HSK63RBHT66	K122	3637915	D281TB26KM40	B410	3640747	B292A04800YPL KC7315	G88	3642093	EP1016EHD KC522M	T36, T46
3586564	SF075RBHT24	K123	3637916	D32TB29KM40	B410	3640748	B292A05000YPL KC7315	G88	3642094	EP1016EHD KC725M	T36, T46
3586565	SF100RBHT30	K123	3637917	D40TTB36KM40	B410	3640749	B292A05100YPL KC7315	G88	3642096	EP1016EHD KCPK30	T36, T46
3586566	SF125RBHT40	K123	3638033	D48TTB45KM63	B410	3640750	B292A05200YPL KC7315	G88	3642097	EP1020EHD KC725M	T36, T46
3586567	SF100RBHT50	K123	3638034	D64TTB58KM63	B410	3640751	B292A05410YPL KC7315	G88	3642098	EP1020EHD KCPK30	T36, T46
3586569	SF125RBHT66	K123	3638615	B256A05000 KC7315	G58	3640752	B292A05500YPL KC7315	G88	3642102	EP1024EHD KC725M	T36, T46
3586570	SF150RBHT87	K123	3638616	B256A05500 KC7315	G58	3640753	B292A05558YPL KC7315	G88	3642133	EP1024EHD KCPK30	T36, T46
3586571	SF200RBHT115	K123	3638617	B256A05800 KC7315	G58	3640754	B292A05600YPL KC7315	G88	3642136	EP1031EHD KC522M	T36, T46
3586572	KM32FBHS24	K137	3638618	B256A06000 KC7315	G58	3640755	B292A05800YPL KC7315	G88	3642137	EP1031EHD KC725M	T36, T46
3586573	KM32FBHS31	K137	3638619	B256A06500 KC7315	G58	3640756	B292A06000YPL KC7315	G88	3642138	EP1031EHD KCPK30	T36, T46
3586574	KM40FBHS40	K137	3638620	B256A06800 KC7315	G58	3640757	B292A06350YPL KC7315	G89	3642141	EP1004SGD KC725M	T37, T47
3586575	KM50FBHS51	K137	3638621	B256A07800 KC7315	G58	3640758	B292A06500YPL KC7315	G89	3642142	EP1004SGD KCK15	T37, T47
3586576	KM50FBHS67	K137	3638622	B256A08500 KC7315	G58	3640759	B292A06528YPL KC7315	G89	3642163	EP1012EHD KCPK30	T37, T47
3586577	KM50FBHS87	K137	3638623	B256A09000 KC7315	G58	3640760	B292A06746YPL KC7315	G89	3642170	EP1008SGD KC725M	T37, T47
3586578	KM63UTFBHS87	K137	3638624	B256A10000 KC7315	G58	3640761	B292A06800YPL KC7315	G89	3642171	EP1008SGD KCK15	T37, T47
3586579	KM63UTFBHS116	K137	3638625	B256A11800 KC7315	G58	3640762	B292A06900YPL KC7315	G89	3642172	EP1008SGD KCPK30	T37, T47
3586580	HSK63FBHS24	K137	3638626	B256A12000 KC7315	G58	3640763	B292A07000YPL KC7315	G89	3642193	EP1012SGD KC725M	T37, T47
3586582	HSK63FBHS40	K137	3638627	B256A13000 KC7315	G58	3640764	B292A07100YPL KC7315	G89	3642194	EP1012SGD KCK15	T37, T47
3586583	HSK63FBHS51	K137	3638628	B256A15000 KC7315	G58	3640765	B292A07145YPL KC7315	G89	3642195	EP1012EHD KCPK30	T37, T47
3586584	HSK63FBHS67	K137	3639212	NG3062LEST KD1425	C177	3640766	B292A07500YPL KC7315	G89	3642196	EP1016SGD KC725M	T37, T47
3586585	HSK63FBHS87	K137	3639213	NG3062REST KD1425	C177	3640767	B292A07938YPL KC7315	G89	3642198	EP1016SGD KCPK30	T37, T47
3586586	SF075FBHS24	K138	3639214	NG3094LEST KD1425	C177	3640768	B292A08000YPL KC7315	G89	3643846	NPGR51R KD1425	E33
3586587	SF100FBHS31	K138	3639215	NG3094REST KD1425	C177	3640769	B292A08334YPL KC7315	G89	3643847	NPGR52L KD1425	E33
3586588	SF125FBHS40	K138	3639217	NG3125REST KD1425	C177	3640770	B292A08433YPL KC7315	G89	3643849	NPLS05 KD1425	E35
3586589	SF100FBHS51	K138	3639219	NG3189REST KD1425	C177	3640771	B292A08500YPL KC7315	G89	3643850	NPR505 KD1425	E35
3586590	SF125FBHS67	K138	3639221	NGP3088R KD1425	C168	3640772	B292A08733YPL KC7315	G89	3643851	NPLS08 KD1425	E35
3586591	SF150FBHS87	K138	3639223	NGP3125R KD1425	C168	3640773	B292A08800YPL KC7315	G89	3643852	NPR508 KD1425	E35
3586592	SF200FBHS116	K138	3639344	NG3062LEST KB1630	C177	3640774	B292A09000YPL KC7315	G89	3643853	NPL51 KD1425	E35
3586593	SSE075FBHS24	K139	3639345	NG3062REST KB1630	C177	3640775	B292A09200YPL KC7315	G89	3643854	NPR51 KD1425	E35
3586594	SSE100FBHS31	K139	3639346	NG3094LEST KB1630	C177	3640776	B292A09347YPL KC7315	G89	3643855	VPGN331 KD1425	B369, E38
3586595	SSE125FBHS40	K139	3639347	NG3094REST KB1630	C177	3640777	B292A09500YPL KC7315	G89	3643856	VPGN332 KD1425	B369, E38
3587211	881.252.250	K137-139	3639348	NG3125LEST KB1630	C177	3640778	B292A09525YPL KC7315	G89	3643858	VPR331 KD1425	B369, E38
3587212	880.252.250	K137-139	3639349	NG3125REST KB1630	C177	3640779	B292A10000YPL KC7315	G89	3643859	VPR332 KD1425	B369, E38
3587695	880.252.320	K137-139	3639350	NG4189LEST KB1630	C171, C177	3640780	B292A10200YPL KC7315	G89	3643860	VPR333 KD1425	B369, E38
3587698	881.252.420	K137-138	3639351	NG4189REST KB1630	C177	3640781	B292A10320YPL KC7315	G89	3643862	DPRG432 KD1425	E32
3587699	880.252.420	K137-138	3639762	SCMT3252MP KCP25	B247	3640782	B292A10500YPL KC7315	G89	3644073	D71P	T30-33 T41-43
3587703	881.252.940	K137-138	3639874	SCMT3252MP KCU10	B226	3640783	B292A10716YPL KC7315	G89	3646911	SNMG866MR KC5010	B104
3587704	841.342.200	K122-124	3639875	DCMT3252MP KCK20	B226	3640784	B292A11000YPL KC7315	G89	3648330	CPG421F KD1425	B363
3587705	848.200.005	K125	3639877	DCMT3252MP KCP25	B226	3640785	B292A11112YPL KC7315	G89	3648331	CPG422F KD1425	B363
3587706	848.200.407	K124-126	3639878	DCMT3252MP KCU10	B226	3640786	B292A11500YPL KC7315	G89	3648332	TPG221F KD1425	B367
3587707	848.250.005	K125	3639881	TCMT3252MP KCP25	B258	3640787	B292A12000YPL KC7315	G90	3648428	DFT05308D36MD KC7140	H113
3587708	848.250.409	K124-126	3639883	TCMT3252MP KCU10	B258	3640788	B292A12304YPL KC7315	G90	3648430	DFT05308D32MD KC7140	H113
3587709	848.320.005	K125	3640677	B291A03000YPL KC7315	G88	3640789	B292A12500YPL KC7315	G90	3648474	DFT070408D45MD KC7140	H113
3587710	848.320.413	K124-126	3640678	B291A04000YPL KC7315	G88	3640790	B292A13000YPL KC7315	G90	3648478	DFT090508D56MD KC7140	H113
3587711	841.342.200	K122-123	3640679	B291A05000YPL KC7315	G88	3640791	B292A13500YPL KC7315	G90	3648584	TPG321F KD1425	B367
3587712	848.420.005	K125	3640680	B291A05500YPL KC7315	G88	3640792	B292A14000YPL KC7315	G90	3648585	TPG322F KD1425	B367
3587713	848.420.614	K124-126	3640681	B291A05100YPL KC7315	G88	3640793	B292A14500YPL KC7315	G90	3648588	TPG32F KD1425	B367
3587714	841.142.550	K122-123	3640682	B291A05500YPL KC7315	G88	3640794	B292A15000YPL KC7315	G90	3649187	EC1008FLDJ KCA10M	T35, T44
3587715	848.550.620	K124-126	3640703	B291A06000YPL KC7315	G88	3640795	B292A15500YPL KC7315	G90	3649188	EC1008ELDJ KCA22M	T35, T45
3587716	848.550.005	K125	3640704	B291A06350YPL KC7315	G89	3640796	B292A16000YPL KC7315	G90	3649189	EC1008ELDJ KC520M	T36, T45
3587717	843.012.000	K124-126	3640705	B291A06500YPL KC7315	G89	3640797	B292A16500YPL KC7315	G90	3649190	EC1008ELDJ KC522M	T36, T45
3587718	844.012.000	K124-126	3640706	B291A06800YPL KC7315	G89	3640798	B292A17000YPL KC7315	G90	3649191	EC1008ELDJ KC725M	T36, T45
3587719	845.012.000	K124-126	3640707	B291A07000YPL KC7315	G89	3640799	B292A17500YPL KC7315	G90	3649192	EC1008ELDJ KCPK30	T36, T45
3587720	846.012.000	K124-126	3640708	B291A07500YPL KC7315	G89	3648000	B292A18000YPL KC7315	G90	3649213	EC1008ELDJ KCK15	T36, T45
3587721	847.012.000	K124-126	3640709	B291A08000YPL KC7315	G89	3648001	B292A18500YPL KC7315	G90	3650831	SCMT432MP KCK20	B247
3587722	841.142.720	K122-123	3640710	B291A08334YPL KC7315	G89	3648002	B292A19000YPL KC7315	G90	3650903	SCMT432MP KCP25	B247
3587723	848.720.000	K124-126	3640711	B291A08500YPL KC7315	G89	3648003	B292A19050YPL KC7315	G90	3654372	SPET31251PPER8GB2 KC725M	T111, U31
3587724	848.720.005	K125	3640712	B291A09000YPL KC7315	G89	3648006	B292A2000YPL KC7315	G90	3654503	SPET31251PPER8GB2 KCPK30	T111, U31
3587725	844.016.000	K124-126	3640713	B291A09500YPL KC7315	G89	3648007	B292A20500YPL KC7315	G90	3654504	SPET31251PPER8GB2 KCK15	T111, U31
3587726	845.016.000	K124-126	3640714	B291A09525YPL KC7315	G89	3648008	B292A21000YPL KC7315	G90	3654505	SPET31251PPER8GB2 KC725M	T111, U31
3587727	846.016.000	K124-126	3640715	B291A10000YPL KC7315	G89	3641465	DTQ3054	S94, S98, S100	3654506	SPET31251PPER8GB2 KCPK30	T111, U31
3587728	847.016.000	K124-126	3640716	B291A10320YPL KC7315	G89	3641473	BTQT25	S94, S98, S100	3654507	SPET31251PPER8GB2 KCK15	T111, U31
3587729	841.142.940	K122-123	3640717	B291A10500YPL KC7315	G89	3641572	CRDPN162DV	B168, B386	3655880	CNGA431FST KD1400	B362
3587730	848.940.640	K124, K126	3640718	B291A11000YPL KC7315	G89	3641593	CRDPN163DV	B168, B386	3655881	CNGA432FST KD1400	B362
3588387	KSEM1604HPGM KC7315	H54	3640719	B291A11500YPL KC7315	G89	3641594	CRDPN203DV	B168, B386	3655882	CNGM531FST KD1400	B363
3588680	KM63XMKZGMSLF65Y	C148	3640720	B291A12000YPL KC7315	G90	3641595	CRDPN164DV	B168, B386	3656063	CNGM532FST KD1400	B363
3592190	B978A05600 KC7315	G139	3640721	B291A12500YPL KC7315	G90	3641597	CRDPN204DV	B168, B386	3656064	CNGA431FST KD1400	B365
3593089	B978A04500 KC7315	G139	3640722	B291A12700YPL KC7315	G90	3641603	CRGPR162DV	B169, B387	3656065	CNGM532FST KD1400	B365

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3656070	VNGA331FST KD1400	B368	3659965	CPGW2151FST KD1400	B362	3660448	ABDE1000J3ARC K600	P117	3682450	EC1004FLDJ KC410M	T35, T44
3656071	VNGA332FST KD1400	B368	3659966	CPGW3251FST KD1400	B362	3660449	ABDE1000J3ARE K600	P117	3682451	EC1004FLDJ KC422M	T35, T45
3656072	VNMS331FST KD1400	B368	3659967	CPGW3252FST KD1400	B362	3660590	CM214	B168-169, B386-387	3682452	EC1004ELD KC520M	T36, T45
3656073	VNMS332FST KD1400	B368	3659968	CPGW21505FST KD1400	B364				3682513	EC1004ELD KC522M	T36, T45
3656449	CNGA431FST KD1425	B362	3659969	CPGW2151FST KD1400	B364	3660591	CM219	B168-169, B386-387	3682514	EC1004ELD KC725M	T36, T45
3656450	CNGA432FST KD1425	B362	3659970	CPGW2152FST KD1400	B364				3682515	EC1004ELD KCPK30	T36, T45
3656452	CNMS432FST KD1425	B363	3659971	CPGW3251FST KD1400	B364	3660592	CM216	B168-169, B386-387	3682520	EC1012FLDJ KC410M	T35, T44
3656463	DNGA431FST KD1425	B365	3659972	CPGW3252FST KD1400	B364				3682653	EC1012ELD KC522M	T36, T45
3656464	DNGA432FST KD1425	B365	3659975	CPGW2151FWST KD1400	B364	3663324	KSSC709813RX	U35	3682655	EC1012ELD KC725M	T36, T45
3656466	DNMS432FST KD1425	B365	3659976	CPGW3252FWST KD1400	B364	3663325	KSSC709813LX	U35	3682777	EC1016FLDJ KC410M	T35, T44
3656467	TNMS331FST KD1425	B366	3659977	CPGW432FWST KD1400	B364	3663326	KSSC813917FX	U36	3682778	EC1016FLDJ KC422M	T35, T45
3656468	TNMS332FST KD1425	B366	3659978	DCGW2151FST KD1400	B364	3663327	KSSC813917LX	U36	3682780	EC1016ELD KC522M	T36, T45
3656470	VNGA332FST KD1425	B368	3659979	DCGW3251FST KD1400	B364	3667056	SIF70HC12090M	K51	3682781	EC1016ELD KC725M	T36, T45
3656471	VNMS331FST KD1425	B368	3659980	DPGW21505FST KD1400	B366	3667057	SIF70HC20100M	K51	3682782	EC1016ELD KCPK30	T36, T45
3656472	VNMS332FST KD1425	B368	3659981	DPGW2151FST KD1400	B366	3667058	SIF80HC12090M	K51	3683704	B70A03700FBG KC7315	G110
3656474	VNGA432FST KD1425	B369	3659982	DPGW3251FST KD1400	B366	3667059	SIF80HC20100M	K51	3683403	KSEM3975HPGM KC7315	H55
3658815	AADE0250J3A K600	P128	3659985	TCGW2151FST KD1400	B366	3667060	SIF80HC25100M	K51	3684779	EC1002FLDJ KC410M	T35, T44
3658816	AADE0250J3ARB K600	P128	3659986	TCGW3251FST KD1400	B366	3667061	SIF100HC12090M	K51	3684824	EC1031FLDJ KC410M	T35, T44
3658817	AADE0250J3BRA K600	P128	3659987	TPGW2151FST KD1400	B367	3667062	SIF100HC20100M	K51	3684828	EC1031FLDJ KC725M	T36
3658818	AADE0250J3BRB K600	P128	3659988	TPGW2152FST KD1400	B367	3667918	B707A11350FBG KC7315	G111	3684829	EC1031ELD KCPK30	T36, T45
3658819	AADE0250J3C K600	P128	3659990	TPGW3252FST KD1400	B367	3668023	SIF100HC25100M	K51	3690478	KSEMP1400HPGM KC7315	H11
3658820	AADE0250J3CRA K600	P128	3659991	VBGW221FST KD1400	B368	3668056	B291A07200YPL KC7315	G89	3690479	KSEMP1500HPGM KC7315	H11
3658821	AADE0250J3CRB K600	P128	3659992	VBGW331FST KD1400	B368	3668058	B292A07200YPL KC7315	G89	3690480	KSEMP1600HPGM KC7315	H11
3658822	AADE0375J3A K600	P128	3659994	CDHB120605FST KD1425	B362	3668624	RMS05000H7HF K605	K9	3690481	KSEMP1700HPGM KC7315	H11
3658825	AADE0375J3BRB K600	P128	3659996	CPGW2151FST KD1425	B362	3668625	RMS05500H7HF K605	K9	3690482	KSEMP1800HPGM KC7315	H11
3658826	AADE0375J3BRC K600	P128	3659997	CPGW3251FST KD1425	B362	3668626	RMS06000H7HF K605	K9	3690713	KSEMP1900HPGM KC7315	H11
3658827	AADE0375J3C K600	P129	3659998	CPGW3252FST KD1425	B362	3668627	RMS06500H7HF K605	K9	3690714	KSEMP2100HPGM KC7315	H11
3658828	AADE0375J3CRB K600	P129	3659999	CPGW21505FST KD1425	B364	3668628	RMS07000H7HF K605	K9	3690715	KSEMP2200HPGM KC7315	H11
3658829	AADE0375J3CRC K600	P129	3660000	CPGW2151FST KD1425	B364	3668629	RMS08000H7HF K605	K9	3690716	KSEMP2300HPGM KC7315	H11
3658830	AADE0500J3A K600	P129	3660001	CPGW2152FST KD1425	B364	3668630	RMS09000H7HF K605	K9	3690717	KSEMP2400HPGM KC7315	H11
3658831	AADE0500J3ARB K600	P129	3660002	CPGW3251FST KD1425	B364	3668631	RMS10000H7HF K605	K9	3690718	KSEMP2500HPGM KC7315	H11
3658832	AADE0500J3ARC K600	P129	3660003	CPGW3252FST KD1425	B364	3668632	RMS11000H7HF K605	K9	3690719	KSEMP2600HPGM KC7315	H11
3658833	AADE0500J3BRB K600	P129	3660006	CPGW2151FWST KD1425	B364	3668633	RMS12000H7HF K605	K9	3690720	KSEMP2700HPGM KC7315	H11
3658834	AADE0500J3BRC K600	P129	3660007	CPGW3252FWST KD1425	B364	3668634	RMS13000H7HF K605	K9	3690721	KSEMP2800HPGM KC7315	H11
3658835	AADE0500J3BRE K600	P129	3660008	CPGW432FWST KD1425	B364	3668635	RMS14000H7HF K605	K9	3690722	KSEMP2900HPGM KC7315	H11
3658836	AADE0500J3C K600	P129	3660009	DCGW2151FST KD1425	B364	3668636	RMS15000H7HF K605	K8	3690723	KSEMP3000HPGM KC7315	H11
3658837	AADE0500J3CRB K600	P129	3660010	DCGW3251FST KD1425	B364	3668637	RMS16000H7HF K605	K8	3690724	KSEMP3100HPGM KC7315	H11
3658838	AADE0500J3CRC K600	P129	3660011	DPGW21505FST KD1425	B366	3668638	RMS17000H7HF K605	K8	3690725	KSEMP3200HPGM KC7315	H11
3658839	AADE0500J3D K600	P129	3660012	DPGW2151FST KD1425	B366	3668639	RMS18000H7HF K605	K8	3690726	KSEMP3300HPGM KC7315	H11
3658840	AADE0500J3DRB K600	P129	3660013	DPGW3251FST KD1425	B366	3668640	RMS19000H7HF K605	K8	3727352	ASPM07001802	T63-64
3658841	AADE0500J3DRC K600	P129	3660015	DPGW3251FWST KD1425	B366	3668641	RMS20000H7HF K605	K8	3732218	B70A05200FBG KC7315	G110
3658843	AADE0625J3B K600	P130	3660016	TCGW2151FST KD1425	B366	3668642	RMS21000H7HF K605	K8	3732889	M1HR125E14W125Z2L200C4	T63, T72
3658845	AADE0750J3A K600	P130	3660018	TPGW2151FST KD1425	B367	3668643	RMS22000H7HF K605	K8	3732890	M1HR150E14W125Z3L200C6	T63, T72
3658846	AADE0750J3BRB K600	P130	3660020	TPGW3251FST KD1425	B367	3668644	RMS23000H7HF K605	K8	3732891	M1HR150E14W125Z3L250C9	T63, T72
3658847	AADE0750J3BRC K600	P130	3660021	TPGW3252FST KD1425	B367	3668645	RMS24000H7HF K605	K8	3732892	M1HR150E14W125Z3L300C12	T63, T72
3658848	AADE0750J3BRE K600	P130	3660022	VBGW221FST KD1425	B368	3668646	RMS25000H7HF K605	K8	3732933	M1HR200E14S075Z3L200C6	T64, T72
3658849	AADE0750J3C K600	P130	3660023	VBGW331FST KD1425	B368	3668647	RMS26000H7HF K605	K8	3732934	M1HR200E14S075Z3L250C9	T64, T72
3658850	AADE0750J3CRB K600	P130	3660154	KSEMP1300HPGM KC7315	H111	3668648	RMS27000H7HF K605	K8	3732935	M1HR200E14W150Z3L300C12	T63, T72
3658851	AADE0750J3CRC K600	P130	3660156	KSEMP2000HPGM KC7315	H111	3668649	RMS28000H7HF K605	K8	3732937	M1HR250E14S100Z3L250C9	T64, T72
3658852	AADE0750J3D K600	P130	3660157	KSEMP3400HPGM KC7315	H111	3668650	RMS29000H7HF K605	K8	3732938	M1HR250E14S100Z4L250C12	T64, T72
3658863	AADE0750J3DRB K600	P130	3660396	ABDF0250J2AS K600	P116	3668651	RMS30000H7HF K605	K8	3732939	M1HR250E14S100Z3L300C12	T64, T72
3658864	AADE0750J3DRC K600	P130	3660397	ABDF0250J2ARB K600	P116	3668652	RMS31000H7HF K605	K8	3733337	CNGA433S0420MT KB5630	B310, B330
3658865	AADE1000J3A K600	P130	3660398	ABDF0312J2ARB K600	P116	3668653	RMS32000H7HF K605	K8	3737769	KSEM2110HPGM KC7315	H54
3658866	AADE1000J3ARB K600	P130	3660399	ABDF0375J2AS K600	P116	3668654	RMS33000H7HF K605	K8	3738473	A4G0605M06U04GMN KCP25	C106
3658869	AADE1000J3B K600	P130	3660400	ABDF0375J2ARB K600	P116	3668655	RMS34000H7HF K605	K8	3738488	DV40BSIF80061M	K49
3658871	AADE1000J3BRC K600	P130	3660401	ABDE0250J3AS K600	P117	3668656	RMS35000H7HF K605	K8	3738490	DV50BSIF70066M	K49
3658872	AADE1000J3C K600	P130	3660402	ABDE0250J3ARB K600	P117	3668657	RMS36000H7HF K605	K8	3738491	DV50BSIF100060M	K49
3658873	AADE1000J3CRB K600	P130	3660423	ABDE0312J3ARB K600	P117	3668658	RMS37000H7HF K605	K8	3738492	BT40BSIF80063M	K48
3658874	AADE1000J3CRC K600	P130	3660424	ABDE0375J3AS K600	P117	3668659	RMS38000H7HF K605	K8	3738503	BT50BSIF70066M	K49
3658875	AADF0125J2A K600	P126	3660425	ABDE0375J3ARB K600	P117	3668660	RMS39000H7HF K605	K8	3738504	BT50BSIF100068M	K49
3658877	AADF0188J2A K600	P126	3660426	ABDF0500J2AS K600	P116	3668661	RMS40000H7HF K605	K8	3738505	CV40BSIF80248	K48
3658879	AADF0250J2A K600	P126	3660427	ABDF0500J2ARB K600	P116	3668662	RMS41000H7HF K605	K8	3738506	CV50BSIF70236	K48
3658881	AADF0250J2BRB K600	P126	3660428	ABDF0500J2ARC K600	P116	3668663	RMS42000H7HF K605	K8	3738507	CV50BSIF100236	K48
3658882	AADF0250J2BRB K600	P126	3660429	ABDE0500J3AS K600	P117	3668664	RMS43000H7HF K605	K8	3738508	HSK63ASIF70066M	K50
3658893	AADF0250J2C K600	P126	3660430	ABDE0500J3ARB K600	P117	3668665	RMS44000H7HF K605	K8	3738510	HSK80ASIF70066M	K50
3658901	AADF0375J2C K600	P126	3660431	ABDE0500J3ARC K600	P117	3668666	RMS45000H7HF K605	K8	3738511	HSK100ASIF70050M	K50
3658902	AADF0375J2CRB K600	P126	3660432	ABDF0625J2AS K600	P116	3668667	RMS46000H7HF K605	K8	3738512	HSK100ASIF100070M	K50
3658903	AADF0375J2CRC K600	P126	3660433	ABDF0750J2AS K600	P116	3668668	RMS47000H7HF K605	K8	3739296	B292A15600YPL KC7315	G90
3658904	AADF0500J2A K600	P126	3660434	ABDF0750J2ARB K600	P116	3668669	RMS48000H7HF K605	K8			
3658907	AADF0500J2BRB K600	P127	3660435	ABDF0750J2ARC K600	P116	3668670	RMS49000H7HF K605	K8			
3658910	AADF0500J2C K600	P127	3660436	ABDF0750J2ARE K600	P116	3668671	RMS50000H7HF K605	K8			
3658911	AADF0500J2CRB K600	P127	3660437	ABDF1000J2AS K600	P116	3669072	NST2	B168-169, B386-387			
3658912	AADF0500J2CRC K600	P127	36								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3742210	KSEMP3300FDS32A1M	H104, H115, H122	3744929	SCMT432MP KCM25	B247	3746126	CCMT32505UF KCP05	B192	3748397	CCMT2152LF KCP05	B191
3742211	KSEMP5000FDS50A1M	H105, H116, H122	3744930	SCMT433MP KCM25	B247	3746132	DCMT32505UF KCP05	B226	3748401	CPMT3251LF KCP05	B207
3742212	KSEMP7000FDS63A1M	H105, H116, H123	3744931	TCMT3251MP KCM25	B258	3746133	DCMT3251UF KCP05	B226	3748422	VBMT221LF KCP05	B281
3742293	WD32FDS32321M	H127	3744932	TCMT3252MP KCM25	B258	3746134	DCMT3252UF KCP05	B226	3748423	VBMT222LF KCP05	B281
3742294	WD50FDS50503M	H127	3744935	VBMT331MP KCM25	B281	3746135	SCMT3252UF KCP05	B247	3748425	VBMT332LF KCP05	B281
3742296	WD50FDS63779M	H127	3744936	VBMT332MP KCM25	B281	3746137	TPMT21505UF KCP05	B269	3749127	HNGJ535ANSNHD KC520M	S19, S22
3742470	M1D062E1002CM08	T29	3744940	CCMT2151MP KCP10	B191	3746138	TPMT2151UF KCP05	B269	3749128	HNGJ5351ANSNHD KC520M	S19, S22
3742471	M1D075E1002CM10	T29	3744941	CCMT3251MP KCP10	B191	3747113	EP1010EHD KC522M	T36, T46	3749198	CNMG433MW KCP10	B52
3742472	M1D075E1003CM10	T29	3744942	CCMT3252MP KCP10	B191	3747114	EP1010EHD KC725M	T36, T46	3749200	DNMG442MW KCP10	B82
3742513	M1D100E1003CM12	T29	3744943	CCMT432MP KCP10	B191	3747115	EP1010EHD KCK15	T36, T46	3749253	SNMG6433RP KCP10	B104
3742514	M1D100E1004CM12	T29	3744945	CPMT3252MP KCP10	B207	3747116	EP1010EHD KCKP30	T36, T46	3749254	TNMG332MW KCP10	B126
3742516	M1D125E1005CM16	T29	3744946	DCMT3251MP KCP10	B226	3747124	KSHR250HN5345XC3	S20	3749255	TNMG333MW KCP10	B126
3742517	M1D150E1006CM16	T29	3744947	DCMT3252MP KCP10	B226	3747125	KSHR300HN5345XC4	S20	3749256	WNMG432MW KCP10	B160
3742518	M1D050E1001C062L350	T31	3744949	SCMT3252MP KCP10	B247	3747126	KSHR400HN5345XC5	S20	3749258	WNMG432MW KCP10	B160
3742519	M1D062E1002C075L400	T31	3744950	SCMT432MP KCP10	B247	3747127	KSHR500HN5345XC6	S20	3749259	CNMG431RP KCP10	B53
3742520	M1D075E1002C075L450	T31	3744951	TCMT3252MP KCP10	B258	3747128	KSHR600HN5345XC8	S20	3749260	CNMG433RP KCP10	B53
3742521	M1D075E1003C075L450	T31	3744955	CCMT3252MP KCP20	B191	3747140	CNGA431S0425MT KB5630	B310, B330	3749261	CNMG434RP KCP10	B53
3742522	M1D100E1003C100L480	T31	3744956	CCMT432MP KCK20	B191	3747141	CNGA432S0425MT KB5630	B310, B330	3749262	CNMG542RP KCP10	B53
3742523	M1D100E1004C100L480	T31	3744957	CCMT433MP KCK20	B191	3747142	CNGA433S0425MT KB5630	B310, B330	3749266	CNMG644RP KCP10	B53
3742524	M1D125E1004C125L520	T31	3744958	CPMT3252MP KCK20	B207	3747223	CNGA431S0425FWMT KB5630	B310, B330	3749267	DNMG432RP KCP10	B84
3742535	M1D125E1005C125L520	T31	3744962	SCMT3251MP KCK20	B247	3747225	CNGA432S0425MT KB5630	B310, B330	3749271	DNMG442RP KCP10	B84
3742536	M1D062E1002C062L670	T32	3744965	SPMT3252MP KCK20	B253	3747224	CNGA432S0425FWMT KB5630	B310, B330	3749272	DNMG443RP KCP10	B84
3742537	M1D062E1002C062L670R	T32	3744974	VBMT332MP KCK20	B281	3749273	DNMG444RP KCP10	B84	3749277	DNMG442RP KCP10	B84
3742538	M1D075E1002C075L670	T31	3744975	CCMT2151MP KCU10	B191	3749278	SNMG433RP KCP10	B105	3749279	SNMG434RP KCP10	B105
3742540	M1D075E1003C075L670	T31	3744976	CCMT3251MP KCU10	B191	3749282	SNMG6433RP KCP10	B105	3749283	SNMG644RP KCP10	B105
3742541	M1D075E1003C075L670R	T32	3744977	CCMT3252MP KCU10	B191	3749283	SNMG644RP KCP10	B105	3749284	TNMG332RP KCP10	B127
3742542	M1D088E1003C075L670	T31	3744978	CCMT432MP KCU10	B191	3749288	TNMG433RP KCP10	B127	3749289	TNMG434RP KCP10	B127
3742543	M1D100E1003C100L800	T31	3744979	CPMT2152MP KCU10	B207	3749291	WNMG332RP KCP10	B148	3749292	WNMG333RP KCP10	B161
3742544	M1D100E1003C100L800R	T32	3744980	CPMT3252MP KCU10	B207	3749292	WNMG333RP KCP10	B161	3749293	WNMG332RP KCP10	B161
3742545	M1D100E1004C100L800	T31	3744981	DCMT3251MP KCU10	B226	3749296	WNMG433RP KCP10	B161	3749297	WNMG434RP KCP10	B161
3742546	M1D100E1004C100L800R	T32	3744982	DCMT3253MP KCU10	B226	3749298	WNMG432RP KCP10	B161	3749299	CCMT32505UF KCP10	B192
3742547	M1D110E1004C100L800	T31	3744983	DPMT3252MP KCU10	B233	3749300	CCMT3251UF KCP10	B192	3749307	DCMT3252UF KCP10	B226
3742548	M1D125E1004C125L800	T31	3744984	SCMT3251MP KCU10	B247	3749309	DPMT3251UF KCP10	B233	3749310	DPMT3252UF KCP10	B233
3742550	M1D125E1005C125L800	T31	3744985	SCMT431MP KCU10	B247	3749318	TPMT3252UF KCP10	B269	3749319	SCMT3252UF KCP10	B247
3742551	M1D125E1005C125L800R	T32	3744986	SCMT432MP KCU10	B247	3749318	TPMT3252UF KCP10	B269	3749320	TPMT3252UF KCP10	B269
3742552	M1D062E1002W075L100	T30	3744987	SPMT3252MP KCU10	B253	3749324	TPMG2152S0415C KB5630	B312, B332	3749325	TPMG332F KCP05	B79
3742553	M1D075E1002W075L110	T30	3744988	SPMT432MP KCU10	B253	3749326	TPMG333F KCP05	B79	3749326	TPMG332F KCP05	B79
3742554	M1D075E1003W075L110	T30	3744989	TCMT2152MP KCU10	B258	3749327	TPMG333F KCP05	B79	3749327	TPMG333F KCP05	B79
3742555	M1D100E1003W100L125	T30	3744990	TCMT3251MP KCU10	B258	3749328	TPMG333F KCP05	B79	3749328	TPMG333F KCP05	B79
3742556	M1D100E1004W100L125	T30	3745033	S449	T64	3749329	TPMG333F KCP05	B79	3749329	TPMG333F KCP05	B79
3742557	M1D125E1004W125L160	T30	3745036	S464	T64	3749330	TPMG333F KCP05	B79	3749330	TPMG333F KCP05	B79
3742558	M1D125E1005W125L160	T30	3745039	M1D150E1004S075L157	T33	3749331	TPMG333F KCP05	B79	3749331	TPMG333F KCP05	B79
3744865	CCMT2151MP KCM15	B191	3745040	M1D150E1006S075L157	T33	3749332	TPMG333F KCP05	B79	3749332	TPMG333F KCP05	B79
3744872	DCMT3252MP KCM15	B226	3745041	M1D200E1005S075L157	T33	3749333	TPMG333F KCP05	B79	3749333	TPMG333F KCP05	B79
3744873	SCMT3251MP KCM15	B247	3745042	M1D200E1008S075L157	T33	3749334	TPMG333F KCP05	B79	3749334	TPMG333F KCP05	B79
3744874	SCMT3252MP KCM15	B247	3745043	M1D250E1006S075L157	T33	3749335	TPMG333F KCP05	B79	3749335	TPMG333F KCP05	B79
3744878	SPMT3252MP KCM15	B253	3745045	M1D250E1009S075L157	T33	3749336	TPMG333F KCP05	B79	3749336	TPMG333F KCP05	B79
3744880	TCMT3252MP KCM15	B258	3745047	M1D300E1008S100L175	T33	3749337	TPMG333F KCP05	B79	3749337	TPMG333F KCP05	B79
3744884	CCMT2151MP KCP25	B191	3745048	M1D300E1010S100L175	T33	3749338	TPMG333F KCP05	B79	3749338	TPMG333F KCP05	B79
3744886	CCMT3251MP KCP25	B191	3745049	M1D400E1008S150L200	T33	3749339	TPMG333F KCP05	B79	3749339	TPMG333F KCP05	B79
3744887	CCMT3252MP KCP25	B191	3746074	DNMG331MN KCP05	B81	3749340	TPMG333F KCP05	B79	3749340	TPMG333F KCP05	B79
3744888	CCMT3253MP KCP25	B191	3746075	DNMG332MN KCP05	B81	3749341	TPMG333F KCP05	B79	3749341	TPMG333F KCP05	B79
3744890	CCMT3251MP KCP25	B191	3746077	DNMG433MN KCP05	B81	3749342	TPMG333F KCP05	B79	3749342	TPMG333F KCP05	B79
3744891	CCMT433MP KCP25	B191	3746078	DNMG332MN KCP05	B146	3749343	TPMG333F KCP05	B79	3749343	TPMG333F KCP05	B79
3744893	CPMT3252MP KCP25	B207	3746085	CNMG433MW KCP05	B52	3749344	TPMG333F KCP05	B79	3749344	TPMG333F KCP05	B79
3744895	DCMT3251MP KCP25	B226	3746086	DNMG442MW KCP05	B82	3749345	TPMG333F KCP05	B79	3749345	TPMG333F KCP05	B79
3744896	DCMT3253MP KCP25	B226	3746087	DNMG332MW KCP05	B126	3749346	TPMG333F KCP05	B79	3749346	TPMG333F KCP05	B79
3744897	DPMT3252MP KCP25	B233	3746088	WNMG432MW KCP05	B160	3749347	TPMG333F KCP05	B79	3749347	TPMG333F KCP05	B79
3744898	SCMT3251MP KCP25	B247	3746090	DNMG432MW KCP05	B82	3749348	TPMG333F KCP05	B79	3749348	TPMG333F KCP05	B79
3744900	SCMT433MP KCP25	B191	3746091	DNMG433MW KCP05	B82	3749349	TPMG333F KCP05	B79	3749349	TPMG333F KCP05	B79
3744903	CPMT3252MP KCP25	B207	3746092	DNMG443MW KCP05	B82	3749350	TPMG333F KCP05	B79	3749350	TPMG333F KCP05	B79
3744904	TCMT2152MP KCP25	B258	3746093	M1HR075ED10W075Z2L140C6	T41	3749351	TPMG333F KCP05	B79	3749351	TPMG333F KCP05	B79
3744906	TCMT3251MP KCP25	B258	3746097	M1HR100ED10W100Z2L110C4	T41	3749352	TPMG333F KCP05	B79	3749352	TPMG333F KCP05	B79
3744907	TCMT3253MP KCP25	B258	3746098	M1HR125ED10W125Z2L110C4	T41	3749353	TPMG333F KCP05	B79	3749353	TPMG333F KCP05	B79
3744909	TPMT3252MP KCP25	B269	3746099	M1HR125ED10W125Z2L110C4	T41	3749354	TPMG333F KCP05	B79	3749354	TPMG333F KCP05	B79
3744910	TPMT3253MP KCP25	B269	3746100	M1HR150ED10S075Z2L200C2	T43	3749355	TPMG333F KCP05	B79	3749355	TPMG333F KCP05	B79
3744911	VBMT331MP KCP25	B281	3746101	M1HR150ED10S075Z2L200C2	T43	3749356	TPMG333F KCP05	B79	3749356	TPMG333F KCP05	B79
3744912	VBMT332MP KCP25	B281	3746106	M1HR125ED10M16Z2L160C4	T40	3749357	TPMG333F KCP05	B79	3749357	TPMG333F KCP05	B79
3744917	CCMT2151MP KCM25	B191	3746107	M1HR125ED10M16Z2L160C6	T40	3749358	TPMG333F KCP05	B79	3749358	TPMG333F KCP05	B79
3744918	CCMT3251MP KCM25	B191	3746108	M1HR150ED10S075Z2L200C12	T43	3749359	TPMG333F KCP05	B79	3749359	TPMG333F KCP05	B79
3744919	CCMT3252MP KCM25	B191	3746109	M1HR150ED10S075Z2L200C2	T43	3749360	TPMG333F KCP05	B79	3749360	TPMG333F KCP05	B79
3744920	CCMT3253MP KCM25	B191	3746111	M1HR200ED10S075Z2L240C25	T43	3749361	TPMG333F KCP05	B79	3749361	TPMG333F KCP05	B79
3744923	CCMT433MP KCM25	B191	3746114	CNMG433RP KCP05	B53	3749362	TPMG333F KCP05	B79	3749362	TPMG333F KCP05	B79
3744924	CPMT3252MP KCM25	B207									

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3749377	WNMG432FW KCP10	B158	3751474	CNMG431FN KCP05	B49	3751601	TCMT432LF KCP25	B257	3751743	SNMM543RM KCP25	B107
3749378	WNMG433FW KCP10	B158	3751475	CNMG432FN KCP05	B49	3751602	TPMT18151LF KCP25	B268	3751744	SNMM544RM KCP25	B107
3749379	CCMT2152LF KCP10	B191	3751477	DNMG331FN KCP05	B79	3751603	TPMT2151LF KCP25	B268	3751745	SNMM643RM KCP25	B107
3749380	CCMT432LF KCP10	B191	3751478	DNMG332FN KCP05	B79	3751604	TPMT2152LF KCP25	B268	3751746	SNMM644RM KCP25	B107
3749381	CPMT2151LF KCP10	B207	3751479	DNMG333FN KCP05	B79	3751605	TPMT3251LF KCP25	B268	3751747	SNMM646RM KCP25	B107
3749382	CPMT2152LF KCP10	B207	3751480	DNMG431FN KCP05	B79	3751606	TPMT3252LF KCP25	B268	3751748	TNMM332RM KCP25	B128
3749383	CPMT3251LF KCP10	B207	3751481	DNMG432FN KCP05	B79	3751607	VBMT221LF KCP25	B281	3751749	TNMM333RM KCP25	B128
3749384	CPMT3252LF KCP10	B207	3751482	DNMG433FN KCP05	B79	3751608	VBMT222LF KCP25	B281	3751751	TNMM433RM KCP25	B128
3749386	DCMT2151LF KCP10	B225	3751483	DNMG441FN KCP05	B79	3751609	VBMT331LF KCP25	B281	3751753	TNMM643RM KCP25	B128
3749387	DCMT3252LF KCP10	B225	3751484	DNMG442FN KCP05	B79	3751610	VBMT332LF KCP25	B281	3751754	TNMM644RM KCP25	B128
3749388	DCMT3253LF KCP10	B225	3751485	DNMG443FN KCP05	B79	3751611	WPMT3251LF KCP25	B288	3751755	CNMG432RN KCP25	B53
3749389	DCMT431LF KCP10	B225	3751486	SNMG431FN KCP05	B101	3751615	CCMT3252MW KCP25	B192	3751756	CNMG434RN KCP25	B53
3749390	DCMT432LF KCP10	B225	3751488	TNMG331FN KCP05	B123	3751616	CCMT431MW KCP25	B192	3751757	TNMM543RP KCP25	B56
3749391	DPMT2151LF KCP10	B232	3751490	TNMG333FN KCP05	B123	3751617	CCMT432MW KCP25	B192	3751759	CNMM433RP KCP25	B56
3749392	DPMT3251LF KCP10	B232	3751492	VNMG331FN KCP05	B146	3751618	CNMG433MW KCP25	B208	3751760	CNMM434RP KCP25	B56
3749393	DPMT3252LF KCP10	B232	3751493	VNMG332FN KCP05	B146	3751620	CPMT3252MW KCP25	B268	3751762	CNMM543RP KCP25	B56
3749394	SCMT3251LF KCP10	B246	3751494	WNMG431FN KCP05	B157	3751622	DCMT3252MW KCP25	B266	3751763	CNMM544RP KCP25	B56
3749395	SCMT3252LF KCP10	B246	3751495	WNMG432FN KCP05	B157	3751633	DNMG432MW KCP25	B82	3751764	CNMM643RP KCP25	B56
3749396	SCMT431LF KCP10	B246	3751498	CCMT3252LF KCP05	B191	3751635	CNMG442MW KCP25	B82	3751765	CNMM644RP KCP25	B56
3749399	SPMT3251LF KCP10	B252	3751499	DCMT3251LF KCP05	B225	3751636	DNMG443MW KCP25	B82	3751766	CNMM646RP KCP25	B56
3749401	TCMT2151LF KCP10	B257	3751500	CNMG432MN KCP05	B50	3751637	SNMG432MW KCP25	B104	3751767	DNMM442RP KCP25	B85
3749402	TCMT2152LF KCP10	B257	3751501	CNMG433MN KCP05	B50	3751639	TNMG332MW KCP25	B126	3751768	DNMM443RP KCP25	B85
3749403	TCMT3251LF KCP10	B257	3751505	TNMG332MN KCP05	B124	3751640	TNMG333MW KCP25	B126	3751769	DNMM444RP KCP25	B85
3749404	TCMT3252LF KCP10	B257	3751506	WNMG432MN KCP05	B159	3751641	WNMG332MW KCP25	B160	3751770	SNMM432RP KCP25	B107
3749408	TPMT2151LF KCP10	B268	3751507	CNMG432MW KCP05	B160	3751643	VNMG325MW KCP25	B160	3751771	SNMM433RP KCP25	B107
3749410	TPMT3251LF KCP10	B268	3751508	WNMG433MW KCP05	B160	3751644	CNMG431RP KCP25	B53	3751772	SNMM543RP KCP25	B107
3749412	VBMT221LF KCP10	B281	3751509	CNMG432RN KCP05	B53	3751645	CNMG433RP KCP25	B53	3751773	SNMM643RP KCP25	B107
3749413	VBMT222LF KCP10	B281	3751511	CNMG432RP KCP05	B53	3751646	CNMG434RP KCP25	B53	3751775	SNMM646RP KCP25	B107
3749414	VBMT331LF KCP10	B281	3751512	CNMM432RP KCP05	B56	3751647	CNMG542RP KCP25	B53	3751777	TNMM433RP KCP25	B129
3749415	VBMT332LF KCP10	B281	3751519	CNMG643 KCP25	B47	3751648	CNMG543RP KCP25	B53	3751805	RNMG64 KCP40	B97
3749416	WPMT2151LF KCP10	B288	3751520	CNMG644 KCP25	B47	3751649	CNMG544RP KCP25	B53	3751808	SNMG644 KCP40	B100
3749422	CCMT2151MF KCP10	B191	3751521	CNMG866 KCP25	B47	3751650	CNMG643RP KCP25	B53	3751809	SNMG866 KCP40	B100
3749444	CCMT3253MF KCP10	B191	3751522	RNMG64 KCP25	B97	3751652	CNMM866RP KCP25	B56	3751810	TNMG666 KCP40	B122
3749447	CPMT3252MF KCP10	B207	3751546	SNMG866 KCP25	B100	3751655	DNMG432RP KCP25	B84	3751811	CNMG432MN KCP40	B50
3749449	DCMT3251MF KCP10	B226	3751547	TNMG666 KCP25	B122	3751656	DNMG433RP KCP25	B84	3751812	CNMG433MN KCP40	B50
3749450	DCMT3252MF KCP10	B226	3751548	RCMT0602MO KCP25	B240	3751657	DNMG442RP KCP25	B84	3751814	DNMG432MN KCP40	B81
3749451	DCMT3253MF KCP10	B226	3751549	RCMT0803MO KCP25	B240	3751658	DNMG443RP KCP25	B84	3751816	DNMG442MN KCP40	B81
3749453	SCMT3252MF KCP10	B247	3751550	RCMT10T3MO KCP25	B240	3751659	DNMG444RP KCP25	B84	3751818	SNMG432MN KCP40	B102
3749454	SCMT432MF KCP10	B247	3751551	RCMT1605MO KCP25	B240	3751661	RCGT1204MORP KCP25	B239	3751819	SNMG433MN KCP40	B102
3749455	SCMT433MF KCP10	B247	3751552	RCMT2006MO KCP25	B240	3751673	RCMT1204MORP KCP25	B242	3751823	TNMG333MN KCP40	B124
3749456	SPMT3252MF KCP10	B253	3751553	RCMT215 KCP25	B240	3751674	RCMT1606MORP KCP25	B242	3751824	TNMG432MN KCP40	B124
3749459	TCMT3252MF KCP10	B258	3751554	RCMT325 KCP25	B240	3751675	RCMT2006MORP KCP25	B242	3751826	WNMG432MN KCP40	B129
3749460	TCMT3253MF KCP10	B258	3751555	CNMG432CT KCP25	B48	3751677	RCMT2507MORP KCP25	B242	3751828	CNMG432RP KCP40	B53
3749462	TPMT3252MF KCP10	B268	3751556	CNMG433CT KCP25	B48	3751679	SNMG432RP KCP25	B105	3751829	CNMG433RP KCP40	B53
3749463	CNMG321MN KCP10	B50	3751557	DNMG431CT KCP25	B79	3751680	SNMG433RP KCP25	B105	3751830	CNMG543RP KCP40	B53
3749464	CNMG322MN KCP10	B50	3751558	DNMG432CT KCP25	B79	3751681	SNMG543RP KCP25	B105	3751833	CNMM432RP KCP40	B56
3749465	CNMG431MN KCP10	B50	3751559	DNMG442CT KCP25	B79	3751682	SNMG544RP KCP25	B105	3751837	CNMM543RP KCP40	B56
3749466	CNMG434MN KCP10	B50	3751560	DNMG443CT KCP25	B79	3751685	SNMM856RP KCP25	B107	3751847	SNMG433RP KCP40	B105
3749467	CNMG542MN KCP10	B50	3751561	CCMT2151FW KCP25	B190	3751686	SNMM866RP KCP25	B107	3751848	SNMG543RP KCP40	B105
3749468	CNMG543MN KCP10	B50	3751562	CCMT2152FW KCP25	B190	3751687	TNMG332RP KCP25	B127	3751850	SNMG644RP KCP40	B105
3749469	CNMG544MN KCP10	B50	3751563	CCMT3251FW KCP25	B190	3751688	TNMG333RP KCP25	B127	3751854	SNMG643RP KCP40	B107
3749470	CNMG642MN KCP10	B50	3751564	CCMT3252FW KCP25	B190	3751689	TNMG432RP KCP25	B127	3751855	SNMM644RP KCP40	B107
3749471	CNMG643MN KCP10	B50	3751566	CPMT2152FW KCP25	B206	3751692	TNMG543RP KCP25	B127	3751856	SNMM856RP KCP40	B107
3749474	DNMG332MN KCP10	B81	3751567	CPMT3251FW KCP25	B206	3751694	TNMG666RP KCP25	B127	3751858	TNMG433RP KCP40	B127
3749475	DNMG333MN KCP10	B81	3751568	CPMT3252FW KCP25	B206	3751695	VNMG332RP KCP25	B148	3751859	TNMG666RP KCP40	B127
3749476	DNMG431MN KCP10	B81	3751569	DCMT3251FW KCP25	B225	3751696	VNMG333RP KCP25	B148	3751862	CNMG432RP KCK05	B53
3749479	DNMG441MN KCP10	B81	3751570	DCMT3252FW KCP25	B225	3751697	VNMG332RP KCP25	B161	3751873	CNMG431UN KCK05	B54
3749480	DNMG443MN KCP10	B81	3751571	DPMT2151FW KCP25	B232	3751698	WNMG333RP KCP25	B161	3751874	CNMG432UN KCK05	B54
3749481	DNMG444MN KCP10	B81	3751575	CCMT2152LF KCP25	B191	3751699	WNMG432RP KCP25	B161	3751875	CNMG433UN KCK05	B54
3749483	SNMG322MN KCP10	B102	3751576	CCMT432LF KCP25	B191	3751700	WNMG433RP KCP25	B161	3751882	CNMG644UN KCK05	B54
3749484	SNMG323MN KCP10	B102	3751577	CPMT2151LF KCP25	B207	3751701	WNMG434RP KCP25	B161	3751896	CNMA432 KCK05	B47
3749486	SNMG432MN KCP10	B102	3751578	CPMT2152LF KCP25	B207	3751702	CCMT2151UF KCP25	B192	3751898	CNMA433 KCK05	B47
3749487	SNMG433MN KCP10	B102	3751579	CPMT3251LF KCP25	B207	3751703	CCMT3251UF KCP25	B192	3751899	CNMA434 KCK05	B47
3749490	SNMG643MN KCP10	B102	3751580	CPMT3252LF KCP25	B207	3751705	CPMT2151UF KCP25	B208	3751906	CNMA643 KCK05	B47
3749491	TNMG331MN KCP10	B124	3751581	DCMT2151LF KCP25	B225	3751706	CPMT3251UF KCP25	B208	3751908	TNMG332UN KCK05	B127
3749493	TNMG431MN KCP10	B124	3751582	DCMT3252LF KCP25	B225	3751707	DCMT2151UF KCP25	B226	3751909	DNMA332 KCK05	B78
3749494	TNMG432MN KCP10	B124	3751583	DCMT3253LF KCP25	B225	3751710	DCMT3252UF KCP25	B226	3751910	DNMA432 KCK05	B78
3749496	VNMG331MN KCP10	B146	3751585	DCMT432LF KCP25	B225	3751711	DPMT2151UF KCP25	B233	3751911	TNMG333UN KCK05	B127
3749497	VNMG332MN KCP10	B146	3751586	DPMT2151LF KCP25	B232	3751712	TCMT2151UF KCP25	B258	3751912	DNMA433 KCK05	B78
3749498	VNMG333MN KCP10	B146	3751587	DPMT3251LF KCP25	B232	3751714	TCMT3252UF KCP25	B258	3751915	DNMA442 KCK05	B78
3749499	WNMG331MN KCP10	B159	3751588	DPMT3252LF KCP25	B232	3751715	CNMM432RM KCP25	B55	3751931	TNMA432 KCK05	B122
3749500	WNMG332MN KCP10	B159	3751589	SCMT3251LF KCP25	B246	3751716	CNMM433RM KCP25	B55	3751934	WNMA332 KCK05	B145
3749501	WNMG333MN KCP10	B159	3751590	SCMT3252LF KCP25	B246	3751718	CNMM543RM KCP25	B55	3751938	WNMA432 KCK05	B157
3749502	WNMG433MN KCP10	B159	3751591	SCMT431LF KCP25	B246	3751719	CNMM544RM KCP25	B55	3751944	CNMG332FN KCK05	B49
3749503	CNMP432K KCP10	B57	3751592	SCMT432LF KCP25	B246	3751721	CNMM643RM KCP25	B55	3751945	CNMG431FN KCK05	B49
3749507	TNMP332K KCP10	B129	3751594	SPMT3251LF KCP25	B252	3751722	CNMM644RM KCP25	B55	3751946	CNMG432FN KCK05	B49
3749508	VNMP332K KCP10	B149	3751595	SPMT3252LF KCP25	B252	3751733	CNMM646RM KCP25	B55	3751950	DNMG331FN KCK05	B79
3750568	B292A09600VPL KCP7315	G89	3751596	TCMT2151LF KCP25	B257	3751734	DNMM432RM KCP25	B85	3751951	WNMG433UN KCK05	B162
3751151	DNMG331FF KCP05	B79	3751597	TCMT2152LF KCP25	B257	3751737	DNMM443RM KCP25	B85	3751952	DNMG332FN KCK05	B79
3751152	DNMG432FF KCP05	B79	3751598	TCMT3251LF KCP25	B257	3751738	DNMM444RM KCP25	B85	3751955	DNMG431FN KCK05	B79
3751405	RCMT1204MORP KCK20	B242	3751599	TCMT3252LF KCP25	B257	3751739	SNMM433RM KCP25	B107	3751956	DNMG432FN KCK05	B79
3751406	RCMT2006MORP KCK20	B242	3751600	TCMT3253LF KCP25	B257	3751741	SNMM433RM KCP25	B107	3751957	DNMG432UN KCK05	B84

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3751958	DNMG433FN KCK05	B79	3752099	TPMT18151LF KCK05	B268	3753219	DNMG432FN KCP10	B79	3753376	VNMG433RN KCP10	B148
3751959	DNMG441FN KCK05	B79	3752102	TPMT3251LF KCK05	B268	3753221	DNMG441FN KCP10	B79	3753379	VNMG432RN KCP10	B161
3751960	DNMG442FN KCK05	B79	3752103	TPMT3252LF KCK05	B268	3753222	DNMG442FN KCP10	B79	3753380	VNMG433RN KCP10	B161
3751961	DNMG443FN KCK05	B79	3752106	VBMT221LF KCK05	B281	3753223	DNMG443FN KCP10	B79	3753381	VNMG434RN KCP10	B161
3751963	SNMG322FN KCK05	B101	3752107	VBMT222LF KCK05	B281	3753225	SNMG322FN KCP10	B101	3753386	EP1008GD KC520M	T37, T47
3751964	SNMG431FN KCK05	B101	3752109	VBMT332LF KCK05	B281	3753227	SNMG432FN KCP10	B101	3753387	EP1012SD KC520M	T37, T47
3751970	TNMG331FN KCK05	B123	3752110	VBMT333LF KCK05	B281	3753228	SNMG433FN KCP10	B101	3753389	CCMT2151MF KCP25	B191
3751971	TNMG332FN KCK05	B123	3752113	WPMT3252LF KCK05	B288	3753229	SNMG434FN KCP10	B101	3753390	CCMT3251MF KCP25	B191
3751972	TNMG333FN KCK05	B123	3752114	CNMG433RP KCK05	B53	3753231	TNMG222FN KCP10	B123	3753391	CCMT3253MF KCP25	B191
3751974	VNMG331FN KCK05	B146	3752115	CNMG543RP KCK05	B53	3753232	TNMG331FN KCP10	B123	3753413	CCMT433MF KCP25	B191
3751975	VNMG332FN KCK05	B146	3752117	DNMG432RP KCK05	B84	3753233	TNMG332FN KCP10	B123	3753415	CPMT3252MF KCP25	B207
3751976	VNMG331FN KCK05	B157	3752119	DNMG443RP KCK05	B84	3753238	VNMG331FN KCP10	B146	3753416	CPMT3253MF KCP25	B207
3751978	VNMG431FN KCK05	B157	3752121	SNMG433RP KCK05	B105	3753239	VNMG332FN KCP10	B146	3753417	EC1008ELD KC510M	T36, T45
3751979	VNMG432FN KCK05	B157	3752122	TNMG332RP KCK05	B127	3753240	VNMG331FN KCP10	B157	3753418	DCMT3251MF KCP25	B226
3751980	CCMT2151LF KCK05	B191	3752124	VNMG432RP KCK05	B161	3753241	VNMG332FN KCP10	B157	3753419	DCMT3252MF KCP25	B226
3751981	CCMT3251LF KCK05	B191	3752125	VNMG433RP KCK05	B161	3753242	VNMG331FN KCP10	B157	3753421	DPMT3252MF KCP25	B232
3751982	CCMT3252LF KCK05	B191	3752127	CNMA431 KCK15	B47	3753243	VNMG432FN KCP10	B157	3753422	SCMT3252MF KCP25	B247
3751985	DCMT3251LF KCK05	B225	3752128	CNMA432 KCK15	B47	3753244	CCMT2151LF KCP10	B191	3753423	SCMT432MF KCP25	B247
3751986	CCMT2152LF KCK15	B191	3752129	CNMA433 KCK15	B47	3753245	CCMT3251LF KCP10	B191	3753424	SCMT433MF KCP25	B247
3751987	CCMT432LF KCK15	B191	3752130	CNMA434 KCK15	B47	3753246	CCMT3252LF KCP10	B191	3753425	SPMT3252MF KCP25	B253
3751988	CPMT2151LF KCK15	B207	3752131	CNMA542 KCK15	B47	3753247	CCMT431LF KCP10	B191	3753426	SPMT432MF KCP25	B253
3751989	CPMT2152LF KCK15	B207	3752132	CNMA543 KCK15	B47	3753248	CCMT433LF KCP10	B191	3753427	TCMT2152MF KCP25	B258
3751991	CPMT3252LF KCK15	B207	3752143	CNMA544 KCK15	B47	3753249	DCMT3251LF KCP10	B225	3753428	TCMT3252MF KCP25	B258
3751992	DCMT3252LF KCK15	B225	3752144	CNMA643 KCK15	B47	3753251	CCMT432MF KCP10	B191	3753430	TPMT2152MF KCP25	B268
3752013	SCMT3252LF KCK15	B246	3752145	DNMA432 KCK15	B78	3753252	CNMG432MN KCP10	B50	3753431	TPMT3252MF KCP25	B268
3752014	SCMT432LF KCK15	B246	3752146	DNMA433 KCK15	B78	3753253	CNMG433MN KCP10	B50	3753432	TPMT3253MF KCP25	B268
3752015	SPMT3252LF KCK15	B252	3752147	DNMA442 KCK15	B78	3753254	DNMG432MN KCP10	B81	3753434	CNMG322MN KCP25	B50
3752016	TCMT2151LF KCK15	B257	3752152	SNMA433 KCK15	B100	3753255	CNMG442MN KCP10	B81	3753435	CNMG542MN KCP25	B50
3752017	TCMT2152LF KCK15	B257	3752157	TNMA332 KCK15	B122	3753256	TNMG332MN KCP10	B124	3753436	CNMG431MN KCP25	B50
3752018	TCMT3251LF KCK15	B257	3752158	TNMA333 KCK15	B122	3753257	VNMG432MN KCP10	B159	3753437	CNMG434MN KCP25	B50
3752019	TCMT3252LF KCK15	B257	3752159	TNMA334 KCK15	B122	3753288	CNMG433RN KCP10	B53	3753438	CNMG542MN KCP25	B50
3752020	TCMT3253LF KCK15	B257	3752163	TNMA544 KCK15	B122	3753292	CNMG543RN KCP10	B53	3753439	CNMG543MN KCP25	B50
3752021	TPMT18151LF KCK15	B268	3752164	VNMA332 KCK15	B145	3753293	CNMG544RN KCP10	B53	3753440	CNMG544MN KCP25	B50
3752024	TPMT3251LF KCK15	B268	3752165	VNMA332 KCK15	B157	3753295	CNMG643RN KCP10	B53	3753441	CNMG642MN KCP25	B50
3752025	TPMT3252LF KCK15	B268	3752167	VNMA432 KCK15	B157	3753298	DNMG432RN KCP10	B83	3753442	CNMG643MN KCP25	B50
3752026	VBMT331LF KCK15	B281	3752168	VNMA433 KCK15	B157	3753301	DNMG442RN KCP10	B83	3753443	CNMG644MN KCP25	B50
3752027	VBMT332LF KCK15	B281	3752170	CCMT2151LF KCK15	B191	3753302	DNMG443RN KCP10	B83	3753444	DNMG331MN KCP25	B81
3752028	CCMT2151MF KCK15	B191	3752171	CCMT3251LF KCK15	B191	3753303	DNMG444RN KCP10	B83	3753445	DNMG332MN KCP25	B81
3752029	CCMT3251MF KCK15	B191	3752172	CCMT3252LF KCK15	B191	3753307	CNMG432MW KCP10	B82	3753446	DNMG333MN KCP25	B81
3752030	CCMT3253MF KCK15	B191	3752173	DCMT3251LF KCK15	B225	3753308	RNMG43RN KCP10	B97	3753447	RNMG431MN KCP25	B81
3752031	CCMT433MF KCK15	B191	3752174	CCMT3252MF KCK15	B191	3753311	RNMG68RN KCP10	B97	3753448	DNMG433MN KCP25	B81
3752032	CPMT2152MF KCK15	B207	3752175	CCMT432MF KCK15	B191	3753312	SNMG333RN KCP10	B105	3753450	DNMG441MN KCP25	B81
3752033	CPMT3252MF KCK15	B207	3752176	CNMG432RP KCK15	B53	3753313	SNMG432RN KCP10	B105	3753451	DNMG443MN KCP25	B81
3752035	DCMT3251MF KCK15	B226	3752177	CNMG431UN KCK15	B54	3753314	VNMG433MW KCP10	B160	3753453	SNMG322MN KCP25	B102
3752036	DCMT3252MF KCK15	B226	3752178	CNMG432UN KCK15	B54	3753315	CNMG433RN KCP10	B105	3753454	SNMG323MN KCP25	B102
3752037	DCMT3253MF KCK15	B226	3752179	CNMG433UN KCK15	B54	3753319	SNMG646RH KCP10	B55	3753456	SNMG432MN KCP25	B102
3752039	SCMT3252MF KCK15	B247	3752181	CNMG542UN KCK15	B54	3753321	SNMG542RN KCP10	B105	3753457	SNMG433MN KCP25	B102
3752040	SCMT432MF KCK15	B247	3752182	CNMG543UN KCK15	B54	3753322	SNMG644RH KCP10	B106	3753458	SNMG434MN KCP25	B102
3752041	SCMT433MF KCK15	B247	3752183	CNMG544UN KCK15	B54	3753323	SNMG646RH KCP10	B106	3753459	SNMG543MN KCP25	B102
3752042	SPMT3252MF KCK15	B253	3752184	CNMG642UN KCK15	B54	3753325	CNMM432RN KCP10	B55	3753462	SNMG644MN KCP25	B102
3752043	SPMT432MF KCK15	B253	3752185	CNMG643UN KCK15	B54	3753326	CNMM433RN KCP10	B55	3753463	TNMG331MN KCP25	B124
3752044	TCMT2152MF KCK15	B258	3752186	CNMG644UN KCK15	B54	3753328	CNMM543RN KCP10	B55	3753464	TNMG333MN KCP25	B124
3752045	TCMT3252MF KCK15	B258	3752187	DNMG332UN KCK15	B84	3753329	CNMM544RN KCP10	B55	3753465	TNMG431MN KCP25	B124
3752047	TPMT2152MF KCK15	B268	3752188	DNMG333UN KCK15	B84	3753331	CNMM546RN KCP10	B55	3753466	TNMG432MN KCP25	B124
3752048	TPMT3252MF KCK15	B268	3752189	DNMG432UN KCK15	B84	3753332	CNMM643RN KCP10	B55	3753467	TNMG433MN KCP25	B124
3752049	TPMT3253MF KCK15	B268	3752192	DNMG442UN KCK15	B84	3753333	CNMM644RN KCP10	B55	3753469	VNMG331MN KCP25	B146
3752050	CNMG433RP KCK15	B53	3752193	DNMG443UN KCK15	B84	3753334	SNMG644RN KCP10	B105	3753470	VNMG332MN KCP25	B146
3752052	CNMG543RP KCK15	B53	3752196	SNMG432UN KCK15	B106	3753335	DNMM442RN KCP10	B85	3753471	VNMG333MN KCP25	B146
3752053	CNMG643RP KCK15	B53	3752200	SNMG544UN KCK15	B106	3753336	DNMM443RN KCP10	B85	3753472	VNMG331MN KCP25	B159
3752057	DNMG443RP KCK15	B84	3752201	SNMG643UN KCK15	B106	3753337	TNMG332RN KCP10	B126	3753473	VNMG332MN KCP25	B159
3752058	RCMT1204MORP KCK15	B242	3752203	TNMG332UN KCK15	B127	3753339	SNMM543RN KCP10	B107	3753474	VNMG333MN KCP25	B159
3752059	RCMT1606MORP KCK15	B242	3752207	TNMG433UN KCK15	B127	3753341	SNMM544RN KCP10	B107	3753475	VNMG433MN KCP25	B159
3752061	SNMG433RP KCK15	B105	3752209	VNMG331UN KCK15	B148	3753342	SNMM643RN KCP10	B107	3753476	VNMG434MN KCP25	B159
3752066	TNMG434RP KCK15	B127	3752210	VNMG332UN KCK15	B148	3753343	SNMM644RN KCP10	B107	3753477	CNMP431K KCP25	B57
3752067	VNMG332RP KCK15	B148	3752211	VNMG332UN KCK15	B162	3753347	TNMG433RN KCP10	B126	3753478	CNMP432K KCP25	B57
3752068	VNMG333RP KCK15	B148	3752213	VNMG431UN KCK15	B162	3753348	CNMG432RN KCP10	B53	3753481	DNMP431K KCP25	B86
3752069	VNMG432RP KCK15	B161	3752214	VNMG432UN KCK15	B162	3753349	CNMG434RN KCP10	B53	3753482	DNMP432K KCP25	B86
3752070	VNMG433RP KCK15	B161	3752215	VNMG433UN KCK15	B162	3753351	CNMG432RP KCP10	B53	3753483	DNMP433K KCP25	B86
3752072	CCMT2152LF KCK05	B191	3753009	B291A05600YPL KCK7315	G88	3753352	CNMM432RP KCP10	B56	3753484	SNMP432K KCP25	B108
3752074	CPMT2151LF KCK05	B207	3753162	DNMG331FF KCP10	B79	3753354	TNMG542RN KCP10	B126	3753487	TNMP332K KCP25	B129
3752075	CPMT2152LF KCK05	B207	3753203	DNMG432FF KCP10	B79	3753356	CNMM543RP KCP10	B56	3753489	TNMP432K KCP25	B129
3752076	CPMT3251LF KCK05	B207	3753206	VNMG331FF KCP10	B157	3753357	TNMG543RN KCP10	B126	3753491	VNMP331K KCP25	B149
3752077	CPMT3252LF KCK05	B207	3753207	VNMG332FF KCP10	B157	3753358	CNMM544RP KCP10	B56	3753494	VNMP332K KCP25	B149
3752079	DCMT3252LF KCK05	B225	3753208	VNMG432FF KCP10	B157	3753360	CNMM644RP KCP10	B56	3753502	SNMG686RN KCP25	B104
3752083	DPMT2151LF KCK05	B232	3753209	CNMG321FN KCP10	B49	3753361	TNMG544RN KCP10	B126	3753504	CNMG433RN KCP25	B53
3752084	DPMT3251LF KCK05	B232	3753210	CNMG322FN KCP10	B49	3753364	DNMM442RP KCP10	B85	3753505	CNMG542RN KCP25	B53
3752086	SCMT3251LF KCK05	B246	3753211	CNMG431FN KCP10	B49	3753367	VNMG332RN KCP10	B148	3753506	CNMG543RN KCP25	B53
3752087	SCMT3252LF KCK05	B246	3753212	CNMG432FN KCP10	B49	3753368	SNMM544RP KCP10	B107	3753507	CNMG544RN KCP25	B53
3752089	SCMT432LF KCK05	B246	3753214	CNMG434FN KCP10	B49	3753371	VNMG333RN KCP10	B148	3753508	CNMG642RN KCP25	B53
3752093	TCMT2151LF KCK05	B257	3753215	DNMG331FN KCP10	B79	3753372	TNMM432RP KCP10	B129	3753509	CNMG643RN KCP25	B53
3752094	TCMT2152LF KCK05	B257	3753216	DNMG332FN KCP10	B79	3753374	VNMG432RN KCP10	B148	3753510	CNMG644RN KCP25	B53
3752095	TCMT3251LF KCK05	B257	3753218	DNMG431FN KCP10	B79	3753375	TNMM434RP KCP10	B129	3753511	CNMG646RN KCP25	B53

For page references A–E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3753512	DNMG432RN KCP25	B83	3753723	VNMG332FN KCP25	B146	3753875	CNMG433RP KCK20	B53	3755370	SNMM866RH KCP10	B106
3753513	DNMG433RN KCP25	B83	3753724	WNMG332FN KCP25	B157	3753877	CNMG542RP KCK20	B53	3755371	CNMM866RM KCP10	B55
3753514	DNMG434RN KCP25	B83	3753726	WNMG432FN KCP25	B157	3753878	CNMG543RP KCK20	B53	3755372	SNMM856RM KCP10	B107
3753515	DNMG442RN KCP25	B83	3753727	CCMT2151LF KCP25	B191	3753879	CNMG544RP KCK20	B53	3755475	RCMT1605MO KCK20	B240
3753516	DNMG443RN KCP25	B83	3753728	CCMT3251LF KCP25	B191	3753884	DNMG432RP KCK20	B84	3755479	RCMT43 KCK20	B240
3753517	DNMG444RN KCP25	B83	3753729	CCMT3252LF KCP25	B191	3753887	DNMG442RP KCK20	B84	3755481	CCMT432LF KCK20	B191
3753518	DNMG542RN KCP25	B83	3753730	CCMT431LF KCP25	B191	3753888	DNMG544RP KCK20	B84	3755482	CPMT2151LF KCK20	B207
3753519	DNMG543RN KCP25	B83	3753732	DCMT3251LF KCP25	B225	3753891	SNMG432RP KCK20	B105	3755484	CPMT3251LF KCK20	B207
3753520	RNMG32RN KCP25	B97	3753733	CCMT3252MF KCP25	B191	3753892	SNMG433RP KCK20	B105	3755485	CPMT3252LF KCK20	B207
3753523	RNMG64RN KCP25	B97	3753734	CCMT432MF KCP25	B191	3753897	SNMG644RP KCK20	B105	3755486	DCMT2151LF KCK20	B225
3753525	RNMG86RN KCP25	B97	3753735	RCMT0602MO KCP30	B240	3753898	TNMG332RP KCK20	B127	3755487	DCMT3252LF KCK20	B225
3753526	SNMG432RN KCP25	B105	3753737	RCMT10T3MO KCP30	B240	3753899	TNMG333RP KCK20	B127	3755490	CCMT432LF KCK20	B225
3753527	SNMG433RN KCP25	B105	3753739	CCMT2152LF KCP30	B191	3753904	DNMG433RP KCK20	B127	3755491	DPMT2151LF KCK20	B232
3753528	SNMG434RN KCP25	B105	3753742	CPMT2152LF KCP30	B207	3753909	VNMG333RP KCK20	B148	3755492	DPMT3251LF KCK20	B232
3753529	SNMG542RN KCP25	B105	3753743	CPMT3251LF KCP30	B207	3753912	WNMG432RP KCK20	B161	3755503	DPMT3252LF KCK20	B232
3753530	SNMG543RN KCP25	B105	3753744	CPMT3252LF KCP30	B207	3753923	WNMG433RP KCK20	B161	3755504	SNMG3251LF KCK20	B246
3753531	SNMG544RN KCP25	B105	3753745	DCMT2151LF KCP30	B225	3753926	CCMT2152FW KCK20	B190	3755505	SCMT3252LF KCK20	B246
3753543	SNMG643RN KCP25	B105	3753750	SCMT3251LF KCP30	B246	3753929	CCMT3252FW KCK20	B190	3755507	SCMT432LF KCK20	B246
3753544	SNMG644RN KCP25	B105	3753751	SCMT3252LF KCP30	B246	3753931	CPMT2151FW KCK20	B206	3755508	DCMT2151LF KCK20	B246
3753545	SNMG646RN KCP25	B105	3753752	SCMT431LF KCP30	B246	3753932	CPMT2152FW KCK20	B206	3755509	SPMT3251LF KCK20	B252
3753546	TNMG432RN KCP25	B126	3753753	SCMT432LF KCP30	B246	3753934	CPMT3252FW KCK20	B206	3755510	SPMT3252LF KCK20	B252
3753547	TNMG433RN KCP25	B126	3753754	TCMT2151LF KCP30	B257	3753935	DCMT3251FW KCK20	B225	3755511	TCMT2151LF KCK20	B257
3753548	TNMG432RN KCP25	B126	3753755	TCMT2152LF KCP30	B257	3753981	CNMG432RN KCP40	B53	3755512	TCMT2152LF KCK20	B257
3753549	TNMG433RN KCP25	B126	3753757	TCMT3252LF KCP30	B257	3753982	CNMG433RN KCP40	B53	3755513	TCMT3251LF KCK20	B257
3753550	TNMG434RN KCP25	B126	3753760	VBMT331LF KCP30	B281	3753993	CNMG434RN KCP40	B53	3755514	TCMT3252LF KCK20	B257
3753551	TNMG542RN KCP25	B126	3753761	VBMT332LF KCP30	B281	3753994	CNMG543RN KCP40	B53	3755515	TCMT3253LF KCK20	B257
3753552	TNMG543RN KCP25	B126	3753762	CCMT2151MF KCP30	B191	3753996	CNMG642RN KCP40	B53	3755517	TPMT2151LF KCK20	B268
3753553	TNMG544RN KCP25	B126	3753763	CCMT3251MF KCP30	B191	3753997	CNMG643RN KCP40	B53	3755520	TPMT3252LF KCK20	B268
3753554	TNMG666RN KCP25	B126	3753765	DCMT3251MF KCP30	B226	3753998	CNMG644RN KCP40	B53	3755522	TPMT432LF KCK20	B268
3753555	VNMG332RN KCP25	B148	3753766	DCMT3252MF KCP30	B226	3753999	DNMG432RN KCP40	B83	3755526	VBMT333LF KCK20	B281
3753556	VNMG333RN KCP25	B148	3753767	SCMT432MF KCP30	B247	3754004	SNMG433RN KCP40	B105	3755527	WNMG333LF KCK20	B281
3753557	VNMG432RN KCP25	B148	3753768	SPMT432MF KCP30	B253	3754005	SNMG434RN KCP40	B105	3755528	WPMT2151LF KCK20	B288
3753558	VNMG433RN KCP25	B148	3753769	TCMT3252MF KCP30	B258	3754006	SNMG543RN KCP40	B105	3755531	CPMT2151MF KCK20	B191
3753559	VNMG332RN KCP25	B161	3753770	TPMT3252MF KCP30	B268	3754008	SNMG643RN KCP40	B105	3755532	CCMT3251MF KCK20	B191
3753560	VNMG333RN KCP25	B161	3753771	CNMG321MN KCP30	B50	3754010	TNMG432RN KCP40	B126	3755533	CCMT3253MF KCK20	B191
3753561	VNMG432RN KCP25	B161	3753772	CNMG322MN KCP30	B50	3754012	TNMG543RN KCP40	B126	3755534	CCMT433MF KCK20	B191
3753562	VNMG433RN KCP25	B161	3753773	CNMG431MN KCP30	B50	3754014	VNMG432RN KCP40	B148	3755535	CPMT2152MF KCK20	B207
3753563	VNMG434RN KCP25	B161	3753774	CNMG542MN KCP30	B50	3754015	VNMG432RN KCP40	B161	3755536	CPMT3252MF KCK20	B207
3753592	EP1004EHD KC520M	T36, T46	3753775	CNMG543MN KCP30	B50	3754059	RCMT1204MO KCP30	B240	3755538	DCMT3251MF KCK20	B226
3753593	EP1008EHD KC520M	T36, T46	3753776	CNMG642MN KCP30	B50	3754060	CCMT2151LF KCP30	B191	3755539	DCMT3252MF KCK20	B226
3753594	EP1012EHD KC520M	T36, T46	3753777	CNMG643MN KCP30	B50	3754061	CCMT3251LF KCP30	B191	3755540	DCMT3253MF KCK20	B226
3753608	CNMG433RN KCP30	B53	3753778	CNMG644MN KCP30	B50	3754062	CCMT3252LF KCP30	B191	3755542	SCMT3252MF KCK20	B247
3753609	CNMG542RN KCP30	B53	3753779	DNMG631MN KCP30	B81	3754343	CCMT431LF KCP30	B191	3755543	SCMT432MF KCK20	B247
3753610	CNMG543RN KCP30	B53	3753780	DNMG632MN KCP30	B81	3754344	DCMT3251LF KCP30	B225	3755544	SCMT433MF KCK20	B247
3753611	CNMG643RN KCP30	B53	3753781	DNMG431MN KCP30	B81	3754345	CCMT3252MF KCP30	B191	3755545	SPMT3252MF KCK20	B253
3753612	CNMG644RN KCP30	B53	3753782	DNMG441MN KCP30	B81	3754346	CCMT432MF KCP30	B191	3755546	SPMT432MF KCK20	B253
3753633	CNMG646RN KCP30	B53	3753783	DNMG543MN KCP30	B102	3754347	CNMG432MN KCP30	B50	3755547	TCMT2152MF KCK20	B258
3753636	DNMG442RN KCP30	B83	3753784	SNMG322MN KCP30	B102	3754349	DNMG432MN KCP30	B81	3755548	TCMT3252MF KCK20	B258
3753637	DNMG443RN KCP30	B83	3753786	SNMG432MN KCP30	B102	3754351	TNMG332MN KCP30	B124	3755549	TCMT3253MF KCK20	B258
3753639	DNMG542RN KCP30	B83	3753787	SNMG433MN KCP30	B102	3754352	VNMG432MN KCP30	B159	3755550	TPMT2152MF KCK20	B268
3753640	DNMG543RN KCP30	B83	3753789	TNMG331MN KCP30	B124	3754363	CNMG433RN KCP30	B53	3755551	TPMT3252MF KCK20	B268
3753641	RNMG43RN KCP30	B97	3753791	TNMG431MN KCP30	B124	3754365	CNMG432RP KCP30	B53	3755552	TPMT3253MF KCK20	B268
3753642	RNMG54RN KCP30	B97	3753793	TNMG433MN KCP30	B124	3754367	CNMM643RP KCP30	B56	3755565	CCMT2151LF KCM15	B191
3753650	SNMG642RN KCP30	B105	3753794	VNMG331MN KCP30	B146	3754374	CNMM644RH KCP30	B55	3755570	DCMT2151LF KCM15	B225
3753653	SNMG646RN KCP30	B105	3753795	VNMG332MN KCP30	B146	3754375	CNMM646RH KCP30	B55	3755593	CNMG432RP KCM15	B53
3753654	TNMG332RN KCP30	B126	3753796	VNMG333MN KCP30	B146	3754376	SNMM643RH KCP30	B106	3755632	CNMM866RH KCP25	B55
3753655	TNMG333RN KCP30	B126	3753797	WNMG332MN KCP30	B159	3754377	SNMM644RH KCP30	B106	3755635	CPMT2151LF KCM15	B207
3753656	TNMG432RN KCP30	B126	3753798	CNMG433RP KCP30	B53	3754378	SNMM646RH KCP30	B106	3755637	CPMT3251LF KCM15	B207
3753658	TNMG542RN KCP30	B126	3753799	CNMG543RP KCP30	B53	3754379	CNMM432RM KCP30	B55	3755638	CPMT3252LF KCM15	B207
3753662	VNMG432RN KCP30	B148	3753801	CNMG643RP KCP30	B53	3754383	CNMM544RM KCP30	B55	3755639	DCMT2151LF KCM15	B225
3753663	VNMG433RN KCP30	B148	3753802	CNMG644RP KCP30	B53	3754385	CNMM644RM KCP30	B55	3755640	DCMT3252LF KCM15	B225
3753664	VNMG432RN KCP30	B161	3753804	DNMG433RP KCP30	B84	3754386	CNMM646RM KCP30	B55	3755648	CCMT432LF KCM15	B246
3753665	VNMG433RN KCP30	B161	3753805	DNMG442RP KCP30	B84	3754388	DNMM442RM KCP30	B85	3755649	TCMT2151LF KCM15	B257
3753699	CNMG431FN KCP25	B49	3753810	RCMX2507MORP KCP30	B242	3754396	TNMM332RM KCP30	B128	3755650	TCMT2152LF KCM15	B257
3753700	CNMG432FN KCP25	B49	3753812	SNMG433RP KCP30	B105	3754398	TNMM433RM KCP30	B128	3755651	TCMT3251LF KCM15	B257
3753701	CNMG433FN KCP25	B49	3753816	TNMG332RP KCP30	B127	3754399	TNMM543RM KCP30	B128	3755655	TPMT2151LF KCM15	B268
3753702	CNMG434FN KCP25	B49	3753819	TNMG438RP KCP30	B127	3754815	CNMM643RH KCP40	B55	3755657	TPMT3251LF KCM15	B268
3753705	DNMG431FN KCP25	B79	3753821	CNMG432MN KCP25	B50	3754818	CNMM866RH KCP40	B55	3755659	VBMT221LF KCM15	B281
3753706	DNMG432FN KCP25	B79	3753822	WNMG433RP KCP25	B161	3754819	SNMM644RH KCP40	B106	3755661	VBMT331LF KCM15	B281
3753707	DNMG441FN KCP25	B79	3753823	CNMG433MN KCP25	B50	3754821	SNMM856RH KCP40	B106	3755662	VBMT332LF KCM15	B281
3753708	DNMG442FN KCP25	B79	3753825	DNMG432MN KCP25	B81	3754822	SNMM866RH KCP40	B106	3755664	WPMT3252LF KCM15	B288
3753709	DNMG443FN KCP25	B79	3753827	DNMG442MN KCP25	B81	3754856	CNMM643RM KCP40	B55	3755670	CPMT3252MF KCM15	B207
3753713	SNMG433FN KCP25	B101	3753828	TNMG332MN KCP25	B124	3754858	CNMM866RM KCP40	B55	3755672	DCMT3251MF KCM15	B226
3753714	TNMG221FN KCP25	B123	3753829	WNMG432MN KCP25	B159	3754861	DNMM443RM KCP40	B85	3755673	DCMT3252MF KCM15	B226
3753715	TNMG222FN KCP25	B123	3753830	CNMG432MW KCP25	B52	3754863	SNMM643RM KCP40	B107	3755677	SCMT432MF KCM15	B247
3753716	TNMG331FN KCP25	B123	3753831	WNMG433MW KCP25	B160	3754864	SNMM866RM KCP40	B107	3755682	TPMT3252MF KCM15	B268
3753717	TNMG332FN KCP25	B123	3753832	CNMG433							



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3755694	DNMG333MP KCM15	B81	3755902	ABDE0375J3BQB K600	P120	3757922	SCMW433 KCK20	B248	3758795	SNMG432FP KCM15	B101
3755699	DNMG442MP KCM15	B81	3755903	ABDE0500J3AQ K600	P120	3757960	DNMG442RN KCP05	B83	3758797	TNMG331FP KCM15	B123
3755700	DNMG443MP KCM15	B81	3755904	ABDE0500J3AQB K600	P120	3757961	DNMG443RN KCP05	B83	3758798	TNMG332FP KCM15	B123
3755701	SNMG432MP KCM15	B102	3755905	ABDE0500J3AQE K600	P120	3758013	DNMG433RN KCP05	B161	3758799	WNMG433FP KCM15	B123
3755702	SNMG433MP KCM15	B102	3755906	ABDE0500J3BQ K600	P120	3758033	DNMG332RP KCM15	B84	3758800	TNMG431FP KCM15	B123
3755704	SNMG543MP KCM15	B102	3755907	ABDE0500J3BQB K600	P120	3758035	DNMG432RP KCM15	B84	3758801	TNMG432FP KCM15	B123
3755705	SNMG643MP KCM15	B102	3755908	ABDE0500J3BQC K600	P120	3758048	DNMG442RP KCM15	B84	3758802	DNMG433FP KCM15	B146
3755706	TNMG331MP KCM15	B124	3755909	ABDE0500J3BQD K600	P120	3758043	TNMG332RP KCM15	B127	3758803	WNMG332FP KCM15	B146
3755707	TNMG332MP KCM15	B124	3755910	ABDE0500J3BQE K600	P120	3758046	TNMG543RP KCM15	B127	3758804	WNMG331FP KCM15	B158
3755711	WNMG331MP KCM15	B147	3755911	ABDE0500J3CQ K600	P120	3758055	WNMG432RP KCM15	B148	3758805	WNMG433FP KCM15	B158
3755712	WNMG332MP KCM15	B147	3755912	ABDE0500J3CQB K600	P120	3758050	WNMG332RP KCM15	B161	3758806	WNMG431FP KCM15	B158
3755714	WNMG331MP KCM15	B159	3755913	ABDE0500J3CQC K600	P120	3758051	WNMG432RP KCM15	B161	3758807	WNMG432FP KCM15	B158
3755715	WNMG332MP KCM15	B159	3755914	ABDE0500J3CQD K600	P120	3758053	WNMG433RP KCM15	B161	3758808	WNMG331FP KCM15	B158
3755716	WNMG432MP KCM15	B159	3755915	ABDE0500J3CQE K600	P120	3758055	CNMG432UP KCM15	B54	3758827	CNMM866RH KCP30	B55
3755717	WNMG433MP KCM15	B159	3755916	ABDE0625J3AQ K600	P120	3758056	CNMG433UP KCM15	B54	3758828	SNMM856RH KCP30	B106
3755753	LNMX191940RRH KCP25	E57	3755917	ABDE0625J3AQB K600	P120	3758064	DNMG431UP KCM15	B84	3758830	SNMM866RH KCP30	B106
3755754	LNMX301940RRH KCP25	E57	3755918	ABDE0625J3BQ K600	P120	3758065	DNMG432UP KCM15	B84	3758873	SNMM866RH KCP30	B107
3755755	RCMT2006MORH KCP25	B241	3755919	ABDE0625J3BQB K600	P120	3758068	DNMG442UP KCM15	B84	3759083	EC1004FR-PCD KD1410	T34
3755756	RCMX2507MORH KCP25	B241	3755920	ABDE0625J3BQE K600	P120	3758073	SNMG543UP KCM15	B106	3759084	EC1008FR-PCD KD1410	T34
3755757	RCMX3209MORH KCP25	B241	3755921	ABDE0750J3AQ K600	P120	3758076	TNMG332UP KCM15	B128	3759533	KIPR062RP21229	V156
3755758	SNMM856RH KCP25	B106	3755922	ABDE0750J3AQB K600	P120	3758080	WNMG331UP KCM15	B148	3759534	KIPR075RP21332	V156
3755760	SNMM866RH KCP25	B106	3755923	ABDE0750J3AQE K600	P120	3758081	WNMG332UP KCM15	B148	3759535	WNPR100RP32438	V156
3755761	CNMM866RH KCP25	B55	3755924	ABDE0750J3BQ K600	P121	3758082	WNMG333UP KCM15	B148	3759595	B291A03100YPL KCT7315	G88
3755762	RCMT2006MORM KCP25	B241	3755925	ABDE0750J3BQB K600	P121	3758084	WNMG432UP KCM15	B162	3759627	B292A03100YPL KCT7315	G88
3755763	SNMM856RH KCP25	B107	3755926	ABDE0750J3BQC K600	P121	3758086	RCMT1204M0 KCM25	B240	3759628	B291A03175YPL KCT7315	G88
3755764	SNMM866RH KCP25	B107	3755927	ABDE0750J3BQD K600	P121	3758087	CCMT12151LF KCM25	B191	3759629	B291A03200YPL KCT7315	G88
3755769	ABDF0625J2AQ K600	P118	3755928	ABDE0750J3BQE K600	P121	3758088	CCMT3251LF KCM25	B191	3759630	B292A03200YPL KCT7315	G88
3755771	ABDF0625J2BQ K600	P118	3755929	ABDE0750J3CQ K600	P121	3758089	CNMT3252LF KCM25	B191	3759654	B292A03300YPL KCT7315	G88
3755772	ABDF0625J2BQB K600	P118	3755930	ABDE0750J3CQB K600	P121	3758091	CCMT433LF KCM25	B191	3759655	B292A03300YPL KCT7315	G88
3755802	ABDE0250J3AQ K600	P120	3755931	ABDE1000J3AQ K600	P121	3758092	CCMT3251LF KCM25	B225	3759656	B291A03400YPL KCT7315	G88
3755835	B292A08200YPL KCT7315	G89	3755932	ABDE1000J3AQB K600	P121	3758093	CCMT3252LF KCM25	B191	3759657	B292A03400YPL KCT7315	G88
3755843	ABDF0625J2BQE K600	P118	3755933	ABDE1000J3AQE K600	P121	3758094	CCMT432MF KCM25	B191	3759661	B291A03500YPL KCT7315	G88
3755844	ABDF0750J2AQ K600	P118	3755934	ABDE1000J3BQ K600	P121	3758095	CNMG432RP KCM25	B53	3759662	B291A03600YPL KCT7315	G88
3755845	ABDF0750J2AQB K600	P118	3755935	ABDE1000J3BQB K600	P121	3758096	CNMG433RP KCM25	B56	3759713	B292A03600YPL KCT7315	G88
3755846	ABDF0750J2AQE K600	P118	3755936	ABDE1000J3BQE K600	P121	3758099	CNMM444RP KCM25	B56	3759714	B291A03700YPL KCT7315	G88
3755847	ABDF0750J2BQ K600	P119	3755937	ABDE1000J3CQ K600	P121	3758106	SNMM433RP KCM25	B107	3759715	B292A03700YPL KCT7315	G88
3755848	ABDF0750J2BQB K600	P118	3755938	ABDE1000J3CQB K600	P121	3758108	SNMM444RP KCM25	B107	3759716	B291A03800YPL KCT7315	G88
3755849	ABDF0750J2BQC K600	P118	3757585	WNMA433 KCK20	B157	3758110	SNMM644RP KCM25	B107	3759717	B292A03800YPL KCT7315	G88
3755850	ABDF0750J2BQD K600	P119	3757586	CNMG431UN KCK20	B54	3758111	SNMM646RP KCM25	B107	3759718	B291A03900YPL KCT7315	G88
3755851	ABDF0750J2BQE K600	P119	3757587	CNMG432UN KCK20	B54	3758133	CNMA431 KCK20	B47	3759722	B292A03900YPL KCT7315	G88
3755852	ABDF0750J2BQC K600	P119	3757588	CNMG433UN KCK20	B54	3758134	CNMA432 KCK20	B47	3759763	B291A04100YPL KCT7315	G88
3755853	ABDF0750J2CQB K600	P119	3757589	CNMG434UN KCK20	B54	3758135	CNMA433 KCK20	B47	3759764	B292A04100YPL KCT7315	G88
3755854	ABDF1000J2AQ K600	P119	3757590	CNMG542UN KCK20	B54	3758136	CNMA434 KCK20	B47	3760221	CNMT12151LF KCM35	B191
3755855	ABDF1000J2AQB K600	P119	3757591	CNMG543UN KCK20	B54	3758137	CNMA432 KCK20	B47	3760254	CCMT3251LF KCM35	B191
3755856	ABDF1000J2AQE K600	P119	3757592	CNMG544UN KCK20	B54	3758138	CNMA433 KCK20	B47	3760257	CCMT3252LF KCM35	B191
3755857	ABDF1000J2BQ K600	P119	3757593	CNMG642UN KCK20	B54	3758141	CNMA434 KCK20	B47	3760261	CCMT3252MF KCM35	B191
3755858	ABDF1000J2BQB K600	P119	3757594	CNMG643UN KCK20	B54	3758142	CNMA432 KCK20	B47	3760262	CCMT432MF KCM35	B191
3755859	ABDF1000J2BQC K600	P119	3757595	CNMG644UN KCK20	B54	3758143	DNMA432 KCK20	B78	3760273	CNMG432RP KCM35	B53
3755860	ABDF1000J2CQ K600	P119	3757596	DNMG332UN KCK20	B84	3758144	DNMA433 KCK20	B78	3760277	SNMM442RP KCM35	B107
3755861	ABDF1000J2CQB K600	P119	3757597	DNMG333UN KCK20	B84	3758145	DNMA442 KCK20	B78	3760279	RCMT0620M0 KCM25	B240
3755863	ABDF0250J2AQ K600	P118	3757598	DNMG432UN KCK20	B84	3758146	DNMA443 KCK20	B78	3760280	RCMT0803M0 KCM25	B240
3755864	ABDF0250J2BQ K600	P118	3757600	DNMG434UN KCK20	B84	3758149	SNMA432 KCK20	B100	3760281	RCMT10T3M0 KCM25	B240
3755865	ABDF0250J2BQB K600	P118	3757601	DNMG442UN KCK20	B84	3758150	SNMA433 KCK20	B100	3760282	RCMT1605M0 KCM25	B240
3755866	ABDF0250J2BQC K600	P118	3757602	DNMG443UN KCK20	B84	3758152	SNMA434 KCK20	B100	3760286	RCMT43 KCM25	B240
3755867	ABDF0250J2CQB K600	P118	3757603	DNMG444UN KCK20	B84	3758154	SNMA432 KCK20	B100	3760287	CNMT12152LF KCM25	B191
3755868	ABDF0312J2AQ K600	P118	3757604	RNMG43UN KCK20	B97	3758155	SNMA434 KCK20	B100	3760290	CPMT12151LF KCM25	B207
3755869	ABDF0375J2AQ K600	P118	3757605	SNMG432UN KCK20	B106	3758156	SNMA432 KCK20	B122	3760291	CPMT12152LF KCM25	B207
3755870	ABDF0375J2AQB K600	P118	3757606	SNMG433UN KCK20	B106	3758157	TNMA333 KCK20	B122	3760292	CPMT3251LF KCM25	B207
3755871	ABDF0375J2BQ K600	P118	3757607	SNMG434UN KCK20	B106	3758158	TNMA334 KCK20	B122	3760293	CPMT3252LF KCM25	B207
3755872	ABDF0375J2BQB K600	P118	3757608	SNMG543UN KCK20	B106	3758162	WNMA332 KCK20	B145	3760294	DCMT12151LF KCM25	B225
3755873	ABDF0500J2AQ K600	P118	3757609	SNMG544UN KCK20	B106	3758163	WNMA432 KCK20	B157	3760295	DCMT3252LF KCM25	B225
3755874	ABDF0500J2AQB K600	P118	3757610	SNMG643UN KCK20	B106	3758164	WNMA433 KCK20	B157	3760296	DPMT12151LF KCM25	B232
3755875	ABDF0500J2AQE K600	P118	3757611	SNMG644UN KCK20	B106	3758165	WNMA434 KCK20	B157	3760298	DPMT3252LF KCM25	B232
3755876	ABDF0500J2BQ K600	P118	3757612	TNMG332UN KCK20	B127	3758166	RCMT1204M0 KCK20	B240	3760299	SCMT3251LF KCM25	B246
3755877	ABDF0500J2BQB K600	P118	3757613	TNMG333UN KCK20	B127	3758167	CCMT12151LF KCK20	B191	3760300	SCMT3252LF KCM25	B246
3755878	ABDF0500J2BQC K600	P118	3757614	TNMG334UN KCK20	B127	3758168	CCMT3251LF KCK20	B191	3760302	SCMT432LF KCM25	B246
3755879	ABDF0500J2BQD K600	P118	3757615	TNMG432UN KCK20	B127	3758169	CCMT3252LF KCK20	B191	3760305	TCMT3251LF KCM25	B257
3755880	ABDF0500J2BQE K600	P118	3757616	TNMG433UN KCK20	B127	3758170	CCMT431LF KCK20	B191	3760306	TCMT3252LF KCM25	B257
3755881	ABDF0500J2BQC K600	P118	3757617	TNMG434UN KCK20	B127	3758172	CCMT3251LF KCK20	B225	3760307	TCMT3253LF KCM25	B257
3755882	ABDF0500J2CQB K600	P118	3757618	WNMG331UN KCK20	B148	3758173	CCMT3252MF KCK20	B191	3760310	TPMT12152LF KCM25	B268
3755883	ABDF0500J2CQC K600	P118	3757619	WNMG332UN KCK20	B148	3758174	CCMT432MF KCK20	B191	3760312	TPMT3252LF KCM25	B268
3755884	ABDF0500J2CQD K600	P118	3757622	WNMG431UN KCK20	B162	3758175	CNMG432RP KCK20	B53	3760314	VBMT12151LF KCM25	B281
3755885	ABDF0500J2CQE K600	P118	3757623	WNMG432UN KCK20	B162	3758783	CNMG431FP KCM15	B49	3760315	VBMT331LF KCM25	B281
3755893	ABDE0250J3AQE K600	P120	3757624	WNMG433UN KCK20	B162	3758784	CNMG432FP KCM15	B49	3760316	VBMT332LF KCM25	B281
3755894	ABDE0250J3BQ K600	P120	3757625	WNMG434UN KCK20	B162	3758785	CNMG433FP KCM15	B49	3760319	VBMT331MF KCM25	B191
3755895	ABDE0250J3BQB K600	P120	3757726	B966A13400 KCT7315	G132	3758786	DNMG331FP KCM15	B80	3760320	CCMT3251MF KCM25	B191
3755896	ABDE0250J3CQ K600	P120	3757916	CCMW3252 KCK20	B192	3758787	DNMG332FP KCM15	B80	3760324	CPMT3252MF KCM25	B207
3755897	ABDE0250J3CQB K600	P120	3757917	CCMW432 KCK20	B192	3758788	DNMG431FP KCM15	B80	3760326	DCMT3251MF KCM25	B226
3755898	ABDE0312J3AQB K600	P120	3757918	CCMW433 KCK20	B192	3758789	DNMG432FP KCM15	B80	3760327	DCMT3252MF KCM25	B226
3755899	ABDE0375J3AQ K600	P120	3757919	SCMW3251 KCK20	B248	3758791	DNMG441FP KCM15	B80	3760329	DPMT3252MF KCM25	B232
3755900	ABDE0375J3AQB K600	P120	3757920	SCMW3252 KCK20	B248	3					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3760334	SPMT432MF KCM25	B253	3760994	VNMG331MP KCM25	B147	3766024	EC1020ELD KCPK30	T36, T45	3769121	CPMT18151FP KCP25	B206
3760336	TCMT3252MF KCM25	B258	3760995	VNMG332MP KCM25	B147	3766027	EC1024ELD JK C422M	T35, T45	3769122	TCMT2152FP KCM15	B257
3760338	TPMT2152MF KCM25	B268	3760998	WNMG332MP KCM25	B159	3766028	EC1024ELD KC522M	T36, T45	3769124	CPMT21505FP KCP25	B206
3760341	CNMG322MP KCM25	B51	3760999	WNMG333MP KCM25	B159	3766029	EC1024ELD KC725M	T36, T45	3769128	CPMT2151FP KCP25	B206
3760342	CNMG431MP KCM25	B51	3761000	WNMG432MP KCM25	B159	3766820	RIO09E1306 KC6305	K58	3769130	VBMT221FP KCM15	B281
3760343	CNMG432MP KCM25	B51	3761001	WNMG433MP KCM25	B159	3767813	DFKT53AFFN4LBJ KC410M	S46	3769131	VBMT222FP KCM15	B281
3760344	CNMG433MP KCM25	B51	3761002	CNMG431RP KCM25	B53	3767814	DFKT53AFFN4LBJ KC422M	S46	3769132	CPMT2152FP KCP25	B206
3760346	CNMG542MP KCM25	B51	3761003	CNMG433RP KCM25	B53	3768928	CCMT2151FP KCP05	B190	3769133	VBMT331FP KCM15	B281
3760347	CNMG543MP KCM25	B51	3761004	CNMG434RP KCM25	B53	3768930	CCMT3251FP KCP05	B190	3769134	VBMT332FP KCM15	B281
3760349	CNMG642MP KCM25	B51	3761005	CNMG543RP KCM25	B53	3768936	CCMT21505FP KCP10	B190	3769139	SCMT2151FP KCP25	B225
3760350	CNMG643MP KCM25	B51	3761006	CNMG544RP KCM25	B53	3768937	CCMT2151FP KCP10	B190	3769140	DCMT2152FP KCP25	B225
3760351	CNMG644MP KCM25	B51	3761007	CNMG643RP KCM25	B53	3768940	CCMT3252FP KCP10	B190	3769141	DCMT32505FP KCP25	B225
3760352	DNMG332MP KCM25	B81	3761008	CNMG644RP KCM25	B53	3768970	DCMT2152FP KCP05	B225	3769142	CPMT2151FP KCP25	B225
3760354	DNMG431MP KCM25	B81	3761009	DNMG432RP KCM25	B84	3768971	DCMT3251FP KCP05	B225	3769143	DCMT3252FP KCP25	B225
3760355	DNMG432MP KCM25	B81	3761011	DNMG442RP KCM25	B84	3768972	DCMT3252FP KCP05	B225	3769146	DCMT432FP KCP25	B225
3760356	DNMG433MP KCM25	B81	3761012	DNMG443RP KCM25	B84	3768973	DCMT432FP KCP05	B225	3769147	DPMT2151FP KCP25	B231
3760357	DNMG441MP KCM25	B81	3761014	SNMG432RP KCM25	B105	3768984	TCMT222FP KCP05	B257	3769148	DPMT3251FP KCP25	B231
3760358	DNMG442MP KCM25	B81	3761015	SNMG433RP KCM25	B105	3768985	TCMT223FP KCP05	B257	3769150	SCMT3251FP KCP25	B246
3760360	SNMG432MP KCM25	B102	3761019	SNMG644RP KCM25	B105	3768989	CCMT432FP KCP05	B257	3769151	SCMT3252FP KCP25	B246
3760361	SNMG433MP KCM25	B102	3761020	SNMG645RP KCM25	B107	3768996	VBMT331FP KCP05	B281	3769152	SCMT431FP KCP25	B246
3760364	SNMG543MP KCM25	B102	3761021	SNMG666RP KCM25	B107	3768997	VBMT332FP KCP05	B281	3769154	SCMT433FP KCP25	B246
3760365	SNMG544MP KCM25	B102	3761022	TNMG332RP KCM25	B127	3769003	CCMT432FP KCP10	B190	3769155	SPMT3251FP KCP25	B252
3760366	SNMG643MP KCM25	B102	3761023	TNMG333RP KCM25	B127	3769005	CPMT21505FP KCP10	B206	3769157	TCMT2151FP KCP25	B257
3760368	RCMT2006MO KCM25	B240	3761025	TNMG432RP KCM25	B127	3769006	CPMT2151FP KCP10	B206	3769158	TCMT2152FP KCP25	B257
3760369	KIPR100RP32M1203	V155	3761026	TNMG433RP KCM25	B127	3769008	CPMT3251FP KCP10	B206	3769159	TCMT3251FP KCP25	B257
3760370	KIPR125RP43M1603	V155	3761027	TNMG434RP KCM25	B127	3769009	CPMT3252FP KCP10	B206	3769160	TCMT3252FP KCP25	B257
3760394	CCMT432LF KCM35	B191	3761029	TNMG544RP KCM25	B127	3769010	DCMT2151FP KCP10	B225	3769161	TCMT432FP KCP25	B257
3760395	DCMT2151LF KCM35	B225	3761030	TNMG666RP KCM25	B127	3769012	DCMT433FP KCP10	B225	3769162	TPMT3251FP KCP25	B267
3760398	TCMT2151LF KCM35	B257	3761031	VNMG333RP KCM25	B148	3769013	DCMT3252FP KCP10	B225	3769163	TPMT2151FP KCP25	B267
3760399	TCMT3251LF KCM35	B257	3761032	WNMG332RP KCM25	B161	3769014	DCMT3253FP KCP10	B225	3769165	TPMT3251FP KCP25	B267
3760400	TCMT3252LF KCM35	B257	3761033	WNMG432RP KCM25	B161	3769015	DCMT431FP KCP10	B225	3769166	TPMT3252FP KCP25	B267
3760402	VBMT331LF KCM35	B281	3761034	WNMG433RP KCM25	B161	3769017	DPMT2151FP KCP10	B231	3769168	VBMT2205FP KCP25	B281
3760403	VBMT332LF KCM35	B281	3761035	CNMG431UP KCM25	B54	3769018	DPMT3251FP KCP10	B231	3769169	VBMT221FP KCP25	B281
3760404	CCMT2151MF KCM35	B191	3761036	CNMG432UP KCM25	B54	3769020	SCMT3251FP KCP10	B246	3769170	VBMT222FP KCP25	B281
3760406	CPMT3252MF KCM35	B207	3761037	CNMG433UP KCM25	B54	3769021	SCMT3252FP KCP10	B246	3769171	VBMT3305FP KCP25	B281
3760407	DCMT3252MF KCM35	B226	3761038	CNMG542UP KCM25	B54	3769026	TCMT2151FP KCP10	B257	3769172	TCMT431FP KCP25	B281
3760410	SCMT432MF KCM35	B247	3761039	CNMG543UP KCM25	B54	3769028	TCMT3251FP KCP10	B257	3769173	VBMT332FP KCP25	B281
3760411	TCMT3252MF KCM35	B258	3761041	CNMG643UP KCM25	B54	3769029	TCMT3252FP KCP10	B257	3769174	VBMT333FP KCP25	B281
3760413	CNMG431MP KCM35	B51	3761042	CNMG644UP KCM25	B54	3769030	TCMT3253FP KCP10	B257	3769175	WCMT3252FP KCP25	B286
3760414	CNMG432MP KCM35	B51	3761043	DNMG332UP KCM25	B84	3769033	TPMT2151FP KCP10	B267	3769176	WPMT2151FP KCP25	B288
3760415	CNMG433MP KCM35	B51	3761045	DNMG431UP KCM25	B84	3769035	TPMT3251FP KCP10	B267	3769178	WPMT1512FP KCP25	B288
3760416	CNMG542MP KCM35	B51	3761046	DNMG432UP KCM25	B84	3769036	TPMT3252FP KCP10	B267	3769203	TPMT3251FP KCM25	B190
3760420	DNMG431MP KCM35	B81	3761048	DNMG441UP KCM25	B84	3769037	VBMT221FP KCP10	B281	3769204	CCMT2151FP KCM25	B190
3760421	DNMG432MP KCM35	B81	3761052	SNMG433UP KCM25	B106	3769038	VBMT331FP KCP10	B281	3769205	CCMT2152FP KCM25	B190
3760422	DNMG441MP KCM35	B81	3761054	SNMG543UP KCM25	B106	3769039	VBMT332FP KCP10	B281	3769206	CCMT32505FP KCM25	B190
3760423	DNMG442MP KCM35	B81	3761056	TNMG331UP KCM25	B128	3769050	CCMT2151FP KTP10	B190	3769207	CCMT3251FP KCM25	B190
3760425	SNMG433MP KCM35	B102	3761057	TNMG332UP KCM25	B128	3769051	CCMT2152FP KTP10	B190	3769208	CCMT3252FP KCM25	B190
3760426	SNMG434MP KCM35	B102	3761059	TNMG432UP KCM25	B128	3769052	CCMT32505FP KTP10	B190	3769210	CCMT432FP KCM25	B190
3760427	SNMG643MP KCM35	B102	3761061	VNMG331UP KCM25	B148	3769053	CCMT3251FP KTP10	B190	3769223	CPMT21505FP KCM25	B206
3760430	TNMG332MP KCM35	B124	3761062	VNMG332UP KCM25	B148	3769054	CCMT3252FP KTP10	B190	3769224	CPMT2151FP KCM25	B206
3760431	VNMG331MP KCM35	B147	3761065	WNMG432UP KCM25	B162	3769055	CPMT21505FP KTP10	B206	3769226	CPMT32505FP KCM25	B206
3760432	VNMG332MP KCM35	B147	3761066	WNMG433UP KCM25	B162	3769056	CPMT2151FP KTP10	B206	3769227	CPMT3251FP KCM25	B206
3760434	WNMG432MP KCM35	B159	3763185	HNPJ535ANSNHD KCK15	S19, S23	3769057	CPMT2152FP KTP10	B206	3769228	CPMT3252FP KCM25	B206
3760435	WNMG433MP KCM35	B159	3763632	HNPJ535ANSNHD KC520M	S19, S23	3769060	CPMT3252FP KTP10	B206	3769229	CPMT21505FP KCM25	B225
3760436	CNMG433RP KCM35	B53	3763723	HNPJ535ANSNHD KC725M	S19, S23	3769061	DCMT21505FP KTP10	B225	3769230	DCMT2151FP KCM25	B225
3760437	CNMG434RP KCM35	B53	3763724	HNPJ535ANSNHD KCPK30	S19, S23	3769063	DCMT32505FP KTP10	B225	3769231	DCMT2152FP KCM25	B225
3760438	CNMG543RP KCM35	B53	3763725	HNPJ535ANSNGD KCK15	S19, S22	3769064	DCMT3251FP KTP10	B225	3769232	DCMT431FP KCM25	B225
3760439	CNMG643RP KCM35	B53	3763726	HNPJ535ANSNGD KC520M	S19, S22	3769065	DCMT3252FP KTP10	B225	3769233	DCMT3251FP KCM25	B225
3760440	CNMG644RP KCM35	B53	3763727	HNPJ535ANSNGD KC725M	S19, S22	3769066	DPMT2151FP KTP10	B231	3769234	DCMT3252FP KCM25	B225
3760441	DNMG432RP KCM35	B84	3763728	HNPJ535ANSNGD KCPK30	S19, S22	3769068	DPMT3252FP KTP10	B231	3769235	DCMT431FP KCM25	B225
3760442	DNMG433RP KCM35	B84	3763729	HNPJ5351ANSNHD KCK15	S19, S23	3769069	SCMT3252FP KTP10	B246	3769236	DCMT432FP KCM25	B225
3760445	SNMG432RP KCM35	B105	3763730	HNPJ5351ANSNHD KC725M	S19, S23	3769071	TCMT21505FP KTP10	B257	3769240	SCMT3251FP KCM25	B246
3760447	SNMG543RP KCM35	B105	3763731	HNPJ5351ANSNHD KCPK30	S19, S23	3769072	TCMT2151FP KTP10	B257	3769243	SCMT432FP KCM25	B246
3760448	SNMG643RP KCM35	B105	3764792	CNMA432S0820 KB1340	B309	3769076	TCMT3252FP KTP10	B257	3769248	TCMT2151FP KCM25	B257
3760450	TNMG333RP KCM35	B127	3764823	B292A06600YPL KC7315	G89	3769082	VBMT221FP KTP10	B281	3769251	TCMT3252FP KCM25	B257
3760451	TNMG543RP KCM35	B127	3764824	B292A10100YPL KC7315	G89	3769083	VBMT3305FP KTP10	B190	3769253	TCMT432FP KCM25	B257
3760453	WNMG432RP KCM35	B161	3764833	CNMA433S0820 KB1340	B309	3769084	VBMT331FP KTP10	B281	3769257	TPMT3251FP KCM25	B267
3760454	WNMG433RP KCM35	B161	3764836	CNMA432S0820 KB1340	B304	3769085	VBMT332FP KTP10	B281	3769260	VBMT221FP KCM25	B281
3760455	CNMG432UP KCM35	B54	3764837	CNMA433S0820 KB1340	B304	3769093	CCMT21505FP KCP25	B190	3769262	VBMT3305FP KCM25	B281
3760457	CNMG542UP KCM35	B54	3764838	DNMA332S0820 KB1340	B309	3769094	CCMT2151FP KCP25	B190	3769283	VBMT331FP KCM25	B281
3760458	CNMG543UP KCM35	B54	3764839	DNMA333S0820 KB1340	B309	3769095	CCMT2151FP KCM15	B190	3769284	VBMT332FP KCM25	B281
3760459	CNMG643UP KCM35	B54	3764840	RNM32S0820 KB1340	B305	3769096	CCMT3251FP KCP25	B190	3769285	WPMT2151FP KCM25	B288
3760461	DNMG432UP KCM35	B84	3764841	RNM42S0820 KB1340	B305	3769097	CCMT32505FP KCP25	B190	3769290	CCMT21505FP KCU10	B190
3760465	SNMG432UP KCM35	B106	3764842	RNM43S0820 KB1340	B305	3769099	CCMT3251FP KCM15	B190	3769291	CPMT2151FP KCU10	B190
3760466	SNMG433UP KCM35	B106	3764844	SNMA433S0820 KB1340	B310	3769103	CCMT3251FP KCP25	B190	3769292	CCMT2152FP KCU10	B190



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3769346	3769447	.....	.....	3784066	.....	.....	3791275	.....	.....
3769347	3769448	.....	.....	3784326	.....	.....	3791276	.....	.....
3769348	3769449	.....	.....	3784327	.....	.....	3791277	.....	.....
3769349	3769450	.....	.....	3784328	.....	.....	3791279	.....	.....
3769350	3769451	.....	.....	3784329	.....	.....	3791280	.....	.....
3769352	3769452	.....	.....	3784330	.....	.....	3791281	.....	.....
3769353	3769454	.....	.....	3784331	.....	.....	3791282	.....	.....
3769354	3769455	.....	.....	3784332	.....	.....	3791283	.....	.....
3769355	3769456	.....	.....	3784473	.....	.....	3791284	.....	.....
3769356	3769457	.....	.....	3784474	.....	.....	3791285	.....	.....
3769357	3769458	.....	.....	3784475	.....	.....	3791286	.....	.....
3769358	3769460	.....	.....	3784476	.....	.....	3791287	.....	.....
3769359	3769461	.....	.....	3784477	.....	.....	3791288	.....	.....
3769360	3769462	.....	.....	3787461	.....	.....	3791289	.....	.....
3769363	3769463	.....	.....	3787462	.....	.....	3791290	.....	.....
3769364	3769464	.....	.....	3787463	.....	.....	3791291	.....	.....
3769365	3769465	.....	.....	3787484	.....	.....	3791292	.....	.....
3769366	3769466	.....	.....	3787486	.....	.....	3791293	.....	.....
3769368	3769467	.....	.....	3787488	.....	.....	3791294	.....	.....
3769369	3769468	.....	.....	3787492	.....	.....	3791295	.....	.....
3769370	3769469	.....	.....	3787503	.....	.....	3791296	.....	.....
3769371	3773323	.....	.....	3784474	.....	.....	3791297	.....	.....
3769372	3774249	.....	.....	3784475	.....	.....	3791298	.....	.....
3769373	3774250	.....	.....	3784476	.....	.....	3791299	.....	.....
3769374	3774251	.....	.....	3787504	.....	.....	3791300	.....	.....
3769375	3774691	.....	.....	3787505	.....	.....	3791301	.....	.....
3769376	3774692	.....	.....	3787507	.....	.....	3791302	.....	.....
3769377	3774723	.....	.....	3787508	.....	.....	3791303	.....	.....
3769378	3774724	.....	.....	3787509	.....	.....	3791304	.....	.....
3769380	3774906	.....	.....	3787512	.....	.....	3791305	.....	.....
3769381	3774919	.....	.....	3787512	.....	.....	3791306	.....	.....
3769382	3774920	.....	.....	3787512	.....	.....	3791307	.....	.....
3769383	3774921	.....	.....	3787512	.....	.....	3791308	.....	.....
3769384	3775003	.....	.....	3787512	.....	.....	3791309	.....	.....
3769386	3775004	.....	.....	3787512	.....	.....	3791310	.....	.....
3769387	3775005	.....	.....	3787512	.....	.....	3791311	.....	.....
3769388	3775016	.....	.....	3787512	.....	.....	3791312	.....	.....
3769389	3775017	.....	.....	3787512	.....	.....	3791313	.....	.....
3769390	3775018	.....	.....	3787512	.....	.....	3791314	.....	.....
3769391	3775022	.....	.....	3787512	.....	.....	3791316	.....	.....
3769392	3775063	.....	.....	3787512	.....	.....	3791545	.....	.....
3769393	3775064	.....	.....	3787512	.....	.....	3793949	.....	.....
3769394	3776430	.....	.....	3787512	.....	.....	
3769395	3779249	.....	.....	3787512	.....	.....	
3769396	3779250	.....	.....	3787512	.....	.....	
3769397	3779251	.....	.....	3787512	.....	.....	
3769401	3779255	.....	.....	3787512	.....	.....	
3769402	3780360	.....	.....	3787512	.....	.....	
3769403	3781192	.....	.....	3787512	.....	.....	
3769404	3781252	.....	.....	3787512	.....	.....	
3769405	3781253	.....	.....	3787512	.....	.....	
3769406	3781254	.....	.....	3787512	.....	.....	
3769407	3781255	.....	.....	3787512	.....	.....	
3769408	3781256	.....	.....	3787512	.....	.....	
3769409	3781257	.....	.....	3787512	.....	.....	
3769410	3781258	.....	.....	3787512	.....	.....	
3769411	3781259	.....	.....	3787512	.....	.....	
3769412	3781260	.....	.....	3787512	.....	.....	
3769413	3781261	.....	.....	3787512	.....	.....	
3769414	3781262	.....	.....	3787512	.....	.....	
3769415	3781263	.....	.....	3787512	.....	.....	
3769416	3781264	.....	.....	3787512	.....	.....	
3769417	3781265	.....	.....	3787512	.....	.....	
3769418	3781278	.....	.....	3787512	.....	.....	
3769419	3781279	.....	.....	3787512	.....	.....	
3769421	3781280	.....	.....	3787512	.....	.....	
3769422	3781281	.....	.....	3787512	.....	.....	
3769423	3781282	.....	.....	3787512	.....	.....	
3769424	3781283	.....	.....	3787512	.....	.....	
3769427	3781284	.....	.....	3787512	.....	.....	
3769428	3781285	.....	.....	3787512	.....	.....	
3769430	3781286	.....	.....	3787512	.....	.....	
3769431	3781287	.....	.....	3787512	.....	.....	
3769432	3781288	.....	.....	3787512	.....	.....	
3769433	3781289	.....	.....	3787512	.....	.....	
3769435	3781290	.....	.....	3787512	.....	.....	
3769436	3781677	.....	.....	3787512	.....	.....	
3769438	3782185	.....	.....	3787512	.....	.....	
3769440	3782458	.....	.....	3787512	.....	.....	
3769441	3784063	.....	.....	3787512	.....	.....	
3769444	3784064	.....	.....	3787512	.....	.....	
3769446	3784065	.....	.....	3787512	.....	.....	

For page references A-E, please see Volume I • Turning Tools Catalog.



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3794410	KSEMP5300FDS50A1M	H105, H116, H122	3794919	KSEMP1438FDS36A1	H104, H116, H122	3855236	EP1408SGE KC522M	T58, T69	3860397	RHM32500KST300H7HF	KT325
3794411	KSEMP5400FDS50A1M	H105, H116, H122	3794920	KSEMP1500FDS36A1	H104, H116, H122	3855237	EP1408SGE KC725M	T58, T69	3860398	RHM33000KST300H7HF	KT325
3794412	KSEMP5500FDS50A1M	H105, H116, H122	3794921	KSEMP1563FDS36A1	H104, H116, H122	3855238	EP1408SGE KCPK30	T58, T69	3860399	RHM33340KST300H7HF	KT325
3794413	KSEMP5600FDS56A1M	H105, H116, H122	3794922	KSEMP1625FDS40A1	H104, H116, H122	3855240	EP14125GE KC522M	T58, T69	3860401	RHM34930KST300H7HF	KT325
3794414	KSEMP5700FDS56A1M	H105, H116, H122	3794933	KSEMP1750FDS40A1	H104, H116, H122	3855241	EP14125GE KC725M	T58, T69	3860402	RHM35000KST300H7HF	KT325
3794415	KSEMP5800FDS56A1M	H105, H116, H122	3794934	KSEMP1875FDS45A1	H105, H116, H122	3855242	EP14125GE KCPK30	T58, T69	3860403	RHM36000KST300H7HF	KT325
3794416	KSEMP5900FDS56A1M	H105, H116, H122	3794935	KSEMP2000FDS50A1	H105, H116, H122	3855383	B291A04300YPL KC7315	G88	3860404	RHM36510KST350H7HF	KT325
3794417	KSEMP6000FDS56A1M	H105, H116, H122	3794936	KSEMP2125FDS50A1	H105, H116, H122	3855561	CNMG432MP KCP10	B51	3860405	RHM37000KST300H7HF	KT325
3794418	KSEMP6100FDS56A1M	H105, H116, H122	3794937	KSEMP2250FDS56A1	H105, H116, H122	3855796	CM234R ASSY	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B113, B131, B154, B163	3860406	RHM37500KST350H7HF	KT325
3794419	KSEMP6200FDS56A1M	H105, H116, H122	3794938	KSEMP2375FDS56A1	H105, H116, H122	3855854	B291A08800YPL KC7315	G89	3860407	RHM38100KST350H7HF	KT325
3794420	KSEMP6300FDS63A1M	H105, H116, H123	3794939	KSEMP2500FDS63A1	H105, H116, H123	3856322	LT27ER4AP1502 KC5025	D52	3860408	RHM38100KST350H7HF	KT325
3794421	KSEMP6400FDS63A1M	H105, H116, H123	3794940	KSEMP2625FDS63A1	H105, H116, H123	3856324	LT27ER4AP1382 KC5025	D52	3860409	RHM39000KST350H7HF	KT325
3794422	KSEMP6500FDS63A1M	H105, H116, H123	3794941	KSEMP2750FDS63A1	H105, H116, H123	3856327	LT27NR4AP1502 KC5025	D62	3860410	RHM39690KST350H7HF	KT325
3794423	KSEMP6600FDS63A1M	H105, H116, H123	3795256	RMB14000H7HF	KT6215	3856329	LT27NR4AP1382 KC5025	D62	3860411	RHM40000KST350H7HF	KT325
3794424	KSEMP6700FDS63A1M	H105, H116, H123	3795257	RMB15000H7HF	KT6215	3856518	DNGX120712T02020 KYK25	B317	3860412	RHM41000KST350H7HF	KT325
3794425	KSEMP6800FDS63A1M	H105, H116, H123	3795258	RMB16000H7HF	KT6215	3856520	DNGA453T0820 KYK25	B317	3860413	RHM41280KST350H7HF	KT325
3794426	KSEMP6900FDS63A1M	H105, H116, H123	3795261	RMB18000H7HF	KT6215	3856521	SNGX453T0820 KYK25	B318	3860414	RHM42000KST350H7HF	KT325
3794427	KSEMP7000FDS63A1M	H105, H116, H123	3795262	RMB20000H7HF	KT6215	3856522	SNGX454T0820 KYK25	B318	3860415	RHM42000KST350H7HF	KT325
3794428	WD32FDS32216M	H127	3795333	RMB14000H7SF	KT6215	3856532	SNGA432T0820 KYK25	B318	3860416	RHM42000KST350H7HF	KT325
3794429	WD32FDS32391M	H127	3795334	RMB15000H7SF	KT6215	3856553	SNGA433T0820 KYK25	B318	3860417	RHM42000KST350H7HF	KT325
3794430	WD32FDS36244M	H127	3795335	RMB16000H7SF	KT6215	3856554	SNGA453T0820 KYK25	B318	3860418	RHM42000KST350H7HF	KT325
3794431	WD32FDS36361M	H127	3795336	RMB17000H7SF	KT6215	3856558	CNMG432T0820 KYK25	B313	3860419	RHM42000KST350H7HF	KT325
3794432	WD32FDS36439M	H127	3795337	RMB18000H7SF	KT6215	3856559	CNMG433T0820 KYK25	B313	3860420	RHM42000KST350H7HF	KT325
3794433	WD50FDS40271M	H127	3795338	RMB18000H7SF	KT6215	3856560	CNMG434T0820 KYK25	B313	3860421	RHM42000KST350H7HF	KT325
3794434	WD50FDS40403M	H127	3795339	RMB18000H7SF	KT6215	3856561	CNMG434T020FW KYK25	B313	3860422	RHM42000KST350H7HF	KT325
3794435	WD50FDS40491M	H127	3812186	DNMG443MP KCP10	B81	3856562	CNMG433T020FW KYK25	B313	3860423	RHM42000KST350H7HF	KT325
3794436	WD50FDS45304M	H127	3830321	B976A08020 KC7315	G136	3856604	CNMG444T0820 KYK25	B313	3860424	RHM42000KST350H7HF	KT325
3794437	WD50FDS45451M	H127	3838225	WNMG433MP KCP10	B159	3856607	CNMG444T0820 KYK25	B314	3860425	RHM42000KST350H7HF	KT325
3794438	WD50FDS45549M	H127	3842812	B291A13800YPL KC7315	G90	3856608	SNGA432T0820 KYK25	B314	3860426	RHM42000KST350H7HF	KT325
3794439	WD50FDS50338M	H127	3842895	H32LSERS	D76	3856611	SNGA433T0820 KYK25	B314	3860427	RHM42000KST350H7HF	KT325
3794440	WD50FDS50613M	H127	3842897	H40LSERS	D76	3856614	WNGA432T0820 KYK25	B315	3860428	RHM42000KST350H7HF	KT325
3794441	WD50FDS50638M	H127	3848433	B967A15500 KC7315	G132	3856616	WNGA433T0820 KYK25	B315	3860429	RHM42000KST350H7HF	KT325
3794442	WD50FDS50669M	H127	3849319	XNGJ535ANFLDJ3W KC410M	S21	3856618	WNGA433T0820 KYK25	B313	3860430	RHM42000KST350H7HF	KT325
3794443	SSF150FDS320850	H129	3849320	HNGJ535ANFLDJ3W KC410M	S18, S21	3856793	RIR04E1312 KC6005	K56	3860431	RHM42000KST350H7HF	KT325
3794434	SSF150FDS321263	H129	3852200	RPET1204MOLE KC725M	V71	3856806	RIR02E1312 KC6305	K56	3860432	RHM42000KST350H7HF	KT325
3794435	SSF150FDS321539	H129	3852233	RPET1204MOSE KC725M	V72	3856807	RIR03E1312 KC6305	K56	3860433	RHM42000KST350H7HF	KT325
3794436	SSF150FDS360960	H129	3852235	RPET1204MOLE KCPK30	V71	3856827	RIR04E1312 KC6005	K57	3860434	RHM42000KST350H7HF	KT325
3794437	SSF150FDS361421	H129	3852284	RPPT1605MOSH KC725M	V79	3858114	EP1808SGE KCPK30	T84	3860435	RHM42000KST350H7HF	KT325
3794438	SSF150FDS361728	H129	3852285	RPPT1605MOSH KCPK30	V79	3858115	EP1808SGE KC522M	T84	3860436	RHM42000KST350H7HF	KT325
3794439	SSF200FDS401066	H129	3852395	RPPT1204MOSGP KCPK30	V72	3858210	B978A04200 KC7315	G139	3860437	RHM42000KST350H7HF	KT325
3794440	SSF200FDS401586	H129	3852396	RPPT1204MOSGP KCPK30	V72	3858724	RIR01E1312 KC6105	K56	3860438	RHM42000KST350H7HF	KT325
3794441	SSF200FDS401933	H129	3854146	RIR04EDS06 KD1415	K56	3858725	RIR02E1312 KC6105	K56	3860439	RHM42000KST350H7HF	KT325
3794442	SSF200FDS451196	H129	3854265	A4SMR2020K0208	C126	3858727	RIR01EQU00 KC6105	K56	3860440	RHM42000KST350H7HF	KT325
3794443	SSF200FDS451775	H129	3854266	A4SML2020K0208	C126	3858731	RIR05EQU00 KC6105	K56	3860441	RHM42000KST350H7HF	KT325
3794444	SSF200FDS452113	H129	3854267	A4SMR2020K0308	C126	3858814	KST175CS	K43	3860442	RHM42000KST350H7HF	KT325
3794445	SSF200FDS452163	H129	3854268	A4SML2020K0308	C126	3858815	KST200CS	K43	3860443	RHM42000KST350H7HF	KT325
3794446	SSF200FDS452171	H129	3854269	A4SMR2020K0408	C126	3858817	KST250CS	K43	3860444	RHM42000KST350H7HF	KT325
3794447	SSF200FDS452183	H129	3854270	A4SML2020K0408	C126	3858818	KST300CS	K43	3860445	RHM42000KST350H7HF	KT325
3794448	SSF200FDS452196	H129	3854271	A4SML2525M0510	C126	3858819	KST350CS	K43	3860446	RHM42000KST350H7HF	KT325
3794449	SSF200FDS452213	H129	3854272	A4SML2525M0510	C126	3859000	B292A07400YPL KC7315	G89	3860447	RHM42000KST350H7HF	KT325
3794450	SSF200FDS452240	H129	3854273	A4SML2525M0610	C126	3859044	SDET4316SNBG KC725M	T116, TT123, U39	3860448	RHM42000KST350H7HF	KT325
3794451	SSF200FDS452253	H129	3854274	A4SML2525M0610	C126	3859155	B292A08100YPL KC7315	G89	3860449	RHM42000KST350H7HF	KT325
3794452	SSF200FDS4521330	H129	3854277	A4SMR120308	C126	3860364	RHM22000KST175H7HF	KT325	3860450	RHM42000KST350H7HF	KT325
3794453	SSF200FDS4521980	H129	3854281	A4SMR160510	C126	3860365	RHM20640KST175H7HF	KT325	3860451	RHM42000KST350H7HF	KT325
3794454	SSF200FDS4520413	H129	3854632	AADE0250J3B K600	P128	3860366	RHM21000KST175H7HF	KT325	3860452	RHM42000KST350H7HF	KT325
3794455	SSF200FDS4521507	H129	3854739	AADE0312J3A K600	P128	3860367	RHM22000KST175H7HF	KT325	3860453	RHM42000KST350H7HF	KT325
3794456	SSF200FDS4522240	H129	3854756	AADE0375J3B K600	P129	3860368	RHM22230KST175H7HF	KT325	3860454	RHM42000KST350H7HF	KT325
3794457	SSF200FDS4526783	H129	3854759	AADE0500J3B K600	P129	3860369	RHM22500KST200H7HF	KT325	3860455	RHM42000KST350H7HF	KT325
3794458	SSF200FDS452631688	H129	3854761	AADE0625J3A K600	P129	3860370	RHM22000KST200H7HF	KT325	3860456	RHM42000KST350H7HF	KT325
3794459	SSF200FDS452632515	H129	3854762	AADE0750J3B K600	P130	3860371	RHM23810KST200H7HF	KT325	3860457	RHM42000KST350H7HF	KT325
3794460	SSF200FDS45263066	H129	3854776	EP1416SGE KC522M	T58, T69	3860372	RHM24000KST200H7HF	KT325	3860458	RHM42000KST350H7HF	KT325
3794461	KSEMP1250FDS32A1	H104, H115, H122	3855177	EP1416SGE KC725M	T58, T69	3860383	RHM25000KST200H7HF	KT325	3860459	RHM42000KST350H7HF	KT325
3794462	KSEMP1313FDS32A1	H104, H115, H122	3855178	EP1416SGE KCPK30	T58, T69	3860384	RHM25400KST200H7HF	KT325	3860460	RHM42000KST350H7HF	KT325
3794463	KSEMP1375FDS32A1	H104, H115, H122	3855180	EP1431SGE KC725M	T58, T69	3860385	RHM26000KST200H7HF	KT325	3860461	RHM42000KST350H7HF	KT325
			3855181	EP1431SGE KCPK30	T58, T69	3860386	RHM26990KST200H7HF	KT325	3860462	RHM42000KST350H7HF	KT325
			3855209	EP1404SGE KC522M	T58, T69	3860387	RHM27000KST200H7HF	KT325	3860463	RHM42000KST350H7HF	KT325
			3855210	EP1404SGE KC725M	T58, T69	3860388	RHM27500KST250H7HF	KT325	3860464	RHM42000KST350H7HF	KT325
			3855211	EP1404SGE KCPK30	T58, T69	3860389	RHM28000KST250H7HF	KT325	3860465	RHM42000KST350H7HF	KT325
						3860390	RHM28580KST250H7HF	KT325	3860466	RHM42000KST350H7HF	KT325
						38					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3860667	RHM37500KST350H7F	KT6215	3865921	A4SBR2020K2S12020025	C129	3867765	B271208500HPS	KN25	3868174	T620M030X50R6HX-D1	KP6525
3860668	RHM38000KST350H7F	KT6215	3865922	A4SBR2020K2S12020036	C129	3867766	B271208733HPS	KN25	3868175	T620M040X70R6HX-D1	KP6525
3860669	RHM38100KST350H7F	KT6215	3865923	A4SBR2020K3S14020025	C129	3867767	B271209000HPS	KN25	3868176	T620M050X80R6HX-D1	KP6525
3860670	RHM39000KST350H7F	KT6215	3865924	A4SBR2020K3S14020036	C129	3867768	B271209500HPS	KN25	3868177	T620M060X100R6HX-D1	KP6525
3860671	RHM39690KST350H7F	KT6215	3865926	A4SBR2020K4S14035048	C129	3867769	B271209525HPS	KN25	3868178	T620M080X125R6HX-D1	KP6525
3860672	RHM40000KST350H7F	KT6215	3865927	A4SBR2525M5S19028038	C129	3867770	B271210000HPS	KN25	3868179	T620M100X150R6HX-D1	KP6525
3860673	RHM41000KST350H7F	KT6215	3865928	A4SBR2525M5S19038058	C129	3867804	B272203000HPS	KN25	3868180	T620M120X175R6HX-D6	KP6525
3860674	RHM41280KST350H7F	KT6215	3865929	A4SBL2020K2S12016020	C129	3867772	B272203175HPS	KN25	3868181	T620M140X200R6HX-D6	KP6525
3860675	RHM42000KST350H7F	KT6215	3865931	A4SBL2020K2S12025030	C129	3867803	B272203300HPS	KN25	3868182	T620M160X200R6HX-D6	KP6525
3860855	RHM20000KST175H7F	KT6215	3865932	A4SBL2020K3S14020025	C129	3867804	B272203500HPS	KN25	3868204	T620M200X250R6HX-D6	KP6525
3860856	RHM20640KST175H7F	KT6215	3865934	A4SBL2020K4S14025035	C129	3867805	B272203970HPS	KN25	3868215	T620M080X100R6HX-D4	KP6525
3860857	RHM21000KST175H7F	KT6215	3865937	A4SBL2525M5S19038058	C129	3867806	B272204000HPS	KN25	3868221	T620M140X150R6HX-D4	KP6525
3860858	RHM22000KST175H7F	KT6215	3866058	AADE1000J3D K600	P130	3867807	B272204500HPS	KN25	3868217	T620M160X125R6HX-D6	KP6525
3860859	RHM22230KST175H7F	KT6215	3866065	AADE1000J3GRB K600	P130	3867808	B272204763HPS	KN25	3868219	T620M120X150R6HX-D4	KP6525
3860860	RHM22500KST200H7F	KT6215	3866067	AADE1000J3E K600	P130	3867809	B272205000HPS	KN25	3868221	T620M140X150R6HX-D4	KP6525
3860861	RHM23000KST200H7F	KT6215	3866068	AADE1000J3ERA K600	P130	3867810	B272205500HPS	KN25	3868222	T620M160X125R6HX-D6	KP6525
3860862	RHM23810KST200H7F	KT6215	3866069	AADE1000J3ERB K600	P130	3867811	B272206000HPS	KN25	3868223	T620M180X150R6HX-D4	KP6525
3860863	RHM24000KST200H7F	KT6215	3866072	AADE1000J3ERE K600	P130	3867812	B272206200HPS	KN25	3868469	B291A04800YPL KC7315	G88
3860864	RHM25000KST200H7F	KT6215	3866073	AADE1000J3H K600	P130	3867813	B272206350HPS	KN25	3868571	T630M030X50R6HX-D1	KP6525
3860865	RHM25400KST200H7F	KT6215	3866074	AADE1000J3HRA K600	P130	3867814	B272206500HPS	KN25	3868204	T620M200X250R6HX-D6	KP6525
3860867	RHM26990KST200H7F	KT6215	3866202	AADE0500J3FC K600	P129	3867815	B272206500HPS	KN25	3868572	T630M040X70R6HX-D1	KP6525
3860868	RHM27000KST200H7F	KT6215	3866253	AADE0500J3FRA K600	P129	3867816	B272207000HPS	KN25	3868825	T630M030X50R6HX-D1	KP6525
3860869	RHM27500KST250H7F	KT6215	3866254	AADE0500J3FRB K600	P129	3867817	B272207145HPS	KN25	3868826	T630M040X70R6HX-D1	KP6525
3860870	RHM28000KST250H7F	KT6215	3866255	AADE0500J3FRC K600	P129	3867818	B272207500HPS	KN25	3868827	T630M050X80R6HX-D1	KP6525
3860872	RHM29000KST250H7F	KT6215	3866256	AADE0500J3BRA K600	P129	3867819	B272208000HPS	KN25	3868828	T630M060X100R6HX-D1	KP6525
3860873	RHM30000KST250H7F	KT6215	3866257	AADE0500J3G K600	P129	3867820	B272208500HPS	KN25	3868829	T630M080X125R6HX-D1	KP6525
3860874	RHM30160KST250H7F	KT6215	3866259	AADE0500J3GRB K600	P129	3867821	B272208733HPS	KN25	3868830	T630M100X150R6HX-D1	KP6525
3860875	RHM31000KST250H7F	KT6215	3866260	AADE0500J3GRC K600	P129	3867822	B272209000HPS	KN25	3868831	T630M120X175R6HX-D6	KP6525
3860876	RHM31750KST250H7F	KT6215	3866261	AADE0500J3GRD K600	P129	3867823	B272209525HPS	KN25	3868832	T630M140X200R6HX-D6	KP6525
3860877	RHM32000KST250H7F	KT6215	3866262	AADE0500J3CRA K600	P129	3867824	B272209750HPS	KN25	3868844	T630M180X250R6HX-D6	KP6525
3860878	RHM32500KST300H7F	KT6215	3866263	AADE0500J3H K600	P129	3867825	B272210000HPS	KN25	3868856	T630M080X100R6HX-D4	KP6515
3860879	RHM33000KST300H7F	KT6215	3866268	AADE0625J3D K600	P130	3867828	B274203000HPS	KN25	3868857	T630M100X100R6HX-D4	KP6515
3860880	RHM33340KST300H7F	KT6215	3866269	AADE0625J3DRA K600	P129	3867829	B274203175HPS	KN25	3868858	T630M100X125R6HX-D4	KP6515
3860881	RHM34000KST300H7F	KT6215	3866272	AADE0625J3DRE K600	P130	3867830	B274203500HPS	KN25	3868860	T630M120X150R6HX-D4	KP6515
3860882	RHM34390KST300H7F	KT6215	3866273	AADE0625J3E K600	P130	3867831	B274204000HPS	KN25	3868862	T630M140X150R6HX-D4	KP6515
3860883	RHM35000KST300H7F	KT6215	3866274	AADE0625J3F K600	P130	3867832	B274204500HPS	KN25	3868863	T630M160X150R6HX-D4	KP6515
3860885	RHM36510KST300H7F	KT6215	3866275	AADE0625J3FRE K600	P130	3867833	B273203000HPS	KN25	3868864	T630M180X150R6HX-D4	KP6515
3860886	RHM37000KST300H7F	KT6215	3866276	AADE0625J3G K600	P130	3867834	B273203175HPS	KN25	3868923	T630M050X80R6HX-D1	KP6525
3860887	RHM37500KST350H7F	KT6215	3866277	AADE0750J3F K600	P130	3867835	B273203500HPS	KN25	3868924	T630M060X100R6HX-D1	KP6525
3860890	RHM39000KST350H7F	KT6215	3866280	AADE0750J3H K600	P130	3867836	B273204000HPS	KN25	3868925	T630M080X125R6HX-D1	KP6525
3860891	RHM39690KST350H7F	KT6215	3866282	AADE0750J3HRB K600	P130	3867837	B273204500HPS	KN25	3868926	T630M100X150R6HX-D1	KP6525
3860892	RHM40000KST350H7F	KT6215	3866284	AADE0750J3HRD K600	P130	3867838	B273205000HPS	KN25	3868927	T630M120X175R6HX-D6	KP6525
3860893	RHM41000KST350H7F	KT6215	3866286	AADE0750J3CRA K600	P130	3867839	B273205500HPS	KN25	3868928	T630M140X200R6HX-D6	KP6525
3860894	RHM41280KST350H7F	KT6215	3866288	AADE0750J3CRE K600	P130	3867840	B273206000HPS	KN25	3868929	T630M160X200R6HX-D6	KP6525
3860895	RHM42000KST350H7F	KT6215	3866289	AADE0750J3G K600	P130	3867841	B273206350HPS	KN25	3868930	T630M180X250R6HX-D6	KP6525
3861185	SS20KST175AR3M	K42	3866290	AADE0750J3GRA K600	P130	3867842	B273206500HPS	KN25	3868933	T630M240X300R6HX-D6	KP6525
3861186	SS20KST200AR3M	K42	3866291	AADE0750J3GRB K600	P130	3867843	B273206746HPS	KN25	3868942	T630M080X100R6HX-D4	KP6525
3861187	SS25KST250AR3M	K42	3866293	AADE0750J3GRD K600	P130	3867844	B273207000HPS	KN25	3868943	T630M100X100R6HX-D4	KP6525
3861188	SS32KST300AR3M	K42	3866294	AADE0750J3GRE K600	P130	3867845	B273208000HPS	KN25	3868944	T630M100X125R6HX-D4	KP6525
3861189	SS32KST350AR3M	K42	3867457	A4M50R2S12B016020	C141	3867846	B273208500HPS	KN25	3868946	T630M120X150R6HX-D4	KP6525
3861190	SS20KST175AR5M	K42	3867458	A4M50R2S12B020025	C141	3867847	B273208733HPS	KN25	3868948	T630M140X150R6HX-D4	KP6525
3861191	SS20KST200AR5M	K42	3867459	A4M50R2S12B025036	C141	3867849	B273209525HPS	KN25	3868949	T630M160X150R6HX-D4	KP6525
3861192	SS25KST250AR5M	K42	3867460	A4M50R3S14B020025	C141	3867850	B273210000HPS	KN25	3868950	T630M180X150R6HX-D4	KP6525
3861193	SS32KST300AR5M	K42	3867461	A4M50R3S14B025036	C141	3867873	B274205000HPS	KN25	3868976	T631M050X80R6HX-D1	KP6525
3861194	SS32KST350AR5M	K42	3867462	A4M50R4S14B025035	C141	3867874	B274205500HPS	KN25	3868977	T631M060X100R6HX-D1	KP6525
3861195	SS20KST175RR3M	K43	3867464	A4M50R5S17B028038	C141	3867875	B274206000HPS	KN25	3868978	T631M080X125R6HX-D1	KP6525
3861196	SS20KST200RR3M	K43	3867466	A4M50L2S12B016020	C142	3867876	B274206350HPS	KN25	3868979	T631M100X150R6HX-D1	KP6525
3861197	SS25KST250RR3M	K43	3867467	A4M50L2S12B020025	C142	3867877	B274206500HPS	KN25	3868980	T631M120X175R6HX-D6	KP6525
3861198	SS32KST300RR3M	K43	3867468	A4M50L2S12B025036	C142	3867878	B274206746HPS	KN25	3868981	T631M140X200R6HX-D6	KP6525
3861199	SS32KST350RR3M	K43	3867469	A4M50L3S14B020025	C142	3867879	B274207000HPS	KN25	3868982	T631M160X200R6HX-D6	KP6525
3861200	SS20KST175RR5M	K43	3867470	A4M50L3S14B025036	C142	3867880	B274208000HPS	KN25	3868993	T631M180X250R6HX-D6	KP6525
3861201	SS20KST200RR5M	K43	3867472	A4M50L4S14B035048	C142	3867881	B274208500HPS	KN25	3869003	T631M080X100R6HX-D4	KP6525
3861202	SS25KST250RR5M	K43	3867484	A4M50L5S17B028038	C142	3867882	B274208733HPS	KN25	3869004	T631M100X100R6HX-D4	KP6525
3861203	SS32KST300RR5M	K43	3867715	B271Z03000HPS	KN25	3867883	B274209000HPS	KN25	3869005	T631M100X125R6HX-D4	KP6525
3861204	SS32KST350RR5M	K43	3867716	B271Z03175HPS	KN25	3867884	B274209525HPS	KN25	3869006	T631M120X150R6HX-D4	KP6525
3861630	KST175200RK	K43	3867717	B271Z03200HPS	KN25	3867885	B274210000HPS	KN25	3869007	T631M140X150R6HX-D4	KP6525
3861631	KST250250RK	K43	3867718	B271Z03500HPS	KN25	3868079	T620M030X50R6HX-D1	KM6515	3869008	T631M160X125R6HX-D4	KP6525
3861632	KST300350RK	K43	3867719	B271Z03970HPS	KN25	3868080	T620M040X70R6HX-D1	KM6515	3869009	T631M180X150R6HX-D4	KP6525
3861774	DNGA434T0820 KYK10	B314	3867720	B271Z04000HPS	KN25	3868081	T620M050X80R6HX-D1	KM6515	3869010	T631M200X250R6HX-D	

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3870464	AADE0375J3F K600	P128	3876374	AADF0375J2D K600	P126	3884462	KSEM3100HPCCLM KC7410	H61, H111	3885853	B707A12500FBL KCM515	G111
3870466	AADE0375J3G K600	P128	3876375	AADF0375J2DRA K600	P126				3885854	B707A12800FBL KCM515	G111
3870468	AADE0375J3D K600	P129	3876376	AADF0375J2DRB K600	P126	3884463	KSEM3200HPCCLM KC7410	H61, H111	3885855	B707A13000FBL KCM515	G111
3870469	AADE0375J3DRA K600	P129	3876378	AADF0375J2E K600	P126				3885856	B707A13500FBL KCM515	G111
3870470	AADE0375J3DRB K600	P129	3876383	AADF0500J2E K600	P126	3884464	KSEM0500HPCC LK7410	H60	3885857	B707A14000FBL KCM515	G111
3870472	AADE0375J3E K600	P129	3876387	AADF0500J2F K600	P127	3884465	KSEM0509HPCC LK7410	H60	3885858	B707A14288FBL KCM515	G111
3870473	AADE0375J3ERA K600	P129	3876389	AADF0500J2FRB K600	P126	3884466	KSEM0516HPCC LK7410	H60	3885859	B707A14500FBL KCM515	G111
3870474	AADE0375J3ERB K600	P129	3876391	AADF0500J2BRA K600	P127	3884467	KSEM0547HPCC LK7410	H60	3885860	B707A15000FBL KCM515	G111
3870475	AADE0375J3ERC K600	P129	3876392	AADF0500J2G K600	P127	3884468	KSEM0563HPCC LK7410	H60	3885861	B707A15250FBL KCM515	G112
3870476	AADE0375J3H K600	P129	3876393	AADF0500J2GRA K600	P127	3884469	KSEM0578HPCC LK7410	H60	3885862	B707A15500FBL KCM515	G112
3870477	AADE0375J3J K600	P129	3876394	AADF0500J2GRB K600	P127	3884470	KSEM0609HPCC LK7410	H60	3885863	B707A15875FBL KCM515	G112
3871002	A4G0205M2SU02GMN KCJ10	C109	3876395	AADF0500J2GRC K600	P127	3884471	KSEM0625HPCC LK7410	H60	3885864	B707A16000FBL KCM515	G112
3871023	A10RA45AL2S12M017021	C134	3876396	AADF0500J2GRA K600	P127	3884472	KSEM0634HPCC LK7410	H60	3885865	B707A16500FBL KCM515	G112
3871027	A16RA45AL3S14M026036	C134	3876620	AADF0625J2FRB K600	P127	3884473	KSEM0641HPCC LK7410	H60	3885866	B707A17000FBL KCM515	G112
3871028	A10RA45AR2S12M017021	C134	3876623	AADF0625J2FRB K600	P127	3884474	KSEM0656HPCC LK7410	H60	3885867	B707A17500FBL KCM515	G112
3871029	A12RA45AR2S12M021026	C134	3876627	AADF0625J2FRB K600	P127	3884475	KSEM0672HPCC LK7410	H60	3885868	B707A18000FBL KCM515	G112
3871030	A16RA45AR2S12M026036	C134	3876629	AADF0750J2F K600	P127	3884476	KSEM0688HPCC LK7410	H60	3885869	B707A19000FBL KCM515	G112
3871032	A16RA45AR3S14M026036	C134	3876635	AADF0750J2CRA K600	P127	3884477	KSEM0719HPCC LK7410	H60	3885870	B707A19050FBL KCM515	G112
3871033	A16RA45AL2S12M017021	C134	3876637	AADF0750J2GRA K600	P127	3884478	KSEM0750HPCC LK7410	H60	3885871	B707A2000FBL KCM515	G112
3871034	A20RA45AL2S12M021026	C134	3876647	AADF1000J2D K600	P127	3884479	KSEM0759HPCC LK7410	H60	3885872	B707A21000FBL KCM515	G112
3871035	A25RA45AL2S12M026036	C134	3876843	CNGF432 KB1340	B307	3884480	KSEM0766HPCC LK7410	H60	3886527	B292A13900VPL KC7315	G90
3871037	A25RA45AL3S14M026036	C134	3877207	CFM0402R30RHP KCJ40	H43	3884481	KSEM0781HPCC LK7410	H60	3890197	B967A07500 KC7315	G131
3871038	A16RA45AR2S12M017021	C134	3877688	B272Z11000HPS KN25	G71	3884482	KSEM0797HPCC LK7410	H60	3891349	B272Z16000HPS KN25	G71
3871039	A20RA45AR2S12M021026	C134	3877827	B967A11500 KC7315	G132	3884483	KSEM0813HPCC LK7410	H60	3891648	RPET1605MOSGE KCPK30	V78
3871040	A25RA45AR2S12M026036	C134	3878037	B292A09800YPL KC7315	G89	3884484	KSEM0844HPCC LK7410	H60	3891649	RPET1605MOELE KCPK30	V78
3871041	A20RA45AR3S14M021026	C134	3878347	HSK63ASIF80063M	K50	3884485	KSEM0875HPCC LK7410	H60	3891661	B271Z10200HPS KN25	G69
3871042	A25RA45AR3S14M026036	C134	3883100	RIQ06E1312 KC6305	K58	3884486	KSEM0884HPCC LK7410	H60	3891662	B271Z10500HPS KN25	G69
3871064	A4G0305M3SU02GUP KCJ10	C109	3884395	KSEM1250HPCC LK7410	H60	3884487	KSEM0922HPCC LK7410	H60	3891682	B271Z13500HPS KN25	G69
3871065	A4G0405M4SU04GMN KCJ10	C109	3884396	KSEM1300HPCC LK7410	H60	3884488	KSEM0938HPCC LK7410	H60	3891683	B271Z10720HPS KN25	G69
3871067	A4G0505M5SU04GMN KCJ10	C109				3884489	KSEM0969HPCC LK7410	H60	3891684	B271Z11000HPS KN25	G69
3871069	A4G0200M2SP02GUP KCJ10	C108	3884397	KSEM1350HPCC LK7410	H60	3884490	KSEM1000HPCC LK7410	H60	3891685	B271Z11500HPS KN25	G69
3871070	A4G0300M3SP02GUP KCJ10	C108	3884398	KSEM1400HPCC LK7410	H60	3884491	KSEM1011HPCC LK7410	H60	3891686	B271Z12000HPS KN25	G69
3871071	A4G0300M3SP04GUP KCJ10	C108				3884492	KSEM1031HPCC LK7410	H60	3891687	B271Z12500HPS KN25	G69
3871072	A4G0400M4SP04GUP KCJ10	C108	3884399	KSEM1450HPCC LK7410	H60	3884493	KSEM1047HPCC LK7410	H60	3891688	B271Z12700HPS KN25	G69
3871073	A4G0400M4SP08GUP KCJ10	C108	3884400	KSEM1500HPCC LK7410	H60	3884494	KSEM1094HPCC LK7410	H60	3891689	B271Z13000HPS KN25	G69
3871075	A4G0500M5SP08GUP KCJ10	C108				3884495	KSEM1109HPCC LK7410	H61	3891690	B272Z10200HPS KN25	G71
3871076	A4G0205M2SU02GUP KCJ10	C109	3884401	KSEM1550HPCC LK7410	H60	3884496	KSEM1125HPCC LK7410	H61	3891691	B272Z10500HPS KN25	G71
3871077	A4G0305M3SU02GUP KCJ10	C109	3884402	KSEM1600HPCC LK7410	H60	3884497	KSEM1156HPCC LK7410	H61	3891692	B272Z10720HPS KN25	G71
3871078	A4G0305M3SU04GUP KCJ10	C109				3884498	KSEM1172HPCC LK7410	H61	3891693	B272Z11500HPS KN25	G71
3871079	A4G0405M4SU04GUP KCJ10	C109	3884433	KSEM1650HPCC LK7410	H60	3884499	KSEM1188HPCC LK7410	H61	3891695	B272Z12000HPS KN25	G71
3871081	A4G0505M5SU04GUP KCJ10	C109	3884434	KSEM1700HPCC LK7410	H60	3884500	KSEM1250HPCC LK7410	H61	3891696	B272Z12500HPS KN25	G71
3871083	A4G0205M2SU02GMN KCJ25	C109				3884540	B291A06200VPL KC7315	G88	3891697	B272Z12700HPS KN25	G71
3871084	A4G0305M3SU02GMN KCJ25	C109	3884435	KSEM1750HPCC LK7410	H60	3884541	B291A11800YPL KC7315	G89	3891698	B272Z13000HPS KN25	G71
3871085	A4G0305M3SU04GMN KCJ25	C109	3884436	KSEM1800HPCC LK7410	H60	3884593	B291A15800YPL KC7315	G90	3891700	B273Z10500HPS KN25	G72
3871086	A4G0405M4SU04GMN KCJ25	C109				3884594	B291A19800VPL KC7315	G90	3891702	B273Z11000HPS KN25	G72
3871087	A4G0405M4SU08GMN KCJ25	C109	3884437	KSEM1850HPCC LK7410	H60	3884596	B291A05200VPL KC7315	G88	3891703	B273Z11500HPS KN25	G72
3871088	A4G0505M5SU04GMN KCJ25	C109	3884438	KSEM1900HPCC LK7410	H60	3884923	RCMT1204MOMP KCS10	B240	3891704	B273Z12000HPS KN25	G72
3871090	A4G0200M2SP02GUP KCJ25	C108				3885499	BMD300R1206S100L200	V70	3891705	B273Z12500HPS KN25	G72
3871091	A4G0300M3SP02GUP KCJ25	C108	3884439	KSEM1950HPCC LK7410	H60	3885689	B707A03000FBL KCM515	G110	3891707	B273Z13000HPS KN25	G72
3871092	A4G0300M3SP04GUP KCJ25	C108	3884440	KSEM2000HPCC LK7410	H60	3885690	B707A03175FBL KCM515	G110	3891708	B274Z10200HPS KN25	G74
3871105	A4G0500M5SP04GUP KCJ25	C108				3885691	B707A03500FBL KCM515	G110	3891711	B274Z11000HPS KN25	G74
3871107	A4G0205M2SU02GUP KCJ25	C109	3884441	KSEM2050HPCC LK7410	H60	3885692	B707A04000FBL KCM515	G110	3891712	B274Z11500HPS KN25	G74
3871108	A4G0305M3SU02GUP KCJ25	C109	3884442	KSEM2100HPCC LK7410	H60	3885823	B707A04400FBL KCM515	G110	3891713	B274Z12000HPS KN25	G74
3871109	A4G0305M3SU04GUP KCJ25	C109				3885824	B707A04500FBL KCM515	G110	3891714	B274Z12500HPS KN25	G74
3871110	A4G0405M4SU04GUP KCJ25	C109	3884443	KSEM2150HPCC LK7410	H60	3885825	B707A04800FBL KCM515	G110	3891716	B274Z13000HPS KN25	G74
3871112	A4G0505M5SU04GUP KCJ25	C109	3884444	KSEM2200HPCC LK7410	H60	3885826	B707A05000FBL KCM515	G110	3891733	B271Z14000HPS KN25	G69
3871114	A4G0505M5SU08GMN KCJ25	C109				3885827	B707A05560FBL KCM515	G110	3891734	B271Z14290HPS KN25	G69
3871115	A4R0200M2SP00GMP KCJ25	C109	3884445	KSEM2250HPCC LK7410	H60	3885828	B707A05900FBL KCM515	G110	3891737	B271Z15500HPS KN25	G69
3871116	A4R0300M3SP00GMP KCJ25	C109	3884446	KSEM2300HPCC LK7410	H60	3885829	B707A06000FBL KCM515	G110	3891738	B271Z15870HPS KN25	G69
3871118	A4R0500M5SP00GMP KCJ25	C109				3885830	B707A06350FBL KCM515	G110	3891739	B271Z16000HPS KN25	G69
3872075	WD50FDS40183M	H126	3884447	KSEM2350HPCC LK7410	H60	3885831	B707A06500FBL KCM515	G110	3891741	B272Z13500HPS KN25	G71
3872079	WD50FDS45206M	H126	3884448	KSEM2400HPCC LK7410	H60	3885832	B707A06800FBL KCM515	G110	3891742	B272Z14000HPS KN25	G71
3872564	B292A14200VPL KC7315	G90				3885833	B707A07000FBL KCM515	G110	3891744	B272Z14500HPS KN25	G71
3873005	B292A07600YPL KC7315	G89	3884449	KSEM2450HPCC LK7410	H60	3885834	B707A07500FBL KCM515	G111	3891745	B272Z15000HPS KN25	G71
3873028	B976A11800 KC7315	G137	3884450	KSEM2500HPCC LK7410	H60	3885835	B707A07938FBL KCM515	G111	3891746	B272Z15500HPS KN25	G71
3876021	B967A08700 KC7315	G131				3885836	B707A08000FBL KCM515	G111	3891747	B272Z15870HPS KN25	G71
3876314	CNG454T0820 KYK10	B316	3884451	KSEM2550HPCC LK7410	H60	3885837	B707A08500FBL KCM515	G111	3891748	B273Z13100HPS KN25	G72
3876315	CNGA432T0820 KYK10	B313	3884452	KSEM2600HPCC LK7410	H60	3885838	B707A08800FBL KCM515	G111	3891750	B273Z14000HPS KN25	G72
3876316	CNGA433T0420FW KYK10	B313				3885839	B707A09000FBL KCM515	G111	3891751	B273Z14500HPS KN25	G72
3876317	CNGA433T0820 KYK10	B313	3884453	KSEM2650HPCC LK7410	H60	3885840	B707A09500FBL KCM515	G111	3891752	B273Z14500HPS KN25	G72
3876318	CNGA433T0820FW KYK10	B313	3884454	KSEM2700HPCC LK7410	H60	3885841	B707A09525FBL KCM515	G111	3891882	BMD150R1204S05L158	V70
3876319	CNGA434T0820 KYK10	B313				3885842	B707A10000FBL KCM515	G111	3891915	BMD150R1204W150L200	V68



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
3894824	B707A0600FBS KN15	G110	3902293	KM40TSNSR2	D33	3955492	KM40TSS25HNL3	D39	4026225	T631M140X200R6HX-D6 KM6515	M51
3894825	B707A06350FBS KN15	G110	3902294	KM40TSNSR3	D33	3955493	KM40TSS25HNER3	D39	4026226	T631M160X200R6HX-D6 KM6515	M51
3894826	B707A06500FBS KN15	G110	3902295	KM40TSNSR4	D33	3955494	KM40TSS32JNER3	D39	4026227	T631M180X250R6HX-D6 KM6515	M51
3894827	B707A06800FBS KN15	G110	3902973	B291A04400YPL KC7315	G88	3955495	KM40TSS32GNEL3	D39	4026231	T631M100X100R6HX-D4 KM6515	M51
3894828	B707A07000FBS KN15	G110	3903498	B978A03300 KC7315	G139	3955497	KM40TSS32GNER3	D39	4026232	T631M100X100R6HX-D4 KM6515	M51
3894829	B707A07500FBS KN15	G111	3903995	B291A08600YPL KC7315	G89	3955980	B967A12700 KC7315	G132	4026233	T631M100X125R6HX-D4 KM6515	M51
3894830	B707A07938FBS KN15	G111	3904143	B291A03454YPL KC7315	G88	3956013	B967A06700 KC7315	G130	4026234	T631M140X150R6HX-D4 KM6515	M51
3894831	B707A08000FBS KN15	G111	3904144	B291A03970YPL KC7315	G88	3956014	B967A07000 KC7315	G131	4026235	T631M120X150R6HX-D4 KM6515	M51
3894832	B707A08500FBS KN15	G111	3904146	B291A04851YPL KC7315	G88	3956017	B967A07400 KC7315	G131	4026236	T631M140X125R6HX-D4 KM6515	M51
3894833	B707A08800FBS KN15	G111	3904147	B291A04915YPL KC7315	G88	3956018	B967A06700 KC7315	G131	4026237	T631M140X150R6HX-D4 KM6515	M51
3894834	B707A09000FBS KN15	G111	3904148	B291A05410YPL KC7315	G88	3958813	EP18125GE KC522M	T84	4026238	T631M160X150R6HX-D4 KM6515	M51
3894835	B707A09500FBS KN15	G111	3904149	B291A06747YPL KC7315	G89	3958816	EP18125GE KCPK30	T84	4026239	T631M180X150R6HX-D4 KM6515	M51
3894836	B707A09525FBS KN15	G111	3904150	B291A07144YPL KC7315	G89	3958876	EP18325GE KCPK30	T84	4027886	T631M140X100R6HX-D4 KM6515	M12
3894837	B707A10000FBS KN15	G111	3904151	B291A07938YPL KC7315	G89	3959399	KM40TSSLER27N	D79	4027887	T621M060X100R6HX-D1 KM6515	M12
3894838	B707A10320FBS KN15	G111	3904152	B291A08733YPL KC7315	G89	3959400	KM40TSSL27	D78	4027888	T621M080X125R6HX-D1 KM6515	M12
3894839	B707A10500FBS KN15	G111	3904153	B291A08900YPL KC7315	G89	3959401	KM40TSSLR27	D78	4027889	T621M100X150R6HX-D1 KM6515	M12
3894840	B707A11000FBS KN15	G111	3904154	B291A09129YPL KC7315	G89	3959611	EC1002ELD KC725M	T36, T45	4027890	T621M120X175R6HX-D6 KM6515	M12
3894841	B707A11111FBS KN15	G111	3904155	B291A09700YPL KC7315	G89	3959612	EC1002ELD KCPK30	T36, T45	4027916	T621M140X200R6HX-D6 KM6515	M12
3894842	B707A11509FBS KN15	G111	3904156	B291A10716YPL KC7315	G89	3959613	EC1812EJ KC422M	T82	4027917	T621M160X150R6HX-D4 KM6515	M12
3894843	B707A11570FBS KN15	G111	3904157	B291A11509YPL KC7315	G89	3959614	EC1816EJ KC422M	T82	4027918	T621M180X250R6HX-D6 KM6515	M12
3894844	B707A11700FBS KN15	G111	3904158	B291A11908YPL KC7315	G89	3959615	EC1832EJ KC422M	T82	4027919	T621M080X100R6HX-D4 KM6515	M12
3894845	B707A11800FBS KN15	G111	3904159	B291A12300YPL KC7315	G90	3960761	S-2165-C	S56	4027920	T621M100X150R6HX-D4 KM6515	M12
3894846	B707A12000FBS KN15	G111	3904160	B291A14288YPL KC7315	G90	3960806	CNGX434S0820 KB1340	B307	4027921	T621M100X125R6HX-D4 KM6515	M12
3894847	B707A12100FBS KN15	G111	3904161	B291A15875YPL KC7315	G90	3960807	CNGX433S0415 KB1340	B307	4027922	T621M120X150R6HX-D4 KM6515	M12
3894848	B707A12500FBS KN15	G111	3904162	B291A16100YPL KC7315	G90	3960808	CNGX433S0415FW KB1340	B307	4027923	T621M140X150R6HX-D4 KM6515	M12
3894849	B707A12800FBS KN15	G111	3904163	B291A17463YPL KC7315	G90	3960812	CNGX434S0820 KB1340	B308	4027924	T621M160X150R6HX-D4 KM6515	M12
3894850	B707A13000FBS KN15	G111	3904164	B291A17500YPL KC7315	G90	3965546	SSF150HTS130450	J89	4027925	T621M180X150R6HX-D4 KM6515	M12
3894851	B707A13500FBS KN15	G111	3904165	B291A19050YPL KC7315	G90	3965548	SSF200HTS130450	J89	4028488	T621M050X080R6HX-D1 KP6525	M12
3894852	B707A14000FBS KN15	G111	3904168	B292A03970YPL KC7315	G88	3965549	SSF200HTS160450	J89	4028489	T621M060X100R6HX-D1 KP6525	M12
3894853	B707A14288FBS KN15	G111	3904169	B292A04763YPL KC7315	G88	3965550	SSF200HTS220550	J89	4028490	T621M080X125R6HX-D1 KP6525	M12
3894854	B707A14500FBS KN15	G111	3904170	B292A04851YPL KC7315	G88	3965551	SSF200HTS270550	J89	4028491	T621M100X150R6HX-D1 KP6525	M12
3894855	B707A15000FBS KN15	G111	3904171	B292A04915YPL KC7315	G88	3965552	SSF200HTS320550	J89	4028492	T621M120X175R6HX-D6 KP6525	M12
3894856	B707A15250FBS KN15	G112	3904172	B292A08600YPL KC7315	G89	3965603	SSF250HTS400650	J89	4028503	T621M140X200R6HX-D6 KP6525	M12
3894857	B707A15500FBS KN15	G112	3904173	B292A08900YPL KC7315	G89	3965604	SSF300HTS500700	J89	4028504	T621M160X200R6HX-D6 KP6525	M12
3894858	B707A15750FBS KN15	G112	3904174	B292A09130YPL KC7315	G89	3967117	A4BHCL32K0217R	C135-136	4028505	T621M180X250R6HX-D6 KP6525	M12
3894859	B707A16000FBS KN15	G112	3904175	B292A09700YPL KC7315	G89	3967124	A4BHCL32K0317R	C135-136	4028506	T621M080X100R6HX-D4 KP6525	M12
3894860	B707A16500FBS KN15	G112	3904176	B292A11509YPL KC7315	G89	3967127	A4BHCL26K0317R	C135-136	4028507	T621M100X100R6HX-D4 KP6525	M12
3894861	B707A17000FBS KN15	G112	3904177	B292A11908YPL KC7315	G89	3967134	A4BHCL26K0317L	C135-136	4028508	T621M100X125R6HX-D4 KP6525	M12
3894862	B707A17500FBS KN15	G112	3904178	B292A12700YPL KC7315	G90	3967136	A4BHCL32K0217L	C135-136	4028509	T621M120X125R6HX-D4 KP6525	M12
3894863	B707A18000FBS KN15	G112	3904179	B292A14288YPL KC7315	G90	3967137	A4BHCL32K0317L	C135-136	4028510	T621M140X150R6HX-D4 KP6525	M12
3894864	B707A19000FBS KN15	G112	3904180	B292A15875YPL KC7315	G90	3987676	RIQ06E1300 KC6305	K58	4028511	T621M140X125R6HX-D4 KP6525	M12
3894865	B707A19500FBS KN15	G112	3904182	B292A17463YPL KC7315	G90	3993990	KC11	V156	4028512	T621M140X150R6HX-D4 KP6525	M12
3894866	B707A20000FBS KN15	G112	3906105	R82154	K78	3993991	KC12	V155-156	4028513	T621M160X150R6HX-D4 KP6525	M12
3894867	B707A21000FBS KN15	G112	3949799	B291A10200YPL KC7315	G89	3994022	A10SC2LPL2	B185, B390	4028514	T621M180X150R6HX-D4 KP6525	M12
3895815	B291A09300YPL KC7315	G89	3949899	A4R1005M10U00GMN KCP25	C107	3994693	193.537	H126-129	4028861	B271Z02383KMS KN25	G68
3897779	M1D100E1003C075L480	T31	3950219	WD32FDS32146M	H126	3994709	B291A04900YPL KC7315	G88	4028862	B271Z02400KMS KN25	G68
3897780	M1D100E1004C075L480	T31	3950220	WD32FDS36166M	H126	3994711	B291A09800YPL KC7315	G89	4028873	B271Z02439KMS KN25	G68
3897781	M1D100E1003W075L125	T30	3950221	WD50FDS50228M	H126	3997748	BMD300R1607S100L200	V77	4028874	B271Z02480KMS KN25	G68
3897782	M1D100E1004W075L125	T30	3950222	WD50FDS56259M	H126	3998775	KSEMI735HPGM KC7315	H54	4028875	B271Z02500KMS KN25	G68
3899134	UCDE219J5BS KC643M	P30	3950333	WD50FDS63289M	H126	3999270	TRM50R0720M	E71	4028876	B271Z02578KMS KN25	G68
3899135	UCDE281J5BS KC643M	P30	3950688	B291A05900YPL KC7315	G88	3999273	TRM50L0932M	E71	4028877	B271Z02800KMS KN25	G68
3899136	UCDE344J5BS KC643M	P30	3950831	KM40TSLSEL16N	D79	3999274	TRM50R0932M	E71	4028880	B271Z02779KMS KN25	G68
3899137	UCDE375J5CRA KC643M	P30	3950832	KM40TSLSER16N	D79	3999275	TRM50L0632M	E71	4028881	B271Z02800KMS KN25	G68
3899138	UCDE375J5CRB KC643M	P30	3950854	KM40TSLSER22N	D79	3999276	TRM50R0632M	E71	4028882	B271Z02820KMS KN25	G68
3899139	UCDE438J5BS KC643M	P30	3950855	KM40TSSL16	D78	3999277	TRM50L0950M	E71	4028883	B271Z02870KMS KN25	G68
3899140	UCDE500J5BRD KC643M	P30	3950856	KM40TSSL22	D78	3999278	TRM50R0950M	E71	4028884	B271Z02900KMS KN25	G68
3899141	UCDE562J5BS KC643M	P30	3950857	KM40TSSLR16	D78	4000408	KSEMP2800FDS28A1M	H104, H115, H122	4028885	B271Z02947KMS KN25	G68
3899142	UCDE562J5BRA KC643M	P30	3950858	KM40TSSLR22	D78	4000409	WD32FDS28128M	H126	4028886	B272Z02383KMS KN25	G70
3899193	UCDE562J5BRB KC643M	P30	3951835	KM40TSE16JNEL2 KWH	D40	4000411	WD32FDS28345M	H127	4028887	B272Z02400KMS KN25	G70
3899194	UCDE625J5BRA KC643M	P30	3951836	KM40TSE16JNER2 KWH	D40	4002349	BMD400R1209S125L200	V70	4028888	B272Z02439KMS KN25	G70
3899195	UCDE625J5BRD KC643M	P30	3952192	SSF150FDS320573	H128	4003244	KSEMI1010HPG KC7315	H55	4028889	B272Z02489KMS KN25	G70
3899196	UCDE750J5BRA KC643M	P30	3952343	SSF150FDS360652	H128	4003518	RIQ06R0200 KD1415	K57	4028890	B272Z02500KMS KN25	G70
3899197	UCDE750J5CS KC643M	P31	3952344	SSF200FDS400721	H128	4003520	B966A17000 KC7315	G132	4028896	B272Z02800KMS KN25	G70
3899198	UCDE750J5CRB KC643M	P31	3952345	SSF200FDS450809	H128	4003521	B966A17500 KC7315	G132	4028900	B272Z02947KMS KN25	G70
3899199	UCDE750J5CRD KC643M	P31	3952346	SSF200FDS500896	H128	4003522	B966A18000 KC7315	G132	4028901	B273Z02383KMS KN25	G72
3899201	UCDE750J5CRF KC643M	P31	3952347	SSF200FDS561020	H128	4004710	CM215R ASSY	B150-151, B154	4028903	B273Z02439KMS KN25	G72
3899202	UCDE1000J5BRA KC643M	P31	3952348	SSF200FDS631138	H128	4005704	LNJX191940RRP KCP10	E58	4028910	B273Z02779KMS KN25	G72
3899399	WNMG332FP KCP10	B158	3954092	SNMG644RN KCPK05	B105	4005706	LNJX191940RRP KCP25	E58	4028911	B273Z02800KMS KN25	G72
3901561	B292A04700YPL KC7315	G88	3954294	G32TTB41KM40	B410	4006503	B976A19840 KC7315	G138	4028912	B273Z02820KMS KN25	G72
3902132	KM40TSNEL2	D31	3954295	G40TTB51KM40	B410	4006504					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4029315	HNPJ755ANSNGD KC725M	S25	4034826	A4R125I03P00GMM KCU10	C107	4041084	ABDF100J2B5 K600	P116	4044820	TCGT2150LF KCU10	B256
4029316	HNPJ755ANSNGD KCPK30	S25	4034827	A4R187I04P00GMM KCU10	C107	4041085	ABDF100J2BRB K600	P116	4044821	TCGT2151HP KCU10	B256
4032274	MEGA45D500LN863M6	S94	4034828	A4R250I06P00GMM KCU10	C107	4041086	ABDF100J2BRC K600	P116	4044822	TCGT2151LF KCU10	B256
4032277	MEGA45D800LN863M10	S94	4034829	A4R312I08P00GMM KCU10	C107	4041088	ABDE0188J3AS K600	P117	4045101	VNMG3305LF KCU10	B189
4032278	MEGA45D1000LN863M10	S94	4034878	W0EJ090512SRHD KC522M	V39	4041089	ABDE0188J3ARA K600	P117	4045102	VNMG331LF KCU10	B144
4032279	MEGA45D1200LN863M10	S94	4034880	W0EJ090512SRHD KC725M	V39	4041090	ABDE0312J3AS K600	P117	4045134	CCGT21505HP KCU10	B189
4033713	B707A12700FBS KN15	G111	4034881	W0EJ090512SRHD KCPK30	V39	4041091	ABDE050J3ARE K600	P117	4045135	CCGT21505LF KCU10	B189
4033714	B707A12700FBL KCMS15	G111	4034882	W0EJ090512SRGD KC522M	V39	4041092	ABDE0625J3BS K600	P117	4045136	CCGT2150LF KCU10	B189
4033829	NA4L8 KCU25	D11	4034925	W0EJ090512SRGD KC725M	V39	4041093	ABDE0625J3BRB K600	P117	4045137	CCGT2151HP KCU10	B189
4033830	NA4R4 KCU25	D11	4034927	W0EJ090512SRGD KCPK30	V39	4041094	ABDE0750J3BRC K600	P117	4045138	CCGT2151LF KCU10	B189
4033833	NAGL2 KCU25	D11	4035459	T640M040X20R6GH-D1 KP6525	M120	4041095	ABDE0750J3BRB K600	P117	4045140	CCGT2152LF KCU10	B189
4033834	NAGL25 KCU25	D11	4035460	T640M050X080R6GH-D1 KP6525	M120	4041096	ABDE0750J3BRC K600	P117	4045141	CCGT232505HP KCU10	B189
4033835	NAGL3 KCU25	D11	4035461	T640M060X100R6GH-D1 KP6525	M120	4041097	ABDE0750J3BRC K600	P117	4045142	CCGT232505LF KCU10	B189
4033836	NAGR2 KCU25	D11	4035462	T640M080X125R6GH-D1 KP6525	M120	4041098	ABDE100J3BS K600	P117	4045143	VNMG332LF KCU10	B144
4033838	NAGR3 KCU25	D11	4035463	T640M100X150R6GH-D1 KP6525	M120	4041099	ABDE100J3BRB K600	P117	4045144	VNMG432LF KCU10	B144
4033841	ND4050R KCU25	D12	4035464	T640M120X175R6GH-D1 KP6525	M120	4041100	ABDE100J3BRC K600	P117	4045145	VNMG330 KCU10	B144
4033845	NDC38RDL75 KCU25	D13	4035465	T640M140X200R6GH-D6 KP6525	M120	4041101	ABDE100J3BRE K600	P117	4045146	VNMG3305 KCU10	B144
4033846	NDC38RDR75 KCU25	D13	4035466	T640M160X200R6GH-D6 KP6525	M120	4042538	B976202383 KC7315	G134	4045147	VNMG431 KCU10	B144
4033852	NG1031L KCU25	C170	4035467	T640M180X250R6GH-D6 KP6525	M120	4042539	B976202400 KC7315	G134	4045148	VNMG432 KCU10	B144
4033853	NG1047L KCU25	C170	4035468	T640M200X250R6GH-D6 KP6525	M120	4042540	B976202439 KC7315	G134	4045149	VNMG331FF KCU10	B146
4033854	NG1062L KCU25	C170	4035469	T640M220X250R6GH-D6 KP6525	M120	4042541	B976202489 KC7315	G134	4045150	VNMG331MP KCU10	B147
4033855	NG1094L KCU25	C170	4035505	T640NC#10-24R3BX-A KP6525	M117	4042542	B976202500 KC7315	G134	4045151	VNMG331P KCU10	B147
4033856	NG6312R KCU25	C170	4035506	T640NF#10-32R3BX-A KP6525	M117	4042543	B976202578 KC7315	G134	4045163	VNMG332FF KCU10	B146
4033858	NG6375R KCU25	C170	4035507	T640NC02500-20R2BX-A KP6525	M117	4042544	B976202600 KC7315	G134	4045164	VNMG332MP KCU10	B147
4033859	NT1L KCU25	D23	4035508	T640NC02500-20R3BX-A KP6525	M117	4042545	B976202642 KC7315	G134	4045166	VNMG332P KCU10	B147
4033863	NTB3RB KCU25	D18	4035509	T640NF02500-28R2BX-A KP6525	M117	4042546	B976202705 KC7315	G134	4045167	VNMG332RP KCU10	B148
4033872	NTC3R12E KCU25	D20	4035510	T640NF02500-28R3BX-A KP6525	M117	4042547	B976202779 KC7315	G134	4045168	VNMG332UP KCU10	B148
4033877	NTC3R18E KCU25	D20	4035511	T640NC03125-18R2BX-A KP6525	M117	4042548	B976202800 KC7315	G134	4045169	VNMG331FW KCU10	B147
4033882	NTU4R KCU25	D22	4035512	T640NC03125-18R3BX-A KP6525	M117	4042549	B976202820 KC7315	G134	4045170	VNMG4305LF KCU10	B156
4033883	NU3094L KCU25	C175	4035525	T641M050X080R6GH-D1 KP6525	M121	4042550	B976202870 KC7315	G134	4045172	VNMG431LF KCU10	B156
4033886	NU3125R KCU25	C175	4035526	T641M060X100R6GH-D1 KP6525	M121	4042551	B976202900 KC7315	G134	4045174	VNMG331FW KCU10	B158
4033887	NV3RJ KCU25	C176	4035527	T641M080X125R6GH-D1 KP6525	M121	4042552	B976202947 KC7315	G134	4045175	VNMG331MP KCU10	B159
4033888	NV4LL KCU25	C176	4035528	T641M100X150R6GH-D1 KP6525	M121	4042688	BMD125R1203M16L150	V68	4045176	VNMG332FW KCU10	B158
4033889	NV4RL KCU25	C176	4035529	T641M120X175R6GH-D6 KP6525	M121	4042690	BMD150R1204M16L150	V68	4045177	VNMG332MP KCU10	B159
4033892	NWC3R14E KCU25	D23	4035530	T641M140X200R6GH-D6 KP6525	M121	4042691	BMD125R1203W125L200	V68	4045178	VNMG332RP KCU10	B161
4034717	A4G020M02P02GMP KCU10	C105	4035531	T641M160X200R6GH-D6 KP6525	M121	4042692	BMD125R1203C125L700	V69	4045179	VNMG431FW KCU10	B158
4034718	A4G0205M02U02GMM KCU10	C106	4035532	T641M180X250R6GH-D6 KP6525	M121	4042713	BMD150R1203C125L800	V69	4045180	VNMG331P KCU10	B160
4034720	A4G0250M2BP02GMP KCU10	C105	4035533	T641M200X250R6GH-D6 KP6525	M121	4042714	BMD200R1203S075L200	V70	4045181	VNMG432FW KCU10	B158
4034721	A4G0300M03P02GMP KCU10	C105	4035543	T640NF03125-24R3BX-A KP6525	M117	4042715	BMD200R1205S075L200	V70	4045182	VNMG432MP KCU10	B159
4034722	A4G0300M03P04GMP KCU10	C105	4035544	T640NC03750-16R2BX-A KP6525	M117	4042716	BMD250R1207S100L200	V70	4045184	VNMG332P KCU10	B160
4034773	A4G0305M03U02GMM KCU10	C106	4035545	T640NC03750-16R3BX-A KP6525	M117	4042717	BMD300R1208S100L200	V70	4045185	VNMG432RP KCU10	B161
4034774	A4G0305M03U02GMP KCU10	C105	4035546	T640NF03750-24R3BX-A KP6525	M117	4042718	BMD400R1207S125L200	V70	4045186	VNMG432UP KCU10	B162
4034775	A4G0305M03U04GMM KCU10	C106	4035547	T640NC04375-14R3BX-A KP6525	M117	4042840	SPGX070308FP KCU25	J104	4045187	VNMG433MP KCU10	B159
4034776	A4G0305M03U04GMP KCU10	C105	4035548	T640NF04375-20R3BX-A KP6525	M117	4042841	SPPX09T310FP KCU25	J104	4045188	VNMG433RP KCU10	B161
4034777	A4G0400M04P02GMP KCU10	C105	4035549	T640NC05000-13R3BX-A KP6525	M117	4042842	SPPX09T310HP KCU25	J103	4045189	VNMG433UP KCU10	B162
4034778	A4G0400M04P04GMP KCU10	C105	4035550	T640NF05000-20R3BX-A KP6525	M117	4042887	SPGX070308FP KCPK10	J104	4045193	CCGT3250LF KCU10	B189
4034779	A4G0400M04P08GMP KCU10	C105	4035551	T640NC06250-11R3BX-A KP6525	M117	4042888	SPGX070308MD KCPK10	J103	4045194	CCGT3251HP KCU10	B189
4034780	A4G0405M04U04GMM KCU10	C106	4035552	T640NC07500-10R3BX-A KP6525	M117	4042889	SPGX070308HP KCPK10	J103	4045195	CCGT3251FP KCU10	B189
4034781	A4G0405M04U04GMP KCU10	C105	4035585	RCMX3209MORU KCP10	E67	4042890	SPPX09T310FP KCPK10	J104	4045196	CCGT3252HP KCU10	B189
4034782	A4G0405M04U08GMM KCU10	C106	4035586	RCMX3209MORU KCK20	E67	4042891	SPPX09T310MD KCPK10	J103	4045197	CCGT3252LF KCU10	B189
4034784	A4G0500M05P04GMP KCU10	C105	4035593	RCMX2507MORU KCK20	E67	4042892	SPPX09T310HP KCPK10	J103	4045198	CCGT3255HP KCU10	B189
4034785	A4G0500M05P08GMP KCU10	C105	4035595	RCMH2507MORU KCP25	E66	4042903	SPPX120412FP KCPK10	J104	4045199	CCGT431HP KCU10	B189
4034786	A4G0505M05U04GMP KCU10	C106	4035629	LNIX19194ORRF KCP10	E57	4042904	SPPX120412MD KCPK10	J103	4045200	CCGT432HP KCU10	B189
4034787	A4G0505M05U04GMP KCU10	C105	4036621	RP632E KYSP30	V157	4042905	SPPX120412HP KCPK10	J103	4045202	CCMT2151FW KCU10	B190
4034788	A4G0505M05U08GMM KCU10	C106	4036916	LNIX19194ORRF KCP25	E57	4042906	SPPX157512FP KCPK10	J104	4045204	CCMT3251FW KCU10	B190
4034790	A4G0600M06P04GMP KCU10	C105	4038003	LNPU863ANSRHD KCPK30	S95	4042907	SPPX157512MD KCPK10	J103	4045205	CCMT3251MW KCU10	B192
4034791	A4G0600M06P08GMP KCU10	C106	4038004	LNPU863ANSRHD KCK15	S95	4042908	SPPX157512HP KCPK10	J103	4045206	CCMT3255HP KCU10	B190
4034792	A4G0605M06U04GMM KCU10	C105	4038005	LNPU863ANSRHD KC725M	S95	4042913	SPPX120412FP KCU25	J104	4045207	CCMT3252MW KCU10	B192
4034794	A4G0605M06U08GMM KCU10	C106	4039608	SM-906 KC720	S94, S98, S100	4042914	SPPX157512FP KCU25	J104	4045210	CPGM3250 KCU10	B205
4034799	A4G0800M08P12GMP KCU10	C105	4039774	MS2236	V123	4042915	SPPX157512HP KCU25	J103	4045211	CPGM32505 KCU10	B205
4034800	A4G0805M08U08GMM KCU10	C106	4040133	SPGX070308MD KCU25	J103	4042933	SPGX070308FP KCU40	J104	4045212	CPGM3251 KCU10	B205
4034802	A4G0942BP05GMM KCU10	C107	4040135	SPGX070308HP KCU25	J103	4042934	SPGX070308MD KCU40	J103	4045213	CPGM3252 KCU10	B205
4034805	A4G1005M10U08GMP KCU10	C105	4040138	SPPX09T310MD KCU25	J103	4042935	SPGX070308HP KCU40	J103	4045214	CPGT21505HP KCU10	B205
4034806	A4G125I03P05GMM KCU10	C107	4040139	SPPX120412MD KCU25	J103	4042936	SPPX09T310FP KCU40	J104	4045215	CPGT21505LF KCU10	B206
4034807	A4G125I03P16GMM KCU10	C107	4040141	SPPX120412HP KCU25	J103	4042937	SPPX09T310MD KCU40	J103	4045216	CPGT2150LF KCU10	B206
4034808	A4G187I04P16GMM KCU10	C107	4040142	SPPX157512MD KCU25	J103	4042938	SPPX09T310HP KCU40	J103	4045217	CPGT2151HP KCU10	B205
4034809	A4G187I04P26GMM KCU10	C107	4040758	RPET1204M0EJL KC422M	V71	4042939	SPPX120412FP KCU40	J104	4045218	CPGT2151LF KCU10	B206
4034810	A4G250I06P16GMM KCU10	C107	4040905	KCI3M	V155-156	4042940	SPPX120412MD KCU40	J103	4045220	CPGT2152LF KCU10	B206
4034811	A4G250I06P26GMM KCU10	C107	4041060	ABDF0188J2AS K600	P116	4042941	SPPX120412HP KCU40	J103	4045221	SPPX120412HP KCU10	B205
4034812	A4G375I10P26GMM KCU10	C107	4041061	ABDF0188J2ARA K600	P116	4042942	SPPX157512FP KCU40				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4045241	.....DCGT32505HP	KCU10.....	B224	4046064	.....B291A11113YPL	KC7315.....	G89	4047829	.....SPGX060304MD	KC7140.....	J103
4045242	.....DCGT32505LF	KCU10.....	B224	4047419	.....KSHRHF200HN5315C3	.....	S17	4047830	.....SPGX070304MD	KC7140.....	J103
4045245	.....DPGR431	KCU10.....	E32	4047420	.....KSHRHF250HN5315C3	.....	S17	4047831	.....SPPX09T308MD	KC7140.....	J103
4045246	.....DPGR432	KCU10.....	E32	4047421	.....KSHRHF300HN5315C4	.....	S17	4047832	.....SPPX120408MD	KC7140.....	J103
4045248	.....NPGR51L	KCU10.....	E33	4047422	.....KSHRHF400HN5315C5	.....	S17	4047843	.....SPPX15T508MD	KC7140.....	J103
4045249	.....NPGR51R	KCU10.....	E33	4047583	.....KSHRHF500HN5315C6	.....	S17	4047845	.....D2FX110404RHP	KCU25.....	E9
4045250	.....NPGR52L	KCU10.....	E33	4047584	.....KSHRHF600HN5315C8	.....	S17	4047849	.....D2FX110404LMN	KCU25.....	E8
4045251	.....NPGR52R	KCU10.....	E33	4047693	.....HPHV125S4025	KCPM15.....	P16	4047850	.....D2FX110404RHP	KCU25.....	E9
4045263	.....DCGT3251HP	KCU10.....	B224	4047694	.....HPHV125S4025CH	KCPM15.....	P16	4047864	.....C2FX1150512RMN	KCU25.....	E8
4045264	.....DCGT3252HP	KCU10.....	B224	4047696	.....HPHV125S4025LR015	KCPM15.....	P16	4047865	.....C2FX110404LMN	KCU25.....	E8
4045265	.....DCGT432LF	KCU10.....	B224	4047697	.....HPHV125S4050	KCPM15.....	P16	4047867	.....C2FX1150504LMN	KCU25.....	E8
4045266	.....DCMT3251FW	KCU10.....	B225	4047698	.....HPHV125S4050CH	KCPM15.....	P16	4047868	.....C2FX1150508LMN	KCU25.....	E8
4045267	.....DCMT3251MW	KCU10.....	B226	4047699	.....HPHV125S4050LR	KCPM15.....	P16	4047870	.....D4FX1104064RPMN	KCU25.....	E11
4045268	.....DCMT3252FW	KCU10.....	B225	4047701	.....HPHV125S4050R015	KCPM15.....	P16	4047871	.....D4FX1104060RPMN	KCU25.....	E11
4045269	.....DCMT3252LF	KCU10.....	B225	4047702	.....HPHV188S4031	KCPM15.....	P16	4048626	.....HPFSS100S5200	KCPM15.....	P109
4045270	.....DCMT3252MW	KCU10.....	B226	4047703	.....HPHV188S4031CH	KCPM15.....	P16	4048627	.....HPFSS100S5325	KCPM15.....	P109
4045272	.....DPGT121505LF	KCU10.....	B231	4047704	.....HPHV188S4031L	KCPM15.....	P16	4048628	.....HPFSS188S5056	KCPM15.....	P109
4045274	.....DPGT12151HP	KCU10.....	B231	4047705	.....HPHV188S4031LR015	KCPM15.....	P16	4048629	.....HPFSS250S5038	KCPM15.....	P109
4045275	.....DPGT12151LF	KCU10.....	B231	4047706	.....HPHV188S4063	KCPM15.....	P16	4048630	.....D4FX110404LMN	KCU25.....	P109
4045277	.....DPGT32505LF	KCU10.....	B231	4047707	.....HPHV188S4063CH	KCPM15.....	P16	4048631	.....HPFSS250S5125	KCPM15.....	P109
4045279	.....DPGT3251HP	KCU10.....	B231	4047708	.....HPHV188S4063L	KCPM15.....	P16	4048632	.....HPFSS375S5050	KCPM15.....	P109
4045280	.....DPGT3251LF	KCU10.....	B231	4047709	.....HPHV188S4063LR015	KCPM15.....	P16	4048633	.....HPFSS500S5125	KCPM15.....	P109
4045281	.....DPGT3252HP	KCU10.....	B231	4047710	.....HPHV188S4063R030	KCPM15.....	P16	4048644	.....HPFSS375S5050	KCPM15.....	P109
4045282	.....DPGT3252LF	KCU10.....	B231	4047711	.....HPHV188S4063R030	KCPM15.....	P16	4048645	.....HPFSS500S5125	KCPM15.....	P109
4045283	.....DPMT2152FW	KCU10.....	B232	4047712	.....HPHV188S4063R030	KCPM15.....	P16	4048646	.....HPFSS500S5125	KCPM15.....	P109
4045284	.....RCGT10T3M0HP	KCU10.....	B238	4047713	.....HPHV250S4038	KCPM15.....	P16	4048647	.....HPFSS500S5200	KCPM15.....	P109
4045285	.....RCGT1204M0HP	KCU10.....	B238	4047714	.....HPHV250S4038CH	KCPM15.....	P16	4048648	.....HPFSS625S5075	KCPM15.....	P109
4045286	.....RCMT0602M0	KCU10.....	B240	4047716	.....HPHV250S4038LR015	KCPM15.....	P16	4048649	.....HPFSS625S5163	KCPM15.....	P109
4045288	.....RCMT10T3M0	KCU10.....	B240	4047718	.....HPHV250S4038R030	KCPM15.....	P16	4048650	.....HPFSS750S5088	KCPM15.....	P109
4045289	.....RCMT1204M0	KCU10.....	B240	4047719	.....HPHV250S4050	KCPM15.....	P16	4048651	.....HPFSS750S5163	KCPM15.....	P109
4045290	.....RCMT1605M0	KCU10.....	B240	4047720	.....HPHV250S4050R015	KCPM15.....	P16	4048652	.....HPFSS750S5325	KCPM15.....	P109
4045291	.....RCMT2006M0	KCU10.....	B240	4047721	.....HPHV250S4050R030	KCPM15.....	P16	4048661	.....UCDE1000J5BRB	KCPM15.....	P31
4045292	.....RCMT21515	KCU10.....	B240	4047722	.....HPHV250S4050R060	KCPM15.....	P16	4048662	.....UCDE1000J5BRD	KCPM15.....	P31
4045293	.....RCMT325	KCU10.....	B240	4047723	.....HPHV250S4075	KCPM15.....	P17	4048663	.....HPRSS250S3075	KCPM15.....	P90
4045294	.....SPGT3251LF	KCU10.....	B252	4047724	.....HPHV250S4075CH	KCPM15.....	P17	4048664	.....HPRSS375S3100	KCPM15.....	P90
4045295	.....SPGT3252LF	KCU10.....	B252	4047725	.....HPHV250S4075R015	KCPM15.....	P16	4048665	.....HPRSS500S3125	KCPM15.....	P90
4045316	.....TCGT3251HP	KCU10.....	B256	4047726	.....HPHV250S4075R030	KCPM15.....	P16	4048666	.....HPRSS625S3163	KCPM15.....	P90
4045317	.....TCGT3251LF	KCU10.....	B256	4047727	.....HPHV250S4075R060	KCPM15.....	P17	4048667	.....HPRSS750S3163	KCPM15.....	P90
4045318	.....TCGT3252HP	KCU10.....	B256	4047728	.....HPHV250S4100	KCPM15.....	P17	4048668	.....MDRHEC100S5150	KCPM15.....	P91
4045319	.....TCGT3252LF	KCU10.....	B256	4047729	.....HPHV250S4100R015	KCPM15.....	P17	4048669	.....MDRHEC250S4025	KCPM15.....	P91
4045321	.....TPGT181505LF	KCU10.....	B267	4047731	.....HPHV250S4125	KCPM15.....	P17	4048690	.....MDRHEC250S4075	KCPM15.....	P91
4045322	.....TPGT18151HP	KCU10.....	B267	4047732	.....HPHV250S4125CH	KCPM15.....	P17	4048691	.....MDRHEC312S4081	KCPM15.....	P91
4045323	.....TPGT121505HP	KCU10.....	B267	4047734	.....HPHV250S4125R030	KCPM15.....	P17	4048692	.....MDRHEC375S4038	KCPM15.....	P91
4045324	.....TPGT121505LF	KCU10.....	B267	4047735	.....HPHV250S4175R015	KCPM15.....	P17	4048693	.....MDRHEC375S4088	KCPM15.....	P91
4045325	.....TPGT121505HP	KCU10.....	B267	4047736	.....HPHV250S4175R030	KCPM15.....	P17	4048694	.....MDRHEC500S4050	KCPM15.....	P91
4045327	.....TPGT12151HP	KCU10.....	B267	4047737	.....HPHV312S4050	KCPM15.....	P17	4048695	.....MDRHEC500S4100	KCPM15.....	P91
4045329	.....TPGT12152LF	KCU10.....	B267	4047738	.....HPHV312S4050CH	KCPM15.....	P17	4048696	.....MDRHEC625S4063	KCPM15.....	P91
4045330	.....TPGT32505HP	KCU10.....	B267	4047739	.....HPHV312S4050LR	KCPM15.....	P17	4048697	.....MDRHEC625S4125	KCPM15.....	P91
4045331	.....TPGT3251HP	KCU10.....	B267	4047740	.....HPHV312S4050LR015	KCPM15.....	P17	4048698	.....MDRHEC750S4075	KCPM15.....	P91
4045333	.....TPGT3252HP	KCU10.....	B267	4047742	.....HPHV312S4050R030	KCPM15.....	P17	4048699	.....MDRHEC750S4150	KCPM15.....	P91
4045334	.....TPGT3252LF	KCU10.....	B267	4047743	.....HPHV312S4075	KCPM15.....	P17	4048703	.....UCDE1000J5BRB	KCPM15.....	P31
4045335	.....VBGT2205HP	KCU10.....	B280	4047744	.....HPHV312S4075CH	KCPM15.....	P17	4048704	.....UCDE1000J5BRD	KCPM15.....	P31
4045336	.....VBGT2205LF	KCU10.....	B280	4047745	.....HPHV312S4075R015	KCPM15.....	P17	4048705	.....UCDE1000J5BS	KCPM15.....	P31
4045337	.....VBGT2205HP	KCU10.....	B280	4047746	.....HPHV312S4075R030	KCPM15.....	P17	4048706	.....UCDE1000K5BRB	KCPM15.....	P31
4045338	.....VBGT221HP	KCU10.....	B280	4047747	.....HPHV312S4075R060	KCPM15.....	P17	4048707	.....UCDE1000K5BRF	KCPM15.....	P31
4045339	.....VBGT221LF	KCU10.....	B280	4047748	.....HPHV312S4125R030	KCPM15.....	P17	4048708	.....UCDE1000K5BS	KCPM15.....	P31
4045340	.....VBGT3305LF	KCU10.....	B280	4047749	.....HPHV375S4050	KCPM15.....	P17	4048709	.....UCDE188J5BRB	KCPM15.....	P30
4045341	.....VBGT330LF	KCU10.....	B280	4047750	.....HPHV375S4050CH	KCPM15.....	P17	4048710	.....UCDE188J5BRB	KCPM15.....	P30
4045342	.....VBGT331HP	KCU10.....	B280	4047751	.....HPHV375S4050LR	KCPM15.....	P17	4048711	.....UCDE188J5BS	KCPM15.....	P30
4045343	.....VBGT331LF	KCU10.....	B280	4047752	.....HPHV375S4050LR015	KCPM15.....	P17	4048712	.....UCDE250J5BRA	KCPM15.....	P30
4045344	.....VBGT332HP	KCU10.....	B280	4047753	.....HPHV375S4050LR030	KCPM15.....	P17	4048713	.....UCDE250J5BRB	KCPM15.....	P30
4045345	.....WPGT15105UF	KCU10.....	B288	4047754	.....HPHV375S4050R030	KCPM15.....	P17	4048714	.....UCDE250J5BS	KCPM15.....	P30
4045346	.....WPGT1510UF	KCU10.....	B288	4047755	.....HPHV375S4088	KCPM15.....	P17	4048715	.....UCDE312J5BRA	KCPM15.....	P30
4045347	.....WPGT21505UF	KCU10.....	B288	4047756	.....HPHV375S4088CH	KCPM15.....	P17	4048716	.....UCDE312J5BRB	KCPM15.....	P30
4045406	.....NPL32FP	KCU10.....	E34	4047757	.....HPHV375S4088LR	KCPM15.....	P17	4048717	.....UCDE312J5BS	KCPM15.....	P30
4045409	.....NPL508	KCU10.....	E35	4047758	.....HPHV375S4088LR015	KCPM15.....	P17	4048718	.....UCDE375J5BRA	KCPM15.....	P30
4045410	.....NPL51	KCU10.....	E35	4047759	.....HPHV375S4088LR030	KCPM15.....	P17	4048719	.....UCDE375J5BRB	KCPM15.....	P30
4045412	.....NPR1305	KCU10.....	E34	4047761	.....HPHV375S4088LR090	KCPM15.....	P17	4048720	.....UCDE375J5BS	KCPM15.....	P30
4045413	.....NPR1308	KCU10.....	E34	4047811	.....KSEMP1125FDS28A1	.....	H104	4048721	.....UCDE500J5BRA	KCPM15.....	P30
4045415	.....NPR132F	KCU10.....	E34	4047812	.....KSEMP2900FDS28A1M	.....	H115, H122	4048722	.....UCDE500J5BRB	KCPM15.....	P30
4045416	.....NPR332	KCU10.....	E34	4047823	.....KSEMP1156FDS28A1	.....	H104, H115, H122	4048723	.....UCDE500J5BRF	KCPM15.....	P30
4045417	.....NPR505	KCU10.....	E35	4047824	.....KSEMP3000FDS28A1M	.....	H104, H115, H122	4048724	.....UCDE500J5BS	KCPM15.....	P30
4045418	.....NPR508	KCU10.....	E35	4047825	.....KSEMP1188FDS28A1	.....	H104, H115, H122	4048725	.....UCDE500K5BRA	KCPM15.....	P30
4045419	.....NPR51	KCU10.....	E35	4047826	.....KSEMP1219FDS28A1	.....	H104, H115, H122	4048726	.....UCDE500K5BRB	KCPM15.....	P30
4045420	.....NPR52	KCU10.....	E35	4047827	.....KSEMP3100FDS28A1M	.....	H104, H115, H122	4048727	.....UCDE500K5BRF	KCPM15.....	P30
4045425	.....VCMR332	KCU10.....	E37	4047828	.....KSEMP1219FDS28A1	.....	H104, H115, H122	4048728	.....UCDE500K5BS	KCPM15.....	P30
4045426	.....VGR3305	KCU10.....	E38	4047829	.....KSEMP1188FDS28A1	.....	H104, H115, H122	4048729	.....UCDE625J5BRB	KCPM15.....	P30
4045427	.....VGR331	KCU10.....	E38	4047830	.....KSEMP1219FDS28A1	.....	H104, H115, H122	4048730	.....UCDE625J5BS	KCPM15.....	P30
4045428	.....VGR332	KCU10.....	E38	4047831	.....KSEMP1219FDS28A1	.....	H104, H115, H122	4048731	.....UCDE625K5BRB	KCPM15.....	P30
4045429	.....VGR333	KCU10.....	E38	4047832	.....KSEMP1219FDS28A1	.....	H104, H115, H122	4048732	.....UCDE625K5BS	KCPM15.....	P30
4045430	.....VGR334	KCU10.....	E38	4047827	.....KSEMP3100FDS28A1M	.....	H104, H115, H122	4048733	.....UCDE750J5BRB	KCPM15.....	P30
4046063	.....B291A04763YPL	KC7315.....	G88	4047834	.....KSEMP1125FDS28A1	.....	H104, H115, H122	4048734	.....UCDE750J5BRD	KCPM15.....	P31

For page references A–E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4050484	DNMG433MS	KCU25	B82	4050689	CNMG432RP	KCU10	B53	4051214	C8FX150608RRN	KCP10	E12
4050485	DNMG433RP	KCU25	B84	4050690	CNMG432UP	KCU10	B54	4051216	C8FX150603RMP	KCP10	E13
4050486	DNMG441MS	KCU25	B82	4050691	CNMG433FW	KCU10	B49	4051515	170.352		H122
4050487	DNMG442MS	KCU25	B82	4050692	CNMG433MP	KCU10	B51	4051516	B254A03000YPC	KCK10	G52
4050488	DNMG442RP	KCU25	B84	4050695	CNMG433RP	KCU10	B53	4051517	B254A03048YPC	KCK10	G52
4050489	DNMG443MS	KCU25	B82	4050696	CNMG433UP	KCU10	B54	4051519	B254A03200YPC	KCK10	G52
4050490	DNMG443RP	KCU25	B84	4050699	CNMG434RP	KCU10	B53	4051521	B254A03300YPC	KCK10	G52
4050491	DNMG444RP	KCU25	B84	4050700	CNMG542MP	KCU10	B51	4051522	B254A03454YPC	KCK10	G52
4050513	CNMG543MP	KCU25	B51	4050701	CNMG542RP	KCU10	B53	4051797	B255A09300YPC	KCK10	G54
4050514	CNMG643MP	KCU25	B51	4050702	CNMG543MP	KCU10	B51	4051798	B255A09400YPC	KCK10	G54
4050515	DNMG442MP	KCU25	B81	4050704	CNMG543RP	KCU10	B53	4051799	B255A09500YPC	KCK10	G54
4050516	DNMG443MP	KCU25	B81	4050705	CNMG543UP	KCU10	B54	4051800	B255A09525YPC	KCK10	G54
4050517	SNMG433MP	KCU25	B102	4050709	CNMG643MP	KCU10	B47	4051801	B255A09600YPC	KCK10	G54
4050518	SNMG433RP	KCU25	B105	4050711	CNMG643P	KCU10	B52	4051802	B255A09700YPC	KCK10	G54
4050519	SNMG543RP	KCU25	B105	4050712	CNMG643RP	KCU10	B53	4051826	D4FX140608RRN	KCP10	E11
4050520	SNMG643RP	KCU25	B105	4050713	CNMG644MP	KCU10	B51	4051829	C8FX120504RRP	KCP10	E12
4050521	DPGR431	KCU25	E32	4050714	CNMG644RP	KCU10	B53	4051830	C8FX120508RRP	KCP10	E12
4050522	DPGR432	KCU25	E32	4050743	DNMG332FP	KCU10	B80	4051837	B254A10200YPC	KCK10	G54
4050523	DPGR433	KCU25	E32	4050744	DNMG432FP	KCU10	B79	4051838	B255A09600YPC	KCK10	G54
4050524	NPGR51L	KCU25	E33	4050746	WNMG331FP	KCU10	B158	4051839	B254A10300YPC	KCK10	G54
4050525	NPGR51R	KCU25	E33	4050748	RCGV23	KCU10	B166	4051840	B254A10320YPC	KCK10	G54
4050526	NPGR52L	KCU25	E33	4050764	SPG421	KCU10	B171	4051842	B255A10262YPC	KCK10	G54
4050527	NPGR52R	KCU25	E33	4050765	SPG422	KCU10	B171	4051843	B255A09800YPC	KCK10	G54
4050528	NPL131F	KCU25	E34	4050768	SPG433	KCU10	B171	4051844	B255A09921YPC	KCK10	G54
4050529	NPL132F	KCU25	E34	4050769	SPG633	KCU10	B171	4051845	B255A10000YPC	KCK10	G54
4050531	NPL505	KCU25	E35	4050770	SPGF322	KCU10	B171	4051846	B255A10200YPC	KCK10	G54
4050532	NPL508	KCU25	E35	4050771	TPG221	KCU10	B177	4051847	B255A10262YPC	KCK10	G54
4050533	NPL51	KCU25	E35	4050772	TPG222	KCU10	B177	4051848	B255A10300YPC	KCK10	G54
4050534	NPL52	KCU25	E35	4050774	TPG321	KCU10	B177	4051849	B255A10320YPC	KCK10	G54
4050535	NPR131F	KCU25	E34	4050775	TPG322	KCU10	B177	4051850	B255A10400YPC	KCK10	G54
4050536	NPR132F	KCU25	E34	4050778	TPG431	KCU10	B177	4051852	B255A10500YPC	KCK10	G54
4050537	NPR331N	KCU25	E34	4050779	TPG432	KCU10	B177	4051853	B255A10600YPC	KCK10	G54
4050539	NPR508	KCU25	E35	4050780	TPG433	KCU10	B177	4051854	B255A10716YPC	KCK10	G54
4050540	NPR51	KCU25	E35	4050783	TPGF222	KCU10	B177	4051855	B255A10800YPC	KCK10	G54
4050544	VCMR331	KCU25	E37	4050784	TPGF321	KCU10	B177	4051856	B255A10900YPC	KCK10	G54
4050545	VCMR332	KCU25	E37	4050785	TPGF322	KCU10	B177	4051857	B255A11000YPC	KCK10	G54
4050546	VPGR3305	KCU25	E38	4050786	TPGF431	KCU10	B177	4051858	B255A11100YPC	KCK10	G54
4050547	VPGR331	KCU25	E38	4050787	TPGF432	KCU10	B177	4051859	B255A11113YPC	KCK10	G54
4050548	VPGR332	KCU25	E38	4050895	D2FX150504RHP	KCU10	E9	4051860	B255A11200YPC	KCK10	G54
4050549	VPGR333	KCU25	E38	4050896	D2FX150508RHP	KCU10	E9	4051862	B255A11500YPC	KCK10	G54
4050607	CDHB120601	KCU25	B199	4050899	D2FX150508LHP	KCU10	E9	4051865	B255A11700YPC	KCK10	G54
4050608	CDHB120605	KCU25	B199	4051036	C8FX120505RHP	KCU25	E12	4051866	B255A11800YPC	KCK10	G54
4050609	CDHB12061	KCU25	B199	4051038	C8FX120503RMP	KCU25	E13	4051867	B255A11900YPC	KCK10	G54
4050611	CDHH120605L	KCU25	B199	4051039	C8FX150605LRN	KCU25	E12	4051868	B255A11908YPC	KCK10	G54
4050613	CDHH12061L	KCU25	B199	4051040	C8FX150608LRN	KCU25	E12	4051869	B255A1200YPC	KCK10	G54
4050615	GPCD505	KCU25	B238	4051041	C8FX150605RRN	KCU25	E12	4051870	B255A12100YPC	KCK10	G54
4050616	GPCD51	KCU25	B238	4051042	C8FX150608RRN	KCU25	E12	4051871	B255A12200YPC	KCK10	G54
4050619	TDHB12807501	KCU25	B263	4051044	C8FX150603RMP	KCU25	E13	4051872	B255A12251YPC	KCK10	G54
4050620	TDHB12807505	KCU25	B263	4051048	C8FX180812RRN	KCU25	E12	4051873	B255A12300YPC	KCK10	G54
4050621	TDHB1280751	KCU25	B263	4051066	C2FX110404RRN	KCU10	E8	4051874	B255A12304YPC	KCK10	G54
4050623	TDHH12807505L	KCU25	B263	4051074	C2FX150508LRN	KCU10	E8	4051875	B255A12500YPC	KCK10	G54
4050624	TDHH1280751L	KCU25	B263	4051077	D4FX140608RRN	KCU10	E11	4051876	B255A12700YPC	KCK10	G54
4050628	TPG321	KCU25	B266	4051088	D2FX110403LHP	KCU10	E9	4051878	B255A13000YPC	KCK10	G54
4050632	RCGK152FS	KCU10	E69	4051089	D2FX110403RHP	KCU10	E9	4051879	B255A1306YPC	KCK10	G54
4050653	RCGK152HP	KCU10	E69	4051090	C2FX110405LRN	KCU10	E8	4051881	B255A13495YPC	KCK10	G54
4050654	RCGK23FS	KCU10	E69	4051091	E2FX100505LHP	KCU10	E11	4051882	B255A13500YPC	KCK10	G54
4050655	RCGK23HP	KCU10	E69	4051092	E2FX100505RHP	KCU10	E11	4051884	B255A1400YPC	KCK10	G54
4050656	RCGK35FS	KCU10	E69	4051104	D2FX150503LHP	KCU10	E10	4051885	B255A14100YPC	KCK10	G54
4050657	RCGK35HP	KCU10	E69	4051106	D2FX150503LRN	KCU10	E10	4051886	B255A14288YPC	KCK10	G54
4050658	RCGK46FS	KCU10	E69	4051107	D2FX150505LRN	KCU10	E10	4051887	B255A14500YPC	KCK10	G54
4050659	RCGK46HP	KCU10	E69	4051109	D2FX150503RHP	KCU10	E9	4051888	B255A14600YPC	KCK10	G54
4050661	RCMK23	KCU10	E69	4051110	D2FX150505RRN	KCU10	E10	4051889	B255A14684YPC	KCK10	G54
4050664	CNMG4305LF	KCU10	B46	4051111	D2FX150503RMS	KCU10	E10	4051893	B255A15000YPC	KCK10	G54
4050665	CNMG430LF	KCU10	B46	4051112	D2FX150505RMS	KCU10	E10	4051894	B255A15083YPC	KCK10	G54
4050666	CNMG431LF	KCU10	B46	4051114	C2FX150505LRN	KCU10	E8	4051896	B255A15250YPC	KCK10	G54
4050667	CNMG432LF	KCU10	B46	4051115	C2FX180610LRN	KCU10	E8	4051897	B255A15400YPC	KCK10	G54
4050668	CNMG433LF	KCU10	B46	4051121	C8FX120503LMP	KCU10	E13	4051899	B255A15500YPC	KCK10	G54
4050671	CNMG430	KCU10	B46	4051122	C8FX120503RMP	KCU10	E13	4051900	B255A15800YPC	KCK10	G54
4050672	CNMG4305	KCU10	B46	4051125	C8FX150603RRN	KCU10	E12	4051901	B255A15875YPC	KCK10	G54
4050673	CNMG431	KCU10	B46	4051128	C8FX150603RMP	KCU10	E13	4051902	B255A16000YPC	KCK10	G54
4050674	CNMG433	KCU10	B46	4051136	WD32FDS28190M		H127	4051904	B255A16300YPC	KCK10	G54
4050676	CNMG322MP	KCU10	B51	4051137	WD32FDS28283M		H127	4051905	B255A16500YPC	KCK10	G54
4050677	CNMG431FF	KCU10	B48	4051138	SSF150FDS280502		H128	4051906	B255A16670YPC	KCK10	G54
4050678	CNMG431FW	KCU10	B49	4051139	SSF150FDS280746		H129	4051907	B255A16800YPC	KCK10	G54
4050679	CNMG431P	KCU10	B51	4051140	SSF150FDS281112		H129	4051909	B255A17000YPC	KCK10	G54
4050681	CNMG431P	KCU10	B52	4051141	SSF150FDS281356		H129	4051910	B255A17200YPC	KCK10	G54
4050682	CNMG431RP	KCU10	B53	4051189	D2FX150505RRN	KCP10	E9	4051913	B255A17463YPC	KCK10	G54
4050683	CNMG432CT	KCU10	B48	4051190	D2FX150505RRN	KCP10	E10	4051914	B255A17500YPC	KCK10	G54
4050684	CNMG432FF	KCU10	B48	4051203	D4FX140605RRN	KCP10	E11	4051915	B255A17800YPC	KCK10	G54
4050685	CNMG432FW	KCU10	B49	4051204	D4FX140603RRN	KCP10	E11	4051916	B255A17859YPC	KCK10	G54
4050686	CNMG432MP	KCU10	B51	4051209	C8FX120503LMP	KCP10	E13	4051917	B255A18000YPC	KCK10	G54
4050688	CNMG432P	KCU10	B52	4051213	C8FX150605RRN	KCP10	E12	4051918	B255A18258YPC	KCK10	G54

For page references A-E, please see Volume I • Turning Tools Catalog.



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4052064	B254A11800YPC KCK10	G54	4052170	B255A05400YPC KCK10	G53	4052886	B256A15000YPC KCK10	G55	4053327	CDHH12061L KCU10	B199
4052066	B254A11908YPC KCK10	G54	4052171	B255A05410YPC KCK10	G53	4052887	B256A15083YPC KCK10	G55	4053328	CDHH12061R KCU10	B199
4052067	B254A12000YPC KCK10	G54	4052172	B255A05500YPC KCK10	G53	4052888	B256A15200YPC KCK10	G55	4053336	TDHB12807505 KCU10	B263
4052068	B254A12200YPC KCK10	G54	4052173	B255A05558YPC KCK10	G53	4052889	B256A15300YPC KCK10	G55	4053337	TDHB1280751 KCU10	B263
4052070	B254A12304YPC KCK10	G54	4052174	B255A05600YPC KCK10	G53	4052892	B256A15500YPC KCK10	G55	4053339	TDHH12807505L KCU10	B263
4052071	B254A12500YPC KCK10	G55	4052175	B255A05700YPC KCK10	G53	4052893	B256A15800YPC KCK10	G55	4053340	TDHH12807505R KCU10	B263
4052073	B254A12800YPC KCK10	G55	4052176	B255A05791YPC KCK10	G53	4052894	B256A16000YPC KCK10	G55	4053341	TDHH1280751L KCU10	B263
4052074	B254A13000YPC KCK10	G55	4052177	B255A05800YPC KCK10	G53	4052896	B256A16300YPC KCK10	G55	4053342	TDHH1280751R KCU10	B263
4052076	B254A13100YPC KCK10	G55	4052180	B255A06000YPC KCK10	G53	4052897	B256A16500YPC KCK10	G55	4053344	TPHG321 KCU10	B266
4052077	B254A13200YPC KCK10	G55	4052181	B255A06100YPC KCK10	G53	4052899	B256A16800YPC KCK10	G55	4053352	DNMG4305LF KCU10	B77
4052081	B254A13500YPC KCK10	G55	4052182	B255A06200YPC KCK10	G53	4052900	B256A17000YPC KCK10	G55	4053363	DNMG4311LF KCU10	B77
4052082	B254A13800YPC KCK10	G55	4052183	B255A06300YPC KCK10	G53	4052902	B256A17500YPC KCK10	G55	4053364	DNMG4321LF KCU10	B77
4052083	B254A13891YPC KCK10	G55	4052184	B255A06350YPC KCK10	G53	4052903	B256A17800YPC KCK10	G55	4053366	DNMG4305 KCU10	B77
4052084	B254A14000YPC KCK10	G55	4052185	B255A06400YPC KCK10	G53	4052905	B256A18000YPC KCK10	G55	4053367	DNMG431 KCU10	B77
4052085	B254A14100YPC KCK10	G55	4052186	B255A06500YPC KCK10	G53	4052906	B256A18258YPC KCK10	G55	4053368	DNMG432 KCU10	B77
4052086	B254A14288YPC KCK10	G55	4052188	B255A06600YPC KCK10	G53	4052907	B256A18500YPC KCK10	G55	4053369	DNMG441 KCU10	B77
4052087	B254A14500YPC KCK10	G55	4052189	B255A06630YPC KCK10	G53	4052908	B256A18800YPC KCK10	G55	4053370	DNMG442 KCU10	B77
4052090	B254A14800YPC KCK10	G55	4052190	B255A06700YPC KCK10	G53	4052909	B256A19000YPC KCK10	G55	4053371	DNMG431FW KCU10	B80
4052091	B254A15000YPC KCK10	G55	4052191	B255A06746YPC KCK10	G53	4052911	B256A19500YPC KCK10	G55	4053372	DNMG432FW KCU10	B79
4052093	B254A15200YPC KCK10	G55	4052192	B255A06800YPC KCK10	G53	4052912	B256A19800YPC KCK10	G55	4053373	DNMG432MP KCU10	B81
4052094	B254A15250YPC KCK10	G55	4052193	B255A06900YPC KCK10	G53	4052913	B256A20000YPC KCK10	G55	4053374	DNMG432RP KCU10	B84
4052095	B254A15400YPC KCK10	G55	4052194	B255A06909YPC KCK10	G53	4052914	B256A20638YPC KCK10	G56	4053376	DNMG431CP KCU10	B79
4052097	B254A15500YPC KCK10	G55	4052195	B255A07000YPC KCK10	G53	4052915	B256A22000YPC KCK10	G56	4053377	DNMG431FF KCU10	B79
4052099	B254A15800YPC KCK10	G55	4052196	B255A07145YPC KCK10	G53	4052916	B256A22225YPC KCK10	G56	4053378	DNMG431FW KCU10	B80
4052101	B254A16000YPC KCK10	G55	4052197	B255A07200YPC KCK10	G53	4052917	B256A25004YPC KCK10	G56	4053379	DNMG431MP KCU10	B81
4052102	B254A16500YPC KCK10	G55	4052200	B255A07400YPC KCK10	G53	4053226	B256A03000YPC KCK10	G52	4053380	DNMG431P KCU10	B83
4052103	B254A16670YPC KCK10	G55	4052201	B255A07493YPC KCK10	G53	4053228	B256A03175YPC KCK10	G52	4053381	DNMG431UP KCU10	B84
4052104	B254A16800YPC KCK10	G55	4052202	B255A07500YPC KCK10	G53	4053230	B256A04200YPC KCK10	G52	4053383	B256A03258YPC KCK10	B84
4052105	B254A17000YPC KCK10	G55	4052203	B255A07541YPC KCK10	G53	4053232	B256A03500YPC KCK10	G52	4053384	DNMG432MP KCU10	B81
4052107	B254A17463YPC KCK10	G55	4052204	B255A07600YPC KCK10	G53	4053235	B256A03700YPC KCK10	G52	4053386	DNMG432P KCU10	B83
4052108	B254A17500YPC KCK10	G55	4052205	B255A07700YPC KCK10	G53	4053236	B256A04000YPC KCK10	G52	4053387	B256A0432P KCU10	B84
4052109	B254A17800YPC KCK10	G55	4052206	B255A07800YPC KCK10	G53	4053238	B256A04000YPC KCK10	G52	4053388	DNMG432UP KCU10	B84
4052110	B254A17859YPC KCK10	G55	4052207	B255A07900YPC KCK10	G53	4053240	B256A04100YPC KCK10	G52	4053389	DNMG433CP KCU10	B79
4052111	B254A18000YPC KCK10	G55	4052208	B255A07938YPC KCK10	G53	4053241	B256A04200YPC KCK10	G52	4053390	DNMG433MP KCU10	B81
4052112	B254A18200YPC KCK10	G55	4052209	B255A08000YPC KCK10	G53	4053242	B256A04300YPC KCK10	G52	4053391	DNMG433RP KCU10	B84
4052113	B254A18258YPC KCK10	G55	4052210	B255A08100YPC KCK10	G53	4053243	B256A04366YPC KCK10	G52	4053393	DNMG434RP KCU10	B84
4052114	B254A18500YPC KCK10	G55	4052211	B255A08200YPC KCK10	G53	4053244	B256A04500YPC KCK10	G52	4053395	DNMG441FW KCU10	B80
4052115	B254A18800YPC KCK10	G55	4052212	B255A08300YPC KCK10	G53	4053245	B256A04623YPC KCK10	G52	4053396	DNMG441MP KCU10	B81
4052116	B254A19000YPC KCK10	G55	4052214	B255A08433YPC KCK10	G54	4053246	B256A04700YPC KCK10	G52	4053399	DNMG442FW KCU10	B80
4052117	B254A19050YPC KCK10	G55	4052215	B255A08500YPC KCK10	G54	4053247	B256A04800YPC KCK10	G52	4053400	DNMG442MP KCU10	B81
4052121	B254A19800YPC KCK10	G55	4052216	B255A08600YPC KCK10	G54	4053248	B256A04852YPC KCK10	G52	4053403	DNMG442RP KCU10	B84
4052122	B254A20000YPC KCK10	G55	4052217	B255A08700YPC KCK10	G54	4053249	B256A05000YPC KCK10	G53	4053404	DNMG442UP KCU10	B84
4052123	B254A20638YPC KCK10	G56	4052219	B255A08800YPC KCK10	G54	4053250	B256A05100YPC KCK10	G53	4053406	DNMG443MP KCU10	B81
4052124	B254A21000YPC KCK10	G56	4052220	B255A08839YPC KCK10	G54	4053252	B256A05200YPC KCK10	G53	4053407	DNMG443RP KCU10	B84
4052125	B254A22000YPC KCK10	G56	4052221	B255A08900YPC KCK10	G54	4053254	B256A05500YPC KCK10	G53	4053408	RNMG43RN KCU10	B97
4052126	B254A22225YPC KCK10	G56	4052222	B255A09000YPC KCK10	G54	4053255	B256A05600YPC KCK10	G53	4053409	RNMG64RN KCU10	B97
4052127	B254A223416YPC KCK10	G56	4052223	B255A09093YPC KCK10	G54	4053258	B256A05800YPC KCK10	G53	4054272	D2FX110405LNM KCP25	E9
4052129	B254A25000YPC KCK10	G56	4052224	B255A09100YPC KCK10	G54	4053259	B256A05900YPC KCK10	G53	4054299	D2FX110405LNM KCP40	E9
4052130	B255A03000YPC KCK10	G52	4052225	B255A09129YPC KCK10	G54	4053261	B256A06000YPC KCK10	G53	4054300	D2FX110405RNM KCP40	E9
4052131	B255A03048YPC KCK10	G52	4052226	B255A09200YPC KCK10	G54	4053262	B256A06200YPC KCK10	G53	4054301	C2FX110405LNM KCP40	E8
4052132	B255A03175YPC KCK10	G52	4052592	KRM101803CLB04NE	K94	4053263	B256A06350YPC KCK10	G53	4054302	C2FX110405RNM KCP40	E8
4052133	B255A03200YPC KCK10	G52	4052845	B256A10200YPC KCK10	G54	4053264	B256A06400YPC KCK10	G53	4054355	D2FX1150505RNM KCP40	E9
4052134	B255A03250YPC KCK10	G52	4052846	B256A10300YPC KCK10	G54	4053265	B256A06500YPC KCK10	G53	4054356	D2FX1150505RNM KCP40	E10
4052135	B255A03300YPC KCK10	G52	4052847	B256A10400YPC KCK10	G54	4053266	B256A06600YPC KCK10	G53	4054358	C2FX1150505LNM KCP40	E8
4052136	B255A03400YPC KCK10	G52	4052848	B256A10500YPC KCK10	G54	4053267	B256A06700YPC KCK10	G53	4054359	C2FX1150510LNM KCP40	E8
4052138	B255A03500YPC KCK10	G52	4052849	B256A10700YPC KCK10	G54	4053268	B256A06800YPC KCK10	G53	4054362	C2FX1180610LNM KCP40	E8
4052140	B255A03600YPC KCK10	G52	4052850	B256A10800YPC KCK10	G54	4053269	B256A07000YPC KCK10	G53	4054368	C8FX120503RNP KCP40	E12
4052141	B255A03700YPC KCK10	G52	4052851	B256A11000YPC KCK10	G54	4053270	B256A07300YPC KCK10	G53	4054372	C8FX1150605LNM KCP40	E12
4052143	B255A0379YPC KCK10	G52	4052852	B256A11200YPC KCK10	G54	4053271	B256A07500YPC KCK10	G53	4054374	C8FX1150605RNM KCP40	E12
4052144	B255A03800YPC KCK10	G52	4052863	B256A11300YPC KCK10	G54	4053272	B256A07600YPC KCK10	G53	4054375	C8FX1150608RNM KCP40	E12
4052145	B255A03861YPC KCK10	G52	4052864	B256A11500YPC KCK10	G54	4053273	B256A07800YPC KCK10	G53	4054377	C8FX1150603RNP KCP40	E13
4052146	B255A03970YPC KCK10	G52	4052865	B256A11600YPC KCK10	G54	4053274	B256A08000YPC KCK10	G53	4054380	C8FX1180808RNM KCP40	E12
4052147	B255A04000YPC KCK10	G52	4052866	B256A11800YPC KCK10	G54	4053275	B256A08200YPC KCK10	G53	4054381	C8FX1180812RNM KCP40	E12
4052148	B255A04039YPC KCK10	G52	4052867	B256A12000YPC KCK10	G54	4053276	B256A08300YPC KCK10	G53	4054386	C2FX1150510LNM KCP25	E8
4052149	B255A04100YPC KCK10	G52	4052868	B256A12200YPC KCK10	G54	4053277	B256A08500YPC KCK10	G54	4054387	C2FX1150505RNM KCP25	E8
4052150	B255A04200YPC KCK10	G52	4052869	B256A12300YPC KCK10	G54	4053278	B256A08600YPC KCK10	G54	4054388	C2FX1150510RNM KCP25	E8
4052151	B255A04217YPC KCK10	G52	4052870	B256A12400YPC KCK10	G55	4053279	B256A08700YPC KCK10	G54	4054391	C2FX1180610LNM KCP25	E8
4052152	B255A04300YPC KCK10	G52	4052871	B256A12500YPC KCK10	G55	4053280	B256A08800YPC KCK10	G54	4054397	D4FX1140605RNM KCP25	E11
4052153	B255A04366YPC KCK10	G52	4052872	B256A12700YPC KCK10	G55	4053281	B256A09000YPC KCK10	G54	4054398	D4FX1140603RNM KCP25	E11
4052155	B255A04500YPC KCK10	G52	4052873	B256A12800YPC KCK10	G55	4053282	B256A09100YPC KCK10	G54	4054401	C8FX120503RNP KCP25	E12
4052156	B255A04572YPC KCK10	G52	4052874	B256A13000YPC KCK10	G55	4053284	B256A09300YPC KCK10	G54	4054402	C8FX120505RNP KCP25	E12
4052157	B255A04600YPC KCK10	G52	4052875	B256A13096YPC KCK10	G55	4053285	B256A09347YPC KCK10	G54	4054403	C8FX120503LMP KCP25	E13
4052158	B255A04700YPC KCK10	G52	4052876	B256A13200YPC KCK10	G55	4053287	B256A09500YPC KCK10	G54	4054404	C8FX120503RNP KCP25	E13
4052160	B255A04800YPC KCK10	G52	4052877	B256A13495YPC KCK10	G55	4053288	B256A09600YPC KCK10	G54	4054405	C8FX1150605LNM KCP25	E12
4052161	B255A04900YPC KCK10	G52	4052878	B256A13500YPC KCK10	G55	4053289	B256A09700YPC KCK10	G54	4054406	C8FX1150608LNM KCP25	E12
4052162	B255A05000YPC KCK10	G53	4052879	B256A13700YPC KCK10	G55	4053290	B256A09800YPC KCK10	G54	4054407	C8FX1150605RNM KCP25	E12
4052163	B255A05055YPC KCK10	G53	4052880	B256A13800YPC KCK10	G55	4053291	B256A10000YPC KCK10	G54	4054408	C8FX1	

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4054416	C8FX118008RMP KCP25	E13	4056513	RP43E KYSP30	V157	4059062	T631M240X300R6HX-XL KP6525	M57	4067264	HPHV625S4163R120 KCPM15	P19
4054421	D2FX1150504RMP KCP25	E9	4056980	RHM14000KST115H7HF KT325	K33	4059064	T631M300X350R6HX-XL KP6525	M57	4067265	HPHV625S4213 KCPM15	P19
4054422	D2FX1150508RMP KCP25	E9	4056981	RHM14288KST115H7HF KT325	K33	4059065	T631M300X350R6HX-XL KP6525	M57	4067266	HPHV625S4213R030 KCPM15	P19
4054435	D2FX1150508LMP KCP25	E9	4056982	RHM15875KST115H7HF KT325	K33	4059067	T631M360X400R6HX-XL KP6525	M57	4067267	HPHV625S4213R120 KCPM15	P19
4054442	C2FX110408LMP KCP25	E8	4056984	RHM16000KST135H7HF KT325	K33	4059069	T631M420X450R6HX-XL KP6525	M57	4067268	HPHV625S422R060 KCPM15	P19
4054444	C2FX1150508LMP KCP25	E8	4056985	RHM17000KST135H7HF KT325	K33	4059090	T620M240X300R6HX-D6 KP6525	M13	4067269	HPHV750S4088 KCPM15	P19
4054447	D4FX1140608RMP KCP25	E11	4056986	RHM17463KST115H7HF KT325	K33	4059092	T620M300X350R6HX-D6 KP6525	M13	4067270	HPHV750S4088CH KCPM15	P19
4054449	D4FX1140608LMP KCP25	E11	4056987	RHM18000KST155H7HF KT325	K33	4059113	T620M330X350R6HX-D6 KP6525	M13	4067271	HPHV750S4088L KCPM15	P19
4054450	C8FX1120504RMP KCP25	E12	4056988	RHM19000KST155H7HF KT325	K33	4059115	T620M360X400R6HX-D6 KP6525	M13	4067272	HPHV750S4088LR030 KCPM15	P19
4054451	C8FX1150612RMP KCP25	E12	4056989	RHM14288KST115H7HF KT6215	K33	4059117	T620M420X450R6HX-D6 KP6525	M13	4067273	HPHV750S4150R030 KCPM15	P19
4054453	C8FX1150612RMP KCP25	E12	4056990	RHM14288KST115H7HF KT6215	K33	4059121	T630M300X350R6HX-D6 KP6525	M54	4067274	HPHV750S4150CH KCPM15	P19
4054455	C8FX1120508RMP KCP25	E12	4056993	RHM16000KST135H7HF KT6215	K33	4059122	T630M330X350R6HX-D6 KP6525	M54	4067275	HPHV750S4150R015 KCPM15	P19
4054456	C8FX1150612RMP KCP25	E12	4056994	RHM17000KST135H7HF KT6215	K33	4059124	T630M360X400R6HX-D6 KP6525	M54	4067276	HPHV750S4150R120 KCPM15	P19
4054474	D2FX110403RHP KCP25	E9	4056995	RHM17463KST135H7HF KT6215	K33	4059126	T630M420X450R6HX-D6 KP6525	M54	4067277	HPHV750S4150R060 KCPM15	P19
4054475	D2FX110405RMP KCP25	E9	4056996	RHM18000KST155H7HF KT6215	K33	4059129	T631M240X300R6HX-D6 KP6525	M55	4067278	HPHV750S4150R090 KCPM15	P19
4054477	C2FX110405LMP KCP25	E8	4056997	RHM19000KST155H7HF KT6215	K33	4059132	T631M330X350R6HX-D6 KP6525	M55	4067279	HPHV750S4150R120 KCPM15	P19
4054478	C2FX110405RMP KCP25	E8	4056998	RHM19050KST155H7HF KT6215	K33	4059132	T631M330X350R6HX-D6 KP6525	M55	4067280	HPHV750S4163CH KCPM15	P19
4054483	D2FX1150505LMP KCP25	E9	4057034	RHM14000KST115H7HF KT325	K31	4059134	T631M360X400R6HX-D6 KP6525	M55	4067281	HPHV750S4163R030 KCPM15	P19
4054484	D2FX1150505LMP KCP25	E10	4057035	RHM14288KST115H7HF KT325	K31	4059136	T631M420X450R6HX-D6 KP6525	M55	4067282	HPHV750S4163R060 KCPM15	P19
4054486	D2FX1150503RHP KCP25	E9	4057036	RHM15000KST115H7HF KT325	K31	4059938	LNEU1240R08 4 KC725M	U19	4067283	HPHV750S4163R120 KCPM15	P19
4054487	D2FX1150505RMP KCP25	E10	4057037	RHM15875KST115H7HF KT325	K31	4059939	LNEU1240R16 4 KC725M	U19	4067286	HPHVBN1000S4150 KCPM15	P23
4054488	D2FX1150505RMP KCP25	E9	4057038	RHM16000KST135H7HF KT325	K31	4059940	LNEU1235R03 4 KC725M	U19	4067287	HPHVBN348S4088 KCPM15	P23
4054490	D2FX1150503RMP KCP25	E9	4057039	RHM17000KST135H7HF KT325	K31	4059941	LNEU1240R03 4 KC725M	U19	4067288	HPHVBN500S4100 KCPM15	P23
4054491	C2FX1150505LMP KCP25	E8	4057040	RHM17463KST135H7HF KT325	K31	4059942	LNEU1235R03 4 KC725M	U20	4067289	HPHVBN500S4125 KCPM15	P23
4054494	B976A03175 KCP315	G134	4057041	RHM18000KST155H7HF KT325	K31	4060093	LNEU1240R03 4 KC725M	U20	4067290	HPHVBN625S4125 KCPM15	P23
4054495	B976A03454 KCP315	G134	4057042	RHM19000KST155H7HF KT325	K31	4060099	LNEU1235R03 4 KC520M	U19	4067291	HPHVBN750S4150 KCPM15	P23
4054496	B976A03734 KCP315	G134	4057044	RHM14000KST115H7HF KT6215	K31	4060100	LNEU1240R08 4 KC520M	U19	4067292	HPHVBN125S4050 KCPM15	P23
4054497	B976A03797 KCP315	G134	4057045	RHM14288KST115H7HF KT6215	K31	4060101	LNEU1240R03 4 KC520M	U19	4067303	HPHV750S4300CH KCPM15	P19
4054498	B976A04039 KCP315	G134	4057047	RHM15875KST115H7HF KT6215	K31	4060102	LNEU1235R03SGP 4 KC725M	U20	4067304	HPHV750S4400R030 KCPM15	P19
4054499	B976A04366 KCP315	G135	4057048	RHM16000KST135H7HF KT6215	K31	4060528	KST1151515AS	K42	4067305	HPHV750S4400R060 KCPM15	P19
4054500	B976A04496 KCP315	G135	4057049	RHM17000KST135H7HF KT6215	K31	4060529	KST13515AS	K42	4067306	HPHV1000S4150 KCPM15	P19
4054501	B976A04700 KCP315	G135	4057051	RHM18000KST155H7HF KT6215	K31	4061407	XNF43ZNEWN KY3500	S90	4067307	HPHV1000S4150CH KCPM15	P19
4054502	B976A05106 KCP315	G135	4057053	RHM19050KST155H7HF KT6215	K31	4062112	HSK100BT13075	K143	4067308	HPHV1000S4150R030 KCPM15	P19
4054503	B976A05410 KCP315	G135	4057057	HSK63FBHM1696	K132	4062443	EBUCW0074	K145	4067311	HPHV1000S4150R120 KCPM15	P19
4054504	B976A05791 KCP315	G135	4057058	DV40FBHM1691	K133	4062902	KTP260R8SCF25M	H40	4067312	HPHV1000S4150R250 KCPM15	P19
4054505	B976A05944 KCP315	G135	4057059	BT40FBHM1691	K133	4063183	KTP270R8SCF25M	H40	4067313	HPHV1000S4200 KCPM15	P20
4054506	B976A06528 KCP315	G135	4057060	KM50TSFBHM1677	K132	4063184	KTP260R8SCF25M	H40	4067314	HPHV1000S4200R030 KCPM15	P19
4054507	B976A06909 KCP315	G135	4057061	AFM29115	K135	4063185	KTP270R8SCF25M	H40	4067315	HPHV1000S4200R060 KCPM15	P19
4054508	B976A07366 KCP315	G136	4057062	AFM47115	K135	4063186	KTP260R8SCF25M	H40	4067316	HPHV1000S4200R120 KCPM15	P19
4054509	B976A08433 KCP315	G136	4057093	AFM29SCFP06	K136	4063187	KTP270R8SCF25M	H40	4067318	HPHV1000S4225 KCPM15	P20
4054510	B976A08839 KCP315	G136	4057094	AFM47SCFP09	K136	4063188	KTP260R8SS32M	H38	4067319	HPHV1000S4225CH KCPM15	P20
4054511	B976A09093 KCP315	G136	4057095	EBM8015086	K136	4063189	KTP270R8SS32M	H38	4067320	HPHV1000S4225R030 KCPM15	P20
4054512	B976A10262 KCP315	G136	4057096	886038045	K136	4063190	KTP260R8SS32M	H38	4067321	HPHV1000S4225R060 KCPM15	P20
4054513	B976A13495 KCP315	G137	4057097	PKG-8001	K132-134	4063191	KTP270R8SS32M	H38	4067322	HPHV1000S4263 KCPM15	P20
4054514	B976A16670 KCP315	G138	4057098	HSK63FBHMKIT164M	K127, K131	4063192	KTP260R8SS32M	H38	4067323	HPHV1000S4263CH KCPM15	P20
4054515	B977A03175 KCP315	G134	4057099	DV40FBHMKIT164M	K127, K131	4063193	KTP1024R3SS125	H39	4067324	HPHV1000S4263R030 KCPM15	P20
4054516	B977A03734 KCP315	G134	4057100	BT40FBHMKIT164M	K127, K131	4063194	KTP1063R3SS125	H39	4067325	HPHV1000S4300CH KCPM15	P20
4054517	B977A03797 KCP315	G134	4057101	KM50TSFBHMKIT164M	K127, K131	4063195	KTP1024R3SS125	H39	4067326	HPHV1000S4300R030 KCPM15	P20
4054518	B977A04039 KCP315	G134	4057204	EB630128650	K144	4063196	KTP1063R3SS125	H39	4067327	HPHV1000S4300R060 KCPM15	P20
4054519	B977A04366 KCP315	G135	4057205	EB10801281100	K144	4063197	KTP1024R3SS125	H39	4067328	HPHV1000S4400CH KCPM15	P20
4054520	B977A04496 KCP315	G135	4057206	EB16301281650	K144	4063198	KTP1063R3SS125	H39	4067329	HPHV1000S4400R030 KCPM15	P20
4054521	B977A05106 KCP315	G135	4057207	EBSLD1105	K144	4063996	SDB24RBHT06F	K126	4067330	HPHV1000S4400R060 KCPM15	P20
4054522	B977A05791 KCP315	G135	4057208	EBSLD2205	K144	4063997	SDB30RBHT06F	K126	4067331	HPHV1250S4225CH KCPM15	P20
4054523	B977A05944 KCP315	G135	4057576	KSHR1000HN7545C10	S24	4063998	SDB40RBHT09F	K126	4067332	HPHV1250S4225R030 KCPM15	P20
4054524	B977A07366 KCP315	G136	4057578	KSHR300HN7545M4	S24	4063999	SDB50RBHT09F	K126	4067343	HPHVBN188S4063 KCPM15	P23
4054525	B977A08839 KCP315	G136	4057579	KSHR400HN7545M5	S24	4064000	SDB66RBHT12F	K126	4067344	HPHVBN250S4075 KCPM15	P23
4054526	B977A09093 KCP315	G136	4057580	KSHR500HN7545M6	S24	4064001	SDB66RBHT12F	K126	4067345	HPHVBN3125S4075 KCPM15	P23
4054527	B977A10262 KCP315	G136	4057581	KSHR600HN7545M8	S24	4064002	SDB87RBHT12F	K126	4067346	HPHVBN375S4088 KCPM15	P23
4054528	B977A13495 KCP315	G137	4057582	KSHR800HN7545M10	S24	4064203	SDB87RBHT16LF	K126	4068215	UADE0250J4AQ KCPM15	P21
4054648	C2FX1150504LMP KCP40	E8	4057583	KSHR1000HN7545M10	S24	4064204	SDB115RBHT16LF	K126	4068216	UADE0250J4AQB KCPM15	P21
4054651	D4FX1140604RMP KCP40	E11	4057639	HNPJ75ANSNHD KCPK30	S26	4064205	SDB115RBHT12F	K126	4068217	UADE0375J4AQ KCPM15	P21
4054660	C8FX1120508RMP KCP40	E12	4057640	HNPJ75ANSNHD KCK15	S26	4064258	TTP25	S24	4068218	UADE0375J4AQB KCPM15	P21
4054680	DFR040304D28MD KCP7140	H113, J97	4057641	HNPJ75ANSNHD KCP25M	S26	4065057	A4G0605M06U08GMN KCP25	C106	4068220	UADE0500J4AQB KCPM15	P21
4054681	DFR040304D28LD KCP7225	H113	4057828	HNPJ75ANSNHD KCPK30	S26	4067219	HPHV750S4225CH KCPM15	P19	4068221	UADE0625J4AQB KCPM15	P21
4054733	HSK100ASVUBB2124MCLB	K78	4057830	HNPJ75ANSNHD KCP25M	S26	4067220	HPHV750S4225R030 KCPM15	P19	4068222	UADE0750J4AQB KCPM15	P21
4054734	HSK63ASVUBB1095MCLB	K76	4057854	HNPJ75ANSNHD KCPK30	S26	4067221	HPHV750S4225R060 KCPM15	P19	4068233	UADE0750J4QB KCPM15	P21
4054735	HSK63ASVUBB2116MCLB	K78	4057855	HNPJ75ANSNHD KCK15	S26	4067222	HPHV750S4300 KCPM15	P19	4068234	UADE1000J4QB KCPM15	P21
4054736	KM50TSVUBB2100MCLB	K77	4057865	HNGJ75ANENGD KCPK30	S25	4067236	HPHV625S4075 KCPM15	P18	4068604	RCMH3209MORU KCP25	E66
4054737	KR32SVUBB1060MCLB	K76	4057867	HNGJ75ANENGD KCP25M	S25	4067237	HPHV625S4075CH KCPM15	P18	4071037		



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4071891	HPHV375S4125R060 KCPM15	P17	4079259	UADE750J4BRA KC643M	P19	4109658	NFD4189RK KCU25	C174	4109755	NG3M400RK KCU25	C162
4071892	HPHV375S4150 KCPM15	P17	4079260	UADE750J4ARE KC643M	P19	4109659	NFD4250LK KCU25	C174	4109756	NG3M425LK KCU25	C164
4071893	HPHV375S4150R030 KCPM15	P17	4079263	UADE750J4ARB KC643M	P19	4109660	NFD4250RK KCU25	C174	4109757	NG3M425RK KCU25	C163
4071894	HPHV375S4150R060 KCPM15	P17	4079265	UADE625J4ARC KC643M	P19	4109661	NG2031L KCU25	C170	4109758	NG3M450LK KCU25	C164
4071895	HPHV375S4250R030 KCPM15	P17	4079266	UADE625J4ARB KC643M	P19	4109662	NG2031LK KCU25	C163	4109759	NG3M450RK KCU25	C163
4071896	HPHV375S4250R060 KCPM15	P17	4079267	UADE500J4CRE KC643M	P18	4109663	NG2031R KCU25	C170	4109760	NG4125L KCU25	C171
4071897	HPHV438S4063LR015 KCPM15	P18	4079268	UADE500J4BRC KC643M	P18	4109664	NG2031RK KCU25	C162	4109761	NG4125LK KCU25	C164
4071898	HPHV438S4063LR015 KCPM15	P18	4079269	UADE500J4CRC KC643M	P18	4109665	NG2041L KCU25	C170	4109762	NG4125R KCU25	C170
4071899	HPHV438S4113R015 KCPM15	P18	4079270	UADE500J4CRB KC643M	P18	4109666	NG2041R KCU25	C170	4109763	NG2M300RK KCU25	C162
4071900	HPHV500S4063 KCPM15	P18	4079271	UADE500J4CRA KC643M	P18	4109667	NG2047L KCU25	C170	4109764	NG2M325LK KCU25	C163
4071901	HPHV500S4063CH KCPM15	P18	4079272	UADE500J4BRE KC643M	P18	4109668	NG2047LK KCU25	C163	4109765	NG2M325RK KCU25	C162
4071902	HPHV500S4063L KCPM15	P18	4079273	UADE500J4BRD KC643M	P18	4109669	NG2047R KCU25	C170	4109766	NG3047L KCU25	C170
4071903	HPHV500S4063LR015 KCPM15	P18	4079274	UADE500J4BRC KC643M	P18	4109670	NG2047RK KCU25	C162	4109767	NG3047LK KCU25	C163
4071904	HPHV500S4063LR030 KCPM15	P18	4079275	UADE500J4BRB KC643M	P18	4109671	NG2058L KCU25	C170	4109768	NG3047R KCU25	C170
4071905	HPHV500S4063LR060 KCPM15	P18	4079276	UADE500J4BRA KC643M	P18	4109672	NG2058R KCU25	C170	4109769	NG3047RK KCU25	C162
4071906	HPHV500S4063R030 KCPM15	P18	4079277	UADE500J4ARE KC643M	P18	4109673	NG2062L KCU25	C170	4109770	NG3062L KCU25	C170
4071907	HPHV500S4063R060 KCPM15	P18	4079279	UADE500J4ARC KC643M	P18	4109674	NG2062LK KCU25	C163	4109771	NG3062LK KCU25	C163
4071908	HPHV500S4100 KCPM15	P18	4079280	UADE500J4ARB KC643M	P18	4109675	NG2062R KCU25	C170	4109772	NG3062R KCU25	C170
4071909	HPHV500S4100CH KCPM15	P18	4079281	UADE500J4ARA KC643M	P18	4109676	NG2062RK KCU25	C162	4109773	NG4125RK KCU25	C163
4071910	HPHV500S4100R030 KCPM15	P18	4079283	UADE375J4BRB KC643M	P18	4109677	NG2094L KCU25	C170	4109774	NG4189L KCU25	C171
4071911	HPHV500S4100R060 KCPM15	P18	4079284	UADE375J4BRA KC643M	P18	4109678	NG2094LK KCU25	C163	4109775	NG4189LK KCU25	C164
4071912	HPHV500S4150R030 KCPM15	P18	4079285	UADE375J4ARC KC643M	P18	4109679	NG2094R KCU25	C170	4109776	NG4189LK KCU25	C170
4071913	HPHV500S4125CH KCPM15	P18	4079286	UADE375J4ARB KC643M	P17	4109680	NG2094RK KCU25	C162	4109777	NG4189RK KCU25	C163
4071914	HPHV500S4125R015 KCPM15	P18	4079287	UADE375J4ARA KC643M	P17	4109681	NG2125L KCU25	C170	4109778	NG4213R KCU25	C170
4071915	HPHV500S4125R030 KCPM15	P18	4079288	UADE250J4ARC KC643M	P17	4109682	NG2125LK KCU25	C163	4109779	NG4250L KCU25	C171
4071916	HPHV500S4125R060 KCPM15	P18	4079290	UADE250J4ARA KC643M	P16	4109683	NG2125R KCU25	C170	4109780	NG4250LK KCU25	C164
4071917	HPHV500S4125R090 KCPM15	P18	4080356	B967A10200 KC7315	G131	4109684	NG2125RK KCU25	C162	4109781	NG4250RK KCU25	C170
4071918	HPHV500S4150R120 KCPM15	P18	4080393	B967A12800 KC7315	G132	4109685	NG2M500RK KCU25	C162	4109782	NG4250RK KCU25	C163
4071919	HPHV500S4150 KCPM15	P18	4080395	B967A15000 KC7315	G132	4109686	NG2M080LK KCU25	C163	4109783	NG3062RK KCU25	C162
4071920	HPHV500S4150CH KCPM15	P18	4081832	RIQ09E1306 KC6005	K58	4109687	NG2M080RK KCU25	C162	4109784	NG3072LK KCU25	C163
4071921	HPHV500S4150R030 KCPM15	P18	4086429	B976A05558 KC7315	G135	4109688	NG2M100LK KCU25	C163	4109785	NG3072RK KCU25	C162
4071922	HPHV500S4150R060 KCPM15	P18	4086430	B977A03454 KC7315	G134	4109689	NG2M100RK KCU25	C162	4109786	NG3078LK KCU25	C163
4071923	HPHV500S4163 KCPM15	P18	4086431	B977A16670 KC7315	G138	4109690	NG2M120L KCU25	C163	4109787	NG3078RK KCU25	C162
4071924	HPHV500S4163R030 KCPM15	P18	4086935	A4G0405M04U08GMN KCP10	C106	4109691	NG2M120RK KCU25	C162	4109788	NG3088L KCU25	C170
4071925	HPHV500S4163R060 KCPM15	P18	4086956	A4R0405M04U00GMN KCP10	C107	4109692	NG2M140LK KCU25	C163	4109789	NG3088L KCU25	C170
4071926	HPHV500S4163R120 KCPM15	P18	4089831	B967A11300 KC7315	G131	4109698	NG3M100LK KCU25	C163	4109790	NG3094R KCU25	C170
4071927	HPHV500S4200 KCPM15	P18	4105177	MEGA45D1000LN863C10	S94	4109699	NG3M100RK KCU25	C162	4109791	NG3094LK KCU25	C164
4071928	HPHV500S4200CH KCPM15	P18	4105178	MEGA45D1200LN863C10	S94	4109700	NG3M120LK KCU25	C163	4109792	NG3094R KCU25	C170
4071929	HPHV500S4200R030 KCPM15	P18	4106399	B707A07400FBS KN15	G111	4109701	NG3M120RK KCU25	C162	4109793	NG4M300LK KCU25	C164
4071930	HPHV500S4250R030 KCPM15	P18	4109575	KF2X100W0902M12L138	V36	4109702	NG3M150LK KCU25	C163	4109794	NG4M300RK KCU25	C163
4071932	HPHV500S4300R030 KCPM15	P18	4109577	KF2X125W0903M16L169	V36	4109713	NG3M150RK KCU25	C163	4109795	NG4M350LK KCU25	C164
4071933	HPHV500S4300R060 KCPM15	P18	4109579	KF2X150W0904M16L169	V36	4109714	NG3M175LK KCU25	C163	4109796	NG4M350RK KCU25	C163
4072204	HPRSHV1000S4700CH KCPM15	P22	4109580	KF2X100W0902C100L600	V37	4109715	NG3M175RK KCU25	C162	4109797	NG4M400LK KCU25	C164
4072205	HPRSHV500S4600 KCPM15	P22	4109581	KF2X100W0902C100L800	V37	4109716	NG3M200LK KCU25	C163	4109798	NG4M400RK KCU25	C163
4072206	HPRSHV500S4600CH KCPM15	P22	4109582	KF2X125W0903C125L600	V37	4109717	NG3M200RK KCU25	C162	4109799	NG4M500RK KCU25	C163
4072207	HPRSHV625S4600 KCPM15	P22	4109583	KF2X125W0903C125L800	V37	4109718	NG3M220LK KCU25	C164	4109800	NG4M500LK KCU25	C164
4072208	HPRSHV625S4600CH KCPM15	P22	4109584	KF2X150W0903C125L600	V37	4109719	NG3M220RK KCU25	C162	4109801	NG4M500RK KCU25	C163
4072209	HPRSHV750S4600CH KCPM15	P22	4109595	KF2X150W0903C125L800	V37	4109720	NG3M225LK KCU25	C164	4109803	NG3094RK KCU25	C162
4072210	HPRSHV750S4600 KCPM15	P22	4109596	KF2X150W0904S050L157	V38	4109721	NG3M225RK KCU25	C162	4109804	NG3097L KCU25	C171
4072211	HPRSHV750S4600CH KCPM15	P22	4109597	KF2X200W0905S075L157	V38	4109722	NG3M250LK KCU25	C164	4109805	NG3097L KCU25	C170
4075269	CNIMG433MP KCP10	B51	4109598	KF2X200W0906S075L157	V38	4109723	NG2M140RK KCU25	C162	4109806	NG3105L KCU25	C171
4075270	CNIMG432MP KCP10	B81	4109599	KF2X250W0906S075L175	V38	4109724	NG2M150LK KCU25	C163	4109807	NG3105R KCU25	C170
4075271	CNIMG442MP KCP10	B81	4109600	KF2X300W0907S100L175	V38	4109725	NG2M150RK KCU25	C162	4109808	NG3110L KCU25	C171
4075304	WNIMG432MP KCP10	B159	4109624	NA3L10 KCU25	D11	4109726	NG2M170LK KCU25	C163	4109809	NG3110R KCU25	C170
4075305	CNIMG432MP KCP25	B51	4109625	NA3L4 KCU25	D11	4109727	NG2M170RK KCU25	C162	4109810	NG3122L KCU25	C171
4075306	CNIMG433MP KCP25	B51	4109626	NA3L5 KCU25	D11	4109728	NG2M175LK KCU25	C163	4109811	NG3122R KCU25	C170
4075307	CNIMG432MP KCP25	B81	4109627	NA3L6 KCU25	D11	4109729	NG2M175RK KCU25	C162	4109812	NG3125L KCU25	C171
4075308	CNIMG442MP KCP25	B81	4109628	NA3L8 KCU25	D11	4109730	NG2M195LK KCU25	C163	4109814	NG4M600LK KCU25	C164
4075309	CNIMG432MP KCP25	B124	4109629	NA3R10 KCU25	D11	4109731	NG2M195RK KCU25	C162	4109815	NG4M600RK KCU25	C163
4075310	WNIMG432MP KCP25	B159	4109630	NA3R4 KCU25	D11	4109732	NG2M200LK KCU25	C163	4109823	NG3125LK KCU25	C164
4075311	WNIMG432MP KCP25	B159	4109631	NA3R5 KCU25	D11	4109733	NG3M250RK KCU25	C162	4109824	NG3125R KCU25	C170
4078132	B967A15300 KC7315	G132	4109632	NA3R6 KCU25	D11	4109734	NG3M275LK KCU25	C164	4109825	NG3125RK KCU25	C162
4078652	CNIMG431FP KCP10	B49	4109633	NA3R8 KCU25	D11	4109735	NG3M275RK KCU25	C162	4109826	NG3142L KCU25	C171
4078704	CNIMG432FP KCP10	B80	4109636	NAS3L4 KCU25	D12	4109736	NG3M300LK KCU25	C164	4109827	NG3142R KCU25	C170
4078705	CNIMG432FP KCP10	B80	4109637	NAS3L6 KCU25	D12	4109737	NG3M300RK KCU25	C162	4109828	NG3156L KCU25	C171
4078706	CNIMG442FP KCP10	B80	4109638	NAS3L8 KCU25	D12	4109738	NG3M320LK KCU25	C164	4109829	NG3156LK KCU25	C164
4078708	CNIMG432FP KCP10	B146	4109640	NAS3R12 KCU25	D12	4109739	NG3M320RK KCU25	C162	4109830	NG3156R KCU25	C170
4078709	WNIMG431FP KCP10	B158	4109641	NAS3R4 KCU25	D12	4109740	NG3M325LK KCU25	C164	4109831	NG3156RK KCU25	C162
4078710	WNIMG432FP KCP10	B158	4109644	NAS3R8 KCU25	D12	4109741	NG3M325RK KCU25	C162	4109832	NG3178L KCU25	C171
4078711	CNIMG432FP KCP25	B49	4109645	NF3125LK KCU25	C173	4109742	NG3M350LK KCU25	C164	4109833	NG3185R KCU25	C170
4078712	CNIMG432FP KCP25	B80	4109646	NF3125RK KCU25	C173	4109743	NG2M200RK KCU25	C163	4109834	NG3189L KCU25	C171
4078723	CNIMG442FP KCP25	B80	4109647	NF3156LK KCU25	C173	4109744	NG2M220LK KCU25	C163	4109835	NG3189LK KCU25	C164
4078724	WNIMG431FP KCP25	B158	4109648	NF3156RK KCU25	C173	4109745	NG2M220RK KCU25	C162	4109836		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4109847	NGD3094RK KCU25	C165	4109951	NT4R KCU25	D17	4111786	B221A06800HP KCPK15	G39	4111878	B221A14100HP KCPK15	G41
4109848	NGD3125LK KCU25	C165	4109952	NT4RCK KCU25	D19	4111787	B221A06900HP KCPK15	G39	4111879	B221A14200HP KCPK15	G41
4109849	NGD3125RK KCU25	C165	4109953	NT4RK KCU25	D21	4111788	B221A07000HP KCPK15	G39	4111880	B221A14288HP KCPK15	G41
4109850	NGD3189LK KCU25	C165	4109954	NTF2L KCU25	D22	4111789	B221A07100HP KCPK15	G39	4111881	B221A14300HP KCPK15	G41
4109851	NGD3189RK KCU25	C165	4109955	NTF2R KCU25	D21	4111790	B221A07145HP KCPK15	G39	4111882	B221A14400HP KCPK15	G41
4109852	NGD4125LK KCU25	C165	4109956	NTF3L KCU25	D21	4111792	B221A07200HP KCPK15	G39	4111883	B221A14500HP KCPK15	G41
4109853	NGD4125RK KCU25	C165	4109957	NTF3R KCU25	D21	4111793	B221A07300HP KCPK15	G39	4111884	B221A14500HP KCPK15	G41
4109854	NGD4189LK KCU25	C165	4109958	NTK2L KCU25	D21	4111794	B221A07400HP KCPK15	G39	4111885	B221A14684HP KCPK15	G41
4109855	NGD4189RK KCU25	C165	4109959	NTK2R KCU25	D21	4111795	B221A07500HP KCPK15	G39	4111886	B221A14700HP KCPK15	G41
4109856	NGD4250LK KCU25	C165	4109960	NTK3L KCU25	D21	4111796	B221A07541HP KCPK15	G39	4111887	B221A14800HP KCPK15	G41
4109857	NGD4250RK KCU25	C165	4109961	NTK3R KCU25	D21	4111797	B221A07600HP KCPK15	G39	4111888	B221A14900HP KCPK15	G41
4109858	NJ3010R16 KCU25	D15	4109962	NTP2L KCU25	D22	4111798	B221A07700HP KCPK15	G39	4111889	B221A15000HP KCPK15	G41
4109860	NJ3014R12 KCU25	D15	4109963	NTP2R KCU25	D22	4111799	B221A07800HP KCPK15	G39	4111890	B221A15083HP KCPK15	G41
4109864	NJF3009R18 KCU25	D15	4109964	NTP3L KCU25	D22	4111800	B221A07900HP KCPK15	G39	4111891	B221A15100HP KCPK15	G41
4109866	NJF3012R14 KCU25	D15	4109965	NTP3R KCU25	D22	4111801	B221A07938HP KCPK15	G39	4111892	B221A15200HP KCPK15	G41
4109868	NJK3006R28 KCU25	D16	4109967	NTP4R KCU25	D22	4111802	B221A08000HP KCPK15	G39	4111893	B221A15300HP KCPK15	G41
4109869	NJK3007R24 KCU25	D16	4111714	B221A03048HP KCPK15	G38	4111803	B221A08100HP KCPK15	G39	4111894	B221A15400HP KCPK15	G41
4109871	NJK3008R20 KCU25	D16	4111715	B221A03100HP KCPK15	G38	4111804	B221A08200HP KCPK15	G39	4111895	B221A15479HP KCPK15	G41
4109873	NJK3010R16 KCU25	D16	4111716	B221A03175HP KCPK15	G38	4111805	B221A08300HP KCPK15	G39	4111896	B221A15500HP KCPK15	G41
4109876	NJP3014R12 KCU25	D16	4111717	B221A03200HP KCPK15	G38	4111806	B221A08334HP KCPK15	G39	4111897	B221A15600HP KCPK15	G41
4109878	NJP3020R8 KCU25	D16	4111718	B221A03264HP KCPK15	G38	4111807	B221A08400HP KCPK15	G39	4111898	B221A15700HP KCPK15	G41
4109879	NP2002RK KCU25	C167	4111719	B221A03300HP KCPK15	G38	4111808	B221A08433HP KCPK15	G39	4111899	B221A15800HP KCPK15	G41
4109880	NP2012RK KCU25	C167	4111720	B221A03400HP KCPK15	G38	4111809	B221A08500HP KCPK15	G39	4111900	B221A15875HP KCPK15	G41
4109881	NP3002RK KCU25	C167	4111721	B221A03455HP KCPK15	G38	4111810	B221A08600HP KCPK15	G39	4111901	B221A15900HP KCPK15	G41
4109882	NP3012RK KCU25	C167	4111722	B221A03500HP KCPK15	G38	4111811	B221A08700HP KCPK15	G39	4111902	B221A16000HP KCPK15	G41
4109883	NPD2002RK KCU25	C167	4111727	B221A09600HP KCPK15	G40	4111812	B221A08733HP KCPK15	G39	4111903	B221A16500HP KCPK15	G41
4109884	NPD3002RK KCU25	C167	4111728	B221A09700HP KCPK15	G40	4111813	B221A08800HP KCPK15	G39	4111904	B221A17000HP KCPK15	G41
4109885	NPD3012RK KCU25	C167	4111729	B221A09800HP KCPK15	G40	4111814	B221A08900HP KCPK15	G39	4111905	B221A17463HP KCPK15	G41
4109887	NR2031L KCU25	C172	4111730	B221A09900HP KCPK15	G40	4111815	B221A09000HP KCPK15	G39	4111906	B221A17500HP KCPK15	G41
4109888	NR2031R KCU25	C172	4111731	B221A09921HP KCPK15	G40	4111816	B221A09100HP KCPK15	G39	4111907	B221A17700HP KCPK15	G41
4109889	NR2047L KCU25	C172	4111732	B221A10000HP KCPK15	G40	4111817	B221A09129HP KCPK15	G40	4111908	B221A18000HP KCPK15	G41
4109890	NR2047R KCU25	C172	4111733	B221A1003571HP KCPK15	G38	4111818	B221A09200HP KCPK15	G40	4111909	B221A18500HP KCPK15	G41
4109891	NR2062L KCU25	C172	4111734	B221A103600HP KCPK15	G38	4111819	B221A09300HP KCPK15	G40	4111910	B221A19000HP KCPK15	G41
4109892	NR2062R KCU25	C172	4111736	B221A103700HP KCPK15	G38	4111820	B221A09347HP KCPK15	G40	4111911	B221A19050HP KCPK15	G41
4109903	NR2M050L KCU25	C172	4111737	B221A10374HP KCPK15	G38	4111821	B221A09400HP KCPK15	G40	4111912	B221A19500HP KCPK15	G41
4109904	NR2M050R KCU25	C172	4111738	B221A103800HP KCPK15	G38	4111822	B221A09500HP KCPK15	G40	4111913	B221A20000HP KCPK15	G41
4109905	NR3031L KCU25	C172	4111739	B221A103900HP KCPK15	G38	4111823	B221A09525HP KCPK15	G40	4111914	B221A20500HP KCPK15	G41
4109906	NR3031LK KCU25	C166	4111740	B221A103970HP KCPK15	G38	4111824	B221A10300HP KCPK15	G38	4111915	B221A21000HP KCPK15	G41
4109907	NR3031RK KCU25	C172	4111741	B221A104000HP KCPK15	G38	4111833	B221A10100HP KCPK15	G40	4111920	B222A03048HP KCPK15	G38
4109908	NR3031RK KCU25	C166	4111742	B221A104039HP KCPK15	G38	4111834	B221A10200HP KCPK15	G40	4111921	B222A03000HP KCPK15	G38
4109909	NR3047L KCU25	C172	4111743	B221A104090HP KCPK15	G38	4111835	B221A10300HP KCPK15	G40	4111922	B222A03175HP KCPK15	G38
4109910	NR3047LK KCU25	C166	4111744	B221A104100HP KCPK15	G38	4111836	B221A10320HP KCPK15	G40	4111933	B222A03264HP KCPK15	G38
4109911	NR3047R KCU25	C172	4111745	B221A104200HP KCPK15	G38	4111837	B221A10400HP KCPK15	G40	4111934	B222A03300HP KCPK15	G38
4109912	NR3047RK KCU25	C166	4111746	B221A104217HP KCPK15	G38	4111838	B221A10500HP KCPK15	G40	4111935	B222A03455HP KCPK15	G38
4109913	NR3062L KCU25	C172	4111747	B221A104300HP KCPK15	G38	4111839	B221A10600HP KCPK15	G40	4111936	B222A03500HP KCPK15	G38
4109914	NR3062LK KCU25	C166	4111748	B221A104366HP KCPK15	G38	4111840	B221A10700HP KCPK15	G40	4111937	B222A03571HP KCPK15	G38
4109915	NR3062R KCU25	C172	4111749	B221A104400HP KCPK15	G38	4111841	B221A10716HP KCPK15	G40	4111938	B222A03700HP KCPK15	G38
4109916	NR3062RK KCU25	C166	4111750	B221A104500HP KCPK15	G38	4111842	B221A10800HP KCPK15	G40	4111939	B222A03800HP KCPK15	G38
4109917	NR3078LK KCU25	C166	4111751	B221A104600HP KCPK15	G38	4111843	B221A10900HP KCPK15	G40	4111940	B222A03970HP KCPK15	G38
4109918	NR3078RK KCU25	C166	4111752	B221A104623HP KCPK15	G38	4111844	B221A11000HP KCPK15	G40	4111941	B222A04000HP KCPK15	G38
4109919	NR3094L KCU25	C172	4111753	B221A104700HP KCPK15	G38	4111845	B221A11100HP KCPK15	G40	4111942	B222A04260HP KCPK15	G38
4109920	NR3094R KCU25	C172	4111754	B221A104763HP KCPK15	G38	4111846	B221A11131HP KCPK15	G40	4111943	B222A04366HP KCPK15	G38
4109921	NR4062LK KCU25	C166	4111755	B221A104800HP KCPK15	G38	4111847	B221A11200HP KCPK15	G40	4111944	B222A04500HP KCPK15	G38
4109922	NR4062RK KCU25	C166	4111756	B221A104852HP KCPK15	G38	4111848	B221A11300HP KCPK15	G40	4111945	B222A04600HP KCPK15	G38
4109923	NR4094LK KCU25	C166	4111757	B221A104900HP KCPK15	G38	4111849	B221A11400HP KCPK15	G40	4111946	B222A04763HP KCPK15	G38
4109924	NR4094RK KCU25	C166	4111758	B221A105000HP KCPK15	G38	4111850	B221A11500HP KCPK15	G40	4111947	B222A04800HP KCPK15	G38
4109925	NR4125L KCU25	C172	4111759	B221A105100HP KCPK15	G38	4111851	B221A11509HP KCPK15	G40	4111948	B222A05000HP KCPK15	G38
4109926	NR4125LK KCU25	C166	4111760	B221A105106HP KCPK15	G38	4111852	B221A11600HP KCPK15	G40	4111949	B222A05100HP KCPK15	G38
4109927	NR4125R KCU25	C172	4111761	B221A105159HP KCPK15	G38	4111853	B221A11700HP KCPK15	G40	4111950	B222A05106HP KCPK15	G38
4109928	NR4125RK KCU25	C166	4111762	B221A105200HP KCPK15	G38	4111854	B221A11800HP KCPK15	G40	4111951	B222A05159HP KCPK15	G38
4109929	NRD3031L KCU25	C173	4111763	B221A105300HP KCPK15	G38	4111855	B221A11900HP KCPK15	G40	4111952	B222A05410HP KCPK15	G39
4109930	NRD3031R KCU25	C173	4111764	B221A105400HP KCPK15	G39	4111856	B221A11908HP KCPK15	G40	4111953	B222A05500HP KCPK15	G39
4109931	NRD3062L KCU25	C173	4111765	B221A105410HP KCPK15	G39	4111857	B221A12000HP KCPK15	G40	4111954	B222A05558HP KCPK15	G39
4109932	NRD3062R KCU25	C173	4111766	B221A105500HP KCPK15	G39	4111858	B221A12100HP KCPK15	G40	4111955	B222A05800HP KCPK15	G39
4109933	NRD4062L KCU25	C173	4111767	B221A105588HP KCPK15	G39	4111859	B221A12200HP KCPK15	G40	4111957	B222A05954HP KCPK15	G39
4109934	NRD4062R KCU25	C173	4111768	B221A105600HP KCPK15	G39	4111860	B221A12300HP KCPK15	G40	4111958	B222A06000HP KCPK15	G39
4109935	NRD4094L KCU25	C173	4111769	B221A105616HP KCPK15	G39	4111861	B221A12400HP KCPK15	G40	4111959	B222A06350HP KCPK15	G39
4109936	NRD4125L KCU25	C173	4111770	B221A105700HP KCPK15	G39	4111862	B221A12500HP KCPK15	G40	4111960	B222A06500HP KCPK15	G39
4109937	NRD4125R KCU25	C173	4111771	B221A105800HP KCPK15	G39	4111863	B221A12600HP KCPK15	G40	4111961	B222A06528HP KCPK15	G39
4109938	NT2L KCU25	D17	4111772	B221A105900HP KCPK15	G39	4111864	B221A12700HP KCPK15	G40	4111962	B222A06746HP KCPK15	G39
4109939	NT2LK KCU25	D22	4111774	B221A106000HP KCPK15	G39	4111865	B221A12800HP KCPK15	G40	4111963	B222A06800HP KCPK15	G39
4109940	NT2R KCU25	D17	4111775	B221A106100HP KCPK15	G39	4111866	B221A12900HP KCPK15	G40	4111964	B222A07000HP KCPK15	G39
4109941	NT2RK KCU25	D22	4111776	B221A106200HP KCPK15	G39	4111867	B221A13000HP KCPK15	G40	4111965	B222A07145HP KCPK15	G39
4109942	NT3L KCU25	D17	4111777	B221A106300HP KCPK15	G39	4111868	B221A13100HP KCPK15	G40	4111966	B222A07500HP KCPK15	G39
4109943	NT3LCK KCU25	D19	4111778	B221A106350HP KCPK15	G39	4111869	B221A13200HP KCPK15	G40	4111967	B222A07541HP KCPK15	G39
4109944	NT3LK KCU25	D22	4111779	B221A106400HP KCPK15	G39	4111870	B221A13300HP KCPK15	G40	4111968	B222A07800HP KCPK15	G39
4109945	NT3R KCU25	D17	4111780	B221A106500HP KCPK15	G39	4111871	B221A13500HP KCPK15	G41	4111969	B222A07938HP KCPK15	G39
4109946	NT3RCK KCU25	D19	4111781	B221A106528HP KCPK15	G39	4111872	B221A13600HP KCPK15	G41	4111970	B222A0800	

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4111975	B222A08733HP	KCPK15	G39	4112483	B225A10300HP	KCPK15	G46	4112566	B225A19300HP	KCPK15	G48
4111976	B222A08800HP	KCPK15	G39	4112484	B225A10320HP	KCPK15	G46	4112567	B225A19500HP	KCPK15	G48
4111977	B222A09000HP	KCPK15	G39	4112485	B225A10400HP	KCPK15	G46	4112568	B225A20000HP	KCPK15	G48
4111978	B222A09129HP	KCPK15	G40	4112486	B225A10500HP	KCPK15	G46	4112569	B225A20500HP	KCPK15	G48
4111979	B222A09300HP	KCPK15	G40	4112487	B225A10600HP	KCPK15	G46	4112570	B225A21000HP	KCPK15	G48
4111982	B222A09500HP	KCPK15	G40	4112488	B225A10700HP	KCPK15	G46	4112583	B225A03455HP	KCPK15	G44
4111983	B222A09525HP	KCPK15	G40	4112489	B225A10716HP	KCPK15	G46	4112584	B225A03500HP	KCPK15	G44
4111984	B222A09800HP	KCPK15	G40	4112490	B225A10800HP	KCPK15	G46	4112585	B225A03571HP	KCPK15	G44
4111985	B222A09921HP	KCPK15	G40	4112491	B225A10900HP	KCPK15	G46	4112586	B225A03600HP	KCPK15	G44
4111986	B222A10000HP	KCPK15	G40	4112492	B225A11000HP	KCPK15	G46	4112587	B225A03700HP	KCPK15	G44
4111987	B222A10200HP	KCPK15	G40	4112493	B225A11100HP	KCPK15	G46	4112588	B225A03800HP	KCPK15	G44
4111988	B222A10320HP	KCPK15	G40	4112494	B225A11133HP	KCPK15	G46	4112589	B225A03900HP	KCPK15	G44
4111989	B222A10500HP	KCPK15	G40	4112495	B225A11200HP	KCPK15	G46	4112590	B225A03970HP	KCPK15	G44
4111990	B222A10716HP	KCPK15	G40	4112496	B225A11300HP	KCPK15	G46	4112591	B225A04000HP	KCPK15	G44
4111991	B222A10800HP	KCPK15	G40	4112497	B225A11400HP	KCPK15	G46	4112592	B225A04100HP	KCPK15	G44
4111992	B222A11000HP	KCPK15	G40	4112498	B225A11500HP	KCPK15	G46	4112593	B225A04200HP	KCPK15	G44
4111993	B222A11113HP	KCPK15	G40	4112499	B225A11509HP	KCPK15	G46	4112594	B225A04300HP	KCPK15	G44
4111994	B222A11500HP	KCPK15	G40	4112500	B225A11600HP	KCPK15	G46	4112595	B225A04366HP	KCPK15	G44
4111995	B222A11509HP	KCPK15	G40	4112501	B225A11700HP	KCPK15	G46	4112596	B225A04400HP	KCPK15	G44
4111996	B222A11908HP	KCPK15	G40	4112502	B225A11800HP	KCPK15	G46	4112597	B225A04500HP	KCPK15	G44
4111997	B222A12000HP	KCPK15	G40	4112503	B225A11900HP	KCPK15	G46	4112598	B225A04600HP	KCPK15	G44
4111998	B222A12304HP	KCPK15	G40	4112504	B225A11908HP	KCPK15	G46	4112599	B225A04700HP	KCPK15	G44
4111999	B222A12500HP	KCPK15	G40	4112505	B225A12000HP	KCPK15	G46	4112600	B225A04763HP	KCPK15	G44
4112000	B222A12700HP	KCPK15	G40	4112506	B225A12100HP	KCPK15	G47	4112601	B225A04800HP	KCPK15	G44
4112001	B222A13000HP	KCPK15	G40	4112507	B225A12200HP	KCPK15	G47	4112602	B225A04900HP	KCPK15	G45
4112002	B222A13500HP	KCPK15	G41	4112508	B225A12300HP	KCPK15	G47	4112603	B225A05000HP	KCPK15	G45
4112003	B222A14000HP	KCPK15	G41	4112509	B225A12400HP	KCPK15	G47	4112604	B225A05100HP	KCPK15	G45
4112004	B222A14288HP	KCPK15	G41	4112510	B225A12500HP	KCPK15	G47	4112605	B225A05159HP	KCPK15	G45
4112005	B222A14500HP	KCPK15	G41	4112511	B225A12600HP	KCPK15	G47	4112606	B225A05200HP	KCPK15	G45
4112006	B222A15000HP	KCPK15	G41	4112512	B225A12700HP	KCPK15	G47	4112607	B225A05300HP	KCPK15	G45
4112007	B222A15500HP	KCPK15	G41	4112513	B225A12800HP	KCPK15	G47	4112608	B225A05400HP	KCPK15	G45
4112008	B222A15875HP	KCPK15	G41	4112514	B225A12900HP	KCPK15	G47	4112609	B225A05410HP	KCPK15	G45
4112009	B222A16000HP	KCPK15	G41	4112515	B225A13000HP	KCPK15	G47	4112610	B225A05500HP	KCPK15	G45
4112010	B222A16500HP	KCPK15	G41	4112516	B225A13100HP	KCPK15	G47	4112611	B225A05558HP	KCPK15	G45
4112011	B222A17000HP	KCPK15	G41	4112517	B225A13200HP	KCPK15	G47	4112612	B225A05600HP	KCPK15	G45
4112012	B222A17463HP	KCPK15	G41	4112518	B225A13300HP	KCPK15	G47	4112613	B225A05700HP	KCPK15	G45
4112013	B222A17500HP	KCPK15	G41	4112519	B225A13400HP	KCPK15	G47	4112614	B225A05800HP	KCPK15	G45
4112014	B222A18000HP	KCPK15	G41	4112520	B225A13500HP	KCPK15	G47	4112615	B225A05900HP	KCPK15	G45
4112015	B222A18500HP	KCPK15	G41	4112521	B225A13600HP	KCPK15	G47	4112616	B225A05954HP	KCPK15	G45
4112016	B222A19000HP	KCPK15	G41	4112522	B225A13700HP	KCPK15	G47	4112617	B225A06000HP	KCPK15	G45
4112017	B222A19050HP	KCPK15	G41	4112523	B225A13800HP	KCPK15	G47	4112618	B225A06100HP	KCPK15	G45
4112018	B222A20000HP	KCPK15	G41	4112525	B225A13891HP	KCPK15	G47	4112619	B225A06200HP	KCPK15	G45
4112019	B222A06700HP	KCPK15	G39	4112526	B225A13900HP	KCPK15	G47	4112620	B225A06300HP	KCPK15	G45
4112241	B225A10100HP	KCPK15	G46	4112527	B225A14000HP	KCPK15	G47	4112621	B225A06350HP	KCPK15	G45
4112242	B225A10200HP	KCPK15	G46	4112528	B225A14100HP	KCPK15	G47	4112622	B225A06400HP	KCPK15	G45
4112416	B224A04496HP	KCPK15	G44	4112529	B225A14200HP	KCPK15	G47	4112623	B225A06500HP	KCPK15	G45
4112417	B224A04700HP	KCPK15	G44	4112530	B225A14288HP	KCPK15	G47	4112624	B225A06628HP	KCPK15	G45
4112418	B224A05106HP	KCPK15	G45	4112531	B225A14300HP	KCPK15	G47	4112625	B225A06650HP	KCPK15	G45
4112419	B224A05600HP	KCPK15	G45	4112532	B225A14400HP	KCPK15	G47	4112626	B225A06700HP	KCPK15	G45
4112420	B224A05791HP	KCPK15	G45	4112533	B225A14500HP	KCPK15	G47	4112627	B225A06746HP	KCPK15	G45
4112421	B224A05944HP	KCPK15	G45	4112534	B225A14600HP	KCPK15	G47	4112628	B225A06800HP	KCPK15	G45
4112422	B224A06528HP	KCPK15	G45	4112535	B225A14684HP	KCPK15	G47	4112629	B225A06900HP	KCPK15	G45
4112443	B224A06700HP	KCPK15	G45	4112536	B225A14700HP	KCPK15	G47	4112630	B225A07000HP	KCPK15	G45
4112444	B224A06909HP	KCPK15	G45	4112537	B225A14800HP	KCPK15	G47	4112631	B225A07100HP	KCPK15	G45
4112445	B224A07366HP	KCPK15	G45	4112538	B225A14900HP	KCPK15	G47	4112632	B225A07145HP	KCPK15	G45
4112446	B224A07400HP	KCPK15	G45	4112539	B225A15000HP	KCPK15	G47	4112633	B225A07200HP	KCPK15	G45
4112447	B224A08839HP	KCPK15	G46	4112540	B225A15083HP	KCPK15	G47	4112634	B225A07300HP	KCPK15	G45
4112448	B224A09093HP	KCPK15	G46	4112541	B225A15100HP	KCPK15	G47	4112635	B225A07400HP	KCPK15	G45
4112449	B224A09400HP	KCPK15	G46	4112542	B225A15200HP	KCPK15	G47	4112636	B225A07500HP	KCPK15	G45
4112450	B224A12800HP	KCPK15	G47	4112543	B225A15300HP	KCPK15	G47	4112637	B225A07541HP	KCPK15	G45
4112451	B224A13100HP	KCPK15	G47	4112544	B225A15400HP	KCPK15	G47	4112638	B225A07600HP	KCPK15	G45
4112452	B224A13495HP	KCPK15	G47	4112545	B225A15479HP	KCPK15	G47	4112639	B225A07700HP	KCPK15	G45
4112453	B224A14500HP	KCPK15	G47	4112546	B225A15500HP	KCPK15	G47	4112640	B225A07800HP	KCPK15	G45
4112454	B225A03797HP	KCPK15	G44	4112547	B225A15600HP	KCPK15	G47	4112641	B225A07900HP	KCPK15	G45
4112455	B225A04496HP	KCPK15	G45	4112548	B225A15700HP	KCPK15	G47	4112642	B225A07938HP	KCPK15	G45
4112456	B225A05106HP	KCPK15	G45	4112549	B225A15800HP	KCPK15	G47	4112643	B225A08000HP	KCPK15	G45
4112457	B225A05791HP	KCPK15	G45	4112550	B225A15875HP	KCPK15	G47	4112644	B225A08100HP	KCPK15	G45
4112458	B225A05944HP	KCPK15	G45	4112551	B225A15900HP	KCPK15	G47	4112645	B225A08200HP	KCPK15	G45
4112459	B225A06909HP	KCPK15	G45	4112552	B225A16000HP	KCPK15	G47	4112646	B225A08300HP	KCPK15	G46
4112460	B225A07366HP	KCPK15	G45	4112553	B225A16100HP	KCPK15	G47	4112647	B225A08334HP	KCPK15	G46
4112461	B225A08839HP	KCPK15	G46	4112554	B225A16500HP	KCPK15	G47	4112648	B225A08400HP	KCPK15	G46
4112462	B225A09093HP	KCPK15	G46	4112555	B225A16670HP	KCPK15	G47	4112649	B225A08433HP	KCPK15	G46
4112463	B225A12304HP	KCPK15	G47	4112556	B225A17000HP	KCPK15	G48	4112650	B225A08500HP	KCPK15	G46
4112464	B225A13495HP	KCPK15	G47	4112557	B225A17463HP	KCPK15	G48	4112651	B225A08600HP	KCPK15	G46
4112465	B225A03048HP	KCPK15	G44	4112558	B225A17500HP	KCPK15	G48	4112652	B225A08700HP	KCPK15	G46
4112466	B225A03000HP	KCPK15	G44	4112559	B225A17700HP	KCPK15	G48	4112653	B225A08733HP	KCPK15	G46
4112467	B225A03100HP	KCPK15	G44	4112560	B225A18000HP	KCPK15	G48	4112654	B225A08800HP	KCPK15	G46
4112468	B225A03175HP	KCPK15	G44	4112561	B225A18500HP	KCPK15	G48	4112655	B225A08900HP	KCPK15	G46
4112469	B225A03200HP	KCPK15	G44	4112562	B225A19000HP	KCPK15	G48	4112656	B225A09000HP	KCPK15	G46
4112470	B225A03264HP	KCPK15	G44	4112563	B225A19050HP	KCPK15	G48	4112657	B225A09100HP	KCPK15	G46
4112471	B225A03300HP	KCPK15	G44	4112564	B225A19200HP	KCPK15	G48	4112658	B225A09129HP	KCPK15	G46
4112472	B225A03400HP	KCPK15	G44	4112565	B225A19250HP	KCPK15	G48	4112659	B225A09200HP	KCPK15	G46
4112660	B225A09300HP	KCPK15	G46					4112660	B225A09300HP	KCPK15	G46
4112661	B225A09347HP	KCPK15	G46					4112661	B225A09347HP	KCPK15	G46
4112662	B225A09400HP	KCPK15	G46					4112662	B225A09400HP	KCPK15	G46
4112663	B225A09500HP	KCPK15	G46					4112663	B225A09500HP	KCPK15	G46
4112664	B225A09525HP	KCPK15	G46					4112664	B225A09525HP	KCPK15	G46
4112665	B225A09600HP	KCPK15	G46					4112665	B225A09600HP	KCPK15	G46
4112666	B225A09625HP	KCPK15	G46					4112666	B225A09625HP	KCPK15	G46
4112667	B225A09800HP	KCPK15	G46					4112667	B225A09800HP	KCPK15	G46
4112668	B225A09900HP	KCPK15	G46					4112668	B225A09900HP	KCPK15	G46
4112669	B225A09921HP	KCPK15	G46					4112669	B225A09921HP	KCPK15	G46
4112670	B225A10000HP	KCPK15	G46					4112670	B225A10		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4112744	B224A12000HP	KCPK15	4112744	B224A12000HP	KCPK15	4116766	T630NC#06-32R3BX-A	KM6515	4117173	T620NC03125-18R3BX-A	KP6525
4112745	B224A12300HP	KCPK15	4112745	B224A12300HP	KCPK15	4116767	T630NC#08-32R3BX-A	KM6515	4117174	T620NC03750-16R2BX-A	KP6525
4112746	B224A12304HP	KCPK15	4112746	B224A12304HP	KCPK15	4116768	T630NC#10-24R3BX-A	KM6515	4117175	T620NC03750-16R3BX-A	KP6525
4112747	B224A12500HP	KCPK15	4112747	B224A12500HP	KCPK15	4116769	T630NC02500-20R2BX-A	KM6515	4117176	T620NC04375-14R3BX-A	KP6525
4112748	B224A12700HP	KCPK15	4112748	B224A12700HP	KCPK15	4116770	T630NC02500-20R3BX-A	KM6515	4117177	T620NC05000-13R3BX-A	KP6525
4112749	B224A13000HP	KCPK15	4112749	B224A13000HP	KCPK15	4116771	T630NC03125-18R2BX-A	KM6515	4117178	T620NC06250-11R3BX-A	KP6525
4112750	B224A13096HP	KCPK15	4112750	B224A13096HP	KCPK15	4116772	T630NC03125-18R3BX-A	KM6515	4117179	T620NC07500-10R3BX-A	KP6525
4112751	B224A13500HP	KCPK15	4112751	B224A13500HP	KCPK15	4116773	T630NC03750-16R2BX-A	KM6515	4117180	T620NF#08-36R3BX-A	KP6525
4112752	B224A13891HP	KCPK15	4112752	B224A13891HP	KCPK15	4116774	T630NC03750-16R3BX-A	KM6515	4117181	T620NF#10-32R2BX-A	KP6525
4112753	B224A15083HP	KCPK15	4112753	B224A15083HP	KCPK15	4116775	T630NC04375-14R3BX-A	KM6515	4117182	T620NF#10-32R3BX-A	KP6525
4112754	B224A14288HP	KCPK15	4112754	B224A14288HP	KCPK15	4116776	T630NC05000-13R2BX-A	KM6515	4117183	T620NF02500-28R2BX-A	KP6525
4112755	B224A14684HP	KCPK15	4112755	B224A14684HP	KCPK15	4116777	T630NC05000-13R3BX-A	KM6515	4117184	T620NF02500-28R3BX-A	KP6525
4112756	B224A15083HP	KCPK15	4112756	B224A15083HP	KCPK15	4116778	T630NC06250-11R2BX-A	KM6515	4117185	T620NF03125-24R3BX-A	KP6525
4112758	B224A15500HP	KCPK15	4112758	B224A15500HP	KCPK15	4116779	T630NC06250-11R3BX-A	KM6515	4117186	T620NF03750-24R3BX-A	KP6525
4112759	B224A15600HP	KCPK15	4112759	B224A15600HP	KCPK15	4116780	T630NC07500-10R2BX-A	KM6515	4117187	T620NF04375-20R3BX-A	KP6525
4112760	B224A15875HP	KCPK15	4112760	B224A15875HP	KCPK15	4116781	T630NC03125-18R3BX-A	KM6515	4117188	T620NF05000-20R3BX-A	KP6525
4112761	B224A16000HP	KCPK15	4112761	B224A16000HP	KCPK15	4116782	T630NC10000-08R3BX-A	KM6515	4118347	VPGR331	KCP25
4112762	B224A16500HP	KCPK15	4112762	B224A16500HP	KCPK15	4116783	T630NF#10-32R2BX-A	KM6515	4119190	HNGJ43ANENLD	KCPK30
4112763	B224A17000HP	KCPK15	4112763	B224A17000HP	KCPK15	4116784	T630NF02500-28R3BX-A	KM6515			S6, S12, S15
4112764	B224A17463HP	KCPK15	4112764	B224A17463HP	KCPK15	4116785	T630NF02500-28R2BX-A	KM6515	4119224	HNGJ43ANENLD	KC725M
4112765	B224A17500HP	KCPK15	4112765	B224A17500HP	KCPK15	4116786	T630NF02500-28R3BX-A	KM6515			S6, S12, S15
4112766	B224A18000HP	KCPK15	4112766	B224A18000HP	KCPK15	4116787	T630NF03125-24R2BX-A	KM6515	4119227	HNGJ43ANENLD	KCK15
4112767	B224A19000HP	KCPK15	4112767	B224A19000HP	KCPK15	4116788	T630NF03125-24R3BX-A	KM6515			S6, S12, S15
4112768	B224A19050HP	KCPK15	4112768	B224A19050HP	KCPK15	4116789	T630NF03750-24R3BX-A	KM6515	4119228	HNPJ43ANSNHD	KCPK30
4112769	B224A20000HP	KCPK15	4112769	B224A20000HP	KCPK15	4116790	T630NF04375-20R3BX-A	KM6515			S7, S13, S16
4113708	A4C0155N00CF01	KCU25	4113708	A4C0155N00CF01	KCU25	4116791	T630NF05000-20R3BX-A	KM6515	4119229	HNPJ43ANSNHD	KC725M
4113709	A4C0155R10CF01	KCU25	4113709	A4C0155R10CF01	KCU25	4116792	T630M030X050R6HX-A	KP6525			S7, S13, S16
4113710	A4C0205L06CF02	KCU25	4113710	A4C0205L06CF02	KCU25	4116820	T630M040X070R6HX-A	KP6525	4119230	HNPJ43ANSNHD	KCK15
4113711	A4C0205N00CF02	KCU25	4113711	A4C0205N00CF02	KCU25	4116821	T630M050X080R6HX-A	KP6525			S7, S13, S16
4113712	A4C0205R06CF02	KCU25	4113712	A4C0205R06CF02	KCU25	4116822	T630M060X100R6HX-A	KP6525	4119253	XNGJ43ANENLD3W	KC725M
4114283	A4C0205R10CF02	KCU25	4114283	A4C0205R10CF02	KCU25	4116823	T630M120X175R6HX-A	KM6515	4119639	HNGJ438ANENLD	KCPK30
4114284	A4C0205N00CF02	KCU25	4114284	A4C0205N00CF02	KCU25	4116824	T630M140X200R6HX-A	KM6515			S6, S12, S15
4114285	A4C0305L06CF02	KCU25	4114285	A4C0305L06CF02	KCU25	4116825	T630M160X200R6HX-A	KM6515	4119640	HNGJ438ANENLD	KC725M
4114286	A4C0305L10CF02	KCU25	4114286	A4C0305L10CF02	KCU25	4116834	T630NC#02-56R3BX-A	KP6525			S6, S12, S15
4114287	A4C0305N00CF02	KCU25	4114287	A4C0305N00CF02	KCU25	4116835	T630NC#04-40R2BX-A	KP6525	4119696	HNPJ43ANSNGD	KC520M
4114288	A4C0305R06CF02	KCU25	4114288	A4C0305R06CF02	KCU25	4116836	T630NC#04-40R3BX-A	KP6525			S7, S13, S16
4114289	A4C0305R10CF02	KCU25	4114289	A4C0305R10CF02	KCU25	4116837	T630NC#06-32R2BX-A	KP6525	4119697	HNPJ43ANSNGD	KC522M
4114290	A4C0405L06CF02	KCU25	4114290	A4C0405L06CF02	KCU25	4116838	T630NC#06-32R3BX-A	KP6525			S7, S13, S16
4114291	A4C0405L10CF02	KCU25	4114291	A4C0405L10CF02	KCU25	4116839	T630NC#08-32R3BX-A	KP6525	4119699	HNPJ43ANSNGD	KCK15
4114292	A4C0405N00CF02	KCU25	4114292	A4C0405N00CF02	KCU25	4116840	T630NC#10-24R3BX-A	KP6525			S7, S13, S16
4114293	A4C0405R06CF02	KCU25	4114293	A4C0405R06CF02	KCU25	4116841	T630NC02500-20R2BX-A	KP6525	4119700	HNPJ43ANSNGD	KCPK30
4114294	A4C0405R10CF02	KCU25	4114294	A4C0405R10CF02	KCU25	4116842	T630NC02500-20R3BX-A	KP6525			S7, S13, S16
4114295	A4G0200M02P02GMP	KCU25	4114295	A4G0200M02P02GMP	KCU25	4116843	T630M080X125R6HX-A	KP6525	4119701	HNPJ43ANSNGD	KC725M
4114296	A4G0205M02U02GMM	KCU25	4114296	A4G0205M02U02GMM	KCU25	4116844	T630M100X150R6HX-A	KP6525			S7, S13, S16
4114297	A4G0205M02U02GMP	KCU25	4114297	A4G0205M02U02GMP	KCU25	4116845	T630M120X175R6HX-A	KP6525	4119702	HNPJ43ANSNHD	KC520M
4114298	A4G0205M12B02GMP	KCU25	4114298	A4G0205M12B02GMP	KCU25	4116846	T630M140X200R6HX-A	KP6525			S7, S13, S16
4114299	A4G0300M03P02GMP	KCU25	4114299	A4G0300M03P02GMP	KCU25	4116847	T630M160X200R6HX-A	KP6525	4119703	HNPJ43ANSNHD	KC522M
4114300	A4G0300M03P04GMP	KCU25	4114300	A4G0300M03P04GMP	KCU25	4116853	T630NC03125-18R2BX-A	KM6515			S7, S13, S16
4114301	A4G0305M03U02B	KCU25	4114301	A4G0305M03U02B	KCU25	4116854	T630NC03125-18R3BX-A	KM6515	4119989	HNPJ438ANSNHD	KC522M
4114302	A4G0305M03U04GMP	KCU25	4114302	A4G0305M03U04GMP	KCU25	4116855	T630NC03750-16R2BX-A	KM6515			S7, S13, S16
4114303	A4G0305M03U02GMP	KCU25	4114303	A4G0305M03U02GMP	KCU25	4116856	T630NC03750-16R3BX-A	KM6515	4119991	HNPJ438ANSNHD	KCK15
4114304	A4G0305M03U04GMM	KCU25	4114304	A4G0305M03U04GMM	KCU25	4116857	T630NC04375-14R3BX-A	KP6525			S7, S13, S16
4114305	A4G0305M03U04GMP	KCU25	4114305	A4G0305M03U04GMP	KCU25	4116858	T630NC05000-13R2BX-A	KM6515	4119992	HNPJ438ANSNHD	KCPK30
4114306	A4G0400M04P02GMP	KCU25	4114306	A4G0400M04P02GMP	KCU25	4116859	T630NC05000-13R3BX-A	KM6515			S7, S13, S16
4114307	A4G0400M04P04GMP	KCU25	4114307	A4G0400M04P04GMP	KCU25	4116860	T630NC06250-11R2BX-A	KM6515	4120003	HNPJ438ANSNHD	KC725M
4114308	A4G0400M04P08GMP	KCU25	4114308	A4G0400M04P08GMP	KCU25	4116861	T630NC06250-11R3BX-A	KM6515			S7, S13, S16
4114309	A4G0405M04U04GMM	KCU25	4114309	A4G0405M04U04GMM	KCU25	4116862	T630NC07500-10R2BX-A	KM6515	4120661	A4G0305M03U04GMM	KCP25
4114310	A4G0405M04U04GMP	KCU25	4114310	A4G0405M04U04GMP	KCU25	4116863	T630NC07500-10R3BX-A	KM6515	4121491	B051A14000CPG	KC7325
4114311	A4G0405M04U08GMM	KCU25	4114311	A4G0405M04U08GMM	KCU25	4116864	T630NC10000-08R3BX-A	KM6515	4121505	B052A03300CPG	KC7325
4114312	A4G0405M04U08GMP	KCU25	4114312	A4G0405M04U08GMP	KCU25	4116865	T630NF#10-32R2BX-A	KP6525	4121528	B051A03200CPG	KC7325
4114313	A4G0500M05P04GMP	KCU25	4114313	A4G0500M05P04GMP	KCU25	4116866	T630NF#10-32R3BX-A	KP6525	4121529	B051A04000CPG	KC7325
4114315	A4G0505M05U04B	KCU25	4114315	A4G0505M05U04B	KCU25	4116867	T630NF02500-28R2BX-A	KM6515	4121532	B051A05900CPG	KC7325
4114316	A4G0505M05U04GMP	KCU25	4114316	A4G0505M05U04GMP	KCU25	4116868	T630NF02500-28R3BX-A	KM6515	4121534	B051A06000CPG	KC7325
4114317	A4G0505M05U04GMP	KCU25	4114317	A4G0505M05U04GMP	KCU25	4116869	T630NF03125-24R2BX-A	KM6515	4121574	HNGJ43ANFNLDJ	K313
4114318	A4G0505M05U08GMM	KCU25	4114318	A4G0505M05U08GMM	KCU25	4116870	T630NF03125-24R3BX-A	KM6515			S11, S15
4114319	A4G0505M05U08GMP	KCU25	4114319	A4G0505M05U08GMP	KCU25	4116871	T630NF03750-24R3BX-A	KM6515	4121575	HNGJ43ANFNLDJ	KC410M
4114320	A4G0600M06P04GMP	KCU25	4114320	A4G0600M06P04GMP	KCU25	4116872	T630NF04375-20R3BX-A	KM6515			S6, S11, S15
4114321	A4G0600M06P08GMP	KCU25	4114321	A4G0600M06P08GMP	KCU25	4116873	T630NF05000-20R3BX-A	KM6515	4121576	HNGJ43ANENLD	KC510M
4114322	A4G0605M06U04B	KCU25	4114322	A4G0605M06U04B	KCU25	4117139	T620NC#02-56R2BX-A	KP6525			S6, S12, S15
4114323	A4G0605M06U04GMM	KCU25	4114323	A4G0605M06U04GMM	KCU25	4117140	T620NC#02-56R3BX-A	KP6525	4121577	HNGJ43ANENLD	KC520M
4114325	A4G0605M06U08GMM	KCU25	4114325	A4G0605M06U08GMM	KCU25	4117141	T620NC#04-40R2BX-A	KP6525			S6, S12, S15
4114328	A4G0800M08P08GMP	KCU25	4114328	A4G0800M08P08GMP	KCU25	4117142	T620NC#04-40R3BX-A	KP6525	4121578	HNGJ43ANENLD	KC522M
4114329	A4										

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4121689	SNMG643MS KCJ25	B103	4129495	KTIP160R1SCF20M	H40	4130431	KSHR250HN4345C3	S10	4130714	KHSST28131	M127
4121690	SNMG644RP KCJ25	B105	4129496	KTIP170R1SCF20M	H40	4130432	KSHR250HN4345M3	S10	4130715	KHSST28132	M124
4121695	TNMG3305MS KCJ25	B125	4129497	KTIP180R1SCF25M	H40	4130433	KHSST28730	M40	4130716	KHSST28133	M127
4121696	TNMG331MS KCJ25	B125	4129498	KTIP190R1SCF25M	H40	4130448	KHSST28726	M103	4130719	KHSST28134	M124
4121697	TNMG332MS KCJ25	B125	4129499	KTIP200R1SCF25M	H40	4130493	KSHR250HN4345F3	S10	4130720	KHSST28135	M127
4121698	TNMG332RP KCJ25	B127	4129500	KTIP210R1SCF25M	H40	4130494	KSHR300HN4345C4	S10	4130721	KHSST28136	M124
4121699	TNMG333RP KCJ25	B127	4129501	KTIP220R1SCF25M	H40	4130495	KSHR300HN4345M4	S10	4130722	KHSST28137	M102
4121700	TNMG431MS KCJ25	B125	4129502	KTIP230R1SCF25M	H40	4130496	KSHR300HN4345F4	S10	4130755	KHSST28139	M157
4121701	TNMG432MS KCJ25	B125	4129503	KTIP240R1SCF25M	H40	4130497	KSHR400HN4345C6	S10	4130756	KHSST28140	M157
4121702	TNMG432RP KCJ25	B127	4129504	KTIP250R1SCF25M	H40	4130498	KSHR400HN4345M6	S10	4130757	KHSST28141	M157
4121703	TNMG433MS KCJ25	B125	4129505	KTIP260R1SCF25M	H40	4130499	KSHR400HN4345F6	S10	4130758	KHSST28142	M157
4121704	TNMG433RP KCJ25	B127	4129506	KTIP270R1SCF25M	H40	4130500	KSHR500HN4345C6	S10	4130778	KHSST28152	M41
4121705	TNMG434RP KCJ25	B127	4129506	CNG434T0420 KYS25	B350	4130501	KSHR500HN4345M6	S10	4130788	KHSST28162	M39
4121706	TNMG542MS KCJ25	B125	4129546	SNG434T0420 KYS25	B353	4130502	KSHR500HN4345F6	S10	4130789	KHSST28163	M104
4121707	TNMG543RP KCJ25	B127	4129549	SNG644E KYS25	B353	4130506	KHSST28723	M103	4130791	KHSST28165	M102
4121708	VNGG3305FSP KCJ25	B144	4129552	TNG433T0420 KYS25	B354	4130509	KHSST28721	M103	4130803	KHSST28167	M132
4121710	VNGG331FSP KCJ25	B144	4129553	TNG434T0420 KYS25	B354	4130514	KSHR100D02W075HN06	S8	4130808	KHSST28172	M158
4121711	VNGG332FSP KCJ25	B144	4129554	CNGA432E KYS25	B350	4130515	KSHR100D03W075HN06	S8	4130809	KHSST28173	M158
4121712	VNMG3305MS KCJ25	B147	4129555	CNGA432T0420 KYS25	B350	4130516	KSHR125D03W100HN06	S8	4130813	KHSST28177	M157
4121713	VNMG330MS KCJ25	B147	4129557	CNGA433T0420 KYS25	B350	4130517	KSHR125D04W100HN06	S9	4130814	KHSST28178	M157
4121714	VNMG331MS KCJ25	B147	4129562	SNGA433T0420 KYS25	B353	4130518	KSHR100D02C075HN06L480	S9	4130817	KHSST28181	M157
4121715	VNMG332MS KCJ25	B147	4129563	RCGV23E KYS25	B351	4130519	KSHR100D03C075HN06L480	S9	4131016	KHSST28184	M132
4121716	VNMG332RP KCJ25	B148	4129567	CNG453T0420 KYS25	B350	4130520	KSHR125D03C100HN06L520	S9	4131019	KHSST28187	M102
4121717	VNMG333RP KCJ25	B148	4129568	CNG452T0420 KYS25	B350	4130521	KSHR125D04C100HN06L520	S9	4131020	KHSST28188	M104
4121718	VNMG431MS KCJ25	B147	4129569	CNG453T0420 KYS25	B350	4130529	KHSST28721	M132	4131043	KHSST28189	M102
4121719	VNMG432MS KCJ25	B147	4129570	DNG452T0420 KYS25	B351	4130533	KSHR100D03C100HN06L800	S9	4131047	KHSST28192	M38
4121720	VNMG332MS KCJ25	B160	4129571	DNG453T0420 KYS25	B351	4130547	KHSST28716	M103	4131050	KHSST28194	M134
4121721	VNMG332RP KCJ25	B161	4129576	RNG45T0425 KYS25	B352	4130555	KHSST28709	M103	4131052	KHSST28195	M133
4121722	VNMG4305MS KCJ25	B160	4129577	RCGV45T0425 KYS25	B351	4130557	KHSST28707	M103	4131054	KHSST28196	M158
4121723	VNMG431MS KCJ25	B160	4129769	KHSST28002	M157	4130573	KHSST28700	M103	4131056	KHSST28197	M158
4121724	VNMG432MS KCJ25	B160	4129916	KHSST28003	M128-129	4130575	KHSST28698	M130	4131061	KHSST28201	M102
4121725	VNMG432RP KCJ25	B161	4129917	KHSST28004	M126	4130578	KHSST28695	M130	4131065	KHSST28204	M38
4121726	VNMG433RP KCJ25	B161	4129921	KHSST28008	M129	4130581	KHSST28692	M103	4131068	KHSST28207	M132
4121727	VNMG434RP KCJ25	B161	4129922	KHSST28009	M126	4130583	KHSST28057	M158	4131070	KHSST28209	M38
4124962	B051A02000CPG KC7325	G14	4129952	KHSST28791	M133	4130584	KHSST28058	M158	4131071	KHSST28210	M102
4125849	A4G0505M05U04GMN KCP10	C106	4129962	KHSST28787	M102	4130588	KHSST28060	M157	4131072	KHSST28211	M102
4129398	RCGV45E KYS25	B351	4129964	KHSST28786	M104	4130590	KHSST28062	M102	4131073	KHSST28212	M104
4129399	RCGV45T0420 KYS25	B351	4129966	KHSST28785	M102	4130592	KHSST28064	M132	4131075	KHSST28213	M102
4129400	RPV35E KYS25	B352	4129968	KHSST28784	M38	4130595	KHSST28067	M158	4131079	KHSST28217	M134
4129402	RPV45E KYS25	B352	4129979	KHSST28015	M129	4130596	KHSST28068	M158	4131080	KHSST28218	M133
4129443	KTIP080R1SS10M	H38	4129982	KHSST28016	M126	4130600	KHSST28072	M38	4131081	KHSST28219	M40
4129444	KTIP085R1SS10M	H38	4129984	KHSST28781	M133	4130601	KHSST28073	M104	4131082	KHSST28220	M38
4129445	KTIP090R1SS10M	H38	4129985	KHSST28780	M104	4130602	KHSST28074	M102	4131103	KHSST28221	M102
4129446	KTIP095R1SS10M	H38	4129986	KHSST28779	M102	4130610	KHSST28683	M103	4131106	KHSST28223	M102
4129447	KTIP100R1SS12M	H38	4129989	KHSST28776	M38	4130611	KHSST28682	M130	4131110	KHSST28226	M134
4129448	KTIP105R1SS12M	H38	4129991	KHSST28774	M102	4130612	KHSST28681	M41	4131113	KHSST28228	M39
4129449	KTIP110R1SS12M	H38	4129998	KHSST28020	M129	4130615	KHSST28077	M134	4131116	KHSST28231	M102
4129450	KTIP115R1SS12M	H38	4130013	KHSST28021	M126	4130616	KHSST28078	M133	4131118	KHSST28233	M132
4129451	KTIP120R1SS14M	H38	4130020	KHSST28028	M129	4130619	KHSST28080	M38	4131121	KHSST28235	M128-129
4129452	KTIP125R1SS14M	H38	4130021	KHSST28029	M126	4130620	KHSST28081	M102	4131156	KHSST28239	M132
4129453	KTIP130R1SS14M	H38	4130035	KHSST28032	M129	4130621	KHSST28082	M104	4131159	KHSST28242	M125-126
4129454	KTIP135R1SS14M	H38	4130036	KHSST28033	M126	4130622	KHSST28083	M102	4131161	KHSST28244	M36
4129455	KTIP140R1SS16M	H38	4130058	KHSST28762	M102	4130634	KHSST28085	M133	4131162	KHSST28245	M36
4129456	KTIP145R1SS16M	H38	4130059	KHSST28761	M102	4130635	KHSST28086	M132	4131163	KHSST28246	M37
4129457	KTIP150R1SS16M	H38	4130063	KHSST28040	M126	4130640	KHSST28091	M158	4131164	KHSST28247	M37
4129458	KTIP160R1SS18M	H38	4130066	KHSST28043	M126	4130641	KHSST28092	M158	4131165	KHSST28248	M36
4129459	KTIP170R1SS18M	H38	4130070	KHSST28047	M102	4130642	KHSST28093	M158	4131167	KHSST28249	M36
4129460	KTIP180R1SS20M	H38	4130071	KHSST28048	M104	4130653	KHSST28094	M158	4131168	KHSST28250	M37
4129461	KTIP190R1SS20M	H38	4130072	KHSST28049	M102	4130662	KHSST28102	M128	4131169	KHSST28251	M37
4129462	KTIP200R1SS25M	H38	4130083	KHSST28757	M36	4130664	KHSST28104	M158	4131170	KHSST28252	M36
4129463	KTIP210R1SS25M	H38	4130105	KHSST28752	M133	4130666	KHSST28106	M157	4131171	KHSST28253	M36
4129464	KTIP220R1SS25M	H38	4130368	KHSST28751	M134	4130667	KHSST28107	M157	4131172	KHSST28254	M36
4129465	KTIP230R1SS25M	H38	4130372	KHSST28747	M102	4130669	KHSST28109	M157	4131184	KHSST28255	M36
4129466	KTIP240R1SS25M	H38	4130392	RCGV35E KYS25	B351	4130671	KHSST28111	M36	4131185	KHSST28256	M36
4129467	KTIP250R1SS32M	H38	4130393	KHSST28746	M104	4130672	KHSST28112	M36	4131186	KHSST28257	M36
4129468	KTIP260R1SS32M	H38	4130394	KHSST28745	M102	4130683	KHSST28113	M36	4131187	KHSST28258	M36
4129469	KTIP270R1SS32M	H38	4130397	KHSST28744	M38	4130684	KHSST28114	M129	4131189	KHSST28259	M36
4129470	KTIP080R1SCF12M	H40	4130400	KHSST28743	M40	4130685	KHSST28115	M126	4131190	KHSST28260	M36
4129471	KTIP085R1SCF12M	H40	4130403	KHSST28742	M133	4130686	KHSST28116	M125	4131191	KHSST28261	M36
4129472	KTIP090R1SCF12M	H40	4130408	KHSST28740	M102	4130688	KHSST28117	M128	4131192	KHSST28262	M36
4129483	KTIP095R1SCF12M	H40	4130409	KHSST28739	M104	4130689	KHSST28118	M126	4131213	KHSST28263	M36
4129484	KTIP100R1SCF16M	H40	4130411	KHSST28738	M102	4130690	KHSST28119	M128	4131214	KHSST28264	M36
4129485	KTIP105R1SCF16M	H40	4130413	KHSST28737	M38	4130691	KHSST28120	M125	4131215	KHSST28265	M36
4129486	KTIP110R1SCF16M	H40	4130419	KHSST28733	M36	4130692	KHSST28121	M125	4131216	KHSST28266	M36
4129487	KTIP115R1SCF16M	H40	4130421	KHSST28732	M36	4130703	KHSST28122	M128	4131217	KHSST28267	M36
4129488	KTIP120R1SCF16M	H40	4130422	KHSST28731	M36	4130705	KHSST28123	M125	4131220	KHSST28268	M36
4129489	KTIP125R1SCF16M	H40	4130423	RCGV35T0420 KYS25	B351	4130706	KHSST28124	M129	4131221	KHSST28269	M36
4129490	KTIP130R1SCF16M	H40	4130426	KSHR150HN4345M3	S10	4130707	KHSST28125	M126	4131222	KHSST28270	M36
4129491	KTIP135R1SCF16M	H40	4130427	KSHR150HN4345F2	S10	4130710	KHSST28127	M125	4131255	KHSST28271	M36
4129492	KTIP140R1SCF16M	H40	4130428	KSHR200HN4345C3	S10	4130711	KHSST28128	M127	4131257	KHSST28272	M36
4129493	KTIP145R1SCF16M	H40	4130429	KSHR200HN4345M3	S10	4130712	KHSST28129	M124	4131258	KHSST28273	M36
4129494	KTIP150R1SCF20M	H40	4130430	KSHR200HN4345F3	S10	4130713	KHSST28130	M127	4131260	KHSST28274	M36

For page references A-E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4131261	KHSST28275	M36	4131561	KHSST28417	M124	4135778	TM721NC2500-20R2DHA KCU32	M166	4138374	TM741NF2500-28R2DHA KCU36	M168
4131262	KHSST28276	M36	4131593	KHSST28419	M127	4135779	TM721NC3125-18R2DHA KCU32	M166	4138375	TM741NF3125-24R2DHA KCU36	M168
4131263	KHSST28277	M36	4131594	KHSST28420	M127	4135780	TM721NC3750-16R2DHA KCU32	M166	4138376	TM741NF3750-24R2DHA KCU36	M168
4131264	KHSST28278	M129	4131599	KHSST28423	M127	4135781	TM721NC4375-14R2DHA KCU32	M166	4138378	TM741NF0500-20R2DHA KCU36	M168
4131265	KHSST28279	M126	4131601	KHSST28425	M124	4135782	TM721NC0500-13R2DHA KCU32	M166	4138380	TM741NF0625-18R2DHA KCU36	M168
4131267	KHSST28281	M126	4131602	KHSST28426	M124	4135783	TM721NC5625-12R2DHA KCU32	M166	4138381	TM741NC0750-16R2DHA KCU36	M168
4131268	KHSST28282	M129	4131613	KHSST28427	M124	4135784	TM721NC0625-11R2DHA KCU32	M166	4139437	KSEM1760HPCCLM KC7410	H60
4131269	KHSST28283	M126	4131614	KHSST28428	M124	4135823	TM731M040X070R2DHA KCU32	M167	4140842	KSEM3920HPCCLM KC7410	H61
4131272	KHSST28286	M126	4131615	KHSST28429	M127	4135824	TM731M050X080R2DHA KCU32	M167	4141558	SSP8	S104
4131283	KHSST28287	M128	4131742	KHSST28433	M124	4135825	TM731M060X100R2DHA KCU32	M167	4142614	KSEM2101HPCCLM KC7410	H60
4131285	KHSST28289	M128	4131803	KHSST28440	M124	4135826	TM731M080X125R2DHA KCU32	M167	4146399	WNGA432T0420 KYS30	B354
4131286	KHSST28290	M128	4131807	KHSST28443	M157	4135827	TM731M100X150R2DHA KCU32	M167	4146400	WNGA434T0420 KYS30	B354
4131287	KHSST28291	M125	4131809	KHSST28444	M157	4135828	TM731M120X175R2DHA KCU32	M167	4146401	KNGA432E KYS30	B350
4131289	KHSST28293	M125	4131810	KHSST28445	M157	4135830	TM731M160X200R2DHA KCU32	M167	4146402	CNGA432T0420 KYS30	B350
4131290	KHSST28294	M128	4131811	KHSST28446	M157	4135832	TM731MF080X100R2DHA KCU32	M167	4146424	CNGA433T0420 KYS30	B350
4131291	KHSST28295	M128	4131812	KHSST28447	M41	4136208	B269A03000HP KCPK15	G62	4146427	CNGA432T0420 KYS30	B351
4131292	KHSST28296	M125	4131823	KHSST28448	M41	4136209	B269A08500HP KCPK15	G63	4146428	DNGA433T0420 KYS30	B351
4131294	KHSST28298	M125	4131843	KHSST28455	M131	4136210	B269A14000HP KCPK15	G64	4146429	SNGA433T0420 KYS30	B353
4131297	KHSST28301	M128	4131846	KHSST28458	M131	4136381	MEGA90D500LN76M6	S100	4146436	KNGA432E KYS30	B350
4131298	KHSST28302	M126	4131850	KHSST28462	M131	4136382	MEGA90D600LN76M8	S100	4146437	CNGA454T0420 KYS30	B350
4131300	KHSST28304	M128	4131878	KHSST28465	M131	4136385	MEGA90D1000LN76C10	S100	4146438	RCGV45T0425 KYS30	B351
4131301	KHSST28305	M126	4131943	KHSST28476	M103	4136387	MEGA90D1200LN76C10	S100	4146440	KNGA432T0420 KYS30	B352
4131315	KHSST28308	M128	4131947	KHSST28478	M103	4136388	MEGA90D1200LN76M10	S100	4146442	RNGA45T0225 KYS30	B352
4131316	KHSST28309	M125	4131971	KHSST28675	M132	4136389	KSHRHD150HN43M2	S14	4146443	CNGA45T0420 KYS30	B352
4131318	KHSST28311	M128	4131972	KHSST28674	M102	4136390	KSHRHD150HN43F2	S14	4146445	RNG65T0420 KYS30	B352
4131320	KHSST28313	M128	4131994	KHSST28672	M102	4136391	KSHRHD200HN43C3	S14	4146446	SNGA432T0420 KYS30	B353
4131321	KHSST28314	M125	4131995	KHSST28671	M104	4136392	KSHRHD200HN43M3	S14	4146447	SNGA433T0420 KYS30	B353
4131334	KHSST28317	M128	4131997	KHSST28670	M102	4136394	KSHRHD200HN43M3	S14	4146448	SNGA430T0420 KYS30	B353
4131335	KHSST28318	M125	4132075	KHSST28526	M39	4136395	KSHRHD300HN43C4	S14	4146451	SNGA454T0420 KYS30	B353
4131336	KHSST28319	M128	4132076	KHSST28527	M39	4136396	KSHRHD300HN43M4	S14	4146453	SNG644T0420 KYS30	B353
4131340	KHSST28323	M125	4132077	KHSST28528	M39	4136397	KSHRHD500HN43C6	S14	4146454	KSGM65E KYS30	B353
4131357	KHSST28329	M129	4132078	KHSST28529	M39	4136399	KSHRHD500HN43C6	S14	4146459	CNGX452T0420 KYS30	B350
4131359	KHSST28330	M126	4132080	KHSST28531	M39	4136400	KSHRHD500HN43M6	S14	4146461	CNGX453T0420 KYS30	B350
4131370	KHSST28338	M129	4132081	KHSST28532	M39	4136407	KSHRHF100D02C075HN43L480	S4	4146462	CNGX454E KYS30	B350
4131371	KHSST28339	M126	4132093	KHSST28534	M39	4136408	KSHRHF100D03C075HN43L480	S4	4146464	DNGX453T0420 KYS30	B351
4131372	KHSST28340	M128	4132602	1.18025R110	E16	4136410	KSHRHF125D04C100HN43L520	S4	4146465	DNGX454T0420 KYS30	B351
4131383	KHSST28341	M125	4132633	1.78025L100	E19	4136411	KSHRHF125D04N43F3	S5	4146466	CNGA433T0420 KYS30	B353
4131384	KHSST28342	M128	4132634	1.78025R100	E19	4136412	KSHRHF200HN43M3	S5	4146467	SNGX454T0420 KYS30	B353
4131385	KHSST28343	M125	4132641	1.18025R310Z	E20, E22	4136413	KSHRHF250HN43M3	S5	4146468	RP32E KYS30	B352, V157
4131386	KHSST28344	M128	4132647	1.38025R021Z	E20, E22	4136414	KSHRHF250HN43M4	S5	4146469	RCGV23E KYS30	B351
4131388	KHSST28345	M126	4132649	1.77125R300Z	E21, E23	4137020	A4G0305M03U02GMN KCP25	C106	4146470	RCGV35E KYS30	B351
4131389	KHSST28346	M126	4132653	1.78025L300Z	E21, E23	4137022	A4G0405M04U04GMN KCP25	C106	4146471	RCGV35T0225 KYS30	B351
4131390	KHSST28347	M128	4132655	1.78032L400Z	E21, E23	4137043	A4G0405M04U08GMN KCP25	C106	4146472	RCGV35T0420 KYS30	B351
4131391	KHSST28348	M125	4132877	B977A06150 KC7315	G135	4137044	A4G0505M05U04GMN KCP25	C106	4146473	RCGV45E KYS30	B351
4131392	KHSST28349	M125	4133732	RNG45T0425 KYS30	B352	4137045	A4G0505M05U08GMN KCP25	C106	4146474	RCGV45E0420 KYS30	B351
4131393	KHSST28350	M128	4135418	LNPU763PNSRHD KCPK30	S99, S101	4137047	A4G0805M08U08GMN KCP25	C106	4146475	RPV35E KYS30	B352
4131395	KHSST28351	M125	4135419	LNPU763PNSRHD KCK15	S99, S101	4137052	A4G0805M08U12GMN KCP25	C106	4146476	RPV35T0420 KYS30	B352
4131396	KHSST28352	M126	4135420	LNPU763PNSRHD KC725M	S99, S101	4137279	CCN0500J4AH KCN05	P136	4146477	RPV45E KYS30	B352
4131397	KHSST28353	M128	4135435	HNPJ755ANSNGD KC520M	S25	4137280	CCN0500J4BH KCN05	P136	4146478	RCGV45T0420 KYS30	B352
4131400	KHSST28356	M125	4135438	HNPJ759ANSNHG KC520M	S26	4137446	CCN0250J3AH KCN05	P136	4146482	RNGJ1204MOFLDJ KC422M	V55
4131423	KHSST28358	M125	4135574	TM711M030X050R2DHA KCU33	M165	4137447	CCN0250J3BH KCN05	P136	4146583	RNGJ1204MOELD KCPK30	V55
4131424	KHSST28359	M125	4135575	TM711M040X070R2DHA KCU33	M165	4137448	CCN0375J4AH KCN05	P136	4146584	RNGJ1204MOELD KC522M	V55
4131427	KHSST28361	M125	4135576	TM711M050X080R2DHA KCU33	M165	4137449	CCN0375J4BH KCN05	P136	4146585	RNGJ1204MOELD KC725M	V55
4131430	KHSST28364	M125	4135577	TM711M060X100R2DHA KCU33	M165	4137459	CCB0250JXAS KCN05	P138	4146586	RNGJ1204MOSGD KCPK30	V55
4131431	KHSST28365	M126	4135578	TM711M080X125R2DHA KCU33	M165	4137460	CCB0250JXBS KCN05	P138	4146587	RNGJ1204MOSGD KC522M	V55
4131432	KHSST28366	M125	4135579	TM711M100X150R2DHA KCU33	M165	4137461	CCB0375JXAS KCN05	P138	4146588	RNGJ1204MOSGD KC725M	V55
4131435	KHSST28368	M127	4135580	TM711M120X175R2DHA KCU33	M165	4137462	CCB0375JXBS KCN05	P138	4147474	RNGJ1204MOSHD KCPK30	V56
4131440	KHSST28371	M127	4135581	TM711M140X200R2DHA KCU33	M165	4137473	CCB0500JXAS KCN05	P138	4147477	RNGJ1204MOSHD KC725M	V56
4131442	KHSST28372	M124	4135582	TM711M160X200R2DHA KCU33	M165	4137474	CCB0500JXBS KCN05	P138	4147496	MEGA60D500LN76M6	S98
4131463	KHSST28373	M127	4135663	TM711M180X250R2DHA KCU33	M165	4137719	CDDC0250J6AH KCN05	P137	4147497	MEGA60D600LN76M8	S98
4131464	KHSST28374	M127	4135664	TM711M200X250R2DHA KCU33	M165	4137720	CDDC0250J6BH KCN05	P137	4147499	MEGA60D800LN76M10	S98
4131465	KHSST28375	M127	4135665	TM711MF040X050R2DHA KCU33	M165	4137721	CDDC0375J6AH KCN05	P137	4147523	MEGA60D1200LN76M10	S98
4131466	KHSST28376	M124	4135666	TM711MF050X050R2DHA KCU33	M165	4137722	CDDC0375J6BH KCN05	P137	4148475	B051A18000CPG KC7325	G18
4131469	KHSST28379	M127	4135667	TM711MF060X075R2DHA KCU33	M165	4137733	CDDC0500J6AH KCN05	P137	4148476	B051A181000CPG KC7325	G18
4131470	KHSST28380	M124	4135668	TM711MF080X075R2DHA KCU33	M165	4137734	CDDC0500J6BH KCN05	P137	4148477	B051A182000CPG KC7325	G18
4131476	KHSST28384	M127	4135669	TM711MF080X100R2DHA KCU33	M165	4138292	TM741M060X100R2DHA KCU36	M169	4148478	B051A182580CPG KC7325	G18
4131480	KHSST28388	M127	4135670	TM711MF100X100R2DHA KCU33	M165	4138344	TM741M080X125R2DHA KCU36	M169	4148479	B051A183000CPG KC7325	G18
4131481	KHSST28389	M124	4135671	TM711MF120X100R2DHA KCU33	M165	4138346	TM741M100X150R2DHA KCU36	M169	4148480	B051A184000CPG KC7325	G19
4131496	KHSST28394	M127	4135672	TM711MF120X150R2DHA KCU33	M165	4138348	TM741MF120X150R2DHA KCU36	M169	4148481	B051A185000CPG KC7325	G19
4131497	KHSST28395	M127	4135673	TM711MF140X150R2DHA KCU33	M165	4138349	TM741M120X175R2DHA KCU36	M169	4148482	B051A186000CPG KC7325	G19
4131498	KHSST28396	M124	4135674	TM711MF160X150R2DHA KCU33	M165	4138350	TM741M140X200R2DHA KCU36	M169	4148583	B051A186540CPG KC7325	G19
4131499	KHSST28397	M124	4135675	TM711MF180X150R2DHA KCU33	M165	4138351	TM741M160X200R2DHA KCU36	M169	4148584	B051A187000CPG KC7325	G19
4131501	KHSST28399	M127	4135676	TM711MF200X150R2DHA KCU33	M165	4138352	TM741M180X250R2DHA				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4150330	B041A13700CPG	KC7325	G12	4150461	B051A10600CPG	KC7325	G17	4150713	B042A08200CPG	KC7325	G10
4150331	B041A13800CPG	KC7325	G12	4150462	B051A10700CPG	KC7325	G17	4150714	B042A08300CPG	KC7325	G10
4150332	B041A13891CPG	KC7325	G12	4150602	B042A03000CPG	KC7325	G9	4150715	B042A08334CPG	KC7325	G10
4150333	B041A13900CPG	KC7325	G12	4150603	B042A03048CPG	KC7325	G9	4150716	B042A08400CPG	KC7325	G10
4150334	B041A14000CPG	KC7325	G12	4150634	B042A03100CPG	KC7325	G9	4150717	B042A08433CPG	KC7325	G10
4150335	B041A14100CPG	KC7325	G12	4150635	B042A03175CPG	KC7325	G9	4150718	B042A08500CPG	KC7325	G10
4150336	B041A14200CPG	KC7325	G12	4150636	B042A03200CPG	KC7325	G9	4150719	B042A08600CPG	KC7325	G10
4150337	B041A14288CPG	KC7325	G12	4150637	B042A03264CPG	KC7325	G9	4150720	B042A08700CPG	KC7325	G10
4150338	B041A14300CPG	KC7325	G12	4150638	B042A03300CPG	KC7325	G9	4150721	B042A08733CPG	KC7325	G10
4150339	B041A14400CPG	KC7325	G12	4150639	B042A03400CPG	KC7325	G9	4150722	B042A08800CPG	KC7325	G10
4150340	B041A14500CPG	KC7325	G12	4150640	B042A03455CPG	KC7325	G9	4150723	B042A08900CPG	KC7325	G10
4150341	B041A14600CPG	KC7325	G12	4150641	B042A03500CPG	KC7325	G9	4150724	B042A09000CPG	KC7325	G10
4150342	B041A14684CPG	KC7325	G12	4150642	B042A03571CPG	KC7325	G9	4150725	B042A09100CPG	KC7325	G10
4150343	B041A14700CPG	KC7325	G12	4150643	B042A03600CPG	KC7325	G9	4150726	B042A09129CPG	KC7325	G10
4150344	B041A14800CPG	KC7325	G12	4150644	B042A03658CPG	KC7325	G9	4150727	B042A09200CPG	KC7325	G10
4150345	B041A14900CPG	KC7325	G12	4150645	B042A03700CPG	KC7325	G9	4150728	B042A09300CPG	KC7325	G10
4150346	B041A15000CPG	KC7325	G12	4150646	B042A03734CPG	KC7325	G9	4150729	B042A09347CPG	KC7325	G10
4150347	B041A15083CPG	KC7325	G12	4150647	B042A03800CPG	KC7325	G9	4150730	B042A09400CPG	KC7325	G11
4150348	B041A15100CPG	KC7325	G12	4150648	B042A03900CPG	KC7325	G9	4150731	B042A09500CPG	KC7325	G11
4150349	B041A15200CPG	KC7325	G12	4150649	B042A03970CPG	KC7325	G9	4150732	B042A09525CPG	KC7325	G11
4150350	B041A15300CPG	KC7325	G12	4150650	B042A04000CPG	KC7325	G9	4150733	B042A09600CPG	KC7325	G11
4150351	B041A15400CPG	KC7325	G12	4150651	B042A04039CPG	KC7325	G9	4150734	B042A09700CPG	KC7325	G11
4150352	B041A15479CPG	KC7325	G12	4150652	B042A04090CPG	KC7325	G9	4150735	B042A09800CPG	KC7325	G11
4150353	B041A15500CPG	KC7325	G12	4150653	B042A04100CPG	KC7325	G9	4150736	B042A09900CPG	KC7325	G11
4150354	B041A15600CPG	KC7325	G12	4150654	B042A04200CPG	KC7325	G9	4150737	B042A09921CPG	KC7325	G11
4150355	B041A15700CPG	KC7325	G12	4150655	B042A04217CPG	KC7325	G9	4150738	B042A10000CPG	KC7325	G11
4150356	B041A15800CPG	KC7325	G12	4150656	B042A04300CPG	KC7325	G9	4150739	B042A10100CPG	KC7325	G11
4150357	B041A15875CPG	KC7325	G12	4150657	B042A04366CPG	KC7325	G9	4150740	B042A10100CPG	KC7325	G11
4150358	B041A15900CPG	KC7325	G12	4150658	B042A04400CPG	KC7325	G9	4150741	B042A10200CPG	KC7325	G11
4150359	B041A16000CPG	KC7325	G12	4150659	B042A04500CPG	KC7325	G9	4150742	B042A10300CPG	KC7325	G11
4150360	B041A16100CPG	KC7325	G12	4150660	B042A04600CPG	KC7325	G9	4150743	B042A10320CPG	KC7325	G11
4150361	B041A16200CPG	KC7325	G12	4150661	B042A04623CPG	KC7325	G9	4150744	B042A10400CPG	KC7325	G11
4150362	B041A16271CPG	KC7325	G12	4150662	B042A04700CPG	KC7325	G9	4150745	B042A10500CPG	KC7325	G11
4150363	B041A16300CPG	KC7325	G12	4150663	B042A04763CPG	KC7325	G9	4150746	B042A10600CPG	KC7325	G11
4150364	B041A16400CPG	KC7325	G12	4150664	B042A04800CPG	KC7325	G9	4150747	B042A10700CPG	KC7325	G11
4150365	B041A16500CPG	KC7325	G12	4150665	B042A04852CPG	KC7325	G9	4150748	B042A10716CPG	KC7325	G11
4150366	B041A16600CPG	KC7325	G12	4150666	B042A04900CPG	KC7325	G9	4150749	B042A10800CPG	KC7325	G11
4150367	B041A16670CPG	KC7325	G12	4150667	B042A05000CPG	KC7325	G9	4150750	B042A10900CPG	KC7325	G11
4150368	B041A16700CPG	KC7325	G12	4150668	B042A05100CPG	KC7325	G9	4150751	B042A11000CPG	KC7325	G11
4150369	B041A16800CPG	KC7325	G12	4150669	B042A05106CPG	KC7325	G9	4150752	B042A11100CPG	KC7325	G11
4150370	B041A16900CPG	KC7325	G12	4150670	B042A05159CPG	KC7325	G9	4150753	B042A11130CPG	KC7325	G11
4150371	B041A17000CPG	KC7325	G12	4150671	B042A05200CPG	KC7325	G9	4150754	B042A11200CPG	KC7325	G11
4150372	B041A17100CPG	KC7325	G12	4150672	B042A05300CPG	KC7325	G9	4150755	B042A11300CPG	KC7325	G11
4150373	B041A17200CPG	KC7325	G12	4150673	B042A05400CPG	KC7325	G9	4150756	B042A11400CPG	KC7325	G11
4150374	B041A17300CPG	KC7325	G12	4150674	B042A05410CPG	KC7325	G9	4150757	B042A11500CPG	KC7325	G11
4150375	B041A17400CPG	KC7325	G12	4150675	B042A05500CPG	KC7325	G9	4150758	B042A11509CPG	KC7325	G11
4150376	B041A17463CPG	KC7325	G12	4150676	B042A05588CPG	KC7325	G9	4150759	B042A11600CPG	KC7325	G11
4150377	B041A17500CPG	KC7325	G12	4150677	B042A05600CPG	KC7325	G10	4150760	B042A11700CPG	KC7325	G11
4150378	B041A17600CPG	KC7325	G12	4150678	B042A05616CPG	KC7325	G10	4150761	B042A11800CPG	KC7325	G11
4150379	B041A17700CPG	KC7325	G12	4150679	B042A05700CPG	KC7325	G10	4150762	B042A11900CPG	KC7325	G11
4150380	B041A17800CPG	KC7325	G12	4150680	B042A05800CPG	KC7325	G10	4150763	B042A11908CPG	KC7325	G11
4150381	B041A17859CPG	KC7325	G12	4150681	B042A05900CPG	KC7325	G10	4150764	B042A12000CPG	KC7325	G11
4150382	B041A17900CPG	KC7325	G13	4150682	B042A05954CPG	KC7325	G10	4150765	B042A12100CPG	KC7325	G11
4150403	B041A18000CPG	KC7325	G13	4150683	B042A06000CPG	KC7325	G10	4150766	B042A12200CPG	KC7325	G11
4150404	B041A18100CPG	KC7325	G13	4150684	B042A06100CPG	KC7325	G10	4150767	B042A12300CPG	KC7325	G11
4150405	B041A18200CPG	KC7325	G13	4150685	B042A06200CPG	KC7325	G10	4150768	B042A12304CPG	KC7325	G11
4150406	B041A18258CPG	KC7325	G13	4150686	B042A06300CPG	KC7325	G10	4150769	B042A12400CPG	KC7325	G11
4150407	B041A18300CPG	KC7325	G13	4150688	B042A06350CPG	KC7325	G10	4150770	B042A12500CPG	KC7325	G11
4150408	B041A18400CPG	KC7325	G13	4150689	B042A06400CPG	KC7325	G10	4150771	B042A12600CPG	KC7325	G11
4150409	B041A18500CPG	KC7325	G13	4150690	B042A06500CPG	KC7325	G10	4150772	B042A12700CPG	KC7325	G11
4150410	B041A18600CPG	KC7325	G13	4150691	B042A06528CPG	KC7325	G10	4150773	B042A12800CPG	KC7325	G11
4150411	B041A18654CPG	KC7325	G13	4150692	B042A06600CPG	KC7325	G10	4150774	B042A12900CPG	KC7325	G11
4150412	B041A18700CPG	KC7325	G13	4150693	B042A06630CPG	KC7325	G10	4150775	B042A13000CPG	KC7325	G11
4150413	B041A18800CPG	KC7325	G13	4150694	B042A06700CPG	KC7325	G10	4150776	B042A13096CPG	KC7325	G11
4150414	B041A18900CPG	KC7325	G13	4150695	B042A06746CPG	KC7325	G10	4150777	B042A13100CPG	KC7325	G11
4150415	B041A19000CPG	KC7325	G13	4150696	B042A06800CPG	KC7325	G10	4150778	B042A13200CPG	KC7325	G11
4150416	B041A19050CPG	KC7325	G13	4150697	B042A06900CPG	KC7325	G10	4150779	B042A13300CPG	KC7325	G11
4150417	B041A19100CPG	KC7325	G13	4150698	B042A07000CPG	KC7325	G10	4150780	B042A13400CPG	KC7325	G11
4150418	B041A19200CPG	KC7325	G13	4150699	B042A07100CPG	KC7325	G10	4150781	B042A13500CPG	KC7325	G11
4150419	B041A19300CPG	KC7325	G13	4150700	B042A07145CPG	KC7325	G10	4150782	B042A13600CPG	KC7325	G11
4150420	B041A19400CPG	KC7325	G13	4150701	B042A07200CPG	KC7325	G10	4150783	B042A13700CPG	KC7325	G12
4150421	B041A19500CPG	KC7325	G13	4150702	B042A07300CPG	KC7325	G10	4150784	B042A13800CPG	KC7325	G12
4150422	B041A19600CPG	KC7325	G13	4150703	B042A07400CPG	KC7325	G10	4150785	B042A13891CPG	KC7325	G12
4150423	B041A19700CPG	KC7325	G13	4150704	B042A07500CPG	KC7325	G10	4150786	B042A13900CPG	KC7325	G12
4150424	B041A19800CPG	KC7325	G13	4150705	B042A07541CPG	KC7325	G10	4150787	B042A14000CPG	KC7325	G12
4150425	B041A19900CPG	KC7325	G13	4150706	B042A07600CPG	KC7325	G10	4150788	B042A14100CPG	KC7325	G12
4150426	B041A20000CPG	KC7325	G13	4150707	B042A07700CPG	KC7325	G10	4150789	B042A14200CPG	KC7325	G12
4150456	B051A10200CPG	KC7325	G17	4150708	B042A07800CPG	KC7325	G10	4150790	B042A14288CPG	KC7325	G12
4150457	B051A10300CPG	KC7325	G17	4150709	B042A07900CPG	KC7325	G10	4150791	B042A14300CPG	KC7325	G12
4150458	B051A10320CPG	KC7325	G17	4150710	B042A07938CPG	KC7325	G10	4150792	B042A14400CPG	KC7325	G12
4150459	B051A10400CPG	KC7325	G17	4150711	B042A08000CPG	KC7325	G10	4150793	B042A14500CPG	KC7325	G12
4150460	B051A10500CPG	KC7325	G17	4150712	B042A08100CPG	KC7325	G10	4150794	B042A14600CPG	KC7325	G12
								4150795	B042A14684CPG	KC7325	G12

For page references A–E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4154111	T600M160X200R6HX-D6 KSP21	M22	4158488	T622MF100X100R6HX-D74 KSP21	M139	4158958	KTIP1260HPM KCP15	H33	4159271	KTIP07580HP KCP15	H33
4154112	T600M180X250R6HX-D6 KSP21	M22	4158489	T622MF100X125R6HX-D74 KSP21	M139	4158959	KTIP0500HPM KCP15	H33	4159272	KTIP1930HPM KCP15	H33
4154113	T600M200X250R6HX-D6 KSP21	M22	4158490	T622MF120X125R6HX-D74 KSP21	M139	4158960	KTIP1280HPM KCP15	H33	4159273	KTIP1940HPM KCP15	H33
4154114	T600MF080X100R6HX-D4 KSP21	M22	4158491	T622MF120X150R6HX-D74 KSP21	M139	4158961	KTIP05080HP KCP15	H33	4159274	KTIP07656HP KCP15	H33
4154115	T600MF100X100R6HX-D4 KSP21	M22	4158492	T622MF140X150R6HX-D74 KSP21	M139	4158962	KTIP1300HPM KCP15	H33	4159275	KTIP1950HPM KCP15	H33
4154116	T600MF100X125R6HX-D4 KSP21	M22	4158493	T622MF160X150R6HX-D74 KSP21	M139	4158963	KTIP05156HP KCP15	H33	4159276	KTIP1960HPM KCP15	H33
4154117	T600MF120X125R6HX-D4 KSP21	M22	4158728	KTIP03125HP KCP15	H32	4158964	KTIP1320HPM KCP15	H33	4159277	KTIP1970HPM KCP15	H34
4154118	T600MF120X150R6HX-D4 KSP21	M22	4158729	KTIP0800HPM KCP15	H32	4158965	KTIP1330HPM KCP15	H33	4159278	KTIP1980HPM KCP15	H34
4154119	T600MF140X150R6HX-D4 KSP21	M22	4158730	KTIP0810HPM KCP15	H32	4158966	KTIP1340HPM KCP15	H33	4159279	KTIP07813HP KCP15	H34
4154120	T600MF160X150R6HX-D4 KSP21	M22	4158731	KTIP03214HP KCP15	H32	4158967	KTIP05312HP KCP15	H33	4159280	KTIP1990HPM KCP15	H34
4154647	T622M030X050R6HX-D74 KSN28	M139	4158732	KTIP03230HP KCP15	H32	4158968	KTIP1350HPM KCP15	H33	4159281	KTIP2000HPM KCP15	H34
4154648	T622M040X070R6HX-D74 KSN28	M139	4158733	KTIP0830HPM KCP15	H32	4158969	KTIP1360HPM KCP15	H33	4159282	KTIP2010HPM KCP15	H34
4154649	T622M050X080R6HX-D74 KSN28	M139	4158894	KTIP03281HP KCP15	H32	4158970	KTIP1370HPM KCP15	H33	4159283	KTIP2020HPM KCP15	H34
4154650	T622M060X100R6HX-D74 KSN28	M139	4158895	KTIP0840HPM KCP15	H32	4158971	KTIP1380HPM KCP15	H33	4159284	KTIP07969HP KCP15	H34
4154651	T622M080X125R6HX-D74 KSN28	M139	4158896	KTIP03320HP KCP15	H32	4158972	KTIP05469HP KCP15	H33	4159285	KTIP2030HPM KCP15	H34
4154652	T622M100X150R6HX-D74 KSN28	M139	4158897	KTIP0850HPM KCP15	H32	4158973	KTIP05471HP KCP15	H33	4159286	KTIP2040HPM KCP15	H34
4154653	T622M120X175R6HX-D74 KSN28	M139	4158898	KTIP0860HPM KCP15	H32	4158974	KTIP1400HPM KCP15	H33	4159287	KTIP2060HPM KCP15	H34
4154694	T622M160X200R6HX-D74 KSN28	M139	4158899	KTIP03390HP KCP15	H32	4158975	KTIP1410HPM KCP15	H33	4159288	KTIP08125HP KCP15	H34
4154695	T622MF080X100R6HX-D74 KSN28	M139	4158900	KTIP0870HPM KCP15	H32	4158976	KTIP1420HPM KCP15	H33	4159289	KTIP2070HPM KCP15	H34
4154696	T622MF100X100R6HX-D74 KSN28	M139	4158901	KTIP03438HP KCP15	H32	4158977	KTIP05625HP KCP15	H33	4159290	KTIP2080HPM KCP15	H34
4154697	T622MF100X125R6HX-D74 KSN28	M139	4158902	KTIP0880HPM KCP15	H32	4158978	KTIP1430HPM KCP15	H33	4159291	KTIP2090HPM KCP15	H34
4154698	T622MF120X125R6HX-D74 KSN28	M139	4158903	KTIP03480HP KCP15	H32	4158979	KTIP1440HPM KCP15	H33	4159292	KTIP2099HPM KCP15	H34
4154699	T622MF120X150R6HX-D74 KSN28	M139	4158904	KTIP0890HPM KCP15	H32	4158980	KTIP1450HPM KCP15	H33	4159293	KTIP2100HPM KCP15	H34
4154700	T622MF140X150R6HX-D74 KSN28	M139	4158905	KTIP0900HPM KCP15	H32	4158981	KTIP1460HPM KCP15	H33	4159294	KTIP08438HP KCP15	H34
4154701	T622MF160X150R6HX-D74 KSN28	M139	4158906	KTIP03580HP KCP15	H32	4158982	KTIP05774HP KCP15	H33	4159295	KTIP2250HPM KCP15	H34
4155723	EP1408SGD2 KC725M	T59, T70	4158907	KTIP0910HPM KCP15	H32	4158983	KTIP05781HP KCP15	H33	4159296	KTIP2200HPM KCP15	H34
4155725	EP1408SGD2 KCPK30	T59, T70	4158908	KTIP03594HP KCP15	H32	4158984	KTIP1470HPM KCP15	H33	4159297	KTIP0850HP KCP15	H34
4155726	EP1408SGD2 KC520M	T59, T70	4158909	KTIP0920HPM KCP15	H32	4158985	KTIP1480HPM KCP15	H33	4159298	KTIP2300HPM KCP15	H34
4156451	T642M050X080R6HX-D1 KP6525	M122	4158910	KTIP0930HPM KCP15	H32	4158986	KTIP1500HPM KCP15	H33	4159299	KTIP2350HPM KCP15	H34
4156452	T642M060X100R6HX-D1 KP6525	M122	4158911	KTIP03680HP KCP15	H32	4158987	KTIP05938HP KCP15	H33	4159300	KTIP2350HPM KCP15	H34
4156453	T642M080X125R6HX-D1 KP6525	M122	4158912	KTIP0940HPM KCP15	H32	4159030	KTIP1520HPM KCP15	H33	4159301	KTIP09375HP KCP15	H34
4156454	T642M100X150R6HX-D1 KP6525	M122	4158913	KTIP0950HPM KCP15	H32	4159031	KTIP1530HPM KCP15	H33	4159302	KTIP2400HPM KCP15	H34
4156455	T642M120X175R6HX-D6 KP6525	M122	4158914	KTIP03750HP KCP15	H32	4159032	KTIP1540HPM KCP15	H33	4159303	KTIP2450HPM KCP15	H34
4156456	T642M140X200R6HX-D6 KP6525	M122	4158915	KTIP03763HP KCP15	H32	4159205	KTIP1510HPM KCP15	H33	4159304	KTIP09688HP KCP15	H34
4156457	T642MF120X150R6HX-D4 KP6525	M122	4158916	KTIP03770HP KCP15	H32	4159223	KTIP06094HP KCP15	H33	4159305	KTIP2500HPM KCP15	H34
4156458	T642MF140X150R6HX-D4 KP6525	M122	4158917	KTIP0960HPM KCP15	H32	4159224	KTIP1550HPM KCP15	H33	4159306	KTIP1000HPM KCP15	H34
4156459	T642MF160X150R6HX-D4 KP6525	M122	4158918	KTIP03820HP KCP15	H32	4159225	KTIP1560HPM KCP15	H33	4159307	KTIP2550HPM KCP15	H34
4156550	T643M050X080R6HX-D1 KP6525	M123	4158919	KTIP03860HP KCP15	H32	4159226	KTIP1570HPM KCP15	H33	4159308	KTIP10110HP KCP15	H34
4156551	T643M060X100R6HX-D1 KP6525	M123	4158920	KTIP0990HPM KCP15	H32	4159227	KTIP1580HPM KCP15	H33	4159309	KTIP0710HP KCP15	H34
4156552	T643M080X125R6HX-D1 KP6525	M123	4158921	KTIP03906HP KCP15	H32	4159228	KTIP06250HP KCP15	H33	4159310	KTIP2599HPM KCP15	H34
4156553	T643M100X150R6HX-D1 KP6525	M123	4158922	KTIP1000HPM KCP15	H32	4159229	KTIP1600HPM KCP15	H33	4159311	KTIP2600HPM KCP15	H34
4156554	T643M120X175R6HX-D6 KP6525	M123	4158923	KTIP03946HP KCP15	H32	4159230	KTIP06310HP KCP15	H33	4159312	KTIP10310HP KCP15	H34
4156555	T643M140X200R6HX-D6 KP6525	M123	4158924	KTIP03970HP KCP15	H32	4159231	KTIP06330HP KCP15	H33	4159313	KTIP2650HPM KCP15	H34
4156556	T643MF120X150R6HX-D4 KP6525	M123	4158925	KTIP1010HPM KCP15	H32	4159232	KTIP1610HPM KCP15	H33	4159314	KTIP10469HP KCP15	H34
4156557	T643MF140X150R6HX-D4 KP6525	M123	4158926	KTIP1020HPM KCP15	H32	4159233	KTIP1610HPM KCP15	H33	4159315	KTIP2700HPM KCP15	H34
4156558	T643MF160X150R6HX-D4 KP6525	M123	4158927	KTIP04040HP KCP15	H32	4159234	KTIP06406HP KCP15	H33	4159316	KTIP2750HPM KCP15	H34
4157734	T410M030X050R6HX-D1 KCU36	M116	4158928	KTIP1030HPM KCP15	H32	4159235	KTIP1630HPM KCP15	H33	4159317	KTIP10938HP KCP15	H34
4157735	T410M040X070R6HX-D1 KCU36	M116	4158929	KTIP04063HP KCP15	H32	4159236	KTIP1630HPM KCP15	H33	4159318	KTIP2799HPM KCP15	H34
4157736	T410M050X080R6HX-D1 KCU36	M116	4158930	KTIP1040HPM KCP15	H32	4159237	KTIP1650HPM KCP15	H33	4159441	T623M050X080R6HX-D74 KSN28	M140
4157737	T410M060X100R6HX-D1 KCU36	M116	4158931	KTIP04130HP KCP15	H32	4159238	KTIP1660HPM KCP15	H33	4159442	T623M060X100R6HX-D74 KSN28	M140
4157738	T410M080X125R6HX-D1 KCU36	M116	4158932	KTIP1050HPM KCP15	H32	4159239	KTIP1660HPM KCP15	H33	4159623	T623M080X125R6HX-D74 KSN28	M140
4157739	T410M100X150R6HX-D1 KCU36	M116	4158933	KTIP1060HPM KCP15	H32	4159240	KTIP1670HPM KCP15	H33	4159624	T623M100X150R6HX-D74 KSN28	M140
4157740	T410M120X175R6HX-D6 KCU36	M116	4158934	KTIP1070HPM KCP15	H32	4159241	KTIP1680HPM KCP15	H33	4159625	T623M120X175R6HX-D74 KSN28	M140
4157741	T410M140X200R6HX-D6 KCU36	M116	4158935	KTIP04219HP KCP15	H32	4159242	KTIP1690HPM KCP15	H33	4159626	T623M160X200R6HX-D74 KSN28	M140
4157742	T410MF080X100R6HX-D4 KCU36	M116	4158936	KTIP1080HPM KCP15	H32	4159243	KTIP1700HPM KCP15	H33	4159627	T623MF080X100R6HX-D74 KSN28	M140
4157963	T410MF100X100R6HX-D4 KCU36	M116	4158937	KTIP1090HPM KCP15	H32	4159244	KTIP06719HP KCP15	H33	4159628	T623MF100X100R6HX-D74 KSN28	M140
4157964	T410MF120X150R6HX-D4 KCU36	M116	4158938	KTIP1100HPM KCP15	H32	4159245	KTIP1710HPM KCP15	H33	4159629	T623MF120X150R6HX-D74 KSN28	M140
4157965	T410MF140X150R6HX-D4 KCU36	M116	4158939	KTIP1110HPM KCP15	H32	4159246	KTIP1720HPM KCP15	H33	4159630	T623MF140X150R6HX-D74 KSN28	M140
4157966	T410MF160X150R6HX-D4 KCU36	M116	4158940	KTIP1120HPM KCP15	H32	4159247	KTIP1730HPM KCP15	H33	4159631	T623MF160X150R6HX-D74 KSN28	M140
4158449	T622M030X050R6HX-D74 KSP21	M139	4158941	KTIP04375HP KCP15	H32	4159248	KTIP1750HPM KCP15	H33	4159820	T623M050X080R6HX-D74 KSP21	M140
4158450	T622M040X070R6HX-D74 KSP21	M139	4158942	KTIP1130HPM KCP15	H32	4159249	KTIP06875HP KCP15	H33	4159821	T623M060X100R6HX-D74 KSP21	M140
4158451	T622M050X080R6HX-D74 KSP21	M139	4158943	KTIP1140HPM KCP15	H32	4159250	KTIP1750HPM KCP15	H33	4159822	T623M080X125R6HX-D74 KSP21	M140
4158452	T622M060X100R6HX-D74 KSP21	M139	4158944	KTIP1150HPM KCP15	H32	4159251	KTIP1750HPM KCP15	H33	4159823	T623M100X150R6HX-D74 KSP21	M140
4158483	T622M080X125R6HX-D74 KSP21	M139	4158945	KTIP04531HP KCP15	H32	4159252	KTIP1770HPM KCP15	H33	4159844	T623M120X175R6HX-D74 KSP21	M140
4158484	T622M100X150R6HX-D74 KSP21	M139	4158946	KTIP1160HPM KCP15	H32	4159253	KTIP1780HPM KCP15	H33	4159845	T623M160X200R6HX-D74 KSP21	M140
4158485	T622M120X175R6HX-D74 KSP21	M139	4158947	KTIP1170HPM KCP15	H32	4159254	KTIP07031HP KCP15	H33	4159846	T623MF080X100R6HX-D74 KSP21	M140
4158486	T622M160X200R6HX-D74 KSP21	M139	4158948	KTIP1180HPM KCP15	H32	4159255	KTIP1790HPM KCP15	H33	4159847	T623MF100X100R6HX-D74 KSP21	M140
4158487	T622MF080X100R6HX-D74 KSP21	M139	4158949	KTIP1190HPM KCP15	H32	4159256	KTIP1800HPM KCP15	H33	4159848	T623MF120X150R6HX-D74 KSP21	M140
			4158950	KTIP04688HP KCP15	H33	4159257	KTIP1810HPM KCP15	H33	4159849	T623MF140X150R6HX-D74 KSP21	M140
			4158951								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4161098	T604M030X050R6H-D1	KSH26.....M73	4169262	B269A06528HP	KCPK15.....G63	4169750	A4SCL1616K0217	C128	4175410	B732A05000HP	KCPK15.....G119
4161099	T604M040X070R6H-D1	KSH26.....M73	4169263	B269A06600HP	KCPK15.....G63	4169752	A4SCL1616K0317	C128	4175411	B732A06800HP	KCPK15.....G119
4161100	T604M050X080R6H-D1	KSH26.....M73	4169264	B269A06746HP	KCPK15.....G63	4169805	UEDE0156J4AH	KC643M.....P167	4175412	B732A08500HP	KCPK15.....G119
4161101	T604M060X100R6H-D1	KSH26.....M73	4169265	B269A06800HP	KCPK15.....G63	4169806	UEDE0188J4AH	KC643M.....P167	4175413	B732A10200HP	KCPK15.....G119
4161102	T604M080X125R6H-D1	KSH26.....M73	4169266	B269A06909HP	KCPK15.....G63	4169807	UEDE0250J4AH	KC643M.....P167	4175414	B732A10500HP	KCPK15.....G119
4161343	T604M100X150R6H-D1	KSH26.....M73	4169267	B269A07000HP	KCPK15.....G63	4169808	UEDE0312J4AH	KC643M.....P167	4175415	B732A12000HP	KCPK15.....G119
4161344	T604M120X175R6H-D6	KSH26.....M73	4169268	B269A07145HP	KCPK15.....G63	4169809	UEDE0375J4AH	KC643M.....P167	4175416	B732A12500HP	KCPK15.....G119
4161345	T604M140X200R6H-D6	KSH26.....M73	4169269	B269A07500HP	KCPK15.....G63	4169810	UEDE0437J4AH	KC643M.....P167	4175417	B732A14000HP	KCPK15.....G119
4161346	T604M160X200R6H-D6	KSH26.....M73	4169270	B269A07541HP	KCPK15.....G63	4169811	UEDE0500J4AH	KC643M.....P167	4175418	B731A03734HP	KCPK15.....G118
4161347	T604M180X250R6H-D6	KSH26.....M73	4169271	B269A07700HP	KCPK15.....G63	4169833	UEBD0156J3A	KC643M.....P169	4175419	B731A04496HP	KCPK15.....G118
4161348	T604M200X250R6H-D6	KSH26.....M73	4169272	B269A07800HP	KCPK15.....G63	4169834	UEBD0188J3A	KC643M.....P169	4175420	B731A05106HP	KCPK15.....G118
4161349	T604MF080X100R6H-D4	KSH26.....M73	4169273	B269A07938HP	KCPK15.....G63	4169835	UEBD0250J3A	KC643M.....P169	4175421	B731A05410HP	KCPK15.....G118
4161350	T604MF100X110R6H-D4	KSH26.....M73	4169274	B269A08000HP	KCPK15.....G63	4169836	UEBD0312J3A	KC643M.....P169	4175422	B731A06528HP	KCPK15.....G118
4161351	T604MF100X125R6H-D4	KSH26.....M73	4169275	B269A08100HP	KCPK15.....G63	4169837	UEBD0375J3A	KC643M.....P169	4175423	B731A06909HP	KCPK15.....G118
4161352	T604MF120X125R6H-D4	KSH26.....M73	4169276	B269A08334HP	KCPK15.....G63	4169838	UEBD0437J3A	KC643M.....P169	4175424	B731A07938HP	KCPK15.....G118
4161353	T604MF120X150R6H-D4	KSH26.....M73	4169277	B269A08433HP	KCPK15.....G63	4169839	UEBD0500J3A	KC643M.....P169	4175425	B731A08433HP	KCPK15.....G118
4161354	T604MF140X150R6H-D4	KSH26.....M73	4169278	B269A08700HP	KCPK15.....G63	4170385	CM209R ASSY	B58-60, B67-68, B87	4175426	B731A09921HP	KCPK15.....G118
4161355	T604MF160X150R6H-D4	KSH26.....M73	4169279	B269A08733HP	KCPK15.....G63	4170386	CM210R ASSY	B58-60, B68, B98, B109-110	4175427	B731A10716HP	KCPK15.....G118
4164987	RIG09E1300	KC6005.....K58	4169280	B269A09000HP	KCPK15.....G63	4170388	CM235R ASSY	B150-151	4175428	B731A12304HP	KCPK15.....G118
4165042	NGD3M350LK	KCU25.....C165	4169281	B269A09100HP	KCPK15.....G63	4170389	CM234R ASSY	B67-68, B92, B138	4175429	B731A13096HP	KCPK15.....G118
4167881	CV40FBHM1691	K134.....K134	4169282	B269A09129HP	KCPK15.....G63	4170408	KSCMCA900F	KD1420.....S110	4175430	B731A13495HP	KCPK15.....G118
4167882	CV40FBHMKT645	K127, K131	4169283	B269A09500HP	KCPK15.....G63	4170410	KSCMCA900BF	KD1420.....S110	4175431	B731A16670HP	KCPK15.....G118
4168063	EBM1580160162	K136	4169284	B269A09525HP	KCPK15.....G63	4170411	KSCMCA900FF	KD1420.....S110	4175432	B731A17463HP	KCPK15.....G118
4168669	A4G0300M03P04S02025ST	KB1630.....C111	4169285	B269A09921HP	KCPK15.....G63	4171227	LNJX301940RFF	KCP10.....E57	4175433	B732A05106HP	KCPK15.....G119
4168670	A4G0400M04P04S02025ST	KB1630.....C111	4169286	B269A10000HP	KCPK15.....G63	4171768	RCGT0803MOMS	KCU10.....B239	4175434	B732A05410HP	KCPK15.....G119
4168753	A4G0300M03P04EST	KB1630.....C111	4169287	B269A10200HP	KCPK15.....G63	4171769	RCGT1204MOMS	KCU10.....B239	4175435	B732A06528HP	KCPK15.....G119
4168755	A4G0500M05P08EST	KB1630.....C111	4169288	B269A10300HP	KCPK15.....G63	4171770	RCGT1606MOMS	KCU10.....B239	4175436	B732A06909HP	KCPK15.....G119
4168756	A4G0600M06P08EST	KB1630.....C111	4169289	B269A10320HP	KCPK15.....G63	4171824	CNMG431FP	KCU10.....B49	4175437	B732A0716HP	KCPK15.....G119
4168757	A4R0300M03P00EST	KB1630.....B355, C112	4169290	B269A10500HP	KCPK15.....G63	4171825	CNMG4305FN	KCU10.....B49	4175438	B732A07938HP	KCPK15.....G119
4168758	A4R0400M04P00EST	KB1630.....B355, C112	4169291	B269A10716HP	KCPK15.....G63	4171826	CNMG431FP	KCU10.....B49	4175439	B732A08433HP	KCPK15.....G119
4168759	A4R0500M05P00EST	KB1630.....B355, C112	4169292	B269A10800HP	KCPK15.....G63	4171827	CNMG432FP	KCU10.....B80	4175440	B732A08733HP	KCPK15.....G119
4168760	A4R0600M06P00EST	KB1630.....B355, C112	4169293	B269A11000HP	KCPK15.....G63	4171828	CNMG433FP	KCU10.....B80	4175441	B732A10716HP	KCPK15.....G119
4168856	A4SCR080214	C127	4169294	B269A11113HP	KCPK15.....G63	4171829	CNMG434FP	KCU10.....B80	4175442	B732A13495HP	KCPK15.....G119
4168857	A4SCR100217	C127	4169295	B269A11500HP	KCPK15.....G63	4171830	CNMG442FP	KCU10.....B80	4175443	B732A16670HP	KCPK15.....G119
4168858	A4SCR080314	C127	4169296	B269A11800HP	KCPK15.....G63	4171831	CNMG441FP	KCU10.....B80	4175444	B732A17463HP	KCPK15.....G119
4168859	A4SCR100317	C127	4169297	B269A12000HP	KCPK15.....G63	4171832	CNMG442FP	KCU10.....B80	4175445	B732A17463HP	KCPK15.....G119
4168860	A4SCL080214	C127	4169298	B269A12100HP	KCPK15.....G63	4171833	CNMG443FP	KCU10.....B101	4175446	B732A13495HP	KCPK15.....G119
4168861	A4SCL100217	C127	4169299	B269A12304HP	KCPK15.....G63	4171834	CNMG444FP	KCU10.....B80	4175447	B732A16670HP	KCPK15.....G119
4168862	A4SCL080314	C127	4169300	B269A12700HP	KCPK15.....G63	4171835	CNMG445FP	KCU10.....B80	4175448	B732A17463HP	KCPK15.....G119
4168863	A4SCL100317	C127	4169301	B269A13000HP	KCPK15.....G64	4171836	CNMG446FP	KCU10.....B101	4175449	NGD3125RK	KCU10.....C165
4168928	A4G0300M03P04S02025ST	KB5625.....C111	4169302	B269A13100HP	KCPK15.....G64	4171837	CNMG447FP	KCU10.....B101	4175450	NGD3189L	KCU10.....C171
4168929	A4G0400M04P04S02025ST	KB5625.....C111	4169303	B269A13500HP	KCPK15.....G64	4171838	CNMG448FP	KCU10.....B101	4175451	NGD3189L	KCU10.....C165
4168930	A4G0500M05P08S02025ST	KB5625.....C111	4169304	B269A14100HP	KCPK15.....G64	4171839	CNMG449FP	KCU10.....B101	4175452	NGD3189L	KCU10.....C165
4168931	A4G0600M06P08S02025ST	KB5625.....C111	4169305	B269A14288HP	KCPK15.....G64	4171840	CNMG450FP	KCU10.....B101	4175453	NGD3189L	KCU10.....C165
4168932	NG3M200LS02020ST	KB5625.....C177	4169306	B269A14500HP	KCPK15.....G64	4171841	CNMG451FP	KCU10.....B101	4175454	NGD3189L	KCU10.....C165
4168945	NG3M300RS02020ST	KB5625.....C177	4169307	B269A14684HP	KCPK15.....G64	4171842	CNMG452FP	KCU10.....B101	4175455	NGD3189L	KCU10.....C165
4168946	NG3M300RS02020ST	KB5625.....C177	4169308	B269A15000HP	KCPK15.....G64	4171843	CNMG453FP	KCU10.....B101	4175456	NGD3189L	KCU10.....C165
4168947	NG3M400RS02020ST	KB5625.....C177	4169309	B269A15500HP	KCPK15.....G64	4171844	CNMG454FP	KCU10.....B101	4175457	NGD3189L	KCU10.....C165
4168948	NG3125RS0820ST	KB5625.....C177	4169310	B269A15875HP	KCPK15.....G64	4171845	CNMG455FP	KCU10.....B101	4175458	NGD3189L	KCU10.....C165
4169239	B269A03175HP	KCPK15.....G62	4169311	B269A16000HP	KCPK15.....G64	4171846	CNMG456FP	KCU10.....B101	4175459	NGD3189L	KCU10.....C165
4169240	B269A03264HP	KCPK15.....G62	4169312	B269A16500HP	KCPK15.....G64	4171847	CNMG457FP	KCU10.....B101	4175460	NGD3189L	KCU10.....C165
4169241	B269A03500HP	KCPK15.....G62	4169313	B269A17000HP	KCPK15.....G64	4171848	CNMG458FP	KCU10.....B101	4175461	NGD3189L	KCU10.....C165
4169242	B269A03970HP	KCPK15.....G62	4169314	B269A17463HP	KCPK15.....G64	4171849	CNMG459FP	KCU10.....B101	4175462	NGD3189L	KCU10.....C165
4169243	B269A04000HP	KCPK15.....G62	4169315	B269A17500HP	KCPK15.....G64	4171850	CNMG460FP	KCU10.....B101	4175463	NGD3189L	KCU10.....C165
4169244	B269A04500HP	KCPK15.....G62	4169316	B269A18000HP	KCPK15.....G64	4171851	CNMG461FP	KCU10.....B101	4175464	NGD3189L	KCU10.....C165
4169245	B269A04600HP	KCPK15.....G62	4169317	B269A18500HP	KCPK15.....G64	4171852	CNMG462FP	KCU10.....B101	4175465	NGD3189L	KCU10.....C165
4169246	B269A04763HP	KCPK15.....G62	4169318	B269A19000HP	KCPK15.....G64	4171853	CNMG463FP	KCU10.....B101	4175466	NGD3189L	KCU10.....C165
4169247	B269A04800HP	KCPK15.....G62	4169319	B269A19050HP	KCPK15.....G64	4171854	CNMG464FP	KCU10.....B101	4175467	NGD3189L	KCU10.....C165
4169248	B269A05000HP	KCPK15.....G62	4169320	B269A19500HP	KCPK15.....G64	4171855	CNMG465FP	KCU10.....B101	4175468	NGD3189L	KCU10.....C165
4169249	B269A05100HP	KCPK15.....G62	4169321	B269A20000HP	KCPK15.....G64	4171856	CNMG466FP	KCU10.....B101	4175469	NGD3189L	KCU10.....C165
4169250	B269A05200HP	KCPK15.....G62	4169337	NG3M200RS02020ST	KB1630.....C177	4171857	CNMG467FP	KCU10.....B101	4175470	NGD3189L	KCU10.....C165
4169251	B269A05300HP	KCPK15.....G62	4169338	NG3M300RS02020ST	KB1630.....C177	4171858	CNMG468FP	KCU10.....B101	4175471	NGD3189L	KCU10.....C165
4169252	B269A05410HP	KCPK15.....G62	4169341	NG3125RS0820ST	KB1630.....C177	4171859	CNMG469FP	KCU10.....B101	4175472	NGD3189L	KCU10.....C165
4169253	B269A05500HP	KCPK15.....G62	4169343	NG3125LS0820ST	KB1630.....C177	4171860	CNMG470FP	KCU10.....B101	4175473	NGD3189L	KCU10.....C165
4169254	B269A05558HP	KCPK15.....G62	4169351	UEDE0078J3AS	KC643M.....P166	4171861	CNMG471FP	KCU10.....B101	4175474	NGD3189L	KCU10.....C165
4169255	B269A05600HP	KCPK15.....G62	4169352	UEDE0094J3AS	KC643M.....P166	4171862	CNMG472FP	KCU10.....B101	4175475	NGD3189L	KCU10.....C165
4169256	B269A05700HP	KCPK15.....G62	4169353	UEDE0125J3AS	KC643M.....P166	4171863	CNMG473FP	KCU10.....B101	4175476	NGD3189L	KCU10.....C165
4169257	B269A05800HP	KCPK15.....G62	4169354	UEDE0156J3AS	KC643M.....P166	4171864	CNMG474FP	KCU10.....B101	4175477	NGD3189L	KCU10.....C165

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
4175881	NG2M300LK KCUI0	C163	4176021	NA3R16 KCUI0	D11	4176108	NR4062RK KCUI0	C166	4178120	KDR125R1202C125L900	V53
4175882	NG2M300RK KCUI0	C162	4176023	NA3R5 KCUI0	D11	4176109	NR4094LK KCUI0	C166	4178122	KDR150R1204S05L157	V54
4175883	NGP3125R KCUI0	C168	4176024	NA3R6 KCUI0	D11	4176110	NR4094RK KCUI0	C166	4178123	KDR200R1204S075L200	V54
4175884	NGP3156R KCUI0	C168	4176025	NA3R8 KCUI0	D11	4176112	NR4125LK KCUI0	C166	4178124	KDR200R1205S075L200	V54
4175886	NJ3014R12 KCUI0	D15	4176026	NAS3L10 KCUI0	D12	4176113	NR4125R KCUI0	C172	4178125	KDR250R1207S075L200	V54
4175888	NJF3005R32 KCUI0	D15	4176027	NAS3L5 KCUI0	D12	4176114	NR4125RK KCUI0	C166	4178126	KDR300R1208S100L200	V54
4175893	NGP2031L KCUI0	C168	4176028	NAS3L6 KCUI0	D12	4176115	NRD4062L KCUI0	C173	4181068	R1Q09R0400S KB1610	K57
4175894	NGP2031R KCUI0	C168	4176029	NAS3L8 KCUI0	D12	4176116	NRD4062R KCUI0	C173	500493	B707A12600FBG KC7315	G111
4175895	NGP2062L KCUI0	C168	4176030	NAS3R10 KCUI0	D12	4176117	NRD4094L KCUI0	C173	5001994	A4R0405M04U00GMN KCP25	C107
4175896	NGP2062R KCUI0	C168	4176031	NAS3R5 KCUI0	D12	4176118	NRD4094R KCUI0	C173	5004291	R1Q09R0400FB KT6225	K58
4175897	NGP2125L KCUI0	C168	4176032	NAS3R6 KCUI0	D12	4176119	NRD4125L KCUI0	C173	5006833	B978A03800 KC7315	G139
4175898	NGP2125R KCUI0	C168	4176033	NAS3R8 KCUI0	D12	4176121	NT4L KCUI0	D17	5015690	193.545	H126-129
4175899	NP2002RK KCUI0	C167	4176034	NG3047L KCUI0	C170	4176122	NT4R KCUI0	D22	5023558	B269A03700HP KCPK15	G62
4175901	NR2031L KCUI0	C172	4176035	NG3047LK KCUI0	C163	4176123	NG3M425RK KCUI0	C163	5025597	SF300M1LA1RA	K68
4175902	NR2031R KCUI0	C172	4176036	NG3047R KCUI0	C170	4176124	NGD3062LK KCUI0	C165	5025598	SF750M1LA1RA	K68
4175903	NR2062L KCUI0	C172	4176037	NG3047RK KCUI0	C162	4176125	NGD3062RK KCUI0	C165	5025599	SF300M1RS	K68
4175904	NR2062R KCUI0	C172	4176038	NG3062L KCUI0	C170	4176126	NGD3094LK KCUI0	C165	5025670	SF750M1RS	K68
4175905	NR2M050L KCUI0	C172	4176039	NG3062LK KCUI0	C163	4176127	NGD3094RK KCUI0	C165	5025671	SFSLRS	K69
4175906	NR2M050R KCUI0	C172	4176040	NG3062R KCUI0	C170	4176128	NGD3125LK KCUI0	C165	5025672	SFSLRS	K69
4175907	NR2M075R KCUI0	C172	4176041	NG3062RK KCUI0	C162	4176133	NT4R KCUI0	D17	5025673	SFSLRA	K69
4175908	NR2M100R KCUI0	C172	4176042	NG3072L KCUI0	C170	4176135	NT4R KCUI0	D22	5025674	SFSLLA	K69
4175909	NT2L KCUI0	D17	4176043	NG3072LK KCUI0	C163	4176137	NT4R KCUI0	D22	5025675	SFMSG	K71
4175910	NT2LK KCUI0	D22	4176044	NG3072R KCUI0	C170	4176138	NA4L KCUI0	D11	5025676	SFRC20	K71
4175911	NT2R KCUI0	D17	4176045	NG3072RK KCUI0	C162	4176141	NA6R2 KCUI0	D11	5025677	SFRC3K3263	K71
4175912	NT2RK KCUI0	D22	4176046	NG3078L KCUI0	C170	4176164	NDC3115V75 KCUI0	D14	5025678	SFRC3K63100	K71
4175928	NJK3008R20 KCUI0	D16	4176047	NG3078LK KCUI0	C163	4176165	NDC3115V875 KCUI0	D14	5025679	SFRC20S	K71
4175932	NJP3010R16 KCUI0	D16	4176048	NG3078R KCUI0	C170	4176166	NDC314V75 KCUI0	D14	5025680	SFVB	K69
4175933	NTF2L KCUI0	D21	4176049	NG3078RK KCUI0	C162	4176167	NDC327V75 KCUI0	D14	5025681	SFVBS	K70
4175934	NTF2R KCUI0	D21	4176050	NG3088L KCUI0	C170	4176177	NDC68RDR75M KCUI0	D13	5025682	SFEBCH	K70
4175935	NTK2L KCUI0	D21	4176051	NG3088R KCUI0	C170	4176178	NDC8115V75M KCUI0	D14	5025683	SFSLSS	K69
4175936	NTK2R KCUI0	D21	4176052	NG3094L KCUI0	C170	4176180	NDC88V75M KCUI0	D14	5025684	SFSA450	K70
4175937	NTP2L KCUI0	D22	4176053	NG3094LK KCUI0	C164	4176181	NT1L KCUI0	D23	5025685	SFSA900	K70
4175938	NTP2R KCUI0	D22	4176054	NG3094R KCUI0	C170	4176182	NTB2LB KCUI0	D18	5025686	SFJCS	K70
4175944	NJP3014R12 KCUI0	D16	4176055	NG3094RK KCUI0	C162	4176186	NTB3LB KCUI0	D18	5030114	UJFE0625J6CRB KCSM15	P44
4175946	NP3002RK KCUI0	C167	4176056	NG3097L KCUI0	C171	4176187	NTB3RA KCUI0	D17	5039055	B269A04300HP KCPK15	G62
4175947	NP3012RK KCUI0	C167	4176057	NG3097R KCUI0	C170	4176188	NTB3RB KCUI0	D18	5048735	CNMU433M KCP10	B51
4175948	NR3031L KCUI0	C172	4176058	NG3105L KCUI0	C171	4176190	NTB4RA KCUI0	D17	5051283	HPFT500S6063 KC635M	P110
4175949	NR3031LK KCUI0	C166	4176059	NG3105R KCUI0	C170	4176191	NTB4RB KCUI0	D18	5051285	HPFT250S6038 KC635M	P110
4175950	NR3031R KCUI0	C172	4176060	NG3125L KCUI0	C171	4176192	NTC3L10E KCUI0	D20	5051327	HPFT750S6300 KC635M	P110
4175951	NR3031RK KCUI0	C166	4176061	NG3125LK KCUI0	C164	4176193	NTC3L12E KCUI0	D20	5051382	HPFT750S6400 KC635M	P110
4175952	NR3047L KCUI0	C172	4176062	NG3125R KCUI0	C170	4176194	NTC3L16E KCUI0	D20	5051389	HPFT1000S6400 KC635M	P110
4175953	NR3047LK KCUI0	C166	4176063	NG3125RK KCUI0	C162	4176195	NTC3MR150E KCUI0	D19	5051852	A4DE0175C3K K600	P130
4175954	NR3047R KCUI0	C172	4176064	NG3142L KCUI0	C171	4176198	NTC3R11E KCUI0	D20	5051853	A4DE1000J3I K600	P130
4175955	NR3047RK KCUI0	C166	4176065	NG3156LK KCUI0	C164	4176204	NTC3R20E KCUI0	D20	5051854	A4DE1000J3K K600	P130
4175956	NR3062L KCUI0	C172	4176066	NG3156R KCUI0	C170	4176206	NTC3R32E KCUI0	D20	5051855	A4DE0500J3K K600	P129
4175957	NR3062LK KCUI0	C166	4176067	NG3156RK KCUI0	C162	4176207	NTC3R8E KCUI0	D20	5051857	A4DE0625J3H K600	P130
4175958	NR3062R KCUI0	C172	4176068	NG3189L KCUI0	C171	4176208	NTC3R9E KCUI0	D20	5051858	A4DE0500J3L K600	P129
4175959	NR3062RK KCUI0	C166	4176069	NG3189LK KCUI0	C164	4177167	KDMB025R394A038HN	V123	5051941	KDMB025R394A038HN	P128
4175961	NR3078RK KCUI0	C166	4176070	NG3189R KCUI0	C170	4177169	KDMB0312R591A038HN	V123	5051942	A4DE0438J3A K600	P129
4175963	NR3094R KCUI0	C172	4176071	NG3189RK KCUI0	C163	4177170	KDMB025R394A025HN	V123	5051946	A4DE0312J3DRB K600	P128
4175964	NR3M150L KCUI0	C172	4176072	NG3M120LK KCUI0	C163	4177171	KDMB025R591A025HN	V123	5051949	A4DE075J3KRB K600	P129
4175965	NRD3031L KCUI0	C173	4176073	NG4189L KCUI0	C171	4177172	KDMB025R788A025HN	V123	5052000	A4DE0375J3KRC K600	P129
4175966	NRD3031R KCUI0	C173	4176074	NG4189LK KCUI0	C164	4177578	KDMT0750SRHF KC515M	V135	5052001	A4DE0500J3KRB K600	P129
4175967	NRD3062L KCUI0	C173	4176075	NG4189R KCUI0	C170	4177597	VBMT333LF KCP25	B281	5052002	A4DE0500J3KRB K600	P129
4175968	NRD3062R KCUI0	C173	4176076	NG4189RK KCUI0	C163	4177635	KDMB0250MOERGP KC515M	V126	5052003	A4DE0500J3LRB K600	P129
4175969	NRP3031L KCUI0	C169	4176077	NG4250L KCUI0	C171	4177637	KDMB0375MOERGP KC515M	V126	5052004	A4DE0500J3LRC K600	P129
4175970	NRP3031R KCUI0	C169	4176078	NG4250LK KCUI0	C164	4177638	KDMB0500MOERGP KC515M	V126	5052007	A4DE0625J3HRC K600	P130
4175971	NRP3047L KCUI0	C169	4176079	NG4250R KCUI0	C170	4177639	KDMB0625MOERGP KC515M	V126	5052008	A4DE0750J3ARB K600	P130
4175972	NRP3047R KCUI0	C169	4176081	NG4M400LK KCUI0	C164	4177640	KDMB0750MOERGP KC515M	V126	5052040	A4DE0750J3ARC K600	P130
4175975	NRP3062R KCUI0	C169	4176083	NG4M500LK KCUI0	C164	4177641	KDMB1000MOERGP KC515M	V126	5053664	HPH750S4225 KCPM15	P19
4175976	NRP3094L KCUI0	C169	4176084	NG4M500RK KCUI0	C163	4177642	KDMB1250MOERGP KC515M	V126	5057900	B978A010600 KC7315	G137
4175977	NRP3094R KCUI0	C169	4176085	NGD4125LK KCUI0	C165	4177643	KDMB0312MOERGP KC505M	V126	5058500	KSEM2653HPGM KC7315	H55
4175978	NT3L KCUI0	D17	4176086	NGD4125RK KCUI0	C165	4177644	KDMB0375MOERGP KC505M	V126	5058542	A4DF500J2B K600	P127
4175979	NT3LCK KCUI0	D19	4176087	NGD4189LK KCUI0	C165	4177645	KDMB0500MOERGP KC505M	V126	5058612	A4DF500J2F K600	P127
4175980	NT3LK KCUI0	D22	4176088	NGD4189RK KCUI0	C165	4177646	KDMB0625MOERGP KC505M	V126	5058615	A4DF375J2G K600	P126
4175981	NT3R KCUI0	D17	4176089	NGD4250L KCUI0	C171	4177647	KDMB0750MOERGP KC505M	V126	5058618	A4DF250J2I K600	P126
4175982	NT3RCK KCUI0	D19	4176090	NGD4250LK KCUI0	C165	4177648	KDMB1000MOERGP KC505M	V126	5058633	A4DF375J2H K600	P126
4175983	NT3RK KCUI0	D22	4176091	NGD4250R KCUI0	C171	4177649	KDMB1250MOERGP KC505M	V126	5059163	A4DF750J3J K600	P130
4175984	NTF3L KCUI0	D21	4176092	NGD4250RK KCUI0	C165	4177650	KDMB0250MOERLD K115M	V126	5059165	A4DF750J3K K600	P130
4175985	NTF3R KCUI0	D21	4176093	NG3M120RK KCUI0	C162	4177651	KDMB0312MOERLD K115M	V126	5059167	A4DE0500J3H K600	P129
4175986	NTK3L KCUI0	D21	4176094	NG3M225LK KCUI0	C164	4177652	KDMB0375MOERLD K115M	V126	5059202	A4DE438J3A K600	P129
4175987	NTK3R KCUI0	D21	4176095	NG3M225RK KCUI0	C162	4177653	KDMB0500MOERLD K115M	V126	5059203	A4DE375J3I K600	P129
4175988	NTP3L KCUI0	D22	4176096	NG3M275LK KCUI0	C164	4177654	KDMB0625MOERLD K115M	V126	5059206	A4DE250J3H K600	P128
4175989	NTP3R KCUI0	D22	4176097	NG3M275RK KCUI0	C162	4177655	KDMB0750MOERLD K115M	V126	5059209	A4DE188J3F K600	P128
4176009	NG4125L KCUI0	C171	4176098	NG3M300LK KCUI0	C164	4177656	KDMB1000MOERLD K115M	V126	5059213	KDMB1000MOERLD K115M	P128
4176010	NG4125LK KCUI0	C164	4176099	NG3M300RK KCUI0	C162	4177657	KDMB1250MOERLD K115M	V126	5059215	A4DE250J3I K600	P129
4176011	NG4125R KCUI0	C170	4176100	NG3M400LK KCUI0	C164	4177658	KDMB0500MOERHC KC530M	V126	5059218	A4DE125J3G K600	P128
4176012	NG4125RK KCUI0	C162	4176101	NG3M400RK KCUI0	C162	4177659	KDMB0625MOERHC KC530M	V126	5059219	A4DE250J3B K600	P128
4176015	NA3L4 KCUI0	D11	4176102	NG3M425LK KCUI0	C164	4177660	KDMB0750MOERHC KC530M	V126	5059278	B978A03400 KC7315	G139
4176018	NA3L8 KCUI0	D11	4176104	NGP4189R KCUI0	C168	4177661	KDMB1000MOERHC KC530M	V126	5059453	UGDE0250J5ARF KC643M	P38
4176019	NA3R10 KCUI0	D11	4176105	NGP4250L KCUI0	C168	4178116	KDR150R1204M16L150	V51	5059455	UGDE0250J5ARA KC643M	P38
4176020	NA3R12 KCUI0	D11	4176107	NR4062LK KCUI0	C166	4178119	KDR125R1202W100L200	V52	5059457	UGDE0250J5ARB KC643M	P38

For page references A–E, please see Volume I • Turning Tools Catalog.

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5059458	UGDE0250J5BE KC643M	P39	5062139	TNMG431P KCU10	B126	5067489	DFT06T308D36HP KCU25	H112	5090768	TNMG331MS KCU10	B125
5059459	UGDE0250J5BR KC643M	P39	5062140	TNMG432MP KCU10	B124	5067520	DFT06T308D39HP KCU25	H112	5090769	TNMG332MS KCU10	B125
5059580	UGDE0250J5BRB KC643M	P39	5062141	TNMG432P KCU10	B126	5067522	DFT06T308D44HP KCU25	H112	5090810	TNMG431MS KCU10	B125
5059582	UGDE0312J5AE KC643M	P38	5062142	TNMG432RP KCU10	B127	5067523	DFT070408D45HP KCU25	H112	5090811	TNMG430MS KCU10	B125
5059583	UGDE0312J5ARA KC643M	P38	5062144	TNMG433P KCU10	B126	5067524	DFT070408D50HP KCU25	H112	5090812	TNMG433MS KCU10	B125
5059584	UGDE0312J5ARB KC643M	P38	5062145	TNMG433RP KCU10	B127	5067526	DFT090508D56HP KCU25	H112	5090815	VNMG3305FS KCU10	B144
5059585	UGDE0312J5BRC KC643M	P39	5062147	TNMG543RP KCU10	B127	5067527	DFT090508D63HP KCU25	H112	5090816	VNMG332MS KCU10	B144
5059589	UGDE0312J5BRA KC643M	P39	5062148	TNMG666RP KCU10	B127	5067567	M1D250E180A5075L157AL	T78	5090817	VNMG331FS KCU10	B144
5059620	UGDE0312J5BRB KC643M	P39	5062149	CNMG643MS KCU25	B52	5067568	M1D200E180S075L157AL	T78	5090819	VNMG332FS KCU10	B144
5059622	UGDE0312J5BRC KC643M	P38	5063675	RPET1204M0LEJ KC522M	V71	5068267	DFR020204GD KCPK10	J97	5090851	VNMG3305MS KCU10	B147
5059623	UGDE0312J5BRA KC643M	P38	5063676	RPET1204M0LEJ KC725M	V71	5068268	DFR030204GD KCPK10	J97	5090852	VNMG330MS KCU10	B147
5059624	UGDE0312J5ARB KC643M	P38	5063677	RPET1204M0SGEJ KC522M	V71	5068280	DFR040304GD KCPK10	J97	5090853	VNMG331MS KCU10	B147
5059625	UGDE0312J5BRC KC643M	P38	5063678	RPET1204M0SGEJ KC725M	V71	5068281	DFT030204HP KCPK10	J101	5090854	VNMG432MS KCU10	B147
5059626	UGDE0312J5BRC KC643M	P39	5063701	RPET1605M0LEJ KC725M	V78	5068282	DFT030204GD KCPK10	J101	5090855	VNMG431MS KCU10	B147
5059627	UGDE0312J5BRA KC643M	P39	5063702	RPET1605M0SGEJ KC522M	V78	5068283	DFT030304HP KCPK10	J101	5090856	VNMG432MS KCU10	B147
5059628	UGDE0312J5BRC KC643M	P39	5063704	RPET1605M0SGEJ KC725M	V78	5068284	DFT030204HP KCPK10	J101	5090857	VNMG333RP KCU10	B148
5059629	UGDE0312J5BRC KC643M	P39	5065400	KTIP1338HPM KCP15	H33	5068285	DFT05T308HP KCPK10	J101	5090858	VNMG431FS KCU10	B156
5059670	UGDE0500J5AE KC643M	P38	5065401	KTIP1538HPM KCP15	H33	5068286	DFT05T308GD KCPK10	J101	5090859	VNMG432FS KCU10	B156
5059671	UGDE0500J5ARA KC643M	P38	5065552	DFR020204LD KCU40	J97	5068288	DFR070408HP KCPK10	J101	5090890	VNMG332MS KCU10	B160
5059672	UGDE0500J5ARB KC643M	P38	5065554	DFR020204GD KCU40	J97	5068289	DFR06T308GD KCPK10	J101	5090891	VNMG4305MS KCU10	B160
5059673	UGDE0500J5ARC KC643M	P38	5065556	DFR020204MD KCU40	J97	5068321	DFR070408HP KCPK10	J101	5090892	VNMG430MS KCU10	B160
5059674	UGDE0500J5BRC KC643M	P39	5065557	DFR030204LD KCU40	J97	5068323	DFR070408GD KCPK10	J101	5090893	VNMG431MS KCU10	B160
5059675	UGDE0500J5BRA KC643M	P39	5065558	DFR030204GD KCU40	J97	5068325	DFT090508HP KCPK10	J101	5090894	VNMG432MS KCU10	B160
5059676	UGDE0500J5BRB KC643M	P39	5065559	DFR030204MD KCU40	J97	5068326	DFT090508GD KCPK10	J101	5101798	UJDE0625J6ARA KCSM15	P44
5059677	UGDE0500J5BRC KC643M	P39	5065660	DFR040304LD KCU40	J97	5069150	A4G0405M04U04GMP KCP25	C105	5104314	RNGJ1204M0ENLDJX KC522M	V63
5059678	UGDE0625J5AE KC643M	P38	5065661	DFR040304GD KCU40	J97	5069154	A4G0605M06U04GMP KCP25	C105	5104318	RNGJ1204M0ENLDJX KC725M	V63
5059697	UGDE0625J5ARA KC643M	P38	5065662	DFR040304MD KCU40	J97	5069158	A4G0605M06U12GMM KCP25	C106	5104420	KDR4020A516RN12X	V62
5059703	UGDE0625J5ARB KC643M	P38	5065663	DFT030204HP KCU40	J101	5069159	A4G1005M10U08GMM KCP25	C106	5104421	KDR5025S22RN12X	V62
5059704	UGDE0625J5ARC KC643M	P38	5065664	DFT030204MD KCU40	J101	5069160	A4G1005M10U12GMM KCP25	C106	5104424	KDR6320S22RN12X	V62
5059705	UGDE0625J5ARD KC643M	P38	5065665	DFT030204GD KCU40	J101	5069161	A4R0305M03U00GMM KCP25	C107	5104426	KDR80207S27RN12X	V62
5059706	UGDE0625J5BRC KC643M	P39	5065666	DFT030304HP KCU40	J101	5069162	A4R0505M05U00GMM KCP25	C107	5106643	UJDE0500J6ARC KCSM15	P44
5059707	UGDE0625J5BRA KC643M	P39	5065667	DFT030304MD KCU40	J101	5069163	A4R0605M06U00GMM KCP25	C107	5109130	A4G0942BP05GUP KCU25	C103
5059709	UGDE0625J5BRB KC643M	P39	5065916	DFT030304GD KCU40	J101	5069164	A4R0805M08U00GMM KCP25	C107	5109131	A4G12503P05GUP KCU25	C103
5059740	UGDE0625J5BRC KC643M	P39	5066013	DFT05T308HP KCU40	J101	5069354	A4G0405M04U04GMP KCP10	C105	5109132	A4G12503P1GUP KCU25	C103
5059741	UGDE0625J5BRD KC643M	P39	5066014	DFT05T308MD KCU40	J101	5069359	A4G0505M05U04GMP KCP10	C105	5109133	A4G18704P1GUP KCU25	C103
5059742	UGDE0750J5AE KC643M	P38	5066015	DFT05T308GD KCU40	J101	5069390	A4G0505M05U08GMP KCP10	C105	5109135	A4G25006P1GUP KCU25	C103
5059743	UGDE0750J5ARA KC643M	P38	5066016	DFT06T308HP KCU40	J101	5069394	A4G0205M02U02GMM KCP10	C106	5109136	A4G25006P2GUP KCU25	C103
5059744	UGDE0750J5ARB KC643M	P38	5066019	DFT06T308MD KCU40	J101	5069430	A4G0305M03U02GMM KCP10	C106	5109137	A4G31208P1GUP KCU25	C103
5059745	UGDE0750J5ARC KC643M	P38	5066064	DFT06T308GD KCU40	J101	5069431	A4G0305M03U04GMM KCP10	C106	5109138	A4G37510P1GUP KCU25	C103
5059746	UGDE0750J5ARD KC643M	P38	5066146	DFT070408HP KCU40	J101	5069432	A4G0605M06U04GMM KCP10	C106	5109290	DNMG3305FS KCU10	B77
5059747	UGDE0750J5BRC KC643M	P39	5066147	DFT070408MD KCU40	J101	5069433	A4G0805M08U08GMM KCP10	C106	5109291	DNMG331FS KCU10	B77
5059748	UGDE0750J5BRA KC643M	P39	5066148	DFT070408GD KCU40	J101	5069435	A4G0805M08U12GMM KCP10	C106	5109292	DNMG332FS KCU10	B77
5059749	UGDE0750J5BRB KC643M	P39	5066149	DFT090508HP KCU40	J101	5069437	A4G1005M10U08GMM KCP10	C106	5109293	DNMG430FS KCU10	B77
5059770	UGDE0750J5BRC KC643M	P39	5066190	DFT090508MD KCU40	J101	5069439	A4R0205M02U00GMM KCP10	C107	5109294	DNMG4305FS KCU10	B77
5059771	UGDE0750J5BRD KC643M	P39	5066191	DFT090508GD KCU40	J101	5069440	A4R0305M03U00GMM KCP10	C107	5109295	DNMG441FS KCU10	B77
5059795	UGDE1000J5AE KC643M	P38	5066192	DFR040304D28GD KCU40	H113	5069471	A4R0805M08U00GMM KCP10	C107	5109296	DNMG431FS KCU10	B77
5059798	UGDE1000J5ARA KC643M	P38	5066193	DFT05T308D32HP KCU40	H112	5077334	B269A0300HP KCPK15	G62	5109297	DNMG442FS KCU10	B77
5059799	UGDE1000J5ARB KC643M	P38	5066195	DFT05T308D33HP KCU40	H112	5077336	B269A04200HP KCPK15	G62	5109298	DNMG432FS KCU10	B77
5060120	UGDE1000J5ARC KC643M	P38	5066196	DFT06T308D36HP KCU40	H112	5077337	B269A08200HP KCPK15	G63	5115736	KSEMP2800FDS28B1M	H108, H118
5060121	UGDE1000J5ARD KC643M	P38	5066197	DFT06T308D39HP KCU40	H112	5078982	NGD2M200LK KCU10	C165	5115737	KSEMP1125FDS28B1	H108, H118
5060122	UGDE1000J5BRC KC643M	P39	5066198	DFT06T308D44HP KCU40	H112	5080992	SPGX06030MD KCPK10	J103	5115738	KSEMP2900FDS28B1M	H108, H118
5060123	UGDE1000J5BRA KC643M	P39	5066199	DFT070408D45HP KCU40	H112	5085676	UJDE0500J6ARB KCSM15	P44	5115739	KSEMP1156FDS28B1	H108, H118
5060124	UGDE1000J5BRB KC643M	P39	5066220	DFT070408D50HP KCU40	H112	5090284	RP2150E KYS30	B352, V157	5116010	KSEMP3000FDS28B1M	H108, H118
5060126	UGDE1000J5BRC KC643M	P39	5066221	DFT090508D56HP KCU40	H112	5090285	RP32T0420 KYS30	B352, V157	5116011	KSEMP1188FDS28B1	H108, H118
5060127	UGDE1000J5BRD KC643M	P39	5066222	DFT090508D63HP KCU40	H112	5090286	RP43E KYS30	B352, V157	5116012	KSEMP1219FDS28B1	H108, H118
5060206	HPFFS156S5056 KCS635M	P109	5066798	DFR020204GD KCU25	J97	5090287	RP43T0420 KYS30	B352, V157	5116013	KSEMP3100FDS28B1M	H108, H118
5062104	SNMG322FF KCU10	B101	5066799	DFR020204MD KCU25	J97	5090494	CNMG430MS KCU10	B52	5116014	KSEMP1250FDS32B1M	H108, H118
5062106	SNMG432MP KCU10	B102	5067312	DFR030204GD KCU25	J97	5090495	CNMG430MS KCU10	B52	5116015	KSEMP3200FDS32B1M	H108, H118
5062108	SNMG432RP KCU10	B105	5067313	DFR030204MD KCU25	J97	5090496	CNMG431MS KCU10	B52	5116016	KSEMP3300FDS32B1M	H108, H118
5062109	SNMG433MP KCU10	B102	5067314	DFR040304GD KCU25	J97	5090497	CNMG432MS KCU10	B52	5116017	KSEMP3320FDS32B1M	H108, H118
5062110	SNMG433P KCU10	B104	5067316	DFR040304MD KCU25	J97	5090498	CNMG433MS KCU10	B52	5116018	KSEMP1313FDS32B1	H108, H118
5062111	SNMG433RP KCU10	B105	5067318	DFT030204HP KCU25	J101	5090499	CNMG434MS KCU10	B52	5116019	KSEMP3400FDS32B1M	H108, H118
5062112	SNMG543MP KCU10	B102	5067319	DFT030204MD KCU25	J101	5090680	CNMG542MS KCU10	B52	5116030	KSEMP1375FDS32B1	H108, H118
5062113	SNMG543RP KCU10	B105	5067401	DFT030204GD KCU25	J101	5090681	CNMG543MS KCU10	B52	5116031	KSEMP3500FDS32B1M	H108, H118
5062114	SNMG543UP KCU10	B106	5067402	DFT030304HP KCU25	J101	5090682	CNMG642MS KCU10	B52	5116032	KSEMP3600FDS36B1M	H108, H118
5062115	SNMG643 KCU10	B100	5067403	DFT030304MD KCU25	J101	5090684	CNMG644MS KCU10	B52	5116033	KSEMP1438FDS36B1	H108, H118
5062117	SNMG643RP KCU10	B105	5067404	DFT030304GD KCU25	J101	5090685	DNMG332MS KCU10	B82	5116034	KSEMP3700FDS36B1M	H108, H118
5062120	SNMG644RP KCU10	B105	5067406	DFT05T308HP KCU25	J101	5090686	DNMG4305MS KCU10	B82	5116035	KSEMP3750FDS36B1M	H108, H118
5062121	SNMG866 KCU10	B100	5067408	DFT05T308MD KCU25	J101	5090687	DNMG430MS KCU10	B82	5116036	KSEMP3800FDS36B1M	H108, H119
5062122	SNMG866RM KCU10	B104	5067470	DFT05T308GD KCU25	J101	5090688	DNMG431MS KCU10	B82	5116037	KSEMP1500FDS36B1	H108, H119
5062123	TNMG3305LF KCU10	B121	5067473	DFT06T308HP KCU25	J101	5090689	DNMG432MS KCU10	B82	5116038		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5116110	KSEMP4700FDS45B1M	H109, H119	5124826	KRCSCFP062X	K85	5133971	RHME23000KST200H6SF KC6005	K35	5136420	A4R0600M06P00GUP KCU10	C104
5116111	KSEMP1875FDS45B1	H109, H119	5124827	KRCSCFP063X	K85	5133972	RHME23813KST200H6SF KC6005	K35	5136423	A4R0805M08U00GUP KCU25	C102
5116112	KSEMP4800FDS45B1M	H109, H119	5124828	KRCSCFP061W	K85	5133973	RHME24000KST200H6SF KC6005	K35	5140368	B269A12200HP KCPK15	G63
5116113	KSEMP4900FDS45B1M	H109, H119	5124829	KRCSCFP062W	K85	5133974	RHME25000KST200H6SF KC6005	K35	5144597	A4R12503P00GUP KCU25	C104
5116114	KSEMP5000FDS50B1M	H109, H119	5124850	KRCSCFP063W	K85	5133975	RHME25400KST200H6SF KC6005	K35	5144598	A4R1870A4P00GUP KCU25	C104
5116115	KSEMP2000FDS50B1	H109, H119	5127885	RIQ06R0400S KB1610	K57	5133976	RHME26000KST200H6SF KC6005	K35	5144599	A4R25006P00GUP KCU25	C104
5116116	KSEMP5100FDS50B1M	H109, H119	5128566	C8FX150608LRP KCU25	E12	5133977	RHME26000KST200H6SF KC6005	K35	5144664	KSEM0890HPG KC7315	H55
5116117	KSEMP5200FDS50B1M	H109, H119	5128598	C8FX150612LRP KCP25	E12	5133978	RHME28000KST250H6SF KC6005	K35	5144793	CNM6433RP KCPK05	B53
5116118	KSEMP5300FDS50B1M	H109, H119	5129621	B269A10400HP KCPK15	G63	5133979	RHME30000KST250H6SF KC6005	K35	5146918	A4R0305M03U00GUP KCU25	C104
5116119	KSEMP2125FDS50B1	H109, H119	5130229	B707A17900FBL KCMS15	G112	5133980	RHME31750KST250H6SF KC6005	K35	5146919	A4R0800M08P00GUP KCU25	C104
5116120	KSEMP5400FDS50B1M	H109, H119	5131942	B269A03600HP KCPK15	G62	5133991	RHME32000KST250H6SF KC6005	K35	5147210	A4R1005M10U00GUP KCU25	C104
5116121	KSEMP5500FDS50B1M	H109, H119	5132051	B978A03600 KC7315	G139	5133992	RHME34000KST300H6SF KC6005	K35	5147211	A4R0300M03P00GUP KCU25	C104
5116122	KSEMP5600FDS56B1M	H109, H119	5133402	RMBE14000H6SF KC6305	K19	5133993	RHME35000KST300H6SF KC6005	K35	5147212	A4R0200M02P00GUP KCU25	C104
5116123	KSEMP5700FDS56B1M	H109, H119	5133403	RMBE15000H6SF KC6305	K19	5133994	RHME38000KST350H6SF KC6005	K35	5147213	A4R0500M05P00GUP KCU25	C104
5116124	KSEMP2250FDS56B1	H109, H119	5133404	RMBE16000H6SF KC6305	K19	5133995	RHME40000KST350H6SF KC6005	K35	5147214	A4R0600M06P00GUP KCU25	C104
5116125	KSEMP5800FDS56B1M	H109, H119	5133405	RMBE17000H6SF KC6305	K19	5133996	RHME42000KST350H6SF KC6005	K35	5147215	A4R0700M07P00GUP KCU25	C104
5116126	KSEMP5900FDS56B1M	H109, H119	5133406	RMBE18000H6SF KC6305	K19	5133997	RHME14000KST115H6HF KC6305	K36	5147216	A4R1000M10P00GUP KCU25	C104
5116127	KSEMP6000FDS56B1M	H109, H119	5133407	RMBE19000H6SF KC6305	K19	5133998	RHME14288KST115H6HF KC6305	K36	5148480	KSEM1619HPGM KC7315	H54
5116128	KSEMP2375FDS56B1	H109, H119	5133408	RMBE20000H6SF KC6305	K19	5133999	RHME15000KST115H6HF KC6305	K36	5152563	RNG10T3M0EJLDJ KC422M	V48
5116129	KSEMP6100FDS56B1M	H109, H119	5133409	RMBE14000H6SF KC6005	K19	5134000	RHME16000KST135H6HF KC6305	K36	5152566	RNG10T3M0EJLDJ KC725M	V48
5116130	KSEMP6200FDS56B1M	H109, H119	5133540	RMBE15000H6SF KC6005	K19	5134031	RHME17000KST135H6HF KC6305	K36	5152600	RNG10T3M0S0DJ KC725M	V49
5116131	KSEMP6300FDS63B1M	H109, H119	5133541	RMBE16000H6SF KC6005	K19	5134032	RHME17463KST135H6HF KC6305	K36	5152606	KDR100R1003W100L200	V59
5116132	KSEMP2500FDS63B1	H109, H119	5133542	RMBE17000H6SF KC6005	K19	5134033	RHME18000KST155H6HF KC6305	K36	5152607	RNG1605M0EJLDJ KC522M	V59
5116133	KSEMP6400FDS63B1M	H109, H119	5133543	RMBE18000H6SF KC6005	K19	5134034	RHME19000KST155H6HF KC6305	K36	5152608	RNG1605M0EJLDJ KC725M	V59
5116134	KSEMP6500FDS63B1M	H109, H119	5133544	RMBE19000H6SF KC6005	K19	5134035	RHME20000KST155H6HF KC6305	K36	5154366	KDR100R1003M12L125	V44
5116135	KSEMP6600FDS63B1M	H109, H119	5133545	RMBE20000H6SF KC6005	K19	5134036	RHME20000KST175H6HF KC6305	K36	5154400	KDR100R1003W100L200	V45
5116136	KSEMP2625FDS63B1	H109, H119	5133546	RMBE14000H6HF KC6305	K20	5134037	RHME22000KST175H6HF KC6305	K36	5154402	KDR100R1003C100L600	V46
5116137	KSEMP7000FDS63B1M	H109, H119	5133547	RMBE15000H6HF KC6305	K20	5134038	RHME22000KST175H6HF KC6305	K36	5154406	KDR150R1005S050L157	V47
5116138	KSEMP6800FDS63B1M	H109, H119	5133548	RMBE16000H6HF KC6305	K20	5134039	RHME2222KST175H6HF KC6305	K36	5154408	KDR100R1006S075L200	V47
5116139	KSEMP6900FDS63B1M	H109, H119	5133549	RMBE17000H6HF KC6305	K20	5134040	RHME23000KST200H6HF KC6305	K36	5154910	KDR200R1604S075L200	V58
5116140	KSEMP2750FDS63B1	H109, H119	5133560	RMBE18000H6HF KC6305	K20	5134041	RHME23813KST200H6HF KC6305	K36	5154913	KDR300R1607S100L200	V58
5116141	KSEMP7000FDS63B1M	H109, H119	5133561	RMBE19000H6HF KC6305	K20	5134042	RHME24000KST200H6HF KC6305	K36	5154914	KDR400R1608S150L200	V58
5116887	B224A14200HP KCPK15	G47	5133562	RMBE20000H6HF KC6305	K20	5134043	RHME25000KST200H6HF KC6305	K36	5154915	KDR400R1608S150L200	V58
5117311	B269A09800HP KCPK15	G63	5133563	RMBE14000H6HF KC6005	K20	5134044	RHME25400KST200H6HF KC6305	K36	5154916	KSRM100R1608S150L200	V58
5118324	DPA0773D25 KCU40	H114	5133564	RMBE15000H6HF KC6005	K20	5134045	RHME26000KST200H6HF KC6305	K36	5158428	RIQ09E1300 KC6305	K58
5118325	DPA09T4D32 KCU40	H114	5133565	RMBE16000H6HF KC6005	K20	5134046	RHME26000KST200H6HF KC6305	K36	5159761	RIQ06E0500FT KT6315	K58
5118326	DPA13T5D50 KCU40	H114	5133566	RMBE17000H6HF KC6005	K20	5134047	RHME27000KST200H6HF KC6305	K36	5161120	NA3L16 KCU10	D11
5118327	DFC040310D28HP KCU25	H114	5133567	RMBE18000H6HF KC6005	K20	5134048	RHME28000KST250H6HF KC6305	K36	5169173	EP0708SGE KC725M	T25
5118328	DFC05T312D32HP KCU25	H114	5133568	RMBE19000H6HF KC6005	K20	5134049	RHME30000KST250H6HF KC6305	K36	5169174	EP0708SGE KCPK30	T25
5118329	DFC06T312D36HP KCU25	H114	5133569	RMBE20000H6HF KC6005	K20	5134050	RHME32000KST250H6HF KC6305	K36	5169175	EP0708SGE KCPK30	T25
5118450	DFC070416D45HP KCU25	H114	5133590	RHME14000KST115H6HF KC6305	K35	5134051	RHME34000KST300H6HF KC6305	K36	5172480	RPT43EGE KCPK30	V84
5118451	DFC090520D56HP KCU25	H114	5133591	RHME14288KST115H6HF KC6305	K35	5134052	RHME36000KST300H6HF KC6305	K36	5172481	RPT43EGE KCU725M	V84
5118452	DFC040310D28HP KCU40	H114	5133592	RHME15000KST115H6HF KC6305	K35	5134053	RHME38000KST350H6HF KC6305	K36	5172843	RPT43SGE KCPK30	V84
5118453	DFC05T312D32HP KCU40	H114	5133593	RHME16000KST135H6HF KC6305	K35	5134054	RHME38000KST350H6HF KC6305	K36	5172844	RPT43SGE KC725M	V84
5118454	DFC06T312D36HP KCU40	H114	5133594	RHME17000KST135H6HF KC6305	K35	5134055	RHME40000KST350H6HF KC6305	K36	5172862	RPT1204M0S0DJ KC725M	V72
5118455	DFC070416D45HP KCU40	H114	5133595	RHME17463KST135H6HF KC6305	K35	5134056	RHME42000KST350H6HF KC6305	K36	5175033	KSRM125R4303M16L150	V81
5118456	DFC090520D56HP KCU40	H114	5133596	RHME18000KST155H6HF KC6305	K35	5134072	RHME14000KST115H6HF KC6005	K36	5175034	KSRM150R4304M16L150	V81
5118457	DFC040310D28MD KC7140	H114	5133597	RHME19000KST155H6HF KC6305	K35	5134073	RHME14288KST115H6HF KC6005	K36	5175035	KSRM125R4303C125L600	V82
5118458	DFC05T312D32MD KC7140	H114	5133598	RHME19050KST155H6HF KC6305	K35	5134074	RHME15000KST115H6HF KC6005	K36	5175037	KSRM125R4303C125L1000	V82
5118459	DFC06T312D36MD KC7140	H114	5133599	RHME20000KST175H6HF KC6305	K35	5134075	RHME16000KST135H6HF KC6005	K36	5175038	KSRM150R4304C125L600	V82
5118460	DFC070416D45MD KC7140	H114	5133600	RHME21000KST175H6HF KC6305	K35	5134076	RHME17000KST135H6HF KC6005	K36	5175039	KSRM150R4304C125L1000	V82
5118461	DFC090520D56MD KC7140	H114	5133601	RHME22000KST175H6HF KC6305	K35	5134077	RHME17463KST135H6HF KC6005	K36	5175380	KSRM250R4305S075L197	V83
5120433	UJDE0500J6R8 KCMS15	P44	5133602	RHME2222KST175H6HF KC6305	K35	5134078	RHME18000KST155H6HF KC6005	K36	5175381	KSRM250R4306S075L197	V83
5120466	UJDE1000J6R8 KCMS15	P45	5133603	RHME23000KST200H6SF KC6305	K35	5134079	RHME19000KST155H6HF KC6005	K36	5175382	KSRM300R4307M100L197	V83
5120480	UJDE1000J6R8 KCMS15	P45	5133604	RHME23813KST200H6SF KC6305	K35	5134120	RHME19050KST155H6HF KC6005	K36	5182481	KTP1340RHP KCPK15	H33
5123821	KTIP2280HPM KCP15	H34	5133605	RHME24000KST200H6SF KC6305	K35	5134121	RHME20000KST175H6HF KC6005	K36	5182869	SNMG433RN KCPK05	B105
5124334	SDET4316SNGB KCPK30	T116	5133606	RHME25000KST200H6SF KC6305	K35	5134122	RHME21000KST175H6HF KC6005	K36	5182893	SNMG543RN KCPK05	B105
		T123, U39	5133607	RHME25400KST200H6SF KC6305	K35	5134123	RHME22000KST175H6HF KC6005	K36	5185658	UJE0500J6R8 KCMS15	P44
5124576	HSK63AAVS00B126MCLB	K83	5133608	RHME26000KST200H6SF KC6305	K35	5134124	RHME2222KST175H6HF KC6005	K36	5189859	B269A0860HP KCPK15	G63
5124577	HSK63AAVS00B143MCLB	K83	5133609	RHME26000KST200H6SF KC6305	K35	5134125	RHME23000KST200H6HF KC6005	K36	5190087	M1D050E0702C050L400	T24
5124578	HSK63AAVS1B127MCLB	K83	5133610	RHME27000KST200H6SF KC6305	K35	5134126	RHME23813KST200H6HF KC6005	K36	5190088	M1D062E0703C062L500	T24
5124579	HSK63AAVS2B139MCLB	K83	5133611	RHME28000KST250H6SF KC6305	K35	5134127	RHME24000KST200H6HF KC6005	K36	5190089	M1D075E0705C075L600	T24
5124800	HSK63AAVS3B139MCLB	K83	5133612	RHME30000KST250H6SF KC6305	K35	5134128	RHME25000KST200H6HF KC6005	K36	5194531	M1D150E1803C125L1000AL	T77
5124801	KM40TSAVS00B111MCLB	K82	5133613	RHME31750KST250H6SF KC6305	K35	5134129	RHME25400KST200H6HF KC6005	K36	5201519	LS103	S104
5124802	KM40TSAVS00B128MCLB	K82	5133614	RHME32000KST250H6SF KC6305	K35	5134130	RHME26000KST200H6HF KC6005	K36	5202231	SALS50	S104
5124803	KM40TSAVS1B112MCLB	K82	5133615	RHME34000KST300H6SF KC6305	K35	5134131	RHME27000KST200H6HF KC6005	K36	5202238	SALS25	S104
5124804	KM40TSAVS2B127MCLB	K									

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)		
5211981	T630NF#06-40R2BX-D1	KP6525	5212270	T640NC#10-24R2BX-D1	KP6525	5307691	KTIP0748R3SCF075	H41	5324906	VBMR2205FP	KCP25	E36	
5211983	T630NF#10-32R2BX-D1	KP6525	5212271	T640NC#02500-20R3BX-D1	KP6525	5307692	KTIP0787R3SCF100	H41	5324911	VBMR221FP	KCP10	E36	
5211985	T630NF02500-28R3BX-D1	KP6525	5212272	T640NC#02500-20R3BX-D1	KP6525	5307693	KTIP0827R3SCF100	H41	5324912	VBMR221FP	KCP25	E36	
5211987	T630NF03125-24R3BX-D1	KP6525	5212273	T640NC#03125-18R3BX-D1	KP6525	5307694	KTIP0866R3SCF100	H41	5324915	VBMR221FP	KCU25	E36	
5211988	T630NF03125-24R3BX-D1	KP6525	5212274	T640NC#03125-18R3BX-D1	KP6525	5307695	KTIP0906R3SCF100	H41	5324916	VBMR222FP	KCP10	E36	
5211989	T630NF04375-20R3BX-D6	KP6525	5212275	T640NC#03750-16R3BX-D1	KP6525	5307696	KTIP0945R3SCF100	H41	5324921	VBMR222FP	KCU10	E36	
5211990	T630NF05000-20R3BX-D6	KP6525	5212276	T640NC#04375-14R3BX-D6	KP6525	5307697	KTIP0984R3SCF100	H41	5324923	VCMR331FP	KCP10	E37	
5211991	T631NC02500-20R3BX-D1	KP6525	5212277	T640NF#06-40R2BX-D1	KP6525	5307698	KTIP1024R3SCF100	H41	5324924	VCMR331FP	KCP25	E37	
5211992	T631NC03125-18R3BX-D1	KP6525	5212278	T640NF#06-40R2BX-D1	KP6525	5307699	KTIP1063R3SCF100	H41	5324925	VCMR331FP	KCM25	E37	
5211993	T631NC03750-16R3BX-D1	KP6525	5212279	T640NF#10-32R2BX-D1	KP6525	5307700	KTIP0313R5SCF050	H41	5324927	VCMR331FP	KCU10	E37	
5211994	T631NC04375-14R3BX-D6	KP6525	5212280	T640NF#06-40R2BX-D1	KP6525	5307701	KTIP0335R5SCF050	H41	5324928	VCMR331FP	KCU25	E37	
5211995	T631NC05000-13R3BX-D6	KP6525	5212281	T640NF02500-28R3BX-D1	KP6525	5307702	KTIP0354R5SCF050	H41	5324929	VCMR332FP	KCP10	E37	
5211996	T631NF02500-28R3BX-D1	KP6525	5212282	T640NF03125-24R3BX-D1	KP6525	5307703	KTIP0374R5SCF050	H41	5324930	VCMR332FP	KCP25	E37	
5211997	T631NF03125-24R3BX-D1	KP6525	5212283	T640NF03750-24R3BX-D1	KP6525	5307704	KTIP0394R5SCF063	H41	5324931	VCMR332FP	KCM25	E37	
5211998	T631NF03750-24R3BX-D1	KP6525	5212284	T640NF04375-20R3BX-D6	KP6525	5307705	KTIP0413R5SCF063	H41	5324932	VCMR332FP	KCK05	E37	
5211999	T631NF04375-20R3BX-D6	KP6525	5212285	T640NF05000-20R3BX-D6	KP6525	5307706	KTIP0433R5SCF063	H41	5327662	A4R0305M03000GUP	KCU10	C104	
5212000	T631NF05000-20R3BX-D6	KP6525	5212286	T641NC02500-20R3BX-D1	KP6525	5307707	KTIP0453R5SCF063	H41	5327663	A4R0505M05000GUP	KCU10	C104	
5212152	T620NC#06-32R2BX-D1	KP6525	5212287	T641NC03125-18R3BX-D1	KP6525	5307708	KTIP0472R5SCF063	H41	5327664	A4R1005M10000GUP	KCU10	C104	
5212155	T620NC#08-32R2BX-D1	KP6525	5212288	T641NC03750-16R3BX-D1	KP6525	5307709	KTIP0492R5SCF063	H41	5327665	A4R0300M03000GUP	KCU10	C104	
5212156	T620NC#10-24R2BX-D1	KP6525	5212289	T641NC04375-14R3BX-D6	KP6525	5307710	KTIP0512R5SCF063	H41	5327666	A4R1000M10000GUP	KCU10	C104	
5212158	T620NC02500-20R3BX-D1	KP6525	5212290	T641NC05000-13R3BX-D6	KP6525	5307711	KTIP0532R5SCF063	H41	5327684	A4R12503P000GUP	KCU10	C104	
5212159	T620NC03125-18R3BX-D1	KP6525	5212291	T641NF02500-28R3BX-D1	KP6525	5307712	KTIP0551R5SCF063	H41	5327686	A4R25016P000GUP	KCU10	C104	
5212210	T620NC03750-16R3BX-D1	KP6525	5212292	T641NF03125-24R3BX-D1	KP6525	5307713	KTIP0571R5SCF063	H41	5327687	A4R31208P000GUP	KCU10	C104	
5212211	T620NC04375-14R3BX-D6	KP6525	5212293	T641NF03750-24R3BX-D1	KP6525	5307816	KTIP0591R5SCF075	H41	5327912	VPGR331HP	K313	E39	
5212212	T620NC05000-13R3BX-D6	KP6525	5212294	T641NF04375-20R3BX-D6	KP6525	5307817	KTIP0630R5SCF075	H41	5327919	VPGR3305FP	KCP10	E39	
5212213	T620NF#06-40R2BX-D1	KP6525	5212295	T641NF05000-20R3BX-D6	KP6525	5307818	KTIP0668R5SCF075	H41	5327936	VPGR331FP	KCP10	E39	
5212215	T620NF#10-32R2BX-D1	KP6525	5214053	B269A03800HP	KCPK15	5307819	KTIP0709R5SCF075	H41	5327937	VPGR331FP	KCP25	E39	
5212217	T620NF02500-28R3BX-D1	KP6525	5274660	RNPJ10T3MOSGD	KOPK30	5307840	KTIP0748R5SCF075	H41	5327938	VPGR331FP	KCM25	E39	
5212218	T620NF03125-24R3BX-D1	KP6525	5274661	RNPJ10T3MOSGD	KC522M	5307841	KTIP0787R5SCF100	H41	5327940	VPGR331FP	KCU10	E39	
5212219	T620NF03750-24R3BX-D1	KP6525	5274662	RNPJ10T3MOSHD	KOPK30	5307842	KTIP0827R5SCF100	H41	5327942	VPGR332FP	KCP10	E39	
5212230	T620NF04375-20R3BX-D6	KP6525	5274665	RNPJ10T3MOSHD	KC15	5307843	KTIP0866R5SCF100	H41	5327943	VPGR332FP	KCP25	E39	
5212231	T620NF05000-20R3BX-D6	KP6525	5274666	RNPJ10T3MOSHD	KC522M	5307844	KTIP0906R5SCF100	H41	5327944	VPGR332FP	KCM25	E39	
5212232	T621NC02500-20R3BX-D1	KP6525	5274669	RNPJ1204MOSGD	KOPK30	5307845	KTIP0945R5SCF100	H41	5327945	VPGR332FP	KCK05	E39	
5212233	T621NC03125-18R3BX-D1	KP6525	5274691	RNPJ1204MOSGD	KC522M	5307846	KTIP0984R5SCF100	H41	5327948	VPGR333FP	KCP10	E39	
5212234	T621NC03750-16R3BX-D1	KP6525	5274693	RNPJ1204MOSHD	KOPK30	5307847	KTIP1024R5SCF100	H41	5327949	VPGR333FP	KCP25	E39	
5212236	T621NC05000-13R3BX-D6	KP6525	5274695	RNPJ1605MOSGD	KOPK30	5307848	KTIP1063R5SCF100	H41	5327961	VPGR333FP	KCK05	E39	
5212237	T621NF02500-28R3BX-D1	KP6525	5274721	RNPJ1605MOSGD	KC522M	5307849	KTIP0313R8SCF050	H41	5327965	VPGR334FP	KCP25	E39	
5212238	T621NF03125-24R3BX-D1	KP6525	5274722	RNPJ1605MOSHD	KOPK30	5307860	KTIP0335R8SCF050	H41	5328738	DNGA432S0525MT	KBH20	B334	
5212239	T621NF03750-24R3BX-D1	KP6525	5274724	RNPJ1605MOSHD	KC15	5307861	KTIP0354R8SCF050	H41	5329836	WNGA431S0415MT	KBH20	B343	
5212240	T621NF04375-20R3BX-D6	KP6525	5274725	RNPJ1605MOSHD	KC520M	5307862	KTIP0374R8SCF050	H41	5329837	WNGA432S0415MT	KBH20	B343	
5212241	T621NF05000-20R3BX-D6	KP6525	5274727	RNPJ1605MOSHD	KC15	5307863	KTIP0394R8SCF063	H41	5329838	WNGA432S0625MT	KBH20	B343	
5212248	T640NC#06-32R2BX-D1	KP6525	5299680	RPET43SGEJ	KC725M	5307864	KTIP0433R8SCF063	H41	5329839	WNGA432S0735MT	KBH20	B343	
5212249	T640NC#08-32R2BX-D1	KP6525	5302954	KSRM200R430S075L197		5307865	KTIP0453R8SCF063	H41	5330130	WNGA432S0415FWMT	KBH20	B343	
			5302955	KSRM250R430S075L197		5307866	KTIP0472R8SCF063	H41	5330131	CGGW21505S0525MT	KBH20	B328	
			5302956	KSRM300R430S100L197		5307867	KTIP0492R8SCF063	H41	5330132	CGGW2151S0525MT	KBH20	B328	
			5307642	KTIP0313R3SCF050	H41	5307868	KTIP0512R8SCF063	H41	5330133	CGGW32505S0525MT	KBH20	B328	
			5307643	KTIP0335R3SCF050	H41	5307869	KTIP0532R8SCF063	H41	5330134	CGGW3251S0525MT	KBH20	B328	
			5307644	KTIP0354R3SCF050	H41	5307871	KTIP0551R8SCF063	H41	5330135	CGGW3251S0415MT	KBH20	B328	
			5307645	KTIP0374R3SCF050	H41	5307872	KTIP0571R8SCF063	H41	5330136	CGGW3251S0415FWMT	KBH20	B328	
			5307646	KTIP0394R3SCF063	H41	5307873	KTIP0591R8SCF063	H41	5330137	CGGW3252S0525MT	KBH20	B328	
			5307647	KTIP0413R3SCF063	H41	5307874	KTIP0630R8SCF075	H41	5330138	CGGW3252S0415MT	KBH20	B328	
			5307648	KTIP0433R3SCF063	H41	5307875	KTIP0668R8SCF075	H41	5330139	CGGW3252S0415FWMT	KBH20	B328	
			5307649	KTIP0453R3SCF063	H41	5307876	KTIP0709R8SCF075	H41	5330140	CGGW432S0415MT	KBH20	B328	
			5307680	KTIP0472R3SCF063	H41	5307877	KTIP0748R8SCF075	H41	5330141	DCGW21505S0525MT	KBH20	B332	
			5307681	KTIP0492R3SCF063	H41	5307878	KTIP0787R8SCF100	H41	5330142	DCGW2151S0525MT	KBH20	B332	
			5307682	KTIP0512R3SCF063	H41	5307879	KTIP0827R8SCF100	H41	5330143	DCGW2151S0415MT	KBH20	B332	
			5307683	KTIP0532R3SCF063	H41	5307880	KTIP0866R8SCF100	H41	5330144	DCGW32505S0525MT	KBH20	B332	
			5307684	KTIP0551R3SCF063	H41	5307881	KTIP0906R8SCF100	H41	5330145	DCGW3251S0525MT	KBH20	B332	
			5307685	KTIP0571R3SCF063	H41	5307882	KTIP0945R8SCF100	H41	5330146	DCGW3251S0415MT	KBH20	B332	
			5307686	KTIP0591R3SCF063	H41	5307883	KTIP0984R8SCF100	H41	5330147	DCGW3252S0525MT	KBH20	B332	
			5307687	KTIP0630R3SCF075	H41	5307884	KTIP0984R8SCF100	H41	5330148	DCGW3252S0415MT	KBH20	B332	
			5307688	KTIP0668R3SCF075	H41	5307885	KTIP1024R8SCF100	H41	5330149	DCGW3252S0415FWMT	KBH20	B332	
			5307689	KTIP0709R3SCF075	H41	5307886	KTIP1063R8SCF100	H41	5330150	TPGW21505S0415MT	KBH20	B341	
						5309298	B977A16300	KC7315	G138	5330151	TPGW2151S0415MT	KBH20	B341
						5314920	KTIP2110HPM	KCP15	H34	5330152	TPGW2152S0415MT	KBH20	B341
						5314951	B707A03800FBL	KCMS15	G110	5330153	TPGW21505S0415MT	KBH20	B338
						5317764	UJDE0375J6BQE	KCMS15	P46	5330154	TPGW2151S0415MT	KBH20	B338
						5324450	DPGR431FP	KCP25	E32	5330155	TPGW2152S0415MT	KBH20	B338
						5324453	DPGR431FP	KCU10	E32	5330156	TPGW181505S0415MT	KBH20	B338
						5324456	DPGR432FP	KCP10	E32	5330157	TPGW18151S0415MT	KBH20	B338
						5324458	DPGR432FP	KCM25	E32	5330159	TPGW3251S0415MT	KBH20	B341
						5324773	NPGR51LFP	KCP10	E33	5330160	TPGW3252S0525MT	KBH20	B341
						5324774	NPGR51LFP	KCP25	E33	5330161	TPGW3252S0415MT	KBH20	B341

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5330695	CNGA431S0525MT KBH20	B330	5351823	UJDE500N6BRA KCSM15	P44	5360389	UBDE1000N4BQB KCSM15	P21	5387808	WNMG432UN KCK15B	B162
5330696	CNGA431S0415MT KBH20	B330	5351824	UJDE500N6BRB KCSM15	P44	5360390	UBDE1000N4BQC KCSM15	P21	5387809	WNMG434UN KCK15B	B162
5330697	CNGA431S0735MT KBH20	B330	5351825	UJDE500N6BRC KCSM15	P44	5360391	UBDE1000N4BQE KCSM15	P21	5387810	DNMG332UN KCK15B	B84
5330698	CNGA431S0415FWMT KBH20	B330	5351826	UJDE500N6BRE KCSM15	P44	5362754	CCMT3252LF KCU10	B191	5387811	CNMG6544UN KCK15B	B54
5330699	CNGA432S0525MT KBH20	B330	5351827	UJDE500N6BS KCSM15	P44	5366566	B269A17100HP KCPK15	G64	5387812	DNMG444UN KCK15B	B84
5330830	CNGA432S0415MT KBH20	B330	5351828	UJDE500N6BQB KCSM15	P46	5367199	UJDE0750J6BRH KCSM15	P44	5387851	DNMG444RP KCP10B	B84
5330831	CNGA432S0735MT KBH20	B330	5351829	UJDE625J6BRB KCSM15	P44	5374997	UJDE0625J6CRE KCSM15	P44	5387853	DPMT3252LF KCP10B	B232
5330832	CNGA432S0415FWMT KBH20	B330	5351830	UJDE625J6BRC KCSM15	P44	5377581	B269A04700HP KCPK15	G62	5387856	SCMT3251LF KCP10B	B246
5330833	CNGA433S0525MT KBH20	B330	5351831	UJDE625J6BS KCSM15	P44	5377582	B269A06100HP KCPK15	G63	5387858	SCMT3252MF KCP10B	B247
5330834	CNGA433S0415MT KBH20	B330	5351832	UJDE625N6BRB KCSM15	P44	537854	B269A11200HP KCPK15	G63	5387864	SCMT433LF KCP10B	B246
5330835	CNGA433S0735MT KBH20	B330	5351833	UJDE625N6BRC KCSM15	P44	5387230	CNMG433FM KCP10B	B50	5387874	SNMG433RP KCP10B	B105
5330836	CNGA433S0415FWMT KBH20	B330	5351834	UJDE625N6BS KCSM15	P44	5387231	CNMG433FM KCP25B	B50	5387882	SNMG543RP KCP10B	B105
5330837	DNGA431S0525MT KBH20	B334	5351835	UJDE625N6BQB KCSM15	P46	5387543	SCMT443CT KCP25B	B79	5387884	SPMT3252LF KCP10B	B252
5330838	DNGA431S0415MT KBH20	B334	5351838	UJDE750J6BRB KCSM15	P44	5387541	DNMG443MN KCP25B	B81	5387896	TNMG333RP KCP10B	B127
5330839	DNGA431S0735MT KBH20	B334	5351839	UJDE750J6BRC KCSM15	P44	5387542	DNMG443RN KCP25B	B83	5387901	TNMG438RP KCP10B	B127
5330840	DNGA432S0415MT KBH20	B334	5351890	UJDE750J6BRB KCSM15	P44	5387543	DNMG443RP KCP25B	B84	5387903	TPMT3252LF KCP10B	B268
5330841	DNGA432S0735MT KBH20	B334	5351891	UJDE750J6BRE KCSM15	P44	5387544	DNMG444RN KCP25B	B83	5387905	TPMT3252LF KCP10B	B268
5330842	DNGA433S0525MT KBH20	B334	5351892	UJDE750J6BS KCSM15	P44	5387545	DNMG444RN KCP25B	B84	5387907	VBMT331FP KCP10B	B281
5330843	DNGA433S0415MT KBH20	B334	5351893	UJDE750N6BRB KCSM15	P44	5387547	DPMT3252LF KCP25B	B232	5387910	VBMT433FP KCP10B	B281
5330844	DNGA433S0735MT KBH20	B334	5351894	UJDE750N6BRC KCSM15	P44	5387550	SCMT3251LF KCP25B	B246	5387915	WNMG432RP KCP10B	B161
5330845	DNGA432S0415FWMT KBH20	B333	5351895	UJDE750N6BRD KCSM15	P44	5387551	SCMT3252MF KCP25B	B246	5387919	WNMG433RP KCP10B	B161
5330846	DNGA433S0415FWMT KBH20	B333	5351896	UJDE750N6BRB KCSM15	P44	5387553	SCMT3252MF KCP25B	B247	5388031	CNMT3252LF KCP10B	B191
5330847	DNGA441S0525MT KBH20	B334	5351897	UJDE750N6BS KCSM15	P44	5387554	SCMT3252MP KCP25B	B247	5388032	CCMT3252LF KCP10B	B191
5330848	DNGA441S0415MT KBH20	B334	5351898	UJDE750N6BQB KCSM15	P46	5387555	SCMT3253MF KCP25B	B247	5388033	CCMT3252MF KCP10B	B191
5330849	DNGA441S0735MT KBH20	B334	5351899	UJDE750J6GRB KCSM15	P45	5387556	SCMT432FP KCP25B	B246	5388035	CNMT432FP KCP10B	B191
5330850	DNGA442S0525MT KBH20	B334	5351900	UJDE750J6CRC KCSM15	P45	5387557	SCMT432MF KCP25B	B247	5388036	CNMG432MN KCP10B	B50
5330851	DNGA442S0415MT KBH20	B334	5351901	UJDE750J6CRD KCSM15	P45	5387558	SCMT433LF KCP25B	B246	5388037	CNMG432MN KCP10B	B52
5330852	DNGA442S0735MT KBH20	B334	5351902	UJDE750J6CRE KCSM15	P45	5387559	SCMT433MF KCP25B	B247	5388038	CNMG432RN KCP10B	B53
5330853	DNGA443S0525MT KBH20	B334	5351903	UJDE750J6CS KCSM15	P45	5387563	SNMG433RP KCP25B	B105	5388039	CNMG432RP KCP10B	B53
5330854	DNGA443S0415MT KBH20	B334	5351904	UJDE750N6CRB KCSM15	P45	5387567	SNMG543RP KCP25B	B105	5388061	CNMG433MN KCP10B	B50
5330855	DNGA443S0735MT KBH20	B334	5351905	UJDE750N6CRB KCSM15	P45	5387571	SPMT3252LF KCP25B	B252	5388062	CNMG433RN KCP10B	B53
5330856	SNGA432S0525MT KBH20	B337	5351906	UJDE750N6CRD KCSM15	P45	5387575	TNMG333RP KCP25B	B127	5388064	CNMG434RN KCP10B	B53
5330857	SNGA433S0525MT KBH20	B337	5351907	UJDE750N6CRE KCSM15	P45	5387577	TNMG434RP KCP25B	B127	5388082	CNMG643RN KCP10B	B53
5330858	TNGA331S0525MT KBH20	B339	5351908	UJDE750N6CS KCSM15	P45	5387579	TPMT2152LF KCP25B	B268	5388084	CNMG644RN KCP10B	B53
5330859	TNGA331S0415MT KBH20	B339	5351930	UJDE1000J6BRC KCSM15	P45	5387580	TPMT2152MF KCP25B	B268	5388085	CNMM433RN KCP10B	B55
5330860	TNGA331S0735MT KBH20	B339	5351931	UJDE1000J6BRF KCSM15	P45	5387581	TPMT3252LF KCP25B	B268	5388086	CNMM433RP KCP10B	B56
5330861	TNGA332S0525MT KBH20	B339	5351932	UJDE1000J6BRE KCSM15	P45	5387584	VBMT331FP KCP25B	B281	5388088	CNMM543RM KCP10B	B55
5330862	TNGA332S0415MT KBH20	B339	5351933	UJDE1000J6BS KCSM15	P45	5387587	VBMT332MP KCP25B	B281	5388089	CNMM544RP KCP10B	B56
5330863	TNGA332S0735MT KBH20	B339	5351934	UJDE1000N6BRB KCSM15	P45	5387588	VBMT333FP KCP25B	B281	5388090	CNMM644RM KCP10B	B55
5330864	TNGA333S0525MT KBH20	B339	5351935	UJDE1000N6BRC KCSM15	P45	5387610	WNMG332RN KCP25B	B161	5388095	DCMT3252LF KCP10B	B225
5330865	TNGA333S0415MT KBH20	B339	5351936	UJDE1000N6BRE KCSM15	P45	5387611	WNMG432MN KCP25B	B159	5388097	DCMT3253MF KCP10B	B226
5330866	TNGA333S0735MT KBH20	B339	5351937	UJDE1000N6BRF KCSM15	P45	5387612	WNMG432MW KCP25B	B160	5388111	DNMG643RN KCP10B	B81
5330867	VNGA331S0525MT KBH20	B342	5351938	UJDE1000N6BS KCSM15	P45	5387614	WNMG433MN KCP25B	B159	5388112	DNMG643RN KCP10B	B83
5330868	VNGA331S0415MT KBH20	B342	5351939	UJDE1000N6BQB KCSM15	P46	5387615	WNMG433MW KCP25B	B160	5388116	DNMG644RN KCP10B	B79
5330869	VNGA331S0735MT KBH20	B342	5351940	UJDE1250J6BRB KCSM15	P45	5387616	WNMG433RN KCP25B	B161	5388117	DNMG442MN KCP10B	B81
5330870	VNGA332S0525MT KBH20	B342	5351942	UJDE1250N6BRB KCSM15	P45	5387618	WNMG434RN KCP25B	B161	5390730	UJDE1000J6DS KCSM15	P45
5330871	VNGA332S0415MT KBH20	B342	5351943	UJDE1250N6BRE KCSM15	P45	5387622	CCMT3251LF KCP25B	B191	5390731	UJDE1000J6CRK KCSM15	P45
5330872	VNGA332S0735MT KBH20	B342	5351944	UJDE1250N6BS KCSM15	P45	5387628	CCMT3252MF KCP25B	B191	5390732	UJDE1000J6CRH KCSM15	P45
5330873	VNGA333S0525MT KBH20	B342	5352319	EADE0178J4AQX KYS40	P156	5387629	CCMT3252MF KCP25B	B191	5393242	CNMG432RN KCK15B	B53
5337754	KM4X100NEL3	D32	5352350	EADE0188J4AQX KYS40	P156	5387661	CCMT432MF KCP25B	B191	5393244	CNMG432RN KCP40B	B53
5337755	KM4X100NEL4	D32	5352351	EADE0238J4AQX KYS40	P156	5387662	CNMG432RP KCP25B	B50	5394869	UJDE1000J6CRD KCSM15	P45
5337756	KM4X100NEL5	D32	5352352	EADE0250J4AQX KYS40	P156	5387663	CNMG432MW KCP25B	B52	5397385	KSEM0500HPG KCPM45	H57
5337757	KM4X100NEL6	D32	5352353	EADE0297J4AQX KYS40	P156	5387664	CNMG432RN KCP25B	B53	5397386	KSEM0500HPG KCPM45	H57
5337758	KM4X100NER3	D32	5352354	EADE0313J4AQX KYS40	P156	5387665	CNMG432FP KCP25B	B53	5397387	CNMG500HPGM KCPM45	H57
5337759	KM4X100NER4	D32	5352355	EADE0356J4AQX KYS40	P156	5387667	CNMG433MN KCP25B	B50	5397388	KSEM0563HPG KCPM45	H57
5337770	KM4X100NER5	D32	5352356	EADE0375J4AQX KYS40	P156	5387668	CNMG433RN KCP25B	B53	5397389	KSEM0634HPG KCPM45	H57
5337771	KM4X100NER6	D32	5352357	EADE0475J4AQX KYS40	P156	5387681	CNMG434RN KCP25B	B53	5397470	KSEM1620HPGRH KCPM45	H57
5341813	KSEM3125HPGM KC7315	H55	5352358	EADE0500J4AQX KYS40	P156	5387688	CNMG643MN KCP25B	B50	5397471	KSEM0656HPG KCPM45	H57
5348571	CNMG432S0525MTCB1 KBH20	B330	5352359	EADE0188J6ARX KYS40	P157	5387689	CNMG643RN KCP25B	B53	5397473	KSEM0688HPG KCPM45	H57
5348572	CNMG433S0525MTCB1 KBH20	B330	5352360	EADE0250J6ARX KYS40	P157	5387691	CNMG644RN KCP25B	B53	5397474	KSEM1800HPGM KCPM45	H57
5348573	CNMG431S0525MTCB1 KBH20	B330	5352361	EADE0313J6ARX KYS40	P157	5387692	CNMM433RN KCP25B	B55	5397475	KSEM0719HPG KCPM45	H57
5348574	DNMG432S0525MTCB1 KBH20	B334	5352362	EADE0375J6ARX KYS40	P157	5387693	CNMM433RP KCP25B	B56	5397476	KSEM1900HPGM KCPM45	H57
5348575	DNMG433S0525MTCB1 KBH20	B334	5352363	EADE0500J6ARX KYS40	P157	5387694	CNMM434RP KCP25B	B56	5397477	KSEM1920HPGM KCPM45	H57
5348576	DNMG442S0525MTCB1 KBH20	B334	5358938	KSOM125Z03C1000F53X	S44	5387695	CNMM543RM KCP25B	B55	5397478	KSEM0750HPG KCPM45	H57
5348577	DNMG443S0525MTCB1 KBH20	B334	5359020	KSOM150Z040F53S050X	S45	5387696	CNMM544RP KCP25B	B56	5397479	KSEM0758HPG KCPM45	H57
5348579	TNGM332S0525MTCB1 KBH20	B340	5359021	KSOM200Z060F53S075X	S45	5387697	CNMM644RM KCP25B	B55	5397480	KSEM0759HPG KCPM45	H57
5348582	VNGM332S0525MTCB1 KBH20	B342	5359023	KSOM250Z070F53S075X	S45	5387698	CNMM646RH KCP25B	B55	5397481	KSEM1950HPGM KCPM45	H57
5348583	VNGM333S0525MTCB1 KBH20	B342	5359024	KSOM300Z090F53S100X	S45	5387699	CNMM646RN KCP25B	B55	5397482	KSEM1981HPG KCPM45	H57
5348584	CCGM3251S0525MTCB1 KBH20	B328	5360214	KDR300R1607S125L200	V58	5387727	DCMT3252LF KCP25B	B225	5397483	KSEM2000HPGM KCPM45	H57
5348585	CCGM3252S0525MTCB1 KBH20	B328	5360215	KDR300R1208S125L200	V54	5387729	DCMT3253MF KCP25B	B226	5397484	KSEM0813HPG KCPM45	H57
5348586	DCGM3251S0525MTCB1 KBH20	B331	5360377	UBDE0500N4AQA KCSM15	P21	5387732	DNMG432MN KCP25B	B81	5397485	KSEM2100HPGM KCPM45	H57
5350437	RIQ06E1306 K6005	K58	5360378	UBDE0500N4AQB KCSM15	P21	5387733	DNMG432RN KCP25B	B83	5397486	CNMG432RN KCP25B	H57
5351811	UJDE375J6CRA KCSM15	P44	5360379	UBDE0625N4AQB KCSM15	P21	5387737	DNMG442MN KCP25B	B81	5397487	KSEM0875HPG KCPM45	H57
5351812	UJDE375J6CRB KCSM15	P44	5360380	UBDE0625N4AQC KCSM15	P21	5387753	CNMG432FN KCK15B	B49	5397488	KSEM2300HPGM KCPM45	H57
5351814	UJDE375J6CRC KCSM15	P44	5360381	UBDE0750N4AQB KCSM15	P21	5387754	WNMG432FN KCK15B	B146	5397489	KSEM0938HPG KCPM45	H57
5351815	UJDE375J6CS KCSM15	P44	5360382	UBDE0750N4AQC KCSM15	P21	5387755	CNMG432MW KCK15B	B52	5397490	KSEM2400HPGM KCPM45	H57
5351816	UJDE375J6BQA KCSM15	P46	5360383	UBDE0750N4AQQ KCSM15	P21	5387801	CNMG433UN KCK15B	B54	5397491	KSEM2500HPGM KCPM45	H58
5351817	UJDE500J6BRA KCSM15	P44	5360384	UBDE0750N4AQE KCSM15	P21	5387802	CNMG432FN KCK15B	B54	5397492	KSEM1000HPG KCPM45	H58
5351818											

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5397497	KSEM2600HPGM KCPM45	H58	5402938	WNMG432MR KCP25B	B159	5413211	SNMM856RH KCP25B	B106	5416918	T820NC05000-13RH3-A KSMN34	M24
5397498	KSEM1031HPG KCPM45	H58	5402960	WNMG432MR KCK15B	B159	5413212	SNMM866RH KCP25B	B106	5416919	T820NC05000-13RH3-A KSP39	M24
5397499	KSEM2700HPGM KCPM45	H58	5402963	WNMG433MR KCM35	B159	5413242	SCMT3252LF KCP10B	B246	5416930	T820NC05000-13RH3-A KSP39	M24
5397500	KSEM2800HPGM KCPM45	H58	5402964	WNMG433MR KCP10B	B159	5413249	TNMG332FN KCP10B	B123	5416931	T820NC05000-13RH7-A KSP39	M24
5397501	KSEM1125HPG KCPM45	H58	5402965	WNMG433MR KCP25B	B159	5413250	TNMG332MN KCP10B	B124	5416932	T820NF05000-20RH3-A KSP32	M24
5397502	KSEM3000HPGM KCPM45	H58	5402966	DNMG432MR KCM15	B82	5413251	TNMG333FN KCP10B	B123	5416933	T820NF05000-20RH3-A KSMN34	M24
5397503	KSEM1188HPG KCPM45	H58	5402969	DNMG432MR KCP10B	B82	5413255	VBMT3252LF KCP10B	B281	5416934	T820NF05000-20RH3-A KSP39	M24
5397504	KSEM1250HPG KCPM45	H58	5402980	DNMG432MR KCP25B	B82	5413256	VBMT331LF KCP10B	B281	5416935	T820NF05000-20RH5-A KSP39	M24
5397505	KSEM3200HPGM KCPM45	H58	5402983	DNMG442MR KCM25	B82	5413257	VBMT332LF KCP10B	B281	5416936	T820NF05000-20RH6-A KSP39	M24
5397506	KSEM3300HPGM KCPM45	H58	5402985	DNMG442MR KCP10B	B82	5413260	WNMG432MN KCP10B	B159	5416937	T820NF05000-20RH7-A KSP39	M24
5397507	KSEM1313HPG KCPM45	H58	5402986	DNMG442MR KCP25B	B82	5413261	WNMG432MN KCP10B	B160	5416938	T820NC05625-12RH3-A KSP32	M24
5397508	KSEM3600HPGM KCPM45	H58	5402987	DNMG442MR KCK15B	B82	5413263	WNMG433MW KCP10B	B160	5416939	T820NC05625-12RH3-A KSP39	M24
5397509	KSEM1500HPG KCPM45	H58	5402990	DNMG433MR KCP10B	B82	5413269	SCMT3252LF KCP25B	B246	5416940	T820NF05625-11RH3-A KSMN34	M24
5397510	KSEM4000HPGM KCPM45	H58	5402995	DNMG444MR KCP25B	B82	5413276	SNMM644RM KCP25B	B107	5416941	T820NF05625-11RH3-A KSP39	M24
5397513	KSEMP7200FDS71A1M	H106, H116, H123	5403016	CNMG432MR KCM15	B51	5413277	TNMG332MN KCP25B	B124	5416942	T820NC06250-11RH3-A KSP32	M24
5397514	KSEMP7400FDS71A1M	H106, H116, H123	5403017	CNMG432MR KCM25	B51	5413291	VBMT3252LF KCP25B	B281	5416943	T820NC06250-11RH3-A KSMN34	M24
5397515	KSEMP7600FDS71A1M	H106, H117, H123	5403018	CNMG432MR KCM35	B51	5413292	VBMT331LF KCP25B	B281	5416944	T820NC06250-11RH3-A KSP39	M24
5397516	KSEMP3000FDS71A1	H106, H117, H123	5403019	CNMG432MR KCP10B	B51	5413293	VBMT332LF KCP25B	B281	5416945	T820NC06250-11RH5-A KSP39	M24
5397517	KSEMP7800FDS71A1M	H106, H117, H123	5403090	CNMG432MR KCP25B	B51	5413746	RNPJ10T3MOSHDC725M	V49	5416946	T820NF06250-16RH3-A KSP39	M24
5397518	KSEMP8000FDS80A1M	H106, H117, H123	5403091	CNMG432MR KCP40	B51	5413747	RNPJ1204MOSGD K725M	V56	5416947	T820NF06250-16RH3-A KSP32	M24
5397519	KSEMP8200FDS80A1M	H106, H117, H123	5403092	CNMG432MR KCK15B	B51	5413748	RNPJ1204MOSHD K725M	V56	5416948	T820NF06250-16RH3-A KSP39	M24
5397550	KSEMP3250FDS80A1	H106, H117, H123	5403093	CNMG433MR KCM15	B51	5413749	RNPJ1605MOSHDC725M	V59	5416949	T820NF06250-16RH3-A KSP32	M24
5397551	KSEMP8400FDS80A1M	H106, H117, H123	5403094	CNMG433MR KCM25	B51	5415049	RQIO6EGRO6 KD1415	K59	5416950	T820NF06250-16RH5-A KSP39	M24
5397552	KSEMP8600FDS80A1M	H106, H117, H123	5403095	CNMG433MR KCM35	B51	5415819	LUDE0500J6DQB KCSM15	P46	5416951	T820NF06250-16RH6-A KSP39	M24
5397553	KSEMP8800FDS80A1M	H106, H117, H123	5403096	CNMG433MR KCP10B	B51	5415936	LUDE1000J6CRF KCSM15	P45	5416952	T820NF07500-10RH3-A KSP32	M24
5397554	KSEMP3500FDS80A1	H106, H117, H123	5403097	CNMG433MR KCP25B	B51	5415950	LUDE0625J6CRC KCSM15	P44	5416953	T820NF07500-10RH3-A KSMN34	M24
5397555	KSEMP9000FDS90A1M	H106, H117, H123	5403099	CNMG433MR KCK15B	B51	5415951	LUDE0625J6CRD KCSM15	P44	5416954	T820NF07500-10RH3-A KSP39	M24
5397556	KSEMP9200FDS90A1M	H106, H117, H123	5403103	CNMG543MR KCP10B	B51	5415953	LUDE0625J6DQB KCSM15	P46	5416955	T820NF07500-16RH3-A KSP32	M25
5397557	KSEMP9400FDS90A1M	H106, H117, H123	5403104	CNMG543MR KCP25B	B51	5415954	LUDE0750J6ARB KCSM15	P44	5416956	T820NF07500-16RH3-A KSMN34	M25
5397558	KSEMP3750FDS90A1	H106, H117, H123	5403105	CNMG543MR KCP40	B51	5415956	LUDE1000J6ARC KCSM15	P45	5416957	T820NF07500-16RH3-A KSP39	M25
5397559	KSEMP9600FDS90A1M	H106, H117, H123	5403108	CNMG434MR KCP10B	B51	5415957	LUDE1000J6ARE KCSM15	P45	5416958	T820NC08750-9RH4-A KSP32	M25
5397560	KSEMP9800FDS90A1M	H106, H117, H123	5403112	CNMG544MR KCP10B	B51	5415959	LUDE1000J6AS KCSM15	P45	5416959	T820NC08750-9RH4-A KSMN34	M25
5397561	KSEMP4000FDS90A1	H106, H117, H123	5403113	CNMG544MR KCP25B	B51	5415970	LUDE1000J6CRB KCSM15	P45	5416961	T820NF08750-14RH4-A KSP39	M25
5397562	KSEMP3000FDS71B1	H110, H119	5403116	CNMG643MR KCM25	B51	5415971	LUDE1000J6CRE KCSM15	P45	5416962	T820NC10000-8RH5-A KSP32	M25
5397563	KSEMP3250FDS80B1	H110, H120	5403119	CNMG643MR KCP25B	B50	5416851	LUDE1000J6CS KCSM15	P45	5416963	T820NC10000-8RH5-A KSMN34	M25
5397564	KSEMP3500FDS80B1	H110, H120	5403170	CNMG543MR KCP10B	B53	5416852	T820NC02500-20RH3-A KSP32	M24	5416964	T820NC10000-8RH5-A KSP39	M25
5397565	KSEMP3750FDS90B1	H110, H120	5413058	CNMG434UN KCK15B	B54	5416853	T820NC02500-20RH3-A KSMN34	M24	5416965	T820NC11250-7RH6-A KSP39	M25
5397566	KSEMP4000FDS90B1	H110, H120	5413059	CNMG866RH KCP25B	B55	5416854	T820NC02500-20RH3-A KSP39	M24	5416966	T820NF11250-12RH3-A KSP39	M25
5397942	WD50FDS71292M	H126	5413107	CCMT3253MF KCP25B	B191	5416855	T820NC02500-20RH5-A KSP39	M24	5416967	T820NF11250-16RH3-A KSP39	M25
5397943	WD50FDS71452M	H127	5413171	CNMG433CT KCP10B	B48	5416856	T820NC02500-20RH7-A KSP39	M24	5416968	T820NC12500-7RH6-A KSP39	M25
5397944	WD50FDS80327M	H126	5413172	CNMG433CT KCP25B	B48	5416857	T820NC02500-20RH7-A KSP39	M24	5416969	T820NC10000-8RH5-A KSP39	M24
5397945	WD50FDS80507M	H127	5413173	CNMG433MR KCK15B	B52	5416858	T820NF02500-28RH3-A KSP32	M24	5416970	T820NC10000-8RH5-A KSMN34	M24
5397946	WD50FDS90362M	H126	5413174	CNMG433MR KCP10B	B53	5416859	T820NF02500-28RH3-A KSMN34	M24	5416971	T820NC10000-8RH5-A KSP39	M24
5397947	WD50FDS90562M	H127	5413175	CNMG433RP KCP25B	B53	5416880	T820NF02500-28RH3-A KSP39	M24	5416972	T820NC10000-8RH5-A KSMN34	M24
5397948	SSF200FDS711150	H128	5413176	CNMG434RP KCP10B	B53	5416881	T820NF02500-28RH4-A KSP39	M24	5416973	T820NC10000-8RH5-A KSP39	M24
5397949	SSF200FDS711780	H129	5413177	CNMG434RP KCP25B	B53	5416882	T820NF02500-28RH4-A KSP39	M24	5416974	T820NC10000-8RH5-A KSMN34	M24
5398010	SSF200FDS801287	H128	5413178	CNMG543MN KCP10B	B50	5416883	T820NF02500-28RH5-A KSP39	M24	5416975	T820NC10000-8RH5-A KSP39	M24
5398011	SSF200FDS801996	H129	5413179	CNMG543MN KCP25B	B50	5416884	T820NF02500-28RH6-A KSP39	M24	5416976	T820NC10000-8RH5-A KSMN34	M24
5398012	SSF200FDS901425	H128	5413180	CNMG543RP KCP10B	B53	5416885	T820NF02500-28RH7-A KSP39	M24	5416977	T820NC10000-8RH5-A KSP39	M24
5398013	SSF200FDS902213	H129	5413181	CNMG543RP KCP25B	B53	5416886	T820NF02500-28RH7-A KSP39	M24	5416978	T820NC10000-8RH5-A KSMN34	M24
5400814	B272Z06400HPS KN25	G70	5413182	CNMG544RP KCP10B	B53	5416887	T820NF03125-24RH3-A KSP39	M24	5416979	T820NC10000-8RH5-A KSP39	M24
5402877	SNMG433MR KCM25	B103	5413183	CNMG544RP KCP25B	B53	5416888	T820NF03125-24RH4-A KSP39	M24	5416980	T820NC10000-8RH5-A KSMN34	M24
5402879	SNMG433MR KCP10B	B103	5413184	CPMT2152MP KCP25B	B207	5416889	T820NF03125-24RH4-A KSP39	M24	5416981	T820NF03125-24RH3-A KSMN34	M24
5402920	SNMG433MR KCP25B	B103	5413185	CPMT3252LF KCP10B	B207	5416892	T820NF03125-24RH3-A KSP39	M24	5416982	T820NF03125-24RH3-A KSP39	M24
5402924	TNMG633MR KCM25	B125	5413186	CPMT3252LF KCP25B	B207	5416893	T820NF03125-24RH4-A KSP39	M24	5416983	T820NF03125-24RH6-A KSP39	M24
5402926	TNMG633MR KCP10B	B125	5413187	CPMT3252MF KCP10B	B207	5416894	T820NF03125-24RH5-A KSP39	M24	5416984	T820NF03125-24RH6-A KSP39	M24
5402927	TNMG633MR KCP25B	B125	5413188	CPMT3252MF KCP25B	B207	5416895	T820NF03125-24RH6-A KSP39	M24	5416985	T820NF03125-24RH7-A KSP39	M24
5402930	TNMG633MR KCP10B	B125	5413189	CPMT3252MF KCP25B	B207	5416896	T820NF03125-24RH7-A KSP39	M24	5416986	T820NF03125-24RH7-A KSP39	M24
5402931	TNMG633MR KCP25B	B125	5413190	DCMT3252MF KCP10B	B226	5416897	T820NF03125-24RH7-A KSP39	M24	5416987	T820NF03125-24RH7-A KSP39	M24
5402932	TNMG633MR KCK15B	B125	5413191	DCMT3252MF KCP25B	B226	5416898	T820NF03750-16RH3-A KSP39	M24	5416988	T820NF03750-16RH3-A KSMN34	M24
5402935	WNMG432MR KCM25	B159	5413193	DNMG333MN KCP25B	B81	5416899	T820NF03750-16RH3-A KSP39	M24	5416989	T820NF03750-16RH3-A KSP39	M24
5402936	WNMG432MR KCM35	B159	5413194	DNMG431CT KCP25B	B79	5416902	T820NF03750-16RH4-A KSP39	M24	5416990	T820NF03750-16RH4-A KSP39	M24
5402937	WNMG432MR KCP10B	B159	5413195	DNMG433RP KCP25B	B84	5416903	T820NF03750-24RH3-A KSP32	M24	5416991	T820NF03750-24RH3-A KSMN34	M24
			5413196	DNMG433RP KCP10B	B84	5416904	T820NF03750-24RH3-A KSP39	M24	5416992	T820NF03750-24RH3-A KSP39	M24
			5413197	DNMG442RP KCP10B	B84	5416905	T820NF03750-24RH4-A KSP39	M24	5416993	T820NF03750-24RH4-A KSP39	M24
			5413198	DNMG442RP KCP25B	B84	5416906	T820NF03750-24RH5-A KSP39	M24	5416994	T820NF03750-24RH5-A KSP39	M24
			5413199	DNMG443CT KCP10B	B79	5416907	T820NF03750-24RH6-A KSP39	M24	5416995	T820NF03750-24RH6-A KSP39	M24
			5413200	DNMG443MN KCP10B	B81	5416908	T820NF03750-24RH7-A KSP39	M24	5416996	T820NF03750-24RH7-A KSP39	M24
			5413201	DNMG443MN KCP25B	B83	5416909	T820NF03750-24RH7-A KSP39	M24	5416997	T820NF03750-24RH7-A KSMN34	M24
			5413202	DNMG433RP KCP10B	B84	5416910	T820NF03750-24RH7-A KSP39				



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5417051	T830NC#12-24RH3-A KSP39	M75	5417191	T830NF07500-16RH3-A KSP39	M76	5417285	T830M040X070R6H-D1 KSP39	M92	5417397	T832M120X175R6H-D6 KSP32	M94
5417052	T830NF#12-28RH3-A KSP39	M75	5417192	T830NC07500-10RH5-A KSP39	M76	5417286	T830M040X070R6G-D1 KSP39	M92	5417398	T832M120X175R6H-D6 KSP39	M94
5417110	T830NC02500-20RH2-A KSP39	M75	5417193	T830NF07500-16RH5-A KSP39	M76	5417287	T830M050X080R6H-D1 KSP32	M92	5417399	T832MF120X150R6H-D4 KSP32	M94
5417111	T830NC02500-20RH3-A KSP32	M75	5417194	T830NC08750-9RH4-A KSMN34	M76	5417288	T830M050X080R6H-D1 KSP39	M92	5417400	T832MF120X150R6H-D4 KSP39	M94
5417112	T830NC02500-20RH3-A KSMN34	M75	5417195	T830NC08750-9RH4-A KSP39	M76	5417289	T830M050X080R6G-D1 KSP39	M92	5417401	T832M140X200R6H-D6 KSP32	M94
5417113	T830NC02500-20RH3-A KSP39	M75	5417196	T830NF08750-14RH4-A KSMN34	M76	5417290	T830M060X100R6H-D1 KSP32	M92	5417402	T832M140X200R6H-D6 KSP39	M94
5417114	T830NC02500-20RH3-A KSP39	M75	5417197	T830NF08750-14RH4-A KSP39	M76	5417291	T830M060X100R6H-D1 KSP39	M92	5417403	T832MF120X150R6H-D4 KSP39	M94
5417115	T830NC02500-20RH7-A KSP39	M75	5417198	T830NC10000-8RH4-A KSMN34	M76	5417292	T830M060X100R6G-D1 KSP39	M92	5417404	T832MF140X150R6H-D4 KSP39	M94
5417116	T830NF02500-28RH2-A KSP39	M75	5417199	T830NC10000-8RH5-A KSP32	M76	5417293	T830M070X100R6H-D1 KSP39	M92	5417405	T832M160X200R6H-D6 KSP39	M94
5417117	T830NF02500-28RH3-A KSP39	M75	5417200	T830NC10000-8RH5-A KSP39	M76	5417294	T830M080X125R6H-D1 KSP32	M92	5417406	T832M160X200R6H-D6 KSP39	M94
5417118	T830NF02500-28RH3-A KSMN34	M75	5417202	T830NF1000-12RH4-A KSP39	M76	5417295	T830M080X125R6G-D1 KSP39	M92	5417407	T832M180X250R6H-D6 KSP39	M94
5417119	T830NF02500-28RH3-A KSP39	M75	5417203	T830NC11250-7RH6-A KSP39	M76	5417296	T830M080X125R6H-D1 KSP39	M92	5417408	T832M200X250R6H-D6 KSP32	M94
5417120	T830NF02500-28RH3-A KSP39	M75	5417205	T830M020X040R6G-D1 KSP32	M31	5417297	T830M080X125R6H-D1 KSP39	M92	5417409	T832M200X250R6H-D6 KSP39	M94
5417121	T830NF02500-28RH5-A KSP39	M75	5417206	T820M020X040R6H-D1 KSP39	M31	5417298	T830M080X125R6G-D1 KSP39	M92	5417410	T830M030X050R6H-J KJ301	M98
5417122	T830NF02500-28RH6-A KSP39	M75	5417207	T820M020X040R6G-D1 KSP39	M31	5417299	T830M100X150R6H-D1 KSP32	M92	5417411	T830M030X050R6H-J KJ301	M98
5417123	T830NF02500-28RH7-A KSP39	M75	5417208	T820M0250X045R6H-D1 KSP39	M31	5417300	T830M100X150R6H-D1 KSP39	M92	5417412	T830M100X150R6H-D1 KSP39	M98
5417124	T830NC03125-18RH3-A KSP32	M75	5417209	T820M0250X045R6G-D1 KSP39	M31	5417301	T830MF100X125R6H-D4 KSP32	M92	5417413	T830M040X070R6H-J KJ301	M98
5417125	T830NC03125-18RH3-A KSMN34	M75	5417220	T820M030X050R6H-D1 KSP32	M31	5417302	T830MF100X125R6H-D4 KSP39	M92	5417414	T830M050X080R6H-J KJ301	M98
5417126	T830NC03125-18RH3-A KSP39	M75	5417221	T820M030X050R6G-D1 KSP39	M31	5417303	T830M100X150R6G-D1 KSP39	M92	5417415	T830M050X080R6H-J KJ301	M98
5417127	T830NC03125-18RH5-A KSP39	M75	5417222	T820M030X050R6G-D1 KSP39	M31	5417304	T830M060X100R6H-D6 KSP39	M92	5417416	T830M060X100R6H-J KJ301	M98
5417128	T830NC03125-18RH7-A KSP39	M75	5417223	T820M035X060R6H-D1 KSP39	M31	5417305	T830M080X125R6H-D6 KSP39	M92	5417417	T830M060X100R6H-J KJ301	M98
5417129	T830NF03125-24RH3-A KSP32	M75	5417224	T820M040X070R6H-D1 KSP32	M31	5417306	T830M100X150R6H-D6 KSP39	M92	5417418	T830M080X125R6H-J KJ301	M98
5417130	T830NF03125-24RH3-A KSMN34	M75	5417225	T820M040X070R6H-D1 KSP39	M31	5417307	T830M120X175R6H-D6 KSP32	M93	5417419	T830M080X125R6H-J KJ301	M98
5417131	T830NF03125-24RH3-A KSP39	M75	5417226	T820MF040X050R6H-D4 KSP39	M31	5417308	T830M120X175R6H-D6 KSP39	M93	5417420	T830M100X150R6H-J KJ301	M98
5417132	T830NF03125-24RH5-A KSP39	M75	5417227	T820MF040X050R6G-D1 KSP39	M31	5417309	T830MF120X125R6H-D4 KSP39	M93	5417421	T830M100X150R6H-J KJ301	M98
5417133	T830NF03125-24RH7-A KSP39	M75	5417228	T820M050X080R6H-D1 KSP32	M31	5417310	T830MF120X125R6H-D4 KSP32	M93	5417422	T830M120X175R6H-J KJ301	M98
5417134	T830NC03750-16RH3-A KSP32	M75	5417229	T820M050X080R6G-D1 KSP39	M31	5417311	T830MF120X125R6H-D4 KSP39	M93	5417423	T830MF120X125R6H-J KJ301	M98
5417135	T830NC03750-16RH3-A KSMN34	M75	5417230	T820MF050X050R6H-D4 KSP39	M31	5417312	T830M120X175R6G-D6 KSP39	M93	5417424	T830MF120X125R6H-J KJ301	M98
5417136	T830NC03750-16RH3-A KSP39	M75	5417231	T820M050X080R6G-D1 KSP39	M31	5417313	T830M140X200R6H-D6 KSP32	M93	5417425	T830M140X150R6H-J KJ301	M98
5417137	T830NC03750-16RH5-A KSP39	M75	5417232	T820M060X100R6H-D1 KSP32	M31	5417314	T830M140X200R6H-D6 KSP39	M93	5417426	T830M140X200R6H-J KJ301	M98
5417138	T830NC03750-16RH7-A KSP39	M75	5417233	T820M060X100R6H-D1 KSP39	M31	5417315	T830MF140X150R6H-D4 KSP32	M93	5417427	T830MF160X150R6H-J KJ301	M98
5417139	T830NF03750-24RH3-A KSP32	M75	5417234	T820MF060X050R6H-D4 KSP39	M31	5417316	T830MF140X150R6H-D4 KSP39	M93	5417428	T830M160X200R6H-J KJ301	M98
5417140	T830NF03750-24RH3-A KSMN34	M75	5417235	T820MF060X050R6G-D1 KSP39	M31	5417317	T830M140X200R6G-D6 KSP39	M93	5417429	T830M180X250R6H-J KJ301	M98
5417141	T830NF03750-24RH5-A KSP39	M75	5417236	T820M060X100R6G-D1 KSP39	M31	5417318	T830M160X200R6H-D6 KSP39	M93	5417430	T830M200X250R6H-J KJ301	M98
5417142	T830NF03750-24RH7-A KSP39	M75	5417237	T820M070X100R6H-D1 KSP32	M31	5417319	T830MF160X150R6H-D4 KSP39	M93	5418689	SNHJ444ENLD KC520M	S59
5417143	T830NF03750-24RH5-A KSP39	M75	5417238	T820M070X100R6H-D1 KSP39	M31	5417320	T830M160X200R6G-D6 KSP39	M93	5418900	SNHJ444ENLD KC725M	S59
5417144	T830NF03750-24RH7-A KSP39	M75	5417239	T820M070X100R6G-D1 KSP39	M31	5417331	T830M180X250R6H-D6 KSP39	M93	5418801	SNHJ444ENLD KCK15	S59
5417145	T830NC04375-14RH3-A KSP32	M75	5417240	T820M080X125R6H-D1 KSP32	M31	5417332	T830MF180X150R6H-D4 KSP39	M93	5418802	SNHJ444ENLD KCKP30	S59
5417146	T830NC04375-14RH3-A KSMN34	M75	5417241	T820M080X125R6H-D1 KSP39	M31	5417333	T830M200X250R6H-D6 KSP39	M93	5418803	SNHJ444ENLD KCKP30	S59
5417147	T830NC04375-14RH3-A KSP39	M75	5417242	T820MF080X100R6H-D4 KSP39	M31	5417334	T830M220X250R6H-D6 KSP39	M93	5418804	SNHJ444ENLD KC725M	S59
5417148	T830NC04375-14RH5-A KSP39	M75	5417243	T820M080X125R6G-D1 KSP39	M31	5417335	T830M240X300R6H-D6 KSP39	M93	5418805	SNHJ444ENLD KCK15	S59
5417149	T830NC04375-14RH7-A KSP39	M75	5417244	T820M100X150R6H-D1 KSP32	M31	5417336	T830M240X300R6H-D6 KSP39	M93	5418906	SNHJ444ENLD KCKP30	S59
5417150	T830NF04375-20RH3-A KSP32	M75	5417245	T820M100X150R6H-D1 KSP39	M31	5417337	T830M300X350R6H-D6 KSP39	M93	5418807	SNHJ31252ENLD KC520M	S57
5417151	T830NF04375-20RH3-A KSMN34	M75	5417246	T820MF100X125R6H-D4 KSP39	M31	5417338	T830M300X350R6H-D6 KSP39	M93	5418808	SNHJ31252ENLD KCK725M	S57
5417152	T830NF04375-20RH3-A KSP39	M75	5417247	T820M100X150R6G-D1 KSP39	M31	5417339	T830M360X400R6H-D6 KSP39	M93	5418909	SNHJ31252ENLD KCK15	S57
5417153	T830NF04375-20RH5-A KSP39	M75	5417248	T820M060X100R6H-D6 KSP39	M31	5417350	T820M030X050R6H-J KJ301	M33	5418810	SNHJ31252ENLD KCKP30	S57
5417154	T830NF04375-20RH7-A KSP39	M75	5417249	T820M080X125R6H-D6 KSP39	M31	5417351	T820M030X050R6H-J KJ301	M33	5418811	SNHJ31253ENLD KCK725M	S57
5417155	T830NF04375-20RH7-A KSP39	M75	5417250	T820M100X150R6H-D6 KSP39	M31	5417352	T820M040X070R6H-J KJ301	M33	5418812	SNHJ31253ENLD KCK15	S57
5417156	T830NC05000-13RH3-A KSP32	M75	5417251	T820M120X175R6H-D6 KSP32	M32	5417353	T820M040X070R6H-J KJ301	M33	5420150	KSSM87D200SN440S075205	S58
5417157	T830NC05000-13RH3-A KSMN34	M75	5417252	T820M120X175R6H-D6 KSP39	M32	5417354	T820M050X080R6H-J KJ301	M33	5420154	KSSM87D300SN440S100207	S58
5417158	T830NC05000-13RH3-A KSP39	M75	5417253	T820MF120X125R6H-D4 KSP39	M32	5417355	T820M050X080R6H-J KJ301	M33	5420155	KSSM87D400SN440S100209	S58
5417159	T830NC05000-13RH5-A KSP39	M75	5417254	T820MF120X125R6H-D4 KSP39	M32	5417356	T820M060X100R6H-J KJ301	M33	5420156	KSSM87D400SN440S150208	S58
5417160	T830NC05000-13RH7-A KSP39	M75	5417255	T820M120X175R6G-D6 KSP39	M32	5417357	T820M060X100R6H-D1 KSP32	M93	5420157	KSSM87D400SN440S150211	S58
5417161	T830NF05000-20RH3-A KSP32	M75	5417256	T820M140X200R6H-D6 KSP32	M32	5417358	T820M080X100R6H-J KJ301	M33	5420160	KSSM87D600SN440S150212	S58
5417162	T830NF05000-20RH3-A KSMN34	M75	5417257	T820M140X200R6H-D6 KSP39	M32	5417359	T832M030X050R6H-D1 KSP39	M94	5420161	KSSM87D600SN440S150216	S58
5417163	T830NF05000-20RH3-A KSP39	M75	5417258	T820MF140X125R6H-D4 KSP39	M32	5417370	T820M080X125R6H-J KJ301	M33	5420251	KSSM88D200SN3125S075205	S56
5417164	T830NF05000-20RH5-A KSP39	M75	5417259	T820MF140X125R6H-D4 KSP39	M32	5417371	T832M040X070R6H-D1 KSP32	M94	5420252	KSSM88D200SN3125S075206	S56
5417165	T830NF05000-20RH7-A KSP39	M75	5417260	T820M140X200R6G-D6 KSP39	M32	5417372	T820M080X125R6H-J KJ301	M33	5420255	KSSM88D300SN3125S100207	S56
5417166	T830NF05000-20RH7-A KSP39	M75	5417261	T820M160X200R6H-D6 KSP32	M32	5417373	T832M040X070R6H-D1 KSP39	M94	5420257	KSSM88D300SN3125S100209	S56
5417167	T830NC0625-12RH3-A KSMN34	M75	5417262	T820M160X200R6H-D6 KSP39	M32	5417374	T820M100X150R6H-J KJ301	M33	5420258	KSSM88D400SN3125S150208	S56
5417168	T830NC0625-12RH3-A KSP39	M75	5417263	T820MF160X150R6H-D4 KSP39	M32	5417375	T832M050X080R6H-D1 KSP32	M94	5420672	B551A04763DAL KN15	G104
5417169	T830NC0625-12RH3-A KSP32	M75	5417264	T820M160X200R6G-D6 KSP39	M32	5417376	T820M100X150R6H-J KJ301	M33	5420673	B551A06350DAL KN15	G104
5417170	T830NC0625-12RH5-A KSP39	M76	5417265	T820M180X250R6H-D6 KSP32	M32	5417377	T832M050X080R6H-D1 KSP39	M94	5420674	B551A11130DAL KN15	G104
5417171	T830NF0625-18RH3-A KSMN34	M76	5417266								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5420839	SNXF43Z3NSNGP KCK15	S89	5434691	PDC251A09525DA KD1415	G106	5434782	B285D07000HPS KN15	G83	5443921	T832MF160X150RD6-A KSP39	M89
5420840	SNXF43Z3SNH KCK15	S89	5434692	PDC251A11113DA KD1415	G106	5434783	B285D07145HPS KN15	G83	5443922	T832M160X200RD7-A KSP39	M89
5420841	SNXF43Z3NSH KCK15	S89	5434693	PDC251A12700DA KD1415	G106	5434785	B285D07700HPS KN15	G83	5443923	T832MF180X150RD6-A KSP39	M89
5420842	SNXF43Z3ENLDW KCK15	S90	5434697	B284D03000HPS KN15	G82	5434786	B285D07800HPS KN15	G83	5443938	T830M030X050RD3-A KSP32	M88
5424912	WNMG432RN KCP25B	B161	5434699	B284D03175HPS KN15	G82	5434787	B285D07938HPS KN15	G83	5453539	T830M030X050RD3-A KSP39	M88
5425545	CNMG543RN KCP25B	B53	5434700	B284D03200HPS KN15	G82	5434788	B285D08334HPS KN15	G83	5455180	T830M035X060RD4-A KSP39	M88
5425546	CNMG544RN KCP25B	B53	5434701	B284D03300HPS KN15	G82	5434789	B285D08400HPS KN15	G83	5455181	T830M040X070RD4-A KSP32	M88
5425547	CNMG644MN KCP25B	B50	5434703	B284D03500HPS KN15	G82	5434790	B285D08500HPS KN15	G83	5455182	T830M040X070RD4-A KSP39	M88
5425548	DNMG433MN KCP25B	B81	5434704	B284D03571HPS KN15	G82	5434791	B285D08733HPS KN15	G83	5455183	T830M050X080RD4-A KSP32	M88
5425549	DNMG433RN KCP25B	B83	5434706	B284D03970HPS KN15	G82	5434792	B285D09000HPS KN15	G83	5455184	T830M050X080RD4-A KSMN34	M88
5425581	RNMG433RN KCP10B	B97	5434707	B284D04000HPS KN15	G82	5434793	B285D09300HPS KN15	G83	5455185	T830M050X080RD4-A KSP39	M88
5425582	SNMG322MN KCP10B	B102	5434709	B284D04200HPS KN15	G82	5434794	B285D09500HPS KN15	G83	5455186	T830M060X100RD5-A KSP32	M88
5425583	SNMG433MN KCP10B	B102	5434710	B284D04366HPS KN15	G82	5434795	B285D09525HPS KN15	G83	5455187	T830M060X100RD5-A KSP39	M88
5425584	SNMG433RN KCP10B	B105	5434712	B284D04500HPS KN15	G82	5434796	B285D10000HPS KN15	G83	5455188	T830M060X100RD5-A KSP39	M88
5425585	SNMG434RN KCP10B	B105	5434713	B284D04763HPS KN15	G82	5434797	B285D10500HPS KN15	G83	5455189	T830M070X100RD5-A KSP39	M88
5425586	SNMG543MN KCP10B	B102	5434714	B284D04800HPS KN15	G82	5434798	B285D11000HPS KN15	G84	5455200	T830M070X100RD5-A KSP39	M88
5425587	SNMG543RN KCP10B	B105	5434715	B284D05000HPS KN15	G82	5434799	B285D11113HPS KN15	G84	5455201	T830M080X125RD5-A KSP32	M88
5425588	TNMG333MN KCP10B	B124	5434716	B284D05100HPS KN15	G82	5434800	B285D11500HPS KN15	G84	5455202	T830M080X125RD5-A KSMN34	M88
5425589	TNMG333RN KCP10B	B126	5434717	B284D05190HPS KN15	G82	5434801	B285D12000HPS KN15	G84	5455203	T830M100X150RD6-A KSP39	M88
5425591	VNMG332MN KCP10B	B146	5434718	B284D05558HPS KN15	G82	5434802	B285D14000HPS KN15	G84	5455204	T830M100X150RD6-A KSP39	M88
5425592	VNMG332RN KCP10B	B161	5434719	B284D05600HPS KN15	G83	5434803	B285D14500HPS KN15	G84	5455205	T830M100X150RD6-A KSP32	M88
5425593	WNMG433MN KCP10B	B159	5434721	B284D05800HPS KN15	G83	5434804	B285D18000HPS KN15	G84	5455206	T830M100X150RD6-A KSMN34	M88
5425594	WNMG433RN KCP10B	B161	5434722	B284D05954HPS KN15	G83	5443804	T832NC#04-40RH2-A KSP39	M77	5455207	T830M100X150RD6-A KSP39	M88
5425595	WNMG434RN KCP10B	B161	5434723	B284D06000HPS KN15	G83	5443805	T832NC#04-40RH3-A KSP39	M77	5455208	T830MF120X125RD6-A KSP39	M88
5425596	RNMG32RN KCP25B	B97	5434724	B284D06400HPS KN15	G83	5443806	T832NC#04-40RH5-A KSP39	M77	5455209	T830MF120X150RD5-A KSP39	M88
5425597	RNMG43RN KCP25B	B97	5434725	B284D06500HPS KN15	G83	5443807	T832NC#05-40RH2-A KSP39	M77	5455210	T830M120X175RD6-A KSP32	M88
5425598	SNMG322MN KCP25B	B102	5434726	B284D06746HPS KN15	G83	5443820	T832NC#06-32RH2-A KSP39	M77	5455221	T830M120X175RD6-A KSMN34	M88
5425599	SNMG433MN KCP25B	B102	5434727	B284D06800HPS KN15	G83	5443821	T832NC#06-32RH3-A KSP39	M77	5455222	T830M120X175RD6-A KSP39	M88
5425600	SNMG433RN KCP25B	B105	5434728	B284D07000HPS KN15	G83	5443822	T832NC#06-32RH5-A KSP39	M77	5455223	T830M140X150RD6-A KSP39	M88
5425601	SNMG434RN KCP25B	B105	5434729	B284D07145HPS KN15	G83	5443823	T832NF#06-40RH2-A KSP39	M77	5455225	T830M140X200RD7-A KSP39	M88
5425602	SNMG543MN KCP25B	B102	5434730	B284D07400HPS KN15	G83	5443824	T832NF#06-40RH3-A KSP39	M77	5455226	T830MF160X150RD6-A KSP39	M88
5425603	SNMG543RN KCP25B	B105	5434731	B284D07500HPS KN15	G83	5443826	T832NC#08-32RH2-A KSP39	M77	5455227	T830M160X200RD7-A KSP39	M88
5425604	TNMG333MN KCP25B	B124	5434732	B284D07541HPS KN15	G83	5443827	T832NC#08-32RH3-A KSP39	M77	5455229	T830MF180X150RD6-A KSP39	M88
5425605	TNMG333RN KCP25B	B126	5434733	B284D07938HPS KN15	G83	5443828	T832NC#08-32RH5-A KSP39	M77	5455230	T830M180X250RD7-A KSP39	M88
5425606	TNMG434RN KCP25B	B126	5434734	B284D08000HPS KN15	G83	5443829	T832NC#10-24RH3-A KSP39	M77	5455233	T820NC#02-56RH2-A KSP39	M23
5425607	VNMG332MN KCP25B	B146	5434735	B284D08334HPS KN15	G83	5443830	T832NC#10-24RH5-A KSP39	M77	5455234	T820NC#02-56RH3-A KSP39	M23
5430965	WNMG433RP KCK15B	B161	5434736	B284D08500HPS KN15	G83	5443831	T832NF#10-32RH3-A KSP39	M77	5455235	T820NC#02-56RH4-A KSP39	M23
5430966	CNMG543RN KCP10B	B53	5434737	B284D08733HPS KN15	G83	5443833	T832NF#10-32RH5-A KSP39	M77	5455236	T820NC#03-48RH2-A KSP39	M23
5430967	CNMG544RN KCP10B	B53	5434738	B284D09000HPS KN15	G83	5443834	T832NC02500-20RH3-A KSP39	M77	5455237	T820NC#04-40RH2-A KSP32	M23
5430968	CNMG644MN KCP10B	B50	5434739	B284D09129HPS KN15	G83	5443835	T832NC02500-20RH5-A KSP39	M77	5455238	T820NC#04-40RH2-A KSMN34	M23
5430969	DNMG431MN KCP10B	B81	5434740	B284D09500HPS KN15	G83	5443836	T832NF02500-2RH3-A KSP39	M77	5455239	T820NC#04-40RH3-A KSP39	M23
5431070	DNMG433MN KCP10B	B81	5434741	B284D09525HPS KN15	G83	5443837	T832NF02500-2RH5-A KSP39	M77	5455830	T820NC#04-40RH4-A KSP39	M23
5431071	DNMG433RN KCP10B	B83	5434742	B284D09921HPS KN15	G83	5443838	T832NC03125-18RH3-A KSP39	M77	5455831	T820NC#04-40RH4-A KSP39	M23
5431193	HFSF05000	H128-129	5434743	B284D10000HPS KN15	G83	5443839	T832NC03125-18RH5-A KSP39	M77	5455832	T820NF#04-48RH4-A KSP39	M23
5431591	CW16	S30-31	5434744	B284D10200HPS KN15	G83	5443840	T832NC03125-24RH3-A KSP39	M77	5455833	T820NF#04-48RH5-A KSP32	M23
5431656	T820M030X050RD3-A KSP32	M29	5434745	B284D10320HPS KN15	G83	5443841	T832NF03125-24RH5-A KSP39	M77	5455834	T820NC#04-40RH5-A KSP39	M23
5431657	T820M030X050RD3-A KSMN34	M29	5434746	B284D10500HPS KN15	G84	5443842	T832NC03750-16RH3-A KSP39	M77	5455835	T820NC#04-40RH6-A KSP39	M23
5431658	T820M030X050RD4-A KSP39	M29	5434747	B284D10716HPS KN15	G84	5443843	T832NC03750-16RH5-A KSP39	M77	5455836	T820NF#04-48RH2-A KSP39	M23
5431659	T820M035X060RD4-A KSP39	M29	5434748	B284D11000HPS KN15	G84	5443844	T832NF03750-24RH3-A KSP39	M77	5455837	T820NC#05-40RH2-A KSP39	M23
5431700	T820M040X070RD4-A KSP32	M29	5434749	B284D11113HPS KN15	G84	5443845	T832NF03750-24RH4-A KSP39	M77	5455838	T820NC#06-32RH2-A KSP39	M23
5431701	T820M040X070RD4-A KSMN34	M29	5434750	B284D11908HPS KN15	G84	5443846	T832NF03750-24RH5-A KSP39	M78	5455839	T820NC#06-32RH3-A KSP32	M23
5431702	T820M040X070RD4-A KSP39	M29	5434751	B284D12000HPS KN15	G84	5443847	T832NC04375-14RH3-A KSP39	M78	5455840	T820NC#06-32RH3-A KSMN34	M23
5431703	T820M050X080RD4-A KSP32	M29	5434752	B284D12500HPS KN15	G84	5443848	T832NC04375-14RH5-A KSP39	M78	5455841	T820NC#06-32RH4-A KSP39	M23
5431704	T820M050X080RD4-A KSMN34	M29	5434753	B284D12700HPS KN15	G84	5443849	T832NF03750-20RH3-A KSP39	M78	5455842	T820NC#06-32RH4-A KSP39	M23
5431705	T820M050X080RD4-A KSP39	M29	5434754	B284D14000HPS KN15	G84	5443850	T832NF04375-20RH5-A KSP39	M78	5455843	T820NC#06-32RH5-A KSP39	M23
5431706	T820M060X100RD5-A KSP32	M29	5434755	B284D14288HPS KN15	G84	5443851	T832NC05000-13RH3-A KSP39	M78	5455844	T820NC#06-32RH6-A KSP39	M23
5431707	T820M060X100RD5-A KSMN34	M29	5434756	B284D15875HPS KN15	G84	5443852	T832NC05000-13RH5-A KSP39	M78	5455845	T820NC#06-32RH7-A KSP39	M23
5431708	T820M060X100RD5-A KSP39	M29	5434757	B284D19050HPS KN15	G84	5443854	T832NF05000-20RH3-A KSP39	M78	5455846	T820NF#06-40RH2-A KSP39	M23
5431710	T820M070X100RD5-A KSP39	M29	5434758	B284D20000HPS KN15	G84	5443856	T832NC05625-12RH3-A KSP39	M78	5455847	T820NF#06-40RH3-A KSP39	M23
5431711	T820M080X125RD5-A KSP32	M29	5434759	B285D03000HPS KN15	G82	5443857	T832NC05625-12RH5-A KSP39	M78	5455848	T820NC#08-32RH2-A KSP39	M23
5431712	T820M080X125RD5-A KSMN34	M29	5434760	B285D03175HPS KN15	G82	5443858	T832NF05625-18RH3-A KSP39	M78	5455849	T820NC#08-32RH3-A KSP32	M23
5431713	T820M080X125RD5-A KSP39	M29	5434761	B285D03200HPS KN15	G82	5443859	T832NC06250-11RH3-A KSP39	M78	5455850	T820NC#08-32RH3-A KSMN34	M23
5431715	T820M100X150RD6-A KSP32	M29	5434762	B285D03300HPS KN15	G82	5443870	T832NC06250-11RH5-A KSP39	M78	5455861	T820NC#08-32RH4-A KSP39	M23
5431716	T820M100X150RD6-A KSMN34	M29	5434763	B285D03970HPS KN15	G82	5443871	T832NF06250-18RH3-A KSP39	M78	5455862	T820NC#08-32RH4-A KSP32	M23
5431717	T820M100X150RD6-A KSP39	M29	5434764	B285D04000HPS KN15	G82	5443872	T832NF06250-18RH5-A KSP39	M78	5455863	T820NC#08-32RH5-A KSP39	M23
5431719	T820M120X175RD6-A KSP32	M29	5434765	B285D04200HPS KN15	G82	5443873	T832NC07500-10RH3-A KSP39	M78	5455864	T820NC#08-32RH6-A KSP39	M23
5431730	T820M120X175RD6-A KSMN34	M29	5434766	B285D04500HPS KN15	G82	5443874	T832NF07500-16RH3-A KSP39	M78	5455865	T820NC#08-32RH7-A KSP39	M23
5431731	T820M120X175RD6-A KSP39	M29	5434767	B285D04763HPS KN15	G82	5443876	T832M030X050RD3-A KSP39	M89	5455866	T820NF#08-36RH4-A KSP39	M23
5431732	T820M140X200RD7-A KSP39	M29	5434768	B285D04800HPS KN15	G82						



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5477296	EP1408EHD2 KCPK30	T58, T69	5479788	T820MF220X150R6H-D4 KSP39	M32	5506113	B274208334HPG KCPK20	G74	5506352	B272Z10000HPG KCPK20	G71
5477297	EP1408EHD2 KCK15	T58, T69	5479789	T820MF220X200R6H-D4 KSP39	M32	5506114	B271209525HPG KCPK20	G69	5506353	B272Z10200HPG KCPK20	G71
5477299	EP1408EHD2 KC522M	T58, T69	5479790	T820MF240X150R6H-D4 KSP39	M32	5506115	B274208500HPG KCPK20	G74	5506354	B272Z10500HPG KCPK20	G71
5479648	T820NC#04-40R2B-D1 KSP39	M26	5479864	KTIP0983HPM KCP15	H32	5506116	B271209750HPG KCPK20	G69	5506355	B272Z10716HPG KCPK20	G71
5479649	T820NC#04-40R3B-D1 KSP39	M27	5489410	WNMG434MM KCP25B	B159	5506117	B274208700HPG KCPK20	G74	5506356	B272Z11000HPG KCPK20	G71
5479690	T820NC#05-40R2B-D1 KSP39	M26	5490089	CNMG644RP KCPK05	B53	5506118	B271210000HPG KCPK20	G69	5506357	B272Z11500HPG KCPK20	G71
5479691	T820NC#06-32R2B-D1 KSP39	M26	5491717	RIQ06EDR06 KD1415	K59	5506119	B274209000HPG KCPK20	G74	5506358	B272Z11800HPG KCPK20	G71
5479692	T820NC#06-32R3B-D1 KSP39	M27	5492520	B269A04550HP KCPK15	G62	5506120	B271210200HPG KCPK20	G69	5506359	B272Z12000HPG KCPK20	G71
5479693	T820NF#06-40R2B-D1 KSP39	M26	5497332	RIQ09EDR06 KD1415	K59	5506121	B274209525HPG KCPK20	G74	5506360	B272Z12500HPG KCPK20	G71
5479694	T820NC#08-32R2B-D1 KSP39	M26	5497351	CFM0402R00RHP KCU40	H43	5506122	B271210500HPG KCPK20	G69	5506361	B272Z12700HPG KCPK20	G71
5479695	T820NC#08-32R3B-D1 KSP39	M27	5505778	B271Z02383KMG KCPK20	G68	5506123	B274210000HPG KCPK20	G74	5506362	B272Z13000HPG KCPK20	G71
5479696	T820NC#10-24R2B-D1 KSP39	M26	5505779	B271Z02500KMG KCPK20	G68	5506124	B271210716HPG KCPK20	G69	5506363	B272Z13100HPG KCPK20	G71
5479697	T820NF#10-32R2B-D1 KSP39	M26	5505938	KTMDUSCREW1	W29-31	5506125	B274210500HPG KCPK20	G74	5506364	B272Z13500HPG KCPK20	G71
5479698	T820NF#10-32R3B-D1 KSP39	M27	5506030	B271Z02642KMG KCPK20	G68	5506126	B271210800HPG KCPK20	G69	5506365	B272Z14000HPG KCPK20	G71
5479699	T820NC02500-20R2B-D1 KSP39	M26	5506031	B271Z02705KMG KCPK20	G68	5506127	B274210500HPG KCPK20	G74	5506367	B272Z14500HPG KCPK20	G71
5479700	T820NF02500-28R2B-D1 KSP39	M26	5506032	B271Z02779KMG KCPK20	G68	5506128	B271211000HPG KCPK20	G69	5506368	B272Z15000HPG KCPK20	G71
5479701	T820NF02500-28R3B-D1 KSP39	M27	5506033	B271Z02820KMG KCPK20	G68	5506129	B274210716HPG KCPK20	G74	5506369	B272Z15500HPG KCPK20	G71
5479702	T820NC03125-18R2B-D1 KSP39	M26	5506034	B271Z03000HPG KCPK20	G68	5506130	B271211500HPG KCPK20	G69	5506370	B272Z15875HPG KCPK20	G71
5479703	T820NF03125-24R2B-D1 KSP39	M26	5506035	B271Z03175HPG KCPK20	G68	5506135	B271212000HPG KCPK20	G74	5506371	B272Z16000HPG KCPK20	G71
5479704	T820NF03125-24R3B-D1 KSP39	M27	5506036	B271Z03200HPG KCPK20	G68	5506136	B271212000HPG KCPK20	G69	5507556	TNMG432MP KCP10B	B124
5479705	T820NC03750-16R2B-D1 KSP39	M26	5506037	B271Z03500HPG KCPK20	G68	5506137	B274211500HPG KCPK20	G74	5507610	TNMG432FN KCP10B	B123
5479706	T820NF03750-24R2B-D1 KSP39	M26	5506038	B271Z03600HPG KCPK20	G68	5506138	B271212500HPG KCPK20	G69	5507611	WNMG432FW KCP10B	B158
5479707	T820NF03750-24R3B-D1 KSP39	M27	5506039	B271Z03700HPG KCPK20	G68	5506139	B274211800HPG KCPK20	G74	5507612	WNMG432RN KCP10B	B161
5479708	T820NC04375-14R2B-D6 KSP39	M26	5506040	B271Z03970HPG KCPK20	G68	5506140	B271212700HPG KCPK20	G69	5511788	B273Z02383KMG KCPK20	G72
5479709	T820NF04375-20R2B-D6 KSP39	M26	5506041	B271Z04000HPG KCPK20	G68	5506141	B274212000HPG KCPK20	G74	5511789	B273Z02500KMG KCPK20	G72
5479710	T820NF04375-20R3B-D6 KSP39	M27	5506042	B271Z04500HPG KCPK20	G68	5506142	B271213000HPG KCPK20	G69	5511930	B273Z02600KMG KCPK20	G72
5479711	T820NC05000-13R2B-D6 KSP39	M26	5506043	B271Z04623HPG KCPK20	G68	5506143	B274212500HPG KCPK20	G74	5511933	B273Z03000HPG KCPK20	G72
5479712	T820NF05000-20R2B-D6 KSP39	M26	5506044	B271Z04763HPG KCPK20	G68	5506144	B271213500HPG KCPK20	G69	5511934	B273Z03500HPG KCPK20	G72
5479713	T820NF05000-20R3B-D6 KSP39	M27	5506045	B271Z04800HPG KCPK20	G68	5506145	B274212700HPG KCPK20	G74	5511935	B273Z03500HPG KCPK20	G72
5479714	T820NC05625-12R2B-D6 KSP39	M26	5506046	B271Z05000HPG KCPK20	G68	5506146	B271214000HPG KCPK20	G69	5511936	B273Z04000HPG KCPK20	G72
5479715	T820NF05625-18R2B-D6 KSP39	M26	5506047	B271Z05060HPG KCPK20	G68	5506147	B274213000HPG KCPK20	G74	5511937	B273Z04500HPG KCPK20	G72
5479716	T820NC06250-11R2B-D6 KSP39	M26	5506048	B271Z05260HPG KCPK20	G68	5506148	B271214288HPG KCPK20	G69	5511938	B273Z05000HPG KCPK20	G72
5479717	T820NF06250-18R2B-D6 KSP39	M26	5506049	B271Z05410HPG KCPK20	G68	5506149	B271214500HPG KCPK20	G69	5511939	B273Z05100HPG KCPK20	G72
5479718	T820NC07500-10R2B-D6 KSP39	M26	5506060	B271Z05500HPG KCPK20	G68	5506150	B271215000HPG KCPK20	G69	5511940	B273Z05500HPG KCPK20	G72
5479719	T820NF07500-16R2B-D6 KSP39	M26	5506061	B271Z05558HPG KCPK20	G68	5506151	B271215875HPG KCPK20	G69	5511941	B273Z05800HPG KCPK20	G72
5479720	T820NC08750-9R2B-D6 KSP39	M26	5506062	B274Z02383KMG KCPK20	G73	5506152	B271216000HPG KCPK20	G69	5511942	B273Z06000HPG KCPK20	G72
5479721	T820NF08750-14R2B-D6 KSP39	M26	5506063	B271Z05800HPG KCPK20	G68	5506155	B272Z02383KMG KCPK20	G70	5511943	B273Z06350HPG KCPK20	G72
5479722	T820NC10000-8R2B-D6 KSP39	M26	5506064	B274Z02500KMG KCPK20	G73	5506157	B272Z02400KMG KCPK20	G70	5511944	B273Z06500HPG KCPK20	G72
5479723	T820NF10000-18R2B-D6 KSP39	M26	5506065	B271Z05900HPG KCPK20	G68	5506158	B272Z02489KMG KCPK20	G70	5511945	B273Z06746HPG KCPK20	G72
5479724	T830NC#04-40R2B-D1 KSP39	M84	5506067	B271Z06000HPG KCPK20	G68	5506159	B272Z02500KMG KCPK20	G70	5511946	B273Z07000HPG KCPK20	G72
5479725	T830NC#04-40R3B-D1 KSP39	M87	5506068	B274Z02600KMG KCPK20	G68	5506303	B272Z02779KMG KCPK20	G70	5511947	B273Z07500HPG KCPK20	G72
5479726	T830NC#05-40R2B-D1 KSP39	M84	5506069	B271Z06200HPG KCPK20	G68	5506305	B272Z03000HPG KCPK20	G70	5511948	B273Z08000HPG KCPK20	G72
5479727	T830NC#06-32R2B-D1 KSP39	M84	5506070	B274Z02800KMG KCPK20	G73	5506306	B272Z03175HPG KCPK20	G70	5511949	B273Z08500HPG KCPK20	G72
5479728	T830NC#06-32R3B-D1 KSP39	M87	5506071	B271Z06350HPG KCPK20	G68	5506307	B272Z03300HPG KCPK20	G70	5511950	B273Z08733HPG KCPK20	G72
5479729	T830NF#06-40R2B-D1 KSP39	M84	5506072	B274Z03000HPG KCPK20	G73	5506308	B272Z03500HPG KCPK20	G70	5511951	B273Z09000HPG KCPK20	G72
5479730	T830NC#08-32R2B-D1 KSP39	M84	5506073	B271Z06500HPG KCPK20	G69	5506309	B272Z03850HPG KCPK20	G70	5511952	B273Z10000HPG KCPK20	G72
5479731	T830NC#08-32R3B-D1 KSP39	M87	5506074	B274Z03175HPG KCPK20	G69	5506310	B272Z03970HPG KCPK20	G70	5511953	B273Z10200HPG KCPK20	G72
5479732	T830NC#10-24R2B-D1 KSP39	M84	5506075	B271Z06528HPG KCPK20	G73	5506311	B272Z04000HPG KCPK20	G70	5511954	B273Z10500HPG KCPK20	G72
5479733	T830NF#10-32R2B-D1 KSP39	M84	5506076	B274Z03500HPG KCPK20	G73	5506312	B272Z04500HPG KCPK20	G70	5511955	B273Z11000HPG KCPK20	G72
5479735	T830NF#10-32R3B-D1 KSP39	M87	5506077	B271Z06746HPG KCPK20	G69	5506313	B272Z04623HPG KCPK20	G70	5511956	B273Z11500HPG KCPK20	G72
5479736	T830NC02500-20R2B-D1 KSP39	M84	5506078	B274Z03970HPG KCPK20	G73	5506314	B272Z04763HPG KCPK20	G70	5511957	B273Z12000HPG KCPK20	G72
5479737	T830NF02500-28R2B-D1 KSP39	M84	5506079	B271Z06909HPG KCPK20	G69	5506315	B272Z05000HPG KCPK20	G70	5511958	B273Z12500HPG KCPK20	G72
5479738	T830NF02500-28R3B-D1 KSP39	M87	5506080	B274Z04000HPG KCPK20	G73	5506316	B272Z05200HPG KCPK20	G70	5511959	B273Z12700HPG KCPK20	G72
5479739	T830NC03125-18R2B-D1 KSP39	M84	5506081	B271Z07000HPG KCPK20	G69	5506318	B272Z05260HPG KCPK20	G70	5511960	B273Z13000HPG KCPK20	G72
5479760	T830NF03125-24R2B-D1 KSP39	M84	5506082	B274Z04300HPG KCPK20	G73	5506320	B272Z05410HPG KCPK20	G70	5511961	B273Z13500HPG KCPK20	G72
5479761	T830NF03125-24R3B-D1 KSP39	M87	5506083	B271Z07145HPG KCPK20	G69	5506322	B272Z05500HPG KCPK20	G70	5511962	B273Z14000HPG KCPK20	G72
5479762	T830NC03750-14R2B-D1 KSP39	M84	5506084	B274Z04500HPG KCPK20	G73	5506324	B272Z05588HPG KCPK20	G70	5511963	B273Z14288HPG KCPK20	G72
5479763	T830NF03750-24R2B-D1 KSP39	M84	5506085	B271Z07500HPG KCPK20	G69	5506326	B272Z05800HPG KCPK20	G70	5511964	B273Z14500HPG KCPK20	G72
5479764	T830NF03750-24R3B-D1 KSP39	M87	5506086	B274Z04763HPG KCPK20	G69	5506328	B272Z06000HPG KCPK20	G70	5511965	B273Z15000HPG KCPK20	G72
5479765	T830NC04375-14R2B-D6 KSP39	M84	5506087	B271Z07541HPG KCPK20	G73	5506329	B272Z06200HPG KCPK20	G70	5512462	CNMG543RN KCPK05	B53
5479766	T830NF04375-20R2B-D6 KSP39	M84	5506088	B274Z05000HPG KCPK20	G73	5506330	B272Z06350HPG KCPK20	G70	5513477	CNMG432RP KCPK05	B53
5479767	T830NF04375-20R3B-D6 KSP39	M87	5506089	B271Z07938HPG KCPK20	G69	5506331	B272Z06500HPG KCPK20	G70	5513478	CNMG543RP KCPK05	B53
5479768	T830NC05000-13R2B-D6 KSP39	M84	5506090	B274Z05100HPG KCPK20	G73	5506332	B272Z06528HPG KCPK20	G70	5514452	TNMG433MM KCP10B	B124
5479769	T830NF05000-20R2B-D6 KSP39	M84	5506091	B271Z08000HPG KCPK20	G69	5506333	B272Z06746HPG KCPK20	G70	5515172	KSEM3300HPCLM KCP7410...H61, H111	
5479770	T830NF05000-20R3B-D6 KSP39	M87	5506092	B274Z05500HPG KCPK20	G73	5506334	B272Z06800HPG KCPK20	G70	5515173	KSEM3400HPCLM KCP7410...H61, H111	
5479771	T830NC05625-12R2B-D6 KSP39	M84	5506093	B271Z08200HPG KCPK20	G69	5506335	B272Z07000HPG KCPK20	G70	5515174	KSEM3500HPCLM KCP7410...H61, H111	
5479772	T830NF05625-18R2B-D6 KSP39	M84	5506094	B274Z05700HPG KCPK20	G73	5506336	B27				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5515759	.....LNGU542SRGE KC520M	.....T19	5531898	.....DNMG431FN KCK15B	.....B79	5533523	.....EC050M05N00C03 KCU25	.....C24	5534292	.....ER0812M08U00GUP KCU25	.....C19
5515890	.....LNGU542SRGE KC522M	.....T19	5531899	.....DNMG431FN KCP25B	.....B79	5533524	.....EC070M06N00C04 KCU25	.....C24	5534293	.....ER0312M03U00GUN KCU25	.....C21
5515891	.....LNGU542SRGE KC725M	.....T19	5531900	.....DNMG432FN KCP10B	.....B79	5533525	.....EC080M08N00C04 KCU25	.....C24	5534294	.....ER0412M04U00GUN KCU25	.....C21
5515892	.....LNGU542SRGE KCK15	.....T19	5531901	.....DNMG441FN KCP10B	.....B79	5533526	.....EC050M05N00C03 KCU25	.....C25	5534295	.....ER0512M05U00GUN KCU25	.....C21
5515893	.....LNGU542SRGE KCPK30	.....T19	5531902	.....DNMG441FN KCK15B	.....B79	5533527	.....EC070M06N00C04 KCU25	.....C25	5534296	.....ER0612M06U00GUN KCU25	.....C21
5516070	.....LNGU543SRGE KCPK30	.....T19	5531903	.....DNMG441FN KCP25B	.....B79	5533528	.....EC020M02L06CR02 KCU25	.....C25	5534297	.....ER0812M08U00GUN KCU25	.....C21
5516073	.....LNGU541SRGE KC520M	.....T19	5531904	.....DNMG442FP KCP10B	.....B80	5533529	.....EC020M02R06CR02 KCU25	.....C25	5534828	.....CNMG432FF KCP10B	.....B48
5516074	.....LNGU541SRGE KC522M	.....T19	5531905	.....DNMG442FP KCP25B	.....B80	5533546	.....DFR020204LD KCU25	.....J97	5535020	.....CNMG432CT KCP25B	.....B48
5516075	.....LNGU541SRGE KC725M	.....T19	5531906	.....DNMG442FN KCP25B	.....B79	5533547	.....DFR030204LD KCU25	.....J97	5535021	.....CNMG432CT KCP10B	.....B48
5516076	.....LNGU541SRGE KCK15	.....T19	5531907	.....DNMG442FN KCK15B	.....B79	5533548	.....DFR040304LD KCU25	.....J97	5535022	.....CNMG432FF KCP10B	.....B48
5516077	.....LNGU541SRGE KCPK30	.....T19	5531908	.....DNMG443FN KCP10B	.....B79	5533549	.....DFR020204LD KCPK10	.....J97	5535025	.....DNMG332CT KCP10B	.....B79
5517479	.....RCGT64ELFJ KCSM30	.....V89	5531909	.....SNMG322FN KCK15B	.....B101	5533630	.....DFR030204LD KCPK10	.....J97	5535026	.....DNMG332FF KCP10B	.....B79
5517600	.....SNMM646RW KCP25B	.....B107	5531910	.....SNMG431FN KCP10B	.....B101	5533631	.....DFR040304LD KCPK10	.....J97	5535027	.....DNMG432CT KCP10B	.....B79
5517760	.....RPET1204MOEJEL KCSM30	.....V71	5532930	.....EG0212M02U02GUP KCU25	.....C17	5533632	.....DFR030204LD KC7140	.....J97	5535028	.....DNMG432FW KCP10B	.....B80
5517761	.....RPET1204MOSGEJ KCSM30	.....V71	5532931	.....EG0251M02U02GUP KCU25	.....C17	5533633	.....DFR040304LD KC7140	.....J97	5535029	.....DNMG441FF KCP10B	.....B79
5517764	.....RPET1605MOSGEJ KCSM30	.....V78	5532936	.....EG0212M02U02GUN KCU25	.....C20	5533634	.....SPHX060204R21 KCPK10	.....J116	5535040	.....CNMG411FF KCP10B	.....B80
5517767	.....W0EJ090512SRGD KCSM30	.....V39	5532937	.....EG0251M02U02GUN KCU25	.....C20	5533635	.....SPHX070304R21 KCPK10	.....J116	5535041	.....DNMG442CT KCP10B	.....B79
5517773	.....RNGJ1204MOELDJ KCSM30	.....V55	5532941	.....EG0812M08U08GUP KCU25	.....C17	5533636	.....SPHX070308R21 KCPK10	.....J116	5535042	.....DNMG442FF KCP10B	.....B79
5517778	.....RNGJ10173MOSGDJ KCSM30	.....V49	5532942	.....EG0812M08U12GUP KCU25	.....C17	5533637	.....SPHX070308R21 KCPK10	.....J116	5535043	.....CNMG442FW KCK15B	.....B80
5518566	.....DNMG443MR KCP25B	.....B82	5532944	.....EG0812M08U08GUN KCU25	.....C20	5533638	.....SPHX090308R21 KCPK10	.....J116	5535044	.....DNMG442FW KCP10B	.....B80
5519287	.....EP0708SGE KCSM30	.....T25	5532945	.....EG0812M08U12GUN KCU25	.....C20	5533639	.....SPHX120404R21 KCPK10	.....J116	5535045	.....DNMP441K KCP25B	.....B86
5519923	.....SDET43PDSRKB KCSM30	.....T116, T123, U39	55331910	.....EG25506U1 GUP KCU25	.....C18	5533640	.....SPHX060204R20 KCU25	.....J115	5535046	.....DNMP442K KCP25B	.....B86
5519967	.....SDET438ENLD2 KCSM30	.....T115, T122	5533013	.....EG25506U2GUP KCU25	.....C18	5533641	.....SPHX070304R20 KCU25	.....J115	5537375	.....CMCT2151FF KCP10B	.....B190
5519983	.....EP1431EHD KCSM30	.....T57, T68	5533015	.....EG25506U1GUN KCU25	.....C21	5533642	.....SPHX090304R20 KCU25	.....J115	5537376	.....CMCT2151FF KCP25B	.....B190
5520493	.....EP1416EHD KCSM30	.....T57, T68	5533016	.....EG25506U2GUN KCU25	.....C21	5533643	.....SPHX090308R20 KCU25	.....J115	5537378	.....CMCT2152FF KCP25B	.....B190
5520494	.....EP1440EHD KCSM30	.....T57, T68	5533080	.....EC030M03N00C02 KCU25	.....C23	5533644	.....SPHX120404R20 KCU25	.....J115	5537379	.....CMCT32505FF KCP25B	.....B190
5520684	.....EP1016EHD KCSM30	.....T36	5533081	.....EC014M1BN00CF01 KCU25	.....C22	5533645	.....SPHX120408R20 KCU25	.....J115	5537420	.....CMCT3251FF KCP10B	.....B190
5520687	.....SPTC31254ENLD2 KCSM30	.....T111, U30	5533082	.....EC020M02N00CF02 KCU25	.....C22	5533646	.....SPHX150504R20 KCU25	.....J115	5537421	.....CMCT3251FF KCP25B	.....B190
5520736	.....T353M040X070R6HX-D1 KCK17	.....M113	5533089	.....EC014M1BN00CM01 KCU25	.....C24	5533647	.....SPHX150508R20 KCU25	.....J115	5537422	.....CMCT3252FF KCP10B	.....B190
5520737	.....T353M050X080R6HX-D1 KCK17	.....M113	5533090	.....EC020M02N00CM02 KCU25	.....C24	5533648	.....SPHX060204R20 KCU40	.....J115	5537423	.....CMCT3252FF KCP25B	.....B190
5520738	.....T353M060X100R6HX-D1 KCK17	.....M113	5533093	.....EC060M06N00C03 KCU25	.....C24	5533649	.....SPHX060204R21 KCU40	.....J116	5537425	.....CMCT431FF KCP10B	.....B190
5520739	.....T353M080X125R6HX-D1 KCK17	.....M113	5533096	.....EC060M06N00C03 KCU25	.....C25	5533650	.....SPHX070304R20 KCU40	.....J115	5537426	.....CMCT431FF KCP25B	.....B190
5520790	.....T353M100X150R6HX-D1 KCK17	.....M113	5533097	.....EC080M08N00C04 KCU25	.....C25	5533651	.....SPHX070304R21 KCU40	.....J116	5537427	.....CMCT432FF KCP25B	.....B190
5520791	.....T353M120X175R6HX-D6 KCK17	.....M113	5533120	.....EG0612M06U04GUP KCU25	.....C17	5533652	.....SPHX070308R21 KCU40	.....J116	5537429	.....CPMT2151FF KCP25B	.....B206
5520792	.....T353M140X200R6HX-D6 KCK17	.....M113	5533124	.....EG0612M06U08GUN KCU25	.....C20	5533653	.....SPHX090304R20 KCU40	.....J115	5537430	.....CPMT2151FF KCP25B	.....B208
5520793	.....T351M060X100R6HX-D1 KCK17	.....M112	5533125	.....EG0612M06U04GUN KCU25	.....C20	5533654	.....SPHX090308R20 KCU40	.....J115	5537431	.....CPMT2151FF KCP10B	.....B208
5520794	.....T351M070X100R6HX-D1 KCK17	.....M112	5533127	.....EG0612M06U08GUN KCU25	.....C20	5533655	.....SPHX090308R20 KCU40	.....J115	5537432	.....CMCT3251FF KCP25B	.....B206
5520795	.....T351M080X125R6HX-D1 KCK17	.....M112	5533134	.....EG31708U3GUP KCU25	.....C18	5533656	.....SPHX090308R21 KCU40	.....J116	5537433	.....CPMT3251FF KCP25B	.....B208
5520796	.....T351M090X125R6HX-D1 KCK17	.....M112	5533136	.....EG31708U3GUN KCU25	.....C21	5533657	.....SPHX120404R20 KCU40	.....J115	5537435	.....CPMT3252FF KCP25B	.....B206
5520798	.....T351M100X150R6HX-D1 KCK17	.....M112	5533137	.....EC014M1BN00C01 KCU25	.....C23	5533658	.....SPHX120404R21 KCU40	.....J116	5537436	.....DNCT21505FF KCP25B	.....B225
5520799	.....T351MF100X100R6HX-D4 KCK17	.....M112	5533138	.....EC020M02N00C02 KCU25	.....C23	5533659	.....SPHX120408R20 KCU40	.....J115	5537437	.....DNCT2152FF KCP25B	.....B225
5520800	.....T351MF100X125R6HX-D4 KCK17	.....M112	5533139	.....EC040M04N00C02 KCU25	.....C23	5533660	.....SPHX150504R20 KCU40	.....J115	5537438	.....DNCT32505FF KCP25B	.....B225
5520801	.....T351M120X175R6HX-D6 KCK17	.....M112	5533150	.....EC020M02L06CF02 KCU25	.....C22	5533661	.....SPHX150508R20 KCU40	.....J115	5537439	.....DNCT32505FF KCP10B	.....B225
5520802	.....T351MF120X150R6HX-D4 KCK17	.....M112	5533151	.....EC020M02R06CF02 KCU25	.....C22	5534147	.....SPGX060304FP KCU40	.....J104	5537442	.....DNCT3251FF KCP10B	.....B225
5520803	.....T351MF120X150R6HX-D4 KCK17	.....M112	5533156	.....EC020M02N00C02 KCU25	.....C25	5534148	.....SPGX060304RHP KCU40	.....J103	5537443	.....DNCT3251FF KCP25B	.....B225
5520804	.....T351M140X200R6HX-D6 KCK17	.....M112	5533171	.....EC060M06L06CR04 KCU25	.....C25	5534149	.....SPGX060304MD KCU40	.....J103	5537444	.....DNCT3251FF KCP10B	.....B226
5520805	.....T351MF140X125R6HX-D4 KCK17	.....M112	5533172	.....EC060M06L06CR04 KCU25	.....C25	5534230	.....SPGX070304FP KCU40	.....J104	5538857	.....DNCT3251FF KCP25B	.....B226
5520806	.....T351MF140X150R6HX-D4 KCK17	.....M112	5533173	.....EC080M08L06CR04 KCU25	.....C25	5534231	.....SPGX070304RHP KCU40	.....J103	5538858	.....DNCT3252FF KCP10B	.....B226
5520807	.....T471M060X100R6HX-D1 KCK14	.....M115	5533174	.....EC080M08R06CR04 KCU25	.....C25	5534232	.....SPGX070304MD KCU40	.....J103	5538891	.....TGMT18151FF KCP25B	.....B257
5520808	.....T471M080X125R6HX-D1 KCK14	.....M115	5533178	.....EG380110U3GUP KCU25	.....C18	5534233	.....SPPX09T308FP KCU40	.....J104	5538894	.....DNCT221FF KCP10B	.....B257
5520809	.....T471M100X150R6HX-D1 KCK14	.....M115	5533179	.....EG06311F05U08GUN KCU25	.....C21	5534234	.....SPPX09T308RHP KCU40	.....J103	5538900	.....TPMT221FF KCP10B	.....B257
5520810	.....T491M060X100R6HX-D74 KCK14	.....M138	5533210	.....EG380110U3GUN KCU25	.....C21	5534235	.....SPPX09T308MD KCU40	.....J103	5538903	.....VBM7332FF KCP10B	.....B281
5520811	.....T491M080X125R6HX-D74 KCK14	.....M138	5533212	.....EG0512M05U04GUP KCU25	.....C17	5534236	.....SPPX120408FP KCU40	.....J104	5538904	.....DNMG332FF KCP25B	.....B281
5520812	.....T491M100X150R6HX-D74 KCK14	.....M138	5533214	.....EG0512M05U08GUN KCU25	.....C17	5534237	.....SPPX120408RHP KCU40	.....J103	5542022	.....SDET433PDSNGDZ KCPM40	.....V143
5523116	.....RIQ06EGR06 KCB305	.....K59	5533216	.....EG0712M06U08GUN KCU25	.....C17	5534238	.....SPPX120408MD KCU40	.....J103	5542023	.....SDET433PDSNGDZ KCPM40	.....V143
5523306	.....CNMG322FN KCP10B	.....B49	5533220	.....EG1012M10U12GUP KCU25	.....C10	5534239	.....SPPX15T508FP KCU40	.....J104	5542024	.....SDPT433PDENHPZ KCPM40	.....V143
5523588	.....DNMG443MR KCP10B	.....B82	5533221	.....EG0512M05U04GUN KCU25	.....C17	5534250	.....SPGX060304RHP KCU40	.....J103	5542025	.....SDET433PDSNGDZ KCPM40	.....V143
5524447	.....KTIP04571HP KCP15	.....H32	5533222	.....EG0512M05U08GUN KCU25	.....C20	5534251	.....SPPX15T508MD KCU40	.....J103	5542028	.....RNPJ10T3MOSGD KCPM40	.....V49
5524448	.....KTIP1830HPM KCP15	.....H33	5533223	.....EG1012M10U12GUN KCU25	.....C10	5534252	.....SPGX060304FP KCU25	.....J104	5542029	.....RNPJ10T3MOSHD KCPM40	.....V49
5524449	.....KTIP1840HPM KCP15	.....H33	5533361	.....ER130I03U00GUP KCU25	.....C19	5534253	.....SPGX060304RHP KCU25	.....J103	5542179	.....CNM4433 KCK15B	.....B47
5524610	.....KTIP07620HP KCP15	.....H33	5533363	.....ER192I04U00GUP KCU25	.....C19	5534254	.....SPGX060304MD KCU25	.....J103	5542190	.....RNPJ1204MOSGD KCPM40	.....V56
5528977	.....OFKT64AFENGG KCSM30	.....S52	5533365	.....ER255I06U00GUP KCU25	.....C19	5534255	.....SPGX070304FP KCU25	.....J104	5542191	.....RNPJ1204MOSHD KCPM40	.....V56
5531233	.....CNGG430FS KCU10	.....B46	5533367	.....ER31708U00GUP KCU25	.....C19	5534256	.....SPGX070304RHP KCU25	.....J103	5542192	.....RNPJ1605MOSGD KCPM40	.....V59
5531234	.....CNGG430FS KCU10	.....B46	5533368	.....ER130I03U00GUN KCU25	.....C22	5534257	.....SPGX070304MD KCU25	.....J103	5542193	.....RNPJ1605MOSHD KCPM40	.....V59
5531235	.....CNGG431FS KCU10	.....B46	5533369	.....ER192I04U00GUN KCU25	.....C22	5534258	.....SPPX09T308FP KCU25	.....J1			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5544148	ER25RBHT40	K123	5551043	T340M060X100R6HX KCK17	M109	5565557	T660NF03125-24RH3-A KSS20	M18	5566097	T662NC03125-18RH3-A KSSM24	M66
5544149	ER25FBHS51	K138	5551044	T340M080X125R6HX KCK17	M109	5565558	T660NF03125-24RH3-A KSSM24	M18	5566098	T662NC03125-18RH5-A KSS20	M66
5544190	ER32RBHT50	K123	5551045	T340MF100X100R6HX KCK17	M109	5565559	T660NF03125-24RH4-A KSS20	M18	5566099	T662NC03125-18RH5-A KSSM24	M66
5544191	ER32FBHS51	K138	5551046	T340M100X150R6HX KCK17	M109	5565560	T660NF03125-24RH4-A KSSM24	M18	5566100	T662NF03125-24RH3-A KSS20	M66
5544192	ER40RBHT66	K123	5551047	T340MF120X150R6HX KCK17	M109	5565561	T660NC03750-16RH3-A KSS20	M18	5566101	T662NF03125-24RH3-A KSSM24	M66
5544193	ER40FBHS67	K138	5551048	T340M120X175R6HX KCK17	M109	5565562	T660NC03750-16RH3-A KSSM24	M18	5566102	T662NF03125-24RH4-A KSS20	M66
5544366	M4D100L1502W100L175	T15	5551049	T340MF140X150R6HX KCK17	M109	5565563	T660NF03750-16RH5-A KSS20	M18	5566103	T662NF03125-24RH3-A KSS20	M66
5544367	M4D125L1503W100L225	T15	5551050	T340M140X200R6HX KCK17	M109	5565564	T660NC03750-16RH5-A KSSM24	M18	5566104	T662NC03750-16RH3-A KSS20	M66
5544368	M4D150L1504W125L225	T15	5551051	T340M160X200R6HX KCK17	M109	5565565	T660NF03750-24RH3-A KSS20	M18	5566105	T662NC03750-16RH3-A KSSM24	M66
5544369	M4D100L1505S050L157	T16	5551052	T340M200X250R6HX KCK17	M109	5565566	T660NF03750-24RH3-A KSSM24	M18	5566106	T662NF03750-24RH3-A KSSM24	M66
5544400	M4D125L1503C125L800	T16	5551053	T351NC#6-32R3BX KCK17	M110	5565567	T660NF03750-24RH4-A KSS20	M18	5566107	T662NC03750-16RH5-A KSSM24	M66
5544401	M4D150L1504C125L800	T16	5551054	T351NC#8-32R3BX KCK17	M110	5565568	T660NF03750-24RH4-A KSSM24	M18	5566108	T662NF03750-24RH3-A KSS20	M66
5544402	M4D150L1505S050L157	T17	5551055	T351NF#10-32R3BX KCK17	M110	5565569	T660NF03750-14RH3-A KSS20	M18	5566109	T662NF03750-24RH3-A KSSM24	M66
5544403	M4D200L1506S075L157	T17	5551056	T351NC02500-20R3BX KCK17	M110	5565570	T660NC03750-14RH3-A KSSM24	M18	5566110	T662NF03750-24RH4-A KSS20	M66
5544404	M4D200L1506S075L157	T17	5551057	T351NC03125-18R3BX KCK17	M110	5565571	T660NF04375-20RH3-A KSS20	M18	5566111	T662NF03750-24RH4-A KSSM24	M66
5544405	M4D250L1506S075L157	T17	5551058	T351NC03750-16R3BX KCK17	M110	5565572	T660NF03750-20RH3-A KSSM24	M18	5566112	T662NF03125-24RH3-A KSSM24	M66
5544406	M4D300L1507S100L175	T17	5551059	T351NC04375-14R3BX KCK17	M110	5565573	T660NC05000-13RH3-A KSS20	M18	5566113	T662NC04375-14RH3-A KSSM24	M66
5544407	M4D300L1508S125L200	T17	5551060	T351NC05000-13R3BX KCK17	M110	5565574	T660NC05000-13RH3-A KSSM24	M18	5566114	T662NC04375-14RH5-A KSS20	M66
5544408	M4D400L1511S150L200	T17	5551061	T351NC06250-11R3BX KCK17	M110	5565575	T660NF05000-20RH3-A KSS20	M18	5566115	T662NC03750-14RH5-A KSSM24	M66
5544755	DNMG333FNP KCP10B	B79	5551062	T351NC07500-10R3BX KCK17	M110	5565576	T660NF05000-20RH3-A KSSM24	M18	5566116	T662NF04375-20RH3-A KSS20	M66
5545061	EP1408SGD2 KCPM40	T59, T70	5551063	T351M040X070R6HX KCK17	M111	5565577	T660NF05625-18RH3-A KSSM24	M18	5566117	T662NF04375-20RH3-A KSSM24	M66
5545066	EP14125GD KCPM40	T58, T70	5551064	T351M050X080R6HX KCK17	M111	5565578	T660NF05625-18RH5-A KSSM24	M18	5566118	T662NF05000-13RH3-A KSSM24	M66
5545067	EC1408EGD KCPM40	T57, T68	5551065	T351M060X100R6HX KCK17	M111	5565580	T660NC06250-11RH3-A KSSM24	M18	5566130	T662NF04375-20RH3-A KSSM24	M66
5545068	EC1404EGD KCPM40	T57, T68	5551066	T351M080X125R6HX KCK17	M111	5565581	T660NF06250-18RH3-A KSSM24	M18	5566131	T662NC05000-13RH3-A KSS20	M67
5545069	EP14125GD KCPM40	T57, T68	5551067	T351MF100X100R6HX KCK17	M111	5565582	T660NF06250-18RH5-A KSSM24	M18	5566132	T662NF05000-20RH3-A KSSM24	M67
5545160	EP1408EGD KCPM40	T57, T68	5551068	T351M100X150R6HX KCK17	M111	5565583	T660NC07500-10RH5-A KSSM24	M18	5566133	T662NC05000-13RH5-A KSS20	M67
5545161	EP1408SGE KCPM40	T58, T69	5551069	T351MF120X150R6HX KCK17	M111	5565584	T660NF07500-16RH3-A KSSM24	M18	5566134	T662NC05000-13RH5-A KSSM24	M67
5545162	SDET43PDR8GB KCPM40	T116, T123, U39	5551070	T351M120X175R6HX KCK17	M111	5565585	T660NF07500-16RH5-A KSSM24	M18	5566135	T662NF05000-20RH3-A KSS20	M67
5545163	SDCT43PDR8LD2 KCPM40	T115, T122, U38	5551071	T351MF140X150R6HX KCK17	M111	5565586	T660NC10000-08RH5-A KSSM24	M18	5566136	T662NF05000-20RH3-A KSSM24	M67
5545164	SDET43PDR8GB2 KCPM40	T115, T122, U39	5551072	T351M140X200R6HX KCK17	M111	5565587	T660M025X045RD3-A KSS20	M19	5566137	T662NF05000-20RH5-A KSS20	M67
5545167	SPCT3125PPER8LD2 KCPM40	T111, U30	5551073	T351M160X200R6HX KCK17	M111	5565588	T660M025X045RD3-A KSSM24	M19	5566138	T662NF05000-20RH3-A KSSM24	M67
5545168	SPET3125PPER8GB2 KCPM40	T111, U31	5551077	T471M060X100R6HX KCN14	M114	5565589	T660M030X050RD3-A KSS20	M19	5566139	T662NF05625-18RH3-A KSSM24	M67
5545169	EP0708SGE KCPM40	T25	5551078	T471M080X125R6HX KCN14	M114	5565590	T660M030X050RD3-A KSSM24	M19	5566140	T662NF05625-18RH5-A KSSM24	M67
5545214	EP1008EHD KCPM40	T36	5551079	T471M100X150R6HX KCN14	M114	5565591	T660M040X070RD4-A KSS20	M19	5566141	T662NF05625-18RH5-A KSSM24	M67
5545215	EP1004EHD KCPM40	T36	5551080	T471M120X175R6HX KCN14	M114	5565592	T660M040X070RD4-A KSSM24	M19	5566142	T662NF06250-18RH3-A KSSM24	M67
5545216	EP1008SGD KCPM40	T37	5551081	T471M140X200R6HX KCN14	M114	5565593	T660M050X080RD4-A KSS20	M19	5566143	T662NF06250-18RH5-A KSSM24	M67
5545217	EC1008ELD KCPM40	T36	5551082	T491M050X080R6HX KCN14	M138	5565594	T660M050X080RD4-A KSSM24	M19	5566144	T662NF07500-10RH5-A KSSM24	M67
5545398	EP1816E KCPM40	T83	5551083	T491M060X100R6HX KCN14	M138	5565595	T660M060X100RD5-A KSS20	M19	5566145	T662NF07500-16RH3-A KSSM24	M67
5545399	EP1808E KCPM40	T83	5551084	T491M080X125R6HX KCN14	M138	5565596	T660M060X100RD5-A KSSM24	M19	5566146	T662NF07500-16RH5-A KSSM24	M67
5545400	EP1812E KCPM40	T83	5551085	T491M100X150R6HX KCN14	M138	5565597	T660M070X100RD5-A KSS20	M19	5566147	T662NC10000-08RH5-A KSSM24	M67
5545401	EP1812S KCPM40	T85	5551086	T491M120X175R6HX KCN14	M138	5565598	T660M070X100RD5-A KSSM24	M19	5566148	T662M025X045RD3-A KSS20	M68
5545402	EP1808S KCPM40	T85	5551479	RIQ09EGR60 KD1415	G59	5565599	T660M080X125RD5-A KSS20	M19	5566149	T662M025X045RD3-A KSSM24	M68
5545403	EP1816S KCPM40	T85	5555716	B224A04100HP KCPK15	G44	5565610	T660M080X125RD5-A KSSM24	M19	5566150	T662M030X050RD3-A KSS20	M68
5545562	EP1408EHD2 KCPM40	T58, T69	5556965	SDET4316SNGB KCSM30	T116, T123, U39	5565611	T660MF100X125RD5-A KSS20	M19	5566151	T662M030X050RD3-A KSSM24	M68
5546298	VNMG333MIN KCP25B	B146	5558957	S2165C	S10, S14, S58, T17, T53, T78	5565612	T660MF100X125RD5-A KSSM24	M19	5566152	T662M040X070RD4-A KSS20	M68
5547848	LNPJ542SRGE KC520M	T19	5565491	T660NC#02-56RH2-A KSS20	M18	5565613	T660M100X150RD6-A KSS20	M19	5566153	T662M040X070RD4-A KSSM24	M68
5547849	LNPJ542SRGE KC522M	T19	5565492	T660NC#02-56RH2-A KSSM24	M18	5565614	T660M100X150RD6-A KSSM24	M19	5566154	T662M050X080RD4-A KSS20	M68
5548040	LNPJ542SRGE KC725M	T19	5565493	T660NC#04-40RH2-A KSS20	M18	5565615	T660M120X175RD6-A KSS20	M19	5566155	T662M050X080RD4-A KSSM24	M68
5548041	LNPJ542SRGE KCK15	T19	5565494	T660NC#04-40RH2-A KSSM24	M18	5565616	T660M120X175RD6-A KSSM24	M19	5566156	T662M060X100RD5-A KSS20	M68
5548042	LNPJ542SRGE KCPK30	T19	5565495	T660NC#06-32RH2-A KSS20	M18	5565617	T662NC#02-56RH2-A KSS20	M66	5566157	T662M060X100RD5-A KSSM24	M68
5548378	B967A09300 KCP7315	G131	5565496	T660NC#06-32RH2-A KSSM24	M18	5565618	T662NC#04-40RH2-A KSS20	M66	5566158	T662M080X125RD5-A KSS20	M68
5550701	HNGJ43ANSNHD KCPM40	S6, S12, S15	5565497	T660NC#06-32RH3-A KSS20	M18	5565619	T662NC#06-32RH2-A KSSM24	M66	5566159	T662M070X100RD5-A KSSM24	M68
5550702	HNPJ43ANSNHD KCPM40	S7, S13, S16	5565498	T660NC#06-32RH3-A KSSM24	M18	5565620	T662NC#06-32RH2-A KSSM24	M66	5566160	T662M070X100RD5-A KSS20	M68
5550703	HNPJ43ANSNGD KCPM40	S7, S13, S16	5565499	T660NC#06-32RH3-A KSS20	M18	5565621	T662NC#06-32RH3-A KSS20	M66	5566161	T662M080X125RD5-A KSS20	M68
5550793	HNGJ535ANSNGD KCPM40	S18, S22	5565510	T660NF#06-40RH2-A KSSM24	M18	5565622	T662NC#06-32RH2-A KSS20	M66	5566162	T662M100X125RD5-A KSSM24	M68
5550794	HNGJ535ANSNHD KCPM40	S19, S22	5565511	T660NC#08-32RH2-A KSS20	M18	5565623	T662NC#08-32RH2-A KSS20	M66	5566163	T662M100X125RD5-A KSS20	M68
5550795	HNPJ535ANSNGD KCPM40	S19, S22	5565512	T660NC#08-32RH2-A KSSM24	M18	5565624	T662NC#08-32RH2-A KSSM24	M66	5566164	T662M100X125RD5-A KSSM24	M68
5550796	HNPJ535ANSNHD KCPM40	S19, S23	5565513	T660NC#08-32RH3-A KSS20	M18	5565625	T662NC#08-32RH3-A KSS20	M66	5566165	T662M100X150RD6-A KSSM24	M68
5550797	HNPJ5351ANSNHD KCPM40	S19, S23	5565514	T660NC#08-32RH3-A KSSM24	M18	5565626	T662NC#08-32RH3-A KSSM24	M66	5566166	T662M120X175RD6-A KSS20	M68
5550815	HNPJ75ANSNHD KCPM40	S26	5565515	T660NF#08-36RH2-A KSS20	M18	5565627	T662NC#08-32RH2-A KSS20	M66	5566167	T662M120X175RD6-A KSSM24	M68
5550816	HNPJ75ANSNHD KCPM40	S26	5565516	T660NF#08-36RH2-A KSSM24	M18	5565628	T662NC#08-32RH2-A KSSM24	M66	5566274	RCMT1204MORP KCP25B	B242
5550817	HNGJ75ANSNGD KCPM40	S25	5565517	T660NC#10-24RH3-A KSS20	M18	5565629	T662NC#08-32RH3-A KSS20	M66	5568064	M4D100L1502M12L125	T14
5550819	OFPT64AFEN6GB KCPM40	S52	5565518	T660NC#10-24RH3-A KSSM24	M18	5565630	T662NC#10-24RH3-A KSS20	M66	5568065	M4D125L1503M16L175	T14
5550901	OFPT53AFEM4GB KCPM40	S48	5565519	T660NF#10-32RH2-A KSS20	M18	5565631	T662NF#08-36RH2-A KSS20	M66	5568066	M4D150L1504M16L175	T14
5551030	T340NC#6-32R3BX KCK17	M108	5565520	T660NF#10-32RH2-A KSSM24	M18	5565632	T662NF#08-36RH2-A KSSM24	M66	5568067	M4D100L1502W075L175	T15
5551031	T340NC#8-32R3BX KCK17	M108	5565521	T660NF#10-32RH2-A KSS20	M18	5565633	T662NF#08-36RH2-A KSSM24	M66	5568068	M4D125L1503M125L225	T15
5551032	T340NC#10-24R3BX KCK17	M108	5565522	T660NF#10-32RH3-A KSS20	M18	5565634	T662NF#10-32RH2-A KSS20	M66	5568069	M4D150L1503W125L225	T15
5551033	T340NF#10-32R3BX KCK17	M108	5565523	T660NF#10-32RH3-A KSSM24	M18	5565635	T662NF#10-32RH2-A KSS20	M66	5568070	M4D100L1502C100L1000	T16
5551034	T340NC02500-20R3BX KCK17	M108	5565524	T660NF#10-32RH3-A KSS20	M18	5565636	T662NF#10-32RH2-A KSSM24	M66	5568081	M4D125L1503C125L1000	T16
5551035	T340NC03125-18R3BX KCK17	M108	5565525	T660NC02500-20RH3-A KSS20	M18	5565637	T662NF#10-32RH2-A KSS20	M66	5568082	M4D150L1504C125L1000	T16
5551036	T340NC03750-16R3BX KCK17	M108	5565526	T660NC02500-20RH5-A KSS20	M18	5					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5576320	.....VNMG32FF KCP25B	.....B146	5591712	.....CPMT3253MF KCM25B	.....B207	5591983	.....CNMG5433RN KCP40B	.....B53	5593683	.....KTMDU11L1612N55 KC635M	.....W32
5577076	.....LNEU1245R08 KCPM40	.....U19	5591713	.....TCMT2152MF KCM25B	.....B258	5591986	.....TNMG432RN KCP40B	.....B126	5593684	.....KTMDU11L107N55 KC635M	.....W32
5577077	.....LNEU1255R08 KCPM40	.....U19	5591714	.....SNMG432MN KCP40B	.....B102	5591987	.....CNMG432UP KCM25B	.....B54	5593686	.....KTMDU16L107N55 KC635M	.....W36
5577078	.....LNEU1245R04 KCPM40	.....U19	5591716	.....CNMG433MN KCP40B	.....B50	5591988	.....SNMG433RN KCP40B	.....B105	5593687	.....KTMDU16L0604N55 KC635M	.....W36
5577079	.....LNEU1255R04 KCPM40	.....U19	5591718	.....WNMG433MN KCP40B	.....B159	5591989	.....CNMG643UP KCM25B	.....B54	5593688	.....KTMDU11L0515N60 KC610M	.....W32
5577120	.....LNEU1245R08SGP KCPM40	.....U20	5591720	.....TNMG433MN KCP40B	.....B124	5591990	.....SNMG434RN KCP40B	.....B105	5593689	.....KTMDU11L1520N60 KC610M	.....W32
5577121	.....LNEU1240R08 4 KCPM40	.....U19	5591721	.....DNMG433MP KCM25B	.....B81	5591991	.....CNMG433UP KCM25B	.....B54	5593690	.....KTMDU11L4816N55 KC610M	.....W32
5577122	.....LNEU1240R03 4 KCPM40	.....U19	5591722	.....DNMG433MN KCP40B	.....B81	5591992	.....TNMG544RN KCP40B	.....B126	5593691	.....KTMDU11L2525N60 KC610M	.....W32
5577123	.....LNEQ1260R04 KCPM40	.....U20	5591773	.....CNMG431MN KCP40B	.....B50	5591993	.....CNMG431UP KCM25B	.....B54	5593692	.....KTMDU11L2540N60 KC610M	.....W32
5586626	.....LNEU1260R04 KCPM40	.....U19	5591774	.....WNMG432MP KCM25B	.....B159	5591995	.....DNMG432UP KCM25B	.....B84	5593693	.....KTMDU16L1520N60 KC610M	.....W36
5580585	.....WNMG433MP KCP25B	.....B159	5591775	.....CNMG544MP KCM25B	.....B51	5591998	.....DNMG444RN KCP40B	.....B83	5593694	.....KTMDU16L2535N60 KC610M	.....W36
5585495	.....B224A05050HP KCPK15	.....G45	5591776	.....SCMT3252MP KCM25B	.....B247	5592000	.....SNMG432RN KCP40B	.....B105	5593695	.....KTMDU16L4060N60 KC610M	.....W36
5586046	.....SNHX1102T KCPM40	.....U14	5591777	.....CCMT432MP KCM25B	.....B191	5592003	.....DNMG432UP KCM25B	.....B162	5593696	.....KTMDU11L4816N55 KC610M	.....W32
5586047	.....SNHX1103T KCPM40	.....U14	5591778	.....VBMT332MP KCM25B	.....B281	5592005	.....WNMG432UP KCM25B	.....B162	5593697	.....KTMDU11L1612N55 KC610M	.....W32
5586048	.....SNHX1203T KCPM40	.....U14	5591779	.....CNMG431MP KCM25B	.....B51	5592006	.....RNMG64RN KCP40B	.....B97	5593698	.....KTMDU11L107N55 KC610M	.....W32
5586060	.....SNHX1113PZTNGP KCPM40	.....U15	5591780	.....CNMG543MP KCM25B	.....B51	5592007	.....DNMG432UP KCM25B	.....B84	5593699	.....KTMDU16L12025N60 KC610M	.....W36
5586061	.....SNHX1102PZTNGP KCPM40	.....U15	5591781	.....VNMG332MP KCM25B	.....B147	5592008	.....DNMG442RN KCP40B	.....B83	5593710	.....KTMDU16L107N55 KC610M	.....W36
5586062	.....SNHX1203PZTNGP KCPM40	.....U15	5591782	.....DNMG432MP KCM25B	.....B81	5592010	.....TNMG433RN KCP40B	.....B126	5593711	.....KTMDU16L0604N55 KC610M	.....W36
5586626	.....LNUX301940RRH KCP10B	.....E57	5591783	.....CCMT3252MP KCM25B	.....B191	5592012	.....WNMG434UP KCM25B	.....B54	5593712	.....TM24N32UN KC635M	.....W6
5588385	.....LNGU542ERGE KCP25M	.....T18	5591784	.....DCMT3252MP KCM25B	.....B226	5592103	.....CNMG542MR KCP25B	.....B51	5593713	.....TM24N28UN KC635M	.....W6
5588386	.....LNGU542ERGE KCSM30	.....T18	5591785	.....TNMG331MP KCM25B	.....B124	5592107	.....WNMG332MR KCP25B	.....B159	5593714	.....TM24N24UN KC635M	.....W6
5588387	.....LNGU542ERGE KCPM40	.....T18	5591786	.....VBMT331MP KCM25B	.....B281	5592121	.....WNMG432UP KCP25B	.....B125	5593715	.....TM24N20UN KC635M	.....W6
5588388	.....LNGU542ERGE KCS22M	.....T18	5591787	.....CNMG642MP KCM25B	.....B51	5592123	.....TNMG432MR KCM25B	.....B125	5593716	.....TM24N18UN KC635M	.....W6
5588513	.....LNGU541ERGE KCP25M	.....T18	5591788	.....DNMG441MP KCM25B	.....B81	5592124	.....SNMG432MR KCP25B	.....B103	5593717	.....TM24N16UN KC635M	.....W6
5588514	.....LNGU541ERGE KCSM30	.....T18	5591789	.....VNMG331MP KCM25B	.....B147	5592128	.....CNMG644MR KCP25B	.....B51	5593718	.....TM24N14UN KC635M	.....W6
5588515	.....LNGU541ERGE KCPM40	.....T18	5591790	.....WNMG433MP KCM25B	.....B159	5592141	.....DNMG332MR KCP25B	.....B82	5593719	.....TM24N12UN KC635M	.....W6
5588516	.....LNGU541ERGE KCS22M	.....T18	5591791	.....DNMG332MP KCM25B	.....B81	5592142	.....DNMG332MR KCP10B	.....B82	5593720	.....TM24N10UN KC635M	.....W6
5588517	.....LNGU543ERGE KCP25M	.....T18	5591792	.....CCMT3251MP KCM25B	.....B191	5592146	.....TNMG543MR KCP25B	.....B125	5593721	.....TM24N050ISO KC635M	.....W6
5588518	.....LNGU543ERGE KCSM30	.....T18	5591793	.....CCMT433MP KCM25B	.....B191	5592162	.....VNMG333MR KCM15	.....B147	5593722	.....TM24N075ISO KC635M	.....W6
5588519	.....LNGU543ERGE KCPM40	.....T18	5591794	.....SCMT432MP KCM25B	.....B247	5592162	.....WNMG434MR KCP10B	.....B159	5593723	.....TM24N00ISO KC635M	.....W6
5588550	.....LNGU543ERGE KCS22M	.....T18	5591795	.....DNMG433MP KCM25B	.....B81	5592163	.....VNMG644MR KCP25B	.....B159	5593724	.....TM24N125ISO KC635M	.....W6
5588937	.....DFT110508MD KCT140	.....J101	5591796	.....TNMG433MP KCM25B	.....B124	5593105	.....KTMDUWD058L15721	.....W29	5593725	.....TM24N150ISO KC635M	.....W6
5588973	.....R1009EDR00 KCG005	.....K59	5591799	.....CNMG643MP KCM25B	.....B81	5593106	.....KTMDUWD081L236Z2	.....W29	5593726	.....TM24N175ISO KC635M	.....W6
5598680	.....LNP763PNSRHD KCPM40	.....S99, S101	5591900	.....DNMG442MP KCM25B	.....B51	5593107	.....KTMDUWD091L276Z2	.....W29	5593727	.....TM24N200ISO KC635M	.....W6
5590137	.....410.091	.....E18-E19, E21, E23	5591901	.....CNMG433MP KCM25B	.....B51	5593108	.....KTMDUWD102L315Z3	.....W29	5593728	.....TM24N250ISO KC635M	.....W6
5590777	.....EP1808EHD KCPM40	.....T84	5591902	.....DNMG431MP KCM25B	.....B81	5593109	.....KTMDUWD144L374Z3	.....W34	5593729	.....TM24EN18NPT KC635M	.....W6
5591123	.....DCMT3252FP KCM25B	.....B225	5591903	.....DNMG443RN KCP40B	.....B83	5593120	.....KTMDUWD122L374Z4	.....W29	5593740	.....TM24EN18NPT KC635M	.....W7
5591124	.....DCMT3251FP KCM25B	.....B225	5591904	.....TCMT3251MP KCM25B	.....B258	5593121	.....KTMDUWD165L472Z4	.....W34	5593741	.....TM24EN19BSF KC635M	.....W6
5591126	.....CCMT2152FP KCM25B	.....B190	5591906	.....TCMT3252MP KCM25B	.....B258	5593125	.....KTMDUCD058L236Z1	.....W30	5593742	.....TM24EN14BSF KC635M	.....W6
5591127	.....DCMT2152FP KCM25B	.....B225	5591907	.....SNMG432MP KCM25B	.....B102	5593126	.....KTMDUCD068L256Z2	.....W30	5593743	.....TM24EN19BSPT KC635M	.....W7
5591128	.....CCMT3251FP KCM25B	.....B190	5591908	.....DNMG434RN KCP40B	.....B83	5593127	.....KTMDUCD081L315Z2	.....W30	5593744	.....TM24ENBLANK	.....W7
5591129	.....DCMT32505FP KCM25B	.....B225	5591910	.....TNMG432MP KCM25B	.....B124	5593132	.....KTMDUED091L300Z2	.....W31	5593745	.....TM24ENUN KC635M	.....W26
5591140	.....CCMT2151FP KCM25B	.....B190	5591911	.....SNMG666RN KCP40B	.....B105	5593133	.....KTMDUED102L415Z3	.....W31	5593746	.....TM41N7UN KC635M	.....W26
5591141	.....CCMT21505FP KCM25B	.....B190	5591912	.....VNMG332MP KCM25B	.....B159	5593134	.....KTMDUED144L512Z3	.....W34	5593747	.....TM41N6UN KC635M	.....W26
5591142	.....CCMT3252FP KCM25B	.....B190	5591913	.....CNMG544RN KCP40B	.....B53	5593135	.....KTMDUED122L452Z4	.....W31	5593748	.....TM41N5UN KC635M	.....W26
5591143	.....DCMT2151FP KCM25B	.....B225	5591914	.....CCMT2151MP KCM25B	.....B191	5593139	.....KTMDUSD169L158Z4	.....W35	5593749	.....TM41N45UN KC635M	.....W26
5591144	.....CCMT32505FP KCM25B	.....B190	5591916	.....CPMT3252MP KCM25B	.....B207	5593140	.....KTMDUSD209L158Z5	.....W35	5593750	.....TM41N4UN KC635M	.....W26
5591146	.....CCMT431FP KCM25B	.....B190	5591919	.....CNMG543RP KCM25B	.....B53	5593141	.....TMS25D52L40Z8	.....W10	5593751	.....TM41N00ISO KC635M	.....W26
5591149	.....TCMT2151LF KCM25B	.....B257	5591930	.....DNMG333MP KCM25B	.....B81	5593142	.....TMS25D36L34Z5	.....W10	5593752	.....TM41N350ISO KC635M	.....W26
5591151	.....DCMT2151LF KCM25B	.....B225	5591931	.....CNMG643RP KCM25B	.....B53	5593143	.....TMS25D44L38Z6	.....W12	5593753	.....TM41N400ISO KC635M	.....W26
5591152	.....SCMT432LF KCM25B	.....B246	5591932	.....DNMG442RP KCM25B	.....B84	5593145	.....TMS25D232L158Z9	.....W10	5593754	.....TM41N500ISO KC635M	.....W26
5591154	.....VBMT221LF KCM25B	.....B281	5591933	.....SNMG433MP KCM25B	.....B102	5593146	.....TMS25D193L138Z7	.....W12	5593755	.....TM41N500ISO KC635M	.....W26
5591155	.....DPMT3251LF KCM25B	.....B232	5591934	.....SNMG643MP KCM25B	.....B102	5593147	.....TMS25D154L126Z5	.....W12	5593756	.....TM41N550ISO KC635M	.....W26
5591156	.....TCMT3251LF KCM25B	.....B257	5591935	.....SNMG644RP KCM25B	.....B105	5593148	.....TMST25D154L126Z5	.....W13	5593757	.....TM41N600ISO KC635M	.....W26
5591157	.....CPMT3251LF KCM25B	.....B207	5591936	.....SNMG644RP KCM25B	.....B105	5593154	.....TM24D053L102Z1	.....W4	5593758	.....TM41EN8NPT KC635M	.....W26
5591158	.....SCMT431LF KCM25B	.....B246	5591937	.....VNMG331MP KCM25B	.....B159	5593155	.....TM24D069L118Z1	.....W4	5593759	.....TM41ENBLANK	.....W26
5591159	.....TCMT3252LF KCM25B	.....B257	5591938	.....VNMG433RP KCM25B	.....B161	5593156	.....TM24D063L110Z2	.....W4	5593760	.....TM40N8UN KC635M	.....W20
5591160	.....TCMT2152LF KCM25B	.....B257	5591939	.....SNMG542MP KCM25B	.....B102	5593157	.....TM24D063L142Z1	.....W4	5593762	.....TM40N16UN KC635M	.....W20
5591161	.....TPMT3251LF KCM25B	.....B268	5591950	.....CNMG431RP KCM25B	.....B53	5593158	.....TMT24D055L102Z1	.....W5	5593764	.....TM40N12UN KC635M	.....W20
5591162	.....TPMT2151LF KCM25B	.....B268	5591952	.....SNMG434MP KCM25B	.....B102	5593177	.....TM41D083L177Z1	.....W24	5593767	.....TM40N8UN KC635M	.....W20
5591164	.....TPMT3252MF KCM25B	.....B268	5591953	.....SNMG544RP KCM25B	.....B105	5593178	.....TM41D097L169Z2	.....W24	5593768	.....TM40N100ISO KC635M	.....W20
5591166	.....SCMT432MF KCM25B	.....B247	5591954	.....SNMG643MP KCM25B	.....B102	5593179	.....TM41D118L256Z3	.....W24	5593769	.....TM40N150ISO KC635M	.....W20
5591167	.....TCMT3252MF KCM25B	.....B258	5591955	.....CNMG644RP KCM25B	.....B53	5593180	.....TM41D142L169Z5	.....W24	5593780	.....TM40N200ISO KC635M	.....W20
5591168	.....SPMT3252MF KCM25B	.....B253	5591956	.....TNMG333MP KCM25B	.....B124	5593181	.....TM41D142L256Z4	.....W24	5593782	.....TM40N300ISO KC635M	.....W20
5591169	.....CPMT3252MF KCM25B	.....B207	5591957	.....CNMG434RP KCM25B	.....B53	5593182	.....TMS41D210L200Z5	.....W25	5593786	.....TM40EN1BSF KC635M	.....W20
5591170	.....TCMT3253MF KCM25B	.....B258	5591959	.....VNMG432RP KCM25B	.....B161	5593183	.....TMS41D202L200Z6	.....W25	5593788	.....TM40EN08NPT KC635M	.....W20
5591172	.....CCMT3251MF KCM25B	.....B191	5591960	.....CNMG544RP KCM25B	.....B53	5593191	.....TM40D087L169Z3	.....W17	5593790	.....TM40EN08NPT KC635M	.....W21
5591173	.....DCMT3251MF KCM25B	.....B226	5591962	.....TNMG432RP KCM25B	.....B127	5593192	.....TM40D087L256Z3	.....W17	5593791	.....TM40EN1BSPT KC635M	.....W21
5591174	.....CCMT2151MF KCM25B	.....B191	5591963	.....CNMG							

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5593807	TM24N150ISO KC610M	W6	5607204	UJBE0375J6B KCSM15	P52	5615608	VNMG332FP KCP25B	B146	5626747	KSEM1281HPG KCPM45	H58
5593808	TM24N175ISO KC610M	W6	5607205	UJBE0500J6B KCSM15	P52	5615609	VNMG332FN KCP10B	B146	5626748	KSEM3350HPGM KCPM45	H58
5593809	TM24N200ISO KC610M	W6	5607206	UJBE0500J6C KCSM15	P52	5615610	HNHX5354ENLE KC514M	S78	5626749	KSEM3400HPGM KCPM45	H58
5593830	TM24N250ISO KC610M	W6	5607207	UJBE0625J6B KCSM15	P52	5615650	VNMG332FN KCP25B	B146	5626760	KSEM1438HPG KCPM45	H58
5593831	TM24N18NPT KC610M	W6	5607208	UJBE0750J6B KCSM15	P52	5615680	HNPX5355SNGE KCK15	S80	5626761	KSEM1375HPG KCPM45	H58
5593832	TM24N18NPTF KC610M	W7	5607209	UJBE1000J6B KCSM15	P52	5615682	HNHX5355SNGE KCK15	S79	5626762	KSEM3500HPGM KCPM45	H58
5593833	TM24N19BSF KC610M	W6	5607300	UJBE0375J6AL KCSM15	P53	5615683	HNHX5355SNGE KC514M	S79	5626763	KSEM1438HPG KCPM45	H58
5593834	TM24N14BSF KC610M	W6	5607301	UJBE0500J6AL KCSM15	P53	5615684	HNPX5354SNGE KCK15	S80	5626764	KSEM3700HPGM KCPM45	H58
5593835	TM24N19BSPT KC610M	W7	5607302	UJBE0625J6AL KCSM15	P53	5615687	HNHX5358SNGE KCK15	S79	5626765	KSEM1469HPG KCPM45	H58
5593837	TM41N8UN KC610M	W26	5607304	UJBE0750J6AL KCSM15	P53	5616165	HNHX5355ENLE KCK15	S78	5626766	KSEM3750HPGM KCPM45	H58
5593838	TM41N7UN KC610M	W26	5607305	UJBE1000J6AL KCSM15	P53	5616166	HNHX5355ENLE KC514M	S78	5626767	KSEM3800HPGM KCPM45	H58
5593839	TM41N6UN KC610M	W26	5607996	LNPU543SRGE KC520M	T19	5616167	HNHX53ANSNGE KCK15	S78	5626768	KSEM1514HPG KCPM45	H58
5593840	TM41N5UN KC610M	W26	5607997	LNPU543SRGE KCS22M	T19	5616168	HNHX53ANSNGE KC514M	S78	5626769	KSEM3750HPGM KCPM45	H58
5593841	TM41N45UN KC610M	W26	5607998	LNPU543SRGE KCT25M	T19	5618002	SNMM543RM KCP25B	B107	5627784	LNUG544SRGE KC520M	T19
5593842	TM41N4UN KC610M	W26	5608030	LNPU543SRGE KCPK30	T19	5619961	SDET4316ENGB KCT25M	T116, T123, U39	5627785	LNUG544SRGE KC522M	T19
5593843	TM41N300ISO KC610M	W26	5608034	LNPU541SRGE KCS20M	T19				5627786	LNUG544SRGE KCT25M	T19
5593844	TM41N350ISO KC610M	W26	5608035	LNPU541SRGE KCS22M	T19	5619962	SDET4312SNGB KCT25M	T116, T123, U39	5627787	LNUG544SRGE KCK15	T19
5593845	TM41N400ISO KC610M	W26	5608036	LNPU541SRGE KCT25M	T19	5619963	SDET4312ENGB KCT25M	T116, T123, U39	5627788	LNUG544SRGE KCPK30	T19
5593846	TM41N450ISO KC610M	W26	5608037	LNPU541SRGE KCK15	T19				5627789	LNUG544ERGE KCT25M	T18
5593847	TM41N500ISO KC610M	W26	5608038	LNPU541SRGE KCPK30	T19	5619964	SDET438ENGB KCT25M	T116, T123, U39	5627870	LNUG544ERGE KCSM30	T18
5593848	TM41N550ISO KC610M	W26	5608090	CNMM644RP KCP25B	B56				5627871	LNUG544ERGE KCPM40	T18
5593850	TM41N600ISO KC610M	W26	5608588	T830NC#04-40RH2-XL6 KSP39	M100				5628796	CNMG432MR KCPK05	B51
5593851	TM41EN8NPT KC610M	W26	5608589	T830NC#06-32RH3-XL6 KSP39	M100	5620156	LNPU763PNSLHD2 KC520M	S99, S101	5628797	CNMG433MR KCPK05	B51
5593853	TM40N20UN KC610M	W20	5608630	T830NC#08-32RH3-XL6 KSP39	M100	5620157	LNPU763PNSLHD2 KCPK30	S99, S101	5628831	CNMG644RN KCPK05	B53
5593854	TM40N18UN KC610M	W20	5608631	T830NC#10-24RH3-XL6 KSP39	M100	5620158	LNPU763PNSRHD2 KCPM40	S99, S101	5628832	CNMG644RP KCPK05	B53
5593855	TM40N16UN KC610M	W20	5608632	T830NF#10-32RH3-XL6 KSP39	M100	5620360	LNPU763PNSRHD2 KCPK30	S99, S101	5628833	DNMG432MR KCPK05	B82
5593856	TM40N14UN KC610M	W20	5608633	T830NC02500-20RH3-XL6 KSP39	M100	5620745	LNPU863ANSRHD2 KCPM40	S95	5628835	DNMG433RN KCPK05	B83
5593857	TM40N12UN KC610M	W20	5608634	T860NF02500-28RH3-XL6 KSP39	M100	5620747	LNPU863ANSRHD2 KCPK30	S95	5628837	CNMG433MR KCPK05	B82
5593858	TM40N10UN KC610M	W20	5608635	T830NC03125-18RH3-XL6 KSP39	M100	5620748	SM-906LH KCT20	S94, S98, S100	5628838	DNMG442MW KCPK05	B82
5593859	TM40N8UN KC610M	W20	5608636	T830NF03125-24RH3-XL6 KSP39	M100				5628839	DNMG443RN KCPK05	B83
5593870	TM40N8UN KC610M	W20	5608637	T830NC03750-16RH3-XL6 KSP39	M100	5626642	KSEM1250HPGM KCPM45	H57	5628841	CNMG544RN KCPK05	B105
5593871	TM40N100ISO KC610M	W20	5608638	T830NF03750-24RH3-XL6 KSP39	M100	5626643	KSEM1280HPGM KCPM45	H57	5628844	WNMG432RP KCPK05	B161
5593872	TM40N150ISO KC610M	W20	5608639	T830NC04375-14RH3-XL6 KSP39	M100	5626644	KSEM1300HPGM KCPM45	H57	5628845	WNMG432MR KCPK05	B159
5593873	TM40N200ISO KC610M	W20	5608640	T830NF04375-20RH3-XL6 KSP39	M100	5626645	KSEM1350HPGM KCPM45	H57	5628847	WNMG433RN KCPK05	B161
5593874	TM40N250ISO KC610M	W20	5608642	T830NC05000-13RH3-XL6 KSP39	M100	5626647	KSEM1360HPGM KCPM45	H57	5628849	WNMG433RP KCPK05	B161
5593875	TM40N300ISO KC610M	W20	5608644	T830NF05000-20RH3-XL6 KSP39	M100	5626648	KSEM1380HPGM KCPM45	H57	5628850	WNMG433MR KCPK05	B159
5593876	TM40EN16BSF KC610M	W20	5608645	T830NC06250-11RH3-XL6 KSP39	M100	5626649	KSEM0547HPG KCPM45	H57	5629530	CNMG3400RN KCPK05	B53
5593877	TM40EN14BSF KC610M	W20	5608646	T830NC#04-40RH2-XL4 KSP39	M99	5626700	KSEM1410HPGM KCPM45	H57	5629532	CNMG644RN KCPK05	B53
5593878	TM40EN12BSF KC610M	W20	5608647	T830NC#06-32RH3-XL4 KSP39	M99	5626701	KSEM1450HPGM KCPM45	H57	5629534	CNMG544RP KCPK05	B56
5593879	TM40EN11BSF KC610M	W20	5608648	T830NC#08-32RH3-XL4 KSP39	M99	5626702	KSEM0578HPG KCPM45	H57	5629536	DNMG432MN KCPK05	B81
5593880	TM40EN115NPT KC610M	W20	5608661	T830NF#10-32RH3-XL4 KSP39	M99	5626703	KSEM1500HPGM KCPM45	H57	5629538	WNMG432MW KCPK05	B160
5593881	TM40EN008NPT KC610M	W20	5608662	T830NC02500-20RH3-XL4 KSP39	M99	5626704	KSEM0594HPG KCPM45	H57	5629698	T846NPT01250-27R-AS KSU30	M153
5593882	TM40EN115NPTF KC610M	W21	5608663	T832NC#04-40RH2-XL6 KSP39	M101	5626705	KSEM1550HPGM KCPM45	H57	5629699	T846NPT02500-18R-A KSU30	M153
5593883	TM40EN008NPTF KC610M	W21	5608664	T832NC#06-32RH3-XL6 KSP39	M101	5626706	KSEM1580HPGM KCPM45	H57	5629710	T846NPT03750-18R-A KSU30	M153
5593884	TM40EN011BSPT KC610M	W21	5608665	T832NC#08-32RH3-XL6 KSP39	M101	5626707	KSEM0625HPG KCPM45	H57	5629711	T846NPT05000-14R-A KSU30	M153
5593886	CNMG432MR KCU10	B51	5608666	T832NF#10-32RH3-XL6 KSP39	M101	5626708	KSEM1600HPGM KCPM45	H57	5629791	T846NPT06250-27R-A KSP39	M152
5593887	DNMG432MR KCU10	B82	5608667	T832NC02500-20RH3-XL6 KSP39	M101	5626709	KSEM0641HPG KCPM45	H57	5629792	T846NPT06250-27R-A KSU31	M152
5593888	CNMG433MR KCU10	B51	5608668	T832NF02500-28RH3-XL6 KSP39	M101	5626710	KSEM1650HPGM KCPM45	H57	5629793	T846NPT01250-27R-AS KSP39	M152
5593931	WNMG432MR KCU10	B159	5608669	T832NC03125-18RH3-XL6 KSP39	M101	5626711	KSEM1700HPGM KCPM45	H57	5629794	T846NPT01250-27R-AS KSU31	M152
5593933	SNMG432MR KCU10	B103	5608680	T832NC03750-16RH3-XL6 KSP39	M101	5626712	KSEM0672HPG KCPM45	H57	5629795	T846NPT01250-27R-A KSP39	M152
5593934	SNMG433MR KCU10	B103	5608681	T832NF03750-24RH3-XL6 KSP39	M101	5626713	KSEM1750HPGM KCPM45	H57	5629796	T846NPT01250-27R-A KSU31	M152
5593937	DNMG442MR KCU10	B82	5608682	T832NC04375-14RH3-XL6 KSP39	M101	5626714	KSEM0703HPG KCPM45	H57	5629798	T846NPT02500-18R-A KSP39	M152
5595038	VNMG332FP KCP10B	B146	5608745	T820NC#04-40RH2-XL6 KSP39	M35	5626715	KSEM1850HPGM KCPM45	H57	5629799	T846NPT02500-18R-A KSU31	M152
5596414	CMCT432LF KCM25B	B191	5608746	T820NC#06-32RH3-XL6 KSP39	M35	5626716	KSEM0734HPG KCPM45	H57	5629800	T846NPT03750-18R-A KSP39	M152
5596415	CMCT3252LF KCM25B	B191	5608747	T820NC#08-32RH3-XL6 KSP39	M35	5626717	KSEM0757HPG KCPM45	H57	5629801	T846NPT03750-18R-A KSU31	M152
5596416	VBMT332LF KCM25B	B281	5608748	T820NC#10-24RH3-XL6 KSP39	M35	5626718	KSEM0766HPG KCPM45	H57	5629802	T846NPT05000-14R-A KSP39	M152
5596417	DCMT3252LF KCM25B	B225	5608749	T820NF#10-32RH3-XL6 KSP39	M35	5626719	KSEM0797HPG KCPM45	H57	5629803	T846NPT01250-27R-AS KSU31	M152
5596418	VBMT331LF KCM25B	B281	5608750	T820NC02500-20RH3-XL6 KSP39	M35	5626720	KSEM2050HPGM KCPM45	H57	5629804	T846NPT06250-27R-A KSP39	M152
5596419	DCMT3251LF KCM25B	B225	5608751	T820NF02500-28RH3-XL6 KSP39	M35	5626721	KSEM0844HPG KCPM45	H57	5629805	T846NPT01250-27R-AS KSP39	M152
5596450	CMCT3251LF KCM25B	B191	5608752	T820NC03125-18RH3-XL6 KSP39	M35	5626722	KSEM2150HPGM KCPM45	H57	5629807	T846NPT01250-27R-AS KSU31	M152
5596451	CMCT2151LF KCM25B	B191	5608753	T820NF03125-24RH3-XL6 KSP39	M35	5626723	KSEM0859HPG KCPM45	H57	5629808	T846NPT01250-27R-A KSP39	M152
5596455	CMCT3252MF KCM25B	B191	5608754	T820NC03750-16RH3-XL6 KSP39	M35	5626724	KSEM0884HPG KCPM45	H57	5629809	T846NPT01250-27R-A KSU31	M152
5596456	CMCT432MF KCM25B	B191	5608755	T820NF03750-24RH3-XL6 KSP39	M35	5626725	KSEM2250HPGM KCPM45	H57	5629810	T846NPT02500-18R-A KSP39	M152
5596457	CNMG432MN KCP40B	B50	5608756	T820NC04375-14RH3-XL6 KSP39	M35	5626726	KSEM0922HPG KCPM45	H57	5629811	T846NPT02500-18R-A KSU31	M152
5596460	CNMG432MP KCM25B	B51	5608757	T820NF04375-20RH3-XL6 KSP39	M35	5626727	KSEM2350HPGM KCPM45	H57	5629812	T846NPT03750-18R-A KSP39	M152
5596461	TNMG332MP KCM25B	B124	5608758	T820NC05000-13RH3-XL6 KSP39	M35	5626728	KSEM2450HPGM KCPM45	H57	5629813	T846NPT05000-14R-A KSU31	M152
5596462	CNMM646RH KCP40B	B55	5608759	T820NF05000-20RH3-XL6 KSP39	M35	5626729	KSEM0969HPG KCPM45	H58	5629814	T846NPT05000-14R-A KSP39	M152
5596463	SNMM644RM KCP40B	B107	5608760	T820NC06250-11RH3-XL6 KSP39	M35	5626730	KSEM2550HPGM KCPM45	H58	5629815	T846NPT05000-14R-A KSU31	M152
5596465	CNMG433RN KCP40B	B53	5608761	T820NC#04-40RH2-XL4 KSP39	M34	5626731	KSEM2650HPGM KCPM45	H58	5629905	T846NPT07500-14R-A KSP39	M152
5596466	CNMG434RN KCP40B	B53	5608762	T820NC#06-32RH3-XL4 KSP39	M34	5626732	KSEM1047HPG KCPM45	H58	5629906	T846NPT07500-14R-A KSU31	M152
5596468	CNMG432RP KCM25B	B									

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5630744	SNPJ31253NGD KCPM40	S57	5639700	SCMT3252MP KCK20B	B247	5640492	VBMT331LF KCM15B	B281	5641371	SCMT3252LF KCK20B	B246
5630745	SNPJ31253NGD KCK15	S57	5639701	SCMT432LF KCK20B	B246	5640493	VBMT332LF KCM15B	B281	5641372	SNMA433 KCK20B	B100
5630746	SNPJ4425NGD KCP520	S60	5639702	SCMT432MF KCK20B	B247	5640494	WNMG432FP KCM15B	B158	5641373	SNMG433UN KCK20B	B106
5630747	SNPJ4425NGD KCPM40	S60	5639703	SCMT432MP KCK20B	B247	5640496	WNMG433MW KCM15B	B160	5641375	VBMT331LF KCK20B	B281
5630748	SNPJ4425NGD KCK15	S60	5639705	SCMT433MF KCK20B	B247	5640904	CCMT2151FP KCM15B	B190	5641377	WNMA432 KCK20B	B157
5630749	SNPJ4425NGD KCPK30	S60	5639707	SCMW3252 KCK20B	B248	5640905	CCMT2151MF KCM15B	B191	5641379	WNMG332UN KCK20B	B162
5630751	SNPJ4445NGD KCPM40	S60	5639708	SCMW432 KCK20B	B248	5640906	CCMT2151MP KCM15B	B191	5642146	CNMG433UN KCK20B	B54
5630752	SNPJ4445NGD KCK15	S60	5639709	SCMW433 KCK20B	B248	5640907	CCMT2152LF KCM15B	B191	5642147	CNMG434UN KCK20B	B54
5630753	SNPJ4445NGD KCPK30	S60	5639710	SNMA432 KCK20B	B100	5640908	CCMT3251FP KCM15B	B190	5642148	CNMG542UN KCK20B	B54
5631151	SNMG432RP KCP25B	B105	5639761	SNMG432RP KCK20B	B105	5640909	CCMT3251MF KCM15B	B191	5642149	CNMG543UN KCK20B	B54
5631155	SNMG432RN KCP25B	B105	5639767	SPMT3252LF KCK20B	B252	5640960	CCMT3251MP KCM15B	B191	5642150	CNMG544UN KCK20B	B54
5633113	T822NC#05-40RH2-A KSP39	M28	5639781	TCMT2151FP KCK20B	B257	5640961	CCMT3251MW KCM15B	B192	5642154	DNMA332 KCK20B	B78
5633114	T822NC#06-32RH3-A KSP39	M28	5639782	TCMT2151LF KCK20B	B257	5640962	CCMT3252FP KCM15B	B190	5642155	WNMG433UN KCK20B	B84
5633115	T822NC#06-32RH3-A KSP32	M28	5639784	TCMT2152LF KCK20B	B257	5640963	CCMT3252FW KCM15B	B190	5642158	DNMG432UN KCK20B	B84
5633116	T822NC#06-32RH3-A KSMN34	M28	5639785	TCMT2152MF KCK20B	B258	5640964	CCMT3252MP KCM15B	B191	5642159	DNMG433UN KCK20B	B84
5633117	T822NC#06-32RH3-A KSP39	M28	5639786	TCMT2152MP KCK20B	B258	5640965	CCMT2151MP KCM15B	B192	5642160	DNMG433UN KCK20B	B84
5633118	T822NC#06-32RH4-A KSP39	M28	5639787	TCMT3251LF KCK20B	B257	5640969	CNMG322MP KCM15B	B51	5642161	DNMG442UN KCK20B	B84
5633119	T822NC#06-32RH5-A KSP39	M28	5639788	TCMT3251MP KCK20B	B258	5640970	CNMG431FF KCM15B	B48	5642162	DNMG443UN KCK20B	B84
5633200	T822NC#06-32RH6-A KSP39	M28	5639790	TCMT3252LF KCK20B	B257	5640971	TCMT3251MP KCM15B	B51	5642165	RPH12006MORP KCK20B	B242
5633201	T822NC#06-32RH7-A KSP39	M28	5639791	TCMT3252MF KCK20B	B258	5640973	CNMG431UP KCM15B	B54	5642167	SNMG432UN KCK20B	B106
5633202	T822NF#06-40RH2-A KSP39	M28	5639792	TCMT3252MP KCK20B	B258	5640974	CNMG432FP KCM15B	B48	5642168	SNMG434UN KCK20B	B106
5633203	T822NF#06-40RH2-A KSP39	M28	5639793	TCMT3253LF KCK20B	B257	5640975	CNMG3252FW KCM15B	B49	5642173	WNMG322UN KCK20B	B127
5633204	T822NC#08-32RH3-A KSP39	M28	5639794	TCMT3253MF KCK20B	B258	5640976	CNMG432MR KCM15B	B51	5642174	TMNG333UN KCK20B	B127
5633205	T822NC#08-32RH3-A KSP32	M28	5639795	TCMT432LF KCK20B	B257	5640977	CNMG432P KCM15B	B52	5642182	WNMA333 KCK20B	B157
5633206	T822NC#08-32RH3-A KSMN34	M28	5639796	TCMW3251 KCK20B	B258	5640978	CNMG432UP KCM15B	B54	5642185	WNMG432UN KCK20B	B162
5633207	T822NC#08-32RH3-A KSP39	M28	5639797	TCMW3252 KCK20B	B258	5640979	CNMG433MP KCM15B	B51	5642186	WNMG433UN KCK20B	B162
5633208	T822NC#08-32RH4-A KSP32	M28	5639799	TNMA332 KCK20B	B122	5640980	CNMG433MR KCM15B	B51	5650846	TPU221 KCK15B	B178
5633209	T822NC#08-32RH4-A KSP39	M28	5639822	TNMA432 KCK20B	B122	5640981	CNMG434MP KCM15B	B51	5650847	TPU321 KCK15B	B178
5633210	T822NC#08-32RH6-A KSP39	M28	5639823	TNMA433 KCK20B	B122	5640982	CNMG542MP KCM15B	B51	5650848	TPU322 KCK15B	B178
5633211	T822NC#08-32RH7-A KSP39	M28	5639826	TNMG432RP KCK20B	B127	5640985	CNMG543MP KCM15B	B51	5651220	RPH12040MTX4 X700	V105
5633212	T822NF#08-36RH3-A KSP39	M28	5639824	TPMT3252LF KCK20B	B268	5640986	CNMG543RP KCM15B	B53	5651222	XLW090408SRD X500	V166
5633213	T822NC#10-24RH3-A KSP32	M28	5639837	TPMT3252MP KCK20B	B269	5640988	CNMG642MP KCM15B	B51	5651223	XLW120508SRD X400	V23
5633214	T822NC#10-24RH3-A KSMN34	M28	5639838	TPMT3253MF KCK20B	B268	5640989	WNMG432S0415FWHMT KBH20	B343	5651479	RPH12040MTX4 X500	V104
5633215	T822NC#10-24RH3-A KSP39	M28	5639840	VBMT222LF KCK20B	B281	5641044	CNMG543MR KCM15B	B103	5651903	CXE0750MN4-C SP4060	P84
5633217	T822NF#10-32RH3-A KSP32	M28	5639845	CCMT2151FW KCK20B	B190	5641046	WNMG432MR KCM15B	B159	5652140	SDHT120412EN422 SP6519	T132
5633218	T822NF#10-32RH3-A KSMN34	M28	5639849	CCMT2152LF KCK20B	B191	5641047	WNMG433MR KCM15B	B159	5652239	XLW090408SRD X400	V16
5633219	T822NF#10-32RH3-A KSP39	M28	5640382	CCMT3251MF KCK20B	B191	5641048	CNMG431MR KCM15B	B51	5652248	XLDT120512ERD411 X500	V22
5633220	T822NF#10-32RH4-A KSP39	M28	5640383	CCMT3251MP KCK20B	B191	5641055	DNMG442MR KCM15B	B82	5652249	XLDT090412ERD411 SP6519	V15
5633221	T822NC#10-24RH5-A KSP39	M28	5640386	CCMT3252MP KCK20B	B191	5641056	WNMG332MR KCM15B	B147	5652466	CXER0125TN4-F SP4060	P85
5633222	T822NF#10-32RH5-A KSP39	M28	5640387	CCMT3252MW KCK20B	B192	5641064	WNMG332MR KCM15B	B159	5652468	CXER0250NN4-C SP4060	P85
5633223	T822NF#10-32RH6-A KSP39	M28	5640388	CCMT3253MF KCK20B	B191	5641067	CPMG3251 KCM15B	B205	5652476	CXER0500NN4-K SP4060	P85
5633224	T822NC#10-24RH7-A KSP39	M28	5640391	CCMT432MF KCK20B	B191	5641069	CPMT2152MF KCM15B	B207	5652477	CXER0625NN4-F SP4060	P85
5633225	T822NF#10-32RH7-A KSP39	M28	5640392	CCMT432MP KCK20B	B191	5641090	CPMT3251LF KCM15B	B207	5652478	CXER0625NN4-J SP4060	P85
5633227	T822NF#12-28RH3-A KSP39	M28	5640393	CCMT432MW KCK20B	B192	5641091	CPMT3252MF KCM15B	B207	5652479	CXER0750NN4-F SP4060	P85
5633228	T822M030X050RD3-A KSP32	M30	5640394	CCMT433LF KCK20B	B191	5641093	DCMT2151LF KCM15B	B225	5652480	CXER0750NN4-K SP4060	P85
5633229	T822M030X050RD3-A KSMN34	M30	5640397	CCMW2151 KCK20B	B192	5641094	DCMT3252MF KCM15B	B226	5652489	RPH12040MTX4 SP6519	V105
5633230	T822M030X050RD3-A KSP39	M30	5640399	CCMW3252 KCK20B	B192	5641095	DNMG332FW KCM15B	B80	5652490	XLDT090408ERD41 SP6519	V14
5633231	T822M035X060RD4-A KSP39	M30	5640400	CCMW432 KCK20B	B192	5641096	CNMG431FF KCM15B	B79	5652729	XLDT120508ERD41 SC6525	V21
5633232	T822M040X070RD4-A KSP32	M30	5640401	CCMW433 KCK20B	B192	5641098	DNMG431MP KCM15B	B81	5652800	RPEX10T3M0F701X4 SP4019	V99
5633233	T822M040X070RD4-A KSMN34	M30	5640402	CNMA431 KCK20B	B47	5641099	DNMG432MP KCM15B	B81	5652874	XPNT101043RF SP6519	V115
5633234	T822M040X070RD4-A KSP39	M30	5640403	CNMA432 KCK20B	B47	5641101	DNMG441MP KCM15B	B81	5652899	XLDT120512ERD411 SP6519	V22
5633235	T822M050X080RD4-A KSP32	M30	5640406	CNMA433 KCK20B	B47	5641102	DNMG442MP KCM15B	B81	5653062	XPNT050522RF SP6519	V115
5633236	T822M050X080RD4-A KSMN34	M30	5640408	CNMG434RP KCK20B	B53	5641105	SNMG432MP KCM15B	B105	5653063	XPNT121254RF SP6519	V115
5633237	T822M050X080RD4-A KSP39	M30	5640409	CNMG543RP KCK20B	B53	5641107	SNMG544RP KCM15B	B102	5653064	XPNT161654RF SP6519	V115
5633262	T834NC#05-40RH2-A KSP39	M74	5640416	CPMT2152MF KCK20B	B207	5641108	TCMT2151LF KCM15B	B257	5653106	XLDT090408ERD41 SC6525	V14
5633263	T834NC#06-32RH2-A KSP39	M74	5640418	CPMT3251FW KCK20B	B206	5641109	TMNG331FP KCM15B	B123	5653137	SDHT120412EN422 X500	T132
5633264	T834NC#06-32RH3-A KSP32	M74	5640419	CPMT3251LF KCK20B	B207	5641110	TMNG331FP KCM15B	B124	5653138	SDHT120508EN422 X500	T129
5633265	T834NC#06-32RH3-A KSMN34	M74	5640421	CPMT3252LF KCK20B	B207	5641111	TMNG333MP KCM15B	B124	5653139	XELT160512ERD41 X500	V28
5633266	T834NC#06-32RH3-A KSP39	M74	5640422	CPMT3252MF KCK20B	B207	5641113	TMNG432MP KCM15B	B124	5653140	XELT160512ERD41 SP6519	V28
5633267	T834NC#06-32RH4-A KSP39	M74	5640424	CPMT3252MW KCK20B	B208	5641114	TMNG331FP KCM15B	B146	5653360	CXER0500NN4-J SP4060	P85
5633268	T834NC#06-32RH5-A KSP39	M74	5640425	VBMT331FP KCK20B	B281	5641115	VMNG331MP KCM15B	B147	5653362	CXER0750NN4-C SP4060	P85
5633269	T834NC#06-32RH7-A KSP39	M74	5640427	VBMT332FP KCK20B	B281	5641116	VMNG332MP KCM15B	B147	5653364	CXER0100NN4-L SP4060	B29
5633370	T834NF#06-40RH2-A KSP39	M74	5640428	VBMT332MP KCK20B	B281	5641117	VMNG333MP KCM15B	B147	5653576	SDHT093308EN422 SP6519	T129
5633371	T834NF#06-40RH3-A KSP39	M74	5640429	VBMT333LF KCK20B	B281	5641118	VMNG431FW KCM15B	B158	5653639	CXER0469TN4-E SP4060	P85
5633376	T834M030X050RD3-A KSP32	M88	5640431	VMNG332RP KCK20B	B148	5641119	VMNG431P KCM15B	B160	5653642	CXER0100NN4-F SP4060	P85
5633377	T834M030X050RD3-A KSP39	M88	5640436	WNMG432RP KCK20B	B161	5641120	VMNG432MP KCM15B	B159	5653777	CXER0750NN4-C SP4060	P85
5633378	T834M035X060RD4-A KSP39	M88	5640437	WNMG433RP KCK20B	B161	5641121	VMNG432P KCM15B	B160	5653779	CXER0375NN4-C SP4060	P85
5635433	ND3040L KQU25	D12	5640442	CCMT2151LF KCM15B	B191	5641122	VMNG432RP KCM15B	B161	5653885	SDHT120412EN422 X500	T132
5639385	DCMT3252FP KCK20B	B225	5640443	CCMT3251LF KCM15B	B191	5641123	WPMT3251LF KCM15B	B288	5653890	SDHT093308EN422 SP6519	T129
5639388	DCMT3252MP KCK20B	B226	5640444	CCMT3252LF KCM15B	B191	5641236	CCMT2151LF KCK20B	B191	5653930	XLDT120508ERD41 X500	V21
5639660	DCMT3253MF KCK20B	B226	5640445	CCMT3252MF KCM15B	B191	5641237	CCMT3252LF KCK20B	B191	5653967	XELW160512SRD X400	V28
5639663	DNMA432 KCK20B	B78	5640448	CCMT432MF KCM15B	B191	5641238	CCMT3252MF KCK20B	B191	56		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5654552	CXE0250MN4-C SP4060	P84	5665804	ZDET16M5PDRF721 GH1	T100	5672834	M-18-M10-CA.750-5.118 S	V32	5676760	RIQ06E1300 KC6005	K58
5654558	CXER0500NN4-C SP4060	P85	5665812	C7792VXE16-A2.50Z5R	V26-27	5672835	M-21-M12-CA1-5.157 S	V32	5676761	RIQ06E1300 KC6105	K58
5654563	CXER0375NN4-E SP4060	P85	5665832	C7792VXD12CA1.2/1.5Z3	V18, V20	5672836	M-29-M16-CA1.25-8.27 S	V32	5676762	RIQ06E1312 KC6005	K58
5654578	CXE0187MTN4-C SP4060	P84	5665928	RPEX1204M0E701X4 X500	V104	5672838	C5505VX10WA1.25R3.0	V112	5676763	RIQ06E1312 KC6105	K58
5654744	RPMT1204M0E41X4 SP6519	V104	5665949	ZDET16M500FR721 GH1	T100	5672839	C5505VX12WA1.50R4.0	V112	5676764	RIQ06E1300 KC6105	K58
5654896	XDLT090408ERD41 X500	V14	5665950	ZDET16M540FR721 GH1	T100	5672840	C5505VX16WA2.00R4.0	V112	5676765	RIQ09E1306 KC6105	K58
5655031	SDHT120412EN423 SP6519	T132	5666016	RPHT10T3M0E41X4 X500	V99	5672841	A5505VX10SA1.25R1.968	V111	5676766	RIQ06E1312 KC6005	K58
5655035	RPHT10T3M0TX4 SP6519	V100	5666067	C7792VXD09WA1.25Z3R3	V10, V13	5672846	C5505VX05CA.75/62R1	V114	5676767	RIQ06E1312 KC6105	K58
5655041	CXER0250NN4-E SP4060	P85	5666264	SDMT09T308EN41 MP91M	T100	5672847	C5505VX06CA.75R1.7	V114	5676768	RIQ06EGR00 KC6105	K59
5655043	CXER0500NN4-L SP4060	P85	5666376	ZDET16M516FR721 GH1	T130	5672848	C5505VX08CA1.00R2.2	V114	5676769	RIQ06EGR00 KC6305	K59
5655044	CXER1000NN4-C SP4060	P85	5666394	RPMT10T3M0E41X4 MP91M	V100	5672871	C5720VZ16-A2.00Z04R	T98	5676770	RIQ06EGR00 KC6005	K59
5655104	XELT160512ERD41 SC6525	V28	5666415	C7792VXE16CA2.00Z3R4	V25, V27	5672872	C5720VZ16-A2.50Z05R	T98	5676771	RIQ06EGR06 KC6005	K59
5655105	XPNT09T308EN423 SP6519	T129	5666519	RPHT10T3M0E422X8 X500	V99	5672885	C5720VZ16CA1.25Z3R3.0	T97	5676772	RIQ06E1312 KC6105	K59
5655109	XDWL120508SRD X500	V23	5666596	C7792VXD12CA1.25Z2R3	V18, V20	5672990	M-18-M10-CA.750-6.693 S	V32	5676773	RIQ06EGR12 KC6005	K59
5655128	RPHT10T3M0TX4 X500	V100	5667132	RPMT10T3M0E41X4 SP6519	V100	5672991	M-21-M12-CA1-6.142 S	V32	5676774	RIQ06EGR12 KC6105	K59
5655171	XPNT06062515FR SP6519	V115	5667399	RPMT1204M0E41X4 MP91M	V104	5672992	M-29-M16-CA1.25-6.3 S	V32	5676775	RIQ06EGR06 KC6305	K59
5655172	XDLT090412ERD41 X500	V15	5667400	RPMT1204M0TX4 MP91M	V105	5672993	M-29-M16-CA1.25-10.2 S	V32	5676776	RIQ06EGR00 KC6105	K59
5655210	CXER0500NN4-F SP4060	P85	5667404	C7792VXD12-A2.00Z4R	V19-20	5673041	C5230VSO9CA2.0Z04R4.0	T127	5676777	RIQ09EGR00 KC6305	K59
5655255	XDWL090408SRD SC6525	V16	5667476	C7792VXD12-A5.00Z8R	V19-20	5673042	C7713VR10-A2.50Z8R	V98	5676778	RIQ06EGR00 KC6005	K59
5655265	XPLT060308ERD41 SC6525	V7	5667487	A7792VXD12SA1.5Z3R1.7 S	V17, V20	5673043	A7713VR10SA1.25Z4R1.7	V97-98	5676779	RIQ06EGR06 KC6005	K59
5655474	XDLT090408ERD21 GH2	V14	5667498	ZDET16M530FR721 GH1	T100	5673044	C7713VR12-A2.00Z4R	V103	5676780	RIQ09EGR06 KC6105	K59
5655817	XELW160512SRD SC3025	V28	5667564	C7792VXD09CA1.00Z2R2	V11, V13	5673045	C7713VR12-A2.00Z6R	V103	5676781	RIQ06EGR06 KC6305	K59
5656081	XDWL090408SRD SC3025	V16	5667570	C7792VXE16-6.00Z12R	V26-27	5673046	C7713VR12-A2.50Z7R	V103	5676782	RIQ06EGR12 KC6005	K59
5656214	XDWL120508SRD SC3025	V23	5667588	C7792VXPO6CA.62Z2R5.5	V5-6	5673106	C5505VX12WA1.50R6.0	V112	5676783	RIQ09EGR12 KC6105	K59
5656242	RPEX10T3M0F701X4 GH1	V99	5667809	C7792VXD12-A2.50Z4R	V19-20	5673111	C5505VX16WA2.00R6.0 S	V112	5676784	RIQ06EGR06 KC6305	K59
5656252	XDLT120508ERD21 GH2	V21	5667832	C7792VXD09-A2.00Z5R	V12-13	5673142	C5505VX10CA1.25R2.2	V114	5676785	RIQ06EDR00 KC6105	K59
5656378	C7792VXD12-A4.00Z9R	V19-20	5667833	C7792VXD12-A4.00Z6R S	V19-20	5673175	C5720VZ16-A2.50Z04R	T98	5676786	RIQ06EDR00 KC6305	K59
5656381	RPMT10T3M0E41X4 X500	V100	5667922	ZDET16M525FR721 GH1	T100	5673176	C5230VSO9-A2.0Z4R2.0	T128	5676787	RIQ06EDR06 KC6005	K59
5656382	C7792VXD12-A2.00Z5R	V19-20	5667941	C7792VXE16-A4.00Z8R	V26-27	5673296	C5505VX06WA.750R2.0	V113	5676788	RIQ06EDR06 KC6005	K59
5656533	SDMT120412EN41 MP91M	T133	5667946	ZDET16M504FR721 GH1	T100	5673338	C5720VZ16-A3.00Z04R	T98	5676790	RIQ06EDR06 KC6105	K59
5656731	C7792VXD09-A1.50Z4R	V12-13	5667958	A7792VXPO6SA1.0Z3R1.4 S	V4, V6	5673343	FP2507T	V4-5	5676791	RIQ06EDR06 KC6305	K59
5656732	C7792VXD12-A2.50Z5R	V19-20	5668072	RPHT1204M0E442X4 X700	V105	5673344	TP15	V114	5676792	RIQ06EDR12 KC6005	K59
5656765	SDMT09T308EN41 X500	T130	5671362	#1/4-28X3/4SHCSA S	T98, V12, V98, V103	5673353	M-21-M12-CA1-7.126 S	V32	5676794	RIQ06EDR12 KC6105	K59
5656911	RPHT10T3M0E421X4 X700	V99	5671373	#3/4-16X1-3/4SHCSA S	V19, V26	5673499	C7713VR12CA1.25Z3R2.7	V102-103	5676795	RIQ06EDR12 KC6305	K59
5656915	C7792VXD12-6.00Z12R	V19-20	5671374	#3/8-24X1SHCSA S	T98, V12, V19, V98, V103	5673530	C5230VSO9-A2.0Z04R3.1	T128	5676796	RIQ06EDR06 KC6005	K59
5656917	RPMT10T3M0TX4 X500	V100	5671375	#5/8-18X1-1/2SHCSA S	T131, V19, V26	5673542	TP8	V111, V113-114	5676797	RIQ09EDR06 KC6105	K59
5656919	C7792VXD12-A3.00Z8R	V19-20	5671599	#1/2-20X1-1/4SHCSA S	T98, T128, T131, V19, V26, V103	5673544	T20 S	T131, V19-112	5676798	RIQ06EDR12 KC6105	K59
5657226	RPMT1204M0E41X4 X500	V104	5671642	TB15	V12, V19, V97-98, V102-103	5673546	T15 S	T127-128, V19-112, V17-19, V102-103, V111-112	5676799	RIQ06EDR12 KC6005	K59
5657237	C7792VXD12-A2.00Z3R	V19-20	5671687	#1/2-20X1-1/4 LHCSA S	V19, V26	5673548	DP5009A S	T96-99	5676800	RIQ09EDR12 KC6105	K59
5657271	SDMT120412EN41 X500	T133	5672329	D6014T S	V112	5673549	C5720VZ16CA1.25Z2R3.0	T97	5676801	RIQ06EDR12 KC6305	K59
5657681	RPHT1204M0E442X5 X500	V104	5672332	FP2506T	V4-5	5673588	M-21-M12-CA1-8.110 S	V32	5676802	A7792VXPO6SA1.25Z5R2 S	V4, V6
5657863	F3510T S	V9-12	5672365	SB3230	T131	5673595	C5505VX08WA1.00R2.37	V112	5681117	C7792VXPO6CA1.25Z5FR8	V5-6
5657877	D6018S S	V112	5672367	SB3413	T128	5673597	C7713VR10-A1.50Z05R	V98	5681118	C5720VZ16-A1.50Z03R	T98
5658075	C7792VXD09WA1.00Z2R	V10, V13	5672374	D4008T S	V97-98, V102-103	5673698	A7713VR12SA1.50Z5R1.7	V102-103	5682154	ZDET16M500FR721 GH1	T100
5658170	C7792VXD09-A1.50Z5R	V12-13	5672375	D4010T S	V17-19, V103, V111-112, V114	5673699	A5505VX05CA.750R1.377	V111	5682563	RPEX1204M0F701X4 GH1	V104
5658171	C7792VXD12-A5.00Z11R	V19-20	5672376	D5013T S	V111-112, V114	5673633	C5505VX05CA.62R1.6	V114	5682757	TB20	V26
5658324	RPHT1204M0E442X5 SP6519	V104	5672378	F4011T S	T131	5673704	M-13-M8-CA.625-3.543 S	V32	5682897	NLW-0.375 S	T128, T131
5658507	C7792VXPO6CA.75Z3R6.1	V5-6	5672381	T9 S	T127-128, T131	5673705	M-13-M8-CA.625-4.31 S	V32	5684657	LNP4542SRGE KCPM40	V10
5658650	ZDET16M540ER721 GH1	T100	5672387	D4012T S	V19	5673706	M-29-M16-CA1.25-12.2 S	V32	5684744	RNGN43TGN KYSP30	T150
5659264	RPMT1204M0E442X4 SP6519	V105	5672400	FP3007T S	V111, V114	5673709	C5505VX10WA1.25R4.0	V112	5684745	RNGN43EGN KYSP30	V150
5659355	SDMW120412TN SP6519	T133	5672405	TP20	T96-99, V25-26	5673710	A5505VX05CA.625R1.0	V111	5684746	RNGN43TGN KYSP30	V150
5659561	RPHT1204M0E442X5 X700	V104	5672409	D4007T S	V97	5673745	C5720VZ16-A3.00Z05R	T98	5684747	RNGN43EGN KYSP30	V150
5659562	RPHT10T3M0E422X8 X700	V99	5672410	NLW12SP	T131	5673747	C5230VSO12-A3.0Z5R2.56	T131	5684948	DFSP250R5WD32M	J30-31
5659564	C7792VXE16CA1.50Z2R4	V25	5672412	SB3232	T131	5673766	C7713VR12-A1.50Z5R	V103	5684949	DFSP260R5WD32M	J30
5659603	ZDET16M525ER721 GH1	T100	5672414	FP3006T	V111, V114	5673767	A7713VR12SA1.50Z4R1.7	V102	5689500	DFSP265R5WD32M	J30
5659736	C7792VXD12-6.30Z28R	V19-20	5672415	TP7	V4-5	5673786	C5505VX06CA1.75R1.5	V114	5689501	DFSP270R5WD32M	J30
5659840	A7792VXD09SA1.0Z2R1.4 S	V9, V13	5672416	SB3621	T128	5673797	C5230VSO12-A2.5Z4R2.24	T131	5689502	DFSP280R5WD32M	J30
5659867	RPHT10T3M0E422X4 SP6519	V99	5672469	M-13-M8-CA.625-5.118 S	V32	5673799	C5720VZ16-A2.00Z03R	T98	5689503	DFSP290R5WD32M	J30
5659912	ZDET16M520FR721 GH1	T100	5672470	M-18-M10-CA.750-4.331 S	V32	5673826	C7713VR12-A1.50Z4R	V103	5689504	DFSP300R5WD32M	J30
5659913	ZDET16M522FR721 GH1	T100	5672471	M-21-M12-CA1-9.094 S	V32	5673827	C7713VR12-A2.50Z6R	V103	5689505	DFSP310R5WD32M	J30
5659929	A7792VXD12SA1.25Z2R2 S	V17, V20	5672481	C5230VSO12-A2.5Z4R3.70	T131	5673899	F3508T S	T127-128, V9-11	5689506	DFSP320R5WD32M	J30-31
5659948	C7792VXD09CA1.25Z3R3	V11, V13	5672512	A5720VZ16SA1.00Z2R2	T96	5674437	RPHT1204M0E442X5 SC6525	V104	5689507	DFSP330R5WD32M	J30
5660042	RPMT1204M0TX4 SP6519	V105	5672521	A5720VZ16SA1.25Z3R2	T96	5674698	RPMT1204M0E432X5 SC6525	V106	5689508	DFSP340R5WD32M	J30
5660060	A7792VXPO6SA.75Z2R1.4 S	V4, V6	5672623	C7713VR12CA1.00Z2R2.0	V102-103	5674780	RPHT1204M0E442X8 SC6525	V105	5689509	DFSP350R5WD32M	J30
5660351	RPHT1204M0E442X4 X500	V105	5672624	A7713VR12SA1.00Z2R1.4	V102-103	5674803	RPMT1204M0E432X5 X700	V106	5689510	DFSP360R5WD32M	J30
5660449	A7792VXD09SA1.25Z3R2 S	V9, V13	5672718	C5720VZ16CA1.0Z02R2.7	T97	5674959	RPMT1204M0E432X8 X500	V106	5689511	DFSP370R5WD32M	J30
5660462	RPHT10T3M0E422X4 X500	V99	5672719	A5720VZ16SA1.25Z02R2	T96	5675037	RPMT1204M0E432X5 SP6519	V106	5689512	DFSP375R5WD32M	J30
5660778	RPHT10T3M0E422X8 SP6519	V99	5672766	C5720VZ16H0A032Z3R75	T99	5675038	RPMT1204M0E432X5 X500	V106	56895		

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5689535	DFSP500R5WD40M	J30	5689813	T672NC#06-32R2B-DA KSMN34	M20	5689901	T682M100X150R6H-DA KSMN34	M70	5691839	DFSP1313R2SSF125	J32
5689536	DFSP510R5WD40M	J30	5689814	T672NC#08-32R2B-DA KSMN34	M20	5689902	T682M120X125R6H-DA KSMN34	M70	5691840	DFSP1313R2SSF150	J32
5689537	DFSP140R2WD20M	J24	5689815	T672NC#10-24R2B-DA KSMN34	M20	5689903	T682M120X150R6H-DA KSMN34	M70	5691841	DFSP1375R2SSF125	J32
5689538	DFSP520R5WD40M	J30	5689816	T672NF#10-32R2B-DA KSMN34	M20	5689904	T682M120X175R6H-DA KSMN34	M70	5691842	DFSP1375R2SSF150	J32
5689539	DFSP145R2WD20M	J24	5689817	T672NC02500-20R3B-DA KSMN34	M20	5689905	DFSP200R5WD32M	J30	5691843	DFSP1438R2SSF125	J32
5689540	DFSP530R5WD40M	J30	5689818	T672NC02500-20R2B-DA KSMN34	M20	5689906	DFSP210R5WD32M	J30-31	5691844	DFSP1469R2SSF125	J32
5689541	DFSP150R2WD20M	J24	5689819	T672NF02500-28R3B-DA KSMN34	M20	5689907	DFSP220R5WD32M	J30	5691845	DFSP1563R2SSF125	J32
5689542	DFSP540R5WD40M	J30	5689820	T672NF02500-28R2B-DA KSMN34	M20	5689908	DFSP230R5WD32M	J30	5691846	DFSP1500R2SSF150	J32
5689543	DFSP155R2WD20M	J24	5689821	T672NC03125-18R3B-DA KSMN34	M20	5689909	DFSP0813R5SSF100	J38	5691847	DFSP1563R2SSF125	J32
5689544	DFSP550R5WD50M	J30-31	5689822	DFSP0750R4SSF100	J36	5689910	DFSP0844R5SSF100	J38-39	5691848	DFSP1563R2SSF150	J32-33
5689545	DFSP160R2WD20M	J24	5689823	T672NC03125-18R2B-DA KSMN34	M20	5689911	DFSP0875R5SSF100	J38	5691849	DFSP1625R2SSF125	J32
5689546	DFSP165R2WD32M	J24	5689824	T672NF03125-24R3B-DA KSMN34	M20	5689912	DFSP0906R5SSF100	J38	5691850	DFSP1625R2SSF150	J32
5689548	DFSP170R2WD32M	J24-25	5689825	DFSP0781R4SSF100	J36	5689913	DFSP0938R5SSF100	J38	5691851	DFSP1625R2SSF150	J32
5689549	DFSP175R2WD32M	J24	5689826	T672NF03125-24R2B-DA KSMN34	M20	5689914	DFSP0969R5SSF100	J38	5691852	DFSP1688R2SSF150	J32-33
5689550	DFSP180R2WD32M	J24	5689827	DFSP0813R4SSF100	J36	5689915	DFSP0984R5SSF100	J38	5691853	DFSP1750R2SSF150	J32
5689551	DFSP203R2WD32M	J24	5689828	T672NC03750-16R3B-DA KSMN34	M20	5689916	T686NF03125-24R3B-DA KSMN34	M71	5691854	DFSP1813R2SSF150	J32
5689552	DFSP190R2WD32M	J24	5689829	DFSP0844R4SSF100	J36-37	5689917	T686NC#04-40R3B-DA KSMN34	M71	5691855	DFSP1875R2SSF150	J32-33
5689553	DFSP195R2WD32M	J24	5689830	T672NC03750-16R2B-DA KSMN34	M20	5689918	T686NC#06-32R2B-DA KSMN34	M71	5691856	DFSP1938R2SSF150	J32
5689554	DFSP200R2WD32M	J24	5689831	DFSP0875R4SSF100	J36	5689919	T686NC#08-32R2B-DA KSMN34	M71	5691857	DFSP1938R2SSF150	J32
5689555	DFSP210R2WD32M	J24-25	5689832	T672NF03750-24R3B-DA KSMN34	M20	5689980	T686NC#10-24R2B-DA KSMN34	M71	5691858	DFSP2000R2SSF200	J32
5689556	DFSP220R2WD32M	J24	5689833	DFSP0906R4SSF100	J36	5689981	T686NF#10-32R2B-DA KSMN34	M71	5691859	DFSP2125R2SSF150	J32
5689557	DFSP230R2WD32M	J24	5689834	T672NF03750-24R2B-DA KSMN34	M20	5689982	T686NC02500-20R3B-DA KSMN34	M71	5691860	DFSP2125R2SSF200	J32-33
5689602	DFSP0563R2SSF075	J32	5689835	DFSP0938R4SSF100	J36	5689983	T686NF02500-28R3B-DA KSMN34	M71	5691861	DFSP240R3WD32M	J26
5689603	DFSP0594R2SSF075	J32	5689836	T672NC04375-14R3B-DA KSMN34	M20	5689984	T686NC03125-18R3B-DA KSMN34	M71	5691862	DFSP250R3WD32M	J26-27
5689604	DFSP0625R2SSF075	J32	5689837	DFSP0969R4SSF100	J36	5689985	T686NF03125-24R3B-DA KSMN34	M71	5691863	DFSP260R3WD32M	J26
5689605	DFSP0656R2SSF075	J32	5689838	DFSP0984R4SSF100	J36	5689986	T686NC03750-16R3B-DA KSMN34	M71	5691864	DFSP265R3WD32M	J26
5689606	DFSP0688R2SSF075	J32-33	5689839	T672NC04375-14R2B-DA KSMN34	M20	5689987	T686NF03750-24R3B-DA KSMN34	M71	5691865	DFSP270R3WD32M	J26
5689607	DFSP0703R2SSF075	J32	5689840	T672NF04375-20R3B-DA KSMN34	M20	5689988	T686NC#03125-14R3B-DA KSMN34	M71	5691866	DFSP280R3WD32M	J26
5689608	DFSP0734R2SSF075	J32	5689841	T672NF04375-20R2B-DA KSMN34	M20	5689989	T686NF04375-20R3B-DA KSMN34	M71	5691867	DFSP290R3WD32M	J26
5689609	DFSP0750R2SSF100	J32	5689842	T672NC05000-13R3B-DA KSMN34	M20	5689990	T686NC05000-13R3B-DA KSMN34	M71	5691868	DFSP300R3WD32M	J26
5689620	DFSP0781R2SSF100	J32	5689843	T672NC05000-13R2B-DA KSMN34	M20	5689991	T686NF05000-20R3B-DA KSMN34	M71	5691869	DFSP310R3WD32M	J26
5689621	DFSP0813R2SSF100	J32	5689844	T672NF05000-20R3B-DA KSMN34	M20	5689992	T686M030X050R6H-DA KSMN34	M72	5691870	DFSP320R3WD32M	J26-27
5689622	DFSP0844R2SSF100	J32-33	5689845	T672NF05000-20R2B-DA KSMN34	M20	5689993	T686M040X070R6H-DA KSMN34	M72	5691871	DFSP330R3WD32M	J26
5689623	DFSP0875R2SSF100	J32	5689846	T672M030X050R6H-DA KSMN34	M21	5689994	T686M050X080R6H-DA KSMN34	M72	5691872	DFSP340R3WD32M	J26
5689624	DFSP0906R2SSF100	J32	5689847	T672M035X060R6H-DA KSMN34	M21	5689995	T686M060X100R6H-DA KSMN34	M72	5691873	DFSP350R3WD32M	J26
5689625	DFSP0938R2SSF100	J32	5689848	T672M040X070R6H-DA KSMN34	M21	5689996	T686M080X125R6H-DA KSMN34	M72	5691874	DFSP360R3WD32M	J26
5689626	DFSP0969R2SSF100	J32	5689849	T672M050X080R6H-DA KSMN34	M21	5689997	T686M100X150R6H-DA KSMN34	M72	5691875	DFSP370R3WD32M	J26
5689627	DFSP0984R2SSF100	J32	5689850	T672M060X100R6H-DA KSMN34	M21	5689998	T686M120X150R6H-DA KSMN34	M72	5691876	DFSP375R3WD32M	J26
5689630	DFSP140R3WD20M	J26	5689851	T672M070X100R6H-DA KSMN34	M21	5691735	DFSP1000R3SSF100	J34	5691877	DFSP380R3WD32M	J26
5689631	DFSP145R3WD20M	J26	5689852	T672M080X100R6H-DA KSMN34	M21	5691736	DFSP1000R3SSF125	J34	5691878	DFSP1400R3WD32M	J26
5689632	DFSP150R3WD20M	J26	5689853	T672M080X125R6H-DA KSMN34	M21	5691737	DFSP1000R3SSF150	J34-35	5691879	DFSP400R3WD32M	J26-27
5689633	DFSP155R3WD20M	J26	5689856	T672M100X125R6H-DA KSMN34	M21	5691738	DFSP1031R3SSF125	J34	5691880	DFSP410R3WD32M	J26
5689634	DFSP160R3WD20M	J26	5689857	T672M100X150R6H-DA KSMN34	M21	5691739	DFSP1063R3SSF125	J34	5691881	DFSP420R3WD32M	J26
5689635	DFSP165R3WD32M	J26	5689858	T672M120X125R6H-DA KSMN34	M21	5691790	DFSP1094R3SSF125	J34	5691882	DFSP430R3WD32M	J27
5689636	DFSP170R3WD32M	J26-27	5689859	T672M120X150R6H-DA KSMN34	M21	5691791	DFSP1125R3SSF125	J34	5691883	DFSP440R3WD32M	J27
5689637	DFSP175R3WD32M	J26	5689860	T672M120X175R6H-DA KSMN34	M21	5691792	DFSP1156R3SSF125	J34	5691884	DFSP450R3WD40M	J27
5689638	DFSP180R3WD32M	J26	5689863	T682NC#02-56R2B-DA KSMN34	M69	5691793	DFSP1188R3SSF125	J34	5691885	DFSP460R3WD40M	J27
5689639	DFSP185R3WD32M	J26	5689864	T682NC#04-40R3B-DA KSMN34	M69	5691794	DFSP1219R3SSF125	J34	5691886	DFSP470R3WD40M	J27
5689640	DFSP190R3WD32M	J26	5689865	T682NC#05-40R3B-DA KSMN34	M69	5691795	DFSP1250R3SSF125	J34	5691887	DFSP480R3WD40M	J27
5689641	DFSP195R3WD32M	J26	5689866	T682NC#06-32R2B-DA KSMN34	M69	5691796	DFSP1281R3SSF125	J34-35	5691888	DFSP490R3WD40M	J27
5689642	DFSP200R3WD32M	J26	5689867	T682NC#08-32R2B-DA KSMN34	M69	5691797	DFSP1313R3SSF125	J34	5691889	DFSP500R3WD40M	J27
5689643	DFSP210R3WD32M	J26-27	5689869	T682NC#10-24R2B-DA KSMN34	M69	5691798	DFSP1313R3SSF150	J34	5691897	DFSP1000R4SSF100	J36
5689644	DFSP220R3WD32M	J26	5689870	T682NF#10-32R2B-DA KSMN34	M69	5691799	DFSP1375R3SSF125	J34	5691898	DFSP1000R4SSF125	J36
5689645	DFSP230R3WD32M	J26	5689871	T682NC02500-20R3B-DA KSMN34	M69	5691800	DFSP1375R3SSF150	J34	5691899	DFSP1000R4SSF150	J36-37
5689646	DFSP0563R3SSF075	J34	5689872	T682NC02500-20R2B-DA KSMN34	M69	5691801	DFSP1438R3SSF125	J34	5691900	DFSP056R3WD40M	J27
5689647	DFSP0594R3SSF075	J34	5689873	T682NF02500-28R3B-DA KSMN34	M69	5691802	DFSP1469R3SSF125	J34	5691901	DFSP510R3WD40M	J27
5689648	DFSP0625R3SSF075	J34	5689874	T682NF02500-28R2B-DA KSMN34	M69	5691803	DFSP1469R3SSF150	J34	5691902	DFSP1000R3WD40M	J27
5689649	DFSP0656R3SSF075	J34	5689876	T682NC03125-18R3B-DA KSMN34	M69	5691804	DFSP1500R3SSF150	J34	5691903	DFSP530R3WD40M	J27
5689670	DFSP0688R3SSF075	J34-35	5689877	T682NC03125-18R2B-DA KSMN34	M69	5691805	DFSP1563R3SSF150	J34-35	5691904	DFSP540R3WD40M	J27
5689671	DFSP0703R3SSF075	J34	5689878	T682NF03125-24R3B-DA KSMN34	M69	5691806	DFSP1563R3SSF125	J34	5691905	DFSP550R3WD50M	J27
5689672	DFSP0734R3SSF075	J34	5689879	T682NF03125-24R2B-DA KSMN34	M69	5691807	DFSP1625R3SSF150	J34	5692150	DFSP1031R4SSF125	J36
5689673	DFSP0750R3SSF100	J34	5689880	T682NC03750-16R3B-DA KSMN34	M69	5691808	DFSP1656R3SSF150	J34	5692151	DFSP1063R4SSF125	J36
5689674	DFSP0781R3SSF100	J34	5689881	T682NC03750-16R2B-DA KSMN34	M69	5691809	DFSP1688R3SSF150	J34-35	5692152	DFSP1094R4SSF125	J36
5689675	DFSP0813R3SSF100	J34	5689882	T682NF03750-24R3B-DA KSMN34	M69	5691810	DFSP1750R3SSF150	J34	5692153	DFSP1125R4SSF125	J36
5689676	DFSP0844R3SSF100	J34-35	5689883	T682NF03750-24R2B-DA KSMN34	M69	5691811	DFSP1813R3SSF150	J34	5692154	DFSP1156R4SSF125	J36
5689677	DFSP0875R3SSF100	J34	5689884	T682NC04375-14R3B-DA KSMN34	M69	5691812	DFSP1813R3SSF125	J34-35	5692156	DFSP1188R4SSF125	J36
5689678	DFSP0906R3SSF100	J34	5689885	T682NC04375-14R2B-DA KSMN34	M69	5691813	DFSP1938R3SSF150	J34	5692157	DFSP1219R4SSF125	J36
5689679	DFSP0938R3SSF100	J34	5689886	T682NF04375-20R3B-DA KSMN34	M69	5691814	DFSP2000R3SSF150	J34	5692158	DFSP1250R4SSF125	J36
5689680	DFSP0969R3SSF100	J34	5689887	T682NF04375-20R2B-DA KSMN34	M69	5691815	DFSP2000R3SSF200	J34	5692159	DFSP1250R4SSF150	J36-37
5689681	DFSP0984R3SSF100	J34	5689888	T682NC05000-13R3B-DA KSMN34	M69	5691816	DFSP2125R3SSF150	J34	5692200	DFSP1313R4SSF125	J36
5689684	DFSP175R4WD32M	J28	5689889	T682NC05000-13R2B-DA KSMN34	M69	5691817	DFSP2125R3SSF200	J34-35	5692201	DFSP1375R4SSF125	J36
5689685	DFSP180R4WD32M	J28	5689890	T682NF05000-20R3B-DA KSMN34	M69	5691818	DFSP2125R3SSF100	J32	5692202	DFSP1375R4SSF150	J36
5689686	DFSP185R4WD32M	J28	5689891	T682NF05000-20R2B-DA KSMN34	M69	5691819	DFSP2100R2SSF125	J32	5692203	DFSP1406R4SSF150	J36
5689687	DFSP190R4WD32M	J28	5689892	T682M030X050R6H-DA KSMN34	M70	5691830	DFSP2100R2SSF150	J32-33	5692204	DFSP1438R4SSF125	J36
5689688	DFSP195R4WD32M	J28	5689893	T682M035X060R6H-DA KSMN34	M70	5691831	DFSP2100R2SSF125	J32	5692205	DFSP1469R4SSF125	J36
5689689	DFSP200R4WD32M	J28	5689894	T682M040X070R6H-DA KSMN34	M70	5691832	DFSP2100R2				



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5692214	DFSP1938R4SSF150	J36	5692394	DFSP1188R5SSF125	J38	5694171	RCMX1003MORP KCP25B	B242	5697179	TNMG433RN KCP10B	B126
5692215	DFSP200R4SSF150	J36	5692395	DFSP1219R5SSF125	J38	5694172	SNMM856RW KCP25B	B107	5697180	TNMG433RN KCP10B	B126
5692216	DFSP200R4SSF150	J36	5692396	DFSP1250R5SSF125	J38	5694175	CNMM866RW KCP25B	B56	5697181	TNMG666RN KCP10B	B126
5692217	DFSP2125R4SSF150	J36	5692397	DFSP1250R5SSF150	J38-39	5694176	TNMM666MR KCP25B	B128	5697183	TPMT2151LF KCP10B	B268
5692218	DFSP2125R4SSF200	J36-37	5692398	DFSP1313R5SSF125	J38	5694202	170.370	J25, J27, J33, J35	5697184	TPMT3251LF KCP10B	B268
5692238	DFSP240R4WD32M	J28	5692399	DFSP1375R5SSF125	J38	5694627	RCMT1204MORP KCP10B	B242	5697185	VNMG331FF KCP10B	B146
5692239	DFSP250R4WD32M	J28-29	5692400	DFSP1375R5SSF150	J38	5694628	RCMX1003MORP KCP10B	B242	5697186	VNMG331MN KCP10B	B146
5692271	DFSP260R4WD32M	J28	5692401	DFSP1438R5SSF125	J38	5694629	SNMM856RH KCP10B	B106	5697187	VNMG332RN KCP10B	B148
5692272	DFSP265R4WD32M	J28	5692402	DFSP1500R5SSF125	J38	5694673	SNMM866RH KCP10B	B106	5697188	VNMG432RN KCP10B	B148
5692273	DFSP270R4WD32M	J28	5692403	DFSP1500R5SSF150	J38	5694866	CNMG431UN KCK15B	B54	5697189	VNMG331K KCP10B	B149
5692274	DFSP280R4WD32M	J28	5692404	DFSP1563R5SSF150	J38-39	5694867	CNMG542UN KCK15B	B54	5697202	VNMG332MN KCP10B	B159
5692275	DFSP290R4WD32M	J28	5692405	DFSP1625R5SSF150	J38	5694872	CNMG543UN KCK15B	B54	5697203	VNMG332RP KCP10B	B161
5692277	DFSP300R4WD32M	J28	5692406	DFSP1656R5SSF150	J38-39	5694873	CNMG543UN KCK15B	B54	5697204	VNMG433FW KCP10B	B158
5692278	DFSP310R4WD32M	J28	5692407	DFSP1750R5SSF150	J38	5694871	CNMG643UN KCK15B	B54	5697910	CCMT2151MF KCP10B	B191
5692279	DFSP320R4WD32M	J28-29	5692408	DFSP1813R5SSF150	J38	5694872	DNMG333UN KCK15B	B84	5697912	CCMT3251MF KCP10B	B191
5692291	DFSP330R4WD32M	J28	5692409	DFSP1875R5SSF150	J38-39	5694873	DNMG442UN KCK15B	B84	5697914	CCMT3252UF KCP10B	B192
5692292	DFSP340R4WD32M	J28	5692420	DFSP1938R5SSF150	J38	5694874	DNMG442UN KCK15B	B84	5697917	CNMG322MN KCP10B	B50
5692294	DFSP350R4WD32M	J28	5692421	DFSP200R5SSF150	J38	5694875	DNMG443UN KCK15B	B84	5697919	CNMG431FW KCP10B	B49
5692295	DFSP360R4WD32M	J28	5692422	DFSP200R5SSF200	J38	5694876	SNMG543UN KCK15B	B106	5697921	CNMG431MN KCP10B	B50
5692296	DFSP370R4WD32M	J28	5692423	DFSP2125R5SSF150	J38	5694877	SNMG543UN KCK15B	B106	5697923	CNMG432FW KCP10B	B49
5692298	DFSP375R4WD32M	J28	5692424	DFSP2125R5SSF200	J38-39	5694882	VNMG332UN KCK15B	B148	5697925	CNMG433FW KCP10B	B49
5692299	DFSP380R4WD32M	J28	5692727	SPGX050204HP KCU25	J103	5694878	VNMG333UN KCK15B	B162	5697927	VNMG433FW KCP10B	B52
5692300	DFSP390R4WD32M	J28	5692728	SPGX050204MD KCU25	J103	5696853	TNMP331K KCP25B	B129	5697929	CNMG434MN KCP10B	B50
5692302	DFSP400R4WD32M	J28-29	5692729	SPGX050204HP KCU40	J103	5696854	TNMP332K KCP25B	B129	5697931	CNMG542MN KCP10B	B50
5692303	DFSP410R4WD32M	J28	5692800	SPGX050204MD KCU40	J103	5696855	TNMP432K KCP25B	B129	5697933	CNMG433FW KCP10B	B53
5692304	DFSP420R4WD32M	J29	5692801	SPGX050204HP KCU7140	J103	5696856	TPMT2151LF KCP25B	B268	5697935	CNMG544MN KCP10B	B50
5692305	DFSP430R4WD32M	J29	5692802	SPGX050204MD KCU7140	J103	5696857	TPMT3251LF KCP25B	B268	5697937	CNMG642RN KCP10B	B53
5692306	DFSP440R4WD32M	J29	5692803	DFTX20204HP KCU25	J101	5696858	VNMG332UN KCK15B	B268	5697939	CNMG433RP KCP10B	B53
5692307	DFSP450R4WD40M	J29	5692804	DFTX20204MD KCU25	J101	5696930	VNMG331MN KCP25B	B146	5697941	CNMP431K KCP10B	B57
5692308	DFSP460R4WD40M	J29	5692805	DFTX20204HP KCU40	J101	5696931	VNMG332RN KCP25B	B148	5697943	CNMP432K KCP10B	B57
5692309	DFSP470R4WD40M	J29	5692806	DFTX20204MD KCU40	J101	5696932	VNMG333RN KCP25B	B148	5697945	CPMG3251 KCP10B	B205
5692310	DFSP480R4WD40M	J29	5692807	DFTX20204HP KCU7140	J101	5696933	VNMG432RN KCP25B	B148	5697947	CPMG3252 KCP10B	B205
5692311	DFSP490R4WD40M	J29	5692808	DFTX20204MD KCU7140	J101	5696935	VNMG332MN KCP25B	B159	5697949	CPMT3251LF KCP10B	B207
5692312	DFSP500R4WD40M	J29	5692809	SPHX060204R21 KCU25	J116	5696936	VNMG432MP KCP25B	B159	5697953	DCMT2151LF KCP10B	B225
5692313	DFSP510R4WD40M	J29	5692810	SPHX070304R21 KCU25	J116	5696937	WPMT3252LF KCP25B	B288	5697956	DCMT3251MF KCP10B	B226
5692314	DFSP520R4WD40M	J29	5692811	SPHX090304R21 KCU25	J116	5696938	CNMG646MN KCP25B	B50	5697958	DCMT3252UF KCP10B	B226
5692315	DFSP530R4WD40M	J29	5692812	SPHX090308R21 KCU25	J116	5696939	CNMG642RN KCP25B	B105	5697960	DCMT3253LF KCP10B	B225
5692316	DFSP540R4WD40M	J29	5692813	SPHX120404R21 KCU25	J116	5696940	CNMP432 KCP25B	B56	5697962	VNMG331MN KCP10B	B81
5692317	DFSP550R4WD50M	J29	5694055	CCMT2151MF KCP25B	B191	5696941	VNMG432LF KCP25B	B145	5697964	DNMG332FW KCP10B	B80
5692319	DFSP240R2WD32M	J24	5694056	CCMT2151UF KCP25B	B192	5696942	VNMG431LF KCP25B	B145	5697965	DNMG332MN KCP10B	B81
5692320	DFSP250R2WD32M	J24-25	5694057	CCMT2152LF KCP25B	B191	5697010	CCMT2151LF KCP10B	B191	5697967	DNMG432MW KCP10B	B82
5692321	DFSP260R2WD32M	J24	5694058	CCMT3251MF KCP25B	B191	5697011	CCMT432LF KCP10B	B191	5697968	DNMG432RP KCP10B	B84
5692322	DFSP265R2WD32M	J24	5694059	CCMT433MF KCP25B	B191	5697012	CNMM644RP KCP10B	B56	5697969	DNMG433CT KCP10B	B79
5692323	DFSP270R2WD32M	J24	5694080	CNMG321MN KCP25B	B50	5697013	CNMM544RN KCP10B	B55	5697970	DNMG441MN KCP10B	B81
5692324	DFSP280R2WD32M	J24	5694081	CNMG322MN KCP25B	B50	5697014	CNMM644RH KCP10B	B55	5697971	DNMG442MW KCP10B	B82
5692325	DFSP290R2WD32M	J24	5694082	CNMG431MN KCP25B	B50	5697015	CNMM644RP KCP10B	B56	5697972	DNMG442RN KCP10B	B83
5692326	DFSP300R2WD32M	J24	5694083	CNMG431RP KCP25B	B53	5697016	CNMM646RH KCP10B	B56	5697973	DNMG443MW KCP10B	B82
5692327	DFSP310R2WD32M	J24	5694084	CNMG433MW KCP25B	B52	5697017	CNMM646RW KCP10B	B56	5697974	DNMG542RN KCP10B	B83
5692329	DFSP320R2WD32M	J24-25	5694085	CNMG434MN KCP25B	B50	5697018	CPMT2151LF KCP10B	B207	5697976	DNMG543RN KCP10B	B83
5692330	DFSP330R2WD32M	J24	5694086	CNMG434MN KCP25B	B50	5697019	DCMT3251LF KCP10B	B225	5697978	DNMP432K KCP10B	B86
5692331	DFSP340R2WD32M	J24	5694087	CNMG542MN KCP25B	B50	5697020	DNMG332FN KCP10B	B79	5697979	DNMP433K KCP10B	B86
5692332	DFSP350R2WD32M	J24	5694088	CNMG542RP KCP25B	B53	5697021	DNMG431FN KCP10B	B79	5697980	DNMP442K KCP10B	B86
5692333	DFSP360R2WD32M	J24	5694089	CNMG642MN KCP25B	B50	5697022	DNMG432FF KCP10B	B79	5697981	DPMT2151LF KCP10B	B232
5692334	DFSP370R2WD32M	J24	5694090	CNMG642RN KCP25B	B53	5697023	DNMG433FN KCP10B	B79	5697982	DPMT3251LF KCP10B	B232
5692335	DFSP375R2WD32M	J24	5694092	CNMG643RP KCP25B	B53	5697027	SNMG432FN KCP10B	B101	5698082	RNMG544RN KCP25B	B97
5692336	DFSP380R2WD32M	J24	5694093	CNMG644RP KCP25B	B53	5697029	TNMG331FN KCP10B	B123	5698083	RNMG64RN KCP25B	B97
5692337	DFSP390R2WD32M	J24	5694094	CNMG646RN KCP25B	B53	5697030	TNMG332RP KCP10B	B127	5698084	RCMT432LF KCP25B	B246
5692338	DFSP400R2WD32M	J24-25	5694095	CNMP431K KCP25B	B57	5697031	TNMG433FN KCP10B	B123	5698085	SNMG431MN KCP25B	B102
5692339	DFSP410R2WD32M	J24	5694096	CNMP432K KCP25B	B57	5697032	TNMM432RP KCP10B	B129	5698086	SNMG432MN KCP25B	B102
5692340	DFSP420R2WD32M	J25	5694097	CPMG3252 KCP25B	B205	5697034	TPMT18151LF KCP10B	B268	5698088	CNMG434MN KCP25B	B102
5692341	DFSP430R2WD32M	J25	5694098	CPMT2152LF KCP25B	B207	5697035	VNMG331FN KCP10B	B146	5698089	SNMG544MN KCP25B	B102
5692342	DFSP440R2WD32M	J25	5694100	CPMT2152MF KCP25B	B207	5697036	VNMG431FN KCP10B	B157	5698110	SNMG544RN KCP25B	B105
5692343	DFSP450R2WD40M	J25	5694101	CPMT3251LF KCP25B	B207	5697037	VNMG432FN KCP10B	B157	5698111	SNMG643MN KCP25B	B102
5692344	DFSP460R2WD40M	J25	5694102	DCMT2151LF KCP25B	B225	5697119	RCMT43 KCP10B	B240	5698112	SNMG643RN KCP25B	B105
5692345	DFSP470R2WD40M	J25	5694103	DCMT3251MF KCP25B	B226	5697160	SCMT432LF KCP10B	B246	5698113	SNMG643RP KCP25B	B105
5692346	DFSP480R2WD40M	J25	5694104	DCMT431LF KCP25B	B225	5697161	SNMG432MN KCP10B	B102	5698116	SPMT3252MF KCP25B	B253
5692347	DFSP490R2WD40M	J25	5694105	DCMT432LF KCP25B	B225	5697163	SNMG544RP KCP10B	B105	5698117	TCMT2151LF KCP25B	B257
5692348	DFSP500R2WD40M	J25	5694106	DNMG331MN KCP25B	B81	5697164	SNMG643RN KCP10B	B105	5698118	TCMT2152LF KCP25B	B257
5692349	DFSP505R2WD40M	J25	5694107	DNMG332MN KCP25B	B81	5697165	SPMT3251UF KCP10B	B253	5698119	TCMT2152MF KCP25B	B258
5692350	DFSP510R2WD40M	J25	5694108	DNMG332RP KCP25B	B84	5697166	TCMT2151LF KCP10B	B257	5698120	TCMT3251LF KCP25B	B257
5692351	DFSP520R2WD40M	J25	5694109	DNMG333RP KCP25B	B84	5697167	TCMT3251UF KCP10B	B257	5698121	TCMT3252LF KCP25B	B257
5692352	DFSP530R2WD40M	J25	5694120	DNMG431MN KCP25B	B81	5697168	TCMT3252LF KCP10B	B257	5698122	TCMT3252MF KCP25B	B258
5692353	DFSP540R2WD40M	J25	5694121	DNMG432RP KCP25B	B84	5697169	TCMT432LF KCP10B	B257	5698123	TCMT3253MF KCP25B	B258
5692354	DFSP550R2WD50M	J25	5694122	DNMG441MN KCP25B	B81	5697170	TNMG331MN KCP10B	B124	5698124	TCMT432LF KCP25B	B257
5692355	DFSP100R5SSF100	J38	5694123	DNMG442RN KCP25B	B83	5697171	TNMG332FN KCP10B				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5698134	TNMG433RN KCP25B	B126	5698772	CPMT3252LF KCK15B	B207	5705119	T694NF03750-24RH4-A KSS29	M65	5705858	T690NC#04-40RH4-A KSS29	M15
5698135	TNMG433RP KCP25B	B127	5698773	CPMT3252MF KCK15B	B207	5705120	T694NC03125-18RH3-A KSS29	M65	5705859	T690NF#04-48RH2-A KSS29	M15
5698136	TNMG433RP KCP25B	B127	5698775	DCMT2151LF KCK15B	B225	5705121	T694NC03125-18RH3-A KSP27	M65	5705860	T690NF#04-48RH2-A KSP27	M15
5698137	TNMG542RN KCP25B	B126	5698777	DNMG432FN KCK15B	B80	5705122	T694NF03125-24RH3-A KSS29	M65	5705861	T690NC#05-40RH2-A KSS29	M15
5698139	TNMG544RN KCP25B	B126	5698778	DNMG442RP KCK15B	B84	5705123	T694NF03125-24RH3-A KSP27	M65	5705862	T690NC#05-40RH2-A KSP27	M15
5698140	TNMG544RP KCP25B	B127	5698781	SCMT3251LF KCK15B	B246	5705124	T694NF03125-24RH4-A KSS29	M65	5705863	T690NC#06-32RH3-A KSS29	M15
5698141	TNMG666RN KCP25B	B126	5698782	SCMT432LF KCK15B	B246	5705125	T694NF06250-11RH3-A KSS29	M65	5705864	T690NC#06-32RH5-A KSS29	M15
5698146	CCMT2151LF KCP25B	B191	5698783	SCMT432MF KCK15B	B247	5705126	T694NC06250-11RH3-A KSP27	M65	5705865	T690NC#06-32RH5-A KSP27	M15
5698147	CCMT431LF KCP25B	B191	5698785	SCMT433MF KCK15B	B247	5705127	T694NF06250-18RH3-A KSS29	M65	5705866	T690NF#06-40RH2-A KSS29	M15
5698148	CCMT432LF KCP25B	B191	5698787	SPMT3251LF KCK15B	B252	5705128	T694NF06250-18RH3-A KSP27	M65	5705867	T690NC#08-32RH3-A KSP27	M15
5698149	CCMT433LF KCP25B	B191	5698788	SPMT3252LF KCK15B	B252	5705129	T694NC04375-14RH5-A KSS29	M65	5705868	T690NC#08-32RH4-A KSP27	M15
5698160	CNMG432MP KCP25B	B51	5698789	SPMT3252MF KCK15B	B253	5705130	T694NF04375-20RH3-A KSP27	M65	5705869	T690NC#08-32RH5-A KSS29	M15
5698161	CNMG432RP KCP25B	B55	5698791	TCMT2151LF KCK15B	B257	5705131	T694NF04375-20RH5-A KSS29	M65	5705870	T690NC#08-32RH5-A KSS29	M15
5698162	CNMG432RP KCP25B	B56	5698792	TCMT2152LF KCK15B	B257	5705385	T690NF#10-32RH3-A KSP27	M15	5705871	T690NC05000-13RH3-A KSS29	M16
5698163	CNMG544RM KCP25B	B55	5698793	TCMT3252LF KCK15B	B257	5705386	T690NF#10-32RH4-A KSS29	M15	5705872	T690NC05000-13RH5-A KSS29	M16
5698164	CNMG546RM KCP25B	B55	5698794	TCMT3252MF KCK15B	B258	5705387	T690NF#10-32RH5-A KSS29	M15	5705873	T690NC05000-13RH7-A KSS29	M16
5698165	CNMG643RM KCP25B	B55	5698796	TCMT432LF KCK15B	B257	5705388	T690NC#02-56RH2-A KSS29	M15	5705874	T690NF05000-20RH3-A KSP27	M16
5698166	CNMG643RP KCP25B	B56	5698799	TPMR221 KCK15B	B177	5705389	T690NC#04-40RH2-A KSS29	M15	5705875	T690NF05000-20RH5-A KSS29	M16
5698167	CNMG644RH KCP25B	B55	5698800	TPMR321 KCK15B	B177	5705410	T690NC#06-32RH3-A KSP27	M15	5705876	T690NC#08-32RH3-A KSP27	M15
5698168	CNMG646RW KCP25B	B56	5698801	TPMR322 KCK15B	B177	5705411	T690NC#08-32RH3-A KSS29	M15	5705877	T690NC02500-20RH3-A KSS29	M15
5698169	CPMT2151LF KCP25B	B207	5698802	TPMT2151LF KCK15B	B268	5705412	T690NC#08-32RH4-A KSS29	M15	5705878	T690NC02500-20RH5-A KSS29	M15
5698170	DCMT3251LF KCP25B	B225	5698804	TPMT3252LF KCK15B	B268	5705413	T690NC05000-13RH3-A KSP27	M16	5705879	T690NC02500-20RH3-A KSP27	M15
5698171	DNMG331FN KCP25B	B79	5698806	TPU222 KCK15B	B178	5705414	T690NF05000-20RH3-A KSS29	M16	5705880	T690NF02500-28RH3-A KSS29	M15
5698172	DNMG432FN KCP25B	B79	5698807	TPU432 KCK15B	B178	5705415	T690NC02500-20RH3-A KSP27	M15	5705881	T690NF02500-28RH4-A KSP27	M15
5698173	DNMG433RM KCP25B	B85	5698808	WNMG432RP KCK15B	B161	5705416	T690NF02500-28RH3-A KSP27	M15	5705882	T690NF02500-28RH5-A KSS29	M15
5698174	DNMG442RM KCP25B	B85	5698951	CNMG432MR KCM25B	B51	5705417	T690NF02500-28RH4-A KSS29	M15	5705883	T690NF02500-28RH5-A KSP27	M15
5698175	DNMG443RM KCP25B	B85	5698952	CNMG433MR KCM25B	B51	5705418	T690NC07500-10RH3-A KSS29	M16	5705884	T690NF02500-28RH6-A KSS29	M15
5698176	DNMG443RP KCP25B	B85	5698954	CNMG544MR KCM25B	B51	5705419	T690NC07500-16RH3-A KSS29	M16	5705885	T690NF02500-28RH6-A KSP27	M15
5698178	SNMG644RN KCP25B	B105	5698955	CNMG543MR KCM25B	B51	5705420	T690NC07500-16RH3-A KSP27	M16	5705886	T690NF02500-28RH7-A KSS29	M15
5698180	SNMG544RM KCP25B	B107	5698956	CNMG643MR KCM25B	B51	5705421	T690NF03750-24RH3-A KSS29	M16	5705887	T690NF07500-16RH3-A KSS29	M16
5698181	SNMG643RH KCP25B	B106	5698957	DNMG432MR KCM25B	B82	5705422	T690NF03750-24RH3-A KSP27	M16	5705888	T690NC03750-16RH3-A KSS29	M16
5698182	SNMG643RM KCP25B	B107	5698958	DNMG442MR KCM25B	B82	5705423	T690NC03125-18RH3-A KSS29	M15	5705889	T690NC03750-16RH5-A KSP27	M16
5698183	SNMG644RH KCP25B	B106	5698958	SNMG432MR KCM25B	B103	5705424	T690NC03125-18RH3-A KSP27	M15	5705890	T690NC03750-16RH7-A KSS29	M16
5698185	SNMG646RH KCP25B	B106	5698958	TNMG332MR KCM25B	B125	5705425	T690NF03125-24RH3-A KSS29	M15	5705891	T690NF03750-24RH4-A KSS29	M16
5698186	SNMG646RP KCP25B	B107	5698958	TNMG433MR KCM25B	B125	5705426	T690NF06250-18RH3-A KSS29	M16	5705892	T690NF03750-24RH5-A KSS29	M16
5698187	TNMG331FN KCP25B	B123	5698958	TNMG433MR KCM25B	B125	5705427	T690NC04375-14RH3-A KSS29	M16	5705893	T690NF03750-24RH6-A KSS29	M16
5698188	TNMG332FN KCP25B	B123	5698959	WNMG432MR KCM25B	B159	5705428	T690NF04375-20RH3-A KSP27	M16	5705894	T690NF03750-24RH7-A KSS29	M16
5698189	TNMG332RP KCP25B	B127	5698959	WNMG433MR KCM25B	B159	5705429	T690NF04375-20RH3-A KSS29	M16	5705895	T690NF03750-24RH7-A KSS29	M16
5698193	TNMG332RM KCP25B	B128	5700484	SCMT3252MF KCK15B	B247	5705430	T690M025X045RD3-A KSS29	M17	5705896	T690NC03125-18RH5-A KSP27	M15
5698194	TNMG433RM KCP25B	B128	5700485	WNMA433 KCK15B	B157	5705431	T690M030X050RD3-A KSS29	M17	5705897	T690NC03125-18RH7-A KSS29	M15
5698195	TNMG434RM KCP25B	B128	5700487	VNMA332 KCK15B	B145	5705432	T690M040X070RD4-A KSS29	M17	5705898	T690NF03125-24RH4-A KSP27	M15
5698196	TPMT18151LF KCP25B	B268	5701293	MS2263	T4-7	5705433	T690M060X100RD5-A KSP27	M17	5705899	T690NF03125-24RH4-A KSS29	M15
5698197	VNMG331FN KCP25B	B146	5702495	M4D300L150S5100L175	T17	5705434	T690M060X100RD5-A KSS29	M17	5705900	T690NF03125-24RH5-A KSS29	M16
5698198	WNMG431FN KCP25B	B157	5702496	M4D400L150S6150L200	T17	5705435	T690M080X125RD5-A KSP27	M17	5705901	T690NF03125-24RH6-A KSS29	M16
5698199	WNMG432FN KCP25B	B157	5702497	M4D600L150S8200L238	T17	5705436	T690M080X125RD5-A KSS29	M17	5705902	T690NF03125-24RH7-A KSS29	M16
5698210	TNMG432RM KCP25B	B128	5702498	M4D600L1512S200L238	T17	5705437	T692NC#10-24RH3-A KSS29	M62	5705903	T690NC06250-11RH3-A KSS29	M16
5698211	SNMG646RM KCP25B	B107	5702499	M4D200L1504S075L175	T17	5705438	T692NC#10-24RH3-A KSS29	M62	5705904	T690NC06250-11RH3-A KSP27	M16
5698212	CNMG542RP KCP25B	B56	5702500	M4D500L1507S150L238	T17	5705439	T692NF#10-32RH2-A KSS29	M62	5705905	T690NC06250-11RH3-A KSP27	M16
5698214	CCMT2151LF KCK15B	B191	5703876	T694NC#04-40RH2-A KSS29	M65	5705440	T692NF#10-32RH2-A KSS29	M62	5705906	T690NC04375-14RH3-A KSP27	M16
5698215	CCMT3251LF KCK15B	B191	5703877	T694NC#08-32RH3-A KSS29	M65	5705441	T692NC#06-32RH2-A KSS29	M62	5705907	T690NF04375-20RH3-A KSS29	M16
5698216	CCMT3252LF KCK15B	B191	5703878	T694NF#10-32RH3-A KSS29	M65	5705442	T692NC#06-32RH3-A KSS29	M62	5705908	T690NF04375-20RH5-A KSS29	M16
5698217	CCMT3252MF KCK15B	B191	5703879	T694NC02500-20RH3-A KSS29	M65	5705443	T692NC#08-32RH3-A KSS29	M62	5705909	T690NF04375-20RH5-A KSP27	M16
5698218	CCMT431LF KCK15B	B191	5703930	T694NC#06-32RH3-A KSS29	M65	5705444	T692NC05000-13RH3-A KSS29	M63	5705910	T690NF04375-20RH5-A KSS29	M16
5698260	CCMT432MF KCK15B	B191	5703931	T694NF02500-28RH3-A KSS29	M65	5705445	T692NF05000-20RH7-A KSS29	M63	5705911	T690M100X150RD6-A KSP27	M17
5698261	CNMA431 KCK15B	B47	5703932	T694NF04375-20RH3-A KSS29	M65	5705446	T692NF05000-20RH7-A KSS29	M63	5705912	T690M120X175RD6-A KSP27	M17
5698262	CNMA432 KCK15B	B47	5703935	KCRA150RN4303C125L400	V148	5705447	T692NC02500-20RH3-A KSP27	M62	5705913	T690M20X050RD3-A KSP27	M17
5698263	CNMA434 KCK15B	B47	5703936	KCRA200RN4304S075L175	V149	5705448	T692NF02500-28RH3-A KSP27	M62	5705914	T690M30X060RD4-A KSS29	M17
5698265	CNMA434 KCK15B	B47	5703937	KCRA200RN4306S075L175	V149	5705478	T692NC03125-18RH3-A KSS29	M62	5705915	T690M35X060RD4-A KSP27	M17
5698266	CNMA444 KCK15B	B47	5703938	KCRA250RN4306S075L175	V149	5705479	T692NC06250-11RH3-A KSS29	M63	5705916	T690M35X060RD4-A KSP27	M17
5698268	CNMG432RP KCK15B	B53	5703939	KCRA250RN4309S075L175	V149	5705480	T692NF04375-20RH3-A KSS29	M63	5705917	T690M30X050RD3-A KSP27	M17
5698269	CNMG433RP KCK15B	B53	5704050	KCRA300RN4308S100L200	V149	5705481	T692NF04375-20RH3-A KSS29	M63	5705918	T690M40X070RD4-A KSP27	M17
5698270	CPMT2151LF KCK15B	B207	5704051	KCRA300RN4311S100L200	V149	5705482	T692M100X150RD6-A KSS29	M64	5705919	T690M40X070RD4-A KSP27	M17
5698272	DCMT3252LF KCK15B	B225	5704848	T694NC#10-24RH3-A KSS29	M65	5705483	T692M120X175RD6-A KSS29	M64	5705920	T690M050X080RD4-A KSS29	M17
5698277	RCMT1204M0 KCK15B	B240	5704849	T694NC#10-24RH3-A KSP27	M65	5705484	T692M025X045RD3-A KSS29	M64	5705930	T690M080X100RD5-A KSS29	M17
5698278	SCMT3252LF KCK15B	B246	5705100	T694NF#10-32RH3-A KSP27	M65	5705485	T692M040X070RD4-A KSS29	M64	5705931	T690M080X100RD5-A KSP27	M17
5698279	SNMA432 KCK15B	B100	5705101	T694NC#04-40RH2-A KSP27	M65	5705486	T692M050X080RD4-A KSP27	M64	5707893	TNMG332MP KCP25B	B124
5698280	SNMA433 KCK15B	B100	5705102	T694NC#04-40RH3-A KSS29	M65	5705487	T692M050X080RD4-A KSS29	M64	5708200	T692NC#10-24RH5-A KSS29	M62
5698281	SNMA434 KCK15B	B100	5705103	T694NC#05-40RH2-A KSS29	M65	5705488	T692M060X100RD5-A KSS29	M64	5708201	T692NF#10-32RH2-A KSP27	M62
5698284	TNMA332 KCK15B	B122	5705104	T694NC#06-32RH3-A KSP27	M65	5705					



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5708244	T692NC#06-32RH7-A KSS29	M62	5824344	4CH0218R043A KC633M	Q22	5824518	4BN0234R075A KC633M	Q26	5876861	2CH0125L050A KC633M	Q6
5708246	T692NC#06-32RH7-A KSP27	M62	5824345	4CH0218L062A KC633M	Q22	5824519	4BN0250S050A KC633M	Q26	5876862	2CH0125K075A KC633M	Q6
5708248	T692NF#06-40RH2-A KSS29	M62	5824346	4CH0234R075A KC633M	Q23	5824520	4BN0250R075A KC633M	Q26	5876863	2CH0140R056A KC633M	Q6
5708250	T692NC#08-13RH2-A KSS29	M62	5824347	4CH0250S050A KC633M	Q23	5824521	4BN0250R112A KC633M	Q26	5876864	2CH0156R031A KC633M	Q6
5708252	T692NC#08-32RH3-A KSP27	M62	5824348	4CH0250R075A KC633M	Q23	5824522	4BN0250L150A KC633M	Q26	5876865	2CH0156L056A KC633M	Q6
5708254	T692NC#08-32RH4-A KSS29	M62	5824349	4CH0250L112A KC633M	Q23	5824523	4BN0250X150A KC633M	Q26	5876866	2CH0171R062A KC633M	Q6
5708256	T692NC#08-32RH4-A KSP27	M62	5824350	4CH0250X150A KC633M	Q23	5824524	4BN0281R075A KC633M	Q26	5876867	2CH0187R062A KC633M	Q6
5708258	T692NC#08-32RH5-A KSS29	M62	5824352	4CH0265R075A KC633M	Q23	5824525	4BN0312S050A KC633M	Q26	5876868	2CH0187L075A KC633M	Q6
5708260	T692NC#08-32RH5-A KSP27	M62	5824353	4CH0281R075A KC633M	Q23	5824526	4BN0312R081A KC633M	Q26	5876869	2CH0187X112A KC633M	Q6
5708262	T692NC#08-32RH6-A KSS29	M62	5824354	4CH0296R081A KC633M	Q23	5824527	4BN0312L112A KC633M	Q26	5876870	2CH0218R043A KC633M	Q6
5708264	T692NC05000-13RH3-A KSP27	M63	5824355	4CH0312S050A KC633M	Q23	5824528	4BN0312X162A KC633M	Q26	5876871	2CH0218L062A KC633M	Q6
5708266	T692NC05000-13RH5-A KSS29	M63	5824356	4CH0312R081A KC633M	Q23	5824529	4BN0344R100A KC633M	Q26	5876872	2CH0205S050A KC633M	Q7
5708268	T692NC05000-13RH5-A KSP27	M63	5824357	4CH0312L112A KC633M	Q23	5824530	4BN0375S100A KC633M	Q26	5876873	2CH0256R031A KC633M	Q7
5708270	T692NF05000-20RH3-A KSP27	M63	5824358	4CH0312X162A KC633M	Q23	5824531	4BN0375R100A KC633M	Q27	5876874	2CH0250L112A KC633M	Q7
5708272	T692NF05000-20RH5-A KSS29	M63	5824359	4CH0328R100A KC633M	Q23	5824532	4BN0375L112A KC633M	Q27	5876875	2CH0250X150A KC633M	Q7
5708274	T692NF05000-20RH5-A KSP27	M63	5824360	4CH0343R100A KC633M	Q23	5824533	4BN0375X150A KC633M	Q27	5876876	2CH0250R075A KC633M	Q7
5708276	T692NC02500-20RH3-A KSS29	M62	5824371	4CH0359R100A KC633M	Q23	5824534	4BN0437R100A KC633M	Q27	5876877	2CH0312S050A KC633M	Q7
5708278	T692NC02500-20RH5-A KSS29	M62	5824372	4CH0375S062A KC633M	Q23	5824535	4BN0500S100A KC633M	Q27	5876878	2CH0312R081A KC633M	Q7
5708280	T692NF02500-28RH3-A KSS29	M62	5824373	4CH0375R100A KC633M	Q23	5824536	4BN0500R100A KC633M	Q27	5876879	2CH0321L112A KC633M	Q7
5708282	T692NF02500-28RH5-A KSS29	M62	5824374	4CH0375L112A KC633M	Q23	5824537	4BN0500X150A KC633M	Q27	5876880	2CH0312X162A KC633M	Q7
5708284	T692NF02500-28RH6-A KSS29	M62	5824375	4CH0375X175A KC633M	Q23	5824538	4BN0500R200A KC633M	Q27	5876881	2CH0343R100A KC633M	Q7
5708286	T692NF02500-28RH7-A KSS29	M62	5824376	4CH0390R100A KC633M	Q23	5824539	4BN0500L200A KC633M	Q27	5876882	2CH0350R075A KC633M	Q7
5708288	T692NC07500-10RH3-A KSS29	M63	5824377	4CH0406R100A KC633M	Q23	5824540	4BN0500X300A KC633M	Q27	5876883	2CH0375R100A KC633M	Q7
5708300	T692NC07500-10RH5-A KSS29	M63	5824378	4CH0421R100A KC633M	Q23	5824541	4BN0562R125A KC633M	Q27	5876884	2CH0375L112A KC633M	Q7
5708302	T692NF07500-16RH3-A KSS29	M63	5824379	4CH0437S100A KC633M	Q23	5824542	4BN0625R125A KC633M	Q27	5876885	2CH0375X175A KC633M	Q7
5708304	T692NF07500-16RH5-A KSS29	M63	5824380	4CH0437R100A KC633M	Q23	5824543	4BN0625L225A KC633M	Q27	5876886	2CH0406R100A KC633M	Q7
5708306	T692NC03750-16RH3-A KSS29	M63	5824381	4CH0437L200A KC633M	Q23	5824544	4BN0750R150A KC633M	Q27	5876887	2CH0437R062A KC633M	Q7
5708308	T692NC03750-16RH3-A KSP27	M63	5824382	4CH0437X300A KC633M	Q23	5824545	4BN0750L300A KC633M	Q27	5876888	2CH0437L112A KC633M	Q7
5708310	T692NC03750-16RH5-A KSS29	M63	5824383	4CH0453R100A KC633M	Q24	5824546	4BN0875R150A KC633M	Q27	5876889	2CH0437X200A KC633M	Q7
5708312	T692NC03750-16RH5-A KSP27	M63	5824384	4CH0468R100A KC633M	Q24	5824547	4BN1000R150A KC633M	Q27	5876890	2CH0468R100A KC633M	Q7
5708314	T692NF03750-24RH3-A KSS29	M63	5824385	4CH0484R100A KC633M	Q24	5824548	4BN1000L225A KC633M	Q27	5876891	2CH0500S062A KC633M	Q7
5708316	T692NF03750-24RH3-A KSP27	M63	5824386	4CH0500S062A KC633M	Q24	5826308	RIQ09EDR00 KC6105	K59	5876892	2CH0500R100A KC633M	Q7
5708318	T692NF03750-24RH4-A KSS29	M63	5824387	4CH0500R100A KC633M	Q24	5826309	RIQ09EDR00 KC6305	K59	5876893	2CH0500L200A KC633M	Q7
5708320	T692NF03750-24RH4-A KSP27	M63	5824388	4CH0500L200A KC633M	Q24	5826310	RIQ09R0506FT KT6315	K58	5876894	2CH0500X300A KC633M	Q7
5708322	T692NF03750-24RH5-A KSS29	M63	5824389	4CH0500X300A KC633M	Q24	5874646	CNMM546RP KCP10B	B56	5876895	2CH0562R075A KC633M	Q8
5708324	T692NF03750-24RH5-A KSP27	M63	5824390	4CH0562R075A KC633M	Q24	5876721	2BN0031R007A KC633M	Q9	5876896	2CH0562L125A KC633M	Q8
5708326	T692NF03750-24RH6-A KSS29	M63	5824401	4CH0562L125A KC633M	Q24	5876722	2BN0063R018A KC633M	Q9	5876897	2CH0562X225A KC633M	Q8
5708328	T692NC03125-18RH3-A KSP27	M62	5824402	4CH0562X225A KC633M	Q24	5876723	2BN0047R018A KC633M	Q9	5876898	2CH0625R075A KC633M	Q8
5708330	T692NC03125-18RH5-A KSS29	M62	5824403	4CH0625S075A KC633M	Q24	5876724	2BN0094R018A KC633M	Q9	5876899	2CH0625L125A KC633M	Q8
5708332	T692NC03125-18RH5-A KSP27	M62	5824404	4CH0625R125A KC633M	Q24	5876725	2BN0094L037A KC633M	Q9	5876900	2CH0625X225A KC633M	Q8
5708334	T692NC03125-18RH7-A KSS29	M62	5824405	4CH0625L225A KC633M	Q24	5876726	2BN0109R037A KC633M	Q9	5876901	2CH0687R137A KC633M	Q8
5708336	T692NF03125-24RH3-A KSS29	M62	5824406	4CH0625X400A KC633M	Q24	5876727	2BN0125S025A KC633M	Q9	5876902	2CH0750S100A KC633M	Q8
5708338	T692NF03125-24RH3-A KSP27	M62	5824407	4CH0687R137A KC633M	Q24	5876728	2BN0125R050A KC633M	Q9	5876903	2CH0750R150A KC633M	Q8
5708340	T692NF03125-24RH4-A KSS29	M63	5824409	4CH0750R150A KC633M	Q24	5876729	2BN0125L075A KC633M	Q9	5876904	2CH0750R225A KC633M	Q8
5708342	T692NF03125-24RH4-A KSP27	M63	5824410	4CH0750R225A KC633M	Q24	5876730	2BN0125X075A KC633M	Q9	5876905	2CH0750L300A KC633M	Q8
5708344	T692NF03125-24RH6-A KSS29	M63	5824411	4CH0750L300A KC633M	Q24	5876741	2BN0156R031A KC633M	Q9	5876906	2CH0750X400A KC633M	Q8
5708346	T692NF03125-24RH7-A KSS29	M63	5824412	4CH0750X400A KC633M	Q24	5876742	2BN0156L056A KC633M	Q9	5876907	2CH0875R150A KC633M	Q8
5708348	T692NC06250-11RH3-A KSP27	M63	5824413	4CH0875R150A KC633M	Q25	5876743	2BN0187S031A KC633M	Q9	5876908	2CH0875L225A KC633M	Q8
5708360	T692NC06250-11RH5-A KSS29	M63	5824414	4CH0875L225A KC633M	Q25	5876744	2BN0187R062A KC633M	Q9	5876909	2CH1000S150A KC633M	Q8
5708362	T692NC06250-11RH7-A KSS29	M63	5824415	4CH1000S150A KC633M	Q25	5876745	2BN0187L075A KC633M	Q9	5876910	2CH1000R225A KC633M	Q8
5708363	T692NF06250-14RH3-A KSS29	M63	5824416	4CH1000R225A KC633M	Q25	5876746	4CH1000R100A KC633M	Q9	5876911	2CH1000L300A KC633M	Q8
5708364	T692NC04375-14RH3-A KSS29	M63	5824417	4CH1000L300A KC633M	Q25	5876747	2BN0219R062A KC633M	Q9	5876912	2CH1000X400A KC633M	Q8
5708365	T692NC04375-14RH5-A KSS29	M63	5824418	4CH1000X400A KC633M	Q25	5876748	2BN0250S050A KC633M	Q9	5876913	2CH0500R100B KC633M	Q7
5708366	T692NF04375-20RH3-A KSP27	M64	5824420	4CH0500R100B KC633M	Q24	5876749	2BN0250R075A KC633M	Q9	5876914	2CH0500L200B KC633M	Q7
5708367	T692NF04375-20RH5-A KSS29	M63	5824421	4CH0500L200B KC633M	Q24	5876750	2BN0250R112A KC633M	Q9	5876915	2CH0500X300B KC633M	Q7
5708368	T692MF100X125R05-A KSS29	M64	5824422	4CH0562L125B KC633M	Q24	5876751	2BN0250L150A KC633M	Q9	5876916	2CH0562L125B KC633M	Q8
5708369	T692MF100X125R05-A KSP27	M64	5824423	4CH0625R125B KC633M	Q24	5876752	2BN0250X150A KC633M	Q9	5876917	2CH0562X225B KC633M	Q8
5708380	T692M120X175R06-A KSP27	M64	5824424	4CH0625L225B KC633M	Q24	5876753	2BN0312R081A KC633M	Q9	5876918	2CH0625L125B KC633M	Q8
5708381	T692M025X045R03-A KSP27	M64	5824425	4CH0750R150B KC633M	Q24	5876754	2BN0312L112A KC633M	Q9	5876919	2CH0625X225B KC633M	Q8
5708382	T692M030X050R03-A KSP27	M64	5824426	4CH0750R225B KC633M	Q24	5876755	2BN0312X150A KC633M	Q9	5876920	2CH0687R137B KC633M	Q8
5708383	T692M030X050R03-A KSS29	M64	5824427	4CH0750L300B KC633M	Q24	5876756	2BN0375S062A KC633M	Q9	5876921	2CH0750R225B KC633M	Q8
5708384	T692M040X070R04-A KSP27	M64	5824428	4CH0875R150B KC633M	Q25	5876757	2BN0375R087A KC633M	Q9	5876922	2CH0750L300B KC633M	Q8
5708385	T692M060X100R05-A KSP27	M64	5824429	4CH0875L225B KC633M	Q25	5876758	2BN0375L112A KC633M	Q9	5876923	2CH0750X400B KC633M	Q8
5708386	T692MF080X100R05-A KSS29	M64	5824430	4CH1000R225B KC633M	Q25	5876759	2BN0375X300A KC633M	Q9	5876924	2CH0875R150B KC633M	Q8
5708387	T692MF080X100R05-A KSP27	M64	5824431	4CH1000L300B KC633M	Q25	5876760	2BN0406R100A KC633M	Q9	5876925	2CH0875L225B KC633M	Q8
5708388	T692M080X125R05-A KSP27	M64	5824501	4BN0062R019A KC633M	Q26	5876761	2BN0437R100A KC633M	Q9	5876926	2CH1000R225B KC633M	Q8
5709281	DNMG432FN KCPK05	B79	5824502	4BN0078R019A KC633M	Q26	5876762	2BN0500S062A KC633M	Q9	5876927	2CH1000L300B KC633M	Q8
5712913	KW1008	V148-149	5824503	4BN0094R019A KC633M	Q26	5876763	2BN0500R100A KC633M	Q10	5876928	2CH1000X400B KC633M	Q8
5720114	B285D0800HPS KN15	G83	5824504	4BN0094L037A KC633M	Q26	5876764	2BN0500X150A KC633M	Q10	5878707	SPGW073040M KCPK10	J103
5824029	4BN0031R008A KC633M	Q26	5824505	4BN0109R037A KC633M	Q26	5876765	2BN0500L200A KC633M	Q10	5879813	XNGJ43ANENLD3W KCPM40	S12
5824030	4BN0047R012A KC633M	Q26	5824506	4BN0125S025A KC633M	Q26	5876766	2BN0500X300A KC633M	Q10	5879814	LNPUB63ANSLHD2 KCPM40	S95
5824333	4CH0125S050A KC633M	Q22	5824507	4BN0125R050A KC633M	Q26	5876767	2BN0625R125A KC633M	Q10	5879816	LNPUB63ANSLHD2 KCPK30	S95
5824334	4CH0125R0										

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5882759	MS5006	W12, W19	5894258	SDET433PDSR8GB KC725M	T116, T123, U39	5941085	EC030M03L06CM02 KCU25	C24	5945387	T624NF07500-16RH10-DA KSP27	M141
5882760	MS5007	W12-13				5941086	EC030M03R06CM02 KCU25	C24	5945388	T624M030X050RD5-DA KSP27	M145
5882761	MS5009	W18, W25	5894812	SDET436ENGB KC725M	T116, T123, U39	5941087	EC040M04L06CM02 KCU25	C24	5945389	T624M040X070RD6-DA KSP27	M145
5882762	MS5008	W12, W18, W25				5941088	EC040M04R06CM02 KCU25	C24	5945390	T624M060X100RD8-DA KSP27	M145
5882863	CNMG432MP KCM35B	B51	5894813	SDET436SNGB KC725M	T116, T123, U39	5941089	EC030M03L06CR02 KCU25	C25	5945401	T624M080X125RD9-DA KSP27	M145
5882865	CNMG433RP KCM35B	B53				5941090	EC030M03R06CR02 KCU25	C25	5945402	T624MF100X125RD9-DA KSP27	M145
5882866	CNMG432RP KCM35B	B53	5894815	SDET434SNGB KC725M	T116, T123, U39	5941091	EC040M04L06CR02 KCU25	C25	5945403	T624M100X100RD8-DA KSP27	M145
5882870	CNMG432UP KCM35B	B54				5941092	EC040M04R06CR02 KCU25	C25	5945404	T624MF120X125RD9-DA KSP27	M145
5882881	TNMG331MP KCM35B	B124	5897007	B967A16500 KC7315	G132	5941093	EG130I03U05GUP KCU25	C18	5945405	T624MF120X150RD9-DA KSP27	M145
5882884	TNMG332MP KCM35B	B124	5898597	M1D300E1404S100L175	T53	5941094	EG130I03U1GUP KCU25	C18	5945406	T624M100X175RD11-DA KSP27	M145
5882886	WNMG432RP KCM35B	B161	5898598	M1D200E1403S075L157	T53	5941095	EG130I03U05GUN KCU25	C21	5945407	T624MF140X150RD11-DA KSP27	M145
5882890	WNMG332MP KCM35B	B159	5903140	M1D150E1403C125L1000	T52	5941096	EG130I03U1GUN KCU25	C18	5945408	T624M140X200RD12-DA KSP27	M145
5882891	WNMG432MP KCM35B	B159	5903579	SNMG543MR KCP05B	B103	5941097	EG192I04U1GUP KCU25	C18	5945409	T624M160X150RD10-DA KSP27	M145
5882892	CNMG543RP KCM35B	B53	5904367	CNMG544MG KCP10B	B57	5941098	EG192I04U1GUN KCU25	C21	5945410	T624M160X200RD12-DA KSP27	M145
5882893	CNMG431MP KCM35B	B51	5904368	DNMG444MG KCP10B	B83	5941099	EG192I04U2GUP KCU25	C18	5945411	T625N003750-16RH5-DA KSP27	M142
5882899	CNMG443RP KCM35B	B84	5904369	DNMG443MG KCP10B	B83	5941100	EG192I04U2GUN KCU25	C21	5945412	T625N003750-16RH7-DA KSP27	M142
5882905	SNMG432MP KCM35B	B102	5910213	CPMT1252MF KCP10B	B207	5941101	EG030M03P02GUP KCU25	C17	5945413	T625NF03750-24RH5-DA KSP27	M142
5882906	WNMG433RP KCM35B	B161	5914006	SCW5E	C58	5941102	EG030M03P04GUP KCU25	C17	5945414	T625NF03750-24RH7-DA KSP27	M142
5882924	TCMT3252LF KCK05B	B257	5914007	SCW8E	C58	5941103	EG040M04P04GUP KCU25	C17	5945415	T625NF05000-20RH5-DA KSP27	M142
5882925	WNMG432RP KCK05B	B161	5914680	NG3094RK KCP10B	C162	5941104	EG040M04P08GUP KCU25	C17	5945416	T625NF05000-13RH7-DA KSP27	M142
5882934	CCMT1252LF KCK05B	B191	5914889	NGD4M400LK KCU25	C165	5941105	EG030M03P02GUP K313	C17	5945417	T625NF05000-20RH5-DA KSP27	M142
5882966	WNMG432UP KCK05B	B162	5939432	EVSML3232P0432C	C37	5941107	EG030M03P04GUP K313	C17	5945418	T625NF06250-11RH10-DA KSP27	M142
5882972	CNMG433UN KCM05B	B54	5939433	EVSML3232P0426C	C37	5941108	EG040M04P04GUP K313	C17	5945419	T625NF06250-11RH7-DA KSP27	M142
5882973	CNMAA434 KCK05B	B47	5939435	EVSML2525M0426C	C37	5941109	EG040M04P08GUP K313	C17	5945420	T625NF06250-11RH10-DA KSP27	M142
5882976	TNMG333UN KCK05B	B124	5939436	EVSML2525M0416C	C37	5941110	EG125I03P05GUP KCU25	C18	5945421	T625NF06250-11RH7-DA KSP27	M142
5883000	CNMAA431 KCK05B	B47	5939437	EVSML2525M0326C	C37	5941111	EG125I03P1GUP KCU25	C18	5945422	T625NF06250-18RH10-DA KSP27	M142
5883011	CNMG433FN KCK05B	B49	5939438	EVSML2525M0316C	C37	5941112	EG187I04P1GUP KCU25	C18	5945423	T625NF07500-10RH7-DA KSP27	M142
5883013	WNMG332UN KCK05B	B148	5939439	EVSML2020K0422C	C37	5941113	EG187I04P2GUP KCU25	C18	5945424	T625NF07500-10RH10-DA KSP27	M142
5883017	SCMT3252LF KCK05B	B246	5939440	EVSML2020K0416C	C37	5941114	EG125I03P05GUP K313	C18	5945425	T625NF07500-16RH7-DA KSP27	M142
5883018	SNMG433UN KCK05B	B106	5939441	EVSML2020K0322C	C37	5941115	EG125I03P1GUP K313	C18	5945426	T625NF07500-16RH10-DA KSP27	M142
5883022	CNMG434UN KCK05B	B54	5939442	EVSML2020K0316C	C37	5941116	EG187I04P1GUP K313	C18	5945427	T625NF07500-16RH7-DA KSP27	M146
5883025	WNMG431FN KCK05B	B157	5939443	EVSML2020K0422C	C36	5941117	EG187I04P2GUP K313	C18	5945428	T625M080X125RD9-DA KSP27	M146
5883443	RPPT1204MOSGD5X KCM40	V106	5939444	EVSML2525M0426C	C36	5941706	EVBSN19G1B14	C58	5945469	T625MF100X125RD9-DA KSP27	M146
5883444	RPPT1204MOSGD8X KCM40	V106	5939445	EVSML2525M0426C	C36	5941707	EVBSN19G0220	C58	5945470	T625M100X150RD10-DA KSP27	M146
5883445	RPHT1204MOSGD5X KCM40	V105	5939446	EVSML2525M0416C	C36	5941708	EVBSN26J1B15	C58	5945471	T625MF120X125RD9-DA KSP27	M146
5883446	RPHT1204MOSGD8X KCM40	V105	5939447	EVSML2525M0326C	C36	5941709	EVBSN26J0230	C58	5945472	T625MF120X150RD9-DA KSP27	M146
5883520	CNMG432RP KCP05B	B53	5939448	EVSML2525M0316C	C36	5941710	EVBSN26M0230	C58	5945473	T625M100X175RD11-DA KSP27	M146
5883573	DNMG442MN KCP05B	B81	5939449	EVSML2020K0422C	C36	5941721	EVBSN26J0340	C58	5945474	T625MF140X150RD11-DA KSP27	M146
5883576	CNMG432MN KCP05B	B50	5939450	EVSML2020K0416C	C36	5941722	EVBSN26M0340	C58	5945475	T625M140X200RD12-DA KSP27	M146
5883577	DNMG432MN KCP05B	B81	5939451	EVSML2020K0322C	C36	5941723	EVBSN26J0440	C58	5945476	T625M160X150RD11-DA KSP27	M146
5883581	TNMG332FN KCP05B	B123	5939452	EVSML2020K0316C	C36	5941724	EVBSN32M0250	C58	5945477	T625M160X200RD12-DA KSP27	M146
5886541	CNMG433RP KCP40B	B53	5939453	EVSML200432C	C35	5941725	EVBSN32M0350	C58	5945600	T627N02500-20RH4-DA KSP27	M144
5886542	CNMG543RP KCP40B	B53	5939454	EVSML200426C	C34	5941726	EVBSN32M0450	C58	5945611	T627N02500-20RH6-DA KSP27	M144
5886544	SNMG643RP KCP40B	B105	5939455	EVSML160426C	C34	5945156	T624NC#06-32RH3-DA KSP27	M141	5945612	T627NF02500-28RH4-DA KSP27	M144
5886545	TNMG643RP KCP40B	B127	5939456	EVSML160416C	C34	5945157	T624NC#06-32RH5-DA KSP27	M141	5945613	T627NF02500-28RH4-DA KSP27	M144
5886714	SNMG644RP KCP05B	B105	5939457	EVSML160326C	C34	5945158	T624NC#08-32RH3-DA KSP27	M141	5945614	T627NF02500-18RH5-DA KSP27	M144
5892306	CNMG432MR KCP30B	B51	5939458	EVSML160316C	C34	5945159	T624NC#08-32RH5-DA KSP27	M141	5945615	T627NF02500-18RH7-DA KSP27	M144
5892307	DNMG432MR KCP30B	B82	5939459	EVSML120422C	C34	5945160	T624NC#08-32RH5-DA KSP27	M141	5945616	T627NF03125-24RH4-DA KSP27	M144
5892308	SNMG432MN KCP30B	B103	5939460	EVSML120416C	C34	5945323	T625N002500-20RH4-DA KSP27	M142	5945617	T627NF03125-24RH7-DA KSP27	M144
5892411	CNMG433MN KCP30B	B50	5939461	EVSML120322C	C34	5945324	T625N002500-20RH6-DA KSP27	M142	5945618	T627NF03125-18RH5-DA KSP27	M144
5892412	WNMG432RN KCP30B	B161	5939462	EVSML120316C	C34	5945325	T625N002500-28RH4-DA KSP27	M142	5945619	T627NF03750-16RH7-DA KSP27	M144
5892413	CNMG543RN KCP30B	B53	5939463	EVSML200432C	C34	5945326	T625NF02500-28RH6-DA KSP27	M142	5945620	T627NF03750-24RH5-DA KSP27	M144
5892414	TNMG543RN KCP30B	B126	5939464	EVSML120316C	C35	5945327	T625N003125-18RH5-DA KSP27	M142	5945621	T627NF03750-24RH7-DA KSP27	M144
5892415	SNMG433RN KCP30B	B105	5939465	EVSML120322C	C35	5945328	T625N003125-18RH7-DA KSP27	M142	5945622	T627NF05000-20RH4-DA KSP27	M144
5892416	TNMG432RN KCP30B	B126	5939466	EVSML160316C	C35	5945329	T625NF03125-24RH5-DA KSP27	M142	5945623	T627NF05000-13RH7-DA KSP27	M144
5892417	CNMG643RN KCP30B	B53	5939467	EVSML160326C	C35	5945330	T625N003125-24RH7-DA KSP27	M142	5945624	T627NF05000-20RH5-DA KSP27	M144
5892418	CNMG644RN KCP30B	B53	5939468	EVSML120416C	C35	5945351	T624NC#10-24RH6-DA KSP27	M141	5945625	T627NF05000-20RH6-DA KSP27	M144
5892419	TNMG666RN KCP30B	B126	5939469	EVSML120422C	C35	5945352	T624NF#10-32RH4-DA KSP27	M141	5945626	T627NF06250-11RH7-DA KSP27	M144
5892420	WNMG433RN KCP30B	B161	5939470	EVSML160416C	C35	5945353	T624NF#10-32RH6-DA KSP27	M141	5945627	T627NF06250-11RH10-DA KSP27	M144
5892432	CNMG432MR KCP30B	B54	5939471	EVSML160426C	C35	5945354	T624NC02500-20RH4-DA KSP27	M141	5945628	T627NF06250-18RH7-DA KSP27	M144
5892433	CNMG433P KCP30B	B52	5939472	EVSML200426C	C35	5945355	T624NC02500-20RH6-DA KSP27	M141	5945629	T627NF06250-18RH10-DA KSP27	M144
5892434	CNMG432P KCP30B	B52	5940092	TPMR321 KCP25B	B177	5945356	T624NF02500-28RH4-DA KSP27	M141	5945630	T627NF07500-10RH7-DA KSP27	M144
5892435	SNMG644RN KCP30B	B105	5940093	TPMR221 KCP25B	B177	5945357	T624NF02500-28RH6-DA KSP27	M141	5945631	T627NF07500-10RH10-DA KSP27	M144
5892436	DNMG432MR KCP30B	B82	5941012	LNKX30194ORRSM KCP10B	E58	5945358	T624NC03125-18RH5-DA KSP27	M141	5945632	T627NF07500-16RH7-DA KSP27	M144
5892437	WNMG432RP KCP30B	B161	5941056	EG0312M03U02GUP KCU25	C17	5945359	T624NC03125-18RH7-DA KSP27	M141	5945633	T627NF07500-16RH10-DA KSP27	M144
5892438	TNMG544RN KCP30B	B126	5941057	EG0312M03U04GUP KCU25	C17	5945360	T624NC03125-24RH5-DA KSP27	M141	5945634	T627M100X100RD8-DA KSP27	M148
5892441	CNMG543MR KCP30B	B54	5941058	EG0312M03U02GUN KCU25	C20	5945361	T624NF03125-24RH7-DA KSP27	M141	5945635	T627M080X125RD9-DA KSP27	M148
5892442	SNMG432RN KCP30B	B105	5941059	EG0312M03U04GUN KCU25	C20	5945362	T624NC03750-16RH5-DA KSP27	M141	5945636	T627MF100X125RD9-DA KSP27	M148
5892443	TNMG433RN KCP30B	B126	5941071	EG0412M04U04GUP KCU25	C17	5945363	T624NC03750-16RH7-DA KSP27	M141	5945637	T627M100X150RD11-DA KSP27	M148
5892445	SNMG643RN KCP30B	B105	5941072	EG0412M04U04GUN							



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5946046	T626NC#08-32RH3-DA KSP27	M143	5954241	EVSMLR4040R0840C	C36	5955465	EVSML160626C	C35	5964135	KSEM1950SPLM KCM35	H64
5946047	T626NC#08-32RH5-DA KSP27	M143	5954242	EVSMLR4040R0640C	C36	5955466	EVSML200626C	C35	5964136	FSDE0500N9DYC KC643M	P100
5946048	T626NC#10-24RH4-DA KSP27	M143	5954243	EVSMLR3232P1032C	C36	5955467	EVSML200632C	C35	5964137	KSEM0781SPL KCM35	H64
5946050	T626NC#10-24RH6-DA KSP27	M143	5954244	EVSMLR3232P0832C	C36	5955468	EVSML240640C	C35	5964139	KSEM0813SPL KCM35	H64
5946051	T626NF#10-32RH4-DA KSP27	M143	5954245	EVSMLR3232P0826C	C36	5955469	EVSML160826C	C35	5964140	FSDE0625N9DYB KC643M	P100
5946052	T626NF#10-32RH6-DA KSP27	M143	5954246	EVSMLR3232P0632C	C36	5955470	EVSML200826C	C35	5964151	KSEM2050SPLM KCM35	H64
5946053	T626NF02500-28RH4-DA KSP27	M143	5954247	EVSMLR3232P0626C	C36	5955471	EVSML200832C	C35	5964153	KSEM2000SPLM KCM35	H64
5946054	T626NF02500-20RH6-DA KSP27	M143	5954248	EVSMLR3232P0532C	C36	5955472	EVSML240840C	C35	5964154	FSDE0750NFDYA KC643M	P100
5946055	T626NF02500-28RH4-DA KSP27	M143	5954249	EVSMLR3232P0526C	C36	5955473	EVSML201032C	C35	5964155	KSEM2100SPLM KCM35	H64
5946056	T626NF02500-28RH6-DA KSP27	M143	5954250	EVSMLR2525M0826C	C36	5955474	EVSML241040C	C35	5964157	KSEM2150SPLM KCM35	H64
5946057	T626NF03125-24RH5-DA KSP27	M143	5954251	EVSMLR2525M0626C	C36	5955479	NG2M050LK KCU10	C163	5964158	FSDE0750NFDYB KC643M	P100
5946058	T626NF03125-18RH7-DA KSP27	M143	5954252	EVSMLR2525M0616C	C36	5955480	NG2M050RK KCU10	C162	5964159	KSEM2200SPLM KCM35	H64
5946059	T626NF03125-24RH6-DA KSP27	M143	5954253	EVSMLR2525M0526C	C36	5955491	NG2M275LK KCU10	C163	5964161	NG2M275LK KCU10	H64
5946060	T626NF03125-24RH7-DA KSP27	M143	5954254	EVSMLR2525M0516C	C36	5955492	NGD2M150LK KCU10	C165	5964162	FSDE0750NFDYC KC643M	P100
5946061	T626NF03750-16RH5-DA KSP27	M143	5954255	EVSMLR2020K0622C	C36	5955493	NGD2M150RK KCU10	C165	5964163	KSEM2300SPLM KCM35	H64
5946062	T626NF03750-24RH7-DA KSP27	M143	5954256	EVSMLR2020K0616C	C36	5955494	EVSML20020RK KCU10	C165	5964165	KSEM0813SPL KCM35	H64
5946063	T626NF03750-24RH5-DA KSP27	M143	5954257	EVSMLR2020K0522C	C36	5955495	NGD2M250LK KCU10	C165	5964166	FSDE0750NFDYE KC643M	P100
5946064	T626NF03750-24RH7-DA KSP27	M143	5954258	EVSMLR2020K0516C	C36	5955496	NGD2M250RK KCU10	C165	5964167	KSEM2400SPLM KCM35	H64
5946065	T626NF05000-13RH6-DA KSP27	M143	5954259	A16MEVEMR0307M	C54	5955498	NGD3M300LK KCU10	C165	5964169	KSEM2500SPLM KCM35	H64
5946066	T626NF05000-13RH7-DA KSP27	M143	5954260	A20QEVEMR0307M	C54	5955499	NGD3M300RK KCU10	C165	5964170	FSDE1000N9DYA KC643M	P100
5946067	T626NF05000-20RH5-DA KSP27	M143	5954281	A25REVEMR0310M	C54	5955500	NGD3M400LK KCU10	C165	5964171	KSEM1000SPL KCM35	H64
5946068	T626NF05000-20RH7-DA KSP27	M143	5954282	A25REVEMR0410M	C54	5955502	NGD3M400RK KCU10	C165	5964173	KSEM1008SPL KCM35	H64
5946069	T626NF06250-11RH7-DA KSP27	M143	5954283	A32SEVEMR0312M	C54	5955505	NGD2M050LK KCU25	C163	5964174	FSDE1000N9DYB KC643M	P100
5946070	T626NF06250-11RH10-DA KSP27	M143	5954284	A32SEVEMR0412M	C54	5955506	NG4M450LK KCU25	C164	5964175	KSEM2565SPLM KCM35	H64
5946071	T626NF06250-18RH7-DA KSP27	M143	5954285	A16MEVEMR0307M	C54	5955507	NGD2M150LK KCU25	C165	5964177	KSEM1011SPL KCM35	H64
5946072	T626NF06250-18RH10-DA KSP27	M143	5954286	A20QEVEML0307M	C55	5955508	NGD2M150RK KCU25	C165	5964178	FSDE1000N9DYC KC643M	P100
5946073	T626NF07500-10RH7-DA KSP27	M143	5954287	A25REVEML0310M	C55	5955509	NGD2M200LK KCU25	C165	5964179	KSEM1016SPL KCM35	H64
5946074	T626NF07500-10RH10-DA KSP27	M143	5954288	A25REVEML0410M	C55	5955510	NGD2M200RK KCU25	C165	5964181	KSEM2160SPLM KCM35	H64
5946075	T626NF07500-16RH7-DA KSP27	M143	5954289	A32SEVEML0312M	C55	5955521	NGD2M250LK KCU25	C165	5964182	FSDE1000N9DYE KC643M	P100
5946076	T626NF07500-16RH10-DA KSP27	M143	5954290	A32SEVEML0412M	C55	5955562	NGD2M250RK KCU25	C165	5964183	NGD2M250RK KCU25	H64
5946077	T626M0300X050RD5-DA KSP27	M147	5954291	A10MEVEMR0307M	C52	5955623	NGD3M200LK KCU25	C165	5964184	KSEM2700SPLM KCM35	H64
5946078	T626M035X060RD6-DA KSP27	M147	5954292	A12QEVEMR0307M	C52	5955624	NGD3M200RK KCU25	C165	5964185	KSEM1125SPL KCM35	H65
5946079	T626M040X070RD6-DA KSP27	M147	5954293	A16REVEMR0310M	C52	5955625	NGD3M250LK KCU25	C165	5964186	KSEM3000SPLM KCM35	H65
5946080	T626M050X080RD7-DA KSP27	M147	5954294	A16REVEMR0410M	C52	5955626	NGD3M250RK KCU25	C165	5964187	KSEM1250SPL KCM35	H65
5946081	T626M060X100RD8-DA KSP27	M147	5954295	A20SEVEMR0312M	C52	5955627	NGD3M300LK KCU25	C165	5964188	KSEM3200SPLM KCM35	H65
5946082	T626M080X125RD9-DA KSP27	M147	5954296	A20SEVEMR0412M	C52	5955628	NGD3M300RK KCU25	C165	5964189	KSEM3300SPLM KCM35	H65
5946083	T626MF100X125RD9-DA KSP27	M147	5954297	A10MEVEML0307M	C53	5955629	NGD3M400LK KCU25	C165	5964190	KSEM4000SPLM KCM35	H65
5946084	T626M100X150RD10-DA KSP27	M147	5954298	A12QEVEML0307M	C53	5955630	NGD3M400RK KCU25	C165	5964865	RPP1204MOE432X8 X700	V106
5946085	T626MF120X125RD9-DA KSP27	M147	5954299	A16REVEML0310M	C53	5955631	NGD3M450LK KCU25	C165	5967744	NG2031RLK KCP10B	C163
5946086	T626MF120X150RD9-DA KSP27	M147	5954300	A16REVEML0410M	C53	5955632	NGD4M550RK KCU25	C165	5967745	NG2031RK KCP10B	C162
5946087	T626M120X175RD11-DA KSP27	M147	5954301	A20SEVEML0312M	C53	5956449	EVSMLR160226	C34	5967747	NG2047RLK KCP10B	C163
5946088	T626MF140X150RD11-DA KSP27	M147	5954302	A20SEVEML0412M	C53	5956450	EVSMLR160216	C34	5967748	NG2047RK KCP10B	C162
5946089	T626M140X200RD12-DA KSP27	M147	5955391	EVSBN19G1F16	C58	5956451	EVSMLR120222	C34	5967749	NG2062LK KCP10B	C163
5946090	T626MF160X150RD11-DA KSP27	M147	5955392	EVSBN26J1F17	C58	5956452	EVSMLR120216	C34	5967750	NG2062RK KCP10B	C162
5946091	T626M160X200RD12-DA KSP27	M147	5955415	EVM50R0526MC	C59	5956453	EVSML120216	C35	5967802	NG2094RK KCP10B	C163
5947280	LNGU543SRGEM KC520M	T19	5955416	EVM50R0532MC	C59	5956454	EVSML120222	C35	5967803	NG2094RK KCP10B	C162
5947511	LNGU543SRGEM KCK15	H19	5955417	EVM65R0626MC	C59	5956455	EVSML160216	C35	5967804	NG2125LK KCP10B	C163
5947517	KTP103125FEGM KCPM45	T36	5955418	EVM65R0826MC	C60	5956456	EVSML160226	C35	5967805	NG2125RK KCP10B	C162
5947518	KTP1200FEGM KCPM45	H36	5955419	EVM50L0526MC	C60	5964045	KSEM1250SPLM KCM35	H64	5967806	NG2M080LK KCP10B	C163
5949101	RCMT1204MO KCM25B	B240	5955420	EVM50L0532MC	C60	5964046	KSEM0500SPL KCM35	H64	5967807	NG2M080RK KCP10B	C162
5949288	KSEM2955HPGM KC7315	H55	5955421	EVM65L0626MC	C60	5964047	KSEM1300SPLM KCM35	H64	5967808	KSEM1000LK KCP10B	C163
5949382	KSEM1600FEGM KCPM45	H67	5955422	EVM65L0826MC	C60	5964048	KSEM1350SPLM KCM35	H64	5967810	NG2M100RK KCP10B	C162
5949383	KSEM2800FEGM KCPM45	H67	5955423	EVM50R0216M	C59	5964049	KSEM1400SPLM KCM35	H64	5967821	NG2M120LK KCP10B	C162
5949384	KSEM4000FEGM KCPM45	H68	5955424	EVM50L0216M	C59	5964050	KSEM0563SPL KCM35	H64	5967822	NG2M120RK KCP10B	C163
5953953	EVSML2525M0226	C37	5955426	EVSML200526C	C35	5964101	KSEM1450SPLM KCM35	H64	5967823	NG2M140LK KCP10B	C163
5953954	EVSML2525M0216	C37	5955427	EVSMLR160826C	C34	5964102	KSEM1500SPLM KCM35	H64	5967825	NG2M140RK KCP10B	C162
5953955	EVSML2020K0222	C37	5955428	EVSMLR160626C	C34	5964103	KSEM1550SPLM KCM35	H64	5967826	KSEM1151SPL KCP10B	C163
5953956	EVSML2020K0216	C37	5955429	EVSMLR160616C	C34	5964104	KSEM0625SPL KCM35	H64	5967827	NG2M170RK KCP10B	C162
5953957	EVSMLR2525M0226	C36	5955430	EVSMLR160526C	C34	5964105	KSEM1600SPLM KCM35	H64	5967828	NG2M195LK KCP10B	C163
5953958	EVSMLR2525M0216	C36	5955441	EVSMLR160516C	C34	5964106	KSEM0634SPL KCM35	H64	5967829	NG2M195RK KCP10B	C162
5953959	EVSMLR2020K0222	C36	5955442	EVSMLR120622C	C34	5964107	KSEM1615SPLM KCM35	H64	5967830	NG2M200LK KCP10B	C163
5953960	EVSMLR2020K0216	C36	5955443	EVSMLR120616C	C34	5964108	KSEM0641SPL KCM35	H64	5967831	NG2M200RK KCP10B	C162
5954211	EVSML4040R1040C	C37	5955444	EVSMLR120522C	C34	5964109	KSEM1650SPLM KCM35	H64	5967832	NG2M225LK KCP10B	C163
5954212	EVSML4040R0840C	C37	5955445	EVSMLR120516C	C34	5964110	KSEM0656SPL KCM35	H64	5967833	NG2M225RK KCP10B	C162
5954213	EVSML4040R0640C	C37	5955446	EVSMLR200526C	C34	5964111	KSEM1700SPLM KCM35	H64	5967834	NG2M275RK KCP10B	C162
5954214	EVSML3232P1032C	C37	5955447	EVSMLR200532C	C34	5964112	KSEM0688SPL KCM35	H64	5967835	NG2M300LK KCP10B	C163
5954215	EVSML3232P0832C	C37	5955448	EVSMLR200626C	C34	5964113	KSEM1750SPLM KCM35	H64	5967836	NG2M300RK KCP10B	C162
5954216	EVSML3232P0826C	C37	5955449	EVSMLR200632C	C34	5964115	KSEM1800SPLM KCM35	H64	5967837	NG3047LK KCP10B	C163
5954217	EVSML3232P0632C	C37	5955450	EVSMLR240640C	C34	5964116	FSDE0250J7DYA KC643M	P100	5967838	NG3047RK KCP10B	C162
5954218	EVSML3232P0626C	C37	5955451	EVSMLR200826C	C34	5964117	KSEM1850SPLM KCM35	H64	5967839	NG3062RK KCP10B	C162
5954219	EVSML3232P0532C	C37	5955452	EVSMLR200832C	C34	5964119	KSEM1900SPLM KCM35	H64	5967840	NG3072LK KCP10B	C163
5954220	EVSML3232P0526C	C37	5955453	EVSMLR240840C	C34	5964120	FSDE0375J9DYA KC643M	P100	5967841	NG3072RK KCP10B	C162
5954231	EVSML2525M0826C	C37	5955454	EVSMLR201032C	C34	5964121	KSEM0750SPL KCM35	H64	5967842	NG3078LK KCP10B	C163
5954232	EVSML2525M0626C	C37	5955455	EVSMLR241040C	C34	5964123	KSEM1920SPLM KCM35	H64	5967843	NG3078RK KCP10B	C162
5954233	EVSML2525M0616C	C37	5955456	EVSML120516C	C35	5964124	FSDE0375J9DYB KC643M	P100	5967844	NG3094LK KCP10B	C164
5954234	EVSML2525M0526C	C37	5955457	EVSML120522C	C35	5964125	KSEM0757SPL KCM35	H64	5967845	NG3125LK KCP10B	C164
5954235	EVSML2525M0516C	C37	5955459	EVSML160516C	C35	5964127	KSEM0758SPL KCM35	H64	5967846	NG3125RK KCP10B	C162
5954236	EVSML2020K0632C	C37	5955460	EVSML160526C	C35	5964128	FSDE0500N9DYA KC643M	P100	5967847	NG3156LK KCP10B	C164
5954237	EVSML2020K0616C	C37	5955461	EVSML200532C	C35	5964129	KSEM0759SPL KCM35	H64	5967848	NG3156RK KCP10B	C162
5954238	EVSML2020K0522C	C37	5955462	EVSML120616C	C3						

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5967873	NG3M120RK KCP10B	C162	5968045	NG3M150LK KCP25B	C163	5970229	UJBE0312J6BP KCSM15	P74	5979765	KGMR2525M65C	C68
5967874	NG3M225LK KCP10B	C164	5968047	NG3M150RK KCP25B	C162	5970230	UJBE0375J6CP KCSM15	P74	5979766	KGMR3232P50C	C68
5967875	NG3M225RK KCP10B	C162	5968048	NG3M175LK KCP25B	C163	5970231	UJBE0375J6BP KCSM15	P74	5979767	KGMR3232P65C	C68
5967876	NG3M275LK KCP10B	C164	5968049	NG3M175RK KCP25B	C162	5970232	UJBE0438J6CP KCSM15	P74	5979768	KGML2525M65C	C68
5967877	NG3M275RK KCP10B	C162	5968050	NG3M200LK KCP25B	C163	5970233	UJBE0438J6BP KCSM15	P74	5979769	KGML3232P50C	C68
5967878	NG3M300LK KCP10B	C164	5968051	NG3M200RK KCP25B	C162	5970234	RPPT1204M0E432X4 X700	V106	5979770	KGML3232P65C	C68
5967879	NG3M300RK KCP10B	C162	5968052	NG3M220LK KCP25B	C164	5970235	RPPT1204M0E432X4 X500	V106	5979801	KGMSR1665C	C65
5967880	NG3M400LK KCP10B	C164	5968053	NG3M220RK KCP25B	C162	5970237	RPPT1204M0E432X4 SC6525	V106	5979802	KGMSR2050C	C65
5967881	NG3M400RK KCP10B	C162	5968054	NG3M225LK KCP25B	C164	5971566	BMD800R640S250L250HP	V88	5979803	KGMSR2065C	C65
5967882	NG3M425LK KCP10B	C164	5968055	NG3M225RK KCP25B	C162	5971567	BMD800R640S250L250HP	V91	5979804	KGMSR2450C	C65
5967883	NG3M425RK KCP10B	C163	5968056	NG3M250LK KCP25B	C164	5972039	KTP1394HPM KCP15	H33	5979805	KGMSR2465C	C65
5967884	NG4125LK KCP10B	C164	5968057	NG3M250RK KCP25B	C162	5972205	M4KTD100Z02W100SGECPM40	T21	5979806	KGMSL1665C	C65
5967885	NG4125RK KCP10B	C163	5968058	NG3M275LK KCP25B	C164	5972206	M4KTD125Z03W100SGECPM40	T21	5979807	KGMSL2050C	C65
5967886	NG4189LK KCP10B	C164	5968059	NG3M275RK KCP25B	C162	5972207	M4KTD150Z04W125SGECPM40	T21	5979808	KGMSL2065C	C65
5967887	NG4189RK KCP10B	C163	5968060	NG3M300LK KCP25B	C162	5972208	M4KTD150Z05S05SGECPM40	T21	5979809	KGMSL2450C	C65
5967888	NG4250LK KCP10B	C164	5968061	NG3M300RK KCP25B	C164	5972209	M4KTD200Z03W100SGECPM40	T21	5979810	KGMSL2465C	C65
5967889	NG4250RK KCP10B	C163	5968062	NG3M320LK KCP25B	C164	5972210	M4KTD200Z06S075SGECPM40	T21	5979814	KGMR1665C	C67
5967891	NG4M400LK KCP10B	C164	5968063	NG3M320RK KCP25B	C162	5972351	M4KTD250Z06S075SGECPM40	T21	5979815	KGMR2050C	C67
5967892	NG4M400RK KCP10B	C163	5968064	NG3M325LK KCP25B	C164	5972352	M4KTD300Z07S100SGECPM40	T21	5979816	KGMSR2065C	C67
5967893	NG4M500LK KCP10B	C164	5968065	NG3M325RK KCP25B	C162	5972353	M4KTD400Z08S150SGECPM40	T21	5979817	KGMR2450C	C67
5967894	NG4M500RK KCP10B	C163	5968066	NG3M350LK KCP25B	C164	5972354	M4KTD100Z02C100EGECP725M	T21	5979818	KGMR2465C	C67
5967943	NG2031LK KCP25B	C163	5968067	NG3M350RK KCP25B	C162	5972355	M4KTD125Z03C125EGECP725M	T21	5979819	KGML1665C	C67
5967944	NG2031RK KCP25B	C162	5968068	NG3M400LK KCP25B	C164	5972356	M4KTD150Z05S050EGECP725M	T21	5979820	KGML2050C	C67
5967945	NG2047LK KCP25B	C163	5968069	NG3M400RK KCP25B	C162	5972357	M4KTD200Z05S075EGECP725M	T21	5979852	WNMG432MG KCP10B	B158
5967946	NG2047RK KCP25B	C162	5968070	NG3M425LK KCP25B	C164	5972358	M4KTD200Z06S075EGECP725M	T21	5979853	WNMG432MG KCP25B	B158
5967947	NG2062LK KCP25B	C163	5968072	NG3M425RK KCP25B	C163	5972359	M4KTD250Z06S075EGECP725M	T21	5979881	KGML2065C	C67
5967948	NG2062RK KCP25B	C162	5968073	NG3M450LK KCP25B	C163	5972360	M4KTD300Z07S100EGECP725M	T21	5979882	KGML2450C	C67
5967949	NG2094LK KCP25B	C163	5968074	NG3M450RK KCP25B	C164	5972371	M4KTD100Z02W100SGEMK520M	T21	5979883	KGML2465C	C67
5967950	NG2094RK KCP25B	C162	5968075	NG4125LK KCP25B	C164	5972372	M4KTD125Z03W100SGEMK520M	T21	5980138	EVSTR2525M0316C	C40
5967991	NG2125LK KCP25B	C163	5968076	NG4125RK KCP25B	C163	5972373	M4KTD150Z05S050SGEMK520M	T21	5980139	EVSTR1616K0216	C40
5967992	NG2125RK KCP25B	C162	5968077	NG4189LK KCP25B	C164	5972374	M4KTD200Z06S075SGEMK520M	T21	5980140	EVSTR1616K0316C	C40
5967993	NG2M050LK KCP25B	C163	5968078	NG4189RK KCP25B	C163	5972375	M4KTD250Z07S075SGEMK520M	T21	5980518	A12KEVMR1F05M	C54
5967994	NG2M050RK KCP25B	C162	5968079	NG4250LK KCP25B	C164	5972376	M4KTD300Z08S100SGEMK520M	T21	5980519	A12KEVMR0205M	C54
5967995	NG2M080LK KCP25B	C163	5968080	NG4250RK KCP25B	C163	5972377	M4KTD400Z211S150SGEMK520M	T21	5980520	A16MEVMR1F07M	C54
5967996	NG2M080RK KCP25B	C162	5968081	NG4M300LK KCP25B	C164	5975092	LNEU1235R034 KCPM40	U19	5980621	A16MEVMR207M	C54
5967997	NG2M100LK KCP25B	C163	5968082	NG4M300RK KCP25B	C163	5975093	LNEU1250R04 KCPM40	U19	5980622	A20QEVEMR1F07M	C54
5967998	NG2M100RK KCP25B	C162	5968083	NG4M320LK KCP25B	C164	5975094	LNEU1250R08 KCPM40	U19	5980623	A20QEVEMR207M	C54
5967999	NG2M120LK KCP25B	C163	5968084	NG4M350LK KCP25B	C164	5976169	LNPUS43SRGE KCPM40	T19	5980624	A25REVMR0210M	C54
5968000	NG2M120RK KCP25B	C162	5968085	NG4M350RK KCP25B	C163	5976170	LNGUS42SRGEM KCPM40	T19	5980625	A12KEVMIL1F05M	C55
5968001	NG2M140LK KCP25B	C163	5968086	NG4M400LK KCP25B	C164	5976671	LNGUS43SRGEM KCPM40	T19	5980626	A12KEVMIL0205M	C55
5968002	NG2M140RK KCP25B	C162	5968087	NG4M400RK KCP25B	C163	5976672	LNGUS44SRGEM KCPM40	T19	5980627	A16MEVMIL1F07M	C55
5968003	NG2M150LK KCP25B	C163	5968088	NG4M450LK KCP25B	C164	5976676	MCC0800HP	V88, V91	5980628	A16MEVMIL0207M	C55
5968004	NG2M150RK KCP25B	C162	5968089	NG4M450RK KCP25B	C163	5976678	SDSW66	V91	5980629	A20QEVEML1F07M	C55
5968005	NG2M170LK KCP25B	C163	5968090	NG4M500LK KCP25B	C164	5977291	LNUX301960RRP KCP10B	E54	5980630	A20QEVEML207M	C55
5968006	NG2M170RK KCP25B	C162	5968101	NG4M500RK KCP25B	C163	5977292	LNUX301960RRP KCP25B	E54	5980631	A25REVMIL0210M	C55
5968007	NG2M175LK KCP25B	C163	5968102	NG4M550LK KCP25B	C164	5977635	EVBSN26J0540	C58	5980635	A08KEVMR1F05I	C52
5968008	NG2M175RK KCP25B	C162	5968103	NG4M550RK KCP25B	C163	5977636	EVBSN26J0640	C58	5980636	A08KEVMR0205I	C52
5968009	NG2M195LK KCP25B	C163	5968104	NG4M600LK KCP25B	C164	5977637	EVBSN32M0560	C58	5980637	A10MEVMR1F07I	C52
5968010	NG2M195RK KCP25B	C162	5968105	NG4M600RK KCP25B	C163	5977638	EVBSN32M0660	C58	5980638	A10MEVMR207I	C52
5968011	NG2M200LK KCP25B	C163	5968391	KTIP0800FEGM KCPM45	H36	5977639	EVBSN32M0860	C58	5980639	A12QEVEMR1F07M	C52
5968012	NG2M200RK KCP25B	C162	5968392	KTIP0850FEGM KCPM45	H36	5977640	EVBSN52X06120	C58	5980640	A12QEVEMR207I	C52
5968013	NG2M220LK KCP25B	C163	5968393	KTIP0900FEGM KCPM45	H36	5977721	EVBSN52X08120	C58	5980671	A16REVMR0210I	C52
5968014	NG2M220RK KCP25B	C162	5968394	KTIP0950FEGM KCPM45	H36	5979010	EVM50R0316MC	C59	5980672	A08KEVMIL1F05I	C53
5968015	NG2M225LK KCP25B	C163	5968395	KTIP1000FEGM KCPM45	H36	5979181	EVM50R0322MC	C59	5980673	A25REVMIL0205I	C53
5968016	NG2M225RK KCP25B	C162	5968396	KTIP1050FEGM KCPM45	H36	5979182	EVM50R0416MC	C59	5980674	A10MEVMIL1F07I	C53
5968017	NG2M250LK KCP25B	C163	5968397	KTIP1100FEGM KCPM45	H36	5979183	EVM50R0422MC	C59	5980675	A10MEVMIL0207I	C53
5968018	NG2M250RK KCP25B	C162	5968398	KTIP1150FEGM KCPM45	H36	5979184	EVM50R0432MC	C59	5980676	A12QEVEML1F07I	C53
5968019	NG2M275LK KCP25B	C163	5968399	KTIP1200FEGM KCPM45	H36	5979185	EVM50L0316MC	C60	5980677	A12QEVEML0207I	C53
5968020	NG2M275RK KCP25B	C162	5968400	KTIP1250FEGM KCPM45	H36	5979186	EVM50L0322MC	C60	5980678	A16REVMIL0210I	C53
5968021	NG2M300LK KCP25B	C163	5968401	KTIP0500FEG KCPM45	H36	5979187	EVM50L0416MC	C60	5980761	EVSTR1616K0416C	C40
5968022	NG2M300RK KCP25B	C162	5968402	KTIP1300FEGM KCPM45	H36	5979188	EVM50L0422MC	C60	5980762	EVSTR2020K0216	C40
5968023	NG2M320RK KCP25B	C162	5968403	KTIP1350FEGM KCPM45	H36	5979189	EVM50L0432MC	C60	5980763	EVSTR2020K0316C	C40
5968024	NG2M325LK KCP25B	C163	5968404	KTIP1400FEGM KCPM45	H36	5979190	KGMSR2525M50C	C66	5980764	EVSTR2020K0326C	C40
5968025	NG2M325RK KCP25B	C162	5968405	KTIP1450FEGM KCPM45	H36	5979191	KGMSL2525M50C	C66	5980765	EVSTR2020K0416C	C40
5968026	NG3047LK KCP25B	C163	5968406	KTIP1500FEGM KCPM45	H36	5979192	KGMR2525M50C	C68	5980766	EVSTR2020K0426C	C40
5968027	NG3047RK KCP25B	C162	5968407	KTIP1550FEGM KCPM45	H36	5979193	KGML2525M50C	C68	5980767	EVSTR2525M0316	C40
5968028	NG3062RK KCP25B	C162	5968408	KTIP1600FEGM KCPM45	H36	5979194	KGMSR1650C	C65	5980768	EVSTR2525M0226	C40
5968029	NG3072LK KCP25B	C163	5968409	KTIP1650FEGM KCPM45	H36	5979195	KGMSL1650C	C65	5980769	EVSTR2525M0326C	C40
5968030	NG3072RK KCP25B	C162	5968410	KTIP1700FEGM KCPM45	H36	5979196	KGMR1650C	C67	5980770	EVSTR2525M0426C	C40
5968031	NG3078LK KCP25B	C163	5968411	KTIP1750FEGM KCPM45	H36	5979197	KGML1650C	C67	5980771	EVSTR2525M0432C	C40
5968032	NG3078RK KCP25B	C162	5968412	KTIP1800FEGM KCPM45	H36	5979198	EVM50R0426MC	C59	5980772	EVSTR2525M0526C	C40
5968034	NG3094LK KCP25B	C164	5968413	KTIP1850FEGM KCPM45	H36	5979199	EVM50L0426MC	C60	5980773	EVSTR2525M0532C	C40
5968035	NG3125LK KCP25B	C164	5968414	KTIP1900FEGM KCPM45	H36	5979200	EVM50R0312MC	C59	5980774	EVSTR3232P0432C	C40
5968036	NG3125RK KCP25B	C162	5968416	KTIP07500FEG KCPM45	H36	5979201	EVM50R0412MC	C59	5980775	EVSTR3232P0540C	C40
5968037	NG3156LK KCP25B	C164	5968417	KTIP1950FEGM KCPM45	H36	5979202	EVM50L0312MC	C60	5980776	EVSTR1616K0416C	C41
5968038	NG3156RK KCP25B	C162	5970222	UJBE0125J6CP KCSM15	P74	5979203	EVM50L0412MC	C60	5980777	EVSTR1616K0216	C41
5968039	NG3189LK KCP25B	C164	5970223	UJBE0125J6BP KCSM15	P74	5979745	KGMSR2525M65C	C66	5980778	EVSTR1616K0316C	C41
5968040	NG3189RK KCP25B	C163	5970224	UJBE0188J6BP KCSM15	P74	5979746	KGMSR3232P50C	C66	5980779	EVSTR1616K0416C	C41
5968041	NG3M100LK KCP25B	C163	5970225	UJBE0188J6CP KCSM15	P74	5979747	KGMSR3232P65C	C66	5980780	EVSTR2020K0216	C41
5968042	NG3M100RK KCP25B	C162	5970226	UJBE0250J6CP KCSM15	P74	5979748	KGMSL2525M65C	C66	5980801	EVSTR2020K0316C	C41
5968043	NG3M120LK KCP25B	C163	5970227	UJBE0250J6BP KCSM15	P74	5979749	KGMSL3232				



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5980804	.....EVSCTL2020K0426C	.....C41	5981607	.....KSEM3700FEGM KCPM45	.....H68	5987612	.....B286D09921HPS KN15	.....G83	5987776	.....B284D06700HPS KN15	.....G83
5980805	.....EVSCTL2525M0216	.....C41	5981608	.....KSEM3800FEGM KCPM45	.....H68	5987613	.....B286D10000HPS KN15	.....G83	5987777	.....B284D06900HPS KN15	.....G83
5980806	.....EVSCTL2525M0226	.....C41	5981609	.....KSEM1500FEG KCPM45	.....H68	5987614	.....B286D10100HPS KN15	.....G83	5987778	.....B284D07300HPS KN15	.....G83
5980807	.....EVSCTL2525M0326C	.....C41	5981610	.....KSEM3900FEGM KCPM45	.....H68	5987615	.....B286D10200HPS KN15	.....G83	5987779	.....B284D07600HPS KN15	.....G83
5980808	.....EVSCTL2525M0426C	.....C41	5982089	.....VBMT331MP KCP25B	.....B281	5987616	.....B286D10300HPS KN15	.....G83	5987780	.....B284D07700HPS KN15	.....G83
5980809	.....EVSCTL2525M0432C	.....C41	5984676	.....KSEM2670FEGM KCPM45	.....H67	5987617	.....B286D10320HPS KN15	.....G83	5987781	.....B284D08400HPS KN15	.....G83
5980810	.....EVSCTL2525M0526C	.....C41	5986819	.....KGP0300N0189GD KCU45	.....H101	5987618	.....B286D10500HPS KN15	.....G83	5987782	.....B284D08433HPS KN15	.....G83
5980811	.....EVSCTL2525M0532C	.....C41	5987474	.....B286D03000HPS KN15	.....G82	5987619	.....B286D10600HPS KN15	.....G83	5987783	.....B284D08700HPS KN15	.....G83
5980812	.....EVSCTL3232P0432C	.....C41	5987475	.....B286D03100HPS KN15	.....G82	5987620	.....B286D10716HPS KN15	.....G83	5987784	.....B284D08800HPS KN15	.....G83
5980813	.....EVSCTL3232P0540C	.....C41	5987476	.....B286D03175HPS KN15	.....G82	5987631	.....B286D10800HPS KN15	.....G84	5987785	.....B284D08900HPS KN15	.....G83
5980815	.....EVSCTR100216	.....C38	5987477	.....B286D03200HPS KN15	.....G82	5987632	.....B286D11000HPS KN15	.....G84	5987786	.....B284D09100HPS KN15	.....G83
5980816	.....EVSCTR100316C	.....C38	5987478	.....B286D03264HPS KN15	.....G82	5987633	.....B286D11100HPS KN15	.....G84	5987787	.....B284D09300HPS KN15	.....G83
5980817	.....EVSCTR100416C	.....C38	5987479	.....B286D03300HPS KN15	.....G82	5987634	.....B286D11113HPS KN15	.....G84	5987788	.....B284D09400HPS KN15	.....G83
5980818	.....EVSCTR120216	.....C38	5987480	.....B286D03455HPS KN15	.....G82	5987635	.....B286D11200HPS KN15	.....G84	5987789	.....B284D09900HPS KN15	.....G83
5980819	.....EVSCTR120316C	.....C38	5987531	.....B286D03500HPS KN15	.....G82	5987636	.....B286D11300HPS KN15	.....G84	5987790	.....B284D10100HPS KN15	.....G83
5980820	.....EVSCTR120326C	.....C38	5987532	.....B286D03571HPS KN15	.....G82	5987637	.....B286D11400HPS KN15	.....G84	5987791	.....B284D10300HPS KN15	.....G83
5980911	.....EVSCTR120416C	.....C38	5987533	.....B286D03700HPS KN15	.....G82	5987638	.....B286D11500HPS KN15	.....G84	5987792	.....B284D10600HPS KN15	.....G83
5980912	.....EVSCTR120426C	.....C38	5987534	.....B286D03734HPS KN15	.....G82	5987639	.....B286D11509HPS KN15	.....G84	5987793	.....B284D10800HPS KN15	.....G84
5980913	.....EVSCTR160216	.....C38	5987535	.....B286D03900HPS KN15	.....G82	5987640	.....B286D11800HPS KN15	.....G84	5987794	.....B284D11100HPS KN15	.....G84
5980914	.....EVSCTR160226	.....C38	5987536	.....B286D03970HPS KN15	.....G82	5987641	.....B286D11908HPS KN15	.....G84	5987795	.....B284D11200HPS KN15	.....G84
5980915	.....EVSCTR160316C	.....C38	5987537	.....B286D04000HPS KN15	.....G82	5987642	.....B286D12000HPS KN15	.....G84	5987796	.....B284D11300HPS KN15	.....G84
5980916	.....EVSCTR160326C	.....C38	5987538	.....B286D04039HPS KN15	.....G82	5987643	.....B286D12304HPS KN15	.....G84	5987797	.....B284D11400HPS KN15	.....G84
5980917	.....EVSCTR160426C	.....C38	5987539	.....B286D04100HPS KN15	.....G82	5987644	.....B286D12500HPS KN15	.....G84	5987798	.....B284D11500HPS KN15	.....G84
5980918	.....EVSCTR160432C	.....C38	5987540	.....B286D04200HPS KN15	.....G82	5987645	.....B286D12600HPS KN15	.....G84	5987799	.....B284D11509HPS KN15	.....G84
5980919	.....EVSCTR160526C	.....C38	5987551	.....B286D04400HPS KN15	.....G82	5987646	.....B286D12700HPS KN15	.....G84	5987800	.....B284D11800HPS KN15	.....G84
5980920	.....EVSCTR160532C	.....C38	5987552	.....B286D04305HPS KN15	.....G82	5987647	.....B286D13000HPS KN15	.....G84	5987801	.....B284D12304HPS KN15	.....G84
5980932	.....EVSCTR200432C	.....C38	5987553	.....B286D04500HPS KN15	.....G82	5987648	.....B286D13096HPS KN15	.....G84	5987802	.....B284D12600HPS KN15	.....G84
5980933	.....EVSCTR200540C	.....C38	5987554	.....B286D04600HPS KN15	.....G82	5987649	.....B286D13100HPS KN15	.....G84	5987803	.....B284D13000HPS KN15	.....G84
5980938	.....EVSCTL100216	.....C38	5987555	.....B286D04700HPS KN15	.....G82	5987650	.....B286D13300HPS KN15	.....G84	5987804	.....B284D13096HPS KN15	.....G84
5980939	.....EVSCTL100316C	.....C39	5987556	.....B286D04763HPS KN15	.....G82	5987651	.....B286D13400HPS KN15	.....G84	5987805	.....B284D13100HPS KN15	.....G84
5980940	.....EVSCTL100416C	.....C39	5987557	.....B286D04800HPS KN15	.....G82	5987652	.....B286D13500HPS KN15	.....G84	5987806	.....B284D13300HPS KN15	.....G84
5981011	.....EVSCTL120216	.....C39	5987558	.....B286D04900HPS KN15	.....G82	5987653	.....B286D14000HPS KN15	.....G84	5987807	.....B284D13400HPS KN15	.....G84
5981012	.....EVSCTL120316C	.....C39	5987559	.....B286D05000HPS KN15	.....G82	5987654	.....B286D14200HPS KN15	.....G84	5987808	.....B284D13500HPS KN15	.....G84
5981013	.....EVSCTL120326C	.....C39	5987560	.....B286D05100HPS KN15	.....G82	5987655	.....B286D14288HPS KN15	.....G84	5987809	.....B284D14200HPS KN15	.....G84
5981014	.....EVSCTL120416C	.....C39	5987561	.....B286D05106HPS KN15	.....G82	5987656	.....B286D14500HPS KN15	.....G84	5987810	.....B284D14500HPS KN15	.....G84
5981015	.....EVSCTL120426C	.....C39	5987562	.....B286D05159HPS KN15	.....G82	5987657	.....B286D14684HPS KN15	.....G84	5987821	.....B284D14684HPS KN15	.....G84
5981016	.....EVSCTL160216	.....C39	5987563	.....B286D05200HPS KN15	.....G82	5987658	.....B286D15000HPS KN15	.....G84	5987822	.....B284D15000HPS KN15	.....G84
5981017	.....EVSCTL160226	.....C39	5987564	.....B286D05300HPS KN15	.....G82	5987659	.....B286D15083HPS KN15	.....G84	5987823	.....B284D15083HPS KN15	.....G84
5981018	.....EVSCTL160316C	.....C39	5987565	.....B286D05400HPS KN15	.....G82	5987660	.....B286D15100HPS KN15	.....G84	5987824	.....B284D15100HPS KN15	.....G84
5981019	.....EVSCTL160326C	.....C39	5987566	.....B286D05410HPS KN15	.....G82	5987661	.....B286D15300HPS KN15	.....G84	5987825	.....B284D15300HPS KN15	.....G84
5981020	.....EVSCTL160426C	.....C39	5987567	.....B286D05500HPS KN15	.....G82	5987662	.....B286D15400HPS KN15	.....G84	5987826	.....B284D15400HPS KN15	.....G84
5981021	.....EVSCTL160432C	.....C39	5987568	.....B286D05558HPS KN15	.....G82	5987663	.....B286D15875HPS KN15	.....G84	5987827	.....B284D16000HPS KN15	.....G84
5981022	.....EVSCTL160526C	.....C39	5987569	.....B286D05600HPS KN15	.....G83	5987664	.....B286D16000HPS KN15	.....G84	5987828	.....B284D16500HPS KN15	.....G84
5981023	.....EVSCTL160532C	.....C39	5987571	.....B286D05791HPS KN15	.....G83	5987665	.....B286D16500HPS KN15	.....G84	5987829	.....B284D16670HPS KN15	.....G84
5981024	.....EVSCTL200432C	.....C39	5987572	.....B286D06000HPS KN15	.....G83	5987666	.....B286D16670HPS KN15	.....G84	5987830	.....B284D16800HPS KN15	.....G84
5981025	.....EVSCTL200540C	.....C39	5987573	.....B286D06200HPS KN15	.....G83	5987667	.....B286D16800HPS KN15	.....G84	5987831	.....B284D16900HPS KN15	.....G84
5981500	.....KSEM1650FEGM KCPM45	.....H67	5987574	.....B286D06300HPS KN15	.....G83	5987668	.....B286D16900HPS KN15	.....G84	5987832	.....B284D17000HPS KN15	.....G84
5981571	.....KSEM1700FEGM KCPM45	.....H67	5987575	.....B286D06350HPS KN15	.....G83	5987669	.....B286D17000HPS KN15	.....G84	5987833	.....B284D17300HPS KN15	.....G84
5981572	.....KSEM1750FEGM KCPM45	.....H67	5987576	.....B286D06400HPS KN15	.....G83	5987670	.....B286D17300HPS KN15	.....G84	5987834	.....B284D17463HPS KN15	.....G84
5981573	.....KSEM1800FEGM KCPM45	.....H67	5987577	.....B286D06500HPS KN15	.....G83	5987671	.....B286D17463HPS KN15	.....G84	5987835	.....B284D17859HPS KN15	.....G84
5981574	.....KSEM1850FEGM KCPM45	.....H67	5987578	.....B286D06528HPS KN15	.....G83	5987672	.....B286D17500HPS KN15	.....G84	5987836	.....B284D17500HPS KN15	.....G84
5981575	.....KSEM1900FEGM KCPM45	.....H67	5987579	.....B286D06600HPS KN15	.....G83	5987673	.....B286D17859HPS KN15	.....G84	5987837	.....B284D18000HPS KN15	.....G84
5981576	.....KSEM0750FEG KCPM45	.....H67	5987580	.....B286D06630HPS KN15	.....G83	5987674	.....B286D18000HPS KN15	.....G84	5987838	.....B284D19000HPS KN15	.....G84
5981577	.....KSEM1950FEGM KCPM45	.....H67	5987581	.....B286D06700HPS KN15	.....G83	5987675	.....B286D19000HPS KN15	.....G84	5988771	.....EG0200M2P02GUP KCU25	.....C17
5981578	.....KSEM2000FEGM KCPM45	.....H67	5987582	.....B286D06746HPS KN15	.....G83	5987676	.....B286D19050HPS KN15	.....G84	5988772	.....EG0600M06P04GUP KCU25	.....C17
5981579	.....KSEM2050FEGM KCPM45	.....H67	5987583	.....B286D06800HPS KN15	.....G83	5987677	.....B286D20000HPS KN15	.....G84	5988773	.....EG0500M06P08GUP KCU25	.....C17
5981580	.....KSEM2100FEGM KCPM45	.....H67	5987584	.....B286D06900HPS KN15	.....G83	5987678	.....B284D03100HPS KN15	.....G82	5988774	.....EG0500M05P04GUP KCU25	.....C17
5981581	.....KSEM2150FEGM KCPM45	.....H67	5987585	.....B286D07000HPS KN15	.....G83	5987751	.....B284D03264HPS KN15	.....G82	5988775	.....EG0500M05P08GUP KCU25	.....C17
5981582	.....KSEM2200FEGM KCPM45	.....H67	5987587	.....B286D07145HPS KN15	.....G83	5987752	.....B284D03455HPS KN15	.....G82	5988776	.....EG0700M06P08GUP KCU25	.....C17
5981583	.....KSEM2250FEGM KCPM45	.....H67	5987588	.....B286D07300HPS KN15	.....G83	5987753	.....B284D03700HPS KN15	.....G82	5988777	.....EG0800M08P08GUP KCU25	.....C17
5981584	.....KSEM2300FEGM KCPM45	.....H67	5987589	.....B286D07400HPS KN15	.....G83	5987754	.....B284D03734HPS KN15	.....G82	5988778	.....EG0800M08P12GUP KCU25	.....C17
5981585	.....KSEM2350FEGM KCPM45	.....H67	5987590	.....B286D07541HPS KN15	.....G83	5987755	.....B284D03900HPS KN15	.....G82	5988779	.....EG1000M10P12GUP KCU25	.....C17
5981586	.....KSEM2400FEGM KCPM45	.....H67	5987591	.....B286D07600HPS KN15	.....G83	5987756	.....B284D04039HPS KN15	.....G82	5988780	.....ER0300M03P00GUP KCU25	.....C19
5981587	.....KSEM2450FEGM KCPM45	.....H67	5987592	.....B286D07700HPS KN15	.....G83	5987757	.....B284D04100HPS KN15	.....G82	5988781	.....ER0400M04P00GUP KCU25	.....C19
5981588	.....KSEM2500FEGM KCPM45	.....H67	5987593	.....B286D07938HPS KN15	.....G83	5987758	.....B284D04305HPS KN15	.....G82	5988782	.....ER0500M05P00GUP KCU25	.....C19
5981589	.....KSEM1000FEG KCPM45	.....H67	5987595	.....B286D08000HPS KN15	.....G83	5987759	.....B284D04400HPS KN15	.....G82	5988783	.....ER0600M06P00GUP KCU25	.....C19
5981591	.....KSEM2550FEGM KCPM45	.....H67	5987596	.....B286D08334HPS KN15	.....G83	5987760	.....B284D04600HPS KN15	.....G82	5988785	.....ER0800M08P00GUP KCU25	.....C19
5981592	.....KSEM2600FEGM KCPM45	.....H67	5987597	.....B286D08400HPS KN15	.....G83	5987761	.....B284D04700HPS KN15	.....G82	5988787	.....EG0940M2P05GUP KCU25	.....C18
5981593	.....KSEM2650FEGM KCPM45	.....H67	5987598	.....B286D08433HPS KN15	.....G83	5987762	.....B284D04900HPS KN15	.....G82	5988788	.....EG2500M06P1GUP KCU25	.....C18
5981594	.....KSEM2700FEGM KCPM45	.....H67	5987599	.....B286D08500HPS KN15	.....G83	5987763	.....B284D05106HPS KN15	.....G82	5988789	.....EG2500M06P2GUP KCU25	.....C18
5981595	.....KSEM2750FEGM KCPM45	.....H67	5987600	.....B286D08700HPS KN15	.....G83	5987764	.....B284D05200HPS KN15	.....G82	5988790	.....EG3120M08P3GUP KCU25	.....C18
5981596	.....KSEM2850FEGM KCPM45	.....H67	5987601	.....B286D08733HPS KN15	.....G83	5					

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
5988837	EG0500M05P08GUP K313	C17	5990983	B285D13000HPS KN15	G84	6000434	KM63XMKZGMR65CY	C70, C147	6012689	EG0300M03P04GUP KCU10	C17
5988838	EG0700M06P08GUP K313	C17	5990984	B285D13096HPS KN15	G84	6000436	KM63XMKZGMLF65CY	C70, C147	6012690	EG0400M04P04GUP KCU10	C17
5988839	EG0800M08P08GUP K313	C17	5990985	B285D13100HPS KN15	G84	6000462	PSC63KGMER65C	C73, C151	6012701	EG0400M04P08GUP KCU10	C17
5988840	EG0800M08P12GUP K313	C17	5990986	B285D13300HPS KN15	G84	6000463	PSC63KGMEL65C	C73, C151	6012702	EG0500M05P04GUP KCU10	C17
5988851	EG1000M10P12GUP K313	C17	5990987	B285D13400HPS KN15	G84	6000464	PSC63KGMRS65C	C72, C150	6012703	EG0500M05P08GUP KCU10	C17
5988858	ER0400M04P00GUP K313	C19	5990988	B285D13500HPS KN15	G84	6000465	PSC63KGMSEL65C	C72, C150	6012704	EG0600M06P04GUP KCU10	C17
5988859	ER0500M05P00GUP K313	C19	5990989	B285D14200HPS KN15	G84	6000466	PSC80KGMER65C	C73, C151	6012705	EG0600M06P08GUP KCU10	C17
5988860	ER0600M06P00GUP K313	C19	5990990	B285D14288HPS KN15	G84	6000467	PSC80KGMEL65C	C73, C151	6012706	EG0631FF05GUP KCU10	C18
5988861	ER0800M08P00GUP K313	C19	5990991	B285D14684HPS KN15	G84	6000468	PSC80KGMRS65C	C72, C150	6012707	EG0700M06P08GUP KCU10	C17
5988903	EG0940I02P05GUP K313	C18	5990992	B285D15000HPS KN15	G84	6000469	PSC80KGMSEL65C	C72, C150	6012708	EG0800M08P08GUP KCU10	C17
5988904	EG0631FF05GUP K313	C18	5990993	B285D15083HPS KN15	G84	6001036	ONGX645SNHB KCK15	S34	6012709	EG0800M08P12GUP KCU10	C17
5988905	ER1250I03P00GUP K313	C20	5990994	B285D15100HPS KN15	G84	6001106	ONGX645ENLE KC514M	S33	6012710	EG0940I02P05GUP KCU10	C18
5988961	EG250I06P1GUP K313	C18	5990995	B285D15300HPS KN15	G84	6001107	ONGX645SNGP KC514M	S33	6012711	EG1000M10P12GUP KCU10	C17
5988962	EG250I06P2GUP K313	C18	5990996	B285D15400HPS KN15	G84	6001108	ONGX645SNGP KCK15	S33	6012712	EG1250I03P05GUP KCU10	C18
5988963	EG31208P3GUP K313	C18	5990997	B285D15875HPS KN15	G84	6001231	LNGU541ERGEJ KC422M	T18	6012713	EG1250I3P1GUP KCU10	C18
5988964	EG375I10P3GUP K313	C18	5990998	B285D16000HPS KN15	G84	6001232	ONGX645SNGP KC422M	T18	6012714	EG1870I04P1GUP KCU10	C18
5988965	ER1870I04P00GUP K313	C20	5990999	B285D16500HPS KN15	G84	6001233	LNPUS45SRGE KC725M	T19	6012715	EG1870I04P2GUP KCU10	C18
5988966	ER250I06P00GUP K313	C20	5991000	B285D16670HPS KN15	G84	6001234	LNPUS45SRGE KCPK30	T19	6012716	EG250I06P1GUP KCU10	C18
5988967	ER31208P00GUP K313	C20	5991001	B285D16800HPS KN15	G84	6001235	LNPUS45SRGE KCK15	T19	6012717	EG31208P2GUP KCU10	C18
5989962	CNMG432MG KCP25B	B57	5991002	B285D16900HPS KN15	G84	6001236	LNPUS45SRGE KCPM40	T19	6012718	EG31208P3GUP KCU10	C18
5989963	CNMG433MG KCP25B	B57	5991003	B285D17000HPS KN15	G84	6001237	LNPUS45SRGE KC522M	T19	6012719	EG375I10P3GUP KCU10	C18
5989965	CNMG432MG KCP10B	B57	5991004	B285D17300HPS KN15	G84	6001244	ONGX645SNHB KC514M	S34	6012720	EG300M03P00GUP KCU10	C19
5989966	CNMG433MG KCP10B	B57	5991005	B285D17463HPS KN15	G84	6001245	ONGX645SNHB KCPK30	S34	6012721	ER0400M04P00GUP KCU10	C19
5989967	CNMG434MG KCP10B	B57	5991006	B285D17500HPS KN15	G84	6001247	ONGX645SNHB KCK20	S34	6012722	EG0500M05P00GUP KCU10	C19
5990785	B285D03100HPS KN15	G82	5991007	B285D17859HPS KN15	G84	6001258	ONGX645SNHB KC514M	S34	6012723	ER0600M06P00GUP KCU10	C19
5990786	B285D03264HPS KN15	G82	5991008	B285D19000HPS KN15	G84	6001259	ONGX645SNHB KCK15	S34	6012724	ER0800M08P00GUP KCU10	C19
5990787	B285D03455HPS KN15	G82	5991009	B285D19050HPS KN15	G84	6001260	ONGX645SNHB KCK20	S34	6012725	ER1250I03P00GUP KCU10	C20
5990788	B285D03500HPS KN15	G82	5991010	B285D20000HPS KN15	G84	6001316	ONGX645ANSNGP KC514M	S33	6012726	ER1870I04P00GUP KCU10	C20
5990789	B285D03571HPS KN15	G82	5991410	KSEM2370HPGM KCPM45	H57	6001317	ONGX645ANSNGP KCK15	S33	6012727	ER250I06P00GUP KCU10	C18
5990790	B285D03700HPS KN15	G82	5999788	KM40TSKGMER50C	C70, C147	6001321	ONPX642SNGP KCK15	S34	6012728	ER31208P00GUP KCU10	C20
5990911	B285D03734HPS KN15	G82	5999789	KM40TSKGMEL50C	C70, C147	6001322	ONPX645SNHB KCK15	S34	6012729	EG0412M04U04GUP KCP10B	C17
5990912	B285D03900HPS KN15	G82	5999790	KM40TSKGMRS50C	C69, C146	6001323	ONGX642SNHB KC514M	S34	6012730	EG0412M04U08GUP KCP10B	C17
5990913	B285D04039HPS KN15	G82	5999861	KM40TSKGMSEL50C	C69, C146	6001324	ONGX642SNHB KCK15	S34	6012741	EG1920I04U1GUP KCU10	C18
5990914	B285D04041HPS KN15	G82	5999862	KM50TSKGMER50C	C70, C147	6001979	MILL16E200Z050N08W	S30	6012742	EG1920I04U2GUP KCP10B	C18
5990915	B285D04305HPS KN15	G82	5999863	KM50TSKGMEL50C	C70, C147	6001980	MILL16E250Z060N08W	S30	6012743	EG255I06U1GUP KCP10B	C18
5990916	B285D04400HPS KN15	G82	5999864	KM50TSKGMRS50C	C69, C146	6002121	MILL16E300Z100N08W	S30	6012744	EG255I06U2GUP KCP10B	C18
5990917	B285D04600HPS KN15	G82	5999865	KM50TSKGMSEL50C	C69, C146	6002122	MILL16E400Z140N08W	S30	6012745	EG0812M08U08GUP KCP10B	C17
5990918	B285D04700HPS KN15	G82	5999946	KM63TSKGMER50C	C70, C147	6002123	MILL16E500Z180N08W	S30	6012746	EG0812M08U12GUP KCP10B	C17
5990919	B285D05100HPS KN15	G82	5999947	KM63TSKGMEL50C	C70, C147	6002124	MILL16E600Z220N08W	S30	6012747	EG0612M06U04GUP KCP10B	C17
5990920	B285D05159HPS KN15	G82	5999948	KM63TSKGMRS50C	C69, C146	6002125	MILL16E800Z280N08W	S30	6012748	EG0612M06U08GUP KCP10B	C17
5990931	B285D05300HPS KN15	G82	5999949	KM63TSKGMSEL50C	C69, C146	6003372	B269A14600HP KCPK15	G64	6012749	EG31708I03GUP KCP10B	C18
5990932	B285D05400HPS KN15	G82	5999950	KM63XMKZGMR50CY	C70, C147	6003373	B269A15200HP KCPK15	G64	6012750	EG0512M05U04GUP KCP10B	C17
5990933	B285D05410HPS KN15	G82	5999971	KM63XMKZGMLF50CY	C70, C147	6003401	B269A17600HP KCPK15	G64	6012751	EG0512M05U08GUP KCP10B	C17
5990934	B285D05791HPS KN15	G83	5999972	KM63XMKZGMSR50CY	C69, C146	6003402	B269A18600HP KCPK15	G64	6012752	EG0712M06U08GUP KCP10B	C17
5990935	B285D06200HPS KN15	G83	5999973	KM63XMKZGMLF50CY	C69, C146	6010729	XDPT090408ERD41 X500	V15	6012753	EG380I0U3GUP KCP10B	C18
5990936	B285D06350HPS KN15	G83	6000012	KM80TSKGMER50C	C70, C147	6010730	XDPT090408ERD41 SP6519	V15	6012754	EG1012M10U12GUP KCP10B	C17
5990937	B285D06528HPS KN15	G83	6000013	KM80TSKGMEL50C	C70, C147	6010771	XDPT090408ERD41 SC6525	V15	6012755	ER0412M04U00GUP KCP10B	C19
5990938	B285D06630HPS KN15	G83	6000014	KM80TSKGMRS50C	C69, C146	6010772	XDPT120508ERD41 X500	V22	6012756	ER1920I04U0GUP KCP10B	C19
5990939	B285D06746HPS KN15	G83	6000015	KM80TSKGMSEL50C	C69, C146	6010773	XDPT120508ERD41 SP6519	V22	6012757	ER0512M05U00GUP KCP10B	C19
5990940	B285D06800HPS KN15	G83	6000016	KM80ATCKGMER50C	C70, C147	6010774	XDPT120508ERD41 SC6525	V22	6012758	ER0612M06U00GUP KCP10B	C19
5990941	B285D06900HPS KN15	G83	6000017	KM80ATCKGMSEL50C	C70, C147	6012527	EG0212M02U02GUN KCU10	C20	6012759	ER255I06U00GUP KCP10B	C18
5990942	B285D07000HPS KN15	G83	6000018	KM80ATCKGMSR50C	C69, C146	6012528	EG0251M02U02GUN KCU10	C20	6012760	ER31708U00GUP KCP10B	C19
5990943	B285D07400HPS KN15	G83	6000019	KM80ATCKGMSEL50C	C69, C146	6012529	EG0312M03U02GUN KCU10	C20	6012761	ER0812M08U00GUP KCP10B	C19
5990944	B285D07541HPS KN15	G83	6000026	PSC40KGMER50C	C73, C151	6012530	EG0312M03U04GUN KCU10	C20	6012762	EG0312M03U04GUP KCP25B	C17
5990945	B285D07600HPS KN15	G83	6000027	PSC40KGMEL50C	C73, C151	6012651	EG0631FF05GUN KCU10	C21	6012763	EG130I03U05GUP KCP25B	C18
5990946	B285D08433HPS KN15	G83	6000028	PSC40KGMRS50C	C72, C150	6012652	EG130I03U05GUN KCU10	C21	6012764	EG130I03U1GUP KCP25B	C18
5990947	B285D08700HPS KN15	G83	6000029	PSC40KGMSEL50C	C72, C150	6012653	EG130I03U1GUN KCU10	C21	6012765	EG012M02U02GUP KCP25B	C17
5990948	B285D08800HPS KN15	G83	6000030	PSC50KGMER50C	C73, C151	6012654	ER0312M03U00GUN KCU10	C21	6012766	EG0251M02U02GUP KCP25B	C17
5990949	B285D08900HPS KN15	G83	6000151	PSC50KGMEL50C	C73, C151	6012655	ER130I03U00GUN KCU10	C22	6012767	ER0312M03U00GUP KCP25B	C19
5990950	B285D09100HPS KN15	G83	6000152	PSC50KGMRS50C	C72, C150	6012656	EG0412M04U04GUN KCP10B	C20	6012768	ER130I03U00GUP KCP25B	C19
5990951	B285D09129HPS KN15	G83	6000153	PSC50KGMSEL50C	C72, C150	6012657	EG0412M04U08GUN KCP10B	C20	6012898	EG0412M04U04GUN KCU10	C20
5990952	B285D09400HPS KN15	G83	6000159	PSC63KGMER50C	C73, C151	6012658	EG1920I04U1GUN KCP10B	C21	6012899	EG0412M04U08GUN KCU10	C20
5990953	B285D09900HPS KN15	G83	6000160	PSC63KGMEL50C	C73, C151	6012659	EG1920I04U2GUN KCP10B	C21	6012900	EG0512M05U04GUN KCU10	C20
5990954	B285D09921HPS KN15	G83	6000199	CNMU443MN KCP05B	B51	6012660	EG255I06U1GUN KCP10B	C21	6012901	EG0512M05U08GUN KCU10	C20
5990955	B285D10100HPS KN15	G83	6000211	PSC63KGMRS50C	C72, C150	6012671	EG255I06U2GUN KCP10B	C21	6012902	EG0612M06U04GUN KCU10	C20
5990956	B285D10200HPS KN15	G83	6000213	PSC63KGMSEL50C	C72, C150	6012672	EG0812M08U08GUN KCP10B	C20	6012903	EG0612M06U08GUN KCU10	C20
5990957	B285D10300HPS KN15	G83	6000214	PSC80KGMER50C	C73, C151	6012673	EG0812M08U12GUN KCP10B	C20	6012904	EG0812M08U08GUN KCU10	C20
5990958	B285D10320HPS KN15	G83	6000215	PSC80KGMEL50C	C73, C151	6012674	EG0612M06U04GUN KCP10B	C20	6012905	EG0812M08U12GUN KCU10	C20
5990959	B285D10600HPS KN15	G83	6000216	PSC80KGMRS50C	C72, C150	6012675	EG31708U3GUN KCP10B	C21	6012906	EG1012M10U12GUN KCU10	C20
5990960	B285D10716HPS KN15	G84	6000217	PSC80KGMSEL50C	C72, C150	60					



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6012944	EG0412M04U04GUP	KCU10	6017489	ER19204U00GUN	KCK20B	6019501	LNP544SRGE	KC520M	6031041	EVM50R1F12M	
6012945	EG0412M04U08GUP	KCU10	6017490	ER0512M05U00GUN	KCK20B	6019502	LNP544SRGE	KC522M	6031042	EVM50L1F12M	
6012946	EG0512M05U04GUP	KCU10	6017491	ER0612M06U00GUN	KCK20B	6019503	LNP544SRGE	KC725M	6031130	KTIPO852FEGM	KCPM45
6012947	EG0512M05U08GUP	KCU10	6017492	ER25506U00GUN	KCK20B	6019504	LNP544SRGE	KCK15	6033254	XDPW120515SRD	KCPM40
6012948	EG0612M06U04GUP	KCU10	6017493	ER31708U00GUN	KCK20B	6019505	LNP544SRGE	KCPK30	6033255	XDPW120515SRD	KCPK30
6012949	EG0612M06U08GUP	KCU10	6017494	ER0812M08U00GUN	KCK20B	6019506	LNP544SRGE	KCPM40	6033256	XDPW120515SRD	KC522M
6012950	EG0712M06U08GUP	KCU10	6017497	EC030M03L06CF02	KCM35B	6019507	LNGU545SRGEM	KC520M	6033257	XDPW120515SRD	KCK15
6012961	EG0812M08U08GUP	KCU10	6017498	EC030M03R06CF02	KCM35B	6019508	LNGU545SRGEM	KCK15	6033258	XDPW120515SRD	KC510M
6012962	EG0812M08U12GUP	KCU10	6017499	EC014M1BN00CF01	KCM35B	6019509	LNGU545SRGEM	KCPK30	6034358	LNUX191950RRF	KCP10B
6012963	EG1012M10U12GUP	KCU10	6017500	EC020M02N00CF02	KCM35B	6019510	LNGU545SRGEM	KCPM40	6034359	LNUX191950RRF	KCP25B
6012964	EG19204U1GUP	KCU10	6017511	EC014M1BN00CL01	KCM35B	6020741	SDET43PDR8B8	KCSM40	6034360	LNUX191950RRP	KCP10B
6012965	EG19204U2GUP	KCU10	6017512	EC020M02N00CL02	KCM35B				6034411	LNUX191950RRP	KCP25B
6012966	EG25506U1GUP	KCU10	6017513	EC020M02L06CF02	KCM35B				6035046	KLSS0714C	
6012967	EG25506U2GUP	KCU10	6017514	EC020M02R06CF02	KCM35B						S30, S32, V19, V26
6012968	EG31708U3GUP	KCU10	6017515	EC014M1BL06CL01	KCM35B				6039659	HNGJ43ANSNHD	KCPM40
6012969	EG380010U3GUP	KCU10	6017516	EC014M1BR06CL01	KCM35B				6039660	HNGJ43ANSNHD	KCK15
6012970	ER0412M04U00GUP	KCU10	6017517	EC020M02L06CL02	KCM35B				6039811	HNGJ43ANSNHD	KC522M
6012971	ER0512M05U00GUP	KCU10	6017518	EC020M02R06CL02	KCM35B				6039812	HNGJ43ANSNHD	KCPK30
6012972	ER0612M06U00GUP	KCU10	6017519	EC030M03L06CL02	KCM35B				6039814	SNHJ4425NGD	KCPM40
6012973	ER0812M08U00GUP	KCU10	6017520	EC030M03R06CL02	KCM35B				6039815	SNHJ4425NGD	KCPK30
6012974	ER19204U00GUP	KCU10	6017521	EC014M1BL06CF01	KCM35B				6039816	SNHJ4425NGD	KCK15
6012975	ER25506U00GUP	KCU10	6017522	EC014M1BR06CF01	KCM35B				6039817	SNHJ4425NGD	KC520M
6012976	ER31708U00GUP	KCU10	6017525	EG0412M04U04GUP	KCP25B				6039818	SNHJ4425NGD	KC522M
6013031	EG0212M02U02GUP	KCU10	6017526	EG0412M04U08GUP	KCP25B				6041797	KSEMP7200FDS71B1M	
6013032	EG0251M02U02GUP	KCU10	6017527	EG19204U1GUP	KCP25B				6041798	KSEMP7200FDS71B1M	
6013033	EG0312M03U02GUP	KCU10	6017528	EG19204U2GUP	KCP25B				6041799	KSEMP7200FDS71B1M	
6013034	EG0312M03U04GUP	KCU10	6017529	EG25506U1GUP	KCP25B				6041800	KSEMP7200FDS71B1M	
6013035	EG130I03U05GUP	KCU10	6017530	EG25506U2GUP	KCP25B				6041801	KSEMP7200FDS71B1M	
6013036	EG130I03U1GUP	KCU10	6017541	EG0812M08U08GUP	KCP25B				6041802	KSEMP7200FDS71B1M	
6013037	ER0312M03U00GUP	KCU10	6017542	EG0812M08U12GUP	KCP25B				6041803	KSEMP7200FDS71B1M	
6013038	ER130I03U00GUP	KCU10	6017543	EG0612M06U04GUP	KCP25B				6041804	KSEMP7200FDS71B1M	
6013040	EG0312M03U02GUP	KCP10B	6017544	EG0612M06U08GUP	KCP25B				6041805	KSEMP7200FDS71B1M	
6013061	EG0312M03U04GUP	KCP10B	6017545	EG31708U3GUP	KCP25B				6041806	KSEMP7200FDS71B1M	
6013062	EG130I03U05GUP	KCP10B	6017546	EG0512M05U04GUP	KCP25B				6041807	KSEMP7200FDS71B1M	
6013063	EG130I03U1GUP	KCP10B	6017547	EG0512M05U08GUP	KCP25B				6041808	KSEMP7200FDS71B1M	
6013064	EG0212M02U02GUP	KCP10B	6017548	EG0712M06U08GUP	KCP25B				6041809	KSEMP7200FDS71B1M	
6013065	EG0251M02U02GUP	KCP10B	6017549	EG38010U3GUP	KCP25B				6041810	KSEMP7200FDS71B1M	
6013066	EG0631FU05GUP	KCP10B	6017550	EG1012M10U12GUP	KCP25B				6041811	KSEMP7200FDS71B1M	
6013067	ER0312M03U00GUP	KCP10B	6017551	EG1012M10U12GUP	KCP25B				6041812	KSEMP7200FDS71B1M	
6013068	ER130I03U00GUP	KCP10B	6017552	ER19204U00GUP	KCP25B				6041813	KSEMP7200FDS71B1M	
6013069	EG0312M03U02GUP	KCP10B	6017553	ER0512M05U00GUP	KCP25B				6041814	KSEMP7200FDS71B1M	
6013070	EG0312M03U04GUP	KCP10B	6017555	ER0612M06U00GUP	KCP25B				6041815	KSEMP7200FDS71B1M	
6013091	EG130I03U05GUP	KCP10B	6017556	ER25506U00GUP	KCP25B				6041816	KSEMP7200FDS71B1M	
6013092	EG130I03U1GUP	KCP10B	6017557	ER31708U00GUP	KCP25B				6041817	KSEMP7200FDS71B1M	
6013093	EG0212M02U02GUP	KCP10B	6017558	ER0812M08U00GUP	KCP25B				6041818	KSEMP7200FDS71B1M	
6013095	EG0251M02U02GUP	KCP10B	6017560	EG0412M04U04GUP	KCP25B				6041819	KSEMP7200FDS71B1M	
6013096	ER0312M03U00GUP	KCP10B	6017581	EG0412M04U08GUP	KCP25B				6041901	KSEMP7200FDS71B1M	
6013097	ER130I03U00GUP	KCP10B	6017582	EG19204U1GUP	KCP25B				6041904	KSEMP7200FDS71B1M	
6013099	EG0312M03U02GUP	KCP25B	6017583	EG19204U2GUP	KCP25B						H106, H123
6013100	EG0312M03U04GUP	KCP25B	6017584	EG25506U1GUP	KCP25B						H106, H123
6013131	EG130I03U05GUP	KCP25B	6017585	EG25506U2GUP	KCP25B						H106, H123
6013132	EG130I03U1GUP	KCP25B	6017587	EG0812M08U08GUP	KCP25B						H117, H123
6013133	EG0212M02U02GUP	KCP25B	6017588	EG0812M08U12GUP	KCP25B						H117, H123
6013134	EG0251M02U02GUP	KCP25B	6017589	EG0612M06U08GUP	KCP25B						H117, H123
6013135	EG0631FU05GUP	KCP25B	6017590	EG31708U3GUP	KCP25B						H117, H123
6013136	ER0312M03U00GUP	KCP25B	6017601	EG0512M05U04GUP	KCP25B						H117, H123
6013137	ER130I03U00GUP	KCP25B	6017603	EG0512M05U08GUP	KCP25B						H117, H123
6017353	EG0312M03U02GUP	KCK20B	6017604	EG38010U3GUP	KCP25B						H117, H123
6017354	EG0312M03U04GUP	KCK20B	6017605	EG1012M10U12GUP	KCP25B						H117, H123
6017356	EG130I03U05GUP	KCK20B	6017606	ER0412M04U00GUP	KCP25B						H117, H123
6017357	EG130I03U1GUP	KCK20B	6017607	ER19204U00GUP	KCP25B						H117, H123
6017358	EG0212M02U02GUP	KCK20B	6017608	ER0512M05U00GUP	KCP25B						H117, H123
6017359	EG0251M02U02GUP	KCK20B	6017609	ER0612M06U00GUP	KCP25B						H117, H123
6017360	EG0631FU05GUP	KCK20B	6017610	ER25506U00GUP	KCP25B						H117, H123
6017391	ER0312M03U00GUP	KCK20B	6017611	ER31708U00GUP	KCP25B						H117, H123
6017392	ER130I03U00GUP	KCK20B	6017612	ER0812M08U00GUP	KCP25B						H117, H123
6017393	EG0412M04U04GUP	KCK20B	6017693	KM80TSKGMER65C							H117, H123
6017394	EG0412M04U08GUP	KCK20B	6017694	KM80TSKGMEL65C							H117, H123
6017395	EG19204U1GUP	KCK20B	6017695	KM80ATCKGMEL65C							H117, H123
6017396	EG19204U2GUP	KCK20B	6017696	KM80ATCKGMSR65C							H117, H123
6017397	EG25506U1GUP	KCK20B	6017697	KM80ATCKGMSL65C							H117, H123
6017398	EG25506U2GUP	KCK20B	6017698	KM80ATCKGMER65C							H117, H123
6017399	EG0812M08U08GUP	KCK20B	6017699	KM80ATCKGMEL65C							H117, H123
6017400	EG0812M08U12GUP	KCK20B	6017868	WNMG331FW	KCP05B						H117, H123
6017481	EG0612M06U04GUP	KCK20B	6017935	EC040M04N00CF02	KCM35B						H117, H123
6017482	EG0612M06U08GUP	KCK20B	6017936	EC040M04L06CF02	KCM35B						H117, H123
6017483	EG31708U3GUP	KCK20B	6017937	EC040M04R06CF02	KCM35B						H117, H123
6017484	EG0512M05U04GUP	KCK20B	6017938	EC040M04N00CL02	KCM35B						H117, H123
6017485	EG0512M05U08GUP	KCK20B	6017939	EC030M03N00CF02	KCM35B						H117, H123
6017486	EG38010U3GUP	KCK20B	6017940	EC030M03N00CL02	KCM35B						H117, H123
6017487	EG1012M10U12GUP	KCK20B	6018001	EC050M05N00CF03	KCM35B						H117, H123
6017488	ER0412M04U00GUP	KCK20B	6019339	MILL16E1000Z340N08W							H110, H119
			6019340	ONGX64ANENLE	KC514M						H110, H119

For page references A-E, please see Volume I • Turning Tools Catalog.



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6041939	KSEMP7500FDS71B1M	H110, H119	6055296	RHR37000KST300H7SF KCU05	K29	6059343	T848NPTF07500-14R-D55 KSU30	M156	6072335	UKDV0625Y4CQ KCMP15	08
6041940	KSEMP7700FDS71B1M	H110, H119	6055297	RHR38000KST350H7SF KCU05	K29	6059344	T848NPTF10000-11,5R-D55 KSU30	M156	6072337	UKDV0750Y4CQ KCMP15	08
6041991	KSEMP7900FDS71B1M	H110, H120	6055298	RHR39000KST350H7SF KCU05	K29				6072338	UKDV1000Y4CQ KCMP15	08
6041992	KSEMP8100FDS80B1M	H110, H120	6055299	RHR40000KST350H7SF KCU05	K29	6064367	KTIP1080FEGM KCMP45	H36	6072339	UKDV1250Y4CQ KCMP15	08
6041993	KSEMP8300FDS80B1M	H110, H120	6055300	RHR41000KST350H7SF KCU05	K29	6065059	RPPT1204MOSGDGX4 KCM40	V106	6072340	UKDV0375Y4CQ KCMP15	08
6041994	KSEMP8500FDS80B1M	H110, H120	6055301	RHR42000KST350H7SF KCU05	K29	6068043	HNGJ53511ANSNHD KCPM40	S19, S22	6072342	UKDV0500Y4CQ KCMP15	08
6041995	KSEMP8700FDS80B1M	H110, H120	6055302	RHR14000KST115H7HF KCU05	K30	6068798	HNPJ438ANSNHD KCPM40	S7, S13, S16	6072343	UKDV0625Y4CQ KCMP15	08
6041996	KSEMP8900FDS80B1M	H110, H120	6055303	RHR15000KST115H7HF KCU05	K30	6069649	KTIP1490FEGM KCMP45	H36	6072344	UKDV0750Y4CQ KCMP15	08
6041997	KSEMP9100FDS90B1M	H110, H120	6055304	RHR16000KST135H7HF KCU05	K30	6070991	UKBV0375Y4CN KCMP15	018	6072345	UKDV1000Y4CQ KCMP15	08
6041998	KSEMP9300FDS90B1M	H110, H120	6055305	RHR17000KST135H7HF KCU05	K30	6070992	UKBV0500Y4CN KCMP15	018	6072346	UKDV1250Y4CQ KCMP15	08
6041999	KSEMP9500FDS90B1M	H110, H120	6055306	RHR18000KST155H7HF KCU05	K30	6070993	UKBV0625Y4CN KCMP15	018	6072347	ULDV0375Y4CQ KCMS15	09
6042000	KSEMP9700FDS90B1M	H110, H120	6055307	RHR19000KST155H7HF KCU05	K30	6070994	UKBV0750Y4CN KCMP15	018	6072348	ULDV0375Y4CQ KCMS15	09
6042001	KSEMP9900FDS90B1M	H110, H120	6055308	RHR20000KST175H7HF KCU05	K30	6070995	UKBV0500Y4CN KCMP15	018	6072349	ULDV0625Y4CQ KCMS15	09
6042002	KSEMP2875FDS71B1	H110, H119	6055309	RHR21000KST175H7HF KCU05	K30	6072144	UJVB0375Y6CN KCMS15	019	6072350	ULDV0375Y4CQ KCMS15	09
6042003	KSEMP3125FDS80B1	H110, H120	6055310	RHR22000KST175H7HF KCU05	K30	6072145	UJVB0500Y6CN KCMS15	019	6072351	ULDV0500Y4CQ KCMS15	09
6042004	KSEMP3375FDS80B1	H110, H120	6055311	RHR23000KST200H7HF KCU05	K30	6072147	UJVB0625Y6CN KCMS15	019	6072352	ULDV0625Y4CQ KCMS15	09
6042005	KSEMP3625FDS90B1	H110, H120	6055312	RHR24000KST200H7HF KCU05	K30	6072149	UJVB0750Y6CN KCMS15	019	6072353	ULDV0500Y4CQ KCMS15	09
6042006	KSEMP3875FDS90B1	H110, H120	6055313	RHR25000KST200H7HF KCU05	K30	6072150	UJVB1000Y6CN KCMS15	019	6072354	ULDV0500Y4CQ KCMS15	09
6042982	KSDR100031E0W4S KD1400	S105	6055314	RHR26000KST200H7HF KCU05	K30	6072178	UCBV1000Y5CU KCMP15	012	6072355	ULDV0500Y4CQ KCMS15	09
6042983	KSDR100031E0W4S KD1425	S105	6055315	RHR27000KST200H7HF KCU05	K30	6072180	UCBV0500Y5CU KCMP15	012	6072356	ULDV0625Y4CQ KCMS15	09
6042984	KSDR100031E1W4S KD1400	S105	6055316	RHR28000KST250H7HF KCU05	K30	6072201	UCDV0625Y5CU KCMP15	012	6072357	ULDV0625Y4CQ KCMS15	09
6042985	KSDR100031E1W4S KD1425	S105	6055317	RHR29000KST250H7HF KCU05	K30	6072202	UCDV1000Y5CU KCMP15	012	6072358	ULDV0625Y4CQ KCMS15	09
6042986	KSDR100031E3W4S KD1400	S106	6055318	RHR30000KST250H7HF KCU05	K30	6072203	UCDV1000Y5CU KCMP15	012	6072359	ULDV0625Y4CQ KCMS15	09
6042987	KSDR100031E3W4S KD1425	S106	6055319	RHR31000KST250H7HF KCU05	K30	6072204	UCDV1250Y5CU KCMP15	012	6072360	ULDV0625Y4CQ KCMS15	09
6042988	KSDR100039E1W4S KD1400	S105	6055320	RHR32000KST250H7HF KCU05	K30	6072205	UCDV0375Y5CU KCMP15	012	6072361	ULDV0750Y4CQ KCMS15	09
6042989	KSDR100039E1W4S KD1425	S105	6055321	RHR33000KST300H7HF KCU05	K30	6072206	UCDV0500Y5CV KCMP15	012	6072362	ULDV0750Y4CQ KCMS15	09
6042990	KSDR102S KD1400	S106	6055322	RHR34000KST300H7HF KCU05	K30	6072207	UCDV0625Y5CV KCMP15	012	6072363	ULDV0750Y4CQ KCMS15	09
6043031	KSDR102S KD1425	S106	6055323	RHR35000KST300H7HF KCU05	K30	6072208	UCDV0750Y5CV KCMP15	012	6072364	ULDV0750Y4CQ KCMS15	09
6044579	KBDM250SD06	S104	6055324	RHR36000KST300H7HF KCU05	K30	6072209	UCDV1000Y5CV KCMP15	012	6072365	ULDV1000Y4CQ KCMS15	09
6044580	KBDM300SD08	S104	6055325	RHR37000KST300H7HF KCU05	K30	6072210	UCDV1250Y5CV KCMP15	012	6072366	ULDV1000Y4CQ KCMS15	09
6044711	KBDM400SD12	S104	6055326	RHR38000KST350H7HF KCU05	K30	6072211	UJVDV0375Y6CQA KCSM15	016	6072367	ULDV1000Y4CQ KCMS15	09
6044712	KBDM500SD16	S104	6055327	RHR39000KST350H7HF KCU05	K30	6072212	UJVDV0375Y6CQB KCSM15	016	6072368	ULDV1000Y4CQ KCMS15	09
6044713	KBDM600SD18	S104	6055328	RHR40000KST350H7HF KCU05	K30	6072213	UJVDV0375Y6CQC KCSM15	016	6072369	ULDV1000Y4CQ KCMS15	09
6044714	KBDM800SD24	S104	6055329	RHR41000KST350H7HF KCU05	K30	6072214	UJVDV0375Y6CQD KCSM15	016	6072370	ULDV1250Y4CQ KCMS15	09
6044824	LNGLU542SRGHE KCSM40	T20	6055330	RHR42000KST350H7HF KCU05	K30	6072215	UJVDV0500Y6CQA KCSM15	016	6072381	ULDV1250Y4CQ KCMS15	09
6048710	KSEM2554HPGM KC7315	H55	6055331	RHR43000KST350H7HF KCU05	K30	6072216	UJVDV0500Y6CQB KCSM15	016	6074027	XDPT120515SRGP KCPM40	V23
6049015	WLJNR32CA19S	E55	6055332	SNMG431MN KCP10B	B102	6072217	UJVDV0500Y6CQC KCSM15	016	6074028	XDPT120515SRGP KCPK30	V23
6049016	WLJNL32CA19S	E55	6055333	B256A11900YPC KCK10	G54	6072218	UJVDV0500Y6CQD KCSM15	016	6074029	XDPT120515SRGP KC725M	V23
6049017	WLJNL32CA30S	E55	6055334	HDWM5EUS	S104	6072219	UJVDV0500Y6CQE KCSM15	016	6074030	XDPT120515SRGP KC522M	V23
6049018	WLJNL32CA30S	E55	6059086	T877G01250-28R-D56 KSP39	M154	6072220	UJVDV0625Y6CQA KCSM15	016	6075752	DFSP140R4WD20M	J28
6054192	KSCMA90UNBF KD1400	S110	6059087	T877G01250-28R-D56 KSU31	M154	6072221	UJVDV0375Y5CQA KC643M	013	6075753	DFSP145R4WD20M	J28
6054193	KSCMA90UNBF KD1420	S110	6059088	T877G02500-19R-D56 KSP39	M154	6072232	UJVDV0375Y5CQB KC643M	013	6075754	DFSP145R4WD20M	J28
6054194	KSCMA90UNBF KD1400	S110	6059089	T877G02500-19R-D56 KSU31	M154	6072233	UJVDV0375Y5CQC KC643M	013	6075755	DFSP155R4WD20M	J28
6054195	KSCMA90UNBF KD1420	S110	6059090	T877G03750-19R-D56 KSP39	M154	6072234	UJVDV0375Y5CQD KC643M	013	6075756	DFSP160R4WD20M	J28
6055137	RMR14000H7SF KCU05	K15	6059101	T877G03750-19R-D56 KSU31	M154	6072235	UJVDV0500Y5CQA KC643M	013	6075757	DFSP160R4WD20M	J28
6055138	RMR15000H7SF KCU05	K15	6059102	T877G05000-14R-D56 KSP39	M154	6072236	UJVDV0500Y5CQB KC643M	013	6075758	DFSP170R4WD20M	J28-29
6055139	RMR16000H7SF KCU05	K15	6059103	T877G05000-14R-D56 KSU31	M154	6072237	UJVDV0500Y5CQC KC643M	013	6076012	SDET43PDER8GB KCSM40	T116, T123, U39
6055140	RMR17000H7SF KCU05	K15	6059104	T877G06250-14R-D56 KSP39	M154	6072238	UJVDV0500Y5CQD KC643M	013			
6055148	CNMM644MR KCP25B	B54	6059105	T877G06250-14R-D56 KSU31	M154	6072239	UJVDV0500Y5CQE KC643M	013	6079180	EVBSR160616060075C	C47
6055261	RMR18000H7SF KCU05	K15	6059106	T877G07500-14R-D56 KSP39	M154	6072240	UJVDV0625Y5CQA KC643M	013	6079223	EVMSR0620A060075C	C62
6055262	RMR19000H7SF KCU05	K15	6059107	T877G07500-14R-D56 KSU31	M154	6072241	UJVDV0625Y5CQB KC643M	013	6079224	EVMSR0620A075100C	C62
6055263	RMR20000H7SF KCU05	K15	6059108	T877G08750-14R-D56 KSP39	M154	6072242	UJVDV0625Y5CQC KC643M	013	6079225	EVMSR0620A100180C	C62
6055264	RMR14000H7HF KCU05	K16	6059109	T877G08750-14R-D56 KSU31	M154	6072243	UJVDV0625Y5CQD KC643M	013	6079226	EVMSR0620A180250C	C62
6055265	RMR15000H7HF KCU05	K16	6059110	T877G10000-11R-D56 KSP39	M154	6072244	UJVDV0625Y5CQE KC643M	013	6079227	EVMSR0620A350999C	C62
6055266	RMR16000H7HF KCU05	K16	6059111	T877G10000-11R-D56 KSU31	M154	6072245	UJVDV0750Y6CQB KCSM15	016	6079228	EVMSR0620A350999C	C62
6055267	RMR17000H7HF KCU05	K16	6059167	T857G01250-28R-D56 KSP39	M155	6072246	UJVDV0750Y6CQC KCSM15	016	6079229	EVMSR0620A080180C	C62
6055268	RMR18000H7HF KCU05	K16	6059168	T857G01250-28R-D56 KSU31	M155	6072247	UJVDV0750Y6CQD KCSM15	016	6079230	EVMSR0620A080180C	C62
6055270	RMR19000H7HF KCU05	K16	6059169	T857G02500-19R-D56 KSP39	M155	6072248	UJVDV0750Y6CQE KCSM15	016	6079231	EVMSR0620A060075C	C62
6055271	RMR20000H7HF KCU05	K16	6059170	T857G02500-19R-D56 KSU31	M155	6072249	UJVDV1000Y6CQB KCSM15	016	6079232	EVMSR0620A250350C	C62
6055272	RHR14000KST115H7SF KCU05	K29	6059171	T857G03750-19R-D56 KSP39	M155	6072250	UJVDV1000Y6CQC KCSM15	016	6079233	EVMSR0620A100180C	C62
6055273	RHR15000KST115H7SF KCU05	K29	6059172	T857G03750-19R-D56 KSU31	M155	6072251	UJVDV0625Y5CQB KC643M	013	6079237	EVMSR0620A180250C	C62
6055274	RHR16000KST135H7SF KCU05	K29	6059173	T857G05000-14R-D56 KSP39	M155	6072252	UJVDV0625Y5CQC KC643M	013	6079238	EVMSR0620A250350C	C62
6055275	RHR17000KST135H7SF KCU05	K29	6059174	T857G05000-14R-D56 KSU31	M155	6072253	UJVDV0625Y5CQD KC643M	013	6079239	EVMSR0620A350999C	C62
6055276	RHR18000KST155H7SF KCU05	K29	6059175	T857G06250-14R-D56 KSP39	M155	6072254	UJVDV0625Y5CQE KC643M	013	6079240	EVMSR0620B060075C	C64
6055277	RHR19000KST155H7SF KCU05	K29	6059176	T857G06250-14R-D56 KSU31	M155	6072255	UJVDV0750Y5CQB KC643M	013	6079241	EVMSR0620B075100C	C64
6055278	RHR20000KST175H7SF KCU05	K29	6059177	T857G07500-14R-D56 KSP39	M155	6072256	UJVDV0750Y5CQC KC643M	013	6079242	EVMSR0620B180250C	C64
6055279	RHR21000KST175H7SF KCU05	K29	6059178	T857G07500-14R-D56 KSU31	M155	6072257	UJVDV0750Y5CQD KC643M	013	6079243	EVMSR0620B180250C	C64
6055280	RHR22000KST175H7SF KCU05	K29	6059179	T857G08750-14R-D56 KSP39	M155	6072258	UJVDV0750Y5CQE KC643M	013</			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6079351	EVSBL160616060075C	C48	6079492	EVM50R0520A180250C	C62	6082249	TNGN234S0820 KBK45	B306	6086455	2SE0875L1225A KC633M	Q8
6079352	EVSBR160626060075C	C47	6079493	EVM50R0520A250350C	C62	6082250	TNGN334S0820 KBK45	B306	6086456	2SE1000I5150A KC633M	Q8
6079353	EVSBL160626060075C	C48	6079494	EVM50R0520A350999C	C62	6082261	TNGX334S0820 KBK45	B308	6086457	2SE1000R1225A KC633M	Q8
6079354	EVSBR160616075100C	C47	6079495	EVM50L0416A040050C	C62	6083010	B269A02400KMG KCPK15	G62	6086458	2SE1000L300A KC633M	Q8
6079355	EVSBL160616075100C	C48	6079496	EVM50L0416A050060C	C62	6083071	B269A02500KMG KCPK15	G62	6086459	2SE1000K400A KC633M	Q8
6079356	EVSBR160626075100C	C47	6079497	EVM50L0416A060075C	C62	6083072	B269A02600KMG KCPK15	G62	6086460	2SE0500R100B KC633M	Q7
6079357	EVSBL160626075100C	C48	6079498	EVM50L0416A075100C	C62	6083073	B269A02800KMG KCPK15	G62	6086461	2SE0500L200B KC633M	Q7
6079358	EVSBR160616100180C	C47	6079499	EVM50L0426A100180C	C62	6083074	B269A02900KMG KCPK15	G62	6086462	2SE0500K300B KC633M	Q7
6079359	EVSBL160616100180C	C48	6079500	EVM50L0426A180250C	C62	6083075	B269A03400HP KCPK15	G62	6086463	2SE0562L125B KC633M	Q8
6079362	EVSBR160616180250C	C47	6079501	EVM50L0426A250350C	C62	6083076	B269A04100HP KCPK15	G62	6086464	2SE0562K225B KC633M	Q8
6079363	EVSBL160616180250C	C48	6079502	EVM50L0426A350999C	C62	6083077	B269A06400HP KCPK15	G63	6086465	2SE0625L125B KC633M	Q8
6079366	EVSBR160616250350C	C47	6079503	EVM50L0520A050060C	C62	6083078	B707A04200FBS KN15	G110	6086466	2SE0625KX400A KC633M	Q8
6079367	EVSBL160616250350C	C48	6079504	EVM50L0520A060075C	C62	6083079	B707A04900FBS KN15	G110	6086467	2SE0687R127B KC633M	Q8
6079370	EVSBR160616350999C	C47	6079505	EVM50L0520A075100C	C62	6083097	VPRG332 KCP25B	E38	6086468	2SE0750R225B KC633M	Q8
6079371	EVSBL160616350999C	C48	6079506	EVM50L0520A100180C	C62	6084947	LNPUB63ANSLHD KCPK30	S95	6086469	2SE0750L300B KC633M	Q8
6079374	EVSBR200632100180C	C47	6079507	EVM50L0520A180250C	C62	6084948	LNPUB63ANSLHD KCPM40	S95	6086470	2SE0750K400A KC633M	Q8
6079375	EVSBL200632100180C	C48	6079508	EVM50L0520A250350C	C62	6086327	2SE0016R003A KC633M	Q6	6086471	2SE0875R150B KC633M	Q8
6079376	EVSBR200632180250C	C47	6079509	EVM50L0520A350999C	C62	6086328	2SE0031R007A KC633M	Q6	6086472	2SE0875L225B KC633M	Q8
6079377	EVSBL200632180250C	C48	6080001	EVSBR2020K0312035040C	C49	6086329	2SE0062R1018A KC633M	Q6	6086473	2SE0500L200B KC633M	Q8
6079378	EVSBR200632250350C	C47	6080003	EVSBR2020K0416040050C	C49	6086330	2SE0062R1012A KC633M	Q6	6086474	2SE1000L300B KC633M	Q8
6079379	EVSBL200632250350C	C48	6080005	EVSBR2525M0516050060C	C49	6086331	4SE0500S062A KC633M	Q24	6086475	2SE1000KX400A KC633M	Q8
6079380	EVSBR200632350999C	C47	6080007	EVSBL2020K0312035040C	C50	6086334	4SE0500R100A KC633M	Q24	6086511	4SE0625R125A KC633M	Q24
6079381	EVSBL200632350999C	C48	6080008	EVSBL2020K0416040050C	C50	6086335	4SE0500L200A KC633M	Q24	6086512	4SE0625L225A KC633M	Q24
6079411	EVM50R0312B040050C	C63	6080009	EVSBL2525M0516050060C	C50	6086336	4SE0500K300A KC633M	Q24	6086513	4SE0625KX400A KC633M	Q24
6079412	EVM50R0312B050060C	C63	6080040	EVSBR2020K0416050060C	C49	6086337	4SE0562R075A KC633M	Q24	6086514	4SE0687R137A KC633M	Q24
6079413	EVM50R0312B060075C	C63	6080051	EVSBL2020K0416050060C	C50	6086338	4SE0562L125A KC633M	Q24	6086515	4SE0750S100A KC633M	Q24
6079414	EVM50R0320B075100C	C63	6080053	EVSBR2525M0320060075C	C49	6086339	4SE0562K225A KC633M	Q24	6086516	4SE0750R150A KC633M	Q24
6079415	EVM50R0320B100180C	C63	6080054	EVSBL2525M0320060075C	C50	6086340	4SE0625S062A KC633M	Q24	6086517	4SE0750R225A KC633M	Q24
6079416	EVM50R0320B180250C	C63	6080055	EVSBR2525M0320075100C	C49	6086381	2SE0062X050A KC633M	Q6	6086518	4SE0750L300A KC633M	Q24
6079417	EVM50R0320B250350C	C63	6080056	EVSBL2525M0320075100C	C50	6086382	2SE0078R018A KC633M	Q6	6086519	4SE0750K400A KC633M	Q24
6079418	EVM50R0320B350999C	C63	6080057	EVSBR2525M0320100180C	C49	6086383	2SE0093R018A KC633M	Q6	6086520	4SE0875R150A KC633M	Q25
6079420	EVM50L0312B035040C	C64	6080059	EVSBL2525M0320100180C	C50	6086384	2SE0093L037A KC633M	Q6	6086521	4SE0875L225A KC633M	Q25
6079421	EVM50L0312B040050C	C64	6080060	EVSBR2525M0320180250C	C49	6086385	2SE0093K062A KC633M	Q6	6086522	4SE1000S150A KC633M	Q25
6079422	EVM50L0312B050060C	C64	6080061	EVSBL2525M0320180250C	C50	6086386	2SE0109R037A KC633M	Q6	6086523	4SE1000R225A KC633M	Q25
6079423	EVM50L0312B060075C	C64	6080066	EVSBR2525M0312100180C	C49	6086387	2SE0125R025A KC633M	Q6	6086524	4SE1000L300A KC633M	Q25
6079424	EVM50L0320B075100C	C64	6080068	EVSBL2525M0312100180C	C50	6086388	2SE0125L050A KC633M	Q6	6086525	4SE1000KX400A KC633M	Q25
6079425	EVM50L0320B100180C	C64	6080069	EVSBR2525M0312180250C	C49	6086389	2SE0125X075A KC633M	Q6	6086527	4SE0500R100B KC633M	Q24
6079426	EVM50L0320B180250C	C64	6080070	EVSBL2525M0312180250C	C50	6086390	2SE0140R056A KC633M	Q6	6086528	4SE0500L200B KC633M	Q24
6079427	EVM50L0320B250350C	C64	6080418	EVSBR120312035040C	C46	6086391	2SE0156R031A KC633M	Q6	6086529	4SE0562L125B KC633M	Q24
6079428	EVM50L0320B350999C	C64	6080419	EVSBL120416040050C	C47	6086392	2SE0156L056A KC633M	Q6	6086530	4SE0625R125B KC633M	Q24
6079429	EVM50R0416B040050C	C63	6080420	EVSBR160516050060C	C47	6086393	2SE0171R062A KC633M	Q6	6086541	4SE0625L225B KC633M	Q24
6079430	EVM50R0416B050060C	C63	6080472	EVSBL120312035040C	C46	6086394	2SE0171R062A KC633M	Q6	6086542	4SE0750R150A KC633M	Q24
6079431	EVM50R0416B060075C	C63	6080473	EVSBL120416040050C	C47	6086395	2SE0187L075A KC633M	Q6	6086543	4SE0750R225B KC633M	Q24
6079432	EVM50R0416B075100C	C63	6080474	EVSBL160516050060C	C47-48	6086396	2SE0187X112A KC633M	Q6	6086544	4SE0750L300A KC633M	Q24
6079433	EVM50R0426B100180C	C63	6080475	EVSBR120416050060C	C46	6086397	2SE0218R043A KC633M	Q6	6086545	4SE0875R150B KC633M	Q25
6079434	EVM50R0426B180250C	C63	6080476	EVSBL120416050060C	C47	6086398	2SE0218L062A KC633M	Q7	6086546	4SE0875L225B KC633M	Q25
6079435	EVM50R0426B250350C	C63	6080477	EVSBR160320060075C	C46	6086399	2SE0250S050A KC633M	Q7	6086547	4SE1000R225B KC633M	Q25
6079436	EVM50R0426B350999C	C63	6080478	EVSBL160320060075C	C47	6086400	2SE0250R075A KC633M	Q7	6086548	4SE1000L300B KC633M	Q25
6079437	EVM50R0520B050060C	C63	6080479	EVSBR160320075100C	C46	6086401	2SE0250L112A KC633M	Q7	6086553	4SE0151R003A KC633M	Q22
6079438	EVM50R0520B060075C	C64	6080480	EVSBL160320075100C	C47	6086402	2SE0250X150A KC633M	Q7	6086554	4SE0031R008A KC633M	Q22
6079439	EVM50R0520B075100C	C64	6080481	EVSBR160320100180C	C46	6086403	2SE0281R075A KC633M	Q7	6086555	4SE0062R010A KC633M	Q22
6079440	EVM50R0520B100180C	C64	6080482	EVSBL160320100180C	C47	6086404	2SE0312S050A KC633M	Q7	6086556	4SE0078R018A KC633M	Q22
6079441	EVM50R0520B180250C	C64	6080483	EVSBR160320180250C	C47	6086405	2SE0312R081A KC633M	Q7	6086558	4SE0093R037A KC633M	Q22
6079442	EVM50R0520B250350C	C64	6080484	EVSBL160320180250C	C46	6086406	2SE0312L112A KC633M	Q7	6086559	4SE0234R062A KC633M	Q22
6079443	EVM50R0520B350999C	C64	6080489	EVSBR160312100180C	C46	6086407	2SE0312X162A KC633M	Q7	6086560	4SE0109R037A KC633M	Q22
6079444	EVM50L0416B040050C	C64	6080490	EVSBL160312100180C	C46	6086408	2SE0343R100A KC633M	Q7	6086561	4SE0125S025A KC633M	Q22
6079445	EVM50L0416B050060C	C64	6080491	EVSBR160312180250C	C47	6086409	2SE0375R062A KC633M	Q7	6086562	4SE0125L075A KC633M	Q22
6079446	EVM50L0416B060075C	C64	6080492	EVSBL160312180250C	C47	6086410	2SE0375R100A KC633M	Q7	6086563	4SE0125L075A KC633M	Q22
6079447	EVM50L0416B075100C	C64	6082135	CNGN332T0820 KBK45	B304	6086411	2SE0375L112A KC633M	Q7	6086564	4SE0125X100A KC633M	Q22
6079448	EVM50L0426B100180C	C64	6082136	CNGN333S0820 KBK45	B304	6086412	2SE0375X175A KC633M	Q7	6086565	4SE0140R056A KC633M	Q22
6079449	EVM50L0426B180250C	C64	6082137	CNGN432T0820 KBK45	B304	6086413	2SE0406R100A KC633M	Q7	6086567	4SE0156R056A KC633M	Q22
6079450	EVM50L0426B250350C	C64	6082138	CNGN433S0820 KBK45	B304	6086414	2SE0437R100A KC633M	Q7	6086568	4SE0187R062A KC633M	Q22
6079451	EVM50L0426B350999C	C64	6082139	CNGN434S0820 KBK45	B304	6086415	2SE0437L100A KC633M	Q7	6086569	4SE0187S075A KC633M	Q22
6079452	EVM50L0520B050060C	C64	6082140	CNGX432T0820 KBK45	B307	6086416	2SE0437X200A KC633M	Q7	6086570	4SE0187L075A KC633M	Q22
6079453	EVM50L0520B060075C	C64	6082231	CNGX433S0820 KBK45	B307	6086417	2SE0468R100A KC633M	Q7	6086571	4SE0187X112A KC633M	Q22
6079454	EVM50L0520B075100C	C64	6082232	CNGX434S0820 KBK45	B307	6086418	2SE0500S062A KC633M	Q7	6086572	4SE0203R062A KC633M	Q22
6079455	EVM50L0520B100180C	C64	6082233	RNGN33S0820 KBK45	B304	6086419	2SE0500R100A KC633M	Q7	6086573	4SE0218R043A KC633M	Q22
6079456	EVM50L0520B180250C	C64	6082234	RNGN43S0820 KBK45	B304	6086420	2SE0500L200A KC633M	Q7			

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6086589	4SE0359R100A K6333M	Q23	6113085	UJBE0500J6BB KCSM15	P66	6113624	UJWE1000N6FBE KCSM15	P61	6114041	UJWE1250N6FBJ KCSM15	P63
6086590	4SE0375S062A K6333M	Q23	6113086	UJWE0500J6ZBB KCSM15	P60	6113625	UJWE1000N6FBH KCSM15	P61	6114042	UJWE1250N6FBK KCSM15	P63
6086591	4SE0375R100A K6333M	Q23	6113088	UJWE0500J6ZBC KCSM15	P60	6113626	UJWE1000N6FBF KCSM15	P61	6114043	UJBE1250N6FB KCSM15	P66
6086592	4SE0375L112A K6333M	Q23	6113090	UJWE0500J6ZBD KCSM15	P60	6113627	UJWE1000N6FBK KCSM15	P61	6114053	UJWE1250N6HBK KCSM15	P63
6086593	4SE0375X175A K6333M	Q23	6113102	UJWE0500J6ZBE KCSM15	P60	6113628	UJBE1000N6FB KCSM15	P66	6114054	UJBE1250N6HBD KCSM15	P66
6086594	4SE0390R100A K6333M	Q23	6113104	UJWE0500J6ZBH KCSM15	P60	6113628	UJBE1000N6FB KCSM15	P66	6114055	UJWE1250N6JBB KCSM15	P63
6086595	4SE0406R100A K6333M	Q23	6113105	UJWE0500J6ZBD KCSM15	P60	6113629	UJWE1000N6GBC KCSM15	P61	6114056	UJWE1250N6JBC KCSM15	P63
6086596	4SE0421R100A K6333M	Q23	6113106	UJWE0500J6ZBE KCSM15	P60	6113630	UJWE1000N6GBD KCSM15	P61	6114057	UJWE1250N6JBD KCSM15	P63
6086597	4SE0437S100A K6333M	Q23	6113108	UJWE0500J6ZBC KCSM15	P60	6113631	UJWE1000N6GBE KCSM15	P61	6114058	UJWE1250N6JBE KCSM15	P63
6086598	4SE0437R100A K6333M	Q23	6113109	UJWE0500J6ZBD KCSM15	P60	6113632	UJWE1000N6GBH KCSM15	P61	6114059	UJWE1250N6JBC KCSM15	P63
6086599	4SE0437L200A K6333M	Q23	6113110	UJWE0500J6ZBE KCSM15	P60	6113634	UJWE1000N6GBF KCSM15	P62	6114060	UJWE1250N6JBF KCSM15	P63
6086600	4SE0437X300A K6333M	Q23	6113134	UJWE0500J6ZBH KCSM15	P60	6113635	UJWE1000N6GBK KCSM15	P62	6114092	UJWE1250N6GBE KCSM15	P63
6086601	4SE0453R100A K6333M	Q24	6113135	UJWE0500J6ZBD KCSM15	P66	6113636	UJBE1000N6GB KCSM15	P66	6114093	UJWE1250N6GBC KCSM15	P63
6086602	4SE0468R100A K6333M	Q24	6113136	UJWE0500J6ZBE KCSM15	P60	6113637	UJWE1000N6GBD KCSM15	P62	6114094	UJWE1250N6GBF KCSM15	P63
6086603	4SE0484R100A K6333M	Q24	6113137	UJWE0500J6ZBC KCSM15	P60	6113638	UJWE1000N6DBC KCSM15	P62	6114095	UJWE1250N6GBJ KCSM15	P63
6087904	5720VZ16HA025Z2R75	T99	6113138	UJWE0500J6ZBD KCSM15	P60	6113639	UJWE1000N6DBD KCSM15	P62	6114096	UJWE1250N6JBC KCSM15	P63
6088510	TPU433 KCK15B	B178	6113139	UJWE0500J6ZBE KCSM15	P60	6113840	UJWE1000N6DBE KCSM15	P62	6114097	UJBE1250N6GB KCSM15	P66
6088651	NPRGR52L KCM15B	E33	6113140	UJWE0500J6ZBH KCSM15	P60	6113861	UJWE1000N6DBH KCSM15	P62	6114098	UJWE1250N6DBB KCSM15	P63
6088652	VCMR331 KCM15B	E37	6113152	UJBE0500J6DB KCSM15	P66	6113862	UJWE1000N6DBF KCSM15	P62	6114099	UJWE1250N6DBC KCSM15	P63
6088653	VCMR332 KCM15B	E37	6113155	UJWE0750J6ABB KCSM15	P60	6113863	UJWE1000N6DBK KCSM15	P62	6114100	UJWE1250N6DBD KCSM15	P63
6097181	EVM50R0312A035040C	C61	6113156	UJWE0750J6ABC KCSM15	P60	6113865	UJWE1000N6DBL KCSM15	P62	6114121	UJWE1250N6DBE KCSM15	P63
6097182	EVM50R0312A040050C	C61	6113157	UJWE0750J6ABD KCSM15	P60	6113867	UJWE1000N6HBB KCSM15	P62	6114122	UJWE1250N6DBH KCSM15	P63
6097183	EVM50R0312A050060C	C61	6113158	UJWE0750J6ABE KCSM15	P60	6113869	UJWE1000N6HBC KCSM15	P62	6114123	UJWE1250N6DBF KCSM15	P63
6097184	EVM50R0312A060075C	C61	6113159	UJWE0750J6ABH KCSM15	P60	6113870	UJWE1000N6HBD KCSM15	P62	6114124	UJWE1250N6DBJ KCSM15	P63
6097185	EVM50R0320A07100C	C61	6113201	UJWE0750J6ABF KCSM15	P60	6113881	UJWE1000N6HBE KCSM15	P62	6114125	UJWE1250N6DBK KCSM15	P63
6097186	EVM50R0320A100180C	C61	6113202	UJBE0750J6AB KCSM15	P66	6113882	UJWE1000N6HBF KCSM15	P62	6114126	UJBE1250N6DB KCSM15	P66
6097187	EVM50R0320A180250C	C61	6113205	UJWE0750J6ZBB KCSM15	P60	6113883	UJWE1000N6HBB KCSM15	P62	6114127	UJWE1250N6DBL KCSM15	P63
6097188	EVM50R0320A250350C	C61	6113206	UJWE0750J6ZBC KCSM15	P60	6113884	UJWE1000N6HBC KCSM15	P62	6114128	UJWE1250N6HBC KCSM15	P63
6097189	EVM50R0320A350999C	C61	6113207	UJWE0750J6ZBD KCSM15	P60	6113887	UJBE1000N6HB KCSM15	P66	6114129	UJWE1250N6HBD KCSM15	P63
6097190	EVM50L0312A035040C	C62	6113208	UJWE0750J6ZBE KCSM15	P60	6113888	UJWE1000N6HBE KCSM15	P62	6114132	UJWE1250N6HBE KCSM15	P63
6097191	EVM50L0312A040050C	C62	6113209	UJWE0750J6ZBH KCSM15	P60	6113889	UJWE1000N6HBF KCSM15	P62	6114133	UJWE1250N6HBB KCSM15	P63
6097192	EVM50L0312A050060C	C62	6113210	UJWE0750J6ZBD KCSM15	P60	6113890	UJWE1000N6HBC KCSM15	P62	6114134	UJWE1250N6HBD KCSM15	P63
6097193	EVM50L0312A060075C	C62	6113261	UJBE0750J6ZB KCSM15	P66	6113921	UJWE1000N6HBE KCSM15	P62	6114135	UJWE1250N6HBJ KCSM15	P63
6097194	EVM50L0320A0715100C	C62	6113262	UJWE0750J6ZBB KCSM15	P61	6113922	UJWE1000N6HBF KCSM15	P62	6114181	UJWE1250N6HBB KCSM15	P63
6097195	EVM50L0320A100180C	C62	6113263	UJWE0750J6ZBC KCSM15	P61	6113923	UJWE1000N6HBC KCSM15	P62	6114182	UJWE1250N6HBD KCSM15	P63
6097196	EVM50L0320A180250C	C62	6113264	UJWE0750J6ZBD KCSM15	P61	6113924	UJWE1000N6HBE KCSM15	P62	6114183	UJBE1250N6HBJ KCSM15	P66
6097197	EVM50L0320A250350C	C62	6113265	UJWE0750J6ZBE KCSM15	P61	6113925	UJBE1000N6HB KCSM15	P66	6114184	UJWE1250N6HBB KCSM15	P63
6097198	EVM50L0320A350999C	C62	6113266	UJWE0750J6ZBC KCSM15	P61	6113926	UJWE1250N6HBC KCSM15	P62	6114185	UJWE1250N6HBD KCSM15	P63
6102279	LNPU763PMSLHD2 KCPM40	S99, S101	6113267	UJWE0750J6ZBD KCSM15	P61	6113927	UJWE1250N6HBE KCSM15	P62	6114186	UJWE1250N6HBF KCSM15	P63
6103457	TNMG332MG KCP10B	B125	6113321	UJBE0750J6DB KCSM15	P66	6113928	UJWE1250N6HBB KCSM15	P62	6114187	UJWE1250N6HBC KCSM15	P63
6104860	KSEM2835HPGM KCPM45	H58	6113322	UJWE0750J6DBE KCSM15	P61	6113929	UJWE1250N6HBD KCSM15	P62	6114188	UJWE1250N6HBE KCSM15	P63
6105048	TNMG332CT KCPK05	B122	6113323	UJWE0750J6DBF KCSM15	P61	6113930	UJWE1250N6HBE KCSM15	P62	6114189	UJWE1250N6HBF KCSM15	P63
6105085	CPMG3251 KCP25B	B205	6113324	UJWE0750J6DBH KCSM15	P61	6113961	UJWE1250N6HBE KCSM15	P62	6114190	UJWE1250N6HBJ KCSM15	P63
6105089	CNMP542 KCP25B	B56	6113325	UJWE0750J6DBK KCSM15	P61	6113962	UJWE1250N6HBF KCSM15	P62	6114231	UJWE1250N6HBB KCSM15	P63
6105091	CNML433RN KCP10B	B53	6113326	UJWE0750J6DBL KCSM15	P61	6113963	UJWE1250N6HBC KCSM15	P62	6114232	UJBE1250N6HBJ KCSM15	P66
6105093	SPU423 KCP25B	B171	6113327	UJWE0750J6DBM KCSM15	P61	6113964	UJBE1250N6HBC KCSM15	P66	6114532	UJWE1500N6XBB KCSM15	P63
6105094	SPU422 KCP25B	B171	6113328	UJBE0750J6EB KCSM15	P66	6113965	UJWE1250N6HBD KCSM15	P62	6114533	UJWE1500N6XBC KCSM15	P64
6105095	SPU421 KCP25B	B171	6113329	UJWE1000N6GB KCSM15	P62	6113966	UJWE1250N6HBE KCSM15	P62	6114534	UJWE1500N6XBD KCSM15	P64
6105099	TPU321 KCP25B	B178	6113330	UJWE1000N6GBD KCSM15	P61	6113967	UJWE1250N6HBF KCSM15	P62	6114535	UJWE1500N6XBE KCSM15	P64
6105100	TPU432 KCP25B	B178	6113351	UJWE1000N6GBE KCSM15	P61	6113968	UJWE1250N6HBC KCSM15	P62	6114536	UJWE1500N6XBF KCSM15	P64
6105101	TPMR432 KCP25B	B177	6113352	UJWE1000N6GBF KCSM15	P61	6113969	UJWE1250N6HBD KCSM15	P62	6114537	UJWE1500N6XBJ KCSM15	P64
6105102	TPMR222 KCP25B	B177	6113353	UJWE1000N6GBH KCSM15	P61	6113970	UJWE1250N6HBE KCSM15	P62	6114538	UJWE1500N6XBJ KCSM15	P64
6105103	TPU322 KCP25B	B178	6113354	UJWE1000N6GBK KCSM15	P61	6113971	UJWE1250N6HBF KCSM15	P62	6114539	UJWE1500N6XBC KCSM15	P64
6105104	TPU433 KCP25B	B178	6113355	UJWE1000N6GBL KCSM15	P61	6113972	UJWE1250N6HBC KCSM15	P62	6114540	UJWE1500N6XBD KCSM15	P64
6108706	SNMG434MG KCP25B	B103	6113356	UJBE1000N6GB KCSM15	P66	6113973	UJBE1250N6HBC KCSM15	P66	6114554	UJWE1500N6ABB KCSM15	P64
6109122	SDCT4316ENLD2 KCSM40	T115, T122, U38	6113357	UJWE1000N6GBB KCSM15	P61	6113974	UJWE1250N6HBD KCSM15	P62	6114555	UJWE1500N6ABC KCSM15	P64
6109124	SDET4316SNGB KCSM40	T116, T123, U39	6113358	UJWE1000N6GBD KCSM15	P61	6113975	UJWE1250N6HBE KCSM15	P62	6114556	UJWE1500N6ABD KCSM15	P64
6109130	SDET436ENGB KCSM40	T116, T123, U39	6113359	UJWE1000N6GBE KCSM15	P61	6113976	UJWE1250N6HBF KCSM15	P62	6114557	UJWE1500N6ABE KCSM15	P64
6109210	KTIP1595FEGM KCPM45	H36	6113360	UJWE1000N6GBF KCSM15	P61	6113977	UJWE1250N6HBC KCSM15	P62	6114558	UJWE1500N6ABH KCSM15	P64
6109265	SDET436SNGB KCSM40	T116, T123, U39	6113403	UJBE1000N6GB KCSM15	P66	6113979	UJWE1250N6HBD KCSM15	P62	6114559	UJBE1500N6ABF KCSM15	P64
6111468	OFK753AFEN4GB KCPM40	S47	6113404	UJWE1000N6GBH KCSM15	P61	6114004	UJBE1250N6HBD KCSM15	P66	6114573	UJBE1500N6ABJ KCSM15	P64
6111469	OFK764AFEN6GB KCPM40	S52	6113405	UJWE1000N6GBK KCSM15	P61	6114006	UJWE1250N6HBE KCSM15	P62	6114574	UJWE1500N6ABB KCSM15	P64
6111470	OFK764AFSNG6B KCPM40	S52	6113407	UJWE1000N6GBL KCSM15	P61	6114007	UJWE1250N6HBF KCSM15	P62	6114578	UJWE1500N6ABB KCSM15	P64
6111671	SDET433PDER8GB KCPM40	T116, T123, U39	6113408	UJWE1000N6GBM KCSM15	P61	6114008	UJWE1250N6HBC KCSM15	P62	6114579	UJWE1500N6ABB KCSM15	P64
6111672	SDET433PDER8GB2 KCPM40	T115, T122, U39	6113409	UJWE1000N6GBN KCSM15	P61	6114009	UJWE1250N6HBD KCSM15	P62	6114580	UJWE1500N6BBE KCSM15	P64
6111673	SDET435SNGB2 KCPM40	T115, T122, U39	6113410	UJWE1000N6GBP KCSM15	P61	6114010	UJWE1250N6HBE KCSM15	P62	6114661	UJWE1500N6BBH KCSM15	P64
6111674	SDET433PDR8GB2 KCPM40	T115, T122, U39	6113411	UJWE1000N6GBQ KCSM15	P61	6114021	UJWE1250N6HBF KCSM15	P63	6114662	UJWE1500N6BBF KCSM15	P64
6111676	SEKT443AEN7GP2 KCPM40	S40	6113512	UJWE1000N6GBR KCSM15	P66	6114022	UJWE1250N6HBC KCSM15	P63	6114664	UJWE1500N6BBJ KCSM15	P64
6111677	SEKT443AEN7GP2										



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6114676	UJDE1500N6ZBL KCSM15	P64	6116577	EVSBR2525M0426075100C	C49	6117356	EVSBL120416060075C	C47	6123749	KSEM361R5WD40M	H74
6114677	UJBE1500N6ZB KCSM15	P67	6116578	EVSBL2525M0426075100C	C50	6117357	EVSBR120416075100C	C46	6123750	KSEM370R5WD40M	H74
6114678	UJDE1500N6CBB KCSM15	P64	6116579	EVSBR2525M0426100180C	C49	6117358	EVSBL120416075100C	C47	6123751	KSEM380R5WD40M	H74
6114679	UJDE1500N6CB KCSM15	P64	6116580	EVSBL2525M0426100180C	C50	6117359	EVSBR160426060075C	C46	6123752	EVSBR160426060075C	H74
6114680	UJDE1500N6CDB KCSM15	P64	6116581	EVSBR2525M0426180250C	C49	6117360	EVSBL160426060075C	C47	6123753	KSEM400R5WD40M	H74
6114721	UJDE1500N6CBE KCSM15	P64	6116582	EVSBL2525M0426180250C	C50	6117381	EVSBR160426075100C	C46	6123754	KSEM1281R5SSF150	H83
6114722	UJDE1500N6CBC KCSM15	P64	6116583	EVSBR2525M0416100180C	C49	6117382	EVSBL160426075100C	C47	6123755	KSEM1297R5SSF150	H83
6114723	UJDE1500N6CBF KCSM15	P64	6116588	EVSBL2525M0416100180C	C50	6117383	EVSBR160426100180C	C46	6123756	KSEM1313R5SSF150	H83
6114724	UJDE1500N6CBB KCSM15	P64	6116589	EVSBR2525M0416180250C	C49	6117384	EVSBL160426100180C	C47-48	6123757	KSEM1328R5SSF150	H83
6114725	UJDE1500N6CBK KCSM15	P64	6116590	EVSBL2525M0416180250C	C50	6117385	EVSBR160426180250C	C46	6123758	KSEM1344R5SSF150	H83
6114726	UJDE1500N6CBL KCSM15	P64	6116789	EVM50R0312A075100C	C61	6117387	EVSBL160426180250C	C47-48	6123759	KSEM1375R5SSF150	H83
6114727	UJBE1500N6CB KCSM15	P67	6116790	EVM50L0312A075100C	C62	6117402	EVSBR160416100180C	C46	6123760	KSEM1406R5SSF150	H83
6114729	UJDE1500N6FBB KCSM15	P64	6117023	KSEM3115HPGM KCPM45	H58	6117403	EVSBL160416100180C	C47	6123761	KSEM1422R5SSF150	H83
6114730	UJDE1500N6FBC KCSM15	P64	6117061	EVM50R0312B075100C	C63	6117404	EVSBR160416180250C	C46	6123762	KSEM1438R5SSF150	H83
6114751	UJDE1500N6FBD KCSM15	P64	6117062	EVM50L0312B075100C	C64	6117405	EVSBL160416180250C	C47	6123763	KSEM1469R5SSF150	H83
6114752	UJDE1500N6FB KCSM15	P64	6117063	EVM50R0312A100180C	C61	6117419	CNMU444MN KCP25B	B51	6123764	KSEM1422R5SSF150	H83
6114753	UJDE1500N6FBH KCSM15	P64	6117064	EVM50L0312A100180C	C62	6117573	DNM443RP KCP10B	H85	6123765	KSEM1514R5SSF150	H83
6114754	UJDE1500N6FBF KCSM15	P64	6117065	EVM50R0312B100180C	C63	6123662	KSEM3450FEGM KCPM45	H67	6123766	KTIPO313R12SS038	H39
6114755	UJDE1500N6FBB KCSM15	P64	6117066	EVM50L0312B100180C	C64	6123525	KTIPO80R12SS10M	H38	6123767	KTIPO335R12SS038	H39
6114756	UJDE1500N6FBK KCSM15	P64	6117067	EVM50R0312A180250C	C61	6123526	KTIPO85R12SS10M	H38	6123768	KTIPO354R12SS038	H39
6114757	UJDE1500N6FBL KCSM15	P65	6117068	EVM50L0312A180250C	C62	6123527	KTIPO90R12SS10M	H38	6123769	KTIPO945R12SS10M	H39
6114758	UJBE1500N6FB KCSM15	P67	6117069	EVM50R0312B180250C	C63	6123528	KTIPO95R12SS10M	H38	6123770	KTIPO984R12SS10M	H39
6114760	UJDE1500N6GBB KCSM15	P65	6117070	EVM50L0312B180250C	C64	6123529	KTIPO100R12SS12M	H38	6123791	KTIPO787R12SS081	H39
6114771	UJDE1500N6GB KCSM15	P65	6117071	EVM50R0312A250350C	C61	6123530	KTIPO105R12SS12M	H38	6123792	KTIPO394R12SS044	H39
6114772	UJDE1500N6GBD KCSM15	P65	6117072	EVM50L0312A250350C	C62	6123570	WD32FDS28076M	H126	6123793	KTIPO413R12SS044	H39
6114773	UJDE1500N6GBE KCSM15	P65	6117073	EVM50R0312B250350C	C63	6123571	WD32FDS32082M	H126	6123794	KTIPO433R12SS044	H39
6114774	UJDE1500N6GBH KCSM15	P65	6117074	EVM50L0312B250350C	C64	6123572	WD32FDS36092M	H126	6123795	KTIPO453R12SS050	H39
6114775	UJDE1500N6GBF KCSM15	P65	6117075	EVM50R0312A350999C	C61	6123573	WD50FDS40100M	H126	6123796	KTIPO472R12SS050	H39
6114776	UJDE1500N6GBJ KCSM15	P65	6117076	EVM50L0312A350999C	C62	6123575	WD50FDS45112M	H126	6123797	KTIPO492R12SS056	H39
6114777	UJDE1500N6GBK KCSM15	P65	6117077	EVM50R0312B350999C	C63	6123576	WD50FDS50122M	H126	6123798	KTIPO512R12SS056	H39
6114778	UJDE1500N6GBL KCSM15	P65	6117078	EVM50L0312B350999C	C64	6123577	WD50FDS56140M	H126	6123799	KTIPO532R12SS056	H39
6114779	UJBE1500N6GB KCSM15	P67	6117079	EVM50R0416A100180C	C61	6123578	WD50FDS63154M	H126	6123800	KTIPO551R12SS056	H39
6115641	UJDE1500N6DBB KCSM15	P65	6117080	EVM50L0416A100180C	C62	6123579	WD50FDS71172M	H126	6123801	KTIPO571R12SS063	H39
6115642	UJDE1500N6DBC KCSM15	P65	6117091	EVM50R0416B100180C	C63	6123580	WD50FDS80192M	H126	6123802	KTIPO374R12SS044	H39
6115643	UJDE1500N6DBD KCSM15	P65	6117092	EVM50L0416B100180C	C64	6123581	WD50FDS90212M	H126	6123803	KTIPO906R12SS094	H39
6115644	UJDE1500N6DBE KCSM15	P65	6117093	EVM50R0416A180250C	C61	6123582	SSF150FDS280299	H128	6123804	KTIPO591R12SS063	H39
6115645	UJDE1500N6DBH KCSM15	P65	6117094	EVM50L0416A180250C	C62	6123583	SSF150FDS320323	H128	6123805	KTIPO630R12SS069	H39
6115646	UJDE1500N6DBF KCSM15	P65	6117095	EVM50R0416B180250C	C63	6123584	SSF150FDS360362	H128	6123806	KTIPO669R12SS069	H39
6115647	UJDE1500N6DBJ KCSM15	P65	6117096	EVM50L0416B180250C	C64	6123585	SSF200FDS400394	H128	6123807	KTIPO709R12SS075	H39
6115648	UJDE1500N6DBK KCSM15	P65	6117097	EVM50R0416A250350C	C61	6123586	SSF200FDS450441	H128	6123808	KTIPO748R12SS075	H39
6115649	UJDE1500N6DBL KCSM15	P65	6117098	EVM50L0416A250350C	C62	6123587	SSF200FDS500480	H128	6123809	KTIPO1024R12SS125	H39
6115650	UJBE1500N6DB KCSM15	P67	6117099	EVM50R0416B250350C	C63	6123588	SSF200FDS560551	H128	6123810	KTIPO1063R12SS125	H39
6115651	UJDE1500N6HBB KCSM15	P65	6117100	EVM50L0416B250350C	C64	6123589	SSF200FDS630606	H128	6123811	KTIPO492R12SS050	H39
6115652	UJDE1500N6HBC KCSM15	P65	6117101	EVM50R0416A350999C	C61	6123590	SSF200FDS710677	H128	6123812	KTIPO374R12SS038	H39
6115653	UJDE1500N6HBD KCSM15	P65	6117102	EVM50L0416A350999C	C62	6123591	SSF200FDS800756	H128	6123813	KTIPO827R12SS088	H39
6115654	UJDE1500N6HBE KCSM15	P65	6117103	EVM50R0416B350999C	C63	6123592	SSF200FDS900835	H128	6123814	KTIPO866R12SS088	H39
6115655	UJDE1500N6HBJ KCSM15	P65	6117104	EVM50L0416B350999C	C64	6123601	KTIPO110R12SS12M	H38	6124198	EVSBR2525M0526050060C	C50
6115656	UJDE1500N6HBF KCSM15	P65	6117117	EVSBR120312040050C	C46	6123602	KTIPO115R12SS12M	H38	6124199	EVSBL2525M0526060075C	C50
6115657	UJDE1500N6HBJ KCSM15	P65	6117118	EVSBL120312040050C	C47	6123603	KTIPO120R12SS14M	H38	6124200	EVSBR2525M0516060075C	C49
6115658	UJDE1500N6HBK KCSM15	P65	6117119	EVSBR120312050060C	C46	6123604	KTIPO125R12SS14M	H38	6124211	EVSBL2525M0516060075C	C50
6115659	UJDE1500N6HBL KCSM15	P65	6117120	EVSBL120312050060C	C47	6123605	KTIPO130R12SS14M	H38	6124212	EVSBR2525M0526060075C	C50
6115660	UJBE1500N6HB KCSM15	P67	6117164	EVSBR160526050060C	C47	6123607	KTIPO135R12SS14M	H38	6124213	EVSBL2525M0526060075C	C50
6116297	A32SEVSAR0312M033042	C57	6117165	EVSBL160526050060C	C47-48	6123608	KTIPO140R12SS16M	H38	6124214	EVSBR2525M0516075100C	C49
6116298	A32SEVSAR0312M033042	C57	6117166	EVSBR160516060075C	C46	6123609	KTIPO145R12SS16M	H38	6124215	EVSBL2525M0516075100C	C50
6116299	A40TEVSAR0312M041050	C57	6117167	EVSBL160516060075C	C47-48	6123610	KTIPO150R12SS16M	H38	6124216	EVSBR2525M0526075100C	C50
6116300	A40TEVSAR0312M041050	C57	6117168	EVSBR160526060075C	C47	6123611	KTIPO160R12SS18M	H38	6124217	EVSBL2525M0526075100C	C50
6116521	A25REVSAR0312M026030	C57	6117169	EVSBL160526060075C	C47-48	6123612	KTIPO170R12SS18M	H38	6124218	EVSBR2525M0516100180C	C49
6116522	A25REVSAR0312M030035	C57	6117170	EVSBR160516075100C	C46	6123613	KTIPO180R12SS20M	H38	6124219	EVSBL2525M0516100180C	C50
6116527	A25REVSAR0312M026030	C57	6117261	EVSBL160516075100C	C47-48	6123614	KTIPO190R12SS20M	H38	6124222	EVSBR2525M0516180250C	C49
6116528	A25REVSAR0312M030035	C57	6117262	EVSBR160526075100C	C47	6123615	KTIPO200R12SS25M	H38	6124223	EVSBL2525M0516180250C	C50
6116529	A20SEVSAR0312033042	C56	6117263	EVSBL160526075100C	C47-48	6123616	KTIPO210R12SS25M	H38	6124226	EVSBR2525M0516250350C	C49
6116530	A20SEVSAR0312033042	C56	6117264	EVSBR160516100180C	C46	6123617	KTIPO220R12SS25M	H38	6124227	EVSBL2525M0516250350C	C50
6116531	A24TEVSAR0312041050	C56	6117265	EVSBL160516100180C	C47-48	6123618	KTIPO230R12SS25M	H38	6124230	EVSBR2525M0516350999C	C50
6116532	A24TEVSAR0312041050	C56	6117268	EVSBR160516180250C	C46	6123619	KTIPO240R12SS25M	H38	6124232	EVSBL2525M0516350999C	C50
6116533	A16REVSAR0212026030	C56	6117269	EVSBL160516180250C	C47-48	6123620	KTIPO250R12SS32M	H38	6124235	EVSBR3232P0532100180C	C50
6116534	A16REVSAR0312030035	C56	6117272	EVSBR160516250350C	C46	6123621	KTIPO260R12SS32M	H38	6124236	EVSBL3232P0532100180C	C51
6116539	A16REVSAR0212026030	C56	6117273	EVSBL160516250350C	C47-48	6123622	KTIPO270R12SS32M	H38	6124237	EVSBR3232P0532180250C	C50
6116540	A16REVSAR0312030035	C56	6117276	EVSBR160516350999C	C47	6123704	KSEM321R3WD40M	H74	6124238	EVSBL3232P0532180250C	C50
6116561	EVSBR2020K0312040050C	C49	6117277	EVSBL160516350999C	C47-48	6123705	KSEM330R3WD40M	H74	6124239	EVSBR3232P0532250350C	C50
6116562	EVSBL2020K0312040050C	C50	6117280	EVSBR200532100180C	C47	6123706	KSEM340R3WD40M	H74	6124240	EVSBL3232P0532250350C	C51

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6124677	EVSB2525M0616180250C	C50	6131423	LNGU433SRGEM KCK15	T10	6136883	SS100SLD201000	055	6140141	T839M160X200RD7-A KSP39	M91
6124678	EVSB12525M0616180250C	C51	6131424	LNGU433SRGEM KCPK30	T10	6136884	SS100SLD250350	054	6140142	T839M180X150RD6-A KSP39	M91
6124681	EVSB2525M0616250350C	C50	6131425	LNGU433SRGEM KC520M	T10	6136885	SS100SLD251000	055	6140594	T838NC#02-56RH2-A KSP39	M79
6124682	EVSB12525M0616250350C	C51	6131426	LNGU433SRGEM KCPM40	T10	6136886	SS125SLD250425	054	6140596	T838NC#03-48RH2-A KSP39	M79
6124685	EVSB2525M0616350999C	C50	6131428	LNU433SRGE KC522M	T10	6136887	SS125DL251000	055	6140598	T838NC#04-40RH2-A KSP32	M79
6124686	EVSB12525M0616350999C	C51	6131429	LNU433SRGE KCPM40	T10	6136888	SS125SLD320400	054	6140600	T838NC#04-40RH2-A KSP39	M79
6124689	EVSB3232P0632100180C	C50	6131430	LNU433SRGE KC725M	T10	6136889	SS125DL321000	055	6140601	T838NC#04-40RH3-A KSP39	M79
6124690	EVSB1232P0632100180C	C51	6131502	LNU432SRGE KC522M	T10	6136890	SS150SLD320550	054	6140602	T838NC#04-40RH4-A KSP39	M79
6124691	EVSB3232P0632180250C	C50	6131503	LNU432SRGE KCPM40	T10	6136891	SS150DL321000	055	6140603	T838NC#04-40RH5-A KSP39	M79
6124692	EVSB1232P0632180250C	C51	6131504	LNU432SRGE KCK15	T10	6136892	SS200SLD320750	054	6140604	T838NF#04-48RH2-A KSP39	M79
6124693	EVSB3232P0632250350C	C50	6131505	LNU432SRGE KCPK30	T10	6136893	SS200DL321000	055	6140605	T838NC#05-40RH2-A KSP39	M79
6124694	EVSB1232P0632250350C	C51	6131506	LNU432SRGE KC520M	T10	6136895	HSK63ADL10200	052	6140606	T838NC#06-32RH2-A KSP39	M79
6124695	EVSB3232P0632250350C	C50	6131507	LNU432SRGE KCK15	T10	6136896	HSK63ADL12225	052	6140607	T838NC#06-32RH3-A KSP32	M79
6124696	EVSB1232P0632250350C	C51	6131511	LNU433SRGE KCPK30	T10	6136897	HSK63ADL16225	052	6140608	T838NC#06-32RH3-A KSP39	M79
6125373	B271Z15300HPG KCPK20	G69	6131512	LNU433SRGE KC520M	T10	6136898	HSK63ADL20225	052	6140609	T838NC#06-32RH4-A KSP39	M79
6126918	RKDF0375Y4CQA KCSM15	035	6131513	LNU433SRGE KCK15	T10	6136899	HSK63ADL25250	052	6140610	T838NC#06-32RH3-A KSP39	M79
6126919	RKDF0500Y4CQB KCSM15	035	6131514	LNGU431ERGE KC725M	T9	6136900	HSK63ADL32288	052	6140611	T838NC#06-32RH7-A KSP39	M79
6126920	RKDF0625Y4CQB KCSM15	035	6131515	LNGU431ERGE KC522M	T9	6136931	PS063DL10200	052	6140612	T838NF#06-40RH2-A KSP39	M79
6127051	RKDF0750Y6CQB KCSM15	035	6131516	LNGU431ERGE KCPM40	T9	6136932	PS063DL12200	052	6140613	T838NF#06-40RH3-A KSP39	M79
6127052	RKDF1000Y6CQB KCSM15	035	6131541	LNGU432ERGE KC725M	T9	6136933	PS063DL16225	052	6140614	T838NC#08-32RH2-A KSP39	M79
6127058	FSDE0375Y9CQA KC643M	043	6131542	LNGU432ERGE KC522M	T9	6136934	PS063DL20225	052	6140615	T838NC#08-32RH3-A KSP32	M79
6127059	FSDE0375Y9CQB KC643M	043	6131543	LNGU432ERGE KCPM40	T9	6136935	PS063DL25238	052	6140616	T838NC#08-32RH3-A KSP39	M79
6127060	FSDE0375Y9CQC KC643M	043	6131544	LNGU432ERGE KCSM30	T9	6136936	PS063DL32275	052	6140617	T838NC#08-32RH4-A KSP39	M79
6127162	RQBB0375Y4CN KCPM15	036	6131556	LNGU432ERLEJ KC422M	T10	6136937	CV40BDL10162	053	6140618	T838NC#08-32RH5-A KSP39	M79
6127163	RQBB0500Y4CN KCPM15	036	6131557	LNU434SRGE KC522M	T10	6136938	CV40BDL12162	053	6140619	T838NC#08-32RH6-A KSP39	M79
6127165	RQBB0625Y4CN KCPM15	036	6131558	LNU434SRGE KCPM40	T10	6136939	CV40BDL16200	053	6140620	T838NC#08-32RH7-A KSP39	M79
6127166	RQBB0750Y4CN KCPM15	036	6131559	LNU434SRGE KC725M	T10	6136940	CV40BDL20200	053	6140621	T838NC#10-24RH2-A KSP39	M79
6127168	RQBB1000Y4CN KCPM15	036	6131560	LNU434SRGE KCPK30	T10	6136941	CV40BDL25225	053	6140622	T838NC#10-24RH3-A KSP32	M79
6127211	FSDE0375Y9CQB KC643M	043	6131601	LNU434SRGE KC520M	T10	6136942	CV40BDL32250	053	6140623	T838NC#10-24RH3-A KSP39	M79
6127212	FSDE0500Y9CQA KC643M	043	6131602	LNGU432SRGEM KCK15	T10	6136943	BT40BDL10200	053	6140624	T838NC#10-24RH4-A KSP39	M79
6127213	FSDE0500Y9CQB KC643M	043	6131603	LNGU432SRGEM KCPK30	T10	6136944	BT40BDL12200	053	6140625	T838NC#10-24RH5-A KSP39	M79
6127214	FSDE0500Y9CQC KC643M	043	6131604	LNGU432SRGEM KC520M	T10	6136945	BT40BDL16225	053	6140626	T838NC#10-24RH7-A KSP39	M79
6127215	FSDE0500Y9CQD KC643M	043	6131605	LNGU432SRGEM KC522M	T10	6136946	BT40BDL20225	053	6140627	T838NF#10-32RH2-A KSP39	M79
6127216	FSDE0500Y9CQE KC643M	043	6131606	LNGU432SRGEM KCPM40	T10	6136947	BT40BDL25238	053	6140628	T838NF#10-32RH3-A KSP32	M79
6127217	FSDE0625Y11CQA KC643M	043	6132022	LNGU432SRGE KC522M	T9	6136948	BT40BDL32275	053	6140629	T838NF#10-32RH3-A KSP39	M79
6127218	FSDE0625Y11CQB KC643M	043	6132023	LNGU432SRGE KCPM40	T9	6137128	DNMG332FP KCPK05	B80	6140630	T838NF#10-32RH4-A KSP39	M80
6127219	FSDE0625Y11CQC KC643M	043	6132024	LNGU432SRGE KCK15	T9	6137163	DNMG331FP KCPK05	B80	6140631	T838NF#10-32RH5-A KSP39	M80
6127220	FSDE0625Y11CQD KC643M	043	6132025	LNGU432SRGE KCPK30	T9	6139893	M4D1001103M10L110	T4	6140632	T838NF#10-32RH7-A KSP39	M80
6127231	FSDE0625Y11COE KC643M	043	6132026	LNGU432SRGE KCK15	T9	6139894	M4D1001104M12L125	T4	6140633	T838NF#10-32RH7-A KSP39	M80
6127232	FSDE0750Y15CQB KC643M	043	6132452	KSEM3750SPLM KCM535	H65	6139895	M4D125L1105M16L175	T4	6140634	T838NC#12-24RH3-A KSP39	M80
6127233	FSDE0750Y15CQC KC643M	043	6133656	KSEM2950SPLM KCM535	H65	6139896	M4D1001103W075L175	T5	6140635	T838NF#12-28RH3-A KSP39	M80
6127234	FSDE0750Y15CQD KC643M	043	6134103	MILL16E300Z080N08W	S30	6139897	M4D1001105W125L225	T5	6140636	T838NC02500-20RH2-A KSP39	M80
6127235	FSDE0750Y15CQE KC643M	043	6134104	MILL16E400Z100N08W	S30	6139898	M4D062L1102C062L600	T6	6140637	T838NC02500-20RH3-A KSP32	M80
6127236	FSDE1000Y19CQB KC643M	043	6134105	MILL16E500Z140N08W	S30	6139899	M4D075L1103C075L600	T6	6140638	T838NC02500-20RH3-A KSP39	M80
6127237	FSDE1000Y19CQC KC643M	043	6134106	MILL16E600Z160N08W	S30	6139900	M4D1001104C100L700	T6	6140639	T838NC02500-20RH5-A KSP39	M80
6127238	FSDE1000Y19CQD KC643M	043	6134107	MILL16E800Z200N08W	S30	6139921	M4D125L1104C125L800	T6	6140640	T838NC02500-20RH7-A KSP39	M80
6127239	FSDE1000Y19CQE KC643M	043	6134108	MILL16E1000Z240N08W	S30	6139922	M4D150L1106S050L157	T7	6140671	T838NF02500-28RH2-A KSP39	M80
6127240	FSDE1000Y19CQF KC643M	043	6135413	TWDTLM	056	6139923	M4D125L1107S01L157	T7	6140672	T838NF02500-28RH3-A KSP32	M80
6127351	XADA0375Y4CU45 KCPM15	048	6135414	TWTMINSDTL10	056	6139924	M4D300L1108S125L175	T7	6140673	T838NF02500-28RH3-A KSP39	M80
6127352	XADA0500Y5CU45 KCPM15	048	6135415	TWTMINSDTL12	056	6139928	M4D062L1102W062L100	T5, T11	6140674	T838NC05000-13RH3-A KSP32	M80
6127353	XADA0625Y6CU45 KCPM15	048	6135416	TWTMINSDTL16	056	6139929	M4D075L1102W075L110	T5, T11	6140675	T838NF02500-28RH3-A KSP39	M80
6127415	RQDB0375Y4CV KCPM15	034	6135417	TWTMINSDTL20	056	6139930	M4D075L1103W075L110	T5, T11	6140676	T838NC05000-13RH3-A KSP39	M80
6127416	RQDB0500Y4CV KCPM15	034	6135418	TWTMINSDTL25	056	6140051	M4D100L1103W100L175	T5, T11	6140677	T838NF02500-28RH5-A KSP39	M80
6127417	RQDB0625Y4CV KCPM15	034	6135419	TWTMINSDTL32	056	6140052	M4D125L1104W125L225	T5, T11	6140678	T838NF05000-20RH3-A KSP39	M80
6127418	RQDB0750Y4CV KCPM15	034	6135420	TWTMINSDTL10W	056	6140053	M4D062L1102C062L400	T6, T11	6140679	T838NF02500-28RH6-A KSP39	M80
6127419	RQDB1000Y5CV KCPM15	034	6135421	TWTMINSDTL12W	056	6140054	M4D075L1103C075L400	T6, T11	6140680	T838NC05000-13RH7-A KSP39	M80
6127558	FMDF0375Y6CQA KCPM15	042	6135422	TWTMEXT	056	6140055	M4D125L1105C125L500	T6, T11	6140681	T838NF02500-28RH3-A KSP39	M80
6127559	FMDF0500Y6CQB KCPM15	042	6135423	TWTMBC	056	6140056	M4D100L1104C100L450	T6, T11	6140682	T838NF05000-20RH3-A KSP32	M80
6127560	FMDF0625Y6CQB KCPM15	042	6136780	TCMT3253LF KCP10B	B57	6140057	M4D100L1103C100L700	T6	6140683	T838NC03125-18RH3-A KSP32	M80
6127581	FMDF0750Y6CQB KCPM15	042	6136780	SS038SLD1100225	054	6140058	M4D125L1105C125L500	T6, T11	6140684	T838NF05000-20RH3-A KSP39	M80
6127582	FMDF1000Y6CQB KCPM15	042	6136861	SS038DL100375	055	6140059	M4D150L1105S050L157	T7, T11	6140685	T838NC03125-18RH3-A KSP39	M80
6127709	XRDA0375Y4CUC KCPM15	049	6136862	SS050SLD1100250	054	6140060	M4D200L1105S075L157	T7, T11	6140686	T838NF05000-20RH3-A KSP39	M80
6127710	XRDA0375Y4CUC KCPM15	049	6136863	SS050DL100500	055	6140061	M4D200L1107S075L157	T7, T11	6140687	T838NC03125-18RH3-A KSP39	M80
6127711	XRDA0500Y5CUB KCPM15	049	6136864	SS062SLD1100350	054	6140062	M4D250L1107S075L157	T7	6140688	T838NF05000-20RH6-A KSP39	M80
6127712	XRDA0500Y5CUC KCPM15	049	6136865	SS062DL100625	055	6140063	M4D300L1108S100L175	T7	6140689	T838NC03125-18RH7-A KSP39	M80
6127713	XRDA0500Y5CUE KCPM15	049	6136866	SS075SLD1100450	054	6140064	HNEC535ANSN KY3500	S23	6140690	T838NF05000-20RH7-A KSP39	M80
6127714	XRDA0625Y6CUC KCPM15	049	6136867	SS075DL100750	055	6140065	T839M030X050RD3-A KSP39	M91	6140691	T838NF03125-24RH3-A KSP32	M80
6127715	XRDA0625Y6CUC KCPM15	049	6136868	SS050SLD1120250	054	6140066	T839M035X060RD4-A KSP39	M91	6140692	T838NC05625-12RH3-A KSP39	M80
6127885	EP1004SGE KCPM40	T37	6136869	SS050DL120500	055	6140067	T839M040X070RD4-A KSP39	M91	6140693	T838NC05625-12RH3-A KSP32	M80
6127886	EP1008SGE KCPM40	T37	6136870	SS062SLD120325</							

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6140707	T838NC06250-11RH7-A KSP39	M80	6140829	T838M080X125RD5-A KSP39	M90	6151115	ABDF0750Y2CU K600	O28	6163130	KSEM2750SPLM KCM35	H64
6140708	T838NF03750-24RH3-A KSP32	M80	6140830	T838NF05625-18RH3-A KSP39	M83	6151491	VDIB1M302040C	C75	6163131	KSEM2800SPLM KCM35	H64
6140709	T838NF06250-18RH3-A KSP32	M80	6140841	T838MF100X125RD5-A KSP39	M80	6151492	VDIB1M402544C	C75	6163132	KSEM2850SPLM KCM35	H64
6140710	T838NF03750-24RH3-A KSP39	M80	6140842	T838NC06250-11RH3-A KSP39	M80	6151493	VDIB2M302040C	C75	6163133	KSEM3150SPLM KCM35	H65
6140711	T838NF06250-18RH3-A KSP39	M80	6140843	T838M100X150RD6-A KSP39	M90	6151494	VDIB2M402544C	C75	6163134	KSEM3050SPLM KCM35	H65
6140712	T838NF03750-24RH4-A KSP39	M80	6140844	T838NC06250-11RH5-A KSP39	M83	6151495	VDIB3M302040C	C76	6163135	KSEM3100SPLM KCM35	H65
6140713	T838NF06250-18RH5-A KSP39	M80	6140845	T838M100X150RD6-A KSP32	M90	6151497	VDIB3M402544C	C76	6163136	KSEM3150SPLM KCM35	H65
6140714	T838NF03750-24RH5-A KSP39	M80	6140846	T838NF06250-18RH3-A KSP39	M83	6151498	VDIB4M302040C	C76	6163137	KSEM3250SPLM KCM35	H65
6140715	T838NF06250-18RH6-A KSP39	M81	6140847	T838MF120X125RD5-A KSP39	M80	6151499	VDIB4M402544C	C76	6163138	KSEM3350SPLM KCM35	H65
6140716	T838NF03750-24RH6-A KSP39	M80	6140848	T838NF06250-18RH5-A KSP39	M83	6151500	VDIB5M302040C	C77	6163139	KSEM3400SPLM KCM35	H65
6140717	T838NF06250-18RH7-A KSP39	M81	6140849	T838MF120X150RD5-A KSP39	M90	6151511	VDIB5M402544C	C77	6163141	KSEM3450SPLM KCM35	H65
6140718	T838NC04375-14RH3-A KSP32	M80	6140850	T838NC07500-10RH3-A KSP39	M83	6151512	VDIB6M302040C	C77	6163142	KSEM3500SPLM KCM35	H65
6140719	T838NC07500-16RH5-A KSP32	M81	6140851	T838M120X175RD6-A KSP32	M90	6151513	VDIB6M402544C	C77	6163143	KSEM3550SPLM KCM35	H65
6140720	T838NC04375-14RH3-A KSP39	M80	6140852	T838NF07500-16RH3-A KSP39	M83	6151514	VDIC1M302070C	C78	6163144	KSEM3600SPLM KCM35	H65
6140721	T838NC07500-10RH3-A KSP39	M81	6140853	T838M120X175RD6-A KSP39	M90	6151515	VDIC1M402585C	C78	6163145	KSEM3650SPLM KCM35	H65
6140722	T838NC04375-14RH5-A KSP39	M80	6140854	T838MF140X150RD6-A KSP39	M90	6151516	VDIC2M302070C	C78	6163146	KSEM3700SPLM KCM35	H65
6140723	T838NC07500-10RH5-A KSP39	M81	6140855	T838M140X200RD7-A KSP39	M90	6151517	VDIC2M402585C	C78	6163147	KSEM3800SPLM KCM35	H65
6140724	T838NC04375-14RH7-A KSP39	M80	6140856	T838MF160X150RD6-A KSP39	M90	6151518	VDIC3M302070C	C79	6163148	KSEM3850SPLM KCM35	H65
6140725	T838NF07500-16RH5-A KSP32	M81	6140857	T838M160X200RD7-A KSP39	M90	6151519	VDIC3M402585C	C79	6163149	KSEM3900SPLM KCM35	H65
6140726	T838NF04375-20RH3-A KSP32	M80	6140858	T838MF180X150RD5-A KSP39	M90	6151520	VDIC4M302070C	C79	6163150	KSEM3950SPLM KCM35	H65
6140727	T838NF07500-16RH3-A KSP39	M81	6140859	T838M180X250RD7-A KSP39	M90	6151521	VDIC4M402585C	C79	6163300	KTIPO3594FEV KCPM45	H36
6140728	T838NF04375-20RH3-A KSP39	M80	6143903	3SE0031R007A KC633M	Q16	6151522	CNMG4305LF KCP25B	B50	6163381	KTIPI010FEV KCPM45	H36
6140729	T838NF07500-16RH5-A KSP39	M81	6143904	3SE0047R011A KC633M	Q16	6151523	CNMG431LF KCP25B	B50	6163382	KTIPI170FEV KCPM45	H36
6140730	T838NF04375-20RH5-A KSP39	M80	6143905	3SE0062R019A KC633M	Q16	6151524	CNMG432LF KCP25B	B50	6163383	KSEM0781FEV KCPM45	H67
6140731	T838NC08750-9RH4-A KSP39	M81	6143906	3SE0078R011A KC633M	Q16	6151527	CNMG643MG KCP25B	B57	6163384	KSEM3350SPLM KCPM45	H67
6140732	T838NF04375-20RH6-A KSP39	M80	6143907	3SE0094R037A KC633M	Q16	6151528	CNMM432MR KCP25B	B54	6163385	KSEM1018FEV KCPM45	H67
6140733	T838NF08750-14RH4-A KSP39	M81	6143908	3SE0109R037A KC633M	Q16	6151529	CNMM543MR KCP25B	B54	6163386	KSEM1031FEV KCPM45	H67
6140734	T838NF04375-20RH3-A KSP39	M80	6143909	3SE0125R025A KC633M	Q16	6151530	CNMM544MR KCP25B	B54	6163387	KSEM1305FEV KCPM45	H67
6140735	T838NC10000-8RH5-A KSP39	M81	6143910	3SE0125L050A KC633M	Q16	6151562	DNMP332K KCP25B	B86	6163388	KSEM3150FEV KCPM45	H67
6140736	T838NC10000-8RH5-A KSP32	M81	6143911	3SE0125X062A KC633M	Q16	6151565	VNMG332LF KCP25B	B145	6163389	KSEM3250FEV KCPM45	H67
6140737	T838NF1000-12RH4-A KSP39	M81	6143943	3SE0156R056A KC633M	Q16	6151567	RCMH64K KCP10B	B239	6163390	KSEM3350SPLM KCPM45	H67
6140738	T838NC11250-7RH6-A KSP39	M81	6143944	3SE0188S031A KC633M	Q16	6152251	D315CFA	S31	6163411	KSEM3550FEV KCPM45	H67
6140739	T838NC#04-40RH2-A KSP39	M82	6143945	3SE0188R056A KC633M	Q16	6152252	D355CFA	S31	6163412	KSEM3650FEV KCPM45	H68
6140740	T838NC#04-40RH3-A KSP39	M82	6143946	3SE0188L062A KC633M	Q16	6152253	D400CFA	S31	6163413	KSEM3750FEV KCPM45	H68
6140741	T838NC#04-40RH5-A KSP39	M82	6143947	3SE0188K100A KC633M	Q16	6152254	D500CFA	S31	6163414	KSEM3850FEV KCPM45	H68
6140742	T838NC#05-40RH2-A KSP39	M82	6143949	3SE0219R062A KC633M	Q16	6153948	ABDE0375Y3CQA K600	O29	6163415	KSEM3950FEV KCPM45	H68
6140743	T838NC#06-32RH2-A KSP39	M82	6143950	3SE0219L075A KC633M	Q16	6153949	ABDE0375Y3CQB K600	O29	6163504	KSEM0929HPG KCPM45	H57
6140744	T838NC#06-32RH3-A KSP39	M82	6143951	3SE0250R050A KC633M	Q16	6153950	ABDE0375Y3CQC K600	O29	6163505	KSEM1965HPG KCPM45	H57
6140745	T838NC#06-32RH5-A KSP39	M82	6143952	3SE0250R075A KC633M	Q16	6153951	ABDE0375Y3CQD K600	O29	6163530	RNGJ10T3MOELDJ KCSM40	V48
6140746	T838NF#06-40RH2-A KSP39	M82	6143953	3SE0250L100A KC633M	Q16	6153952	ABDE0500Y3CQA K600	O29	6163592	RNGJ1204MOSGDJ KCSM40	V55
6140747	T838NF#06-40RH3-A KSP39	M82	6143954	3SE0250K150A KC633M	Q16	6153953	ABDE0500Y3CQB K600	O29	6163593	RNPJ1605MOSGDJ KCSM40	V59
6140748	T838NC#08-32RH2-A KSP39	M82	6143955	3SE0281R075A KC633M	Q16	6153954	ABDE0500Y3CQC K600	O29	6163937	LNGLJ432SRGE KCSM40	T19
6140749	T838NC#08-32RH3-A KSP39	M82	6143956	3SE0281L081A KC633M	Q16	6153955	ABDE0500Y3CQD K600	O29	6165400	LNGLJ425SRGE KCSM40	T19
6140750	T838NC#08-32RH5-A KSP39	M82	6143957	3SE0312R050A KC633M	Q16	6153956	ABDE0500Y3CQE K600	O29	6165421	LNGLJ435SRGE KCSM40	T19
6140751	T838NC#10-24RH3-A KSP39	M82	6143958	3SE0312L081A KC633M	Q16	6153957	ABDE0625Y3CQA K600	O29	6165422	LNGLJ425SRGE KCSM40	T18
6140752	T838NC#10-24RH5-A KSP39	M82	6143962	3SE0375S050A KC633M	Q16	6153958	ABDE0625Y3CQB K600	O29	6165423	LNGLJ435SRGE KCSM40	T18
6140753	T838NF#10-32RH3-A KSP39	M82	6143963	3SE0375R088A KC633M	Q16	6153959	ABDE0625Y3CQC K600	O29	6165759	HNPJ43ANSHD KCSM40	S7, S13, S16
6140754	T838NF#10-32RH5-A KSP39	M82	6143964	3SE0375L100A KC633M	Q16	6153960	ABDE0625Y3CQD K600	O29	6165760	HNPJ43ANSHD KCSM40	S7, S13, S16
6140755	T838NC02500-20RH3-A KSP39	M82	6143965	3SE0375X112A KC633M	Q16	6153961	ABDE0625Y3CQE K600	O29	6165861	HNPJ43ANSHD KCSM40	S7, S13, S16
6140756	T838NC02500-20RH5-A KSP39	M82	6143967	3SE0437R062A KC633M	Q16	6153963	ABDE0750Y3CQB K600	O29	6165863	XNGJ43ANENLD3W KCSM40	S12
6140757	T838NF02500-20RH3-A KSP39	M82	6143968	3SE0437L088A KC633M	Q16	6153964	ABDE0750Y3CQC K600	O29	6165864	HNGJ43ANSHD KCSM40	S7, S12, S16
6140758	T838NF02500-20RH5-A KSP39	M82	6143969	3SE0437X100A KC633M	Q16	6153965	ABDE0750Y3CQD K600	O29	6167534	FSDE0375J9BCA KC643M	P98
6140759	T838NC03125-18RH3-A KSP39	M82	6143970	3SE0500R100A KC633M	Q16	6153966	ABDE0750Y3CQE K600	O29	6167535	FSDE0375J9BCB KC643M	P98
6140800	T838NC03125-18RH5-A KSP39	M82	6143971	3SE0500L200A KC633M	Q17	6153967	ABDE1000Y3CQB K600	O29	6167536	FSDE0500J9BCA KC643M	P98
6140801	T838NF03125-24RH3-A KSP39	M82	6143973	3SE0563R112A KC633M	Q17	6153968	ABDE1000Y3CQC K600	O29	6167537	FSDE0500J9BCB KC643M	P98
6140802	T838NF03125-24RH5-A KSP39	M82	6143974	3SE0625R075A KC633M	Q17	6153969	ABDE1000Y3CQD K600	O29	6167538	FSDE0500J9BCC KC643M	P98
6140803	T838NC03750-16RH3-A KSP39	M82	6143975	3SE0625L125A KC633M	Q17	6153970	ABDE1000Y3CQE K600	O29	6167539	FSDE0625J9BCB KC643M	P98
6140804	T838NC03750-16RH5-A KSP39	M82	6143976	3SE0750R100A KC633M	Q17	6153971	ABDE1000Y3CQF K600	O29	6167540	FSDE0750J9BCA KC643M	P98
6140805	T838M030X050RD3-A KSP32	M90	6143977	3SE0750L150A KC633M	Q17	6159069	MILL16E200Z040N08SC	S32	6167551	FSDE0750J9BCB KC643M	P98
6140806	T838NF03750-24RH3-A KSP39	M82	6143978	3SE0750X225A KC633M	Q17	6159070	MILL16E250Z040N08SC	S32	6167552	FSDE0750J9BCB KC643M	P98
6140807	T838M030X050RD3-A KSP39	M90	6143979	3SE1000R150A KC633M	Q17	6159072	MILL16E300Z050N08SC	S32	6167553	FSDE0750J9BCE KC643M	P98
6140808	T838NF03750-24RH4-A KSP39	M82	6143980	3SE1000X225A KC633M	Q17	6159074	MILL16E400Z060N08SC	S32	6167554	FSDE1000J9BCA KC643M	P98
6140809	T838M035X060RD4-A KSP39	M90	6145034	3SE0563R112B KC633M	Q17	6159076	MILL16E500Z080N08SC	S32	6167555	FSDE1000J9BCB KC643M	P98
6140810	T838NF03750-24RH5-A KSP39	M83	6145035	3SE0625R075B KC633M	Q17	6159078	MILL16E600Z100N08SC	S32	6167556	FSDE1000J9BCC KC643M	P98
6140811	T838M040X070RD4-A KSP32	M90	6145036	3SE0625L125B KC633M	Q17	6159080	MILL16E800Z100N08SC	S32	6167557	FSDE1000J9BCE KC643M	P98
6140812	T838NC04375-14RH3-A KSP39	M83	6145038	3SE0750L150B KC633M	Q17	6159082	MILL16E1000Z120N08SC	S32	6168013	SDCT43PDER8LD2 KCSM40	T115, T122, U38
6140813	T838M040X070RD4-A KSP39	M90	6145039	3SE0750X225B KC633M	Q17	6160117	5720VZ16HA050Z4R75	T99	6168014	SDCT433PDER8LD2 KCSM40	T115, T122
6140814	T838NC04375-14RH5-A KSP39	M83	6145041	3SE1000X225B KC633M	Q17	6160743	C7792VKE16-A1.5/4.00Z7R	V26	6168015	SDCT433PDER8GB KCSM40	T116, T123, U39
6140815	T838M050X080RD4-A KSP32	M90	6145374	1-16NPTF-JIC	C83	6160744	C7792VKE16-A1.5/4.				

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6168102	SDET438SNGB KCSM40	T116, T123, U39	6172686	T839M100X150R6H-D1 KJ3U1	M97	6173083	T838NF10000-12R2B-D4 KSP39	M86	6173271	T838NF#10-32R2B-D1 KJ3U1	M85
6168103	SDET438ENGB KCSM40	T116, T123, U39	6172687	T839M120X175R6H-D6 KSP39	M97	6173084	T838NF10000-12R2B-D4 KJ3U1	M86	6173272	T838NC#12-24R2B-D1 KSP39	M85
6168104	SDET434SNGB KCSM40	T116, T123, U39	6172688	T839M120X175R6H-D6 KJ3U1	M97	6173085	T838NC1250-7R2B-D6 KSP39	M86	6173273	T838NC#12-24R2B-D1 KJ3U1	M85
6168105	SDET434ENGB KCSM40	T116, T123, U39	6172689	T839M140X200R6H-D6 KSP39	M97	6173086	T838NC1250-7R2B-D6 KJ3U1	M86	6173274	T838NF#12-28R2B-D1 KSP39	M85
6168106	SDET433PDR8GB KCSM40	T116, T123, U39	6172690	T839M140X200R6H-D6 KJ3U1	M97	6173087	T838NF1250-12R2B-D4 KSP39	M86	6173275	T838NF#12-28R2B-D1 KJ3U1	M85
6171518	EC1408EGD KCSM40	T57, T68	6172701	T839M160X200R6H-D6 KSP39	M97	6173088	T838NF1250-12R2B-D4 KJ3U1	M86	6173276	T838NC02500-20R2B-D1 KSP39	M85
6171519	EC1412EGD KCSM40	T57, T68	6172702	T839M160X200R6H-D6 KJ3U1	M97	6173089	T838NF12500-7R2B-D6 KSP39	M86	6173277	T838NC02500-20R2B-D1 KSP39	M85
6171520	EC1416EGD KCSM40	T57, T68	6172703	T839M180X250R6H-D6 KSP39	M97	6173090	T838NC12500-7R2B-D6 KJ3U1	M86	6173278	T838NC02500-20R2B-D6 KSP39	M85
6171591	EC1431EGD KCSM40	T57, T68	6172704	T839M180X250R6H-D6 KJ3U1	M97	6173091	T838NF12500-12R2B-D4 KSP39	M86	6173279	T838NC02500-20R2B-D6 KJ3U1	M85
6172122	EP1408EHD KCSM40	T57, T68	6172705	T839M200X250R6H-D6 KSP39	M97	6173092	T838NF12500-12R2B-D4 KJ3U1	M86	6173280	T838NF02500-28R2B-D1 KSP39	M85
6172123	EP1412EHD KCSM40	T57, T68	6172706	T839M200X250R6H-D6 KJ3U1	M97	6173093	T838NC13750-6R2B-D6 KSP39	M86	6173281	T838NF02500-28R2B-D1 KJ3U1	M85
6172124	EP1416EHD KCSM40	T57, T68	6172707	T838NC05625-12R2B-D6 KSP39	M85	6173094	T838NC13750-6R2B-D6 KJ3U1	M86	6173282	T838NF02500-28R2B-D4 KSP39	M85
6172125	EP1420EHD KCSM40	T57, T68	6172708	T838NC05625-18R2B-D4 KSP39	M85	6173095	T838NC13750-12R2B-D6 KSP39	M86	6173283	T838NC02500-12R2B-D1 KSP39	M85
6172126	EP1424EHD KCSM40	T57, T68	6172709	T838NF05625-18R2B-D4 KSP39	M85	6173096	T838NF13750-12R2B-D4 KJ3U1	M86	6173284	T838NC03125-18R2B-D1 KSP39	M85
6172127	EP1431EHD KCSM40	T57, T68	6172710	T838NF05625-18R2B-D4 KJ3U1	M85	6173097	T838NC15000-6R2B-D6 KSP39	M86	6173285	T838NC03125-18R2B-D1 KJ3U1	M85
6172128	EP1440EHD KCSM40	T57, T68	6172711	T838M020X040R6H-D1 KSP39	M95	6173098	T838NC15000-6R2B-D6 KJ3U1	M86	6173286	T838NC03125-18R2B-D1 KSP39	M85
6172129	EP1408SGD KCSM40	T58, T70	6172712	T838M020X040R6H-D1 KJ3U1	M95	6173099	T838NF15000-12R2B-D4 KSP39	M86	6173287	T838NC03125-18R2B-D6 KJ3U1	M85
6172130	EP1412SGD KCSM40	T58, T70	6172713	T838M030X050R6H-D1 KSP39	M95	6173100	T838NF15000-12R2B-D4 KJ3U1	M86	6173288	T838NF03125-24R2B-D4 KSP39	M85
6172191	EP1416SGD KCSM40	T58, T70	6172714	T838M030X050R6H-D1 KJ3U1	M95	6173101	T838NF15000-5R2B-D6 KSP39	M86	6173289	T838NF03125-24R2B-D1 KSP39	M85
6172192	EP1408SGE KCSM40	T58, T69	6172715	T838M040X070R6H-D1 KSP39	M95	6173102	T838NC17500-5R2B-D6 KJ3U1	M86	6173290	T838NC03750-16R2B-D1 KSP39	M85
6172193	EP1412SGE KCSM40	T58, T69	6172716	T838M040X070R6H-D1 KJ3U1	M95	6173103	T838NC20000-4,5R2B-D6 KSP39	M86	6173301	T838NC03750-16R2B-D1 KJ3U1	M85
6172194	EP1416SGE KCSM40	T58, T69	6172717	T838M050X080R6H-D1 KSP39	M95	6173104	T838NC20000-4,5R2B-D6 KJ3U1	M86	6173302	T838NC02500-12R2B-D1 KSP39	M85
6172195	EP1431SGE KCSM40	T58, T69	6172718	T838M050X080R6H-D1 KJ3U1	M95	6173111	T838M160X200R6H-D6 KJ3U1	M95	6173303	T838NC03750-16R2B-D6 KJ3U1	M85
6172348	EP1808S KCSM40	T85	6172719	T838M060X100R6H-D1 KSP39	M95	6173112	T838MF180X150R6H-D4 KSP39	M96	6173304	T838NF03750-24R2B-D4 KSP39	M85
6172349	EP1812S KCSM40	T85	6172720	T838M060X100R6H-D1 KJ3U1	M95	6173113	T838MF180X150R6H-D4 KJ3U1	M96	6173305	T838NF03750-24R2B-D4 KJ3U1	M85
6172350	EP1816S KCSM40	T85	6172721	T838M060X100R6H-D4 KSP39	M95	6173114	T838MF180X200R6H-D4 KSP39	M96	6173306	T838NC04375-14R2B-D6 KSP39	M85
6172391	EP1832S KCSM40	T85	6172722	T838M060X100R6H-D4 KJ3U1	M95	6173115	T838MF180X200R6H-D4 KJ3U1	M96	6173307	T838NC04375-14R2B-D6 KJ3U1	M85
6172392	EP1848S KCSM40	T85	6172723	T838M060X100R6H-D6 KSP39	M95	6173116	T838MF180X250R6H-D6 KSP39	M96	6173308	T838NF04375-20R2B-D4 KSP39	M85
6172393	EP1864S KCSM40	T85	6172724	T838M060X100R6H-D6 KJ3U1	M95	6173117	T838MF180X250R6H-D6 KJ3U1	M96	6173309	T838NF04375-20R2B-D4 KJ3U1	M85
6172394	EP1808SGE KCSM40	T84	6172725	T838M060X100R6H-D4 KSP39	M95	6173118	T838MF200X150R6H-D4 KSP39	M96	6173310	T838NC05000-13R2B-D6 KSP39	M85
6172395	EP1812SGE KCSM40	T84	6172726	T838M060X100R6H-D4 KJ3U1	M95	6173119	T838MF200X150R6H-D4 KJ3U1	M96	6173311	T838NC05000-13R2B-D6 KJ3U1	M85
6172396	EP1816SGE KCSM40	T84	6172727	T838M080X125R6H-D1 KSP39	M95	6173120	T838MF200X200R6H-D4 KSP39	M96	6173312	T838NF05000-20R2B-D4 KSP39	M85
6172397	EP1832SGE KCSM40	T84	6172728	T838M080X125R6H-D1 KJ3U1	M95	6173121	T838MF200X200R6H-D4 KJ3U1	M96	6173313	T838NF05000-20R2B-D4 KJ3U1	M85
6172398	EP1808E KCSM40	T83	6172729	T838M080X125R6H-D4 KSP39	M95	6173132	T838M200X250R6H-D6 KSP39	M96	6173786	LNP4763PNSRD2 KCSM40	S99, S101
6172399	EP1816E KCSM40	T83	6172730	T838M080X125R6H-D4 KJ3U1	M95	6173133	T838M200X250R6H-D6 KJ3U1	M96	6175756	EP102EHD KCSM40	T36
6172400	EP1832E KCSM40	T83	6172731	T838M080X125R6H-D6 KSP39	M95	6173134	T838M200X250R6H-D6 KJ3U1	M96	6175757	EP1012EH KCSM40	T36
6172411	EP1848E KCSM40	T83	6172732	T838M080X125R6H-D6 KJ3U1	M95	6173135	T838MF220X150R6H-D4 KSP39	M96	6175758	EP1016EHD KCSM40	T36
6172412	EP1864E KCSM40	T83	6172733	T838M080X125R6H-D4 KSP39	M95	6173136	T838MF220X150R6H-D4 KJ3U1	M96	6175759	EP1020EHD KCSM40	T36
6172413	EP1808EHD KCSM40	T84	6172734	T838M080X125R6H-D4 KJ3U1	M95	6173137	T838MF220X200R6H-D4 KSP39	M96	6175760	EP1024EHD KCSM40	T36
6172414	EP1812EHD KCSM40	T84	6172735	T838M080X125R6H-D6 KSP39	M95	6173138	T838M220X250R6H-D6 KSP39	M96	6176091	EP1031EHD KCSM40	T36
6172415	EP1816EHD KCSM40	T84	6172736	T838M080X125R6H-D6 KJ3U1	M95	6173139	T838M220X250R6H-D6 KJ3U1	M96	6176092	EP1008SGE KCSM40	T37
6172416	EP1832EHD KCSM40	T84	6172737	T838M100X150R6H-D1 KSP39	M95	6173140	T838M220X250R6H-D6 KSP39	M96	6176093	EP1012SGE KCSM40	T37
6172417	EP1848EHD KCSM40	T84	6172738	T838M100X150R6H-D1 KJ3U1	M95	6173141	T838MF240X150R6H-D4 KSP39	M96	6176094	EP1016SGE KCSM40	T37
6172418	EP1848EHD KCSM40	T84	6172739	T838M100X150R6H-D4 KSP39	M95	6173142	T838MF240X150R6H-D4 KJ3U1	M96	6176095	EP1031SGE KCSM40	T37
6172513	B967A03000 KJ7315	G130	6172740	T838M100X150R6H-D4 KJ3U1	M95	6173143	T838MF240X200R6H-D4 KSP39	M96	6176096	EC1008ELD KCSM40	T36
6172514	B967A03100 KJ7315	G130	6172741	T838M100X150R6H-D6 KSP39	M95	6173144	T838MF240X200R6H-D4 KJ3U1	M96	6176097	EC1012ELD KCSM40	T36
6172515	B967A03200 KJ7315	G130	6172742	T838M100X150R6H-D6 KJ3U1	M95	6173145	T838M240X300R6H-D6 KSP39	M96	6176098	EC1016ELD KCSM40	T36
6172516	B967A03300 KJ7315	G130	6172743	T838M100X150R6H-D4 KSP39	M95	6173146	T838M240X300R6H-D6 KJ3U1	M96	6176099	EC1024ELD KCSM40	T36
6172517	B967A03500 KJ7315	G130	6172744	T838M100X150R6H-D4 KJ3U1	M95	6173147	T838MF270X150R6H-D4 KSP39	M96	6176100	EC1031ELD KCSM40	T36
6172518	B967A03800 KJ7315	G130	6172745	T838M100X150R6H-D6 KSP39	M95	6173148	T838MF270X150R6H-D4 KJ3U1	M96	6177823	SNH442SNGD KCSM40	S59
6172519	B967A04000 KJ7315	G130	6172746	T838M100X150R6H-D6 KJ3U1	M95	6173149	T838M270X300R6H-D6 KSP39	M96	6177924	T838M270X300R6H-D6 KJ3U1	S47
6172520	B967A04200 KJ7315	G130	6172747	T838M100X150R6H-D4 KSP39	M95	6173150	T838MF300X150R6H-D4 KSP39	M96	6177925	OFKT53AFEN4GB KCSM40	S47
6172531	B967A04300 KJ7315	G130	6172748	T838M100X150R6H-D4 KJ3U1	M95	6173151	T838MF300X150R6H-D4 KJ3U1	M96	6177926	OFKT53AFSN4HB KCSM40	S47
6172532	B967A04500 KJ7315	G130	6172749	T838M100X150R6H-D6 KSP39	M95	6173152	T838MF300X200R6H-D4 KSP39	M96	6177927	OFPT53AFSN4HB KCSM40	S48
6172533	B967A04800 KJ7315	G130	6172750	T838M100X150R6H-D6 KJ3U1	M95	6173153	T838MF300X200R6H-D4 KJ3U1	M96	6177928	OFKT64AFEN6LB KCSM40	S51
6172534	B967A05100 KJ7315	G130	6172751	T838M120X175R6H-D6 KSP39	M97	6173154	T838M300X350R6H-D6 KSP39	M96	6177929	OFKT64AFEN6GB KCSM40	S52
6172535	B967A05200 KJ7315	G130	6172752	T838M120X175R6H-D6 KJ3U1	M97	6173155	T838M300X350R6H-D6 KJ3U1	M96	6177930	OFKT64AFSN6HB KCSM40	S52
6172536	B967A05500 KJ7315	G130	6172753	T838M120X175R6H-D4 KSP39	M97	6173156	T838M330X350R6H-D6 KSP39	M96	6178011	OFPT64AFSN6HB KCSM40	S52
6172537	B967A05800 KJ7315	G130	6172754	T838M120X175R6H-D4 KJ3U1	M97	6173157	T838M330X350R6H-D6 KJ3U1	M96	6178103	HNGJ535ANSNHD KCSM40	S18, S21
6172538	B967A06100 KJ7315	G130	6172755	T838M120X175R6H-D6 KSP39	M97	6173158	T838M360X400R6H-D6 KSP39	M96	6178104	HNGJ535ANSNHD KCSM40	S18, S22
6172539	B967A06600 KJ7315	G131	6172756	T838M120X175R6H-D6 KJ3U1	M97	6173159	T838M360X400R6H-D6 KJ3U1	M96	6178105	HNGJ535ANSNHD KCSM40	S19, S22
6172540	B967A06800 KJ7315	G131	6172757	T838M140X200R6H-D6 KSP39	M95	6173160	T838M390X400R6H-D6 KSP39	M96	6178106	HNGJ535ANSNHD KCSM40	S19, S22
6172541	B967A07800 KJ7315	G131	6172758	T838M140X200R6H-D6 KJ3U1	M95	6173171	T838M390X400R6H-D6 KJ3U1	M96	6178107	HNGJ535ANSNHD KCSM40	S18, S21
6172542	B967A08100 KJ7315	G131	6172759	T838M140X200R6H-D4 KSP39	M95	6173172	T838M420X450R6H-D6 KSP39	M96	6178108	HNPJ535ANSNHD KCSM40	S19, S23
6172543	B967A08600 KJ7315	G131	6172760	T838M140X200R6H-D4 KJ3U1							



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6179400	EVSCFR080216	C38	6180129	EVSCFR101B16	C42	6202340	ONPX642SNGP KCK20	S34	6231870	EG250106U2GUN KCP10B	C21
6179709	EVSCFL1010K1B10	C45	6180130	EVSCFR101F16	C42	6202371	ONPX645SNHB KCK20	S34	6231881	EG31208U3GUN KCP10B	C21
6179710	EVSCFL1010K1F10	C45	6180141	EVSCFR100216	C42	6205876	BTQSW3L90	S30	6231882	EG37511U3GUN KCP10B	C21
6179721	EVSCFR080316C	C38	6180142	EVSCFR100316C	C42	6214774	M4-11KTD0622Z0062SSEKCPM40	T11	6231883	EG094102U05GUN KCP25B	C21
6179722	EVSCFL081B16	C38	6180143	EVSCFR121B16	C42	6214775	M4-11KTD0622Z0062SSEKCPM40	T11	6231884	EG12503U05GUN KCP25B	C21
6179723	EVSCFL081F16	C38	6180144	EVSCFR121F16	C42	6214776	M4-11KTD0752W075SSEKCPM40	T11	6231885	EG12503U1GUN KCP25B	C21
6179724	EVSCFL080216	C38	6180146	EVSCFR120216	C42	6214777	M4-11KTD0752W075SSEKCPM40	T11	6231886	EG18704U1GUN KCP25B	C21
6179725	EVSCFL080316C	C39	6180147	EVSCFR120316C	C42	6214778	M4-11KTD0752W075SSEKCPM40	T11	6231887	EG18704U2GUN KCP25B	C21
6179726	EVSCFL061B10	C43	6180436	DNMG333CT KCP10B	B79	6214779	M4-11KTD100Z3W100SSEKCPM40	T11	6231888	EG250106U1GUN KCP25B	C21
6179727	EVSCFL061F10	C43	61801213	LNUX191940S-WT5 KCP25B	E59	6214780	M4-11KTD100Z3W100SSEKCPM40	T11	6231889	EG250106U2GUN KCP25B	C21
6179728	EVSCFL060210	C43	6181214	NPR13M05F KCP25B	E36	6214801	M4-11KTD125Z4W125SSEKCPM40	T11	6231890	EG31208U3GUN KCP25B	C21
6179729	EVSCFL081B10	C43	6181215	SNMX190640S-WT5 KCP25B	E59	6214802	M4-11KTD125Z5C125SSEKCPM40	T11	6231891	EG37511U3GUN KCP25B	C21
6179730	EVSCFL081B13	C43	6181216	NPR5M05 KCP25B	E36	6214803	M4-11KTD150Z5S050SSEKCPM40	T11	6231892	EG250106U2GUN KCP25B	C21
6179731	EVSCFL081F10	C43	6181217	NPR13M05N KCP25B	E35	6214804	M4-11KTD200Z5S075SSEKCPM40	T11	6231893	EG12503U05GUN KCK20B	C21
6179732	EVSCFL081F13	C43	6181311	CNMM190740RRP KCP10B	E59	6214805	M4-11KTD200Z7S075SSEKCPM40	T11	6231894	EG12503U1GUN KCK20B	C21
6179733	EVSCFL080210	C43	6181316	RCMX2507M076 KCP25B	E59	6214806	M4-11KTD0622Z0062SSEKCPM40	T11	6231895	EG18704U1GUN KCK20B	C21
6179734	EVSCFL080216	C43	6183779	RIQB6C4500S KBHK10	K59	6214807	M4-11KTD0622Z0062SSEKCPM40	T11	6231896	EG18704U2GUN KCK20B	C21
6179735	EVSCFL080310C	C43	6183780	RIQB7C4500S KBHK10	K59	6214808	M4-11KTD0752W075SSEKCPM40	T11	6231897	EG250106U1GUN KCK20B	C21
6179736	EVSCFL080316C	C43	6183831	RIQ07C4500S KBHK10	K59	6214809	M4-11KTD0752W075SSEKCPM40	T11	6231898	EG250106U2GUN KCK20B	C21
6179737	EVSCFL101B16	C43	6183832	RIQ08C4500S KBHK10	K59	6214810	M4-11KTD100Z3W100SSEKCPM40	T11	6231899	EG31208U3GUN KCK20B	C21
6179738	EVSCFL101F16	C43	6183833	RIQ09C4500S KBHK10	K59	6214821	M4-11KTD100Z4C100SSEKCPM40	T11	6231900	EG37511U3GUN KCK20B	C21
6179739	EVSCFL100216	C43	6183834	RIQB6C4500S KBHK15	K59	6214822	M4-11KTD125Z4W125SSEKCPM40	T11	6231902	ER0212M02U00GUP KCU10	C19
6179740	EVSCFL100316C	C43	6183836	RIQB7C4500S KBHK15	K59	6214823	M4-11KTD125Z5C125SSEKCPM40	T11	6231903	ER0200M02P00GUP KCU10	C19
6179751	EVSCFL121B16	C43	6183837	RIQ07C4500S KBHK15	K59	6214824	M4-11KTD150Z5S050SSEKCPM40	T11	6231904	ER0212M02U00GUP KCU10	C21
6179752	EVSCFL121F16	C43	6183838	RIQ08C4500S KBHK15	K59	6214825	M4-11KTD200Z5S075SSEKCPM40	T11	6231905	ER0212M02U00GUP KCU25	C19
6179753	EVSCFL120216	C43	6183839	RIQ09C4500S KBHK15	K59	6214826	M4-11KTD200Z7S075SSEKCPM40	T11	6231906	ER0200M02P00GUP KCU25	C19
6179754	EVSCFL120316C	C43	6185769	XPPT060308ERD41 KCSM40	V7	6226803	LNUX191940RRSM KCP25B	E58	6231907	ER0212M02U00GUP KCU25	C21
6179755	EVSCFR1212K0316C	C40	6185770	XEP1160512ERD41 KCSM40	V28	6228171	NG2031R KCK20B	C170	6231908	ER0212M02U00GUP KCP10B	C19
6179756	EVSCFL1212K0316C	C41	6185921	XDPT090408ERD41 KCSM40	V15	6228172	NG2031R KCK20B	C170	6231910	ER0212M02U00GUP KCP10B	C21
6179757	EVSCFR1212K1B16	C40	6185922	XDPT090412ERD41 KCSM40	V15	6228173	NG2041R KCK20B	C170	6231911	ER0212M02U00GUP KCP25B	C19
6179758	EVSCFR1212K1F16	C40	6187383	SDPT43PDR8GB2 KCSM40	T116, T123, U39	6228174	NG2041R KCK20B	C170	6231913	ER0212M02U00GUP KCP25B	C21
6179759	EVSCFR1212K0216	C40	6187384	SDPT43PDR8GB2 KCSM40	T116, T123, U39	6228175	NG2047R KCK20B	C170	6231914	ER0212M02U00GUP KCK20B	C21
6179760	EVSCFL1212K1B16	C41				6228176	NG2062L KCK20B	C170	6231915	ER094102U00GUN KCU10	C22
6179761	EVSCFL1212K1F16	C41				6228177	NG2062R KCK20B	C170	6231916	ER12503U00GUN KCU10	C22
6179762	EVSCFL1212K0216	C41	6187511	XPPW060310SRD KCPM40	V7	6228178	NG2094L KCK20B	C170	6231917	ER18704U00GUN KCU10	C22
6179763	EVSCFR1010K1B10	C44	6187512	XPPW060310SRD KCPK30	V7	6228179	NG2094R KCK20B	C170	6231918	ER250106U00GUN KCU10	C22
6179764	EVSCFR1010K1F10	C44	6187513	XPPW060310SRD KC522M	V7	6228180	NG2125L KCK20B	C170	6231919	ER31208U00GUN KCU10	C22
6179765	EVSCFR1010K0210	C44	6187514	XPPW060310SRD KC510M	V7	6228181	NG3047L KCK20B	C170	6231920	ER094102U00GUN KCU25	C22
6179766	EVSCFR1212K1B10	C44	6187535	XDPW090412SRD KCPM40	V15	6228182	NG3047R KCK20B	C170	6231921	ER12503U00GUN KCU25	C22
6179767	EVSCFR1212K1B13	C44	6187536	XDPW090412SRD KCPK30	V15	6228183	NG3062L KCK20B	C170	6231922	ER18704U00GUN KCU25	C22
6179768	EVSCFR1212K1F10	C44	6187537	XDPW090412SRD KCK15	V15	6228184	NG3062R KCK20B	C170	6231923	ER250106U00GUN KCU25	C22
6179769	EVSCFR1212K1F13	C44	6187538	XDPW090412SRD KC522M	V15	6228185	NG3072R KCK20B	C170	6231924	ER12503U00GUN KCU25	C22
6179770	EVSCFR1212K0210	C44	6187539	XDPW090412SRD KC510M	V15	6228186	NG3078R KCK20B	C170	6231925	ER094102U00GUN KCP10B	C22
6179771	EVSCFR1212K0216	C44	6187714	XEPW160520SRD KCPM40	V28	6228187	NG3088R KCK20B	C170	6231926	ER12503U00GUN KCP10B	C22
6179772	EVSCFR1212K0310C	C44	6187715	XEPW160520SRD KCPK30	V28	6228188	NG3094L KCK20B	C170	6231927	ER18704U00GUN KCP10B	C22
6179773	EVSCFR1212K0316C	C44	6187716	XEPW160520SRD KCK15	V28	6228189	NG3094R KCK20B	C170	6231928	ER250106U00GUN KCP10B	C22
6179774	EVSCFR1616K1B16	C44	6187717	XEPW160520SRD KC522M	V28	6228190	NG3098R KCK20B	C170	6231929	ER12503U00GUN KCP10B	C22
6179775	EVSCFR1616K1F16	C44	6187806	XDPT120508ERD41 KCSM40	V22	6228191	NG3105R KCK20B	C170	6231930	ER094102U00GUN KCP25B	C22
6179776	EVSCFR1616K0216	C44	6187808	XDPT120512ERD41 KCSM40	V22	6228192	NG3125L KCK20B	C171	6231931	ER12503U00GUN KCP25B	C22
6179777	EVSCFR1616K0316C	C44	6191237	KSDR100031EOWOS KD1400	S105	6228193	NG3125R KCK20B	C170	6231932	ER18704U00GUN KCP25B	C22
6179778	EVSCFR2020K1B16	C44	6191238	KSDR100031EOWOS KD1425	S105	6228194	NG3156R KCK20B	C170	6231933	ER250106U00GUN KCP25B	C22
6179779	EVSCFR2020K1F16	C44	6191358	RCGT64ELF KCSM40	V89	6228195	NG3189L KCK20B	C171	6231934	ER31208U00GUN KCP25B	C22
6179780	EVSCFR2020K0216	C44	6191359	RCGT64SHF KCSM40	V89	6228196	NG3189R KCK20B	C170	6231935	ER094102U00GUN KCK20B	C22
6179781	EVSCFR2020K0316C	C44	6191360	RCGT86ELF KCSM40	V92	6228197	NG4125R KCK20B	C170	6231936	ER12503U00GUN KCK20B	C22
6179921	EVSCFL1010K0210	C45	6191511	RCGT86SHF KCSM40	V92	6228198	NG4189L KCK20B	C171	6231937	ER18704U00GUN KCK20B	C22
6179922	EVSCFL1212K1B10	C45	6191557	XEPT160516ERD41 KCPM40	V28	6228199	NG4189R KCK20B	C170	6231938	ER250106U00GUN KCK20B	C22
6179923	EVSCFL1212K1B13	C45	6191558	XEPT160516ERD41 KCPK30	V28	6228200	NG4250L KCK20B	C171	6231939	ER31208U00GUN KCK20B	C22
6179924	EVSCFL1212K1F10	C45	6191559	XEPT160516ERD41 KC522M	V28	6228201	NG4250R KCK20B	C170	6232054	MDRHEC250S3025 KCPM15	P91
6179925	EVSCFL1212K1F13	C45	6191642	XDPT090412SRGP KCPM40	V16	6231686	EG094102U05GUN KCU10	C21	6232055	MDRHEC250S3075 KCPM15	P91
6179926	EVSCFL1212K0210	C45	6191643	XDPT090412SRGP KCPK30	V16	6231687	EG12503U05GUN KCU10	C21	6295898	CNGA431S0415MT KBH10	B330
6179927	EVSCFL1212K0216	C45	6191644	XDPT090412SRGP KC725M	V16	6231688	EG12503U1GUN KCU10	C21	6295899	CNGA431S0415FWMT KBH10	B330
6179928	EVSCFL1212K0310C	C45	6191645	XDPT090412SRGP KC522M	V16	6231689	EG18704U1GUN KCU10	C21	6295900	CNGA432S0415MT KBH10	B330
6179929	EVSCFL1212K0316C	C45	6197561	DT050140	S30	6231690	EG18704U2GUN KCU10	C21	6295921	CNGA432S0415FWMT KBH10	B330
6179930	EVSCFL1616K1B16	C45	6200729	LNGU434SRGEM KCK15	T10	6231851	EG250106U1GUN KCU10	C21	6295922	CNGA433S0415MT KBH10	B330
6179931	EVSCFL1616K1F16	C45	6200730	LNGU434SRGEM KCPK30	T10	6231852	EG250106U2GUN KCU10	C21	6295923	CNGA433S0525MT KBH10	B330
6179932	EVSCFL1616K0216	C45	6201021	LNGU434SRGEM KC520M	T10	6231853	EG31208U3GUN KCU10	C21	6295925	CNGA433S0525FWMT KBH10	B330
6179933	EVSCFL1616K0316C	C45	6201022	LNGU434SRGEM KCPM40	T10	6231854	EG37511U3GUN KCU10	C21	6295926	CNGA433S0525MT KBH10	B330
6179934	EVSCFL2020K1B16	C45	6201279	LNGU431SRGE KC522M	T9	6231855	EG094102U05GUN KCU25	C21	6295927	CNGA433S0525FWMT KBH10	B330
6179935	EVSCFL2020K1F16	C45	6201280	LNGU431SRGE KCPM40	T9	6231856	EG12503U05GUN KCU25	C21	6295928	CNGA433S0735MT KBH10	B330
6179936	EVSCFL2020K0216	C45	6201291	LNGU431SRGE KCSM40	T9	6231857	EG12503U1GUN KCU25	C21	6295929	CNGA433S0735MT KBH10	B330
6179937	EVSCFL2020K0316C	C45	6201292	LNGU431ERLEJ KC422M	T8	6231858	EG18704U1GUN KCU25	C21	6295930	DNGA431S0415MT KBH10	B334
6180116	EVSCFR061B10	C42	6201351	LNGU433ERGE KCSM40	T9						

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6295953	DNGA443S0415MT KBH10	B334	6343061	TWDL25TM	056	6350389	B211A03861SGL KCMS15	G30	6350481	B211A11000SGL KCMS15	G32
6295954	DNGA442S0525MT KBH10	B334	6343062	TWDL32TM	056	6350390	B211A03900SGL KCMS15	G30	6350482	B211A111000SGL KCMS15	G32
6295955	DNGA443S0525MT KBH10	B334	6348983	B273Z16000HPG KCPK15	G72	6350391	B211A04000SGL KCMS15	G30	6350483	B211A1113SGL KCMS15	G32
6295956	SNGA432S0415MT KBH10	B337	6348984	B274Z13500HPG KCPK15	G74	6350392	B211A04039SGL KCMS15	G30	6350484	B211A112000SGL KCMS15	G32
6295957	SNGA432S0525MT KBH10	B337	6348985	B274Z14000HPG KCPK15	G74	6350393	B211A04100SGL KCMS15	G30	6350485	B211A114000SGL KCMS15	G32
6295958	SNGA433S0525MT KBH10	B337	6348986	B274Z15000HPG KCPK15	G74	6350394	B211A04200SGL KCMS15	G30	6350486	B211A11500SGL KCMS15	G32
6295959	TNGA331S0415MT KBH10	B339	6348987	B275Z02500HPG KCPK20	G75	6350395	B211A04217SGL KCMS15	G30	6350487	B211A117000SGL KCMS15	G32
6295960	TNGA332S0415MT KBH10	B339	6348988	B275Z03000HPG KCPK20	G75	6350396	B211A04300SGL KCMS15	G30	6350488	B211A11800SGL KCMS15	G32
6295971	TNGA333S0415MT KBH10	B339	6348989	B275Z03175HPG KCPK20	G75	6350397	B211A04366SGL KCMS15	G30	6350489	B211A12000SGL KCMS15	G32
6295972	TNGA332S0525MT KBH10	B339	6348990	B275Z03500HPG KCPK20	G75	6350398	B211A04400SGL KCMS15	G30	6350490	B211A12100SGL KCMS15	G32
6295973	TNGA333S0525MT KBH10	B339	6349001	B275Z03571HPG KCPK20	G75	6350399	B211A04500SGL KCMS15	G30	6350491	B211A12200SGL KCMS15	G32
6295974	TNGA332S0735MT KBH10	B339	6349002	B275Z03970HPG KCPK20	G75	6350400	B211A04600SGL KCMS15	G30	6350492	B211A12300SGL KCMS15	G32
6295975	TNGA333S0735MT KBH10	B339	6349003	B275Z04000HPG KCPK20	G75	6350401	B211A04700SGL KCMS15	G30	6350493	B211A12400SGL KCMS15	G32
6295976	VNGA331S0415MT KBH10	B342	6349004	B275Z04200HPG KCPK20	G75	6350402	B211A04763SGL KCMS15	G31	6350494	B211A12700SGL KCMS15	G32
6295977	VNGA332S0415MT KBH10	B342	6349006	B275Z04763HPG KCPK20	G75	6350403	B211A04800SGL KCMS15	G31	6350495	B211A12800SGL KCMS15	G32
6295978	VNGA331S0525MT KBH10	B342	6349007	B275Z05000HPG KCPK20	G75	6350404	B211A04852SGL KCMS15	G31	6350496	B211A12900SGL KCMS15	G32
6295979	VNGA332S0525MT KBH10	B342	6349008	B275Z05500HPG KCPK20	G75	6350405	B211A04900SGL KCMS15	G31	6350497	B211A13000SGL KCMS15	G32
6295980	VNGA432S0415MT KBH10	B343	6349009	B275Z05558HPG KCPK20	G75	6350406	B211A05000SGL KCMS15	G31	6350498	B211A13100SGL KCMS15	G32
6295991	VNGA432S0525MT KBH10	B343	6349010	B275Z06000HPG KCPK20	G75	6350407	B211A05100SGL KCMS15	G31	6350499	B211A13200SGL KCMS15	G32
6295992	CGGW21505S0415MT KBH10	B328	6349011	B275Z06350HPG KCPK20	G75	6350408	B211A05106SGL KCMS15	G31	6350500	B211A13300SGL KCMS15	G32
6295993	CGGW2151S0415MT KBH10	B328	6349012	B275Z06500HPG KCPK20	G75	6350409	B211A05159SGL KCMS15	G31	6350501	B211A13500SGL KCMS15	G32
6295994	CGGW32505S0415MT KBH10	B328	6349013	B275Z06800HPG KCPK20	G75	6350410	B211A05200SGL KCMS15	G31	6350502	B211A13700SGL KCMS15	G32
6295995	CGGW3251S0415MT KBH10	B328	6349014	B275Z07000HPG KCPK20	G75	6350411	B211A05300SGL KCMS15	G31	6350503	B211A14000SGL KCMS15	G32
6295996	CGGW3252S0415MT KBH10	B328	6349015	B275Z07145HPG KCPK20	G75	6350412	B211A05400SGL KCMS15	G31	6350504	B211A14100SGL KCMS15	G32
6295997	CGGW3252S0415FWMT KBH10	B328	6349016	B275Z07500HPG KCPK20	G75	6350413	B211A05500SGL KCMS15	G31	6350505	B211A14300SGL KCMS15	G33
6295998	CGGW3251S0525MT KBH10	B328	6349017	B275Z07938HPG KCPK20	G75	6350414	B211A05558SGL KCMS15	G31	6350506	B211A14400SGL KCMS15	G33
6296000	CGGW3252S0525MT KBH10	B328	6349018	B275Z08000HPG KCPK20	G75	6350415	B211A05600SGL KCMS15	G31	6350507	B211A14500SGL KCMS15	G33
6296002	DCGW21505S0415MT KBH10	B332	6349020	B275Z08733HPG KCPK20	G75	6350416	B211A05700SGL KCMS15	G31	6350508	B211A14600SGL KCMS15	G33
6296004	DCGW2151S0415MT KBH10	B332	6349021	B275Z09000HPG KCPK20	G75	6350417	B211A05800SGL KCMS15	G31	6350509	B211A14800SGL KCMS15	G33
6296007	DCGW32505S0415MT KBH10	B332	6349022	B275Z09525HPG KCPK20	G75	6350418	B211A05900SGL KCMS15	G31	6350510	B211A15000SGL KCMS15	G33
6296008	DCGW3251S0415MT KBH10	B332	6349023	B275Z10000HPG KCPK20	G75	6350419	B211A05954SGL KCMS15	G31	6350511	B211A15100SGL KCMS15	G33
6296009	DCGW3252S0415MT KBH10	B332	6349024	B275Z10200HPG KCPK15	G75	6350420	B211A06000SGL KCMS15	G31	6350512	B211A15300SGL KCMS15	G33
6296010	DCGW3252S0415FWMT KBH10	B332	6349025	B275Z10320HPG KCPK15	G75	6350421	B211A06100SGL KCMS15	G31	6350513	B211A15500SGL KCMS15	G33
6296021	DCGW2151S0525MT KBH10	B332	6349027	B273Z16000HPS KN25	G72	6350422	B211A06200SGL KCMS15	G31	6350514	B211A15700SGL KCMS15	G33
6296022	DCGW3251S0525MT KBH10	B332	6349028	B274Z13500HPS KN25	G74	6350423	B211A06300SGL KCMS15	G31	6350515	B211A15875SGL KCMS15	G33
6296023	DCGW3252S0525MT KBH10	B332	6349029	B274Z14000HPS KN25	G74	6350424	B211A06350SGL KCMS15	G31	6350516	B211A16000SGL KCMS15	G33
6296024	DCGW3252S0525FWMT KBH10	B332	6349030	B274Z15000HPS KN25	G74	6350425	B211A06400SGL KCMS15	G31	6350517	B211A16100SGL KCMS15	G33
6296025	TCGW21505S0415MT KBH10	B338	6349031	B275Z02500KMS KN25	G75	6350426	B211A06500SGL KCMS15	G31	6350518	B211A16500SGL KCMS15	G33
6296026	TCGW2151S0415MT KBH10	B338	6349032	B275Z03000HPS KN25	G75	6350427	B211A06630SGL KCMS15	G31	6350519	B211A17000SGL KCMS15	G33
6296027	TCGW2152S0415MT KBH10	B338	6349033	B275Z03175HPS KN25	G75	6350428	B211A06700SGL KCMS15	G31	6350520	B211A17500SGL KCMS15	G33
6296028	TCGW2151S0525MT KBH10	B338	6349034	B275Z03500HPS KN25	G75	6350429	B211A06800SGL KCMS15	G31	6350521	B211A17700SGL KCMS15	G33
6296029	TCGW2152S0525MT KBH10	B338	6349035	B275Z03571HPS KN25	G75	6350430	B211A06850SGL KCMS15	G31	6350522	B211A18000SGL KCMS15	G33
6296030	TPGW221S0415MT KBH10	B341	6349036	B275Z03970HPS KN25	G75	6350431	B211A06900SGL KCMS15	G31	6350523	B211A18500SGL KCMS15	G33
6296031	TPGW331S0415MT KBH10	B341	6349037	B275Z04000HPS KN25	G75	6350432	B211A07000SGL KCMS15	G31	6350524	B211A19000SGL KCMS15	G33
6296032	TPGW332S0415MT KBH10	B341	6349038	B275Z04200HPS KN25	G75	6350433	B211A07100SGL KCMS15	G31	6350525	B211A19159SGL KCMS15	G33
6296033	TPGW221S0525MT KBH10	B341	6349039	B275Z04500HPS KN25	G75	6350434	B211A07200SGL KCMS15	G31	6350526	B211A19300SGL KCMS15	G33
6296034	TPGW222S0525MT KBH10	B341	6349040	B275Z04763HPS KN25	G75	6350435	B211A07300SGL KCMS15	G31	6350527	B211A20500SGL KCMS15	G33
6296035	TPGW331S0525MT KBH10	B341	6349041	B275Z05000HPS KN25	G75	6350436	B211A07400SGL KCMS15	G31	6350528	B211A20000SGL KCMS15	G30
6296036	TPGW332S0525MT KBH10	B341	6349042	B275Z05500HPS KN25	G75	6350437	B211A07500SGL KCMS15	G31	6350529	B212A03175SGL KCMS15	G30
6296037	VBGW221S0415MT KBH10	B341	6349043	B275Z05558HPS KN25	G75	6350438	B211A07600SGL KCMS15	G31	6350530	B212A03200SGL KCMS15	G30
6296038	VBGW222S0415MT KBH10	B341	6349044	B275Z06000HPS KN25	G75	6350439	B211A07700SGL KCMS15	G31	6350551	B212A0326ASGL KCMS15	G30
6296039	VBGW331S0415MT KBH10	B341	6349045	B275Z06350HPS KN25	G75	6350440	B211A07800SGL KCMS15	G31	6350552	B212A03300SGL KCMS15	G30
6296040	VBGW332S0415MT KBH10	B341	6349046	B275Z06500HPS KN25	G75	6350441	B211A07900SGL KCMS15	G31	6350553	B212A03455SGL KCMS15	G30
6300607	KNUX160405L1 KCM15B	E35	6349047	B275Z06800HPS KN25	G75	6350442	B211A08000SGL KCMS15	G31	6350554	B212A03500SGL KCMS15	G30
6300608	KNUX160405L1 KCM25B	E35	6349048	B275Z07000HPS KN25	G75	6350443	B211A08000SGL KCMS15	G31	6350555	B212A03571SGL KCMS15	G30
6300609	KNUX160405L2 KU10	E35	6349049	B275Z07145HPS KN25	G75	6350444	B211A08100SGL KCMS15	G31	6350556	B212A03658SGL KCMS15	G30
6300610	KNUX160405R1 KCU25	E35	6349050	B275Z07500HPS KN25	G75	6350445	B211A08200SGL KCMS15	G31	6350557	B212A03700SGL KCMS15	G30
6300611	KNUX160405R1 KCM15B	E35	6349051	B275Z07938HPS KN25	G75	6350446	B211A08400SGL KCMS15	G31	6350558	B212A03800SGL KCMS15	G30
6300612	KNUX160405R1 KCM25B	E35	6349052	B275Z08000HPS KN25	G75	6350447	B211A08500SGL KCMS15	G31	6350559	B212A04000SGL KCMS15	G30
6300613	KNUX160405R2 KCM25B	E35	6349053	B275Z08500HPS KN25	G75	6350448	B211A08600SGL KCMS15	G31	6350560	B212A04039SGL KCMS15	G30
6300614	KNUX160410R1 KCM25B	E35	6349054	B275Z08733HPS KN25	G75	6350449	B211A08700SGL KCMS15	G32	6350561	B212A04100SGL KCMS15	G30
6300615	KNUX160410R2 KCM25B	E35	6349055	B275Z09000HPS KN25	G75	6350450	B211A08800SGL KCMS15	G32	6350562	B212A04200SGL KCMS15	G30
6320146	RCMH2507MOTUPG KCP10B	E66	6349056	B275Z09525HPS KN25	G75	6350451	B211A08900SGL KCMS15	G32	6350564	B212A04300SGL KCMS15	G30
6320147	RCMH2507MOTUPG KCP25B	E66	6349057	B275Z10000HPS KN25	G75	6350452	B211A09000SGL KCMS15	G32	6350565	B212A04366SGL KCMS15	G30
6320148	RCMX2507MOTUPG KCP10B	E67	6349058	B275Z10200HPS KN25	G75	6350453	B211A09100SGL KCMS15	G32	6350566	B212A04500SGL KCMS15	G30
6320149	RCMX2507MOTUPG KCP25B	E67	6349059	B275Z10320HPS KN25	G75	6350454	B211A09200SGL KCMS15	G32	6350567	B212A04700SGL KCMS15	G30
6320150	RCMH3209MOTUPG KCP10B	E66	6349060	B275Z11000HPS KN25	G75	6350455	B211A09300SGL KCMS15	G32	6350568	B212A04800SGL KCMS15	G31
6320351	RCMH3209MOTUPG KCP25B	E66	6350374	B211A03000SGL KCMS15	G30	6350456	B211A09400SGL KCMS15	G32	6350569	B212A04852SGL KCMS15	G31
6320352	RCMX3209MOTUPG KCP10B	E67	6350375	B211A03048SGL KCMS15	G30	6350457	B211A09500SGL KCMS15	G32	6350570	B212A05000SGL KCMS15	G31
6320353											

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6350595	B212A084000SLG	KCMS15	6351278	B272Z025000SLG	KCMS20	6351431	B272Z160000SLG	KCMS20	6358194	B210A100000SLG	KCMS15
6350596	B212A085000SLG	KCMS15	6351279	B274Z050000SLG	KCMS20	6351432	B275Z060000SLG	KCMS20	6358195	B210A102000SLG	KCMS15
6350597	B212A088000SLG	KCMS15	6351281	B272Z030000SLG	KCMS20	6351434	B275Z063500SLG	KCMS20	6358196	B210A104000SLG	KCMS15
6350598	B212A090000SLG	KCMS15	6351282	B274Z051000SLG	KCMS20	6351436	B275Z065000SLG	KCMS20	6358197	B210A105000SLG	KCMS15
6350599	B212A095000SLG	KCMS15	6351284	B272Z031750SLG	KCMS20	6351438	B275Z068000SLG	KCMS20	6358198	B210A107160SLG	KCMS15
6350600	B212A100000SLG	KCMS15	6351285	B274Z055000SLG	KCMS20	6351440	B275Z070000SLG	KCMS20	6358199	B210A108000SLG	KCMS15
6350601	B212A102000SLG	KCMS15	6351287	B272Z035000SLG	KCMS20	6351442	B275Z071450SLG	KCMS20	6358200	B210A110000SLG	KCMS15
6350602	B212A105000SLG	KCMS15	6351288	B274Z055800SLG	KCMS20	6351444	B275Z075000SLG	KCMS20	6358201	B210A120000SLG	KCMS15
6350603	B212A110000SLG	KCMS15	6351290	B272Z039700SLG	KCMS20	6351446	B275Z079380SLG	KCMS20	6358202	B210A115000SLG	KCMS15
6350604	B212A130000SLG	KCMS15	6351301	B274Z060000SLG	KCMS20	6351448	B275Z080000SLG	KCMS20	6358203	B210A115000SLG	KCMS15
6350605	B212A120000SLG	KCMS15	6351303	B272Z040000SLG	KCMS20	6351450	B275Z085000SLG	KCMS20	6358204	B210A120000SLG	KCMS15
6350606	B212A125000SLG	KCMS15	6351304	B274Z063500SLG	KCMS20	6351452	B275Z087330SLG	KCMS20	6358205	B210A122000SLG	KCMS15
6350607	B212A130000SLG	KCMS15	6351306	B272Z045000SLG	KCMS20	6351454	B275Z090000SLG	KCMS20	6358206	B210A123000SLG	KCMS15
6350608	B212A135000SLG	KCMS15	6351307	B274Z065000SLG	KCMS20	6351456	B275Z095250SLG	KCMS20	6358207	B210A125000SLG	KCMS15
6350609	B212A140000SLG	KCMS15	6351309	B272Z047630SLG	KCMS20	6351458	B275Z100000SLG	KCMS20	6358208	B210A127000SLG	KCMS15
6351164	B271Z025000SLG	KCMS20	6351310	B274Z067460SLG	KCMS20	6351460	B275Z102000SLG	KCMS20	6358209	B210A128000SLG	KCMS15
6351166	B271Z030000SLG	KCMS20	6351312	B272Z048000SLG	KCMS20	6351462	B275Z103200SLG	KCMS20	6358210	B210A130000SLG	KCMS15
6351168	B271Z031750SLG	KCMS20	6351313	B274Z070000SLG	KCMS20	6351464	B275Z110000SLG	KCMS20	6358211	B210A134950SLG	KCMS15
6351170	B271Z035000SLG	KCMS20	6351315	B272Z050000SLG	KCMS20	6353749	TNMG544RP	KCU10	6358212	B210A135000SLG	KCMS15
6351172	B271Z039700SLG	KCMS20	6351316	B274Z071450SLG	KCMS20	6358121	B210A030000SLG	KCMS15	6358213	B210A140000SLG	KCMS15
6351174	B271Z040000SLG	KCMS20	6351318	B272Z050500SLG	KCMS20	6358122	B210A030480SLG	KCMS15	6358214	B210A141000SLG	KCMS15
6351176	B271Z045000SLG	KCMS20	6351319	B274Z075000SLG	KCMS20	6358123	B210A032640SLG	KCMS15	6358215	B210A120000SLG	KCMS15
6351178	B271Z047630SLG	KCMS20	6351321	B272Z055800SLG	KCMS20	6358124	B210A031750SLG	KCMS15	6358216	B210A145000SLG	KCMS15
6351179	B273Z020500SLG	KCMS20	6351322	B274Z079380SLG	KCMS20	6358125	B210A032000SLG	KCMS15	6358217	B210A150000SLG	KCMS15
6351191	B271Z048000SLG	KCMS20	6351324	B272Z058000SLG	KCMS20	6358126	B210A033000SLG	KCMS15	6358218	B210A155000SLG	KCMS15
6351192	B273Z030000SLG	KCMS20	6351325	B274Z080000SLG	KCMS20	6358127	B210A034000SLG	KCMS15	6358219	B210A158750SLG	KCMS15
6351194	B271Z050000SLG	KCMS20	6351327	B272Z060000SLG	KCMS20	6358128	B210A034550SLG	KCMS15	6358220	B210A160000SLG	KCMS15
6351195	B273Z03031750SLG	KCMS20	6351328	B274Z085000SLG	KCMS20	6358129	B210A035000SLG	KCMS15	6358221	B210A1612950SLG	KCMS15
6351197	B271Z055000SLG	KCMS20	6351330	B272Z063500SLG	KCMS20	6358130	B210A037000SLG	KCMS15	6358222	B210A165000SLG	KCMS15
6351198	B273Z0303500SLG	KCMS20	6351331	B274Z087330SLG	KCMS20	6358141	B210A038000SLG	KCMS15	6358223	B210A166700SLG	KCMS15
6351200	B271Z055800SLG	KCMS20	6351333	B272Z065000SLG	KCMS20	6358142	B210A040000SLG	KCMS15	6358224	B210A170000SLG	KCMS15
6351201	B273Z040000SLG	KCMS20	6351334	B274Z090000SLG	KCMS20	6358143	B210A041000SLG	KCMS15	6358225	B210A175000SLG	KCMS15
6351203	B271Z060000SLG	KCMS20	6351336	B274Z091290SLG	KCMS20	6358144	B210A042000SLG	KCMS15	6358226	B210A180000SLG	KCMS15
6351204	B273Z045000SLG	KCMS20	6351337	B272Z067460SLG	KCMS20	6358145	B210A043000SLG	KCMS15	6358227	B210A185000SLG	KCMS15
6351206	B271Z063500SLG	KCMS20	6351339	B274Z095250SLG	KCMS20	6358146	B210A043660SLG	KCMS15	6358228	B210A190500SLG	KCMS15
6351207	B273Z050000SLG	KCMS20	6351340	B272Z070000SLG	KCMS20	6358147	B210A045000SLG	KCMS15	6358229	B210A195000SLG	KCMS15
6351209	B271Z065000SLG	KCMS20	6351342	B274Z100000SLG	KCMS20	6358148	B210A047000SLG	KCMS15	6358230	B210A200000SLG	KCMS15
6351210	B273Z055000SLG	KCMS20	6351343	B272Z071450SLG	KCMS20	6358149	B210A048000SLG	KCMS15	6358241	B210Z025000SLG	KCMS15
6351212	B271Z067460SLG	KCMS20	6351345	B274Z105000SLG	KCMS20	6358150	B210A049000SLG	KCMS15	6358971	B941Z02500	KCH10
6351213	B273Z060000SLG	KCMS20	6351346	B272Z075000SLG	KCMS20	6358151	B210A050000SLG	KCMS15	6358972	B941A03000	KCH10
6351215	B271Z070000SLG	KCMS20	6351348	B274Z110000SLG	KCMS20	6358152	B210A051000SLG	KCMS15	6358973	B941A03300	KCH10
6351216	B273Z065000SLG	KCMS20	6351349	B272Z079380SLG	KCMS20	6358153	B210A051060SLG	KCMS15	6358974	B941A03400	KCH10
6351218	B271Z071450SLG	KCMS20	6351351	B272Z080000SLG	KCMS20	6358154	B210A051590SLG	KCMS15	6358975	B941A03500	KCH10
6351219	B273Z070000SLG	KCMS20	6351352	B274Z115000SLG	KCMS20	6358155	B210A052000SLG	KCMS15	6358976	B941A04000	KCH10
6351221	B271Z075000SLG	KCMS20	6351354	B272Z085000SLG	KCMS20	6358156	B210A053000SLG	KCMS15	6358977	B941A04200	KCH10
6351222	B273Z080000SLG	KCMS20	6351355	B274Z120000SLG	KCMS20	6358157	B210A054000SLG	KCMS15	6358978	B941A04300	KCH10
6351224	B271Z079380SLG	KCMS20	6351357	B272Z087330SLG	KCMS20	6358158	B210A055000SLG	KCMS15	6358979	B941A04500	KCH10
6351225	B273Z085000SLG	KCMS20	6351358	B274Z127000SLG	KCMS20	6358159	B210A056160SLG	KCMS15	6358980	B941A05000	KCH10
6351227	B271Z080000SLG	KCMS20	6351360	B272Z090000SLG	KCMS20	6358160	B210A058000SLG	KCMS15	6358981	B941A05100	KCH10
6351228	B273Z090000SLG	KCMS20	6351361	B274Z130000SLG	KCMS20	6358161	B210A059540SLG	KCMS15	6358982	B941A05200	KCH10
6351230	B271Z085000SLG	KCMS20	6351363	B272Z095250SLG	KCMS20	6358162	B210A060000SLG	KCMS15	6358983	B941A05500	KCH10
6351231	B273Z100000SLG	KCMS20	6351364	B274Z135000SLG	KCMS20	6358163	B210A061000SLG	KCMS15	6358984	B941A05600	KCH10
6351233	B271Z087330SLG	KCMS20	6351366	B272Z100000SLG	KCMS20	6358164	B210A062000SLG	KCMS15	6358985	B941A06000	KCH10
6351234	B273Z110000SLG	KCMS20	6351367	B274Z140000SLG	KCMS20	6358165	B210A063000SLG	KCMS15	6358986	B941A06900	KCH10
6351236	B271Z090000SLG	KCMS20	6351369	B272Z103200SLG	KCMS20	6358166	B210A063500SLG	KCMS15	6358987	B941A07000	KCH10
6351237	B273Z120000SLG	KCMS20	6351370	B274Z150000SLG	KCMS20	6358167	B210A064000SLG	KCMS15	6358988	B941A07100	KCH10
6351239	B271Z095000SLG	KCMS20	6351372	B272Z105000SLG	KCMS20	6358168	B210A065000SLG	KCMS15	6358989	B941A08000	KCH10
6351240	B273Z130000SLG	KCMS20	6351373	B275Z025000SLG	KCMS20	6358169	B210A067000SLG	KCMS15	6358990	B941A08500	KCH10
6351242	B271Z100000SLG	KCMS20	6351375	B275Z030000SLG	KCMS20	6358170	B210A068000SLG	KCMS15	6358991	B941A08600	KCH10
6351243	B273Z135000SLG	KCMS20	6351376	B272Z107160SLG	KCMS20	6358171	B210A069000SLG	KCMS15	6358992	B941A09000	KCH10
6351245	B271Z103200SLG	KCMS20	6351378	B272Z110000SLG	KCMS20	6358172	B210A070000SLG	KCMS15	6358993	B941A10000	KCH10
6351246	B273Z140000SLG	KCMS20	6351379	B275Z031750SLG	KCMS20	6358173	B210A071000SLG	KCMS15	6358994	B941A10200	KCH10
6351248	B271Z105000SLG	KCMS20	6351381	B272Z111130SLG	KCMS20	6358174	B210A071450SLG	KCMS15	6358995	B941A10400	KCH10
6351249	B273Z150000SLG	KCMS20	6351382	B275Z035000SLG	KCMS20	6358175	B210A074000SLG	KCMS15	6358996	B941A10500	KCH10
6351251	B271Z110000SLG	KCMS20	6351384	B275Z035710SLG	KCMS20	6358176	B210A075000SLG	KCMS15	6358997	B941A11100	KCH10
6351252	B273Z160000SLG	KCMS20	6351385	B272Z115000SLG	KCMS20	6358177	B210A078000SLG	KCMS15	6358998	B941A12000	KCH10
6351254	B271Z111130SLG	KCMS20	6351387	B275Z039700SLG	KCMS20	6358178	B210A079380SLG	KCMS15	6358999	B941A14000	KCH10
6351255	B274Z020500SLG	KCMS20	6351388	B272Z120000SLG	KCMS20	6358179	B210A080000SLG	KCMS15	6359000	B951A03000	KCH10
6351257	B271Z115000SLG	KCMS20	6351390	B275Z040000SLG	KCMS20	6358180	B210A081000SLG	KCMS15	6359011	B951A03175	KCH10
6351258	B274Z030000SLG	KCMS20	6351391	B272Z125000SLG	KCMS20	6358181	B210A082000SLG	KCMS15	6359012	B951A03454	KCH10
6351260	B271Z120000SLG	KCMS20	6351393	B275Z042000SLG	KCMS20	6358182	B210A084000SLG	KCMS15	6359013	B951A03500	KCH10
6351261	B274Z031750SLG	KCMS20	6351394	B272Z127000SLG	KCMS20	6358183	B210A084330SLG	KCMS15	6359014	B951A03800	KCH10
6351263	B271Z127000SLG	KCMS20	6351396	B275Z045000SLG	KCMS20	6358184	B210A085000SLG	KCMS15	6359015	B951A04000	KCH10
6351264	B274Z035000SLG	KCMS20	6351397	B272Z130000SLG	KCMS20	6358185	B210A086000SLG	KCMS15	6359016	B951A04100	KCH10
6351266	B271Z140000SLG	KCMS20	6351399	B272Z140000SLG	KCMS20	6358186	B210A087000SLG	KCMS15	6359017	B951A04200	KCH10
6351267	B274Z039700SLG	KCMS20	6351400	B275Z047630SLG	KCMS20	6358187	B210A088000SLG	KCMS15	6359018	B951A04300	KCH10
6351269	B271Z145000SLG	KCMS20	6351412	B272Z145000SLG	KCMS20	6358188	B210A090000SLG	KCMS15	6359019	B951A04500	KCH10
6351270	B274Z040000SLG	KCMS20	6351413	B275Z050000SLG	KCMS20	6358189	B210A090930SLG	KCMS15	6359020	B951A04800	KCH10
6351272	B271Z150000SLG	KCMS20	6351415	B272Z150000SLG	KCMS20	6358190	B210A095000SLG	KCMS15	6359021	B951A04900	KCH10
6351273	B274Z045000SLG	KCMS20	6351416	B275Z055000SLG	KCMS20	6358191	B210A097000SLG	KCMS15	6359022	B951A05000	KCH10
6351275	B271Z160000SLG	KCMS20	635								

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6359025	B951A06000 KCH10	G125	6370422	KTFTS25500HPCM KC7410	H13	6370948	KTFTS13500HPCM KC7410	H12	6371050	KTFTS10400HPLM KCMS15	H15
6359026	B951A06350 KCH10	G125	6370423	KTFTS10110HPC KC7410	H13	6370949	KTFTS07620HPL KCMS15	H16	6371051	KTFTS10500HPLM KCMS15	H15
6359027	B951A06500 KCH10	G125	6370424	KTFTS10160HPC KC7410	H13	6370950	KTFTS13600HPCM KC7410	H12	6371052	KTFTS10600HPLM KCMS15	H15
6359028	B951A06800 KCH10	G125	6370425	KTFTS26000HPCM KC7410	H13	6370951	KTFTS07656HPL KCMS15	H16	6371053	KTFTS10700HPLM KCMS15	H15
6359029	B951A07000 KCH10	G125	6370700	KTFTS06000HPCM KC7410	H12	6370952	KTFTS13800HPCM KC7410	H12	6371054	KTFTS10800HPLM KCMS15	H15
6359030	B951A08000 KCH10	G125	6370871	KTFTS06200HPCM KC7410	H12	6370953	KTFTS19460HPLM KCMS15	H16	6371055	KTFTS10900HPLM KCMS15	H15
6359031	B951A08500 KCH10	G125	6370872	KTFTS02500HPCM KC7410	H12	6370954	KTFTS05469HPC KC7410	H12	6371056	KTFTS11200HPLM KCMS15	H15
6359032	B951A09000 KCH10	G125	6370873	KTFTS06500HPCM KC7410	H12	6370955	KTFTS19500HPLM KCMS15	H16	6371057	KTFTS11100HPLM KCMS15	H15
6359033	B951A09500 KCH10	G125	6370874	KTFTS06530HPCM KC7410	H12	6370956	KTFTS06000HPLM KCMS15	H15	6371058	KTFTS04375HPL KCMS15	H15
6359034	B951A10000 KCH10	G125	6370875	KTFTS02656HPC KC7410	H12	6370957	KTFTS07813HPL KCMS15	H16	6371059	KTFTS11200HPLM KCMS15	H15
6359035	B951A10000 KCH10	G125	6370876	KTFTS06700HPCM KC7410	H12	6370958	KTFTS14000HPCM KC7410	H12	6371060	KTFTS11400HPLM KCMS15	H15
6359036	B951A10200 KCH10	G125	6370877	KTFTS06800HPCM KC7410	H12	6370959	KTFTS19850HPLM KCMS15	H16	6371061	KTFTS11500HPLM KCMS15	H15
6359037	B951A10500 KCH10	G125	6370878	KTFTS07000HPCM KC7410	H12	6370960	KTFTS14100HPCM KC7410	H12	6371062	KTFTS11000HPLM KCMS15	H15
6359038	B951A10800 KCH10	G125	6370879	KTFTS02813HPC KC7410	H12	6370971	KTFTS02500HPL KCMS15	H15	6371063	KTFTS11800HPLM KCMS15	H15
6359039	B951A11000 KCH10	G125	6370880	KTFTS07300HPCM KC7410	H12	6370972	KTFTS20000HPLM KCMS15	H16	6371064	KTFTS04688HPL KCMS15	H15
6359040	B951A11500 KCH10	G125	6370881	KTFTS07500HPCM KC7410	H12	6370973	KTFTS07973HPC KC7410	H12	6371065	KTFTS11200HPLM KCMS15	H15
6359041	B951A11800 KCH10	G125	6370882	KTFTS07600HPCM KC7410	H12	6370974	KTFTS06500HPLM KCMS15	H15	6371066	KTFTS12200HPLM KCMS15	H15
6359042	B951A12000 KCH10	G125	6370883	KTFTS07800HPCM KC7410	H12	6370975	KTFTS20500HPLM KCMS15	H16	6371067	KTFTS04844HPL KCMS15	H15
6359043	B951A12500 KCH10	G125	6370884	KTFTS03125HPC KC7410	H12	6370976	KTFTS14100HPCM KC7410	H12	6371068	KTFTS12500HPLM KCMS15	H15
6359044	B951A12700 KCH10	G125	6370885	KTFTS08000HPCM KC7410	H12	6370977	KTFTS02610HPL KCMS15	H15	6371069	KTFTS06000HPL KCMS15	H15
6359045	B951A12800 KCH10	G125	6370886	KTFTS08100HPCM KC7410	H12	6370978	KTFTS08125HPL KCMS15	H16	6371070	KTFTS12800HPLM KCMS15	H15
6359046	B951A13000 KCH10	G126	6370887	KTFTS03230HPC KC7410	H12	6370979	KTFTS14600HPCM KC7410	H12	6371071	KTFTS12900HPLM KCMS15	H15
6359047	B951A13500 KCH10	G126	6370888	KTFTS08500HPCM KC7410	H12	6370980	KTFTS06800HPLM KCMS15	H15	6371072	KTFTS13000HPLM KCMS15	H15
6359048	B951A14000 KCH10	G126	6370889	KTFTS08600HPCM KC7410	H12	6370981	KTFTS21200HPLM KCMS15	H16	6371073	KTFTS05156HPL KCMS15	H15
6359049	B951A14500 KCH10	G126	6370890	KTFTS08700HPCM KC7410	H12	6370982	KTFTS12150HPLM KCMS15	H16	6371074	KTFTS13200HPLM KCMS15	H15
6359050	B951A15500 KCH10	G126	6370891	KTFTS03438HPC KC7410	H12	6370983	KTFTS07000HPLM KCMS15	H15	6371075	KTFTS06312HPL KCMS15	H15
6359051	B951A16000 KCH10	G126	6370892	KTFTS09000HPCM KC7410	H12	6370984	KTFTS05781HPC KC7410	H12	6371076	KTFTS13500HPLM KCMS15	H15
6370147	KTFTS16000HPCM KC7410	H13	6370893	KTFTS09100HPCM KC7410	H12	6370985	KTFTS12180HPLM KCMS15	H16	6371077	KTFTS13800HPLM KCMS15	H15
6370148	KTFTS06340HPC KC7410	H13	6370894	KTFTS09500HPCM KC7410	H12	6370986	KTFTS07500HPLM KCMS15	H15	6371078	KTFTS05469HPL KCMS15	H15
6370149	KTFTS16100HPCM KC7410	H13	6370895	KTFTS03750HPC KC7410	H12	6370987	KTFTS07800HPLM KCMS15	H15	6371079	KTFTS05471HPL KCMS15	H15
6370150	KTFTS16200HPCM KC7410	H13	6370896	KTFTS09600HPCM KC7410	H12	6370988	KTFTS22000HPLM KCMS15	H16	6371080	KTFTS14000HPLM KCMS15	H15
6370351	KTFTS06406HPC KC7410	H13	6370897	KTFTS09700HPCM KC7410	H12	6370989	KTFTS14800HPCM KC7410	H12	6371081	KTFTS14100HPLM KCMS15	H15
6370352	KTFTS16300HPCM KC7410	H13	6370898	KTFTS09800HPCM KC7410	H12	6370990	KTFTS03125HPL KCMS15	H15	6371082	KTFTS14200HPLM KCMS15	H15
6370353	KTFTS16500HPCM KC7410	H13	6370899	KTFTS03906HPC KC7410	H12	6370991	KTFTS08750HPL KCMS15	H16	6371083	KTFTS05625HPL KCMS15	H15
6370354	KTFTS16550HPCM KC7410	H13	6370900	KTFTS10000HPCM KC7410	H12	6370992	KTFTS08000HPLM KCMS15	H15	6371084	KTFTS14300HPLM KCMS15	H15
6370355	KTFTS16600HPCM KC7410	H13	6370901	KTFTS03946HPC KC7410	H12	6370993	KTFTS22500HPLM KCMS15	H16	6371085	KTFTS14400HPLM KCMS15	H15
6370356	KTFTS06563HPC KC7410	H13	6370902	KTFTS10200HPCM KC7410	H12	6370994	KTFTS08100HPLM KCMS15	H15	6371086	KTFTS14500HPLM KCMS15	H15
6370357	KTFTS17000HPCM KC7410	H13	6370903	KTFTS10300HPCM KC7410	H12	6370995	KTFTS15000HPCM KC7410	H12	6371087	KTFTS05781HPL KCMS15	H15
6370358	KTFTS06719HPC KC7410	H13	6370904	KTFTS04063HPC KC7410	H12	6370996	KTFTS23000HPLM KCMS15	H16	6371088	KTFTS14800HPLM KCMS15	H16
6370359	KTFTS17100HPCM KC7410	H13	6370905	KTFTS10500HPCM KC7410	H12	6370997	KTFTS03230HPL KCMS15	H15	6371089	KTFTS15000HPLM KCMS15	H16
6370360	KTFTS17200HPCM KC7410	H13	6370906	KTFTS16000HPLM KCMS15	H16	6370998	KTFTS05938HPC KC7410	H12	6371090	KTFTS15100HPLM KCMS15	H16
6370361	KTFTS17300HPCM KC7410	H13	6370907	KTFTS06340HPL KCMS15	H16	6370999	KTFTS23500HPLM KCMS15	H16	6371111	KTFTS15200HPLM KCMS15	H16
6370362	KTFTS06875HPC KC7410	H13	6370908	KTFTS10600HPCM KC7410	H12	6371000	KTFTS03281HPL KCMS15	H15	6371112	KTFTS15500HPLM KCMS15	H16
6370363	KTFTS17500HPCM KC7410	H13	6370909	KTFTS16100HPLM KCMS15	H16	6371001	KTFTS15100HPCM KC7410	H12	6371113	KTFTS06250HPL KCMS15	H16
6370364	KTFTS17550HPCM KC7410	H13	6370910	KTFTS10700HPCM KC7410	H12	6371002	KTFTS09375HPL KCMS15	H16	6371340	KTFTS100R03SS12M	H18
6370365	KTFTS17600HPCM KC7410	H13	6370911	KTFTS16150HPLM KCMS15	H16	6371003	KTFTS08400HPLM KCMS15	H15	6371961	KTFTS105R03SS12M	H18
6370366	KTFTS17700HPCM KC7410	H13	6370912	KTFTS04219HPC KC7410	H12	6371004	KTFTS15200HPCM KC7410	H12	6371962	KTFTS110R03SS12M	H18
6370367	KTFTS17800HPCM KC7410	H13	6370913	KTFTS06406HPL KCMS15	H16	6371005	KTFTS24000HPLM KCMS15	H16	6371963	KTFTS115R03SS12M	H18
6370368	KTFTS18000HPCM KC7410	H13	6370914	KTFTS10800HPCM KC7410	H12	6371006	KTFTS08500HPLM KCMS15	H15	6371964	KTFTS120R03SS14M	H18
6370369	KTFTS18100HPCM KC7410	H13	6370915	KTFTS11000HPCM KC7410	H12	6371007	KTFTS15300HPCM KC7410	H12	6371965	KTFTS125R03SS14M	H18
6370370	KTFTS07188HPC KC7410	H13	6370916	KTFTS16500HPLM KCMS15	H16	6371008	KTFTS25000HPLM KCMS15	H16	6371966	KTFTS130R03SS14M	H18
6370381	KTFTS18500HPCM KC7410	H13	6370917	KTFTS11100HPCM KC7410	H12	6371009	KTFTS08600HPLM KCMS15	H15	6371967	KTFTS135R03SS14M	H18
6370382	KTFTS18600HPCM KC7410	H13	6370918	KTFTS06563HPL KCMS15	H16	6371010	KTFTS15500HPCM KC7410	H12	6371968	KTFTS140R03SS16M	H18
6370383	KTFTS18700HPCM KC7410	H13	6370919	KTFTS04375HPC KC7410	H12	6371011	KTFTS15800HPCM KC7410	H12	6371969	KTFTS14200HPLM KCMS15	H16
6370384	KTFTS19000HPCM KC7410	H13	6370920	KTFTS17000HPLM KCMS15	H16	6371012	KTFTS08700HPLM KCMS15	H15	6371970	KTFTS150R03SS16M	H18
6370385	KTFTS07500HPC KC7410	H13	6370921	KTFTS11400HPCM KC7410	H12	6371013	KTFTS15600HPCM KC7410	H12	6371971	KTFTS160R03SS16M	H18
6370386	KTFTS07590HPC KC7410	H13	6370922	KTFTS06875HPL KCMS15	H16	6371014	KTFTS10000HPL KCMS15	H16	6371972	KTFTS15200HSS12M	H18
6370387	KTFTS07656HPC KC7410	H13	6370923	KTFTS11500HPCM KC7410	H12	6371015	KTFTS08800HPLM KCMS15	H15	6371973	KTFTS100R05SS12M	H18
6370388	KTFTS19500HPCM KC7410	H13	6370924	KTFTS17480HPLM KCMS15	H16	6371016	KTFTS15800HPCM KC7410	H12	6371974	KTFTS105R05SS12M	H18
6370389	KTFTS19800HPCM KC7410	H13	6370925	KTFTS11800HPCM KC7410	H12	6371017	KTFTS25500HPLM KCMS15	H16	6371975	KTFTS110R05SS12M	H18
6370390	KTFTS20000HPCM KC7410	H13	6370926	KTFTS17500HPLM KCMS15	H16	6371018	KTFTS08900HPLM KCMS15	H15	6371976	KTFTS115R05SS12M	H18
6370401	KTFTS07969HPC KC7410	H13	6370927	KTFTS17700HPLM KCMS15	H16	6371019	KTFTS06250HPC KC7410	H12	6371977	KTFTS120R05SS14M	H18
6370402	KTFTS20300HPCM KC7410	H13	6370928	KTFTS04688HPC KC7410	H12	6371020	KTFTS25600HPLM KCMS15	H16	6371978	KTFTS125R05SS14M	H18
6370403	KTFTS20500HPCM KC7410	H13	6370929	KTFTS18000HPLM KCMS15	H16	6371031	KTFTS09000HPLM KCMS15	H15	6371979	KTFTS130R05SS14M	H18
6370404	KTFTS08125HPC KC7410	H13	6370930	KTFTS12000HPCM KC7410	H12	6371032	KTFTS25660HPLM KCMS15	H16	6371980	KTFTS135R05SS14M	H18
6370405	KTFTS21000HPCM KC7410	H13	6370931	KTFTS07188HPL KCMS15	H16	6371033	KTFTS09100HPLM KCMS15	H15	6371981	KTFTS140R05SS16M	H18
6370406	KTFTS08438HPC KC7410	H13	6370932	KTFTS04844HPC KC7410	H12	6371034	KTFTS10110HPL KCMS15	H16	6371982	KTFTS145R05SS16M	H18
6370407	KTFTS21500HPCM KC7410	H13	6370933	KTFTS18500HPLM KCMS15	H16	6371035	KTFTS09200HPLM KCMS15	H15	6371983	KTFTS150R05SS16M	H18
6370408	KTFTS22000HPCM KC7410	H13	6370934	KTFTS12500HPCM KC7410	H12	6371036	KTFTS10160HPL KCMS15	H16	6371984	KTFTS160R05SS16M	H18
6370409	KTFTS08750HPC KC7410	H13	6370935	KTFTS07344HPL KCMS15	H16	6371037	KTFTS09400HPLM KCMS15	H15	6371985	KTFTS170R05SS20M	H18
6370410	KTFTS22440HPCM KC7410	H13	6370936	KTFTS05000HPC KC7410	H12	6371038	KTFTS26000HPLM KCMS15	H16	6371986	KTFTS100R08SS12M	H18
6370411	KTFTS22500HPCM KC7410	H13	6370937	KTFTS19000HPLM KCMS15	H16	6371039	KTFTS09500HPLM KCMS15	H15	6371987	KTFTS105R08SS12M	H18
6370412	KTFTS23000HPCM KC7410	H13	6370938	KTFTS13000HPCM KC7410	H12	6371040	KTFTS03763HPL KCMS15	H15	6371988	KTFTS110R08SS12M	H18
6370413	KTFTS09219HPC KC7410	H13	6370939	KTFTS07500HPL KCMS15	H16	6371041	KTFTS09600HPLM KCMS15	H15	6371989	KTFTS115R08SS12M	H18
6370414	KTFTS23500HPCM KC7410	H13	6370940	KTFTS05156HPC KC7410	H12	6371042	KTFTS09800HPLM KCMS15	H15	6371990	KTFTS120R08SS14M	H18
6370415	KTFTS09375HPC KC7410	H13	6370941	KTFTS19200HPLM KCMS15	H16	6371043	KTFTS09800HPLM KCMS15	H15	6371991	KTFTS125R08SS14M	H18
6370416	KTFTS24000HPCM KC7410	H13									



Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6371999	.....KTFS170R08SS20M	.....H18	6388533	.....KTFS06340HPG KCP15A	.....H9	6388615	.....KTFS03390HPG KCP15A	.....H8	6388707	.....KTFS22600HPGM KCP15A	.....H10
6372000	.....KTFS0394R03SS044	.....H20	6388534	.....KTFS11610HPGM KCP15A	.....H9	6388616	.....KTFS07590HPG KCP15A	.....H9	6388708	.....KTFS11200HPGM KCP15A	.....H8
6372011	.....KTFS0414R03SS044	.....H20	6388535	.....KTFS16200HPGM KCP15A	.....H9	6388617	.....KTFS08700HPGM KCP15A	.....H9	6388709	.....KTFS22700HPGM KCP15A	.....H10
6372012	.....KTFS0434R03SS044	.....H20	6388536	.....KTFS06406HPG KCP15A	.....H9	6388618	.....KTFS19300HPGM KCP15A	.....H9	6388710	.....KTFS11300HPGM KCP15A	.....H9
6372013	.....KTFS0453R03SS050	.....H20	6388537	.....KTFS11630HPGM KCP15A	.....H9	6388619	.....KTFS07620HPG KCP15A	.....H9	6388711	.....KTFS22800HPGM KCP15A	.....H10
6372014	.....KTFS0473R03SS050	.....H20	6388538	.....KTFS11640HPGM KCP15A	.....H9	6388620	.....KTFS03438HPG KCP15A	.....H8	6388712	.....KTFS11400HPGM KCP15A	.....H9
6372015	.....KTFS0493R03SS050	.....H20	6388539	.....KTFS06000HPGM KCP15A	.....H8	6388621	.....KTFS19400HPGM KCP15A	.....H10	6388713	.....KTFS22900HPGM KCP15A	.....H10
6372016	.....KTFS0512R03SS056	.....H20	6388540	.....KTFS11650HPGM KCP15A	.....H9	6388622	.....KTFS08800HPGM KCP15A	.....H8	6388714	.....KTFS11500HPGM KCP15A	.....H9
6372017	.....KTFS0532R03SS056	.....H20	6388541	.....KTFS06100HPGM KCP15A	.....H8	6388623	.....KTFS07656HPG KCP15A	.....H10	6388715	.....KTFS23000HPGM KCP15A	.....H10
6372018	.....KTFS0552R03SS056	.....H20	6388542	.....KTFS11660HPGM KCP15A	.....H9	6388624	.....KTFS03480HPG KCP15A	.....H8	6388716	.....KTFS04531HPG KCP15A	.....H9
6372019	.....KTFS0571R03SS063	.....H20	6388543	.....KTFS06200HPGM KCP15A	.....H8	6388625	.....KTFS19460HPGM KCP15A	.....H10	6388717	.....KTFS23100HPGM KCP15A	.....H10
6372020	.....KTFS0591R03SS063	.....H20	6388544	.....KTFS06563HPG KCP15A	.....H9	6388626	.....KTFS08900HPGM KCP15A	.....H8	6388718	.....KTFS11600HPGM KCP15A	.....H9
6372021	.....KTFS0630R03SS063	.....H20	6388545	.....KTFS06300HPGM KCP15A	.....H8	6388627	.....KTFS19500HPGM KCP15A	.....H10	6388719	.....KTFS23200HPGM KCP15A	.....H10
6372022	.....KTFS0670R03SS075	.....H20	6388546	.....KTFS11670HPGM KCP15A	.....H9	6388628	.....KTFS09000HPGM KCP15A	.....H8	6388720	.....KTFS11700HPGM KCP15A	.....H9
6372023	.....KTFS0394R0SS044	.....H20	6388547	.....KTFS02500HPG KCP15A	.....H8	6388629	.....KTFS19600HPGM KCP15A	.....H10	6388721	.....KTFS23300HPGM KCP15A	.....H10
6372024	.....KTFS0414R0SS044	.....H20	6388548	.....KTFS11680HPGM KCP15A	.....H9	6388630	.....KTFS03580HPG KCP15A	.....H8	6388722	.....KTFS23400HPGM KCP15A	.....H9
6372025	.....KTFS0434R0SS044	.....H20	6388549	.....KTFS06400HPGM KCP15A	.....H8	6388641	.....KTFS19700HPGM KCP15A	.....H10	6388723	.....KTFS23400HPGM KCP15A	.....H10
6372026	.....KTFS0453R0SS050	.....H20	6388550	.....KTFS11690HPGM KCP15A	.....H9	6388642	.....KTFS09100HPGM KCP15A	.....H8	6388724	.....KTFS11900HPGM KCP15A	.....H9
6372027	.....KTFS0473R0SS050	.....H20	6388551	.....KTFS06500HPGM KCP15A	.....H8	6388643	.....KTFS11980HPGM KCP15A	.....H10	6388725	.....KTFS09219HPG KCP15A	.....H9
6372028	.....KTFS0493R0SS050	.....H20	6388552	.....KTFS11700HPGM KCP15A	.....H9	6388644	.....KTFS03594HPG KCP15A	.....H8	6388726	.....KTFS04688HPG KCP15A	.....H9
6372029	.....KTFS0512R0SS056	.....H20	6388553	.....KTFS06530HPGM KCP15A	.....H8	6388645	.....KTFS09310HPG KCP15A	.....H10	6388727	.....KTFS23500HPGM KCP15A	.....H10
6372030	.....KTFS0532R0SS056	.....H20	6388554	.....KTFS06719HPG KCP15A	.....H9	6388646	.....KTFS09200HPGM KCP15A	.....H8	6388728	.....KTFS23600HPGM KCP15A	.....H9
6372051	.....KTFS0552R0SS056	.....H20	6388555	.....KTFS06600HPGM KCP15A	.....H8	6388647	.....KTFS19900HPGM KCP15A	.....H10	6388729	.....KTFS23600HPGM KCP15A	.....H10
6372052	.....KTFS0571R0SS063	.....H20	6388556	.....KTFS11710HPGM KCP15A	.....H9	6388648	.....KTFS09300HPGM KCP15A	.....H8	6388730	.....KTFS12100HPGM KCP15A	.....H9
6372053	.....KTFS0591R0SS063	.....H20	6388557	.....KTFS02610HPG KCP15A	.....H8	6388649	.....KTFS09000HPGM KCP15A	.....H10	6388731	.....KTFS23700HPGM KCP15A	.....H9
6372054	.....KTFS0630R0SS063	.....H20	6388558	.....KTFS11720HPGM KCP15A	.....H9	6388650	.....KTFS03680HPG KCP15A	.....H8	6388732	.....KTFS12200HPGM KCP15A	.....H9
6372055	.....KTFS0670R0SS075	.....H20	6388559	.....KTFS06700HPGM KCP15A	.....H8	6388651	.....KTFS20100HPGM KCP15A	.....H10	6388733	.....KTFS23800HPGM KCP15A	.....H10
6372056	.....KTFS0394R0SS044	.....H20	6388560	.....KTFS11730HPGM KCP15A	.....H9	6388652	.....KTFS09400HPGM KCP15A	.....H8	6388734	.....KTFS04844HPG KCP15A	.....H9
6372057	.....KTFS0414R0SS044	.....H20	6388561	.....KTFS02656HPG KCP15A	.....H8	6388653	.....KTFS20200HPGM KCP15A	.....H10	6388735	.....KTFS09375HPG KCP15A	.....H10
6372058	.....KTFS0434R0SS044	.....H20	6388562	.....KTFS11740HPGM KCP15A	.....H9	6388654	.....KTFS09500HPGM KCP15A	.....H8	6388736	.....KTFS12400HPGM KCP15A	.....H9
6372059	.....KTFS0453R0SS050	.....H20	6388563	.....KTFS06800HPGM KCP15A	.....H8	6388655	.....KTFS07950HPG KCP15A	.....H10	6388737	.....KTFS23800HPGM KCP15A	.....H10
6372060	.....KTFS0473R0SS050	.....H20	6388564	.....KTFS06875HPG KCP15A	.....H9	6388656	.....KTFS03750HPG KCP15A	.....H8	6388738	.....KTFS04911HPG KCP15A	.....H9
6372062	.....KTFS0493R0SS050	.....H20	6388565	.....KTFS06900HPGM KCP15A	.....H8	6388657	.....KTFS20300HPGM KCP15A	.....H10	6388739	.....KTFS24000HPGM KCP15A	.....H10
6372063	.....KTFS0512R0SS056	.....H20	6388566	.....KTFS11748HPGM KCP15A	.....H9	6388658	.....KTFS03763HPG KCP15A	.....H8	6388740	.....KTFS12500HPGM KCP15A	.....H9
6372064	.....KTFS0532R0SS056	.....H20	6388567	.....KTFS02720HPG KCP15A	.....H8	6388659	.....KTFS20500HPGM KCP15A	.....H10	6388741	.....KTFS24100HPGM KCP15A	.....H10
6372065	.....KTFS0552R0SS056	.....H20	6388568	.....KTFS11750HPGM KCP15A	.....H9	6388660	.....KTFS09600HPGM KCP15A	.....H8	6388742	.....KTFS12600HPGM KCP15A	.....H9
6372066	.....KTFS0571R0SS063	.....H20	6388569	.....KTFS07000HPGM KCP15A	.....H8	6388661	.....KTFS20600HPGM KCP15A	.....H10	6388743	.....KTFS24200HPGM KCP15A	.....H10
6372067	.....KTFS0591R0SS063	.....H20	6388570	.....KTFS11760HPGM KCP15A	.....H9	6388662	.....KTFS09700HPGM KCP15A	.....H8	6388744	.....KTFS05000HPG KCP15A	.....H9
6372068	.....KTFS0630R0SS063	.....H20	6388571	.....KTFS07100HPGM KCP15A	.....H8	6388663	.....KTFS08125HPG KCP15A	.....H10	6388745	.....KTFS24300HPGM KCP15A	.....H10
6372069	.....KTFS0670R0SS075	.....H20	6388572	.....KTFS11770HPGM KCP15A	.....H9	6388664	.....KTFS09800HPGM KCP15A	.....H8	6388746	.....KTFS12800HPGM KCP15A	.....H9
6372514	.....KTFS100R03SCF16M	.....H19	6388573	.....KTFS02813HPG KCP15A	.....H8	6388665	.....KTFS20700HPGM KCP15A	.....H10	6388747	.....KTFS24400HPGM KCP15A	.....H10
6372515	.....KTFS105R03SCF16M	.....H19	6388574	.....KTFS11780HPGM KCP15A	.....H9	6388666	.....KTFS09900HPGM KCP15A	.....H8	6388749	.....KTFS12900HPGM KCP15A	.....H9
6372516	.....KTFS110R03SCF16M	.....H19	6388575	.....KTFS07031HPG KCP15A	.....H8	6388667	.....KTFS20800HPGM KCP15A	.....H10	6388750	.....KTFS24500HPGM KCP15A	.....H10
6372517	.....KTFS115R03SCF16M	.....H19	6388576	.....KTFS07200HPGM KCP15A	.....H8	6388668	.....KTFS03906HPG KCP15A	.....H8	6388751	.....KTFS13000HPGM KCP15A	.....H9
6372518	.....KTFS120R03SCF16M	.....H19	6388577	.....KTFS11790HPGM KCP15A	.....H9	6388669	.....KTFS20900HPGM KCP15A	.....H10	6388752	.....KTFS24600HPGM KCP15A	.....H10
6372519	.....KTFS125R03SCF16M	.....H19	6388578	.....KTFS02900HPG KCP15A	.....H8	6388670	.....KTFS10000HPGM KCP15A	.....H8	6388753	.....KTFS05156HPG KCP15A	.....H10
6372520	.....KTFS130R03SCF16M	.....H19	6388579	.....KTFS11800HPGM KCP15A	.....H9	6388671	.....KTFS20990HPGM KCP15A	.....H10	6388754	.....KTFS09688HPG KCP15A	.....H10
6372591	.....KTFS135R03SCF16M	.....H19	6388580	.....KTFS07400HPGM KCP15A	.....H8	6388672	.....KTFS03946HPG KCP15A	.....H8	6388755	.....KTFS13200HPGM KCP15A	.....H9
6372592	.....KTFS140R03SCF16M	.....H19	6388581	.....KTFS11810HPGM KCP15A	.....H9	6388673	.....KTFS21000HPGM KCP15A	.....H10	6388756	.....KTFS24700HPGM KCP15A	.....H10
6372593	.....KTFS145R03SCF16M	.....H19	6388582	.....KTFS07500HPGM KCP15A	.....H8	6388674	.....KTFS03970HPG KCP15A	.....H8	6388757	.....KTFS13280HPGM KCP15A	.....H9
6372594	.....KTFS150R03SCF20M	.....H19	6388583	.....KTFS11820HPGM KCP15A	.....H9	6388675	.....KTFS21100HPGM KCP15A	.....H10	6388758	.....KTFS24800HPGM KCP15A	.....H10
6372595	.....KTFS160R03SCF20M	.....H19	6388584	.....KTFS02969HPG KCP15A	.....H8	6388676	.....KTFS10100HPGM KCP15A	.....H8	6388759	.....KTFS13300HPGM KCP15A	.....H9
6372596	.....KTFS170R03SCF20M	.....H19	6388585	.....KTFS07188HPG KCP15A	.....H8	6388677	.....KTFS21200HPGM KCP15A	.....H10	6388760	.....KTFS24900HPGM KCP15A	.....H10
6372597	.....KTFS100R05SCF16M	.....H19	6388586	.....KTFS07600HPGM KCP15A	.....H8	6388678	.....KTFS12000HPGM KCP15A	.....H8	6388761	.....KTFS25000HPGM KCP15A	.....H10
6372598	.....KTFS105R05SCF16M	.....H19	6388587	.....KTFS11830HPGM KCP15A	.....H9	6388679	.....KTFS21300HPGM KCP15A	.....H10	6388762	.....KTFS25000HPGM KCP15A	.....H10
6372599	.....KTFS110R05SCF16M	.....H19	6388588	.....KTFS07700HPGM KCP15A	.....H8	6388680	.....KTFS04404HPG KCP15A	.....H8	6388763	.....KTFS13400HPGM KCP15A	.....H9
6372600	.....KTFS115R05SCF16M	.....H19	6388589	.....KTFS11840HPGM KCP15A	.....H9	6388681	.....KTFS21400HPGM KCP15A	.....H10	6388764	.....KTFS25100HPGM KCP15A	.....H10
6372601	.....KTFS120R05SCF16M	.....H19	6388590	.....KTFS07800HPGM KCP15A	.....H8	6388682	.....KTFS10300HPGM KCP15A	.....H8	6388765	.....KTFS05312HPG KCP15A	.....H9
6372602	.....KTFS125R05SCF16M	.....H19	6388591	.....KTFS11850HPGM KCP15A	.....H9	6388683	.....KTFS08438HPG KCP15A	.....H10	6388766	.....KTFS25200HPGM KCP15A	.....H10
6372603	.....KTFS130R05SCF16M	.....H19	6388592	.....KTFS07900HPGM KCP15A	.....H8	6388684	.....KTFS04063HPG KCP15A	.....H8	6388767	.....KTFS13500HPGM KCP15A	.....H9
6372604	.....KTFS135R05SCF16M	.....H19	6388593	.....KTFS11860HPGM KCP15A	.....H9	6388685	.....KTFS21500HPGM KCP15A	.....H10	6388768	.....KTFS25250HPGM KCP15A	.....H10
6372605	.....KTFS140R05SCF16M	.....H19	6388594	.....KTFS03125HPG KCP15A	.....H8	6388686	.....KTFS10400HPGM KCP15A	.....H8	6388769	.....KTFS13600HPGM KCP15A	.....H9
6372606	.....KTFS145R05SCF16M	.....H19	6388595	.....KTFS07344HPG KCP15A	.....H8	6388687	.....KTFS21700HPGM KCP15A	.....H10	6388770	.....KTFS25300HPGM KCP15A	.....H10
6372607	.....KTFS150R05SCF20M	.....H19	6388596	.....KTFS08000HPGM KCP15A	.....H8	6388688	.....KTFS04130HPG KCP15A	.....H8	6388771	.....KTFS13700HPGM KCP15A	.....H9
6372608	.....KTFS160R05SCF20M	.....H19	6388597	.....KTFS11870HPGM KCP15A	.....H9	6388689	.....KTFS21800HPGM KCP15A	.....H10	6388772	.....KTFS10000HPG KCP15A	.....H10
6372609	.....KTFS170R05SCF16M	.....H19	6388598	.....KTFS08100HPGM KCP15A	.....H8	6388690	.....KTFS10500HPGM KCP15A	.....H8	6388773	.....KTFS13800HPGM KCP15A	.....H9
6372610	.....KTFS100R08SCF16M	.....H19	6388599	.....KTFS03214HPG KCP15A	.....H8	6388691	.....KTFS08594HPG KCP15A	.....H10	6388774	.....KTFS25500HPGM KCP15A	.....H10
6372611	.....KTFS105R08SCF16M	.....H19	6388600	.....KTFS11880HPGM KCP15A	.....H9	6388692	.....KTFS10600HPGM KCP15A	.....H8	6388775	.....KTFS05469HPG KCP15A	.....H9
6372612	.....KTFS110R08SCF16M	.....H19	6388601	.....KTFS11890HPGM KCP15A	.....H9	6388693	.....KTFS21900HPGM KCP15A	.....H10	6388776	.....KTFS25540HPGM KCP15A	.....H10
6372613	.....KTFS115R08SCF16M	.....H19	6388602	.....KTFS03230HPG KCP15A	.....H8	6388694	.....KTFS10700HPGM KCP15A	.....H8	6388777	.....KTFS05471HPG KCP15A	.....H9
6372614	.....KTFS120R08SCF16M	.....H19	6388603	.....KTFS11900HPGM KCP15A	.....H9	6388695	.....KTFS22000HPGM KCP15A	.....H10	6388778	.....KTFS25600HPGM KCP15A	.....H10
6372615	.....KTFS125R08SCF16M	.....H19	6388604	.....KTFS08300HPGM KCP15A	.....H8	6388696	.....KTFS04219HPG KCP15A	.....H8	6388779	.....KTFS13940HPGM KCP15A	.....H9
6372616	.....KTFS130R08SCF16M	.....H19	6388605	.....KTFS07500HPG KCP15A	.....H8	6388697	.....KTFS22100HPGM KCP15A	.....H10	6388780	.....KTFS10110HPG KCP15A	.....H10
6372617	.....KTFS135R08SCF16M	.....H19	6388606	.....KTFS03281HPG KCP1							

Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)	Order No.	Catalog No.	Page(s)
6388790	.....KTFSS26000HPGM KCP15A	.....H10	6389366	.....KTFSS080R03SS10M	.....H18	6389489	.....KTFSS140R12SF16M	.....H18	6406709	.....ONGX64ANENLE KCK20	.....S33
6388791	.....KTFSS14400HPGM KCP15A	.....H9	6389367	.....KTFSS085R03SS10M	.....H18	6389490	.....KTFSS145R12SF16M	.....H18	6406710	.....ONGX645SNPG KCK20	.....S33
6388792	.....KTFSS14500HPGM KCP15A	.....H9	6389368	.....KTFSS090R03SS10M	.....H18	6389501	.....KTFSS150R12SF20M	.....H18	6406851	.....ONGX645SNPG KCPK30	.....S33
6388793	.....KTFSS14600HPGM KCP15A	.....H9	6389369	.....KTFSS095R03SS10M	.....H18	6389502	.....KTFSS160R12SF20M	.....H18	6406852	.....ONGX64ANSNGP KCK20	.....S33
6388794	.....KTFSS05774HPG KCP15A	.....H9	6389370	.....KTFSS060R05SS08M	.....H18	6389503	.....KTFSS170R12SF20M	.....H18	6406853	.....ONPX642SNPG KCPK30	.....S34
6388795	.....KTFSS05781HPG KCP15A	.....H9	6389381	.....KTFSS063R05SS08M	.....H18	6389504	.....KTFSS200R01SCF25M	.....H19	6406854	.....ONPX645SNH B KCPK30	.....S34
6388796	.....KTFSS14700HPGM KCP15A	.....H9	6389382	.....KTFSS066R05SS08M	.....H18	6389505	.....KTFSS210R01SCF25M	.....H19	6408092	.....XADA03754CU60 KCPM15	.....048
6388798	.....KTFSS14800HPGM KCP15A	.....H9	6389383	.....KTFSS070R05SS08M	.....H18	6389506	.....KTFSS220R01SCF25M	.....H19	6408093	.....XADA0500Y5CU60 KCPM15	.....048
6388799	.....KTFSS14900HPGM KCP15A	.....H9	6389384	.....KTFSS075R05SS08M	.....H18	6389507	.....KTFSS230R01SCF25M	.....H19	6408094	.....XADA0625Y6CU60 KCPM15	.....048
6388800	.....KTFSS15000HPGM KCP15A	.....H9	6389385	.....KTFSS080R05SS10M	.....H18	6389508	.....KTFSS240R01SCF25M	.....H19	6432549	.....COOL-HOSE-200-FLEX	.....C83
6388821	.....KTFSS05938HPG KCP15A	.....H9	6389386	.....KTFSS085R05SS10M	.....H18	6389509	.....KTFSS250R01SCF25M	.....H19	6432550	.....COOL-HOSE-300-FLEX	.....C83
6388822	.....KTFSS15100HPGM KCP15A	.....H9	6389387	.....KTFSS090R05SS10M	.....H18	6389510	.....KTFSS200R12SCF25M	.....H19			
6388823	.....KTFSS15200HPGM KCP15A	.....H9	6389388	.....KTFSS095R05SS10M	.....H18	6389561	.....KTFSS210R12SCF25M	.....H19			
6388824	.....KTFSS15300HPGM KCP15A	.....H9	6389389	.....KTFSS060R08SS08M	.....H18	6389562	.....KTFSS220R12SCF25M	.....H19			
6388825	.....KTFSS15380HPGM KCP15A	.....H9	6389390	.....KTFSS063R08SS08M	.....H18	6389563	.....KTFSS230R12SCF25M	.....H19			
6388826	.....KTFSS15400HPGM KCP15A	.....H9	6389391	.....KTFSS066R08SS08M	.....H18	6389564	.....KTFSS240R12SCF25M	.....H19			
6388828	.....KTFSS06094HPG KCP15A	.....H9	6389392	.....KTFSS070R08SS08M	.....H18	6389565	.....KTFSS250R12SCF25M	.....H19			
6388829	.....KTFSS15500HPGM KCP15A	.....H9	6389393	.....KTFSS075R08SS08M	.....H18	6389566	.....KTFSS180R01SS20M	.....H18			
6388830	.....KTFSS15600HPGM KCP15A	.....H9	6389394	.....KTFSS080R08SS10M	.....H18	6389567	.....KTFSS190R01SS20M	.....H18			
6388831	.....KTFSS15700HPGM KCP15A	.....H9	6389395	.....KTFSS085R08SS10M	.....H18	6389568	.....KTFSS180R12SF25M	.....H18			
6388832	.....KTFSS15800HPGM KCP15A	.....H9	6389396	.....KTFSS090R08SS10M	.....H18	6389569	.....KTFSS190R12SF25M	.....H18			
6388833	.....KTFSS06250HPG KCP15A	.....H9	6389397	.....KTFSS095R08SS10M	.....H18	6389570	.....KTFSS060R01SS08M	.....H18			
6388834	.....KTFSS15900HPGM KCP15A	.....H9	6389398	.....KTFSS0237R03SS031	.....H20	6389571	.....KTFSS063R01SS08M	.....H18			
6389147	.....KTFSS180R03SS20M	.....H18	6389399	.....KTFSS0249R03SS031	.....H20	6389572	.....KTFSS066R01SS08M	.....H18			
6389148	.....KTFSS190R03SS20M	.....H18	6389400	.....KTFSS0260R03SS031	.....H20	6389573	.....KTFSS070R01SS08M	.....H18			
6389149	.....KTFSS180R05SS20M	.....H18	6389401	.....KTFSS0276R03SS031	.....H20	6389574	.....KTFSS075R01SS08M	.....H18			
6389150	.....KTFSS190R05SS20M	.....H18	6389402	.....KTFSS0296R03SS031	.....H20	6389575	.....KTFSS080R01SS10M	.....H18			
6389271	.....KTFSS180R08SS20M	.....H18	6389403	.....KTFSS0315R03SS038	.....H20	6389576	.....KTFSS085R01SS10M	.....H18			
6389272	.....KTFSS190R08SS20M	.....H18	6389404	.....KTFSS0335R03SS038	.....H20	6389577	.....KTFSS090R01SS10M	.....H18			
6389273	.....KTFSS0709R03SS075	.....H20	6389405	.....KTFSS0355R03SS038	.....H20	6389578	.....KTFSS095R01SS10M	.....H18			
6389274	.....KTFSS0749R03SS075	.....H20	6389406	.....KTFSS0375R03SS038	.....H20	6389579	.....KTFSS060R12SF12M	.....H18			
6389275	.....KTFSS0709R05SS075	.....H20	6389407	.....KTFSS0237R05SS031	.....H20	6389580	.....KTFSS063R12SF12M	.....H18			
6389276	.....KTFSS0749R05SS075	.....H20	6389408	.....KTFSS0249R05SS031	.....H20	6389581	.....KTFSS066R12SF12M	.....H18			
6389277	.....KTFSS0709R08SS075	.....H20	6389409	.....KTFSS0260R05SS031	.....H20	6389582	.....KTFSS070R12SF12M	.....H18			
6389278	.....KTFSS0749R08SS075	.....H20	6389410	.....KTFSS0276R05SS031	.....H20	6389583	.....KTFSS075R12SF12M	.....H18			
6389279	.....KTFSS180R03SCF25M	.....H19	6389421	.....KTFSS0296R05SS031	.....H20	6389584	.....KTFSS080R12SF12M	.....H18			
6389280	.....KTFSS190R03SCF25M	.....H19	6389422	.....KTFSS0315R05SS038	.....H20	6389585	.....KTFSS085R12SF12M	.....H18			
6389281	.....KTFSS200R03SCF25M	.....H19	6389423	.....KTFSS0335R05SS038	.....H20	6389586	.....KTFSS090R12SF12M	.....H18			
6389282	.....KTFSS210R03SCF25M	.....H19	6389424	.....KTFSS0355R05SS038	.....H20	6389587	.....KTFSS095R12SF12M	.....H18			
6389283	.....KTFSS220R03SCF25M	.....H19	6389425	.....KTFSS0375R05SS038	.....H20	6397378	.....SNXF43ZSNLND KCPK30	.....S89			
6389284	.....KTFSS230R03SCF25M	.....H19	6389426	.....KTFSS0237R08SS031	.....H20	6397379	.....SNXF43ZSNHLE KCPK30	.....S89			
6389285	.....KTFSS240R03SCF25M	.....H19	6389427	.....KTFSS0249R08SS031	.....H20	6397380	.....SNXF433SNPG KCPK30	.....S89			
6389286	.....KTFSS250R03SCF25M	.....H19	6389428	.....KTFSS0260R08SS031	.....H20	6397611	.....SNXF433SNHLE KCPK30	.....S89			
6389287	.....KTFSS180R05SCF25M	.....H19	6389429	.....KTFSS0276R08SS031	.....H20	6397612	.....SNXF433ENLD KCPK30	.....S89			
6389288	.....KTFSS190R05SCF25M	.....H19	6389430	.....KTFSS0296R08SS031	.....H20	6397613	.....SNXF43ZSNNGP KCPK30	.....S89			
6389289	.....KTFSS200R05SCF25M	.....H19	6389431	.....KTFSS0315R08SS038	.....H20	6397614	.....SNXF43ZSNLND KCK20	.....S89			
6389290	.....KTFSS210R05SCF25M	.....H19	6389432	.....KTFSS0335R08SS038	.....H20	6397615	.....SNXF43ZSNHLE KCK20	.....S89			
6389311	.....KTFSS220R05SCF25M	.....H19	6389433	.....KTFSS0355R08SS038	.....H20	6397616	.....SNXF433SNPG KCK20	.....S89			
6389312	.....KTFSS230R05SCF25M	.....H19	6389434	.....KTFSS0375R08SS038	.....H20	6397617	.....SNXF433SNHLE KCK20	.....S89			
6389313	.....KTFSS240R05SCF25M	.....H19	6389436	.....KTFSS080R03SCF12M	.....H19	6397618	.....SNXF433ENLD KCK20	.....S89			
6389314	.....KTFSS250R05SCF25M	.....H19	6389437	.....KTFSS085R03SCF12M	.....H19	6397619	.....SNXF43ZSNNGP KCK20	.....S89			
6389315	.....KTFSS180R08SCF25M	.....H19	6389438	.....KTFSS090R03SCF12M	.....H19	6401814	.....A4M50L0314MC	.....C137			
6389316	.....KTFSS190R08SCF25M	.....H19	6389439	.....KTFSS095R03SCF12M	.....H19	6401815	.....A4M50R0314MC	.....C137			
6389317	.....KTFSS200R08SCF25M	.....H19	6389440	.....KTFSS080R05SCF12M	.....H19	6401816	.....A4M50L0414MC	.....C137			
6389318	.....KTFSS210R08SCF25M	.....H19	6389441	.....KTFSS085R05SCF12M	.....H19	6401817	.....A4M50R0414MC	.....C137			
6389319	.....KTFSS220R08SCF25M	.....H19	6389442	.....KTFSS090R05SCF12M	.....H19	6401818	.....A4M50L0519MC	.....C137			
6389320	.....KTFSS230R08SCF25M	.....H19	6389443	.....KTFSS095R05SCF12M	.....H19	6401819	.....A4M50R0519MC	.....C137			
6389331	.....KTFSS240R08SCF25M	.....H19	6389444	.....KTFSS080R08SCF12M	.....H19	6401820	.....A4M65L0522MC	.....C137			
6389332	.....KTFSS250R08SCF25M	.....H19	6389445	.....KTFSS085R08SCF12M	.....H19	6401831	.....A4M65R0522MC	.....C137			
6389333	.....KTFSS0788R03SCF100	.....H20	6389446	.....KTFSS090R08SCF12M	.....H19	6401832	.....A4M65L0620MC	.....C137			
6389334	.....KTFSS0827R03SCF100	.....H20	6389447	.....KTFSS095R08SCF12M	.....H19	6401833	.....A4M65L0626MC	.....C137			
6389335	.....KTFSS0867R03SCF100	.....H20	6389448	.....KTFSS100R01SS12M	.....H18	6401834	.....A4M65R0620MC	.....C137			
6389336	.....KTFSS0906R03SCF100	.....H20	6389449	.....KTFSS105R01SS12M	.....H18	6401835	.....A4M65R0626MC	.....C137			
6389337	.....KTFSS0945R03SCF100	.....H20	6389450	.....KTFSS110R01SS12M	.....H18	6401836	.....A4M65L0820MC	.....C137			
6389338	.....KTFSS0985R03SCF100	.....H20	6389471	.....KTFSS115R01SS12M	.....H18	6401837	.....A4M65L0826MC	.....C137			
6389339	.....KTFSS0788R05SCF100	.....H20	6389472	.....KTFSS120R01SS14M	.....H18	6401838	.....A4M65R0820MC	.....C137			
6389340	.....KTFSS0827R05SCF100	.....H20	6389473	.....KTFSS125R01SS14M	.....H18	6401839	.....A4M65R0826MC	.....C137			
6389341	.....KTFSS0867R05SCF100	.....H20	6389474	.....KTFSS130R01SS14M	.....H18	6401840	.....A4M65L1020MC	.....C137			
6389342	.....KTFSS0906R05SCF100	.....H20	6389475	.....KTFSS135R01SS14M	.....H18	6401851	.....A4M65L1026MC	.....C137			
6389343	.....KTFSS0945R05SCF100	.....H20	6389476	.....KTFSS140R01SS14M	.....H18	6401852	.....A4M65R1020MC	.....C137			
6389344	.....KTFSS0985R05SCF100	.....H20	6389477	.....KTFSS145R01SS16M	.....H18	6401853	.....A4M65R1026MC	.....C137			
6389345	.....KTFSS0788R08SCF100	.....H20	6389478	.....KTFSS150R01SS16M	.....H18	6401854	.....EVS MR2020K0216C	.....C36			
6389346	.....KTFSS0827R08SCF100	.....H20	6389479	.....KTFSS160R01SS16M	.....H18	6401855	.....EVS MR2525M0216C	.....C36			
6389347	.....KTFSS0867R08SCF100	.....H20	6389480	.....KTFSS170R01SS20M	.....H18	6401856	.....EVS MR2525M0226C	.....C36			
6389348	.....KTFSS0906R08SCF100	.....H20	6389481	.....KTFSS100R12SF16M	.....H18	6401857	.....EVS MR2020K0222C	.....C36			
6389349	.....KTFSS0945R08SCF100	.....H20	6389482	.....KTFSS105R12SF16M	.....H18	6401858	.....EVS MR160226C	.....C34			
6389350	.....KTFSS0985R08SCF100	.....H20	6389483	.....KTFSS110R12SF16M	.....H18	6401859	.....EVS MR160216C	.....C34			
6389361	.....KTFSS060R03SS08M	.....H18	6389484	.....KTFSS115R12SF16M	.....H18	6401860	.....EVS MR120222C	.....		

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
#1/2-20X1-1/4 LHCSA S.....	V19, V26	125.820.....	J84-85	170.295.....	H88	193.113.....	I27
#1/2-20X1-1/4SHCSA S.....	T98, T128, T131, V19, V26, V103	125.830.....	J84-85	170.296.....	H88	193.114.....	I27
#1/4-28X3/4SHCSA S.....	T98, V12, V98, V103	125B05RP90BG15CUM.....	S121	170.306.....	H38-41	193.115.....	I27
#3/4-16X1-3/4SHCSA S.....	V19, V26	125B08RP70SP15C2WUFP.....	S70	170.307.....	H38-41	193.116.....	I27
#3/8-24X1SHCSA S.....	T98, V12, V19, V98, V103	125B08RP90BG15C2WUPM.....	S122	170.308.....	H38-41	193.281.....	J10-15, J25, J27, J33, J35
#5/8-18X1-1/2SHCSA S.....	T131, V19, V26	125B10RP70SP12C2WUFP.....	S64	170.309.....	H38-41	193.297.....	C130-131
1-16NPTF-JIC.....	C83	125B10RP90SP12C2WUFP.....	S67	170.314.....	H38-41	193.300.....	S64, S70
1-8NPTF-JIC.....	C83	125B15RP90SP12C3WUFP.....	S67	170.345.....	H122	193.326.....	S123
1.10820R310.....	E15	125H11RP90SP10.....	U25	170.346.....	H122	193.371.....	J87-89
1.10825L310.....	E15	12748308500.....	S82	170.347.....	H122-123	193.372.....	J87-89
1.10825R310.....	E15	12748358200.....	S77, S82, S88	170.348.....	H123	193.389.....	V121-122
1.10825R700.....	E15	12748500200.....	S83	170.350.....	H122	193.390.....	V121-123, V132
1.17125L330.....	E16	12748500400.....	S83	170.352.....	H122	193.391.....	V121-123, V132-133
1.18016L110.....	E16	12748500500.....	S83	170.353.....	H122	193.392.....	V121, V123, V132
1.18016R110.....	E16	12748503400.....	S83	170.355.....	H122-123	193.393.....	V121-123, V132-133
1.18020L110.....	E16	12748600900.....	S77, S82, S88	170.356.....	H122-123	193.394.....	V121-123
1.18020R110.....	E16	12748601000.....	S30-31	170.365.....	H123	193.395.....	V122-123
1.18020R310.....	E16	128.508.....	H87	170.370.....	J25, J27, J33, J35	193.397.....	J75
1.18025L310.....	E16	128.510.....	H87	17X1R022B16STN16N.....	W40	193.407.....	C130
1.18025L315.....	E16	128.610.....	J75	190.076.....	I27	193.409.....	S50, V155-156
1.18025L330.....	E17	129.612.....	J84-85	190.116.....	J75	193.433.....	S44-45
1.18025R110.....	E16	129.616.....	J84-85	190.195.....	I27	193.450.....	J85
1.18025R310.....	E16	12MHCO30M.....	G79	190.371.....	I27	193.451.....	J85
1.18025R310Z.....	E20, E22	12MHCO40M.....	G79	190.458.....	J75	193.462.....	S109
1.18025R315.....	E16	12MHCO50M.....	G79	191.282.....	K76	193.465.....	S109
1.18032L315.....	E16	12MHCO60M.....	G79	191.375.....	J49, J52	193.491.....	J25, J27, J29, J31, J33, J35, J37, J39
1.18032R315.....	E16	12MHCO70M.....	G79	191.405.....	B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397	193.492.....	S4-5, S8-10, S14, S17, S20, S56, S58, V51-54, V62
1.38020R021.....	E17	12MHCO80M.....	G79	191.406.....	B72-74, B94, B115-119, B140-142, B174, B186-187, B198, B245, B249-251, B276-279, B394, B397-398, C196, D41	193.523.....	H126-129
1.38025L021.....	E17	12MHC100M.....	G79	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.524.....	H126-129
1.38025R021.....	E17	132.151.....	E16	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.525.....	H126-129
1.38025R021Z.....	E20, E22	132.156.....	E16	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.526.....	H126-129
1.77120L100.....	E18	15X1R020B16STN16C.....	W42	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.531.....	S24
1.77120R100.....	E18	15X1R022B16STN16T.....	W42	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.537.....	H126-129
1.77125R300.....	E18	160B06RP90BG15CUM.....	S121	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	193.545.....	H126-129
1.77125R300Z.....	E21, E23	160B10RP70SP15C2WUFP.....	S70	191.407.....	B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397	199.123.....	H87
1.77132R400.....	E18	160B10RP90BG15C2WUPM.....	S122	191.698.....	H122, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J84-85	19X1R023B20STN16T.....	W42
1.77225R301.....	E19	160B12RP70SP12C3WUFP.....	S64	191.725.....	I14-15, V155-156	200C16RP70SP12C4WUFP.....	S64
1.77725R301.....	E18	160B12RP90SP12C3WUFP.....	S67	191.725.....	I14-15, V155-156	20MHCO30M.....	G79
1.78012R103.....	E19	160B18RP70SP12C3WUFP.....	S64	191.726.....	H122-123, J49, J52-53	20MHCO40M.....	G79
1.78016R100.....	E19	170.000.....	K76	191.727.....	H122-123, J49, J52-53	20MHCO50M.....	G79
1.78020R100.....	E19	170.002.....	K51	191.728.....	J87, J89-92	20MHCO60M.....	G79
1.78025L100.....	E19	170.003.....	E15-20, E22, E55, E61, I14, K51, S64, S67, S70, S121-123	191.729.....	J91-92	20MHCO70M.....	G79
1.78025L300.....	E19	170.004.....	E17-23, J90, K48-51	191.848.....	J49-50, J52-53, J84-85, V44-47	20MHCO80M.....	G79
1.78025L300Z.....	E21, E23	170.005.....	I14, J91, K48-50	191.916.....	C42-45, H122-123, J25, J27, J29, J31, J33, J35, J37, J39, J85, J114	20MHCO90M.....	G79
1.78025R300.....	E19	170.006.....	J90-91, K48-50	191.916.....	H122, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J84-85, J114, V156	20MHC100M.....	G79
1.78025R300Z.....	E21, E23	170.008.....	J90-92	192.057.....	I27	20MHC110M.....	G79
1.78032L400Z.....	E21, E23	170.023.....	J10-15, J25, J27, J29, J31, J33, J35, J37, J39	192.111.....	J84-85	20MHC120M.....	G79
1.78032R400.....	E19	170.024.....	I25-27, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J114	192.112.....	J84-85	20MHC130M.....	G79
100B04RP90BG15CUM.....	S121	170.025.....	I14-15, I25-27, J25, J27, J29, J31, J33, J35, J37, J39, J49-50, J52-53, J114, S4-5, S8-10, S14, S17, S20, V44-47, V51-54, V62	192.126.....	J92	20MHC140M.....	G79
100B06RP90BG15C2WUPM.....	S122	170.026.....	J49, J52-53, V58	192.156.....	J87-90	20MHC150M.....	G79
100B08RP70SP12C2WUFP.....	S64	170.027.....	J10-15	192.157.....	J87-91	20MHC160M.....	G79
100B08RP90BG15C2WUPM.....	S122	170.028.....	I14-15, J10-15, J25, J27, J29, J31, J33, J35, J37, J39, J114	192.158.....	J92	20MHC160M.....	G79
100B08RP90SP12C2WUFP.....	S67	170.135.....	K51	192.416.....	J10-15, J75	20MHC160M.....	G79
100B12RP70SP12C3WUFP.....	S64	170.136.....	K51	192.419.....	J87-90	20MHC160M.....	G79
100B12RP90SP12C3WUFP.....	S67	170.137.....	H72, H81, H85-86, H88	192.420.....	J87-90	20MHC160M.....	G79
100G10RP90SP10.....	U25	170.138.....	H72, H81, H85-86, H88	192.421.....	J87-91	20MHC160M.....	G79
10X1R015B20STN11T.....	W42	170.139.....	H72, H81, H85-86, H88	192.422.....	J87-90	20MHC160M.....	G79
112.244.....	E16	170.140.....	H72, H81, H85-86, H88	192.423.....	J87-91	20MHC160M.....	G79
112.403.....	E15-16	170.141.....	H72, H81, H85-86, H88	192.424.....	J87, J89-92	20MHC160M.....	G79
112.404.....	E15-17, E20, E22	170.142.....	H72, H81, H85-86, H88	192.425.....	J87, J89-92	20MHC160M.....	G79
112.505.....	E16	170.143.....	H72, H81, H85-86, H88	192.426.....	J91-92	20MHC160M.....	G79
114.111.....	E17	170.144.....	H72, H81, H85-86, H88	192.432.....	H122, I14-15, J10-15, J25, J27, J29, J31, J33, J35, J37, J39, J114	20MHC160M.....	G79
114.114.....	E17, E20, E22	170.145.....	H72, H81, H85-86, H88	192.433.....	J25, J27, J29, J31, J33, J35, J37, J39	25X1R040B25STN27C.....	W42
114.305.....	E55, E61, S70	170.146.....	H72, H81, H85-86, H88	192.433.....	J25, J27, J29, J31, J33, J35, J37, J39	26X2R043B25STN16D.....	W43
118.204.....	E18-19	170.147.....	H72, H81, H85-86, H88	192.530.....	U13	2BN0031R007A KC633M.....	.09
118.314.....	E18-19	170.148.....	H72, H81, H85-86, H88	192.592.....	J75, J84	2BN0047R018A KC633M.....	.09
11X1R012B12STN11N.....	W40	170.149.....	H72, H81, H85-86, H88	192.593.....	J84-85	2BN0063R018A KC633M.....	.09
11X1R020B20STN11N.....	W40	170.150.....	H72, H81, H85-86, H88	192.718.....	I14-15	2BN0094R018A KC633M.....	.09
121.612.....	E15-16, E18, S64, S67	170.151.....	H72, H81, H85-86, H88	192.720.....	I14-15	2BN0109R037A KC633M.....	.09
121.616.....	E15-17, E19-20, E22, E55, E61, S70	170.152.....	H72, H81, H85-86, H88	192.730.....	J92	2BN0125L075A KC633M.....	.09
121.808.....	K48-50	170.153.....	H72, H81, H85-86, H88	192.731.....	J92	2BN0125R050A KC633M.....	.09
121.812.....	E17, K48-50	170.154.....	H72, H81, H85-86, H88	192.759.....	J92	2BN0125S025A KC633M.....	.09
121.816.....	E17-23	170.155.....	H72, H81, H85-86, H88	192.888.....	I14-15	2BN0125X075A KC633M.....	.09
121.825.....	E19, E21, E23	170.156.....	H72, H81, H85-86, H88	192.889.....	I14-15	2BN0156L056A KC633M.....	.09
12147629800.....	K116-117	170.157.....	H72, H81, H85-86, H88	192.902.....	J75, J84-85	2BN0156R031A KC633M.....	.09
12148006000.....	T24	170.158.....	H72, H81, H85-86, H88	192.903.....	J84-85	2BN0187L075A KC633M.....	.09
12148044900.....	S30-31, S77, S82, S88	170.159.....	H72, H81, H85-86, H88	192.932.....	V58	2BN0187R062A KC633M.....	.09
12148068700.....	K116-117	170.160.....	H72, H81, H85-86, H88				
125.625.....	K48-50	170.294.....	H72, H81, H88				

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
2BN0187IS031A KC633M	09	2CH0750IL300A KC633M	08	2SE0750IR225A KC633M	08	3.41220R902 KC7315	116
2BN0187X100A KC633M	09	2CH0750IL300B KC633M	08	2SE0750IR225B KC633M	08	3.41220R903 CS5	116
2BN0219IR062A KC633M	09	2CH0750IR150A KC633M	08	2SE0750IS100A KC633M	08	3.41220R903 KC7315	116
2BN0250IL150A KC633M	09	2CH0750IR225A KC633M	08	2SE0750IX400A KC633M	08	3.41220R904 KC7315	117
2BN0250IR075A KC633M	09	2CH0750IR225B KC633M	08	2SE0750IX400B KC633M	08	3.42805R001 CS5	130
2BN0250IR112A KC633M	09	2CH0750IS100A KC633M	08	2SE0875IL225A KC633M	08	3.42805R001 KC7215	130
2BN0250IS050A KC633M	09	2CH0750IX400A KC633M	08	2SE0875IL225B KC633M	08	3.42805R001 KMF	130
2BN0250IX150A KC633M	09	2CH0750IX400B KC633M	08	2SE0875IR150A KC633M	08	3.42805R021 KC7015	130
2BN0312IL112A KC633M	09	2CH0875IL225A KC633M	08	2SE0875IR150B KC633M	08	3.42805R021 KC7315	130
2BN0312IR081A KC633M	09	2CH0875IL225B KC633M	08	2SE1000IL300A KC633M	08	3.42805R081 KC7215	130
2BN0312IX150A KC633M	09	2CH0875IR150A KC633M	08	2SE1000IL300B KC633M	08	3.42807R001 CS5	130
2BN0375IL112A KC633M	09	2CH0875IR150B KC633M	08	2SE1000IR225A KC633M	08	3.42807R001 KC7215	130
2BN0375IR087A KC633M	09	2CH1000IL300A KC633M	08	2SE1000IR225B KC633M	08	3.42807R001 KMF	130
2BN0375IS062A KC633M	09	2CH1000IL300B KC633M	08	2SE1000IS150A KC633M	08	3.42807R021 KC7015	130
2BN0375IX300A KC633M	09	2CH1000IR225A KC633M	08	2SE1000IX400A KC633M	08	3.42807R021 KC7315	130
2BN0406IR100A KC633M	09	2CH1000IR225B KC633M	08	2SE1000IX400B KC633M	08	3.42807R081 KC7215	130
2BN0437IR100A KC633M	09	2CH1000IS150A KC633M	08	3.37042R320	114	3.76045R028V	J82-83
2BN0500IL200A KC633M	010	2CH1000IX400A KC633M	08	3.37042R820	114	3.76050R028V	J82-83
2BN0500IR100A KC633M	010	2CH1000IX400B KC633M	08	3.37051R320	114	3.76055R032V	J82-83
2BN0500IS062A KC633M	09	2SE0016IR003A KC633M	06	3.37051R820	114	3.76058R032V	J82-83
2BN0500IX150A KC633M	010	2SE0031IR007A KC633M	06	3.37052R320	114	3.76063R032V	J82-83
2BN0500IX300A KC633M	010	2SE0062IL018A KC633M	06	3.37052R820	114	3.76063R040V	J82-83
2BN0625IL225A KC633M	010	2SE0062IR012A KC633M	06	3.37060R720	126	3.76068R040V	J82-83
2BN0625IR125A KC633M	010	2SE0062IX050A KC633M	06	3.37061R320	114	3.76073R040V	J82-83
2BN0625IX300A KC633M	010	2SE0078IR018A KC633M	06	3.37061R820	114	3.76078R040V	J82-83
2BN0750IL200A KC633M	010	2SE0093IL037A KC633M	06	3.37062R320	114	3.76078R048V	J82-83
2BN0750IR150A KC633M	010	2SE0093IR018A KC633M	06	3.37062R820	114	3.76084R048V	J82-83
2BN0750IS100A KC633M	010	2SE0093IX062A KC633M	06	3.37071R320	114	3.76090R48V	J82-83
2BN0750IX300A KC633M	010	2SE0109IR037A KC633M	06	3.37071R820	114	3.76096R048V	J82-83
2BN0875IR150A KC633M	010	2SE0125IL050A KC633M	06	3.37080R720	126	3.76096R058V	J82-83
2BN1000IL300A KC633M	010	2SE0125IR025A KC633M	06	3.37081R320	114	3.76102R058V	J82-83
2BN1000IR150A KC633M	010	2SE0125IX075A KC633M	06	3.37081R820	114	3.76108R058V	J82-83
2CH0125IL050A KC633M	06	2SE0140IR056A KC633M	06	3.37091R320	114	3.76115R070V	J82-83
2CH0125IR025A KC633M	06	2SE0156IL056A KC633M	06	3.37091R820	114	3.76122R070V	J82-83
2CH0125IX075A KC633M	06	2SE0156IR031A KC633M	06	3.37092R320	114	3.76130R070V	J82-83
2CH0140IR056A KC633M	06	2SE0171IR062A KC633M	06	3.37092R820	114	3.76140R080V	J82-83
2CH0156IL056A KC633M	06	2SE0187IL075A KC633M	06	3.37100R720	126	3.76150R080V	J82-83
2CH0156IR031A KC633M	06	2SE0187IR062A KC633M	06	3.37101R332	114	3.76158R080V	J82-83
2CH0171IR062A KC633M	06	2SE0187IX112A KC633M	06	3.37101R832	114	3.76162R080V	J82-83
2CH0187IL075A KC633M	06	2SE0218IL062A KC633M	07	3.37111R332	114	3.76180R110	J82-83
2CH0187IR062A KC633M	06	2SE0218IR043A KC633M	06	3.37111R832	114	3.76195R110	J82-83
2CH0187IX112A KC633M	06	2SE0250IL112A KC633M	07	3.37120R732	126	3.76213R125	J82-83
2CH0218IL062A KC633M	07	2SE0250IR075A KC633M	07	3.37121R332	114	3.76230R160	J82-83
2CH0218IR043A KC633M	06	2SE0250IS050A KC633M	07	3.37121R832	114	3.76262R160	J82-83
2CH0250IL112A KC633M	07	2SE0250IX150A KC633M	07	3.37131R332	114	3.77000R023V	J84
2CH0250IR075A KC633M	07	2SE0281IR075A KC633M	07	3.37131R832	114	3.77000R024V	J84
2CH0250IS050A KC633M	07	2SE0312IL112A KC633M	07	3.37140R732	126	3.77000R025V	J84
2CH0250IX150A KC633M	07	2SE0312IR081A KC633M	07	3.37141R332	114	3.77000R026V	J84
2CH0281IR075A KC633M	07	2SE0312IS050A KC633M	07	3.37141R832	114	3.77000R027V	J84
2CH0312IL112A KC633M	07	2SE0312IX162A KC633M	07	3.37151R332	114	3.77000R028V	J84
2CH0312IR081A KC633M	07	2SE0343IR100A KC633M	07	3.37151R832	114	3.77000R029V	J84
2CH0312IS050A KC633M	07	2SE0375IL112A KC633M	07	3.37160R732	126	3.77000R030V	J84
2CH0312IX162A KC633M	07	2SE0375IR100A KC633M	07	3.37161R332	114	3.77000R031V	J84
2CH0343IR100A KC633M	07	2SE0375IS062A KC633M	07	3.37161R832	114	3.77000R038V	J84
2CH0375IL112A KC633M	07	2SE0375IX175A KC633M	07	3.37171R332	114	3.77000R039V	J84
2CH0375IR100A KC633M	07	2SE0406IR100A KC633M	07	3.37171R832	114	3.77000R048V	J84
2CH0375IS062A KC633M	07	2SE0437IL100A KC633M	07	3.37180R732	126	3.77000R049V	J84
2CH0375IX175A KC633M	07	2SE0437IR062A KC633M	07	3.37181R332	114	3.77000R050V	J84
2CH0406IR100A KC633M	07	2SE0437IX200A KC633M	07	3.37181R832	114	3.77000R051V	J84
2CH0437IL100A KC633M	07	2SE0468IR100A KC633M	07	3.37526R006	127	3.77000R052V	J84
2CH0437IR062A KC633M	07	2SE0500IL200A KC633M	07	3.37528R008	127	3.77000R053V	J84
2CH0437IX200A KC633M	07	2SE0500IL200B KC633M	07	3.37530R010	127	3.77000R073V	J84
2CH0468IR100A KC633M	07	2SE0500IR100A KC633M	07	3.37532R012	127	3.77000R074V	J84
2CH0500IL200A KC633M	07	2SE0500IR100B KC633M	07	3.37534R014	127	3.77000R075V	J84
2CH0500IL200B KC633M	07	2SE0500IS062A KC633M	07	3.37538R016	127	3.77000R076V	J84
2CH0500IR100A KC633M	07	2SE0500IX300A KC633M	07	3.37540R018	127	3.77000R077V	J84
2CH0500IR100B KC633M	07	2SE0500IX300B KC633M	07	3.37542R020	127	3.77000R078V	J84
2CH0500IS062A KC633M	07	2SE0562IL125A KC633M	08	3.41020R900 KMF	117	3.77000R079V	J84
2CH0500IX300A KC633M	07	2SE0562IL125B KC633M	08	3.41020R900 STF CS5	117	3.77000R080V	J84
2CH0500IX300B KC633M	07	2SE0562IR075A KC633M	08	3.41020R901 CS5	116	3.77000R081V	J84
2CH0562IL125A KC633M	08	2SE0562IX225A KC633M	08	3.41020R901 KC7315	116	3.77000R082V	J84
2CH0562IL125B KC633M	08	2SE0562IX225B KC633M	08	3.41020R902 CS5	116	3.77000R083V	J84
2CH0562IR075A KC633M	08	2SE0625IL125A KC633M	08	3.41020R902 KC7315	116	3.77000R084V	J84
2CH0562IX225A KC633M	08	2SE0625IL125B KC633M	08	3.41020R903 CS5	116	3.77000R085V	J84
2CH0562IX225B KC633M	08	2SE0625IR075A KC633M	08	3.41020R903 KC7315	116	3.77000R086V	J84
2CH0625IL125A KC633M	08	2SE0625IX225A KC633M	08	3.41020R904 KC7315	117	3.77000R087V	J84
2CH0625IL125B KC633M	08	2SE0625IX225B KC633M	08	3.41220R900 KMF	117	3.77000R088V	J84
2CH0625IR075A KC633M	08	2SE0687IR137A KC633M	08	3.41220R900 STF CS5	117	3.77000R224V	J85
2CH0625IX225A KC633M	08	2SE0687IR137B KC633M	08	3.41220R900 STF CS5	117	3.77000R227V	J85
2CH0625IX225B KC633M	08	2SE0750IL300A KC633M	08	3.41220R901 CS5	116	3.77000R228V	J85
2CH0687IR137A KC633M	08	2SE0750IL300B KC633M	08	3.41220R901 KC7315	116	3.77000R229V	J85
2CH0687IR137B KC633M	08	2SE0750IR150A KC633M	08	3.41220R902 CS5	116	3.77000R230V	J85

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
3.77000R231V.....	J85	3SE0125I050A KC633M.....	Q16	4BN0141R056A KC633M.....	Q26	4CH0500L200B KC633M.....	Q24
3.77000R239V.....	J85	3SE0125I025A KC633M.....	Q16	4BN0156R056A KC633M.....	Q26	4CH0500R100A KC633M.....	Q24
3.77000R248V.....	J85	3SE0125X062A KC633M.....	Q16	4BN0172R062A KC633M.....	Q26	4CH0500R100B KC633M.....	Q24
3.77000R249V.....	J85	3SE0156R056A KC633M.....	Q16	4BN0187L062A KC633M.....	Q26	4CH0500S062A KC633M.....	Q24
3.77000R250V.....	J85	3SE0188L062A KC633M.....	Q16	4BN0187R031A KC633M.....	Q26	4CH0500X300A KC633M.....	Q24
3.77000R251V.....	J85	3SE0188R056A KC633M.....	Q16	4BN0187X100A KC633M.....	Q26	4CH0562L125A KC633M.....	Q24
3.77000R252V.....	J85	3SE0188S031A KC633M.....	Q16	4BN0203R062A KC633M.....	Q26	4CH0562L125B KC633M.....	Q24
3.77000R253V.....	J85	3SE0188X100A KC633M.....	Q16	4BN0219R062A KC633M.....	Q26	4CH0562R075A KC633M.....	Q24
3.77000R274V.....	J85	3SE0219L075A KC633M.....	Q16	4BN0234R075A KC633M.....	Q26	4CH0562X225A KC633M.....	Q24
3.77000R276V.....	J85	3SE0219R062A KC633M.....	Q16	4BN0250L150A KC633M.....	Q26	4CH0625L125B KC633M.....	Q24
3.77000R278V.....	J85	3SE0250L100A KC633M.....	Q16	4BN0250R075A KC633M.....	Q26	4CH0625L225B KC633M.....	Q24
3.77000R280V.....	J85	3SE0250R075A KC633M.....	Q16	4BN0250R112A KC633M.....	Q26	4CH0625R125A KC633M.....	Q24
3.77000R282V.....	J85	3SE0250S050A KC633M.....	Q16	4BN0250S050A KC633M.....	Q26	4CH0625R125B KC633M.....	Q24
3.77000R284V.....	J85	3SE0250X150A KC633M.....	Q16	4BN0250X150A KC633M.....	Q26	4CH0625S075A KC633M.....	Q24
3.77000R286V.....	J85	3SE0281L081A KC633M.....	Q16	4BN0281R075A KC633M.....	Q26	4CH0625X400A KC633M.....	Q24
3.77000R288V.....	J85	3SE0281R075A KC633M.....	Q16	4BN0312L112A KC633M.....	Q26	4CH0687R137A KC633M.....	Q24
302.009.....	J90	3SE0312L081A KC633M.....	Q16	4BN0312R081A KC633M.....	Q26	4CH0750L300A KC633M.....	Q24
302.010.....	J90	3SE0312R050A KC633M.....	Q16	4BN0312S050A KC633M.....	Q26	4CH0750L300B KC633M.....	Q24
302.011.....	J90	3SE0375L100A KC633M.....	Q16	4BN0312X162A KC633M.....	Q26	4CH0750R150A KC633M.....	Q24
302.014.....	J92	3SE0375R088A KC633M.....	Q16	4BN0344R100A KC633M.....	Q26	4CH0750R150B KC633M.....	Q24
30X1R052B25STN27N.....	W40	3SE0375S050A KC633M.....	Q16	4BN0375L112A KC633M.....	Q27	4CH0750R225A KC633M.....	Q24
30X1R092B25STN27L.....	W41	3SE0375X112A KC633M.....	Q16	4BN0375R100A KC633M.....	Q27	4CH0750R225B KC633M.....	Q24
32MHC060M.....	G79	3SE0437L088A KC633M.....	Q16	4BN0375S100A KC633M.....	Q26	4CH0750X400A KC633M.....	Q24
32MHC070M.....	G79	3SE0437R062A KC633M.....	Q16	4BN0375X150A KC633M.....	Q27	4CH0875L225A KC633M.....	Q25
32MHC080M.....	G79	3SE0437X100A KC633M.....	Q16	4BN0437R100A KC633M.....	Q27	4CH0875L225B KC633M.....	Q25
32MHC090M.....	G79	3SE0500L200A KC633M.....	Q17	4BN0500L200A KC633M.....	Q27	4CH0875R150A KC633M.....	Q25
32MHC100M.....	G79	3SE0500R100A KC633M.....	Q16	4BN0500R100A KC633M.....	Q27	4CH0875R150B KC633M.....	Q25
32MHC110M.....	G79	3SE0563R112A KC633M.....	Q17	4BN0500R200A KC633M.....	Q27	4CH1000L300A KC633M.....	Q25
32MHC120M.....	G79	3SE0563R112B KC633M.....	Q17	4BN0500S100A KC633M.....	Q27	4CH1000L300B KC633M.....	Q25
32MHC130M.....	G79	3SE0625L125A KC633M.....	Q17	4BN0500X150A KC633M.....	Q27	4CH1000R225A KC633M.....	Q25
32MHC140M.....	G79	3SE0625L125B KC633M.....	Q17	4BN0500X300A KC633M.....	Q27	4CH1000R225B KC633M.....	Q25
32MHC150M.....	G79	3SE0625R075A KC633M.....	Q17	4BN0562R125A KC633M.....	Q27	4CH1000S150A KC633M.....	Q25
32MHC160M.....	G79	3SE0625R075B KC633M.....	Q17	4BN0625L225A KC633M.....	Q27	4CH1000X400A KC633M.....	Q25
35X1R055B32STNB38N.....	W41	3SE0750L150A KC633M.....	Q17	4BN0625R125A KC633M.....	Q27	4SE0015R003A KC633M.....	Q22
360.510.....	I25-26	3SE0750L150B KC633M.....	Q17	4BN0750L300A KC633M.....	Q27	4SE0031R008A KC633M.....	Q22
360.511.....	I25-26	3SE0750R100A KC633M.....	Q17	4BN0750R150A KC633M.....	Q27	4SE0062R010A KC633M.....	Q22
360.513.....	I25-26	3SE0750X225A KC633M.....	Q17	4BN0875R150A KC633M.....	Q27	4SE0078R018A KC633M.....	Q22
360.516.....	I25	3SE0750X225B KC633M.....	Q17	4BN1000L225A KC633M.....	Q27	4SE0093L062A KC633M.....	Q22
360.550.....	I25-27	3SE1000R150A KC633M.....	Q17	4BN1000R150A KC633M.....	Q27	4SE0093R037A KC633M.....	Q22
360.551.....	H87, I25-27	3SE1000X225A KC633M.....	Q17	4CH0125L075A KC633M.....	Q22	4SE0109R037A KC633M.....	Q22
360.630.....	I26, I29	3SE1000X225B KC633M.....	Q17	4CH0125R050A KC633M.....	Q22	4SE0125L075A KC633M.....	Q22
360.631.....	I26, I29	40A02RP90BG15CUPM.....	S122	4CH0125S025A KC633M.....	Q22	4SE0125R050A KC633M.....	Q22
360.632.....	I26, I29	410.081.....	E15, S64, S67	4CH0125X100A KC633M.....	Q22	4SE0125S025A KC633M.....	Q22
360.633.....	I26, I29	410.083.....	S121-123	4CH0140R056A KC633M.....	Q22	4SE0125X100A KC633M.....	Q22
360.634.....	I26	410.084.....	E18-19, E21, E23, S70	4CH0156R056A KC633M.....	Q22	4SE0140R056A KC633M.....	Q22
360.635.....	I26, I29	410.091.....	E18-19, E21, E23	4CH0187L075A KC633M.....	Q22	4SE0156R056A KC633M.....	Q22
360.636.....	I26, I29	4111492VRS.....	B168, B386	4CH0187R062A KC633M.....	Q22	4SE0187L075A KC633M.....	Q22
360.637.....	I26, I29	4111573VRS.....	B168, B386	4CH0187S075A KC633M.....	Q22	4SE0187R062A KC633M.....	Q22
360.650.....	I25, I29	4111593VRS.....	B168, B386	4CH0187X112A KC633M.....	Q22	4SE0187S075A KC633M.....	Q22
360.651.....	I25, I29	4111603VRS.....	B168, B386	4CH0203R062A KC633M.....	Q22	4SE0187X112A KC633M.....	Q22
360.652.....	I25, I29	4111654VRS.....	B168, B386	4CH0218L062A KC633M.....	Q22	4SE0203R062A KC633M.....	Q22
360.653.....	I25, I29	4111664VRS.....	B168, B386	4CH0218R043A KC633M.....	Q22	4SE0218L062A KC633M.....	Q23
360.654.....	I25, I29	4111674VRS.....	B168, B386	4CH0234R075A KC633M.....	Q23	4SE0218R043A KC633M.....	Q22
360.655.....	I25, I29	420.060.....	S121-123	4CH0250L112A KC633M.....	Q23	4SE0234R075A KC633M.....	Q23
360.660.....	H87	420.101 SCREW.....	S121-123	4CH0250R075A KC633M.....	Q23	4SE0250L112A KC633M.....	Q23
360.661.....	H87	420.121.....	S121-123	4CH0250S050A KC633M.....	Q23	4SE0250R075A KC633M.....	Q23
360.663.....	H87	420.161.....	S121-122	4CH0250X150A KC633M.....	Q23	4SE0250S050A KC633M.....	Q23
360.664.....	H87	420.162.....	S32	4CH0265R075A KC633M.....	Q23	4SE0250X150A KC633M.....	Q23
360.665.....	H87	420.201.....	S17, S20, S24, S32, S45,	4CH0281R075A KC633M.....	Q23	4SE0265R075A KC633M.....	Q23
360.666.....	H87		S50, S121-122, T17	4CH0296R081A KC633M.....	Q23	4SE0281R075A KC633M.....	Q23
360.667.....	H87	420.241.....	S17, S20, S24, S32,	4CH0312L112A KC633M.....	Q23	4SE0296R081A KC633M.....	Q23
360.668.....	H87		S50, S121-122, T17	4CH0312R081A KC633M.....	Q23	4SE0312L112A KC633M.....	Q23
360.669.....	H87	42X2R045B32STN27D.....	W43	4CH0312S050A KC633M.....	Q23	4SE0312R081A KC633M.....	Q23
360.670.....	H87	460.716.....	J92	4CH0312X162A KC633M.....	Q23	4SE0312S050A KC633M.....	Q23
364.010.....	H72-73, H75, H77, H79, H81-82, H84-86, H122	46X1R100B40STNB38L.....	W41	4CH0328R100A KC633M.....	Q23	4SE0312X162A KC633M.....	Q23
364.011.....	H72-75, H77-79, H81-82, H84-86, H122	470.232.....	S32	4CH0343R100A KC633M.....	Q23	4SE0328R100A KC633M.....	Q23
364.012.....	H72, H74-76, H78-86, H122-123	470.240.....	S17, S20, S24, S45, S50, S121-122	4CH0359R100A KC633M.....	Q23	4SE0343R100A KC633M.....	Q23
364.013.....	H72, H74, H76, H78, H80-81, H83-86, H123	470.241.....	S17, S20, S24, S32, S50, S121-122	4CH0375L112A KC633M.....	Q23	4SE0359R100A KC633M.....	Q23
364.015.....	H72, H74, H81, H83, H85-86, H123	470.242.....	S20, S24, S32	4CH0375R100A KC633M.....	Q23	4SE0375L112A KC633M.....	Q23
364.016.....	H72-73, H75, H81-82, H85-86, H122	470.243.....	S20, S24, S32	4CH0375S062A KC633M.....	Q23	4SE0375R100A KC633M.....	Q23
364.017.....	H72-73, H75, H81-82, H85-86	479.100.....	S64, S67, S70	4CH0375X175A KC633M.....	Q23	4SE0375S062A KC633M.....	Q23
37X1R058B32STN27N.....	W40	4BN00031R008A KC633M.....	Q26	4CH0390R100A KC633M.....	Q23	4SE0375X175A KC633M.....	Q23
37X1R098B32STN27L.....	W41	4BN00047R012A KC633M.....	Q26	4CH0406R100A KC633M.....	Q23	4SE0390R100A KC633M.....	Q23
3SE0031R007A KC633M.....	Q16	4BN00062R019A KC633M.....	Q26	4CH0421R100A KC633M.....	Q23	4SE0406R100A KC633M.....	Q23
3SE0047R011A KC633M.....	Q16	4BN00078R019A KC633M.....	Q26	4CH0437L200A KC633M.....	Q23	4SE0421R100A KC633M.....	Q23
3SE0062R019A KC633M.....	Q16	4BN00094L037A KC633M.....	Q26	4CH0437R100A KC633M.....	Q23	4SE0437L200A KC633M.....	Q23
3SE0078R011A KC633M.....	Q16	4BN00094R019A KC633M.....	Q26	4CH0437S100A KC633M.....	Q23	4SE0437R100A KC633M.....	Q23
3SE0094R037A KC633M.....	Q16	4BN01091R037A KC633M.....	Q26	4CH0437X300A KC633M.....	Q23	4SE0437S100A KC633M.....	Q23
3SE0094R037A KC633M.....	Q16	4BN0125L075A KC633M.....	Q26	4CH0453R100A KC633M.....	Q24	4SE0437X300A KC633M.....	Q24
3SE0094R037A KC633M.....	Q16	4BN0125R050A KC633M.....	Q26	4CH0468R100A KC633M.....	Q24	4SE0453R100A KC633M.....	Q24
3SE0094R037A KC633M.....	Q16	4BN0125S025A KC633M.....	Q26	4CH0484R100A KC633M.....	Q24	4SE0468R100A KC633M.....	Q24
3SE0109R037A KC633M.....	Q16	4BN0125X075A KC633M.....	Q26	4CH0500L200A KC633M.....	Q24	4SE0484R100A KC633M.....	Q24

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
4SE0500IL200A KC633M	Q24	5.34350-090100	J92	848.420.614	K124-126	A08NKQCR05	E46
4SE0500IL200B KC633M	Q24	5.36050-154050	J91	848.550.005	K125	A08RCTFPL2	B183, B389
4SE0500IR100A KC633M	Q24	5.36050154040	J91	848.550.620	K124-126	A08RCTFPR2	B183, B389
4SE0500IR100B KC633M	Q24	50A03RP90BG15CUM	S121	848.720.000	K124-126	A08RCTLNR2	B388
4SE0500IS062A KC633M	Q24	50A03RP90BG15CUPM	S122	848.720.005	K125	A08RCTLPL2	B185, B390
4SE0500IX000A KC633M	Q24	50A04RP70SP12CUFP	S64	848.940.640	K124, K126	A08RCTLPR2	B185, B390
4SE0562IL125A KC633M	Q24	50A04RP90SP12CUFP	S67	880.252.200	K137-139	A08RSCFCR2	B196
4SE0562IL125B KC633M	Q24	50A05RP70SP12CUFP	S64	880.252.250	K137-139	A08RSCFFL2	B212
4SE0562IR075A KC633M	Q24	50A05RP90SP12CUFP	S67	880.252.320	K137-139	A08RSCFFR2	B212
4SE0562IR225A KC633M	Q24	50HC030M	G79	880.252.420	K137-138	A08RSCFLC2	B197
4SE0625IL125A KC633M	Q24	50HC040M	G79	880.252.550	K137-138	A08RSCFLR2	B197
4SE0625IL225B KC633M	Q24	50HC050M	G79	881.252.200	K137-139	A08RSCPL2	B213
4SE0625IR125A KC633M	Q24	50HC060M	G79	881.252.250	K137-139	A08RSCPLR2	B213
4SE0625IR125B KC633M	Q24	50HC080M	G79	881.252.320	K137-139	A08RSDUCL2	B230
4SE0625IS075A KC633M	Q24	50HC100M	G79	881.252.420	K137-138	A08RSDUCR2	B230
4SE0625IX400A KC633M	Q24	551.326	B383-384, B391	881.252.550	K137-138	A08RSDUPL2	B234
4SE0687IR137A KC633M	Q24	551.343	B391	881.252.720	K137-138	A08RSDUPR2	B234
4SE0750IL300A KC633M	Q24	552.210	B384	881.252.940	K137-138	A08RSDXCL2	B230
4SE0750IL300B KC633M	Q24	552.221	B383, B391	886038045	K136	A08RSDXCR2	B230
4SE0750IR150A KC633M	Q24	552.230	B391	9X1R012B12STN10M	W40	A08RSDXPL2	B235
4SE0750IR150B KC633M	Q24	552.232	B383-384	9X1R017B20STN10M	W40	A08RSDXPR2	B235
4SE0750IR225A KC633M	Q24	554.260	B383-384, B391	A0306GSCLDL12	B203	A08RSTFCR2	B261
4SE0750IR225B KC633M	Q24	5720VZ16HA025Z2R75	T99	A0306GSCLDR12	B203	A08RSTFCR2	B261
4SE0750IS100A KC633M	Q24	5720VZ16HA032Z3R75	T99	A0306SWLPL15	B291	A08RSTFPL2	B271
4SE0750IX400A KC633M	Q24	5720VZ16HA040Z4R75	T99	A0306SWLPR15	B291	A08RSTLPR2	B271
4SE0875IL225A KC633M	Q25	5720VZ16HA050Z4R75	T99	A03GSLDR128	B265	A08RSTLCL2	B262
4SE0875IL225B KC633M	Q25	63A03RP90BG15CUM	S121	A03XSC7DL12	B204	A08RSTLCR2	B262
4SE0875IR150A KC633M	Q25	63A04RP90BG15C1WUPM	S122	A03XSC7DR12	B204	A08RSTLPL2	B274
4SE0875IR150B KC633M	Q25	63A04RP90BG15C4WUHPM	S123	A03XSCFDR12	B200	A08RSTLPR2	B274
4SE1000IL300A KC633M	Q25	63A05RP90SP12CUFP	S67	A03XSCDL12	B201	A08RSVMBR2E	B284
4SE1000IL300B KC633M	Q25	63A07RP70SP12CUFP	S64	A03XSCDLR12	B201	A08RSWLCR2	B287
4SE1000IR225A KC633M	Q25	75HC030M	G79	A03XSCDLR12A	B201	A08RSWLPL2	B289
4SE1000IR225B KC633M	Q25	75HC040M	G79	A0406HSCLDL12	B203	A08RSWLPR2	B289
4SE1000IS150A KC633M	Q25	75HC050M	G79	A0406HSCLDR12	B203	A08SCLPR2D	B217
4SE1000IX400A KC633M	Q25	75HC060M	G79	A0406SWLPR15	B291	A10CTFPL2	B183, B389
5.34032-025115	J88	75HC080M	G79	A0406XSOFDR12125	B201	A10CTLNL2	B388
5.34032-025200	J88	75HC100M	G79	A0406XSCLDR12075	B203	A10KNTTOR1	C190
5.34032-028115	J88	75HC120M	G79	A0406XSCLDR12125	B203	A10MEVEML0207L	C53
5.34032-028200	J88	75HC140M	G79	A0408XSOFDR12075	B201	A10MEVEML0307L	C53
5.34032-032125	J88	75HC160M	G79	A04FSCFDR12	B200	A10MEVEML1F07L	C53
5.34050-025300	J88	80A03RP90BG15CUM	S121	A04FSCDL12	B201	A10MEVEMR0207L	C52
5.34050-025450	J88	80A05RP90BG15C1WUPM	S122	A04FSCDLR12	B201	A10MEVEMR0307L	C52
5.34050-028300	J88	80A05RP90BG15C5WUHPM	S123	A04HSTFDR128	B264	A10MEVEMR1F07L	C52
5.34050-028450	J88	80A06RP70SP12C1WUFP	S64	A04HSTLDR128	B265	A10NER1	C190, D36
5.34050-032200	J88	80A06RP90BG15C2WUPM	S122	A04HSWUPR15	B291	A10NKLCR05	E44
5.34050-032500	J88	80A06RP90SP12C1WUFP	S67	A0506KSWLPR18	B215	A10RA4SAL2S12N017021	C134
5.34050-040148	J88	80A08RP70SP12C2WUFP	S64	A0506KSWLPR15	B291	A10RA4SAR2S12N017021	C134
5.34050-040300	J88	80A08RP90SP12C2WUFP	S67	A0506STFPR18	B273	A10SCLPR2D	B217
5.34050-040450	J88	840.142.200	K122-124	A05HSTLDR128	B265	A10SCTFPR2	B183, B389
5.34050-040600	J88	840.142.250	K122-124	A05HSWUPR15	B291	A10SCTLNR2	B388
5.34050-048168	J88	840.142.320	K122-123	A05KSTFPR18	B271	A10SCTLPL2	B185, B390
5.34050-048300	J88	840.142.420	K122-123	A06MCTLPR2	B185, B390	A10SNEL2	C191, D35
5.34050-048450	J88	840.142.550	K122-123	A06MSCFCR2	B196	A10SNER2	C191, D35
5.34050-048600	J88	840.142.720	K122-123	A06MSCFPL2	B212	A10SNKLCLO5	E44
5.34050-058186	J88	840.142.940	K122-123	A06MSCFPR2	B212	A10SSCFCL2	B196
5.34050-058300	J88	841.142.200	K122-124	A06MSCLCL2	B197	A10SSCFCR2	B196
5.34050-058450	J88	841.142.250	K122-124	A06MSCLCR2	B197	A10SSCFPL2	B212
5.34050-058600	J88	841.142.320	K122-123	A06MSCLPL2	B213	A10SSCFPR2	B212
5.34050032350	J88	841.142.420	K122-123	A06MSCLPR2	B213	A10SSCLCL2	B197
5.34125R025150	J87	841.142.550	K122-123	A06MSDUCL2	B230	A10SSCLCL3	B197
5.34128R028150	J87	841.142.720	K122-123	A06MSDUCR2	B230	A10SSCLCR2	B197
5.34132R032100	J87	841.142.940	K122-123	A06MSDUPL2	B234	A10SSCLCR3	B197
5.34132R032200	J87	841.342.200	K122-124	A06MSDUPR2	B234	A10SSCLPL2	B213
5.34140R040200	J87	841.342.420	K122-123	A06MSTFCR2	B261	A10SSCLPL3	B213
5.34148R048200	J87	843.006.000	K124-126, K140	A06MSTFPL2	B271	A10SSCLPL3AP5	B216
5.34158R058300	J87	843.009.000	K124-126, K140	A06MSTFPR2	B271	A10SSCLPR2	B213
5.34170R070186	J87	843.012.000	K124-126	A06MSTLCL2	B262	A10SSCLPR3	B213
5.34170R070300	J87	844.012.000	K124-126	A06MSTLCR2	B262	A10SSCLPR3AP5	B216
5.34170R070500	J87	844.016.000	K124-126	A06MSTLPL2	B274	A10SSDUCL2	B230
5.34180R080204	J87	845.012.000	K124-126	A06MSTLPR2	B274	A10SSDUCR2	B230
5.34180R080300	J87	845.016.000	K124-126	A06MSWLCR2	B287	A10SSDUPL2	B234
5.34180R080500	J87	846.012.000	K124-126	A06MSWLPR2	B289	A10SSDUPR2	B234
5.34240R032100	J87	846.016.000	K124-126	A06NER1	C190, D36	A10SSDXPL2	B235
5.34248R040100	J87	847.012.000	K124-126	A08RCTFPR2	B183, B389	A10SSDXPR2	B235
5.34258R048100	J87	847.016.000	K124-126	A08KEVEML0205L	C53	A10SSTFCR2	B261
5.34270R058100	J87	848.200.005	K125	A08KEVEML1F05L	C53	A10SSTFPR2	B271
5.34280R028080	J87	848.200.407	K124-126	A08KEVEMR0205L	C52	A10SSTLCL2	B262
5.34280R032080	J87	848.250.005	K125	A08KEVEMR1F05L	C52	A10SSTLCR2	B262
5.34280R040080	J87	848.250.409	K124-126	A08NEL2	C191, D35	A10SSTLPL2	B274
5.34280R048080	J87	848.320.005	K125	A08NER1	C190, D36	A10SSTLPR2	B274
5.34280R058080	J87	848.320.413	K124-126	A08NER2	C191, D35	A10SSVMBR2E	B284
5.34280R070150	J87	848.420.005	K125	A08NKQCL05	E46	A10SSVQBL2	B284

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
A10SSVQBR2	B284	A16MNNTOR2	C192	A20MSKNR4	B114	A24UDCLNR5KC4	B68
A10SSVLCR3	B287	A16MTFNL3	B139	A20MTUNR3D	B139	A24UDDPNL4KC3	B91
A10SSWLP3	B289	A16MTFNR3	B139	A20NEL3	C191, D35	A24UDDPNR4KC3	B91
A10SSWLP3	B289	A16NEL3	C191, D35	A20NER3	C191, D35	A24UDDQNL4KC3	B91
A12KEVEMLO205M	C55	A16NER3	C191, D35	A20NKLRO5	E44	A24UDDQNR4KC3	B91
A12KEVEML1F05M	C55	A16NKLRO5	E44	A20NVJCR3	E47	A24UDDUNR4KC3	B92
A12KEVEMR0205M	C54	A16NKQCL05	E46	A20NVLCR3	E47	A24UDVUNL3KC3	B154
A12KEVEMR1F05M	C54	A16NKQCR05	E46	A20QEVEMLO207M	C55	A24UDVUNR3KC3	B154
A12MNNNTOL2	C192	A16NKXCR05	E46	A20QEVEMLO307M	C55	A24UMCKNR4	B70
A12MNNTOR1	C190	A16RA4EML0310N	C132	A20QEVEML1F07M	C55	A24UMCLNL4	B71
A12MNNTOR2	C192	A16RA4EML0410N	C132	A20QEVEMR0207M	C54	A24UMCLNR4	B71
A12NEL2	C191, D35	A16RA4EMR0210N	C132	A20QEVEMR0307M	C54	A24UMDQNR4	B93
A12NXQCR05	E46	A16RA4EMR0310N	C132	A20QEVEMR1F07M	C54	A24UMDUNL4	B93
A12QEVEMLO2071	C53	A16RA4EMR0410N	C132	A20QNNNTOL2	C192	A24UMDUNR4	B93
A12QEVEMLO3071	C53	A16RA4SAL2S12M017021	C134	A20QNNTOR2	C192	A24UMTFNR3	B139
A12QEVEML1F071	C53	A16RA4SAL3S14N026036	C134	A20RA4EML0207M	C133	A24UMTFNR4	B139
A12QEVEMR02071	C52	A16RA4SAR2S12M017021	C134	A20RA4EML0307M	C133	A24UMVUNL3	B154
A12QEVEMR03071	C52	A16RA4SAR2S12N026036	C134	A20RA4EML0407M	C133	A24UMVUNR3	B154
A12QEVEMR1F071	C52	A16RA4SAR3S14N026036	C134	A20RA4EMR0207M	C133	A24UNSL3	C194
A12RA4EML0307N	C132	A16REVEML0210I	C53	A20RA4EMR0307M	C133	A24UNSR3	C194
A12RA4EML0407N	C132	A16REVEML0310I	C53	A20RA4EMR0407M	C133	A25RA4EML0210M	C133
A12RA4EMR0207N	C132	A16REVEML0410I	C53	A20RA4SAL2S12M021026	C134	A25RA4EML0310M	C133
A12RA4EMR0307N	C132	A16REVEMR0210I	C52	A20RA4SAR2S12M021026	C134	A25RA4EML0410M	C133
A12RA4EMR0407N	C132	A16REVEMR0310I	C52	A20RA4SAR3S14M021026	C134	A25RA4EMR0210M	C133
A12RA4SAR2S12N021026	C134	A16REVEMR0410I	C52	A20SA4EMR0312N	C132	A25RA4EMR0310M	C133
A12SCLPR3D	B217	A16REVSAL0212026030	C56	A20SA4EMR0412N	C132	A25RA4EMR0410M	C133
A12SCTFFPL3	B183, B389	A16REVSAL0312030035	C56	A20SA4EMR0516N	C132	A25RA4SAL2S12M026036	C134
A12SCTFFPR3	B183, B389	A16REV SAR0212026030	C56	A20SA4EMR0616N	C132	A25RA4SAL3S14M026036	C134
A12SCTPLP3	B185, B390	A16REV SAR0312030035	C56	A20SEVEMLO312I	C53	A25RA4SAR2S12M026036	C134
A12SCTPLR3	B185, B390	A16SCFFPR3	B212	A20SEVEMLO412I	C53	A25RA4SAR3S14M026036	C134
A12SNFR2	C191, D35	A16SCLPL3	B213	A20SEVEMR0312I	C52	A25REVEML0210M	C55
A12SNKLCLO5	E44	A16SCLPL3AP5	B216	A20SEVEMR0412I	C52	A25REVEML0310M	C55
A12SNKLCRO5	E44	A16SCLPR3AP5	B216	A20SEVSAL0312033042	C56	A25REVEML0410M	C55
A12SNKQCL05	E46	A16STFCL3	B261	A20SEVSAR0312033042	C56	A25REVEMR0210M	C54
A12SNKQCR05	E46	A16STFCR3	B261	A20UCTFFPR3	B183, B389	A25REVEMR0310M	C54
A12SSCFCL3	B196	A16STFFPR3	B271	A20UDCLNL4KC3	B68	A25REVEMR0410M	C54
A12SSCFPR3	B196	A16STLCL3	B262	A20UDDCLNR4KC3	B68	A25REVSAL0212M026030	C57
A12SSCFPL3	B212	A16STLCR3	B262	A20UDDPNR4KC3	B91	A25REVSAL0312M030035	C57
A12SSGFFPR3	B212	A16STLPR3	B274	A20UDDQNL4KC3	B91	A25REV SAR0212M026030	C57
A12SSOCL3	B197	A16SWLPR3	B289	A20UDDQNR4KC3	B91	A25REV SAR0312M030035	C57
A12SSOCLR3	B197	A16TCTFFPR3	B183, B389	A20UDDUNR3KC3	B92	A25RNNTOL2	C192
A12SSSCLPL3	B213	A16TDCFN4KC3	B67	A20UDDUNR4KC3	B92	A25RNNTOL3	C192
A12SSSCLPL3AP5	B216	A16TDCLNL4KC3	B68	A20UDSKNL3KC2	B113	A25RNNTOR2	C192
A12SSSCLPR3	B213	A16TDCLNR3KC2	B68	A20UDVUNR3KC3	B154	A25RNNTOR3	C192
A12SSSCLPR3AP5	B216	A16TDCLNR4KC3	B68	A20UMCLNL4	B71	A27325VSPRW4	B285
A12SSDUCL3	B230	A16TDDUNL3KC3	B92	A20UMCLNR4	B71	A28MDUNL4	B93
A12SSDUCR3	B230	A16TDDUNR3KC3	B92	A20UMDQNR4	B93	A28MDUNR4	B93
A12SSDUPR3	B234	A16TDTFNR3KC3	B138	A20UMDUNL4	B93	A28MTFNR3	B139
A12SSDUPR3	B234	A16TMCFN4	B69	A20UMDUNR4	B93	A28MTFNR4	B139
A12SSDXCR3	B230	A16TMCLNL4	B71	A20UMTFNR3	B139	A28NEL3	C191, D35
A12SSDXPR3	B235	A16TMCLNR4	B71	A20UMVUNL3	B154	A28NEL4	C191, D35
A12SSTFCL3	B261	A16TMDUNL3	B93	A20UMVUNR3	B154	A28NER3	C191, D35
A12SSTFPR3	B261	A16TMDUNR3	B93	A20UNSR3	C194	A28NER4	C191, D35
A12SSTFPL3	B271	A16TNE2	C191, D35	A24CCLNL4MX5	B391	A28UDCLNL4KC3	B68
A12SSTFPR3	B271	A16TNER2	C191, D35	A24CCLNR4MX5	B391	A28UDCLNR4KC3	B68
A12SSTLCL3	B262	A16TNKLCLO5	E44	A24CCLPR4	B165, B389	A28UMCLNL4	B71
A12SSTLCR3	B262	A16TNSL3	C194	A24CTFPL4	B183, B389	A28UMCLNR4	B71
A12SSTLPL3	B274	A16TNSR3	C194	A24CTFPR3	B183, B389	A2906XSCLDR1205	B203
A12SSTLPR3	B274	A16TSCFCR3	B196	A24CTFPR4	B183, B389	A2906XSCLDR121	B203
A12SSVMBR3E	B284	A16TSCCL3	B197	A24MCFN4	B69	A2908XSCLDR121	B203
A12SSVQBL2	B284	A16TSCLCR3	B197	A24MCFNR4	B69	A3206XSCLDR1205	B203
A12SSVQBR2	B284	A16TSCLP3	B213	A24MCKNL4	B70	A3206XSCLDR121	B203
A12SSVUBL2	B285	A16TSDUCL3	B230	A24MCLNL5	B71	A3208XSCLDR121	B203
A12SSVUBR2	B285	A16TSDUCR3	B230	A24MCLNR4D	B69	A32CCLNL4MX5	B391
A12SSWLP3	B289	A16TSDUPL3	B234	A24MCLNR5	B71	A32CCLNR4MX5	B391
A12SSWLP3	B289	A16TSDUPR3	B234	A24MDPNL4	B92	A32CRGNR4MN5	B391
A16CCLPR4	B165, B389	A16TSDXCL3	B230	A24MDPNR4	B92	A32CTFPR4	B183, B389
A16CRGNL3	B388	A16TSDXCR3	B230	A24MDQNL4	B93	A32MCKNR4	B70
A16CRGNR3	B388	A16TSDXPL3	B235	A24NEL3	C191, D35	A32MCLNL5	B71
A16CTLPL3	B185, B390	A16TSDXPR3	B235	A24NER3	C191, D35	A32MCLNR4D	B69
A16CTLPR3	B185, B390	A16TSMVBR3E	B284	A24NKLRO5	E44	A32MCLNR5	B71
A16MCFNR4	B69	A16TSVQBL3	B284	A24NVLCR3	E47	A32MCLNR5D	B69
A16MCLNL3	B71	A16TSVQBR3	B284	A24TA4EML0516N	C132	A32MTFNR4	B139
A16MCLNR3	B71	A16TSVUBL3	B285	A24TA4EML0616N	C132	A32MVUNL4	B154
A16MCLNR4D	B69	A16TSVUBR3	B285	A24TA4EMR0416N	C132	A32MVUNR4	B154
A16MEVEMLO207M	C55	A20MCFNR4	B69	A24TA4EMR0516N	C132	A32NEL3	C191, D35
A16MEVEMLO307M	C55	A20MCKNL4	B70	A24TA4EMR0616N	C132	A32NEL4	C191, D35
A16MEVEML1F07M	C55	A20MCKNR4	B70	A24TEVSAL0312041050	C56	A32NEL5	C191, D35
A16MEVEMR0207M	C54	A20MCLNR4D	B69	A24TEVSAR0312041050	C56	A32NEL6	C191, D35
A16MEVEMR0307M	C54	A20MDPNL4	B92	A24UDCFNR4KC3	B67	A32NER3	C191, D35
A16MEVEMR1F07M	C54	A20MDPNR4	B92	A24UDCLNL4KC3	B68	A32NER4	C191, D35
A16MNNNTOL2	C192	A20MDQNL4	B93	A24UDCLNR4KC3	B68	A32NER6	C191, D35

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
A32NVLCR3	E47	A4C0305L06CF02 KCU25	C113	A4G0300M3SP04GUP KCU25	C108	A4G0405M04U04GUP KCP25	C102
A32SA4EML0312M	C133	A4C0305L10CF02 KCU25	C113	A4G0305M03U02B KC5025	C108	A4G0405M04U04GUP KCU10	C102
A32SA4EML0412M	C133	A4C0305N00CF02 KC5025	C112	A4G0305M03U02B KCK20	C108	A4G0405M04U04GUP KCU25	C102
A32SA4EML0516M	C133	A4C0305N00CF02 KCU25	C112	A4G0305M03U02B KCU25	C108	A4G0405M04U08GMN KC5010	C106
A32SA4EMR0312M	C133	A4C0305R06CF02 KC5025	C113	A4G0305M03U02GMN KC5010	C106	A4G0405M04U08GMN KC5025	C106
A32SA4EMR0412M	C133	A4C0305R06CF02 KCU25	C113	A4G0305M03U02GMN KC5025	C106	A4G0405M04U08GMN KCP10	C106
A32SA4EMR0516M	C133	A4C0305R10CF02 KC5025	C113	A4G0305M03U02GMN KCP10	C106	A4G0405M04U08GMN KCP25	C106
A32SEVEML0312M	C55	A4C0305R10CF02 KCU25	C113	A4G0305M03U02GMN KCP25	C106	A4G0405M04U08GMN KCU10	C106
A32SEVEML0412M	C55	A4C0405L06CF02 KCU25	C113	A4G0305M03U02GMN KCU10	C106	A4G0405M04U08GMN KCU25	C106
A32SEVEMR0312M	C54	A4C0405L10CF02 KCU25	C113	A4G0305M03U02GMN KCU25	C106	A4G0405M04U08GMN KC5010	C105
A32SEVEMR0412M	C54	A4C0405N00CF02 KC5025	C112	A4G0305M03U02GMP KC5010	C105	A4G0405M04U08GMP KC5025	C105
A32SEVSAL0312M033042	C57	A4C0405N00CF02 KCU25	C112	A4G0305M03U02GMP KC5025	C105	A4G0405M04U08GMP KCU25	C105
A32SEVSAR0312M033042	C57	A4C0405R06CF02 KCU25	C113	A4G0305M03U02GMP KCU10	C105	A4G0405M04U08GMP KT315	C105
A32SNTOL3	C192	A4C0405R10CF02 KC5025	C113	A4G0305M03U02GMP KCU25	C105	A4G0405M04U08GUP KCP10	C102
A32SNTOR3	C192	A4C0405R10CF02 KCU25	C113	A4G0305M03U02GMP KT315	C105	A4G0405M04U08GUP KCP25	C102
A32TA4EMR0616N	C132	A4ENN120305	C130	A4G0305M03U02GMP KCP10	C102	A4G0405M04U08GUP KCU10	C102
A32VDCKNL4KC3	B67	A4ENN120407	C130	A4G0305M03U02GUP KCP25	C102	A4G0405M04U08GUP KCU25	C102
A32VDCKNL5KC4	B67	A4ENN160305	C130	A4G0305M03U02GUP KCU10	C102	A4G0405M4SU04GMN KCU10	C109
A32VDCKNL4KC3	B68	A4ENN160407	C130	A4G0305M03U02GUP KCU25	C102	A4G0405M4SU04GMN KCU25	C109
A32VDCKNL6KC4	B68	A4ENN160509	C130	A4G0305M03U04GMN KC5010	C106	A4G0405M4SU04GUP KCU10	C109
A32VDCLNR4KC3	B68	A4ENN160611	C130	A4G0305M03U04GMN KC5025	C106	A4G0405M4SU04GUP KCU25	C109
A32VDCLNR5KC4	B68	A4ENN160811	C130	A4G0305M03U04GMN KCU10	C106	A4G0405M4SU04GMN KCU25	C109
A32VDDUNR4KC3	B92	A4ENN200611	C130	A4G0305M03U04GMN KCP25	C106	A4G0500M05P04GMP K313	C105
A32VMCLNL4	B71	A4ENN2020K0305	C131	A4G0305M03U04GMN KCU10	C106	A4G0500M05P04GMP KC5010	C105
A32VMCLNL6	B71	A4ENN2020K0407	C131	A4G0305M03U04GMN KCU25	C106	A4G0500M05P04GMP KC5025	C105
A32VMCLNR4	B71	A4ENN2020K0611	C131	A4G0305M03U04GMP KC5010	C105	A4G0500M05P04GMP KCU10	C105
A32VMCLNR6	B71	A4ENN2525M0305	C131	A4G0305M03U04GMP KC5025	C105	A4G0500M05P04GMP KCU25	C105
A32VMDUNL4	B93	A4ENN2525M0407	C131	A4G0305M03U04GMP KCU10	C105	A4G0500M05P04GUP KCU10	C103
A32VMDUNR4	B93	A4ENN2525M0509	C131	A4G0305M03U04GMP KCU25	C105	A4G0500M05P04GUP KCU25	C103
A32VNSL3	C194	A4ENN2525M0611	C131	A4G0305M03U04GMP KT315	C105	A4G0500M05P08E KD1405	B370, C110
A32VNSR3	C194	A4ENN3232P0611	C131	A4G0305M03U04GUP KCP10	C102	A4G0500M05P08EST KB1630	C111
A40MCLNL4	B71	A4G0200M02P02GMP KC5010	C105	A4G0305M03U04GUP KCP25	C102	A4G0500M05P08GMP K313	C105
A40MSKNR6	B114	A4G0200M02P02GMP KC5025	C105	A4G0305M03U04GUP KCU10	C102	A4G0500M05P08GMP KC5010	C105
A40MVUNL4	B154	A4G0200M02P02GMP KCU10	C105	A4G0305M03U04GUP KCU25	C102	A4G0500M05P08GMP KC5025	C105
A40MVUNR4	B154	A4G0200M02P02GMP KCU25	C105	A4G0305M3SU02GMN KCU25	C109	A4G0500M05P08GMP KCU10	C105
A40NEL3	C191, D35	A4G0200M02P02GUP KCU10	C103	A4G0305M3SU02GUP KCU10	C109	A4G0500M05P08GUP KCU10	C103
A40NER3	C191, D35	A4G0200M02P02GUP KCU25	C103	A4G0305M3SU02GUP KCU25	C109	A4G0500M05P08GUP KCU25	C103
A40NER4	C191, D35	A4G0200M2SP02GUP KCU10	C108	A4G0305M3SU04GMN KCU10	C109	A4G0500M05P08S02025ST KB5625	C111
A40TA4EML0416M	C133	A4G0200M2SP02GUP KCU25	C108	A4G0305M3SU04GMN KCU25	C109	A4G0500M05P08T01025 KY3500	B321, C110
A40TA4EML0516M	C133	A4G0205M02U02GMN KC5010	C106	A4G0305M3SU04GUP KCU10	C109	A4G0500M5SP04GUP KCU25	C108
A40TA4EML0616M	C133	A4G0205M02U02GMN KC5025	C106	A4G0305M3SU04GUP KCU25	C109	A4G0500M5SP08GUP KCU10	C108
A40TA4EMR0416M	C133	A4G0205M02U02GMN KCP10	C106	A4G0400M04P02GMP K313	C105	A4G0505M05U04B KCK20	C108
A40TA4EMR0516M	C133	A4G0205M02U02GMN KCU10	C106	A4G0400M04P02GMP KC5010	C105	A4G0505M05U04B KCU25	C108
A40TA4EMR0616M	C133	A4G0205M02U02GMN KCU25	C106	A4G0400M04P02GMP KC5025	C105	A4G0505M05U04GMN KC5010	C106
A40TEVSAL0312M041050	C57	A4G0205M02U02GMP KC5010	C105	A4G0400M04P02GMP KCU10	C105	A4G0505M05U04GMN KC5025	C106
A40TEVSAR0312M041050	C57	A4G0205M02U02GMP KCU25	C105	A4G0400M04P02GMP KCU25	C105	A4G0505M05U04GMN KCP10	C106
A40TNTOL3	C192	A4G0205M02U02GUP KCP10	C102	A4G0400M04P02GUP KCU10	C103	A4G0505M05U04GMN KCP25	C106
A40TNTOL4	C192	A4G0205M02U02GUP KCP10	C102	A4G0400M04P02GUP KCU25	C103	A4G0505M05U04GMN KCU10	C106
A40TNTOR3	C192	A4G0205M02U02GUP KCP25	C102	A4G0400M04P04E KD1405	B370, C110	A4G0505M05U04GMN KCU25	C106
A40TNTOR4	C192	A4G0205M02U02GUP KCU10	C102	A4G0400M04P04GMP K313	C105	A4G0505M05U04GMP KC5010	C105
A40VDCLNL4KC3	B68	A4G0205M02U02GUP KCU25	C102	A4G0400M04P04GMP KCU25	C105	A4G0505M05U04GMP KCU25	C105
A40VDCLNL6KC4	B68	A4G0205M2SU02GMN KCU10	C109	A4G0400M04P04GMP KC5010	C105	A4G0505M05U04GMP KCP10	C105
A40VDCLNR4KC3	B68	A4G0205M2SU02GMN KCU25	C109	A4G0400M04P04GMP KCU10	C105	A4G0505M05U04GMP KCU10	C105
A40VDCLNR6KC4	B68	A4G0205M2SU02GUP KCU10	C109	A4G0400M04P04GMP KCU25	C105	A4G0505M05U04GMP KCU25	C105
A40VMCLNL5	B71	A4G0205M2SU02GUP KCU25	C109	A4G0400M04P04GUP KCU10	C103	A4G0505M05U04GUP KCP10	C102
A40VMCLNR4	B71	A4G0250M2BP02GMP KC5010	C105	A4G0400M04P04GUP KCU25	C103	A4G0505M05U04GUP KCP25	C102
A40VMCLNR5	B71	A4G0250M2BP02GMP KCU10	C105	A4G0400M04P04S02025ST KB1630	C111	A4G0505M05U04GUP KCU10	C102
A40VMCLNR6	B71	A4G0255M2BU02GMN KC5025	C106	A4G0400M04P04S02025ST KB5625	C111	A4G0505M05U04GUP KCU25	C102
A40VNSR3	C194	A4G0255M2BU02GMP KC5025	C105	A4G0400M04P04T01025 KY3500	B321, C110	A4G0505M05U08GMN KC5010	C106
A4BHCL26K0317R	C135-136	A4G0255M2BU02GMP KCU25	C105	A4G0400M04P08GMP KC5010	C105	A4G0505M05U08GMN KC5025	C106
A4BHCL32K0217L	C135-136	A4G0300M03P02GMP K313	C105	A4G0400M04P08GMP KC5025	C105	A4G0505M05U08GMN KCP10	C106
A4BHCL32K0317L	C135-136	A4G0300M03P02GMP KCU10	C105	A4G0400M04P08GMP KCU10	C105	A4G0505M05U08GMN KCP25	C106
A4BHCL32K0317R	C135-136	A4G0300M03P02GMP KC5025	C105	A4G0400M04P08GMP KCU25	C105	A4G0505M05U08GMN KCU10	C106
A4BHR26K0317L	C135-136	A4G0300M03P02GMP KCU10	C105	A4G0400M04P08GUP KCU10	C103	A4G0505M05U08GMN KCU25	C106
A4BHR32K0217R	C135-136	A4G0300M03P02GMP KCU25	C105	A4G0400M04P08GUP KCU25	C103	A4G0505M05U08GMP KC5010	C105
A4C0155L06CF01 KC5025	C113	A4G0300M03P02GUP KCU10	C103	A4G0400M04SP04GUP KCU10	C108	A4G0505M05U08GMP KC5025	C105
A4C0155N00CF01 KC5025	C112	A4G0300M03P02GUP KCU25	C103	A4G0400M4SP08GUP KCU10	C108	A4G0505M05U08GMP KCP10	C105
A4C0155N00CF01 KCU25	C112	A4G0300M03P04E KD1405	B370, C110	A4G0405M04U04B KCK20	C108	A4G0505M05U08GMP KCU25	C105
A4C0155R06CF01 KC5025	C113	A4G0300M03P04EST KB1630	C111	A4G0405M04U04B KCU25	C108	A4G0505M05U08GUP KCP10	C102
A4C0155R10CF01 KCU25	C113	A4G0300M03P04GMP K313	C105	A4G0405M04U04GMN KC5010	C106	A4G0505M05U08GUP KCP25	C102
A4C0155R16CF01 KC5025	C113	A4G0300M03P04GMP KC5010	C105	A4G0405M04U04GMN KC5025	C106	A4G0505M05U08GUP KCU10	C102
A4C0205L06CF02 KCU25	C113	A4G0300M03P04GMP KC5025	C105	A4G0405M04U04GMN KCP25	C106	A4G0505M05U08GUP KCU25	C102
A4C0205L10CF02 KC5025	C113	A4G0300M03P04GMP KCU10	C105	A4G0405M04U04GMN KCU10	C106	A4G0505M5SU04GMN KCU10	C109
A4C0205N00CF02 KC5025	C112	A4G0300M03P04GMP KCU25	C105	A4G0405M04U04GMN KCU25	C106	A4G0505M5SU04GMN KCU25	C109
A4C0205N00CF02 KCU25	C112	A4G0300M03P04GUP KCU10	C103	A4G0405M04U04GMN KCU5010	C105	A4G0505M5SU04GUP KCU10	C109
A4C0205R06CF02 KC5025	C113	A4G0300M03P04GUP KCU25	C103	A4G0405M04U04GMP KC5025	C105	A4G0505M5SU04GUP KCU25	C109
A4C0205R06CF02 KCU25	C113	A4G0300M03P04S02025ST KB1630	C111	A4G0405M04U04GMP KCP10	C105	A4G0505M5SU08GUP KCU25	C109
A4C0205R10CF02 KCU25	C113	A4G0300M03P04S02025ST KB5625	C111	A4G0405M04U04GMP KCP25	C105	A4G0600M06P04GMP KC5010	C105
A4C0255N00CF02 KC5025	C112	A4G0300M03P04T01025 KY3500	B321, C110	A4G0405M04U04GMP KCU10	C105	A4G0600M06P04GMP KCU10	C105
A4C0255N00CF02 KCU25	C112	A4G0300M3SP02GUP KCU10	C108	A4G0405M04U04GMP KCU25	C105	A4G0600M06P04GMP KCU25	C105
A4C0255R06CF02 KC5025	C113	A4G0300M3SP02GUP KCU25	C108	A4G0405M04U04GMP KT315	C105	A4G0600M06P04GUP KCU10	C103
A4C0305L06CF02 KC5025	C113	A4G0300M3SP04GUP KCU10	C108	A4G0405M04U04GUP KCP10	C102	A4G0600M06P04GUP KCU25	C103

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
A4G0600M06P08EST KB1630	C111	A4G1005M10U08GMN KCP25	C106	A4M50L0519A080136	C140	A4M65L0624A200-999	C140
A4G0600M06P08GMP KC5010	C105	A4G1005M10U08GMN KCU25	C106	A4M50L0519A120300	C140	A4M65L0624B070-112	C142
A4G0600M06P08GMP KC5025	C105	A4G1005M10U08GMP KCU10	C105	A4M50L0519A250999	C140	A4M65L0624B100-212	C142
A4G0600M06P08GMP KCU10	C105	A4G1005M10U08GMP KCU25	C105	A4M50L0519B058094	C142	A4M65L0624B200-999	C142
A4G0600M06P08GMP KCU25	C105	A4G1005M10U08GUP KCP10	C102	A4M50L0519B080136	C142	A4M65L0626M	C138
A4G0600M06P08GUP KCU10	C103	A4G1005M10U08GUP KCU10	C102	A4M50L0519B120300	C142	A4M65L0626MC	C137
A4G0600M06P08GUP KCU25	C103	A4G1005M10U08GUP KCU25	C102	A4M50L0519B250999	C142	A4M65L0820M	C138
A4G0600M06P08S02025ST KB5625	C111	A4G1005M10U12GMN KC5025	C106	A4M50L0519M	C138	A4M65L0820MC	C137
A4G0600M06P08T01025 KY3500	B321, C110	A4G1005M10U12GMN KCP25	C106	A4M50L0519MC	C137	A4M65L0824B090-200	C142
A4G0605M06U04B KCK20	C108	A4G1005M10U12GUP KCP25	C102	A4M50L2B14M	C138	A4M65L0824B184-999	C142
A4G0605M06U04B KCU25	C108	A4G1005M10U12GUP KCU25	C102	A4M50L2S12B016020	C142	A4M65L0826M	C138
A4G0605M06U04GMN KC5010	C106	A4G125I03P05GMN KC5010	C107	A4M50L2S12B020025	C142	A4M65L0826MC	C137
A4G0605M06U04GMN KC5025	C106	A4G125I03P05GMN KC5025	C107	A4M50L2S12B025036	C142	A4M65L1020M	C138
A4G0605M06U04GMN KCP10	C106	A4G125I03P05GMN KCU10	C107	A4M50L3S14B020025	C142	A4M65L1020MC	C137
A4G0605M06U04GMN KCP25	C106	A4G125I03P05GMN KCU25	C107	A4M50L3S14B025036	C142	A4M65L1024A200-999	C140
A4G0605M06U04GMN KCU10	C106	A4G125I03P05GUP KCU25	C103	A4M50L4S14B035048	C142	A4M65L1024B200-999	C142
A4G0605M06U04GMN KCU25	C106	A4G125I03P16GMN KC5010	C107	A4M50L5S17B028038	C142	A4M65L1026M	C138
A4G0605M06U04GMP KC5010	C105	A4G125I03P16GMN KC5025	C107	A4M50R0212A036046	C139	A4M65L1026MC	C137
A4G0605M06U04GMP KC5025	C105	A4G125I03P16GMN KCU10	C107	A4M50R0212A042054	C139	A4M65R0522MC	C137
A4G0605M06U04GMP KCP10	C105	A4G125I03P16GMN KCU25	C107	A4M50R0212A050064	C139	A4M65R0620M	C138
A4G0605M06U04GUP KCP10	C102	A4G125I03P1GUP KCU25	C103	A4M50R0212A060084	C139	A4M65R0620MC	C137
A4G0605M06U04GUP KCP25	C102	A4G125I03P1T0425 KY3500	B321, C110	A4M50R0212A080124	C139	A4M65R0624A070-112	C139
A4G0605M06U04GUP KCU10	C102	A4G187I04P1GMN KC5010	C107	A4M50R0212A120254	C139	A4M65R0624A100-212	C139
A4G0605M06U04GUP KCU25	C102	A4G187I04P1GMN KCU10	C107	A4M50R0212A250999	C139	A4M65R0624A200-999	C139
A4G0605M06U08GMN KC5010	C106	A4G187I04P1GMN KCU25	C107	A4M50R0212B036046	C141	A4M65R0624B070-112	C141
A4G0605M06U08GMN KC5025	C106	A4G187I04P1GUP KCU25	C103	A4M50R0212B042054	C141	A4M65R0624B100-212	C141
A4G0605M06U08GMN KCP10	C106	A4G187I04P2GMN KC5010	C107	A4M50R0212B050064	C141	A4M65R0624B200-999	C141
A4G0605M06U08GMN KCP25	C106	A4G187I04P2GMN KC5025	C107	A4M50R0212B060084	C141	A4M65R0626M	C138
A4G0605M06U08GMN KCU10	C106	A4G187I04P2GMN KCU10	C107	A4M50R0212B080124	C141	A4M65R0626MC	C137
A4G0605M06U08GMN KCU25	C106	A4G25I0I06P1GMN KCU25	C107	A4M50R0212B120254	C141	A4M65R0820MC	C137
A4G0605M06U08GMN KT315	C106	A4G25I0I06P1GMN KC5010	C107	A4M50R0212B250999	C141	A4M65R0824A090-200	C139
A4G0605M06U08GMP KC5010	C105	A4G25I0I06P1GMN KCU10	C107	A4M50R0214M	C138	A4M65R0824A184-999	C139
A4G0605M06U08GMP KC5025	C105	A4G25I0I06P1GUP KCU25	C103	A4M50R0314A036048	C139	A4M65R0824B090-200	C141
A4G0605M06U08GUP KCP10	C102	A4G25I0I06P1GUP KCU25	C103	A4M50R0314A042058	C139	A4M65R0824B184-999	C141
A4G0605M06U08GUP KCP25	C102	A4G25I0I06P2GMN KC5010	C107	A4M50R0314A052074	C139	A4M65R0826M	C138
A4G0605M06U08GUP KCU10	C102	A4G25I0I06P2GMN KCU10	C107	A4M50R0314A068100	C139	A4M65R0826MC	C137
A4G0605M06U08GUP KCU25	C102	A4G25I0I06P2GMN KCU25	C103	A4M50R0314A090160	C139	A4M65R1020M	C137
A4G0605M06U12GMN KC5010	C106	A4G25I0I06P2GUP KCU25	C103	A4M50R0314A130300	C139	A4M65R1024A200-999	C139
A4G0605M06U12GMN KC5025	C106	A4G25I0I06P2T0425 KY3500	B321, C110	A4M50R0314A290999	C139	A4M65R1024B100-220	C141
A4G0605M06U12GMN KCP25	C106	A4G312I08P1GMN KC5010	C107	A4M50R0314B036048	C141	A4M65R1024B200-999	C141
A4G0605M06U12GUP KCP10	C102	A4G312I08P1GMN KCU25	C107	A4M50R0314B042058	C141	A4M65R1026M	C138
A4G0605M06U12GUP KCP25	C102	A4G312I08P1GUP KCU25	C103	A4M50R0314B052074	C141	A4M65R1026MC	C137
A4G0605M06U12GUP KCU10	C102	A4G375H0P1GMN KC5010	C107	A4M50R0314B068100	C141	A4R0200M02P00GMP KC5010	C106
A4G0605M06U12GUP KCU25	C102	A4G375H0P1GUP KCU25	C103	A4M50R0314B090160	C141	A4R0200M02P00GMP KC5025	C106
A4G0800M08P08GMP KC5010	C105	A4G375H0P2GMN KC5010	C107	A4M50R0314B130300	C141	A4R0200M02P00GMP KCU10	C105
A4G0800M08P08GMP KCU25	C105	A4G375H0P2GMN KCU10	C107	A4M50R0314B290999	C141	A4R0200M02P00GMP KCU25	C106
A4G0800M08P08GUP KCU10	C103	A4M50L0212A060084	C140	A4M50R0314M	C138	A4R0200M02SP00GMP KCU25	C109
A4G0800M08P08GUP KCU25	C103	A4M50L0212A120254	C140	A4M50R0314MC	C137	A4R0205M02U00GMN KC5010	C107
A4G0800M08P08T01025 KY3500	B321, C110	A4M50L0212A250999	C140	A4M50R0414A08072	C139	A4R0205M02U00GMN KC5025	C107
A4G0800M08P12GMP KCU10	C105	A4M50L0212B036046	C142	A4M50R0414A064100	C139	A4R0205M02U00GMN KCP10	C107
A4G0800M08P12GUP KCU10	C103	A4M50L0212B042054	C142	A4M50R0414A092150	C139	A4R0205M02U00GMN KCU25	C107
A4G0800M08P12GUP KCU25	C103	A4M50L0212B050064	C142	A4M50R0414A132300	C139	A4R0300M03P00EST KB1630	B355, C112
A4G0805M08U08B KCK20	C108	A4M50L0212B060084	C142	A4M50R0414A290999	C139	A4R0300M03P00GMP K313	C106
A4G0805M08U08GMN KC5010	C106	A4M50L0212B080124	C142	A4M50R0414B048072	C141	A4R0300M03P00GMP KCU10	C106
A4G0805M08U08GMN KCP10	C106	A4M50L0212B120254	C142	A4M50R0414B064100	C141	A4R0300M03P00GMP KC5025	C106
A4G0805M08U08GMN KCP25	C106	A4M50L0214M	C138	A4M50R0414B092150	C141	A4R0300M03P00GMP KCU10	C106
A4G0805M08U08GMN KCU10	C106	A4M50L0314A036048	C140	A4M50R0414B132300	C141	A4R0300M03P00GMP KCU25	C106
A4G0805M08U08GMN KCU25	C106	A4M50L0314A068100	C140	A4M50R0414B290999	C141	A4R0300M03P00GUP KCU10	C104
A4G0805M08U08GMP KC5025	C105	A4M50L0314A090160	C140	A4M50R0414M	C138	A4R0300M03P00GUP KCU25	C104
A4G0805M08U08GMP KCU25	C105	A4M50L0314A130300	C140	A4M50R0414MC	C137	A4R0300M03P00T01025 KY3500	B321, C110
A4G0805M08U08GUP KCP10	C102	A4M50L0314A290999	C140	A4M50R0519A058094	C139	A4R0300M3SP00GMP KCU25	C109
A4G0805M08U08GUP KCP25	C102	A4M50L0314B036048	C142	A4M50R0519A080136	C139	A4R0305M03U00GMN KC5010	C107
A4G0805M08U08GUP KCU10	C102	A4M50L0314B042058	C142	A4M50R0519A120300	C139	A4R0305M03U00GMN KC5025	C107
A4G0805M08U08GUP KCU25	C102	A4M50L0314B052074	C142	A4M50R0519A250999	C139	A4R0305M03U00GMN KCP10	C107
A4G0805M08U12GMN KC5010	C106	A4M50L0314B068100	C142	A4M50R0519B058094	C141	A4R0305M03U00GMN KCP25	C107
A4G0805M08U12GMN KCP10	C106	A4M50L0314B090160	C142	A4M50R0519B080136	C141	A4R0305M03U00GMN KCU10	C107
A4G0805M08U12GMN KCP25	C106	A4M50L0314B130300	C142	A4M50R0519B120300	C141	A4R0305M03U00GMN KCU25	C107
A4G0805M08U12GMN KCU25	C106	A4M50L0314B290999	C142	A4M50R0519B250999	C141	A4R0305M03U00GUP KCU10	C104
A4G0805M08U12GUP KCP10	C102	A4M50L0314M	C138	A4M50R0519M	C138	A4R0305M03U00GUP KCU25	C104
A4G0805M08U12GUP KCP25	C102	A4M50L0314MC	C137	A4M50R0519MC	C137	A4R0400M04P00EST KB1630	B355, C112
A4G0805M08U12GUP KCU10	C102	A4M50L0414A064100	C140	A4M50R2S12B016020	C141	A4R0400M04P00GMP K313	C106
A4G0805M08U12GUP KCU25	C102	A4M50L0414A092150	C140	A4M50R2S12B020025	C141	A4R0400M04P00GMP KC5010	C106
A4G094I2BP05GMN KC5010	C107	A4M50L0414A132300	C140	A4M50R2S12B025036	C141	A4R0400M04P00GMP KC5025	C106
A4G094I2BP05GMN KCU10	C107	A4M50L0414A290999	C140	A4M50R3S14B020025	C141	A4R0400M04P00GMP KCU10	C106
A4G094I2BP05GUP KCU25	C103	A4M50L0414B048072	C142	A4M50R3S14B025036	C141	A4R0400M04P00GMP KCU25	C106
A4G1000M10P08GUP KCU10	C103	A4M50L0414B064100	C142	A4M50R4S14B025035	C141	A4R0400M04P00GUP KCU25	C104
A4G1000M10P08GUP KCU25	C103	A4M50L0414B092150	C142	A4M50R5S17B028038	C141	A4R0405M04U00GMN KC5010	C107
A4G1000M10P12GUP KCU10	C103	A4M50L0414B132300	C142	A4M65L0522MC	C137	A4R0405M04U00GMN KCP25	C107
A4G1000M10P12GUP KCU25	C103	A4M50L0414B290999	C142	A4M65L0620M	C138	A4R0405M04U00GMN KCP10	C107
A4G1005M10U08B KCK20	C108	A4M50L0414M	C138	A4M65L0620MC	C137	A4R0405M04U00GMN KCU25	C107
A4G1005M10U08GMN KC5025	C106	A4M50L0414MC	C137	A4M65L0624A070-112	C140	A4R0405M04U00GMN KCU10	C107
A4G1005M10U08GMN KCP10	C106	A4M50L0519A058094	C140	A4M65L0624A100-212	C140	A4R0405M04U00GMN KCU25	C107

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
A4R0405M04U00GUP KCU25	C102	A4SBR123S14020025	C129	A4SML3225P0417	C125	A7792VXP06SA1.25Z5R2 S	V4, V6
A4R0500M05P00E KD1405	B370, C111	A4SBR123S14025036	C129	A4SML3225P0522	C125	AADE0125J3D K600	P128
A4R0500M05P00EEST KB1630	B355, C112	A4SBR165S19038058	C129	A4SML3225P0626	C125	AADE0125J3E K600	P128
A4R0500M05P00GMP K313	C106	A4SBR2020K2S12016020	C129	A4SML3225P0826	C125	AADE0188J3C K600	P128
A4R0500M05P00GMP KC5010	C106	A4SBR2020K2S12020025	C129	A4SML3225P1026	C125	AADE0188J3D K600	P128
A4R0500M05P00GMP KC5025	C106	A4SBR2020K2S12025036	C129	A4SMR100214	C122	AADE0188J3E K600	P128
A4R0500M05P00GMP KCU10	C106	A4SBR2020K3S14020025	C129	A4SMR100314	C122	AADE0250J3A K600	P128
A4R0500M05P00GMP KCU25	C106	A4SBR2020K3S14025036	C129	A4SMR100414	C122	AADE0250J3AFB K600	P128
A4R0500M05P00GUP KCU25	C104	A4SBR2020K4S14035048	C129	A4SMR120214	C122	AADE0250J3B K600	P128
A4R0500M05P00T01025 KY3500	B321, C110	A4SBR2525M5S19028038	C129	A4SMR120217	C122	AADE0250J3BRA K600	P128
A4R0500M5SP00GMP KCU25	C109	A4SBR2525M5S19038058	C129	A4SMR120308	C126	AADE0250J3BRB K600	P128
A4R0505M05U00GMN KC5010	C107	A4SCL080113	C127	A4SMR120314	C122	AADE0250J3C K600	P128
A4R0505M05U00GMN KC5025	C107	A4SCL080214	C127	A4SMR120414	C122	AADE0250J3CRA K600	P128
A4R0505M05U00GMN KCP10	C107	A4SCL080314	C127	A4SMR120519	C122	AADE0250J3CRB K600	P128
A4R0505M05U00GMN KCP25	C107	A4SCL100113	C127	A4SMR120620	C122	AADE0250J3D K600	P128
A4R0505M05U00GMN KCU10	C107	A4SCL100217	C127	A4SMR160217	C122	AADE0250J3E K600	P128
A4R0505M05U00GMN KCU25	C107	A4SCL100317	C127	A4SMR160317	C122	AADE0250J3F K600	P128
A4R0505M05U00GUP KCU10	C104	A4SCL120113	C127	A4SMR160417	C122	AADE0250J3FRA K600	P128
A4R0505M05U00GUP KCU25	C104	A4SCL1212K0113	C128	A4SMR160510	C126	AADE0250J3G K600	P128
A4R0600M06P00EEST KB1630	B355, C112	A4SCL1212K0214	C128	A4SMR160520	C122	AADE0312J3A K600	P128
A4R0600M06P00GMP KC5010	C106	A4SCL1616K0113	C128	A4SMR160620	C122	AADE0312J3B K600	P128
A4R0600M06P00GMP KC5025	C106	A4SCL1616K0217	C128	A4SMR160624	C122	AADE0312J3D K600	P128
A4R0600M06P00GMP KCU10	C106	A4SCL1616K0317	C128	A4SMR160820	C122	AADE0312J3DRB K600	P128
A4R0600M06P00GMP KCU25	C106	A4SCL2020K0113	C128	A4SMR160824	C122	AADE0375J3A K600	P128
A4R0600M06P00GUP KCU10	C104	A4SCR060113	C127	A4SMR1616K0214	C124	AADE0375J3B K600	P129
A4R0600M06P00GUP KCU25	C104	A4SCR080113	C127	A4SMR1616K0314	C124	AADE0375J3BRB K600	P128
A4R0600M06P00T01025 KY3500	B321, C110	A4SCR080214	C127	A4SMR200417	C122	AADE0375J3C K600	P129
A4R0605M06U00GMN KC5010	C107	A4SCR080314	C127	A4SMR200522	C122	AADE0375J3CRB K600	P129
A4R0605M06U00GMN KC5025	C107	A4SCR100113	C127	A4SMR200626	C122	AADE0375J3CRA K600	P129
A4R0605M06U00GMN KCP10	C107	A4SCR100217	C127	A4SMR200826	C122	AADE0375J3CRA K600	P129
A4R0605M06U00GMN KCP25	C107	A4SCR100317	C127	A4SMR201026	C122	AADE0375J3D K600	P129
A4R0605M06U00GMN KCU10	C107	A4SCR1010K0113	C128	A4SMR2016K0317	C124	AADE0375J3DRA K600	P129
A4R0605M06U00GMN KCU25	C107	A4SCR120113	C127	A4SMR2016K0417	C124	AADE0375J3DRB K600	P129
A4R0605M06U00GUP KCU25	C104	A4SCR1212K0113	C128	A4SMR2020K0208	C126	AADE0375J3E K600	P129
A4R0800M08P00GMP KC5010	C106	A4SCR1212K0214	C128	A4SMR2020K0214	C124	AADE0375J3ERA K600	P129
A4R0800M08P00GMP KCU10	C106	A4SCR1212K0314	C128	A4SMR2020K0217	C124	AADE0375J3ERB K600	P129
A4R0800M08P00GMP KCU25	C106	A4SCR1616K0113	C128	A4SMR2020K0308	C126	AADE0375J3ERC K600	P129
A4R0800M08P00GUP KCU25	C104	A4SCR1616K0217	C128	A4SMR2020K0314	C124	AADE0375J3F K600	P128
A4R0800M08P00T01025 KY3500	B321, C110	A4SCR1616K0317	C128	A4SMR2020K0317	C124	AADE0375J3G K600	P128
A4R0805M08U00GMN KC5010	C107	A4SCR2020K0113	C128	A4SMR2020K0408	C126	AADE0375J3H K600	P129
A4R0805M08U00GMN KC5025	C107	A4SML100214	C123	A4SMR2020K0414	C124	AADE0375J3J K600	P129
A4R0805M08U00GMN KCP10	C107	A4SML100314	C123	A4SMR2020K0417	C124	AADE0375J3KRB K600	P129
A4R0805M08U00GMN KCP25	C107	A4SML120217	C123	A4SMR2020K0519	C124	AADE0375J3KRC K600	P129
A4R0805M08U00GMN KCU10	C107	A4SML120314	C123	A4SMR2020K0620	C124	AADE0438J3A K600	P129
A4R0805M08U00GMN KCU25	C107	A4SML120414	C123	A4SMR240626	C122	AADE0500J3A K600	P129
A4R0805M08U00GUP KCU25	C102	A4SML120519	C123	A4SMR240826	C122	AADE0500J3ARB K600	P129
A4R1000M10P00GUP KCU10	C104	A4SML120620	C123	A4SMR2525M0214	C124	AADE0500J3ARC K600	P129
A4R1000M10P00GUP KCU25	C104	A4SML160217	C123	A4SMR2525M0217	C124	AADE0500J3B K600	P129
A4R1005M10U00GMN KCP25	C107	A4SML160317	C123	A4SMR2525M0317	C124	AADE0500J3BRA K600	P129
A4R1005M10U00GMN KCU10	C107	A4SML160417	C123	A4SMR2525M0417	C124	AADE0500J3BRB K600	P129
A4R1005M10U00GMN KCU25	C107	A4SML160520	C123	A4SMR2525M0510	C126	AADE0500J3BRC K600	P129
A4R1005M10U00GUP KCU10	C104	A4SML160620	C123	A4SMR2525M0520	C124	AADE0500J3BRE K600	P129
A4R1005M10U00GUP KCU25	C104	A4SML160624	C123	A4SMR2525M0610	C126	AADE0500J3C K600	P129
A4R125I03P00GMN KC5010	C107	A4SML160824	C123	A4SMR2525M0620	C124	AADE0500J3CRA K600	P129
A4R125I03P00GMN KC5025	C107	A4SML1616K0214	C125	A4SMR2525M0820	C124	AADE0500J3CRB K600	P129
A4R125I03P00GMN KCU10	C107	A4SML1616K0314	C125	A4SMR3225P0417	C124	AADE0500J3CRC K600	P129
A4R125I03P00GMN KCU25	C107	A4SML200417	C123	A4SMR3225P0522	C124	AADE0500J3D K600	P129
A4R125I03P00GUP KCU10	C104	A4SML200522	C123	A4SMR3225P0626	C124	AADE0500J3DRB K600	P129
A4R125I03P00GUP KCU25	C104	A4SML200626	C123	A4SMR3225P0826	C124	AADE0500J3DRC K600	P129
A4R187I04P00GMN KC5010	C107	A4SML201026	C123	A4SMR3225P1026	C124	AADE0500J3E K600	P129
A4R187I04P00GMN KC5025	C107	A4SML2016K0317	C125	A50UNNTOR4	C192	AADE0500J3FRA K600	P129
A4R187I04P00GMN KCU10	C107	A4SML2020K0208	C126	A5505VX05SA.625R1.00	V111	AADE0500J3FRB K600	P129
A4R187I04P00GMN KCU25	C107	A4SML2020K0214	C125	A5505VX06SA.750R1.377	V111	AADE0500J3FRC K600	P129
A4R187I04P00GUP KCU25	C104	A4SML2020K0217	C125	A5505VX08SA1.00R1.575	V111	AADE0500J3G K600	P129
A4R250I06P00GMN KC5010	C107	A4SML2020K0308	C126	A5505VX10SA1.25R1.968	V111	AADE0500J3GBR K600	P129
A4R250I06P00GMN KC5025	C107	A4SML2020K0314	C125	A5720VZ16SA1.00Z2R2	T96	AADE0500J3GRC K600	P129
A4R250I06P00GMN KCU10	C107	A4SML2020K0317	C125	A5720VZ16SA1.25Z0R2	T96	AADE0500J3GRD K600	P129
A4R250I06P00GMN KCU25	C107	A4SML2020K0408	C126	A5720VZ16SA1.25Z3R1	T96	AADE0500J3H K600	P129
A4R250I06P00GUP KCU10	C104	A4SML2020K0414	C125	A7713VR10SA1.25Z4R1.7	V97-98	AADE0500J3K K600	P129
A4R250I06P00GUP KCU25	C104	A4SML2020K0417	C125	A7713VR12SA1.00Z2R1.4	V102-103	AADE0500J3KRB K600	P129
A4R250I06P00T0425 KY3500	B321, C110	A4SML2020K0519	C125	A7713VR12SA1.25Z3R1.7	V102-103	AADE0500J3KRC K600	P129
A4R312I08P00GMN KCU10	C104	A4SML2020K0620	C125	A7713VR12SA1.50Z4R1.7	V102	AADE0500J3KRC K600	P129
A4R312I08P00GUP KCU10	C104	A4SML240626	C123	A7713VR12SA1.50Z5R1.7	V102-103	AADE0500J3LBR K600	P129
A4R375I10P00GMN KC5025	C107	A4SML2525M0214	C125	A7792VXD09SA1.02Z1R1.4 S	V9, V13	AADE0500J3LRC K600	P129
A4SBL122S12016020	C129	A4SML2525M0217	C125	A7792VXD09SA1.25Z3R2 S	V9, V13	AADE0625J3A K600	P129
A4SBL2020K2S12016020	C129	A4SML2525M0317	C125	A7792VXD12SA1.25Z2R2 S	V17, V20	AADE0625J3B K600	P130
A4SBL2020K2S12025036	C129	A4SML2525M0417	C125	A7792VXD12SA1.5Z3R1.7 S	V17, V20	AADE0625J3D K600	P130
A4SBL2020K3S14020025	C129	A4SML2525M0510	C126	A7792VXP06SA.625Z2R1 S	V4, V6	AADE0625J3DRB K600	P129
A4SBL2020K4S14025035	C129	A4SML2525M0520	C125	A7792VXP06SA.75Z2R1.4 S	V4, V6	AADE0625J3DRE K600	P130
A4SBL2525M5S19038058	C129	A4SML2525M0610	C126	A7792VXP06SA.75Z3R1.4 S	V4, V6	AADE0625J3E K600	P130
A4SBR122S12016020	C129	A4SML2525M0620	C125	A7792VXP06SA1.0Z3R1.4 S	V4, V6	AADE0625J3F K600	P130
A4SBR122S12020025	C129	A4SML2525M0820	C125	A7792VXP06SA1.0Z4R1.4 S	V4, V6	AADE0625J3FRE K600	P130

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B224A03734HP KCPK15	G44	B224A13100HP KCPK15	G47	B225A06909HP KCPK15	G45	B225A13200HP KCPK15	G47
B224A03800HP KCPK15	G44	B224A13495HP KCPK15	G47	B225A07000HP KCPK15	G45	B225A13300HP KCPK15	G47
B224A03900HP KCPK15	G44	B224A13500HP KCPK15	G47	B225A07100HP KCPK15	G45	B225A13400HP KCPK15	G47
B224A03970HP KCPK15	G44	B224A13891HP KCPK15	G47	B225A07145HP KCPK15	G45	B225A13495HP KCPK15	G47
B224A04000HP KCPK15	G44	B224A14000HP KCPK15	G47	B225A07200HP KCPK15	G45	B225A13500HP KCPK15	G47
B224A04039HP KCPK15	G44	B224A14200HP KCPK15	G47	B225A07300HP KCPK15	G45	B225A13600HP KCPK15	G47
B224A04090HP KCPK15	G44	B224A14288HP KCPK15	G47	B225A07366HP KCPK15	G45	B225A13700HP KCPK15	G47
B224A04100HP KCPK15	G44	B224A14500HP KCPK15	G47	B225A07400HP KCPK15	G45	B225A13800HP KCPK15	G47
B224A04200HP KCPK15	G44	B224A14684HP KCPK15	G47	B225A07500HP KCPK15	G45	B225A13891HP KCPK15	G47
B224A04217HP KCPK15	G44	B224A15083HP KCPK15	G47	B225A07541HP KCPK15	G45	B225A13900HP KCPK15	G47
B224A04366HP KCPK15	G44	B224A15500HP KCPK15	G47	B225A07600HP KCPK15	G45	B225A14000HP KCPK15	G47
B224A04496HP KCPK15	G44	B224A15600HP KCPK15	G47	B225A07700HP KCPK15	G45	B225A14100HP KCPK15	G47
B224A04623HP KCPK15	G44	B224A15875HP KCPK15	G47	B225A07800HP KCPK15	G45	B225A14200HP KCPK15	G47
B224A04700HP KCPK15	G44	B224A16000HP KCPK15	G47	B225A07900HP KCPK15	G45	B225A14288HP KCPK15	G47
B224A04763HP KCPK15	G44	B224A16500HP KCPK15	G47	B225A07938HP KCPK15	G45	B225A14300HP KCPK15	G47
B224A04852HP KCPK15	G44	B224A17000HP KCPK15	G48	B225A08000HP KCPK15	G45	B225A14400HP KCPK15	G47
B224A05000HP KCPK15	G45	B224A17463HP KCPK15	G48	B225A08100HP KCPK15	G45	B225A14500HP KCPK15	G47
B224A05050HP KCPK15	G45	B224A17500HP KCPK15	G48	B225A08200HP KCPK15	G45	B225A14600HP KCPK15	G47
B224A05100HP KCPK15	G45	B224A18000HP KCPK15	G48	B225A08300HP KCPK15	G46	B225A14684HP KCPK15	G47
B224A05106HP KCPK15	G45	B224A19000HP KCPK15	G48	B225A08334HP KCPK15	G46	B225A14700HP KCPK15	G47
B224A05159HP KCPK15	G45	B224A19050HP KCPK15	G48	B225A08400HP KCPK15	G46	B225A14800HP KCPK15	G47
B224A05410HP KCPK15	G45	B224A20000HP KCPK15	G48	B225A08433HP KCPK15	G46	B225A14900HP KCPK15	G47
B224A05500HP KCPK15	G45	B225A03000HP KCPK15	G44	B225A08500HP KCPK15	G46	B225A15000HP KCPK15	G47
B224A05558HP KCPK15	G45	B225A03048HP KCPK15	G44	B225A08600HP KCPK15	G46	B225A15083HP KCPK15	G47
B224A05600HP KCPK15	G45	B225A03100HP KCPK15	G44	B225A08700HP KCPK15	G46	B225A15100HP KCPK15	G47
B224A05616HP KCPK15	G45	B225A03175HP KCPK15	G44	B225A08733HP KCPK15	G46	B225A15200HP KCPK15	G47
B224A05791HP KCPK15	G45	B225A03200HP KCPK15	G44	B225A08800HP KCPK15	G46	B225A15300HP KCPK15	G47
B224A05944HP KCPK15	G45	B225A03264HP KCPK15	G44	B225A08839HP KCPK15	G46	B225A15400HP KCPK15	G47
B224A05954HP KCPK15	G45	B225A03300HP KCPK15	G44	B225A08900HP KCPK15	G46	B225A15479HP KCPK15	G47
B224A06000HP KCPK15	G45	B225A03400HP KCPK15	G44	B225A09000HP KCPK15	G46	B225A15500HP KCPK15	G47
B224A06350HP KCPK15	G45	B225A03455HP KCPK15	G44	B225A09093HP KCPK15	G46	B225A15600HP KCPK15	G47
B224A06500HP KCPK15	G45	B225A03500HP KCPK15	G44	B225A09100HP KCPK15	G46	B225A15700HP KCPK15	G47
B224A06528HP KCPK15	G45	B225A03571HP KCPK15	G44	B225A09129HP KCPK15	G46	B225A15800HP KCPK15	G47
B224A06630HP KCPK15	G45	B225A03600HP KCPK15	G44	B225A09200HP KCPK15	G46	B225A15875HP KCPK15	G47
B224A06700HP KCPK15	G45	B225A03700HP KCPK15	G44	B225A09300HP KCPK15	G46	B225A15900HP KCPK15	G47
B224A06746HP KCPK15	G45	B225A03797HP KCPK15	G44	B225A09347HP KCPK15	G46	B225A16000HP KCPK15	G47
B224A06800HP KCPK15	G45	B225A03800HP KCPK15	G44	B225A09400HP KCPK15	G46	B225A16100HP KCPK15	G47
B224A06909HP KCPK15	G45	B225A03900HP KCPK15	G44	B225A09500HP KCPK15	G46	B225A16500HP KCPK15	G47
B224A07000HP KCPK15	G45	B225A03970HP KCPK15	G44	B225A09525HP KCPK15	G46	B225A16670HP KCPK15	G47
B224A07145HP KCPK15	G45	B225A04000HP KCPK15	G44	B225A09600HP KCPK15	G46	B225A17000HP KCPK15	G48
B224A07366HP KCPK15	G45	B225A04100HP KCPK15	G44	B225A09700HP KCPK15	G46	B225A17463HP KCPK15	G48
B224A07400HP KCPK15	G45	B225A04200HP KCPK15	G44	B225A09800HP KCPK15	G46	B225A17500HP KCPK15	G48
B224A07500HP KCPK15	G45	B225A04300HP KCPK15	G44	B225A09900HP KCPK15	G46	B225A17700HP KCPK15	G48
B224A07541HP KCPK15	G45	B225A04366HP KCPK15	G44	B225A09921HP KCPK15	G46	B225A18000HP KCPK15	G48
B224A07938HP KCPK15	G45	B225A04400HP KCPK15	G44	B225A10000HP KCPK15	G46	B225A18500HP KCPK15	G48
B224A08000HP KCPK15	G45	B225A04496HP KCPK15	G44	B225A10100HP KCPK15	G46	B225A19000HP KCPK15	G48
B224A08200HP KCPK15	G45	B225A04500HP KCPK15	G44	B225A10200HP KCPK15	G46	B225A19050HP KCPK15	G48
B224A08334HP KCPK15	G46	B225A04600HP KCPK15	G44	B225A10300HP KCPK15	G46	B225A19200HP KCPK15	G48
B224A08433HP KCPK15	G46	B225A04700HP KCPK15	G44	B225A10320HP KCPK15	G46	B225A19250HP KCPK15	G48
B224A08500HP KCPK15	G46	B225A04763HP KCPK15	G44	B225A10400HP KCPK15	G46	B225A19300HP KCPK15	G48
B224A08700HP KCPK15	G46	B225A04800HP KCPK15	G44	B225A10500HP KCPK15	G46	B225A19500HP KCPK15	G48
B224A08733HP KCPK15	G46	B225A04900HP KCPK15	G45	B225A10600HP KCPK15	G46	B225A20000HP KCPK15	G48
B224A08800HP KCPK15	G46	B225A05000HP KCPK15	G45	B225A10700HP KCPK15	G46	B225A20500HP KCPK15	G48
B224A08839HP KCPK15	G46	B225A05100HP KCPK15	G45	B225A10716HP KCPK15	G46	B225A21000HP KCPK15	G48
B224A09000HP KCPK15	G46	B225A05106HP KCPK15	G45	B225A10800HP KCPK15	G46	B24CTFPR4	B184, B390
B224A09093HP KCPK15	G46	B225A05159HP KCPK15	G45	B225A10900HP KCPK15	G46	B25A03000YPC KCK10	G52
B224A09129HP KCPK15	G46	B225A05200HP KCPK15	G45	B225A11000HP KCPK15	G46	B225A03048YPC KCK10	G52
B224A09400HP KCPK15	G46	B225A05300HP KCPK15	G45	B225A11100HP KCPK15	G46	B25A03200YPC KCK10	G52
B224A09500HP KCPK15	G46	B225A05400HP KCPK15	G45	B225A11113HP KCPK15	G46	B25A03300YPC KCK10	G52
B224A09525HP KCPK15	G46	B225A05410HP KCPK15	G45	B225A11200HP KCPK15	G46	B25A03454YPC KCK10	G52
B224A09921HP KCPK15	G46	B225A05500HP KCPK15	G45	B225A11300HP KCPK15	G46	B25A03500YPC KCK10	G52
B224A10000HP KCPK15	G46	B225A05558HP KCPK15	G45	B225A11400HP KCPK15	G46	B25A03600YPC KCK10	G52
B224A10200HP KCPK15	G46	B225A05600HP KCPK15	G45	B225A11500HP KCPK15	G46	B25A03800YPC KCK10	G52
B224A10300HP KCPK15	G46	B225A05700HP KCPK15	G45	B225A11509HP KCPK15	G46	B25A03861YPC KCK10	G52
B224A10320HP KCPK15	G46	B225A05791HP KCPK15	G45	B225A11600HP KCPK15	G46	B25A04000YPC KCK10	G52
B224A10400HP KCPK15	G46	B225A05800HP KCPK15	G45	B225A11700HP KCPK15	G46	B25A04039YPC KCK10	G52
B224A10500HP KCPK15	G46	B225A05900HP KCPK15	G45	B225A11800HP KCPK15	G46	B25A04100YPC KCK10	G52
B224A10716HP KCPK15	G46	B225A05944HP KCPK15	G45	B225A11900HP KCPK15	G46	B25A04200YPC KCK10	G52
B224A10800HP KCPK15	G46	B225A05954HP KCPK15	G45	B225A11908HP KCPK15	G46	B25A04500YPC KCK10	G52
B224A11000HP KCPK15	G46	B225A06000HP KCPK15	G45	B225A12000HP KCPK15	G46	B25A04572YPC KCK10	G52
B224A11113HP KCPK15	G46	B225A06100HP KCPK15	G45	B225A12100HP KCPK15	G47	B25A04763YPC KCK10	G52
B224A11500HP KCPK15	G46	B225A06200HP KCPK15	G45	B225A12200HP KCPK15	G47	B25A04800YPC KCK10	G52
B224A11509HP KCPK15	G46	B225A06300HP KCPK15	G45	B225A12300HP KCPK15	G47	B25A05000YPC KCK10	G53
B224A11908HP KCPK15	G46	B225A06350HP KCPK15	G45	B225A12304HP KCPK15	G47	B25A05055YPC KCK10	G53
B224A12000HP KCPK15	G46	B225A06400HP KCPK15	G45	B225A12400HP KCPK15	G47	B25A05100YPC KCK10	G53
B224A12300HP KCPK15	G47	B225A06500HP KCPK15	G45	B225A12500HP KCPK15	G47	B25A05106YPC KCK10	G53
B224A12304HP KCPK15	G47	B225A06528HP KCPK15	G45	B225A12600HP KCPK15	G47	B25A05300YPC KCK10	G53
B224A12500HP KCPK15	G47	B225A06600HP KCPK15	G45	B225A12700HP KCPK15	G47	B25A05500YPC KCK10	G53
B224A12700HP KCPK15	G47	B225A06700HP KCPK15	G45	B225A12800HP KCPK15	G47	B25A05558YPC KCK10	G53
B224A12800HP KCPK15	G47	B225A06746HP KCPK15	G45	B225A12900HP KCPK15	G47	B25A05791YPC KCK10	G53
B224A13000HP KCPK15	G47	B225A06800HP KCPK15	G45	B225A13000HP KCPK15	G47	B25A05800YPC KCK10	G53
B224A13096HP KCPK15	G47	B225A06900HP KCPK15	G45	B225A13100HP KCPK15	G47	B25A06000YPC KCK10	G53

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B254A06100YPC KCK10	653	B254A17859YPC KCK10	655	B255A07900YPC KCK10	653	B255A18000YPC KCK10	655
B254A06200YPC KCK10	653	B254A18000YPC KCK10	655	B255A07938YPC KCK10	653	B255A18258YPC KCK10	655
B254A06500YPC KCK10	653	B254A18200YPC KCK10	655	B255A08000YPC KCK10	653	B255A18500YPC KCK10	655
B254A06528YPC KCK10	653	B254A18258YPC KCK10	655	B255A08100YPC KCK10	653	B255A18800YPC KCK10	655
B254A06600YPC KCK10	653	B254A18500YPC KCK10	655	B255A08200YPC KCK10	653	B255A19000YPC KCK10	655
B254A06700YPC KCK10	653	B254A18800YPC KCK10	655	B255A08300YPC KCK10	653	B255A19500YPC KCK10	655
B254A06746YPC KCK10	653	B254A19000YPC KCK10	655	B255A08433YPC KCK10	654	B255A19700YPC KCK10	655
B254A06800YPC KCK10	653	B254A19050YPC KCK10	655	B255A08500YPC KCK10	654	B255A19800YPC KCK10	655
B254A06900YPC KCK10	653	B254A19800YPC KCK10	655	B255A08600YPC KCK10	654	B255A20000YPC KCK10	655
B254A07000YPC KCK10	653	B254A20000YPC KCK10	655	B255A08700YPC KCK10	654	B255A20500YPC KCK10	655
B254A07100YPC KCK10	653	B254A20638YPC KCK10	656	B255A08800YPC KCK10	654	B255A20638YPC KCK10	656
B254A07366YPC KCK10	653	B254A21000YPC KCK10	656	B255A08839YPC KCK10	654	B255A21000YPC KCK10	656
B254A07493YPC KCK10	653	B254A22000YPC KCK10	656	B255A08900YPC KCK10	654	B255A22000YPC KCK10	656
B254A07500YPC KCK10	653	B254A22225YPC KCK10	656	B255A09000YPC KCK10	654	B255A22225YPC KCK10	656
B254A07600YPC KCK10	653	B254A23416YPC KCK10	656	B255A09093YPC KCK10	654	B255A23416YPC KCK10	656
B254A07800YPC KCK10	653	B254A25000YPC KCK10	656	B255A09100YPC KCK10	654	B255A24000YPC KCK10	656
B254A07938YPC KCK10	653	B255A03000YPC KCK10	652	B255A09129YPC KCK10	654	B255A25000YPC KCK10	656
B254A08000YPC KCK10	653	B255A03048YPC KCK10	652	B255A09200YPC KCK10	654	B256A03000YPC KCK10	652
B254A08100YPC KCK10	653	B255A03175YPC KCK10	652	B255A09300YPC KCK10	654	B256A03175YPC KCK10	652
B254A08200YPC KCK10	653	B255A03200YPC KCK10	652	B255A09400YPC KCK10	654	B256A03264YPC KCK10	652
B254A08334YPC KCK10	653	B255A03250YPC KCK10	652	B255A09500YPC KCK10	654	B256A03500YPC KCK10	652
B254A08400YPC KCK10	654	B255A03300YPC KCK10	652	B255A09525YPC KCK10	654	B256A03700YPC KCK10	652
B254A08433YPC KCK10	654	B255A03400YPC KCK10	652	B255A09600YPC KCK10	654	B256A03800YPC KCK10	652
B254A08500YPC KCK10	654	B255A03500YPC KCK10	652	B255A09700YPC KCK10	654	B256A04000YPC KCK10	652
B254A08600YPC KCK10	654	B255A03600YPC KCK10	652	B255A09800YPC KCK10	654	B256A04100YPC KCK10	652
B254A08700YPC KCK10	654	B255A03700YPC KCK10	652	B255A09921YPC KCK10	654	B256A04200YPC KCK10	652
B254A08800YPC KCK10	654	B255A03797YPC KCK10	652	B255A10000YPC KCK10	654	B256A04300YPC KCK10	652
B254A08839YPC KCK10	654	B255A03800YPC KCK10	652	B255A10200YPC KCK10	654	B256A04366YPC KCK10	652
B254A09000YPC KCK10	654	B255A03861YPC KCK10	652	B255A10262YPC KCK10	654	B256A04500YPC KCK10	652
B254A09100YPC KCK10	654	B255A03970YPC KCK10	652	B255A10300YPC KCK10	654	B256A04623YPC KCK10	652
B254A09200YPC KCK10	654	B255A04000YPC KCK10	652	B255A10320YPC KCK10	654	B256A04700YPC KCK10	652
B254A09400YPC KCK10	654	B255A04039YPC KCK10	652	B255A10400YPC KCK10	654	B256A04800YPC KCK10	652
B254A09500YPC KCK10	654	B255A04100YPC KCK10	652	B255A10500YPC KCK10	654	B256A04852YPC KCK10	652
B254A09525YPC KCK10	654	B255A04200YPC KCK10	652	B255A10600YPC KCK10	654	B256A05000 KC7315	658
B254A09800YPC KCK10	654	B255A04217YPC KCK10	652	B255A10716YPC KCK10	654	B256A05000YPC KCK10	653
B254A09921YPC KCK10	654	B255A04300YPC KCK10	652	B255A10800YPC KCK10	654	B256A05100 KC7315	658
B254A10000YPC KCK10	654	B255A04366YPC KCK10	652	B255A10900YPC KCK10	654	B256A05100YPC KCK10	653
B254A10200YPC KCK10	654	B255A04500YPC KCK10	652	B255A11000YPC KCK10	654	B256A05200YPC KCK10	653
B254A10262YPC KCK10	654	B255A04572YPC KCK10	652	B255A11100YPC KCK10	654	B256A05500 KC7315	658
B254A10300YPC KCK10	654	B255A04600YPC KCK10	652	B255A11113YPC KCK10	654	B256A05500YPC KCK10	653
B254A10320YPC KCK10	654	B255A04700YPC KCK10	652	B255A11200YPC KCK10	654	B256A05600YPC KCK10	653
B254A10490YPC KCK10	654	B255A04800YPC KCK10	652	B255A11500YPC KCK10	654	B256A05800 KC7315	658
B254A10500YPC KCK10	654	B255A04900YPC KCK10	652	B255A11700YPC KCK10	654	B256A05800YPC KCK10	653
B254A10700YPC KCK10	654	B255A05000YPC KCK10	653	B255A11800YPC KCK10	654	B256A05900YPC KCK10	653
B254A10800YPC KCK10	654	B255A05055YPC KCK10	653	B255A11900YPC KCK10	654	B256A06000 KC7315	658
B254A11000YPC KCK10	654	B255A05100YPC KCK10	653	B255A11908YPC KCK10	654	B256A06000YPC KCK10	653
B254A11100YPC KCK10	654	B255A05159YPC KCK10	653	B255A12000YPC KCK10	654	B256A06200YPC KCK10	653
B254A11113YPC KCK10	654	B255A05200YPC KCK10	653	B255A12100YPC KCK10	654	B256A06350YPC KCK10	653
B254A11200YPC KCK10	654	B255A05250YPC KCK10	653	B255A12200YPC KCK10	654	B256A06400YPC KCK10	653
B254A11500YPC KCK10	654	B255A05300YPC KCK10	653	B255A12251YPC KCK10	654	B256A06500 KC7315	658
B254A11800YPC KCK10	654	B255A05400YPC KCK10	653	B255A12300YPC KCK10	654	B256A06500YPC KCK10	653
B254A11908YPC KCK10	654	B255A05410YPC KCK10	653	B255A12304YPC KCK10	654	B256A06600YPC KCK10	653
B254A12000YPC KCK10	654	B255A05500YPC KCK10	653	B255A12500YPC KCK10	655	B256A06700YPC KCK10	653
B254A12200YPC KCK10	654	B255A05558YPC KCK10	653	B255A12700YPC KCK10	655	B256A06800 KC7315	658
B254A12304YPC KCK10	654	B255A05600YPC KCK10	653	B255A13000YPC KCK10	655	B256A06800YPC KCK10	653
B254A12500YPC KCK10	655	B255A05700YPC KCK10	653	B255A13096YPC KCK10	655	B256A07000 KC7315	658
B254A12800YPC KCK10	655	B255A05791YPC KCK10	653	B255A13495YPC KCK10	655	B256A07000YPC KCK10	653
B254A13000YPC KCK10	655	B255A05800YPC KCK10	653	B255A13500YPC KCK10	655	B256A07300YPC KCK10	653
B254A13100YPC KCK10	655	B255A06000YPC KCK10	653	B255A14000YPC KCK10	655	B256A07500YPC KCK10	653
B254A13200YPC KCK10	655	B255A06100YPC KCK10	653	B255A14100YPC KCK10	655	B256A07600YPC KCK10	653
B254A13500YPC KCK10	655	B255A06200YPC KCK10	653	B255A14288YPC KCK10	655	B256A07800 KC7315	658
B254A13800YPC KCK10	655	B255A06300YPC KCK10	653	B255A14500YPC KCK10	655	B256A07800YPC KCK10	653
B254A13891YPC KCK10	655	B255A06350YPC KCK10	653	B255A14600YPC KCK10	655	B256A08000 KC7315	658
B254A14000YPC KCK10	655	B255A06400YPC KCK10	653	B255A14684YPC KCK10	655	B256A08000YPC KCK10	653
B254A14100YPC KCK10	655	B255A06500YPC KCK10	653	B255A15000YPC KCK10	655	B256A08200YPC KCK10	653
B254A14288YPC KCK10	655	B255A06600YPC KCK10	653	B255A15083YPC KCK10	655	B256A08300YPC KCK10	653
B254A14500YPC KCK10	655	B255A06630YPC KCK10	653	B255A15250YPC KCK10	655	B256A08400 KC7315	658
B254A14800YPC KCK10	655	B255A06700YPC KCK10	653	B255A15400YPC KCK10	655	B256A08500 KC7315	658
B254A15000YPC KCK10	655	B255A06746YPC KCK10	653	B255A15500YPC KCK10	655	B256A08500YPC KCK10	654
B254A15200YPC KCK10	655	B255A06800YPC KCK10	653	B255A15800YPC KCK10	655	B256A08600YPC KCK10	654
B254A15250YPC KCK10	655	B255A06900YPC KCK10	653	B255A15875YPC KCK10	655	B256A08700YPC KCK10	654
B254A15400YPC KCK10	655	B255A06909YPC KCK10	653	B255A16000YPC KCK10	655	B256A08800 KC7315	658
B254A15500YPC KCK10	655	B255A07000YPC KCK10	653	B255A16300YPC KCK10	655	B256A08800YPC KCK10	654
B254A15800YPC KCK10	655	B255A07145YPC KCK10	653	B255A16500YPC KCK10	655	B256A09000 KC7315	658
B254A16000YPC KCK10	655	B255A07200YPC KCK10	653	B255A16670YPC KCK10	655	B256A09000YPC KCK10	654
B254A16500YPC KCK10	655	B255A07400YPC KCK10	653	B255A16800YPC KCK10	655	B256A09100YPC KCK10	654
B254A16670YPC KCK10	655	B255A07493YPC KCK10	653	B255A17000YPC KCK10	655	B256A09300YPC KCK10	654
B254A16800YPC KCK10	655	B255A07500YPC KCK10	653	B255A17200YPC KCK10	655	B256A09347YPC KCK10	654
B254A17000YPC KCK10	655	B255A07541YPC KCK10	653	B255A17463YPC KCK10	655	B256A09500 KC7315	658
B254A17463YPC KCK10	655	B255A07600YPC KCK10	653	B255A17500YPC KCK10	655	B256A09500YPC KCK10	654
B254A17500YPC KCK10	655	B255A07700YPC KCK10	653	B255A17800YPC KCK10	655	B256A09600YPC KCK10	654
B254A17800YPC KCK10	655	B255A07800YPC KCK10	653	B255A17859YPC KCK10	655	B256A09700YPC KCK10	654

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B256A09800YPC KCK10	G54	B269A03600HP KCPK15	G62	B269A14100HP KCPK15	G64	B271Z05800HPG KCPK20	G68
B256A10000 KCT315	G58	B269A03700HP KCPK15	G62	B269A14288HP KCPK15	G64	B271Z05900HPG KCPK20	G68
B256A10000YPC KCK10	G54	B269A03800HP KCPK15	G62	B269A14500HP KCPK15	G64	B271Z06000HPG KCPK20	G68
B256A10200 KCT315	G58	B269A03970HP KCPK15	G62	B269A14600HP KCPK15	G64	B271Z06000HPS KN25	G68
B256A10200YPC KCK10	G54	B269A04000HP KCPK15	G62	B269A14684HP KCPK15	G64	B271Z06000SGL KCMS20	G68
B256A10300YPC KCK10	G54	B269A04100HP KCPK15	G62	B269A15000HP KCPK15	G64	B271Z06200HPG KCPK20	G68
B256A10400YPC KCK10	G54	B269A04200HP KCPK15	G62	B269A15200HP KCPK15	G64	B271Z06200HPS KN25	G68
B256A10500 KCT315	G58	B269A04300HP KCPK15	G62	B269A15500HP KCPK15	G64	B271Z06350HPG KCPK20	G68
B256A10500YPC KCK10	G54	B269A04500HP KCPK15	G62	B269A15875HP KCPK15	G64	B271Z06350HPS KN25	G68
B256A10700YPC KCK10	G54	B269A04550HP KCPK15	G62	B269A16000HP KCPK15	G64	B271Z06500SGL KCMS20	G68
B256A10800YPC KCK10	G54	B269A04600HP KCPK15	G62	B269A16500HP KCPK15	G64	B271Z06500HPG KCPK20	G69
B256A11000 KCT315	G58	B269A04700HP KCPK15	G62	B269A17000HP KCPK15	G64	B271Z06500HPS KN25	G69
B256A11000YPC KCK10	G54	B269A04763HP KCPK15	G62	B269A17100HP KCPK15	G64	B271Z06500SGL KCMS20	G69
B256A11200YPC KCK10	G54	B269A04800HP KCPK15	G62	B269A17463HP KCPK15	G64	B271Z06528HPG KCPK20	G69
B256A11300YPC KCK10	G54	B269A05000HP KCPK15	G62	B269A17500HP KCPK15	G64	B271Z06746HPG KCPK20	G69
B256A11500YPC KCK10	G54	B269A05100HP KCPK15	G62	B269A17600HP KCPK15	G64	B271Z06746HPS KN25	G69
B256A11600YPC KCK10	G54	B269A05200HP KCPK15	G62	B269A18000HP KCPK15	G64	B271Z06746SGL KCMS20	G69
B256A11800 KCT315	G58	B269A05300HP KCPK15	G62	B269A18500HP KCPK15	G64	B271Z06909HPG KCPK20	G69
B256A11800YPC KCK10	G54	B269A05410HP KCPK15	G62	B269A18600HP KCPK15	G64	B271Z07000HPG KCPK20	G69
B256A11900YPC KCK10	G54	B269A05500HP KCPK15	G62	B269A19000HP KCPK15	G64	B271Z07000HPS KN25	G69
B256A12000 KCT315	G58	B269A05558HP KCPK15	G62	B269A19050HP KCPK15	G64	B271Z07000SGL KCMS20	G69
B256A12000YPC KCK10	G54	B269A05600HP KCPK15	G62	B269A19500HP KCPK15	G64	B271Z07145HPG KCPK20	G69
B256A12200YPC KCK10	G54	B269A05700HP KCPK15	G62	B269A20000HP KCPK15	G64	B271Z07145HPS KN25	G69
B256A12300YPC KCK10	G54	B269A05800HP KCPK15	G62	B271Z02383KMG KCPK20	G68	B271Z07145SGL KCMS20	G69
B256A12400YPC KCK10	G55	B269A06000HP KCPK15	G62	B271Z02383KMS KN25	G68	B271Z07500HPG KCPK20	G69
B256A12500 KCT315	G58	B269A06100HP KCPK15	G63	B271Z02400KMS KN25	G68	B271Z07500HPS KN25	G69
B256A12500YPC KCK10	G55	B269A06200HP KCPK15	G63	B271Z02439KMS KN25	G68	B271Z07500SGL KCMS20	G69
B256A12700YPC KCK10	G55	B269A06350HP KCPK15	G63	B271Z02489KMS KN25	G68	B271Z07541HPG KCPK20	G69
B256A12800YPC KCK10	G55	B269A06400HP KCPK15	G63	B271Z02500KMG KCPK20	G68	B271Z07938HPG KCPK20	G69
B256A13000 KCT315	G58	B269A06500HP KCPK15	G63	B271Z02500KMS KN25	G68	B271Z07938SGL KCMS20	G69
B256A13000YPC KCK10	G55	B269A06528HP KCPK15	G63	B271Z02500SGL KCMS20	G68	B271Z08000HPG KCPK20	G69
B256A13096YPC KCK10	G55	B269A06600HP KCPK15	G63	B271Z02578KMS KN25	G68	B271Z08000HPS KN25	G69
B256A13200YPC KCK10	G55	B269A06746HP KCPK15	G63	B271Z02600KMS KN25	G68	B271Z08000SGL KCMS20	G69
B256A13495YPC KCK10	G55	B269A06800HP KCPK15	G63	B271Z02642KMG KCPK20	G68	B271Z08200HPG KCPK20	G69
B256A13500 KCT315	G58	B269A06909HP KCPK15	G63	B271Z02705KMG KCPK20	G68	B271Z08334HPG KCPK20	G69
B256A13500YPC KCK10	G55	B269A07000HP KCPK15	G63	B271Z02779KMG KCPK20	G68	B271Z08500HPG KCPK20	G69
B256A13700YPC KCK10	G55	B269A07145HP KCPK15	G63	B271Z02779KMS KN25	G68	B271Z08500HPS KN25	G69
B256A13800YPC KCK10	G55	B269A07500HP KCPK15	G63	B271Z02800KMS KN25	G68	B271Z08500SGL KCMS20	G69
B256A13891YPC KCK10	G55	B269A07541HP KCPK15	G63	B271Z02820KMG KCPK20	G68	B271Z08733HPG KCPK20	G69
B256A14000 KCT315	G58	B269A07700HP KCPK15	G63	B271Z02820KMS KN25	G68	B271Z08733HPS KN25	G69
B256A14000YPC KCK10	G55	B269A07800HP KCPK15	G63	B271Z02870KMS KN25	G68	B271Z08733SGL KCMS20	G69
B256A14500YPC KCK10	G55	B269A07938HP KCPK15	G63	B271Z02900KMS KN25	G68	B271Z09000HPG KCPK20	G69
B256A14684YPC KCK10	G55	B269A08000HP KCPK15	G63	B271Z02947KMS KN25	G68	B271Z09000HPS KN25	G69
B256A14800YPC KCK10	G55	B269A08100HP KCPK15	G63	B271Z03000HPG KCPK20	G68	B271Z09000SGL KCMS20	G69
B256A15000 KCT315	G58	B269A08200HP KCPK15	G63	B271Z03000HPS KN25	G68	B271Z09100HPG KCPK20	G69
B256A15000YPC KCK10	G55	B269A08334HP KCPK15	G63	B271Z03000SGL KCMS20	G68	B271Z09200HPG KCPK20	G69
B256A15083YPC KCK10	G55	B269A08433HP KCPK15	G63	B271Z03175HPG KCPK20	G68	B271Z09500HPG KCPK20	G69
B256A15200YPC KCK10	G55	B269A08500HP KCPK15	G63	B271Z03175HPS KN25	G68	B271Z09500HPS KN25	G69
B256A15300YPC KCK10	G55	B269A08600HP KCPK15	G63	B271Z03175SGL KCMS20	G68	B271Z09525HPG KCPK20	G69
B256A15500YPC KCK10	G55	B269A08700HP KCPK15	G63	B271Z03200HPG KCPK20	G68	B271Z09525HPS KN25	G69
B256A15800YPC KCK10	G55	B269A08733HP KCPK15	G63	B271Z03200HPS KN25	G68	B271Z09525SGL KCMS20	G69
B256A16000 KCT315	G58	B269A09000HP KCPK15	G63	B271Z03350HPG KCPK20	G68	B271Z09750HPG KCPK20	G69
B256A16000YPC KCK10	G55	B269A09100HP KCPK15	G63	B271Z03500HPS KN25	G68	B271Z10000HPG KCPK20	G69
B256A16300YPC KCK10	G55	B269A09129HP KCPK15	G63	B271Z03500SGL KCMS20	G68	B271Z10000HPS KN25	G69
B256A16500YPC KCK10	G55	B269A09500HP KCPK15	G63	B271Z03600HPG KCPK20	G68	B271Z10000SGL KCMS20	G69
B256A16800YPC KCK10	G55	B269A09525HP KCPK15	G63	B271Z03700HPG KCPK20	G68	B271Z10200HPG KCPK20	G69
B256A17000YPC KCK10	G55	B269A09800HP KCPK15	G63	B271Z03970HPG KCPK20	G68	B271Z10200HPS KN25	G69
B256A17500YPC KCK10	G55	B269A09921HP KCPK15	G63	B271Z03970HPS KN25	G68	B271Z10320SGL KCMS20	G69
B256A17800YPC KCK10	G55	B269A10000HP KCPK15	G63	B271Z03970SGL KCMS20	G68	B271Z10500HPG KCPK20	G69
B256A18000YPC KCK10	G55	B269A10200HP KCPK15	G63	B271Z04000HPG KCPK20	G68	B271Z10500HPS KN25	G69
B256A18258YPC KCK10	G55	B269A10300HP KCPK15	G63	B271Z04000HPS KN25	G68	B271Z10500SGL KCMS20	G69
B256A18500YPC KCK10	G55	B269A10320HP KCPK15	G63	B271Z04000SGL KCMS20	G68	B271Z10716HPG KCPK20	G69
B256A18800YPC KCK10	G55	B269A10400HP KCPK15	G63	B271Z04500HPG KCPK20	G68	B271Z10720HPS KN25	G69
B256A19000YPC KCK10	G55	B269A10500HP KCPK15	G63	B271Z04500HPS KN25	G68	B271Z10800HPG KCPK20	G69
B256A19500YPC KCK10	G55	B269A10716HP KCPK15	G63	B271Z04500SGL KCMS20	G68	B271Z11000HPG KCPK20	G69
B256A19800YPC KCK10	G55	B269A10800HP KCPK15	G63	B271Z04623HPG KCPK20	G68	B271Z11000HPS KN25	G69
B256A20000YPC KCK10	G55	B269A11000HP KCPK15	G63	B271Z04763HPG KCPK20	G68	B271Z11000SGL KCMS20	G69
B256A20638YPC KCK10	G56	B269A11113HP KCPK15	G63	B271Z04763HPS KN25	G68	B271Z11113SGL KCMS20	G69
B256A22000YPC KCK10	G56	B269A11200HP KCPK15	G63	B271Z04763SGL KCMS20	G68	B271Z12100HPG KCPK20	G69
B256A22225YPC KCK10	G56	B269A11500HP KCPK15	G63	B271Z04800HPG KCPK20	G68	B271Z12100HPS KN25	G69
B256A25004YPC KCK10	G56	B269A11800HP KCPK15	G63	B271Z04800SGL KCMS20	G68	B271Z12500SGL KCMS20	G69
B269A02400KMG KCPK15	G62	B269A12000HP KCPK15	G63	B271Z05000HPG KCPK20	G68	B271Z12500HPG KCPK20	G69
B269A02500KMG KCPK15	G62	B269A12100HP KCPK15	G63	B271Z05000HPS KN25	G68	B271Z12000HPS KN25	G69
B269A02600KMG KCPK15	G62	B269A12200HP KCPK15	G63	B271Z05000SGL KCMS20	G68	B271Z12000SGL KCMS20	G69
B269A02800KMG KCPK15	G62	B269A12304HP KCPK15	G63	B271Z05060HPG KCPK20	G68	B271Z12500HPG KCPK20	G69
B269A02900KMG KCPK15	G62	B269A12500HP KCPK15	G63	B271Z05260HPG KCPK20	G68	B271Z12500HPS KN25	G69
B269A03000HP KCPK15	G62	B269A12700HP KCPK15	G63	B271Z05410HPG KCPK20	G68	B271Z12700HPG KCPK20	G69
B269A03175HP KCPK15	G62	B269A13000HP KCPK15	G64	B271Z05500HPG KCPK20	G68	B271Z12700HPS KN25	G69
B269A03264HP KCPK15	G62	B269A13100HP KCPK15	G64	B271Z05500HPS KN25	G68	B271Z12700SGL KCMS20	G69
B269A03300HP KCPK15	G62	B269A13500HP KCPK15	G64	B271Z05500SGL KCMS20	G68	B271Z13000HPG KCPK20	G69
B269A03400HP KCPK15	G62	B269A13800HP KCPK15	G64	B271Z05558HPG KCPK20	G68	B271Z13000HPS KN25	G69
B269A03500HP KCPK15	G62	B269A14000HP KCPK15	G64	B271Z05558SGL KCMS20	G68	B271Z13500HPG KCPK20	G69

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B271Z13500HPS KN25.....	G69	B272Z06746HPG KCPK20.....	G70	B272Z15000SGL KCMS20.....	G71	B273Z12500HPG KCPK20.....	G72
B271Z14000HPG KCPK20.....	G69	B272Z06746HPS KN25.....	G70	B272Z15500HPG KCPK20.....	G71	B273Z12500HPS KN25.....	G72
B271Z14000HPS KN25.....	G69	B272Z06746SGL KCMS20.....	G70	B272Z15500HPS KN25.....	G71	B273Z12700HPG KCPK20.....	G72
B271Z14000SGL KCMS20.....	G69	B272Z06800HPG KCPK20.....	G70	B272Z15500SGL KCMS20.....	G71	B273Z13000HPG KCPK20.....	G72
B271Z14288HPG KCPK20.....	G69	B272Z06909HPG KCPK20.....	G70	B272Z15870HPS KN25.....	G71	B273Z13000HPS KN25.....	G72
B271Z14290HPS KN25.....	G69	B272Z07000HPG KCPK20.....	G71	B272Z15875HPG KCPK20.....	G71	B273Z13000SGL KCMS20.....	G72
B271Z14500HPG KCPK20.....	G69	B272Z07000HPS KN25.....	G71	B272Z16000HPG KCPK20.....	G71	B273Z13100HPS KN25.....	G72
B271Z14500SGL KCMS20.....	G69	B272Z07000SGL KCMS20.....	G71	B272Z16000HPS KN25.....	G71	B273Z13500HPG KCPK20.....	G72
B271Z15000HPG KCPK20.....	G69	B272Z07145HPG KCPK20.....	G71	B272Z16000SGL KCMS20.....	G71	B273Z13500SGL KCMS20.....	G72
B271Z15000SGL KCMS20.....	G69	B272Z07145HPS KN25.....	G71	B272Z02383KMG KCPK20.....	G72	B273Z14000HPG KCPK20.....	G72
B271Z15300HPG KCPK20.....	G69	B272Z07145SGL KCMS20.....	G71	B273Z02383KMS KN25.....	G72	B273Z14000HPS KN25.....	G72
B271Z15500HPS KN25.....	G69	B272Z07200HPG KCPK20.....	G71	B273Z02439KMS KN25.....	G72	B273Z14000SGL KCMS20.....	G72
B271Z15870HPS KN25.....	G69	B272Z07500HPG KCPK20.....	G71	B273Z02500KMG KCPK20.....	G72	B273Z14288HPG KCPK20.....	G72
B271Z15875HPG KCPK20.....	G69	B272Z07500HPS KN25.....	G71	B273Z02500SGL KCMS20.....	G72	B273Z14290HPS KN25.....	G72
B271Z16000HPG KCPK20.....	G69	B272Z07500SGL KCMS20.....	G71	B273Z02600KMG KCPK20.....	G72	B273Z14500HPG KCPK20.....	G72
B271Z16000HPS KN25.....	G69	B272Z07541HPG KCPK20.....	G71	B273Z02779KMS KN25.....	G72	B273Z14500HPS KN25.....	G72
B271Z16000SGL KCMS20.....	G69	B272Z07938HPG KCPK20.....	G71	B273Z02800KMS KN25.....	G72	B273Z15000HPG KCPK20.....	G72
B272Z02383KMG KCPK20.....	G70	B272Z07938SGL KCMS20.....	G71	B273Z02820KMS KN25.....	G72	B273Z15000SGL KCMS20.....	G72
B272Z02383KMS KN25.....	G70	B272Z08000HPG KCPK20.....	G71	B273Z02870KMS KN25.....	G72	B273Z16000HPG KCPK15.....	G72
B272Z02400KMG KCPK20.....	G70	B272Z08000HPS KN25.....	G71	B273Z02947KMS KN25.....	G72	B273Z16000HPS KN25.....	G72
B272Z02400KMS KN25.....	G70	B272Z08000SGL KCMS20.....	G71	B273Z03000HPG KCPK20.....	G72	B273Z16000SGL KCMS20.....	G72
B272Z02439KMS KN25.....	G70	B272Z08334HPG KCPK20.....	G71	B273Z03000HPS KN25.....	G72	B274Z02383KMG KCPK20.....	G73
B272Z02489KMG KCPK20.....	G70	B272Z08433HPG KCPK20.....	G71	B273Z03000SGL KCMS20.....	G72	B274Z02383KMS KN25.....	G73
B272Z02489KMS KN25.....	G70	B272Z08500HPG KCPK20.....	G71	B273Z03175HPG KCPK20.....	G72	B274Z02400KMS KN25.....	G73
B272Z02500KMG KCPK20.....	G70	B272Z08500HPS KN25.....	G71	B273Z03175HPS KN25.....	G72	B274Z02439KMS KN25.....	G73
B272Z02500KMS KN25.....	G70	B272Z08500SGL KCMS20.....	G71	B273Z03175SGL KCMS20.....	G72	B274Z02500KMG KCPK20.....	G73
B272Z02500SGL KCMS20.....	G70	B272Z08733HPG KCPK20.....	G71	B273Z03500HPG KCPK20.....	G72	B274Z02500KMS KN25.....	G73
B272Z02779KMG KCPK20.....	G70	B272Z08733HPS KN25.....	G71	B273Z03500HPS KN25.....	G72	B274Z02500SGL KCMS20.....	G73
B272Z02800KMS KN25.....	G70	B272Z08733SGL KCMS20.....	G71	B273Z03500SGL KCMS20.....	G72	B274Z02600KMG KCPK20.....	G73
B272Z02947KMS KN25.....	G70	B272Z09000HPG KCPK20.....	G71	B273Z04000HPG KCPK20.....	G72	B274Z02600KMS KN25.....	G73
B272Z03000HPG KCPK20.....	G70	B272Z09000HPS KN25.....	G71	B273Z04000HPS KN25.....	G72	B274Z02642KMS KN25.....	G73
B272Z03000HPS KN25.....	G70	B272Z09000SGL KCMS20.....	G71	B273Z04000SGL KCMS20.....	G72	B274Z02779KMS KN25.....	G73
B272Z03000SGL KCMS20.....	G70	B272Z09100HPG KCPK20.....	G71	B273Z04500HPG KCPK20.....	G72	B274Z02800KMG KCPK20.....	G73
B272Z03175HPG KCPK20.....	G70	B272Z09500HPG KCPK20.....	G71	B273Z04500HPS KN25.....	G72	B274Z02800KMS KN25.....	G73
B272Z03175HPS KN25.....	G70	B272Z09525HPG KCPK20.....	G71	B273Z04500SGL KCMS20.....	G72	B274Z02870KMS KN25.....	G73
B272Z03175SGL KCMS20.....	G70	B272Z09525HPS KN25.....	G71	B273Z05000HPG KCPK20.....	G72	B274Z02900KMS KN25.....	G73
B272Z03300HPG KCPK20.....	G70	B272Z09525SGL KCMS20.....	G71	B273Z05000HPS KN25.....	G72	B274Z02947KMS KN25.....	G73
B272Z03300HPS KN25.....	G70	B272Z09750HPG KCPK20.....	G71	B273Z05000SGL KCMS20.....	G72	B274Z03000HPG KCPK20.....	G73
B272Z03300SGL KCMS20.....	G70	B272Z09750HPS KN25.....	G71	B273Z05100HPG KCPK20.....	G72	B274Z03000HPS KN25.....	G73
B272Z03500HPG KCPK20.....	G70	B272Z10000HPG KCPK20.....	G71	B273Z05100HPS KN25.....	G72	B274Z03000SGL KCMS20.....	G73
B272Z03500HPS KN25.....	G70	B272Z10000HPS KN25.....	G71	B273Z05500HPG KCPK20.....	G72	B274Z03175HPG KCPK20.....	G73
B272Z03500SGL KCMS20.....	G70	B272Z10000SGL KCMS20.....	G71	B273Z05500HPS KN25.....	G72	B274Z03175SGL KCMS20.....	G73
B272Z03850HPG KCPK20.....	G70	B272Z10200HPG KCPK20.....	G71	B273Z05500SGL KCMS20.....	G72	B274Z03175SGL KCMS20.....	G73
B272Z03970HPG KCPK20.....	G70	B272Z10200HPS KN25.....	G71	B273Z06000HPG KCPK20.....	G72	B274Z03500HPG KCPK20.....	G73
B272Z03970HPS KN25.....	G70	B272Z10320SGL KCMS20.....	G71	B273Z06000HPS KN25.....	G72	B274Z03500HPS KN25.....	G73
B272Z03970SGL KCMS20.....	G70	B272Z10500HPG KCPK20.....	G71	B273Z06000SGL KCMS20.....	G72	B274Z03500SGL KCMS20.....	G73
B272Z04000HPG KCPK20.....	G70	B272Z10500HPS KN25.....	G71	B273Z06350HPG KCPK20.....	G72	B274Z03970HPG KCPK20.....	G73
B272Z04000HPS KN25.....	G70	B272Z10500SGL KCMS20.....	G71	B273Z06350HPS KN25.....	G72	B274Z03970SGL KCMS20.....	G73
B272Z04000SGL KCMS20.....	G70	B272Z10716HPG KCPK20.....	G71	B273Z06500HPG KCPK20.....	G72	B274Z04000HPG KCPK20.....	G73
B272Z04500HPG KCPK20.....	G70	B272Z10716HPS KN25.....	G71	B273Z06500HPS KN25.....	G72	B274Z04000HPS KN25.....	G73
B272Z04500HPS KN25.....	G70	B272Z10720HPG KCPK20.....	G71	B273Z06500SGL KCMS20.....	G72	B274Z04000SGL KCMS20.....	G73
B272Z04500SGL KCMS20.....	G70	B272Z11000HPG KCPK20.....	G71	B273Z06746HPG KCPK20.....	G72	B274Z04300HPG KCPK20.....	G73
B272Z04623HPG KCPK20.....	G70	B272Z11000HPS KN25.....	G71	B273Z06746HPS KN25.....	G72	B274Z04500HPG KCPK20.....	G73
B272Z04763HPG KCPK20.....	G70	B272Z11000SGL KCMS20.....	G71	B273Z07000HPG KCPK20.....	G72	B274Z04500HPS KN25.....	G73
B272Z04763HPS KN25.....	G70	B272Z1113SGL KCMS20.....	G71	B273Z07000HPS KN25.....	G72	B274Z04500SGL KCMS20.....	G73
B272Z04763SGL KCMS20.....	G70	B272Z11500HPG KCPK20.....	G71	B273Z07000SGL KCMS20.....	G72	B274Z04763HPG KCPK20.....	G73
B272Z04800SGL KCMS20.....	G70	B272Z11500HPS KN25.....	G71	B273Z07500HPG KCPK20.....	G72	B274Z04763SGL KCMS20.....	G73
B272Z05000HPG KCPK20.....	G70	B272Z11500SGL KCMS20.....	G71	B273Z08000HPG KCPK20.....	G72	B274Z05000HPG KCPK20.....	G73
B272Z05000HPS KN25.....	G70	B272Z11800HPG KCPK20.....	G71	B273Z08000HPS KN25.....	G72	B274Z05000HPS KN25.....	G73
B272Z05000SGL KCMS20.....	G70	B272Z12000HPG KCPK20.....	G71	B273Z08000SGL KCMS20.....	G72	B274Z05000SGL KCMS20.....	G73
B272Z05200HPG KCPK20.....	G70	B272Z12000HPS KN25.....	G71	B273Z08500HPG KCPK20.....	G72	B274Z05100HPG KCPK20.....	G73
B272Z05260HPG KCPK20.....	G70	B272Z12000SGL KCMS20.....	G71	B273Z08500HPS KN25.....	G72	B274Z05100SGL KCMS20.....	G73
B272Z05410HPG KCPK20.....	G70	B272Z12500HPG KCPK20.....	G71	B273Z08500SGL KCMS20.....	G72	B274Z05500HPG KCPK20.....	G73
B272Z05500HPG KCPK20.....	G70	B272Z12500HPS KN25.....	G71	B273Z08733HPG KCPK20.....	G72	B274Z05500HPS KN25.....	G73
B272Z05500HPS KN25.....	G70	B272Z12500SGL KCMS20.....	G71	B273Z08733HPS KN25.....	G72	B274Z05500SGL KCMS20.....	G73
B272Z05500SGL KCMS20.....	G70	B272Z12700HPG KCPK20.....	G71	B273Z09000HPG KCPK20.....	G72	B274Z05558SGL KCMS20.....	G73
B272Z05558HPG KCPK20.....	G70	B272Z12700HPS KN25.....	G71	B273Z09000SGL KCMS20.....	G72	B274Z05700HPG KCPK20.....	G73
B272Z05558SGL KCMS20.....	G70	B272Z12700SGL KCMS20.....	G71	B273Z09525HPS KN25.....	G72	B274Z06000HPG KCPK20.....	G73
B272Z05800HPG KCPK20.....	G70	B272Z13000HPG KCPK20.....	G71	B273Z10000HPG KCPK20.....	G72	B274Z06000HPS KN25.....	G73
B272Z05800HPS KN25.....	G70	B272Z13000HPS KN25.....	G71	B273Z10000HPS KN25.....	G72	B274Z06000SGL KCMS20.....	G73
B272Z05800SGL KCMS20.....	G70	B272Z13000SGL KCMS20.....	G71	B273Z10000SGL KCMS20.....	G72	B274Z06350HPG KCPK20.....	G73
B272Z06000HPG KCPK20.....	G70	B272Z13100HPG KCPK20.....	G71	B273Z10200HPG KCPK20.....	G72	B274Z06350HPS KN25.....	G73
B272Z06000HPS KN25.....	G70	B272Z13500HPG KCPK20.....	G71	B273Z10500HPG KCPK20.....	G72	B274Z06350SGL KCMS20.....	G73
B272Z06000SGL KCMS20.....	G70	B272Z13500HPS KN25.....	G71	B273Z10500HPS KN25.....	G72	B274Z06500HPG KCPK20.....	G73
B272Z06200HPG KCPK20.....	G70	B272Z14000HPG KCPK20.....	G71	B273Z11000HPG KCPK20.....	G72	B274Z06500HPS KN25.....	G73
B272Z06200HPS KN25.....	G70	B272Z14000HPS KN25.....	G71	B273Z11000HPS KN25.....	G72	B274Z06500SGL KCMS20.....	G73
B272Z06350HPG KCPK20.....	G70	B272Z14000SGL KCMS20.....	G71	B273Z11000SGL KCMS20.....	G72	B274Z06746HPS KN25.....	G73
B272Z06350HPS KN25.....	G70	B272Z14500HPG KCPK20.....	G71	B273Z11500HPG KCPK20.....	G72	B274Z06746SGL KCMS20.....	G73
B272Z06350SGL KCMS20.....	G70	B272Z14500HPS KN25.....	G71	B273Z11500HPS KN25.....	G72	B274Z06800HPG KCPK20.....	G73
B272Z06500HPG KCPK20.....	G70	B272Z14500SGL KCMS20.....	G71	B273Z12000HPG KCPK20.....	G72	B274Z07000HPG KCPK20.....	G73
B272Z06500HPS KN25.....	G70	B272Z15000HPG KCPK20.....	G71	B273Z12000HPS KN25.....	G72	B274Z07000HPS KN25.....	G73
B272Z06500SGL KCMS20.....	G70	B272Z15000HPS KN25.....	G71	B273Z12000SGL KCMS20.....	G72	B274Z07000SGL KCMS20.....	G73
B272Z06528HPG KCPK20.....	G70						

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B274Z07145SGL KCMS20	G73	B275Z04763HPG KCPK20	G75	B284D04600HPS KN15	G82	B284D12700HPS KN15	G84
B274Z07500SGL KCMS20	G73	B275Z04763HPS KN25	G75	B284D04700HPS KN15	G82	B284D13000HPS KN15	G84
B274Z07700HPG KCPK20	G74	B275Z04763SGL KCMS20	G75	B284D04763HPS KN15	G82	B284D13096HPS KN15	G84
B274Z07938HPG KCPK20	G74	B275Z05000HPG KCPK20	G75	B284D04800HPS KN15	G82	B284D13100HPS KN15	G84
B274Z07938SGL KCMS20	G74	B275Z05000HPS KN25	G75	B284D04900HPS KN15	G82	B284D13300HPS KN15	G84
B274Z08000HPG KCPK20	G74	B275Z05000SGL KCMS20	G75	B284D05000HPS KN15	G82	B284D13400HPS KN15	G84
B274Z08000HPS KN25	G74	B275Z05500HPG KCPK20	G75	B284D05100HPS KN15	G82	B284D13500HPS KN15	G84
B274Z08000SGL KCMS20	G74	B275Z05500HPS KN25	G75	B284D05106HPS KN15	G82	B284D14000HPS KN15	G84
B274Z08334HPG KCPK20	G74	B275Z05500SGL KCMS20	G75	B284D05159HPS KN15	G82	B284D14200HPS KN15	G84
B274Z08500HPG KCPK20	G74	B275Z05558HPG KCPK20	G75	B284D05200HPS KN15	G82	B284D14288HPS KN15	G84
B274Z08500HPS KN25	G74	B275Z05558HPS KN25	G75	B284D05300HPS KN15	G82	B284D14500HPS KN15	G84
B274Z08500SGL KCMS20	G74	B275Z0558SGL KCMS20	G75	B284D05400HPS KN15	G82	B284D14684HPS KN15	G84
B274Z08700HPG KCPK20	G74	B275Z06000HPG KCPK20	G75	B284D05410HPS KN15	G82	B284D15000HPS KN15	G84
B274Z08733HPS KN25	G74	B275Z06000HPS KN25	G75	B284D05500HPS KN15	G82	B284D15083HPS KN15	G84
B274Z08733SGL KCMS20	G74	B275Z06000SGL KCMS20	G75	B284D05558HPS KN15	G82	B284D15100HPS KN15	G84
B274Z09000HPG KCPK20	G74	B275Z06000HPG KCPK20	G75	B284D05600HPS KN15	G83	B284D15000HPS KN15	G84
B274Z09000HPS KN25	G74	B275Z06350HPS KN25	G75	B284D05791HPS KN15	G83	B284D15400HPS KN15	G84
B274Z09000SGL KCMS20	G74	B275Z06350SGL KCMS20	G75	B284D05800HPS KN15	G83	B284D15875HPS KN15	G84
B274Z09129SGL KCPK20	G74	B275Z06500HPG KCPK20	G75	B284D05954HPS KN15	G83	B284D16000HPS KN15	G84
B274Z09525HPG KCPK20	G74	B275Z06500HPS KN25	G75	B284D06000HPS KN15	G83	B284D16500HPS KN15	G84
B274Z09525HPS KN25	G74	B275Z06500SGL KCMS20	G75	B284D06200HPS KN15	G83	B284D16700HPS KN15	G84
B274Z09525SGL KCMS20	G74	B275Z06800HPG KCPK20	G75	B284D06300HPS KN15	G83	B284D16800HPS KN15	G84
B274Z10000HPG KCPK20	G74	B275Z06800HPS KN25	G75	B284D06350HPS KN15	G83	B284D16900HPS KN15	G84
B274Z10000HPS KN25	G74	B275Z06800SGL KCMS20	G75	B284D06400HPS KN15	G83	B284D17000HPS KN15	G84
B274Z10000SGL KCMS20	G74	B275Z07000HPG KCPK20	G75	B284D06500HPS KN15	G83	B284D17300HPS KN15	G84
B274Z10200HPG KCPK20	G74	B275Z07000HPS KN25	G75	B284D06528HPS KN15	G83	B284D17463HPS KN15	G84
B274Z10200HPS KN25	G74	B275Z07000SGL KCMS20	G75	B284D06600HPS KN15	G83	B284D17500HPS KN15	G84
B274Z10500HPG KCPK20	G74	B275Z07145HPG KCPK20	G75	B284D06630HPS KN15	G83	B284D17859HPS KN15	G84
B274Z10500SGL KCMS20	G74	B275Z07145HPS KN25	G75	B284D06700HPS KN15	G83	B284D18000HPS KN15	G84
B274Z10716HPG KCPK20	G74	B275Z07145SGL KCMS20	G75	B284D06746HPS KN15	G83	B284D19000HPS KN15	G84
B274Z11000HPG KCPK20	G74	B275Z07500HPG KCPK20	G75	B284D06800HPS KN15	G83	B284D19050HPS KN15	G84
B274Z11000HPS KN25	G74	B275Z07500HPS KN25	G75	B284D06900HPS KN15	G83	B284D20000HPS KN15	G84
B274Z11000SGL KCMS20	G74	B275Z07500SGL KCMS20	G75	B284D07000HPS KN15	G83	B285D03000HPS KN15	G82
B274Z11500HPG KCPK20	G74	B275Z07938HPG KCPK20	G75	B284D07145HPS KN15	G83	B285D03100HPS KN15	G82
B274Z11500HPS KN25	G74	B275Z07938HPS KN25	G75	B284D07300HPS KN15	G83	B285D03175HPS KN15	G82
B274Z11500SGL KCMS20	G74	B275Z07938SGL KCMS20	G75	B284D07400HPS KN15	G83	B285D03200HPS KN15	G82
B274Z11800HPG KCPK20	G74	B275Z08000HPG KCPK20	G75	B284D07500HPS KN15	G83	B285D03264HPS KN15	G82
B274Z12000HPG KCPK20	G74	B275Z08000HPS KN25	G75	B284D07541HPS KN15	G83	B285D03300HPS KN15	G82
B274Z12000HPS KN25	G74	B275Z08000SGL KCMS20	G75	B284D07600HPS KN15	G83	B285D03455HPS KN15	G82
B274Z12000SGL KCMS20	G74	B275Z08500HPS KN25	G75	B284D07700HPS KN15	G83	B285D03500HPS KN15	G82
B274Z12500HPG KCPK20	G74	B275Z08500SGL KCMS20	G75	B284D07938HPS KN15	G83	B285D03571HPS KN15	G82
B274Z12500HPS KN25	G74	B275Z08733HPG KCPK20	G75	B284D08000HPS KN15	G83	B285D03700HPS KN15	G82
B274Z12700HPG KCPK20	G74	B275Z08733HPS KN25	G75	B284D08334HPS KN15	G83	B285D03734HPS KN15	G82
B274Z12700SGL KCMS20	G74	B275Z08733SGL KCMS20	G75	B284D08400HPS KN15	G83	B285D03900HPS KN15	G82
B274Z13000HPG KCPK20	G74	B275Z09000HPG KCPK20	G75	B284D08433HPS KN15	G83	B285D03970HPS KN15	G82
B274Z13000HPS KN25	G74	B275Z09000HPS KN25	G75	B284D08500HPS KN15	G83	B285D04000HPS KN15	G82
B274Z13000SGL KCMS20	G74	B275Z09000SGL KCMS20	G75	B284D08700HPS KN15	G83	B285D04039HPS KN15	G82
B274Z13500HPG KCPK15	G74	B275Z09525HPG KCPK20	G75	B284D08733HPS KN15	G83	B285D04100HPS KN15	G82
B274Z13500HPS KN25	G74	B275Z09525HPS KN25	G75	B284D08800HPS KN15	G83	B285D04200HPS KN15	G82
B274Z13500SGL KCMS20	G74	B275Z09525SGL KCMS20	G75	B284D08900HPS KN15	G83	B285D04305HPS KN15	G82
B274Z14000HPG KCPK15	G74	B275Z10000HPG KCPK20	G75	B284D09000HPS KN15	G83	B285D04400HPS KN15	G82
B274Z14000HPS KN25	G74	B275Z10000HPS KN25	G75	B284D09100HPS KN15	G83	B285D04500HPS KN15	G82
B274Z14000SGL KCMS20	G74	B275Z10000SGL KCMS20	G75	B284D09129HPS KN15	G83	B285D04600HPS KN15	G82
B274Z15000HPG KCPK15	G74	B275Z10200HPG KCPK15	G75	B284D09300HPS KN15	G83	B285D04700HPS KN15	G82
B274Z15000HPS KN25	G74	B275Z10200HPS KN25	G75	B284D09400HPS KN15	G83	B285D04763HPS KN15	G82
B274Z15000SGL KCMS20	G74	B275Z10200SGL KCMS20	G75	B284D09500HPS KN15	G83	B285D04800HPS KN15	G82
B275Z02500KMG KCPK20	G75	B275Z10320HPG KCPK15	G75	B284D09525HPS KN15	G83	B285D04900HPS KN15	G82
B275Z02500KMS KN25	G75	B275Z10320HPS KN25	G75	B284D09900HPS KN15	G83	B285D05000HPS KN15	G82
B275Z02500SGL KCMS20	G75	B275Z10320SGL KCMS20	G75	B284D09921HPS KN15	G83	B285D05100HPS KN15	G82
B275Z03000HPS KN25	G75	B275Z11000HPS KN25	G75	B284D10000HPS KN15	G83	B285D05106HPS KN15	G82
B275Z03000KMG KCPK20	G75	B275Z11000SGL KCMS20	G75	B284D10100HPS KN15	G83	B285D05159HPS KN15	G82
B275Z03000SGL KCMS20	G75	B284D03000HPS KN15	G82	B284D10200HPS KN15	G83	B285D05200HPS KN15	G82
B275Z03175HPG KCPK20	G75	B284D03100HPS KN15	G82	B284D10300HPS KN15	G83	B285D05300HPS KN15	G82
B275Z03175HPS KN25	G75	B284D03175HPS KN15	G82	B284D10320HPS KN15	G83	B285D05400HPS KN15	G82
B275Z03175SGL KCMS20	G75	B284D03200HPS KN15	G82	B284D10500HPS KN15	G83	B285D05410HPS KN15	G82
B275Z03500HPG KCPK20	G75	B284D03264HPS KN15	G82	B284D10600HPS KN15	G83	B285D05500HPS KN15	G82
B275Z03500HPS KN25	G75	B284D03300HPS KN15	G82	B284D10716HPS KN15	G84	B285D05558HPS KN15	G82
B275Z03500SGL KCMS20	G75	B284D03455HPS KN15	G82	B284D10800HPS KN15	G84	B285D05600HPS KN15	G83
B275Z03571HPG KCPK20	G75	B284D03500HPS KN15	G82	B284D11000HPS KN15	G84	B285D05791HPS KN15	G83
B275Z03571HPS KN25	G75	B284D03571HPS KN15	G82	B284D11100HPS KN15	G84	B285D06000HPS KN15	G83
B275Z03571SGL KCMS20	G75	B284D03700HPS KN15	G82	B284D11113HPS KN15	G84	B285D06200HPS KN15	G83
B275Z03970HPG KCPK20	G75	B284D03734HPS KN15	G82	B284D11200HPS KN15	G84	B285D06300HPS KN15	G83
B275Z03970HPS KN25	G75	B284D03900HPS KN15	G82	B284D11300HPS KN15	G84	B285D06350HPS KN15	G83
B275Z03970SGL KCMS20	G75	B284D03970HPS KN15	G82	B284D11400HPS KN15	G84	B285D06400HPS KN15	G83
B275Z04000HPG KCPK20	G75	B284D04000HPS KN15	G82	B284D11500HPS KN15	G84	B285D06500HPS KN15	G83
B275Z04000HPS KN25	G75	B284D04039HPS KN15	G82	B284D11509HPS KN15	G84	B285D06528HPS KN15	G83
B275Z04000SGL KCMS20	G75	B284D04100HPS KN15	G82	B284D11800HPS KN15	G84	B285D06600HPS KN15	G83
B275Z04200HPG KCPK20	G75	B284D04200HPS KN15	G82	B284D11908HPS KN15	G84	B285D06630HPS KN15	G83
B275Z04200HPS KN25	G75	B284D04305HPS KN15	G82	B284D12000HPS KN15	G84	B285D06700HPS KN15	G83
B275Z04200SGL KCMS20	G75	B284D04366HPS KN15	G82	B284D12304HPS KN15	G84	B285D06746HPS KN15	G83
B275Z04500HPS KN25	G75	B284D04400HPS KN15	G82	B284D12500HPS KN15	G84	B285D06800HPS KN15	G83
B275Z04500SGL KCMS20	G75	B284D04500HPS KN15	G82	B284D12600HPS KN15	G84	B285D06900HPS KN15	G83

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B292A05558YPL KC7315	.....G88	B343S01495HPG KC7315	.....18	B343S04528HPG KC7315	.....19	B411A17000 KF1	.....G95
B292A05600YPL KC7315	.....G88	B343S01496HPG KC7315	.....18	B343S04531HPG KC7315	.....19	B411A17500 KF1	.....G95
B292A05800YPL KC7315	.....G88	B343S01563HPG KC7315	.....18	B343S04606HPG KC7315	.....19	B411A18000 KF1	.....G95
B292A06000YPL KC7315	.....G88	B343S01575HPG KC7315	.....18	B343S04646HPG KC7315	.....19	B411A19000 KF1	.....G95
B292A06200YPL KC7315	.....G88	B343S01614HPG KC7315	.....18	B343S04688HPG KC7315	.....19	B411A19500 KF1	.....G95
B292A06350YPL KC7315	.....G89	B343S01654HPG KC7315	.....18	B343S04724HPG KC7315	.....19	B411A20000 KF1	.....G95
B292A06500YPL KC7315	.....G89	B343S01693HPG KC7315	.....18	B343S04803HPG KC7315	.....19	B411A21000 KF1	.....G95
B292A06528YPL KC7315	.....G89	B343S01772HPG KC7315	.....18	B343S04921HPG KC7315	.....19	B411A22000 KF1	.....G95
B292A06600YPL KC7315	.....G89	B343S01811HPG KC7315	.....18	B343S05000HPG KC7315	.....19	B411A23000 KF1	.....G95
B292A06746YPL KC7315	.....G89	B343S01820HPG KC7315	.....18	B343S05039HPG KC7315	.....19	B411A24000 KF1	.....G95
B292A06800YPL KC7315	.....G89	B343S01875HPG KC7315	.....18	B343S05118HPG KC7315	.....19	B411A25000 KF1	.....G95
B292A06900YPL KC7315	.....G89	B343S01929HPG KC7315	.....18	B343S05197HPG KC7315	.....19	B501Z04000 K10	.....G144
B292A07000YPL KC7315	.....G89	B343S01969HPG KC7315	.....18	B343S05315HPG KC7315	.....19	B501Z06000 K10	.....G144
B292A07100YPL KC7315	.....G89	B343S02008HPG KC7315	.....18	B343S05512HPG KC7315	.....19	B501Z10000 K10	.....G144
B292A07145YPL KC7315	.....G89	B343S02047HPG KC7315	.....18	B343S05591HPG KC7315	.....19	B501Z12000 K10	.....G144
B292A07200YPL KC7315	.....G89	B343S02087HPG KC7315	.....18	B343S05625HPG KC7315	.....19	B505Z04000 K10	.....G144
B292A07400YPL KC7315	.....G89	B343S02126HPG KC7315	.....18	B343S05906HPG KC7315	.....19	B505Z06000 K10	.....G144
B292A07500YPL KC7315	.....G89	B343S02130HPG KC7315	.....18	B343S06102HPG KC7315	.....19	B505Z08000 K10	.....G144
B292A07600YPL KC7315	.....G89	B343S02165HPG KC7315	.....18	B343S06250HPG KC7315	.....19	B505Z10000 K10	.....G144
B292A07900YPL KC7315	.....G89	B343S02185HPG KC7315	.....18	B343S06299HPG KC7315	.....19	B505Z12000 K10	.....G144
B292A07938YPL KC7315	.....G89	B343S02188HPG KC7315	.....18	B343S06496HPG KC7315	.....19	B505Z16000 K10	.....G144
B292A08000YPL KC7315	.....G89	B343S02205HPG KC7315	.....18	B343S06562HPG KC7315	.....19	B505Z20000 K10	.....G144
B292A08100YPL KC7315	.....G89	B343S02283HPG KC7315	.....18	B343S06693HPG KC7315	.....19	B510S08000 A30	.....J86
B292A08200YPL KC7315	.....G89	B343S02362HPG KC7315	.....18	B343S06890HPG KC7315	.....19	B510S08000 AS3	.....J86
B292A08334YPL KC7315	.....G89	B343S02402HPG KC7315	.....18	B343S06969HPG KC7315	.....19	B510S10000 A30	.....J86
B292A08433YPL KC7315	.....G89	B343S02441HPG KC7315	.....18	B343S07087HPG KC7315	.....19	B510S10000 AS3	.....J86
B292A08500YPL KC7315	.....G89	B343S02480HPG KC7315	.....18	B411A03200 KF1	.....G94	B510S15000 A30	.....J86
B292A08600YPL KC7315	.....G89	B343S02500HPG KC7315	.....18	B411A03300 KF1	.....G94	B510S15000 AS3	.....J86
B292A08733YPL KC7315	.....G89	B343S02520HPG KC7315	.....18	B411A03800 KF1	.....G94	B510S20000 A30	.....J86
B292A08800YPL KC7315	.....G89	B343S02559HPG KC7315	.....18	B411A04000 KF1	.....G94	B510S20000 AS3	.....J86
B292A08900YPL KC7315	.....G89	B343S02570HPG KC7315	.....18	B411A04200 KF1	.....G94	B510S25000 A30	.....J86
B292A09000YPL KC7315	.....G89	B343S02598HPG KC7315	.....18	B411A04500 KF1	.....G94	B510S25000 AS3	.....J86
B292A09130YPL KC7315	.....G89	B343S02638HPG KC7315	.....18	B411A04600 KF1	.....G94	B510S30000 A30	.....J86
B292A09200YPL KC7315	.....G89	B343S02656HPG KC7315	.....19	B411A04650 KF1	.....G94	B510S30000 AS3	.....J86
B292A09347YPL KC7315	.....G89	B343S02677HPG KC7315	.....19	B411A04800 KF1	.....G94	B511S08000 KC7315	.....J86
B292A09500YPL KC7315	.....G89	B343S02717HPG KC7315	.....19	B411A04900 KF1	.....G94	B511S10000 KC7315	.....J86
B292A09525YPL KC7315	.....G89	B343S02756HPG KC7315	.....19	B411A05000 KF1	.....G94	B511S15000 KC7315	.....J86
B292A09600YPL KC7315	.....G89	B343S02813HPG KC7315	.....19	B411A05100 KF1	.....G94	B511S20000 KC7315	.....J86
B292A09700YPL KC7315	.....G89	B343S02874HPG KC7315	.....19	B411A05200 KF1	.....G94	B511S25000 KC7315	.....J86
B292A09800YPL KC7315	.....G89	B343S02913HPG KC7315	.....19	B411A05500 KF1	.....G94	B511S30000 KC7315	.....J86
B292A10000YPL KC7315	.....G89	B343S02953HPG KC7315	.....19	B411A05550 KF1	.....G94	B513S08000 A30	.....J76
B292A10100YPL KC7315	.....G89	B343S02969HPG KC7315	.....19	B411A05600 KF1	.....G94	B513S08000 AS3	.....J76
B292A10200YPL KC7315	.....G89	B343S03071HPG KC7315	.....19	B411A05800 KF1	.....G94	B513S10000 A30	.....J76
B292A10320YPL KC7315	.....G89	B343S03110HPG KC7315	.....19	B411A06000 KF1	.....G94	B513S10000 AS3	.....J76
B292A10500YPL KC7315	.....G89	B343S03125HPG KC7315	.....19	B411A06100 KF1	.....G94	B514S10000 KC7030	.....J76
B292A10716YPL KC7315	.....G89	B343S03150HPG KC7315	.....19	B411A06300 KF1	.....G94	B514S10000 KC7030	.....J76
B292A11000YPL KC7315	.....G89	B343S03189HPG KC7315	.....19	B411A06400 KF1	.....G94	B531A03200SPF KDF400	.....G100
B292A11112YPL KC7315	.....G89	B343S03228HPG KC7315	.....19	B411A06500 KF1	.....G94	B531A03300SPF KDF400	.....G100
B292A11500YPL KC7315	.....G89	B343S03268HPG KC7315	.....19	B411A06600 KF1	.....G94	B531A03600SPF KDF400	.....G100
B292A11509YPL KC7315	.....G89	B343S03281HPG KC7315	.....19	B411A06800 KF1	.....G94	B531A04000SPF KDF400	.....G100
B292A11908YPL KC7315	.....G89	B343S03307HPG KC7315	.....19	B411A07000 KF1	.....G94	B531A04366SPF KDF400	.....G100
B292A12000YPL KC7315	.....G90	B343S03320HPG KC7315	.....19	B411A07400 KF1	.....G94	B531A04851SPF KDF400	.....G100
B292A12304YPL KC7315	.....G90	B343S03346HPG KC7315	.....19	B411A07500 KF1	.....G94	B531A04864SPF KDF400	.....G100
B292A12500YPL KC7315	.....G90	B343S03386HPG KC7315	.....19	B411A07700 KF1	.....G94	B531A05100SPF KDF400	.....G100
B292A12700YPL KC7315	.....G90	B343S03425HPG KC7315	.....19	B411A07800 KF1	.....G94	B531A05200SPF KDF400	.....G100
B292A13000YPL KC7315	.....G90	B343S03438HPG KC7315	.....19	B411A08000 KF1	.....G94	B531A06000SPF KDF400	.....G100
B292A13500YPL KC7315	.....G90	B343S03465HPG KC7315	.....19	B411A08400 KF1	.....G94	B531A06375SPF KDF400	.....G100
B292A13900YPL KC7315	.....G90	B343S03543HPG KC7315	.....19	B411A08500 KF1	.....G94	B531A06400SPF KDF400	.....G100
B292A14000YPL KC7315	.....G90	B343S03583HPG KC7315	.....19	B411A08700 KF1	.....G95	B531A06500SPF KDF400	.....G100
B292A14200YPL KC7315	.....G90	B343S03680HPG KC7315	.....19	B411A08800 KF1	.....G95	B531A07938SPF KDF400	.....G100
B292A14288YPL KC7315	.....G90	B343S03701HPG KC7315	.....19	B411A09000 KF1	.....G95	B531A09550SPF KDF400	.....G100
B292A14500YPL KC7315	.....G90	B343S03740HPG KC7315	.....19	B411A09300 KF1	.....G95	B531A09563SPF KDF400	.....G100
B292A15000YPL KC7315	.....G90	B343S03750HPG KC7315	.....19	B411A09500 KF1	.....G95	B531A11125SPF KDF400	.....G100
B292A15500YPL KC7315	.....G90	B343S03819HPG KC7315	.....19	B411A09800 KF1	.....G95	B531A12725SPF KDF400	.....G100
B292A15600YPL KC7315	.....G90	B343S03858HPG KC7315	.....19	B411A10000 KF1	.....G95	B532A03200SPF KDF400	.....G100
B292A15875YPL KC7315	.....G90	B343S03906HPG KC7315	.....19	B411A10200 KF1	.....G95	B532A03600SPF KDF400	.....G100
B292A16000YPL KC7315	.....G90	B343S03937HPG KC7315	.....19	B411A10500 KF1	.....G95	B532A03600SPF KDF400	.....G100
B292A16500YPL KC7315	.....G90	B343S03976HPG KC7315	.....19	B411A11000 KF1	.....G95	B532A04366SPF KDF400	.....G100
B292A17000YPL KC7315	.....G90	B343S04016HPG KC7315	.....19	B411A11200 KF1	.....G95	B532A04851SPF KDF400	.....G100
B292A17463YPL KC7315	.....G90	B343S04055HPG KC7315	.....19	B411A11500 KF1	.....G95	B532A05100SPF KDF400	.....G100
B292A17500YPL KC7315	.....G90	B343S04063HPG KC7315	.....19	B411A11800 KF1	.....G95	B532A05200SPF KDF400	.....G100
B292A18000YPL KC7315	.....G90	B343S04094HPG KC7315	.....19	B411A12000 KF1	.....G95	B532A06000SPF KDF400	.....G100
B292A18500YPL KC7315	.....G90	B343S04134HPG KC7315	.....19	B411A12500 KF1	.....G95	B532A06375SPF KDF400	.....G100
B292A19000YPL KC7315	.....G90	B343S04173HPG KC7315	.....19	B411A13000 KF1	.....G95	B532A06400SPF KDF400	.....G100
B292A19050YPL KC7315	.....G90	B343S04213HPG KC7315	.....19	B411A13500 KF1	.....G95	B532A06500SPF KDF400	.....G100
B292A20000YPL KC7315	.....G90	B343S04219HPG KC7315	.....19	B411A13800 KF1	.....G95	B532A06700SPF KDF400	.....G100
B292A20500YPL KC7315	.....G90	B343S04252HPG KC7315	.....19	B411A14000 KF1	.....G95	B532A07200SPF KDF400	.....G100
B292A21000YPL KC7315	.....G90	B343S04331HPG KC7315	.....19	B411A14500 KF1	.....G95	B532A07938SPF KDF400	.....G100
B32CTFPR4	.....B184, B390	B343S04370HPG KC7315	.....19	B411A15000 KF1	.....G95	B532A09563SPF KDF400	.....G100
B343S01250HPG KC7315	.....18	B343S04375HPG KC7315	.....19	B411A15500 KF1	.....G95	B532A12725SPF KDF400	.....G100
B343S01339HPG KC7315	.....18	B343S04409HPG KC7315	.....19	B411A16000 KF1	.....G95	B551A04763DAL KN15	.....G104
B343S01378HPG KC7315	.....18	B343S04449HPG KC7315	.....19	B411A16500 KF1	.....G95	B551A06350DAL KN15	.....G104

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B551A07938DAL KN15.....	G104	B707A08000FBL KCMS15.....	G111	B707A14500FBS KN15.....	G111	B732A10500HP KCPK15.....	G119
B551A09525DAL KN15.....	G104	B707A08000FBS KN15.....	G111	B707A15000FBL KC7315.....	G111	B732A10716HP KCPK15.....	G119
B551A11113DAL KN15.....	G104	B707A08334FBL KC7315.....	G111	B707A15000FBL KCMS15.....	G111	B732A12000HP KCPK15.....	G119
B551A112700DAL KN15.....	G104	B707A08500FBL KC7315.....	G111	B707A15000FBS KN15.....	G111	B732A12500HP KCPK15.....	G119
B551A14288DAL KN15.....	G104	B707A08500FBL KCMS15.....	G111	B707A15250FBL KC7315.....	G112	B732A13096HP KCPK15.....	G119
B551A15875DAL KN15.....	G104	B707A08500FBS KN15.....	G111	B707A15250FBL KCMS15.....	G112	B732A13495HP KCPK15.....	G119
B556A04763DAL KN15.....	G104	B707A08800FBL KC7315.....	G111	B707A15250FBS KN15.....	G112	B732A14000HP KCPK15.....	G119
B556A04826DAL KN15.....	G104	B707A08800FBL KCMS15.....	G111	B707A15500FBL KC7315.....	G112	B732A16670HP KCPK15.....	G119
B556A06350DAL KN15.....	G104	B707A08800FBS KN15.....	G111	B707A15500FBL KCMS15.....	G112	B732A17463HP KCPK15.....	G119
B556A06375DAL KN15.....	G104	B707A09000FBL KC7315.....	G111	B707A15500FBS KN15.....	G112	B941A03000 KCH10.....	G124
B556A07938DAL KN15.....	G104	B707A09000FBL KCMS15.....	G111	B707A15875FBL KC7315.....	G112	B941A03300 KCH10.....	G124
B556A09525DAL KN15.....	G104	B707A09000FBS KN15.....	G111	B707A15875FBS KN15.....	G112	B941A03400 KCH10.....	G124
B556A11113DAL KN15.....	G104	B707A09129FBL KC7315.....	G111	B707A16000FBL KC7315.....	G112	B941A03500 KCH10.....	G124
B556A12700DAL KN15.....	G104	B707A09500FBL KC7315.....	G111	B707A16000FBL KCMS15.....	G112	B941A04000 KCH10.....	G124
B556A14288DAL KN15.....	G104	B707A09500FBS KN15.....	G111	B707A16000FBS KN15.....	G112	B941A04200 KCH10.....	G124
B556A15875DAL KN15.....	G104	B707A09500FBL KCMS15.....	G111	B707A16500FBL KC7315.....	G112	B941A04300 KCH10.....	G124
B707A03000FBL KC7315.....	G110	B707A09525FBL KCMS15.....	G111	B707A16500FBL KCMS15.....	G112	B941A04500 KCH10.....	G124
B707A03000FBL KCMS15.....	G110	B707A09525FBS KN15.....	G111	B707A16500FBS KN15.....	G112	B941A05000 KCH10.....	G124
B707A03000FBS KN15.....	G110	B707A09800FBL KC7315.....	G111	B707A16500FBS KN15.....	G112	B941A05100 KCH10.....	G124
B707A03175FBL KC7315.....	G110	B707A09800FBL KCMS15.....	G111	B707A17000FBL KC7315.....	G112	B941A05200 KCH10.....	G124
B707A03175FBL KCMS15.....	G110	B707A10000FBL KC7315.....	G111	B707A17000FBL KCMS15.....	G112	B941A05500 KCH10.....	G124
B707A03175FBS KN15.....	G110	B707A10000FBL KCMS15.....	G111	B707A17000FBS KN15.....	G112	B941A05600 KCH10.....	G124
B707A03500FBL KC7315.....	G110	B707A10000FBS KN15.....	G111	B707A17463FBL KC7315.....	G112	B941A06000 KCH10.....	G124
B707A03500FBL KCMS15.....	G110	B707A10200FBL KC7315.....	G111	B707A17500FBL KC7315.....	G112	B941A06900 KCH10.....	G124
B707A03500FBS KN15.....	G110	B707A10320FBL KC7315.....	G111	B707A17500FBL KCMS15.....	G112	B941A07000 KCH10.....	G124
B707A03700FBL KC7315.....	G110	B707A10320FBL KCMS15.....	G111	B707A17500FBS KN15.....	G112	B941A07100 KCH10.....	G124
B707A03800FBL KCMS15.....	G110	B707A10320FBS KN15.....	G111	B707A17900FBL KC7315.....	G112	B941A08000 KCH10.....	G124
B707A03970FBL KC7315.....	G110	B707A10500FBL KC7315.....	G111	B707A18000FBL KC7315.....	G112	B941A08500 KCH10.....	G124
B707A04000FBL KC7315.....	G110	B707A10500FBL KCMS15.....	G111	B707A18000FBL KCMS15.....	G112	B941A08600 KCH10.....	G124
B707A04000FBL KCMS15.....	G110	B707A10500FBS KN15.....	G111	B707A18000FBS KN15.....	G112	B941A09000 KCH10.....	G124
B707A04000FBS KN15.....	G110	B707A10600FBL KC7315.....	G111	B707A18500FBL KC7315.....	G112	B941A09000 KCH10.....	G124
B707A04200FBL KC7315.....	G110	B707A10600FBL KCMS15.....	G111	B707A18500FBL KCMS15.....	G112	B941A10000 KCH10.....	G124
B707A04200FBS KN15.....	G110	B707A10800FBL KC7315.....	G111	B707A19000FBL KC7315.....	G112	B941A10200 KCH10.....	G124
B707A04400FBL KC7315.....	G110	B707A11000FBL KC7315.....	G111	B707A19000FBL KCMS15.....	G112	B941A10400 KCH10.....	G124
B707A04400FBL KCMS15.....	G110	B707A11000FBS KN15.....	G111	B707A19000FBS KN15.....	G112	B941A10500 KCH10.....	G124
B707A04400FBS KN15.....	G110	B707A11111FBL KC7315.....	G111	B707A19050FBL KC7315.....	G112	B941A11100 KCH10.....	G124
B707A04500FBL KC7315.....	G110	B707A11111FBL KCMS15.....	G111	B707A19050FBL KCMS15.....	G112	B941A12000 KCH10.....	G124
B707A04500FBL KCMS15.....	G110	B707A11111FBS KN15.....	G111	B707A19050FBS KN15.....	G112	B941A14000 KCH10.....	G124
B707A04500FBS KN15.....	G110	B707A11350FBL KC7315.....	G111	B707A20000FBL KC7315.....	G112	B941Z02500 KCH10.....	G124
B707A04763FBL KC7315.....	G110	B707A11509FBL KC7315.....	G111	B707A20000FBL KCMS15.....	G112	B951A03000 KCH10.....	G125
B707A04800FBL KC7315.....	G110	B707A11509FBL KCMS15.....	G111	B707A20000FBS KN15.....	G112	B951A03175 KCH10.....	G125
B707A04800FBL KCMS15.....	G110	B707A11509FBS KN15.....	G111	B707A21000FBL KC7315.....	G112	B951A03454 KCH10.....	G125
B707A04800FBS KN15.....	G110	B707A11570FBL KC7315.....	G111	B707A21000FBL KCMS15.....	G112	B951A03500 KCH10.....	G125
B707A04900FBL KC7315.....	G110	B707A11570FBL KCMS15.....	G111	B707A21000FBS KN15.....	G112	B951A03800 KCH10.....	G125
B707A04900FBS KN15.....	G110	B707A11700FBL KC7315.....	G111	B707A21000FBS KN15.....	G112	B951A04000 KCH10.....	G125
B707A05000FBL KC7315.....	G110	B707A11700FBL KCMS15.....	G111	B731A03734HP KCPK15.....	G118	B951A04100 KCH10.....	G125
B707A05000FBL KCMS15.....	G110	B707A11700FBS KN15.....	G111	B731A04496HP KCPK15.....	G118	B951A04200 KCH10.....	G125
B707A05200FBL KC7315.....	G110	B707A11800FBL KC7315.....	G111	B731A05000HP KCPK15.....	G118	B951A04300 KCH10.....	G125
B707A05200FBL KCMS15.....	G110	B707A11800FBL KCMS15.....	G111	B731A05106HP KCPK15.....	G118	B951A04500 KCH10.....	G125
B707A05200FBS KN15.....	G110	B707A11800FBS KN15.....	G111	B731A05410HP KCPK15.....	G118	B951A04800 KCH10.....	G125
B707A05800FBL KC7315.....	G110	B707A11908FBL KC7315.....	G111	B731A06528HP KCPK15.....	G118	B951A04900 KCH10.....	G125
B707A05800FBL KCMS15.....	G110	B707A12000FBL KC7315.....	G111	B731A06800HP KCPK15.....	G118	B951A05000 KCH10.....	G125
B707A05900FBL KC7315.....	G110	B707A12000FBL KCMS15.....	G111	B731A06909HP KCPK15.....	G118	B951A05500 KCH10.....	G125
B707A05900FBS KN15.....	G110	B707A12000FBS KN15.....	G111	B731A07938HP KCPK15.....	G118	B951A05800 KCH10.....	G125
B707A06000FBL KC7315.....	G110	B707A12100FBL KC7315.....	G111	B731A08433HP KCPK15.....	G118	B951A06000 KCH10.....	G125
B707A06000FBL KCMS15.....	G110	B707A12100FBL KCMS15.....	G111	B731A08500HP KCPK15.....	G118	B951A06350 KCH10.....	G125
B707A06000FBS KN15.....	G110	B707A12100FBS KN15.....	G111	B731A08921HP KCPK15.....	G118	B951A06500 KCH10.....	G125
B707A06350FBL KC7315.....	G110	B707A12500FBL KC7315.....	G111	B731A10200HP KCPK15.....	G118	B951A06800 KCH10.....	G125
B707A06350FBL KCMS15.....	G110	B707A12500FBL KCMS15.....	G111	B731A10500HP KCPK15.....	G118	B951A07000 KCH10.....	G125
B707A06350FBS KN15.....	G110	B707A12500FBS KN15.....	G111	B731A10716HP KCPK15.....	G118	B951A08000 KCH10.....	G125
B707A06500FBL KC7315.....	G110	B707A12700FBL KC7315.....	G111	B731A12000HP KCPK15.....	G118	B951A08500 KCH10.....	G125
B707A06500FBL KCMS15.....	G110	B707A12700FBL KCMS15.....	G111	B731A12304HP KCPK15.....	G118	B951A09000 KCH10.....	G125
B707A06500FBS KN15.....	G110	B707A12700FBS KN15.....	G111	B731A12500HP KCPK15.....	G118	B951A09500 KCH10.....	G125
B707A06800FBL KC7315.....	G110	B707A12800FBL KC7315.....	G111	B731A13096HP KCPK15.....	G118	B951A09800 KCH10.....	G125
B707A06800FBL KCMS15.....	G110	B707A12800FBL KCMS15.....	G111	B731A13495HP KCPK15.....	G118	B951A10000 KCH10.....	G125
B707A06800FBS KN15.....	G110	B707A12800FBS KN15.....	G111	B731A14000HP KCPK15.....	G118	B951A10200 KCH10.....	G125
B707A06800FBS KN15.....	G110	B707A13000FBL KC7315.....	G111	B731A16670HP KCPK15.....	G118	B951A10500 KCH10.....	G125
B707A07000FBL KC7315.....	G110	B707A13000FBL KCMS15.....	G111	B731A17463HP KCPK15.....	G118	B951A10800 KCH10.....	G125
B707A07000FBL KCMS15.....	G110	B707A13000FBS KN15.....	G111	B731A19446HP KCPK15.....	G118	B951A11000 KCH10.....	G125
B707A07000FBS KN15.....	G110	B707A13500FBL KC7315.....	G111	B732A03734HP KCPK15.....	G119	B951A11500 KCH10.....	G125
B707A07145FBL KC7315.....	G111	B707A13500FBL KCMS15.....	G111	B732A04200HP KCPK15.....	G119	B951A11800 KCH10.....	G125
B707A07400FBS KN15.....	G111	B707A13500FBS KN15.....	G111	B732A04496HP KCPK15.....	G119	B951A12000 KCH10.....	G125
B707A07500FBL KC7315.....	G111	B707A14000FBL KC7315.....	G111	B732A05000HP KCPK15.....	G119	B951A12500 KCH10.....	G125
B707A07500FBL KCMS15.....	G111	B707A14000FBL KCMS15.....	G111	B732A05106HP KCPK15.....	G119	B951A12700 KCH10.....	G125
B707A07500FBS KN15.....	G111	B707A14000FBS KN15.....	G111	B732A05410HP KCPK15.....	G119	B951A12800 KCH10.....	G125
B707A07800FBL KC7315.....	G111	B707A14288FBL KC7315.....	G111	B732A06528HP KCPK15.....	G119	B951A13000 KCH10.....	G126
B707A07800FBL KCMS15.....	G111	B707A14288FBL KCMS15.....	G111	B732A06800HP KCPK15.....	G119	B951A13500 KCH10.....	G126
B707A07938FBL KCMS15.....	G111	B707A14288FBS KN15.....	G111	B732A06909HP KCPK15.....	G119	B951A14000 KCH10.....	G126
B707A07938FBS KN15.....	G111	B707A14500FBL KC7315.....	G111	B732A07938HP KCPK15.....	G119	B951A14500 KCH10.....	G126
B707A08000FBL KC7315.....	G111	B707A14500FBL KCMS15.....	G111	B732A08433HP KCPK15.....	G119	B951A15500 KCH10.....	G126
				B732A08500HP KCPK15.....	G119	B951A16000 KCH10.....	G126
				B732A09921HP KCPK15.....	G119	B966A03000 KC7315.....	G130
				B732A10200HP KCPK15.....	G119	B966A03100 KC7315.....	G130

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
B978A16500 KC7315	G141	BT40FBHM1691	K133	C7713VR10-A2.50Z8R	V98	C8FX120508RRP KCP25	E12
B978A17000 KC7315	G141	BT40FBHMKT164M	K127, K131	C7713VR10CA1.00Z3R2.0	V97-98	C8FX150603LMP KCP25	E13
B978A17463 KC7315	G141	BT50BHTS22075M	J91	C7713VR10CA1.25Z4R2.7	V97-98	C8FX150603RMP KCP10	E13
B978A17500 KC7315	G141	BT50BHTS32080M	J91	C7713VR12-A1.50Z4R	V103	C8FX150603RMP KCP25	E13
B978A18000 KC7315	G141	BT50BHTS40080M	J91	C7713VR12-A1.50Z5R	V103	C8FX150603RMP KCP40	E13
B978A18500 KC7315	G141	BT50BHTS50080M	J91	C7713VR12-A2.00Z4R	V103	C8FX150603RMP KCU10	E13
B978A19000 KC7315	G141	BT50BKR32040M	K91	C7713VR12-A2.00Z5R	V103	C8FX150605LMP KCU25	E13
B978A19050 KC7315	G141	BT50BKR50040M	K91	C7713VR12-A2.00Z6R	V103	C8FX150605LMP KCP25	E12
B978A19253 KC7315	G141	BT50BKR63060M	K91	C7713VR12-A2.50Z6R	V103	C8FX150605LMP KCP40	E12
B978A19500 KC7315	G141	BT50BKR80060M	K91	C7713VR12-A2.50Z7R	V103	C8FX150605LMP KCU25	E12
B978A19800 KC7315	G141	BT50BSIF100068M	K49	C7713VR12-A3.00Z8R	V103	C8FX150605RRN KCP10	E12
B978A19840 KC7315	G141	BT50BSIF70063M	K49	C7713VR12CA1.00Z2R2.0	V102-103	C8FX150605RRN KCP25	E12
B978A20000 KC7315	G141	BT50BT13088	K142	C7713VR12CA1.25Z3R2.7	V102-103	C8FX150605RRN KCP40	E12
BGHX15L504ERGET KD1415	S125	BTQSW3L90	S30	C7792VXD09-A1.50Z4R	V12-13	C8FX150605RRN KCU10	E12
BGHX15L504PCFRGG K110M	S125	BTQTZ	S94, S98, S100	C7792VXD09-A1.50Z5R	V12-13	C8FX150605RRN KCU25	E12
BGHX15L508PCFRGG K110M	S125	C11816W KWH	B407	C7792VXD09-A2.00Z5R	V12-13	C8FX150608RRN KCP25	E12
BGHX15L508PCFRGG KC510M	S125	C11820W KWH	B407	C7792VXD09-A2.00Z6R	V12-13	C8FX150608RRN KCU25	E12
BGHX15L515PCFRGG K110M	S125	C11932W KWH	B409	C7792VXD09-A2.00Z7R	V11, V13	C8FX150608RRN KCU25	E12
BGHX15L515PCFRGG KC510M	S125	C11940W KWH	B409	C7792VXD09CA1.00Z2R2	V11, V13	C8FX150608RRN KCP40	E12
BGHX15L5PCFRGGT KD1410	S124	C2FIX110404LMN KCU25	E8	C7792VXD09CA1.00Z3R2	V11, V13	C8FX150608RRN KCP25	E12
BGHX15L5PCFRGGT KD1415	S124	C2FIX110404RMM KCU10	E8	C7792VXD09CA1.25Z3R3	V11, V13	C8FX150608RRN KCP40	E12
BGHX15L5PCFRGGTMM KD1410	S124	C2FIX110405LMN KCP25	E8	C7792VXD09CA1.25Z3R3	V11, V13	C8FX150608RRN KCU25	E12
BGHX15L5PCFRGG K110M	S124	C2FIX110405LMN KCP40	E8	C7792VXD09WA1.00Z2R	V10, V13	C8FX150612LMP KCP25	E12
BGHX15L5PCFRGG KC510M	S124	C2FIX110405LMN KCU10	E8	C7792VXD09WA1.25Z3R	V10, V13	C8FX150612RMP KCP25	E12
BGHX15L5PCSRLET KD1410	S125	C2FIX110405RMM KCP25	E8	C7792VXD12-6.00Z12R	V19-20	C8FX150612RRN KCP25	E12
BGHX15L5PCSRLET KD1415	S125	C2FIX110405RMM KCP40	E8	C7792VXD12-6.00Z15R	V19-20	C8FX180805RMP KCP25	E13
BGHX15L5PCSTRGG K110M	S124	C2FIX110408LMN KCP25	E8	C7792VXD12-6.30Z8R	V19-20	C8FX180808RRN KCP25	E12
BGHX15L5PCSTRGG KC510M	S124	C2FIX110405LMN KCP40	E8	C7792VXD12-A1.50Z4R	V19-20	C8FX180808RRN KCP40	E12
BGHX15L5PCTRHHET KD1410	S125	C2FIX110405LMN KCU25	E8	C7792VXD12-A2.00Z3R	V19-20	C8FX180812LMP KCP25	E12
BMD125R1203C125L700	V69	C2FIX110405LMN KCU10	E8	C7792VXD12-A2.00Z4R	V19-20	C8FX180812RRN KCP25	E12
BMD125R1203M16L150	V68	C2FIX110405RMM KCP25	E8	C7792VXD12-A2.00Z5R	V19-20	C8FX180812RRN KCP40	E12
BMD125R1203W125L200	V68	C2FIX110405RMM KCP40	E8	C7792VXD12-A2.00Z6R	V19-20	C8FX180812RRN KCU25	E12
BMD150R1203C125L800	V69	C2FIX150505LMN KCP25	E8	C7792VXD12-A2.00Z7R	V19-20	C8FX180812RRN KCP25	E12
BMD150R1204M16L150	V68	C2FIX150505LMN KCP40	E8	C7792VXD12-A2.50Z4R	V19-20	C8FX180812RRN KCP40	E12
BMD150R1204S050L158	V70	C2FIX150505LMN KCU10	E8	C7792VXD12-A2.50Z5R	V19-20	C8FX180812RRN KCU25	E12
BMD150R1204W150L200	V68	C2FIX150505RMM KCP25	E8	C7792VXD12-A2.50Z6R	V19-20	C8FX180812RRN KCP25	E12
BMD150R1602C125L800	V76	C2FIX150505RMM KCP40	E8	C7792VXD12-A3.00Z7R	V19-20	C8FX180812RRN KCP40	E12
BMD150R1603M16	V75	C2FIX150510LMN KCP25	E8	C7792VXD12-A3.00Z8R	V19-20	C8FX180812RRN KCU25	E12
BMD150R1603W125L200	V75	C2FIX150510LMN KCP40	E8	C7792VXD12-A3.00Z9R	V19-20	C8FX180812RRN KCP25	E12
BMD200R1203S075L200	V70	C2FIX150512RMM KCU25	E8	C7792VXD12-A4.00Z11R	V19-20	C8FX180812RRN KCP40	E12
BMD200R1205S075L200	V70	C2FIX180610LMN KCU25	E8	C7792VXD12-A4.00Z6R S	V19-20	C8FX180812RRN KCP25	E12
BMD200R1205S075L200	V70	C2FIX180610LMN KCP25	E8	C7792VXD12-A4.00Z7R	V19-20	C8FX180812RRN KCU25	E12
BMD200R1603S075L200	V77	C2FIX180610LMN KCP40	E8	C7792VXD12-A5.00Z11R	V19-20	C8FX180812RRN KCP25	E12
BMD200R1604S075L200	V77	C2FIX180610LMN KCU10	E8	C7792VXD12-A5.00Z13R	V19-20	C8FX180812RRN KCP40	E12
BMD200R6403W150L200	V87	C5230VS09-A2.0Z04R3.1	T128	C7792VXD12-A5.00Z15R	V19-20	C8FX180812RRN KCU25	E12
BMD250R1207S100L200	V70	C5230VS09-A2.0Z4R2.0	T128	C7792VXD12CA1.21.5Z3	V18, V20	C8FX180812RRN KCP25	E12
BMD250R1605S100L200	V77	C5230VS09CA2.0Z04R4.0	T127	C7792VXD12CA1.25Z2R3	V18, V20	C8FX180812RRN KCP40	E12
BMD250R6404S075L200	V88	C5230VS12-A2.5Z4R3.24	T131	C7792VXD12CA1.25Z3R3	V18, V20	C8FX180812RRN KCU25	E12
BMD300R1206S100L200	V70	C5230VS12-A2.5Z4R3.70	T131	C7792VXD12CA1.25Z4R3	V18, V20	C8FX180812RRN KCP25	E12
BMD300R1208S100L200	V70	C5230VS12-A3.0Z5R2.56	T131	C7792VXE16-6.00Z12R	V26-27	C8FX180812RRN KCP40	E12
BMD300R1605S100L200	V77	C5230VS12-A3.0Z5R4.33	T131	C7792VXE16-6.00Z13R	V26-27	C8FX180812RRN KCU25	E12
BMD300R1607S100L200	V77	C5505VX05CA.6Z1R1.6	V114	C7792VXE16-A1.54.00Z7R	V26	C8FX180812RRN KCP25	E12
BMD300R6405S100L200	V88	C5505VX05CA.75/6Z1R1	V114	C7792VXE16-A1.54.00Z9R	V26	C8FX180812RRN KCP40	E12
BMD300R8603S075L200	V91	C5505VX06CA.75R1.7	V114	C7792VXE16-A2.00Z4R	V26-27	C8FX180812RRN KCU25	E12
BMD400R1207S125L200	V70	C5505VX06CA11.75R1.5	V114	C7792VXE16-A2.50Z6R	V26-27	C8FX180812RRN KCP25	E12
BMD400R1209S125L200	V70	C5505VX06WA.750R2.00	V113	C7792VXE16-A2.50Z6R	V26-27	C8FX180812RRN KCP40	E12
BMD400R1608S125L200	V77	C5505VX08CA1.00R2.2	V114	C7792VXE16-A3.00Z6R	V26-27	C8FX180812RRN KCU25	E12
BMD400R6405S125L200	V88	C5505VX08WA1.00R2.37	V112	C7792VXE16-A3.00Z7R	V26-27	C8FX180812RRN KCP25	E12
BMD400R6406S125L200	V88	C5505VX10CA1.25R2.2	V114	C7792VXE16-A4.00Z8R	V26-27	C8FX180812RRN KCP40	E12
BMD400R8605S125L250	V91	C5505VX10WA1.25R3.00	V112	C7792VXE16-A4.00Z9R	V26-27	C8FX180812RRN KCU25	E12
BMD500R6406S150L250	V88	C5505VX10WA1.25R4.00	V112	C7792VXE16-A5.00Z10R	V26-27	C8FX180812RRN KCP25	E12
BMD500R6408S150L250	V88	C5505VX12WA1.50R4.00	V112	C7792VXE16-A5.00Z11R	V26-27	C8FX180812RRN KCP40	E12
BMD500R8606S150L250	V91	C5505VX12WA1.50R6.00	V112	C7792VXE16CA1.50Z2R4	V25	C8FX180812RRN KCU25	E12
BMD600R1610S150L250	V77	C5505VX16WA2.00R4.00	V112	C7792VXE16CA2.00Z3R4	V25, V27	C8FX180812RRN KCP25	E12
BMD600R6407S150L250	V88	C5505VX16WA2.00R6.00 S	V112	C7792VXP06CA.6Z2R5.5	V5-6	C8FX180812RRN KCP40	E12
BMD600R6408S150L250	V88	C5720VZ16-A1.50Z03R	T98	C7792VXP06CA.75Z3R6.1	V5-6	C8FX180812RRN KCU25	E12
BMD600R8607S150L250	V91	C5720VZ16-A2.00Z03R	T98	C7792VXP06CA1.0Z4R6.1	V5-6	C8FX180812RRN KCP25	E12
BMD800R6409S250L250	V88	C5720VZ16-A2.00Z04R	T98	C7792VXP06CA1.25Z5R8	V5-6	C8FX180812RRN KCP40	E12
BMD800R6409S250L250HP	V88	C5720VZ16-A2.50Z04R	T98	C8FX120503LMP KCP10	E13	C8FX180812RRN KCU25	E12
BMD800R8608S250L250	V91	C5720VZ16-A2.50Z05R	T98	C8FX120503LMP KCP25	E13	C8FX180812RRN KCP25	E12
BMD800R8608S250L250HP	V91	C5720VZ16-A3.00Z04R	T98	C8FX120503LMP KCU10	E13	C8FX180812RRN KCP40	E12
BP46	B170, B385	C5720VZ16-A3.00Z05R	T98	C8FX120503RMP KCP25	E13	C8FX180812RRN KCU25	E12
BP68	B170, B385	C5720VZ16CA1.0Z02R2.7	T97	C8FX120503RMP KCU10	E13	CC09	B200-204
BP812	B170, B385	C5720VZ16CA1.25Z2R3.0	T97	C8FX120503RMP KCU25	E13	CC11	B200-203
BT40BDL10200	053	C5720VZ16CA1.25Z3R3.0	T97	C8FX120503RRP KCP25	E12	CCGM3251S0525MTCB1 KBH20	B328
BT40BDL12200	053	C6420 KWH	B408	C8FX120503RRP KCP40	E12	CCGM3252S0525MTCB1 KBH20	B328
BT40BDL16225	053	C6420W KWH	B408	C8FX120504RRP KCP10	E12	CCGT21505HP K313	B189
BT40BDL20225	053	C6424W KWH	B408	C8FX120504RRP KCP25	E12	CCGT21505HP KC5025	B189
BT40BDL25238	053	C6428W KWH	B408	C8FX120505RRP KCP25	E12	CCGT21505HP KCU510	B189
BT40BDL32275	053	C6432W KWH	B408	C8FX120505RRP KCU25	E12	CCGT21505HP KCU10	B189
BT40BKR32030M	K91	C6440W KWH	B408	C8FX120508LMP KCP25	E12	CCGT21505LF KC5025	B189
BT40BKR50050M	K91	C7713VR10-A1.50Z05R	V98	C8FX120508LMP KCP40	E12	CCGT21505LF KCU10	B189
BT40BSIF80063M	K48	C7713VR10-A2.00Z7R	V98	C8FX120508RRP KCP10	E12	CCGT2150LF KC5010	B189
						CCGT2150LF KC5025	B189

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CCGT2150LF KCU10	B189	CCGW325S0415FWMT KBH10	B328	CCMT2151MP KCM25	B191	CCMT3251LF KT315	B191
CCGT2151HP K313	B189	CCGW325S0415FWMT KBH20	B328	CCMT2151MP KCM25B	B191	CCMT3251MF KCK15	B191
CCGT2151HP KC5010	B189	CCGW325S0415MT KB5630	B311, B328	CCMT2151MP KCP10	B191	CCMT3251MF KCK15B	B191
CCGT2151HP KC5025	B189	CCGW325S0415MT KBH10	B328	CCMT2151MP KCP25	B191	CCMT3251MF KCK20	B191
CCGT2151HP KC5410	B189	CCGW325S0415MT KBH20	B328	CCMT2151MP KCU10	B191	CCMT3251MF KCK20B	B191
CCGT2151HP KCU10	B189	CCGW325S0525MT KBH10	B328	CCMT2151UF KC5010	B192	CCMT3251MF KCM15B	B191
CCGT2151HP KCU25	B189	CCGW325S0525MT KBH20	B328	CCMT2151UF KCP05	B192	CCMT3251MF KCM25	B191
CCGT2151LF KC5010	B189	CCGW432S0415MT KBH20	B328	CCMT2151UF KCP10	B192	CCMT3251MF KCM25B	B191
CCGT2151LF KC5025	B189	CCLNL164	B372	CCMT2151UF KCP25	B192	CCMT3251MF KCP10B	B191
CCGT2151LF KCU10	B189	CCLNL164DMX5	B383	CCMT2151UF KCP25B	B192	CCMT3251MF KCP25	B191
CCGT2152HP KC5010	B189	CCLNL204DMX5	B383	CCMT2152FP KCM25	B190	CCMT3251MF KCP25B	B191
CCGT2152HP KC5410	B189	CCLNLP163D	B372	CCMT2152FP KCM25B	B190	CCMT3251MF KCP30	B191
CCGT2152HP KCU25	B189	CCLNR164	B372	CCMT2152FP KCP25	B190	CCMT3251MF KCP25	B191
CCGT2152LF KC5010	B189	CCLNR164DMX5	B383	CCMT2152FP KCP25B	B190	CCMT3251MP KCM15B	B191
CCGT2152LF KCU10	B189	CCLNR204DMX5	B383	CCMT2152FP KCU10	B190	CCMT3251MP KCM25	B191
CCGT215XOLF KC5025	B189	CCLNRP163D	B372	CCMT2152FP KCU25	B190	CCMT3251MP KCM25B	B191
CCGT32505HP K313	B189	CCLPL124B	B165, B376	CCMT2152FP KTP10	B190	CCMT3251MP KCP10	B191
CCGT32505HP KC5010	B189	CCLPL164C	B165, B376	CCMT2152FW KC5010	B190	CCMT3251MP KCP25	B191
CCGT32505HP KC5025	B189	CCLPR084V	B165, B376	CCMT2152FW KCK20	B190	CCMT3251UF KCU10	B191
CCGT32505HP KC5410	B189	CCLPR124B	B165, B376	CCMT2152FW KCP25	B190	CCMT3251MW KC5010	B192
CCGT32505HP KCU10	B189	CCLPR164C	B165, B376	CCMT2152FW KT315	B190	CCMT3251MW KCM15B	B192
CCGT32505HP KCU25	B189	CCMT21505FP KCM25	B190	CCMT2152LF KC5010	B191	CCMT3251MW KCU10	B192
CCGT32505LF KC5010	B189	CCMT21505FP KCM25B	B190	CCMT2152LF KC5025	B191	CCMT3251MW KT315	B192
CCGT32505LF KC5025	B189	CCMT21505FP KCP10	B190	CCMT2152LF KCK05	B191	CCMT3251UF KC5010	B192
CCGT32505LF KCU10	B189	CCMT21505FP KCP25	B190	CCMT2152LF KCK05B	B191	CCMT3251UF KCU10	B192
CCGT3250LF KC5010	B189	CCMT21505FP KCU10	B190	CCMT2152LF KCK15	B191	CCMT3251UF KCP25	B192
CCGT3250LF KC5025	B189	CCMT21505FP KCU25	B190	CCMT2152LF KCK15B	B191	CCMT325211 KT315	B190
CCGT3250LF KCU10	B189	CCMT21505FW KC5010	B190	CCMT2152LF KCK20B	B191	CCMT3252FP KCM15B	B190
CCGT3251HP K313	B189	CCMT21505FW KT315	B190	CCMT2152LF KCM15B	B191	CCMT3252FP KCM25	B190
CCGT3251HP KC5010	B189	CCMT21505LF KC5010	B191	CCMT2152LF KCM25	B191	CCMT3252FP KCM25B	B190
CCGT3251HP KC5025	B189	CCMT21505LF KC5025	B191	CCMT2152LF KCP05	B191	CCMT3252FP KCP10	B190
CCGT3251HP KC5410	B189	CCMT21505LF KT315	B191	CCMT2152LF KCP10	B191	CCMT3252FP KCP10B	B190
CCGT3251HP KCU10	B189	CCMT215111 KT315	B190	CCMT2152LF KCP25	B191	CCMT3252FP KCP25	B190
CCGT3251HP KCU25	B189	CCMT2151FP KCM15	B190	CCMT2152LF KCP25B	B191	CCMT3252FP KCP25B	B190
CCGT3251LF KC5010	B189	CCMT2151FP KCM15B	B190	CCMT2152LF KCP30	B191	CCMT3252FP KCU10	B190
CCGT3251LF KC5025	B189	CCMT2151FP KCM25	B190	CCMT2152LF KT315	B191	CCMT3252FP KCU25	B190
CCGT3251LF KC5410	B189	CCMT2151FP KCM25B	B190	CCMT32505FP KCM25	B190	CCMT3252FP KTP10	B190
CCGT3251LF KCU10	B189	CCMT2151FP KCP05	B190	CCMT32505FP KCM25B	B190	CCMT3252FW KC5010	B190
CCGT3252HP KC5010	B189	CCMT2151FP KCP10	B190	CCMT32505FP KCP25	B190	CCMT3252FW KCK20	B190
CCGT3252HP KC5025	B189	CCMT2151FP KCP10B	B190	CCMT32505FP KCP25B	B190	CCMT3252FW KCM15B	B190
CCGT3252HP KC5410	B189	CCMT2151FP KCP25	B190	CCMT32505FP KCU10	B190	CCMT3252FW KCP25	B190
CCGT3252HP KCU10	B189	CCMT2151FP KCP25B	B190	CCMT32505FP KCU25	B190	CCMT3252FW KCU10	B190
CCGT3252HP KCU25	B189	CCMT2151FP KCU10	B190	CCMT32505FP KTP10	B190	CCMT3252FW KCT315	B190
CCGT3252LF K313	B189	CCMT2151FP KCU25	B190	CCMT32505LF K313	B191	CCMT3252LF K313	B191
CCGT3252LF KC5010	B189	CCMT2151FP KTP10	B190	CCMT32505LF KC5010	B191	CCMT3252LF KC5010	B191
CCGT3252LF KC5025	B189	CCMT2151FW KC5010	B190	CCMT32505LF KC5025	B191	CCMT3252LF KCK05	B191
CCGT3252LF KCU10	B189	CCMT2151FW KCK20B	B190	CCMT32505LF KT315	B191	CCMT3252LF KCK15	B191
CCGT325XOLF KC5025	B189	CCMT2151FW KCP25	B190	CCMT32505UF KCM5010	B192	CCMT3252LF KCK15B	B191
CCGT4305HP KC5010	B189	CCMT2151FW KCU10	B190	CCMT32505UF KCP05	B192	CCMT3252LF KCK20	B191
CCGT4305HP KCU10	B189	CCMT2151FW KT315	B190	CCMT32505UF KCP10	B192	CCMT3252LF KCK20B	B191
CCGT4305HP KCU25	B189	CCMT2151LF K313	B191	CCMT325111 KT315	B190	CCMT3252LF KCM15B	B191
CCGT431HP K313	B189	CCMT2151LF KC5010	B191	CCMT3251FP KCM15	B190	CCMT3252LF KCM25	B191
CCGT431HP KC5010	B189	CCMT2151LF KC5025	B191	CCMT3251FP KCM15B	B190	CCMT3252LF KCM25B	B191
CCGT431HP KC5025	B189	CCMT2151LF KCK05	B191	CCMT3251FP KCM25	B190	CCMT3252LF KCM35	B191
CCGT431HP KC5410	B189	CCMT2151LF KCK15	B191	CCMT3251FP KCM25B	B190	CCMT3252LF KCP05	B191
CCGT431HP KCU10	B189	CCMT2151LF KCK15B	B191	CCMT3251FP KCP05	B190	CCMT3252LF KCP10	B191
CCGT432HP K313	B189	CCMT2151LF KCK20	B191	CCMT3251FP KCP10B	B190	CCMT3252LF KCP10B	B191
CCGT432HP KC5010	B189	CCMT2151LF KCK20B	B191	CCMT3251FP KCP25	B190	CCMT3252LF KCP25	B191
CCGT432HP KC5410	B189	CCMT2151LF KCM15	B191	CCMT3251FP KCP25B	B190	CCMT3252LF KCP25B	B191
CCGT432HP KCU10	B189	CCMT2151LF KCM15B	B191	CCMT3251FP KCU10	B190	CCMT3252LF KCP30	B191
CCGT432HP KCU25	B189	CCMT2151LF KCM25	B191	CCMT3251FP KCU25	B190	CCMT3252LF KT315	B191
CCGW2150S0415C KB5630	B311, B328	CCMT2151LF KCM25B	B191	CCMT3251FP KTP10	B190	CCMT3252MF KC5025	B191
CCGW2150S0415MT KBH10	B328	CCMT2151LF KCM35	B191	CCMT3251FW KC5010	B190	CCMT3252MF KCK15	B191
CCGW2150S0525MT KBH20	B328	CCMT2151LF KCP10	B191	CCMT3251FW KCP25	B190	CCMT3252MF KCK20	B191
CCGW2151FST KD1400	B362	CCMT2151LF KCP10B	B191	CCMT3251FW KCU10	B190	CCMT3252MF KCK20B	B191
CCGW2151FST KD1425	B362	CCMT2151LF KCP25	B191	CCMT3251FW KT315	B190	CCMT3252MF KCM15B	B191
CCGW2151S0415C KB5630	B311, B328	CCMT2151LF KCP25B	B191	CCMT3251LF K313	B191	CCMT3252MF KCM15B	B191
CCGW2151S0415MT KBH10	B328	CCMT2151LF KCP30	B191	CCMT3251LF KC5010	B191	CCMT3252MF KCM25	B191
CCGW2151S0525MT KBH20	B328	CCMT2151LF KT315	B191	CCMT3251LF KC5025	B191	CCMT3252MF KCM25B	B191
CCGW3250S0415MT KBH10	B328	CCMT2151MF KCK15	B191	CCMT3251LF KCK05	B191	CCMT3252MF KCM35	B191
CCGW3250S0525MT KBH20	B328	CCMT2151MF KCK20	B191	CCMT3251LF KCK15	B191	CCMT3252MF KCP10B	B191
CCGW3251FST KD1400	B362	CCMT2151MF KCM15B	B191	CCMT3251LF KCK15B	B191	CCMT3252MF KCP25	B191
CCGW3251FST KD1425	B362	CCMT2151MF KCM25	B191	CCMT3251LF KCK20	B191	CCMT3252MF KCP25B	B191
CCGW3251S0415FWMT KBH20	B328	CCMT2151MF KCM25B	B191	CCMT3251LF KCM15B	B191	CCMT3252MF KCP30	B191
CCGW3251S0415MT KB5630	B311, B328	CCMT2151MF KCM35	B191	CCMT3251LF KCM25	B191	CCMT3252MF KCK20	B191
CCGW3251S0415MT KBH10	B328	CCMT2151MF KCP10	B191	CCMT3251LF KCM25B	B191	CCMT3252MP KCK20B	B191
CCGW3251S0415MT KBH20	B328	CCMT2151MF KCP10B	B191	CCMT3251LF KCM35	B191	CCMT3252MP KCM15B	B191
CCGW3251S0525MT KBH10	B328	CCMT2151MF KCP25	B191	CCMT3251LF KCP10	B191	CCMT3252MP KCM25	B191
CCGW3251S0525MT KBH20	B328	CCMT2151MF KCP25B	B191	CCMT3251LF KCP10B	B191	CCMT3252MP KCM25B	B191
CCGW3252EC KB1345	B311	CCMT2151MF KCP30	B191	CCMT3251LF KCP25	B191	CCMT3252MP KCP10	B191
CCGW3252FST KD1400	B362	CCMT2151MP KCM15	B191	CCMT3251LF KCP25B	B191	CCMT3252MP KCP25	B191
CCGW3252FST KD1425	B362	CCMT2151MP KCM15B	B191	CCMT3251LF KCP30	B191	CCMT3252MP KCU10	B191

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CGMT3252MW KC5010	B192	CGMT433MP KCM25B	B191	CK43	B152-155	CNG454T0820 KYK10	B316
CGMT3252MW KCK20	B192	CGMT433MP KCP25	B191	CK6	B63, B71, B98, B111, B113, B132-137, B163, B373	CNG554T0820 KY1615	B329
CGMT3252MW KCK20B	B192	CGMW2151 KCK20B	B192	CK7	B69, B76, B89-90, B93, B96, B133, B139, B143, B165, B172, B183-185, B376, B389-390, B392	CNG554T2015 KY1615	B329
CGMT3252MW KCM15B	B192	CGMW3252 KCK20	B192	CK7LP	B170, B388, B392-393	CNGA431E KD1405	B362
CGMT3252MW KCP25	B192	CGMW3252 KCK20B	B192	CK9	B62, B65, B98, B111-114, B132-139, B143, B172-173, B179, B181-184, B374-382, B389-390	CNGA431FST KD1400	B362
CGMT3252MW KCU10	B192	CGMW432 KCK20	B192	CKM34	B72-74, B94-95, B115-119, B140-142, B174-176, B186-187, B394-398	CNGA431FST KD1425	B362
CGMT3252MW KCU15	B192	CGMW432 KCK20B	B192	CKM35	B74, B115, B140-142, B186, B397	CNGA431S0415FWMT KBH10	B330
CGMT3252UF KC5010	B192	CGMW433 KCK20	B192	CKM36	B72, B94-95, B115-119	CNGA431S0415FWMT KBH20	B330
CGMT3252UF KCP10B	B192	CGMW433 KCK20B	B192	CKM37	B74, B115-117, B119	CNGA431S0415FWMT KBH20	B330
CGMT3253MF KCK15	B191	CGMW433 KCK20B	B192	CKM41	B74, B94	CNGA431S0415MT KBH10	B330
CGMT3253MF KCK20	B191	CGMW433 KCK20B	B192	CM-72	C193, D31-33, D36, D39	CNGA431S0415MT KBH20	B330
CGMT3253MF KCK20B	B191	CGMW433 KCK20B	B192	CM105	E45	CNGA431S0415MT KBH20	B330
CGMT3253MF KCM25B	B191	CNCO250J3AH KCN05	P136	CM106	E44-45	CNGA431S0415MT KBH20	B330
CGMT3253MF KCP10	B191	CNCO250J3BH KCN05	P136	CM109	C190, D36-37	CNGA431S0425FWMT KB5630	B310, B330
CGMT3253MF KCP25	B191	CNCO375J4AH KCN05	P136	CM111	E46	CNGA431S0425MT KB5630	B310, B330
CGMT3253MF KCP25B	B191	CNCO375J4BH KCN05	P136	CM112	E46	CNGA431S0525MT KBH20	B330
CGMT3253MP KCM25	B191	CNCO500J4AH KCN05	P136	CM113	E43, E47, E49	CNGA431S0735MT KBH20	B330
CGMT3253MP KCP25	B191	CNCO500J4BH KCN05	P136	CM114	E43	CNGA432S0415MT KBH10	B330
CGMT3253MP KCU10	B191	CDNC0250J6AH KCN05	P137	CM116	E40, E48	CNGA432S0415MT KBH20	B330
CGMT431FP KCM25B	B190	CDNC0250J6BH KCN05	P137	CM117	E40	CNGA432S0415MT KBH20	B330
CGMT431FP KCP10	B190	CDNC0375J6AH KCN05	P137	CM118	E48-49	CNGA432S0425MT KB5630	B310, B330
CGMT431FP KCU10	B190	CDNC0375J6BH KCN05	P137	CM119	E49	CNGA432S0525FWMT KBH10	B330
CGMT431FP KCU25	B190	CDNC0500J6AH KCN05	P137	CM120	C184, C187, C191, D26, D28, D32, D35	CNGA432S0525MT KBH10	B330
CGMT431LF KC5010	B191	CDNC0500J6BH KCN05	P137	CM121	C184, C187, C191, C195, D26, D28, D32, D35, D38	CNGA432S0525MT KBH20	B330
CGMT431LF KCK15B	B191	CDHB120601 KC5010	B199	CM144	C184, D28	CNGA432S0735MT KBH10	B330
CGMT431LF KCK20	B191	CDHB120601 KC5025	B199	CM145	C195, D38	CNGA432S0820MT KB1345	B310
CGMT431LF KCK20B	B191	CDHB120601 KCU25	B199	CM146	C191-193, D35-37, D39-40	CNGA432T0220 KY1615	B329
CGMT431LF KCP10	B191	CDHB120605 K313	B199	CM147	C191-193, D35-37, D39-40	CNGA432T0420 KYS25	B350
CGMT431LF KCP25	B191	CDHB120605 KC5010	B199	CM180	E42	CNGA432T0420 KYS30	B350
CGMT431LF KCP25B	B191	CDHB120605 KCU10	B199	CM181	E42	CNGA432T0420FW KY3500	B313
CGMT431LF KCP30	B191	CDHB120605 KCU25	B199	CM182	C185, D25	CNGA432T0420FW KYK25	B313
CGMT431MW KC5010	B192	CDHB120605 KT315	B199	CM183	C185, D25	CNGA432T0820 KY1615	B313, B329
CGMT431MW KCP25	B192	CDHB120605FST KD1400	B362	CM184LP	C185, D25	CNGA432T0820 KY3500	B313
CGMT432FP KCM25	B190	CDHB120605FST KD1400	B362	CM185LP	C185, D25	CNGA432T0820 KYK10	B313
CGMT432FP KCP25B	B190	CDHB120605FST KD1400	B362	CM209R ASSY	B58-60, B67-68, B87	CNGA432T0820 KYK25	B313
CGMT432FP KCU10	B190	CDHB120610 KC5010	B199	CM210R ASSY	B58-60, B68, B98, B109-110	CNGA433S0415FWMT KBH20	B330
CGMT432LF KC5010	B191	CDHB120610 KC5025	B199	CM214	B168-169, B386-387	CNGA433S0415MT KBH10	B330
CGMT432LF KCK15	B191	CDHB120610 KCU10	B199	CM215R ASSY	B150-151, B154	CNGA433S0415MT KBH20	B330
CGMT432LF KCK20	B191	CDHB120610 KCU25	B199	CM216	B168-169, B386-387	CNGA433S0420MT KB5630	B310, B330
CGMT432LF KCK20B	B191	CDHB120610 KT315	B199	CM219	B168-169, B386-387	CNGA433S0425MT KB5630	B310, B330
CGMT432LF KCM25B	B191	CDHB120605L KC5010	B199	CM234R ASSY	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B113, B131, B154, B163	CNGA433S0525FWMT KBH10	B330
CGMT432LF KCM35	B191	CDHB120605L KCU10	B199	CM234R ASSY	B67-68, B92, B138	CNGA433S0525MT KBH10	B330
CGMT432LF KCP10	B191	CDHB120610 KC5010	B199	CM235R ASSY	B150-151	CNGA433S0735MT KBH10	B330
CGMT432LF KCP10B	B191	CDHB120610 KCU25	B199	CM66	E41, E45	CNGA433T0420 KYS25	B350
CGMT432LF KCP25	B191	CDHB120610 KCU25	B199	CM68	E41-42, E44-46	CNGA433T0420 KYS30	B350
CGMT432LF KCP25B	B191	CDHB120610 KT315	B199	CM71	E41, E44-45	CNGA433T0420FW KY3500	B313
CGMT432MF KCK15	B191	CDHB120610 KT315	B199	CM72LP	C182-184, C186-189, C191-192, C194-196, D26-30, D35, D38, D41	CNGA433T0420FW KYK10	B313
CGMT432MF KCK20	B191	CDHB120610 KCU10	B199	CM73	C193, D31-33, D36, D39	CNGA433T0820 KY1615	B313, B329
CGMT432MF KCK20B	B191	CDHB120610 KCU25	B199	CM73LP	C182-184, C186-189, C191-192, C194-196, D26-30, D35, D37-38	CNGA433T0820 KY3500	B313
CGMT432MF KCM15B	B191	CDHB120610 KCU25	B199	CM74	C182-183, C185-188, C191-193, C196, D25-27, D29-31, D33, D35-36, D39, D41	CNGA433T0820 KYK10	B313
CGMT432MF KCM25	B191	CDHB120610 KCU25	B199	CM75	C182-183, C185, C187-188, C191-193, C196, D25-27, D30-31, D33, D35-37, D39, D41	CNGA433T0820 KYK25	B313
CGMT432MF KCM25B	B191	CDHB120610 KCU25	B199	CM79	E41, E44-46	CNGA433T0820 KY3500	B313
CGMT432MF KCM35	B191	CDHB120610 KCU25	B199	CM80	C182, C187, C191, D26-27, D32, D35	CNGA433T0820 KY3500	B313
CGMT432MF KCP10	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313, B329
CGMT432MF KCP10B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MF KCP25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MF KCP25B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MF KCP30	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCK20	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCK20B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCM25B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCP10	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCP25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MP KCU10	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MW KC5010	B192	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MW KCK20B	B192	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT432MW KCP25	B192	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433FP KCP10	B190	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433LF KCK20B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433LF KCM25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433LF KCP10	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433LF KCP25B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MF KC5025	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MF KCK15	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MF KCK20	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MF KCP25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MF KCP25B	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MP KCK20	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MP KCM25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MP KCU10	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MP KCU25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313
CGMT433MP KCU25	B191	CDHB120610 KCU25	B199	CM81	C182, C187, D26-27, D32	CNGA433T0820 KY3500	B313

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CNGG430FS KC5010.....	B46	CNMA433 KCK20.....	B47	CNMG431FW KT315.....	B49	CNMG432FW KCU10.....	B49
CNGG430FS KCU10.....	B46	CNMA433 KCK20B.....	B47	CNMG431LF KCP25B.....	B50	CNMG432FW KT315.....	B49
CNGG430LF KC5010.....	B46	CNMA433S0820 KB1340.....	B309	CNMG431MN KCP10.....	B50	CNMG432LF KCP25B.....	B50
CNGG430LF KCU10.....	B46	CNMA434 KCK05.....	B47	CNMG431MN KCP10B.....	B50	CNMG432MG KC5010.....	B57
CNGG431FS KC5010.....	B46	CNMA434 KCK05B.....	B47	CNMG431MN KCP25.....	B50	CNMG432MG KCP10B.....	B57
CNGG431FS KC5025.....	B46	CNMA434 KCK15.....	B47	CNMG431MN KCP25B.....	B50	CNMG432MG KCP25B.....	B57
CNGG431FS KCU10.....	B46	CNMA434 KCK15B.....	B47	CNMG431MN KCP30.....	B50	CNMG432MN KC5010.....	B50
CNGG431FS KCU25.....	B46	CNMA434 KCK20.....	B47	CNMG431MN KCP40B.....	B50	CNMG432MN KCP05B.....	B50
CNGG431LF KC5010.....	B46	CNMA542 KCK15.....	B47	CNMG431MP KC5010.....	B51	CNMG432MN KCP10.....	B50
CNGG431LF KCU10.....	B46	CNMA542 KCK20.....	B47	CNMG431MP KCM15.....	B51	CNMG432MN KCP10B.....	B50
CNGG432FS KC5010.....	B46	CNMA543 KCK15.....	B47	CNMG431MP KCM15B.....	B51	CNMG432MN KCP25.....	B50
CNGG432FS KC5025.....	B46	CNMA543 KCK15B.....	B47	CNMG431MP KCM25.....	B51	CNMG432MN KCP25B.....	B50
CNGG432FS KCU10.....	B46	CNMA543 KCK20.....	B47	CNMG431MP KCM25B.....	B51	CNMG432MN KCP30.....	B50
CNGG432FS KCU25.....	B46	CNMA543 KCK20B.....	B47	CNMG431MP KCM35.....	B51	CNMG432MN KCP30B.....	B50
CNGG432LF KC5010.....	B46	CNMA544 KCK15.....	B47	CNMG431MP KCM35B.....	B51	CNMG432MN KCP40.....	B50
CNGG432LF KCU10.....	B46	CNMA544 KCK20B.....	B47	CNMG431MP KCU10.....	B51	CNMG432MN KCP40B.....	B50
CNGG433LF KC5010.....	B46	CNMA643 KCK05.....	B47	CNMG431MR KCM15B.....	B51	CNMG432MN KCPK05.....	B50
CNGG433LF KCU10.....	B46	CNMA643 KCK15.....	B47	CNMG431MS K313.....	B52	CNMG432MP KC5010.....	B51
CNMG431S0525MTCB1 KBH20.....	B330	CNMA643 KCK15B.....	B47	CNMG431MS KC5010.....	B52	CNMG432MP KC5025.....	B51
CNMG432S0525MTCB1 KBH20.....	B330	CNMA643 KCK20.....	B47	CNMG431MS KC5025.....	B52	CNMG432MP KCM15.....	B51
CNMG433S0525MTCB1 KBH20.....	B330	CNMA644 KCK15B.....	B47	CNMG431MS KCU10.....	B52	CNMG432MP KCM15B.....	B51
CNMG332T0820 KBK45.....	B304	CNMA644 KCK20.....	B47	CNMG431MS KCU25.....	B52	CNMG432MP KCM25.....	B51
CNMG333S0820 KBK45.....	B304	CNMA644 KCK20B.....	B47	CNMG431P KC5010.....	B52	CNMG432MP KCM25B.....	B51
CNMG432T0820 KBK45.....	B304	CNMG321FF KC5010.....	B48	CNMG431P KCU10.....	B52	CNMG432MP KCM35.....	B51
CNMG433S0820 KBK45.....	B304	CNMG321FN KCP10.....	B49	CNMG431RP KC5010.....	B53	CNMG432MP KCM35B.....	B51
CNMG434S0820 KBK45.....	B304	CNMG321FN KT315.....	B49	CNMG431RP KC5025.....	B53	CNMG432MP KCP10.....	B51
CNMG430 KC5010.....	B46	CNMG321MN KCP10.....	B50	CNMG431RP KCM25.....	B53	CNMG432MP KCP25.....	B51
CNMG430 KC5410.....	B46	CNMG321MN KCP25B.....	B50	CNMG431RP KCM25B.....	B53	CNMG432MP KCP25B.....	B51
CNMG430 KCU10.....	B46	CNMG321MN KCP30.....	B50	CNMG431RP KCP10.....	B53	CNMG432MP KCU10.....	B51
CNMG4305 KC5010.....	B46	CNMG322FF KC5010.....	B48	CNMG431RP KCP25.....	B53	CNMG432MP KCU25.....	B51
CNMG4305 KC5410.....	B46	CNMG322FN KCK05.....	B49	CNMG431RP KCP25B.....	B53	CNMG432MR KCK15B.....	B51
CNMG4305 KCU10.....	B46	CNMG322FN KCP10.....	B49	CNMG431RP KCU10.....	B53	CNMG432MR KCM15.....	B51
CNMG431 K313.....	B46	CNMG322FN KCP10B.....	B49	CNMG431RP KCU25.....	B53	CNMG432MR KCM15B.....	B51
CNMG431 K68.....	B46	CNMG322MN KCP10.....	B50	CNMG431UN KCK05.....	B54	CNMG432MR KCM25.....	B51
CNMG431 KC5010.....	B46	CNMG322MN KCP10B.....	B50	CNMG431UN KCK15.....	B54	CNMG432MR KCM25B.....	B51
CNMG431 KC5410.....	B46	CNMG322MN KCP25.....	B50	CNMG431UN KCK15B.....	B54	CNMG432MR KCM35.....	B51
CNMG431 KCU10.....	B46	CNMG322MN KCP25B.....	B50	CNMG431UN KCK20.....	B54	CNMG432MR KCP10B.....	B51
CNMG432 K313.....	B46	CNMG322MN KCP30.....	B50	CNMG431UN KCK20B.....	B54	CNMG432MR KCP25B.....	B51
CNMG432 K68.....	B46	CNMG322MP KC5010.....	B51	CNMG431UP KC5010.....	B54	CNMG432MR KCP30B.....	B51
CNMG432 KC5010.....	B46	CNMG322MP KCM15B.....	B51	CNMG431UP KCM15B.....	B54	CNMG432MR KCP40.....	B51
CNMG432 KC5410.....	B46	CNMG322MP KCM25.....	B51	CNMG431UP KCM25.....	B54	CNMG432MR KCPK05.....	B51
CNMG432 KCU10.....	B46	CNMG322MP KCU10.....	B51	CNMG431UP KCM25B.....	B54	CNMG432MR KCU10.....	B51
CNMG432K KC5010.....	B47	CNMG323MN KCP25.....	B50	CNMG432 K313.....	B47	CNMG432MS K313.....	B52
CNMG433 K313.....	B46	CNMG4305FN KC5010.....	B49	CNMG432 K68.....	B47	CNMG432MS KC5010.....	B52
CNMG433 KC5010.....	B46	CNMG4305FN KCU10.....	B49	CNMG432 CT KC5010.....	B48	CNMG432MS KC5025.....	B52
CNMG433 KC5410.....	B46	CNMG4305FN KT315.....	B49	CNMG432CT KC315.....	B48	CNMG432MS KCU10.....	B52
CNMG433 KCU10.....	B46	CNMG4305LF KCP25B.....	B50	CNMG432CT KC5010.....	B48	CNMG432MS KCU25.....	B52
CNMG434 KC5010.....	B46	CNMG4305MS KC5010.....	B52	CNMG432CT KCP05.....	B48	CNMG432MW KCK15B.....	B52
CNMG543K K313.....	B47	CNMG4305MS KC5025.....	B52	CNMG432CT KCP10B.....	B48	CNMG432MW KCM25B.....	B52
CNMG432T0820 KBK45.....	B307	CNMG4305MS KCU10.....	B52	CNMG432CT KCP25.....	B48	CNMG432MW KCP05.....	B52
CNMG433S0415 KB1340.....	B307	CNMG4305MS KCU25.....	B52	CNMG432CT KCP25B.....	B48	CNMG432MW KCP10.....	B52
CNMG433S0415FW KB1340.....	B307	CNMG430MS KC5010.....	B52	CNMG432CT KCU10.....	B48	CNMG432MW KCP10B.....	B52
CNMG433S0820 KBK45.....	B307	CNMG430MS KC5025.....	B52	CNMG432FF KC5010.....	B48	CNMG432MW KCP25.....	B52
CNMG434S0820 KB1340.....	B307	CNMG430MS KCU10.....	B52	CNMG432FF KCM15B.....	B48	CNMG432MW KCP25B.....	B52
CNMG434S0820 KBK45.....	B307	CNMG430MS KCU25.....	B52	CNMG432FF KCP05.....	B48	CNMG432P K313.....	B52
CNMG452T0420 KYS25.....	B350	CNMG431 K68.....	B47	CNMG432FF KCP10.....	B48	CNMG432P KC5010.....	B52
CNMG452T0420 KYS30.....	B350	CNMG431FF KC5010.....	B48	CNMG432FF KCP10B.....	B48	CNMG432P KCM15B.....	B52
CNMG452T0420FW KY3500.....	B316	CNMG431FF KCM15B.....	B48	CNMG432FF KCU10.....	B48	CNMG432P KCP30B.....	B52
CNMG452T0820 KY1615.....	B331	CNMG431FF KCP05.....	B48	CNMG432FF KT315.....	B48	CNMG432P KCU10.....	B52
CNMG453T0420 KYS25.....	B350	CNMG431FF KCP10.....	B48	CNMG432FN KCK05.....	B49	CNMG432P KCK15B.....	B53
CNMG453T0420 KYS30.....	B350	CNMG431FF KCP10B.....	B48	CNMG432FN KCK15B.....	B49	CNMG432RN KCP05.....	B53
CNMG453T0420FW KY3500.....	B316	CNMG431FF KCU10.....	B48	CNMG432FN KCP05.....	B49	CNMG432RN KCP10.....	B53
CNMG453T0820 KY1615.....	B331	CNMG431FF KT315.....	B48	CNMG432FN KCP10.....	B49	CNMG432RN KCP10B.....	B53
CNMG454E KYS30.....	B350	CNMG431FN KCK05.....	B49	CNMG432FN KCP10B.....	B49	CNMG432RN KCP25.....	B53
CNMG454T0420FW KY3500.....	B316	CNMG431FN KCK15B.....	B49	CNMG432FN KCP25.....	B49	CNMG432RN KCP25B.....	B53
CNMA432S0820 KB1340.....	B304	CNMG431FN KCP05.....	B49	CNMG432FN KCP25B.....	B49	CNMG432RN KCP30.....	B53
CNMA433S0820 KB1340.....	B304	CNMG431FN KCP10.....	B49	CNMG432FN KT315.....	B49	CNMG432RN KCP30B.....	B53
CNMA431 KCK05B.....	B47	CNMG431FN KCP10B.....	B49	CNMG432FP KC5010.....	B49	CNMG432RN KCP40.....	B53
CNMA431 KCK15.....	B47	CNMG431FN KCP25.....	B49	CNMG432FP KCM15.....	B49	CNMG432RN KCP40B.....	B53
CNMA431 KCK15B.....	B47	CNMG431FN KCP25B.....	B49	CNMG432FP KCM15B.....	B49	CNMG432RP KC5010.....	B53
CNMA431 KCK20.....	B47	CNMG431FN KT315.....	B49	CNMG432FP KCP10B.....	B49	CNMG432RP KC5025.....	B53
CNMA431 KCK20B.....	B47	CNMG431FP KC5010.....	B49	CNMG432FP KCP10.....	B49	CNMG432RP KCK05.....	B53
CNMA432 K68.....	B47	CNMG431FP KCM15.....	B49	CNMG432FP KCP25B.....	B49	CNMG432RP KCK15.....	B53
CNMA432 KCK05.....	B47	CNMG431FP KCP10.....	B49	CNMG432FP KCU10.....	B49	CNMG432RP KCK15B.....	B53
CNMA432 KCK15.....	B47	CNMG431FP KCP25B.....	B49	CNMG432FP KT315.....	B49	CNMG432RP KCK20.....	B53
CNMA432 KCK15B.....	B47	CNMG431FP KCU10.....	B49	CNMG432FW KC5010.....	B49	CNMG432RP KCK20B.....	B53
CNMA432 KCK20.....	B47	CNMG431FP KT315.....	B49	CNMG432FW KCK15B.....	B49	CNMG432RP KCM15.....	B53
CNMA432 KCK20B.....	B47	CNMG431FW KC5010.....	B49	CNMG432FW KCM15B.....	B49	CNMG432RP KCM15B.....	B53
CNMA432S0820 KB1340.....	B309	CNMG431FW KCP05.....	B49	CNMG432FW KCP05.....	B49	CNMG432RP KCM25.....	B53
CNMA433 KCK05.....	B47	CNMG431FW KCP10.....	B49	CNMG432FW KCP05B.....	B49	CNMG432RP KCM25B.....	B53
CNMA433 KCK15.....	B47	CNMG431FW KCP10B.....	B49	CNMG432FW KCP10.....	B49	CNMG432RP KCM35.....	B53
CNMA433 KCK15B.....	B47	CNMG431FW KCU10.....	B49	CNMG432FW KCP10B.....	B49	CNMG432RP KCM35B.....	B53

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CNMG432FP KCP05	B53	CNMG433MW KCP10B	B52	CNMG434UN KCK15B	B54	CNMG543RP KCP40B	B53
CNMG432FP KCP05B	B53	CNMG433MW KCP25	B52	CNMG434UN KCK20	B54	CNMG543RP KCPK05	B53
CNMG432FP KCP10	B53	CNMG433MW KCP25B	B52	CNMG434UN KCK20B	B54	CNMG543RP KCU10	B53
CNMG432FP KCP10B	B53	CNMG433P KC5010	B52	CNMG542MN KCP10	B50	CNMG543RP KCU25	B53
CNMG432FP KCP25	B53	CNMG433P KCP30B	B52	CNMG542MN KCP10B	B50	CNMG543UN KCK15	B54
CNMG432FP KCP25B	B53	CNMG433RN KCP10	B53	CNMG542MN KCP25	B50	CNMG543UN KCK15B	B54
CNMG432FP KCP30	B53	CNMG433RN KCP10B	B53	CNMG542MN KCP25B	B50	CNMG543UN KCK20	B54
CNMG432FP KCP30B	B53	CNMG433RN KCP25	B53	CNMG542MN KCP30	B50	CNMG543UN KCK20B	B54
CNMG432FP KCP40	B53	CNMG433RN KCP25B	B53	CNMG542MP KC5010	B51	CNMG543UP KCM25	B54
CNMG432FP KCPK05	B53	CNMG433RN KCP30	B53	CNMG542MP KCM15B	B51	CNMG544MR KCM25B	B54
CNMG432FP KCU10	B53	CNMG433RN KCP30B	B53	CNMG542MP KCM25	B51	CNMG543UP KCM35	B54
CNMG432FP KCU25	B53	CNMG433RN KCP40	B53	CNMG542MP KCM35	B51	CNMG543UP KCU10	B54
CNMG432UN KCP05	B54	CNMG433RN KCP40B	B53	CNMG542MP KCU10	B51	CNMG544MR KCP10B	B57
CNMG432UN KCK15	B54	CNMG433RN KCPK05	B53	CNMG542MR KCP25B	B51	CNMG544MN KCP10	B50
CNMG432UN KCK15B	B54	CNMG433RP KC5010	B53	CNMG542MS KC5010	B52	CNMG544MN KCP10B	B50
CNMG432UN KCK20	B54	CNMG433RP KC5025	B53	CNMG542MS KC5025	B52	CNMG544MN KCP25	B50
CNMG432UN KCK20B	B54	CNMG433RP KCK05	B53	CNMG542MS KCU10	B52	CNMG544MP KC5010	B51
CNMG432UP KC5010	B54	CNMG433RP KCK15	B53	CNMG542MS KCU25	B52	CNMG544MP KCM25B	B51
CNMG432UP KCM15	B54	CNMG433RP KCK15B	B53	CNMG542RN KCP10B	B53	CNMG544MR KCM25B	B51
CNMG432UP KCM15B	B54	CNMG433RP KCK20	B53	CNMG542RN KCP25	B53	CNMG544MR KCP10B	B51
CNMG432UP KCM25	B54	CNMG433RP KCK20B	B53	CNMG542RN KCP25B	B53	CNMG544MR KCP25B	B51
CNMG432UP KCM25B	B54	CNMG433RP KCM15B	B53	CNMG542RN KCP30	B53	CNMG544RN KCP10B	B53
CNMG432UP KCM35	B54	CNMG433RP KCM25	B53	CNMG542RP KC5025	B53	CNMG544RN KCP10B	B53
CNMG432UP KCM35B	B54	CNMG433RP KCM25B	B53	CNMG542RP KCK20	B53	CNMG544RN KCP25	B53
CNMG432UP KCU10	B54	CNMG433RP KCM35	B53	CNMG542RP KCP10	B53	CNMG544RN KCP25B	B53
CNMG433 K68	B47	CNMG433RP KCM35B	B53	CNMG542RP KCP25	B53	CNMG544RN KCP40B	B53
CNMG433CT KCP10B	B48	CNMG433RP KCP05	B53	CNMG542RP KCP25B	B53	CNMG544RN KCPK05	B53
CNMG433CT KCP25	B48	CNMG433RP KCP10	B53	CNMG542RP KCU10	B53	CNMG544RN KC5025	B53
CNMG433CT KCP25B	B48	CNMG433RP KCP10B	B53	CNMG542RP KCU25	B53	CNMG544RP KCK20	B53
CNMG433FM KCP10B	B50	CNMG433RP KCP25	B53	CNMG542UN KCK15	B54	CNMG544RP KCM25	B53
CNMG433FM KCP25B	B50	CNMG433RP KCP25B	B53	CNMG542UN KCK15B	B54	CNMG544RP KCM25B	B53
CNMG433FN KCK05B	B49	CNMG433RP KCP30	B53	CNMG542UN KCK20	B54	CNMG544RP KCP10	B53
CNMG433FN KCP10B	B49	CNMG433RP KCP30B	B53	CNMG542UN KCK20B	B54	CNMG544RP KCP10B	B53
CNMG433FN KCP25	B49	CNMG433RP KCP40	B53	CNMG542UP KCM25	B54	CNMG544RP KCP25	B53
CNMG433FN KCP25B	B49	CNMG433RP KCP40B	B53	CNMG542UP KCM35	B54	CNMG544RP KCP25B	B53
CNMG433FN KT315	B49	CNMG433RP KCPK05	B53	CNMG543MN KCP10	B50	CNMG544RP KCPK05	B53
CNMG433FP KCM15	B49	CNMG433RP KCU10	B53	CNMG543MN KCP10B	B50	CNMG544RP KCU25	B53
CNMG433FP KCU10	B49	CNMG433RP KCU25	B53	CNMG543MN KCP25	B50	CNMG544UN KCK15	B54
CNMG433FW KC5010	B49	CNMG433UN KCK05	B54	CNMG543MN KCP25B	B50	CNMG544UN KCK15B	B54
CNMG433FW KCP05	B49	CNMG433UN KCK05B	B54	CNMG543MN KCP30	B50	CNMG544UN KCK20	B54
CNMG433FW KCP10	B49	CNMG433UN KCK15	B54	CNMG543MP KC5010	B51	CNMG544UN KCK20B	B54
CNMG433FW KCP10B	B49	CNMG433UN KCK15B	B54	CNMG543MP KCM15	B51	CNMG642MN KCP10	B50
CNMG433FW KCU10	B49	CNMG433UN KCK20	B54	CNMG543MP KCM15B	B51	CNMG642MN KCP25	B50
CNMG433FW KT315	B49	CNMG433UN KCK20B	B54	CNMG543MP KCM25	B51	CNMG642MN KCP25B	B50
CNMG433MG KCP10B	B57	CNMG433UP KC5010	B54	CNMG543MP KCM25B	B51	CNMG642MN KCP30	B50
CNMG433MG KCP25B	B57	CNMG433UP KCM15	B54	CNMG543MP KCU10	B51	CNMG642MP KC5010	B51
CNMG433MN KCP05	B50	CNMG433UP KCM25	B54	CNMG543MP KCU25	B51	CNMG642MP KCM15B	B51
CNMG433MN KCP10B	B50	CNMG433UP KCM25B	B54	CNMG543MR KCM25B	B51	CNMG642MP KCM25	B51
CNMG433MN KCP25	B50	CNMG433UP KCU10	B54	CNMG543MR KCP10B	B51	CNMG642MP KCM25B	B51
CNMG433MN KCP25B	B50	CNMG434CT KCP10	B48	CNMG543MR KCP25B	B51	CNMG642MS KC5010	B52
CNMG433MN KCP30B	B50	CNMG434FN KCP10	B49	CNMG543MR KCP40	B51	CNMG642MS KCU25	B52
CNMG433MN KCP40B	B50	CNMG434FN KCP25	B49	CNMG543MS K313	B52	CNMG642MS KCU10	B52
CNMG433MP KC5010	B51	CNMG434MG KCP10B	B57	CNMG543MS KC5010	B52	CNMG642MS KCU25	B52
CNMG433MP KCM15	B51	CNMG434MN KCP10	B50	CNMG543MS KC5025	B52	CNMG642MR KCP10B	B53
CNMG433MP KCM15B	B51	CNMG434MN KCP10B	B50	CNMG543MS KCU10	B52	CNMG642RN KCP25	B53
CNMG433MP KCM25	B51	CNMG434MN KCP25	B50	CNMG543MS KCU25	B52	CNMG642RN KCP25B	B53
CNMG433MP KCM25B	B51	CNMG434MP KCP25B	B50	CNMG543RN KCP10	B53	CNMG642RN KCP40	B53
CNMG433MP KCM35	B51	CNMG434MP KC5010	B51	CNMG543RN KCP10B	B53	CNMG642UN KCK15	B54
CNMG433MP KCM35B	B51	CNMG434MP KCM15B	B51	CNMG543RN KCP25	B53	CNMG642UN KCK20	B54
CNMG433MP KCP10B	B51	CNMG434MR KCP10B	B51	CNMG543RN KCP25B	B53	CNMG643 K68	B47
CNMG433MP KCU10	B51	CNMG434MS KC5010	B52	CNMG543RN KCP30	B53	CNMG643 KCP25	B47
CNMG433MP KCU25	B51	CNMG434MS KC5025	B52	CNMG543RN KCP30B	B53	CNMG643 KCU10	B47
CNMG433MP KCU25B	B51	CNMG434MS KCU10	B52	CNMG543RN KCP40	B53	CNMG643MG KCP25B	B57
CNMG433MR KCK15B	B51	CNMG434MS KCU25	B52	CNMG543RN KCP40B	B53	CNMG643MN KCP10	B50
CNMG433MR KCM15	B51	CNMG434RN KCP10	B53	CNMG543RN KCPK05	B53	CNMG643MN KCP25	B50
CNMG433MR KCM15B	B51	CNMG434RN KCP10B	B53	CNMG543RP KC5010	B53	CNMG643MN KCP25B	B50
CNMG433MR KCM25	B51	CNMG434RN KCP25	B53	CNMG543RP KC5025	B53	CNMG643MN KCP30	B50
CNMG433MR KCM25B	B51	CNMG434RN KCP25B	B53	CNMG543RP KCK05	B53	CNMG643MP KC5010	B51
CNMG433MR KCM35	B51	CNMG434RN KCP40	B53	CNMG543RP KCK15	B53	CNMG643MP KCM15	B51
CNMG433MR KCP10B	B51	CNMG434RN KCP40B	B53	CNMG543RP KCK20	B53	CNMG643MP KCM25	B51
CNMG433MR KCP25B	B51	CNMG434RP KC5010	B53	CNMG543RP KCK20B	B53	CNMG643MP KCM25B	B51
CNMG433MR KCPK05	B51	CNMG434RP KCK20B	B53	CNMG543RP KCM15B	B53	CNMG643MP KCU25	B51
CNMG433MR KCU10	B51	CNMG434RP KCM25	B53	CNMG543RP KCM25	B53	CNMG643MR KCM25	B51
CNMG433MS K313	B52	CNMG434RP KCM25B	B53	CNMG543RP KCM25B	B53	CNMG643MR KCM25B	B51
CNMG433MS KC5010	B52	CNMG434RP KCM35	B53	CNMG543RP KCM35	B53	CNMG643MR KCP25B	B51
CNMG433MS KC5025	B52	CNMG434RP KCP10	B53	CNMG543RP KCM35B	B53	CNMG643MS KC5010	B52
CNMG433MS KCU10	B52	CNMG434RP KCP10B	B53	CNMG543RP KCU10	B53	CNMG643MS KC5025	B52
CNMG433MS KCU25	B52	CNMG434RP KCP25	B53	CNMG543RP KCP10B	B53	CNMG643MS KCU10	B52
CNMG433MW KCK15B	B52	CNMG434RP KCP25B	B53	CNMG543RP KCP25	B53	CNMG643MS KCU25	B52
CNMG433MW KCP05	B52	CNMG434RP KCU10	B53	CNMG543RP KCP25B	B53	CNMG643P KCU10	B52
CNMG433MW KCP10	B52	CNMG434UN KCK05B	B54	CNMG543RP KCP30	B53	CNMG643RN KCP10	B53
				CNMG543RP KCP40	B53	CNMG643RN KCP10B	B53

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CNMG643RN KCP25	B53	CNMM433RP KCP30	B56	CNMP431K KCP10B	B57	CPGT2150LF KC5410	B206
CNMG643RN KCP25B	B53	CNMM434RP KCP25	B56	CNMP431K KCP25	B57	CPGT2150LF KCU10	B206
CNMG643RN KCP30	B53	CNMM434RP KCP25B	B56	CNMP431K KCP25B	B57	CPGT2151HP KC5010	B205
CNMG643RN KCP30B	B53	CNMM542RP KCP25B	B56	CNMP432 K313	B56	CPGT2151HP KC5025	B205
CNMG643RN KCP40	B53	CNMM543MR KCP25B	B54	CNMP432 K68	B56	CPGT2151HP KC5410	B205
CNMG643RN KCP40B	B53	CNMM543MR KCP30B	B54	CNMP432 KC5410	B56	CPGT2151HP KCU10	B205
CNMG643RP KCP5010	B53	CNMM543RM KCP10	B55	CNMP432 KCP25B	B56	CPGT2151HP KCU25	B205
CNMG643RP KCM5025	B53	CNMM543RM KCP10B	B55	CNMP432K KCP10	B57	CPGT2151LF KC5010	B206
CNMG643RP KCK15	B53	CNMM543RM KCP25	B55	CNMP432K KCP10B	B57	CPGT2151LF KC5025	B206
CNMG643RP KCM25	B53	CNMM543RM KCP25B	B55	CNMP432K KCP25	B57	CPGT2151LF KC5410	B206
CNMG643RP KCM25B	B53	CNMM543RP KCM25B	B56	CNMP432K KCP25B	B57	CPGT2151LF KCU10	B206
CNMG643RP KCM35	B53	CNMM543RP KCP10	B56	CNMP433 K68	B56	CPGT2152HP KC5010	B205
CNMG643RP KCP10B	B53	CNMM543RP KCP10B	B56	CNMP542 KCP25B	B56	CPGT2152HP KC5410	B205
CNMG643RP KCP25	B53	CNMM543RP KCP25	B56	CNMP643 K313	B56	CPGT2152HP KCU25	B205
CNMG643RP KCP25B	B53	CNMM543RP KCP40	B56	CNMS431FST KD1400	B363	CPGT2152LF KC5010	B206
CNMG643RP KCP30	B53	CNMM544MR KCP25B	B54	CNMS432 K68	B57	CPGT2152LF KC5025	B206
CNMG643RP KCP40B	B53	CNMM544MR KCP10	B55	CNMS432 KC5410	B57	CPGT2152LF KCU10	B206
CNMG643RP KCU10	B53	CNMM544RM KCP10B	B55	CNMS432E KD1405	B363	CPGT2152HP K313	B205
CNMG643RP KCU25	B53	CNMM544RM KCP25	B55	CNMS432FST KD1400	B363	CPGT2152HP KC5010	B205
CNMG643UN KCK15	B54	CNMM544RM KCP25B	B55	CNMS432FST KD1425	B363	CPGT2152HP KC5025	B205
CNMG643UN KCK20	B54	CNMM544RM KCP30	B55	CNMS542 KC5410	B57	CPGT2152HP KC5410	B205
CNMG643UP KCM25	B54	CNMM544RP KCM25	B56	CNMS642 K68	B57	CPGT2152HP KCU10	B205
CNMG643UP KCM25B	B54	CNMM544RP KCP10	B56	CNMS642 KC5410	B57	CPGT2152HP KCU25	B205
CNMG643UP KCM35	B54	CNMM544RP KCP10B	B56	CNMS643 K68	B57	CPGT2152HP KC5010	B205
CNMG644 KCP25	B47	CNMM544RP KCP25	B56	CNMMU433RN KCP10B	B53	CPGT2152HP KC5410	B205
CNMG644MN KCP10B	B50	CNMM544RP KCP25B	B56	CNMMU443MN KCP05B	B51	CPGT2152HP KCU10	B206
CNMG644MN KCP25	B50	CNMM544RP KCPK05	B56	CNMMU443MN KCP10	B51	CPGT2152HP K313	B205
CNMG644MN KCP25B	B50	CNMM546RM KCP10	B55	CNMMU444MN KCP25B	B51	CPGT2152HP KC5010	B205
CNMG644MN KCP30	B50	CNMM546RM KCP25B	B55	CNMMU444MN KCP25B	B51	CPGT2152HP KC5025	B205
CNMG644MN KCU5010	B51	CNMM546RP KCP10B	B56	CNMX452T0820 KY3500	B316	CPGT2152HP KC5410	B205
CNMG644MP KCM25	B51	CNMM643RH KCP25	B55	CNMX452T0820 KY3500	B316	CPGT2152HP KCU25	B205
CNMG644MP KCU10	B51	CNMM643RH KCP40	B55	COOL-HOSE-200	C83	CPGT2152LF KC5010	B206
CNMG644MR KCP25B	B51	CNMM643RM KCP10	B55	COOL-HOSE-200-FLEX	C83	CPGT2152LF KC5025	B206
CNMG644MS KCU10	B52	CNMM643RM KCP25	B55	COOL-HOSE-300	C83	CPGT2152LF KC5410	B206
CNMG644RN KCP10B	B53	CNMM643RM KCP25B	B55	COOL-HOSE-300-FLEX	C83	CPGT2152LF KCU10	B206
CNMG644RN KCP25	B53	CNMM643RM KCP40	B55	CPG421 K313	B164	CPGT2152HP KC5010	B205
CNMG644RN KCP25B	B53	CNMM643RP KCM25B	B56	CPG421 K68	B164	CPGT2152HP KC5410	B205
CNMG644RN KCP30	B53	CNMM643RP KCP25	B56	CPG421F KD1425	B363	CPGT2152HP KCU10	B205
CNMG644RN KCP30B	B53	CNMM643RP KCP25B	B56	CPG422 K313	B164	CPGT2152HP KCU25	B205
CNMG644RN KCP40	B53	CNMM644MR KCP25B	B54	CPG422 K68	B164	CPGT2152LF KC5010	B206
CNMG644RN KCP40B	B53	CNMM644RH KCP10B	B55	CPG422F KD1425	B363	CPGT2152LF KC5025	B206
CNMG644RN KCPK05	B53	CNMM644RH KCP25B	B55	CPGM21505 K68	B205	CPGT2152LF KCU10	B206
CNMG644RP KCM25	B53	CNMM644RH KCP30	B55	CPGM2151 K313	B205	CPGW21505FST KD1400	B364
CNMG644RP KCM25B	B53	CNMM644RH KCP40B	B55	CPGM2151 K68	B205	CPGW21505FST KD1425	B364
CNMG644RP KCM35	B53	CNMM644RM KCP10	B55	CPGM2151 KC5010	B205	CPGW2151E KD1405	B363
CNMG644RP KCP10	B53	CNMM644RM KCP10B	B55	CPGM3250 KC5010	B205	CPGW2151FST KD1400	B364
CNMG644RP KCP25B	B53	CNMM644RM KCP25	B55	CPGM3250 KC5025	B205	CPGW2151FST KD1425	B364
CNMG644RP KCP30	B53	CNMM644RM KCP25B	B55	CPGM3250 KCU10	B205	CPGW2151FWST KD1400	B364
CNMG644RP KCP30B	B53	CNMM644RM KCP30	B55	CPGM3250 KT315	B205	CPGW2151FWST KD1425	B364
CNMG644RP KCP40	B53	CNMM644RP KCM25B	B56	CPGM32505 K68	B205	CPGW2152FST KD1400	B364
CNMG644RP KCP40B	B53	CNMM644RP KCP10	B56	CPGM32505 KC5010	B205	CPGW2152FST KD1425	B364
CNMG644RP KCPK05	B53	CNMM644RP KCP10B	B56	CPGM32505 KC5025	B205	CPGW3251E KD1405	B363
CNMG644RP KCU10	B53	CNMM644RP KCP25	B56	CPGM32505 KCU10	B205	CPGW3251FST KD1400	B364
CNMG644RP KCU25	B53	CNMM644RP KCP25B	B56	CPGM3251 K313	B205	CPGW3252FST KD1400	B364
CNMG644UN KCK05	B54	CNMM646RH KCP25	B55	CPGM3251 K68	B205	CPGW3252FST KD1425	B364
CNMG644UN KCK15	B54	CNMM646RH KCP10	B55	CPGM3251 KC5010	B205	CPGW3252FWST KD1400	B364
CNMG644UN KCK20	B54	CNMM646RH KCP10B	B55	CPGM3251 KC5025	B205	CPGW3252FWST KD1425	B364
CNMG644UP KCM25	B54	CNMM646RH KCP25B	B55	CPGM3251 KCM15B	B205	CPGW3252FWST KD1425	B364
CNMG646MN KCP25B	B50	CNMM646RH KCP30	B55	CPGM3251 KCP10B	B205	CPGW3252FWST KD1400	B364
CNMG646RN KCP25	B53	CNMM646RH KCP40B	B55	CPGM3251 KCP25B	B205	CPGW3252FWST KD1425	B364
CNMG646RN KCP25B	B53	CNMM646RM KCP25	B55	CPGM3251 KCP25	B205	CPGW432FWST KD1400	B364
CNMG646RN KCP30	B53	CNMM646RM KCP25B	B55	CPGM3251 KCU10	B205	CPGW432FWST KD1425	B364
CNMG866 KCP25	B47	CNMM646RM KCP30	B55	CPGM3251 KCU25	B205	CPMT181505FP KCU10	B206
CNMM190740RRP KCP10B	E59	CNMM646RP KCM25B	B56	CPGM3251 KT315	B205	CPMT181505FP KCU25	B206
CNMM432MR KCP25B	B54	CNMM646RP KCP25	B56	CPGM3252 K313	B205	CPMT181505FP KC5010	B207
CNMM432MR KCP30B	B54	CNMM646RP KCP10B	B56	CPGM3252 K68	B205	CPMT18151FP KCP25	B206
CNMM432RM KCP10	B55	CNMM646RW KCP10B	B56	CPGM3252 KC5010	B205	CPMT18151FP KCU10	B206
CNMM432RM KCP25	B55	CNMM646RW KCP25B	B56	CPGM3252 KC5025	B205	CPMT18151FP KCU25	B206
CNMM432RM KCP25B	B55	CNMM866RH KCP10	B55	CPGM3252 KCP10B	B205	CPMT18151LF KC5010	B207
CNMM432RM KCP30	B55	CNMM866RH KCP25	B55	CPGM3252 KCP25B	B205	CPMT18151LF KC5025	B207
CNMM432RP KCM25	B56	CNMM866RH KCP25B	B55	CPGM3252 KCU10	B205	CPMT18151LF KT315	B207
CNMM432RP KCM25B	B56	CNMM866RH KCP30	B55	CPGM3252 KCU25	B205	CPMT18151FP KCP25	B206
CNMM432RP KCP05	B56	CNMM866RH KCP40B	B55	CPGT21505HP KC5010	B205	CPMT181505FP KCM25	B206
CNMM432RP KCP10	B56	CNMM866RM KCP10	B55	CPGT21505HP KC5025	B205	CPMT21505FP KCP10	B206
CNMM432RP KCP25B	B56	CNMM866RM KCP25	B55	CPGT21505HP KC5410	B205	CPMT21505FP KCP25	B206
CNMM432RP KCP40	B56	CNMM866RM KCP25B	B55	CPGT21505HP KCU10	B205	CPMT21505FP KCU10	B206
CNMM433RM KCP10	B55	CNMM866RM KCP40	B55	CPGT21505HP KCU25	B205	CPMT21505FP KCU25	B206
CNMM433RM KCP10B	B55	CNMP431 K313	B56	CPGT21505LF KC5010	B206	CPMT21505FP KTP10	B206
CNMM433RM KCP25	B55	CNMP431 K68	B56	CPGT21505LF KC5025	B206	CPMT21505FW KC5010	B206
CNMM433RM KCP25B	B55	CNMP431 K68	B56	CPGT21505LF KCU10	B206	CPMT21505FW KC5025	B207
CNMM433RP KCP10B	B56	CNMP431 K68	B56	CPGT21505LF KCU25	B206	CPMT21505FW KT315	B206
CNMM433RP KCP25	B56	CNMP431 K68	B56	CPGT21505LF KC5010	B206	CPMT21505FW KC5010	B206
CNMM433RP KCP25B	B56	CNMP431 K68	B56	CPGT21505LF KC5025	B206	CPMT21505FW KC5025	B207
CNMM433RP KCP25B	B56	CNMP431 KC5410	B56	CPGT2150LF KC5025	B206	CPMT2151FP KCK20	B206

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
CPMT2151FP KCM25	B206	CPMT3251LF KCP10	B207	CRGPR204DV	B169, B387	CTFPR164C	B181, B381
CPMT2151FP KCP10	B206	CPMT3251LF KCP10B	B207	CS412	B168-169, B386-387	CTFPR164D	B181, B381
CPMT2151FP KCP25	B206	CPMT3251LF KCP25	B207	CSDNN124	B374	CTFPR204D	B181, B381
CPMT2151FP KCP25B	B206	CPMT3251LF KCP25B	B207	CSDNN164	B374	CTFPR20CA4	B186, B397
CPMT2151FP KCU10	B206	CPMT3251LF KCP30	B207	CSDNN164DMX5	B383	CTFPR854D	B181, B381
CPMT2151FP KCU25	B206	CPMT3251LF KT315	B207	CSDPN103	B172, B376	CTGNR164	B375
CPMT2151FP KCU10	B206	CPMT3251MW KCU10	B208	CSDPN124	B172, B376	CTGPL102B	B182, B382
CPMT2151FW KC5010	B206	CPMT3251UF KC5010	B208	CSDPN164	B172, B376	CTGPL123B	B182, B382
CPMT2151FW KCK20	B206	CPMT3251UF KCP25	B208	CSDPN644	B172, B376	CTGPL163C	B182, B382
CPMT2151FW KCU10	B206	CPMT3251UF KCP25B	B208	CSDPN856	B172, B376	CTGPL163D	B182, B382
CPMT2151FW KT315	B206	CPMT3252FP KCM25	B206	CSKNL164DMX5	B384	CTGPL164D	B182, B382
CPMT2151LF K313	B207	CPMT3252FP KCP10	B206	CSKNR164DMX5	B384	CTGPL204D	B182, B382
CPMT2151LF K68	B207	CPMT3252FP KCP25B	B206	CSKNR856	B375	CTGPR082B	B182, B382
CPMT2151LF KC5010	B207	CPMT3252FP KCU10	B206	CSKPL164D	B172, B377	CTGPR102B	B182, B382
CPMT2151LF KC5025	B207	CPMT3252FP KCU25	B206	CSKPR12CA4	B174, B394	CTGPR123A	B182, B382
CPMT2151LF KCK05	B207	CPMT3252FP KTP10	B206	CSKPR164D	B172, B377	CTGPR123B	B182, B382
CPMT2151LF KCK15	B207	CPMT3252FW KC5010	B206	CSRPL124B	B173, B377	CTGPR12CA3	B187, B398
CPMT2151LF KCK15B	B207	CPMT3252FW KCK20	B206	CSRPL164D	B173, B377	CTGPR163C	B182, B382
CPMT2151LF KCK20	B207	CPMT3252FW KCP25	B206	CSRPL856D	B173, B377	CTGPR163D	B182, B382
CPMT2151LF KCM15	B207	CPMT3252FW KCU10	B206	CSRPL866E	B173, B377	CTGPR164C	B182, B382
CPMT2151LF KCM25	B207	CPMT3252FW KT315	B206	CSRPR10CA3	B175, B395	CTGPR164D	B182, B382
CPMT2151LF KCP10	B207	CPMT3252LF K68	B207	CSRPR164D	B173, B377	CTGPR204D	B182, B382
CPMT2151LF KCP10B	B207	CPMT3252LF KC5010	B207	CSRPR866E	B173, B377	CV40BDL10162	053
CPMT2151LF KCP25	B207	CPMT3252LF KC5025	B207	CSSPL10CA3	B176, B396	CV40BDL12162	053
CPMT2151LF KCP25B	B207	CPMT3252LF KCK05	B207	CSSPL164D	B173, B378	CV40BDL16200	053
CPMT2151LF KT315	B207	CPMT3252LF KCK15	B207	CSSPL854D	B173, B378	CV40BDL20200	053
CPMT2151UF KC5010	B208	CPMT3252LF KCK15B	B207	CSSPL856D	B173, B378	CV40BDL25225	053
CPMT2151UF KCP10B	B208	CPMT3252LF KCK20	B207	CSSPR10CA3	B176, B396	CV40BDL32250	053
CPMT2151UF KCP25	B208	CPMT3252LF KCK20B	B207	CSSPR164D	B173, B378	CV40BKR32157	K91
CPMT2151UF KCP25B	B208	CPMT3252LF KCM15	B207	CSSPR854D	B173, B378	CV40BKR50236	K91
CPMT2152FP KCM25	B206	CPMT3252LF KCM25	B207	CSWM 035 040	B217, B220, B222-223	CV40BSIF80248	K48
CPMT2152FP KTP10	B206	CPMT3252LF KCP10	B207	CSWM 040 050	B217-223, B245, B276-278	CV40FBHM1691	K134
CPMT2152FW KC5010	B206	CPMT3252LF KCP10B	B207	CSWM 060 050	B72-74, B94, B115-119, B140-142, B174-176, B186-187, B198, B217, B220, B236-237, B245, B249-251, B254-255, B276-279, B394-398, C196, D41	CV40FBHM1691	K127, K131
CPMT2152FW KCK20	B206	CPMT3252LF KCP25	B207			CV50BHTS13M295	J90
CPMT2152FW KCP25	B206	CPMT3252LF KCP25B	B207			CV50BHTS16M295	J90
CPMT2152FW KCU10	B206	CPMT3252LF KCP30	B207			CV50BHTS22M295	J90
CPMT2152FW KT315	B206	CPMT3252LF KT315	B207			CV50BHTS27M295	J90
CPMT2152LF K313	B207	CPMT3252MF KCK15	B207			CV50BHTS32M314	J90
CPMT2152LF KC5010	B207	CPMT3252MF KCK15B	B207			CV50BHTS40M314	J90
CPMT2152LF KC5025	B207	CPMT3252MF KCK20	B207			CV50BHTS50M314	J90
CPMT2152LF KCK05	B207	CPMT3252MF KCK20B	B207			CV50BKR32157	K91
CPMT2152LF KCK15	B207	CPMT3252MF KCM15	B207			CV50BKR50157	K91
CPMT2152LF KCM25	B207	CPMT3252MF KCM15B	B207			CV50BKR63236	K91
CPMT2152LF KCP10	B207	CPMT3252MF KCM25	B207			CV50BKR80275	K91
CPMT2152LF KCP25	B207	CPMT3252MF KCM25B	B207			CV50BSIF100236	K48
CPMT2152LF KCP25B	B207	CPMT3252MF KCM35	B207			CV50BSIF70236	K48
CPMT2152LF KCP30	B207	CPMT3252MF KCP10	B207			CV50BT13069	K142
CPMT2152LF KT315	B207	CPMT3252MF KCP10B	B207			CV50RMHTS13M394	J90
CPMT2152MF KCK15	B207	CPMT3252MF KCP25	B207			CV50RMHTS16M394	J90
CPMT2152MF KCK20	B207	CPMT3252MF KCP25B	B207			CV50RMHTS22M394	J90
CPMT2152MF KCK20B	B207	CPMT3252MP KCK20	B207			CV50RMHTS27M394	J90
CPMT2152MF KCM15B	B207	CPMT3252MP KCM25	B207			CV50RMHTS32M394	J90
CPMT2152MF KCM25B	B207	CPMT3252MP KCM25B	B207			CV50RMHTS40M413	J90
CPMT2152MF KCP10B	B207	CPMT3252MP KCP10	B207			CV50RMHTS50M413	J90
CPMT2152MF KCP25B	B207	CPMT3252MP KCP25	B207			CW16	S30-31
CPMT2152MP KCP25B	B207	CPMT3252MP KCP25B	B207			CWLN164DMX5	B384
CPMT2152MP KCU10	B207	CPMT3252MP KCP25B	B207			CWLN204DMX5	B384
CPMT32505FP KCM25	B206	CPMT3252MW KC5010	B208			CWLN204DMX5	B384
CPMT32505FP KCU10	B206	CPMT3252MW KCK20	B208			CWLN204DMX5	B384
CPMT32505LF KC5010	B207	CPMT3252MW KCK20B	B208			CWLN204DMX5	B384
CPMT32505LF KT315	B207	CPMT3252MW KCP25	B208			CWLN204DMX5	B384
CPMT3251FP KCM15	B206	CPMT3253MF KCM25B	B207			CX0E125MTN4-C SP4060	P84
CPMT3251FP KCM25	B206	CPMT3253MF KCP25	B207			CX0E187MTN4-C SP4060	P84
CPMT3251FP KCP10	B206	CRDPN162DV	B168, B386			CX0E250MN4-C SP4060	P84
CPMT3251FP KCP25B	B206	CRDPN163DV	B168, B386			CX0E375MN4-C SP4060	P84
CPMT3251FP KCU10	B206	CRDPN164DV	B168, B386			CX0E050MN4-C SP4060	P84
CPMT3251FP KCU25	B206	CRDPN203DV	B168, B386			CX0E075MN4-C SP4060	P84
CPMT3251FW KC5010	B206	CRDPN204DV	B168, B386			CX0E125NTN4-C SP4060	P85
CPMT3251FW KCK20B	B206	CRGNL123	B373			CX0E125NTN4-F SP4060	P85
CPMT3251FW KCP25	B206	CRGNL163	B373			CX0E250NN4-C SP4060	P85
CPMT3251FW KT315	B206	CRGNL164	B373			CX0E250NN4-E SP4060	P85
CPMT3251LF KC5010	B207	CRGNL204D	B374			CX0E375NN4-C SP4060	P85
CPMT3251LF KC5025	B207	CRGNR123	B373			CX0E375NN4-E SP4060	P85
CPMT3251LF KCK05	B207	CRGNR163	B373			CX0E469NTN4-E SP4060	P85
CPMT3251LF KCK15B	B207	CRGNR164	B373			CX0E500NN4-C SP4060	P85
CPMT3251LF KCK20	B207	CRGNR244F	B373			CX0E500NN4-F SP4060	P85
CPMT3251LF KCK20B	B207	CRGNRP163D	B374			CX0E500NN4-J SP4060	P85
CPMT3251LF KCM15	B207	CRGNRP164D	B374			CX0E500NN4-K SP4060	P85
CPMT3251LF KCM15B	B207	CRGNRP204D	B374			CX0E625NN4-C SP4060	P85
CPMT3251LF KCM25	B207	CRGPL162DV	B169, B387			CX0E625NN4-E SP4060	P85
CPMT3251LF KCM25B	B207	CRGPL203DV	B169, B387			CX0E750NN4-C SP4060	P85
CPMT3251LF KCP05	B207	CRGPR162DV	B169, B387			CX0E750NN4-F SP4060	P85
						CX0E750NN4-K SP4060	P85

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
DCMT3252MF KCM25	B226	DDQNR204DKC3	B88	DFR0703R3SSF100	J14	DFR190R2WD32M	J10
DCMT3252MF KCM35	B226	DFC040310D28DS KCJ40	H114	DFR0703R4SSF100	J15	DFR190R3WD25M	J11
DCMT3252MF KCP10	B226	DFC040310D28HP KCJ25	H114	DFR0734R3SSF075	J14	DFR190R3WD32M	J11
DCMT3252MF KCP10B	B226	DFC040310D28HP KCJ40	H114	DFR0734R3SSF100	J14	DFR190R4WD32M	J12
DCMT3252MF KCP25	B226	DFC040310D28MD KC7140	H114	DFR0734R4SSF100	J15	DFR195R2WD32M	J10
DCMT3252MF KCP25B	B226	DFC05T312D32DS KCJ40	H114	DFR0750R2SSF100	J13	DFR195R3WD25M	J11
DCMT3252MF KCP30	B226	DFC05T312D32HP KCJ25	H114	DFR0750R3SSF075	J14	DFR195R3WD32M	J11
DCMT3252MP KCK20	B226	DFC05T312D32HP KCJ40	H114	DFR0750R3SSF100	J14	DFR195R4WD32M	J12
DCMT3252MP KCK20B	B226	DFC05T312D32MD KC7140	H114	DFR0750R4SSF100	J15	DFR200R2WD32M	J10
DCMT3252MP KCM15	B226	DFC06T312D36DS KCJ40	H114	DFR0781R3SSF075	J14	DFR200R3WD25M	J11
DCMT3252MP KCM25	B226	DFC06T312D36HP KCJ25	H114	DFR0781R3SSF100	J14	DFR200R3WD32M	J11
DCMT3252MP KCM25B	B226	DFC06T312D36HP KCJ40	H114	DFR0781R4SSF100	J15	DFR200R4WD32M	J12
DCMT3252MP KCP10	B226	DFC06T312D36MD KC7140	H114	DFR0813R2SSF100	J13	DFR205R2WD32M	J10
DCMT3252MP KCP25	B226	DFC070416D45DS KCJ40	H114	DFR0813R3SSF075	J14	DFR205R3WD25M	J11
DCMT3252MP KCP25B	B226	DFC070416D45HP KCJ25	H114	DFR0813R3SSF100	J14	DFR205R3WD32M	J11
DCMT3252MP KCU10	B226	DFC070416D45HP KCJ40	H114	DFR0813R4SSF100	J15	DFR205R4WD32M	J12
DCMT3252MP KCU25	B226	DFC070416D45MD KC7140	H114	DFR0844R3SSF075	J14	DFR210R2WD32M	J10
DCMT3252MF KC5010	B226	DFC090520D56DS KCJ40	H114	DFR0844R3SSF100	J14	DFR210R3WD25M	J11
DCMT3252MF KCP05	B226	DFC090520D56HP KCJ25	H114	DFR0844R4SSF100	J15	DFR210R3WD32M	J11
DCMT3252MF KCP10	B226	DFC090520D56HP KCJ40	H114	DFR0875R2SSF100	J13	DFR210R4WD32M	J12
DCMT3252MF KCP10B	B226	DFC090520D56MD KC7140	H114	DFR0875R3SSF075	J14	DFR220R2WD32M	J10
DCMT3252MF KCP25	B226	DFR020204GD KC7140	J97	DFR0875R3SSF100	J14	DFR220R3WD25M	J11
DCMT3253FP KCP10	B225	DFR020204GD KCPK10	J97	DFR0875R4SSF100	J15	DFR220R3WD32M	J11
DCMT3253LF KC5010	B225	DFR020204GD KCJ25	J97	DFR0906R3SSF100	J15	DFR220R4WD32M	J12
DCMT3253LF KCP10	B225	DFR020204GD KCJ40	J97	DFR0906R4SSF100	J15	DFR230R2WD32M	J10
DCMT3253LF KCP10B	B225	DFR020204LD KC7140	J97	DFR0938R2SSF100	J13	DFR230R3WD25M	J11
DCMT3253LF KCP25	B225	DFR020204LD KCPK10	J97	DFR0938R3SSF100	J14	DFR230R3WD32M	J11
DCMT3253MF KCK15	B226	DFR020204LD KCJ25	J97	DFR0938R4SSF100	J15	DFR230R4WD32M	J12
DCMT3253MF KCK20	B226	DFR020204LD KCJ40	J97	DFR0969R3SSF100	J14	DFR240R2WD32M	J10
DCMT3253MF KCK20B	B226	DFR020204MD KC7140	J97	DFR0969R4SSF100	J15	DFR240R3WD25M	J11
DCMT3253MF KCP10	B226	DFR020204MD KCJ25	J97	DFR0984R3SSF100	J14	DFR240R3WD32M	J11
DCMT3253MF KCP10B	B226	DFR020204MD KCJ40	J97	DFR0984R4SSF100	J15	DFR240R4WD32M	J12
DCMT3253MF KCP25	B226	DFR030204GD KC7140	J97	DFR1000R2SSF100	J13	DFSP0563R2SSF075	J32
DCMT3253MP KCP25B	B226	DFR030204GD KCPK10	J97	DFR1000R3SSF100	J14	DFSP0563R3SSF075	J34
DCMT3253MP KCU10	B226	DFR030204GD KCJ25	J97	DFR1000R3SSF125	J14	DFSP0594R2SSF075	J32
DCMT431FP KCM25	B225	DFR030204GD KCJ40	J97	DFR1000R4SSF100	J15	DFSP0594R3SSF075	J34
DCMT431FP KCP10	B225	DFR030204LD KC7140	J97	DFR1000R4SSF125	J15	DFSP0625R2SSF075	J32
DCMT431LF KC5010	B225	DFR030204LD KCPK10	J97	DFR125R2WD20M	J10	DFSP0625R3SSF075	J34
DCMT431LF KC5025	B225	DFR030204LD KCJ25	J97	DFR125R3WD20M	J11	DFSP0656R2SSF075	J32
DCMT431LF KCP10	B225	DFR030204LD KCJ40	J97	DFR125R4WD20M	J12	DFSP0656R3SSF075	J34
DCMT431LF KCP25B	B225	DFR030204MD KC7140	J97	DFR127R2WD20M	J10	DFSP0688R2SSF075	J32-33
DCMT432FP KCM25	B225	DFR030204MD KCJ25	J97	DFR127R3WD20M	J11	DFR127R3WD20M	J34-35
DCMT432FP KCP05	B225	DFR030204MD KCJ40	J97	DFR127R4WD20M	J12	DFSP0703R2SSF075	J32
DCMT432FP KCU10	B225	DFR040304D28GD KCJ25	H113	DFR130R2WD20M	J10	DFSP0703R3SSF075	J34
DCMT432LF KC5010	B225	DFR040304D28GD KCJ40	H113	DFR130R3WD20M	J11	DFSP0734R2SSF075	J32
DCMT432LF KC5025	B225	DFR040304D28LD KC7225	H113	DFR130R4WD20M	J12	DFSP0734R3SSF075	J34
DCMT432LF KCK20	B225	DFR040304D28MD KC7140	H113, J97	DFR135R2WD20M	J10	DFSP0750R2SSF100	J32
DCMT432LF KCK20B	B225	DFR040304GD KC7140	J97	DFR135R3WD20M	J11	DFSP0750R3SSF100	J34
DCMT432LF KCP10	B225	DFR040304GD KCPK10	J97	DFR135R4WD20M	J12	DFSP0750R4SSF100	J36
DCMT432LF KCP10B	B225	DFR040304LD KCJ25	J97	DFR140R2WD20M	J10	DFSP0781R2SSF100	J32
DCMT432LF KCP25	B225	DFR040304LD KCJ40	J97	DFR140R3WD20M	J11	DFSP0781R3SSF100	J34
DCMT432LF KCP25B	B225	DFR040304LD KC7140	J97	DFR140R4WD20M	J12	DFSP0781R4SSF100	J36
DCRNL164DKC3	B60	DFR040304LD KCPK10	J97	DFR145R2WD20M	J10	DFSP0813R2SSF100	J32
DCRNL204DKC3	B60	DFR040304LD KCJ25	J97	DFR145R3WD20M	J11	DFSP0813R3SSF100	J34
DCRNR124BK3	B60	DFR040304LD KCJ40	J97	DFR145R4WD20M	J12	DFSP0813R4SSF100	J36
DCRNR164DK3	B60	DFR040304MD KC7140	J97	DFR150R2WD20M	J10	DFSP0813R5SSF100	J38
DCRNR204DK3	B60	DFR040304MD KCJ25	J97	DFR150R3WD20M	J11	DFSP0844R2SSF100	J32-33
DCRNR206DK4	B60	DFR040304MD KCJ40	J97	DFR150R4WD20M	J12	DFSP0844R3SSF100	J34-35
DCRNR245DK4	B60	DFR040304ST KD1425	J98	DFR155R2WD20M	J10	DFSP0844R4SSF100	J36-37
DDJNL123BK3	B87	DFR0500R2SSF075	J13	DFR155R3WD20M	J11	DFSP0844R5SSF100	J38-39
DDJNL163CK3	B87	DFR0500R3SSF075	J14	DFR155R4WD20M	J12	DFSP0875R2SSF100	J32
DDJNL163DK3	B87	DFR0500R4SSF075	J15	DFR160R2WD20M	J10	DFSP0875R3SSF100	J34
DDJNL164CK3	B87	DFR0531R3SSF075	J14	DFR160R3WD20M	J11	DFSP0875R4SSF100	J36
DDJNL164DK3	B87	DFR0531R4SSF075	J15	DFR160R4WD20M	J12	DFSP0875R5SSF100	J38
DDJNL165DK4	B87	DFR0563R2SSF075	J13	DFR165R2WD32M	J10	DFSP0906R2SSF100	J32
DDJNL204DK3	B87	DFR0563R3SSF075	J14	DFR165R3WD32M	J11	DFSP0906R3SSF100	J34
DDJNL205DK4	B87	DFR0563R4SSF075	J15	DFR165R4WD32M	J12	DFSP0906R4SSF100	J36
DDJNR123BK3	B87	DFR0594R3SSF075	J14	DFR170R2WD32M	J10	DFSP0906R5SSF100	J38
DDJNR163CK3	B87	DFR0594R4SSF075	J15	DFR170R3WD32M	J11	DFSP0938R2SSF100	J32
DDJNR163DK3	B87	DFR0625R2SSF075	J13	DFR170R4WD32M	J12	DFSP0938R3SSF100	J34
DDJNR164CK3	B87	DFR0625R3SSF075	J14	DFR175R2WD32M	J10	DFSP0938R4SSF100	J36
DDJNR164DK3	B87	DFR0625R3SSF100	J14	DFR175R3WD25M	J11	DFSP0938R5SSF100	J38
DDJNR165DK4	B87	DFR0625R4SSF075	J15	DFR175R3WD32M	J11	DFSP0969R2SSF100	J32
DDJNR203DK3	B87	DFR0625R4SSF100	J15	DFR175R4WD32M	J12	DFSP0969R3SSF100	J34
DDJNR204DK3	B87	DFR0656R3SSF075	J14	DFR180R2WD32M	J10	DFSP0969R4SSF100	J36
DDJNR245DK4	B87	DFR0656R3SSF100	J14	DFR180R3WD25M	J11	DFSP0969R5SSF100	J38
DDPNV164DK3	B88	DFR0656R4SSF100	J15	DFR180R3WD32M	J11	DFSP0984R2SSF100	J32
DDQNL164CK3	B88	DFR0688R2SSF075	J13	DFR180R4WD32M	J12	DFSP0984R3SSF100	J34
DDQNL164DK3	B88	DFR0688R3SSF075	J14	DFR185R2WD32M	J10	DFSP0984R4SSF100	J36
DDQNL204DK3	B88	DFR0688R3SSF100	J14	DFR185R3WD25M	J11	DFSP0984R5SSF100	J38
DDQNR164CK3	B88	DFR0688R4SSF100	J15	DFR185R3WD32M	J11	DFSP1000R2SSF100	J32
DDQNR164DK3	B88	DFR0703R3SSF075	J14	DFR185R4WD32M	J12	DFSP1000R2SSF125	J32

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
DFSP1000R2SSF150.....	J32-33	DFSP150R4WD20M.....	J28	DFSP2125R4SSF200.....	J36-37	DFSP390R5WD32M.....	J30
DFSP1000R3SSF100.....	J34	DFSP155R2WD20M.....	J24	DFSP2125R5SSF150.....	J38	DFSP400R2WD32M.....	J24-25
DFSP1000R3SSF150.....	J34-35	DFSP155R3WD20M.....	J26	DFSP220R2WD32M.....	J24	DFSP400R3WD32M.....	J26-27
DFSP1000R4SSF100.....	J36	DFSP156R4WD20M.....	J28	DFSP220R3WD32M.....	J26	DFSP400R4WD32M.....	J28-29
DFSP1000R4SSF150.....	J36	DFSP156R2SSF125.....	J32	DFSP220R4WD32M.....	J28	DFSP400R5WD32M.....	J30-31
DFSP1000R5SSF100.....	J38	DFSP156R3SSF150.....	J34-35	DFSP230R2WD32M.....	J26	DFSP410R2WD32M.....	J24
DFSP1000R5SSF150.....	J36-37	DFSP156R4SSF150.....	J36	DFSP230R3WD32M.....	J26	DFSP410R3WD32M.....	J26
DFSP1000R6SSF100.....	J38	DFSP160R2WD20M.....	J24	DFSP230R4WD32M.....	J28	DFSP410R4WD32M.....	J28
DFSP1000R6SSF150.....	J38-39	DFSP160R3WD20M.....	J26	DFSP240R2WD32M.....	J24	DFSP410R5WD32M.....	J30
DFSP1031R2SSF125.....	J32	DFSP162R2WD20M.....	J24	DFSP240R3WD32M.....	J26	DFSP420R2WD32M.....	J25
DFSP1031R3SSF125.....	J34	DFSP162R3WD20M.....	J26	DFSP240R4WD32M.....	J28	DFSP420R3WD32M.....	J27
DFSP1031R4SSF125.....	J36	DFSP162R4WD20M.....	J28	DFSP250R2WD32M.....	J24-25	DFSP420R4WD32M.....	J29
DFSP1031R5SSF125.....	J38	DFSP162R5R2SSF125.....	J32	DFSP250R3WD32M.....	J26-27	DFSP420R5WD32M.....	J30
DFSP1063R2SSF125.....	J32	DFSP162R5R3SSF150.....	J34	DFSP250R4WD32M.....	J28-29	DFSP430R2WD32M.....	J25
DFSP1063R3SSF125.....	J34	DFSP162R5R4SSF150.....	J36-37	DFSP260R2WD32M.....	J24	DFSP430R3WD32M.....	J27
DFSP1063R4SSF125.....	J36	DFSP162R5R5SSF150.....	J38	DFSP260R3WD32M.....	J26	DFSP430R4WD32M.....	J29
DFSP1063R5SSF125.....	J38	DFSP165R2SSF150.....	J32	DFSP260R4WD32M.....	J28	DFSP430R5WD32M.....	J30-31
DFSP1094R2SSF125.....	J32	DFSP165R3SSF150.....	J34	DFSP260R5WD32M.....	J30-31	DFSP440R2WD32M.....	J27
DFSP1094R3SSF125.....	J34	DFSP165R4SSF150.....	J36-37	DFSP260R6WD32M.....	J24	DFSP440R3WD32M.....	J29
DFSP1094R4SSF125.....	J36	DFSP165R5SSF150.....	J38-39	DFSP265R2WD32M.....	J26	DFSP440R4WD32M.....	J30
DFSP1094R5SSF125.....	J38	DFSP165R6R2SSF150.....	J32	DFSP265R3WD32M.....	J26	DFSP450R2WD40M.....	J25
DFSP1125R2SSF125.....	J32	DFSP165R6R3SSF150.....	J34	DFSP265R4WD32M.....	J28	DFSP450R3WD40M.....	J27
DFSP1125R3SSF125.....	J34	DFSP165R6R4WD32M.....	J36-37	DFSP265R5WD32M.....	J30	DFSP450R4WD40M.....	J29
DFSP1125R4SSF125.....	J36	DFSP165R6R5SSF150.....	J38-39	DFSP270R2WD32M.....	J24	DFSP460R2WD40M.....	J25
DFSP1125R5SSF125.....	J38	DFSP165R7R2SSF150.....	J32	DFSP270R3WD32M.....	J26	DFSP460R3WD40M.....	J27
DFSP1156R2SSF125.....	J32	DFSP165R7R3SSF150.....	J34-35	DFSP270R4WD32M.....	J28	DFSP460R4WD40M.....	J29
DFSP1156R3SSF125.....	J34	DFSP168R2SSF150.....	J32-33	DFSP270R5WD32M.....	J30	DFSP460R5WD40M.....	J30
DFSP1156R4SSF125.....	J36	DFSP168R3SSF150.....	J34-35	DFSP280R2WD32M.....	J24	DFSP470R2WD40M.....	J25
DFSP1156R5SSF125.....	J38	DFSP170R2WD32M.....	J24-25	DFSP280R3WD32M.....	J26	DFSP470R3WD40M.....	J27
DFSP1188R2SSF125.....	J32	DFSP170R3WD32M.....	J26-27	DFSP280R4WD32M.....	J28	DFSP470R4WD40M.....	J29
DFSP1188R3SSF125.....	J34	DFSP170R4WD20M.....	J28-29	DFSP280R5WD32M.....	J30	DFSP480R2WD40M.....	J25
DFSP1188R4SSF125.....	J36	DFSP1750R2SSF150.....	J32	DFSP280R6WD32M.....	J24	DFSP480R3WD40M.....	J27
DFSP1188R5SSF125.....	J38	DFSP1750R3SSF150.....	J34	DFSP290R2WD32M.....	J26	DFSP480R4WD40M.....	J29
DFSP1219R2SSF125.....	J32	DFSP1750R4SSF150.....	J36	DFSP290R3WD32M.....	J28	DFSP490R2WD40M.....	J25
DFSP1219R3SSF125.....	J34	DFSP1750R5SSF150.....	J38	DFSP290R4WD32M.....	J30-31	DFSP490R3WD40M.....	J27
DFSP1219R4SSF125.....	J36	DFSP175R2WD32M.....	J24	DFSP290R5WD32M.....	J32	DFSP490R4WD40M.....	J29
DFSP1219R5SSF125.....	J38	DFSP175R3WD32M.....	J26	DFSP300R2WD32M.....	J24	DFSP490R5WD40M.....	J30
DFSP1250R2SSF125.....	J32-33	DFSP175R4WD32M.....	J28	DFSP300R3WD32M.....	J26	DFSP500R2WD40M.....	J25
DFSP1250R3SSF125.....	J34	DFSP180R2WD32M.....	J24	DFSP300R4WD32M.....	J28	DFSP500R3WD40M.....	J27
DFSP1250R4SSF125.....	J36	DFSP180R3WD32M.....	J26	DFSP300R5WD32M.....	J30	DFSP500R4WD40M.....	J29
DFSP1250R5SSF125.....	J38-39	DFSP180R4WD32M.....	J28	DFSP310R2WD32M.....	J24	DFSP500R5WD40M.....	J30
DFSP1250R6SSF150.....	J34-35	DFSP181R2SSF150.....	J32	DFSP310R3WD32M.....	J26	DFSP505R2WD40M.....	J25
DFSP1313R2SSF125.....	J32	DFSP181R3R3SSF150.....	J34	DFSP310R4WD32M.....	J28	DFSP505R3WD40M.....	J27
DFSP1313R3SSF125.....	J34	DFSP181R3R4SSF150.....	J36	DFSP310R5WD32M.....	J30	DFSP510R2WD40M.....	J25
DFSP1313R4SSF125.....	J36	DFSP181R3R5SSF150.....	J38	DFSP320R2WD32M.....	J24-25	DFSP510R3WD40M.....	J27
DFSP1313R5SSF125.....	J38	DFSP181R3R5SSF150.....	J38	DFSP320R3WD32M.....	J26-27	DFSP510R4WD40M.....	J29
DFSP1375R2SSF125.....	J32	DFSP185R2WD32M.....	J24	DFSP320R4WD32M.....	J28-29	DFSP510R5WD40M.....	J30
DFSP1375R3SSF125.....	J34	DFSP185R3WD32M.....	J26	DFSP320R5WD32M.....	J30-31	DFSP520R2WD40M.....	J25
DFSP1375R4SSF125.....	J36	DFSP185R4WD32M.....	J28	DFSP330R2WD32M.....	J24	DFSP520R3WD40M.....	J27
DFSP1375R5SSF125.....	J38	DFSP187R2SSF150.....	J32-33	DFSP330R3WD32M.....	J26	DFSP520R4WD40M.....	J29
DFSP1375R6SSF150.....	J38-39	DFSP187R3SSF150.....	J34-35	DFSP330R4WD32M.....	J28	DFSP520R5WD40M.....	J30
DFSP1281R3SSF125.....	J34-35	DFSP187R4SSF150.....	J36-37	DFSP330R5WD32M.....	J30	DFSP530R2WD40M.....	J25
DFSP1313R2SSF125.....	J32	DFSP187R5R2SSF150.....	J38-39	DFSP340R2WD32M.....	J24	DFSP530R3WD40M.....	J27
DFSP1313R3SSF150.....	J34	DFSP190R2WD32M.....	J24	DFSP340R3WD32M.....	J26	DFSP530R4WD40M.....	J29
DFSP1313R4SSF125.....	J36	DFSP190R3WD32M.....	J26	DFSP340R4WD32M.....	J28	DFSP530R5WD40M.....	J30
DFSP1313R5SSF125.....	J38	DFSP1938R2SSF150.....	J32	DFSP340R5WD32M.....	J30	DFSP540R2WD40M.....	J25
DFSP1375R2SSF125.....	J32	DFSP1938R3SSF150.....	J34	DFSP350R2WD32M.....	J26	DFSP540R3WD40M.....	J27
DFSP1375R3SSF125.....	J34	DFSP1938R4SSF150.....	J36	DFSP350R3WD32M.....	J28	DFSP540R4WD40M.....	J29
DFSP1375R4SSF125.....	J36	DFSP1938R5SSF150.....	J38	DFSP350R4WD32M.....	J30	DFSP550R2WD50M.....	J25
DFSP1375R5SSF125.....	J38	DFSP195R2WD32M.....	J24	DFSP360R2WD32M.....	J24	DFSP550R3WD50M.....	J27
DFSP1406R4SSF150.....	J36	DFSP195R3WD32M.....	J26	DFSP360R3WD32M.....	J26	DFSP550R4WD50M.....	J29
DFSP140R2WD20M.....	J24	DFSP195R4WD32M.....	J28	DFSP360R4WD32M.....	J28	DFSP550R5WD50M.....	J30-31
DFSP140R3WD20M.....	J26	DFSP2000R2SSF150.....	J32	DFSP360R5WD32M.....	J30	DFT030204G KCPK10.....	J101
DFSP140R4WD20M.....	J28	DFSP2000R2SSF200.....	J32	DFSP370R2WD32M.....	J24	DFT030204G KCUJ25.....	J101
DFSP1438R2SSF125.....	J32	DFSP2000R3SSF150.....	J34	DFSP370R3WD32M.....	J26	DFT030204H KCPK10.....	J101
DFSP1438R3SSF125.....	J34	DFSP2000R3SSF200.....	J34	DFSP370R4WD32M.....	J28	DFT030204H KCUJ25.....	J101
DFSP1438R4SSF125.....	J36	DFSP2000R4SSF150.....	J36	DFSP370R5WD32M.....	J30	DFT030204HP KCPK10.....	J101
DFSP1438R5SSF125.....	J38	DFSP2000R4SSF200.....	J36	DFSP375R3WD32M.....	J26	DFT030204HP KCUJ25.....	J101
DFSP145R2WD20M.....	J24	DFSP2000R5SSF150.....	J38	DFSP375R4WD32M.....	J28	DFT030204HP KCUJ40.....	J101
DFSP145R3WD20M.....	J26	DFSP2000R5SSF200.....	J38	DFSP375R5WD32M.....	J30	DFT030204HP KMF.....	J101
DFSP145R4WD20M.....	J28	DFSP200R2WD32M.....	J24	DFSP380R2WD32M.....	J24	DFT030204MD KC7140.....	J101
DFSP1469R2SSF125.....	J32	DFSP200R3WD32M.....	J26	DFSP380R3WD32M.....	J26	DFT030204MD KCUJ25.....	J101
DFSP1469R3SSF125.....	J34	DFSP200R4WD32M.....	J28	DFSP380R4WD32M.....	J28	DFT030204MD KCUJ40.....	J101
DFSP1500R2SSF125.....	J32	DFSP200R5WD32M.....	J30	DFSP380R5WD32M.....	J30	DFT030304DS KCUJ40.....	J102
DFSP1500R2SSF150.....	J32	DFSP210R2WD32M.....	J24-25	DFSP390R2WD32M.....	J24	DFT030304GD KC7140.....	J101
DFSP1500R3SSF125.....	J34	DFSP210R3WD32M.....	J26-27	DFSP390R3WD32M.....	J26	DFT030304GD KCPK10.....	J101
DFSP1500R3SSF150.....	J34	DFSP210R4WD32M.....	J28-29	DFSP390R4WD32M.....	J28	DFT030304GD KCUJ25.....	J101
DFSP1500R4SSF125.....	J36	DFSP210R5WD32M.....	J30-31	DFSP390R5WD32M.....	J30		
DFSP1500R4SSF150.....	J36	DFSP2125R2SSF150.....	J32				
DFSP1500R5SSF125.....	J38	DFSP2125R2SSF200.....	J32-33				
DFSP1500R5SSF150.....	J38	DFSP2125R3SSF150.....	J34				
DFSP150R2WD20M.....	J24	DFSP2125R3SSF200.....	J34-35				
DFSP150R3WD20M.....	J26	DFSP2125R4SSF150.....	J36				

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
DFT030304GD KCJ40	J101	DFT090508D56HP KCJ40	H112	DFT1563R4SSF125	J53	DFT390R2WD32M	J48
DFT030304HP KC7140	J101	DFT090508D56MD KC7140	H113	DFT1563R4SSF150	J53	DFT390R2WD40M	J48
DFT030304HP KCPK10	J101	DFT090508D63DS KCJ40	H112	DFT1625R2SSF125	J51	DFT390R4WD40M	J50
DFT030304HP KCJ25	J101	DFT090508D63HP KCJ25	H112	DFT1625R2SSF150	J51	DFT400R2WD32M	J48
DFT030304HP KCJ40	J101	DFT090508D63HP KCJ40	H112	DFT1625R4SSF125	J53	DFT400R2WD40M	J48
DFT030304HP KMF	J101	DFT090508D63MD KC7140	H113	DFT1625R4SSF150	J53	DFT400R4WD40M	J50
DFT030304MD KC7140	J101	DFT090508DS KCJ40	J102	DFT1688R2SSF125	J51	DFT410R2WD32M	J48
DFT030304MD KCJ25	J101	DFT090508GD KC7140	J101	DFT1688R2SSF150	J51	DFT410R2WD40M	J48
DFT030304MD KCJ40	J101	DFT090508GD KCPK10	J101	DFT1688R4SSF125	J53	DFT410R4WD40M	J50
DFT05T308D32DS KCJ40	H112	DFT090508GD KCJ25	J101	DFT1688R4SSF150	J53	DFT420R2WD32M	J48
DFT05T308D32HP KCJ25	H112	DFT090508GD KCJ40	J101	DFT1750R2SSF150	J51	DFT420R2WD40M	J48
DFT05T308D32HP KCJ40	H112	DFT090508HP KC7140	J101	DFT1750R4SSF150	J51	DFT420R4WD40M	J50
DFT05T308D32SDS KCJ40	H112	DFT090508HP KCPK10	J101	DFT1813R2SSF150	J51	DFT430R2WD32M	J48
DFT05T308D33DS KCJ40	H112	DFT090508HP KCJ25	J101	DFT1813R4SSF150	J53	DFT430R2WD40M	J48
DFT05T308D33HP KCJ25	H112	DFT090508HP KCJ40	J101	DFT1875R2SSF150	J53	DFT430R4WD40M	J50
DFT05T308D33HP KCJ40	H112	DFT090508HP KMF	J101	DFT1875R4SSF150	J53	DFT440R2WD32M	J48
DFT05T308D33MD KC7140	H113	DFT090508MD KC7140	J101	DFT1938R2SSF150	J52	DFT440R2WD40M	J48
DFT05T308DS KCJ40	J102	DFT090508MD KCJ25	J101	DFT1938R4SSF150	J53	DFT440R4WD40M	J50
DFT05T308GD KC7140	J101	DFT090508MD KCJ40	J101	DFT2000R2SSF150	J52	DFT440R2WD40M	J48
DFT05T308GD KCPK10	J101	DFT090508ST KD1425	J98	DFT2000R4SSF200	J52	DFT450R2WD50M	J48
DFT05T308GD KCJ25	J101	DFT0906R2SSF125	J51	DFT2000R4SSF200	J53	DFT450R4WD40M	J50
DFT05T308GD KCJ40	J101	DFT0938R2SSF125	J51	DFT2125R2SSF150	J52	DFT460R2WD40M	J48
DFT05T308HP KC7140	J101	DFT0969R2SSF125	J51	DFT2125R2SSF200	J52	DFT460R2WD50M	J48
DFT05T308HP KCPK10	J101	DFT0984R2SSF125	J51	DFT2125R4SSF150	J53	DFT460R4WD40M	J50
DFT05T308HP KCJ25	J101	DFT0984R4SSF100	J53	DFT2125R4SSF150	J53	DFT470R2WD40M	J48
DFT05T308HP KCJ40	J101	DFT1000R2SSF125	J51	DFT2125R4SSF200	J53	DFT470R2WD50M	J48
DFT05T308HP KMF	J101	DFT1000R2SSF150	J51	DFT2250R2SSF200	J52	DFT470R4WD40M	J50
DFT05T308MD KC7140	J101	DFT1000R4SSF100	J53	DFT2375R2SSF200	J52	DFT480R2WD40M	J48
DFT05T308MD KCJ25	J101	DFT1000R4SSF125	J53	DFT2500R2SSF200	J52	DFT480R2WD50M	J48
DFT05T308MD KCJ40	J101	DFT1000R4SSF150	J53	DFT250R2WD32M	J48	DFT480R4WD40M	J50
DFT05T308ST KD1425	J98	DFT1031R2SSF125	J51	DFT250R2WD40M	J48	DFT490R2WD40M	J48
DFT06T308D36DS KCJ40	H112	DFT1031R4SSF125	J53	DFT250R4WD32M	J50	DFT490R2WD50M	J48
DFT06T308D36HP KCJ25	H112	DFT1063R2SSF125	J51	DFT250R4WD40M	J50	DFT500R2WD40M	J48
DFT06T308D36HP KCJ40	H112	DFT1063R4SSF125	J53	DFT260R2WD32M	J48	DFT500R2WD50M	J48
DFT06T308D36MD KC7140	H113	DFT1094R2SSF125	J51	DFT260R2WD40M	J48	DFT510R2WD40M	J48
DFT06T308D39DS KCJ40	H112	DFT1094R4SSF125	J53	DFT260R4WD32M	J50	DFT510R2WD50M	J48
DFT06T308D39HP KCJ25	H112	DFT110508MD KC7140	J101	DFT260R4WD40M	J50	DFT520R2WD40M	J48
DFT06T308D39HP KCJ40	H112	DFT110508ST KD1425	J98	DFT270R2WD32M	J48	DFT520R2WD50M	J48
DFT06T308D39MD KC7140	H113	DFT1125R2SSF125	J51	DFT270R2WD40M	J48	DFT530R2WD40M	J48
DFT06T308D44DS KCJ40	H112	DFT1125R4SSF125	J53	DFT270R4WD32M	J50	DFT530R2WD50M	J48
DFT06T308D44HP KCJ25	H112	DFT1125R4SSF150	J53	DFT270R4WD40M	J50	DFT540R2WD40M	J48
DFT06T308D44HP KCJ40	H112	DFT1156R2SSF125	J51	DFT2750R2SSF200	J52	DFT540R2WD50M	J48
DFT06T308D44MD KC7140	H113	DFT1156R4SSF125	J53	DFT280R2WD32M	J48	DFT550R2WD40M	J48
DFT06T308DS KCJ40	J102	DFT1188R2SSF125	J51	DFT280R2WD40M	J48	DFT550R2WD50M	J48
DFT06T308GD KC7140	J101	DFT1188R4SSF125	J53	DFT280R4WD32M	J50	DFT560R2WD40M	J48
DFT06T308GD KCPK10	J101	DFT1219R2SSF125	J51	DFT280R4WD40M	J50	DFT570R2WD40M	J48
DFT06T308GD KCJ25	J101	DFT1219R2SSF150	J51	DFT290R2WD32M	J48	DFT570R2WD50M	J48
DFT06T308GD KCJ40	J101	DFT1219R4SSF125	J53	DFT290R2WD40M	J48	DFT580R2WD40M	J48
DFT06T308HP KC7140	J101	DFT1250R2SSF125	J51	DFT290R4WD32M	J50	DFT580R2WD50M	J48
DFT06T308HP KCPK10	J101	DFT1250R2SSF150	J51	DFT290R4WD40M	J50	DFT590R2WD40M	J48
DFT06T308HP KCJ25	J101	DFT1250R4SSF125	J53	DFT3000R2SSF200	J52	DFT590R2WD50M	J48
DFT06T308HP KCJ40	J101	DFT1250R4SSF150	J53	DFT300R2WD32M	J48	DFT600R2WD50M	J48
DFT06T308HP KMF	J101	DFT1281R2SSF125	J51	DFT300R2WD40M	J48	DFT610R2WD50M	J49
DFT06T308MD KC7140	J101	DFT1281R2SSF150	J51	DFT300R4WD32M	J48	DFT620R2WD50M	J49
DFT06T308MD KCJ25	J101	DFT1281R4SSF125	J53	DFT300R4WD40M	J50	DFT630R2WD50M	J49
DFT06T308MD KCJ40	J101	DFT1313R2SSF125	J51	DFT310R2WD32M	J48	DFT640R2WD50M	J49
DFT06T308ST KD1425	J98	DFT1313R2SSF150	J51	DFT310R2WD40M	J48	DFT650R2WD50M	J49
DFT070408D45DS KCJ40	H112	DFT1313R4SSF125	J53	DFT310R4WD32M	J50	DFT660R2WD50M	J49
DFT070408D45HP KCJ25	H112	DFT1375R2SSF125	J51	DFT310R4WD40M	J50	DFT670R2WD50M	J49
DFT070408D45HP KCJ40	H112	DFT1375R2SSF150	J51	DFT320R2WD32M	J48	DFT680R2WD50M	J49
DFT070408D45MD KC7140	H113	DFT1375R4SSF125	J53	DFT320R2WD40M	J48	DFT690R2WD50M	J49
DFT070408D50DS KCJ40	H112	DFT1375R4SSF150	J53	DFT320R4WD32M	J50	DFT700R2WD50M	J49
DFT070408D50HP KCJ25	H112	DFT1406R2SSF125	J51	DFT320R4WD40M	J50	DFT710R2WD50M	J49
DFT070408D50HP KCJ40	H112	DFT1406R2SSF150	J51	DFT3250R2SSF200	J52	DFT720R2WD50M	J49
DFT070408D50MD KC7140	H113	DFT1406R4SSF125	J53	DFT330R2WD32M	J48	DFT730R2WD50M	J49
DFT070408DS KCJ40	J102	DFT1438R2SSF125	J51	DFT330R2WD40M	J48	DFT740R2WD50M	J49
DFT070408GD KC7140	J101	DFT1438R2SSF150	J51	DFT330R4WD32M	J48	DFT750R2WD50M	J49
DFT070408GD KCPK10	J101	DFT1438R4SSF125	J53	DFT330R4WD40M	J50	DFT760R2WD50M	J49
DFT070408GD KCJ25	J101	DFT1469R2SSF125	J51	DFT340R2WD32M	J48	DFT770R2WD50M	J49
DFT070408GD KCJ40	J101	DFT1469R2SSF150	J51	DFT340R2WD40M	J48	DFT780R2WD50M	J49
DFT070408HP KC7140	J101	DFT1469R4SSF125	J53	DFT340R4WD32M	J50	DFT790R2WD50M	J49
DFT070408HP KCPK10	J101	DFT1500R2SSF125	J51	DFT350R2WD32M	J48	DFT800R2WD50M	J49
DFT070408HP KCJ25	J101	DFT1500R2SSF150	J51	DFT350R2WD40M	J48	DFT810R2WD50M	J49
DFT070408HP KCJ40	J101	DFT1500R2SSF150	J51	DFT350R4WD40M	J50	DFT820R2WD50M	J49
DFT070408HP KMF	J101	DFT1500R4SSF125	J53	DFT360R2WD32M	J48	DFTX20204DS KCJ40	J102
DFT070408MD KC7140	J101	DFT1500R4SSF150	J53	DFT360R2WD40M	J48	DFTX20204HP KC7140	J101
DFT070408MD KCJ25	J101	DFT1531R2SSF125	J51	DFT360R4WD32M	J50	DFTX20204HP KCJ25	J101
DFT070408MD KCJ40	J101	DFT1531R2SSF150	J51	DFT370R2WD32M	J48	DFTX20204HP KCJ40	J101
DFT070408ST KD1425	J98	DFT1531R4SSF125	J53	DFT370R2WD40M	J48	DFTX20204MD KC7140	J101
DFT0875R2SSF125	J51	DFT1531R4SSF150	J53	DFT370R4WD32M	J50	DFTX20204MD KCJ25	J101
DFT090508D56DS KCJ40	H112	DFT1563R2SSF125	J51	DFT380R2WD32M	J48	DFTX20204MD KCJ40	J101
DFT090508D56HP KCJ25	H112	DFT1563R2SSF150	J51	DFT380R4WD40M	J50	DH35M	S39, T113
						DNG451T0820 KY1615	B333
						DNG452T0820 KY1615	B333
						DNG453T0820 KY1615	B333
						DNG454T0820 KY1615	B333

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
DNGA431E KD1405.....	B364	DNGM433S0525MTCB1 KBH20.....	B334	DNMG332FF KCP05B.....	B79	DNMG431FN KCP25B.....	B79
DNGA431FST KD1400.....	B365	DNGM442S0525MTCB1 KBH20.....	B334	DNMG332FF KCP10.....	B79	DNMG431FN KT315.....	B79
DNGA431FST KD1425.....	B365	DNGM443S0525MTCB1 KBH20.....	B334	DNMG332FF KCP10B.....	B79	DNMG431FP KC5010.....	B80
DNGA431S0415MT KBH10.....	B334	DNGN120408S02020 KBK45.....	B304	DNMG332FF KCU10.....	B79	DNMG431FP KCM15.....	B80
DNGA431S0415MT KBH20.....	B334	DNGN120412S02020 KBK45.....	B304	DNMG332FF KT315.....	B79	DNMG431FP KCU10.....	B80
DNGA431S0425MT KB5630.....	B310, B334	DNGP430 KC5010.....	B77	DNMG332FN KCK05.....	B79	DNMG431FP KT315.....	B80
DNGA431S0525MT KBH20.....	B334	DNGP4305 KC5010.....	B77	DNMG332FN KCP05.....	B79	DNMG431FW KC5010.....	B80
DNGA431S0735MT KBH20.....	B334	DNGP4305 KC5410.....	B77	DNMG332FN KCP10.....	B79	DNMG431FW KCP10.....	B80
DNGA431T0820 KY1615.....	B333	DNGP4305 KCU10.....	B77	DNMG332FN KCP10B.....	B79	DNMG431FW KCU10.....	B80
DNGA432FST KD1400.....	B365	DNGP431 K313.....	B77	DNMG332FN KCP25B.....	B79	DNMG431FW KT315.....	B80
DNGA432FST KD1425.....	B365	DNGP431 KC5010.....	B77	DNMG332FN KT315.....	B79	DNMG431MN KCP10.....	B81
DNGA432S0415FWMT KBH10.....	B333	DNGP431 KC5410.....	B77	DNMG332FP KC5010.....	B80	DNMG431MN KCP10B.....	B81
DNGA432S0415FWMT KBH20.....	B333	DNGP431 KCU10.....	B77	DNMG332FP KCM15.....	B80	DNMG431MN KCP25.....	B81
DNGA432S0415MT KBH10.....	B334	DNGP432 K313.....	B77	DNMG332FP KCP10.....	B80	DNMG431MN KCP25B.....	B81
DNGA432S0415MT KBH20.....	B334	DNGP432 KC5010.....	B77	DNMG332FP KCPK05.....	B80	DNMG431MN KCP30.....	B81
DNGA432S0420MT KB1345.....	B310	DNGP432 KC5410.....	B77	DNMG332FP KCU10.....	B80	DNMG431MP KC5010.....	B81
DNGA432S0425MT KB5630.....	B310, B334	DNGP432 KCU10.....	B77	DNMG332FP KT315.....	B80	DNMG431MP KCM15B.....	B81
DNGA432S0525FWMT KBH10.....	B333	DNGP441 K313.....	B77	DNMG332FW KCM15B.....	B80	DNMG431MP KCM25.....	B81
DNGA432S0525MT KBH10.....	B334	DNGP441 KC5410.....	B77	DNMG332FW KCP05.....	B80	DNMG431MP KCM25B.....	B81
DNGA432S0525MT KBH20.....	B334	DNGP441 KCU10.....	B77	DNMG332FW KCP10.....	B80	DNMG431MP KCM35.....	B81
DNGA432S0735MT KBH10.....	B334	DNGP442 KC5010.....	B77	DNMG332FW KCP10B.....	B80	DNMG431MP KCU10.....	B81
DNGA432S0735MT KBH20.....	B334	DNGP442 KCU10.....	B77	DNMG332FW KT315.....	B80	DNMG431MS K313.....	B82
DNGA432T0420 KYS30.....	B351	DNGX120708T02020 KY3500.....	B317	DNMG332MN KCP05.....	B81	DNMG431MS KC5010.....	B82
DNGA432T0820 KY1615.....	B333	DNGX120712T02020 KY3500.....	B317	DNMG332MN KCP10.....	B81	DNMG431MS KC5025.....	B82
DNGA432T0820 KY3500.....	B314	DNGX120712T02020 KYK25.....	B317	DNMG332MN KCP10B.....	B81	DNMG431MS KCU10.....	B82
DNGA433S0415FWMT KBH20.....	B333	DNGX120716T02020 KY3500.....	B317	DNMG332MN KCP25.....	B81	DNMG431MS KCU25.....	B82
DNGA433S0415MT KBH10.....	B334	DNGX452T0420 KYS25.....	B351	DNMG332MN KCP25B.....	B81	DNMG431P KC5010.....	B83
DNGA433S0415MT KBH20.....	B334	DNGX452T0820 KY1615.....	B317, B335	DNMG332MN KCP30.....	B81	DNMG431P KCU10.....	B83
DNGA433S0525FWMT KBH10.....	B333	DNGX452T0820 KY3500.....	B317	DNMG332MP KC5010.....	B81	DNMG431P KCM15.....	B84
DNGA433S0525MT KBH10.....	B334	DNGX453T0420 KYS25.....	B351	DNMG332MP KCM15.....	B81	DNMG431P KCM25.....	B84
DNGA433S0525MT KBH20.....	B334	DNGX453T0420 KYS30.....	B351	DNMG332MP KCM25.....	B81	DNMG431P KCU10.....	B84
DNGA433S0735MT KBH10.....	B334	DNGX453T0820 KY3500.....	B317	DNMG332MP KCM25B.....	B81	DNMG432 K68.....	B78
DNGA433S0735MT KBH20.....	B334	DNGX453T0820 KYK25.....	B317	DNMG332MP KCU10.....	B81	DNMG432CT KC5010.....	B79
DNGA433T0420 KYS30.....	B351	DNGX454T0420 KYS30.....	B351	DNMG332MR KCP10B.....	B82	DNMG432CT KCP10.....	B79
DNGA433T0820 KY1615.....	B333	DNGX454T0820 KY3500.....	B317	DNMG332MR KCP25B.....	B82	DNMG432CT KCP10B.....	B79
DNGA433T0820 KY3500.....	B314	DNMA332 KCK05.....	B78	DNMG332MS KC5010.....	B82	DNMG432CT KCP25.....	B79
DNGA434T0820 KY1615.....	B333	DNMA332 KCK20B.....	B78	DNMG332MS KC5025.....	B82	DNMG432FF KCU10.....	B79
DNGA434T0820 KY3500.....	B314	DNMA332S0820 KB1340.....	B309	DNMG332MS KCU10.....	B82	DNMG432FF KCP05.....	B79
DNGA434T0820 KYK10.....	B314	DNMA333S0820 KB1340.....	B309	DNMG332MS KCU25.....	B82	DNMG432FF KCP10.....	B79
DNGA434T0820 KYK25.....	B314	DNMA432 KCK05.....	B78	DNMG332RP KC5010.....	B84	DNMG432FF KCP10B.....	B79
DNGA441S0415MT KBH10.....	B334	DNMA432 KCK15.....	B78	DNMG332RP KCK20B.....	B84	DNMG432FF KCU10.....	B79
DNGA441S0415MT KBH20.....	B334	DNMA432 KCK20.....	B78	DNMG332RP KCM15.....	B84	DNMG432FF KT315.....	B79
DNGA441S0525MT KBH20.....	B334	DNMA432 KCK20B.....	B78	DNMG332RP KCP10.....	B84	DNMG432FN KCK05.....	B79
DNGA441S0735MT KBH20.....	B334	DNMA433 KCK05.....	B78	DNMG332RP KCP25B.....	B84	DNMG432FN KCP05.....	B79
DNGA441T0820 KY1615.....	B333	DNMA433 KCK15.....	B78	DNMG332RP KCU10.....	B84	DNMG432FN KCP10.....	B79
DNGA442S0415MT KBH10.....	B334	DNMA433 KCK20.....	B78	DNMG332RP KCU25.....	B84	DNMG432FN KCP10B.....	B79
DNGA442S0415MT KBH20.....	B334	DNMA434 KCK20B.....	B78	DNMG332UN KCK15.....	B84	DNMG432FN KCP25.....	B79
DNGA442S0525MT KBH10.....	B334	DNMA442 KCK05.....	B78	DNMG332UN KCK15B.....	B84	DNMG432FN KCP25B.....	B79
DNGA442S0525MT KBH20.....	B334	DNMA442 KCK15.....	B78	DNMG332UN KCK20.....	B84	DNMG432FN KCPK05.....	B79
DNGA442S0735MT KBH20.....	B334	DNMA442 KCK20.....	B78	DNMG332UP KCM25.....	B84	DNMG432FN KT315.....	B79
DNGA442T0820 KY1615.....	B333	DNMA443 KCK20.....	B78	DNMG332UP KCP10B.....	B79	DNMG432FP KC5010.....	B80
DNGA442T0820 KY3500.....	B314	DNMA443 KCK20B.....	B78	DNMG333FN KCP05.....	B79	DNMG432FP KCM15.....	B80
DNGA443S0415MT KBH10.....	B334	DNMG33133 KT315.....	B78	DNMG333FN KCP10B.....	B79	DNMG432FP KCP10.....	B80
DNGA443S0415MT KBH20.....	B334	DNMG331FF KC5010.....	B79	DNMG333MN KCP10.....	B81	DNMG432FP KCP25.....	B80
DNGA443S0525MT KBH10.....	B334	DNMG331FF KCP05.....	B79	DNMG333MN KCP25.....	B81	DNMG432FP KCU10.....	B80
DNGA443S0525MT KBH20.....	B334	DNMG331FF KCP10.....	B79	DNMG333MN KCP25B.....	B81	DNMG432FP KT315.....	B80
DNGA443S0735MT KBH20.....	B334	DNMG331FF KCU10.....	B79	DNMG333MP KCM15.....	B81	DNMG432FW KCK15B.....	B80
DNGA443T0820 KY1615.....	B333	DNMG331FF KT315.....	B79	DNMG333MP KCM25B.....	B81	DNMG432FW KCP05.....	B80
DNGA443T0820 KY3500.....	B314	DNMG331FN KCK05.....	B79	DNMG333RP KCP25B.....	B84	DNMG432FW KCP10B.....	B80
DNMG3305FS KC5010.....	B77	DNMG331FN KCP05.....	B79	DNMG333UN KCK15.....	B84	DNMG432FW KCU10.....	B80
DNMG3305FS KCU10.....	B77	DNMG331FN KCP10.....	B79	DNMG333UN KCK15B.....	B84	DNMG432FW KT315.....	B80
DNMG331FS KCU10.....	B77	DNMG331FN KCP10B.....	B79	DNMG333UN KCK20.....	B84	DNMG432MN KCP05B.....	B81
DNMG332FS KCU10.....	B77	DNMG331FN KCP25B.....	B79	DNMG4305MS KC5010.....	B82	DNMG432MN KCP10.....	B81
DNMG4305FS KC5010.....	B77	DNMG331FN KT315.....	B79	DNMG4305MS KCU10.....	B82	DNMG432MN KCP10B.....	B81
DNMG4305FS KCU10.....	B77	DNMG331FP KC5010.....	B80	DNMG4305MS KCU25.....	B82	DNMG432MN KCP25.....	B81
DNMG4305LF KC5010.....	B77	DNMG331FP KCM15.....	B80	DNMG430MS KCU10.....	B82	DNMG432MN KCP25B.....	B81
DNMG4305LF KCU10.....	B77	DNMG331FP KCM15B.....	B80	DNMG431CT KC5010.....	B79	DNMG432MN KCP30.....	B81
DNMG430FS KCU10.....	B77	DNMG331FP KCPK05.....	B80	DNMG431CT KCP10.....	B79	DNMG432MN KCP30B.....	B81
DNMG431FS KC5010.....	B77	DNMG331FP KCU10.....	B80	DNMG431CT KCP25.....	B79	DNMG432MN KCP40.....	B81
DNMG431FS KC5025.....	B77	DNMG331FW KCP10.....	B80	DNMG431CT KCP25B.....	B79	DNMG432MN KCPK05.....	B81
DNMG431FS KCU10.....	B77	DNMG331FW KCU10.....	B80	DNMG431CT KCU10.....	B79	DNMG432MP KC5010.....	B81
DNMG431LF KC5010.....	B77	DNMG331FW KT315.....	B80	DNMG431FF KC5010.....	B79	DNMG432MP KCM15B.....	B81
DNMG431LF KCU10.....	B77	DNMG331MN KCP05.....	B81	DNMG431FF KCM15B.....	B79	DNMG432MP KCM25.....	B81
DNMG432FS KC5010.....	B77	DNMG331MN KCP10B.....	B81	DNMG431FF KCP10.....	B79	DNMG432MP KCM25B.....	B81
DNMG432FS KCU10.....	B77	DNMG331MN KCP25.....	B81	DNMG431FF KCU10.....	B79	DNMG432MP KCM35.....	B81
DNMG432FS KCU25.....	B77	DNMG331MN KCP25B.....	B81	DNMG431FF KT315.....	B79	DNMG432MP KCP10.....	B81
DNMG432LF KC5010.....	B77	DNMG331MN KCP30.....	B81	DNMG431FN KCK05.....	B79	DNMG432MP KCP25.....	B81
DNMG432LF KCU10.....	B77	DNMG33233 KT315.....	B78	DNMG431FN KCK15B.....	B79	DNMG432MP KCU10.....	B81
DNMG433FS KC5010.....	B77	DNMG332CT KCP05.....	B79	DNMG431FN KCP05.....	B79	DNMG432MR KCM15.....	B82
DNMG441FS KCU10.....	B77	DNMG332CT KCP10.....	B79	DNMG431FN KCP10.....	B79	DNMG432MR KCM25B.....	B82
DNMG442FS KCU10.....	B77	DNMG332CT KCP10B.....	B79	DNMG431FN KCP10B.....	B79	DNMG432MR KCP10B.....	B82
DNGM432S0525MTCB1 KBH20.....	B334	DNMG332FF KCP05.....	B79	DNMG431FN KCP25.....	B79	DNMG432MR KCP25B.....	B82

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
DNMG432MR KCP30B.....	B82	DNMG434RP KCU10.....	B84	DNMG442MP KCJ25.....	B81	DNMG443MW KCP10B.....	B82
DNMG432MR KCPK05.....	B82	DNMG434UN KCK20.....	B84	DNMG442MR KCK15B.....	B82	DNMG443MW KCP25.....	B82
DNMG432MR KCU10.....	B82	DNMG434UN KCK20B.....	B84	DNMG442MR KCM15B.....	B82	DNMG443RN KCP05.....	B83
DNMG432MS K313.....	B82	DNMG44133 KT315.....	B78	DNMG442MR KCM25.....	B82	DNMG443RN KCP10.....	B83
DNMG432MS KC5010.....	B82	DNMG441CT KCP10.....	B79	DNMG442MR KCM25B.....	B82	DNMG443RN KCP10B.....	B83
DNMG432MS KC5025.....	B82	DNMG441FF KC5010.....	B79	DNMG442MR KCP10B.....	B82	DNMG443RN KCP25.....	B83
DNMG432MS KCU10.....	B82	DNMG441FF KCP10B.....	B79	DNMG442MR KCP25B.....	B82	DNMG443RN KCP25B.....	B83
DNMG432MS KCU25.....	B82	DNMG441FF KT315.....	B79	DNMG442MR KCU10.....	B82	DNMG443RN KCP30.....	B83
DNMG432MW KCP05.....	B82	DNMG441FN KCK05.....	B79	DNMG442MS K313.....	B82	DNMG443RN KCP40B.....	B83
DNMG432MW KCP10B.....	B82	DNMG441FN KCK15B.....	B79	DNMG442MS KC5010.....	B82	DNMG443RN KCPK05.....	B83
DNMG432MW KCP25.....	B82	DNMG441FN KCP05.....	B79	DNMG442MS KC5025.....	B82	DNMG443RP KCK05.....	B84
DNMG432P KC5010.....	B83	DNMG441FN KCP10.....	B79	DNMG442MS KCU10.....	B82	DNMG443RP KCK15.....	B84
DNMG432P KCU10.....	B83	DNMG441FN KCP10B.....	B79	DNMG442MS KCU25.....	B82	DNMG443RP KCK20.....	B84
DNMG432RN KCP10.....	B83	DNMG441FN KCP25.....	B79	DNMG442MW KCP05.....	B82	DNMG443RP KCK20B.....	B84
DNMG432RN KCP10B.....	B83	DNMG441FN KCP25B.....	B79	DNMG442MW KCP10.....	B82	DNMG443RP KCM25.....	B84
DNMG432RN KCP25.....	B83	DNMG441FN KT315.....	B79	DNMG442MW KCP10B.....	B82	DNMG443RP KCM35B.....	B84
DNMG432RN KCP25B.....	B83	DNMG441FF KC5010.....	B80	DNMG442MW KCP25.....	B82	DNMG443RP KCP10.....	B84
DNMG432RN KCP30B.....	B83	DNMG441FF KCM15.....	B80	DNMG442MW KCPK05.....	B82	DNMG443RP KCP10B.....	B84
DNMG432RN KCP40.....	B83	DNMG441FF KCU10.....	B80	DNMG442P KC5010.....	B83	DNMG443RP KCP25.....	B84
DNMG432RP KC5010.....	B84	DNMG441FW KCP05.....	B80	DNMG442RN KCP05.....	B83	DNMG443RP KCP25B.....	B84
DNMG432RP KC5025.....	B84	DNMG441FW KCP10B.....	B80	DNMG442RN KCP10.....	B83	DNMG443RP KCU10.....	B84
DNMG432RP KCK05.....	B84	DNMG441FW KCU10.....	B80	DNMG442RN KCP10B.....	B83	DNMG443RP KCU25.....	B84
DNMG432RP KCK20.....	B84	DNMG441MN KCP10.....	B81	DNMG442RN KCP25.....	B83	DNMG443UN KCK15.....	B84
DNMG432RP KCK20B.....	B84	DNMG441MN KCP10B.....	B81	DNMG442RN KCP25B.....	B83	DNMG443UN KCK15B.....	B84
DNMG432RP KCM15.....	B84	DNMG441MN KCP25.....	B81	DNMG442RN KCP30.....	B83	DNMG443UN KCK20.....	B84
DNMG432RP KCM25.....	B84	DNMG441MN KCP25B.....	B81	DNMG442RN KCP40B.....	B83	DNMG443UN KCK20B.....	B84
DNMG432RP KCM25B.....	B84	DNMG441MN KCP30.....	B81	DNMG442RP KC5010.....	B84	DNMG444MG KCP10B.....	B83
DNMG432RP KCM35.....	B84	DNMG441MP KC5010.....	B81	DNMG442RP KC5025.....	B84	DNMG444MG KCP10.....	B81
DNMG432RP KCP10.....	B84	DNMG441MP KCM15B.....	B81	DNMG442RP KCK15B.....	B84	DNMG444MR KCP25B.....	B82
DNMG432RP KCP10B.....	B84	DNMG441MP KCM25.....	B81	DNMG442RP KCK20.....	B84	DNMG444RN KCP10.....	B83
DNMG432RP KCP25.....	B84	DNMG441MP KCM25B.....	B81	DNMG442RP KCM15.....	B84	DNMG444RN KCP25.....	B83
DNMG432RP KCP25B.....	B84	DNMG441MP KCM35.....	B81	DNMG442RP KCM25.....	B84	DNMG444RN KCP25B.....	B83
DNMG432RP KCU10.....	B84	DNMG441MP KCU10.....	B81	DNMG442RP KCM25B.....	B84	DNMG444RN KCP40B.....	B83
DNMG432RP KCU25.....	B84	DNMG441MS K313.....	B82	DNMG442RP KCP05.....	B84	DNMG444RP KCP10.....	B84
DNMG432UN KCK05.....	B84	DNMG441MS KC5010.....	B82	DNMG442RP KCP10.....	B84	DNMG444RP KCP10B.....	B84
DNMG432UN KCK15.....	B84	DNMG441MS KC5025.....	B82	DNMG442RP KCP10B.....	B84	DNMG444RP KCP25.....	B84
DNMG432UN KCK15B.....	B84	DNMG441MS KCU10.....	B82	DNMG442RP KCP25.....	B84	DNMG444RP KCP25B.....	B84
DNMG432UN KCK20.....	B84	DNMG441MS KCU25.....	B82	DNMG442RP KCP25B.....	B84	DNMG444RP KCU25.....	B84
DNMG432UN KCK20B.....	B84	DNMG441UP KCM25.....	B84	DNMG442RP KCP30.....	B84	DNMG444UN KCK15B.....	B84
DNMG432UP KC5010.....	B84	DNMG44233 KT315.....	B78	DNMG442RP KCU10.....	B84	DNMG444UN KCK20.....	B84
DNMG432UP KCM15.....	B84	DNMG442CT KCP10.....	B79	DNMG442RP KCU25.....	B84	DNMG542RN KCP10B.....	B83
DNMG432UP KCM25.....	B84	DNMG442CT KCP10B.....	B79	DNMG442RP KCU25B.....	B84	DNMG542RN KCP25.....	B83
DNMG432UP KCM25B.....	B84	DNMG442CT KCP25.....	B79	DNMG442UN KCK15B.....	B84	DNMG542RN KCP30.....	B83
DNMG432UP KCM35.....	B84	DNMG442FF KC5010.....	B79	DNMG442UN KCK20.....	B84	DNMG543MN KCP30.....	B81
DNMG432UP KCU10.....	B84	DNMG442FF KCP10.....	B79	DNMG442UN KCK20B.....	B84	DNMG543RN KCP10B.....	B83
DNMG433CT KCP10B.....	B79	DNMG442FF KCP10B.....	B79	DNMG442UN KCU5010.....	B84	DNMG543RN KCP25.....	B83
DNMG433CT KCU10.....	B79	DNMG442FF KT315.....	B79	DNMG442UP KCM15.....	B84	DNMG543RN KCP30.....	B83
DNMG433FN KCK05.....	B79	DNMG442FN KCK05.....	B79	DNMG442UP KCM25B.....	B84	DNMM432RM KCP25.....	B85
DNMG433FN KCP05.....	B79	DNMG442FN KCK15B.....	B79	DNMG442UP KCU10.....	B84	DNMM433RM KCP25B.....	B85
DNMG433FN KCP10B.....	B79	DNMG442FN KCP05.....	B79	DNMG443CT KC5010.....	B79	DNMM442RN KCP10.....	B85
DNMG433FN KT315.....	B79	DNMG442FN KCP10.....	B79	DNMG443CT KCP05.....	B79	DNMM442RN KCP25B.....	B85
DNMG433FP KCU10.....	B80	DNMG442FN KCP10B.....	B79	DNMG443CT KCP05B.....	B79	DNMM442RM KCP30.....	B85
DNMG433MN KCP05.....	B81	DNMG442FN KCP25.....	B79	DNMG443CT KCP10.....	B79	DNMM442RP KCP10.....	B85
DNMG433MN KCP10B.....	B81	DNMG442FN KCP25B.....	B79	DNMG443CT KCP10B.....	B79	DNMM442RP KCP25.....	B85
DNMG433MN KCP25.....	B81	DNMG442FN KT315.....	B79	DNMG443CT KCP25.....	B79	DNMM443RM KCP10.....	B85
DNMG433MN KCP25B.....	B81	DNMG442FP KC5010.....	B80	DNMG443CT KCP25B.....	B79	DNMM443RM KCP25.....	B85
DNMG433MN KCP30B.....	B81	DNMG442FP KCM15.....	B80	DNMG443FN KCK05.....	B79	DNMM443RM KCP25B.....	B85
DNMG433MN KCP40B.....	B81	DNMG442FP KCP10.....	B80	DNMG443FN KCP05.....	B79	DNMM443RM KCP40.....	B85
DNMG433MP KC5010.....	B81	DNMG442FP KCP10B.....	B80	DNMG443FN KCP10.....	B79	DNMM443RP KCP10B.....	B85
DNMG433MP KCM25.....	B81	DNMG442FP KCP25.....	B80	DNMG443FN KCP10B.....	B79	DNMM443RP KCP25.....	B85
DNMG433MP KCU10.....	B81	DNMG442FP KCU10.....	B80	DNMG443FN KCP25.....	B79	DNMM443RP KCP25B.....	B85
DNMG433MR KCP10B.....	B82	DNMG442FW KCK15B.....	B80	DNMG443FN KT315.....	B79	DNMM444RM KCP25.....	B85
DNMG433MS KC5010.....	B82	DNMG442FW KCP05.....	B80	DNMG443FP KT315.....	B80	DNMM444RP KCP10B.....	B85
DNMG433MS KCU10.....	B82	DNMG442FW KCP10.....	B80	DNMG443MG KCP10B.....	B83	DNMM444RP KCP25.....	B85
DNMG433MS KCU25.....	B82	DNMG442FW KCP10B.....	B80	DNMG443MN KCP10.....	B81	DNMP431 K68.....	B86
DNMG433MW KCP05.....	B82	DNMG442FW KCU10.....	B80	DNMG443MN KCP10B.....	B81	DNMP431K KCP25.....	B86
DNMG433RN KCP10B.....	B83	DNMG442MN KCP05B.....	B81	DNMG443MN KCP25.....	B81	DNMP431K KCP25B.....	B86
DNMG433RN KCP25.....	B83	DNMG442MN KCP10.....	B81	DNMG443MN KCP25B.....	B81	DNMP432 K68.....	B85
DNMG433RN KCP25B.....	B83	DNMG442MN KCP10B.....	B81	DNMG443MP KCM15.....	B81	DNMP432K KCP10B.....	B86
DNMG433RN KCPK05.....	B83	DNMG442MN KCP25.....	B81	DNMG443MP KCM25B.....	B81	DNMP432K KCP25.....	B86
DNMG433RP KCM35.....	B84	DNMG442MN KCP25B.....	B81	DNMG443MP KCM15.....	B81	DNMP432K KCP25B.....	B86
DNMG433RP KCP10B.....	B84	DNMG442MN KCP40.....	B81	DNMG443MP KCM25B.....	B81	DNMP433 K68.....	B85
DNMG433RP KCP25.....	B84	DNMG442MP KC5010.....	B81	DNMG443MP KCP10.....	B81	DNMP433K KCP10B.....	B86
DNMG433RP KCP25B.....	B84	DNMG442MP KCM15.....	B81	DNMG443MP KCU10.....	B81	DNMP433K KCP25.....	B86
DNMG433RP KCP30.....	B84	DNMG442MP KCM15B.....	B81	DNMG443MP KCU25.....	B81	DNMP441K KCP25B.....	B86
DNMG433RP KCU10.....	B84	DNMG442MP KCM25.....	B81	DNMG443MR KCP10B.....	B82	DNMP442K KCP10B.....	B86
DNMG433RP KCU25.....	B84	DNMG442MP KCM25B.....	B81	DNMG443MR KCP25B.....	B82	DNMP442K KCP25B.....	B86
DNMG433UN KCK20B.....	B84	DNMG442MP KCM35.....	B81	DNMG443MS KC5025.....	B82	DNMS431FST KD1400.....	B365
DNMG434RN KCP25.....	B83	DNMG442MP KCP10.....	B81	DNMG443MS KCU10.....	B82	DNMS432 K68.....	B86
DNMG434RN KCP40B.....	B83	DNMG442MP KCP25.....	B81	DNMG443MS KCU25.....	B82	DNMS432 K68.....	B86
DNMG434RP KC5010.....	B84	DNMG442MP KCU10.....	B81	DNMG443MW KCP05.....	B82	DNMS432 KC5410.....	B86
						DNMS432FST KD1400.....	B365

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
E16NER3 KWH.....	C193, D36	EC020M02N00CLO2 KCM35B.....	C23	EC1012FLDJ KC410M.....	T35, T44	EG0212M02U02GUP KCP10B.....	C17
E16NKNR1 KWH.....	E45	EC020M02N00CLO2 KCU25.....	C23	EC1016ELD KC522M.....	T36, T45	EG0212M02U02GUP KCP25B.....	C17
E16RNNTOL2 KWH.....	C193	EC020M02N00CM02 KCU25.....	C24	EC1016ELD KC725M.....	T36, T45	EG0212M02U02GUP KCU10.....	C17
E16RNNTOR2 KWH.....	C193	EC020M02N00CR02 KCU25.....	C25	EC1016ELD KCPK30.....	T36, T45	EG0212M02U02GUP KCU25.....	C17
E16SCLPL3 KWH.....	B214	EC020M02R06CF02 KCM35B.....	C22	EC1016ELD KCSM40.....	T36	EG0251M02U02GUN KCK20B.....	C20
E16SCLPL3AP5 KWH.....	B216	EC020M02R06CF02 KCU25.....	C22	EC1016ELDJ KC422M.....	T35, T45	EG0251M02U02GUN KCP10B.....	C20
E16SCLPR3 KWH.....	B214	EC020M02R06CLO2 KCM35B.....	C23	EC1016FLDJ KC410M.....	T35, T44	EG0251M02U02GUP KCP25B.....	C20
E16SCLPR3AP5 KWH.....	B216	EC020M02R06CLO2 KCU25.....	C23	EC1020ELD KC725M.....	T36, T45	EG0251M02U02GUN KCU10.....	C20
E16STFPR3 KWH.....	B272	EC020M02R06CM02 KCU25.....	C24	EC1020ELD KCPK30.....	T36, T45	EG0251M02U02GUN KCU25.....	C20
E16STLPL3 KWH.....	B275	EC020M02R06CR02 KCU25.....	C25	EC1020ELDJ KC422M.....	T35, T45	EG0251M02U02GUP KCP10B.....	C17
E16STLPR3 KWH.....	B275	EC030M03L06CF02 KCM35B.....	C22	EC1020FLDJ KC410M.....	T35, T44	EG0251M02U02GUP KCP25B.....	C17
E16SWLPR3 KWH.....	B290	EC030M03L06CF02 KCU25.....	C22	EC1024ELD KC522M.....	T36, T45	EG0251M02U02GUP KCU10.....	C17
E16TCTFPR3 KWH.....	B184, B392	EC030M03L06CLO2 KCM35B.....	C23	EC1024ELD KC725M.....	T36, T45	EG0251M02U02GUP KCU25.....	C17
E16TSCLCR3.....	B197	EC030M03L06CLO2 KCU25.....	C23	EC1024ELD KCSM40.....	T36	EG0300M03P02GUP K313.....	C17
E16TSDUPL3 KWH.....	B234	EC030M03L06CM02 KCU25.....	C24	EC1024ELDJ KC422M.....	T35, T45	EG0300M03P02GUP KCU10.....	C17
E16TSDUPR3 KWH.....	B234	EC030M03L06CR02 KCU25.....	C25	EC1031ELD KC725M.....	T36	EG0300M03P02GUP KCU25.....	C17
E20SNNTOR2 KWH.....	C193	EC030M03N00CF02 KCM35B.....	C22	EC1031ELD KCPK30.....	T36, T45	EG0300M03P04GUP K313.....	C17
E25MSC7DR12.....	B204	EC030M03N00CF02 KCU25.....	C22	EC1031ELD KCSM40.....	T36	EG0300M03P04GUP KCU10.....	C17
E2908XSCLDR12088.....	B203	EC030M03N00CLO2 KCM35B.....	C23	EC1031FLDJ KC410M.....	T35, T44	EG0300M03P04GUP KCU25.....	C17
E2910XSCLDR12088.....	B203	EC030M03N00CLO2 KCU25.....	C23	EC1402FLDJ KC410M.....	T55, T66	EG0312M03U02GUN KCK20B.....	C20
E2FX1100505LHP KCU10.....	E11	EC030M03N00CM02 KCU25.....	C24	EC1404EGD KC725M.....	T57, T68	EG0312M03U02GUN KCP10B.....	C20
E2FX1100505RHP KCU10.....	E11	EC030M03N00CR02 KCU25.....	C25	EC1404EGD KCPM40.....	T57, T68	EG0312M03U02GUP KCP25B.....	C20
E3208XSCLDR121.....	B203	EC030M03R06CF02 KCM35B.....	C22	EC1404ELD KC522M.....	T56, T67	EG0312M03U02GUN KCU10.....	C20
E3210KXSCLDR122.....	B203	EC030M03R06CF02 KCU25.....	C22	EC1404ELDJ KC422M.....	T56, T67	EG0312M03U02GUN KCU25.....	C20
EADDE0178JAQX KYS40.....	P156	EC030M03R06CLO2 KCM35B.....	C23	EC1404FLDJ KC410M.....	T55, T66	EG0312M03U02GUP KCP10B.....	C17
EADDE0188JAQX KYS40.....	P156	EC030M03R06CLO2 KCU25.....	C23	EC1408EGD KC725M.....	T57, T68	EG0312M03U02GUP KCU10.....	C17
EADDE0188J6ARX KYS40.....	P157	EC030M03R06CM02 KCU25.....	C24	EC1408EGD KCPM40.....	T57, T68	EG0312M03U02GUP KCU25.....	C17
EADDE0238JAQX KYS40.....	P156	EC030M03R06CR02 KCU25.....	C25	EC1408EGD KCSM40.....	T57, T68	EG0312M03U04GUP KCK20B.....	C20
EADDE0250JAQX KYS40.....	P156	EC040M04L06CF02 KCM35B.....	C22	EC1408ELD KC522M.....	T56, T67	EG0312M03U04GUP KCP10B.....	C20
EADDE0250J6ARX KYS40.....	P157	EC040M04L06CF02 KCU25.....	C22	EC1408ELDJ KC422M.....	T56, T67	EG0312M03U04GUP KCP25B.....	C20
EADDE0297JAQX KYS40.....	P156	EC040M04L06CLO2 KCU25.....	C23	EC1408FLDJ KC410M.....	T55, T66	EG0312M03U04GUP KCU10.....	C20
EADDE0313JAQX KYS40.....	P156	EC040M04L06CM02 KCU25.....	C24	EC1412EGD KC725M.....	T57, T68	EG0312M03U04GUP KCU25.....	C20
EADDE0313J6ARX KYS40.....	P157	EC040M04L06CR02 KCU25.....	C25	EC1412EGD KCSM40.....	T57, T68	EG0312M03U04GUP KCP10B.....	C17
EADDE0356JAQX KYS40.....	P156	EC040M04N00CF02 KCM35B.....	C22	EC1412ELD KC522M.....	T56, T67	EG0312M03U04GUP KCP25B.....	C17
EADDE0375JAQX KYS40.....	P156	EC040M04N00CF02 KCU25.....	C22	EC1412FLDJ KC410M.....	T55, T66	EG0312M03U04GUP KCU10.....	C17
EADDE0375J6ARX KYS40.....	P157	EC040M04N00CLO2 KCM35B.....	C23	EC1416EGD KC725M.....	T57, T68	EG0312M03U04GUP KCU25.....	C17
EADDE0475JAQX KYS40.....	P156	EC040M04N00CLO2 KCU25.....	C23	EC1416EGD KCSM40.....	T57, T68	EG0400M04P04GUP K313.....	C17
EADDE0500JAQX KYS40.....	P156	EC040M04N00CM02 KCU25.....	C24	EC1416ELD KC522M.....	T56, T67	EG0400M04P04GUP KCU10.....	C17
EADDE0500J6ARX KYS40.....	P157	EC040M04N00CR02 KCU25.....	C25	EC1416FLDJ KC410M.....	T55, T66	EG0400M04P04GUP KCU25.....	C17
EB10801281100.....	K144	EC040M04R06CF02 KCM35B.....	C22	EC1424ELDJ KC422M.....	T56, T67	EG0400M04P08GUP K313.....	C17
EB13030150.....	K143	EC040M04R06CF02 KCU25.....	C22	EC1431EGD KC725M.....	T57, T68	EG0400M04P08GUP KCU10.....	C17
EB16301281650.....	K144	EC040M04R06CLO2 KCU25.....	C23	EC1431EGD KCSM40.....	T57, T68	EG0400M04P08GUP KCU25.....	C17
EB18030200.....	K143	EC040M04R06CM02 KCU25.....	C24	EC1431ELD KC522M.....	T56, T67	EG0412M04U04GUN KCK20B.....	C20
EB23035250.....	K143	EC040M04R06CR02 KCU25.....	C25	EC1431FLDJ KC410M.....	T55, T66	EG0412M04U04GUN KCP10B.....	C20
EB28035300.....	K143	EC050M05N00CF03 KCM35B.....	C22	EC1440FLDJ KC410M.....	T55, T66	EG0412M04U04GUN KCP25B.....	C20
EB33040350.....	K143	EC050M05N00CF03 KCU25.....	C22	EC1804E KC725M.....	T83	EG0412M04U04GUN KCU10.....	C20
EB38040400.....	K143	EC050M05N00CM03 KCU25.....	C24	EC1804E KCPM40.....	T83	EG0412M04U04GUN KCU25.....	C20
EB43040450.....	K143	EC050M05N00CR03 KCU25.....	C25	EC1804FJ KC410M.....	T81	EG0412M04U04GUP KCP10B.....	C17
EB48040500.....	K143	EC060M06L06CR04 KCU25.....	C25	EC1808E KC725M.....	T83	EG0412M04U04GUP KCP25B.....	C17
EB53050550.....	K143	EC060M06N00CM03 KCU25.....	C24	EC1808E KCPM40.....	T83	EG0412M04U04GUP KCU10.....	C17
EB58050600.....	K143	EC060M06N00CR03 KCU25.....	C25	EC1808E2 KC522M.....	T82	EG0412M04U04GUP KCU25.....	C17
EB630128650.....	K144	EC060M06R06CR04 KCU25.....	C25	EC1808EJ KC422M.....	T82	EG0412M04U08GUN KCK20B.....	C20
EBM1580160162.....	K136	EC070M06N00CM04 KCU25.....	C24	EC1808FJ KC410M.....	T81	EG0412M04U08GUN KCP10B.....	C20
EBM8015086.....	K136	EC070M06N00CR04 KCU25.....	C25	EC1812E KC725M.....	T83	EG0412M04U08GUP KCP25B.....	C20
EBSLD1105.....	K144	EC080M08L06CR04 KCU25.....	C25	EC1812E KCPM40.....	T83	EG0412M04U08GUN KCU10.....	C20
EBSLD2205.....	K144	EC080M08N00CM04 KCU25.....	C24	EC1812EJ KC422M.....	T82	EG0412M04U08GUN KCU25.....	C20
EBUCW0074.....	K145	EC080M08N00CR04 KCU25.....	C25	EC1812FJ KC410M.....	T81	EG0412M04U08GUP KCP10B.....	C17
EBUFF0975.....	K145	EC080M08R06CR04 KCU25.....	C25	EC1816E KC522M.....	T82	EG0412M04U08GUP KCP25B.....	C17
EBURF1975PKG.....	K145	EC1002ELD KC725M.....	T36, T45	EC1816EJ KC422M.....	T82	EG0412M04U08GUP KCU10.....	C17
EC014M1BL06CF01 KCM35B.....	C22	EC1002ELD KCPK30.....	T36, T45	EC1816FJ KC410M.....	T81	EG0412M04U08GUP KCU25.....	C17
EC014M1BL06CF01 KCU25.....	C22	EC1002FLDJ KC410M.....	T35, T44	EC1820FJ KC410M.....	T81	EG0500M05P04GUP K313.....	C17
EC014M1BL06CLO1 KCM35B.....	C23	EC1004ELD KC520M.....	T36, T45	EC1824EJ KC422M.....	T82	EG0500M05P04GUP KCU10.....	C17
EC014M1BL06CLO1 KCU25.....	C23	EC1004ELD KC522M.....	T36, T45	EC1824FJ KC410M.....	T81	EG0500M05P04GUP KCU25.....	C17
EC014M1BL06CM01 KCU25.....	C24	EC1004ELD KC725M.....	T36, T45	EC1832E KC522M.....	T82	EG0500M05P08GUP K313.....	C17
EC014M1BN00CF01 KCM35B.....	C22	EC1004ELDJ KC422M.....	T35, T45	EC1832EJ KC422M.....	T82	EG0500M05P08GUP KCU10.....	C17
EC014M1BN00CF01 KCU25.....	C22	EC1004FLDJ KC410M.....	T35, T44	EC1832FJ KC410M.....	T81	EG0500M05P08GUP KCU25.....	C17
EC014M1BN00CLO1 KCM35B.....	C23	EC1004FR-PCD KD1410.....	T34	EC1840E KC522M.....	T82	EG0512M05U04GUN KCK20B.....	C20
EC014M1BN00CLO1 KCU25.....	C23	EC1008ELD KC510M.....	T36, T45	EC1840FJ KC410M.....	T81	EG0512M05U04GUN KCP10B.....	C20
EC014M1BR06CF01 KCM35B.....	C22	EC1008ELD KC520M.....	T36, T45	EC1848E KC522M.....	T82	EG0512M05U04GUN KCP25B.....	C20
EC014M1BR06CF01 KCU25.....	C22	EC1008ELD KC522M.....	T36, T45	EC1848FJ KC410M.....	T81	EG0512M05U04GUN KCU10.....	C20
EC014M1BR06CLO1 KCM35B.....	C23	EC1008ELD KC725M.....	T36, T45	EC1850FJ KC410M.....	T81	EG0512M05U04GUN KCU25.....	C20
EC014M1BR06CLO1 KCU25.....	C23	EC1008ELD KCK15.....	T36, T45	EC1864E KC522M.....	T82	EG0512M05U04GUP KCP10B.....	C17
EC014M1BR06CM01 KCU25.....	C24	EC1008ELD KCPK30.....	T36, T45	EC1864EJ KC422M.....	T82	EG0512M05U04GUP KCP25B.....	C17
EC020M02L06CF02 KCM35B.....	C22	EC1008ELD KCPM40.....	T36	EC1864FJ KC410M.....	T81	EG0512M05U04GUP KCU10.....	C17
EC020M02L06CF02 KCU25.....	C22	EC1008ELD KCSM40.....	T36	EG0200M02P02GUP K313.....	C17	EG0512M05U04GUP KCU25.....	C17
EC020M02L06CLO2 KCM35B.....	C23	EC1008ELDJ KC422M.....	T35, T45	EG0200M02P02GUP KCU10.....	C17	EG0512M05U08GUN KCK20B.....	C20
EC020M02L06CLO2 KCU25.....	C23	EC1008FLDJ KC410M.....	T35, T44	EG0212M02U02GUP KCU25.....	C20	EG0512M05U08GUN KCP10B.....	C20
EC020M02L06CM02 KCU25.....	C24	EC1008FR-PCD KD1410.....	T34	EG0212M02U02GUN KCP10B.....	C20	EG0512M05U08GUN KCP25B.....	C20
EC020M02L06CR02 KCU25.....	C25	EC1012ELD KC522M.....	T36, T45	EG0212M02U02GUN KCP25B.....	C20	EG0512M05U08GUN KCU10.....	C20
EC020M02N00CF02 KCM35B.....	C22	EC1012ELD KC725M.....	T36, T45	EG0212M02U02GUN KCU10.....	C20	EG0512M05U08GUP KCP10B.....	C17
EC020M02N00CF02 KCU25.....	C22	EC1012ELD KCSM40.....	T36	EG0212M02U02GUN KCU25.....	C20	EG0512M05U08GUP KCP25B.....	C17

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
EP1408SGD KCPM40	T58, T70	EP1808SGE KCSM40	T84	ER0400M04P00GUP K313	C19	ER1920I4U00GUN KCU25	C22
EP1408SGD KCSM40	T58, T70	EP1812E KC725M	T83	ER0400M04P00GUP KCU10	C19	ER1920I4U00GUP KCP10B	C19
EP1408SGD2 KC520M	T59, T70	EP1812E KCPM40	T83	ER0400M04P00GUP KCU25	C19	ER1920I4U00GUP KCP25B	C19
EP1408SGD2 KC725M	T59, T70	EP1812EHD KC725M	T84	ER0412M04U00GUN KCK20B	C21	ER1920I4U00GUP KCU10	C19
EP1408SGD2 KCPK30	T59, T70	EP1812EHD KCPK30	T84	ER0412M04U00GUN KCP10B	C21	ER1920I4U00GUP KCU25	C19
EP1408SGD2 KCPM40	T59, T70	EP1812EHD KCSM40	T84	ER0412M04U00GUN KCP25B	C21	ER2500I6P00GUP K313	C20
EP1408SGE KC522M	T58, T69	EP1812S KC725M	T85	ER0412M04U00GUN KCU10	C21	ER2500I6P00GUP KCU10	C20
EP1408SGE KC725M	T58, T69	EP1812S KCK15	T85	ER0412M04U00GUN KCU25	C21	ER2500I6P00GUP KCU25	C20
EP1408SGE KCPK30	T58, T69	EP1812S KCPK30	T85	ER0412M04U00GUP KCP10B	C19	ER2500I6U00GUN KCK20B	C22
EP1408SGE KCPM40	T58, T69	EP1812S KCPM40	T85	ER0412M04U00GUP KCP25B	C19	ER2500I6U00GUN KCP10B	C22
EP1408SGE KCSM40	T58, T69	EP1812S KCSM40	T85	ER0412M04U00GUP KCU10	C19	ER2500I6U00GUN KCP25B	C22
EP1412EHD KC520M	T57, T68	EP1812SGE KC522M	T84	ER0412M04U00GUP KCU25	C19	ER2500I6U00GUN KCU10	C22
EP1412EHD KC522M	T57, T68	EP1812SGE KCPK30	T84	ER0500M05P00GUP K313	C19	ER2500I6U00GUP KCU25	C22
EP1412EHD KC725M	T57, T68	EP1812SGE KCSM40	T84	ER0500M05P00GUP KCU10	C19	ER2500I6U00GUN KCK20B	C22
EP1412EHD KCK15	T57, T68	EP1816E KC522M	T83	ER0500M05P00GUP KCU25	C19	ER2500I6U00GUN KCP10B	C22
EP1412EHD KCPK30	T57, T68	EP1816E KC725M	T83	ER0512M05U00GUN KCK20B	C21	ER2500I6U00GUN KCP25B	C22
EP1412EHD KCPM40	T57, T68	EP1816E KCPK30	T83	ER0512M05U00GUN KCP10B	C21	ER2500I6U00GUN KCU10	C22
EP1412EHD KCSM40	T57, T68	EP1816E KCPM40	T83	ER0512M05U00GUN KCP25B	C21	ER2500I6U00GUN KCU25	C22
EP1412SGD KC520M	T58, T70	EP1816E KCSM40	T83	ER0512M05U00GUP KCU10	C19	ER2500I6U00GUP KCP10B	C19
EP1412SGD KC725M	T58, T70	EP1816EHD KC725M	T84	ER0512M05U00GUP KCU25	C19	ER2500I6U00GUP KCP25B	C19
EP1412SGD KCPK30	T58, T70	EP1816EHD KCPK30	T84	ER0512M05U00GUP KCP10B	C19	ER2500I6U00GUP KCU10	C19
EP1412SGD KCPM40	T58, T70	EP1816EHD KCPM40	T84	ER0512M05U00GUP KCP25B	C19	ER2500I6U00GUP KCU25	C19
EP1412SGD KCSM40	T58, T70	EP1816EHD KCSM40	T84	ER0512M05U00GUP KCU10	C19	ER2500I6U00GUP KCU25	C19
EP1412SGE KC522M	T58, T69	EP1816S KC725M	T85	ER0512M05U00GUP KCU25	C19	ER2500I6U00GUP KCU25	C19
EP1412SGE KC725M	T58, T69	EP1816S KCPK30	T85	ER0600M06P00GUP K313	C19	ER2500I6U00GUP KCP10B	C19
EP1412SGE KCPK30	T58, T69	EP1816S KCPM40	T85	ER0600M06P00GUP KCU10	C19	ER2500I6U00GUP KCP25B	C19
EP1412SGE KCSM40	T58, T69	EP1816S KCSM40	T85	ER0600M06P00GUP KCU25	C19	ER2500I6U00GUP KCU10	C22
EP1416EHD KC522M	T57, T68	EP1816SGE KCSM40	T84	ER0612M06U00GUN KCK20B	C21	ER2500I6U00GUP KCP10B	C22
EP1416EHD KC725M	T57, T68	EP1824E KC725M	T83	ER0612M06U00GUN KCP10B	C21	ER2500I6U00GUP KCP25B	C22
EP1416EHD KCK15	T57, T68	EP1832E KC520M	T83	ER0612M06U00GUN KCP25B	C21	ER2500I6U00GUN KCU10	C22
EP1416EHD KCPK30	T57, T68	EP1832E KC522M	T83	ER0612M06U00GUN KCU10	C21	ER2500I6U00GUP KCU25	C22
EP1416EHD KCPM40	T57, T68	EP1832E KC725M	T83	ER0612M06U00GUP KCU25	C21	ER2500I6U00GUP KCU10	C19
EP1416EHD KCSM40	T57, T68	EP1832E KCPK30	T83	ER0612M06U00GUP KCP10B	C19	ER2500I6U00GUP KCK20B	C22
EP1416SGD KC520M	T58, T70	EP1832E KCPM40	T83	ER0612M06U00GUP KCP25B	C19	ER2500I6U00GUN KCP10B	C22
EP1416SGD KC725M	T58, T70	EP1832EHD KC725M	T84	ER0612M06U00GUP KCU10	C19	ER2500I6U00GUN KCP25B	C22
EP1416SGD KCPK30	T58, T70	EP1832EHD KCPK30	T84	ER0612M06U00GUP KCU25	C19	ER2500I6U00GUP KCU10	C19
EP1416SGD KCPM40	T58, T70	EP1832EHD KCPM40	T84	ER0612M06U00GUP KCP10B	C19	ER2500I6U00GUP KCU25	C19
EP1416SGD KCSM40	T58, T70	EP1832EHD KCSM40	T84	ER0612M06U00GUP KCP25B	C19	ER2500I6U00GUP KCU10	C19
EP1416SGE KC522M	T58, T69	EP1832S KC725M	T85	ER0800M08P00GUP K313	C19	ER2500I6U00GUP KCP25B	C19
EP1416SGE KC725M	T58, T69	EP1832S KCPK30	T85	ER0800M08P00GUP KCU10	C19	ER2500I6U00GUP KCU25	C19
EP1416SGE KCPK30	T58, T69	EP1832S KCSM40	T85	ER0800M08P00GUP KCU25	C19	ER2500I6U00GUP KCU10	C19
EP1416SGE KCPM40	T58, T69	EP1832SGE KCPK30	T84	ER0812M08U00GUN KCK20B	C21	ER2500I6U00GUP KCP25B	C19
EP1416SGE KCSM40	T58, T69	EP1832SGE KCPM40	T84	ER0812M08U00GUN KCP10B	C21	ER2500I6U00GUP KCU25	C19
EP1420EHD KC522M	T57, T68	EP1840EHD KC725M	T84	ER0812M08U00GUN KCP25B	C21	ER2500I6U00GUP KCU10	C19
EP1420EHD KC725M	T57, T68	EP1840EHD KCSM40	T84	ER0812M08U00GUP KCU10	C19	ER2500I6U00GUP KCU25	C19
EP1420EHD KCPK30	T57, T68	EP1848E KC725M	T83	ER0812M08U00GUP KCP10B	C19	ER2500I6U00GUP KCU10	C19
EP1420EHD KCPM40	T57, T68	EP1848E KCSM40	T83	ER0812M08U00GUP KCP25B	C19	ER2500I6U00GUP KCU25	C19
EP1424EHD KC522M	T57, T68	EP1848EHD KC725M	T84	ER0812M08U00GUP KCU10	C19	ER2500I6U00GUP KCU10	C19
EP1424EHD KC725M	T57, T68	EP1848EHD KCPK30	T84	ER0812M08U00GUP KCU25	C19	ER2500I6U00GUP KCU25	C19
EP1424EHD KCPK30	T57, T68	EP1848EHD KCSM40	T84	ER0940I2U00GUN KCK20B	C22	ER2500I6U00GUP KCP10B	C22
EP1424EHD KCPM40	T57, T68	EP1848S KCSM40	T85	ER0940I2U00GUN KCP10B	C22	ER2500I6U00GUP KCP25B	C22
EP1424EHD KCSM40	T57, T68	EP1864E KC522M	T83	ER0940I2U00GUN KCP25B	C22	ER2500I6U00GUP KCU10	C22
EP1431EHD KC522M	T57, T68	EP1864E KC725M	T83	ER0940I2U00GUN KCU10	C22	ER2500I6U00GUP KCU25	C22
EP1431EHD KC725M	T57, T68	EP1864E KCPK30	T83	ER0940I2U00GUN KCU25	C22	ER2500I6U00GUP KCU10	C22
EP1431EHD KCPK30	T57, T68	EP1864E KCSM40	T83	ER1250I3P00GUP K313	C20	ER2500I6U00GUP KCU25	C22
EP1431EHD KCPM40	T57, T68	EP1864EHD KC725M	T84	ER1250I3P00GUP KCU10	C20	ER2500I6U00GUP KCU10	C22
EP1431EHD KCSM40	T57, T68	EP1864EHD KCPK30	T84	ER1250I3P00GUP KCU25	C20	ER2500I6U00GUP KCU25	C22
EP1431SGE KC725M	T58, T69	EP1864S KC725M	T85	ER1250I3U00GUN KCK20B	C22	ER2500I6U00GUP KCP10B	C22
EP1431SGE KCPK30	T58, T69	EP1864S KCPK30	T85	ER1250I3U00GUN KCP10B	C22	ER2500I6U00GUP KCP25B	C22
EP1431SGE KCPM40	T58, T69	EP1864S KCSM40	T85	ER1250I3U00GUN KCU10	C22	ER2500I6U00GUP KCU10	C22
EP1431SGE KCSM40	T58, T69	ER0200M02P00GUP KCU10	C19	ER1250I3U00GUN KCU25	C22	ER2500I6U00GUP KCU25	C22
EP1440EHD KC522M	T57, T68	ER0200M02P00GUP KCU25	C19	ER130I3U00GUN KCK20B	C22	ER2500I6U00GUP KCP10B	C22
EP1440EHD KC725M	T57, T68	ER0212M02U00GUN KCK20B	C21	ER130I3U00GUN KCP10B	C22	ER2500I6U00GUP KCP25B	C22
EP1440EHD KCPK30	T57, T68	ER0212M02U00GUN KCP10B	C21	ER130I3U00GUN KCP25B	C22	ER2500I6U00GUP KCU10	C22
EP1440EHD KCPM40	T57, T68	ER0212M02U00GUN KCP25B	C21	ER130I3U00GUN KCU10	C22	ER2500I6U00GUP KCU25	C22
EP1440EHD KCSM40	T57, T68	ER0212M02U00GUN KCU10	C21	ER130I3U00GUN KCU25	C22	ER2500I6U00GUP KCU10	C22
EP1808E KC520M	T83	ER0212M02U00GUP KCU25	C21	ER130I3U00GUP KCP10B	C19	ER2500I6U00GUP KCP25B	C19
EP1808E KC725M	T83	ER0212M02U00GUP KCP10B	C19	ER130I3U00GUP KCP25B	C19	ER2500I6U00GUP KCU10	C19
EP1808E KCPK30	T83	ER0212M02U00GUP KCP25B	C19	ER130I3U00GUP KCU10	C19	ER2500I6U00GUP KCU25	C19
EP1808E KCPM40	T83	ER0212M02U00GUP KCU10	C19	ER130I3U00GUP KCU25	C19	ER2500I6U00GUP KCU10	C19
EP1808E KCSM40	T83	ER0212M02U00GUP KCU25	C19	ER130I3U00GUP KCP10B	C19	ER2500I6U00GUP KCU25	C19
EP1808EHD KC725M	T84	ER0300M03P00GUP K313	C19	ER130I3U00GUP KCP25B	C19	ER2500I6U00GUP KCU10	C19
EP1808EHD KCPK30	T84	ER0300M03P00GUP KCU10	C19	ER130I3U00GUP KCU25	C19	ER2500I6U00GUP KCU10	C19
EP1808EHD KCPM40	T84	ER0300M03P00GUP KCU25	C19	ER130I3U00GUP KCU10	C19	ER2500I6U00GUP KCU25	C19
EP1808EHD KCSM40	T84	ER0312M03U00GUN KCK20B	C21	ER130I3U00GUP KCP10B	C22	ER2500I6U00GUP KCU10	C22
EP1808S KC725M	T85	ER0312M03U00GUN KCP10B	C21	ER130I3U00GUP KCP25B	C22	ER2500I6U00GUP KCU25	C22
EP1808S KCK15	T85	ER0312M03U00GUN KCP25B	C21	ER130I3U00GUN KCU10	C22	ER2500I6U00GUP KCU10	C22
EP1808S KCPK30	T85	ER0312M03U00GUN KCU10	C21	ER130I3U00GUP KCU25	C22	ER2500I6U00GUP KCU25	C22
EP1808S KCPM40	T85	ER0312M03U00GUP KCU25	C21	ER130I3U00GUP KCP10B	C22	ER2500I6U00GUP KCU10	C22
EP1808S KCSM40	T85	ER0312M03U00GUP KCP10B	C19	ER130I3U00GUP KCP25B	C22	ER2500I6U00GUP KCU25	C22
EP1808SGE KC522M	T84	ER0312M03U00GUP KCP25B	C19	ER130I3U00GUP KCU10	C22	ER2500I6U00GUP KCU10	C22
EP1808SGE KC725M	T84	ER0312M03U00GUP KCU10	C19	ER130I3U00GUP KCU25	C22	ER2500I6U00GUP KCU25	C22
EP1808SGE KCPK30	T84	ER0312M03U00GUP KCU25	C19	ER1920I4U00GUN KCK20B	C22	ER2500I6U00GUP KCP10B	C22
				ER1920I4U00GUN KCP10B	C22	ER2500I6U00GUP KCP25B	C22
				ER1920I4U00GUN KCU10	C22	ER2500I6U00GUP KCU10	C22

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
EVM50L0312B180250C	C64	EVM50R0312B250350C	C63	EVM65L0820B180999C	C64	EVSL2525M0320075100C	C50
EVM50L0312B250350C	C64	EVM50R0312B350999C	C63	EVM65L0826MC	C60	EVSL2525M0320100180C	C50
EVM50L0312B350999C	C64	EVM50R0312MC	C59	EVM65R0616MC	C59	EVSL2525M0320180250C	C50
EVM50L0312MC	C60	EVM50R0316MC	C59	EVM65R0620A060075C	C62	EVSL2525M0416100180C	C50
EVM50L0316MC	C60	EVM50R0320A075100C	C61	EVM65R0620A075100C	C62	EVSL2525M0416180250C	C50
EVM50L0320A075100C	C62	EVM50R0320A100180C	C61	EVM65R0620A100180C	C62	EVSL2525M042060075C	C50
EVM50L0320A100180C	C62	EVM50R0320A180250C	C61	EVM65R0620A180250C	C62	EVSL2525M0426075100C	C50
EVM50L0320A180250C	C62	EVM50R0320A250350C	C61	EVM65R0620A250350C	C62	EVSL2525M0426100180C	C50
EVM50L0320A250350C	C62	EVM50R0320A350999C	C61	EVM65R0620A350999C	C62	EVSL2525M0426180250C	C50
EVM50L0320A350999C	C62	EVM50R0320B075100C	C63	EVM65R0620B060075C	C64	EVSL2525M0516050060C	C50
EVM50L0320B075100C	C64	EVM50R0320B100180C	C63	EVM65R0620B075100C	C64	EVSL2525M0516060075C	C50
EVM50L0320B100180C	C64	EVM50R0320B180250C	C63	EVM65R0620B100180C	C64	EVSL2525M0516075100C	C50
EVM50L0320B180250C	C64	EVM50R0320B250350C	C63	EVM65R0620B180250C	C64	EVSL2525M0516100180C	C50
EVM50L0320B250350C	C64	EVM50R0320B350999C	C63	EVM65R0620B250350C	C64	EVSL2525M0516180250C	C50
EVM50L0320B350999C	C64	EVM50R0322MC	C59	EVM65R0620B350999C	C64	EVSL2525M0516250350C	C50
EVM50L0322MC	C60	EVM50R0412MC	C59	EVM65R0626MC	C59	EVSL2525M0516350999C	C50
EVM50L0412MC	C60	EVM50R0416A040050C	C61	EVM65R0632MC	C59	EVSL2525M0526050060C	C50
EVM50L0416A040050C	C62	EVM50R0416A050060C	C61	EVM65R0816MC	C59	EVSL2525M0526060075C	C50
EVM50L0416A050060C	C62	EVM50R0416A060075C	C61	EVM65R0820A080180C	C62	EVSL2525M0526075100C	C50
EVM50L0416A060075C	C62	EVM50R0416A075100C	C61	EVM65R0820A180999C	C62	EVSL2525M0616060075C	C51
EVM50L0416A075100C	C62	EVM50R0416A100180C	C61	EVM65R0820B080180C	C64	EVSL2525M0616075100C	C51
EVM50L0416A100180C	C62	EVM50R0416A180250C	C61	EVM65R0820B180999C	C64	EVSL2525M0616100180C	C51
EVM50L0416A180250C	C62	EVM50R0416A250350C	C61	EVM65R0826MC	C59	EVSL2525M0616180250C	C51
EVM50L0416A250350C	C62	EVM50R0416A350999C	C61	EVSL120312035040C	C47	EVSL2525M0616250350C	C51
EVM50L0416A350999C	C62	EVM50R0416B040050C	C63	EVSL120312040050C	C47	EVSL2525M0616350999C	C51
EVM50L0416B040050C	C64	EVM50R0416B050060C	C63	EVSL120312050060C	C47	EVSL2525M0626060075C	C51
EVM50L0416B050060C	C64	EVM50R0416B060075C	C63	EVSL120312060075C	C47	EVSL2525M0626075100C	C51
EVM50L0416B060075C	C64	EVM50R0416B075100C	C63	EVSL120312075100C	C47	EVSL2525M0632100180C	C51
EVM50L0416B075100C	C64	EVM50R0416B100180C	C63	EVSL120416040050C	C47	EVSL2525M0632250350C	C51
EVM50L0416B100180C	C64	EVM50R0416B180250C	C63	EVSL120416050060C	C47	EVSL2525M0632350999C	C51
EVM50L0416B180250C	C64	EVM50R0416B250350C	C63	EVSL120416075100C	C47	EVSL2525M0632350999C	C51
EVM50L0416B250350C	C64	EVM50R0416B350999C	C63	EVSL160312100180C	C47	EVSL2525M0632350999C	C51
EVM50L0416B350999C	C64	EVM50R0416MC	C59	EVSL160312180250C	C47	EVSL2525M0632350999C	C51
EVM50L0416MC	C60	EVM50R0422MC	C59	EVSL160320060075C	C47	EVSL2525M0632350999C	C51
EVM50L0422MC	C60	EVM50R0426A100180C	C61	EVSL160320075100C	C47	EVSL2525M0632350999C	C51
EVM50L0426A100180C	C62	EVM50R0426A180250C	C61	EVSL160320100180C	C47	EVSL2525M0632350999C	C51
EVM50L0426A180250C	C62	EVM50R0426A250350C	C61	EVSL160320180250C	C47	EVSL2525M0632350999C	C51
EVM50L0426A250350C	C62	EVM50R0426A350999C	C61	EVSL160416100180C	C47	EVSL2525M0632350999C	C51
EVM50L0426A350999C	C62	EVM50R0426B100180C	C63	EVSL1604161180250C	C47	EVSL2525M0632350999C	C51
EVM50L0426B100180C	C64	EVM50R0426B180250C	C63	EVSL160416180250C	C47	EVSL2525M0632350999C	C51
EVM50L0426B180250C	C64	EVM50R0426B250350C	C63	EVSL160426160075C	C47	EVSL2525M0632350999C	C51
EVM50L0426B250350C	C64	EVM50R0426B350999C	C63	EVSL160426180250C	C47	EVSL2525M0632350999C	C51
EVM50L0426B350999C	C64	EVM50R0426MC	C59	EVSL160426180250C	C47	EVSL2525M0632350999C	C51
EVM50L0426MC	C60	EVM50R0432MC	C59	EVSL160516050060C	C47	EVSL2525M0632350999C	C51
EVM50L0432MC	C60	EVM50R0512MC	C59	EVSL160516050060C	C47	EVSL2525M0632350999C	C51
EVM50L0512MC	C60	EVM50R0516MC	C59	EVSL160516060075C	C47	EVSL2525M0632350999C	C51
EVM50L0516MC	C60	EVM50R0520A050060C	C61	EVSL160516075100C	C47	EVSL2525M0632350999C	C51
EVM50L0520A050060C	C62	EVM50R0520A060075C	C62	EVSL1605160100180C	C47	EVSL2525M0632350999C	C51
EVM50L0520A060075C	C62	EVM50R0520A075100C	C62	EVSL1605161180250C	C47	EVSL2525M0632350999C	C51
EVM50L0520A075100C	C62	EVM50R0520A100180C	C62	EVSL160516250350C	C47	EVSL2525M0632350999C	C51
EVM50L0520A100180C	C62	EVM50R0520A180250C	C62	EVSL160516350999C	C47	EVSL2525M0632350999C	C51
EVM50L0520A180250C	C62	EVM50R0520A250350C	C62	EVSL160526050060C	C47	EVSL2525M0632350999C	C51
EVM50L0520A250350C	C62	EVM50R0520A350999C	C62	EVSL160526060075C	C47	EVSL2525M0632350999C	C51
EVM50L0520A350999C	C62	EVM50R0520B050060C	C63	EVSL160526075100C	C47	EVSL2525M0632350999C	C51
EVM50L0520B050060C	C64	EVM50R0520B060075C	C64	EVSL160616060075C	C48	EVSL2525M0632350999C	C51
EVM50L0520B060075C	C64	EVM50R0520B075100C	C64	EVSL160616075100C	C48	EVSL2525M0632350999C	C51
EVM50L0520B075100C	C64	EVM50R0520B100180C	C64	EVSL160616100180C	C48	EVSL2525M0632350999C	C51
EVM50L0520B100180C	C64	EVM50R0520B180250C	C64	EVSL1606161180250C	C48	EVSL2525M0632350999C	C51
EVM50L0520B180250C	C64	EVM50R0520B250350C	C64	EVSL160616250350C	C48	EVSL2525M0632350999C	C51
EVM50L0520B250350C	C64	EVM50R0520B350999C	C64	EVSL160616350999C	C48	EVSL2525M0632350999C	C51
EVM50L0520B350999C	C64	EVM50R0526MC	C59	EVSL160626060075C	C48	EVSL2525M0632350999C	C51
EVM50L0526MC	C60	EVM50R0532MC	C59	EVSL160626075100C	C48	EVSL2525M0632350999C	C51
EVM50L0532MC	C60	EVM50R1F12M	C59	EVSL160616100180C	C48	EVSL2525M0632350999C	C51
EVM50L1F12M	C60	EVM65L0616MC	C60	EVSL160616180250C	C48	EVSL2525M0632350999C	C51
EVM50R0212M	C59	EVM65L0620A060075C	C62	EVSL160616250350C	C48	EVSL2525M0632350999C	C51
EVM50R0216M	C59	EVM65L0620A075100C	C62	EVSL160616350999C	C48	EVSL2525M0632350999C	C51
EVM50R0312A035040C	C61	EVM65L0620A100180C	C62	EVSL160626060075C	C48	EVSL2525M0632350999C	C51
EVM50R0312A040050C	C61	EVM65L0620A180250C	C62	EVSL160626075100C	C48	EVSL2525M0632350999C	C51
EVM50R0312A050060C	C61	EVM65L0620A250350C	C62	EVSL160616100180C	C48	EVSL2525M0632350999C	C51
EVM50R0312A060075C	C61	EVM65L0620A350999C	C62	EVSL160616180250C	C48	EVSL2525M0632350999C	C51
EVM50R0312A075100C	C61	EVM65L0620B060075C	C64	EVSL160616250350C	C48	EVSL2525M0632350999C	C51
EVM50R0312A100180C	C61	EVM65L0620B075100C	C64	EVSL160616350999C	C48	EVSL2525M0632350999C	C51
EVM50R0312A180250C	C61	EVM65L0620B100180C	C64	EVSL200532100180C	C47	EVSL2525M0632350999C	C51
EVM50R0312A250350C	C61	EVM65L0620B180250C	C64	EVSL200532180250C	C47	EVSL2525M0632350999C	C51
EVM50R0312A350999C	C61	EVM65L0620B250350C	C64	EVSL200532250350C	C47	EVSL2525M0632350999C	C51
EVM50R0312B035040C	C63	EVM65L0620B350999C	C64	EVSL200532350999C	C47	EVSL2525M0632350999C	C51
EVM50R0312B040050C	C63	EVM65L0626MC	C60	EVSL200632100180C	C48	EVSL2525M0632350999C	C51
EVM50R0312B050060C	C63	EVM65L0816MC	C60	EVSL200632180250C	C48	EVSL2525M0632350999C	C51
EVM50R0312B060075C	C63	EVM65L0820A080180C	C62	EVSL200632250350C	C48	EVSL2525M0632350999C	C51
EVM50R0312B075100C	C63	EVM65L0820A180999C	C62	EVSL200632350999C	C48	EVSL2525M0632350999C	C51
EVM50R0312B100180C	C63	EVM65L0820B080180C	C64	EVSL2020K0312035040C	C50	EVSL2525M0632350999C	C51
EVM50R0312B180250C	C63			EVSL2020K0312040050C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0312050060C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0312060075C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0312075100C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0416040050C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0416050060C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0416060075C	C50	EVSL2525M0632350999C	C51
				EVSL2020K0416075100C	C50	EVSL2525M0632350999C	C51
				EVSL2525M0312100180C	C50	EVSL2525M0632350999C	C51
				EVSL2525M0312180250C	C50	EVSL2525M0632350999C	C51
				EVSL2525M0320060075C	C50	EVSL2525M0632350999C	C51

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
EVSBR2020K0312035040C	C49	EVSCFL2020K0316C	C45	EVSCFL2525M0532C	C41	EVSMFL2020K0422C	C37
EVSBR2020K0312040050C	C49	EVSCFL2020K1B16	C45	EVSCFL3232P0432C	C41	EVSMFL2020K0516C	C37
EVSBR2020K0312050060C	C49	EVSCFL2020K1F16	C45	EVSCFL3232P0540C	C41	EVSMFL2020K0522C	C37
EVSBR2020K0312060075C	C49	EVSCFR060210	C42	EVSCFR080216	C38	EVSMFL2020K0616C	C37
EVSBR2020K0312075100C	C49	EVSCFR061B10	C42	EVSCFR080316C	C38	EVSMFL2020K0622C	C37
EVSBR2020K0416040050C	C49	EVSCFR061F10	C42	EVSCFR081B16	C38	EVSMFL240640C	C35
EVSBR2020K0416050060C	C49	EVSCFR080210	C42	EVSCFR081F16	C38	EVSMFL240840C	C35
EVSBR2020K0416060075C	C49	EVSCFR080216	C42	EVSCFR100216	C38	EVSMFL241040C	C35
EVSBR2020K0416075100C	C49	EVSCFR080310C	C42	EVSCFR100316C	C38	EVSMFL2525M0216	C37
EVSBR2525M0312100180C	C49	EVSCFR080316C	C42	EVSCFR100416C	C38	EVSMFL2525M0216C	C37
EVSBR2525M0312180250C	C49	EVSCFR081B10	C42	EVSCFR120216	C38	EVSMFL2525M0226	C37
EVSBR2525M0320060075C	C49	EVSCFR081B13	C42	EVSCFR120316C	C38	EVSMFL2525M0316C	C37
EVSBR2525M0320075100C	C49	EVSCFR081F10	C42	EVSCFR120326C	C38	EVSMFL2525M0326C	C37
EVSBR2525M0320100180C	C49	EVSCFR081F13	C42	EVSCFR120416C	C38	EVSMFL2525M0416C	C37
EVSBR2525M0320180250C	C49	EVSCFR100216	C42	EVSCFR120426C	C38	EVSMFL2525M0426C	C37
EVSBR2525M0416100180C	C49	EVSCFR100316C	C42	EVSCFR1212K0216	C40	EVSMFL2525M0516C	C37
EVSBR2525M0416180250C	C49	EVSCFR1010K0210	C44	EVSCFR1212K0316C	C40	EVSMFL2525M0526C	C37
EVSBR2525M0426060075C	C49	EVSCFR1010K1B10	C44	EVSCFR1212K1B16	C40	EVSMFL2525M0526C	C37
EVSBR2525M0426075100C	C49	EVSCFR1010K1F10	C44	EVSCFR1212K1F16	C40	EVSMFL2525M0616C	C37
EVSBR2525M0426100180C	C49	EVSCFR101B16	C42	EVSCFR160216	C38	EVSMFL2525M0626C	C37
EVSBR2525M0426180250C	C49	EVSCFR101F16	C42	EVSCFR160226	C38	EVSMFL2525M0826C	C37
EVSBR2525M0516050060C	C49	EVSCFR120216	C42	EVSCFR160316C	C38	EVSMFL3232P0426C	C37
EVSBR2525M0516060075C	C49	EVSCFR120316C	C42	EVSCFR160326C	C38	EVSMFL3232P0432C	C37
EVSBR2525M0516075100C	C49	EVSCFR1212K0210	C44	EVSCFR160426C	C38	EVSMFL3232P0526C	C37
EVSBR2525M0516100180C	C49	EVSCFR1212K0216	C44	EVSCFR160432C	C38	EVSMFL3232P0626C	C37
EVSBR2525M0516180250C	C49	EVSCFR1212K0310C	C44	EVSCFR160526C	C38	EVSMFL3232P0632C	C37
EVSBR2525M0516250350C	C49	EVSCFR1212K0316C	C44	EVSCFR160532C	C38	EVSMFL3232P0826C	C37
EVSBR2525M0516350999C	C50	EVSCFR1212K1B10	C44	EVSCFR1616K0216	C40	EVSMFL3232P0832C	C37
EVSBR2525M0526050060C	C50	EVSCFR1212K1B13	C44	EVSCFR1616K0316C	C40	EVSMFL3232P1032C	C37
EVSBR2525M0526060075C	C50	EVSCFR1212K1F10	C44	EVSCFR1616K0416C	C40	EVSMFL4040R0640C	C37
EVSBR2525M0526075100C	C50	EVSCFR1212K1F13	C44	EVSCFR200432C	C38	EVSMFL4040R0840C	C37
EVSBR2525M0616060075C	C50	EVSCFR121B16	C42	EVSCFR200540C	C38	EVSMFL4040R1040C	C37
EVSBR2525M0616075100C	C50	EVSCFR121F16	C42	EVSCFR2020K0216	C40	EVSMR120216	C34
EVSBR2525M0616100180C	C50	EVSCFR1616K0216	C44	EVSCFR2020K0316C	C40	EVSMR120222	C34
EVSBR2525M0616180250C	C50	EVSCFR1616K0316C	C44	EVSCFR2020K0326C	C40	EVSMR120222C	C34
EVSBR2525M0616250350C	C50	EVSCFR1616K1B16	C44	EVSCFR2020K0416C	C40	EVSMR120316C	C34
EVSBR2525M0616350999C	C50	EVSCFR2020K0216	C44	EVSCFR2020K0426C	C40	EVSMR120322C	C34
EVSBR2525M0626060075C	C50	EVSCFR2020K0316C	C44	EVSCFR2525M0216	C40	EVSMR120416C	C34
EVSBR2525M0626075100C	C50	EVSCFR2020K1B16	C44	EVSCFR2525M0226	C40	EVSMR120422C	C34
EVSBR3232P0532100180C	C50	EVSCFR2020K1F16	C44	EVSCFR2525M0316C	C40	EVSMR120516C	C34
EVSBR3232P0532180250C	C50	EVSCFL080216	C38	EVSCFR2525M0326C	C40	EVSMR120522C	C34
EVSBR3232P0532250350C	C50	EVSCFL080316C	C39	EVSCFR2525M0426C	C40	EVSMR120616C	C34
EVSBR3232P0532350999C	C50	EVSCFL081B16	C38	EVSCFR2525M0432C	C40	EVSMR120622C	C34
EVSBR3232P0632100180C	C50	EVSCFL081F16	C38	EVSCFR2525M0526C	C40	EVSMR120622C	C34
EVSBR3232P0632180250C	C50	EVSCFL100216	C38	EVSCFR2525M0532C	C40	EVSMR160216	C34
EVSBR3232P0632250350C	C50	EVSCFL100316C	C39	EVSCFR3232P0432C	C40	EVSMR160226	C34
EVSBR3232P0632350999C	C50	EVSCFL100416C	C39	EVSCFR3232P0540C	C40	EVSMR160226C	C34
EVSCFL060210	C43	EVSCFL120216	C39	EVSMFL120216	C35	EVSMR160316C	C34
EVSCFL061B10	C43	EVSCFL120316C	C39	EVSMFL120222	C35	EVSMR160326C	C34
EVSCFL061F10	C43	EVSCFL120326C	C39	EVSMFL120316C	C35	EVSMR160416C	C34
EVSCFL080210	C43	EVSCFL120416C	C39	EVSMFL120322C	C35	EVSMR160426C	C34
EVSCFL080216	C43	EVSCFL1212K0216	C41	EVSMFL120416C	C35	EVSMR160516C	C34
EVSCFL080310C	C43	EVSCFL1212K0316C	C41	EVSMFL120422C	C35	EVSMR160526C	C34
EVSCFL080316C	C43	EVSCFL1212K1B16	C41	EVSMFL120516C	C35	EVSMR160616C	C34
EVSCFL081B10	C43	EVSCFL1212K1F16	C41	EVSMFL120522C	C35	EVSMR160626C	C34
EVSCFL081B13	C43	EVSCFL160216	C39	EVSMFL120616C	C35	EVSMR160826C	C34
EVSCFL081F10	C43	EVSCFL160226	C39	EVSMFL120622C	C35	EVSMR200426C	C34
EVSCFL081F13	C43	EVSCFL160316C	C39	EVSMFL160216	C35	EVSMR200432C	C34
EVSCFL100216	C43	EVSCFL160326C	C39	EVSMFL160226	C35	EVSMR200526C	C34
EVSCFL100316C	C43	EVSCFL160426C	C39	EVSMFL160316C	C35	EVSMR200532C	C34
EVSCFL1010K0210	C45	EVSCFL160432C	C39	EVSMFL160326C	C35	EVSMR200626C	C34
EVSCFL1010K1B10	C45	EVSCFL160526C	C39	EVSMFL160416C	C35	EVSMR200632C	C34
EVSCFL1010K1F10	C45	EVSCFL160532C	C39	EVSMFL160426C	C35	EVSMR200826C	C34
EVSCFL101B16	C43	EVSCFL1616K0216	C41	EVSMFL160516C	C35	EVSMR200832C	C34
EVSCFL101F16	C43	EVSCFL1616K0316C	C41	EVSMFL160526C	C35	EVSMR201032C	C34
EVSCFL120216	C43	EVSCFL1616K0416C	C41	EVSMFL160616C	C35	EVSMR2020K0216	C36
EVSCFL120316C	C43	EVSCFL1616K0416C	C41	EVSMFL160626C	C35	EVSMR2020K0216C	C36
EVSCFL1212K0210	C45	EVSCFL1616K0416C	C41	EVSMFL160826C	C35	EVSMR2020K0222	C36
EVSCFL1212K0216	C45	EVSCFL200432C	C39	EVSMFL160826C	C35	EVSMR2020K0222C	C36
EVSCFL1212K0310C	C45	EVSCFL200540C	C39	EVSMFL160926C	C35	EVSMR2020K0316C	C36
EVSCFL1212K0316C	C45	EVSCFL2020K0216	C41	EVSMFL160926C	C35	EVSMR2020K0322C	C36
EVSCFL1212K1B10	C45	EVSCFL2020K0316C	C41	EVSMFL160926C	C35	EVSMR2020K0416C	C36
EVSCFL1212K1B13	C45	EVSCFL2020K0326C	C41	EVSMFL200426C	C35	EVSMR2020K0422C	C36
EVSCFL1212K1F10	C45	EVSCFL2020K0416C	C41	EVSMFL200432C	C35	EVSMR2020K0516C	C36
EVSCFL1212K1F13	C45	EVSCFL2020K0426C	C41	EVSMFL200526C	C35	EVSMR2020K0522C	C36
EVSCFL121B16	C43	EVSCFL2525M0216	C41	EVSMFL200532C	C35	EVSMR2020K0616C	C36
EVSCFL121F16	C43	EVSCFL2525M0226	C41	EVSMFL200626C	C35	EVSMR2020K0622C	C36
EVSCFL1616K0216	C45	EVSCFL2525M0316C	C41	EVSMFL200632C	C35	EVSMR2020K0622C	C36
EVSCFL1616K0316C	C45	EVSCFL2525M0326C	C41	EVSMFL200826C	C35	EVSMR240640C	C34
EVSCFL1616K1B16	C45	EVSCFL2525M0426C	C41	EVSMFL200832C	C35	EVSMR240840C	C34
EVSCFL1616K1F16	C45	EVSCFL2525M0432C	C41	EVSMFL201032C	C35	EVSMR241040C	C34
EVSCFL2020K0216	C45	EVSCFL2525M0526C	C41	EVSMFL2020K0216	C37	EVSMR2525M0216	C36
				EVSMFL2020K0222	C37	EVSMR2525M0216C	C36
				EVSMFL2020K0416C	C37		

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
EVSMR2525M0226	C36	FSDE0750Y15CQC KC643M	043	H24NER8W	C195, D38	HNEC535ANSN KY3500	S23
EVSMR2525M0226C	C36	FSDE0750Y15CQD KC643M	043	H24NVLPR3W	E49	HNE090508S KY3500	S79
EVSMR2525M0316C	C36	FSDE0750Y15CQE KC643M	043	H28MCLN4	B76	HNE0905ANSN KD200	S79
EVSMR2525M0326C	C36	FSDE1000JJBBCA KC643M	P98	H28MCLNR4	B76	HNE0905ANSN KY3500	S79
EVSMR2525M0416C	C36	FSDE1000JJBBCB KC643M	P98	H28MDUNL4	B96	HNE0905ANSN KY3500	S79
EVSMR2525M0426C	C36	FSDE1000JJBCC KC643M	P98	H28MDUNR4	B96	HNGJ438ANENLD KC725M	S6, S12, S15
EVSMR2525M0516C	C36	FSDE1000JJBCE KC643M	P98	H28MTFNR3	B143	HNGJ438ANENLD KCPK30	S6, S12, S15
EVSMR2525M0526C	C36	FSDE1000NJDBA KC643M	P100	H28MVLNR4	B163	HNGJ438ANENLD KC510M	S6, S12, S15
EVSMR2525M0616C	C36	FSDE1000NJDBB KC643M	P100	H28NCL3W	C195, D38	HNGJ438ANENLD KC520M	S6, S12, S15
EVSMR2525M0626C	C36	FSDE1000NJDBE KC643M	P100	H28NER3W	C195, D38	HNGJ438ANENLD KC522M	S6, S12, S15
EVSMR2525M0826C	C36	FSDE1000NJDBY KC643M	P100	H28NER4W	C195, D38	HNGJ438ANENLD KC725M	S6, S12, S15
EVSMR3232P0426C	C36	FSDE1000Y19CQB KC643M	043	H28NER6W	C195, D38	HNGJ438ANENLD KCK15	S6, S12, S15
EVSMR3232P0432C	C36	FSDE1000Y19CQC KC643M	043	H32CRGNR4	B170, B393	HNGJ438ANENLD KCPK30	S6, S12, S15
EVSMR3232P0526C	C36	FSDE1000Y19CQD KC643M	043	H32LSER3	D76	HNGJ438ANENLD KCPM40	S6, S12, S15
EVSMR3232P0532C	C36	FSDE1000Y19CQE KC643M	043	H32LSER4	D76	HNGJ43ANFNLDJ K313	S6, S11, S15
EVSMR3232P0626C	C36	FSDE1000Y19CQF KC643M	043	H32LSER5	D76	HNGJ43ANFNLDJ KC410M	S6, S11, S15
EVSMR3232P0632C	C36	FT10	K42	H32MCFNR5	B75	HNGJ43ANSNHD KC522M	S7, S12, S16
EVSMR3232P0826C	C36	FT15	K85, K124-125	H32MCKNR4	B75	HNGJ43ANSNHD KCK15	S7, S16
EVSMR3232P0832C	C36	FT20	K124-125	H32MCLN4	B76	HNGJ43ANSNHD KCPK30	S7, S16
EVSMR3232P1032C	C36	FT5	K78	H32MCLN5	B76	HNGJ43ANSNHD KCPM40	S7, S12, S16
EVSMR4040R0640C	C36	FT6	K79, T24	H32MCLN6	B76	HNGJ43ANSNHD KCSM40	S7, S12, S16
EVSMR4040R0840C	C36	FT7	K78-80, K85, K89-90, K124-125	H32MCLNR4	B76	HNGJ43ANSNHD KC520M	S19, S22
EVSMR4040R1040C	C36	FT8	K42, K85	H32MCLNR5	B76	HNGJ5351ANSNHD KC725M	S19, S22
F3508T S	T127-128, V9-11	FUWVCL	E63	H32MCLNR6	B76	HNGJ5351ANSNHD KCPK30	S19, S22
F3510T S	V9-12	FUWVCR	E63	H32MDUNL4	B96	HNGJ5351ANSNHD KCPM40	S19, S22
F4011T S	T131	G14-G18-RED	C83	H32MDUNR3	B96	HNGJ5351ANSNHD KCSM40	S19, S22
F7IP	T29, T40	G18-JIC	C83	H32MDUNR4	B96	HNGJ535ANENLD KC520M	S18, S21
FAS100302GD KC7015	H42	G32TTB41KM40	B410	H32MSKNR4	B120	HNGJ535ANENLD KC522M	S18, S21
FAS100302GD KC7215	H42	G40TTB51KM40	B410	H32MTFNR4	B143	HNGJ535ANENLD KC725M	S18, S21
FBSCFCL09CA06F	K116	G48TTB63KM63	B410	H32MVUNL3	B155	HNGJ535ANENLD KCK15	S18, S21
FBSCFCL09CA06F	K116	GPCD505 KC5025	B238	H32MVUNL4	B155	HNGJ535ANENLD KCPK30	S18, S21
FBSCFCL09CA06F	K116	GPCD505 KCU25	B238	H32MVUNR3	B155	HNGJ535ANENLD KCSM40	S18, S21
FBSCFCL09CA06F	K116	GPCD51 KCU25	B238	H32MVUNR4	B155	HNGJ535ANFNLDJ KC410M	S18, S21
FBSCUCR09CA06F	K117	H16LSER3	D76	H32MVLN4	B163	HNGJ535ANSNGD KC725M	S18, S22
FBSTFCR09CA11F	K117	H16MCLN4	B76	H32MVLNR4	B163	HNGJ535ANSNGD KCK15	S18, S22
FC11	B265	H16MCLNR4	B76	H32NDQPL4W	E48	HNGJ535ANSNGD KCPK30	S18, S22
FC14	B264-265	H16MDUNL3	B96	H32NCL3W	C195, D38	HNGJ535ANSNGD KCPM40	S18, S22
FMDF0375Y6CQA KCPM15	042	H16MDUNR3	B96	H32NCL4W	C195, D38	HNGJ535ANSNGD KCSM40	S18, S22
FMDF0500Y6CQB KCPM15	042	H16MVLN3	B163	H32NER3W	C195, D38	HNGJ535ANSNHD KC520M	S19, S22
FMDF0625Y6CQB KCPM15	042	H16SCLCR3	B198	H32NER4W	C195, D38	HNGJ535ANSNHD KC725M	S19, S22
FMDF0750Y6CQB KCPM15	042	H16SDUPL3	B237	H32NER6W	C195, D38	HNGJ535ANSNHD KCK15	S19, S22
FMDF1000Y6CQB KCPM15	042	H16SDUPR3	B237	H36NER4W	C195, D38	HNGJ535ANSNHD KCPK30	S19, S22
FP2506T	V4-5	H16STFPR2	B279	H40CTFPR4W	B188, B393	HNGJ535ANSNHD KCPM40	S19, S22
FP2507T	V4-5	H20CTFPR3W	B188, B393	H40LSER5	D76	HNGJ535ANSNHD KCSM40	S19, S22
FP3006T	V111, V114	H20LSER3	D76	H40MCFNR6	B75	HNGJ75ANENGD KC725M	S25
FP3007T S	V111, V114	H20MCFNR4	B75	H40MCKNL5	B75	HNGJ75ANENGD KCPK30	S25
FSDE0250J7DYA KC643M	P100	H20MCLN4	B76	H40MCKNR5	B75	HNGJ75ANENGD KCPM40	S25
FSDE0375J9BCA KC643M	P98	H20MCLNR4	B76	H40MCKNR6	B75	HNGJ5355ENLE KCK15	S79
FSDE0375J9BCB KC643M	P98	H20MDUNL4	B96	H40MCLN4	B76	HNHX5354ENLE KC514M	S78
FSDE0375J9DYA KC643M	P100	H20MDUNR4	B96	H40MCLN5	B76	HNHX5354ENLE KCK15	S78
FSDE0375J9DYB KC643M	P100	H20MTFNR3	B143	H40MCLN6	B76	HNHX5354SNGE KC514M	S79
FSDE0375Y9CQA KC643M	043	H20MVUNL3	B155	H40MCLNR4	B76	HNHX5354SNGE KCK15	S79
FSDE0375Y9CQB KC643M	043	H20MVUNR3	B155	H40MCLNR5	B76	HNHX5355ENLE KC514M	S78
FSDE0375Y9CQC KC643M	043	H20MVLNR4	B163	H40MCLNR6	B76	HNHX5355ENLE KCK15	S78
FSDE0375Y9CQD KC643M	043	H20NDLPR4W	E48	H40MDUNL4	B96	HNHX5355SNGE KC514M	S79
FSDE0500J9BCA KC643M	P98	H20NDXPL4W	E49	H40MDUNR4	B96	HNHX5355SNGE KCK15	S79
FSDE0500J9BCB KC643M	P98	H20NCL3W	C195, D38	H40MSKNL6	B120	HNHX5358SNGE KCK15	S79
FSDE0500J9BCC KC643M	P98	H20NER3W	C195, D38	H40MSKNR6	B120	HNHX535ANSNGE KC514M	S78
FSDE0500N9DYA KC643M	P100	H24CRGNR4	B170, B393	H40MSSNR6	B120	HNHX535ANSNGE KCK15	S78
FSDE0500N9DYB KC643M	P100	H24LSER3	D76	H40MTFNR4	B143	HNPJ438ANSNHD KC522M	S7, S13, S16
FSDE0500N9DYC KC643M	P100	H24LSER4	D76	H40MVUNL3	B155	HNPJ438ANSNHD KC725M	S7, S13, S16
FSDE0500Y9CQA KC643M	043	H24MCFNR4	B75	H40MVUNL4	B155	HNPJ438ANSNHD KCK15	S7, S13, S16
FSDE0500Y9CQB KC643M	043	H24MCKNR4	B75	H40MVUNR3	B155	HNPJ438ANSNHD KCPK30	S7, S13, S16
FSDE0500Y9CQC KC643M	043	H24MCLN4	B76	H40MVUNR4	B155	HNPJ438ANSNHD KCPM40	S7, S13, S16
FSDE0500Y9CQD KC643M	043	H24MCLN5	B76	H40NDXPL4W	E49	HNPJ438ANSNHD KCSM40	S7, S13, S16
FSDE0500Y9CQE KC643M	043	H24MCLNR4	B76	H40NCL3W	C195, D38	HNPJ438ANSNGD KC520M	S7, S13, S16
FSDE0625JBBCB KC643M	P98	H24MCLNR5	B76	H40NCL4W	C195, D38	HNPJ438ANSNGD KC522M	S7, S13, S16
FSDE0625NBDYB KC643M	P100	H24MDPNR4	B96	H40NER3W	C195, D38	HNPJ438ANSNGD KC725M	S7, S13, S16
FSDE0625Y11CQA KC643M	043	H24MDUNL4	B96	H40NER4W	C195, D38	HNPJ438ANSNGD KCK15	S7, S13, S16
FSDE0625Y11CQB KC643M	043	H24MDUNR3	B96	H40NER6W	C195, D38	HNPJ438ANSNGD KCPK30	S7, S13, S16
FSDE0625Y11CQC KC643M	043	H24MDUNR4	B96	HDWMS5EUS	S104	HNPJ438ANSNGD KCPM40	S7, S13, S16
FSDE0625Y11CQD KC643M	043	H24MSKNR4	B120	HFB1023SCFPR06	K130	HNPJ438ANSNGD KCSM40	S7, S13, S16
FSDE0625Y11CQE KC643M	043	H24MSSNR4	B120	HFB1223SCFPR06	K130	HNPJ438ANSNHD KC520M	S7, S13, S16
FSDE0750JFBCA KC643M	P98	H24MTFNR3	B143	HFB14FBHS1440	K130	HNPJ438ANSNHD KC522M	S7, S13, S16
FSDE0750JFBCB KC643M	P98	H24MVUNL3	B155	HFB1627SCFPR06	K130	HNPJ438ANSNHD KC725M	S7, S13, S16
FSDE0750JFBCD KC643M	P98	H24MVUNR3	B155	HFB16FBHS1640	K130	HNPJ438ANSNHD KCK15	S7, S13, S16
FSDE0750JFBCE KC643M	P98	H24MVLN4	B163	HFB19FBHS1840	K130	HNPJ438ANSNHD KCPK30	S7, S13, S16
FSDE0750NFDYA KC643M	P100	H24MVLNR4	B163	HFB2127SCFPR06	K130	HNPJ438ANSNHD KCPM40	S7, S13, S16
FSDE0750NFDYB KC643M	P100	H24NDLPR4W	E48	HFB2427SCFPR06	K130	HNPJ438ANSNHD KCSM40	S7, S13, S16
FSDE0750NFDYC KC643M	P100	H24NDXPR4W	E49	HFB2727SCFPR06	K130	HNPJ5351ANSNHD KC522M	S19, S23
FSDE0750NFDYE KC643M	P100	H24NCL3W	C195, D38	HFB3127SCFPR06	K130	HNPJ5351ANSNHD KC725M	S19, S23
FSDE0750Y15CQB KC643M	043	H24NER3W	C195, D38	HFB3427SCFPR06	K130	HNPJ5351ANSNHD KCK15	S19, S23

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
HNPJ53511ANSNHD KCPK30	S19, S23	HPFSS500S0563 KCPM15	P109	HPHV250S4125CH KCPM15	P17	HPHV625S4075L KCPM15	P19
HNPJ53511ANSNHD KCPM40	S19, S23	HPFSS500S5125 KCPM15	P109	HPHV250S4125R030 KCPM15	P17	HPHV625S4075LR015 KCPM15	P18
HNPJ53511ANSNHD KCSM40	S19, S23	HPFSS500S5200 KCPM15	P109	HPHV250S4175R015 KCPM15	P17	HPHV625S4075LR030 KCPM15	P18
HNPJ535ANSNGD KC520M	S19, S22	HPFSS625S5075 KCPM15	P109	HPHV250S4175R030 KCPM15	P17	HPHV625S4075LR060 KCPM15	P18
HNPJ535ANSNGD KC522M	S19, S22	HPFSS625S5163 KCPM15	P109	HPHV312S4050 KCPM15	P17	HPHV625S4075R060 KCPM15	P18
HNPJ535ANSNGD KC725M	S19, S22	HPFSS750S5088 KCPM15	P109	HPHV312S4050CH KCPM15	P17	HPHV625S4125 KCPM15	P19
HNPJ535ANSNGD KCK15	S19, S22	HPFSS750S5163 KCPM15	P109	HPHV312S4050L KCPM15	P17	HPHV625S4125CH KCPM15	P19
HNPJ535ANSNGD KCPK30	S19, S22	HPFSS750S5325 KCPM15	P109	HPHV312S4050LR015 KCPM15	P17	HPHV625S4125R030 KCPM15	P19
HNPJ535ANSNGD KCPM40	S19, S22	HPFT1000S6150 KC635M	P110	HPHV312S4050R030 KCPM15	P17	HPHV625S4125R060 KCPM15	P19
HNPJ535ANSNHD KC520M	S19, S23	HPFT1000S6225 KC635M	P110	HPHV312S4075 KCPM15	P17	HPHV625S4125R090 KCPM15	P19
HNPJ535ANSNHD KC522M	S19, S23	HPFT1000S6400 KC635M	P110	HPHV312S4075CH KCPM15	P17	HPHV625S4163 KCPM15	P19
HNPJ535ANSNHD KC725M	S19, S23	HPFT250S6038 KC635M	P110	HPHV312S4075R015 KCPM15	P17	HPHV625S4163R030 KCPM15	P19
HNPJ535ANSNHD KCK15	S19, S23	HPFT250S6075 KC635M	P110	HPHV312S4075R030 KCPM15	P17	HPHV625S4163R060 KCPM15	P19
HNPJ535ANSNHD KCPK30	S19, S23	HPFT312S6081 KC635M	P110	HPHV312S4075R060 KCPM15	P17	HPHV625S4163R120 KCPM15	P19
HNPJ535ANSNHD KCPM40	S19, S23	HPFT375S6088 KC635M	P110	HPHV312S4125R030 KCPM15	P17	HPHV625S4213 KCPM15	P19
HNPJ755ANSNGD KC520M	S25	HPFT375S6113 KC635M	P110	HPHV375S4050 KCPM15	P17	HPHV625S4213R030 KCPM15	P19
HNPJ755ANSNGD KC725M	S25	HPFT500S6063 KC635M	P110	HPHV375S4050CH KCPM15	P17	HPHV625S4213R120 KCPM15	P19
HNPJ755ANSNGD KCPK30	S25	HPFT500S6100 KC635M	P110	HPHV375S4050L KCPM15	P17	HPHV625S4225R060 KCPM15	P19
HNPJ755ANSNGD KCPM40	S25	HPFT500S6200 KC635M	P110	HPHV375S4050LR015 KCPM15	P17	HPHV625S4225R090 KCPM15	P19
HNPJ755ANSNHD KC725M	S26	HPFT625S6125 KC635M	P110	HPHV375S4050LR030 KCPM15	P17	HPHV750S4088CH KCPM15	P19
HNPJ755ANSNHD KCPK30	S26	HPFT750S6150 KC635M	P110	HPHV375S4050R030 KCPM15	P17	HPHV750S4088L KCPM15	P19
HNPJ755ANSNHD KCPM40	S26	HPFT750S6225 KC635M	P110	HPHV375S4088 KCPM15	P17	HPHV750S4088R030 KCPM15	P19
HNPJ759ANSNHD KC520M	S26	HPFT750S6300 KC635M	P110	HPHV375S4088CH KCPM15	P17	HPHV750S4150 KCPM15	P19
HNPJ759ANSNHD KCK15	S26	HPFT750S6400 KC635M	P110	HPHV375S4088L KCPM15	P17	HPHV750S4150CH KCPM15	P19
HNPJ759ANSNHD KCPK30	S26	HPHV1000S4150 KCPM15	P19	HPHV375S4088LR015 KCPM15	P17	HPHV750S4150R015 KCPM15	P19
HNPJ759ANSNHD KC725M	S26	HPHV1000S4150CH KCPM15	P19	HPHV375S4088LR030 KCPM15	P17	HPHV750S4150R030 KCPM15	P19
HNPJ759ANSNHD KCK15	S26	HPHV1000S4150R030 KCPM15	P19	HPHV375S4088LR090 KCPM15	P17	HPHV750S4150R060 KCPM15	P19
HNPJ759ANSNHD KCPK30	S26	HPHV1000S4150R120 KCPM15	P19	HPHV375S4088R015 KCPM15	P17	HPHV750S4150R090 KCPM15	P19
HNPJ759ANSNHD KCPM40	S26	HPHV1000S4150R250 KCPM15	P19	HPHV375S4088R030 KCPM15	P17	HPHV750S4150R120 KCPM15	P19
HNPJ759ANSNHD KCSM40	S26	HPHV1000S4200 KCPM15	P20	HPHV375S4088R060 KCPM15	P17	HPHV750S4163CH KCPM15	P19
HNPX535ANSNGE KCK15	S80	HPHV1000S4200R030 KCPM15	P19	HPHV375S4088R090 KCPM15	P17	HPHV750S4163R030 KCPM15	P19
HNPX535ANSNGE KCK15	S80	HPHV1000S4200R060 KCPM15	P19	HPHV375S4100 KCPM15	P17	HPHV750S4163R060 KCPM15	P19
HNPX535ANSNGE KCK15	S80	HPHV1000S4200R120 KCPM15	P19	HPHV375S4100R015 KCPM15	P17	HPHV750S4163R120 KCPM15	P19
HPBNDM125S4013 KC633M	P150	HPHV1000S4225 KCPM15	P20	HPHV375S4100R030 KCPM15	P17	HPHV750S4225 KCPM15	P19
HPBNDM188S4019 KC633M	P150	HPHV1000S4225CH KCPM15	P20	HPHV375S4100R060 KCPM15	P17	HPHV750S4225CH KCPM15	P19
HPBNDM250S4025 KC633M	P150	HPHV1000S4225R030 KCPM15	P20	HPHV375S4100R090 KCPM15	P17	HPHV750S4225R030 KCPM15	P19
HPBNDM375S4038 KC633M	P150	HPHV1000S4225R060 KCPM15	P20	HPHV375S4125 KCPM15	P17	HPHV750S4225R060 KCPM15	P19
HPBNDM500S4050 KC633M	P150	HPHV1000S4263 KCPM15	P20	HPHV375S4125R015 KCPM15	P17	HPHV750S4300CH KCPM15	P19
HPBNDM625S4063 KC633M	P150	HPHV1000S4263CH KCPM15	P20	HPHV375S4125R060 KCPM15	P17	HPHV750S4400R030 KCPM15	P19
HPBNDM750S4075 KC633M	P150	HPHV1000S4263R030 KCPM15	P20	HPHV375S4125R090 KCPM15	P17	HPHV750S4400R060 KCPM15	P19
HPFDM1000S5150 KC633M	P148	HPHV1000S4300CH KCPM15	P20	HPHV375S4125R120 KCPM15	P17	HPHV750S4400R090 KCPM15	P19
HPFDM1000S6250 KC633M	P148	HPHV1000S4300R030 KCPM15	P20	HPHV375S4150 KCPM15	P17	HPHV750S4400R120 KCPM15	P19
HPFDM250S4038 KC633M	P148	HPHV1000S4300R060 KCPM15	P20	HPHV375S4150R030 KCPM15	P17	HPHV750S4400R150 KCPM15	P19
HPFDM250S4063 KC633M	P148	HPHV1000S4400CH KCPM15	P20	HPHV375S4150R060 KCPM15	P17	HPHV750S4400R180 KCPM15	P19
HPFDM250S4088 KC633M	P148	HPHV1000S4400R030 KCPM15	P20	HPHV375S4150R090 KCPM15	P17	HPHV750S4400R210 KCPM15	P19
HPFDM312S4050 KC633M	P148	HPHV1000S4400R060 KCPM15	P20	HPHV375S4150R120 KCPM15	P17	HPHV750S4400R240 KCPM15	P19
HPFDM312S4075 KC633M	P148	HPHV1250S4225CH KCPM15	P20	HPHV375S4150R150 KCPM15	P17	HPHV750S4400R270 KCPM15	P19
HPFDM312S4113 KC633M	P148	HPHV1250S4225R030 KCPM15	P20	HPHV375S4150R180 KCPM15	P17	HPHV750S4400R300 KCPM15	P19
HPFDM375S4056 KC633M	P148	HPHV125S4025 KCPM15	P16	HPHV375S4150R210 KCPM15	P17	HPHV750S4400R330 KCPM15	P19
HPFDM375S5094 KC633M	P148	HPHV125S4025CH KCPM15	P16	HPHV375S4150R240 KCPM15	P17	HPHV750S4400R360 KCPM15	P19
HPFDM375S5131 KC633M	P148	HPHV125S4025LR015 KCPM15	P16	HPHV375S4150R270 KCPM15	P17	HPHV750S4400R390 KCPM15	P19
HPFDM500S4075 KC633M	P148	HPHV125S4050 KCPM15	P16	HPHV375S4150R300 KCPM15	P17	HPHV750S4400R420 KCPM15	P19
HPFDM500S6125 KC633M	P148	HPHV125S4050CH KCPM15	P16	HPHV375S4150R330 KCPM15	P17	HPHV750S4400R450 KCPM15	P19
HPFDM500S6175 KC633M	P148	HPHV125S4050L KCPM15	P16	HPHV375S4150R360 KCPM15	P17	HPHV750S4400R480 KCPM15	P19
HPFDM625S4094 KC633M	P148	HPHV125S4050R015 KCPM15	P16	HPHV375S4150R390 KCPM15	P17	HPHV750S4400R510 KCPM15	P19
HPFDM625S6156 KC633M	P148	HPHV188S4031 KCPM15	P16	HPHV375S4150R420 KCPM15	P17	HPHV750S4400R540 KCPM15	P19
HPFDM625S6219 KC633M	P148	HPHV188S4031CH KCPM15	P16	HPHV375S4150R450 KCPM15	P17	HPHV750S4400R570 KCPM15	P19
HPFDM750S4113 KC633M	P148	HPHV188S4031L KCPM15	P16	HPHV375S4150R480 KCPM15	P17	HPHV750S4400R600 KCPM15	P19
HPFDM750S6188 KC633M	P148	HPHV188S4031LR015 KCPM15	P16	HPHV375S4150R510 KCPM15	P17	HPHV750S4400R630 KCPM15	P19
HPFDM750S6263 KC633M	P148	HPHV188S4063 KCPM15	P16	HPHV375S4150R540 KCPM15	P17	HPHV750S4400R660 KCPM15	P19
HPFSS1000S5200 KCPM15	P109	HPHV188S4063CH KCPM15	P16	HPHV375S4150R570 KCPM15	P17	HPHV750S4400R690 KCPM15	P19
HPFSS1000S5325 KCPM15	P109	HPHV188S4063L KCPM15	P16	HPHV375S4150R600 KCPM15	P17	HPHV750S4400R720 KCPM15	P19
HPFSS125S3025 KC635M	P108	HPHV188S4063LR015 KCPM15	P16	HPHV375S4150R630 KCPM15	P17	HPHV750S4400R750 KCPM15	P19
HPFSS125S5025 KC635M	P109	HPHV188S4063LR030 KCPM15	P16	HPHV375S4150R660 KCPM15	P17	HPHV750S4400R780 KCPM15	P19
HPFSS156S5056 KC635M	P109	HPHV188S4063R015 KCPM15	P16	HPHV375S4150R690 KCPM15	P17	HPHV750S4400R810 KCPM15	P19
HPFSS188S3031 KC635M	P108	HPHV188S4063R030 KCPM15	P16	HPHV375S4150R720 KCPM15	P17	HPHV750S4400R840 KCPM15	P19
HPFSS188S5031 KC635M	P109	HPHV250S4038 KCPM15	P16	HPHV375S4150R750 KCPM15	P17	HPHV750S4400R870 KCPM15	P19
HPFSS188S5056 KCPM15	P109	HPHV250S4038CH KCPM15	P16	HPHV375S4150R780 KCPM15	P17	HPHV750S4400R900 KCPM15	P19
HPFSS250S3038 KC635M	P108	HPHV250S4038LR015 KCPM15	P16	HPHV375S4150R810 KCPM15	P17	HPHV750S4400R930 KCPM15	P19
HPFSS250S3050 KC635M	P108	HPHV250S4038R030 KCPM15	P16	HPHV375S4150R840 KCPM15	P17	HPHV750S4400R960 KCPM15	P19
HPFSS250S5038 KCPM15	P109	HPHV250S4050 KCPM15	P16	HPHV375S4150R870 KCPM15	P17	HPHV750S4400R990 KCPM15	P19
HPFSS250S5075 KCPM15	P109	HPHV250S4050R015 KCPM15	P16	HPHV375S4150R900 KCPM15	P17	HPHV750S4400R1020 KCPM15	P19
HPFSS250S5125 KCPM15	P109	HPHV250S4050R030 KCPM15	P16	HPHV375S4150R930 KCPM15	P17	HPHV750S4400R1050 KCPM15	P19
HPFSS312S3081 KC635M	P108	HPHV250S4050R060 KCPM15	P16	HPHV375S4150R960 KCPM15	P17	HPHV750S4400R1080 KCPM15	P19
HPFSS375S3050 KC635M	P108	HPHV250S4075 KCPM15	P17	HPHV375S4150R990 KCPM15	P17	HPHV750S4400R1110 KCPM15	P19
HPFSS375S3088 KC635M	P108	HPHV250S4075CH KCPM15	P17	HPHV375S4150R1020 KCPM15	P17	HPHV750S4400R1140 KCPM15	P19
HPFSS375S5050 KCPM15	P109	HPHV250S4075R015 KCPM15	P16	HPHV375S4150R1050 KCPM15	P17	HPHV750S4400R1170 KCPM15	P19
HPFSS375S5088 KCPM15	P109	HPHV250S4075R030 KCPM15	P16	HPHV375S4150R1080 KCPM15	P17	HPHV750S4400R1200 KCPM15	P19
HPFSS375S5150 KCPM15	P109	HPHV250S4075R060 KCPM15	P17	HPHV375S4150R1110 KCPM15	P17	HPHV750S4400R1230 KCPM15	P19
HPFSS500S3063 KC635M	P108	HPHV250S4100 KCPM15	P17	HPHV375S4150R1140 KCPM15	P17	HPHV750S4400R1260 KCPM15	P19
HPFSS500S3125 KC635M	P108	HPHV250S4100R015 KCPM15	P17	HPHV375S4150R1170 KCPM15	P17	HPHV750S4400R1290 KCPM15	P19
		HPHV250S4125 KCPM15	P17	HPHV375S4150R1200 KCPM15	P17	HPHV750S4400R1320 KCPM15	P19

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
HPRSS625S3163 KCPM15.....	P90	ICSN432 K9.....	B72-74	KC3M.....	V155-156	KDMT0750R748A075HNC.....	V133
HPRSS750S3163 KCPM15.....	P90	ICSN433 K9.....	B58-65, B67-71, B75-76	KCRA150RN4303C125L400.....	V148	KDMT0750R827A075SN.....	V132
HPRST1000S4150 KC643M.....	P92	ICSN442 K9.....	B66, B371	KCRA200RN4304S075L175.....	V149	KDMT0750SRHF KC515M.....	V135
HPRST1000S6150 KC643M.....	P92	ICSN443 K9.....	B58-60	KCRA200RN4306S075L175.....	V149	KDMT10002ERGC KC515M.....	V134
HPRST250S4038 KC643M.....	P92	ICSN533 K9.....	B61-65, B67-69, B71, B74-76	KCRA250RN4306S075L175.....	V149	KDMT10004ERGC KC515M.....	V134
HPRST250S4075 KC643M.....	P92	ICSN543 K9.....	B58-60	KCRA250RN4309S075L175.....	V149	KDMT1000R630A100SN.....	V132
HPRST375S4050 KC643M.....	P92	ICSN633 K9.....	B59, B61-65, B68, B71, B74-76	KCRA300RN4308S100L200.....	V149	KDMT1000R906A100SN.....	V132
HPRST375S4088 KC643M.....	P92	ICSN643 K9.....	B58-60	KCRA300RN4311S100L200.....	V149	KDR100R1003C100L600.....	V46
HPRST500S4063 KC643M.....	P92	ICSN846 K9.....	B63-64	KDMB0250MOERGP KC515M.....	V126	KDR100R1003M12L125.....	V44
HPRST500S4125 KC643M.....	P92	IDSN322 K9.....	B87, B89-90, B92, B96	KDMB0250MOERLD K115M.....	V126	KDR100R1003W100L200.....	V45
HPRST625S4075 KC643M.....	P92	IDSN432 K9.....	B94-95	KDMB025R394A025HN.....	V123	KDR125R1202C125L900.....	V53
HPRST625S4125 KC643M.....	P92	IDSN443 K9.....	B87-93, B96	KDMB025R591A038HN.....	V123	KDR125R1202W100L200.....	V52
HPRST625S6125 KC643M.....	P92	IDSN533 K9.....	B89-90	KDMB025R591A025HN.....	V123	KDR150R1005S050L157.....	V47
HPRST750S4088 KC643M.....	P92	IDSN543 K9.....	B87	KDMB025R788A025HN.....	V123	KDR150R1204M16L150.....	V51
HPRST750S4150 KC643M.....	P92	IRSN33 K9.....	B98	KDMB0312MOERGP KC505M.....	V126	KDR150R1204S050L157.....	V54
HPRST750S6150 KC643M.....	P92	IRSN43 K9.....	B98	KDMB0312MOERLD K115M.....	V126	KDR200R1006S075L200.....	V47
HSFS0125.....	H86, H128-129, J13-15, J52-53, J89	IRSN44 K9.....	B98-99, B371	KDMB0312R551A031ST.....	V122	KDR200R1204S075L200.....	V54
HSFS0500.....	H128-129	IRSN63 K9.....	B98	KDMB0312R591A038HN.....	V123	KDR200R1205S075L200.....	V54
HSK100AHTS40085M.....	J92	IRSN64 K9.....	B98	KDMB0375MOERGP KC505M.....	V126	KDR200R1604S075L200.....	V58
HSK100AHTS50090M.....	J92	IRSN84 K9.....	B98	KDMB0375MOERLD K115M.....	V126	KDR250R1207S075L200.....	V54
HSK100AKR32075M.....	K92	ISSN322 K9.....	B111, B113	KDMB0375R354A038SN.....	V121	KDR300R1208S100L200.....	V54
HSK100AKR50085M.....	K92	ISSN332 K9.....	B113	KDMB0375R472A038HNC.....	V123	KDR300R1208S125L200.....	V54
HSK100AKR63100M.....	K92	ISSN432 K9.....	B115-117, B119	KDMB0375R591A038HNC.....	V123	KDR300R1607S100L200.....	V58
HSK100AKR80090M.....	K92	ISSN433 K9.....	B109, B111-113, B120	KDMB0375R591A038ST.....	V122	KDR300R1607S125L200.....	V58
HSK100ASIF100070M.....	K50	ISSN443 K9.....	B109-110	KDMB0500MOERGM KC515M.....	V126	KDR400R1608S150L200.....	V58
HSK100ASIF70050M.....	K50	ISSN533 K9.....	B111-113	KDMB0500MOERGP KC505M.....	V126	KDR40Z04S16RN12X.....	V62
HSK100ASVUBB2124MCLB.....	K78	ISSN633 K9.....	B119-120	KDMB0500MOERHC KC530M.....	V126	KDR500R1608S150L200.....	V58
HSK100BT13075.....	K143	ISSN643 K9.....	B109-110	KDMB0500MOERHC KC530M.....	V126	KDR60Z05S22RN12X.....	V62
HSK63AAVS00B126MCLB.....	K83	ISSN846 K9.....	B111-112	KDMB0500R472A050HNC.....	V123	KDR63Z06S22RN12X.....	V62
HSK63AAVS0B143MCLB.....	K83	ITSN322 K9.....	B140-142	KDMB0500R51A050SN.....	V121	KDR80Z07S22RN12X.....	V62
HSK63AAVS1B127MCLB.....	K83	ITSN323 K9.....	B131-135, B137, B139, B143	KDMB0500R51A050SN.....	V121	KF2X100W0902C100L600.....	V37
HSK63AAVS2B139MCLB.....	K83	ITSN333 K9.....	B135-136	KDMB0500R591A050SN.....	V121	KF2X100W0902C100L800.....	V37
HSK63AAVS3B139MCLB.....	K83	ITSN433 K9.....	B132-143	KDMB0500R630A050HNC.....	V123	KF2X100W0902M12L138.....	V36
HSK63ADL10200.....	052	ITSN443 K9.....	B131	KDMB0500R630A050HNC.....	V123	KF2X125W0903C125L600.....	V37
HSK63ADL12225.....	052	ITSN534 K9.....	B133-137	KDMB0500R630A050HNC.....	V123	KF2X125W0903C125L800.....	V37
HSK63ADL20225.....	052	ITSN636 K9.....	B134, B137	KDMB0625MOERGP KC515M.....	V126	KF2X125W0903M16L169.....	V36
HSK63ADL25250.....	052	IVSN322 K9.....	B150-155	KDMB0625MOERHC KC530M.....	V126	KF2X150W0903C125L600.....	V37
HSK63ADL32288.....	052	IVSN432 K9.....	B150-151	KDMB0625MOERLD K115M.....	V126	KF2X150W0903C125L800.....	V37
HSK63AKR32075M.....	K92	IVSN433 K9.....	B152-155	KDMB0625R551A063SN.....	V121	KF2X150W0904M16L169.....	V36
HSK63AKR50080M.....	K92	IVSN433 K9.....	B152-155	KDMB0625R630A063SN.....	V121	KF2X150W0904S050L157.....	V38
HSK63ASIF70066M.....	K50	JICM-JICF-ELB.....	C83	KDMB0625R689A063HNC.....	V123	KF2X200W0905S075L157.....	V38
HSK63ASIF80063M.....	K50	JICM-JICM-STR.....	C83	KDMB0750MOERGM KC515M.....	V126	KF2X200W0906S075L157.....	V38
HSK63ASVS4B139M.....	K84	K067TM2RW075STN11D.....	W43	KDMB0750MOERGP KC505M.....	V126	KF2X250W0906S075L175.....	V38
HSK63ASVS5B139M.....	K84	K102TM2RW100STN16D.....	W43	KDMB0750MOERHC KC530M.....	V126	KF2X300W0907S100L175.....	V38
HSK63ASVUBB1095MCLB.....	K76	K120Z328RF60HN09WSC.....	S82	KDMB0750MOERLD K115M.....	V126	KG2508ELDJ KC410M.....	T93
HSK63ASVUBB2116MCLB.....	K78	K165TM2RW125STN27D.....	W43	KDMB0750R551A075SN.....	V121	KG2512ELDJ KC410M.....	T93
HSK63FBHM1696.....	K132	K315AG2RF60HN09C.....	S82	KDMB0750R630A075SN.....	V121	KG2531ELDJ KC410M.....	T93
HSK63FBHMKIT164M.....	K127, K131	K400B14RF45HN09C.....	S77	KDMB0750R689A075SN.....	V121	KG2540ELDJ KC410M.....	T93
HSK63FBH1695.....	K128	K500B18RF45HN09C.....	S77	KDMB0750R748A075ST.....	V122	KG2550ELDJ KC410M.....	T93
HSK63FBHS24.....	K137	K600B164RF60HN09C.....	S82	KDMB0750R827A075HNC.....	V123	KGEM1665C.....	C145
HSK63FBHS31.....	K137	KAP1250632.....	U7-8	KDMB0750R827A075SN.....	V121	KGEM1665N.....	C145
HSK63FBHS40.....	K137	KAP1250634.....	U7-8	KDMB1000MOERGM KC515M.....	V126	KGEM1665N.....	C145
HSK63FBHS51.....	K137	KAP1250764.....	U7-8	KDMB1000MOERGP KC505M.....	V126	KGEM1665N.....	C145
HSK63FBHS67.....	K137	KAP1871004.....	U7-8	KDMB1000MOERLD K115M.....	V126	KGEM2050C.....	C67
HSK63FBHS87.....	K137	KAP2251254.....	U7-8	KDMB1000R630A100HNC.....	V123	KGEM2050N.....	C145
HSK63RBHT24.....	K122	KAP3121254.....	U7-8	KDMB1000R630A100HNC.....	V123	KGEM2065C.....	C67
HSK63RBHT30.....	K122	KAP3502004.....	U7-8	KDMB1000R827A100ST.....	V122	KGEM2065N.....	C145
HSK63RBHT40.....	K122	KAP5502004.....	U8	KDMB1250R945A125ST.....	V122	KGEM2450C.....	C67
HSK63RBHT50.....	K122	KBDM250SD06.....	S104	KDMT05002ERGC KC515M.....	V134	KGEM2465C.....	C67
HSK63RBHT66.....	K122	KBDM300SD08.....	S104	KDMT05002ERGN KC515M.....	V134	KGEM2465N.....	C145
HSK63RBHT87.....	K122	KBDM400SD12.....	S104	KDMT05004ERGC KC515M.....	V134	KGEM2525M50.....	C145
HSK80ASIF70066M.....	K50	KBDM500SD16.....	S104	KDMT05004ERGN KC515M.....	V134	KGEM2525M50C.....	C68
HTSR040R025M.....	J75	KBDM600SD18.....	S104	KDMT0500R512A050SN.....	V132	KGEM2525M65.....	C145
HTSR043R025M.....	J75	KBDM800SD24.....	S104	KDMT0500R591A050SN.....	V132	KGEM2525M65C.....	C68
HTSR046R028M.....	J75	KBFI10.....	.H15	KDMT0500R630A050HNC.....	V133	KGEM2525M65C.....	C68
HTSR049R028M.....	J75	KBFI11.....	.H15	KDMT0500R630A050HNC.....	V133	KGEM3232P50.....	C145
HTSR052R028M.....	J75	KBFI12.....	.H15	KDMT06254ERGN KC515M.....	V134	KGEM3232P50C.....	C68
HTSR10CE.....	J75	KBFI13.....	.H15	KDMT0625R630A063SN.....	V132	KGEM3232P65.....	C145
HTSR110C1.....	J75	KBFI14.....	.H15	KDMT07502ERGC KC515M.....	V134	KGEM3232P65C.....	C68
HTSR111C1.....	J75	KBFI15.....	.H15	KDMT07502ERGN KC515M.....	V134	KGEMR1650C.....	C67
HTSR12C1.....	J75	KBFI16.....	.H15	KDMT07504ERGN KC515M.....	V134	KGEMR1650N.....	C145
HTSR13C1.....	J75	KBFI17.....	.H15	KDMT0750R630A075SN.....	V132	KGEMR1665C.....	C67
HTSR13C1.....	J75	KBFI18.....	.H15				
HTSR14C1.....	J75	KBFI4.....	.H15				
HTSR14C1.....	J75	KBFI5B.....	.H15				
HTSR13C1.....	J75	KBFI6B.....	.H15				
HTSR14C1.....	J75	KBFI7.....	.H15				
HTSR14C1.....	J75	KBFI8.....	.H15				
HUWTC.....	E63	KBFI9.....	.H15				
HUWTCR.....	E63	KC1.....	V156				
ICSN332 K9.....	B59, B63	KC12.....	V155-156				

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KGMR1665N	C145	KHSST08148	M124	KHSST08554	M128	KHSST09140	M157
KGMR2050C	C67	KHSST08149	M127	KHSST08561	M125	KHSST09143	M157
KGMR2050N	C145	KHSST08151	M124	KHSST08562	M128	KHSST09147	M157
KGMR2065C	C67	KHSST08152	M127	KHSST08566	M36	KHSST09151	M157
KGMR2065N	C145	KHSST08156	M36	KHSST08574	M125	KHSST09608	M36
KGMR2450C	C67	KHSST08157	M36	KHSST08575	M128	KHSST09609	M36
KGMR2450N	C145	KHSST08159	M40	KHSST08578	M36	KHSST09611	M36
KGMR2465C	C67	KHSST08160	M40	KHSST08595	M125-126	KHSST09615	M36
KGMR2525M50	C145	KHSST08172	M124	KHSST08596	M128	KHSST27709	M130
KGMR2525M50C	C68	KHSST08173	M127	KHSST08599	M36	KHSST27710	M131
KGMR2525M65	C145	KHSST08175	M36	KHSST08608	M126	KHSST27711	M41
KGMR2525M65C	C68	KHSST08192	M124	KHSST08609	M128	KHSST27719	M41
KGMR3232P50	C145	KHSST08193	M127	KHSST08616	M126	KHSST27721	M130
KGMR3232P50C	C68	KHSST08197	M127	KHSST08617	M128-129	KHSST27722	M131
KGMR3232P65	C145	KHSST08203	M36	KHSST08630	M126	KHSST27723	M41
KGMR3232P65C	C68	KHSST08205	M36	KHSST08631	M129	KHSST27729	M130
KGMSL1650C	C65	KHSST08218	M124	KHSST08703	M157	KHSST27730	M131
KGMSL1650N	C143	KHSST08234	M124	KHSST08704	M157	KHSST27731	M41
KGMSL1665C	C65	KHSST08235	M127	KHSST08705	M157	KHSST27737	M130
KGMSL1665N	C143	KHSST08238	M124	KHSST08709	M157	KHSST27738	M131
KGMSL2050C	C65	KHSST08239	M127	KHSST08712	M157	KHSST27739	M41
KGMSL2050N	C143	KHSST08243	M36	KHSST08715	M157	KHSST27741	M130
KGMSL2065C	C65	KHSST08245	M36	KHSST08724	M157	KHSST27742	M131
KGMSL2065N	C143	KHSST08246	M40	KHSST09000	M124	KHSST27743	M41
KGMSL2450C	C65	KHSST08261	M124	KHSST09003	M127	KHSST27749	M130
KGMSL2450N	C143	KHSST08262	M127	KHSST09004	M124	KHSST27750	M131
KGMSL2465C	C65	KHSST08268	M124	KHSST09008	M124	KHSST27751	M41
KGMSL2465N	C143	KHSST08269	M127	KHSST09009	M127	KHSST27757	M130
KGMSL2525M50	C144	KHSST08272	M124	KHSST09010	M124	KHSST27758	M131
KGMSL2525M50C	C66	KHSST08273	M127	KHSST09011	M127	KHSST27759	M41
KGMSL2525M65	C144	KHSST08280	M36	KHSST09012	M124	KHSST27765	M130
KGMSL2525M65C	C66	KHSST08282	M36	KHSST09013	M127	KHSST27766	M131
KGMSL3232P50	C144	KHSST08294	M124	KHSST09014	M124	KHSST27767	M41
KGMSL3232P50C	C66	KHSST08295	M127	KHSST09015	M127	KHSST27773	M130
KGMSL3232P65	C144	KHSST08296	M36	KHSST09018	M125	KHSST27781	M130
KGMSL3232P65C	C66	KHSST08316	M125	KHSST09019	M128	KHSST27787	M41
KGMSR1650C	C65	KHSST08317	M128	KHSST09021	M128	KHSST27793	M130
KGMSR1650N	C143	KHSST08320	M125	KHSST09022	M125	KHSST27796	M130
KGMSR1665C	C65	KHSST08321	M128	KHSST09025	M128-129	KHSST27798	M41
KGMSR1665N	C143	KHSST08324	M125	KHSST09026	M125	KHSST27800	M130
KGMSR2050C	C65	KHSST08327	M128	KHSST09027	M128	KHSST27809	M130
KGMSR2050N	C143	KHSST08331	M36	KHSST09028	M125	KHSST28002	M157
KGMSR2065C	C65	KHSST08332	M36	KHSST09029	M128	KHSST28003	M128-129
KGMSR2065N	C143	KHSST08333	M40	KHSST09030	M125	KHSST28004	M126
KGMSR2450C	C65	KHSST08334	M36	KHSST09035	M128	KHSST28008	M129
KGMSR2450N	C143	KHSST08336	M36	KHSST09039	M128	KHSST28009	M126
KGMSR2465C	C65	KHSST08353	M125	KHSST09041	M128	KHSST28015	M129
KGMSR2465N	C143	KHSST08354	M128	KHSST09042	M126	KHSST28016	M126
KGMSR2525M50	C144	KHSST08355	M125	KHSST09043	M128	KHSST28020	M129
KGMSR2525M50C	C66	KHSST08356	M128	KHSST09047	M129	KHSST28021	M126
KGMSR2525M65	C144	KHSST08364	M36	KHSST09048	M126	KHSST28028	M129
KGMSR2525M65C	C66	KHSST08380	M125	KHSST09054	M130	KHSST28029	M126
KGMSR3232P50	C144	KHSST08381	M128	KHSST09101	M36	KHSST28032	M129
KGMSR3232P50C	C66	KHSST08391	M36	KHSST09103	M36	KHSST28033	M126
KGMSR3232P65	C144	KHSST08392	M128	KHSST09104	M36	KHSST28040	M126
KGMSR3232P65C	C66	KHSST08393	M36	KHSST09105	M36	KHSST28043	M126
KHDA0250JGANA KC639M	P143	KHSST08409	M125	KHSST09106	M36	KHSST28047	M102
KHDA0312JGANA KC639M	P143	KHSST08411	M125	KHSST09108	M36	KHSST28048	M104
KHDA0375JGANA KC639M	P143	KHSST08419	M36	KHSST09109	M36	KHSST28049	M102
KHDA0500JGANA KC639M	P143	KHSST08434	M125	KHSST09111	M36	KHSST28053	M132
KHDA0625JGANA KC639M	P143	KHSST08435	M128	KHSST09112	M36	KHSST28057	M158
KHDA0750JGANA KC639M	P143	KHSST08443	M36	KHSST09113	M36	KHSST28058	M158
KHSST08003	M124	KHSST08444	M36	KHSST09114	M36	KHSST28060	M157
KHSST08015	M124	KHSST08459	M125	KHSST09115	M36	KHSST28062	M102
KHSST08039	M124	KHSST08460	M128	KHSST09116	M36	KHSST28064	M132
KHSST08043	M36	KHSST08461	M125	KHSST09119	M36	KHSST28067	M158
KHSST08044	M40	KHSST08467	M36	KHSST09120	M36	KHSST28068	M158
KHSST08061	M36	KHSST08477	M125	KHSST09121	M36	KHSST28072	M38
KHSST08067	M124	KHSST08478	M128	KHSST09122	M36	KHSST28073	M104
KHSST08082	M124	KHSST08484	M36	KHSST09123	M36	KHSST28074	M102
KHSST08083	M127	KHSST08493	M125	KHSST09124	M36	KHSST28077	M134
KHSST08087	M124	KHSST08494	M128	KHSST09125	M36	KHSST28078	M133
KHSST08088	M127	KHSST08498	M36	KHSST09126	M36	KHSST28080	M38
KHSST08090	M36	KHSST08508	M125	KHSST09127	M36	KHSST28081	M102
KHSST08091	M40	KHSST08510	M125	KHSST09128	M36	KHSST28082	M104
KHSST08101	M124	KHSST08516	M36	KHSST09129	M41	KHSST28083	M102
KHSST08104	M36	KHSST08530	M125	KHSST09130	M41	KHSST28085	M133
KHSST08112	M124	KHSST08531	M128	KHSST09131	M41	KHSST28086	M132
KHSST08116	M124	KHSST08537	M36	KHSST09132	M41	KHSST28091	M158
KHSST08117	M127	KHSST08545	M125	KHSST09133	M41	KHSST28092	M158
KHSST08119	M36	KHSST08546	M128	KHSST09135	M41	KHSST28093	M158
KHSST08140	M124	KHSST08553	M125	KHSST09137	M157	KHSST28094	M158

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KHSST28102	M128	KHSST28251	M37	KHSST28372	M124	KHSST28744	M38
KHSST28104	M158	KHSST28252	M36	KHSST28373	M127	KHSST28745	M102
KHSST28106	M157	KHSST28253	M36	KHSST28374	M127	KHSST28746	M104
KHSST28107	M157	KHSST28254	M36	KHSST28375	M127	KHSST28747	M102
KHSST28109	M157	KHSST28255	M36	KHSST28376	M124	KHSST28751	M134
KHSST28111	M36	KHSST28256	M36	KHSST28379	M127	KHSST28752	M133
KHSST28112	M36	KHSST28257	M36	KHSST28380	M124	KHSST28757	M36
KHSST28113	M36	KHSST28258	M36	KHSST28384	M127	KHSST28761	M102
KHSST28114	M129	KHSST28259	M36	KHSST28388	M127	KHSST28762	M102
KHSST28115	M126	KHSST28260	M36	KHSST28389	M124	KHSST28774	M102
KHSST28116	M125	KHSST28261	M36	KHSST28394	M127	KHSST28776	M38
KHSST28117	M128	KHSST28262	M36	KHSST28395	M127	KHSST28779	M102
KHSST28118	M126	KHSST28263	M36	KHSST28396	M124	KHSST28780	M104
KHSST28119	M128	KHSST28264	M36	KHSST28397	M124	KHSST28781	M133
KHSST28120	M125	KHSST28265	M36	KHSST28399	M127	KHSST28784	M38
KHSST28121	M125	KHSST28266	M36	KHSST28400	M124	KHSST28785	M102
KHSST28122	M128	KHSST28267	M36	KHSST28401	M124	KHSST28786	M104
KHSST28123	M125	KHSST28268	M36	KHSST28403	M127	KHSST28787	M102
KHSST28124	M129	KHSST28269	M36	KHSST28406	M127	KHSST28791	M133
KHSST28125	M126	KHSST28270	M36	KHSST28407	M124	KPR062RP21229	V156
KHSST28127	M125	KHSST28271	M36	KHSST28410	M124	KIPR075RP21332	V156
KHSST28128	M127	KHSST28272	M36	KHSST28412	M127	KIPR100RP32438	V156
KHSST28129	M124	KHSST28273	M36	KHSST28413	M124	KIPR100RP32M1203	V155
KHSST28130	M127	KHSST28274	M36	KHSST28416	M127	KIPR125RP43540	V156
KHSST28131	M127	KHSST28275	M36	KHSST28417	M124	KIPR125RP43555	V156
KHSST28132	M124	KHSST28276	M36	KHSST28419	M127	KIPR125RP43M1603	V155
KHSST28133	M127	KHSST28277	M36	KHSST28420	M127	KIPR150RP43655	V156
KHSST28134	M124	KHSST28278	M129	KHSST28423	M127	KISBR150SP10T30F	T107
KHSST28135	M127	KHSST28279	M126	KHSST28425	M124	KISBR200SP10T30F	T107
KHSST28136	M124	KHSST28281	M126	KHSST28426	M124	KISR075SP10T30F	T108
KHSST28137	M102	KHSST28282	M129	KHSST28427	M124	KISR100SP10T30F	T108
KHSST28139	M157	KHSST28283	M126	KHSST28428	M124	KISR125SP10T30F	T108
KHSST28140	M157	KHSST28286	M126	KHSST28429	M127	KISR150SP10T30F	T108
KHSST28141	M157	KHSST28287	M128	KHSST28433	M124	KISZR125SD430C4A02	V140
KHSST28142	M157	KHSST28289	M128	KHSST28440	M124	KISZR150SD430C5A03	V140
KHSST28152	M41	KHSST28290	M128	KHSST28443	M157	KISZR200SD430C6A04	V140
KHSST28162	M39	KHSST28291	M125	KHSST28444	M157	KL23	B132, B134-136
KHSST28163	M104	KHSST28293	M125	KHSST28445	M157	KL33	B63, B71
KHSST28165	M102	KHSST28294	M128	KHSST28446	M157	KL33L	B93, B96, B139, B143, B163
KHSST28167	M132	KHSST28295	M128	KHSST28447	M41	KL34	B111, B113
KHSST28172	M158	KHSST28296	M125	KHSST28448	M41	KL34L	B63, B89-90, B96, B98, B132-137
KHSST28173	M158	KHSST28298	M125	KHSST28455	M131	KL44	B139, B143, B152-155
KHSST28177	M157	KHSST28301	M128	KHSST28458	M131	KL46	B69, B71, B76, B114
KHSST28178	M157	KHSST28302	M126	KHSST28462	M131	KL46	B60-65, B69-71, B75-76, B98, B111-113, B120, B132-139, B143, B152-155, B163
KHSST28181	M157	KHSST28304	M128	KHSST28465	M131	KL46L	B66, B89-90, B92-93, B96, B99, B371
KHSST28184	M132	KHSST28305	M126	KHSST28476	M103	KL58	B61-65, B69, B71, B75-76, B89-90, B111-113, B133-137
KHSST28187	M102	KHSST28308	M128	KHSST28478	M103	KL68	B61-65, B71, B75-76, B98, B111-114, B120
KHSST28188	M104	KHSST28309	M125	KHSST28526	M39	KL68L	B111-114, B137
KHSST28189	M102	KHSST28311	M128	KHSST28527	M39	KL810	B63-64, B98, B111-112
KHSST28192	M38	KHSST28313	M128	KHSST28528	M39	KL833	B72, B115-119
KHSST28194	M134	KHSST28314	M125	KHSST28529	M39	KLM33L	B94, B140-142
KHSST28195	M133	KHSST28317	M128	KHSST28531	M39	KLM34L	B140-142
KHSST28196	M158	KHSST28318	M125	KHSST28532	M39	KLM43	B72-74, B115-119
KHSST28197	M158	KHSST28319	M128	KHSST28534	M39	KLM46	B72, B74, B94-95, B140-142
KHSST28201	M102	KHSST28323	M125	KHSST28670	M102	KLM46S	B72-74, B94-95, B115-117, B119
KHSST28204	M38	KHSST28329	M129	KHSST28671	M104	KLM54	B115-117, B119
KHSST28207	M132	KHSST28330	M126	KHSST28672	M102	KLM58	B74
KHSST28209	M38	KHSST28338	M129	KHSST28674	M102	KLM68	B74, B115, B119
KHSST28210	M102	KHSST28339	M126	KHSST28675	M132	KL20C	T78
KHSST28211	M102	KHSST28340	M128	KHSST28681	M41	KLSS0714C	S30, S32, V19, V26
KHSST28212	M104	KHSST28341	M125	KHSST28682	M130	KM25LSEL1630	D77
KHSST28213	M102	KHSST28342	M128	KHSST28683	M103	KM25LSER1630	D77
KHSST28217	M134	KHSST28343	M125	KHSST28692	M103	KM25LSSL1630	D77
KHSST28218	M133	KHSST28344	M128	KHSST28695	M130	KM25LSSL2230	D77
KHSST28219	M40	KHSST28345	M126	KHSST28698	M130	KM25LSSR2230	D77
KHSST28220	M38	KHSST28346	M126	KHSST28700	M103	KM25NEL330	D30
KHSST28221	M102	KHSST28347	M128	KHSST28707	M103	KM25NEL430	D30
KHSST28223	M102	KHSST28348	M125	KHSST28709	M103	KM25NER230	D30
KHSST28226	M134	KHSST28349	M125	KHSST28716	M103	KM25NER330	D30
KHSST28228	M39	KHSST28350	M128	KHSST28721	M103	KM25NER430	D30
KHSST28231	M102	KHSST28351	M125	KHSST28723	M103	KM25NSL230	D30
KHSST28233	M132	KHSST28352	M126	KHSST28726	M103	KM25NSL330	D30
KHSST28235	M128-129	KHSST28353	M128	KHSST28730	M40	KM25NSL430	D30
KHSST28239	M132	KHSST28356	M125	KHSST28731	M36	KM25NSR230	D30
KHSST28242	M125-126	KHSST28358	M125	KHSST28732	M36	KM25NSR330	D30
KHSST28244	M36	KHSST28359	M125	KHSST28733	M36	KM25NSR430	D30
KHSST28245	M36	KHSST28361	M125	KHSST28737	M38	KM25NSL230	D30
KHSST28246	M37	KHSST28364	M125	KHSST28738	M102	KM25NSL330	D30
KHSST28247	M37	KHSST28365	M126	KHSST28739	M104	KM25NSL430	D30
KHSST28248	M36	KHSST28366	M125	KHSST28740	M102	KM25NSR230	D30
KHSST28249	M36	KHSST28368	M127	KHSST28742	M133	KM25NSR330	D30
KHSST28250	M37	KHSST28371	M127	KHSST28743	M40	KM32FBHS24	K137
						KM32FBHS31	K137

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KM32RBHT24	K122	KM50TSAVS1B118MCLB	K82	KR32AVS0B116MCLB	K82	KRDE193026M	K89, K114
KM32RBHT30	K122	KM50TSAVS2B128MCLB	K82	KR32AVS1B100MCLB	K82	KRDEA012AM	K79
KM40FBH01660	K128	KM50TSAVS3B128MCLB	K82	KR32AVS2B115MCLB	K82	KRDEA046AM	K79
KM40FBHS40	K137	KM50TSFBHM1677	K132	KR32AVS3B115MCLB	K82	KRDEA051AM	K79
KM40RBHT40	K122	KM50TSFBHMKIT164M	K127, K131	KR32KR32038050M	K93	KRM018030CLB004NE	K94
KM40TSAVSO0B111MCLB	K82	KM50TSKGMEL50C	C70, C147	KR32KR32038100M	K93	KS254BLNE1240	U18
KM40TSAVSOB128MCLB	K82	KM50TSKGMEL65C	C70, C147	KR32KR32047050M	K93	KS255BLNE1245	U18
KM40TSAVS1B112MCLB	K82	KM50TSKGMER50C	C70, C147	KR32KR32047100M	K93	KS33SNH1103	U13
KM40TSAVS2B127MCLB	K82	KM50TSKGMER65C	C70, C147	KR32SVUBB1060MCLB	K76	KS34LNE1240	U17
KM40TSE16JNEL2 KWH	D40	KM50TSKGMMSL50C	C69, C146	KR32SVUBB2085MCLB	K77	KS426SNH1102	U13
KM40TSE16JNER2 KWH	D40	KM50TSKGMMSL65C	C69, C146	KR50KR50065050M	K93	KS43SNH1103	U13
KM40TSKGMEL50C	C70, C147	KM50TSKGMMSR50C	C69, C146	KR50KR50065100M	K93	KS44BLNE1240	U18
KM40TSKGMERS0C	C70, C147	KM50TSKGMMSR65C	C69, C146	KR50SVS4B094M	K83	KS44LNE1240	U17
KM40TSKGMMSL50C	C69, C146	KM50TSSVUBB2100MCLB	K77	KR50SVS5B094M	K83	KS45BLNE1245	U18
KM40TSKGMMSR50C	C69, C146	KM63BT13065	K141	KR50SVU65110MCLB	K88	KS45LNE1245	U17
KM40TSLSEL16N	D79	KM63SVS4B110M	K84	KR50SVUBB2075MCLB	K77	KS46BLNE1245	U18
KM40TSLSER16N	D79	KM63SVS5B110M	K84	KR63KR63085050M	K93	KS46LNE1245	U17
KM40TSLSER22N	D79	KM63TSAVS3B130MCLB	K82	KR63KR63085100M	K93	KS48BLNE1255	U18
KM40TSLSER27N	D79	KM63TSKGMEL50C	C70, C147	KR63SV6B126M	K83	KS48LNE1255	U17
KM40TSLSSL16	D78	KM63TSKGMEL65C	C70, C147	KR80KR80095050M	K93	KS526SNH1103	U13
KM40TSLSSL22	D78	KM63TSKGMER50C	C70, C147	KR80KR80095100M	K93	KS53SNH1103	U13
KM40TSLSSL27	D78	KM63TSKGMER65C	C70, C147	KR80SVU92152MCLB	K88	KS55LNE1240	U17
KM40TSLSSR16	D78	KM63TSKGMMSL50C	C69, C146	KRBB10FABDRS204C	K78, K100	KS55LNE1245	U17
KM40TSLSSR22	D78	KM63TSKGMMSL65C	C69, C146	KRBB10SCFPR06085C	K78, K100	KS56LNE1245	U17
KM40TSLSSR27	D78	KM63TSKGMMSR50C	C69, C146	KRBB10SCFPR06110C	K78, K101	KS58LNE1255	U17
KM40TSSNEL2	D31	KM63TSKGMMSR65C	C69, C146	KRBB10SCFPR06135C	K78, K101	KS63SNH1103	U13
KM40TSSNEL3	D31	KM63UTFBHS116	K137	KRBB10SCDR4060C	K78, K100	KS64LNE1240	U17
KM40TSSNEL4	D31	KM63UTFBHS87	K137	KRBB16SCFPR06085A	K79, K102	KS65LNE1245	U17
KM40TSSNER2	D31	KM63UTRBHT115	K122	KRBB16SCFPR0611A	K79, K102	KS66LNE1245	U17
KM40TSSNER3	D31	KM63UTRBHT87	K122	KRBB16SCFPR06135A	K79, K102	KS68LNE1255	U17
KM40TSSNER4	D31	KM63XMZKGMELF50CY	C70, C147	KRBB16SCFPR0616A	K79, K103	KS84LNE1240	U17
KM40TSSNRL3045M	D33	KM63XMZKGMELF65CY	C70, C147	KRBB16SCFPR0619A	K79, K103	KS85LNE1245	U17
KM40TSSNRR3045M	D33	KM63XMZKGMER50CY	C70, C147	KRBB16SCFPR0622A	K79, K103	KS86LNE1245	U17
KM40TSSNSL2	D33	KM63XMZKGMER65CY	C70, C147	KRBB16SCDRS406A	K79, K102	KS88LNE1255	U17
KM40TSSNSL3	D33	KM63XMZKGMMSLF50CY	C69, C146	KRCSCFPR061A	K86	KSCM125R16CAB40U	S109
KM40TSSNSL4	D33	KM63XMZKGMMSLF65Y	C148	KRCSCFPR061B	K86	KSCMA900FBF KD1400	S110
KM40TSSNSR2	D33	KM63XMZKGMMSLF65Y	C148	KRCSCFPR061C	K86	KSCMA900FBF KD1420	S110
KM40TSSNSR3	D33	KM63XMZKGMMSR50CY	C69, C146	KRCSCFPR061D	K86	KSCMA90UNBF KD1400	S110
KM40TSSNSR4	D33	KM63XMZKGMMSR50Y	C148	KRCSCFPR061E	K89, K108-109	KSCMA90UNBF KD1420	S110
KM40TSS12ENEL2	D39	KM63XMZKR5060Y	K92	KRCSCFPR061F	K89, K110-114	KSCMCA75HR KD1420	S111
KM40TSS12ENER2	D39	KM80ATCKGMEL50C	C70, C147	KRCSCFPR061L	K86	KSCMCA75PT KD1420	S111
KM40TSS16FNEL2	D39	KM80ATCKGMEL65C	C70, C147	KRCSCFPR061W	K85	KSCMCA750F KD1420	S111
KM40TSS16FNER2	D39	KM80ATCKGMER50C	C70, C147	KRCSCFPR061X	K85	KSCMCA75UN KD1420	S111
KM40TSS20GNEL2	D39	KM80ATCKGMER65C	C70, C147	KRCSCFPR061Y	K85	KSCMCA900F KD1420	S110
KM40TSS20GNER2	D39	KM80ATCKGMSL50C	C69, C146	KRCSCFPR062A	K86	KSCMCA900FBF KD1420	S110
KM40TSS25ENEL2	D39	KM80ATCKGMSR50C	C69, C146	KRCSCFPR062B	K86	KSCMCA90UN KD1420	S110
KM40TSS25ENEL3	D39	KM80BT13070	K141	KRCSCFPR062C	K86	KSCMCA90UNBF KD1420	S110
KM40TSS25ENER2	D39	KM80SVS6B150M	K84	KRCSCFPR062D	K86	KSCMCA90UNBF KD1400	S105
KM40TSS25ENER3	D39	KM80TSKGMEL50C	C70, C147	KRCSCFPR062E	K89, K108-109	KSDR100031E0WOS KD1425	S105
KM40TSS25NEL3	D39	KM80TSKGMEL65C	C70, C147	KRCSCFPR062F	K89, K110-114	KSDR100031E0WAS KD1400	S105
KM40TSS25HNER2	D39	KM80TSKGMER50C	C70, C147	KRCSCFPR062L	K86	KSDR100031E0WAS KD1425	S105
KM40TSS25HNER3	D39	KM80TSKGMER65C	C70, C147	KRCSCFPR062W	K85	KSDR100031E1W4S KD1400	S105
KM40TSS32GNEL3	D39	KM80TSKGMMSL50C	C69, C146	KRCSCFPR062X	K85	KSDR100031E1W4S KD1425	S105
KM40TSS32GNER3	D39	KM80TSKGMMSL65C	C69, C146	KRCSCFPR062Y	K85	KSDR100031E3W4S KD1400	S106
KM40TSS32JNER3	D39	KM80TSKGMMSR50C	C69, C146	KRCSCFPR063A	K86	KSDR100031E3W4S KD1425	S106
KM4X100NEL3	D32	KM80TSKGMMSR65C	C69, C146	KRCSCFPR063B	K86	KSDR100093E1W4S KD1400	S105
KM4X100NEL4	D32	KMDA0250J6ANA KC639M	P142	KRCSCFPR063C	K86	KSDR100093E1W4S KD1425	S105
KM4X100NEL5	D32	KMDA0312J6ANA KC639M	P142	KRCSCFPR063D	K86	KSDR102S KD1400	S106
KM4X100NEL6	D32	KMDA0375J6ANA KC639M	P142	KRCSCFPR063E	K89, K108-109	KSDR102S KD1425	S106
KM4X100NER3	D32	KMDA0500J6ANA KC639M	P142	KRCSCFPR063F	K89, K110-114	KSEM0493R1 S5F075	H81
KM4X100NER4	D32	KMDA0625J6ANA KC639M	P142	KRCSCFPR063L	K86	KSEM0493R1 S5F075F45	H86
KM4X100NER5	D32	KMDA0750J6ANA KC639M	P142	KRCSCFPR063W	K85	KSEM0500HP KC7315	H52
KM4X100NER6	D32	KMSP315IP	B59, B87, B92, B113, B131, B150-151, B154, B163	KRCSCFPR063X	K85	KSEM0500HPCCL KC7410	H60
KM4X63KGMEL50C	C71, C149	KMSP415IP	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B131, B150-151, B163	KRCSCFPR063Y	K85	KSEM0500HPG KC7315	H54
KM4X63KGMEL65C	C71, C149	KMSP515IP	B58-60, B67-68, B87, B91-92, B98, B109-110, B131, B150-151, B163	KRCSTFPR113F	K90	KSEM0500HPG KCPM45	H57
KM4X63KGMERS0C	C71, C149	KMSP625IP	B58-60, B67-68, B87, B91-92, B98, B109-110, B131, B150-151, B163	KRCW032A	K80	KSEM0500HPL KC7320	H62
KM4X63KGMER65C	C71, C149	KMSP4S15IP	B68	KRDCKR32M	K91-93	KSEM0500R10SS075	H79
KM4X63KGMMSL50C	C71, C148-149	KMSP515IP	B58-60, B67-68, B87, B91-92, B98, B109-110, B131, B150-151, B163	KRDCKR50M	K91-93	KSEM0500R3SS075	H77
KM4X63KGMMSL65C	C71, C148	KMSP5S15IP	B68	KRDCKR63M	K91-93	KSEM0500R3SS075	H82
KM4X63KGMMSR50C	C71, C148-149	KMSP625IP	B58-60, B68, B98, B109-110	KRDCKR80M	K91-93	KSEM0500R5SS050	H77
KM4X63KGMMSR65C	C71, C148	KNUX160405L1 KCM15B	E35	KRDE025010M	K80	KSEM0500R5SS075	H77
KM50FBH01670	K128	KNUX160405L2 KCM25B	E35	KRDE033010M	K80	KSEM0500R5SS075	H82
KM50FBHS51	K137	KNUX160405L2 KU10	E35	KRDE043010M	K80	KSEM0500R7SS050	H79
KM50FBHS67	K137	KNUX160405R1 KCM15B	E35	KRDE065012M	K80	KSEM0500R7SS075	H79
KM50FBHS87	K137	KNUX160405R1 KCM25B	E35	KRDE070019M	K89, K108	KSEM0500R7SS075	H84
KM50RBHT50	K122	KNUX160405R1 KCM15B	E35	KRDE083019M	K89, K108	KSEM0509HPCCL KC7410	H60
KM50RBHT66	K122	KNUX160405R1 KCM25B	E35	KRDE096019M	K89, K109	KSEM0509HPG KC7315	H54
KM50RBHT87	K122	KNUX160405R1 KCU25	E35	KRDE101023M	K89, K110	KSEM0509HPG KCPM45	H57
KM50SVS4B125M	K84	KNUX160405R2 KCM25B	E35	KRDE120023M	K89, K110-111	KSEM0509HPL KC7320	H62
KM50SVS5B125M	K84	KNUX160410R1 KCM25B	E35	KRDE139026M	K89, K111	KSEM0509R10SS075	H79
KM50TSAVSO0B117MCLB	K82	KNUX160410R2 KCM25B	E35	KRDE156026M	K89, K112	KSEM0509R3SS075	H77
KM50TSAVSOB134MCLB	K82	KR32AVS00B099MCLB	K82	KRDE175026M	K89, K113	KSEM0509R3SS075	H82

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KSEM0969HP KC7315	H52	KSEM1063R10SS125	H80	KSEM1250HPCC L KC7410	H61	KSEM1344R3SSF150	H83
KSEM0969HPCC L KC7410	H60	KSEM1063R3SS125	H78	KSEM1250HPCC L M KC7410	H60	KSEM1344R5SS150	H78
KSEM0969HPG KC7315	H55	KSEM1063R3SSF125	H83	KSEM1250HPG KC7315	H55	KSEM1344R5SSF150	H83
KSEM0969HPG KCPM45	H58	KSEM1063R5SS125	H78	KSEM1250HPG KCPM45	H58	KSEM1350HPCC L M KC7410	H60
KSEM0969HPL KC7320	H62	KSEM1063R5SSF125	H83	KSEM1250HPGM KC7315	H54	KSEM1350HPGM KC7315	H54
KSEM0969R10SS100	H79	KSEM1063R7SS125	H80	KSEM1250HPGM KCPM45	H57	KSEM1350HPGM KCPM45	H57
KSEM0969R3SS100	H78	KSEM1063R8SSF125	H84	KSEM1250HPL KC7320	H62	KSEM1350HPLM KC7320	H62
KSEM0969R3SSF100	H82	KSEM1094HP KC7315	H53	KSEM1250HPLM KC7320	H62	KSEM1350HPM KC7315	H52
KSEM0969R5SS100	H78	KSEM1094HPCC L KC7410	H60	KSEM1250HPM KC7315	H52	KSEM1350PCM KC7135	H70
KSEM0969R5SSF100	H82	KSEM1094HPG KC7315	H55	KSEM1250PCM KC7135	H70	KSEM1350SPLM KCMS35	H64
KSEM0969R7SS100	H79	KSEM1094HPG KCPM45	H58	KSEM1250R10SS125	H80	KSEM135R10WN16M	H75
KSEM0984R10SS100	H79	KSEM1094HPL KC7320	H63	KSEM1250R10SS150	H80	KSEM135R3WN16M	H73
KSEM0984R3SS100	H78	KSEM1094R10SS125	H80	KSEM1250R3SS125	H78	KSEM135R5WN16M	H73
KSEM0984R3SSF100	H82	KSEM1094R3SSF125	H83	KSEM1250R3SS150	H78	KSEM135R7WN16M	H75
KSEM0984R5SS100	H78	KSEM1094R5SS125	H78	KSEM1250R3SSF125	H83	KSEM135SEFM	H87
KSEM0984R5SSF100	H82	KSEM1094R7SS125	H80	KSEM1250R3SSF150	H83	KSEM1360HPGM KC7315	H54
KSEM0984R7SS100	H79	KSEM1103R1SSF125	H81	KSEM1250R5SS125	H78	KSEM1360HPGM KCPM45	H57
KSEM0984R8SSF100	H84	KSEM1103R1SSF125F45	H86	KSEM1250R5SS150	H78	KSEM1360HPLM KC7320	H62
KSEM1000FEG KCPM45	H67	KSEM1109HP KC7315	H53	KSEM1250R5SSF125	H83	KSEM1360HPLM KC7320	H62
KSEM1000HP KC7315	H52	KSEM1109HPCC L KC7410	H61	KSEM1250R5SSF150	H83	KSEM1360R10WN16M	H75
KSEM1000HPCC L KC7410	H60	KSEM1109HPG KC7315	H55	KSEM1250R5SSF150	H83	KSEM136R1WN16F45M	H85-86
KSEM1000HPG KC7315	H55	KSEM1109HPG KCPM45	H58	KSEM1250R7SS125	H80	KSEM136R1WN16M	H72
KSEM1000HPG KCPM45	H58	KSEM1109HPL KC7320	H63	KSEM1250R7SS150	H80	KSEM136R3WN16M	H73
KSEM1000HPL KC7320	H62	KSEM1109R3SS125	H78	KSEM1250R8SSF125	H84	KSEM136R5WN16M	H73
KSEM1000R10SS100	H79	KSEM1109R3SSF125	H83	KSEM1250R8SSF150	H84	KSEM136R7WN16M	H75
KSEM1000R10SS125	H79	KSEM1109R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1370HPGM KC7315	H54
KSEM1000R3SS100	H78	KSEM1125HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1370HPM KC7315	H52
KSEM1000R3SS100	H83	KSEM1125HPCC L KC7410	H61	KSEM1250R8SSF150	H84	KSEM1375HP KC7315	H53
KSEM1000R3SSF125	H83	KSEM1125HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1375HPG KC7315	H55
KSEM1000R5SS100	H78	KSEM1125HPG KCPM45	H58	KSEM1250R8SSF150	H84	KSEM1375HPG KCPM45	H58
KSEM1000R5SS125	H78	KSEM1125HPL KC7320	H63	KSEM1250R8SSF150	H84	KSEM1375HPL KC7320	H63
KSEM1000R5SSF100	H83	KSEM1125R10SS125	H80	KSEM1250R8SSF150	H84	KSEM1375R3SS150	H78
KSEM1000R5SSF125	H83	KSEM1125R3SS125	H78	KSEM1250R8SSF150	H84	KSEM1375R3SSF150	H83
KSEM1000R5SSF100	H79	KSEM1125R3SSF125	H83	KSEM1250R8SSF150	H84	KSEM1375R5SS150	H78
KSEM1000R7SS125	H79	KSEM1125R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1375R5SSF150	H83
KSEM1000R8SSF100	H84	KSEM1125R5SSF125	H83	KSEM1250R8SSF150	H84	KSEM1375R5SSF150	H83
KSEM1000R8SSF125	H84	KSEM1125R7SS125	H80	KSEM1250R8SSF150	H84	KSEM1380HPGM KC7315	H54
KSEM1000SPL KCMS35	H64	KSEM1125R8SSF125	H84	KSEM1250R8SSF150	H84	KSEM1380HPGM KCPM45	H57
KSEM1008HP KC7315	H52	KSEM1125SPL KCMS35	H65	KSEM1250R8SSF150	H84	KSEM1380HPLM KC7320	H62
KSEM1008HPG KC7315	H55	KSEM1156HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1380HPLM KC7320	H62
KSEM1008HPG KCPM45	H58	KSEM1156HPCC L KC7410	H61	KSEM1250R8SSF150	H84	KSEM1380HPM KC7315	H52
KSEM1008HPL KC7320	H62	KSEM1156HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1380PCM KC7135	H70
KSEM1008SPL KCMS35	H64	KSEM1156HPG KCPM45	H58	KSEM1250R8SSF150	H84	KSEM1400HPCC L M KC7410	H60, H111
KSEM1010HPG KC7315	H55	KSEM1156HPL KC7320	H63	KSEM1250R8SSF150	H84	KSEM1400HPGM KC7315	H54
KSEM1010HPG KCPM45	H58	KSEM1156R10SS125	H80	KSEM1250R8SSF150	H84	KSEM1400HPGM KCPM45	H57
KSEM1011HP KC7315	H52	KSEM1156R3SS125	H78	KSEM1250R8SSF150	H84	KSEM1400HPLM KC7320	H62
KSEM1011HPCC L KC7410	H60	KSEM1156R3SSF125	H83	KSEM1250R8SSF150	H84	KSEM1400HPM KC7315	H52
KSEM1011HPG KC7315	H55	KSEM1156R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1400PCM KC7135	H70, H111
KSEM1011HPG KCPM45	H58	KSEM1156R7SS125	H80	KSEM1250R8SSF150	H84	KSEM1400SPLM KCMS35	H64
KSEM1011HPL KC7320	H63	KSEM1172HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1406HPG KC7315	H55
KSEM1011R10SS125	H79	KSEM1172HPCC L KC7410	H61	KSEM1250R8SSF150	H84	KSEM1406HPL KC7320	H63
KSEM1011R3SS125	H78	KSEM1172HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1406R3SS150	H78
KSEM1011R3SSF100	H83	KSEM1172HPG KCPM45	H58	KSEM1250R8SSF150	H84	KSEM1406R5SS150	H83
KSEM1011R5SS125	H78	KSEM1172HPL KC7320	H63	KSEM1250R8SSF150	H84	KSEM1406R5SSF150	H83
KSEM1011R7SS125	H79	KSEM1172R3SS125	H78	KSEM1250R8SSF150	H84	KSEM140R10WN16M	H75
KSEM1011SPL KCMS35	H64	KSEM1172R5SS125	H78	KSEM1250R8SSF150	H84	KSEM140R3WN16M	H73
KSEM1016FEG KCPM45	H67	KSEM1172R5SSF125	H83	KSEM1250R8SSF150	H84	KSEM140R5WN16M	H73
KSEM1016HPG KCPM45	H58	KSEM1182R1SSF125	H81	KSEM1250R8SSF150	H84	KSEM140R7WN16M	H75
KSEM1016HPL KC7320	H63	KSEM1182R1SSF125F45	H86	KSEM1250R8SSF150	H84	KSEM140SEFM	H87
KSEM1016SPL KCMS35	H64	KSEM1188HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1410HPGM KC7315	H54
KSEM1024R1SSF125	H81	KSEM1188HPCC L KC7410	H61	KSEM1250R8SSF150	H84	KSEM1410HPGM KCPM45	H57
KSEM1024R1SSF125F45	H86	KSEM1188HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1410HPLM KC7320	H62
KSEM1031FEG KCPM45	H67	KSEM1188HPG KCPM45	H58	KSEM1250R8SSF150	H84	KSEM1410HPM KC7315	H52
KSEM1031HP KC7315	H53	KSEM1188HPL KC7320	H63	KSEM1250R8SSF150	H84	KSEM1410PCM KC7135	H70
KSEM1031HPCC L KC7410	H60	KSEM1188R10SS125	H80	KSEM1250R8SSF150	H84	KSEM1415HPLM KC7320	H62
KSEM1031HPG KC7315	H55	KSEM1188R3SS125	H78	KSEM1250R8SSF150	H84	KSEM1418R1SSF125	H81
KSEM1031HPG KCPM45	H58	KSEM1188R3SSF125	H83	KSEM1250R8SSF150	H84	KSEM1418R1SSF125F45	H86
KSEM1031HPL KC7320	H63	KSEM1188R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1420HPGM KC7315	H54
KSEM1031R10SS125	H80	KSEM1188R5SSF125	H83	KSEM1250R8SSF150	H84	KSEM1420HPLM KC7320	H62
KSEM1031R3SS125	H78	KSEM1188R7SS125	H80	KSEM1250R8SSF150	H84	KSEM1420HPM KC7315	H52
KSEM1031R3SSF125	H83	KSEM1188R8SSF125	H84	KSEM1250R8SSF150	H84	KSEM1422HPG KC7315	H55
KSEM1031R5SS125	H78	KSEM1203HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1422R3SSF150	H83
KSEM1031R7SS125	H80	KSEM1203R3SSF125	H83	KSEM1250R8SSF150	H84	KSEM1422R5SS150	H78
KSEM1031SPL KCMS35	H64	KSEM1203R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1422R5SSF150	H83
KSEM1047HP KC7315	H53	KSEM1219HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1438HPG KC7315	H55
KSEM1047HPCC L KC7410	H60	KSEM1219HPG KC7315	H55	KSEM1250R8SSF150	H84	KSEM1438HPG KCPM45	H58
KSEM1047HPG KC7315	H55	KSEM1219HPG KCPM45	H58	KSEM1250R8SSF150	H84	KSEM1438R3SS150	H78
KSEM1047HPG KCPM45	H58	KSEM1219R10SS125	H80	KSEM1250R8SSF150	H84	KSEM1438R3SSF150	H83
KSEM1047HPL KC7320	H63	KSEM1219R3SS125	H78	KSEM1250R8SSF150	H84	KSEM1438R5SS150	H78
KSEM1047R3SSF125	H83	KSEM1219R5SS125	H78	KSEM1250R8SSF150	H84	KSEM1438R5SSF150	H83
KSEM1047R5SS125	H78	KSEM1219R7SS125	H80	KSEM1250R8SSF150	H84	KSEM1440HPGM KC7315	H54
KSEM1047SPL KCMS35	H64	KSEM1250FEG KCPM45	H67	KSEM1250R8SSF150	H84	KSEM1440HPM KC7315	H52
KSEM1047SPL KCMS35	H64	KSEM1250HP KC7315	H53	KSEM1250R8SSF150	H84	KSEM1450HPCC L M KC7410	H60
				KSEM1344HPG KC7315	H55	KSEM1450HPGM KC7315	H54

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KSEM1450HPGM KCPM45	H57	KSEM1600PCCLM KC7410	H60, H111	KSEM180R7WN20M	H75	KSEM2050HPLM KC7320	H62
KSEM1450HPLM KC7320	H62	KSEM1600HPGM KC7315	H54	KSEM180SEFM	H87	KSEM2050HPM KC7315	H52
KSEM1450HPM KC7315	H52	KSEM1600HPGM KCPM45	H57	KSEM181R10WN25M	H75	KSEM2050PCM KC7135	H70
KSEM1450PCGM KC7135	H70	KSEM1600HPLM KC7320	H62	KSEM181R1WN25F45M	H85-86	KSEM181R1WN25F45M	H64
KSEM1450SPLM KCMS35	H64	KSEM1600HPM KC7315	H52	KSEM181R1WN25M	H72	KSEM205R10WN25M	H75
KSEM145R10WN20M	H75	KSEM1600PCM KC7135	H70, H111	KSEM181R5WN25M	H73	KSEM205R3WN25M	H73
KSEM145R3WN20M	H73	KSEM1600SPLM KCMS35	H64	KSEM1830SPLM KCMS35	H64	KSEM205R5WN25M	H73
KSEM145R5WN20M	H73	KSEM1604HPGM KC7315	H54	KSEM1850FEGM KCPM45	H67	KSEM205R7WN25M	H75
KSEM145R7WN20M	H75	KSEM160R10WN20M	H75	KSEM1850HPCCCLM KC7410	H60	KSEM205SEFM	H87
KSEM145SEFM	H87	KSEM160R1WN20F45M	H85-86	KSEM1850HPGM KC7315	H54	KSEM2070HPGM KC7315	H54
KSEM1460HPGM KC7315	H54	KSEM160R1WN20M	H72	KSEM1850HPGM KCPM45	H57	KSEM2100FEGM KCPM45	H67
KSEM1460HPLM KC7320	H62	KSEM160R3WN20M	H73	KSEM1850HPLM KC7320	H62	KSEM2100HPCCCLM KC7410	H60, H111
KSEM1460PCGM KC7135	H70	KSEM160R5WN20M	H73	KSEM1850HPM KC7315	H52	KSEM2100HPGM KC7315	H54
KSEM1469HPG KC7315	H55	KSEM160R7WN20M	H75	KSEM1850PCM KC7135	H70	KSEM2100HPGM KCPM45	H57
KSEM1469HPG KCPM45	H58	KSEM160SEFM	H87	KSEM1850SPLM KCMS35	H64	KSEM2100HPLM KC7320	H62
KSEM1469R3SSF150	H83	KSEM1610HPLM KC7320	H62	KSEM185R10WN25M	H75	KSEM2100HPM KC7315	H52
KSEM1469R5SS150	H78	KSEM1615HPLM KC7320	H62	KSEM185R3WN25M	H73	KSEM2100PCM KC7135	H70, H111
KSEM1469R5SSF150	H83	KSEM1615SPLM KCMS35	H64	KSEM185R5WN25M	H73	KSEM2100SPLM KCMS35	H64
KSEM146R10WN20M	H75	KSEM1619HPGM KC7315	H54	KSEM185R7WN25M	H75	KSEM210R10WN25M	H75
KSEM146R1WN20F45M	H85-86	KSEM1620HPGM KC7315	H54	KSEM185SEFM	H87	KSEM210R3WN25M	H73
KSEM146R1WN20M	H72	KSEM1620HPGM KCPM45	H57	KSEM1860HPGM KC7315	H54	KSEM210R5WN25M	H73
KSEM146R3WN20M	H73	KSEM1620HPLM KC7320	H62	KSEM1860HPLM KC7320	H62	KSEM210R7WN25M	H75
KSEM146R5WN20M	H73	KSEM1620HPM KC7315	H52	KSEM1880HPGM KC7315	H54	KSEM210SEFM	H87
KSEM146R7WN20M	H75	KSEM1620PCM KC7135	H70	KSEM1890HPLM KC7320	H62	KSEM2110HPGM KC7315	H54
KSEM1480HPGM KC7315	H54	KSEM1650FEGM KCPM45	H67	KSEM1900FEGM KCPM45	H67	KSEM2115HPLM KC7320	H62
KSEM1480HPLM KC7320	H62	KSEM1650HPCCCLM KC7410	H60	KSEM1900HPCCCLM KC7410	H60, H111	KSEM2120HPGM KC7315	H54
KSEM1480HPM KC7315	H52	KSEM1650HPGM KC7315	H54	KSEM1900HPGM KC7315	H54	KSEM2133HPGM KC7315	H55
KSEM1480PCGM KC7135	H70	KSEM1650HPGM KCPM45	H57	KSEM1900HPGM KCPM45	H57	KSEM2133HPLM KC7320	H62
KSEM1500FEG KCPM45	H68	KSEM1650HPLM KC7320	H62	KSEM1900HPLM KC7320	H62	KSEM2150FEGM KCPM45	H67
KSEM1500HP KC7315	H53	KSEM1650HPM KC7315	H52	KSEM1900HPM KC7315	H52	KSEM2150HPCCCLM KC7410	H60
KSEM1500HPCCCLM KC7410	H60, H111	KSEM1650PCM KC7135	H70	KSEM1900PCM KC7135	H70, H111	KSEM2150HPGM KC7315	H55
KSEM1500HPG KC7315	H55	KSEM1650SPLM KCMS35	H64	KSEM1900SPLM KCMS35	H64	KSEM2150HPGM KCPM45	H57
KSEM1500HPG KCPM45	H58	KSEM165R10WN20M	H75	KSEM190R10WN25M	H75	KSEM2150HPLM KC7320	H62
KSEM1500HPGM KC7315	H54	KSEM165R3WN20M	H73	KSEM190R3WN25M	H73	KSEM2150HPM KC7315	H52
KSEM1500HPGM KCPM45	H57	KSEM165R5WN20M	H73	KSEM190R5WN25M	H73	KSEM2150PCGM KC7135	H70
KSEM1500HPL KC7320	H63	KSEM165R7WN20M	H75	KSEM190R7WN25M	H75	KSEM2150SPLM KCMS35	H64
KSEM1500HPLM KC7320	H62	KSEM165SEFM	H87	KSEM190SEFM	H87	KSEM215R10WN25M	H75
KSEM1500HPM KC7315	H52	KSEM1660HPGM KC7315	H54	KSEM1920HPGM KCPM45	H57	KSEM215R3WN25M	H73
KSEM1500PCGM KC7135	H70, H111	KSEM1700FEGM KCPM45	H67	KSEM1920HPLM KC7320	H62	KSEM215R5WN25M	H73
KSEM1500R3SS150	H78	KSEM1700HPCCCLM KC7410	H60, H111	KSEM1920SPLM KCMS35	H64	KSEM215R7WN25M	H75
KSEM1500R3SSF150	H83	KSEM1700HPGM KC7315	H54	KSEM1932HPGM KC7315	H54	KSEM215SEFM	H87
KSEM1500R5SS150	H78	KSEM1700HPGM KCPM45	H57	KSEM1935HPGM KC7315	H54	KSEM2170HPGM KC7315	H55
KSEM1500R5SSF150	H83	KSEM1700HPLM KC7320	H62	KSEM1935HPLM KC7320	H62	KSEM2200FEGM KCPM45	H67
KSEM1500SPLM KCMS35	H64	KSEM1700HPM KC7315	H52	KSEM1935SPLM KCMS35	H64	KSEM2200HPCCCLM KC7410	H60, H111
KSEM150R10WN20M	H75	KSEM1700PCM KC7135	H70, H111	KSEM1936HPLM KC7320	H62	KSEM2200HPGM KC7315	H55
KSEM150R3WN20M	H73	KSEM1700SPLM KCMS35	H64	KSEM1938HPLM KC7320	H62	KSEM2200HPGM KCPM45	H57
KSEM150R5WN20M	H73	KSEM170R10WN20M	H75	KSEM1950FEGM KCPM45	H67	KSEM2200HPLM KC7320	H62
KSEM150R7WN20M	H75	KSEM170R3WN20M	H73	KSEM1950HPCCCLM KC7410	H60	KSEM2200HPM KC7315	H52
KSEM150SEFM	H87	KSEM170R5WN20M	H73	KSEM1950HPGM KC7315	H54	KSEM2200PCM KC7135	H70, H111
KSEM1514HPG KC7315	H55	KSEM170R7WN20M	H75	KSEM1950HPGM KCPM45	H57	KSEM2200SPLM KCMS35	H64
KSEM1514HPG KCPM45	H58	KSEM170SEFM	H87	KSEM1950HPLM KC7320	H62	KSEM220R10WN25M	H75
KSEM1514HPL KC7320	H63	KSEM1735HPGM KC7315	H54	KSEM1950HPM KC7315	H52	KSEM220R3WN25M	H73
KSEM1514R3SS150	H78	KSEM1750FEGM KCPM45	H67	KSEM1950PCM KC7135	H70	KSEM220R5WN25M	H73
KSEM1514R3SSF150	H83	KSEM1750HPCCCLM KC7410	H60	KSEM1950SPLM KCMS35	H64	KSEM220R7WN25M	H75
KSEM1514R5SS150	H78	KSEM1750HPGM KC7315	H54	KSEM195R10WN25M	H75	KSEM220SEFM	H87
KSEM1514R5SSF150	H83	KSEM1750HPGM KCPM45	H57	KSEM195R3WN25M	H73	KSEM2210HPCCCLM KC7410	H60
KSEM1514SPL KCMS35	H65	KSEM1750HPLM KC7320	H62	KSEM195R5WN25M	H73	KSEM2210HPGM KC7315	H55
KSEM1530HPGM KC7315	H54	KSEM1750HPM KC7315	H52	KSEM195R7WN25M	H75	KSEM2215HPGM KC7315	H55
KSEM1530HPM KC7315	H52	KSEM1750PCGM KC7135	H70	KSEM195SEFM	H87	KSEM221R10WN25M	H75
KSEM1550HPCCCLM KC7410	H60	KSEM1750SPLM KCMS35	H64	KSEM1965HPGM KCPM45	H57	KSEM221R1WN25F45M	H85-86
KSEM1550HPGM KC7315	H54	KSEM175R10WN20M	H75	KSEM1970HPGM KC7315	H54	KSEM221R1WN25M	H72
KSEM1550HPGM KCPM45	H57	KSEM175R3WN20M	H73	KSEM2000FEGM KCPM45	H67	KSEM221R5WN25M	H73
KSEM1550HPLM KC7320	H62	KSEM175R5WN20M	H73	KSEM2000HPCCCLM KC7410	H60, H111	KSEM2250FEGM KCPM45	H67
KSEM1550HPM KC7315	H52	KSEM175R7WN20M	H75	KSEM2000HPGM KC7315	H54	KSEM2250HPCCCLM KC7410	H60
KSEM1550PCGM KC7135	H70	KSEM175SEFM	H87	KSEM2000HPGM KCPM45	H57	KSEM2250HPGM KC7315	H55
KSEM1550SPLM KCMS35	H64	KSEM1760HPCCCLM KC7410	H60	KSEM2000HPLM KC7320	H62	KSEM2250HPGM KCPM45	H57
KSEM155R10WN20M	H75	KSEM1760HPGM KC7315	H54	KSEM2000HPM KC7315	H52	KSEM2250HPLM KC7320	H62
KSEM155R3WN20M	H73	KSEM1770HPGM KC7315	H54	KSEM2000PCGM KC7135	H70, H111	KSEM2250HPM KC7315	H52
KSEM155R5WN20M	H73	KSEM1775HPLM KC7320	H62	KSEM2000SPLM KCMS35	H64	KSEM2250PCGM KC7135	H70
KSEM155R7WN20M	H75	KSEM1780HPLM KC7320	H62	KSEM200R10WN25M	H75	KSEM2250SPLM KCMS35	H64
KSEM155SEFM	H87	KSEM1790HPLM KC7320	H62	KSEM200R1WN25F45M	H85-86	KSEM225R10WN25M	H75
KSEM1560HPGM KC7315	H54	KSEM1800FEGM KCPM45	H67	KSEM200R1WN25M	H72	KSEM225R3WN25M	H74
KSEM1560HPLM KC7320	H62	KSEM1800HPCCCLM KC7410	H60, H111	KSEM200R3WN25M	H73	KSEM225R5WN25M	H74
KSEM1560HPM KC7315	H52	KSEM1800HPGM KC7315	H54	KSEM200R5WN25M	H73	KSEM225R7WN25M	H75
KSEM1560PCGM KC7135	H70	KSEM1800HPGM KCPM45	H57	KSEM200R7WN25M	H75	KSEM225SEFM	H87
KSEM1570HPGM KC7315	H54	KSEM1800HPLM KC7320	H62	KSEM200SEFM	H87	KSEM2277HPLM KC7320	H62
KSEM1570HPM KC7315	H52	KSEM1800HPM KC7315	H52	KSEM2010HPLM KC7320	H62	KSEM2300FEGM KCPM45	H67
KSEM1580HPGM KC7315	H54	KSEM1800PCM KC7135	H70, H111	KSEM2035HPLM KC7320	H62	KSEM2300HPCCCLM KC7410	H60, H111
KSEM1580HPGM KCPM45	H57	KSEM1800SPLM KCMS35	H64	KSEM2050FEGM KCPM45	H67	KSEM2300HPGM KC7315	H55
KSEM1580HPM KC7315	H52	KSEM180R10WN20M	H75	KSEM2050HPCCCLM KC7410	H60	KSEM2300HPGM KCPM45	H67
KSEM1580PCGM KC7135	H70	KSEM180R3WN20M	H73	KSEM2050HPGM KC7315	H54	KSEM2300HPLM KC7320	H62
KSEM1600FEGM KCPM45	H67	KSEM180R5WN20M	H73	KSEM2050HPGM KCPM45	H57	KSEM2300HPM KC7315	H52

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KSEM2300PCM KC7135	H70, H111	KSEM255R10WN32M	H75	KSEM281R10WN32M	H76	KSEM3100SPLM KCMS35	H65
KSEM2300SPLM KCMS35	H64	KSEM255R3WN32M	H74	KSEM281R1WN32F45M	H85-86	KSEM310R10WN32M	H76
KSEM2305HPGM KC7315	H55	KSEM255R5WN32M	H74	KSEM281R1WN32M	H72	KSEM310R3WN32M	H74
KSEM230R10WN25M	H75	KSEM255R7WN32M	H75	KSEM281R5WN32M	H74	KSEM310R5WN32M	H74
KSEM230R3WN25M	H74	KSEM255SEFM	H87	KSEM2835HPGM KCPM45	H58	KSEM310R7WN32M	H76
KSEM230R5WN25M	H74	KSEM2565HPLM KC7320	H63	KSEM2850FEGM KCPM45	H67	KSEM310SEFM	H87
KSEM230R7WN25M	H75	KSEM2565SPLM KCMS35	H64	KSEM2850HPCCLM KC7410	H61	KSEM3115HPGM KCPM45	H58
KSEM230SEFM	H87	KSEM2580FEGM KCPM45	H67	KSEM2850HPGM KC7315	H55	KSEM3125HPGM KC7315	H55
KSEM2310HPGM KC7315	H55	KSEM2600FEGM KCPM45	H67	KSEM2850HPGM KCPM45	H58	KSEM3150FEGM KCPM45	H67
KSEM2325HPGM KC7315	H55	KSEM2600HPCCLM KC7410	H60, H111	KSEM2850HPLM KC7320	H63	KSEM3150HPGM KC7315	H55
KSEM2330HPGM KC7315	H55	KSEM2600HPGM KC7315	H55	KSEM2850HPM KC7315	H53	KSEM3150HPGM KCPM45	H58
KSEM2350FEGM KCPM45	H67	KSEM2600HPGM KCPM45	H58	KSEM2850PCM KC7135	H70	KSEM3150HPLM KC7320	H63
KSEM2350HPCCLM KC7410	H60	KSEM2600HPLM KC7320	H63	KSEM2850SPLM KCMS35	H64	KSEM3150HPM KC7315	H53
KSEM2350HPGM KC7315	H55	KSEM2600HPM KC7315	H53	KSEM285R10WN32M	H76	KSEM3150SPLM KCMS35	H65
KSEM2350HPGM KCPM45	H57	KSEM2600PCM KC7135	H70, H111	KSEM285R3WN32M	H74	KSEM315R3WN32M	H74
KSEM2350HPLM KC7320	H62	KSEM2600SPLM KCMS35	H64	KSEM285R5WN32M	H74	KSEM315R5WN32M	H74
KSEM2350HPM KC7315	H52	KSEM260R10WN32M	H76	KSEM285R7WN32M	H76	KSEM315R7WN32M	H76
KSEM2350PCM KC7135	H70	KSEM260R3WN32M	H74	KSEM285SEFM	H87	KSEM315SEFM	H87
KSEM2350SPLM KCMS35	H64	KSEM260R5WN32M	H74	KSEM2900FEGM KCPM45	H67	KSEM3200FEGM KCPM45	H67
KSEM235R10WN25M	H75	KSEM260R7WN32M	H76	KSEM2900HPCCLM KC7410	H61, H111	KSEM3200HPCCLM KC7410	H61, H111
KSEM235R3WN25M	H74	KSEM260SEFM	H61	KSEM2900HPGM KC7315	H55	KSEM3200HPGM KC7315	H55
KSEM235R5WN25M	H74	KSEM261R10WN32M	H76	KSEM2900HPGM KCPM45	H58	KSEM3200HPGM KCPM45	H58
KSEM235R7WN25M	H75	KSEM261R1WN32F45M	H85-86	KSEM2900HPLM KC7320	H63	KSEM3200HPLM KC7320	H63
KSEM235SEFM	H87	KSEM261R1WN32M	H72	KSEM2900HPM KC7315	H53	KSEM3200HPM KC7315	H53
KSEM2370HPGM KCPM45	H57	KSEM261R5WN32M	H74	KSEM2900PCM KC7135	H70, H111	KSEM3200PCM KC7135	H70, H111
KSEM2400FEGM KCPM45	H67	KSEM2630SPLM KCMS35	H64	KSEM2900SPLM KCMS35	H65	KSEM3200SPLM KCMS35	H65
KSEM2400HPCCLM KC7410	H60, H111	KSEM2650FEGM KCPM45	H67	KSEM290R10WN32M	H76	KSEM320R10WN32M	H76
KSEM2400HPGM KC7315	H55	KSEM2650HPCCLM KC7410	H60	KSEM290R3WN32M	H74	KSEM320R3WN32M	H74
KSEM2400HPGM KCPM45	H57	KSEM2650HPGM KC7315	H55	KSEM290R5WN32M	H74	KSEM320R5WN32M	H74
KSEM2400HPLM KC7320	H62	KSEM2650HPGM KCPM45	H58	KSEM290R7WN32M	H76	KSEM320R7WN32M	H76
KSEM2400HPM KC7315	H52	KSEM2650HPLM KC7320	H63	KSEM290SEFM	H87	KSEM320SEFM	H87
KSEM2400PCM KC7135	H70, H111	KSEM2650HPM KC7315	H53	KSEM2950FEGM KCPM45	H67	KSEM321R1WD50F45M	H85-86
KSEM2400SPLM KCMS35	H64	KSEM2650PCM KC7135	H70	KSEM2950HPCCLM KC7410	H61	KSEM321R1WD50M	H72
KSEM240R10WN25M	H75	KSEM2650SPLM KCMS35	H64	KSEM2950HPGM KC7315	H55	KSEM321R3WD40M	H74
KSEM240R3WN25M	H74	KSEM2653HPGM KC7315	H55	KSEM2950HPGM KCPM45	H58	KSEM321R3WD50M	H74
KSEM240R5WN25M	H74	KSEM265R10WN32M	H76	KSEM2950HPLM KC7420	H63	KSEM321R5WD40M	H74
KSEM240R7WN25M	H75	KSEM265R3WN32M	H74	KSEM2950HPM KC7315	H53	KSEM321R5WD50M	H74
KSEM240SEFM	H87	KSEM265R5WN32M	H74	KSEM2950PCM KC7135	H70	KSEM3220HPGM KC7315	H55
KSEM241R10WN32M	H75	KSEM265R7WN32M	H76	KSEM2950SPLM KCMS35	H65	KSEM3234HPGM KC7315	H55
KSEM241R1WN32F45M	H85-86	KSEM265SEFM	H87	KSEM2955HPGM KC7315	H55	KSEM3250FEGM KCPM45	H67
KSEM241R1WN32M	H72	KSEM2670FEGM KCPM45	H67	KSEM295R10WN32M	H76	KSEM3250HPGM KC7315	H55
KSEM241R5WN32M	H74	KSEM2670HPGM KC7315	H55	KSEM295R3WN32M	H74	KSEM3250HPGM KCPM45	H58
KSEM2430HPGM KC7315	H55	KSEM2670HPLM KC7320	H63	KSEM295R5WN32M	H74	KSEM3250HPM KC7315	H53
KSEM2450FEGM KCPM45	H67	KSEM2700FEGM KCPM45	H67	KSEM295R7WN32M	H76	KSEM3250SPLM KCMS35	H65
KSEM2450HPCCLM KC7410	H60	KSEM2700HPCCLM KC7410	H60, H111	KSEM295SEFM	H87	KSEM3300FEGM KCPM45	H67
KSEM2450HPGM KC7315	H55	KSEM2700HPGM KC7315	H55	KSEM2973HPGM KC7315	H55	KSEM3300HPCCLM KC7410	H61, H111
KSEM2450HPGM KCPM45	H57	KSEM2700HPGM KCPM45	H58	KSEM3000FEGM KCPM45	H67	KSEM3300HPGM KC7315	H55
KSEM2450HPLM KC7320	H62	KSEM2700HPLM KC7320	H63	KSEM3000HPCCLM KC7410	H61, H111	KSEM3300HPGM KCPM45	H58
KSEM2450HPM KC7315	H52	KSEM2700HPM KC7315	H53	KSEM3000HPGM KC7315	H55	KSEM3300HPLM KC7320	H63
KSEM2450PCM KC7135	H70	KSEM2700PCM KC7135	H70, H111	KSEM3000HPGM KCPM45	H58	KSEM3300HPM KC7315	H53
KSEM2450SPLM KCMS35	H64	KSEM2700SPLM KCMS35	H64	KSEM3000HPLM KC7320	H63	KSEM3300PCM KC7135	H70, H111
KSEM245R10WN32M	H75	KSEM270R10WN32M	H76	KSEM3000HPM KC7315	H53	KSEM330R3WD40M	H74
KSEM245R3WN32M	H74	KSEM270R3WN32M	H74	KSEM3000PCM KC7135	H70, H111	KSEM330R3WD50M	H74
KSEM245R5WN32M	H74	KSEM270R5WN32M	H76	KSEM3000SPLM KCMS35	H65	KSEM330R5WD40M	H74
KSEM245R7WN32M	H75	KSEM270R7WN32M	H76	KSEM300R10WN32M	H76	KSEM330R5WD50M	H74
KSEM245SEFM	H87	KSEM270SEFM	H87	KSEM300R3WN32M	H74	KSEM3350FEGM KCPM45	H67
KSEM2470HPGM KC7315	H55	KSEM2750FEGM KCPM45	H67	KSEM300R5WN32M	H74	KSEM3350HPGM KC7315	H55
KSEM2500FEGM KCPM45	H67	KSEM2750HPCCLM KC7410	H60	KSEM300R7WN32M	H76	KSEM3350HPGM KCPM45	H58
KSEM2500HPCCLM KC7410	H60, H111	KSEM2750HPGM KC7315	H55	KSEM300SEFM	H87	KSEM3350SPLM KCMS35	H65
KSEM2500HPGM KC7315	H55	KSEM2750HPGM KCPM45	H58	KSEM3010WN32M	H76	KSEM3400FEGM KCPM45	H67
KSEM2500HPGM KCPM45	H58	KSEM2750HPLM KC7320	H63	KSEM301R10WN32M	H76	KSEM3400HPCCLM KC7410	H61, H111
KSEM2500HPLM KC7320	H62	KSEM2750HPM KC7315	H53	KSEM301R1WN32M	H72	KSEM3400HPGM KC7315	H55
KSEM2500HPM KC7315	H52	KSEM2750SPLM KCMS35	H64	KSEM301R5WN32M	H74	KSEM3400HPGM KCPM45	H58
KSEM2500PCM KC7135	H70, H111	KSEM275R10WN32M	H76	KSEM3050FEGM KCPM45	H67	KSEM3400HPLM KC7320	H63
KSEM2500SPLM KCMS35	H64	KSEM275R3WN32M	H74	KSEM3050HPCCLM KC7410	H61	KSEM3400HPM KC7315	H53
KSEM2507HPLM KC7320	H62	KSEM275R5WN32M	H74	KSEM3050HPGM KC7315	H55	KSEM3400PCM KC7135	H70, H111
KSEM250R10WN32M	H75	KSEM275R7WN32M	H76	KSEM3050HPGM KCPM45	H58	KSEM3400SPLM KCMS35	H65
KSEM250R3WN32M	H74	KSEM275SEFM	H87	KSEM3050HPLM KC7320	H63	KSEM340R3WD40M	H74
KSEM250R5WN32M	H74	KSEM2800FEGM KCPM45	H67	KSEM3050HPM KC7315	H53	KSEM340R3WD50M	H74
KSEM250R7WN32M	H75	KSEM2800HPCCLM KC7410	H61, H111	KSEM3050PCM KC7135	H70	KSEM340R5WD40M	H74
KSEM250SEFM	H87	KSEM2800HPGM KC7315	H55	KSEM3050SPLM KCMS35	H65	KSEM340R5WD50M	H74
KSEM2525SPLM KCMS35	H64	KSEM2800HPGM KCPM45	H58	KSEM305R3WN32M	H74	KSEM3450FEGM KCPM45	H67
KSEM2530SPLM KCMS35	H64	KSEM2800HPLM KC7320	H63	KSEM305R5WN32M	H74	KSEM3450HPGM KC7315	H55
KSEM2550FEGM KCPM45	H67	KSEM2800HPM KC7315	H53	KSEM305R7WN32M	H76	KSEM3450HPGM KCPM45	H58
KSEM2550HPCCLM KC7410	H60	KSEM2800PCM KC7135	H70, H111	KSEM305SEFM	H87	KSEM3450SPLM KCMS35	H65
KSEM2550HPGM KC7315	H55	KSEM2800SPLM KCMS35	H64	KSEM3100FEGM KCPM45	H67	KSEM3500FEGM KCPM45	H67
KSEM2550HPGM KCPM45	H58	KSEM280R10WN32M	H76	KSEM3100HPCCLM KC7410	H61, H111	KSEM3500HPCCLM KC7410	H61, H111
KSEM2550HPLM KC7320	H62	KSEM280R3WN32M	H74	KSEM3100HPGM KC7315	H55	KSEM3500HPGM KC7315	H55
KSEM2550HPM KC7315	H52	KSEM280R5WN32M	H74	KSEM3100HPGM KCPM45	H58	KSEM3500HPGM KCPM45	H58
KSEM2550PCM KC7135	H70	KSEM280R7WN32M	H76	KSEM3100HPLM KC7320	H63	KSEM3500HPLM KC7320	H63
KSEM2550SPLM KCMS35	H64	KSEM280SEFM	H87	KSEM3100HPM KC7315	H53	KSEM3500HPM KC7315	H53
KSEM2554HPGM KC7315	H55	KSEM2810HPLM KC7320	H63	KSEM3100PCM KC7135	H70, H111	KSEM3500PCM KC7135	H70, H111

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KSEM3500SPLM KCMS35	H65	KSEM4000HPCCLM KC7410	H61, H11	KSEM3100FDS28B1M	H108, H118	KSEM5600FDS56B1M	H109, H119
KSEM350R3WD40M	H74	KSEM4000HPGM KC7315	H65	KSEM3100HPGM KC7315	H111	KSEM5700FDS56A1M	H105, H116, H122
KSEM350R3WD50M	H74	KSEM4000HPGM KCPM45	H58	KSEM3125FDS80A1	H106, H117, H123	KSEM5700FDS56B1M	H109, H119
KSEM350R5WD40M	H74	KSEM4000PLM KC7320	H63	KSEM3125FDS80B1	H10, H120	KSEM5800FDS56A1M	H105, H116, H122
KSEM350R5WD50M	H74	KSEM4000HPM KC7315	H63	KSEM3200FDS32A1M	H104, H115, H122	KSEM5800FDS56B1M	H109, H119
KSEM3550FEGM KCPM45	H67	KSEM4000PCM KC7135	H70, H111	KSEM3200FDS32B1M	H108, H118	KSEM5900FDS56A1M	H105, H116, H122
KSEM3550HPGM KC7315	H65	KSEM4000SPLM KCMS35	H65	KSEM3200HPGM KC7315	H111	KSEM5900FDS56B1M	H109, H119
KSEM3550HPM KC7315	H53	KSEM400R3WD40M	H74	KSEM3250FDS80A1	H106, H117, H123	KSEM6000FDS56A1M	H105, H116, H122
KSEM3550SPLM KCMS35	H65	KSEM400R3WD50M	H74	KSEM3250FDS80B1	H10, H120	KSEM6000FDS56B1M	H109, H119
KSEM3600FEGM KCPM45	H68	KSEM400R5WD40M	H74	KSEM3300FDS32A1M	H104, H115, H122	KSEM6100FDS56A1M	H105, H116, H122
KSEM3600HPCCLM KC7410	H61, H111	KSEM400R5WD50M	H74	KSEM3300FDS32B1M	H108, H118	KSEM6100FDS56B1M	H109, H119
KSEM3600HPGM KC7315	H55	KSEMP10000FDS90A1M	H106, H117, H123	KSEM3300HPGM KC7315	H111	KSEM6200FDS56A1M	H105, H116, H122
KSEM3600HPGM KCPM45	H58	KSEMP10000FDS90B1M	H110, H120	KSEM3320FDS32A1M	H104, H115, H122	KSEM6200FDS56B1M	H109, H119
KSEM3600HPLM KC7320	H63	KSEMP1125FDS28A1	H104, H115, H122	KSEM3320FDS32B1M	H108, H118	KSEM6300FDS56A1M	H105, H116, H122
KSEM3600HPM KC7315	H53	KSEMP1125FDS28B1	H108, H118	KSEM3375FDS80A1	H106, H117, H123	KSEM6300FDS56B1M	H109, H119
KSEM3600HPM KC7315	H70, H111	KSEMP1156FDS28A1	H104, H115, H122	KSEM3375FDS80B1	H10, H120	KSEM6300FDS63A1M	H105, H116, H123
KSEM3600SPLM KCMS35	H65	KSEMP1156FDS28B1	H108, H118	KSEM3400FDS32A1M	H104, H115, H122	KSEM6400FDS56B1M	H109, H119
KSEM360R3WD40M	H74	KSEMP1188FDS28A1	H104, H115, H122	KSEM3400FDS32B1M	H108, H118	KSEM6500FDS56A1M	H105, H116, H122
KSEM360R3WD50M	H74	KSEMP1188FDS28B1	H108, H118	KSEM3400HPGM KC7315	H111	KSEM6500FDS56B1M	H109, H119
KSEM360R5WD40M	H74	KSEMP1219FDS28A1	H104, H115, H122	KSEM3500FDS32A1M	H104, H115, H122	KSEM6600FDS56A1M	H105, H116, H122
KSEM360R5WD50M	H74	KSEMP1219FDS28B1	H108, H118	KSEM3500FDS32B1M	H108, H118	KSEM6600FDS56B1M	H109, H119
KSEM361R11WDS0F45M	H85-86	KSEMP1250FDS32A1	H104, H115, H122	KSEM3500FDS80A1	H106, H117, H123	KSEM6700FDS56A1M	H105, H116, H122
KSEM361R11WDS0M	H72	KSEMP1250FDS32B1	H108, H118	KSEM3500FDS80B1	H10, H120	KSEM6700FDS56B1M	H109, H119
KSEM361R3WD40M	H74	KSEMP1300HPGM KC7315	H111	KSEM3500HPGM KC7315	H111	KSEM6800FDS56A1M	H105, H116, H122
KSEM361R3WD50M	H74	KSEMP1313FDS32A1	H104, H115, H122	KSEM3600FDS36A1M	H104, H116, H122	KSEM6800FDS56B1M	H109, H119
KSEM361R5WD40M	H74	KSEMP1313FDS32B1	H108, H118	KSEM3600FDS36B1M	H108, H118	KSEM6900FDS56A1M	H105, H116, H122
KSEM361R5WD50M	H74	KSEMP1375FDS32A1	H104, H115, H122	KSEM3600HPGM KC7315	H111	KSEM6900FDS56B1M	H109, H119
KSEM3650FEGM KCPM45	H68	KSEMP1375FDS32B1	H108, H118	KSEM3625FDS90A1	H106, H117, H123	KSEM7000FDS56A1M	H105, H116, H122
KSEM3650HPGM KC7315	H55	KSEMP1400HPGM KC7315	H111	KSEM3625FDS90B1	H10, H120	KSEM7000FDS56B1M	H109, H119
KSEM3650SPLM KCMS35	H65	KSEMP1438FDS36A1	H104, H116, H122	KSEM3700FDS36A1M	H104, H116, H122	KSEM7100FDS71A1M	H106, H117, H123
KSEM3700FEGM KCPM45	H68	KSEMP1438FDS36B1	H108, H118	KSEM3700FDS36B1M	H108, H118	KSEM7100FDS71B1M	H10, H119
KSEM3700HPCCLM KC7410	H61, H111	KSEMP1500FDS36A1	H104, H116, H122	KSEM3700HPGM KC7315	H111	KSEM7200FDS71A1M	H106, H117, H123
KSEM3700HPGM KC7315	H55	KSEMP1500FDS36B1	H108, H118	KSEM3750FDS36A1M	H104, H116, H122	KSEM7200FDS71B1M	H10, H119
KSEM3700HPGM KCPM45	H58	KSEMP1500HPGM KC7315	H111	KSEM3750FDS36B1M	H108, H118	KSEM7300FDS71A1M	H106, H117, H123
KSEM3700HPLM KC7320	H63	KSEMP1563FDS36A1	H104, H116, H122	KSEM3800FDS36A1M	H104, H116, H122	KSEM7300FDS71B1M	H10, H119
KSEM3700HPM KC7315	H70, H111	KSEMP1563FDS36B1	H108, H118	KSEM3800FDS36B1M	H108, H118	KSEM7400FDS71A1M	H106, H117, H123
KSEM3700SPLM KCMS35	H65	KSEMP1600HPGM KC7315	H111	KSEM3800HPGM KC7315	H111	KSEM7400FDS71B1M	H10, H119
KSEM370R3WD40M	H74	KSEMP1625FDS40A1	H104, H116, H122	KSEM3875FDS90A1	H106, H117, H123	KSEM7500FDS71A1M	H106, H117, H123
KSEM370R3WD50M	H74	KSEMP1625FDS40B1	H108, H118	KSEM3875FDS90B1	H10, H120	KSEM7500FDS71B1M	H10, H119
KSEM370R5WD40M	H74	KSEMP1700HPGM KC7315	H111	KSEM3875FDS90A1	H104, H116, H122	KSEM7600FDS71A1M	H106, H117, H123
KSEM370R5WD50M	H74	KSEMP1750FDS40A1	H104, H116, H122	KSEM3900FDS36A1M	H104, H116, H122	KSEM7600FDS71B1M	H10, H119
KSEM3750FEGM KCPM45	H68	KSEMP1750FDS40B1	H108, H118	KSEM3900FDS36B1M	H108, H118	KSEM7700FDS71A1M	H106, H117, H123
KSEM3750HPGM KC7315	H55	KSEMP1800HPGM KC7315	H111	KSEM3900HPGM KC7315	H111	KSEM7700FDS71B1M	H10, H119
KSEM3750HPGM KCPM45	H58	KSEMP1875FDS45A1	H105, H116, H122	KSEM3920FDS36A1M	H104, H116, H122	KSEM7800FDS71A1M	H106, H117, H123
KSEM3750HPM KC7320	H63	KSEMP1875FDS45B1	H109, H119	KSEM3920FDS36B1M	H108, H118	KSEM7800FDS71B1M	H10, H119
KSEM3750HPM KC7315	H53	KSEMP1900HPGM KC7315	H111	KSEM4000FDS40A1M	H104, H116, H122	KSEM7900FDS71A1M	H106, H117, H123
KSEM3750SPLM KCMS35	H65	KSEMP2000FDS50A1	H105, H116, H122	KSEM4000FDS40B1M	H108, H118	KSEM7900FDS71B1M	H10, H120
KSEM3800FEGM KCPM45	H68	KSEMP2000FDS50B1	H109, H119	KSEM4000FDS40A1M	H104, H116, H122	KSEM8000FDS80A1M	H106, H117, H123
KSEM3800HPCCLM KC7410	H61, H111	KSEMP2000HPGM KC7315	H111	KSEM4000FDS90A1	H106, H117, H123	KSEM8000FDS80B1M	H10, H120
KSEM3800HPGM KC7315	H55	KSEMP2100HPGM KC7315	H111	KSEM4000FDS90B1	H10, H120	KSEM8100FDS80A1M	H106, H117, H123
KSEM3800HPGM KCPM45	H58	KSEMP2125FDS50A1	H105, H116, H122	KSEM4000HPGM KC7315	H111	KSEM8100FDS80B1M	H10, H120
KSEM3800HPLM KC7320	H63	KSEMP2125FDS50B1	H109, H119	KSEM4100FDS40A1M	H104, H116, H122	KSEM8200FDS80A1M	H106, H117, H123
KSEM3800HPM KC7315	H53	KSEMP2200HPGM KC7315	H111	KSEM4100FDS40B1M	H108, H118	KSEM8200FDS80B1M	H10, H120
KSEM3800SPLM KCMS35	H65	KSEMP2250FDS56A1	H105, H116, H122	KSEM4200FDS40A1M	H104, H116, H122	KSEM8300FDS80A1M	H106, H117, H123
KSEM380R3WD40M	H74	KSEMP2250FDS56B1	H109, H119	KSEM4200FDS40B1M	H108, H118	KSEM8300FDS80B1M	H10, H120
KSEM380R3WD50M	H74	KSEMP2300HPGM KC7315	H111	KSEM4300FDS40A1M	H104, H116, H122	KSEM8400FDS80A1M	H106, H117, H123
KSEM380R5WD40M	H74	KSEMP2375FDS56A1	H105, H116, H122	KSEM4300FDS40B1M	H108, H118	KSEM8400FDS80B1M	H10, H120
KSEM380R5WD50M	H74	KSEMP2375FDS56B1	H109, H119	KSEM4300FDS40A1M	H104, H116, H122	KSEM8500FDS80A1M	H106, H117, H123
KSEM380R5WD50M	H74	KSEMP2400HPGM KC7315	H111	KSEM4400FDS40A1M	H104, H116, H122	KSEM8500FDS80B1M	H10, H120
KSEM3850FEGM KCPM45	H68	KSEMP2500FDS63A1	H105, H116, H123	KSEM4400FDS40B1M	H108, H118	KSEM8600FDS80A1M	H106, H117, H123
KSEM3850HPGM KC7315	H55	KSEMP2500FDS63B1	H109, H119	KSEM4400FDS45A1M	H105, H116, H122	KSEM8600FDS80B1M	H10, H120
KSEM3850HPM KC7315	H53	KSEMP2500HPGM KC7315	H111	KSEM4400FDS45B1M	H109, H119	KSEM8700FDS80A1M	H106, H117, H123
KSEM3850SPLM KCMS35	H65	KSEMP2600HPGM KC7315	H111	KSEM4600FDS45A1M	H105, H116, H122	KSEM8700FDS80B1M	H10, H120
KSEM3900FEGM KCPM45	H68	KSEMP2625FDS63A1	H105, H116, H123	KSEM4600FDS45B1M	H109, H119	KSEM8800FDS80A1M	H106, H117, H123
KSEM3900HPGM KC7315	H55	KSEMP2625FDS63B1	H109, H119	KSEM4700FDS45A1M	H105, H116, H122	KSEM8800FDS80B1M	H10, H120
KSEM3900HPCCLM KC7410	H61, H111	KSEMP2700HPGM KC7315	H111	KSEM4700FDS45B1M	H109, H119	KSEM8900FDS80A1M	H106, H117, H123
KSEM3900HPGM KC7315	H55	KSEMP2750FDS63A1	H105, H116, H123	KSEM4800FDS45A1M	H105, H116, H122	KSEM8900FDS80B1M	H10, H120
KSEM3900HPM KCPM45	H58	KSEMP2750FDS63B1	H109, H119	KSEM4800FDS45B1M	H109, H119	KSEM9000FDS90A1M	H106, H117, H123
KSEM3900HPLM KC7320	H63	KSEMP2800FDS28A1M	H104, H115, H122	KSEM4900FDS45A1M	H105, H116, H122	KSEM9000FDS90B1M	H10, H120
KSEM3900HPM KC7315	H53	KSEMP2800FDS28B1M	H108, H118	KSEM4900FDS45B1M	H109, H119	KSEM9100FDS90A1M	H106, H117, H123
KSEM3900PCM KC7135	H70, H111	KSEMP2800HPGM KC7315	H111	KSEM5000FDS50A1M	H105, H116, H122	KSEM9100FDS90B1M	H10, H120
KSEM3900SPLM KCMS35	H65	KSEMP2875FDS71A1	H106, H116, H123	KSEM5000FDS50B1M	H109, H119	KSEM9200FDS90A1M	H106, H117, H123
KSEM390R3WD40M	H74	KSEMP2875FDS71B1	H110, H119	KSEM5100FDS50A1M	H105, H116, H122	KSEM9200FDS90B1M	H10, H120
KSEM390R3WD50M	H74	KSEMP2900FDS28A1M	H104, H115, H122	KSEM5100FDS50B1M	H109, H119	KSEM9300FDS90A1M	H106, H117, H123
KSEM390R5WD40M	H74	KSEMP2900FDS28B1M	H108, H118	KSEM5200FDS50A1M	H105, H116, H122	KSEM9300FDS90B1M	H10, H120
KSEM390R5WD50M	H74	KSEMP2900HPGM KC7315	H111	KSEM5200FDS50B1M	H109, H119	KSEM9400FDS90A1M	H106, H117, H123
KSEM3920HPCCLM KC7410	H61	KSEMP3000FDS28A1M	H104, H115, H122	KSEM5300FDS50A1M	H105, H116, H122	KSEM9400FDS90B1M	H10, H120
KSEM3950FEGM KCPM45	H68	KSEMP3000FDS28B1M	H108, H118	KSEM5400FDS50A1M	H105, H116, H122	KSEM9500FDS90A1M	H106, H117, H123
KSEM3950HPGM KC7315	H55	KSEMP3000FDS71A1	H106, H117, H123	KSEM5400FDS50B1M	H109, H119	KSEM9500FDS90B1M	H10, H120
KSEM3950HPM KC7315	H53	KSEMP3000FDS71B1	H110, H119	KSEM5500FDS50A1M	H105, H116, H122	KSEM9600FDS90A1M	H106, H117, H123
KSEM3950SPLM KCMS35	H65	KSEMP3000HPGM KC7315	H111	KSEM5500FDS50B1M	H109, H119	KSEM9600FDS90B1M	H10, H120
KSEM3975HPGM KC7315	H55	KSEMP3100FDS28A1M	H104, H115, H122	KSEM5600FDS56A1M	H105, H116, H122	KSEM9700FDS90A1M	H106, H117, H123
KSEM4000FEGM KCPM45	H68						

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KSEMP9700FDS90B1M.....	H110, H120	KSQM1250F5345M3.....	S44	KSSIR600SD430M8.....	T113	KSSZR400SD430F5A09.....	V141
KSEMP9800FDS90A1M.....	H106, H117, H123	KSQM125203C1000F53X.....	S44	KSSIR630SE44345C6.....	S39	KSSZR400SD430F6A09.....	V141
KSEMP9800FDS90B1M.....	H110, H120	KSQM1500F5345F3.....	S44	KSSIR630SE44345M6.....	S39	KSSZR400SD430M5A08.....	V141
KSEMP9900FDS90A1M.....	H106, H117, H123	KSQM1500F5345M3.....	S44	KSSIR787SE44345C10.....	S39	KSSZR400SD430M6A08.....	V141
KSEMP9900FDS90B1M.....	H110, H120	KSQM1502040F53S050X.....	S45	KSSIR787SE44345M10.....	S39	KSSZR500SD430M6A09.....	V141
KSHR1000HN5345C10.....	S20	KSQM2000F5345M3.....	S45	KSSIR800SD430C10.....	T113	KST115115AS.....	K42
KSHR1000HN7545C10.....	S24	KSQM2002060F53S075X.....	S45	KSSIR800SD430F10.....	T113	KST1135155AS.....	K42
KSHR1000HN7545M10.....	S24	KSQM2500F5345M3.....	S45	KSSIR800SD430M10.....	T113	KST175200AS.....	K42
KSHR1000O2C075HN06L480.....	S9	KSQM2500F6445F3.....	S50	KSSM87D200SN440S075Z05.....	S58	KST175200RK.....	K43
KSHR1000O2W075HN06.....	S8	KSQM2500F6445M3.....	S50	KSSM87D300SN440S100Z07.....	S58	KST130350AS.....	K43
KSHR1000O3C075HN06L480.....	S9	KSQM2502070F53S075X.....	S45	KSSM87D300SN440S100Z09.....	S58	KST200CS.....	K43
KSHR1000O3C100HN06L800.....	S9	KSQM3000F5345M4.....	S45	KSSM87D400SN440S150Z08.....	S58	KST250250AS.....	K42
KSHR1000O3W075HN06.....	S8	KSQM3000F6445F4.....	S50	KSSM87D400SN440S150Z11.....	S58	KST250250FK.....	K43
KSHR1200HN5345C10.....	S20	KSQM3000F6445M4.....	S50	KSSM87D600SN440S150Z12.....	S58	KST250CS.....	K43
KSHR1250O3C100HN06L520.....	S9	KSQM3002090F53S100X.....	S45	KSSM87D600SN440S150Z16.....	S58	KST300350AS.....	K42
KSHR1250O3W100HN06.....	S8	KSQM4000F5345M5.....	S45	KSSM88D200SN3125S075Z05.....	S56	KST300350FK.....	K43
KSHR1250O4C100HN06L520.....	S9	KSQM4000F6445F5.....	S50	KSSM88D200SN3125S075Z06.....	S56	KST300CS.....	K43
KSHR1250O4W100HN06.....	S8	KSQM4000F6445M5.....	S50	KSSM88D300SN3125S100Z07.....	S56	KST350CS.....	K43
KSHR150HN4345F2.....	S10	KSQM5000F5345F6.....	S45	KSSM88D300SN3125S100Z09.....	S56	KT15.....	K76, K89-90, S122-123, V121-123
KSHR150HN4345M3.....	S10	KSQM5000F5345M6.....	S45	KSSM88D400SN3125S100Z08.....	S56	KT20.....	V121-123, V132-133
KSHR200HN4345C3.....	S10	KSQM5000F6445F6.....	S50	KSSP200R3SD43L125.....	T120	KT25.....	C143, C145
KSHR200HN4345F3.....	S10	KSQM6000F6445F8.....	S50	KSSP200R3SD43L168.....	T120	KT27.....	K77-78, K88
KSHR200HN4345M3.....	S10	KSQM6000F6445M8.....	S50	KSSP200R3SD43L200HC.....	T120	KT30.....	V121-123, V132
KSHR200HN5345C3.....	S20	KSRM125R430C125L1000.....	V82	KSSP200R3SD43W125L169.....	T119	KT30L.....	C143, C145
KSHR200HN5345M3.....	S20	KSRM125R430C125L600.....	V82	KSSP250R3SD43L200.....	T120	KT6.....	V123
KSHR250HN4345C3.....	S10	KSRM125R430C125L1000.....	V82	KSSP300R4SD43L200.....	T120	KT8.....	K76, V122-123
KSHR250HN4345F3.....	S10	KSRM125R430M116L150.....	V81	KSSP300R4SD43L400HC.....	T120	KT9.....	S64, S67, S70
KSHR250HN5345C3.....	S20	KSRM150R430C125L1000.....	V82	KSSR150SP10T30F2.....	T109	KTF50237R03SS031.....	H20
KSHR250HN5345M3.....	S20	KSRM150R430C125L600.....	V82	KSSR200SP10T30F3.....	T109	KTF50237R06SS031.....	H20
KSHR250HN5345F3.....	S10	KSRM150R430M116L150.....	V81	KSSR250SN434M3.....	S88	KTF50237R08SS031.....	H20
KSHR300HN4345C4.....	S10	KSRM200R430S075L197.....	V83	KSSR250SP10T30F4.....	T109	KTF50249R03SS031.....	H20
KSHR300HN4345F4.....	S10	KSRM200R430S075L197.....	V83	KSSR300SN434M4.....	S88	KTF50249R06SS031.....	H20
KSHR300HN5345C4.....	S20	KSRM250R430S075L197.....	V83	KSSR300SP10T30F4.....	T109	KTF50249R08SS031.....	H20
KSHR300HN5345F4.....	S10	KSRM250R430S075L197.....	V83	KSSR400SN434M5.....	S88	KTF50260R03SS031.....	H20
KSHR300HN5345M4.....	S20	KSRM300R430S100L197.....	V83	KSSR400SP10T30F5.....	T109	KTF50260R06SS031.....	H20
KSHR300HN5345F5.....	S20	KSRM300R430S100L197.....	V83	KSSS1000ASD43N709-813.....	U35	KTF50260R08SS031.....	H20
KSHR300HN5345M5.....	S20	KSSC551-630L.....	U28-29	KSSS1000ASD43N750.....	U33	KTF50276R03SS031.....	H20
KSHR300HN7545M4.....	S24	KSSC551-630R.....	U28-29	KSSS1000ASD43R750.....	U32	KTF50276R06SS031.....	H20
KSHR400HN4345C6.....	S10	KSSC630-709L.....	U28	KSSS1200ASD43N709-813.....	U35	KTF50276R08SS031.....	H20
KSHR400HN4345F6.....	S10	KSSC630-709R.....	U28	KSSS1200ASD43N813-917.....	U36	KTF50296R03SS031.....	H20
KSHR400HN4345M6.....	S10	KSSC709-813L.....	U35, U37	KSSS1200ASP10N630-709.....	U28	KTF50296R06SS031.....	H20
KSHR400HN5345C5.....	S20	KSSC709-813R.....	U35, U37	KSSS1200BSD43N709-813.....	U37	KTF50296R08SS031.....	H20
KSHR400HN5345F5.....	S20	KSSC709813LX.....	U35	KSSS400ASP10L625.....	U25	KTF50315R03SS038.....	H20
KSHR400HN5345M5.....	S20	KSSC709813RX.....	U35	KSSS400ASP10N625-630.....	U28	KTF50315R06SS038.....	H20
KSHR400HN7545M5.....	S24	KSSC813-917L.....	U36	KSSS400ASP10N625.....	U26	KTF50315R08SS038.....	H20
KSHR500HN4345C6.....	S10	KSSC813-917R.....	U36	KSSS400BSP10N625-630.....	U29	KTF50335R03SS038.....	H20
KSHR500HN4345F6.....	S10	KSSC813917LX.....	U36	KSSS400BSP10N625.....	U27	KTF50335R06SS038.....	H20
KSHR500HN4345M6.....	S10	KSSC813917RX.....	U36	KSSS400BSP10N625.....	U27	KTF50335R08SS038.....	H20
KSHR500HN5345C6.....	S20	KSSCP551-709.....	U28-29	KSSS500ASD43N709-813.....	U35	KTF50355R03SS038.....	H20
KSHR500HN5345F6.....	S20	KSSCP709-917.....	U35-37	KSSS500ASD43N709-813.....	U35	KTF50355R06SS038.....	H20
KSHR500HN5345M6.....	S20	KSSIR1000SD430M10.....	T113	KSSS500ASD43N709-813.....	U35	KTF50355R08SS038.....	H20
KSHR500HN7545M6.....	S24	KSSIR197SE44345C3.....	S39	KSSS500ASP10L625.....	U25	KTF50394R03SS044.....	H20
KSHR600HN5345C8.....	S20	KSSIR197SE44345M3.....	S39	KSSS500ASP10N625.....	U26	KTF50394R06SS044.....	H20
KSHR600HN5345F8.....	S20	KSSIR200SD430C3.....	T113	KSSS500ASP10N625.....	U26	KTF50394R08SS044.....	H20
KSHR600HN5345M8.....	S20	KSSIR200SD430F3.....	T113	KSSS500ASP10N625.....	U26	KTF50414R03SS044.....	H20
KSHR600HN7545M8.....	S24	KSSIR200SD430M3.....	T113	KSSS500ASP10N625.....	U26	KTF50414R06SS044.....	H20
KSHR800HN5345C10.....	S20	KSSIR248SE44345C4.....	S39	KSSS500ASP10N625.....	U26	KTF50414R08SS044.....	H20
KSHR800HN7545M10.....	S24	KSSIR248SE44345M4.....	S39	KSSS600ASD43L750.....	U32	KTF50434R03SS044.....	H20
KSHRH150HN43F2.....	S14	KSSIR250SD430F4.....	T113	KSSS600ASD43N709-813.....	U35	KTF50434R06SS044.....	H20
KSHRH150HN43M2.....	S14	KSSIR250SD430M4.....	T113	KSSS600ASD43N750.....	U33	KTF50434R08SS044.....	H20
KSHRH200HN43C3.....	S14	KSSIR300SD430C4.....	T113	KSSS600ASD43N813-917.....	U36	KTF50453R03SS050.....	H20
KSHRH200HN43M3.....	S14	KSSIR300SD430F4.....	T113	KSSS600ASD43R750.....	U32	KTF50453R06SS050.....	H20
KSHRH250HN43M3.....	S14	KSSIR300SD430M4.....	T113	KSSS600ASP10N551-630.....	U28	KTF50453R08SS050.....	H20
KSHRH300HN43C4.....	S14	KSSIR315SE44345C4.....	S39	KSSS600ASP10N551-630.....	U28	KTF50473R03SS050.....	H20
KSHRH300HN43M4.....	S14	KSSIR315SE44345M4.....	S39	KSSS600BSP10N625.....	U34	KTF50473R06SS050.....	H20
KSHRH400HN43C6.....	S14	KSSIR394SE44345C5.....	S39	KSSS600BSP10N625.....	U34	KTF50473R08SS050.....	H20
KSHRH400HN43M6.....	S14	KSSIR394SE44345M5.....	S39	KSSW551-630.....	U28-29	KTF50493R03SS050.....	H20
KSHRH500HN43C6.....	S14	KSSIR400SD430C5.....	T113	KSSW630-709.....	U28	KTF50493R06SS050.....	H20
KSHRH500HN43M6.....	S14	KSSIR400SD430F5.....	T113	KSSW709-813.....	U35, U37	KTF50512R03SS056.....	H20
KSHRH1000O2C075HN43L480.....	S4	KSSIR400SD430M5.....	T113	KSSW813-917.....	U36	KTF50512R06SS056.....	H20
KSHRH1000O3C075HN43L480.....	S4	KSSIR400SD430M6.....	T113	KSSZR200SD430C3A04.....	V141	KTF50512R08SS056.....	H20
KSHRH1250O4C100HN43L520.....	S4	KSSIR492SE44345C6.....	S39	KSSZR250SD430C3A05.....	V141	KTF5052R03SS056.....	H20
KSHRH150HN43F3.....	S5	KSSIR492SE44345M6.....	S39	KSSZR250SD430M3A06.....	V141	KTF5052R06SS056.....	H20
KSHRH200HN43M3.....	S5	KSSIR500SD430C6.....	T113	KSSZR250SD430M3A06.....	V141	KTF5052R08SS056.....	H20
KSHRH200HN5315C3.....	S17	KSSIR500SD430F6.....	T113	KSSZR300SD430C4A05.....	V141	KTF50552R03SS056.....	H20
KSHRH250HN43M3.....	S5	KSSIR500SD430M6.....	T113	KSSZR300SD430F4A07.....	V141	KTF50552R06SS056.....	H20
KSHRH250HN5315C3.....	S17	KSSIR500SD430M6.....	T113	KSSZR300SD430M4A06.....	V141	KTF50552R08SS056.....	H20
KSHRH300HN43M4.....	S5	KSSIR600SD430C6.....	T113	KSSZR400SD430C5A07.....	V141	KTF50571R03SS063.....	H20
KSHRH300HN5315C4.....	S17	KSSIR600SD430F6.....	T113	KSSZR400SD430C6A07.....	V141		
KSHRH400HN5315C5.....	S17	KSSIR600SD430M6.....	T113				
KSHRH500HN5315C6.....	S17						
KSHRH600HN5315C8.....	S17						
KSQM1250F5345F5.....	S44						

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KTFS0571R05SS063	H20	KTFS095R03SCF12M	H19	KTFS145R01SS16M	H18	KTFS02813HPG KCP15A	H8
KTFS0571R08SS063	H20	KTFS095R03SS10M	H18	KTFS145R03SCF16M	H19	KTFS02900HPG KCP15A	H8
KTFS0591R03SS063	H20	KTFS095R05SCF12M	H19	KTFS145R03SS16M	H18	KTFS02969HPG KCP15A	H8
KTFS0591R05SS063	H20	KTFS095R05SS10M	H18	KTFS145R05SCF16M	H19	KTFS03125HPG KCP15A	H8
KTFS0591R08SS063	H20	KTFS095R08SCF12M	H19	KTFS145R05SS16M	H18	KTFS03214HPG KCP15A	H8
KTFS060R01SS08M	H18	KTFS095R08SS10M	H18	KTFS145R08SCF16M	H19	KTFS03230HPG KCP15A	H8
KTFS060R03SS08M	H18	KTFS095R12SF12M	H18	KTFS145R08SS16M	H18	KTFS03281HPG KCP15A	H8
KTFS060R05SS08M	H18	KTFS0985R03SCF100	H20	KTFS145R12SF16M	H18	KTFS03320HPG KCP15A	H8
KTFS060R08SS08M	H18	KTFS0985R05SCF100	H20	KTFS150R01SS16M	H18	KTFS03390HPG KCP15A	H8
KTFS060R12SF12M	H18	KTFS0985R08SCF100	H20	KTFS150R03SCF20M	H19	KTFS03438HPG KCP15A	H8
KTFS063R03SS063	H20	KTFS100R01SS12M	H18	KTFS150R03SS16M	H18	KTFS03480HPG KCP15A	H8
KTFS063R05SS063	H20	KTFS100R03SCF16M	H19	KTFS150R05SCF20M	H19	KTFS03580HPG KCP15A	H8
KTFS063R08SS063	H20	KTFS100R03SS12M	H18	KTFS150R05SS16M	H18	KTFS03594HPG KCP15A	H8
KTFS063R01SS08M	H18	KTFS100R05SCF16M	H19	KTFS150R08SCF20M	H19	KTFS03680HPG KCP15A	H8
KTFS063R03SS08M	H18	KTFS100R05SS12M	H18	KTFS150R08SS16M	H18	KTFS03750HPG KCP15A	H8
KTFS063R05SS08M	H18	KTFS100R08SCF16M	H19	KTFS150R12SF20M	H18	KTFS03763HPG KCP15A	H8
KTFS063R08SS08M	H18	KTFS100R08SS12M	H18	KTFS160R01SS16M	H18	KTFS03906HPG KCP15A	H8
KTFS063R12SF12M	H18	KTFS100R12SF16M	H18	KTFS160R03SCF20M	H19	KTFS03946HPG KCP15A	H8
KTFS066R01SS08M	H18	KTFS105R01SS12M	H18	KTFS160R03SS16M	H18	KTFS03970HPG KCP15A	H8
KTFS066R03SS08M	H18	KTFS105R03SCF16M	H19	KTFS160R05SCF20M	H19	KTFS04040HPG KCP15A	H8
KTFS066R05SS08M	H18	KTFS105R03SS12M	H18	KTFS160R05SS16M	H18	KTFS04063HPG KCP15A	H8
KTFS066R08SS08M	H18	KTFS105R05SCF16M	H19	KTFS160R08SCF20M	H19	KTFS04130HPG KCP15A	H8
KTFS066R12SF12M	H18	KTFS105R05SS12M	H18	KTFS160R08SS16M	H18	KTFS04219HPG KCP15A	H8
KTFS067R03SS075	H20	KTFS105R08SCF16M	H19	KTFS160R12SF20M	H18	KTFS04375HPG KCP15A	H8
KTFS067R05SS075	H20	KTFS105R08SS12M	H18	KTFS170R01SS20M	H18	KTFS04531HPG KCP15A	H9
KTFS067R08SS075	H20	KTFS105R12SF16M	H18	KTFS170R03SCF20M	H19	KTFS04688HPG KCP15A	H9
KTFS0709R03SS075	H20	KTFS110R01SS12M	H18	KTFS170R03SS20M	H18	KTFS04844HPG KCP15A	H9
KTFS0709R05SS075	H20	KTFS110R03SCF16M	H19	KTFS170R05SCF20M	H19	KTFS04911HPG KCP15A	H9
KTFS0709R08SS075	H20	KTFS110R03SS12M	H18	KTFS170R05SS20M	H18	KTFS05000HPG KCP15A	H9
KTFS070R01SS08M	H18	KTFS110R05SCF16M	H19	KTFS170R08SCF20M	H19	KTFS05156HPG KCP15A	H9
KTFS070R03SS08M	H18	KTFS110R05SS12M	H18	KTFS170R08SS20M	H18	KTFS05312HPG KCP15A	H9
KTFS070R05SS08M	H18	KTFS110R08SCF16M	H19	KTFS170R12SF20M	H18	KTFS05469HPG KCP15A	H9
KTFS070R08SS08M	H18	KTFS110R08SS12M	H18	KTFS180R01SS20M	H18	KTFS05471HPG KCP15A	H9
KTFS070R12SF12M	H18	KTFS110R12SF16M	H18	KTFS180R03SCF25M	H19	KTFS05625HPG KCP15A	H9
KTFS0749R03SS075	H20	KTFS115R01SS12M	H18	KTFS180R03SS20M	H18	KTFS05774HPG KCP15A	H9
KTFS0749R05SS075	H20	KTFS115R03SCF16M	H19	KTFS180R05SCF25M	H19	KTFS05781HPG KCP15A	H9
KTFS0749R08SS075	H20	KTFS115R03SS12M	H18	KTFS180R05SS20M	H18	KTFS05938HPG KCP15A	H9
KTFS075R01SS08M	H18	KTFS115R05SCF16M	H19	KTFS180R08SCF25M	H19	KTFS06000HPGM KCP15A	H8
KTFS075R03SS08M	H18	KTFS115R05SS12M	H18	KTFS180R08SS20M	H18	KTFS06094HPG KCP15A	H9
KTFS075R05SS08M	H18	KTFS115R08SCF16M	H19	KTFS180R12SF25M	H18	KTFS06100HPGM KCP15A	H8
KTFS075R08SS08M	H18	KTFS115R08SS12M	H18	KTFS190R01SS20M	H18	KTFS06200HPGM KCP15A	H8
KTFS075R12SF12M	H18	KTFS115R12SF16M	H18	KTFS190R03SCF25M	H19	KTFS06250HPG KCP15A	H9
KTFS0788R03SCF100	H20	KTFS120R01SS14M	H18	KTFS190R03SS20M	H18	KTFS06300HPGM KCP15A	H8
KTFS0788R05SCF100	H20	KTFS120R03SCF16M	H19	KTFS190R05SCF25M	H19	KTFS06310HPG KCP15A	H9
KTFS0788R08SCF100	H20	KTFS120R03SS14M	H18	KTFS190R05SS20M	H18	KTFS06340HPG KCP15A	H9
KTFS080R01SS10M	H18	KTFS120R05SCF16M	H19	KTFS190R08SCF25M	H19	KTFS06400HPGM KCP15A	H8
KTFS080R03SCF12M	H19	KTFS120R05SS14M	H18	KTFS190R08SS20M	H18	KTFS06406HPG KCP15A	H9
KTFS080R03SS10M	H18	KTFS120R08SCF16M	H19	KTFS190R12SF25M	H18	KTFS06500HPGM KCP15A	H8
KTFS080R05SCF12M	H19	KTFS120R08SS14M	H18	KTFS200R01SCF25M	H19	KTFS06530HPGM KCP15A	H8
KTFS080R05SS10M	H18	KTFS120R12SF16M	H18	KTFS200R03SCF25M	H19	KTFS06563HPG KCP15A	H9
KTFS080R08SCF12M	H19	KTFS125R01SS14M	H18	KTFS200R05SCF25M	H19	KTFS06600HPGM KCP15A	H8
KTFS080R08SS10M	H18	KTFS125R03SCF16M	H19	KTFS200R08SCF25M	H19	KTFS06700HPGM KCP15A	H8
KTFS080R12SF12M	H18	KTFS125R03SS14M	H18	KTFS200R12SCF25M	H19	KTFS06719HPG KCP15A	H9
KTFS0827R03SCF100	H20	KTFS125R05SCF16M	H19	KTFS210R01SCF25M	H19	KTFS06800HPGM KCP15A	H8
KTFS0827R05SCF100	H20	KTFS125R05SS14M	H18	KTFS210R03SCF25M	H19	KTFS06875HPG KCP15A	H9
KTFS0827R08SCF100	H20	KTFS125R08SCF16M	H19	KTFS210R05SCF25M	H19	KTFS06900HPGM KCP15A	H8
KTFS085R01SS10M	H18	KTFS125R08SS14M	H18	KTFS210R08SCF25M	H19	KTFS07000HPGM KCP15A	H8
KTFS085R03SCF12M	H19	KTFS125R12SF16M	H18	KTFS210R12SCF25M	H19	KTFS07031HPG KCP15A	H9
KTFS085R03SS10M	H18	KTFS130R01SS14M	H18	KTFS220R01SCF25M	H19	KTFS07100HPGM KCP15A	H8
KTFS085R05SCF12M	H19	KTFS130R03SCF16M	H19	KTFS220R03SCF25M	H19	KTFS07188HPG KCP15A	H9
KTFS085R05SS10M	H18	KTFS130R03SS14M	H18	KTFS220R05SCF25M	H19	KTFS07200HPGM KCP15A	H8
KTFS085R08SCF12M	H19	KTFS130R05SCF16M	H19	KTFS220R08SCF25M	H19	KTFS07344HPG KCP15A	H8
KTFS085R08SS10M	H18	KTFS130R05SS14M	H18	KTFS220R12SCF25M	H19	KTFS07400HPGM KCP15A	H8
KTFS085R12SF12M	H18	KTFS130R08SCF16M	H19	KTFS230R01SCF25M	H19	KTFS07500HPG KCP15A	H9
KTFS0867R03SCF100	H20	KTFS130R08SS14M	H18	KTFS230R03SCF25M	H19	KTFS07500HPGM KCP15A	H8
KTFS0867R05SCF100	H20	KTFS130R12SF16M	H18	KTFS230R05SCF25M	H19	KTFS07501HPG KCP15A	H9
KTFS0867R08SCF100	H20	KTFS135R01SS14M	H18	KTFS230R08SCF25M	H19	KTFS07580HPG KCP15A	H9
KTFS0906R03SCF100	H20	KTFS135R03SCF16M	H19	KTFS230R12SCF25M	H19	KTFS07590HPG KCP15A	H8
KTFS0906R05SCF100	H20	KTFS135R03SS14M	H18	KTFS240R01SCF25M	H19	KTFS07600HPGM KCP15A	H8
KTFS0906R08SCF100	H20	KTFS135R05SCF16M	H19	KTFS240R03SCF25M	H19	KTFS07620HPG KCP15A	H9
KTFS090R01SS10M	H18	KTFS135R05SS14M	H18	KTFS240R05SCF25M	H19	KTFS07656HPG KCP15A	H10
KTFS090R03SCF12M	H19	KTFS135R08SCF16M	H19	KTFS240R08SCF25M	H19	KTFS07700HPGM KCP15A	H8
KTFS090R03SS10M	H18	KTFS135R08SS14M	H18	KTFS240R12SCF25M	H19	KTFS07800HPGM KCP15A	H8
KTFS090R05SCF12M	H19	KTFS135R12SF16M	H18	KTFS250R01SCF25M	H19	KTFS07813HPG KCP15A	H10
KTFS090R05SS10M	H18	KTFS140R01SS16M	H18	KTFS250R03SCF25M	H19	KTFS07881HPG KCP15A	H8
KTFS090R08SCF12M	H19	KTFS140R03SCF16M	H19	KTFS250R05SCF25M	H19	KTFS07969HPG KCP15A	H10
KTFS090R08SS10M	H18	KTFS140R03SS16M	H18	KTFS250R08SCF25M	H19	KTFS08000HPGM KCP15A	H8
KTFS090R12SF12M	H18	KTFS140R05SCF16M	H19	KTFS250R12SCF25M	H19	KTFS08001HPGM KCP15A	H8
KTFS0945R03SCF100	H20	KTFS140R05SS16M	H18	KTFS02500HPG KCP15A	H8	KTFS08125HPG KCP15A	H10
KTFS0945R05SCF100	H20	KTFS140R08SCF16M	H19	KTFS02610HPG KCP15A	H8	KTFS08300HPGM KCP15A	H8
KTFS0945R08SCF100	H20	KTFS140R08SS16M	H18	KTFS02656HPG KCP15A	H8	KTFS08400HPGM KCP15A	H8
KTFS095R01SS10M	H18	KTFS140R12SF16M	H18	KTFS02720HPG KCP15A	H8	KTFS08438HPG KCP15A	H10

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KTFS08500HPGM KCP15A	H8	KTFS15900HPGM KCP15A	H9	KTFS24000HPGM KCP15A	H10	KTFT07188HPC KC7410	H13
KTFS08594HPG KCP15A	H10	KTFS16000HPGM KCP15A	H9	KTFS24100HPGM KCP15A	H10	KTFT07188HPL KCMS15	H16
KTFS08600HPGM KCP15A	H8	KTFS16080HPGM KCP15A	H9	KTFS24200HPGM KCP15A	H10	KTFT07300HPC KC7410	H12
KTFS08700HPGM KCP15A	H8	KTFS16100HPGM KCP15A	H9	KTFS24300HPGM KCP15A	H10	KTFT07344HPL KCMS15	H16
KTFS08750HPG KCP15A	H10	KTFS16200HPGM KCP15A	H9	KTFS24400HPGM KCP15A	H10	KTFT07500HPC KC7410	H13
KTFS08800HPGM KCP15A	H8	KTFS16300HPGM KCP15A	H9	KTFS24500HPGM KCP15A	H10	KTFT07500HPC KC7410	H12
KTFS08900HPGM KCP15A	H8	KTFS16400HPGM KCP15A	H9	KTFS24600HPGM KCP15A	H10	KTFT07500HPL KCMS15	H16
KTFS09000HPGM KCP15A	H8	KTFS16500HPGM KCP15A	H9	KTFS24700HPGM KCP15A	H10	KTFT07500HPL KCMS15	H15
KTFS09100HPGM KCP15A	H8	KTFS16600HPGM KCP15A	H9	KTFS24800HPGM KCP15A	H10	KTFT07570HPL KCMS15	H16
KTFS09200HPGM KCP15A	H8	KTFS16700HPGM KCP15A	H9	KTFS24900HPGM KCP15A	H10	KTFT07580HPL KCMS15	H16
KTFS09219HPG KCP15A	H10	KTFS16800HPGM KCP15A	H9	KTFS25000HPGM KCP15A	H10	KTFT07590HPC KC7410	H13
KTFS09300HPGM KCP15A	H8	KTFS16900HPGM KCP15A	H9	KTFS25100HPGM KCP15A	H10	KTFT07590HPL KCMS15	H16
KTFS09375HPG KCP15A	H10	KTFS17000HPGM KCP15A	H9	KTFS25200HPGM KCP15A	H10	KTFT07600HPL KCMS15	H12
KTFS09400HPGM KCP15A	H8	KTFS17100HPGM KCP15A	H9	KTFS25250HPGM KCP15A	H10	KTFT07620HPL KCMS15	H16
KTFS09500HPGM KCP15A	H8	KTFS17200HPGM KCP15A	H9	KTFS25300HPGM KCP15A	H10	KTFT07656HPC KC7410	H13
KTFS09600HPGM KCP15A	H8	KTFS17300HPGM KCP15A	H9	KTFS25500HPGM KCP15A	H10	KTFT07656HPL KCMS15	H16
KTFS09688HPG KCP15A	H10	KTFS17400HPGM KCP15A	H9	KTFS25540HPGM KCP15A	H10	KTFT07800HPC KC7410	H12
KTFS09700HPGM KCP15A	H8	KTFS17480HPGM KCP15A	H9	KTFS25600HPGM KCP15A	H10	KTFT07800HPL KCMS15	H15
KTFS09800HPGM KCP15A	H8	KTFS17500HPGM KCP15A	H9	KTFS25700HPGM KCP15A	H10	KTFT07813HPL KCMS15	H16
KTFS09900HPGM KCP15A	H8	KTFS17600HPGM KCP15A	H9	KTFS25800HPGM KCP15A	H10	KTFT07969HPC KC7410	H13
KTFS10000HPG KCP15A	H10	KTFS17700HPGM KCP15A	H9	KTFS25900HPGM KCP15A	H10	KTFT08000HPC KC7410	H12
KTFS10000HPGM KCP15A	H8	KTFS17800HPGM KCP15A	H9	KTFS26000HPGM KCP15A	H10	KTFT08000HPL KCMS15	H15
KTFS10100HPGM KCP15A	H8	KTFS17900HPGM KCP15A	H9	KTFT02500HPC KC7410	H12	KTFT08100HPC KC7410	H12
KTFS10110HPG KCP15A	H10	KTFS18000HPGM KCP15A	H9	KTFT02500HPL KCMS15	H15	KTFT08100HPL KCMS15	H15
KTFS10160HPG KCP15A	H10	KTFS18100HPGM KCP15A	H9	KTFT02610HPL KCMS15	H15	KTFT08125HPC KC7410	H13
KTFS10200HPGM KCP15A	H8	KTFS18200HPGM KCP15A	H9	KTFT02656HPC KC7410	H12	KTFT08125HPL KCMS15	H16
KTFS10300HPGM KCP15A	H8	KTFS18300HPGM KCP15A	H9	KTFT02813HPC KC7410	H12	KTFT08400HPL KCMS15	H15
KTFS10400HPGM KCP15A	H8	KTFS18400HPGM KCP15A	H9	KTFT03125HPC KC7410	H12	KTFT08438HPC KC7410	H13
KTFS10500HPGM KCP15A	H8	KTFS18500HPGM KCP15A	H9	KTFT03125HPL KCMS15	H15	KTFT08500HPC KC7410	H12
KTFS10600HPGM KCP15A	H8	KTFS18600HPGM KCP15A	H9	KTFT03230HPC KC7410	H12	KTFT08500HPL KCMS15	H15
KTFS10700HPGM KCP15A	H8	KTFS18700HPGM KCP15A	H9	KTFT03230HPL KCMS15	H15	KTFT08600HPC KC7410	H12
KTFS10800HPGM KCP15A	H8	KTFS18800HPGM KCP15A	H9	KTFT03281HPL KCMS15	H15	KTFT08600HPL KCMS15	H15
KTFS10900HPGM KCP15A	H8	KTFS18900HPGM KCP15A	H9	KTFT03438HPC KC7410	H12	KTFT08700HPC KC7410	H12
KTFS11000HPGM KCP15A	H8	KTFS19000HPGM KCP15A	H9	KTFT03750HPC KC7410	H12	KTFT08700HPL KCMS15	H15
KTFS11100HPGM KCP15A	H8	KTFS19100HPGM KCP15A	H9	KTFT03763HPL KCMS15	H15	KTFT08750HPC KC7410	H13
KTFS11200HPGM KCP15A	H8	KTFS19200HPGM KCP15A	H9	KTFT03906HPC KC7410	H12	KTFT08750HPL KCMS15	H16
KTFS11300HPGM KCP15A	H9	KTFS19300HPGM KCP15A	H9	KTFT03946HPC KC7410	H12	KTFT08800HPL KCMS15	H15
KTFS11400HPGM KCP15A	H9	KTFS19400HPGM KCP15A	H10	KTFT04063HPC KC7410	H12	KTFT08900HPL KCMS15	H15
KTFS11500HPGM KCP15A	H9	KTFS19460HPGM KCP15A	H10	KTFT04063HPL KCMS15	H15	KTFT09000HPC KC7410	H12
KTFS11600HPGM KCP15A	H9	KTFS19500HPGM KCP15A	H10	KTFT04219HPC KC7410	H12	KTFT09000HPL KCMS15	H15
KTFS11700HPGM KCP15A	H9	KTFS19600HPGM KCP15A	H10	KTFT04375HPC KC7410	H12	KTFT09100HPC KC7410	H12
KTFS11800HPGM KCP15A	H9	KTFS19700HPGM KCP15A	H10	KTFT04375HPL KCMS15	H15	KTFT09100HPL KCMS15	H15
KTFS11900HPGM KCP15A	H9	KTFS19800HPGM KCP15A	H10	KTFT04688HPC KC7410	H12	KTFT09200HPL KCMS15	H15
KTFS12000HPGM KCP15A	H9	KTFS19900HPGM KCP15A	H10	KTFT04688HPL KCMS15	H15	KTFT09219HPC KC7410	H13
KTFS12100HPGM KCP15A	H9	KTFS20000HPGM KCP15A	H10	KTFT04844HPC KC7410	H12	KTFT09375HPC KC7410	H13
KTFS12200HPGM KCP15A	H9	KTFS20100HPGM KCP15A	H10	KTFT04844HPL KCMS15	H15	KTFT09375HPL KCMS15	H16
KTFS12400HPGM KCP15A	H9	KTFS20200HPGM KCP15A	H10	KTFT05000HPC KC7410	H12	KTFT09400HPL KCMS15	H15
KTFS12500HPGM KCP15A	H9	KTFS20300HPGM KCP15A	H10	KTFT05000HPL KCMS15	H15	KTFT09500HPC KC7410	H12
KTFS12600HPGM KCP15A	H9	KTFS20500HPGM KCP15A	H10	KTFT05156HPC KC7410	H12	KTFT09500HPL KCMS15	H15
KTFS12800HPGM KCP15A	H9	KTFS20600HPGM KCP15A	H10	KTFT05156HPL KCMS15	H15	KTFT09600HPC KC7410	H12
KTFS12900HPGM KCP15A	H9	KTFS20700HPGM KCP15A	H10	KTFT05312HPC KC7410	H12	KTFT09600HPL KCMS15	H15
KTFS13000HPGM KCP15A	H9	KTFS20800HPGM KCP15A	H10	KTFT05312HPL KCMS15	H15	KTFT09688HPC KC7410	H13
KTFS13200HPGM KCP15A	H9	KTFS20900HPGM KCP15A	H10	KTFT05469HPC KC7410	H12	KTFT09700HPC KC7410	H12
KTFS13280HPGM KCP15A	H9	KTFS20990HPGM KCP15A	H10	KTFT05469HPL KCMS15	H15	KTFT09700HPL KCMS15	H15
KTFS13300HPGM KCP15A	H9	KTFS21000HPGM KCP15A	H10	KTFT05471HPL KCMS15	H15	KTFT09800HPC KC7410	H12
KTFS13380HPGM KCP15A	H9	KTFS21100HPGM KCP15A	H10	KTFT05625HPC KC7410	H12	KTFT09800HPL KCMS15	H15
KTFS13400HPGM KCP15A	H9	KTFS21200HPGM KCP15A	H10	KTFT05625HPL KCMS15	H15	KTFT09900HPL KCMS15	H15
KTFS13500HPGM KCP15A	H9	KTFS21300HPGM KCP15A	H10	KTFT05781HPC KC7410	H12	KTFT10000HPC KC7410	H13
KTFS13600HPGM KCP15A	H9	KTFS21400HPGM KCP15A	H10	KTFT05781HPL KCMS15	H15	KTFT10000HPC KC7410	H12
KTFS13700HPGM KCP15A	H9	KTFS21500HPGM KCP15A	H10	KTFT05938HPC KC7410	H12	KTFT10000HPL KCMS15	H16
KTFS13800HPGM KCP15A	H9	KTFS21700HPGM KCP15A	H10	KTFT06000HPC KC7410	H12	KTFT10000HPL KCMS15	H15
KTFS13940HPGM KCP15A	H9	KTFS21800HPGM KCP15A	H10	KTFT06000HPL KCMS15	H15	KTFT10100HPL KCMS15	H15
KTFS14000HPGM KCP15A	H9	KTFS21900HPGM KCP15A	H10	KTFT06200HPC KC7410	H12	KTFT10100HPC KC7410	H13
KTFS14100HPGM KCP15A	H9	KTFS22000HPGM KCP15A	H10	KTFT06250HPC KC7410	H13	KTFT10110HPL KCMS15	H16
KTFS14200HPGM KCP15A	H9	KTFS22100HPGM KCP15A	H10	KTFT06250HPL KCMS15	H16	KTFT10160HPC KC7410	H13
KTFS14300HPGM KCP15A	H9	KTFS22200HPGM KCP15A	H10	KTFT06340HPC KC7410	H13	KTFT10160HPL KCMS15	H16
KTFS14400HPGM KCP15A	H9	KTFS22400HPGM KCP15A	H10	KTFT06340HPL KCMS15	H16	KTFT10200HPC KC7410	H12
KTFS14500HPGM KCP15A	H9	KTFS22500HPGM KCP15A	H10	KTFT06406HPC KC7410	H13	KTFT10200HPL KCMS15	H15
KTFS14600HPGM KCP15A	H9	KTFS22600HPGM KCP15A	H10	KTFT06406HPL KCMS15	H16	KTFT10300HPC KC7410	H12
KTFS14700HPGM KCP15A	H9	KTFS22700HPGM KCP15A	H10	KTFT06500HPC KC7410	H12	KTFT10300HPL KCMS15	H15
KTFS14800HPGM KCP15A	H9	KTFS22800HPGM KCP15A	H10	KTFT06500HPL KCMS15	H15	KTFT10400HPL KCMS15	H15
KTFS14900HPGM KCP15A	H9	KTFS22900HPGM KCP15A	H10	KTFT06530HPC KC7410	H12	KTFT10500HPC KC7410	H12
KTFS15000HPGM KCP15A	H9	KTFS23000HPGM KCP15A	H10	KTFT06563HPC KC7410	H13	KTFT10500HPL KCMS15	H15
KTFS15100HPGM KCP15A	H9	KTFS23100HPGM KCP15A	H10	KTFT06563HPL KCMS15	H16	KTFT10600HPC KC7410	H12
KTFS15200HPGM KCP15A	H9	KTFS23200HPGM KCP15A	H10	KTFT06700HPC KC7410	H12	KTFT10600HPL KCMS15	H15
KTFS15300HPGM KCP15A	H9	KTFS23300HPGM KCP15A	H10	KTFT06719HPC KC7410	H13	KTFT10700HPC KC7410	H12
KTFS15380HPGM KCP15A	H9	KTFS23400HPGM KCP15A	H10	KTFT06800HPC KC7410	H12	KTFT10700HPL KCMS15	H15
KTFS15400HPGM KCP15A	H9	KTFS23500HPGM KCP15A	H10	KTFT06800HPL KCMS15	H15	KTFT10800HPC KC7410	H12
KTFS15500HPGM KCP15A	H9	KTFS23600HPGM KCP15A	H10	KTFT06875HPC KC7410	H13	KTFT10800HPL KCMS15	H15
KTFS15600HPGM KCP15A	H9	KTFS23700HPGM KCP15A	H10	KTFT06875HPL KCMS15	H16	KTFT10900HPC KC7410	H15
KTFS15700HPGM KCP15A	H9	KTFS23800HPGM KCP15A	H10	KTFT07000HPC KC7410	H12	KTFT11000HPC KC7410	H12
KTFS15800HPGM KCP15A	H9	KTFS23900HPGM KCP15A	H10	KTFT07000HPL KCMS15	H15	KTFT11000HPL KCMS15	H15

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KTFS11100HPCM KC7410	H12	KTFS19000HPLM KCMS15	H16	KTIPO374R8SS038	H39	KTIPO532R5SS056	H39
KTFS11100HPLM KCMS15	H15	KTFS19200HPLM KCMS15	H16	KTIPO374R8SS044	H39	KTIPO532R8SCF063	H41
KTFS11200HPLM KCMS15	H15	KTFS19460HPLM KCMS15	H16	KTIPO3750HP KCP15	H32	KTIPO532R8SS056	H39
KTFS11400HPCM KC7410	H12	KTFS19500HPCM KC7410	H13	KTIPO3763HP KCP15	H32	KTIPO5469HP KCP15	H33
KTFS11400HPLM KCMS15	H15	KTFS19500HPLM KCMS15	H16	KTIPO3770HP KCP15	H32	KTIPO5471HP KCP15	H33
KTFS11500HPCM KC7410	H12	KTFS19800HPCM KC7410	H13	KTIPO3820HP KCP15	H32	KTIPO551R12SS056	H39
KTFS11500HPLM KCMS15	H15	KTFS19850HPLM KCMS15	H16	KTIPO3860HP KCP15	H32	KTIPO551R3SCF063	H41
KTFS11600HPLM KCMS15	H15	KTFS20000HPCM KC7410	H13	KTIPO3906HP KCP15	H32	KTIPO551R3SS056	H39
KTFS11800HPCM KC7410	H12	KTFS20000HPLM KCMS15	H16	KTIPO3946HP KCP15	H32	KTIPO551R5SCF063	H41
KTFS11800HPLM KCMS15	H15	KTFS20300HPCM KC7410	H13	KTIPO394R12SS044	H39	KTIPO551R5SS056	H39
KTFS12000HPCM KC7410	H12	KTFS20500HPCM KC7410	H13	KTIPO394R3SCF063	H41	KTIPO551R8SCF063	H41
KTFS12000HPLM KCMS15	H15	KTFS20500HPLM KCMS15	H16	KTIPO394R3SS044	H39	KTIPO551R8SS056	H39
KTFS12200HPLM KCMS15	H15	KTFS21000HPCM KC7410	H13	KTIPO394R5SCF063	H41	KTIPO5625HP KCP15	H33
KTFS12500HPCM KC7410	H12	KTFS21000HPLM KCMS15	H16	KTIPO394R5SS044	H39	KTIPO571R12SS063	H39
KTFS12500HPLM KCMS15	H15	KTFS21150HPLM KCMS15	H16	KTIPO394R8SCF063	H41	KTIPO571R3SCF063	H41
KTFS12800HPLM KCMS15	H15	KTFS21500HPCM KC7410	H13	KTIPO394R8SS044	H39	KTIPO571R3SS063	H39
KTFS12900HPLM KCMS15	H15	KTFS21500HPLM KCMS15	H16	KTIPO3970HP KCP15	H32	KTIPO571R5SCF063	H41
KTFS13000HPCM KC7410	H12	KTFS22000HPCM KC7410	H13	KTIPO4040HP KCP15	H32	KTIPO571R5SS063	H39
KTFS13000HPLM KCMS15	H15	KTFS22000HPLM KCMS15	H16	KTIPO4063HP KCP15	H32	KTIPO571R8SCF063	H41
KTFS13200HPCM KC7410	H12	KTFS22440HPCM KC7410	H13	KTIPO4130HP KCP15	H32	KTIPO571R8SS063	H39
KTFS13200HPLM KCMS15	H15	KTFS22500HPCM KC7410	H13	KTIPO413R12SS044	H39	KTIPO5774HP KCP15	H33
KTFS13300HPCM KC7410	H12	KTFS22500HPLM KCMS15	H16	KTIPO413R3SCF063	H41	KTIPO5781HP KCP15	H33
KTFS13500HPCM KC7410	H12	KTFS23000HPCM KC7410	H13	KTIPO413R3SS044	H39	KTIPO591R12SS063	H39
KTFS13500HPLM KCMS15	H15	KTFS23000HPLM KCMS15	H16	KTIPO413R5SCF063	H41	KTIPO591R3SCF075	H41
KTFS13600HPCM KC7410	H12	KTFS23500HPCM KC7410	H13	KTIPO413R5SS044	H39	KTIPO591R3SS063	H39
KTFS13800HPCM KC7410	H12	KTFS23500HPLM KCMS15	H16	KTIPO413R8SCF063	H41	KTIPO591R5SCF075	H41
KTFS13800HPLM KCMS15	H15	KTFS24000HPCM KC7410	H13	KTIPO413R8SS044	H39	KTIPO591R5SS063	H39
KTFS14000HPCM KC7410	H12	KTFS24000HPLM KCMS15	H16	KTIPO4219HP KCP15	H32	KTIPO591R8SCF075	H41
KTFS14000HPLM KCMS15	H15	KTFS24500HPCM KC7410	H13	KTIPO433R12SS044	H39	KTIPO591R8SS063	H39
KTFS14100HPCM KC7410	H12	KTFS24500HPLM KCMS15	H16	KTIPO433R3SCF063	H41	KTIPO5938HP KCP15	H33
KTFS14100HPLM KCMS15	H15	KTFS25000HPCM KC7410	H13	KTIPO433R3SS044	H39	KTIPO6094HP KCP15	H33
KTFS14200HPLM KCMS15	H15	KTFS25000HPLM KCMS15	H16	KTIPO433R5SCF063	H41	KTIPO6250HP KCP15	H33
KTFS14300HPLM KCMS15	H15	KTFS25070HPCM KC7410	H13	KTIPO433R5SS044	H39	KTIPO630R12SS069	H39
KTFS14400HPLM KCMS15	H15	KTFS25500HPCM KC7410	H13	KTIPO433R8SCF063	H41	KTIPO630R3SCF075	H41
KTFS14500HPCM KC7410	H12	KTFS25500HPLM KCMS15	H16	KTIPO433R8SS044	H39	KTIPO630R3SS069	H39
KTFS14500HPLM KCMS15	H15	KTFS25650HPLM KCMS15	H16	KTIPO4375HP KCP15	H32	KTIPO630R5SCF075	H41
KTFS14600HPCM KC7410	H12	KTFS26000HPCM KC7410	H13	KTIPO4531HP KCP15	H32	KTIPO630R5SS069	H39
KTFS14800HPCM KC7410	H12	KTFS26000HPLM KCMS15	H16	KTIPO453R12SS050	H39	KTIPO630R8SCF075	H41
KTFS14800HPLM KCMS15	H16	KTIP03125FEG KCPM45	H36	KTIPO453R3SCF063	H41	KTIPO630R8SS069	H39
KTFS15000HPCM KC7410	H12	KTIP03125HP KCP15	H32	KTIPO453R3SS050	H39	KTIPO6310HP KCP15	H33
KTFS15000HPLM KCMS15	H16	KTIP0313R12SS038	H39	KTIPO453R5SCF063	H41	KTIPO6330HP KCP15	H33
KTFS15100HPCM KC7410	H12	KTIP0313R3SCF050	H41	KTIPO453R5SS050	H39	KTIPO6406HP KCP15	H33
KTFS15100HPLM KCMS15	H16	KTIP0313R3SS038	H39	KTIPO453R8SCF063	H41	KTIPO6563HP KCP15	H33
KTFS15200HPCM KC7410	H12	KTIP0313R8SCF050	H41	KTIPO453R8SS050	H39	KTIPO669R12SS069	H39
KTFS15200HPLM KCMS15	H16	KTIP0313R5SCF050	H41	KTIPO4571HP KCP15	H32	KTIPO669R3SCF075	H41
KTFS15300HPCM KC7410	H12	KTIP0313R5SS038	H39	KTIPO4688HP KCP15	H33	KTIPO669R3SS069	H39
KTFS15500HPCM KC7410	H13	KTIP0313R8SCF050	H41	KTIPO472R12SS050	H39	KTIPO669R5SCF075	H41
KTFS15500HPLM KCMS15	H16	KTIP0313R8SS038	H39	KTIPO472R3SCF063	H41	KTIPO669R5SS069	H39
KTFS15600HPCM KC7410	H13	KTIP03214HP KCP15	H32	KTIPO472R3SS050	H39	KTIPO669R8SCF075	H41
KTFS15800HPCM KC7410	H13	KTIP03230HP KCP15	H32	KTIPO472R5SCF063	H41	KTIPO669R8SS069	H39
KTFS16000HPCM KC7410	H13	KTIP03281HP KCP15	H32	KTIPO472R5SS050	H39	KTIPO6719HP KCP15	H33
KTFS16000HPLM KCMS15	H16	KTIP03320HP KCP15	H32	KTIPO472R8SCF063	H41	KTIPO6875HP KCP15	H33
KTFS16100HPCM KC7410	H13	KTIP0335R12SS038	H39	KTIPO472R8SS050	H39	KTIPO7031HP KCP15	H33
KTFS16100HPLM KCMS15	H16	KTIP0335R3SCF050	H41	KTIPO4844HP KCP15	H33	KTIPO709R12SS075	H39
KTFS16150HPLM KCMS15	H16	KTIP0335R3SS038	H39	KTIPO4911HP KCP15	H33	KTIPO709R3SCF075	H41
KTFS16200HPCM KC7410	H13	KTIP0335R5SCF050	H41	KTIPO492R12SS050	H39	KTIPO709R3SS075	H39
KTFS16300HPCM KC7410	H13	KTIP0335R5SS038	H39	KTIPO492R12SS056	H39	KTIPO709R5SCF075	H41
KTFS16500HPCM KC7410	H13	KTIP0335R8SCF050	H41	KTIPO492R3SCF063	H41	KTIPO709R5SS075	H39
KTFS16500HPLM KCMS15	H16	KTIP0335R8SS038	H39	KTIPO492R3SS050	H39	KTIPO709R8SCF075	H41
KTFS16550HPCM KC7410	H13	KTIP03390HP KCP15	H32	KTIPO492R3SS056	H39	KTIPO709R8SS075	H39
KTFS16600HPCM KC7410	H13	KTIP03438HP KCP15	H32	KTIPO492R5SCF063	H41	KTIPO7188HP KCP15	H33
KTFS17000HPCM KC7410	H13	KTIP03480HP KCP15	H32	KTIPO492R5SS050	H39	KTIPO7344HP KCP15	H33
KTFS17000HPLM KCMS15	H16	KTIP0354R12SS038	H39	KTIPO492R5SS056	H39	KTIPO748R12SS075	H39
KTFS17100HPCM KC7410	H13	KTIP0354R3SCF050	H41	KTIPO492R8SCF063	H41	KTIPO748R3SCF075	H41
KTFS17200HPCM KC7410	H13	KTIP0354R3SS038	H39	KTIPO492R8SS050	H39	KTIPO748R3SS075	H39
KTFS17300HPCM KC7410	H13	KTIP0354R5SCF050	H41	KTIPO492R8SS056	H39	KTIPO748R5SCF075	H41
KTFS17480HPLM KCMS15	H16	KTIP0354R5SS038	H39	KTIPO5000FEG KCPM45	H36	KTIPO748R5SS075	H39
KTFS17500HPCM KC7410	H13	KTIP0354R8SCF050	H41	KTIPO5000HP KCP15	H33	KTIPO748R8SCF075	H41
KTFS17500HPLM KCMS15	H16	KTIP0354R8SS038	H39	KTIPO5080HP KCP15	H33	KTIPO748R8SS075	H39
KTFS17550HPCM KC7410	H13	KTIP03580HP KCP15	H32	KTIPO512R12SS056	H39	KTIPO7500FEG KCPM45	H36
KTFS17600HPCM KC7410	H13	KTIP03594FEG KCPM45	H36	KTIPO512R3SCF063	H41	KTIPO7500HP KCP15	H33
KTFS17700HPCM KC7410	H13	KTIP03594HP KCP15	H32	KTIPO512R3SS056	H39	KTIPO7570HP KCP15	H33
KTFS17700HPLM KCMS15	H16	KTIP03680HP KCP15	H32	KTIPO512R5SCF063	H41	KTIPO7580HP KCP15	H33
KTFS17800HPCM KC7410	H13	KTIP0374R12SS038	H39	KTIPO512R5SS056	H39	KTIPO7620HP KCP15	H33
KTFS18000HPCM KC7410	H13	KTIP0374R12SS044	H39	KTIPO512R8SCF063	H41	KTIPO7625HP KCP15	H33
KTFS18000HPLM KCMS15	H16	KTIP0374R3SCF050	H41	KTIPO512R8SS056	H39	KTIPO7813HP KCP15	H34
KTFS18100HPCM KC7410	H13	KTIP0374R3SS038	H39	KTIPO5156HP KCP15	H33	KTIPO787R12SS081	H41
KTFS18500HPCM KC7410	H13	KTIP0374R3SS044	H39	KTIPO5312HP KCP15	H33	KTIPO787R3SCF100	H39
KTFS18500HPLM KCMS15	H16	KTIP0374R5SCF050	H41	KTIPO532R12SS056	H39	KTIPO787R3SS081	H39
KTFS18600HPCM KC7410	H13	KTIP0374R5SS038	H39	KTIPO532R3SCF063	H41	KTIPO787R5SCF100	H41
KTFS18700HPCM KC7410	H13	KTIP0374R5SS044	H39	KTIPO532R3SS056	H39	KTIPO787R5SS081	H39
KTFS19000HPCM KC7410	H13	KTIP0374R8SCF050	H41	KTIPO532R5SCF063	H41	KTIPO787R8SCF100	H41

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KTIP0787R8SS081	H39	KTIP0940HPM KCP15	H32	KTIP1063R3SS125	H39	KTIP1300FEGM KCPM45	H36
KTIP07969HP KCP15	H34	KTIP0945R12SS100	H39	KTIP1063R5SCF100	H41	KTIP1300HPM KCP15	H33
KTIP0800FEGM KCPM45	H36	KTIP0945R3SCF100	H41	KTIP1063R5SS125	H39	KTIP13012SS14M	H38
KTIP0800HPM KCP15	H32	KTIP0945R3SS100	H39	KTIP1063R8SCF100	H41	KTIP1301SCF16M	H40
KTIP080R12SS10M	H38	KTIP0945R5SCF100	H41	KTIP1063R8SS125	H39	KTIP130R1SS14M	H38
KTIP080R1SCF12M	H40	KTIP0945R5SS100	H39	KTIP1070HPM KCP15	H32	KTIP130R3BF13M	H11
KTIP080R1SS10M	H38	KTIP0945R8SCF100	H41	KTIP1080FEGM KCPM45	H36	KTIP130R3BF14M	H11
KTIP080R3BF08M	H11	KTIP0945R8SS100	H39	KTIP1080HPM KCP15	H32	KTIP130R3SCF16M	H40
KTIP080R3BF09M	H11	KTIP0950FEGM KCPM45	H36	KTIP1090HPM KCP15	H32	KTIP130R3SS14M	H38
KTIP080R3SCF12M	H40	KTIP0950HPM KCP15	H32	KTIP10938HP KCP15	H34	KTIP130R4BF14M	H12
KTIP080R3SS10M	H38	KTIP095R12SS10M	H38	KTIP1100FEGM KCPM45	H36	KTIP130R5BF14M	H13
KTIP080R4BF09M	H12	KTIP095R1SCF12M	H40	KTIP1100HPM KCP15	H32	KTIP130R5SCF16M	H40
KTIP080R5BF09M	H13	KTIP095R1SS10M	H38	KTIP110R12SS12M	H38	KTIP130R5SS14M	H38
KTIP080R5SCF12M	H40	KTIP095R3BF10M	H11	KTIP110R1SCF16M	H40	KTIP130R8SCF16M	H40
KTIP080R5SS10M	H38	KTIP095R3SCF12M	H40	KTIP110R1SS12M	H38	KTIP130R8SS14M	H38
KTIP080R8SCF12M	H40	KTIP095R3SS10M	H38	KTIP110R3BF11M	H11	KTIP130R8SCF15M	H33
KTIP080R8SS10M	H38	KTIP095R4BF10M	H12	KTIP110R3BF12M	H11	KTIP1328HPM KCP15	H33
KTIP0810HPM KCP15	H32	KTIP095R5BF10M	H13	KTIP110R3SCF16M	H40	KTIP1330HPM KCP15	H33
KTIP08125HP KCP15	H34	KTIP095R5SCF12M	H40	KTIP110R3SS12M	H38	KTIP1330HPM KCP15	H33
KTIP0827R12SS088	H39	KTIP095R5SS10M	H38	KTIP110R4BF12M	H12	KTIP1340HPM KCP15	H33
KTIP0827R3SCF100	H41	KTIP095R8SCF12M	H40	KTIP110R5BF12M	H13	KTIP1350FEGM KCPM45	H36
KTIP0827R3SS088	H39	KTIP095R8SS10M	H38	KTIP110R5SCF16M	H40	KTIP1350HPM KCP15	H33
KTIP0827R5SCF100	H41	KTIP0960HPM KCP15	H32	KTIP110R5SS12M	H38	KTIP135R12SS14M	H38
KTIP0827R5SS088	H39	KTIP09688HP KCP15	H34	KTIP110R8SCF16M	H40	KTIP135R1SCF16M	H40
KTIP0827R8SCF100	H41	KTIP0983HPM KCP15	H32	KTIP110R8SS12M	H38	KTIP135R1SS14M	H38
KTIP0827R8SS088	H39	KTIP0984R12SS100	H39	KTIP1110HPM KCP15	H32	KTIP135R3BF14M	H11
KTIP0830HPM KCP15	H32	KTIP0984R3SCF100	H41	KTIP1120HPM KCP15	H32	KTIP135R3SCF16M	H40
KTIP0840HPM KCP15	H32	KTIP0984R3SS100	H39	KTIP1130HPM KCP15	H32	KTIP135R3SS14M	H38
KTIP08438HP KCP15	H34	KTIP0984R5SCF100	H41	KTIP1140HPM KCP15	H32	KTIP135R4BF14M	H12
KTIP0850FEGM KCPM45	H36	KTIP0984R5SS100	H39	KTIP1150FEGM KCPM45	H36	KTIP135R5BF14M	H13
KTIP0850HPM KCP15	H32	KTIP0984R8SCF100	H41	KTIP1150HPM KCP15	H32	KTIP135R5SCF16M	H40
KTIP0852FEGM KCPM45	H36	KTIP0984R8SS100	H39	KTIP115R12SS12M	H38	KTIP135R5SS14M	H38
KTIP085R12SS10M	H38	KTIP0990HPM KCP15	H32	KTIP115R1SCF16M	H40	KTIP135R8SCF16M	H40
KTIP085R1SCF12M	H40	KTIP1000HP KCP15	H34	KTIP115R1SS12M	H38	KTIP135R8SS14M	H38
KTIP085R1SS10M	H38	KTIP1000FEGM KCPM45	H36	KTIP115R3BF12M	H11	KTIP1360HPM KCP15	H33
KTIP085R3BF09M	H11	KTIP1000HPM KCP15	H32	KTIP115R3SCF16M	H40	KTIP1370HPM KCP15	H33
KTIP085R3SCF12M	H40	KTIP100R12SS12M	H38	KTIP115R3SS12M	H38	KTIP1380HPM KCP15	H33
KTIP085R3SS10M	H38	KTIP100R1SCF16M	H40	KTIP115R4BF12M	H12	KTIP1384HPM KCP15	H33
KTIP085R4BF09M	H12	KTIP100R1SS12M	H38	KTIP115R5BF12M	H13	KTIP1400FEGM KCPM45	H36
KTIP085R5BF09M	H13	KTIP100R3BF10M	H11	KTIP115R5SCF16M	H40	KTIP1400HPM KCP15	H33
KTIP085R5SCF12M	H40	KTIP100R3BF11M	H11	KTIP115R5SS12M	H38	KTIP140R12SS16M	H38
KTIP085R5SS10M	H38	KTIP100R3SCF16M	H40	KTIP115R8SCF16M	H40	KTIP140R1SCF16M	H40
KTIP085R8SCF12M	H40	KTIP100R3SS12M	H38	KTIP115R8SS12M	H38	KTIP140R1SS16M	H38
KTIP085R8SS10M	H38	KTIP100R4BF11M	H12	KTIP1160HPM KCP15	H32	KTIP140R3BF14M	H11
KTIP0860HPM KCP15	H32	KTIP100R5BF11M	H13	KTIP1170FEGM KCPM45	H36	KTIP140R3BF15M	H11
KTIP0866R12SS088	H39	KTIP100R5SCF16M	H40	KTIP1170HPM KCP15	H32	KTIP140R3SS16M	H38
KTIP0866R3SCF100	H41	KTIP100R5SS12M	H38	KTIP1180HPM KCP15	H32	KTIP140R8SCF16M	H40
KTIP0866R3SS088	H39	KTIP100R8SCF16M	H40	KTIP1190HPM KCP15	H32	KTIP140R8BF15M	H12
KTIP0866R5SCF100	H41	KTIP100R8SS12M	H38	KTIP1200FEGM KCPM45	H36	KTIP140R5BF15M	H13
KTIP0866R5SS088	H39	KTIP1010FEGM KCPM45	H36	KTIP1200HPM KCP15	H33	KTIP140R5SCF16M	H40
KTIP0866R8SCF100	H41	KTIP1010HPM KCP15	H32	KTIP120R12SS14M	H38	KTIP140R5SS16M	H38
KTIP0866R8SS088	H39	KTIP10110HP KCP15	H34	KTIP120R1SCF16M	H40	KTIP140R8SCF16M	H40
KTIP0870HPM KCP15	H32	KTIP10160HP KCP15	H34	KTIP120R1SS14M	H38	KTIP140R8SS16M	H38
KTIP08750HP KCP15	H34	KTIP1020HPM KCP15	H32	KTIP120R3BF12M	H11	KTIP1410HPM KCP15	H33
KTIP0880HPM KCP15	H32	KTIP1024R12SS125	H39	KTIP120R3BF13M	H11	KTIP1420HPM KCP15	H33
KTIP0890HPM KCP15	H32	KTIP1024R3SCF100	H41	KTIP120R3SCF16M	H40	KTIP1430HPM KCP15	H33
KTIP0900FEGM KCPM45	H36	KTIP1024R3SS125	H39	KTIP120R3SS14M	H38	KTIP1440HPM KCP15	H33
KTIP0900HPM KCP15	H32	KTIP1024R5SCF100	H41	KTIP120R4BF13M	H12	KTIP1450FEGM KCPM45	H36
KTIP0906R12SS094	H39	KTIP1024R5SS125	H39	KTIP120R5BF13M	H13	KTIP1450HPM KCP15	H33
KTIP0906R12SS094	H39	KTIP1024R8SCF100	H41	KTIP120R5SCF16M	H40	KTIP145R12SS16M	H38
KTIP0906R3SS094	H39	KTIP1024R8SS125	H39	KTIP120R5SS14M	H38	KTIP145R1SCF16M	H40
KTIP0906R5SCF100	H41	KTIP1030HPM KCP15	H32	KTIP120R8SCF16M	H40	KTIP145R1SS16M	H38
KTIP0906R5SS094	H39	KTIP10310HP KCP15	H34	KTIP120R8SS14M	H38	KTIP145R3BF15M	H11
KTIP0906R8SCF100	H41	KTIP1040HPM KCP15	H32	KTIP1210HPM KCP15	H33	KTIP145R3SCF16M	H40
KTIP0906R8SS094	H39	KTIP10469HP KCP15	H34	KTIP1220HPM KCP15	H33	KTIP145R3SS16M	H38
KTIP090R12SS10M	H38	KTIP1050FEGM KCPM45	H36	KTIP1240HPM KCP15	H33	KTIP145R4BF15M	H12
KTIP090R1SCF12M	H40	KTIP1050HPM KCP15	H32	KTIP1250FEGM KCPM45	H36	KTIP145R5BF15M	H13
KTIP090R1SS10M	H38	KTIP105R12SS12M	H38	KTIP1250HPM KCP15	H33	KTIP145R5SCF16M	H40
KTIP090R3BF09M	H11	KTIP105R1SCF16M	H40	KTIP125R12SS14M	H38	KTIP145R5SS16M	H38
KTIP090R3BF10M	H11	KTIP105R1SS12M	H38	KTIP125R1SCF16M	H40	KTIP145R8SCF16M	H40
KTIP090R3SCF12M	H40	KTIP105R3BF11M	H11	KTIP125R1SS14M	H38	KTIP145R8SS16M	H38
KTIP090R3SS10M	H38	KTIP105R3SCF16M	H40	KTIP125R3BF13M	H11	KTIP145R8SCF15M	H33
KTIP090R4BF10M	H12	KTIP105R3SS12M	H38	KTIP125R3SCF16M	H40	KTIP1470HPM KCP15	H33
KTIP090R5BF10M	H13	KTIP105R4BF11M	H12	KTIP125R3SS14M	H38	KTIP1480HPM KCP15	H33
KTIP090R5SCF12M	H40	KTIP105R5BF11M	H13	KTIP125R4BF13M	H12	KTIP1490FEGM KCPM45	H36
KTIP090R5SS10M	H38	KTIP105R5SCF16M	H40	KTIP125R5BF13M	H13	KTIP1490HPM KCP15	H33
KTIP090R8SCF12M	H40	KTIP105R5SS12M	H38	KTIP125R5SCF16M	H40	KTIP1500FEGM KCPM45	H36
KTIP090R8SS10M	H38	KTIP105R8SCF16M	H40	KTIP125R5SS14M	H38	KTIP1500HPM KCP15	H33
KTIP0910HPM KCP15	H32	KTIP105R8SS12M	H38	KTIP125R8SCF16M	H40	KTIP150R12SS16M	H38
KTIP0920HPM KCP15	H32	KTIP1060HPM KCP15	H32	KTIP125R8SS14M	H38	KTIP150R1SCF20M	H40
KTIP0930HPM KCP15	H32	KTIP1063R12SS125	H39	KTIP125R8SS14M	H38	KTIP150R1SS16M	H38
KTIP09375HP KCP15	H34	KTIP1063R3SCF100	H41	KTIP1280HPM KCP15	H33	KTIP150R3BF15M	H11

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
KTIP150R3BF16M	..111	KTIP180R5SS20M	..H38	KTIP230R3SCF25M	..H40	KTMDUCD081L3152Z	..W30
KTIP150R3SCF20M	..H40	KTIP180R8SCF25M	..H40	KTIP230R3SS25M	..H38	KTMDUED091L3002Z	..W31
KTIP150R3SS16M	..H38	KTIP180R8SS20M	..H38	KTIP230R5SCF25M	..H40	KTMDUED102L41523	..W31
KTIP150R4BF16M	..112	KTIP1810HPM KCP15	..H33	KTIP230R5SS25M	..H38	KTMDUED122L45224	..W31
KTIP150R5BF16M	..113	KTIP1820HPM KCP15	..H33	KTIP230R8SCF25M	..H40	KTMDUED144L51223	..W34
KTIP150R5SCF20M	..H40	KTIP1830HPM KCP15	..H33	KTIP230R8SS25M	..H38	KTMDUSCREW1	..W29-31
KTIP150R5SS16M	..H38	KTIP1840HPM KCP15	..H33	KTIP2350HPM KCP15	..H34	KTMDUSD169L158Z4	..W35
KTIP150R8SCF20M	..H40	KTIP1850FEGM KCPM45	..H36	KTIP2400HPM KCP15	..H34	KTMDUSD209L158Z5	..W35
KTIP150R8SS16M	..H38	KTIP1850HPM KCP15	..H33	KTIP240R12SS25M	..H38	KTMDUWD058L157Z1	..W29
KTIP1510HPM KCP15	..H33	KTIP1860HPM KCP15	..H33	KTIP240R1SCF25M	..H40	KTMDUWD081L2362Z	..W29
KTIP1520HPM KCP15	..H33	KTIP1870HPM KCP15	..H33	KTIP240R1SS25M	..H38	KTMDUWD091L2762Z	..W29
KTIP1530HPM KCP15	..H33	KTIP1880HPM KCP15	..H33	KTIP240R3SCF25M	..H40	KTMDUWD102L31523	..W29
KTIP1538HPM KCP15	..H33	KTIP1890HPM KCP15	..H33	KTIP240R3SS25M	..H38	KTMDUWD122L374Z4	..W29
KTIP1540HPM KCP15	..H33	KTIP1900FEGM KCPM45	..H36	KTIP240R5SCF25M	..H40	KTMDUWD144L374Z3	..W34
KTIP1550FEGM KCPM45	..H36	KTIP1900HPM KCP15	..H33	KTIP240R5SS25M	..H38	KTMDUWD165L472Z4	..W34
KTIP1550HPM KCP15	..H33	KTIP190R12SS20M	..H38	KTIP240R8SCF25M	..H40	KTMS21S25SD06H	..U3
KTIP1560HPM KCP15	..H33	KTIP190R1SCF25M	..H40	KTIP240R8SS25M	..H38	KTMS25S25SD06H	..U3
KTIP1570HPM KCP15	..H33	KTIP190R1SS20M	..H38	KTIP2450HPM KCP15	..H34	KTMS32S32SD08H	..U3
KTIP1580HPM KCP15	..H33	KTIP190R3SCF25M	..H40	KTIP2500HPM KCP15	..H34	KTMS40S32SD12H	..U3
KTIP1595FEGM KCPM45	..H36	KTIP190R3SS20M	..H38	KTIP250R12SS32M	..H38	KTMS50S32SD12H	..U3
KTIP1600FEGM KCPM45	..H36	KTIP190R5SCF25M	..H40	KTIP250R1SCF25M	..H40	KTZR125SD430CM16A02	..V139
KTIP1600HPM KCP15	..H33	KTIP190R5SS20M	..H38	KTIP250R1SS32M	..H38	KTZR150SD430CM16A03	..V139
KTIP160R12SS18M	..H38	KTIP190R8SCF25M	..H40	KTIP250R3SCF25M	..H40	KTZR200SD430CM16A04	..V139
KTIP160R1SCF20M	..H40	KTIP190R8SS20M	..H38	KTIP250R3SS32M	..H38	KJAM20	..B217-223, B245, B276-278
KTIP160R1SS18M	..H38	KTIP1910HPM KCP15	..H33	KTIP250R5SCF25M	..H40	KJAM22	..B72-74, B94, B115-119, B140-142, B174, B186-187, B394, B397-398
KTIP160R3BF16M	..111	KTIP1920HPM KCP15	..H33	KTIP250R5SS32M	..H38	KJAM23	..B198, B245, B249-251, B276-279, C196, D41
KTIP160R3BF17M	..111	KTIP1930HPM KCP15	..H33	KTIP250R8SCF25M	..H40	KJAM25	..B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397
KTIP160R3SCF20M	..H40	KTIP1940HPM KCP15	..H33	KTIP250R8SS32M	..H38	KJAM26	..B74, C196, D41
KTIP160R3SS18M	..H38	KTIP1950FEGM KCPM45	..H36	KTIP2550HPM KCP15	..H34	KJAM27	..B74, B115, B119, T91-92
KTIP160R4BF17M	..112	KTIP1950HPM KCP15	..H33	KTIP2599HPM KCP15	..H34	KJAM28	..B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397
KTIP160R5BF17M	..113	KTIP1960HPM KCP15	..H33	KTIP2600HPM KCP15	..H34	KJAM30	..B72, B115-119, B175-176, B186, B217, B220, B236-237, B254-255, B276-279, B395-397
KTIP160R5SCF20M	..H40	KTIP1970HPM KCP15	..H34	KTIP260R12SS32M	..H38	KJAM31	..B72-74, B94, B115-119, B140-142, B174, B186-187, B198, B245, B249-251, B276-279, B394, B397-398, C196, D41
KTIP160R5SS18M	..H38	KTIP1980HPM KCP15	..H34	KTIP260R1SCF25M	..H40	KJAM32	..B72-74, B94-95, B115-117, B119, B140-142, B186, B198, B249, B397
KTIP160R8SCF20M	..H40	KTIP1990HPM KCP15	..H34	KTIP260R1SS32M	..H38	KJAM33	..B119, B142, C196, D41
KTIP160R8SS18M	..H38	KTIP2000FEGM KCPM45	..H36	KTIP260R3SCF25M	..H40	KJAM34	..B217-223, B245, B276-278
KTIP1610HPM KCP15	..H33	KTIP2000HPM KCP15	..H34	KTIP260R3SS32M	..H38	KJAM35	..B217, B220, B222-223
KTIP1620HPM KCP15	..H33	KTIP200R12SS25M	..H38	KTIP260R5SCF25M	..H40	KVNS020630D	..U7
KTIP1630HPM KCP15	..H33	KTIP200R1SCF25M	..H40	KTIP260R5SS32M	..H38	KVNS021180D	..U7
KTIP1640HPM KCP15	..H33	KTIP200R1SS25M	..H38	KTIP260R8SCF25M	..H40	KVNS030630D	..U7
KTIP1650FEGM KCPM45	..H36	KTIP200R3SCF25M	..H40	KTIP260R8SS32M	..H38	KVNS030870D	..U7
KTIP1650HPM KCP15	..H33	KTIP200R3SS25M	..H38	KTIP2650HPM KCP15	..H34	KVNS031180D	..U7
KTIP1660HPM KCP15	..H33	KTIP200R5SCF25M	..H40	KTIP2700HPM KCP15	..H34	KVNS031580D	..U7
KTIP1670HPM KCP15	..H33	KTIP200R5SS25M	..H38	KTIP270R12SS32M	..H38	KVNS031970D	..U8
KTIP1680HPM KCP15	..H33	KTIP200R8SCF25M	..H40	KTIP270R1SCF25M	..H40	KVNS032360D	..U8
KTIP1690HPM KCP15	..H33	KTIP200R8SS25M	..H38	KTIP270R1SS32M	..H38	KVNS040630D	..U7
KTIP1700FEGM KCPM45	..H36	KTIP2010HPM KCP15	..H34	KTIP270R3SCF25M	..H40	KVNS040870D	..U7
KTIP1700HPM KCP15	..H33	KTIP2020HPM KCP15	..H34	KTIP270R3SS32M	..H38	KVNS041180D	..U7
KTIP170R12SS18M	..H38	KTIP2030HPM KCP15	..H34	KTIP270R5SCF25M	..H40	KVNS041580D	..U7
KTIP170R1SCF20M	..H40	KTIP2050HPM KCP15	..H34	KTIP270R5SS32M	..H38	KVNS042360D	..U8
KTIP170R1SS18M	..H38	KTIP2060HPM KCP15	..H34	KTIP270R8SCF25M	..H40	KVNS050630D	..U7
KTIP170R3BF17M	..111	KTIP2070HPM KCP15	..H34	KTIP270R8SS32M	..H38	KVNS050870D	..U7
KTIP170R3BF18M	..111	KTIP2080HPM KCP15	..H34	KTIP2750HPM KCP15	..H34	KVNS051180D	..U7
KTIP170R3SCF20M	..H40	KTIP2090HPM KCP15	..H34	KTIP2799HPM KCP15	..H34	KVNS051580D	..U7
KTIP170R3SS18M	..H38	KTIP2099HPM KCP15	..H34	KTMDU11L0515N60 KC610M	..W32	KVNS060870D	..U7
KTIP170R4BF18M	..112	KTIP2100HPM KCP15	..H34	KTMDU11L0515N60 KC635M	..W32	KVNS061180D	..U7
KTIP170R5BF18M	..113	KTIP210R12SS25M	..H38	KTMDU11L1107N55 KC610M	..W32	KVNS06180D	..U7
KTIP170R5SCF20M	..H40	KTIP210R1SCF25M	..H40	KTMDU11L1107N55 KC610M	..W32	KVNS061970D	..U8
KTIP170R5SS18M	..H38	KTIP210R1SS25M	..H38	KTMDU11L1520N60 KC610M	..W32	KVNS062360D	..U8
KTIP170R8SCF20M	..H40	KTIP210R3SCF25M	..H40	KTMDU11L1520N60 KC635M	..W32	KVNS040630D	..U7
KTIP170R8SS18M	..H38	KTIP210R3SS25M	..H38	KTMDU11L1612N55 KC610M	..W32	KVNS040870D	..U7
KTIP1710HPM KCP15	..H33	KTIP210R5SCF25M	..H40	KTMDU11L1612N55 KC635M	..W32	KVNS041180D	..U7
KTIP1720HPM KCP15	..H33	KTIP210R5SS25M	..H38	KTMDU11L2025N60 KC610M	..W32	KVNS041580D	..U7
KTIP1730HPM KCP15	..H33	KTIP210R8SCF25M	..H40	KTMDU11L2025N60 KC635M	..W32	KVNS042360D	..U8
KTIP1740HPM KCP15	..H33	KTIP210R8SS25M	..H38	KTMDU11L2525N60 KC610M	..W32	KVNS050630D	..U7
KTIP1750FEGM KCPM45	..H36	KTIP2110HPM KCP15	..H34	KTMDU11L2525N60 KC635M	..W32	KVNS050870D	..U7
KTIP1750HPM KCP15	..H33	KTIP2150HPM KCP15	..H34	KTMDU11L2540N60 KC610M	..W32	KVNS051180D	..U7
KTIP1760HPM KCP15	..H33	KTIP2200HPM KCP15	..H34	KTMDU11L2540N60 KC635M	..W32	KVNS051580D	..U7
KTIP1770FEGM KCPM45	..H36	KTIP220R12SS25M	..H38	KTMDU11L4816N55 KC610M	..W32	KVNS060870D	..U7
KTIP1770HPM KCP15	..H33	KTIP220R1SCF25M	..H40	KTMDU11L4816N55 KC635M	..W32	KVNS061180D	..U7
KTIP1780HPM KCP15	..H33	KTIP220R1SS25M	..H38	KTMDU16L0604N55 KC610M	..W36	KVNS081180D	..U7
KTIP1790HPM KCP15	..H33	KTIP220R3SCF25M	..H40	KTMDU16L0604N55 KC635M	..W36	KVNS101180D	..U7
KTIP1800FEGM KCPM45	..H36	KTIP220R3SS25M	..H38	KTMDU16L1107N55 KC610M	..W36	KVNS102360D	..U8
KTIP1800HPM KCP15	..H33	KTIP220R5SCF25M	..H40	KTMDU16L1107N55 KC635M	..W36	KW1008	..V148-149
KTIP180R12SS20M	..H38	KTIP220R5SS25M	..H38	KTMDU16L1520N60 KC610M	..W36	LO5MNERIS	..D37
KTIP180R1SCF25M	..H40	KTIP220R8SCF25M	..H38	KTMDU16L1520N60 KC635M	..W36	LO5MSCPLP2	..B215
KTIP180R1SS20M	..H38	KTIP220R8SS25M	..H38	KTMDU16L1612N55 KC610M	..W36	LO5MSCPLR2	..B215
KTIP180R3BF18M	..111	KTIP2250HPM KCP15	..H34	KTMDU16L2535N60 KC610M	..W36	LO6MNERIS	..D37
KTIP180R3SCF25M	..H40	KTIP2280HPM KCP15	..H34	KTMDU16L2535N60 KC635M	..W36	LO6MSCFP2	..B213
KTIP180R3SS20M	..H38	KTIP2300HPM KCP15	..H34	KTMDU16L4060N60 KC610M	..W36	LO6MSCPL2	..B215
KTIP180R4BF18M	..112	KTIP230R12SS25M	..H38	KTMDU16L4060N60 KC635M	..W36	LO6MSCPLR2	..B215
KTIP180R5BF18M	..113	KTIP230R1SCF25M	..H40	KTMDUCD058L236Z1	..W30	LO6MSDUP2	..B235
KTIP180R5SCF25M	..H40	KTIP230R1SS25M	..H38	KTMDUCD068L256Z2	..W30	LO6MSDUPR2	..B235

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
L06MSTFPR2	B273	LNEU1260R04 KC725M	U19	LNGU544SRGE KC522M	T19	LNUX191940RRSM KCP25B	E58
L08RNL2	D37	LNEU1260R04 KCPM40	U19	LNGU544SRGE KC725M	T19	LNUX191940S-WT5 KCP25B	E59
L08RNER1S	D37	LNGU431ERGE KC522M	T9	LNGU544SRGE KCK15	T19	LNUX191950RRF KCP10B	E54
L08RNER2	D37	LNGU431ERGE KC725M	T9	LNGU544SRGE KCPK30	T19	LNUX191950RRF KCP25B	E54
L08RSCFFP12	B213	LNGU431ERGE KCPM40	T9	LNGU544SRGEM KC520M	T19	LNUX191950RRP KCP10B	E54
L08RSCFFP2	B213	LNGU431ERLEJ KC422M	T8	LNGU544SRGEM KCK15	T19	LNUX191950RRP KCP25B	E54
L08RSCPLP2	B215	LNGU431SRGE KC522M	T9	LNGU544SRGEM KCPK30	T19	LNUX301940RRF KCP10	E57
L08RSCPLP2	B215	LNGU431SRGE KCPM40	T9	LNGU544SRGEM KCPM40	T19	LNUX301940RRH KCP10B	E57
L08RSDUPL2	B235	LNGU431SRGE KCSM40	T9	LNGU545SRGEM KC520M	T19	LNUX301940RRH KCP25	E57
L08RSDUPR2	B235	LNGU432ERGE KC522M	T9	LNGU545SRGEM KCK15	T19	LNUX301940RRP KCP25	E58
L08RSTFPR2	B273	LNGU432ERGE KC725M	T9	LNGU545SRGEM KCPK30	T19	LNUX301940RRSM KCP10B	E58
L10RNER2	D37	LNGU432ERGE KCPM40	T9	LNGU545SRGEM KCPM40	T19	LNUX301960RRP KCP10B	E54
L10RSCFFP2	B213	LNGU432ERGE KCSM30	T9	LNP432SRGE KC520M	T10	LNUX301960RRP KCP25B	E54
L10RSCPL3	B215	LNGU432ERGE KCSM40	T9	LNP432SRGE KC522M	T10	LS103	S104
L10RSCPLP2	B215	LNGU432ERLEJ KC422M	T8	LNP432SRGE KC725M	T10	LSASL103	D71
L10RSCPLP3	B215	LNGU432SRGE KC522M	T9	LNP432SRGE KCK15	T10	LSASL123	D71
L10RSDUPR2	B235	LNGU432SRGE KC725M	T9	LNP432SRGE KCPK30	T10	LSASL163	D71
L10RSTFPR2	B273	LNGU432SRGE KCK15	T9	LNP432SRGE KCPM40	T10	LSASL164	D71
L12RNER2	D37	LNGU432SRGE KCPK30	T9	LNP433SRGE KC520M	T10	LSASL83	D71
L12RSCFFP3	B213	LNGU432SRGE KCPM40	T9	LNP433SRGE KC522M	T10	LSASR103	D71
L12RSCPL3	B215	LNGU432SRGE KCSM40	T9	LNP433SRGE KC725M	T10	LSASR123	D71
L12RSCPLP3	B215	LNGU432SRGEM KC520M	T10	LNP433SRGE KCK15	T10	LSASR163	D71
L12RSDUPR3	B235	LNGU432SRGEM KC522M	T10	LNP433SRGE KCPK30	T10	LSASR164	D71
L12RSTFPR3	B273	LNGU432SRGEM KCK15	T10	LNP433SRGE KCPM40	T10	LSASR203	D71
L16SNER3	D37	LNGU432SRGEM KCPK30	T10	LNP434SRGE KC520M	T10	LSASR83	D71
L16SSCFFP3	B213	LNGU432SRGEM KCPM40	T10	LNP434SRGE KC522M	T10	LSSL123D	D71
L16SSCPL3	B215	LNGU433ERGE KC522M	T9	LNP434SRGE KC725M	T10	LSSL163D	D71
L16SSCPLP3	B215	LNGU433ERGE KCPM40	T9	LNP434SRGE KCPK30	T10	LSSL164D	D71
LNEU1235R03 4 KC725M	U20	LNGU433ERGE KCSM40	T9	LNP434SRGE KCPM40	T10	LSSR123D	D71
LNEU1235R03 4 KCK15	U20	LNGU433SRGEM KC520M	T10	LNP541SRGE KC520M	T19	LSSR163D	D71
LNEU1240R03 4 KC725M	U20	LNGU433SRGEM KCK15	T10	LNP541SRGE KC522M	T19	LSSR164D	D71
LNEU1240R03 4 KCPK30	U20	LNGU433SRGEM KCPK30	T10	LNP541SRGE KC725M	T19	LSSR203D	D71
LNEU1245R04 KC520M	U20	LNGU433SRGEM KCPM40	T10	LNP541SRGE KCK15	T19	LSSR204D	D71
LNEU1245R04 KC725M	U20	LNGU434SRGEM KC520M	T10	LNP541SRGE KCPK30	T19	LSSRDH123C	D72
LNEU1245R04 KCK15	U20	LNGU434SRGEM KCK15	T10	LNP542SRGE KC520M	T19	LSSRDH164D	D72
LNEU1245R04 KCPK30	U20	LNGU434SRGEM KCPK30	T10	LNP542SRGE KC522M	T19	LT11NL10ISO KC5025	D63
LNEU1250R04 KCK15	U20	LNGU434SRGEM KCPM40	T10	LNP542SRGE KC725M	T19	LT11NL15ISO KC5025	D63
LNEU1255R04 KC725M	U20	LNGU541ERGE KC522M	T18	LNP542SRGE KCK15	T19	LT11NL32UN KC5025	D67
LNEU1255R04 KCK15	U20	LNGU541ERGE KC725M	T18	LNP542SRGE KCPK30	T19	LT11NLA60 KC5025	D60
LNEU1260R04 KC725M	U20	LNGU541ERGE KCPM40	T18	LNP542SRGE KCPM40	T19	LT11NRO5ISO KC5025	D63
LNEU1260R04 KCK15	U20	LNGU541ERGE KCSM30	T18	LNP543SRGE KC520M	T19	LT11NR075ISO KC5025	D63
LNEU1260R04 KCPM40	U20	LNGU541ERLEJ KC422M	T18	LNP543SRGE KC522M	T19	LT11NR075ISO CB KC5025	D64
LNEU1235R03 4 KC520M	U19	LNGU541SRGE KC520M	T19	LNP543SRGE KC725M	T19	LT11NR10ISO KC5025	D63
LNEU1235R03 4 KC725M	U19	LNGU541SRGE KC522M	T19	LNP543SRGE KCPK30	T19	LT11NR10ISO CB KC5025	D64
LNEU1235R03 4 KCPM40	U19	LNGU541SRGE KC725M	T19	LNP543SRGE KCPM40	T19	LT11NR125ISO KC5025	D63
LNEU1235R03SGP 4 KC725M	U20	LNGU541SRGE KCK15	T19	LNP544SRGE KC520M	T19	LT11NR125ISO CB KC5025	D64
LNEU1240R03 4 KC520M	U19	LNGU541SRGE KCPK30	T19	LNP544SRGE KC522M	T19	LT11NR148SPT KC5025	D62
LNEU1240R03 4 KC725M	U19	LNGU542ERGE KC522M	T18	LNP544SRGE KC725M	T19	LT11NR14NPT KC5010	D64
LNEU1240R03 4 KCPM40	U19	LNGU542ERGE KC725M	T18	LNP544SRGE KCK15	T19	LT11NR14NPT KC5025	D64
LNEU1240R03SGP 4 KC725M	U20	LNGU542ERGE KCPM40	T18	LNP544SRGE KCPK30	T19	LT11NR14NPTF KC5025	D65
LNEU1240R08 4 KC520M	U19	LNGU542ERGE KCSM40	T18	LNP544SRGE KCPM40	T19	LT11NR14UNJ KC5025	D68
LNEU1240R08 4 KC725M	U19	LNGU542ERGE KCSM40	T18	LNP545SRGE KC522M	T19	LT11NR14W KC5025	D69
LNEU1240R08 4 KCPM40	U19	LNGU542ERGEJ KC422M	T18	LNP545SRGE KC725M	T19	LT11NR15ISO KC5010	D63
LNEU1240R16 4 KC725M	U19	LNGU542SRGE KC520M	T19	LNP545SRGE KCK15	T19	LT11NR15ISO KC5025	D63
LNEU1245R04 KC520M	U19	LNGU542SRGE KC522M	T19	LNP545SRGE KCPK30	T19	LT11NR15ISO CB KC5025	D64
LNEU1245R04 KC725M	U19	LNGU542SRGE KC725M	T19	LNP545SRGE KCPM40	T19	LT11NR16UN KC5010	D67
LNEU1245R04 KCPK30	U19	LNGU542SRGE KCK15	T19	LNP763PNSLHD2 KC520M	S99, S101	LT11NR16UNCB KC5025	D68
LNEU1245R04 KCPM40	U19	LNGU542SRGE KCPK30	T19	LNP763PNSLHD2 KCPK30	S99, S101	LT11NR16UNJ KC5025	D68
LNEU1245R04SGP KC725M	U20	LNGU542SRGE KCSM40	T19	LNP763PNSLHD2 KCPM40	S99, S101	LT11NR175ISO KC5025	D63
LNEU1245R08 KC520M	U19	LNGU542SRGEH KCSM40	T20	LNP763PNSRHD KC725M	S99, S101	LT11NR18NPT KC5025	D64
LNEU1245R08 KC725M	U19	LNGU542SRGEM KC520M	T19	LNP763PNSRHD KCK15	S99, S101	LT11NR18UN KC5025	D67
LNEU1245R08 KCPM40	U19	LNGU542SRGEM KCK15	T19	LNP763PNSRHD KCPK30	S99, S101	LT11NR18UNCB KC5025	D68
LNEU1245R08SGP KC725M	U20	LNGU542SRGEM KCPK30	T19	LNP763PNSRHD KCPM40	S99, S101	LT11NR19W KC5025	D69
LNEU1245R08SGP KCPM40	U20	LNGU543ERGE KC522M	T18	LNP763PNSRHD KCSM40	S99, S101	LT11NR24UN KC5025	D63
LNEU1245R16 KC725M	U19	LNGU543ERGE KC725M	T18	LNP763PNSRHD2 KCPK30	S99, S101	LT11NR20UN KC5025	D67
LNEU1245R16SGP KC725M	U20	LNGU543ERGE KCPM40	T18	LNP763PNSRHD2 KCPM40	S99, S101	LT11NR20UNCB KC5025	D68
LNEU1245R32 KC520M	U19	LNGU543ERGE KCSM30	T18	LNP763PNSRHD2 KCPK30	S99, S101	LT11NR28UN KC5025	D67
LNEU1245R32 KC725M	U19	LNGU543ERGE KCSM40	T18	LNP763PNSRHD2 KCSM40	S99, S101	LT11NR32UN KC5025	D67
LNEU1250R04 KC725M	U19	LNGU543SRGE KC520M	T19	LNP763PNSRHD2 KCPK30	S99, S101	LT11NR32UNCB KC5025	D68
LNEU1250R04 KCPM40	U19	LNGU543SRGE KC522M	T19	LNP763PNSRHD2 KCPM40	S99, S101	LT11NR40UN KC5025	D67
LNEU1250R04SGP KC725M	U20	LNGU543SRGE KC725M	T19	LNP763PNSRHD2 KCSM40	S99, S101	LT11NRA55 KC5025	D60
LNEU1250R08 KC725M	U19	LNGU543SRGE KCK15	T19	LNP763PNSRHD2 KCSM40	S99, S101	LT11NRA60 KC5010	D60
LNEU1250R08 KCPM40	U19	LNGU543SRGE KCPK30	T19	LNP763PNSRHD2 KCSM40	S99, S101	LT11NRA60 KC5025	D60
LNEU1250R08SGP KC725M	U20	LNGU543SRGEM KCPM40	T19	LNP763PNSRHD2 KCSM40	S99, S101	LT11NRA60CB KC5025	D61
LNEU1255R04 KC725M	U19	LNGU543SRGEM KC520M	T19	LNP763PNSRHD2 KCSM40	S99, S101	LT16ELO5ISO KC5025	D54
LNEU1255R04 KCPM40	U19	LNGU543SRGEM KCK15	T19	LNUX191940RRF KCP10	E57	LT16ELO75ISO KC5025	D54
LNEU1255R08 KC520M	U19	LNGU543SRGEM KCPM40	T19	LNUX191940RRF KCP25	E57	LT16EL10ISO KC5025	D54
LNEU1255R08 KC725M	U19	LNGU544ERGE KC725M	T18	LNUX191940RRH KCP10	E57	LT16EL11W KC5025	D59
LNEU1255R08 KCPM40	U19	LNGU544ERGE KCPM40	T18	LNUX191940RRH KCP25	E57		
LNEU1255R16 KC725M	U19	LNGU544ERGE KCSM30	T18	LNUX191940RRP KCP10	E58		
LNEU1255R32 KC725M	U19	LNGU544SRGE KC520M	T19	LNUX191940RRP KCP25	E58		

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
LT16EL125ISO KC5025	D64	LT16ER16UN KC5025	D57	LT16ERAG60K KU25T	D52	LT16NR8RD KC5025	D65
LT16EL12UN KC5025	D57	LT16ER16UNCB KC5010	D58	LT16ER65 KC5025	D51	LT16NR8STACME KC5025	D66
LT16EL14UN KC5025	D57	LT16ER16UNCB KC5025	D58	LT16ER60 KC5010	D51	LT16NR8UN KC5025	D67
LT16EL14W KC5025	D69	LT16ER16UNJ KC5010	D58	LT16ER60 KC5025	D51	LT16NR8UNCB KC5025	D68
LT16EL15ISO KC5010	D54	LT16ER16UNJ KC5025	D58	LT16NL10ISO KC5025	D63	LT16NR8W KC5025	D69
LT16EL15ISO KC5025	D54	LT16ER16W KC5025	D59	LT16NL10UN KC5025	D67	LT16NRA55 KC5025	D60
LT16EL16UN KC5025	D57	LT16ER175ISO KC5010	D54	LT16NL11W KC5025	D69	LT16NRA60 KC5010	D60
LT16EL16UNJ KC5025	D58	LT16ER175ISO KC5025	D54	LT16NL12UN KC5025	D67	LT16NRA60 KC5025	D60
LT16EL175ISO KC5025	D54	LT16ER175ISO CB KC5010	D54	LT16NL15ISO KC5025	D63	LT16NRA65 KC5025	D60
LT16EL18UN KC5025	D57	LT16ER175ISO CB KC5025	D54	LT16NL16UN KC5025	D67	LT16NRA60 KC5010	D60
LT16EL20ISO KC5025	D54	LT16ER18NPT KC5010	D55	LT16NL20ISO KC5025	D63	LT16NRA60 KC5025	D60
LT16EL20UN KC5025	D57	LT16ER18NPT KC5025	D55	LT16NL25ISO KC5025	D63	LT16NRA60CB KC5025	D61
LT16EL24UN KC5025	D57	LT16ER18UN KC5010	D57	LT16NL30ISO KC5025	D63	LT16NRA60K KU25T	D61
LT16EL25ISO KC5025	D54	LT16ER18UN KC5025	D57	LT16NLA60 KC5025	D60	LT16NR65 KC5025	D60
LT16EL28UN KC5025	D57	LT16ER18UNCB KC5010	D58	LT16NLAG60 KC5025	D60	LT16NR60 KC5010	D60
LT16EL30ISO KC5025	D54	LT16ER18UNCB KC5025	D58	LT16NLG60 KC5025	D60	LT16NR60 KC5025	D60
LT16EL8APIRD KC5025	D53	LT16ER18UNJ KC5010	D58	LT16NR05ISO KC5025	D63	LT16NR60CB KC5025	D61
LT16EL8UN KC5025	D57	LT16ER18UNJ KC5025	D58	LT16NR075ISO KC5025	D63	LT22EL35ISO KC5025	D54
LT16ELA60 KC5025	D51	LT16ER18W KC5025	D59	LT16NR10ACME KC5025	D61	LT22ELN60 KC5025	D51
LT16ELAG55 KC5025	D51	LT16ER19W KC5010	D59	LT16NR10APIRD KC5025	D62	LT22ER35ISO KC5025	D54
LT16ELAG60 KC5025	D51	LT16ER19W KC5025	D59	LT16NR10ISO KC5010	D63	LT22ER40ISO KC5025	D54
LT16ELG60 KC5025	D51	LT16ER20ISO KC5010	D54	LT16NR10ISO KC5025	D63	LT22ER45ISO KC5025	D54
LT16ER05ISO KC5025	D54	LT16ER20ISO KC5025	D54	LT16NR10ISO CB KC5025	D64	LT22ER4API382 KC5025	D52
LT16ER05ISO CB KC5010	D54	LT16ER20ISO CB KC5010	D54	LT16NR10STACME KC5025	D66	LT22ER4API502 KC5010	D52
LT16ER05ISO CB KC5025	D54	LT16ER20ISO CB KC5025	D54	LT16NR10UN KC5025	D67	LT22ER4API502 KC5025	D52
LT16ER075ISO KC5025	D54	LT16ER20UN KC5010	D57	LT16NR10UNCB KC5025	D68	LT22ER4API503 KC5010	D52
LT16ER075ISO CB KC5010	D54	LT16ER20UN KC5025	D57	LT16NR10W KC5025	D69	LT22ER4TR KC5025	D57
LT16ER075ISO CB KC5025	D54	LT16ER20UNCB KC5010	D58	LT16NR115NPT KC5010	D64	LT22ER50ISO KC5025	D54
LT16ER10ACME KC5025	D52	LT16ER20UNCB KC5025	D58	LT16NR115NPT KC5025	D64	LT22ER5ACME KC5025	D52
LT16ER10APIRD KC5025	D53	LT16ER20UNJ KC5010	D58	LT16NR115NPT CB KC5025	D65	LT22ER5API403 KC5010	D52
LT16ER10ISO KC5010	D54	LT16ER20UNJ KC5025	D58	LT16NR11BSPT KC5025	D62	LT22ER5BUT75 KC5025	D53
LT16ER10ISO KC5025	D54	LT16ER20W KC5025	D59	LT16NR11W KC5010	D69	LT22ER5STACME KC5025	D56
LT16ER10ISO CB KC5010	D54	LT16ER24UN KC5010	D57	LT16NR11W KC5025	D69	LT22ER5TR KC5025	D57
LT16ER10ISO CB KC5025	D54	LT16ER24UN KC5025	D57	LT16NR11WCB KC5025	D69	LT22ER6ACME KC5025	D52
LT16ER10STACME KC5025	D56	LT16ER24UNCB KC5010	D58	LT16NR125ISO KC5025	D63	LT22ER6RD KC5025	D56
LT16ER10UN KC5025	D57	LT16ER24UNCB KC5025	D58	LT16NR12ACME KC5025	D61	LT22ER6W KC5025	D59
LT16ER10UNCB KC5025	D58	LT16ER24UNJ KC5025	D58	LT16NR12STACME KC5025	D66	LT22ER7W KC5025	D59
LT16ER10W KC5025	D59	LT16ER24W KC5025	D59	LT16NR12UN KC5010	D67	LT22ER855 KC5025	D51
LT16ER115NPT KC5010	D55	LT16ER25ISO KC5010	D54	LT16NR12UN KC5025	D67	LT22ERN60 KC5025	D51
LT16ER115NPT KC5025	D55	LT16ER25ISO KC5025	D54	LT16NR12UNCB KC5025	D68	LT22NLN60 KC5025	D60
LT16ER115NPTF KC5025	D55	LT16ER25ISO CB KC5025	D54	LT16NR12UNJ KC5025	D68	LT22NR3ISO KC5025	D63
LT16ER115NPTF CB KC5025	D56	LT16ER27NPT KC5025	D55	LT16NR12W KC5025	D69	LT22NR40ISO KC5025	D63
LT16ER11BSPT KC5025	D53	LT16ER28UN KC5010	D57	LT16NR14BSPT KC5025	D62	LT22NR45ISO KC5025	D63
LT16ER11W KC5010	D59	LT16ER28UN KC5025	D57	LT16NR14NPT KC5025	D64	LT22NR4API382 KC5025	D62
LT16ER11W KC5025	D59	LT16ER28UNCB KC5010	D58	LT16NR14NPT CB KC5025	D65	LT22NR4API502 KC5025	D62
LT16ER11WCB KC5025	D59	LT16ER28UNCB KC5025	D58	LT16NR14NPTF KC5025	D65	LT22NR4TR KC5025	D66
LT16ER125ISO KC5010	D54	LT16ER28UNJ KC5025	D58	LT16NR14STACME KC5025	D66	LT22NR50ISO KC5025	D63
LT16ER125ISO KC5025	D54	LT16ER28W KC5025	D59	LT16NR14UN KC5025	D67	LT22NR5ACME KC5025	D61
LT16ER125ISO CB KC5010	D54	LT16ER2TR KC5025	D57	LT16NR14UNCB KC5025	D68	LT22NR5API403 KC5025	D62
LT16ER125ISO CB KC5025	D54	LT16ER30ISO KC5010	D54	LT16NR14W KC5025	D69	LT22NR5BUT1 KC5025	D63
LT16ER12ACME KC5025	D52	LT16ER30ISO KC5025	D54	LT16NR14WCB KC5025	D69	LT22NR5BUT75 KC5025	D63
LT16ER12STACME KC5025	D56	LT16ER30ISO CB KC5010	D54	LT16NR15ISO KC5010	D63	LT22NR5TR KC5025	D66
LT16ER12UN KC5010	D57	LT16ER30ISO CB KC5025	D54	LT16NR15ISO KC5025	D63	LT22NR6ACME KC5025	D61
LT16ER12UN KC5025	D57	LT16ER32UN KC5010	D57	LT16NR15ISO CB KC5025	D64	LT22NR6RD KC5025	D65
LT16ER12UNCB KC5010	D58	LT16ER32UN KC5025	D57	LT16NR16STACME KC5025	D66	LT22NR7W KC5025	D69
LT16ER12UNCB KC5025	D58	LT16ER32UNCB KC5010	D58	LT16NR16UN KC5025	D67	LT22NR855 KC5025	D60
LT16ER12UNJ KC5010	D58	LT16ER32UNCB KC5025	D58	LT16NR16UNCB KC5025	D68	LT22NR960 KC5025	D60
LT16ER12UNJ KC5025	D58	LT16ER32UNJ KC5025	D58	LT16NR16UNJ KC5025	D68	LT27ER4API382 KC5025	D52
LT16ER12W KC5025	D59	LT16ER36UN KC5025	D57	LT16NR16W KC5025	D69	LT27ER4API502 KC5025	D52
LT16ER14BSPT KC5025	D53	LT16ER3TR KC5025	D57	LT16NR175ISO KC5025	D63	LT27NR4API382 KC5025	D62
LT16ER14NPT KC5010	D55	LT16ER40UN KC5025	D57	LT16NR18UN KC5025	D67	LT27NR4API502 KC5025	D62
LT16ER14NPT KC5025	D55	LT16ER48UN KC5025	D57	LT16NR18UNCB KC5025	D68	M-13-M8-CA.625-3.543 S	V32
LT16ER14NPT CB KC5010	D55	LT16ER6STACME KC5025	D56	LT16NR19W KC5025	D69	M-13-M8-CA.625-4.331 S	V32
LT16ER14NPT CB KC5025	D55	LT16ER8ACME KC5025	D52	LT16NR20ISO KC5010	D63	M-13-M8-CA.625-5.118 S	V32
LT16ER14NPTF KC5025	D55	LT16ER8APIRD KC5025	D53	LT16NR20ISO KC5025	D63	M-13-M8-CA.625-6.693 S	V32
LT16ER14UN KC5010	D57	LT16ER8NPT KC5025	D55	LT16NR20ISO CB KC5025	D64	M-18-M10-CA.750-4.331 S	V32
LT16ER14UN KC5025	D57	LT16ER8RD KC5025	D56	LT16NR20UN KC5025	D67	M-18-M10-CA.750-5.118 S	V32
LT16ER14UNCB KC5010	D58	LT16ER8STACME KC5025	D56	LT16NR20UNCB KC5025	D68	M-18-M10-CA.750-6.693 S	V32
LT16ER14UNCB KC5025	D58	LT16ER8UN KC5025	D57	LT16NR20W KC5025	D69	M-21-M12-CA1-5.157 S	V32
LT16ER14UNJ KC5010	D58	LT16ER8UNCB KC5010	D58	LT16NR24UN KC5025	D67	M-21-M12-CA1-6.142 S	V32
LT16ER14UNJ KC5025	D58	LT16ER8UNCB KC5025	D58	LT16NR25ISO KC5025	D63	M-21-M12-CA1-7.126 S	V32
LT16ER14W KC5010	D59	LT16ER8W KC5025	D59	LT16NR25ISO CB KC5025	D64	M-21-M12-CA1-8.110 S	V32
LT16ER14W KC5025	D59	LT16ER9W KC5025	D59	LT16NR28UN KC5025	D67	M-21-M12-CA1-9.094 S	V32
LT16ER14WCB KC5010	D59	LT16ERA55 KC5025	D51	LT16NR2TR KC5025	D66	M-29-M16-CA1-25-10.2 S	V32
LT16ER14WCB KC5025	D59	LT16ERA60 KC5010	D51	LT16NR30ISO KC5010	D63	M-29-M16-CA1-25-12.2 S	V32
LT16ER15ISO KC5010	D54	LT16ERA60 KC5025	D51	LT16NR30ISO KC5025	D63	M-29-M16-CA1-25-6.3 S	V32
LT16ER15ISO KC5025	D54	LT16ERAG55 KC5010	D51	LT16NR32UN KC5025	D67	M-29-M16-CA1-25-8.27 S	V32
LT16ER15ISO CB KC5010	D54	LT16ERAG55 KC5025	D51	LT16NR3TR KC5025	D66	M10-JIC	C83
LT16ER15ISO CB KC5025	D54	LT16ERAG60 KC5010	D51	LT16NR6STACME KC5025	D66	M1D050E0702C050L400	T24
LT16ER16ACME KC5025	D52	LT16ERAG60 KC5025	D51	LT16NR8ACME KC5025	D61	M1D050E1001C062L350	T31
LT16ER16STACME KC5025	D56	LT16ERAG60CB KC5010	D51	LT16NR8APIRD KC5025	D62	M1D062E0703C062L500	T24
LT16ER16UN KC5010	D57	LT16ERAG60CB KC5025	D51	LT16NR8NPT KC5025	D64	M1D062E1002C062L670	T31

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
M1D062E1002C062L670R	T32	M1D150E1004S075L157	T33	M1HR200ED10S075ZL240C25	T43	M4D300L1509S100L175	T17
M1D062E1002C075L400	T31	M1D150E1006CM16	T29	M1HR250E14S100Z3L250C9	T64, T72	M4D400L1506S150L200	T17
M1D062E1002CM08	T29	M1D150E1006S075L157	T33	M1HR250E14S100Z3L300C12	T64, T72	M4D400L1508S150L200	T17
M1D062E1002W075L100	T30	M1D150E1403C125L1000	T52	M1HR250E14S100Z4L250C12	T64, T72	M4D400L1511S150L200	T17
M1D062E1401W075L150	T49	M1D150E1404C125L1000	T52	M4-11K1TD062Z2C062S2GKCPM40	T11	M4D500L1507S150L238	T17
M1D075E0705C075L600	T24	M1D150E1404W125L225	T50	M4-11K1TD062Z2C062S2GKCPM40	T11	M4D500L1509S150L238	T17
M1D075E1002C075L450	T31	M1D150E1405C125L800	T52	M4-11K1TD062Z2W062S2GKCPM40	T11	M4D500L1511S150L238	T17
M1D075E1002C075L670	T31	M1D150E1405CV40L300	T54	M4-11K1TD062Z2W062S2GKCPM40	T11	M4D600L1508S200L238	T17
M1D075E1002CM10	T29	M1D150E1405S075L157	T53	M4-11K1TD075Z2W075S2GKCPM40	T11	M4D600L1510S200L238	T17
M1D075E1002W075L110	T30	M1D150E1405W125L225	T50	M4-11K1TD075Z3C075S2GKCPM40	T11	M4D600L1512S200L238	T17
M1D075E1003C075L450	T31	M1D150E1405W125L225R	T50	M4-11K1TD075Z3C075S2GKCPM40	T11	M4K1TD100Z02C100EGKCPM40	T21
M1D075E1003C075L670	T31	M1D150E1803C125L1000	T77	M4-11K1TD075Z3W075S2GKCPM40	T11	M4K1TD100Z02W100S2GKCPM40	T21
M1D075E1003C075L670R	T32	M1D150E1803C125L1000AL	T77	M4-11K1TD075Z3W075S2GKCPM40	T11	M4K1TD100Z02W100S2GKCPM40	T21
M1D075E1003CM10	T29	M1D150E1803C125L800	T77	M4-11K1TD100Z3W100S2GKCPM40	T11	M4K1TD125Z03C125EGKCPM40	T21
M1D075E1003W075L110	T30	M1D150E1803W125L225	T76	M4-11K1TD100Z3W100S2GKCPM40	T11	M4K1TD125Z03C125EGKCPM40	T21
M1D075E1002C075L450	T52	M1D150E1803W125L425	T76	M4-11K1TD100Z4C100S2GKCPM40	T11	M4K1TD125Z03W100S2GKCPM40	T21
M1D075E1002C075L800	T52	M1D150E1803W125L425R	T76	M4-11K1TD100Z4C100S2GKCPM40	T11	M4K1TD150Z04W125S2GKCPM40	T21
M1D075E1402W075L175	T49	M1D150E1804BT40L488	T80	M4-11K1TD125Z4W125S2GKCPM40	T11	M4K1TD150Z05S050EGKCPM40	T21
M1D075E1402W075L175DE	T51	M1D150E1804CV40L288	T79	M4-11K1TD125Z4W125S2GKCPM40	T11	M4K1TD150Z05S050S2GKCPM40	T21
M1D088E1003C075L670	T31	M1D150E1804CV40L488	T79	M4-11K1TD125Z5C125S2GKCPM40	T11	M4K1TD150Z05S050S2GKCPM40	T21
M1D088E1402W100L175	T49	M1D150E1804W125L225	T76	M4-11K1TD125Z5C125S2GKCPM40	T11	M4K1TD200Z06S075EGKCPM40	T21
M1D097E1403W100L175	T49	M1D150E1804W125L225R	T76	M4-11K1TD125Z5C125S2GKCPM40	T11	M4K1TD200Z06S075EGKCPM40	T21
M1D097E1802W100L175	T75	M1D150K2502C125L200	T89	M4-11K1TD150Z5S050S2GKCPM40	T11	M4K1TD200Z06S075EGKCPM40	T21
M1D100E1003C075L480	T31	M1D150K2502C125L400	T89	M4-11K1TD200Z5S075S2GKCPM40	T11	M4K1TD200Z06S075EGKCPM40	T21
M1D100E1003C100L480	T31	M1D150K2502HSK63L477	T91	M4-11K1TD200Z5S075S2GKCPM40	T11	M4K1TD200Z06S075EGKCPM40	T21
M1D100E1003C100L800	T31	M1D150K2502W125L200	T89	M4-11K1TD200Z7S075S2GKCPM40	T11	M4K1TD250Z06S075EGKCPM40	T21
M1D100E1003C100L800R	T32	M1D200E1005S075L157	T33	M4-11K1TD200Z7S075S2GKCPM40	T11	M4K1TD250Z06S075EGKCPM40	T21
M1D100E1003CM12	T29	M1D200E1008S075L157	T33	M4D062L1102C062L600	T6, T11	M4K1TD250Z06S075EGKCPM40	T21
M1D100E1003W075L125	T30	M1D200E1403S075L157	T53	M4D062L1102C062L600	T6	M4K1TD300Z07S100EGKCPM40	T21
M1D100E1003W100L125	T30	M1D200E1405S075L157	T53	M4D062L1102W062L100	T5, T11	M4K1TD300Z07S100EGKCPM40	T21
M1D100E1004C075L480	T31	M1D200E1406S075L157	T53	M4D075L1102C075L600	T6	M4K1TD300Z09S100S2GKCPM40	T21
M1D100E1004C100L480	T31	M1D200E1803S075L157	T78	M4D075L1102W075L110	T5, T11	M4K1TD400Z08S150S2GKCPM40	T21
M1D100E1004C100L800	T31	M1D200E1803S075L157AL	T78	M4D075L1103C075L400	T6, T11	M4K1TD400Z11S150S2GKCPM40	T21
M1D100E1004C100L800R	T32	M1D200E1805S075L157	T78	M4D075L1103C075L600	T6	M6-JIC	C83
M1D100E1004CM12	T29	M1D200E1805W125L225	T76	M4D075L1103M10L110	T4	M8-JIC	C83
M1D100E1004W075L125	T30	M1D200K2502S075L200	T90	M4D075L1103W075L110	T5, T11	MB115RBHT12F	K124
M1D100E1004W100L125	T30	M1D200K2503C125L200	T89	M4D100L1103C100L700	T6	MB115RBHT16LF	K124
M1D100E1402C100L1000	T52	M1D200K2503CV50L700	T92	M4D100L1103W075L175	T5	MB115RBHT16LK	K125
M1D100E1402W100L175	T49	M1D250E1006S075L157	T33	M4D100L1103W100L175	T5, T11	MB24RBHT06F	K124
M1D100E1403C100L750	T52	M1D250E1009S075L157	T33	M4D100L1104C075L450	T6	MB24RBHT06K	K125
M1D100E1403CV40L300	T54	M1D250E1405S075L157	T53	M4D100L1104C100L450	T6, T11	MB30RBHT06K	K124
M1D100E1403W075L175	T50	M1D250E1407S075L157	T53	M4D100L1104C100L700	T6	MB30RBHT06K	K125
M1D100E1403W100L175	T49	M1D250E1804S075L157AL	T78	M4D100L1104M12L125	T4	MB40RBHT09F	K124
M1D100E1403W100L175DE	T51	M1D250E1806S075L157	T78	M4D100L1502C100L1000	T16	MB40RBHT09K	K125
M1D100E1403W100L175R	T50	M1D250K2503S100L225	T90	M4D100L1502C100L800	T16	MB50RBHT09K	K124
M1D100E1802BT40L450	T80	M1D300E1008S100L175	T33	M4D100L1502M12L125	T14	MB50RBHT09K	K125
M1D100E1802C100L1000	T77	M1D300E1010S100L175	T33	M4D100L1502W100L175	T15	MB66RBHT12K	K124
M1D100E1802C100L800	T77	M1D300E1404S100L175	T53	M4D100L1502W100L175	T15	MB66RBHT12K	K125
M1D100E1802CV40L250	T79	M1D300E1406S100L175	T53	M4D125L1104C125L800	T6	MB66RBHT12LF	K124
M1D100E1802CV40L450	T79	M1D300E1408S100L175	T53	M4D125L1104W125L225	T5, T11	MB66RBHT12LK	K125
M1D100E1802W075L175	T76	M1D300E1804S100L175AL	T78	M4D125L1105C100L500	T6	MB78RBHT12F	K124
M1D100E1802W100L175	T75	M1D300E1805S100L175	T78	M4D125L1105C125L500	T6, T11	MB78RBHT12K	K125
M1D100E1802W100L175R	T75	M1D300E1807S100L175	T78	M4D125L1105M16L175	T4	MB78RBHT16LF	K124
M1D100E1802W100L375	T75	M1D300K2503S100L225	T90	M4D125L1503C125L1000	T16	MB78RBHT16LK	K125
M1D100E1802W100L375R	T75	M1D400E1008S150L200	T33	M4D125L1503C125L800	T16	MCC080001	V88, V91
M1D110E1004C100L800	T31	M1D400E1408S150L200	T53	M4D125L1503M16L175	T14	MCC0800HP	V88, V91
M1D125E1004C125L520	T31	M1D400E1410S150L200	T53	M4D125L1503W100L225	T15	MCFNL10CA3	B72
M1D125E1004C125L800	T31	M1D400E1806S150L200	T78	M4D125L1503W125L225	T15	MCFNL12CA4	B72
M1D125E1004W125L160	T30	M1D400E1808S150L200	T78	M4D150L1105S050L157	T7, T11	MCFNL164D	B60
M1D125E1005C125L520	T31	M1D400K2504S125L225	T90	M4D150L1105W125L225	T5	MCFNR10CA3	B72
M1D125E1005C125L800	T31	M1D500E1809S150L200	T78	M4D150L1106S050L157	T7	MCFNR124B	B60
M1D125E1005C125L800R	T32	M1D600E1808S150L200	T78	M4D150L1503W125L225	T16	MCFNR12CA4	B72
M1D125E1005CM16	T29	M1D600E1808S200L200	T78	M4D150L1504C125L1000	T15	MCFNR164C	B60
M1D125E1005W125L160	T30	M1D800E1812S250L250	T78	M4D150L1504C125L800	T16	MCFNR164D	B60
M1D125E1403C125L1000	T52	M1HR075ED10W075Z2L110C4	T42	M4D150L1504M16L175	T14	MCFNR16CA4	B72
M1D125E1403W100L225	T50	M1HR075ED10W075Z2L140C6	T41	M4D150L1504W125L225	T15	MCFNR20CA4	B72
M1D125E1404C125L800	T52	M1HR100ED10C100Z2L110C4	T42	M4D150L1505S050L157	T17	MCGNL124B	B61
M1D125E1404CV40L300	T54	M1HR100ED10W100Z2L180C8	T41	M4D200L1105S075L157	T7, T11	MCGNL164C	B61
M1D125E1404S050L157	T53	M1HR125E14W125Z2L200C4	T63, T72	M4D200L1107S075L157	T7, T11	MCGNL164D	B61
M1D125E1404W100L225	T50	M1HR125ED10M16Z2L160C4	T40	M4D200L1504S075L175	T17	MCGNR124B	B61
M1D125E1404W125L225	T49	M1HR125ED10M16Z3L160C6	T40	M4D200L1505S075L157	T17	MCGNR164C	B61
M1D125E1404W125L225R	T50	M1HR125ED10W125Z2L210C10	T41	M4D200L1506S075L157	T17	MCGNR164D	B61
M1D125E1802C125L1000	T77	M1HR125ED10W125Z3L210C15	T41	M4D250L1107S075L157	T7	MCHNN164C	B61
M1D125E1802C125L800	T77	M1HR150E14W125Z3L200C6	T63, T72	M4D250L1107S100L157	T7	MCHNN205D	B61
M1D125E1802W100L225	T76	M1HR150E14W125Z3L250C9	T63, T72	M4D250L1107S100L157	T7	MCHNN246D	B61
M1D125E1803CV40L288	T79	M1HR150E14W125Z3L300C12	T63, T72	M4D250L1506S075L157	T17	MCKNL124B	B62
M1D125E1803CV40L488	T79	M1HR150ED10S075Z3L200C12	T43	M4D250L1507S100L175	T17	MCKNL12CA4	B73
M1D125E1803W100L225	T76	M1HR150ED10S075Z5L200C20	T43	M4D300L1108S100L175	T7	MCKNL164C	B62
M1D125E1803W125L225	T75	M1HR200E14S075Z3L200C6	T64, T72	M4D300L1108S125L175	T7	MCKNL164D	B62
M1D125E1803W125L225R	T75	M1HR200E14S075Z3L250C9	T64, T72	M4D300L1505S100L175	T17	MCKNL165D	B62
M1D125E1803W125L425	T75	M1HR200E14W150Z3L300C12	T63, T72	M4D300L1507S100L175	T17	MCKNL204D	B62
M1D125E1803W125L425R	T75	M1HR200ED10S075Z3L240C15	T43	M4D300L1508S125L200	T17	MCKNL205D	B62

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
MCKNL206D	B62	MCRNL205D	B65	MEGA45D1200LN863C10	S94	MS1160	C34-45, C52-57, C122-129, C134
MCKNL246D	B62	MCRNL206D	B65	MEGA45D1200LN863M10	S94	MS1162	C52-57, C65-73, C143-151, S94, S98, S100, V87-88, V91
MCKNR124B	B62	MCRNL246E	B65	MEGA45D800LN863M6	S94	MS1163	C65-73, C143-151
MCKNR12CA4	B73	MCRNR124B	B65	MEGA60D1200LN76M10	S98	MS1200	C183, C185, C188, C192-193, D30
MCKNR164C	B62	MCRNR164C	B65	MEGA60D600LN76M8	S98	MS1234CG	.....V62
MCKNR164D	B62	MCRNR164D	B65	MEGA60D800LN76M10	S98	MS125	.....B186, B397
MCKNR165D	B62	MCRNR165D	B65	MEGA90D1000LN76C10	S100	MS1273	.....C52-55, T119-120
MCKNR16CA4	B73	MCRNR204D	B65	MEGA90D1200LN76C10	S100	MS1276	.....J97
MCKNR204D	B62	MCRNR205D	B65	MEGA90D1200LN76M10	S100	MS1281	.....U17-18
MCKNR205D	B62	MCRNR206D	B65	MEGA90D500LN76M6	S100	MS1282	.....U17-18
MCKNR246D	B62	MCRNR246D	B65	MEGA90D600LN76M8	S100	MS1284	.....U17-18
MCLNL083A	B63	MCRNR246E	B65	MILL16E1000Z240N08W	S32	MS1285	.....C52-55
MCLNL103A	B63	MDJNL123B	B89	MILL16E1000Z340N08W	S30	MS1294CG	.....V62
MCLNL123B	B63	MDJNL124A	B89	MILL16E1200Z420N08W	S31	MS1321	.....B168-169, B386-387
MCLNL124A	B63	MDJNL124B	B89	MILL16E1400Z480N08W	S31	MS1374	.....T89-92
MCLNL124B	B63	MDJNL12CA3	B94	MILL16E1600Z560N08W	S31	MS1375	.....K89-90
MCLNL12CA4	B74	MDJNL163C	B89	MILL16E200Z040N08W	S32	MS1438	.....B290-291
MCLNL164C	B63	MDJNL163D	B89	MILL16E200Z050N08W	S30	MS1454	.....B203, K79
MCLNL164D	B63	MDJNL16CA4	B94	MILL16E200Z070N08W	S31	MS1488	.....D31, D33, D39-40
MCLNL165C	B63	MDJNL203D	B89	MILL16E200Z080N08W	S30	MS1489	.....D31-33, D39
MCLNL165D	B63	MDJNL204D	B89	MILL16E250Z060N08W	S30	MS1490	.....C34-41, C47-48, C50-51, C122-125, C130, D32
MCLNL166C	B63	MDJNL205D	B89	MILL16E300Z050N08W	S32	MS1571	.....C135-136
MCLNL166D	B63	MDJNL206D	B89	MILL16E300Z080N08W	S30	MS1595	.....C34-41, C46-47, C49-50, C52-55, C122-126, C129, C131-133
MCLNL16CA4	B74	MDJNL245D	B89	MILL16E400Z100N08W	S32	MS1861	.....H100
MCLNL244D	B64	MDJNR123B	B89	MILL16E400Z140N08W	S30	MS1933	.....B214-215, B217, B220, B222-223, B271-272
MCLNL245D	B64	MDJNR124A	B89	MILL16E500Z080N08W	S32	MS1939	.....B197, B212-215, B287, B289
MCLNL245E	B64	MDJNR124B	B89	MILL16E500Z140N08W	S30	MS1944	.....C38-41, C122-125, C127-128
MCLNL246D	B64	MDJNR12CA3	B94	MILL16E500Z180N08W	S30	MS1970	.....C34-41, C46-51, C122-126, C129-133
MCLNL248E	B64	MDJNR163C	B89	MILL16E600Z100N08W	S32	MS2002	.....C65-73, C143-151
MCLNL25CA6	B74	MDJNR163D	B89	MILL16E600Z160N08W	S30	MS2038	.....V62
MCLNL326F	B64	MDJNR164C	B89	MILL16E600Z220N08W	S30	MS2038CG	.....V62
MCLNL854D	B64	MDJNR164D	B89	MILL16E800Z200N08W	S30	MS2055	.....B197
MCLNL866E	B64	MDJNR16CA4	B94	MILL16E800Z280N08W	S30	MS2060	.....S32
MCLNR083A	B63	MDJNR203D	B89	MRGNC164D	B99, B371	MS2066	.....C197
MCLNR103A	B63	MDJNR204D	B89	MRGNC204D	B99, B371	MS2077	.....U35-37, V68-70
MCLNR123B	B63	MDJNR205D	B89	MRGNC244D	B99, B371	MS2078	.....S39, T113, U32-34
MCLNR124A	B63	MDJNR206D	B89	MRGNR164D	B98	MS2085	.....T120, V61-63
MCLNR124B	B63	MDQNL164C	B90	MRGNR164D	B98	MS2089	.....C132-133
MCLNR12CA4	B74	MDQNL164D	B90	MRGNR166D	B98	MS2090	.....C130-131
MCLNR163C	B63	MDQNL16CA4	B95	MRGNR204D	B98	MS2091	.....C34-41, C122-125, C127-128, C130-131
MCLNR163D	B63	MDQNL204D	B90	MRGNR206D	B98	MS2111	.....C183, C185, C188-189, C192, D30
MCLNR164C	B63	MDQNL244D	B90	MRGNR246D	B98	MS2126	.....T75-80
MCLNR164D	B63	MDQNL244E	B90	MRGNR248E	B98	MS2148	.....T63-64, T107-109, U25-29
MCLNR165C	B63	MDQNR124B	B90	MRGNR282	B282-285, B287, B289-290, B292, K78-80, K85, K89-90	MS2166	.....T49-54
MCLNR165D	B63	MDQNR164C	B90	MS-1896	.....K85	MS2167	.....T49, T51-52
MCLNR166C	B63	MDQNR164D	B90	MS-2071	.....T14-17, V75-77	MS2173	.....B217, B220, B222-223
MCLNR166D	B63	MDQNR16CA4	B95	MS1025	.....C196, D41	MS2175	.....B217-223, B245, B276-278
MCLNR16CA4	B74	MDQNR244D	B90	MS1027	.....B209-212, B216	MS2191C00	.....T63, T65, V139-140, V142
MCLNR204D	B63	MDRHEC100S150 KCPM15	P91	MS1028	.....B210-211	MS2191C06	.....T63, T65, V139-140, V142
MCLNR205D	B63	MDRHEC250S3025 KCPM15	P91	MS1034	.....C190	MS2191C08	.....T63, T65, V139-142
MCLNR206D	B63	MDRHEC250S3075 KCPM15	P91	MS1034	.....B273, B276-278, J25, J27, J29, J31, J33, J35, J37, J39	MS2191C12	.....T63, T65, V139-142
MCLNR20CA4	B74	MDRHEC250S4025 KCPM15	P91	MS1034	.....C190	MS2191C14	.....T63, T65, V139-140, V142
MCLNR244D	B63	MDRHEC250S4075 KCPM15	P91	MS1152	.....B273, B276-278, J25, J27, J29, J31, J33, J35, J37, J39	MS2191C16	.....T63-65, V139-140, V142
MCLNR245D	B63	MDRHEC312S4081 KCPM15	P91	MS1153	.....B193-197, B209-215, B217-223, B227-230, B234-237, B243-245, B259-262, B270-279, B282-285, B287, B289-290, B292, K78-80, K85, K89-90	MS2191C18	.....T63, T65, V139-140, V142
MCLNR245E	B63	MDRHEC375S4038 KCPM15	P91	MS1155	.....B193, B195-198, B212-215, B217, B220, B227-230, B234-235, B237, B245, B254-255, B261-262, B271-279, B282-285, B287, B289-290	MS2191C20	.....T63-65, V139-140, V142
MCLNR246D	B63	MDRHEC375S4088 KCPM15	P91	MS1157	.....B198, B249-251	MS2197	.....V139-141
MCLNR246E	B63	MDRHEC500S4050 KCPM15	P91	MS1158	.....B194, B243	MS2205	.....T29-33, T40-43
MCLNR248E	B63	MDRHEC500S4100 KCPM15	P91	MS1202	.....B209-212, B216	MS2206	.....U3
MCLNR25CA4	B74	MCRNL124B	B65	MS1207	.....B209-212, B216	MS2207	.....U3
MCLNR25CA5	B74	MCRNL164C	B65	MS1208	.....B210-211	MS2208	.....U3
MCLNR25CA6	B74	MCRNL164D	B65	MS1208	.....B210-211	MS2208	.....U3
MCLNR326F	B63	MCRNL165C	B65	MS1208	.....B210-211	MS2208	.....U3
MCLNR854D	B63	MCRNL165D	B65	MS1208	.....B210-211	MS2208	.....U3
MCLNRC164D	B66, B371	MCRNL166C	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN124B	B64	MCRNL166D	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN164C	B64	MCRNL16CA4	B74	MS1208	.....B210-211	MS2208	.....U3
MCMNN164D	B64	MCRNL204D	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN166D	B64	MCRNL205D	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN204D	B64	MCRNL206D	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN206D	B64	MCRNL20CA4	B74	MS1208	.....B210-211	MS2208	.....U3
MCMNN246D	B64	MCRNL244D	B63	MS1208	.....B210-211	MS2208	.....U3
MCMNN246E	B64	MCRNL245D	B63	MS1208	.....B210-211	MS2208	.....U3
MCRNL124B	B65	MCRNL245E	B63	MS1208	.....B210-211	MS2208	.....U3
MCRNL164C	B65	MCRNL246D	B63	MS1208	.....B210-211	MS2208	.....U3
MCRNL164D	B65	MCRNL246E	B63	MS1208	.....B210-211	MS2208	.....U3
MCRNL165D	B65	MCRNL248E	B63	MS1208	.....B210-211	MS2208	.....U3
MCRNL166D	B65	MCLNR25CA4	B74	MS1208	.....B210-211	MS2208	.....U3
MCRNL204D	B65	MCLNR25CA5	B74	MS1208	.....B210-211	MS2208	.....U3
		MCLNR25CA6	B74	MS1208	.....B210-211	MS2208	.....U3
		MCLNR326F	B63	MS1208	.....B210-211	MS2208	.....U3
		MCLNR854D	B63	MS1208	.....B210-211	MS2208	.....U3
		MCLNRC164D	B66, B371	MS1208	.....B210-211	MS2208	.....U3
		MCMNN124B	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN164C	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN164D	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN166D	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN204D	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN206D	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN246D	B64	MS1208	.....B210-211	MS2208	.....U3
		MCMNN246E	B64	MS1208	.....B210-211	MS2208	.....U3
		MCRNL124B	B65	MS1208	.....B210-211	MS2208	.....U3
		MCRNL164C	B65	MS1208	.....B210-211	MS2208	.....U3
		MCRNL164D	B65	MS1208	.....B210-211	MS2208	.....U3
		MCRNL165D	B65	MS1208	.....B210-211	MS2208	.....U3
		MCRNL166D	B65	MS1208	.....B210-211	MS2208	.....U3
		MCRNL204D	B65	MS1208	.....B210-211	MS2208	.....U3
				MS1157	.....B198, B249-251	MS2208	.....U3
				MS1158	.....B194, B243	MS2208	.....U3

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
MSDNR206	B111	MTANLS123	B133	MTJNR103B	B136	NA3R4 KC5025	D11
MSDNR246	B111	MTANLS163	B133	MTJNR123B	B136	NA3R4 KCJ25	D11
MSDNR854	B111	MTANLS164	B133	MTJNR163C	B136	NA3R5 KC5010	D11
MSDNR855	B111	MTANLS205	B133	MTJNR163D	B136	NA3R5 KC5025	D11
MSDNR856	B111	MTANR082B	B132	MTJNR164D	B136	NA3R5 KCJ10	D11
MSKNL12CA4	B115	MTANR103B	B132	MTJNR204D	B136	NA3R5 KCJ25	D11
MSKNL205D	B111	MTANR123B	B132	MTJNR205D	B136	NA3R6 KC5010	D11
MSKNL206D	B111	MTANR164D	B132	MTJNRS123	B137	NA3R6 KC5025	D11
MSKNL20CA5	B115	MTANRS123	B133	MTJNRS124	B137	NA3R6 KCJ10	D11
MSKNL246D	B111	MTANRS163	B133	MTJNRS163	B137	NA3R6 KCJ25	D11
MSKNR10CA3	B115	MTANRS164	B133	MTJNRS164	B137	NA3R8 KC5010	D11
MSKNR124B	B111	MTANRS205	B133	MTJNRS165	B137	NA3R8 KC5025	D11
MSKNR12CA4	B115	MTCNN083	B133	MTJNRS204	B137	NA3R8 KCJ10	D11
MSKNR164C	B111	MTCNN124	B133	MTJNRS205	B137	NA3R8 KCJ25	D11
MSKNR164D	B111	MTCNN443	B133	MTJNRS246	B137	NA4L4 KC5025	D11
MSKNR16CA4	B115	MTCNN644	B133	MTJNRS864	B137	NA4L4 KCJ10	D11
MSKNR205D	B111	MTENNS082	B134	MTRNR164D	B138	NA4L5 KC5025	D11
MSKNR206D	B111	MTENNS103	B134	MTUNL12CA3	B142	NA4L6 KC5025	D11
MSKNR20CA5	B115	MTENNS123	B134	MTUNL16CA3	B142	NA4L6 KCJ25	D11
MSKNR248	B111	MTENNS163	B134	MTUNR20CA4	B142	NA4R4 KC5010	D11
MSKNR25CA6	B115	MTENNS164	B134	MVJNL123A	B152	NA4R4 KC5025	D11
MSRNL124B	B112	MTENNS205	B134	MVJNL123B	B152	NA4R4 KCJ25	D11
MSRNL12CA4	B116	MTENNS246	B134	MVJNL163C	B152	NA4R5 KC5025	D11
MSRNL164C	B112	MTENNS854	B134	MVJNL163D	B152	NA4R6 KC5025	D11
MSRNL164D	B112	MTFNL123B	B134	MVJNL164C	B152	NA6L2 KC5010	D11
MSRNL165C	B112	MTFNL12CA3	B140	MVJNL164D	B152	NA6L2 KC5025	D11
MSRNL16CA4	B116	MTFNL164C	B134	MVJNL203D	B152	NA6L2 KCJ25	D11
MSRNL204D	B112	MTFNL164D	B134	MVJNL204D	B152	NA6L25 KCJ25	D11
MSRNL205D	B112	MTFNL16CA3	B140	MVJNL244D	B152	NA6L3 KC5025	D11
MSRNL206D	B112	MTFNL204D	B134	MVJNR123A	B152	NA6L3 KCJ25	D11
MSRNL20CA5	B116	MTFNL20CA4	B140	MVJNR123B	B152	NA6R2 KC5010	D11
MSRNL246D	B112	MTFNL245D	B134	MVJNR124B	B152	NA6R2 KC5025	D11
MSRNL246E	B112	MTFNL246E	B134	MVJNR163C	B152	NA6R2 KCJ10	D11
MSRNL854D	B112	MTFNL854D	B134	MVJNR163D	B152	NA6R2 KCJ25	D11
MSRNR10CA3	B116	MTFNLS164	B135	MVJNR164C	B152	NA6R25 KC5025	D11
MSRNR124B	B112	MTFNR123B	B134	MVJNR164D	B152	NA6R3 KC5025	D11
MSRNR12CA4	B116	MTFNR12CA3	B140	MVJNR203D	B152	NA6R3 KCJ25	D11
MSRNR164C	B112	MTFNR164C	B134	MVJNR204D	B152	NAS3L10 KC5025	D12
MSRNR164D	B112	MTFNR164D	B134	MVJNR243D	B152	NAS3L10 KCJ10	D12
MSRNR165C	B112	MTFNR16CA3	B140	MVJNR244D	B152	NAS3L12 KC5025	D12
MSRNR16CA4	B116	MTFNR204D	B134	MVUNL204D	B153	NAS3L4 KC5025	D12
MSRNR205D	B112	MTFNR205D	B134	MVUNL244D	B153	NAS3L4 KCJ25	D12
MSRNR206D	B112	MTFNR20CA4	B140	MVUNR204C	B153	NAS3L5 KC5025	D12
MSRNR246D	B112	MTFNR246E	B134	MVUNR204D	B153	NAS3L5 KCJ10	D12
MSRNR246E	B112	MTFNRS164	B135	MVUNR244D	B153	NAS3L6 KC5010	D12
MSRNR248	B112	MTGNL103B	B135	MVNN123B	B153	NAS3L6 KC5025	D12
MSRNR328	B112	MTGNL123B	B135	MVNN163C	B153	NAS3L6 KCJ10	D12
MSRNR856D	B112	MTGNL124B	B135	MVNN163D	B153	NAS3L6 KCJ25	D12
MSSNL10CA3	B117	MTGNL12CA3	B141	MVNN164D	B153	NAS3L8 KC5010	D12
MSSNL12CA4	B117	MTGNL164C	B135	MVNN203D	B153	NAS3L8 KC5025	D12
MSSNL164C	B113	MTGNL164D	B135	MVNN204D	B153	NAS3L8 KCJ10	D12
MSSNL164D	B113	MTGNL204D	B135	MVNN244E	B153	NAS3L8 KCJ25	D12
MSSNL165D	B113	MTGNL205D	B135	MW25	U28-29, V148-149	NAS3R10 KC5010	D12
MSSNL205D	B113	MTGNL20CA4	B141	MW3	U35-37	NAS3R10 KC5025	D12
MSSNL206D	B113	MTGNR082B	B135	NA3L10 KC5025	D11	NAS3R10 KCJ10	D12
MSSNL246D	B113	MTGNR103B	B135	NA3L10 KCJ25	D11	NAS3R12 KC5025	D12
MSSNL854D	B113	MTGNR123B	B135	NA3L12 KC5010	D11	NAS3R12 KCJ25	D12
MSSNR10CA3	B117	MTGNR124B	B135	NA3L12 KC5025	D11	NAS3R16 KC5025	D12
MSSNR123B	B113	MTGNR12CA3	B141	NA3L16 KCJ10	D11	NAS3R4 KC5025	D12
MSSNR124B	B113	MTGNR164C	B135	NA3L4 K68	D11	NAS3R4 KCJ25	D12
MSSNR12CA4	B117	MTGNR164D	B135	NA3L4 KC5010	D11	NAS3R5 KC5025	D12
MSSNR164C	B113	MTGNR165C	B135	NA3L4 KC5025	D11	NAS3R5 KCJ10	D12
MSSNR164D	B113	MTGNR16CA3	B141	NA3L4 KCJ10	D11	NAS3R6 KC5010	D12
MSSNR165D	B113	MTGNR204D	B135	NA3L4 KCJ25	D11	NAS3R6 KC5025	D12
MSSNR16CA4	B117	MTGNR205D	B135	NA3L5 KC5010	D11	NAS3R6 KCJ10	D12
MSSNR205D	B113	MTJNLO82B	B136	NA3L5 KC5025	D11	NAS3R8 KC5010	D12
MSSNR206D	B113	MTJNL103B	B136	NA3L5 KCJ25	D11	NAS3R8 KC5025	D12
MSSNR20CA5	B117	MTJNL123B	B136	NA3L6 KC5010	D11	NAS3R8 KCJ10	D12
MSSNR246D	B113	MTJNL163C	B136	NA3L6 KC5025	D11	NAS3R8 KCJ25	D12
MSSNR854D	B113	MTJNL163D	B136	NA3L6 KCJ25	D11	NASL062D	C185, D25
MSTNR10CA3	B118	MTJNL164D	B136	NA3L8 KC5010	D11	NASL082D	C185, D25
MSTNR12CA4	B118	MTJNL204D	B136	NA3L8 KC5025	D11	NASL083D	C185, D25
MSYNL10CA3	B119	MTJNL205D	B136	NA3L8 KCJ10	D11	NASL1010M2Q	C185
MSYNL12CA4	B119	MTJNLS123	B137	NA3L8 KCJ25	D11	NASL102B	C185, D25
MSYNL20CA15	B119	MTJNLS124	B137	NA3R10 KC5010	D11	NASL103B	C185, D25
MSYNR10CA3	B119	MTJNLS163	B137	NA3R10 KC5025	D11	NASL1212M2Q	C185
MSYNR12CA4	B119	MTJNLS164	B137	NA3R10 KCJ10	D11	NASL1616K3Q	C185
MSYNR16CA4	B119	MTJNLS165	B137	NA3R10 KCJ25	D11	NASR062D	C185, D25
MSYNR25CA19	B119	MTJNLS204	B137	NA3R12 KC5025	D11	NASR082D	C185, D25
MTANL103B	B132	MTJNLS205	B137	NA3R12 KCJ10	D11	NASR083D	C185, D25
MTANL123B	B132	MTJNLS246	B137	NA3R16 KCJ10	D11	NASR1010M2Q	C185
MTANL164D	B132	MTJNR082B	B136	NA3R4 KC5010	D11	NASR102B	C185, D25

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
NASR103B.....	C185, D25	NER1616H2.....	C188	NG2041L KC5025.....	C170	NG2125L KCU10.....	C170
NASR1212M2Q.....	C185	NER162C.....	C187, D26	NG2041L KCK20B.....	C170	NG2125L KCU25.....	C170
NASR1616K3Q.....	C185	NER163C.....	C187, D26	NG2041L KCU25.....	C170	NG2125LK KC5010.....	C163
NB2L K313.....	C176	NER163D.....	C187, D26	NG2041R K313.....	C170	NG2125LK KC5025.....	C163
NB2R K313.....	C176	NER164C.....	C187, D26	NG2041R KC5010.....	C170	NG2125LK KCP10B.....	C163
NB3L K313.....	C176	NER164D.....	C187, D26	NG2041R KC5025.....	C170	NG2125LK KCP25B.....	C163
NB3R K313.....	C176	NER2020K2.....	C188	NG2041R KCK20B.....	C170	NG2125LK KCU10.....	C163
NB4L K313.....	C176	NER203D.....	C187, D26	NG2041R KCU10.....	C170	NG2125LK KCU25.....	C163
NB4R K313.....	C176	NER204D.....	C187, D26	NG2041R KCU25.....	C170	NG2125R KC5010.....	C170
NBD2R K313.....	C177	NER205D.....	C187, D26	NG2047L KC5010.....	C170	NG2125R KCU10.....	C170
NBD3L K313.....	C177	NER206D.....	C187, D26	NG2047L KCU10.....	C170	NG2125R KCU25.....	C170
NBD3R K313.....	C177	NER243D.....	C187, D26	NG2047L KCU25.....	C170	NG2125RK KC5010.....	C162
ND3038L KC5025.....	D12	NER244D.....	C187, D26	NG2047LK KC5010.....	C163	NG2125RK KC5025.....	C162
ND3038R KC5025.....	D12	NER2525M2.....	C188	NG2047LK KC5025.....	C163	NG2125RK KCP10B.....	C162
ND3040L KCU25.....	D12	NER2525M3.....	C188	NG2047LK KCP10B.....	C163	NG2125RK KCP25B.....	C162
ND3040R KC5025.....	D12	NER2525M4.....	C188	NG2047LK KCP25B.....	C163	NG2125RK KCU10.....	C162
ND4050R KCU25.....	D12	NER3225P3.....	C188	NG2047LK KCU10.....	C163	NG2125RK KCU25.....	C162
NDC3040L3 KC5010.....	D13	NER3225P4.....	C188	NG2047R KC5010.....	C170	NG2125RK KT315.....	C162
NDC3040R3 KC5025.....	D13	NER853D.....	C187, D26	NG2047R KCK20B.....	C170	NG2M050LK KC5010.....	C163
NDC310RDL75 KC5025.....	D13	NF3125L K313.....	C175	NG2047R KCU10.....	C170	NG2M050LK KCP25B.....	C163
NDC3115V75 KC5010.....	D14	NF3125LK KC5025.....	C173	NG2047R KCU25.....	C170	NG2M050LK KCU10.....	C163
NDC3115V75 KCU10.....	D14	NF3125LK KCU25.....	C173	NG2047RK KC5010.....	C162	NG2M050RK KC5010.....	C162
NDC3115V75 KC5010.....	D14	NF3125R K313.....	C175	NG2047RK KC5025.....	C162	NG2M050RK KCP25B.....	C162
NDC3115V75 KCU10.....	D14	NF3125RK KC5025.....	C173	NG2047RK KCP10B.....	C162	NG2M050RK KCU10.....	C162
NDC314V75 KCU10.....	D14	NF3125RK KCU25.....	C173	NG2047RK KCP25B.....	C162	NG2M050RK KCU25.....	C162
NDC327V75 KCU10.....	D14	NF3156LK KCU25.....	C173	NG2047RK KCU10.....	C162	NG2M080LK KC5025.....	C163
NDC38RDL75 KC5010.....	D13	NF3156RK KCU25.....	C173	NG2047RK KCU25.....	C162	NG2M080LK KCP10B.....	C163
NDC38RDL75 KC5025.....	D13	NF3188L KCU25.....	C175	NG2047RK KT315.....	C162	NG2M080LK KCP25B.....	C163
NDC38RDL75 KCU25.....	D13	NF3188R KCU25.....	C175	NG2058L KCU25.....	C170	NG2M080LK KCU10.....	C163
NDC38RDR75 KC5010.....	D13	NF3M200LK KC5025.....	C173	NG2058R KC5025.....	C170	NG2M080LK KCU25.....	C163
NDC38RDR75 KC5025.....	D13	NF3M200RK KC5025.....	C173	NG2058R KCU25.....	C170	NG2M080RK KC5025.....	C162
NDC38RDR75 KCU25.....	D13	NF3M300LK KC5025.....	C173	NG2062L K313.....	C170	NG2M080RK KCP10B.....	C162
NDC38V75 KC5010.....	D14	NF3M300RK KC5025.....	C173	NG2062L KC5010.....	C170	NG2M080RK KCP25B.....	C162
NDC38V75 KC5010.....	D14	NFD3125LK KC5025.....	C174	NG2062L KC5025.....	C170	NG2M080RK KCU10.....	C162
NDC4038L2 KC5025.....	D13	NFD3125LK KCU25.....	C174	NG2062L KCK20B.....	C170	NG2M080RK KCU25.....	C162
NDC4038R2 KC5025.....	D13	NFD3125LK KCU25.....	C174	NG2062L KCU10.....	C170	NG2M100LK KC5010.....	C163
NDC4040R3 KC5025.....	D13	NFD3125RK KC5025.....	C174	NG2062L KCU25.....	C170	NG2M100LK KC5025.....	C163
NDC4050L2 KC5025.....	D13	NFD3125RK KCU25.....	C174	NG2062LK KC5010.....	C163	NG2M100LK KCP10B.....	C163
NDC4050R2 KC5025.....	D13	NFD3125RK KCU25.....	C174	NG2062LK KC5025.....	C163	NG2M100LK KCP25B.....	C163
NDC4050R3 KC5025.....	D13	NFD3125RK KCU25.....	C174	NG2062LK KCP10B.....	C163	NG2M100LK KCU10.....	C163
NDC68RDR75M KCU10.....	D13	NFD3189LK KCU25.....	C174	NG2062LK KCP25B.....	C163	NG2M100LK KCU25.....	C163
NDC8115V75M KCU10.....	D14	NFD3189RK KCU25.....	C174	NG2062LK KCU10.....	C163	NG2M100RK KC5010.....	C162
NDC88V75M KC5010.....	D14	NFD3M300LK KC5025.....	C174	NG2062LK KCU25.....	C163	NG2M100RK KC5025.....	C162
NDC88V75M KC5010.....	D14	NFD3M300RK KC5025.....	C174	NG2062R K313.....	C170	NG2M100RK KCP10B.....	C162
NDC88V75M KCU10.....	D14	NFD4189LK KC5025.....	C174	NG2062R KC5010.....	C170	NG2M100RK KCP25B.....	C162
NDLPL164D.....	E40	NFD4189LK KCU25.....	C174	NG2062R KC5025.....	C170	NG2M100RK KCU10.....	C162
NDLPR164D.....	E40	NFD4189RK KCU25.....	C174	NG2062R KCK20B.....	C170	NG2M100RK KCU25.....	C162
NDPPN164D.....	E40	NFD4250LK KCU25.....	C174	NG2062R KCU10.....	C170	NG2M120LK KC5010.....	C163
NEL062.....	C187, D26	NFD4250RK KCU25.....	C174	NG2062R KCU25.....	C170	NG2M120LK KC5025.....	C163
NEL082V.....	C187, D26	NG1031L KCU25.....	C170	NG2062R KC5010.....	C162	NG2M120LK KCP10B.....	C163
NEL102B.....	C187, D26	NG1047L KC5025.....	C170	NG2062RK KC5025.....	C162	NG2M120LK KCP25B.....	C163
NEL122B.....	C187, D26	NG1047L KCU25.....	C170	NG2062RK KCP10B.....	C162	NG2M120LK KCU10.....	C163
NEL123B.....	C187, D26	NG1062L KC5025.....	C170	NG2062RK KCP25B.....	C162	NG2M120LK KCU25.....	C163
NEL12CA2.....	C196, D41	NG1062L KCU25.....	C170	NG2062RK KCU10.....	C162	NG2M120RK KC5010.....	C162
NEL1616H2.....	C188	NG1094L KC5025.....	C170	NG2062RK KCU25.....	C162	NG2M120RK KC5025.....	C162
NEL162C.....	C187, D26	NG1094L KCU25.....	C170	NG2062RK KT315.....	C162	NG2M120RK KCP10B.....	C162
NEL163C.....	C187, D26	NG2031L K313.....	C170	NG2094L K313.....	C170	NG2M120RK KCP25B.....	C162
NEL163D.....	C187, D26	NG2031L KC5010.....	C170	NG2094L KC5010.....	C170	NG2M120RK KCU10.....	C162
NEL164C.....	C187, D26	NG2031L KCK20B.....	C170	NG2094L KCK20B.....	C170	NG2M120RK KCU25.....	C162
NEL164D.....	C187, D26	NG2031L KCU10.....	C170	NG2094L KCU10.....	C170	NG2M140LK KC5025.....	C163
NEL2020K2.....	C188	NG2031L KCU25.....	C170	NG2094L KCU25.....	C170	NG2M140LK KCP10B.....	C163
NEL203D.....	C187, D26	NG2031LK KC5010.....	C163	NG2094LK KC5010.....	C163	NG2M140LK KCP25B.....	C163
NEL204D.....	C187, D26	NG2031LK KC5025.....	C163	NG2094LK KC5025.....	C163	NG2M140LK KCU10.....	C163
NEL205D.....	C187, D26	NG2031LK KCP10B.....	C163	NG2094LK KCP10B.....	C163	NG2M140LK KCU25.....	C163
NEL206D.....	C187, D26	NG2031LK KCP25B.....	C163	NG2094LK KCP25B.....	C163	NG2M140RK KC5010.....	C162
NEL243D.....	C187, D26	NG2031LK KCU10.....	C163	NG2094LK KCU10.....	C163	NG2M140RK KC5025.....	C162
NEL244D.....	C187, D26	NG2031LK KCU25.....	C163	NG2094LK KCU25.....	C163	NG2M140RK KCP10B.....	C162
NEL2525M2.....	C188	NG2031R K313.....	C170	NG2094R K313.....	C170	NG2M140RK KCP25B.....	C162
NEL2525M3.....	C188	NG2031R KC5010.....	C170	NG2094R KC5010.....	C170	NG2M140RK KCU10.....	C162
NEL2525M4.....	C188	NG2031R KC5025.....	C170	NG2094R KCK20B.....	C170	NG2M140RK KCU25.....	C162
NEL25CA3.....	C196, D41	NG2031R KCK20B.....	C170	NG2094R KCU10.....	C170	NG2M150LK KC5025.....	C163
NEL3225P3.....	C188	NG2031R KCU10.....	C170	NG2094R KCU25.....	C170	NG2M150LK KCP25B.....	C163
NEL3225P4.....	C188	NG2031R KCU25.....	C170	NG2094RK KC5010.....	C162	NG2M150LK KCU25.....	C163
NEL3232P4.....	C188	NG2031RK KC5010.....	C162	NG2094RK KC5025.....	C162	NG2M150RK KC5025.....	C162
NEL853D.....	C187, D26	NG2031RK KC5025.....	C162	NG2094RK KCP10B.....	C162	NG2M150RK KCP25B.....	C162
NER062.....	C187, D26	NG2031RK KCP10B.....	C162	NG2094RK KCP25B.....	C162	NG2M150RK KCU25.....	C162
NER082V.....	C187, D26	NG2031RK KCP25B.....	C162	NG2094RK KCU10.....	C162	NG2M170LK KC5010.....	C163
NER102B.....	C187, D26	NG2031RK KCU10.....	C162	NG2094RK KCU25.....	C162	NG2M170LK KC5025.....	C163
NER122B.....	C187, D26	NG2031RK KCU25.....	C162	NG2094RK KT315.....	C162	NG2M170LK KCP10B.....	C163
NER123B.....	C187, D26	NG2031RK KT315.....	C162	NG2125L KC5010.....	C170	NG2M170LK KCP25B.....	C163
NER12CA2.....	C196, D41	NG2041L KC5010.....	C170	NG2125L KCK20B.....	C170	NG2M170LK KCU25.....	C163

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
NG3M175RK KC5025	C162	NG3M400LK KCU25	C164	NG4M300LK KCP25B	C164	NGD3094RK KC5010	C165
NG3M175RK KCP25B	C162	NG3M400RK KC5010	C162	NG4M300LK KCU25	C164	NGD3094RK KC5025	C165
NG3M175RK KCU25	C162	NG3M400RK KC5025	C162	NG4M300RK KCP25B	C163	NGD3094RK KCU10	C165
NG3M200LK KC5025	C163	NG3M400RK KCP10B	C162	NG4M300RK KCU25	C163	NGD3094RK KCU25	C165
NG3M200LK KCP25B	C163	NG3M400RK KCP25B	C162	NG4M320LK KCP25B	C164	NGD3125LK K313	C165
NG3M200LK KCU25	C163	NG3M400RK KCU10	C162	NG4M350LK KCP25B	C164	NGD3125LK KC5010	C165
NG3M200LS02020ST KB5625	C177	NG3M400RK KCU25	C162	NG4M350LK KCU25	C164	NGD3125LK KC5025	C165
NG3M200RK KC5025	C162	NG3M400RS02020ST KB5625	C177	NG4M350RK KCP25B	C163	NGD3125LK KCU10	C165
NG3M200RK KCP25B	C162	NG3M425LK KCP10B	C164	NG4M350RK KCU25	C163	NGD3125LK KCU25	C165
NG3M200RK KCU25	C162	NG3M425LK KCP25B	C164	NG4M400LK KCP10B	C164	NGD3125RK K313	C165
NG3M200RK KT315	C162	NG3M425LK KCU10	C164	NG4M400LK KCP25B	C164	NGD3125RK KC5010	C165
NG3M200RS02020ST KB1630	C177	NG3M425LK KCU25	C164	NG4M400LK KCU10	C164	NGD3125RK KC5025	C165
NG3M200RS02020ST KB5625	C177	NG3M425RK KC5025	C163	NG4M400LK KCP25B	C164	NGD3125RK KCU10	C165
NG3M220LK KC5025	C164	NG3M425RK KCP10B	C163	NG4M400RK KC5010	C163	NGD3125RK KCU25	C165
NG3M220LK KCP25B	C164	NG3M425RK KCP25B	C163	NG4M400RK KCP10B	C163	NGD3189L K313	C171
NG3M220LK KCU25	C164	NG3M425RK KCU10	C163	NG4M400RK KCP25B	C163	NGD3189L KC5010	C171
NG3M220RK KC5025	C162	NG3M425RK KCU25	C163	NG4M400RK KCP25B	C163	NGD3189L KCU10	C171
NG3M220RK KCP25B	C162	NG3M450LK KCP25B	C164	NG4M400RK KC5025	C163	NGD3189LK KC5010	C165
NG3M220RK KCU25	C162	NG3M450LK KCU25	C164	NG4M400RK KCP10B	C163	NGD3189LK KC5025	C165
NG3M225LK KCP10B	C164	NG3M450RK KCP25B	C163	NG4M450LK KCP25B	C164	NGD3189LK KCU10	C165
NG3M225LK KCP25B	C164	NG3M450RK KCU25	C163	NG4M450LK KC5025	C164	NGD3189LK KCU25	C165
NG3M225LK KCU10	C164	NG4125L K313	C171	NG4M450LK KCP25B	C164	NGD3189L K313	C171
NG3M225LK KCU25	C164	NG4125L KCU10	C171	NG4M450RK KCP25B	C163	NGD3189L KC5010	C171
NG3M225RK KC5010	C162	NG4125L KCU25	C171	NG4M450RK KCU25	C163	NGD3189L KCU10	C171
NG3M225RK KC5025	C162	NG4125LK KCP10B	C164	NG4M500LK KCP10B	C164	NGD3189RK KC5010	C165
NG3M225RK KCP10B	C162	NG4125LK KCP25B	C164	NG4M500LK KCP10B	C164	NGD3189RK KC5025	C165
NG3M225RK KCP25B	C162	NG4125LK KCU10	C164	NG4M500LK KCP25B	C164	NGD3189RK KCU10	C165
NG3M225RK KCU10	C162	NG4125LK KCU25	C164	NG4M500LK KCU10	C164	NGD3189RK KCU25	C165
NG3M225RK KCU25	C162	NG4125R K313	C170	NG4M500LK KCU25	C164	NGD3M200LK KC5025	C165
NG3M250LK KC5025	C164	NG4125R KCK20B	C170	NG4M500RK KCP10B	C163	NGD3M200LK KCU10	C165
NG3M250LK KCP25B	C164	NG4125R KCU10	C170	NG4M500RK KCP25B	C163	NGD3M200RK KC5010	C165
NG3M250LK KCU25	C164	NG4125R KCU25	C170	NG4M500RK KCU10	C163	NGD3M200RK KC5025	C165
NG3M250RK KC5025	C162	NG4125RK KC5010	C163	NG4M500RK KCP25B	C163	NGD3M200RK KCU10	C165
NG3M250RK KCP25B	C162	NG4125RK KCP10B	C163	NG4M550RK KCP25B	C163	NGD3M250LK KC5025	C165
NG3M250RK KCU25	C162	NG4125RK KCP25B	C163	NG4M600LK KCP25B	C164	NGD3M250LK KCU10	C165
NG3M275LK KC5025	C164	NG4125RK KCU10	C163	NG4M600LK KCU25	C164	NGD3M250RK KC5010	C165
NG3M275LK KCP10B	C164	NG4125RK KCU25	C163	NG4M600RK KCP25B	C163	NGD3M250RK KC5025	C165
NG3M275LK KCP25B	C164	NG4189L KC5010	C171	NG4M600RK KCP25B	C163	NGD3M250RK KCU10	C165
NG3M275LK KCU10	C164	NG4189L KCK20B	C171	NG4M600RK KCU25	C163	NGD3M300LK KC5010	C165
NG3M275LK KCU25	C164	NG4189L KCU10	C171	NG6312R KCU25	C170	NGD3M300LK KC5025	C165
NG3M275RK KC5010	C162	NG4189L KCU25	C171	NG6375R KCU25	C170	NGD3M300LK KCU10	C165
NG3M275RK KC5025	C162	NG4189LEST KB1630	C171, C177	NGC2C130L055K KCU25	C168	NGD3M300LK KCU25	C165
NG3M275RK KCP10B	C162	NG4189LK KC5010	C164	NGC2C130R055K KCU25	C168	NGD3M300LK KCP10B	C165
NG3M275RK KCP25B	C162	NG4189LK KC5025	C164	NGC2C185L125K KCU25	C168	NGD3M300LK KC5010	C165
NG3M275RK KCU10	C162	NG4189LK KCP10B	C164	NGC2C215L150K KCU25	C168	NGD3M300RK KC5025	C165
NG3M275RK KCU25	C162	NG4189LK KCP25B	C164	NGC2C215R150K KCU25	C168	NGD3M300RK KCU10	C165
NG3M300LK KC5010	C164	NG4189LK KCP25B	C164	NGD2M150LK KC5025	C165	NGD3M300RK KCU25	C165
NG3M300LK KC5025	C164	NG4189LK KCU10	C164	NGD2M150LK KCU10	C165	NGD3M350LK KC5025	C165
NG3M300LK KCP10B	C164	NG4189LK KCU25	C164	NGD2M150LK KCU25	C165	NGD3M350LK KCU10	C165
NG3M300LK KCP25B	C164	NG4189R K313	C170	NGD2M150RK KC5010	C165	NGD3M400LK KC5025	C165
NG3M300LK KCU10	C164	NG4189R KC5010	C170	NGD2M150RK KC5025	C165	NGD3M400LK KCU10	C165
NG3M300LK KCU25	C164	NG4189R KCK20B	C170	NGD2M150RK KCU10	C165	NGD3M400LK KCU25	C165
NG3M300RK KC5010	C162	NG4189R KCU10	C170	NGD2M150RK KCU25	C165	NGD3M400RK KC5010	C165
NG3M300RK KC5025	C162	NG4189R KCU25	C170	NGD2M200LK KC5010	C165	NGD3M400RK KC5025	C165
NG3M300RK KCP10B	C162	NG4189REST KB1630	C177	NGD2M200LK KC5025	C165	NGD3M400RK KCU10	C165
NG3M300RK KCP25B	C162	NG4189RK KC5010	C163	NGD2M200LK KCU10	C165	NGD3M400RK KCU25	C165
NG3M300RK KCU10	C162	NG4189RK KC5025	C163	NGD2M200LK KCU25	C165	NGD4125LK KC5010	C165
NG3M300RK KCU25	C162	NG4189RK KCP10B	C163	NGD2M200RK KC5010	C165	NGD4125LK KC5025	C165
NG3M300RS02020ST KB1630	C177	NG4189RK KCP25B	C163	NGD2M200RK KC5025	C165	NGD4125LK KCU10	C165
NG3M300RS02020ST KB5625	C177	NG4189RK KCU10	C163	NGD2M200RK KCU10	C165	NGD4125LK KCU25	C165
NG3M320LK KC5025	C164	NG4189RK KCU25	C163	NGD2M250LK KC5010	C165	NGD4125RK KC5010	C165
NG3M320LK KCP25B	C164	NG4213R KCU25	C170	NGD2M250LK KC5025	C165	NGD4125RK KCU10	C165
NG3M320LK KCU25	C164	NG4250L KC5010	C171	NGD2M250LK KCU10	C165	NGD4125RK KCU25	C165
NG3M320RK KC5025	C162	NG4250L KCK20B	C171	NGD2M250LK KCU25	C165	NGD4189L KC5010	C165
NG3M320RK KCP25B	C162	NG4250L KCU10	C171	NGD2M250RK KC5025	C165	NGD4189L KC5025	C165
NG3M320RK KCU25	C162	NG4250L KCU25	C171	NGD2M250RK KCU10	C165	NGD4189LK KC5010	C165
NG3M325LK KC5025	C164	NG4250LK KC5010	C164	NGD2M250RK KCU25	C165	NGD4189LK KCU25	C165
NG3M325LK KCP25B	C164	NG4250LK KC5025	C164	NGD2M250RK KC5010	C165	NGD4189RK KC5010	C165
NG3M325LK KCU25	C164	NG4250LK KCP10B	C164	NGD2M250RK KC5025	C165	NGD4189RK KC5025	C165
NG3M325RK KC5025	C162	NG4250LK KCP25B	C164	NGD3062LK KC5010	C165	NGD4189RK KCU10	C165
NG3M325RK KCP25B	C162	NG4250LK KCU10	C164	NGD3062LK KCU25	C165	NGD4189RK KCU25	C165
NG3M325RK KCU25	C162	NG4250LK KCU25	C164	NGD3062RK K313	C171	NGD4250L K313	C171
NG3M350LK KC5025	C164	NG4250R KC5010	C170	NGD3062RK KC5010	C165	NGD4250L KC5010	C171
NG3M350LK KCP25B	C164	NG4250R KC5025	C170	NGD3062RK KC5025	C165	NGD4250L KCU10	C171
NG3M350LK KCU25	C164	NG4250R KCK20B	C170	NGD3062RK KCU10	C165	NGD4250LK KC5025	C165
NG3M350RK KC5025	C162	NG4250R KCU10	C170	NGD3062RK KCU25	C165	NGD4250LK KCU10	C165
NG3M350RK KCP25B	C162	NG4250R KCU25	C170	NGD3094LK K313	C165	NGD4250LK KCU25	C165
NG3M350RK KCU25	C162	NG4250RK KC5010	C163	NGD3094LK KC5010	C165	NGD4250R K313	C171
NG3M400LK KC5025	C164	NG4250RK KC5025	C163	NGD3094LK KC5025	C165	NGD4250R KCU10	C171
NG3M400LK KCP10B	C164	NG4250RK KCP10B	C163	NGD3094LK KCU10	C165	NGD4250RK KC5010	C165
NG3M400LK KCP25B	C164	NG4250RK KCP25B	C163	NGD3094LK KCU25	C165	NGD4250RK KC5025	C165
NG3M400LK KCU10	C164	NG4250RK KCU25	C163	NGD3094RK K313	C165	NGD4250RK KCU10	C165

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
NGD4250RK KCU25.....	C165	NJP3014R12 KC5010	D16	NPL13M05N KCU10	E35	NR2031L KCU25	C172
NGD4M400LK KCU25	C165	NJP3014R12 KC5025	D16	NPL13M10N K68.....	E35	NR2031R KC5010	C172
NGD4M500LK KCU25	C165	NJP3014R12 KCU10	D16	NPL13M10N KCU10	E35	NR2031R KC5025	C172
NGD4M550RK KCU25	C165	NJP3014R12 KCU25	D16	NPL332F KCU10.....	E34	NR2031R KCU10	C172
NGP2031L KCU10	C168	NJP3020L8 KC5025	D16	NPL505 K313.....	E35	NR2031R KCU25	C172
NGP2031R KC5010	C168	NJP3020R8 KC5010	D16	NPL505 K68.....	E35	NR2047L KCU25	C172
NGP2031R KCU10	C168	NJP3020R8 KC5025	D16	NPL505 KC5010.....	E35	NR2047R KCU25	C172
NGP2062L KCU10	C168	NJP3020R8 KCU25	D16	NPL505 KCU25.....	E35	NR2062L KC5010	C172
NGP2062R KC5010	C168	NKCL0805V.....	E41	NPL505 KD1425.....	E35	NR2062L KCU10	C172
NGP2062R KCU10	C168	NKCL1005B.....	E41	NPL508 K313.....	E35	NR2062L KCU25	C172
NGP2125L KCU10	C168	NKCL1205A.....	E41	NPL508 KCU10.....	E35	NR2062R KC5010	C172
NGP2125R KCU10	C168	NKCL1205B.....	E41	NPL508 KCU25.....	E35	NR2062R KCU10	C172
NGP3088L KCU10	C168	NKCL1605C.....	E41	NPL508 KD1425.....	E35	NR2062R KCU25	C172
NGP3088R KCU10	C168	NKCLCF0805D.....	E42	NPL51 K313.....	E35	NR2M050L KC5010	C172
NGP3088R KD1425	C168	NKLCR0805V.....	E41	NPL51 K68.....	E35	NR2M050L KCU10	C172
NGP3125L KC5010	C168	NKLCR1005B.....	E41	NPL51 KC5010.....	E35	NR2M050L KCU25	C172
NGP3125R KC5010	C168	NKLCR1205A.....	E41	NPL51 KC5025.....	E35	NR2M050R KC5010	C172
NGP3125R KCU10	C168	NKLCR1205B.....	E41	NPL51 KCU10.....	E35	NR2M050R KC5025	C172
NGP3125R KD1425	C168	NKLCR1605C.....	E41	NPL51 KCU25.....	E35	NR2M050R KCU10	C172
NGP3156R KCU10	C168	NKLCRF0805D.....	E42	NPL51 KD1425.....	E35	NR2M050R KCU25	C172
NGP4189R KCU10	C168	NKLCRF1005B.....	E42	NPL52 K313.....	E35	NR2M050R KC5010	C172
NGP4250L KCU10	C168	NKLN121B.....	E41	NPL52 K68.....	E35	NR2M075R KCU10	C172
NGP4250R KC5010	C168	NKLN161C.....	E41	NPL52 KC5010.....	E35	NR2M100L KC5025	C172
NJ3010L16 KC5025.....	D15	NKLN161C.....	E41	NPL52 KCU25.....	E35	NR2M100R KC5010	C172
NJ3010R16 K68.....	D15	NKLN161C.....	E41	NPL5M02 K68.....	E36	NR2M100R KC5025	C172
NJ3010R16 KC5025.....	D15	NKPCN1205B.....	E42	NPL5M02 KC5010.....	E36	NR2M100R KCU10	C172
NJ3010R16 KCU25.....	D15	NLW-0.375 S.....	T128, T131	NPL5M02 KCU10.....	E36	NR2M125R KC5025	C172
NJ3014L12 KC5010.....	D15	NLW12SP.....	T131	NPL5M05 K68.....	E36	NR2M150L KC5025	C172
NJ3014L12 KC5025.....	D15	NP2002RK KC5010.....	C167	NPL5M05 KC5010.....	E36	NR2M150R KC5025	C172
NJ3014R12 KC5010.....	D15	NP2002RK KC5025.....	C167	NPL5M05 KCU10.....	E36	NR2M175R KC5025	C172
NJ3014R12 KC5025.....	D15	NP2002RK KCU10.....	C167	NPR1305 K68.....	E34	NR3031L K313.....	C172
NJ3014R12 KCU10.....	D15	NP2002RK KCU25.....	C167	NPR1305 KCU10.....	E34	NR3031L KC5010.....	C172
NJ3014R12 KCU25.....	D15	NP2012RK KCU25.....	C167	NPR1308 KCU10.....	E34	NR3031L KC5025.....	C172
NJ3020L8 KC5025.....	D15	NP3002RK KC5010.....	C167	NPR131F KC5010.....	E34	NR3031L KCU10.....	C172
NJ3020R8 KC5010.....	D15	NP3002RK KCU10.....	C167	NPR131F KCU25.....	E34	NR3031L KCU25.....	C172
NJ3020R8 KC5025.....	D15	NP3002RK KCU25.....	C167	NPR132F KC5010.....	E34	NR3031LK KC5010.....	C166
NJ3020R8 KC5025.....	D15	NP3002RK KCU25.....	C167	NPR132F KCU10.....	E34	NR3031LK KC5025.....	C166
NJF3005R32 KC5010.....	D15	NP3012RK KC5010.....	C167	NPR132F KCU25.....	E34	NR3031LK KCU10.....	C166
NJF3005R32 KCU10.....	D15	NP3012RK KCU25.....	C167	NPR13M05F KC5010.....	E35	NR3031LK KCU25.....	C166
NJF3006R28 KC5010.....	D15	NP3012RK KC5025.....	C167	NPR13M05F KCP25B.....	E36	NR3031R K313.....	C172
NJF3006R28 KC5025.....	D15	NP3012RK KCU10.....	C167	NPR13M05F KCU10.....	E35	NR3031R KC5010.....	C172
NJF3007L24 KC5010.....	D15	NP3012RK KCU25.....	C167	NPR13M05N K68.....	E35	NR3031R KC5025.....	C172
NJF3007R24 KC5010.....	D15	NP3012RK KC5010.....	C167	NPR13M05N KCP25B.....	E35	NR3031R KCU10.....	C172
NJF3007R24 KC5025.....	D15	NP3012RK KCU10.....	C167	NPR13M10N K68.....	E35	NR3031R KCU25.....	C172
NJF3008L20 KC5010.....	D15	NP3012RK KCU25.....	C167	NPR13M10N KCU10.....	E35	NR3031R KC5010.....	C166
NJF3008R20 KC5010.....	D15	NPGR51L K68.....	E33	NPR331N KCU25.....	E34	NR3031R KC5025.....	C172
NJF3008R20 KC5025.....	D15	NPGR51L KC5010.....	E33	NPR332 KCU10.....	E34	NR3031R KC5025.....	C166
NJF3009R18 K68.....	D15	NPGR51L KC5025.....	E33	NPR505 K313.....	E35	NR3031R KCU10.....	C172
NJF3009R18 KC5010.....	D15	NPGR51L KCU10.....	E33	NPR505 K68.....	E35	NR3047L K313.....	C172
NJF3009R18 KC5025.....	D15	NPGR51L KCU25.....	E33	NPR505 KC5010.....	E35	NR3047L KC5010.....	C172
NJF3009R18 KCU25.....	D15	NPGR51L KT315.....	E33	NPR505 KC5025.....	E35	NR3047L KCU10.....	C172
NJF3010L16 KC5010.....	D15	NPGR51LFP KCM25.....	E33	NPR505 KCU10.....	E35	NR3047L KCU25.....	C172
NJF3010R16 KC5010.....	D15	NPGR51LFP KCP10.....	E33	NPR505 KD1425.....	E35	NR3047LKC5010.....	C166
NJF3010R16 KC5025.....	D15	NPGR51LFP KCP25.....	E33	NPR508 K313.....	E35	NR3047LKC5025.....	C166
NJF3012R14 KC5010.....	D15	NPGR51LFP KCU25.....	E33	NPR508 KC5010.....	E35	NR3047LKC U10.....	C166
NJF3012R14 KC5025.....	D15	NPGR51R K68.....	E33	NPR508 KCU10.....	E35	NR3047LKC U25.....	C166
NJF3012R14 KCU25.....	D15	NPGR51R KC5010.....	E33	NPR508 KD1425.....	E35	NR3047R KC5010.....	C172
NJF3012R14 KCU25.....	D15	NPGR51R KC5025.....	E33	NPR508 KT315.....	E35	NR3047R KCU10.....	C172
NJF3012R14 KC5025.....	D16	NPGR51R KCU10.....	E33	NPR51 K313.....	E35	NR3047R KCU25.....	C172
NJF3012R14 KC5025.....	D16	NPGR51R KD1425.....	E33	NPR51 K68.....	E35	NR3047RK KC5010.....	C166
NJF3012R14 KC5025.....	D16	NPGR51R KT315.....	E33	NPR51 KC5010.....	E35	NR3047RK KC5025.....	C166
NJF3012R14 KC5025.....	D16	NPGR51RFP KCM25.....	E33	NPR51 KC5025.....	E35	NR3047RK KCU10.....	C166
NJF3012R14 KC5025.....	D16	NPGR51RFP KCP10.....	E33	NPR51 KC5410.....	E35	NR3062L K313.....	C172
NJF3012R14 KC5025.....	D16	NPGR51RFP KCP25.....	E33	NPR51 KCU10.....	E35	NR3062L KC5010.....	C172
NJF3012R14 KC5025.....	D16	NPGR52L KC5025.....	E33	NPR51 KCU25.....	E35	NR3062L KC5025.....	C172
NJF3012R14 KC5025.....	D16	NPGR52L KCM15B.....	E33	NPR51 KD1425.....	E35	NR3062L KCU10.....	C172
NJF3012R14 KC5025.....	D16	NPGR52L KCU10.....	E33	NPR51 KT315.....	E35	NR3062L KCU25.....	C172
NJF3012R14 KC5025.....	D16	NPGR52L KCU25.....	E33	NPR52 K68.....	E35	NR3062LK KC5010.....	C166
NJF3012R14 KC5025.....	D16	NPGR52L KD1425.....	E33	NPR52 KC5010.....	E35	NR3062LK KC5025.....	C166
NJF3012R14 KC5025.....	D16	NPGR52LFP KCP10.....	E33	NPR52 KC5025.....	E35	NR3062LK KCU10.....	C166
NJF3012R14 KC5025.....	D16	NPGR52LFP KCP25.....	E33	NPR52 KCU10.....	E35	NR3062LK KCU25.....	C166
NJF3012R14 KC5025.....	D16	NPGR52R KCU10.....	E33	NPR52 KT315.....	E35	NR3062LK KCU25.....	C166
NJF3012R14 KC5025.....	D16	NPGR52R KCU25.....	E33	NPR5M02 K68.....	E36	NR3062R K313.....	C172
NJF3012R14 KC5025.....	D16	NPGR52R KT315.....	E33	NPR5M02 KC5010.....	E36	NR3062R KC5010.....	C172
NJF3012R14 KC5025.....	D16	NPGR52RFP KCP10.....	E33	NPR5M05 K68.....	E36	NR3062R KC5025.....	C172
NJF3012R14 KC5025.....	D16	NPL131F KC5010.....	E34	NPR5M05 KC5010.....	E36	NR3062R KCU10.....	C172
NJF3012R14 KC5025.....	D16	NPL131F KCU25.....	E34	NPR5M05 KCP25B.....	E36	NR3062R KCU25.....	C172
NJF3012R14 KC5025.....	D16	NPL132F K68.....	E34	NPR5M05 KCU10.....	E36	NR3062RK KC5010.....	C166
NJF3012R14 KC5025.....	D16	NPL132F KC5010.....	E34	NR2031L KC5010.....	C172	NR3062RK KC5025.....	C166
NJF3012R14 KC5025.....	D16	NPL132F KCU25.....	E34	NR2031L KC5025.....	C172	NR3062RK KCU10.....	C166
NJF3012R14 KC5025.....	D16	NPL13M05N K68.....	E35	NR2031L KCU10.....	C172	NR3062RK KCU25.....	C166

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
NR3078LK KC5010	C166	NRD4125R KCU25	C173	NSR164D	C184, D28	NT3R KCU25	D17
NR3078LK KC5025	C166	NRL123B	C189	NSR166D	C184, D28	NT3RCK KC5010	D19
NR3078LK KCU25	C166	NRL163C	C189	NSR168D	C184, D28	NT3RCK KC5025	D19
NR3078R K313	C172	NRL163D	C189	NSR2020K2	C183	NT3RCK KCU10	D19
NR3078RK KC5010	C166	NRL2020K3	C189	NSR2020K3	C183	NT3RCK KCU25	D19
NR3078RK KCU10	C166	NRL203D	C189	NSR203D	C182, D27	NT3RK KC5010	D22
NR3078RK KCU25	C166	NRL2525M3	C189	NSR204C	C184, D28	NT3RK KC5025	D22
NR3094L K313	C172	NRL3225P3	C189	NSR204D	C184, D28	NT3RK KCU10	D22
NR3094L KC5010	C172	NRP3031L KC5010	C169	NSR205D	C182, D27	NT3RK KCU25	D22
NR3094L KC5025	C172	NRP3031L KCU10	C169	NSR206D	C184, D28	NT4L K68	D17
NR3094L KCU25	C172	NRP3031R KC5010	C169	NSR243D	C182, D27	NT4L KC5010	D17
NR3094R KC5010	C172	NRP3031R KCU10	C169	NSR243E	C182, D27	NT4L KC5025	D17
NR3094R KC5025	C172	NRP3047L KC5010	C169	NSR244D	C184, D28	NT4L KCU10	D17
NR3094R KCU10	C172	NRP3047L KCU10	C169	NSR244E	C184, D28	NT4L KCU25	D17
NR3094R KCU25	C172	NRP3047R K313	C169	NSR245D	C182, D27	NT4LCK KC5025	D19
NR3M100L KC5025	C172	NRP3047R KC5010	C169	NSR246D	C184, D28	NT4LCK KCU25	D19
NR3M100R KC5025	C172	NRP3047R KCU10	C169	NSR2525M2	C183	NT4LCK KC5010	D22
NR3M150L KC5010	C172	NRP3062L KC5010	C169	NSR2525M3	C183	NT4LCK KC5025	D22
NR3M150L KC5025	C172	NRP3062R KC5010	C169	NSR2525M4	C183	NT4LCK KCU10	D22
NR3M150L KCU10	C172	NRP3062R KCU10	C169	NSR3225P3	C183	NT4LCK KCU25	D22
NR3M150R KC5025	C172	NRP3094L KC5010	C169	NSR3225P4	C183	NT4R K68	D17
NR3M200L KC5025	C172	NRP3094L KCU10	C169	NSR3232P3	C183	NT4R KC5010	D17
NR3M200R KC5025	C172	NRP3094R KC5010	C169	NSR3232P4	C183	NT4R KC5025	D17
NR4062LK KC5010	C166	NRP3094R KCU10	C169	NSR853D	C182, D27	NT4R KCU10	D17
NR4062LK KCU10	C166	NRR123B	C189	NSR854D	C184, D28	NT4R KCU25	D17
NR4062LK KCU25	C166	NRR163C	C189	NSR864E	C184, D28	NT4RCK KC5010	D19
NR4062RK KC5010	C166	NRR163D	C189	NSRDH122B	C186, D29	NT4RCK KC5025	D19
NR4062RK KCU10	C166	NRR2020K3	C189	NSRDH123A	C186, D29	NT4RCK KCU25	D19
NR4062RK KCU25	C166	NRR203D	C189	NSRDH162C	C186, D29	NT4RK KC5010	D22
NR4094LK KC5010	C166	NRR243D	C189	NSRDH163C	C186, D29	NT4RK KC5025	D22
NR4094LK KC5025	C166	NRR2525M3	C189	NSRDH163D	C186, D29	NT4RK KCU10	D22
NR4094LK KCU10	C166	NRR3225P3	C189	NSRDH203D	C186, D29	NT4RK KCU25	D22
NR4094LK KCU25	C166	NSL062	C182, D27	NSRDH204D	C186, D29	NTB2LB KC5010	D18
NR4094R K313	C172	NSL082V	C182, D27	NST1	B168-169, B386-387	NTB2LB KCU10	D18
NR4094RK KC5010	C166	NSL1010E2	C183	NST2	B168-169, B386-387	NTB2RA K68	D17
NR4094RK KCU10	C166	NSL102B	C182, D27	NST3	B168-169, B386-387	NTB2RB KC5010	D18
NR4094RK KCU25	C166	NSL1212F2	C183	NSUL164D	D29	NTB3L12B KC5010	D18
NR4125L KC5010	C172	NSL122B	C182, D27	NSUR124C	D29	NTB3LA K68	D17
NR4125L KCU25	C172	NSL123A	C182, D27	NSUR164D	D29	NTB3LA KC5010	D17
NR4125LK KC5010	C166	NSL123B	C182, D27	NT1L K68	D23	NTB3LA KC5025	D17
NR4125LK KCU10	C166	NSL1616H2	C183	NT1L KC5010	D23	NTB3LB K68	D18
NR4125LK KCU25	C166	NSL162C	C182, D27	NT1L KC5025	D23	NTB3LB KC5010	D18
NR4125R KC5010	C172	NSL163C	C182, D27	NT1L KCU10	D23	NTB3LB KC5025	D18
NR4125R KCU10	C172	NSL163D	C182, D27	NT1L KCU25	D23	NTB3LB KCU10	D18
NR4125R KCU25	C172	NSL164C	C184, D28	NT2L K313	D17	NTB3RB12B KC5010	D18
NR4125RK KC5010	C166	NSL164D	C184, D28	NT2L K68	D17	NTB3RA KC5025	D17
NR4125RK KC5025	C166	NSL166D	C184, D28	NT2L KC5010	D17	NTB3RA KCU10	D17
NR4125RK KCU10	C166	NSL2020K2	C183	NT2L KC5025	D17	NTB3RB K68	D18
NR4125RK KCU25	C166	NSL2020K3	C183	NT2L KCU10	D17	NTB3RB KC5010	D18
NRD3031L KC5010	C173	NSL203D	C182, D27	NT2L KCU25	D17	NTB3RB KC5025	D18
NRD3031L KC5025	C173	NSL204C	C184, D28	NT2LK KC5010	D22	NTB3RB KCU10	D18
NRD3031L KCU10	C173	NSL204D	C184, D28	NT2LK KC5025	D22	NTB3RB KCU25	D18
NRD3031L KCU25	C173	NSL205D	C182, D27	NT2LK KCU10	D22	NTB4LB KC5010	D18
NRD3031R KC5010	C173	NSL206D	C184, D28	NT2LK KCU25	D22	NTB4LB KC5025	D18
NRD3031R KC5025	C173	NSL243D	C182, D27	NT2R K313	D17	NTB4RA KCU10	D17
NRD3031R KCU10	C173	NSL243E	C182, D27	NT2R K68	D17	NTB4RB KC5010	D18
NRD3031R KCU25	C173	NSL244D	C184, D28	NT2R KC5010	D17	NTB4RB KC5025	D18
NRD3062L KC5010	C173	NSL244E	C184, D28	NT2R KC5025	D17	NTB4RB KCU10	D18
NRD3062L KC5025	C173	NSL246D	C184, D28	NT2R KCU10	D17	NTC3L10E KCU10	D20
NRD3062L KCU10	C173	NSL2525M2	C183	NT2R KCU25	D17	NTC3L10I KC5025	D18
NRD3062L KCU25	C173	NSL2525M3	C183	NT2RK KC5010	D22	NTC3L12E KCU10	D20
NRD3062R KC5010	C173	NSL2525M4	C183	NT2RK KC5025	D22	NTC3L12I KC5025	D18
NRD3062R KC5025	C173	NSL3225P3	C183	NT2RK KCU10	D22	NTC3L14I KC5025	D18
NRD3062R KCU10	C173	NSL3225P4	C183	NT2RK KCU25	D22	NTC3L16E KCU10	D20
NRD3062R KCU25	C173	NSL3232P3	C183	NT3L K68	D17	NTC3L16I KC5025	D18
NRD4062L KC5010	C173	NSL3232P4	C183	NT3L KC5010	D17	NTC3L16I KC5025	D18
NRD4062L KC5025	C173	NSL853D	C182, D27	NT3L KC5025	D17	NTC3L8E KC5010	D20
NRD4062L KCU10	C173	NSL854D	C184, D28	NT3L KCU10	D17	NTC3L8I KC5025	D18
NRD4062L KCU25	C173	NSLDH203D	C186, D29	NT3L KCU25	D17	NTC3MR150E KC5010	D19
NRD4062R KC5010	C173	NSR062	C182, D27	NT3LCK KC5010	D19	NTC3MR150E KC5025	D19
NRD4062R KCU10	C173	NSR082V	C182, D27	NT3LCK KC5025	D19	NTC3MR200E KC5010	D19
NRD4062R KCU25	C173	NSR1010E2	C183	NT3LCK KCU10	D20	NTC3R10E KC5010	D20
NRD4094L KC5010	C173	NSR102B	C182, D27	NT3LCK KCU25	D19	NTC3R10E KC5025	D20
NRD4094L KCU10	C173	NSR1212F2	C183	NT3LK KC5010	D22	NTC3R11E KC5025	D20
NRD4094L KCU25	C173	NSR122B	C182, D27	NT3LK KC5025	D22	NTC3R11E KCU10	D20
NRD4094R KC5010	C173	NSR123A	C182, D27	NT3LK KCU10	D22	NTC3R12E KC5010	D20
NRD4094R KCU10	C173	NSR123B	C182, D27	NT3LK KCU25	D22	NTC3R12E KC5025	D20
NRD4125L KC5010	C173	NSR1616H2	C183	NT3R K313	D17	NTC3R12E KCU25	D20
NRD4125L KC5025	C173	NSR162C	C182, D27	NT3R K68	D17	NTC3R12I KC5025	D18
NRD4125L KCU10	C173	NSR163C	C182, D27	NT3R KC5010	D17	NTC3R13E KC5010	D20
NRD4125L KCU25	C173	NSR163D	C182, D27	NT3R KC5025	D17	NTC3R13E KC5025	D20
NRD4125R KC5010	C173	NSR164C	C184, D28	NT3R KCU10	D17	NTC3R14E KC5010	D20

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
NTC3R14E KC5025	D20	NTP4R KC5025	D22	OFKT64AFEN6GB KCPK30	S52	PKG7001	K128
NTC3R16E KC5010	D20	NTP4R KC5010	D22	OFKT64AFEN6GB KCPM40	S52	PKG994	K145
NTC3R16E KC5025	D20	NTP4R KC5025	D22	OFKT64AFEN6GB KCSM40	S52	PMT04525	C71, C149
NTC3R18E KC5010	D20	NTP4R KCUJ10	D22	OFKT64AFEN6GB KCSM40	S52	PROON164D	B170, B385
NTC3R18E KC5025	D20	NTP4R KCUJ25	D22	OFKT64AFEN6LB KC522M	S51	PROON204D	B170, B385
NTC3R18E KCUJ25	D20	NTU4R KC5025	D22	OFKT64AFEN6LB KC725M	S51	PROON206D	B170, B385
NTC3R20E KC5010	D20	NTU4R KCUJ25	D22	OFKT64AFEN6LB KCPK30	S51	PROON208D	B170, B385
NTC3R20E KC5025	D20	NU3094L KC5025	C175	OFKT64AFEN6LB KCSM40	S51	PROON244D	B170, B385
NTC3R20E KCUJ10	D20	NU3094L KCUJ25	C175	OFKT64AFEN6LB KC410M	S51	PROON246	B170, B385
NTC3R24E KC5010	D20	NU3094R KC5025	C175	OFKT64AFEN6GB KCPK30	S52	PSC40KGMEL50C	C73, C151
NTC3R24E KC5025	D20	NU3125L KC5025	C175	OFKT64AFEN6GB KC522M	S52	PSC40KGMER50C	C73, C151
NTC3R28E KC5025	D20	NU3125R KCUJ25	C175	OFKT64AFEN6HB KC725M	S52	PSC40KGMEL50C	C72, C150
NTC3R32E KC5025	D20	NU3156L KC5025	C175	OFKT64AFEN6HB KCPK30	S52	PSC40KGMER50C	C72, C150
NTC3R32E KCUJ10	D20	NUFRL	E64	OFKT64AFEN6HB KCSM40	S52	PSC50KGMEL50C	C73, C151
NTC3R7E KC5025	D20	NUFRR	E64	OFKT64AFEN6HB KCSM40	S52	PSC50KGMEL65C	C73, C151
NTC3R8E KC5010	D20	NUWTC	E65	OFKT64AFEN6LB KC725M	S51	PSC50KGMER50C	C73, C151
NTC3R8E KC5025	D20	NU3RJ KCUJ25	C176	OFKT64AFEN6LB KCPK30	S51	PSC50KGMER65C	C73, C151
NTC3R8E KCUJ10	D20	NV4LL KCUJ25	C176	OFPT53AFEN4GB KC520M	S48	PSC50KGMEL50C	C72, C150
NTC3R9E KCUJ10	D20	NV4RL KCUJ25	C176	OFPT53AFEN4GB KCPK30	S48	PSC50KGMEL65C	C72, C150
NTF2L K68	D21	NVLCL123B	E43	OFPT53AFEN4GB KCK15	S48	PSC50KGMER50C	C72, C150
NTF2L KC5010	D21	NVLCL163D	E43	OFPT53AFEN4GB KCPK30	S48	PSC50KGMER65C	C72, C150
NTF2L KC5025	D21	NVLCL203D	E43	OFPT53AFEN4GB KCPM40	S48	PSC63DL10200	052
NTF2L KCUJ10	D21	NVLCL243D	E43	OFPT53AFEN4HB KC520M	S48	PSC63DL12200	052
NTF2L KCUJ25	D21	NVLCR123B	E43	OFPT53AFEN4HB KCPK30	S48	PSC63DL16225	052
NTF2R K68	D21	NVLCR163D	E43	OFPT53AFEN4HB KCK15	S48	PSC63DL20225	052
NTF2R KC5010	D21	NVLCR203D	E43	OFPT53AFEN4HB KCPK30	S48	PSC63DL25238	052
NTF2R KC5025	D21	NVLCR243D	E43	OFPT53AFEN4HB KCSM40	S48	PSC63DL32275	052
NTF2R KCUJ10	D21	NWOCN163D	E43	OFPT64AFEN6GB KC520M	S52	PSC63KGMEL50C	C73, C151
NTF2R KCUJ25	D21	NWC3L111 KC5025	D23	OFPT64AFEN6GB KC522M	S52	PSC63KGMEL65C	C73, C151
NTF3L K68	D21	NWC3R11E KC5010	D23	OFPT64AFEN6GB KC725M	S52	PSC63KGMER50C	C73, C151
NTF3L KC5010	D21	NWC3R11E KC5025	D23	OFPT64AFEN6GB KCK15	S52	PSC63KGMER65C	C73, C151
NTF3L KC5025	D21	NWC3R14E KC5010	D23	OFPT64AFEN6GB KCPK30	S52	PSC63KGMEL50C	C72, C150
NTF3L KCUJ10	D21	NWC3R14E KCUJ25	D23	OFPT64AFEN6GB KCPM40	S52	PSC63KGMEL65C	C72, C150
NTF3L KCUJ25	D21	ODC1063IEGD KMF	U9	OFPT64AFEN6HB KC522M	S52	PSC63KGMER50C	C72, C150
NTF3R K68	D21	ODC2087IEGD KMF	U9	OFPT64AFEN6HB KCPK30	S52	PSC63KGMER65C	C72, C150
NTF3R KC5010	D21	ODC3125IEGD KMF	U9	OFPT64AFEN6HB KCK15	S52	PSC80KGMEL50C	C73, C151
NTF3R KC5025	D21	ODC4158IEGD KMF	U9	OFPT64AFEN6HB KCPK30	S52	PSC80KGMEL65C	C73, C151
NTF3R KCUJ10	D21	ODG1063ISGB KC735M	U9	OFPT64AFEN6HB KCSM40	S52	PSC80KGMER50C	C73, C151
NTF3R KCUJ25	D21	ODG1063ISGB KCPK30	U9	ONGX642SNHB KC514M	S34	PSC80KGMER65C	C73, C151
NTF4R KC5025	D21	ODG1063ISGD KC735M	U9	ONGX642SNHB KCK15	S34	PSC80KGMEL50C	C72, C150
NTK2L K68	D21	ODG1063ISGD KCPK30	U9	ONGX645ENLE KC514M	S33	PSC80KGMEL65C	C72, C150
NTK2L KC5010	D21	ODG2087ISGB KC735M	U9	ONGX645ENLE KCK15	S33	PSC80KGMER50C	C72, C150
NTK2L KC5025	D21	ODG2087ISGB KCPK30	U9	ONGX645ENLE KCK20	S33	PSC80KGMER65C	C72, C150
NTK2L KCUJ10	D21	ODG2087ISGD KC735M	U9	ONGX645SNGP KC514M	S33	PT00163	E60
NTK2L KCUJ25	D21	ODG2087ISGD KCPK30	U9	ONGX645SNGP KCK15	S33	QC21	B265
NTK2R K68	D21	ODG3125ISGB KC735M	U9	ONGX645SNGP KCK20	S33	QTM20 WG	B292
NTK2R KC5010	D21	ODG3125ISGB KCPK30	U9	ONGX645SNGP KCPK30	S33	R125FBHS09	K140
NTK2R KC5025	D21	ODG3125ISGD KC735M	U9	ONGX645SNHB KC514M	S34	R24FBHS06	K140
NTK2R KCUJ10	D21	ODG3125ISGD KCPK30	U9	ONGX645SNHB KCK15	S34	R24FBHS06LF	K140
NTK2R KCUJ25	D21	ODG4158ISGB KC735M	U9	ONGX645SNHB KCK20	S34	R30FBHS06	K140
NTK3L K68	D21	ODG4158ISGB KCPK30	U9	ONGX645SNHB KCPK30	S34	R31FBHS06	K140
NTK3L KC5010	D21	ODG4158ISGD KC735M	U9	ONGX648SNHB KC514M	S34	R31FBHS06LF	K140
NTK3L KC5025	D21	ODG4158ISGD KCPK30	U9	ONGX648SNHB KCK15	S34	R38FBHS06	K140
NTK3L KCUJ10	D21	ODG6197ISGB KC735M	U10	ONGX648SNHB KCK20	S34	R40FBHS06	K140
NTK3L KCUJ25	D21	ODG6236ISGB KC735M	U10	ONGX64ANENLE KC514M	S33	R40FBHS06LF	K140
NTK3R K68	D21	ODG6236ISGB KCPK30	U10	ONGX64ANENLE KCK15	S33	R48FBHS06	K140
NTK3R KC5010	D21	OFKT53AFEN4GB KC520M	S47	ONGX64ANENLE KCK20	S33	R51FBHS06	K140
NTK3R KC5025	D21	OFKT53AFEN4GB KC522M	S47	ONGX64ANSNGP KC514M	S33	R51FBHS06LF	K140
NTK3R KCUJ10	D21	OFKT53AFEN4GB KC725M	S47	ONGX64ANSNGP KCK15	S33	R65FBHS06	K140
NTK3R KCUJ25	D21	OFKT53AFEN4GB KCK15	S47	ONGX64ANSNGP KCK20	S33	R67FBHS06	K140
NTP2L K68	D22	OFKT53AFEN4GB KCPK30	S47	ONPX642SNGP KCK15	S34	R67FBHS09	K140
NTP2L KC5010	D22	OFKT53AFEN4GB KCPM40	S47	ONPX642SNGP KCK20	S34	R67FBHS09LF	K140
NTP2L KC5025	D22	OFKT53AFEN4GB KCSM40	S47	ONPX642SNGP KCPK30	S34	R82154	K78
NTP2L KCUJ10	D22	OFKT53AFEN4LBJ KC422M	S46	ONPX645SNHB KCK15	S34	R85FBHS06	K140
NTP2L KCUJ25	D22	OFKT53AFEN6LB KC522M	S47	ONPX645SNHB KCK20	S34	R85FBHS09	K140
NTP2R K68	D22	OFKT53AFEN6LB KC725M	S47	ONPX645SNHB KCPK30	S34	RCG443 KC5010	B238
NTP2R KC5010	D22	OFKT53AFEN6LB KCK15	S47	PDC251A04763DA KD1415	G106	RCG43 KCUJ10	B238
NTP2R KC5025	D22	OFKT53AFEN6LB KCPK30	S47	PDC251A06350DA KD1415	G106	RCG433MP KC5010	B238
NTP2R KCUJ10	D22	OFKT53AFEN6LB KCSM40	S47	PDC251A07938DA KD1415	G106	RCGK152FS KCUJ10	E69
NTP2R KCUJ25	D22	OFKT53AFEN4LBJ KC410M	S46	PDC251A09525DA KD1415	G106	RCGK152HP K313	E69
NTP3L K68	D22	OFKT53AFEN4LBJ KC410M	S46	PDC251A11133DA KD1415	G106	RCGK152HP KC5010	E69
NTP3L KC5010	D22	OFKT53AFSN4HB KC522M	S47	PDC251A12700DA KD1415	G106	RCGK152HP KCUJ10	E69
NTP3L KC5025	D22	OFKT53AFSN4HB KC725M	S47	PKG-8001	K132-134	RCGK23FS KC5010	E69
NTP3L KCUJ10	D22	OFKT53AFSN4HB KCPK30	S47	PKG0002	K145	RCGK23FS KCUJ10	E69
NTP3L KCUJ25	D22	OFKT53AFSN4HB KCSM40	S47	PKG0011	K130	RCGK23HP KC5010	E69
NTP3R K68	D22	OFKT53AFSN6LB KC520M	S47	PKG1402	K130	RCGK23HP KC5410	E69
NTP3R KC5010	D22	OFKT53AFSN6LB KC522M	S47	PKG1565	K141-143	RCGK23HP KCUJ10	E69
NTP3R KC5025	D22	OFKT53AFSN6LB KC725M	S47	PKG156502	K143-144	RCGK35FS KC5010	E69
NTP3R KC5410	D22	OFKT53AFSN6LB KCPK30	S47	PKG1602	K130	RCGK35FS KC5025	E69
NTP3R KCUJ10	D22	OFKT64AFEN6GB KC520M	S52	PKG1802	K130	RCGK35FS KCUJ10	E69
NTP3R KCUJ25	D22	OFKT64AFEN6GB KC522M	S52	PKG2025	K134, K136	RCGK35HP KC5410	E69
NTP4L KC5010	D22	OFKT64AFEN6GB KC725M	S52	PKG3242	K134, K136	RCGK35HP KCUJ10	E69

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
RCGK46FS KCU10	E69	RCMH2507MORU KCP25	E66	RCMT2006MOUNG KCP25B	E66	RHM22500KST200H7HF KT6215	K33
RCGK46HP KC5410	E69	RCMH2507MOTUPG KCP10B	E66	RCMT2006MOUNG KCPK05	E66	RHM22500KST200H7SF KT325	K31
RCGK46HP KCU10	E69	RCMH2507MOTUPG KCP25B	E66	RCMT215 KC5010	B240	RHM22500KST200H7SF KT6215	K31
RCGN33T0415 KBK45	B308	RCMH3209MORU KCP25	E66	RCMT215 KCP25	B240	RHM23000KST200H7HF KT325	K33
RCGT0602MORP KCP25B	B239	RCMH3209MOTUPG KCP10B	E66	RCMT215 KCU10	B240	RHM23000KST200H7HF KT6215	K33
RCGT0803MOHP K313	B238	RCMH3209MOTUPG KCP25B	E66	RCMT325 K313	B240	RHM23000KST200H7SF KT325	K31
RCGT0803MOHP K68	B238	RCMH64K KCP10B	B239	RCMT325 KC5010	B240	RHM23810KST200H7HF KT325	K33
RCGT0803MOHP KC5010	B238	RCMK152 K313	E69	RCMT325 KCP25	B240	RHM23810KST200H7HF KT6215	K33
RCGT0803MOHP KC5410	B238	RCMK152 KC5010	E69	RCMT43 KCU10	B240	RHM24000KST200H7HF KT325	K33
RCGT0803MOHP KCU25	B238	RCMK23 K313	E69	RCMT43 KC5010	B240	RHM24000KST200H7SF KT325	K33
RCGT0803MOMS KC5010	B239	RCMK23 KC5010	E69	RCMT43 KCK20	B240	RHM24000KST200H7SF KT6215	K31
RCGT0803MOMS KCU10	B239	RCMK23 KCU10	E69	RCMT43 KCM25	B240	RHM24000KST200H7HF KT325	K33
RCGT0803MORP KCP25B	B239	RCMK23MP KC510	E69	RCMT43 KCP10B	B240	RHM24000KST200H7HF KT6215	K33
RCGT10T3MOHP K313	B238	RCMK35 K313	E69	RCMT43MP KC510	B240	RHM24000KST200H7SF KT325	K31
RCGT10T3MOHP KC5010	B238	RCMK35 KC5010	E69	RCMX1003MORP KCP10B	B242	RHM24000KST200H7SF KT6215	K33
RCGT10T3MOHP KC5025	B238	RCMK35MP KC510	E69	RCMX1003MORP KCP25B	B242	RHM24000KST200H7HF KT325	K33
RCGT10T3MOHP KC5410	B238	RCMK46 KC5010	E69	RCMX2507M076 KCP25B	E59	RHM25000KST200H7HF KT6215	K33
RCGT10T3MOHP KCU10	B238	RCMK46MP KC510	E69	RCMX2507MORH KCP10	B241	RHM25000KST200H7SF KT325	K31
RCGT10T3MOHP KCU25	B238	RCMT0602M0 K313	B240	RCMX2507MORH KCP25	B241	RHM25000KST200H7HF KT6215	K31
RCGT1204MOHP K313	B238	RCMT0602M0 K68	B240	RCMX2507MORP KCP25	B242	RHM25400KST200H7HF KT325	K33
RCGT1204MOHP KC5010	B238	RCMT0602M0 KCM25	B240	RCMX2507MORP KCP30	B242	RHM25400KST200H7HF KT6215	K33
RCGT1204MOHP KCU25	B238	RCMT0602M0 KCM25	B240	RCMX2507MORU KCK20	E67	RHM25400KST200H7HF KT325	K31
RCGT1204MOMS K313	B238	RCMT0602M0 KCP25	B240	RCMX2507MOTUPG KCP10B	E67	RHM25400KST200H7SF KT6215	K31
RCGT1204MOMS KC5010	B239	RCMT0602M0 KCP30	B240	RCMX2507MOTUPG KCP25B	E67	RHM26000KST200H7HF KT325	K33
RCGT1204MOMS KCU10	B239	RCMT0602M0 KCU10	B240	RCMX3209MORH KCP25	B241	RHM26000KST200H7SF KT325	K31
RCGT1204MOMS KCU25	B239	RCMT0803M0 K313	B240	RCMX3209MORU KCK20	E67	RHM26990KST200H7HF KT325	K33
RCGT1204MORP KCP25	B239	RCMT0803M0 KC5010	B240	RCMX3209MORU KCP10	E67	RHM26990KST200H7HF KT6215	K33
RCGT1204MORP KCU10	B239	RCMT0803M0 KCK20B	B240	RCMX3209MOTUPG KCP10B	E67	RHM26990KST200H7SF KT325	K31
RCGT1204MORP KCU25	B239	RCMT0803M0 KCM25	B240	RCMX3209MOTUPG KCP25B	E67	RHM26990KST200H7SF KT6215	K31
RCGT64ELF KC725M	V89	RCMT0803M0 KCP25	B240	RHM14000KST115H7HF KT325	K33	RHM27000KST200H7HF KT325	K33
RCGT64ELF KCPK30	V89	RCMT0803MOMP KCS10	B240	RHM14000KST115H7HF KT6215	K33	RHM27000KST200H7HF KT6215	K33
RCGT64ELF KCSM40	V89	RCMT10T3M0 KC5010	B240	RHM14000KST115H7SF KT325	K31	RHM27000KST200H7SF KT325	K31
RCGT64ELFJ KCSM30	V89	RCMT10T3M0 KCK20B	B240	RHM14000KST115H7SF KT6215	K31	RHM27000KST200H7SF KT6215	K31
RCGT64SGF KC522M	V89	RCMT10T3M0 KCM25	B240	RHM14288KST115H7HF KT325	K33	RHM27500KST200H7HF KT325	K33
RCGT64SGF KC725M	V89	RCMT10T3M0 KCP25	B240	RHM14288KST115H7HF KT6215	K33	RHM27500KST200H7HF KT6215	K33
RCGT64SGFJ KCPM40	V89	RCMT10T3M0 KCP30	B240	RHM14288KST115H7SF KT325	K31	RHM27500KST200H7SF KT325	K33
RCGT64SHF KC725M	V89	RCMT10T3M0 KCU10	B240	RHM14288KST115H7SF KT6215	K31	RHM27500KST200H7SF KT6215	K32
RCGT64SHF KCPK30	V89	RCMT10T3MOMP KCS10	B240	RHM15000KST115H7SF KT325	K31	RHM28000KST200H7HF KT325	K34
RCGT64SHF KCSM40	V89	RCMT1204M0 K313	B240	RHM15875KST115H7HF KT325	K33	RHM28000KST200H7HF KT6215	K34
RCGT64SHFJ KCPM40	V89	RCMT1204M0 KC5010	B240	RHM15875KST115H7SF KT325	K31	RHM28000KST200H7SF KT325	K34
RCGT86ELF KC725M	V92	RCMT1204M0 KCK15B	B240	RHM15875KST115H7SF KT6215	K31	RHM28000KST200H7SF KT6215	K32
RCGT86ELF KCPK30	V92	RCMT1204M0 KCK20	B240	RHM16000KST135H7HF KT325	K33	RHM28580KST200H7HF KT325	K34
RCGT86ELF KCSM40	V92	RCMT1204M0 KCK20B	B240	RHM16000KST135H7SF KT325	K31	RHM28580KST200H7SF KT6215	K32
RCGT86SGF KC522M	V92	RCMT1204M0 KCM25	B240	RHM16000KST135H7SF KT6215	K31	RHM29000KST200H7HF KT325	K34
RCGT86SGFJ KCPM40	V92	RCMT1204M0 KCP30	B240	RHM17000KST135H7HF KT325	K33	RHM29000KST200H7HF KT6215	K34
RCGT86SHF KC725M	V92	RCMT1204M0 KCU10	B240	RHM17000KST135H7HF KT6215	K33	RHM29000KST200H7SF KT325	K34
RCGT86SHF KCPK30	V92	RCMT1204MOMP KCS10	B240	RHM17463KST135H7HF KT325	K33	RHM29000KST200H7SF KT6215	K32
RCGT86SHF KCSM40	V92	RCMT1204MORP KCK15	B242	RHM17463KST135H7HF KT6215	K33	RHM30000KST200H7HF KT325	K34
RCGT86SHFJ KCPM40	V92	RCMT1204MORP KCK20	B242	RHM17463KST135H7HF KT6215	K33	RHM30000KST200H7HF KT6215	K32
RCGV23 KC5010	B166	RCMT1204MORP KCP25B	B242	RHM17463KST135H7SF KT325	K31	RHM30000KST200H7SF KT6215	K32
RCGV23 KCU10	B166	RCMT1204MORP KCP10B	B242	RHM18000KST155H7HF KT325	K33	RHM30160KST200H7HF KT325	K34
RCGV23E KYS25	B351	RCMT1204MORP KCP25	B242	RHM18000KST155H7HF KT6215	K33	RHM30160KST200H7SF KT325	K32
RCGV23E KYS30	B351	RCMT1204MORP KCP25B	B242	RHM18000KST155H7SF KT325	K31	RHM30160KST200H7SF KT6215	K32
RCGV23MP KC510	B166	RCMT1605M0 K313	B240	RHM19000KST155H7HF KT325	K33	RHM31000KST200H7HF KT325	K34
RCGV35 KC5010	B166	RCMT1605M0 KC5010	B240	RHM19000KST155H7HF KT6215	K33	RHM31000KST200H7SF KT325	K32
RCGV35E KYS25	B351	RCMT1605M0 KCK20	B240	RHM19000KST155H7SF KT325	K31	RHM31750KST200H7HF KT325	K34
RCGV35E KYS30	B351	RCMT1605M0 KCM25	B240	RHM19050KST155H7HF KT325	K33	RHM31750KST200H7HF KT6215	K34
RCGV35T0225 KYS30	B351	RCMT1605M0 KCP25	B240	RHM19050KST155H7HF KT6215	K33	RHM31750KST200H7SF KT325	K32
RCGV35T0420 KY1615	B335	RCMT1605M0 KCU10	B240	RHM20000KST175H7HF KT325	K33	RHM31750KST200H7SF KT6215	K32
RCGV35T0420 KYS25	B351	RCMT1606MOMP KCS10	B240	RHM20000KST175H7HF KT6215	K33	RHM32000KST200H7HF KT325	K34
RCGV35T0420 KYS30	B351	RCMT1606MORP KCK15	B242	RHM20000KST175H7SF KT325	K31	RHM32000KST200H7HF KT6215	K34
RCGV35T0820 KY1615	B335	RCMT1606MORP KCP25	B242	RHM20640KST175H7HF KT325	K33	RHM32500KST300H7HF KT325	K34
RCGV35T4015 KY1615	B335	RCMT1606MORP KCP25B	B242	RHM20640KST175H7HF KT6215	K33	RHM32500KST300H7SF KT325	K34
RCGV35T8015 KY1615	B335	RCMT1606MOUNG KCK15B	E66	RHM20640KST175H7HF KT6215	K33	RHM32500KST300H7SF KT6215	K34
RCGV45 K313	B166	RCMT1606MOUNG KCP10B	E66	RHM20640KST175H7SF KT325	K31	RHM32500KST300H7SF KT6215	K32
RCGV45 KC5010	B166	RCMT1606MOUNG KCP25B	E66	RHM20640KST175H7SF KT6215	K31	RHM33000KST300H7HF KT325	K34
RCGV45E KYS25	B351	RCMT1606MOUNG KCPK05	E66	RHM21000KST175H7HF KT325	K33	RHM33000KST300H7HF KT6215	K34
RCGV45E KYS30	B351	RCMT2006M0 K313	B240	RHM21000KST175H7HF KT6215	K33	RHM33000KST300H7SF KT325	K32
RCGV45MP KCS10	B166	RCMT2006M0 KC5010	B240	RHM21000KST175H7SF KT325	K31	RHM33000KST300H7SF KT6215	K32
RCGV45T0420 KYS25	B351	RCMT2006M0 KCK20B	B240	RHM21000KST175H7SF KT6215	K31	RHM33340KST300H7HF KT325	K34
RCGV45T0420 KYS30	B351	RCMT2006M0 KCM25	B240	RHM21000KST175H7SF KT6215	K31	RHM33340KST300H7HF KT6215	K34
RCGV45T0425 KYS25	B351	RCMT2006M0 KCP25	B240	RHM22000KST175H7HF KT325	K33	RHM34000KST300H7HF KT325	K34
RCGV45T0425 KYS30	B351	RCMT2006M0 KCU10	B240	RHM22000KST175H7HF KT6215	K33	RHM34000KST300H7SF KT325	K32
RCGV45T0820 KY1615	B335	RCMT2006MORH KCP10	B241	RHM22230KST175H7HF KT325	K33	RHM34000KST300H7SF KT6215	K34
RCGV45T4015 KY1615	B335	RCMT2006MORH KCP25	B241	RHM22230KST175H7HF KT6215	K33	RHM34930KST300H7HF KT325	K34
RCGV45T8015 KY1615	B335	RCMT2006MORM KCP25	B241	RHM22230KST175H7SF KT325	K31	RHM34930KST300H7HF KT6215	K34
RCGV88T8015 KY1615	B335	RCMT2006MORP KCK20	B242	RHM22230KST175H7SF KT6215	K31		
RCGW1204MOT01020 KY1615	B336	RCMT2006MORP KCK20B	B242	RHM22230KST175H7SF KT6215	K31		
RCGX0907-001 KY1615	B336	RCMT2006MORP KCP25	B242	RHM22500KST200H7HF KT325	K33		
RCGX151000T20015 KY1615	B335	RCMT2006MOUNG KCK15B	E66				
RCGX191000T20015 KY1615	B335	RCMT2006MOUNG KCP10B	E66				

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
RHM34930KST300H7SF KT325	K32	RHME19050KST155H6SF KC6005	K35	RHR14000KST115H7HF KCU05	K30	RIQ06EGR06 KC6305	K59
RHM34930KST300H7SF KT6215	K32	RHME19050KST155H6SF KC6305	K35	RHR14000KST115H7SF KCU05	K29	RIQ06EGR06 KD1415	K59
RHM35000KST300H7HF KT325	K34	RHME20000KST175H6HF KC6005	K36	RHR15000KST115H7HF KCU05	K30	RIQ06EGR12 KC6005	K59
RHM35000KST300H7HF KT6215	K34	RHME20000KST175H6HF KC6305	K36	RHR15000KST115H7SF KCU05	K29	RIQ06EGR12 KC6105	K59
RHM35000KST300H7SF KT325	K32	RHME20000KST175H6SF KC6005	K35	RHR16000KST135H7HF KCU05	K30	RIQ06EGR12 KC6305	K59
RHM35000KST300H7SF KT6215	K32	RHME20000KST175H6SF KC6305	K35	RHR16000KST135H7SF KCU05	K29	RIQ06R2000 KD1415	K57
RHM36000KST300H7HF KT325	K34	RHME21000KST175H6HF KC6005	K36	RHR17000KST135H7HF KCU05	K30	RIQ06R400FB KT6225	K58
RHM36000KST300H7HF KT6215	K34	RHME21000KST175H6SF KC6305	K36	RHR17000KST135H7SF KCU05	K29	RIQ06R400S KB1610	K57
RHM36510KST300H7SF KT325	K32	RHME22000KST175H6HF KC6005	K35	RHR18000KST155H7HF KCU05	K30	RIQ06R500FT KT6315	K58
RHM36510KST300H7SF KT6215	K32	RHME22000KST175H6HF KC6305	K35	RHR18000KST155H7SF KCU05	K29	RIQ07C4500S KBHK10	K59
RHM36510KST300H7HF KT325	K34	RHME22000KST175H6SF KC6005	K36	RHR19000KST155H7HF KCU05	K30	RIQ07C4500S KBHK15	K59
RHM36510KST300H7HF KT6215	K34	RHME22000KST175H6SF KC6305	K36	RHR19000KST155H7SF KCU05	K29	RIQ08C4500S KBHK10	K59
RHM37000KST300H7HF KT325	K34	RHME22225KST175H6HF KC6005	K36	RHR20000KST175H7HF KCU05	K30	RIQ08C4500S KBHK15	K59
RHM37000KST300H7HF KT6215	K34	RHME22225KST175H6HF KC6305	K36	RHR20000KST175H7SF KCU05	K29	RIQ09C4500S KBHK10	K59
RHM37000KST350H7SF KT325	K32	RHME22225KST175H6SF KC6005	K35	RHR21000KST175H7HF KCU05	K30	RIQ09C4500S KBHK15	K59
RHM37000KST350H7HF KT325	K34	RHME22225KST175H6SF KC6305	K35	RHR21000KST175H7SF KCU05	K29	RIQ09C4500S KBHK10	K58
RHM37500KST350H7HF KT325	K32	RHME22225KST175H6SF KC6005	K35	RHR22000KST175H7HF KCU05	K30	RIQ09E1300 KC6105	K58
RHM37500KST350H7HF KT6215	K32	RHME22225KST175H6SF KC6305	K35	RHR22000KST175H7SF KCU05	K29	RIQ09E1306 KC6305	K58
RHM37500KST350H7SF KT325	K32	RHME23000KST200H6HF KC6005	K36	RHR23000KST200H7HF KCU05	K30	RIQ09E1306 KC6005	K58
RHM37500KST350H7SF KT6215	K32	RHME23000KST200H6HF KC6305	K36	RHR23000KST200H7SF KCU05	K29	RIQ09E1306 KC6105	K58
RHM38000KST350H7HF KT325	K32	RHME23000KST200H6SF KC6005	K35	RHR24000KST200H7HF KCU05	K30	RIQ09E1306 KC6305	K58
RHM38000KST350H7HF KT6215	K32	RHME23000KST200H6SF KC6305	K35	RHR24000KST200H7SF KCU05	K29	RIQ09E1312 KC6005	K58
RHM38100KST350H7HF KT325	K34	RHME23813KST200H6HF KC6005	K36	RHR25000KST200H7HF KCU05	K30	RIQ09E1312 KC6105	K58
RHM38100KST350H7HF KT6215	K34	RHME23813KST200H6HF KC6305	K36	RHR25000KST200H7SF KCU05	K29	RIQ09E1312 KC6305	K58
RHM39000KST350H7HF KT325	K34	RHME23813KST200H6SF KC6005	K35	RHR26000KST200H7HF KCU05	K30	RIQ09EDR00 KC6005	K59
RHM39000KST350H7HF KT6215	K34	RHME23813KST200H6SF KC6305	K35	RHR26000KST200H7SF KCU05	K29	RIQ09EDR00 KC6105	K59
RHM39000KST350H7HF KT6215	K34	RHME24000KST200H6HF KC6005	K36	RHR27000KST200H7HF KCU05	K30	RIQ09EDR00 KC6305	K59
RHM39000KST350H7SF KT325	K32	RHME24000KST200H6HF KC6305	K36	RHR27000KST200H7SF KCU05	K29	RIQ09EDR06 KC6005	K59
RHM39000KST350H7SF KT6215	K32	RHME24000KST200H6SF KC6005	K35	RHR28000KST250H7HF KCU05	K30	RIQ09EDR06 KC6105	K59
RHM39690KST350H7HF KT325	K34	RHME24000KST200H6SF KC6305	K35	RHR28000KST250H7SF KCU05	K29	RIQ09EDR06 KC6305	K59
RHM39690KST350H7HF KT6215	K34	RHME25000KST200H6HF KC6005	K36	RHR29000KST250H7HF KCU05	K30	RIQ09EDR06 KD1415	K59
RHM39690KST350H7SF KT325	K32	RHME25000KST200H6HF KC6305	K36	RHR29000KST250H7SF KCU05	K29	RIQ09EDR12 KC6005	K59
RHM39690KST350H7SF KT6215	K32	RHME25000KST200H6SF KC6005	K35	RHR30000KST250H7HF KCU05	K30	RIQ09EDR12 KC6105	K59
RHM40000KST350H7HF KT325	K34	RHME25400KST200H6HF KC6005	K36	RHR30000KST250H7SF KCU05	K29	RIQ09EDR12 KC6305	K59
RHM40000KST350H7HF KT6215	K34	RHME25400KST200H6HF KC6305	K36	RHR31000KST250H7HF KCU05	K30	RIQ09EGR00 KC6005	K59
RHM41000KST350H7HF KT325	K32	RHME25400KST200H6SF KC6005	K35	RHR31000KST250H7SF KCU05	K29	RIQ09EGR00 KC6105	K59
RHM41000KST350H7HF KT6215	K32	RHME26000KST200H6HF KC6005	K36	RHR32000KST250H7HF KCU05	K30	RIQ09EGR00 KC6305	K59
RHM41000KST350H7SF KT325	K32	RHME26000KST200H6HF KC6305	K36	RHR32000KST250H7SF KCU05	K29	RIQ09EGR06 KC6005	K59
RHM41000KST350H7SF KT6215	K32	RHME26000KST200H6SF KC6005	K35	RHR33000KST300H7HF KCU05	K30	RIQ09EGR06 KC6105	K59
RHM41280KST350H7HF KT325	K34	RHME26000KST200H6SF KC6305	K35	RHR33000KST300H7HF KCU05	K29	RIQ09EGR06 KC6305	K59
RHM41280KST350H7HF KT6215	K34	RHME26000KST200H6SF KC6005	K35	RHR34000KST300H7HF KCU05	K30	RIQ09EGR06 KD1415	K59
RHM41280KST350H7SF KT325	K32	RHME26000KST200H6SF KC6305	K35	RHR34000KST300H7SF KCU05	K29	RIQ09EGR12 KC6005	K59
RHM41280KST350H7SF KT6215	K32	RHME27000KST200H6HF KC6005	K36	RHR35000KST300H7HF KCU05	K30	RIQ09EGR12 KC6105	K59
RHM42000KST350H7HF KT325	K34	RHME27000KST200H6HF KC6305	K36	RHR35000KST300H7SF KCU05	K29	RIQ09EGR12 KC6305	K59
RHM42000KST350H7HF KT6215	K34	RHME27000KST200H6SF KC6005	K35	RHR36000KST300H7HF KCU05	K30	RIQ09R400FB KT6225	K58
RHM42000KST350H7SF KT325	K32	RHME28000KST250H6HF KC6005	K36	RHR36000KST300H7SF KCU05	K29	RIQ09R400S KB1610	K57
RHM42000KST350H7SF KT6215	K32	RHME28000KST250H6HF KC6305	K36	RHR37000KST300H7HF KCU05	K30	RIQ09R500FT KT6315	K58
RHME14000KST115H6HF KC6005	K36	RHME28000KST250H6SF KC6005	K35	RHR37000KST300H7SF KCU05	K29	RIQ06C4500S KBHK10	K59
RHME14000KST115H6HF KC6305	K36	RHME28000KST250H6SF KC6305	K35	RHR38000KST350H7HF KCU05	K30	RIQ06C4500S KBHK15	K59
RHME14288KST115H6SF KC6005	K35	RHME30000KST250H6HF KC6005	K36	RHR38000KST350H7SF KCU05	K29	RIQ07C4500S KBHK10	K59
RHME14288KST115H6SF KC6305	K35	RHME30000KST250H6HF KC6305	K36	RHR39000KST350H7HF KCU05	K30	RIQ07C4500S KBHK15	K59
RHME14288KST115H6SF KC6005	K35	RHME31750KST250H6HF KC6005	K36	RHR39000KST350H7SF KCU05	K29	RI01E1306 KC6105	K56
RHME14288KST115H6SF KC6305	K35	RHME31750KST250H6HF KC6305	K36	RHR40000KST350H7HF KCU05	K30	RI01E1312 KC6105	K56
RHME15000KST115H6HF KC6005	K36	RHME31750KST250H6SF KC6005	K35	RHR40000KST350H7SF KCU05	K29	RI01E1312 KC6305	K56
RHME15000KST115H6HF KC6305	K36	RHME31750KST250H6SF KC6305	K35	RHR42000KST350H7HF KCU05	K30	RI02E1312 KC6105	K56
RHME15000KST115H6SF KC6005	K35	RHME32000KST250H6HF KC6005	K36	RHR42000KST350H7SF KCU05	K29	RI02E1312 KC6305	K56
RHME15000KST115H6SF KC6305	K35	RHME32000KST250H6HF KC6305	K36	RIQ06E1300 KC6005	K58	RI02E1312 KC6005	K56
RHME16000KST135H6HF KC6005	K36	RHME32000KST250H6SF KC6005	K35	RIQ06E1300 KC6105	K58	RI04EDS06 KD1415	K56
RHME16000KST135H6HF KC6305	K36	RHME32000KST250H6SF KC6305	K35	RIQ06E1306 KC6005	K58	RI04EDS06 KD1415	K56
RHME16000KST135H6SF KC6005	K35	RHME34000KST300H6HF KC6005	K36	RIQ06E1306 KC6105	K58	RIRT4C4512 KC6005	K57
RHME16000KST135H6SF KC6305	K35	RHME34000KST300H6HF KC6305	K36	RIQ06E1306 KC6305	K58	RKDF0375Y4C0A KCSM15	035
RHME17000KST135H6HF KC6005	K36	RHME34000KST300H6SF KC6005	K35	RIQ06E1312 KC6005	K58	RKDF0500Y4C0B KCSM15	035
RHME17000KST135H6HF KC6305	K36	RHME34000KST300H6SF KC6305	K35	RIQ06E1312 KC6105	K58	RKDF0625Y4C0B KCSM15	035
RHME17463KST135H6HF KC6005	K36	RHME36000KST300H6HF KC6005	K36	RIQ06E1312 KC6305	K58	RKDF0750Y6C0B KCSM15	035
RHME17463KST135H6HF KC6305	K36	RHME36000KST300H6HF KC6305	K36	RIQ06E1312 KC6005	K58	RKDF1000Y6C0B KCSM15	035
RHME17463KST135H6SF KC6005	K35	RHME36000KST300H6SF KC6005	K35	RIQ06EDR00 KC6005	K59	RMB14000H7HF KT6215	K18
RHME17463KST135H6SF KC6305	K35	RHME36000KST300H6SF KC6305	K35	RIQ06EDR00 KC6105	K59	RMB14000H7SF KT6215	K17
RHME18000KST155H6HF KC6005	K36	RHME38000KST350H6HF KC6005	K36	RIQ06EDR00 KC6305	K59	RMB15000H7HF KT6215	K18
RHME18000KST155H6HF KC6305	K36	RHME38000KST350H6HF KC6305	K36	RIQ06EDR06 KC6005	K59	RMB15000H7SF KT6215	K17
RHME18000KST155H6SF KC6005	K35	RHME38000KST350H6SF KC6005	K35	RIQ06EDR06 KC6105	K59	RMB16000H7HF KT6215	K18
RHME18000KST155H6SF KC6305	K35	RHME40000KST350H6HF KC6005	K36	RIQ06EDR06 KC6305	K59	RMB16000H7SF KT6215	K17
RHME19000KST155H6HF KC6005	K36	RHME40000KST350H6HF KC6305	K36	RIQ06EDR06 KD1415	K59	RMB17000H7HF KT6215	K17
RHME19000KST155H6HF KC6305	K36	RHME40000KST350H6SF KC6005	K35	RIQ06EDR12 KC6005	K59	RMB18000H7HF KT6215	K18
RHME19050KST155H6HF KC6005	K36	RHME42000KST350H6HF KC6005	K36	RIQ06EDR12 KC6105	K59	RMB18000H7SF KT6215	K17
RHME19050KST155H6HF KC6305	K36	RHME42000KST350H6HF KC6305	K36	RIQ06EDR12 KC6305	K59	RMB19000H7HF KT6215	K18
				RIQ06EGR00 KC6005	K59	RMB19000H7SF KT6215	K17
				RIQ06EGR00 KC6105	K59	RMB20000H7HF KT6215	K18
				RIQ06EGR06 KC6005	K59	RMB20000H7SF KT6215	K17
				RIQ06EGR06 KC6105	K59	RMBE14000H6HF KC6005	K20
						RMBE14000H6HF KC6305	K20

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
S1620LSER4	D74	SB2322	T131	SCLPR083V	B210	SCMT3253MF KCP25B	B247
S19	B165, B183, B376, B389	SB3413	T128	SCLPR08CA06	B220	SCMT43111 KT315	B246
S2020LSER3	D74	SB3621	T128	SCLPR10CA09	B220	SCMT431FP KCP25	B246
S2020LSER4	D74	SCACLO62D	B193	SCLPR123B	B210	SCMT431FP KCU10	B246
S2043	S39	SCACLO83D	B193	SCLPRF062D	B211	SCMT431LF KC5010	B246
S2044	S39, U27	SCACLO83D	B193	SCLPRF083D	B211	SCMT431LF KCM25B	B246
S2044CG	T53, T78	SCACRO52D	B193	SCMCN062	B195	SCMT431LF KCP10	B246
S2112	C182, C184-187, C189, C191, C194-195, D25-29, D35, D37-38	SCACRO62D	B193	SCMCN082	B195	SCMT431LF KCP25	B246
S2160	V87, V91	SCACRO83D	B193	SCMCN083	B195	SCMT431LF KCP30	B246
S2162C	S17, S20, S24, S45, S50, V70, V77, V88, V141	SCACR103B	B193	SCMCN103	B195	SCMT431MP KCM25	B247
S2163C	S10, S14, S58, V77, V88, V91, V141	SCAPLO52D	B209	SCMCN123	B195	SCMT431MP KCU10	B247
S2164C	T90, V91	SCAPLO83D	B209	SCMCN163	B195	SCMT43211 KT315	B246
S2165C	S10, S14, S58, T17, T53, T78	SCAPRO52D	B209	SCMPN062	B211	SCMT432FP KCM25	B246
S2172CG	V54, V58	SCAPRO62D	B209	SCMPN083V	B211	SCMT432FP KCP25B	B246
S2192C	T17	SCAPRO83D	B209	SCMPN123B	B211	SCMT432FP KCU10	B246
S304	C190, D36-37	SCFCLO82	B193	SCMT325111 KT315	B246	SCMT432LF KC5010	B246
S310	C182, C185-187, C191, C193, D25-27, D29, D35-37	SCFCRO82	B193	SCMT3251FP KCM25	B246	SCMT432LF KC5025	B246
S316	B409	SCFFLO83V	B209	SCMT3251FP KCP10	B246	SCMT432LF KCK05	B246
S319PKG	B406-407	SCFFLO8CA06	B217	SCMT3251FP KCP25	B246	SCMT432LF KCK15	B246
S321	B409	SCFFRO6CA05	B217	SCMT3251FP KCU10	B246	SCMT432LF KCK15B	B246
S322	B406-407	SCFFRO83V	B209	SCMT3251FP KCU25	B246	SCMT432LF KCK20	B246
S325	B409	SCFFRO8CA06	B217	SCMT3251LF KC5010	B246	SCMT432LF KCK20B	B246
S327	B406-407, B409	SCFFR10CA09	B217	SCMT3251LF KCP5025	B246	SCMT432LF KCM15	B246
S329	B409	SCG332FW KY3500	B320	SCMT3251LF KCK05	B246	SCMT432LF KCM25	B246
S330	B406-407, B409	SCGCL123	B194	SCMT3251LF KCK15B	B246	SCMT432LF KCM25B	B246
S337	B406-407, B409	SCGCL163	B194	SCMT3251LF KCK20	B246	SCMT432LF KCP10B	B246
S340	B406-407, B409	SCGCR062	B194	SCMT3251LF KCM25	B246	SCMT432LF KCP25	B246
S350	B406-407, B409	SCGCR082	B194	SCMT3251LF KCP10	B246	SCMT432LF KCP25B	B246
S352	C182, C187, C191, D26-27, D35	SCGCR102	B194	SCMT3251FP KCP10B	B246	SCMT432LF KCP30	B246
S353	B406-407, B409	SCGCR103	B194	SCMT3251LF KCP25	B246	SCMT432MF KCK15	B247
S39	C191, C193, D35-37	SCGCR123	B194	SCMT3251LF KCP25B	B246	SCMT432MF KCK15B	B247
S411	B285	SCGCR163	B194	SCMT3251FP KCP30	B246	SCMT432MF KCK20	B247
S412	B407-408, C184, C187, C193, C195, D26, D28, D36, D38, E43, E47, E49	SCGN332S0415WCB KBK45	B309	SCMT3251LF KT315	B246	SCMT432MF KCK20B	B247
S415	B407-408	SCGN332S0415WCC KBK45	B309	SCMT3251MP KCK20	B247	SCMT432MF KCM15	B247
S422	B408, C184, C195, D28, D38, T109, V47, V54	SCGPL062	B210	SCMT3251MP KCM15	B247	SCMT432MF KCM25	B247
S422CG	T53, V54, V70	SCGPL083V	B210	SCMT3251MP KCM25	B247	SCMT432MF KCM35	B247
S424	S10, S14, S45, T7, V38, V70	SCGPL123B	B210	SCMT3251MP KCU10	B247	SCMT432MF KCP10	B247
S425	B408, S122	SCGPR062	B210	SCMT325111 KT315	B246	SCMT432MF KCP25	B247
S432	B408	SCGPR083V	B210	SCMT3252FP KCK20	B246	SCMT432MF KCP25B	B247
S435	B408	SCGPR08CA06	B218	SCMT3252FP KCM15	B246	SCMT432MF KCP30	B247
S4416W	B406	SCGPR123B	B210	SCMT3252FP KCP10	B246	SCMT432MF KCK20	B247
S4420W	B406	SCKPL08CA06	B219	SCMT3252FP KCP25	B246	SCMT432MF KCK20B	B247
S4424W	B406	SCKPR08CA06	B219	SCMT3252FP KCP25B	B246	SCMT432MF KCM25	B247
S4428W	B406	SCCL052	B194	SCMT3252FP KCU10	B246	SCMT432MF KCM25B	B247
S4432W	B406	SCCL062	B194	SCMT3252FP KCU25	B246	SCMT432MP KCP10	B247
S4440W	B406	SCCL082	B194	SCMT3252FP KTP10	B246	SCMT432MP KCP25	B247
S4440W48	B406	SCCL102	B194	SCMT3252LF KC5010	B246	SCMT432MP KCU10	B247
S445	S5, S10, S14, S17, S20, S32, S45, S50, S56, S58, S64, S67, S121-123, T7, T33, T109, T113, V38, V47, V54	SCCL103	B194	SCMT3252LF KCP5025	B246	SCMT433FP KCP25	B246
S445CG	S17, S20, T53, T78, T90, V54, V88, V91, V141	SCCL123	B194	SCMT3252LF KCK05	B246	SCMT433FP KCU10	B246
S446	S67, S121-122, V58, V70, V77, V83, V149	SCCL124B	B194	SCMT3252LF KCK05B	B246	SCMT433LF KC5010	B246
S446CG	V70, V77	SCCL12CA12	B198	SCMT3252LF KCK15	B246	SCMT433LF KCK20	B246
S447	T64	SCCL163	B194	SCMT3252LF KCK15B	B246	SCMT433LF KCP10B	B246
S449	T64	SCCL164D	B194	SCMT3252LF KCK20	B246	SCMT433LF KCP25B	B246
S458	S5, S10, S14, S17, S20, S24, S32, S45, S50, S56, S58, S64, S67, S121-123, T7, T33, T113, U18, U29, V38, V54, V58	SCCLF062D	B195	SCMT3252LF KCK20B	B246	SCMT433MF KCK15	B247
S458CG	S17, S20, S24, T90, V54, V88, V141	SCCLF082D	B195	SCMT3252LF KCM25	B246	SCMT433MF KCK20	B247
S459	V70, V77, V83, V149	SCCLF083D	B195	SCMT3252LF KCP10	B246	SCMT433MF KCK20B	B247
S459CG	T90, V70	SCCLF103B	B195	SCMT3252LF KCP10B	B246	SCMT433MF KCP10	B247
S464	T64	SCLCR052	B194	SCMT3252LF KCP25	B246	SCMT433MF KCP25	B247
S467	T7, U27, U37, V54, V58	SCLCR062	B194	SCMT3252LF KCP25B	B246	SCMT433MF KCP25B	B247
S518	E44-46	SCLCR082	B194	SCMT3252MF KCK15	B247	SCMT433MP KCM25	B247
S524	E41-42, E44-46	SCLCR102	B194	SCMT3252MF KCK15B	B247	SCMT433MP KCP25	B247
S532	E40, E48-49	SCLCR103	B194	SCMT3252MF KCK20	B247	SCMT433MP KCP25B	B247
S625	E41, E45	SCLCR123	B194	SCMT3252MF KCM25	B247	SCMT433MP KCM25	B247
S959	E41-47, E49	SCLCR124B	B194	SCMT3252MF KCP10	B247	SCMT433MP KCM25B	B247
S965	D29	SCLCR12CA12	B198	SCMT3252MF KCK20B	B247	SCMT433MP KCM25B	B247
SALS25	S104	SCLCR163	B194	SCMT3252MF KCM25	B247	SCMT433MP KCM25B	B247
SALS30	S104	SCLCR164D	B194	SCMT3252MF KCP10	B247	SCMT433MP KCM25B	B247
SALS40	S104	SCLCR16CA12	B198	SCMT3252MF KCP10B	B247	SCMT433MP KCM25B	B247
SALS50	S104	SCLCRF062D	B195	SCMT3252MF KCP25	B247	SCMT433MP KCM25B	B247
SALS6150	S104	SCLCRF082D	B195	SCMT3252MF KCP25B	B247	SCMT433MP KCM25B	B247
SB3230	T131	SCLCRF103B	B195	SCMT3252MF KCP25B	B247	SCMT433MP KCM25B	B247
		SCLCRF523Z	B195	SCMT3252MF KCP30	B246	SCMT433MP KCM25B	B247
		SCLPL062	B210	SCMT3252MF KCK15	B247	SCMT433MP KCM25B	B247
		SCLPL083V	B210	SCMT3252MF KCK20	B247	SCMT433MP KCM25B	B247
		SCLPL08CA06	B220	SCMT3252MF KCK20B	B247	SCMT433MP KCM25B	B247
		SCLPL10CA09	B220	SCMT3252MF KCM25	B247	SCMT433MP KCM25B	B247
		SCLPL123B	B210	SCMT3252MF KCM25B	B247	SCMT433MP KCM25B	B247
		SCLPLF062D	B211	SCMT3252MF KCP10	B247	SCMT433MP KCM25B	B247
		SCLPLF083D	B211	SCMT3252MF KCP10B	B247	SCMT433MP KCM25B	B247
		SCLPRO62	B210	SCMT3252MF KCP25	B247	SCMT433MP KCM25B	B247
		SCLPRO6CA05	B220	SCMT3252MF KCP25B	B247	SCMT433MP KCM25B	B247
				SCMT3252UF KCP05	B247	SCMT433MP KCM25B	B247
				SCMT3252UF KCP10	B247	SCMT433MP KCM25B	B247

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
SCTPL08CA06	B223	SDET433PDSNGDZ KC725M	V143	SDJCR083	B228	SEF875937RSS150	I25
SCTPR06CA05	B223	SDET433PDSNGDZ KCPK30	V143	SDJCR102	B228	SEF937101ORSS150	I25
SCTPR08CA06	B223	SDET433PDSNGDZ KCPM40	V143	SDJCR103	B228	SEK443AEEN7GP2 KC520M	S40
SCW5E	C58	SDET433PDSR8GB KC725M	T116, T123, U39	SDJCR123	B228	SEK443AEEN7GP2 KC725M	S40
SCW8E	C58	SDET433PDSR8GB KCSM40	T116, T123, U39	SDJCR163	B228	SEK443AEEN7GP2 KCK15	S40
SDACL062D	B227	SDET434ENGB KCSM40	T116, T123, U39	SDJCRF062D	B228	SEK443AEEN7GP2 KCPK30	S40
SDACL082D	B227	SDET434SNGB KC725M	T116, T123, U39	SDJCRF082D	B228	SEK443AEEN7GP2 KCPM40	S40
SDACL083D	B227	SDET434SNGB KCSM40	T116, T123, U39	SDJCRF083D	B228	SEK443AEEN7GP2 KC520M	S40
SDACL103B	B227	SDET434SNGB2 KC520M	T115, T122, U39	SDJCRF103B	B228	SEK443AEEN7GP2 KC725M	S40
SDACR062D	B227	SDET434SNGB2 KC725M	T115, T122, U39	SDJPL10CA07	B236	SEK443AEEN7GP2 KCK15	S40
SDACR082D	B227	SDET434SNGB2 KCK15	T115, T122, U39	SDJPR10CA07	B236	SEK443AEEN7GP2 KCPK30	S40
SDACR083D	B227	SDET434SNGB2 KCPK30	T115, T122, U39	SDMT060304EGG KC730M	U4	SEK443AEEN7GP2 KCPM40	S40
SDACR103B	B227	SDET435SNGB2 KC520M	T115, T122, U39	SDMT060304EGG KC735M	U4	SEK443AEEN7GP2 KC725M	S41
SDB115RBHT12F	K126	SDET435SNGB2 KC725M	T115, T122, U39	SDMT080308EGG KC505M	U4	SEPT443AEEN7GB2 KCK15	S41
SDB115RBHT16LF	K126	SDET435SNGB2 KCK15	T115, T122, U39	SDMT080308EGG KC730M	U4	SEPT443AEEN7GB2 KCPK30	S41
SDB24RBHT06F	K126	SDET435SNGB2 KCPK30	T115, T122, U39	SDMT080308EGG KC735M	U4	SEPT443AEEN7GB2 KCPM40	S41
SDB30RBHT06F	K126	SDET435SNGB2 KCPM40	T115, T122, U39	SDMT09T308EN41 KCSM40	T130	SEPT443AEEN7GB2 KCK15	S41
SDB40RBHT06F	K126	SDET436ENGB KC725M	T116, T123, U39	SDMT09T308EN41 MP91M	T130	SEPT443AEEN7GB2 KCPK30	S41
SDB50RBHT09F	K126	SDET436ENGB KCSM40	T116, T123, U39	SDMT09T308EN41 SP6519	T130	SEPT443AEEN7GB2 KC725M	K138
SDB66RBHT112F	K126	SDET436SNGB KC725M	T116, T123, U39	SDMT09T308EN41 X500	T130	SF075FBHS24	K123
SDB66RBHT12F	K126	SDET436SNGB KCSM40	T116, T123, U39	SDMT120408EGG KC505M	U4	SF100FBH01620	K129
SDB87RBHT12F	K126	SDET436SNGB2 KC725M	T115, T122, U39	SDMT120408EGG KC730M	U4	SF100FBHS31	K138
SDB87RBHT16LF	K126	SDET436SNGB2 KCK15	T115, T122, U39	SDMT120408EGG KC735M	U4	SF100FBHS51	K138
SDCT4316ENLD2 KC725M	T115, T122, U38	SDET436SNGB2 KCPK30	T115, T122, U39	SDMT120412EN41 KCSM40	T133	SF100RBHT30	K123
SDCT4316ENLD2 KCSM40	T115, T122, U38	SDET438ENGB KC725M	T116, T123, U39	SDMT120412EN41 MP91M	T133	SF100RBHT50	K123
SDCT431PDEL8LD2 KC725M	T115, T122, U38	SDET438ENGB KCSM40	T116, T123, U39	SDMT120412EN41 SP6519	T133	SF125FBHS40	K138
SDCT431PDER8LD2 KC725M	T115, T122, U38	SDET438SNGB KCSM40	T116, T123, U39	SDMT120412EN41 X500	T133	SF125FBHS67	K138
SDCT431PDFR8LE KC410M	T114, T121, U38, V143	SDET438SNGB2 KC520M	T115, T122, U39	SDMW09T308TN KCSM40	T130	SF125RBHT40	K123
SDCT431PDFR8LE KC410M	T114, T121, U38, V143	SDET438SNGB2 KC725M	T115, T122, U39	SDMW120412TN KCSM40	T133	SF125RBHT66	K123
SDCT433PDEL8LD2 KC725M	T115, T122, U38	SDET438SNGB2 KCK15	T115, T122, U39	SDMW120412TN SP6519	T133	SF150FBHS17	K129
SDCT433PDER8LD2 KC725M	T115, T122, U38	SDET438SNGB2 KCPK30	T115, T122, U39	SDPCN062D	B229	SF150FBHS87	K138
SDCT433PDER8LD2 KCSM40	T115, T122	SDET438XENGB2 KC725M	T115, T122, U39	SDPCN082D	B229	SF150RBHT87	K123
SDCT433PDFR8LE KC410M	T114, T121, U38, V143	SDET433PDEL8GB2 KC520M	T115, T122, U39	SDPCN083D	B229	SF200FBHS116	K138
SDCT433PDFR8LE KC410M	T114, T121, U38, V143	SDET433PDEL8GB2 KC725M	T115, T122, U39	SDPCN103B	B229	SF200RBHT115	K123
SDCT434ENLD2 KC725M	T115, T122, U38	SDET433PDEL8GB2 KCK15	T115, T122, U39	SDPT433PDENHPZ KC725M	V143	SF300M1LA1RA	K68
SDCT434ENLD2 KCSM40	T115, T122, U38	SDET433PDEL8GB2 KCPK30	T115, T122, U39	SDPT433PDENHPZ KCPK30	V143	SF300M1RS	K68
SDCT434FNLE KC410M	T114, T121, U38, V143	SDET433PDER8GB KC520M	T115, T122, U39	SDPT433PDENHPZ KCPM40	V143	SF750M1LA1RA	K68
SDCT435ENLD2 KC725M	T115, T122, U38	SDET433PDER8GB KCSM40	T116, T123, U39	SDPT433PDSNHPZ KC725M	V143	SF750M1RS	K68
SDCT435FNLE KC410M	T114, T121, U38, V143	SDET433PDER8GB2 KC520M	T115, T122, U39	SDPT433PDSNHPZ KCPK30	V143	SFCPS	K70
SDCT436ENLD2 KC725M	T115, T122, U38	SDET433PDER8GB2 KC725M	T115, T122, U39	SDPT433PDSNHPZ KCPM40	V143	SFCR20	K71
SDCT436FNLE KC410M	T114, T121, U38, V143	SDET433PDER8GB2 KCK15	T115, T122, U39	SDPT433PDER8GB2 KC725M	T116, T123, U39	SFCR20S	K71
SDCT438ENLD2 KC522M	T115, T122, U38	SDET433PDER8GB2 KCPK30	T115, T122, U39	SDPT433PDER8GB2 KCK15	T116, T123, U39	SFCRHSK3263	K71
SDCT438ENLD2 KC725M	T115, T122, U38	SDET433PDER8GB2 KCPM40	T115, T122, U39	SDPT433PDER8GB2 KCPK30	T116, T123, U39	SFCRHSK63100	K71
SDCT438ENLD2 KCSM30	T115, T122	SDET433PDER8GB2 KCSM40	T115, T122, U39	SDPT433PDER8GB2 KCPM40	T116, T123, U39	SFEBCB	K70
SDCT438ENLD2 KCSM40	T115, T122	SDET433PDSL8GB2 KC725M	T115, T122, U39	SDPT433PDER8GB2 KCSM40	T116, T123, U39	SFEBS	K70
SDCT438FNLE KC410M	T114, T121, U38, V143	SDET433PDSL8GB2 KCPK30	T115, T122, U39	SDPT433PDSR8GB2 KC725M	T116, T123, U39	SFMGS	K71
SDCT439DEL8LD2 KC725M	T115, T122, U38	SDET433PDSR8GB KC725M	T116, T123, U39	SDPT433PDSR8GB2 KCK15	T116, T123, U39	SFRHEC100S3150 KC625M	P131
SDCT439PDER8LD2 KC520M	T115, T122, U38	SDET433PDSR8GB KCPK30	T116, T123, U39	SDPT433PDSR8GB2 KCPK30	T116, T123, U39	SFRHEC100S3225 K600	P131
SDCT439PDER8LD2 KC725M	T115, T122, U38	SDET433PDSR8GB KCPM40	T116, T123, U39	SDPT433PDSR8GB2 KCPM40	T116, T123, U39	SFRHEC100S3225 KC625M	P131
SDCT439PDER8LD2 KCPM40	T115, T122, U38	SDET433PDSR8GB KCSM30	T116, T123, U39	SDPT433PDSR8GB2 KCSM40	T116, T123, U39	SFRHEC250S3075 K600	P131
SDCT439PDER8LD2 KCSM40	T115, T122, U38	SDET433PDSR8GB KCSM40	T116, T123, U39	SDSW66	V91	SFRHEC250S3075 KC625M	P131
SDCT43PDFR8LE KC410M	T114, T121, U38, V143	SDET433PDSR8GB2 KC520M	T115, T122, U39	SDUCL082	B229	SFRHEC375S3088 K600	P131
SDCT43PDFR8LE KC410M	T114, T121, U38, V143	SDET433PDSR8GB2 KC725M	T115, T122, U39	SDUCL083	B229	SFRHEC375S3088 KC625M	P131
SDCW433PDSR8GB KY3500	T117, T124	SDET433PDSR8GB2 KCK15	T115, T122, U39	SDUCL103	B229	SFRHEC500S3100 K600	P131
SDCW433EDSR8GB KY3500	T117, T124	SDET433PDSR8GB2 KCPK30	T115, T122, U39	SDUCR082	B229	SFRHEC500S3100 KC625M	P131
SDCW433PDSR8GB KY3500	T117, T124	SDET433PDSR8GB2 KCPM40	T115, T122, U39	SDUCR083	B229	SFRHEC500S3200 K600	P131
SDET4312ENGB KC725M	T116, T123, U39	SDHT09T308EN422 KCSM40	T129	SDUCR103	B229	SFRHEC500S3200 KC625M	P131
SDET4312ENGB KCSM40	T116, T123, U39	SDHT09T308EN422 SP6519	T129	SDUPR10CA07	B237	SFRHEC625S3225 K600	P131
SDET4316ENGB KC725M	T116, T123, U39	SDHT09T308EN422 X500	T129	SECT443AEEN7LD2 KC725M	S40	SFRHEC625S3225 KC625M	P131
SDET4316ENGB KCSM40	T116, T123, U39	SDHT09T308EN422 KCSM40	T129	SECT443AEFN7LE KC410M	S40	SFRHEC750S3150 K600	P131
SDET4316ENGB KCPK30	T116, T123, U39	SDHT09T308EN423 SP6519	T129	SECW443AEEN22GNW KC725M	S41	SFRHEC750S3150 KC625M	P131
SDET4316ENGB KCSM30	T116, T123, U39	SDHT09T308EN423 X500	T129	SECW443AEEN7GN KY3500	S41	SFRHEC750S3225 K600	P131
SDET4316ENGB KC725M	T116, T123, U39	SDHT09T3AEEN422 SP6519	T129	SEF040060RSS075M	I26	SFRHEC750S3225 KC625M	P131
SDET4316SNGB KCPK30	T116, T123, U39	SDHT120412EN422 KCSM40	T132	SEF06008ORSS075M	I26	SFSB450	K70
SDET4316SNGB KCSM30	T116, T123, U39	SDHT120412EN422 SP6519	T132	SEF08010ORSS100M	I26	SFSB900	K70
SDET4316SNGB KCSM40	T116, T123, U39	SDHT120412EN422 X500	T132	SEF100120RSS125M	I26	SFSLA	K69
SDET4316SNGB2 KCPK30	T115, T122, U39	SDHT120412EN423 KCSM40	T132	SEF120140RSS125M	I26	SFSLLS	K69
SDET433PDEL8GB2 KC520M	T115, T122, U39	SDHT120412EN423 SP6519	T132	SEF140160RSS125M	I26	SFSLRA	K69
SDET433PDEL8GB2 KC725M	T115, T122, U39	SDHT120412EN423 X500	T132	SEF156187RSS075	I25	SFSLRS	K69
SDET433PDEL8GB2 KCK15	T115, T122, U39	SDJCL062	B228	SEF160180RSS125M	I26	SFSLSS	K69
SDET433PDEL8GB2 KCPK30	V143	SDJCL082	B228	SEF180200RSS125M	I26	SFVB	K69
SDET433PDEL8GB2 KCPM40	V143	SDJCL083	B228	SEF218250RSS075	I25	SIF100HC12090M	K51
SDET433PDER8GB KC725M	T116, T123, U39	SDJCL102	B228	SEF265312RSS075	I25	SIF100HC20100M	K51
SDET433PDER8GB KCPM40	T116, T123, U39	SDJCL103	B228	SEF328375RSS075	I25	SIF100HC25100M	K51
SDET433PDER8GB KCSM40	T116, T123, U39	SDJCL123	B228	SEF390437RSS100	I25	SIF70HC12090M	K51
SDET433PDER8GB2 KC520M	T115, T122, U39	SDJCL163	B228	SEF453500RSS100	I25	SIF70HC20100M	K51
SDET433PDER8GB2 KC725M	T115, T122, U39	SDJCLF062D	B228	SEF500562RSS100	I25	SIF80HC12090M	K51
SDET433PDER8GB2 KCK15	T115, T122, U39	SDJCLF082D	B228	SEF562625RSS125	I25	SIF80HC20100M	K51
SDET433PDER8GB2 KCPK30	T115, T122, U39	SDJCLF083D	B228	SEF625687RSS125	I25	SIF80HC25100M	K51
SDET433PDER8GB2 KCPM40	T115, T122, U39	SDJCLF103B	B228	SEF687750RSS125	I25	SKCP343 K9	B193-196
SDET433PDSNGDZ KC522M	V143	SDJCR062	B228	SEF750812RSS125	I25	SKCP453 K9	B194
		SDJCR082	B228	SEF812875RSS150	I25	SKDP343 K9	B227-229

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
SKSN566K K9	B115-117, B119	SNG455T8015 KY1615	B337	SNHX1203PZTNGP KCPK30	U15	SNMG432MR KCU10	B103
SKTP343 K9	B259-260	SNG554T0820 KY1615	B337	SNHX1203PZTNGP KCPM40	U15	SNMG432MS KC5010	B103
SKWN343 K9	B282	SNG634T0820 KY3500	B318	SNHX1203T KC725M	U14	SNMG432MS KC5025	B103
SL344	B170, B172, B179, B181-182, B372-374, B376, B378, B381-382, B393, C184, D28, E41, E45	SNG644E KYS25	B353	SNHX1203T KCPM40	U14	SNMG432MS KCU10	B103
SM-906 KC720	S94, S98, S100	SNG644T0420 KYS30	B353	SNHX12045T KC725M	U14	SNMG432MS KCU25	B103
SM-906LH KC720	S94, S98, S100	SNG656E KYS30	B353	SNHX1204T KC725M	U14	SNMG432MW KCP25	B104
SM119 K9	B179, B181-182, B378, B381-382	SNGA432S0415MT KBH10	B337	SNHX1205T KC725M	U14	SNMG432RN KCP10	B105
SM120 K9	B172, B376	SNGA432S0525MT KBH10	B337	SNHX12L4PZTNGP KCPK30	U15	SNMG432RN KCP25	B105
SM216 K9	B375	SNGA432T0820 KY1615	B337	SNHX12L5PZFNGE K110M	U14	SNMG432RN KCP25B	B105
SM218 K9	B373	SNGA432T0820 KY3500	B314	SNHX12L5PZFNGE KC510M	U14	SNMG432RN KCP30B	B105
SM26 K9	B375	SNGA432T0820 KYK10	B314	SNHX12L5PZTNGP K110M	U15	SNMG432RN KCP40B	B105
SM271 K9	E41, E45	SNGA432T0820 KYK25	B314	SNHX12L5PZTNGP KC725M	U15	SNMG432RP KC5010	B105
SM272 K9	E41	SNGA432T0820 KYK25	B314	SNHX12L5PZTNGP KCPK30	U15	SNMG432RP KC5025	B105
SM285 K9	E41-42, E44-46	SNGA433S0525MT KBH10	B337	SNMG322S0820 KB1340	B306	SNMG432RP KCK20	B105
SM286 K9	E41-42, E44-46	SNGA433S0525MT KBH20	B337	SNMG324S0820 KB1340	B306	SNMG432RP KCK20B	B105
SM36 K9	B172-173, B376-378	SNGA433T0420 KYS25	B353	SNMG424S0820 KB1340	B306	SNMG432RP KCM25	B105
SM369 K9	B165, B376, B389	SNGA433T0420 KYS30	B353	SNMG434S0820 KB1340	B306	SNMG432RP KCM35	B105
SM37 K9	B179-184, B188, B378-382, B389-390, B393	SNGA433T0820 KY1615	B337	SNMA432 K68	B100	SNMG432RP KCP05	B105
SM396 K9	B372	SNGA433T0820 KY3500	B314	SNMA432 KCK15B	B100	SNMG432RP KCP10	B105
SM40 K9	B172-173, B376-378	SNGA433T0820 KYK25	B314	SNMA432 KCK20	B100	SNMG432RP KCU25	B105
SM41 K9	B179-184, B188, B378-382, B389-390, B393	SNGA543T KY3500	B314	SNMA433 KCK15	B100	SNMG432RP KCU10	B105
SM412 K9	E43, E47, E49	SNGA543T0820 KYK25	B314	SNMA433 KCK15B	B100	SNMG432RP KCU25	B105
SM414 K9	E40, E48-49	SNGA544T KY3500	B314	SNMA433 KCK20	B100	SNMG432UN KCK15	B106
SM416 K9	C184, D28	SNGA643T0820 KY3500	B314	SNMA433 KCK20B	B100	SNMG432UN KCK15B	B106
SM417 K9	B210-211	SNGN332S0415WCB KBK45	B306	SNMA433S0820 KB1340	B310	SNMG432UN KCK20	B106
SM419 K9	C184, D28	SNGN332S0415WCB KBK45	B306	SNMA543 KCK15B	B100	SNMG432UN KCK20B	B106
SM420 K9	C184, D28	SNGN432T0820 KBK45	B305	SNMA543 KCK20	B100	SNMG432UP KC5010	B106
SM427 K9	D38	SNGN433S0820 KBK45	B305	SNMA643 K68	B100	SNMG432UP KCM35	B106
SM432 K9	B372-373	SNGN434S0820 KBK45	B305	SNMA643 KCK20	B100	SNMG433 K68	B100
SM434 K9	B374	SNGP431 KC5010	B100	SNMG321FF KCU10	B101	SNMG433FN KCP10	B101
SM437 K9	B170, B374, B393	SNGP432 KC5010	B100	SNMG321FF KC5010	B101	SNMG433FN KCP25	B101
SM449 K9	T113	SNGX432T0820 KBK45	B308	SNMG322FF KCU10	B101	SNMG433FN KCP25B	B101
SM45 K9	B373	SNGX433S0820 KBK45	B308	SNMG322FF KC5010	B101	SNMG433FN KCP10B	B102
SM455 K9	S39	SNGX434S0820 KBK45	B308	SNMG322FF KCP10	B101	SNMG433MN KCP10	B102
SM46 K9	B373	SNGX434S0820 KBK45	B308	SNMG322FF KCP10	B101	SNMG433MN KCP10B	B102
SM47 K9	B374	SNGX453T0420 KYS30	B353	SNMG322FF KC5010	B101	SNMG433MN KCP25	B102
SM48 K9	B375	SNGX453T0820 KY1615	B338	SNMG322FN KCK05	B101	SNMG433MN KCP25B	B102
SM837 K9	B186, B397	SNGX453T0820 KY3500	B318	SNMG322FN KCK15B	B101	SNMG433MN KCP30	B102
SMRN42B K9	B170, B385	SNGX453T0820 KYK10	B318	SNMG322FN KCP10	B101	SNMG433MN KCP40	B102
SMRN63B K9	B170, B385	SNGX453T0820 KYK25	B318	SNMG322MN KCP10	B102	SNMG433MP KC5010	B102
SMRN84B K9	B170, B385	SNGX454T0420 KYS30	B318	SNMG322MN KCP10B	B102	SNMG433MP KCM15	B102
SMYE3 K9	D71-72, D74-75, D77-79	SNGX454T0820 KY3500	B318	SNMG322MN KCP25	B102	SNMG433MP KCM25	B102
SMYE4 K9	D71-72, D74, D77-78	SNGX454T0820 KYK10	B318	SNMG322MN KCP30	B102	SNMG433MP KCM35	B102
SMYE5 K9	D78	SNGX556T0820 KY3500	B318	SNMG323MN KCP10	B102	SNMG433MP KCU10	B102
SMY3 K9	D71, D74-79	SNHJ31252ENLD KC520M	S57	SNMG323MN KCP25	B102	SNMG433MP KCU25	B102
SMY4 K9	D71, D74-79	SNHJ31252ENLD KC725M	S57	SNMG323MN KCP25B	B102	SNMG433MR KCM25	B103
SMY5 K9	D76, D78-79	SNHJ31252ENLD KCK15	S57	SNMG431FN KCK05	B101	SNMG433MR KCP10B	B103
SN2TPKG	W40, W42-43	SNHJ31252ENLD KCK15	S57	SNMG431FN KCP05	B101	SNMG433MR KCP25B	B103
SN3TM	W40, W42	SNHJ31252ENLD KCPK30	S57	SNMG431FN KCP10B	B101	SNMG433MR KCU10	B103
SN3TPKG	D74-75, W40-43	SNHJ31253ENLD KC725M	S57	SNMG431FP KCM15	B101	SNMG433MS KC5010	B103
SN5TM	W40-43	SNHJ31253ENLD KCK15	S57	SNMG431FP KCU10	B101	SNMG433MS KCU10	B103
SN7T	W40	SNHJ442ENLD KC520M	S59	SNMG431FP KCU10B	B102	SNMG433MS KCU25	B103
SNG322T0820 KY1615	B337	SNHJ442ENLD KC725M	S59	SNMG431MN KCP10B	B102	SNMG433MW KCP10	B104
SNG322T0820 KY3500	B318	SNHJ442ENLD KCK15	S59	SNMG431MN KCP25B	B102	SNMG433P KCU10	B104
SNG432T0220 KY1615	B337	SNHJ442ENLD KCPK30	S59	SNMG432 K313	B100	SNMG433RN KCU10	B105
SNG432T0420 KYS30	B353	SNHJ442ENLD KCPM40	S59	SNMG432FF KC5010	B101	SNMG433RN KCP10	B105
SNG432T0820 KY1615	B337	SNHJ442SNGD KC520M	S59	SNMG432FN KCP10	B101	SNMG433RN KCP10B	B105
SNG432T0820 KY3500	B318	SNHJ442SNGD KC522M	S59	SNMG432FN KCP10B	B101	SNMG433RN KCP25	B105
SNG432T0820 KYK25	B318	SNHJ442SNGD KCK15	S59	SNMG432FN KCP10B	B101	SNMG433RN KCP25B	B105
SNG433T0420 KYS30	B353	SNHJ442SNGD KCPK30	S59	SNMG432FN KCM15	B101	SNMG433RN KCP30B	B105
SNG433T0820 KY1615	B337	SNHJ442SNGD KCPM40	S59	SNMG432FP KCM25B	B101	SNMG433RN KCP40	B105
SNG433T0820 KY3500	B318	SNHJ442SNGD KCSM40	S59	SNMG432FP KCU10	B101	SNMG433RN KCP40B	B105
SNG433T0820 KYK25	B318	SNHJ444ENLD KC520M	S59	SNMG432FP KCU10B	B102	SNMG433RN KCPK05	B105
SNG433T0420 KYS30	B353	SNHJ444ENLD KC725M	S59	SNMG432FW KCP05	B102	SNMG433RP KCU10	B105
SNG433T0820 KY1615	B337	SNHJ444ENLD KCK15	S59	SNMG432FW KCP10	B102	SNMG433RP KCU25	B105
SNG433T0820 KY3500	B318	SNHJ444ENLD KCPK30	S59	SNMG432MN KCP10	B102	SNMG433RP KCK15B	B105
SNG433T0820 KYK25	B318	SNHX1102PZTNGP K110M	U15	SNMG432MN KCP10B	B102	SNMG433RP KCK20	B105
SNG434T0420 KYS25	B353	SNHX1102PZTNGP KC725M	U15	SNMG432MN KCP25	B102	SNMG433RP KCM25	B105
SNG434T0420 KYS30	B353	SNHX1102PZTNGP KCPK30	U15	SNMG432MN KCP25B	B102	SNMG433RP KCM25B	B105
SNG434T0820 KY1615	B337	SNHX1102PZTNGP KCPM40	U15	SNMG432MN KCP30	B102	SNMG433RP KCP05	B105
SNG434T0820 KY3500	B318	SNHX1102T KC725M	U14	SNMG432MN KCP30B	B102	SNMG433RP KCP10	B105
SNG438T0820 KY3500	B318	SNHX1102T KCPM40	U14	SNMG432MN KCP40	B102	SNMG433RP KCP10B	B105
SNG451T0820 KY1615	B337	SNHX1103T KC725M	U14	SNMG432MP KC5010	B102	SNMG433RP KCP25	B105
SNG452T0820 KY1615	B337	SNHX1103T KCPK30	U14	SNMG432MP KCM15	B102	SNMG433RP KCP25B	B105
SNG453T0820 KY1615	B337	SNHX1103T KCPM40	U14	SNMG432MP KCM15B	B102	SNMG433RP KCP25	B105
SNG453T0820 KYK25	B318	SNHX11T3PZFNGE KC510M	U14	SNMG432MP KCM25	B102	SNMG433RP KCP25B	B105
SNG454T0420 KYS25	B353	SNHX11T3PZTNGP KC725M	U15	SNMG432MP KCM25B	B102	SNMG433RP KCP30	B105
SNG454T0820 KY1615	B337	SNHX11T3PZTNGP KCPM40	U15	SNMG432MP KCM35B	B102	SNMG433RP KCP40	B105
SNG454T0820 KY3500	B318	SNHX1203PZFNGE KC510M	U14	SNMG432MP KCU10	B102	SNMG433RP KCU10	B105
SNG455T0820 KY1615	B337	SNHX1203PZTNGP K110M	U15	SNMG432MR KCM25B	B103	SNMG433RP KCU25	B105
SNG455T4015 KY1615	B337	SNHX1203PZTNGP KC725M	U15	SNMG432MR KCP25B	B103	SNMG433UN KCK05B	B106

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
SNMG433UN KCK15B.....	B106	SNMG643RN KCP30B.....	B105	SNMM646RM KCP25B.....	B107	SNXF43ZNSNHE KCK15.....	S89
SNMG433UN KCK20.....	B106	SNMG643RN KCP40.....	B105	SNMM646RM KCP40B.....	B107	SNXF43ZNSNHE KCK20.....	S89
SNMG433UN KCK20B.....	B106	SNMG643RP KC5010.....	B105	SNMM646RP KCM25.....	B107	SNXF43ZNSNHE KCPK30.....	S89
SNMG433UP KCM25.....	B106	SNMG643RP KC5025.....	B105	SNMM646RP KCP25.....	B107	SPCT31251PPFL8LD2 KC725M.....	T111, U30
SNMG433UP KCM35.....	B106	SNMG643RP KCM25B.....	B105	SNMM646RP KCP25B.....	B107	SPCT31251PPFL8LD2 KC725M.....	T111, U30
SNMG434FN KCP10.....	B101	SNMG643RP KCM35.....	B105	SNMM646RW KCP25B.....	B107	SPCT31251PPFL8LE KC410M.....	T110, U30
SNMG434MG KCP25B.....	B103	SNMG643RP KCP10.....	B105	SNMM856RH KCP10.....	B106	SPCT31253PPFL8LD2 KC725M.....	T111, U30
SNMG434MN KCP25.....	B102	SNMG643RP KCP25B.....	B105	SNMM856RH KCP10B.....	B106	SPCT31253PPFL8LD2 KC725M.....	T111, U30
SNMG434MN KCP25B.....	B102	SNMG643RP KCP40B.....	B105	SNMM856RH KCP25.....	B106	SPCT31253PPFL8LD2 KC725M.....	T111, U30
SNMG434MP KCM25B.....	B102	SNMG643RP KCU10.....	B105	SNMM856RH KCP25B.....	B106	SPCT31253PPFL8LE KC410M.....	T110, U30
SNMG434MP KCM35.....	B102	SNMG643RP KCU25.....	B105	SNMM856RH KCP30.....	B106	SPCT31254ENLD2 KC725M.....	T111, U30
SNMG434RN KCP10B.....	B105	SNMG643UN KCK15.....	B106	SNMM856RH KCP40.....	B106	SPCT31254ENLD2 KCSM30.....	T111, U30
SNMG434RN KCP25.....	B105	SNMG643UN KCK20.....	B106	SNMM856RH KCP40B.....	B106	SPCT31255ENLD2 KC725M.....	T111, U30
SNMG434RN KCP25B.....	B105	SNMG644 KCP40.....	B100	SNMM856RM KCP10.....	B107	SPCT31255FNLE KC410M.....	T110, U30
SNMG434RN KCP40.....	B105	SNMG644MN KCP25.....	B102	SNMM856RM KCP25.....	B107	SPCT31255PPFL8LD2 KC725M.....	T111, U30
SNMG434RN KCP40B.....	B105	SNMG644MP KC5010.....	B102	SNMM856RP KCM25.....	B107	SPCT31255PPFL8LD2 KC520M.....	T111, U30
SNMG434RP KC5025.....	B105	SNMG644RN KCP10.....	B105	SNMM856RP KCP25.....	B107	SPCT31255PPFL8LD2 KC725M.....	T111, U30
SNMG434RP KCP10.....	B105	SNMG644RN KCP25.....	B105	SNMM856RP KCP40.....	B107	SPCT31255PPFL8LD2 KCPM40.....	T111, U30
SNMG434RP KCU10.....	B105	SNMG644RN KCP25B.....	B105	SNMM856RW KCP25B.....	B107	SPCT31255PPFL8LE KC410M.....	T110, U30
SNMG434UN KCK20.....	B106	SNMG644RN KCP30B.....	B105	SNMM866RH KCP10.....	B106	SPCT31255PPFL8LE KC410M.....	T110, U30
SNMG434UN KCK20B.....	B106	SNMG644RN KCP40B.....	B105	SNMM866RH KCP10B.....	B106	SPCT31255PPFL8LD2 KC725M.....	T111, U31
SNMG542MP KCM25B.....	B102	SNMG644RN KCPK05.....	B105	SNMM866RH KCP25.....	B106	SPET31251PPFL8GB2 KC725M.....	T111, U31
SNMG542MS KCU25.....	B103	SNMG644RP KC5025.....	B105	SNMM866RH KCP25B.....	B106	SPET31251PPFL8GB2 KCK15.....	T111, U31
SNMG542RN KCP10.....	B105	SNMG644RP KCK20.....	B105	SNMM866RH KCP25B.....	B106	SPET31251PPFL8GB2 KCPK30.....	T111, U31
SNMG542RN KCP25.....	B105	SNMG644RP KCM25.....	B105	SNMM866RH KCP30.....	B107	SPET31251PPFL8GB2 KC725M.....	T111, U31
SNMG543MN KCP10B.....	B102	SNMG644RP KCM25B.....	B105	SNMM866RH KCP40.....	B106	SPET31251PPFL8GB2 KCK15.....	T111, U31
SNMG543MN KCP25.....	B102	SNMG644RP KCP10.....	B105	SNMM866RH KCP40B.....	B106	SPET31251PPFL8GB2 KCPK30.....	T111, U31
SNMG543MN KCP25B.....	B102	SNMG644RP KCP40.....	B105	SNMM866RM KCP25.....	B107	SPET31251PPFL8GB2 KC520M.....	T111, U31
SNMG543MP KC5010.....	B102	SNMG644RP KCPK05.....	B105	SNMM866RM KCP30.....	B107	SPET31251PPFL8GB2 KC725M.....	T111, U31
SNMG543MP KCM15.....	B102	SNMG644RP KCU10.....	B105	SNMM866RM KCP40.....	B107	SPET31251PPFL8GB2 KCK15.....	T111, U31
SNMG543MP KCM25.....	B102	SNMG644RP KCU25.....	B105	SNMM866RP KCM25.....	B107	SPET31251PPFL8GB2 KCPK30.....	T111, U31
SNMG543MP KCM25B.....	B102	SNMG644UN KCK20.....	B106	SNMM866RP KCP25.....	B107	SPET31251PPFL8GB2 KC725M.....	T111, U31
SNMG543MP KCU10.....	B102	SNMG646RN KCP25.....	B105	SNMP432K KCP25.....	B108	SPET31251PPFL8GB2 KCK15.....	T111, U31
SNMG543MR KCM15B.....	B103	SNMG646RN KCP30.....	B105	SNMP643 K313.....	B108	SPET31251PPFL8GB2 KCPK30.....	T111, U31
SNMG543MR KCPK05.....	B103	SNMG866 KCP25.....	B100	SNMP643 K68.....	B108	SPET31251PPFL8GB2 KCPM40.....	T111, U31
SNMG543MS KCU25.....	B103	SNMG866 KCP40.....	B100	SNMS432 K68.....	B108	SPET31251PPSL8GB2 KC725M.....	T111, U31
SNMG543RN KCP10B.....	B105	SNMG866 KCU10.....	B100	SNMS643 K68.....	B108	SPET31251PPSL8GB2 KCPK30.....	T111, U31
SNMG543RN KCP25.....	B105	SNMG866RM KC5010.....	B104	SNMS643 KC5410.....	B108	SPET31251PPSL8GB2 KC520M.....	T111, U31
SNMG543RN KCP25B.....	B105	SNMG866RM KCP25.....	B104	SNMX190640S-WT5 KCP25B.....	E59	SPET31251PPSL8GB2 KC725M.....	T111, U31
SNMG543RN KCP40.....	B105	SNMG866RM KCU10.....	B104	SNMX453T0820 KY3500.....	B319	SPET31251PPSL8GB2 KCK15.....	T111, U31
SNMG543RN KCP40B.....	B105	SNMG866RN KCP40B.....	B105	SNMX454T0820 KY3500.....	B319	SPET31251PPSL8GB2 KCPK30.....	T111, U31
SNMG543RN KCPK05.....	B105	SNMM432RM KCP25.....	B107	SNMX554T0820 KY3500.....	B319	SPG321 K68.....	B171
SNMG543RP KCM35.....	B105	SNMM432RP KCM35.....	B107	SNPJ31252SNGD KC520M.....	S57	SPG321 KC5010.....	B171
SNMG543RP KCP10B.....	B105	SNMM432RP KCP25.....	B107	SNPJ31252SNGD KCK15.....	S57	SPG322 K68.....	B171
SNMG543RP KCP25.....	B105	SNMM433RM KCP25.....	B107	SNPJ31252SNGD KCPK30.....	S57	SPG322 KC5010.....	B171
SNMG543RP KCP25B.....	B105	SNMM433RP KCM25.....	B107	SNPJ31252SNGD KCPM40.....	S57	SPG322 KCK15.....	B171
SNMG543RP KCP40.....	B105	SNMM433RP KCP25.....	B107	SNPJ31253SNGD KCK15.....	S57	SPG322T0420 KY1615.....	B338
SNMG543RP KCU10.....	B105	SNMM433RM KCP10.....	B107	SNPJ31253SNGD KCPM40.....	S57	SPG421 K68.....	B171
SNMG543RP KCU25.....	B105	SNMM433RM KCP25.....	B107	SNPJ442SNGD KC520M.....	S60	SPG421 KC5010.....	B171
SNMG543UN KCK15B.....	B106	SNMM433RM KCP25B.....	B107	SNPJ442SNGD KCK15.....	S60	SPG421 KCU10.....	B171
SNMG543UN KCK20.....	B106	SNMM433RP KCP25.....	B107	SNPJ442SNGD KCPK30.....	S60	SPG422 K313.....	B171
SNMG543UP KCM15.....	B106	SNMM434RM KCP10.....	B107	SNPJ442SNGD KCPM40.....	S60	SPG422 K68.....	B171
SNMG543UP KCM25.....	B106	SNMM434RM KCP25.....	B107	SNPJ444SNGD KCK15.....	S60	SPG422 KC5010.....	B171
SNMG543UP KCU10.....	B106	SNMM434RM KCP25B.....	B107	SNPJ444SNGD KCPK30.....	S60	SPG422 KCU10.....	B171
SNMG544MN KCP25B.....	B102	SNMM434RP KCM25.....	B107	SNPJ444SNGD KCPM40.....	S60	SPG422T0420 KY1615.....	B338
SNMG544MP KCM25.....	B102	SNMM434RP KCP10.....	B107	SNXF433AMSN KY3500.....	S89	SPG423 K68.....	B171
SNMG544MP KCU10.....	B102	SNMM643RH KCP25B.....	B106	SNXF433ENLD KC514M.....	S89	SPG424 KC5010.....	B171
SNMG544RN KCP25.....	B105	SNMM643RH KCP30.....	B106	SNXF433ENLD KC524M.....	S89	SPG433 KCU10.....	B171
SNMG544RN KCP25B.....	B105	SNMM643RM KCP10.....	B107	SNXF433ENLD KCK15.....	S89	SPG632 K68.....	B171
SNMG544RN KCP30B.....	B105	SNMM643RM KCP25.....	B107	SNXF433ENLD KCK20.....	S89	SPG633 K313.....	B171
SNMG544RN KCPK05.....	B105	SNMM643RM KCP25B.....	B107	SNXF433ENLD KCPK30.....	S89	SPG633 KCU10.....	B171
SNMG544RP KCM15B.....	B105	SNMM643RM KCP40.....	B107	SNXF433SNGP KC514M.....	S89	SPGF322 KC5010.....	B171
SNMG544RP KCM25B.....	B105	SNMM643RP KCP25.....	B107	SNXF433SNGP KC524M.....	S89	SPGF322 KCU10.....	B171
SNMG544RP KCP10B.....	B105	SNMM643RP KCP40.....	B107	SNXF433SNGP KCK15.....	S89	SPGF422 KCP25B.....	B171
SNMG544RP KCP25.....	B105	SNMM644RH KCP10.....	B106	SNXF433SNGP KCK20.....	S89	SPGT3251LF KC5010.....	B252
SNMG544RP KCU25.....	B105	SNMM644RH KCP25.....	B106	SNXF433SNGP KCPK30.....	S89	SPGT3251LF KC5025.....	B252
SNMG544UN KCK15.....	B106	SNMM644RH KCP25B.....	B106	SNXF433SNHE KC524M.....	S89	SPGT3251LF KCU10.....	B252
SNMG544UN KCK20.....	B106	SNMM644RH KCP30.....	B106	SNXF433SNHE KCK15.....	S89	SPGT3252LF KC5010.....	B252
SNMG642RN KCP25B.....	B105	SNMM644RH KCP40.....	B106	SNXF433SNHE KCK20.....	S89	SPGT3252LF KC5025.....	B252
SNMG642RN KCP30.....	B105	SNMM644RM KCP10.....	B107	SNXF433SNHE KCPK30.....	S89	SPGT3252LF KC5410.....	B252
SNMG643 KCU10.....	B100	SNMM644RM KCP25.....	B107	SNXF433SNHE KCPK30.....	S89	SPGT3252LF KCU10.....	B252
SNMG643MN KCP10.....	B102	SNMM644RM KCP25B.....	B107	SNXF432NAMSN KY3500.....	S90	SPGX050204HP KC7140.....	J103
SNMG643MN KCP25B.....	B102	SNMM644RM KCP40B.....	B107	SNXF432ENLD KC514M.....	S89	SPGX050204HP KCU25.....	J103
SNMG643MP KCM15.....	B102	SNMM644RP KCM25.....	B107	SNXF432ENLD KC524M.....	S89	SPGX050204HP KCU40.....	J103
SNMG643MP KCM25.....	B102	SNMM644RP KCM25B.....	B107	SNXF432ENLD KCK15.....	S89	SPGX050204LP KCU40.....	J104
SNMG643MP KCM25B.....	B102	SNMM644RP KCP40.....	B107	SNXF432ENLD KCK20.....	S89	SPGX050204MD KC7140.....	J103
SNMG643MP KCM35.....	B102	SNMM646RH KCP10.....	B106	SNXF432ENLD KCPK30.....	S89	SPGX050204MD KCU25.....	J103
SNMG643MS KC5025.....	B103	SNMM646RH KCP25.....	B106	SNXF432NSNGP KC514M.....	S89	SPGX050204MD KCU40.....	J103
SNMG643MS KCU25.....	B103	SNMM646RH KCP25B.....	B106	SNXF432NSNGP KCK15.....	S89	SPGX060304FP KCPK10.....	J104
SNMG643RN KCP10B.....	B105	SNMM646RH KCP30.....	B106	SNXF432NSNGP KCK20.....	S89	SPGX060304FP KCU25.....	J104
SNMG643RN KCP25.....	B105	SNMM646RH KCP40B.....	B106	SNXF432NSNGP KCPK30.....	S89	SPGX060304FP KCU40.....	J104
SNMG643RN KCP25B.....	B105	SNMM646RM KCP25.....	B107	SNXF432NSNHE KC514M.....	S89	SPGX060304LP KCU40.....	J104

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
SPGX060304MD KC7140	J103	SPHX120404R21 KCU40	J116	SPMT3251LF KCP10	B252	SPPX15T508MD KCU40	J103
SPGX060304MD KCPK10	J103	SPHX120404R21 KM1	J116	SPMT3251LF KCP25	B252	SPPX15T508RHP KC7140	J103
SPGX060304MD KCU25	J103	SPHX120404R22 KM1	J117	SPMT3251LF KT315	B252	SPPX15T508RHP KCU25	J103
SPGX060304MD KCU40	J103	SPHX120408R20 KCU25	J115	SPMT3251UF KC5010	B253	SPPX15T508RHP KCU40	J103
SPGX060304RHP KC7140	J103	SPHX120408R20 KCU40	J115	SPMT3251UF KCP10B	B253	SPPX15T512FP KCPK10	J104
SPGX060304RHP KCU25	J103	SPHX120408R21 KC7215	J116	SPMT3252FF KCU10	B252	SPPX15T512FP KCU25	J104
SPGX060304RHP KCU40	J103	SPHX120410R20 KC7215	J115	SPMT3252LF K68	B252	SPPX15T512FP KCU40	J104
SPGX070304FF KCPK10	J104	SPHX120410R21 KC7215	J116	SPMT3252LF KC5010	B252	SPPX15T512HP KCPK10	J103
SPGX070304FF KCU25	J104	SPHX120412R20 KC7215	J115	SPMT3252LF KC5025	B252	SPPX15T512HP KCU25	J103
SPGX070304FF KCU40	J104	SPHX120412R21 KC7215	J116	SPMT3252LF KCK15	B252	SPPX15T512HP KCU40	J103
SPGX070304MD KC7140	J103	SPHX120416R20 KC7215	J115	SPMT3252LF KCK15B	B252	SPPX15T512MD KCPK10	J103
SPGX070304MD KCPK10	J103	SPHX120416R21 KC7215	J116	SPMT3252LF KCK20	B252	SPPX15T512MD KCU25	J103
SPGX070304MD KCU25	J103	SPHX120420R20 KC7215	J115	SPMT3252LF KCK20B	B252	SPPX15T512MD KCU40	J103
SPGX070304MD KCU40	J103	SPHX120420R21 KC7215	J116	SPMT3252LF KCP10B	B252	SPU421 K68	B171
SPGX070304RHP KC7140	J103	SPHX120508PCSRGP KCK15	S68	SPMT3252LF KCP25	B252	SPU421 KCP25B	B171
SPGX070304RHP KCU25	J103	SPHX1205PCELGPB KCK15	S68-69	SPMT3252LF KCP25B	B252	SPU422 K68	B171
SPGX070304RHP KCU40	J103	SPHX1205PCER-GP1WB KC520M	S69	SPMT3252MF KCK15	B253	SPU422 KCP25	B171
SPGX070308FP KCPK10	J104	SPHX1205PCER-GP1WB KCK15	S69	SPMT3252MF KCK15B	B253	SPU422T0220 KY1615	B338
SPGX070308FP KCU25	J104	SPHX1205PCERGN1WB KCPK30	S69	SPMT3252MF KCK20	B253	SPU423 KCP25B	B171
SPGX070308FP KCU40	J104	SPHX1205PCERGN1WB KB1340	S69	SPMT3252MF KCM25B	B253	SR3 KWH	B243-244
SPGX070308HP KCPK10	J103	SPHX1205PCERGP4SB KC520M	S68	SPMT3252MF KCP10	B253	SR4	B243
SPGX070308HP KCU25	J103	SPHX1205PCERGP4SB KCK15	S68	SPMT3252MF KCP25	B253	SRACL162D	B243
SPGX070308HP KCU40	J103	SPHX1205PCERGPB KC520M	S68	SPMT3252MF KCP25B	B253	SRACL164D	B243
SPGX070308MD KCPK10	J103	SPHX1205PCERGPB KCK15	S68	SPMT3252MP KCK20	B253	SRACL202D	B243
SPGX070308MD KCU25	J103	SPHX1205PCERGPB KCPK30	S68	SPMT3252MP KCM15	B253	SRACL203D	B243
SPGX070308MD KCU40	J103	SPHX1205PCFLGN1WB KCK15	S69	SPMT3252MP KCU10	B253	SRACL204D	B243
SPHX060202R20 KC7215	J115	SPHX1205PCFRGN1WB KC520M	S69	SPMT432MF KCK15	B253	SRACL244D	B243
SPHX060202R21 KC7215	J116	SPHX1205PCFRGN1WB KCPK30	S69	SPMT432MF KCK20	B253	SRACR162D	B243
SPHX060204R20 KC7140	J115	SPHX1205PCFRGN1WB KCK15	S69	SPMT432MF KCM25	B253	SRACR163D	B243
SPHX060204R20 KCU25	J115	SPHX1205PCFRGN1WB KTKP20	S69	SPMT432MF KCP25	B253	SRACR164D	B243
SPHX060204R20 KCU40	J115	SPHX1205PCFRGN1WB KY3500	S69	SPMT432MF KCP30	B253	SRACR202D	B243
SPHX060204R21 KCPK10	J116	SPHX1205PCSRGPB KC725M	S68	SPMT432MP KCP25	B253	SRACR203D	B243
SPHX060204R21 KCU25	J116	SPHX1205PCSRGPB KCK15	S68	SPMT432MP KCU10	B253	SRACR204D	B243
SPHX060204R21 KCU40	J116	SPHX1205PCSRGPB KCPK30	S68	SPPT3125PPER8GB2 KCK15	T112, U31	SRACR244D	B243
SPHX060204R21 KM1	J116	SPHX1205PCTLGPBK KY3500	S68	SPPT3125PPER8GB2 KCPK30	T112, U31	SRCLL162D	B243
SPHX060204R22 KM1	J117	SPHX1205PCTR-GP1WBK KY3500	S69	SPPT3125PPSR8GB2 KCK15	T112, U31	SRCLL163D	B243
SPHX060206R20 KC7215	J115	SPHX1205PCTRGP4SBK KY3500	S68	SPPT3125PPSR8GB2 KCPK30	T112, U31	SRCLL203D	B243
SPHX060206R21 KC7215	J116	SPHX1205PCTRGPB KTKP20	S68	SPPT3125PPSR8GB2 KTKP20	T112, U31	SRCCR122B	B243
SPHX060206R20 KCU25	J115	SPHX1205PCTRGPBK KY3500	S68	SPPX070304LP KCU10	J104	SRCCR123B	B243
SPHX060206R21 KCU25	J115	SPHX1205ZCELP KC520M	S65	SPPX09T308FP KCPK10	J104	SRCCR162D	B243
SPHX070302R20 KC7215	J115	SPHX1205ZCELP KCK15	S65	SPPX09T308FP KCU25	J104	SRCCR163D	B243
SPHX070304R20 KC7140	J115	SPHX1205ZCER-GP1W KC520M	S66	SPPX09T308FP KCU40	J104	SRCCR203D	B243
SPHX070304R20 KCU25	J115	SPHX1205ZCER-GP1W KCK15	S66	SPPX09T308LP KCU40	J104	SRGL162	B244
SPHX070304R20 KCU40	J115	SPHX1205ZCERGN1WB KB1340	S66	SPPX09T308MD KC7140	J103	SRGL203	B244
SPHX070304R21 KCPK10	J116	SPHX1205ZCERGP KC520M	S65	SPPX09T308MD KCU25	J103	SRGCR08A06	B245
SPHX070304R21 KCU25	J116	SPHX1205ZCERGP KCK15	S65	SPPX09T308MD KCU40	J103	SRGR122	B244
SPHX070304R21 KCU40	J116	SPHX1205ZCERGP KCPK30	S65	SPPX09T308RHP KC7140	J103	SRGR12CA10	B245
SPHX070304R21 KM1	J116	SPHX1205ZCERGP4S KCK15	S65	SPPX09T308RHP KCU25	J103	SRGR162	B244
SPHX070304R22 KM1	J117	SPHX1205ZCFRGN1WB KC520M	S66	SPPX09T308RHP KCU40	J103	SRGR163	B244
SPHX070306R20 KC7215	J115	SPHX1205ZCFRGN1WB KCK15	S66	SPPX09T310FP KCPK10	J104	SRGCR202	B244
SPHX070306R21 KC7215	J116	SPHX1205ZCFRGN1WB KY3500	S66	SPPX09T310FP KCU25	J104	SRGCR162	B244
SPHX070308R20 KC7215	J115	SPHX1205ZCSRGP KCK15	S65	SPPX09T310FP KCU40	J104	SRGCR163	B244
SPHX070308R21 KCPK10	J116	SPHX1205ZCSRGP KCPK30	S65	SPPX09T310HP KCPK10	J103	SRGCR203	B244
SPHX070308R21 KCU40	J116	SPHX1205ZCTLGPB KY3500	S65	SPPX09T310HP KCU25	J103	SRGCR162	B244
SPHX070310R20 KC7215	J115	SPHX1205ZCTR-GP1WK KY3500	S66	SPPX09T310HP KCU40	J103	SRGCR163	B244
SPHX070310R21 KC7215	J116	SPHX1205ZCTRGP KTKP20	S65	SPPX09T310MD KCPK10	J103	SRGCR203	B244
SPHX070312R20 KC7215	J115	SPHX1205ZCTRGP4SK KY3500	S65	SPPX09T310MD KCU25	J103	SRGCR162	B244
SPHX090304R20 KC7140	J115	SPHX1205ZCTRGPB KY3500	S65	SPPX09T310MD KCU40	J103	SRGCR163	B244
SPHX090304R20 KCU25	J115	SPHX150504R20 KCU25	J115	SPPX120408FP KCPK10	J104	SRGCR203	B244
SPHX090304R20 KCU40	J115	SPHX150504R20 KCU40	J115	SPPX120408FP KCU25	J104	SRGCR162	B244
SPHX090304R21 KCPK10	J116	SPHX150504R21 KM1	J116	SPPX120408FP KCU40	J104	SRGCR163	B244
SPHX090304R21 KCU25	J116	SPHX150508R20 KCU25	J115	SPPX120408LP KCU40	J104	SRGCR162	B244
SPHX090304R21 KCU40	J116	SPHX150508R20 KCU40	J115	SPPX120408MD KC7140	J103	SRGCR163	B244
SPHX090304R21 KM1	J116	SPHX150512R20 KC7215	J115	SPPX120408MD KCU25	J103	SRGCR162	B244
SPHX090304R22 KM1	J117	SPHX150516R20 KC7215	J115	SPPX120408MD KCU40	J103	SRGCR163	B244
SPHX090308R20 KCU25	J115	SPHX150520R20 KC7215	J115	SPPX120408RHP KC7140	J103	SRGCR162	B244
SPHX090308R20 KCU40	J115	SPHX15T6ZCERGP KCK15	S71	SPPX120408RHP KCU25	J103	SRGCR163	B244
SPHX090308R21 KCPK10	J116	SPHX15T6ZCERGP KCPK30	S71	SPPX120408RHP KCU40	J103	SRGCR202	B244
SPHX090308R21 KCU25	J116	SPHX15T6ZCERGP4S KCK15	S71	SPPX120412FP KCPK10	J104	SRGCR162	B244
SPHX090308R21 KCU40	J116	SPHX15T6ZCFRGN1W KCK15	S72	SPPX120412FP KCU25	J104	SRGCR163	B244
SPHX090310R20 KC7215	J115	SPHX15T6ZCFRGN1W KCU25	S71	SPPX120412FP KCU40	J104	SRGCR162	B244
SPHX090310R21 KC7215	J116	SPHX15T6ZCSRGP K110M	S71	SPPX120412HP KCPK10	J103	SRGCR163	B244
SPHX090316R20 KC7215	J115	SPHX15T6ZCSRGP KCPK30	S71	SPPX120412HP KCU25	J103	SRGCR162	B244
SPHX090316R21 KC7215	J116	SPHX15T6ZCTRGP4SK KY3500	S71	SPPX120412HP KCU40	J103	SRGCR163	B244
SPHX120404R20 KCU25	J115	SPMT3251FP KCP25	B252	SPPX120412MD KCPK10	J103	SRGCR162	B244
SPHX120404R20 KCU40	J115	SPMT3251FP KCU10	B252	SPPX120412MD KCU25	J103	SRGCR163	B244
SPHX120404R21 KCU25	J116	SPMT3251FP KCU25	B252	SPPX120412MD KCU40	J103	SRGCR162	B244
SPHX120404R21 KCU40	J116	SPMT3251LF KC5010	B252	SPPX15T508FP KCPK10	J104	SRGCR163	B244
SPHX120404R21 KCPK10	J116	SPMT3251LF KC5025	B252	SPPX15T508FP KCU25	J104	SRGCR162	B244
SPHX120404R21 KCU25	J116	SPMT3251LF KCK15B	B252	SPPX15T508FP KCU40	J104	SRGCR163	B244
SPHX120404R21 KCU40	J116	SPMT3251LF KCK20	B252	SPPX15T508MD KC7140	J103	SRGCR162	B244
				SPPX15T508MD KCU25	J103	SRGCR163	B244

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
SS100SLDL160450	054	SSF200FDS560551	H128	STC20	B60-64, B66, B69-71, B75-76, B89-90, B92, B96, B98-99, B120, B155, B163, B371-372, B374	STN1611BSW KC610M	W46
SS100SLDL200375	054	SSF200FDS561020	H128			STN1611BSW KC635M	W46
SS100SLDL250350	054	SSF200FDS561507	H129	STC26	B165, B389	STN1612BSW KC635M	W46
SS125DL251000	055	SSF200FDS562240	H129	STC27	B183-185, B388-390, B392	STN1612UNI KC635M	W44
SS125DL321000	055	SSF200FDS562783	H129	STC4	B61-65, B69, B71, B75-76, B89-90, B93, B96, B98, B111-114, B120, B132-139, B143, B152-155, B165, B172-173, B179-184, B188, B373-382, B389-390, B393	STN1614BSW KC610M	W46
SS125SLDL250425	054	SSF200FDS630606	H128			STN1614BSW KC635M	W46
SS125SLDL320400	054	SSF200FDS631138	H128	STC5	B63, B71, B89-90, B93, B96, B98, B111, B113, B132-137, B163, B172, B179, B373, B376, B378	STN1614NPS KC635M	W46
SS150DL321000	055	SSF200FDS631688	H129	STC8	B165, B172-173, B179-184, B188, B376-382, B389-390, B393	STN1614NPT KC635M	W46
SS150SLDL320550	054	SSF200FDS632515	H129			STN1614NPTF KC635M	W46
SS16KST115AR3M	K42	SSF200FDS633066	H129	STC9	B69, B76, B132-133, B135-136, B139, B143, B165, B170, B179, B181-185, B376, B378, B381-382, B388-390, B392-393	STN1614UNE KC635M	W44
SS16KST115AR5M	K42	SSF200FDS710677	H128			STN1614UNI KC635M	W44
SS200DL321000	055	SSF200FDS711150	H128	STCM11	U28-29, U35-36	STN16150ISO KC610M	W45
SS200SLDL320750	054	SSF200FDS711780	H129	STCM20	B74	STN16150ISOE KC620M	W45
SS20FBHS24	K139	SSF200FDS800756	H128	STCM25	V148-149	STN16150ISOI KC635M	W45
SS20KST135AR3M	K42	SSF200FDS801287	H128	STCM32	U28	STN1616UNE KC635M	W44
SS20KST135AR5M	K42	SSF200FDS801996	H129	STCM37	B140-142	STN1616UNI KC635M	W44
SS20KST155AR3M	K42	SSF200FDS900835	H128	STCM38	B72-74, B94, B115-119, B140-142, B174-176, B186-187, B394-398	STN22300ISOI KC610M	W45
SS20KST155AR5M	K42	SSF200FDS901425	H128			STN2711BSW KC635M	W46
SS20KST175AR3M	K42	SSF200FDS902213	H129	STCM40	B74, B94, B115-117, B119	STN27200ISOE KC610M	W45
SS20KST175AR5M	K42	SSF200HTS130239	J89	STCM8	B74, B115, B119, B186, B397	STN27350ISOI KC610M	W45
SS20KST175RR3M	K43	SSF200HTS130450	J89	STCM9	B72-74, B94-95, B115-117, B119, B140-142	STPR08CA09	B278
SS20KST200AR3M	K42	SSF200HTS131114	J89			STPR10CA11	B278
SS20KST200AR5M	K42	SSF200HTS131764	J89	STFCLO62	B259	STPR12CA16	B279
SS20KST200RR3M	K43	SSF200HTS160239	J89	STFCR062	B259	SUJ	E65
SS20KST200RR5M	K43	SSF200HTS160450	J89	STFCR163	B259	SUWTC	E64
SS20RBHT24	K124	SSF200HTS160714	J89	STFFL08CA09	B276	SUWTCR	E64
SS25FBHS31	K139	SSF200HTS161214	J89	STFFL10CA11	B276	SVABLO62D	B282
SS25KST250AR3M	K42	SSF200HTS161964	J89	STFFL12CA16	B276	SVABLO82D	B282
SS25KST250AR5M	K42	SSF200HTS220297	J89	STFFR062	B270	SVABL103B	B282
SS25KST250RR3M	K43	SSF200HTS220550	J89	STFFR08CA09	B276	SVABRO62D	B282
SS25KST250RR5M	K43	SSF200HTS220922	J89	STFFR10CA11	B276	SVABRO82D	B282
SS25RBHT30	K124	SSF200HTS221572	J89	STFFR12CA16	B276	SVABR103B	B282
SS32KST300AR3M	K42	SSF200HTS222572	J89	STGCL062	B260	SVJBL062	B282
SS32KST300AR5M	K42	SSF200HTS270297	J89	STGCL123	B260	SVJBL082	B282
SS32KST300RR3M	K43	SSF200HTS270550	J89	STGCL163	B260	SVJBL102	B282
SS32KST300RR5M	K43	SSF200HTS271122	J89	STGCR062	B260	SVJBL123	B282
SS32KST350AR3M	K42	SSF200HTS271922	J89	STGCR082	B260	SVJBL163	B282
SS32KST350AR5M	K42	SSF200HTS273122	J89	STGCR103	B260	SVJBLF062D	B283
SS32KST350RR3M	K43	SSF200HTS320305	J89	STGCR123	B260	SVJBLF082D	B283
SS32KST350RR5M	K43	SSF200HTS320550	J89	STGCR163	B260	SVJBLF103B	B283
SSA3T	D71-72, D74-79	SSF200HTS320805	J89	STGPL062	B270	SVJBR062	B282
SSA4T	D71-72, D74-79	SSF200HTS321305	J89	STGPL082V	B270	SVJBR082	B282
SSA5T	D76, D78-79	SSF200HTS321805	J89	STGPL08CA09	B277	SVJBR102	B282
SSE075FBHS24	K139	SSF250HTS400355	J89	STGPL10CA11	B277	SVJBR123	B282
SSE100FBHS31	K139	SSF250HTS400650	J89	STGPR062	B270	SVJBR163	B282
SSE125FBHS40	K139	SSF250HTS401055	J89	STGPR082V	B270	SVJBRF062D	B283
SSF150FDS280299	H128	SSF250HTS401555	J89	STGPR10CA11	B277	SVJBRF082D	B283
SSF150FDS280502	H128	SSF250HTS402555	J89	STGPR12CA16	B277	SVJBRF103B	B283
SSF150FDS280746	H129	SSF300HTS500413	J89	STJCRF062D	B261	SVJBRF103B	B283
SSF150FDS281112	H129	SSF300HTS500700	J89	STJCRF082D	B261	SVJBL082	B283
SSF150FDS281356	H129	SSF300HTS501313	J89	STJCRF102B	B261	SVJBL102	B283
SSF150FDS320323	H128	SSKCL12CA12	B249	STN10075ISOI KC635M	W45	SVUBR102	B283
SSF150FDS320573	H128	SSKCR12CA12	B249	STN10100ISOI KC620M	W45	SWLCR082D	B287
SSF150FDS320850	H129	SSKCR16CA12	B249	STN10100ISOI KC635M	W45	SWMS15	S104
SSF150FDS321263	H129	SSKPR10CA09	B254	STN10125ISOI KC635M	W45	SYB115RBHT16LF	K125
SSF150FDS321539	H129	SSN2T	D74-75	STN10150ISOI KC635M	W45	SYB24RBHT06F	K125
SSF150FDS360362	H128	SSP025016M	B58-60, B67-68, B87-88, B91-92, B98, B109-110, B113, B131, B138, B150-151, B154, B163	STN1018UNI KC635M	W44	SYB30RBHT06F	K125
SSF150FDS360652	H128	SSP025018M	B67-68	STN1020UNI KC635M	W44	SYB40RBHT09F	K125
SSF150FDS360960	H129	SSP8	S104	STN1100ISOI KC635M	W45	SYB50RBHT09F	K125
SSF150FDS361421	H129	SSRCL12CA12	B250	STN1114UNI KC635M	W44	SYB66RBHT12F	K125
SSF150FDS361728	H129	SSRCR12CA12	B250	STN1116UNI KC635M	W44	SYB87RBHT12F	K125
SSF150HTS130239	J89	SSRPR10CA09	B254	STN1118NPT KC635M	W46	SYB87RBHT16LF	K125
SSF150HTS130450	J89	SSSCL12CA12	B251	STN1118NPTF KC635M	W46	T15 S	T127-128, V9-12, V17-19, V102-103, V111-112
SSF150HTS130664	J89	SSSCR12CA12	B251	STN1118UNE KC635M	W44	T20 S	T131, V111-112
SSF150HTS131114	J89	SSSPR10CA09	B255	STN1119BSW KC635M	W46	T320M060X100R6HX KC7542	M4
SSF150HTS131764	J89	SSSCL12CA12	B251	STN1120UNI KC635M	W44	T320M080X125R6HX KC7542	M4
SSF200FDS400394	H128	SSSCL12CA12	B251	STN1124UNI KC635M	W44	T320M100X150R6HX KC7542	M4
SSF200FDS400721	H128	SSSPL10CA09	B255	STN16100ISOI KC635M	W45	T320M120X175R6HX KC7542	M4
SSF200FDS401066	H129	SSSPR10CA09	B255	STN16115NPS KC635M	W46	T320M160X200R6HX KC7542	M4
SSF200FDS401586	H129	SSY3T	D71-72, D74-79	STN16115NPT KC635M	W46	T320M140X150R6HX KC7542	M4
SSF200FDS401933	H129	SSY4T	D71-72, D74-79	STN16115NPTF KC635M	W46	T320NC03750-16R3BX KC7542	M4
SSF200FDS450441	H128	SSY5T K9	D76, D78-79				
SSF200FDS450809	H128	STACR062D	B259				
SSF200FDS451196	H129	STACR082D	B259				
SSF200FDS451775	H129	STACR103B	B259				
SSF200FDS452161	H129	STC11	B71, B165, B180, B183-185, B372-373, B379-380, B389-390, B392				
SSF200FDS500480	H128	STC19	B63-64, B98, B111-112, B172, B376				
SSF200FDS500896	H128						
SSF200FDS501330	H129						
SSF200FDS501980	H129						
SSF200FDS502413	H129						

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T320NC04375-14R3BX KC7542	M4	T353M080X125R6HX-D1 KCK17	M113	T620M060X100R6HX-A KP6525	M10	T620NC03750-16R2BX-A KP6525	M6
T320NC05000-13R3BX KC7542	M4	T353M100X150R6HX-D1 KCK17	M113	T620M060X100R6HX-D1 KM6515	M11	T620NC03750-16R3BX-A KM6515	M6
T321M100X150R6HX KC7542	M5	T353M120X175R6HX-D6 KCK17	M113	T620M060X100R6HX-D1 KP6525	M11	T620NC03750-16R3BX-A KP6525	M6
T321M120X175R6HX KC7542	M5	T353M140X200R6HX-D6 KCK17	M113	T620M080X100R6HX-A KP6525	M10	T620NC03750-16R3BX-D1 KP6525	M8
T321M140X200R6HX KC7542	M5	T410M030X050R6HX-D1 KCU36	M116	T620M080X125R6HX-A KM6515	M10	T620NC04375-14R3BX-A KM6515	M7
T321M160X200R6HX KC7542	M5	T410M040X070R6HX-D1 KCU36	M116	T620M080X125R6HX-A KP6525	M10	T620NC04375-14R3BX-A KP6525	M7
T321MF120X150R6HX KC7542	M5	T410M050X080R6HX-D1 KCU36	M116	T620M080X125R6HX-D1 KM6515	M11	T620NC04375-14R3BX-D6 KP6525	M8
T321MF140X150R6HX KC7542	M5	T410M060X100R6HX-D1 KCU36	M116	T620M080X125R6HX-D1 KP6525	M11	T620NC05000-13R3BX-A KM6515	M7
T331M060X100R6HX KC7542	M45	T410M080X125R6HX-D1 KCU36	M116	T620M100X150R6HX-A KM6515	M10	T620NC05000-13R3BX-A KP6525	M7
T331M080X125R6HX KC7542	M45	T410M100X150R6HX-D1 KCU36	M116	T620M100X150R6HX-D1 KM6515	M10	T620NC05000-13R3BX-D6 KP6525	M8
T331M100X150R6HX KC7542	M45	T410M120X175R6HX-D6 KCU36	M116	T620M100X150R6HX-D1 KM6515	M11	T620NC06250-11R3BX-A KM6515	M7
T331M120X175R6HX KC7542	M45	T410M140X200R6HX-D6 KCU36	M116	T620M100X150R6HX-D1 KP6525	M11	T620NC06250-11R3BX-A KP6525	M7
T331M140X200R6HX KC7542	M45	T410MF080X100R6HX-D4 KCU36	M116	T620M120X175R6HX-A KM6515	M10	T620NC07500-10R3BX-A KM6515	M7
T331M160X200R6HX KC7542	M45	T410MF100X100R6HX-D4 KCU36	M116	T620M120X175R6HX-D1 KM6515	M10	T620NC07500-10R3BX-A KP6525	M7
T331MF120X150R6HX KC7542	M45	T410MF120X150R6HX-D4 KCU36	M116	T620M120X175R6HX-D6 KM6515	M11	T620NF#06-40R2BX-D1 KP6525	M8
T331MF140X150R6HX KC7542	M45	T410MF140X150R6HX-D4 KCU36	M116	T620M120X175R6HX-D6 KP6525	M11	T620NF#08-36R3BX-A KM6515	M6
T331NC2500-20R3BX KC7542	M44	T410MF160X150R6HX-D4 KCU36	M116	T620M140X200R6HX-D6 KM6515	M11	T620NF#08-36R3BX-A KP6525	M6
T331NC3125-18R3BX KC7542	M44	T471M060X100R6HX KCN14	M114	T620M140X200R6HX-D6 KP6525	M11	T620NF#10-32R2BX-A KM6515	M6
T331NC3750-16R3BX KC7542	M44	T471M060X100R6HX-D1 KCN14	M114	T620M160X200R6HX-D6 KM6515	M11	T620NF#10-32R2BX-A KP6525	M6
T331NC4375-14R3BX KC7542	M44	T471M080X125R6HX KCN14	M114	T620M160X200R6HX-D6 KP6525	M11	T620NF#10-32R2BX-D1 KP6525	M8
T331NC5000-13R3BX KC7542	M44	T471M080X125R6HX-D1 KCN14	M114	T620M200X250R6HX-D6 KM6515	M11	T620NF#10-32R3BX-A KM6515	M6
T331NF2500-28R3BX KC7542	M44	T471M100X150R6HX KCN14	M115	T620M200X250R6HX-D6 KP6525	M11	T620NF02500-28R2BX-A KM6515	M6
T340M040X070R6HX KCK17	M109	T471M100X150R6HX-D1 KCN14	M115	T620M240X300R6HX-XL KP6525	M14	T620NF02500-28R2BX-A KP6525	M6
T340M050X080R6HX KCK17	M109	T471M120X175R6HX KCN14	M114	T620M240X300R6HX-D6 KP6525	M13	T620NF02500-28R2BX-A KM6515	M6
T340M060X100R6HX KCK17	M109	T471M140X200R6HX KCN14	M114	T620M300X350R6HX-XL KP6525	M14	T620NF02500-28R3BX-A KM6515	M6
T340M080X125R6HX KCK17	M109	T491M050X080R6HX KCN14	M138	T620M300X350R6HX-D6 KP6525	M13	T620NF02500-28R3BX-A KP6525	M6
T340M100X150R6HX KCK17	M109	T491M060X100R6HX KCN14	M138	T620M300X350R6HX-XL KP6525	M14	T620NF02500-28R3BX-D1 KP6525	M8
T340M120X175R6HX KCK17	M109	T491M060X100R6HX-D74 KCN14	M138	T620M330X350R6HX-D6 KP6525	M13	T620NF03250-24R3BX-A KM6515	M6
T340M140X200R6HX KCK17	M109	T491M080X125R6HX KCN14	M138	T620M360X400R6HX-XL KP6525	M14	T620NF03250-24R3BX-A KP6525	M6
T340M160X200R6HX KCK17	M109	T491M080X125R6HX-D74 KCN14	M138	T620M360X400R6HX-D6 KP6525	M13	T620NF03250-24R3BX-D1 KP6525	M8
T340M200X250R6HX KCK17	M109	T491M100X150R6HX KCN14	M138	T620M420X450R6HX-XL KP6525	M14	T620NF03750-24R3BX-A KM6515	M6
T340MF100X100R6HX KCK17	M109	T491M100X150R6HX-D74 KCN14	M138	T620M420X450R6HX-D6 KP6525	M13	T620NF03750-24R3BX-A KP6525	M6
T340MF120X150R6HX KCK17	M109	T491M120X175R6HX KCN14	M138	T620MF080X100R6HX-A KM6515	M10	T620NF03750-24R3BX-D1 KP6525	M8
T340MF140X150R6HX KCK17	M109	T600M030X050R6HX-D1 KSP21	M22	T620MF080X100R6HX-D4 KM6515	M11	T620NF04375-20R3BX-A KM6515	M7
T340NC#10-24R3BX KCK17	M108	T600M040X070R6HX-D1 KSP21	M22	T620MF080X100R6HX-D4 KP6525	M11	T620NF04375-20R3BX-A KP6525	M7
T340NC#6-32R3BX KCK17	M108	T600M050X080R6HX-D1 KSP21	M22	T620MF100X100R6HX-D4 KM6515	M11	T620NF04375-20R3BX-D6 KP6525	M8
T340NC#8-32R3BX KCK17	M108	T600M060X100R6HX-D1 KSP21	M22	T620MF100X100R6HX-D4 KP6525	M11	T620NF05000-20R3BX-A KM6515	M7
T340NC02500-20R3BX KCK17	M108	T600M080X125R6HX-D1 KSP21	M22	T620MF100X125R6HX-D4 KP6525	M11	T620NF05000-20R3BX-A KP6525	M7
T340NC03125-18R3BX KCK17	M108	T600M100X150R6HX-D1 KSP21	M22	T620MF120X150R6HX-D4 KM6515	M11	T620NF05000-20R3BX-D6 KP6525	M8
T340NC03750-16R3BX KCK17	M108	T600M120X175R6HX-D6 KSP21	M22	T620MF120X150R6HX-D4 KP6525	M11	T621M050X080R6HX-D1 KM6515	M12
T340NC05000-13R3BX KCK17	M108	T600M140X200R6HX-D6 KSP21	M22	T620MF140X150R6HX-D4 KM6515	M11	T621M050X080R6HX-D1 KP6525	M12
T340NF#10-32R3BX KCK17	M108	T600M160X200R6HX-D6 KSP21	M22	T620MF140X150R6HX-D4 KP6525	M11	T621M060X100R6HX-D1 KM6515	M12
T340NF03750-24R3BX KCK17	M108	T600M180X250R6HX-D6 KSP21	M22	T620MF160X150R6HX-D4 KM6515	M11	T621M060X100R6HX-D1 KP6525	M12
T340NF05000-20R3BX KCK17	M108	T600M200X250R6HX-D6 KSP21	M22	T620MF160X150R6HX-D4 KP6525	M11	T621M080X125R6HX-D1 KM6515	M12
T340NF05625-18R3BX KCK17	M108	T600MF080X100R6HX-D4 KSP21	M22	T620MF180X150R6HX-D4 KM6515	M11	T621M080X125R6HX-D1 KP6525	M12
T351M040X070R6HX KCK17	M111	T600MF100X100R6HX-D4 KSP21	M22	T620MF180X150R6HX-D4 KP6525	M11	T621M100X150R6HX-D1 KM6515	M12
T351M050X080R6HX KCK17	M111	T600MF100X125R6HX-D4 KSP21	M22	T620NC#02-56R2BX-A KM6515	M6	T621M100X150R6HX-D1 KP6525	M12
T351M060X100R6HX KCK17	M111	T600MF120X125R6HX-D4 KSP21	M22	T620NC#02-56R2BX-D6 KP6525	M6	T621M120X175R6HX-D6 KM6515	M12
T351M060X100R6HX-D1 KCK17	M112	T600MF120X150R6HX-D4 KSP21	M22	T620NC#02-56R3BX-A KM6515	M6	T621M120X175R6HX-D6 KP6525	M12
T351M070X100R6HX-D1 KCK17	M112	T600MF140X150R6HX-D4 KSP21	M22	T620NC#02-56R3BX-A KP6525	M6	T621M140X200R6HX-D6 KM6515	M12
T351M080X125R6HX KCK17	M111	T600MF160X150R6HX-D4 KSP21	M22	T620NC#04-40R2BX-A KM6515	M6	T621M140X200R6HX-D6 KP6525	M12
T351M080X125R6HX-D1 KCK17	M112	T604M030X050R6HX-D1 KSH26	M73	T620NC#04-40R2BX-A KP6525	M6	T621M160X200R6HX-D6 KM6515	M12
T351M090X125R6HX-D1 KCK17	M112	T604M040X070R6HX-D1 KSH26	M73	T620NC#04-40R3BX-A KM6515	M6	T621M160X200R6HX-D6 KP6525	M12
T351M100X150R6HX KCK17	M111	T604M050X080R6HX-D1 KSH26	M73	T620NC#04-40R3BX-A KP6525	M6	T621M180X250R6HX-D6 KM6515	M12
T351M100X150R6HX-D1 KCK17	M112	T604M060X100R6HX-D1 KSH26	M73	T620NC#05-40R3BX-A KM6515	M6	T621M180X250R6HX-D6 KP6525	M12
T351M120X175R6HX KCK17	M111	T604M080X125R6HX-D1 KSH26	M73	T620NC#05-40R3BX-A KP6525	M6	T621MF080X100R6HX-D4 KM6515	M12
T351M120X175R6HX-D6 KCK17	M112	T604M100X150R6HX-D1 KSH26	M73	T620NC#06-32R2BX-A KM6515	M6	T621MF080X100R6HX-D4 KP6525	M12
T351M140X200R6HX KCK17	M111	T604M120X175R6HX-D6 KSH26	M73	T620NC#06-32R2BX-A KP6525	M6	T621MF100X100R6HX-D4 KM6515	M12
T351M140X200R6HX-D6 KCK17	M112	T604M140X200R6HX-D6 KSH26	M73	T620NC#06-32R2BX-D1 KP6525	M8	T621MF100X100R6HX-D4 KP6525	M12
T351M160X200R6HX KCK17	M111	T604M160X200R6HX-D6 KSH26	M73	T620NC#06-32R3BX-A KM6515	M6	T621MF100X125R6HX-D4 KM6515	M12
T351M160X200R6HX-D6 KCK17	M112	T604M180X250R6HX-D6 KSH26	M73	T620NC#06-32R3BX-A KP6525	M6	T621MF100X125R6HX-D4 KP6525	M12
T351MF100X100R6HX KCK17	M111	T604M200X250R6HX-D6 KSH26	M73	T620NC#08-32R2BX-A KM6515	M6	T621MF120X125R6HX-D4 KM6515	M12
T351MF100X100R6HX-D4 KCK17	M112	T604MF080X100R6HX-D4 KSH26	M73	T620NC#08-32R2BX-A KP6525	M6	T621MF120X150R6HX-D4 KM6515	M12
T351MF120X125R6HX-D4 KCK17	M112	T604MF100X100R6HX-D4 KSH26	M73	T620NC#08-32R2BX-D1 KP6525	M8	T621MF120X150R6HX-D4 KP6525	M12
T351MF120X125R6HX KCK17	M111	T604MF100X125R6HX-D4 KSH26	M73	T620NC#08-32R3BX-A KM6515	M6	T621MF140X125R6HX-D4 KM6515	M12
T351MF120X150R6HX-D4 KCK17	M112	T604MF120X125R6HX-D4 KSH26	M73	T620NC#08-32R3BX-A KP6525	M6	T621MF140X150R6HX-D4 KM6515	M12
T351MF120X150R6HX KCK17	M111	T604MF120X150R6HX-D4 KSH26	M73	T620NC#10-24R2BX-D1 KP6525	M8	T621MF140X150R6HX-D4 KP6525	M12
T351MF140X125R6HX-D4 KCK17	M112	T604MF140X150R6HX-D4 KSH26	M73	T620NC#10-24R3BX-A KM6515	M6	T621MF160X150R6HX-D4 KM6515	M12
T351MF140X125R6HX KCK17	M111	T604MF160X150R6HX-D4 KSH26	M73	T620NC#12-24R3BX-A KM6515	M6	T621MF160X150R6HX-D4 KP6525	M12
T351NF#10-32R3BX KCK17	M110	T620M030X050R6HX-A KM6515	M10	T620NC#12-24R3BX-A KP6525	M6	T621NF03250-24R3BX-D1 KP6525	M9
T353M040X070R6HX-D1 KCK17	M113	T620M030X050R6HX-A KP6525	M10	T620NC02500-20R2BX-A KM6515	M6	T621NF03250-24R3BX-D1 KP6525	M9
T353M050X080R6HX-D1 KCK17	M113	T620M030X050R6HX-D1 KM6515	M11	T620NC02500-20R2BX-A KP6525	M6	T621NF03750-24R3BX-D1 KP6525	M9
T353M060X100R6HX-D1 KCK17	M113	T620M040X070R6HX-A KM6515	M10	T620NC02500-20R3BX-A KM6515	M6	T621NF04375-24R3BX-D1 KP6525	M9
		T620M040X070R6HX-A KP6525	M10	T620NC02500-20R3BX-D1 KP6525	M8	T622M030X050R6HX-D74 KSN28	M139
		T620M050X080R6HX-A KM6515	M11	T620NC03125-18R2BX-A KM6515	M6		
		T620M050X080R6HX-A KP6525	M10	T620NC03125-18R2BX-D1 KP6525	M6		
		T620M050X080R6HX-D1 KM6515	M11	T620NC03125-18R3BX-A KM6515	M6		
		T620M050X080R6HX-D1 KP6525	M11	T620NC03125-18R3BX-A KP6525	M6		
		T620M060X100R6HX-A KM6515	M10	T620NC03750-16R2BX-A KM6515	M6		

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T630NC10000-08R3BX-A KP6525.....	M46	T632M080X125R6HX-D1 KP6525.....	M52	T642M100X150R6HX-D1 KP6525.....	M122	T660NC04375-14RH3-A KSSM24.....	M18
T630NF#06-40R2BX-D1 KP6525.....	M47	T632M100X150R6HX-D1 KP6525.....	M52	T642M120X175R6HX-D6 KP6525.....	M122	T660NC05000-13RH3-A KSS20.....	M18
T630NF#10-32R2BX-A KM6515.....	M46	T632M120X175R6HX-D6 KP6525.....	M52	T642M140X200R6HX-D6 KP6525.....	M122	T660NC05000-13RH3-A KSSM24.....	M18
T630NF#10-32R2BX-A KP6525.....	M46	T632M140X200R6HX-D6 KP6525.....	M52	T642MF120X150R6HX-D4 KP6525.....	M122	T660NC06250-11RH3-A KSSM24.....	M18
T630NF#10-32R2BX-D1 KP6525.....	M47	T632MF120X150R6HX-D4 KP6525.....	M52	T642MF140X150R6HX-D4 KP6525.....	M122	T660NC07500-10RH5-A KSSM24.....	M18
T630NF#10-32R3BX-A KM6515.....	M46	T632MF140X150R6HX-D4 KP6525.....	M52	T642MF160X150R6HX-D4 KP6525.....	M122	T660NC10000-08RH5-A KSSM24.....	M18
T630NF#10-32R3BX-A KP6525.....	M46	T632MF160X150R6HX-D4 KP6525.....	M52	T643M050X080R6HX-D1 KP6525.....	M123	T660NF#06-40RH2-A KSS20.....	M18
T630NF02500-28R2BX-A KM6515.....	M46	T633M050X080R6HX-D1 KP6525.....	M53	T643M060X100R6HX-D1 KP6525.....	M123	T660NF#06-40RH2-A KSSM24.....	M18
T630NF02500-28R2BX-A KP6525.....	M46	T633M060X100R6HX-D1 KP6525.....	M53	T643M080X125R6HX-D1 KP6525.....	M123	T660NF#08-36RH2-A KSS20.....	M18
T630NF02500-28R3BX-A KM6515.....	M46	T633M080X125R6HX-D1 KP6525.....	M53	T643M100X150R6HX-D1 KP6525.....	M123	T660NF#08-36RH2-A KSSM24.....	M18
T630NF02500-28R3BX-A KP6525.....	M46	T633M100X150R6HX-D1 KP6525.....	M53	T643M120X175R6HX-D6 KP6525.....	M123	T660NF#10-32RH2-A KSS20.....	M18
T630NF02500-28R3BX-D1 KP6525.....	M47	T633M120X175R6HX-D6 KP6525.....	M53	T643M140X200R6HX-D6 KP6525.....	M123	T660NF#10-32RH2-A KSSM24.....	M18
T630NF03125-24R3BX-A KM6515.....	M46	T633MF140X150R6HX-D4 KP6525.....	M53	T643MF120X150R6HX-D4 KP6525.....	M123	T660NF#10-32RH3-A KSS20.....	M18
T630NF03125-24R3BX-A KP6525.....	M46	T633MF160X150R6HX-D4 KP6525.....	M53	T643MF140X150R6HX-D4 KP6525.....	M123	T660NF#10-32RH3-A KSSM24.....	M18
T630NF03125-24R3BX-D1 KP6525.....	M47	T640M040X070R6HX-D1 KP6525.....	M120	T643MF160X150R6HX-D4 KP6525.....	M123	T660NF2500-28RH3-A KSS20.....	M18
T630NF03750-24R3BX-A KM6515.....	M46	T640M050X080R6HX-D1 KP6525.....	M120	T650M240X300R6HX-XL KP6525.....	M60	T660NF02500-28RH4-A KSS20.....	M18
T630NF03750-24R3BX-A KP6525.....	M46	T640M060X100R6HX-D1 KP6525.....	M120	T650M300X350R6HX-D6 KP6525.....	M58	T660NF02500-28RH4-A KSSM24.....	M18
T630NF03750-24R3BX-D1 KP6525.....	M47	T640M080X125R6HX-D1 KP6525.....	M120	T650M330X350R6HX-D6 KP6525.....	M58	T660NF03125-24RH3-A KSS20.....	M18
T630NF04375-20R3BX-A KM6515.....	M46	T640M100X150R6HX-D1 KP6525.....	M120	T650M360X400R6HX-XL KP6525.....	M60	T660NF03125-24RH3-A KSSM24.....	M18
T630NF04375-20R3BX-A KP6525.....	M46	T640M120X175R6HX-D6 KP6525.....	M120	T650M420X450R6HX-D6 KP6525.....	M58	T660NF03125-24RH4-A KSS20.....	M18
T630NF04375-20R3BX-D6 KP6525.....	M47	T640M140X200R6HX-D6 KP6525.....	M120	T650M360X400R6HX-XL KP6525.....	M60	T660NF03750-24RH3-A KSS20.....	M18
T630NF05000-20R3BX-A KM6515.....	M46	T640M160X200R6HX-D6 KP6525.....	M120	T650M420X450R6HX-D6 KP6525.....	M58	T660NF03750-24RH3-A KSSM24.....	M18
T630NF05000-20R3BX-A KP6525.....	M46	T640M180X250R6HX-D6 KP6525.....	M120	T650M420X450R6HX-XL KP6525.....	M60	T660NF03750-24RH4-A KSS20.....	M18
T630NF05000-20R3BX-D6 KP6525.....	M47	T640M200X250R6HX-D6 KP6525.....	M120	T651M240X300R6HX-D6 KP6525.....	M59	T660NF03750-24RH4-A KSSM24.....	M18
T631M050X080R6HX-D1 KM6515.....	M51	T640M220X250R6HX-D6 KP6525.....	M120	T651M240X300R6HX-XL KP6525.....	M61	T660NF04375-20RH3-A KSS20.....	M18
T631M050X080R6HX-D1 KP6525.....	M51	T640NC#06-32R2BX-D1 KP6525.....	M118	T651M300X350R6HX-D6 KP6525.....	M59	T660NF04375-20RH3-A KSSM24.....	M18
T631M060X100R6HX-D1 KM6515.....	M51	T640NC#08-32R2BX-D1 KP6525.....	M118	T651M300X350R6HX-XL KP6525.....	M61	T660NF05000-20RH3-A KSS20.....	M18
T631M060X100R6HX-D1 KP6525.....	M51	T640NC#10-24R2BX-D1 KP6525.....	M118	T651M330X350R6HX-D6 KP6525.....	M59	T660NF05000-20RH3-A KSSM24.....	M18
T631M080X125R6HX-D1 KM6515.....	M51	T640NC#10-24R3BX-A KP6525.....	M117	T651M330X350R6HX-XL KP6525.....	M61	T660NF05625-18RH3-A KSSM24.....	M18
T631M080X125R6HX-D1 KP6525.....	M51	T640NC02500-20R2BX-A KP6525.....	M117	T651M360X400R6HX-D6 KP6525.....	M59	T660NF05625-18RH3-A KSSM24.....	M18
T631M100X150R6HX-D1 KM6515.....	M51	T640NC02500-20R3BX-A KP6525.....	M117	T651M360X400R6HX-XL KP6525.....	M61	T660NF05625-18RH5-A KSSM24.....	M18
T631M100X150R6HX-D1 KP6525.....	M51	T640NC02500-20R3BX-D1 KP6525.....	M118	T651M420X450R6HX-D6 KP6525.....	M59	T660NF06250-18RH3-A KSSM24.....	M18
T631M120X175R6HX-D6 KM6515.....	M51	T640NC03125-18R2BX-A KP6525.....	M117	T651M420X450R6HX-XL KP6525.....	M61	T660NF07500-16RH3-A KSS20.....	M18
T631M120X175R6HX-D6 KP6525.....	M51	T640NC03125-18R3BX-A KP6525.....	M117	T660M025X045RD3-A KSS20.....	M19	T660NF07500-16RH3-A KSSM24.....	M18
T631M140X200R6HX-D6 KM6515.....	M51	T640NC03125-18R3BX-D1 KP6525.....	M118	T660M025X045RD3-A KSSM24.....	M19	T662M025X045RD3-A KSS20.....	M68
T631M140X200R6HX-D6 KP6525.....	M51	T640NC03750-16R2BX-A KP6525.....	M117	T660M030X050RD3-A KSS20.....	M19	T662M025X045RD3-A KSSM24.....	M68
T631M160X200R6HX-D6 KM6515.....	M51	T640NC03750-16R3BX-A KP6525.....	M117	T660M040X070RD4-A KSS20.....	M19	T662M030X050RD3-A KSS20.....	M68
T631M160X200R6HX-D6 KP6525.....	M51	T640NC03750-16R3BX-D1 KP6525.....	M118	T660M040X070RD4-A KSSM24.....	M19	T662M040X070RD4-A KSS20.....	M68
T631M180X250R6HX-D6 KM6515.....	M51	T640NC04375-14R3BX-A KP6525.....	M117	T660M040X070RD4-A KSSM24.....	M19	T662M040X070RD4-A KSSM24.....	M68
T631M180X250R6HX-D6 KP6525.....	M51	T640NC04375-14R3BX-D6 KP6525.....	M118	T660M050X080RD4-A KSS20.....	M19	T662M050X080RD4-A KSS20.....	M68
T631M240X300R6HX-XL KM6515.....	M57	T640NC05000-13R3BX-A KP6525.....	M117	T660M050X080RD4-A KSSM24.....	M19	T662M050X080RD4-A KSSM24.....	M68
T631M240X300R6HX-XL KP6525.....	M57	T640NC05000-13R3BX-D6 KP6525.....	M118	T660M060X100RD5-A KSS20.....	M19	T662M060X100RD5-A KSS20.....	M68
T631M300X350R6HX-D6 KP6525.....	M55	T640NC06250-11R3BX-A KP6525.....	M117	T660M060X100RD5-A KSSM24.....	M19	T662M060X100RD5-A KSSM24.....	M68
T631M300X350R6HX-D6 KP6525.....	M55	T640NC07500-10R3BX-A KP6525.....	M117	T660M070X100RD5-A KSS20.....	M19	T662M070X100RD5-A KSS20.....	M68
T631M330X350R6HX-D6 KP6525.....	M55	T640NF#06-40R2BX-D1 KP6525.....	M118	T660M070X100RD5-A KSSM24.....	M19	T662M070X100RD5-A KSSM24.....	M68
T631M330X350R6HX-D6 KP6525.....	M55	T640NF#10-32R2BX-D1 KP6525.....	M118	T660M080X125RD5-A KSS20.....	M19	T662M080X125RD5-A KSS20.....	M68
T631M360X400R6HX-D6 KP6525.....	M55	T640NF#10-32R3BX-A KP6525.....	M117	T660M080X125RD5-A KSSM24.....	M19	T662M080X125RD5-A KSSM24.....	M68
T631M360X400R6HX-D6 KP6525.....	M55	T640NF02500-28R2BX-A KP6525.....	M117	T660M100X150RD6-A KSS20.....	M19	T662M100X150RD6-A KSS20.....	M68
T631M420X450R6HX-XL KM6515.....	M57	T640NF02500-28R3BX-A KP6525.....	M117	T660M120X175RD6-A KSS20.....	M19	T662M120X175RD6-A KSS20.....	M68
T631M420X450R6HX-XL KP6525.....	M57	T640NF02500-28R3BX-D1 KP6525.....	M118	T660M120X175RD6-A KSSM24.....	M19	T662M120X175RD6-A KSSM24.....	M68
T631MF080X100R6HX-D4 KM6515.....	M51	T640NF03125-24R3BX-A KP6525.....	M117	T660M100X150RD6-A KSS20.....	M19	T662M100X150RD6-A KSSM24.....	M68
T631MF080X100R6HX-D4 KP6525.....	M51	T640NF03125-24R3BX-D1 KP6525.....	M118	T660M120X175RD6-A KSS20.....	M19	T662M120X175RD6-A KSSM24.....	M68
T631MF100X100R6HX-D4 KM6515.....	M51	T640NF03750-24R3BX-A KP6525.....	M117	T660M160X150RD6-A KSS20.....	M19	T662M160X150RD6-A KSS20.....	M68
T631MF100X100R6HX-D4 KP6525.....	M51	T640NF03750-24R3BX-D1 KP6525.....	M118	T660M160X150RD6-A KSSM24.....	M19	T662M160X150RD6-A KSSM24.....	M68
T631MF100X125R6HX-D4 KM6515.....	M51	T640NF03750-24R3BX-D6 KP6525.....	M118	T660NC#02-56RH2-A KSS20.....	M18	T662NC#02-56RH2-A KSS20.....	M66
T631MF100X125R6HX-D4 KP6525.....	M51	T640NF04375-20R3BX-A KP6525.....	M117	T660NC#02-56RH2-A KSSM24.....	M18	T662NC#02-56RH2-A KSSM24.....	M66
T631MF100X125R6HX-D4 KP6525.....	M51	T640NF04375-20R3BX-D6 KP6525.....	M118	T660NC#04-40RH2-A KSS20.....	M18	T662NC#04-40RH2-A KSS20.....	M66
T631MF120X125R6HX-D4 KM6515.....	M51	T640NF05000-20R3BX-A KP6525.....	M117	T660NC#04-40RH2-A KSSM24.....	M18	T662NC#04-40RH2-A KSSM24.....	M66
T631MF120X125R6HX-D4 KP6525.....	M51	T640NF05000-20R3BX-D6 KP6525.....	M118	T660NC#06-32RH2-A KSS20.....	M18	T662NC#06-32RH2-A KSS20.....	M66
T631MF120X150R6HX-D4 KM6515.....	M51	T641M050X080R6HX-D1 KP6525.....	M121	T660NC#06-32RH2-A KSSM24.....	M18	T662NC#06-32RH2-A KSSM24.....	M66
T631MF120X150R6HX-D4 KP6525.....	M51	T641M060X100R6HX-D1 KP6525.....	M121	T660NC#06-32RH3-A KSS20.....	M18	T662NC#06-32RH3-A KSS20.....	M66
T631MF140X125R6HX-D4 KM6515.....	M51	T641M060X100R6HX-D1 KP6525.....	M121	T660NC#06-32RH3-A KSSM24.....	M18	T662NC#06-32RH3-A KSSM24.....	M66
T631MF140X125R6HX-D4 KP6525.....	M51	T641M080X125R6HX-D1 KP6525.....	M121	T660NC#08-32RH2-A KSS20.....	M18	T662NC#08-32RH2-A KSS20.....	M66
T631MF140X125R6HX-D4 KP6525.....	M51	T641M100X150R6HX-D1 KP6525.....	M121	T660NC#08-32RH2-A KSSM24.....	M18	T662NC#08-32RH2-A KSSM24.....	M66
T631MF140X150R6HX-D4 KM6515.....	M51	T641M120X175R6HX-D6 KP6525.....	M121	T660NC#08-32RH3-A KSS20.....	M18	T662NC#08-32RH3-A KSS20.....	M66
T631MF140X150R6HX-D4 KP6525.....	M51	T641M140X200R6HX-D6 KP6525.....	M121	T660NC#08-32RH3-A KSSM24.....	M18	T662NC#08-32RH3-A KSSM24.....	M66
T631MF160X150R6HX-D4 KM6515.....	M51	T641M160X200R6HX-D6 KP6525.....	M121	T660NC#10-24RH3-A KSS20.....	M18	T662NC#10-24RH3-A KSS20.....	M66
T631MF160X150R6HX-D4 KP6525.....	M51	T641M180X250R6HX-D6 KP6525.....	M121	T660NC#10-24RH3-A KSSM24.....	M18	T662NC#10-24RH3-A KSSM24.....	M66
T631MF180X150R6HX-D4 KM6515.....	M51	T641M200X250R6HX-D6 KP6525.....	M121	T660NC2500-20RH3-A KSS20.....	M18	T662NC2500-20RH3-A KSS20.....	M66
T631MF180X150R6HX-D4 KP6525.....	M51	T641NC02500-20R3BX-D1 KP6525.....	M119	T660NC2500-20RH3-A KSSM24.....	M18	T662NC2500-20RH3-A KSSM24.....	M66
T631NC02500-20R3BX-D1 KP6525.....	M48	T641NC03125-18R3BX-D1 KP6525.....	M119	T660NC2500-20RH5-A KSS20.....	M18	T662NC2500-20RH5-A KSS20.....	M66
T631NC03125-18R3BX-D1 KP6525.....	M48	T641NC03750-16R3BX-D1 KP6525.....	M119	T660NC3125-18RH3-A KSS20.....	M18	T662NC3125-18RH3-A KSS20.....	M66
T631NC03750-16R3BX-D1 KP6525.....	M48	T641NC04375-14R3BX-D6 KP6525.....	M119	T660NC3125-18RH3-A KSSM24.....	M18	T662NC3125-18RH3-A KSSM24.....	M66
T631NC04375-14R3BX-D6 KP6525.....	M48	T641NC05000-13R3BX-D6 KP6525.....	M119	T660NC3125-18RH5-A KSS20.....	M18	T662NC3125-18RH5-A KSS20.....	M66
T631NC04375-14R3BX-D6 KP6525.....	M48	T641NF02500-28R3BX-D1 KP6525.....	M119	T660NC3750-16RH3-A KSS20.....	M18	T662NC3750-16RH3-A KSS20.....	M66
T631NF02500-28R3BX-D1 KP6525.....	M48	T641NF03125-24R3BX-D1 KP6525.....	M119	T660NC3750-16RH3-A KSSM24.....	M18	T662NC3750-16RH3-A KSSM24.....	M66
T631NF03125-24R3BX-D1 KP6525.....	M48	T641NF03750-24R3BX-D1 KP6525.....	M119	T660NC3750-16RH5-A KSS20.....	M18	T662NC3750-16RH5-A KSS20.....	M66
T631NF03750-24R3BX-D1 KP6525.....	M48	T641NF04375-20R3BX-D6 KP6525.....	M119	T660NC4375-14RH3-A KSS20.....	M18	T662NC4375-14RH3-A KSS20.....	M66
T631NF04375-20R3BX-D6 KP6525.....	M48	T641NF05000-20R3BX-D6 KP6525.....	M119				
T631NF05000-20R3BX-D6 KP6525.....	M48						
T632M050X080R6HX-D1 KP6525.....	M52						
T632M060X100R6HX-D1 KP6525.....	M52						

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T692NC07500-10RH5-A KSS29	M63	T820M025X045R6G-D1 KSP39	M31	T820M200X250R6H-D6 KSP39	M32	T820NC#08-32RH7-A KSP39	M23
T692NF#04-40RH5-A KSS29	M62	T820M025X045R6H-D1 KSP39	M31	T820M200X250R6H-J KJU30	M33	T820NC#10-24R2B-D1 KSP39	M26
T692NF#06-40RH2-A KSS29	M62	T820M030X050R6G-D1 KSP39	M31	T820M220X250R6H-D6 KSP39	M32	T820NC#10-24RH3-A KSMN34	M24
T692NF#10-32RH2-A KSP27	M62	T820M030X050R6H-D1 KSP32	M31	T820M240X300R6H-D6 KSP39	M32	T820NC#10-24RH3-A KSP32	M24
T692NF#10-32RH2-A KSS29	M62	T820M030X050R6H-D1 KSP39	M31	T820M270X300R6H-D6 KSP39	M32	T820NC#10-24RH3-A KSP39	M24
T692NF#10-32RH3-A KSP27	M62	T820M030X050R6H-J KJU30	M33	T820M300X350R6H-D6 KSP39	M32	T820NC#10-24RH3-XL6 KSP39	M35
T692NF#10-32RH3-A KSS29	M62	T820M030X050R6H-J KJU31	M33	T820M330X350R6H-D6 KSP39	M32	T820NC#10-24RH4-XL4 KSP39	M34
T692NF#10-32RH5-A KSS29	M62	T820M030X050RD3-A KSMN34	M29	T820M360X400R6H-D6 KSP39	M32	T820NC#10-24RH5-A KSP39	M24
T692NF#10-32RH7-A KSS29	M62	T820M030X050RD3-A KSP32	M29	T820MF040X050R6H-D4 KSP39	M31	T820NC#10-24RH7-A KSP39	M24
T692NF02500-28RH3-A KSP27	M62	T820M030X050RD3-A KSP39	M29	T820MF050X050R6H-D4 KSP39	M31	T820NC02500-20R2B-D1 KSP39	M26
T692NF02500-28RH3-A KSS29	M62	T820M035X060R6H-D1 KSP39	M31	T820MF060X050R6H-D4 KSP39	M31	T820NC02500-20RH2-A KSP39	M24
T692NF02500-28RH5-A KSS29	M62	T820M035X060RD4-A KSP39	M29	T820MF060X075R6H-D4 KSP39	M31	T820NC02500-20RH3-A KSMN34	M24
T692NF02500-28RH6-A KSS29	M62	T820M040X070R6G-D1 KSP39	M31	T820MF080X100R6H-D4 KSP39	M29	T820NC02500-20RH3-XL6 KSP39	M34
T692NF02500-28RH7-A KSS29	M62	T820M040X070R6H-D1 KSP32	M31	T820MF080X100RD5-A KSP39	M29	T820NC02500-20RH3-A KSP39	M24
T692NF03125-24RH3-A KSP27	M62	T820M040X070R6H-D1 KSP32	M31	T820MF100X100R6H-D4 KSP39	M31	T820NC02500-20RH3-A KSP39	M24
T692NF03125-24RH3-A KSS29	M62	T820M040X070R6H-J KJU30	M33	T820MF100X125R6H-D4 KSP39	M31	T820NC02500-20RH3-XL4 KSP39	M34
T692NF03125-24RH4-A KSS29	M63	T820M040X070R6H-J KJU31	M33	T820MF100X125RD5-A KSP39	M29	T820NC02500-20RH3-XL6 KSP39	M35
T692NF03125-24RH5-A KSS29	M63	T820M040X070RD4-A KSMN34	M29	T820MF120X100R6H-D4 KSP39	M32	T820NC02500-20RH5-A KSP39	M24
T692NF03125-24RH6-A KSS29	M63	T820M040X070RD4-A KSP32	M29	T820MF120X100R6H-D4 KSP39	M32	T820NC02500-20RH7-A KSP39	M24
T692NF03125-24RH7-A KSS29	M63	T820M040X070RD4-A KSP39	M29	T820MF120X125R6H-J KJU30	M33	T820NC02500-20RH3-A KSP39	M24
T692NF03750-24RH3-A KSP27	M63	T820M050X080R6G-D1 KSP39	M31	T820MF120X125RD6-A KSP39	M29	T820NC02500-20RH3-XL4 KSP39	M34
T692NF03750-24RH3-A KSS29	M63	T820M050X080R6H-D1 KSP32	M31	T820MF120X125RD6-A KSP39	M29	T820NC02500-20RH3-XL6 KSP39	M35
T692NF03750-24RH4-A KSP27	M63	T820M050X080R6H-D1 KSP39	M31	T820MF120X150R6H-J KJU30	M33	T820NC02500-20RH3-A KSP39	M24
T692NF03750-24RH4-A KSS29	M63	T820M050X080R6H-J KJU30	M33	T820MF120X150R6H-D4 KSP39	M32	T820NC02500-20RH3-A KSP39	M24
T692NF03750-24RH5-A KSS29	M63	T820M050X080R6H-J KJU31	M33	T820MF140X100R6H-D4 KSP39	M32	T820NC02500-20RH3-A KSP39	M24
T692NF03750-24RH6-A KSS29	M63	T820M050X080RD4-A KSMN34	M29	T820MF140X125R6H-D4 KSP39	M32	T820NC02500-20RH3-A KSP39	M24
T692NF03750-24RH7-A KSS29	M63	T820M050X080RD4-A KSP32	M29	T820MF140X150R6H-D4 KSP39	M32	T820NC02500-20RH3-XL6 KSP39	M35
T692NF04375-20RH3-A KSP27	M63	T820M060X100R6G-D1 KSP39	M31	T820MF140X150RD6-A KSP39	M29	T820NC03750-16RH3-A KSP39	M24
T692NF04375-20RH3-A KSS29	M63	T820M060X100R6H-D1 KSP32	M31	T820MF140X150RD6-A KSP39	M29	T820NC03750-16RH3-XL6 KSP39	M35
T692NF04375-20RH5-A KSS29	M63	T820M060X100R6H-D1 KSP39	M31	T820MF160X100R6H-D4 KSP39	M32	T820NC03750-16RH3-A KSP39	M24
T692NF04375-20RH6-A KSS29	M63	T820M060X100R6H-J KJU30	M33	T820MF160X100R6H-D4 KSP39	M32	T820NC03750-16RH3-A KSP39	M24
T692NF04375-20RH7-A KSS29	M63	T820M060X100RD5-A KSMN34	M29	T820MF160X125R6H-D4 KSP39	M32	T820NC03750-16RH3-A KSP39	M24
T692NF05000-20RH3-A KSP27	M63	T820M060X100RD5-A KSP32	M29	T820MF160X150R6H-D4 KSP39	M32	T820NC03750-16RH3-XL6 KSP39	M35
T692NF05000-20RH3-A KSS29	M63	T820M060X100RD5-A KSP39	M29	T820MF160X150R6H-D4 KSP39	M32	T820NC03750-16RH5-A KSP39	M24
T692NF05000-20RH5-A KSS29	M63	T820M070X100R6G-D1 KSP39	M31	T820MF160X150R6H-J KJU30	M33	T820NC03750-16RH7-A KSP39	M24
T692NF05000-20RH7-A KSS29	M63	T820M070X100R6H-D1 KSP32	M31	T820MF160X150RD6-A KSP39	M29	T820NC04375-14R2B-D6 KSP39	M26
T692NF06250-18RH3-A KSS29	M63	T820M070X100R6H-D1 KSP39	M31	T820MF180X100R6H-D4 KSP39	M32	T820NC04375-14RH3-A KSMN34	M24
T692NF07500-16RH3-A KSS29	M63	T820M070X100R6H-J KJU30	M33	T820MF180X100R6H-D4 KSP39	M32	T820NC04375-14RH3-A KSP39	M24
T692NF07500-16RH5-A KSS29	M63	T820M070X100RD5-A KSMN34	M29	T820MF180X125R6H-D4 KSP39	M32	T820NC04375-14RH3-XL6 KSP39	M35
T694NC#04-40RH2-A KSP27	M65	T820M080X125R6G-D1 KSP39	M31	T820MF200X100R6H-D4 KSP39	M32	T820NC05000-13R2B-D6 KSP39	M26
T694NC#04-40RH2-A KSS29	M65	T820M080X125R6H-D1 KSP32	M31	T820MF200X200R6H-D4 KSP39	M32	T820NC05000-13RH3-A KSMN34	M24
T694NC#04-40RH3-A KSS29	M65	T820M080X125R6H-D1 KSP39	M31	T820MF220X100R6H-D4 KSP39	M32	T820NC05000-13RH3-A KSP32	M24
T694NC#05-40RH2-A KSS29	M65	T820M080X125R6H-D1 KSP39	M31	T820MF240X100R6H-D4 KSP39	M32	T820NC05000-13RH3-A KSP39	M24
T694NC#06-32RH3-A KSP27	M65	T820M080X125R6H-D1 KSP32	M31	T820NC#02-56RH2-A KSP39	M23	T820NC05000-13RH3-XL6 KSP39	M35
T694NC#06-32RH3-A KSS29	M65	T820M080X125R6H-D1 KSP39	M31	T820NC#02-56RH3-A KSP39	M23	T820NC05000-13RH5-A KSP39	M24
T694NC#06-32RH5-A KSS29	M65	T820M080X125R6H-D1 KSP39	M31	T820NC#02-56RH4-A KSP39	M23	T820NC05000-13RH7-A KSP39	M24
T694NC#08-32RH3-A KSP27	M65	T820M080X125R6H-J KJU30	M33	T820NC#03-48RH2-A KSP39	M23	T820NC05625-12R2B-D6 KSP39	M26
T694NC#08-32RH3-A KSS29	M65	T820M080X125R6H-J KJU31	M33	T820NC#04-40R2B-D1 KSP39	M26	T820NC05625-12RH3-A KSP32	M24
T694NC#10-24RH3-A KSP27	M65	T820M080X125R6H-J KJU31	M33	T820NC#04-40R3B-D1 KSP39	M27	T820NC05625-12RH3-A KSP39	M24
T694NC#10-24RH3-A KSS29	M65	T820M080X125RD5-A KSMN34	M29	T820NC#04-40RH2-A KSP32	M23	T820NC05625-12RH3-XL6 KSP39	M35
T694NC#10-24RH5-A KSS29	M65	T820M080X125RD5-A KSP32	M29	T820NC#04-40RH2-A KSP39	M23	T820NC06250-11RH3-A KSP32	M24
T694NC02500-20RH3-A KSP27	M65	T820M080X125RD5-A KSP39	M29	T820NC#04-40RH2-XL4 KSP39	M34	T820NC06250-11RH3-A KSP39	M24
T694NC02500-20RH3-A KSS29	M65	T820M100X150R6G-D1 KSP39	M31	T820NC#04-40RH2-XL6 KSP39	M35	T820NC06250-11RH3-XL6 KSP39	M35
T694NC03125-18RH3-A KSP27	M65	T820M100X150R6H-D1 KSP32	M31	T820NC#04-40RH3-A KSP39	M23	T820NC06250-11RH5-A KSP39	M24
T694NC03125-18RH3-A KSS29	M65	T820M100X150R6H-D1 KSP39	M31	T820NC#04-40RH4-A KSP39	M23	T820NC06250-11RH7-A KSP39	M24
T694NC03750-16RH3-A KSP27	M65	T820M100X150R6H-D6 KSP39	M31	T820NC#04-40RH4-XL4 KSP39	M34	T820NC07500-10R2B-D6 KSP39	M26
T694NC03750-16RH3-A KSS29	M65	T820M100X150R6H-J KJU30	M33	T820NC#04-40RH4-XL6 KSP39	M35	T820NC07500-10RH3-A KSMN34	M24
T694NC03750-16RH5-A KSS29	M65	T820M100X150R6H-J KJU31	M33	T820NC#04-40RH5-A KSP32	M23	T820NC07500-10RH3-A KSP39	M24
T694NC03750-16RH7-A KSS29	M65	T820M100X150RD6-A KSMN34	M29	T820NC#04-40RH5-A KSP39	M23	T820NC07500-10RH3-XL6 KSP39	M35
T694NC04375-14RH5-A KSS29	M65	T820M100X150RD6-A KSP32	M29	T820NC#04-40RH5-XL4 KSP39	M34	T820NC07500-10RH3-A KSP39	M24
T694NC05000-13RH5-A KSS29	M65	T820M100X150RD6-A KSP39	M29	T820NC#05-40R2B-D1 KSP39	M26	T820NC07500-10RH3-A KSP39	M24
T694NC06250-11RH3-A KSP27	M65	T820M120X175R6G-D6 KSP39	M32	T820NC#05-40RH2-A KSP39	M23	T820NC08750-9R2B-D6 KSP39	M26
T694NC06250-11RH3-A KSS29	M65	T820M120X175R6H-D6 KSP32	M32	T820NC#06-32R2B-D1 KSP39	M26	T820NC08750-9RH4-A KSMN34	M25
T694NF#06-40RH2-A KSS29	M65	T820M120X175R6H-D6 KSP39	M32	T820NC#06-32R3B-D1 KSP39	M27	T820NC08750-9RH4-A KSP32	M25
T694NF#10-32RH3-A KSP27	M65	T820M120X175R6H-J KJU30	M33	T820NC#06-32RH2-A KSP39	M23	T820NC10000-8R2B-D6 KSP39	M26
T694NF#10-32RH3-A KSS29	M65	T820M120X175R6H-J KJU31	M33	T820NC#06-32RH2-A KSP39	M23	T820NC10000-8RH3-A KSMN34	M25
T694NF#10-32RH3-A KSS29	M65	T820M120X175RD6-A KSMN34	M29	T820NC#06-32RH3-A KSP32	M23	T820NC10000-8RH5-A KSP32	M25
T694NF02500-28RH3-A KSP27	M65	T820M120X175RD6-A KSP32	M29	T820NC#06-32RH3-A KSP39	M23	T820NC10000-8RH5-A KSP39	M25
T694NF02500-28RH3-A KSS29	M65	T820M120X175RD6-A KSP39	M29	T820NC#06-32RH3-XL4 KSP39	M34	T820NC1250-7RH6-A KSP39	M25
T694NF02500-28RH4-A KSS29	M65	T820M140X200R6G-D6 KSP39	M32	T820NC#06-32RH3-XL6 KSP39	M35	T820NF#04-48RH3-A KSP39	M23
T694NF03125-24RH3-A KSP27	M65	T820M140X200R6H-D6 KSP32	M32	T820NC#06-32RH4-A KSP39	M23	T820NF#06-40RH2-A KSP39	M26
T694NF03125-24RH3-A KSS29	M65	T820M140X200R6H-D6 KSP39	M32	T820NC#06-32RH5-A KSP39	M23	T820NF#06-40RH2-A KSP39	M26
T694NF03125-24RH4-A KSS29	M65	T820M140X200R6H-J KJU30	M33	T820NC#06-32RH6-A KSP39	M23	T820NF#08-36RH2-A KSP39	M23
T694NF03750-24RH3-A KSP27	M65	T820M140X200RD7-A KSP39	M29	T820NC#08-32R2B-D1 KSP39	M26	T820NF#10-32RH2-B1 KSP39	M26
T694NF03750-24RH3-A KSS29	M65	T820M160X200R6G-D6 KSP39	M32	T820NC#08-32RH3-A KSMN34	M23	T820NF#10-32RH3-A KSP39	M23
T694NF03750-24RH4-A KSS29	M65	T820M160X200R6H-D6 KSP32	M32	T820NC#08-32RH3-A KSP32	M23	T820NF#10-32RH3-XL4 KSP39	M34
T694NF04375-20RH3-A KSP27	M65	T820M160X200R6H-D6 KSP39	M32	T820NC#08-32RH2-A KSP39	M23	T820NF#10-32RH3-XL6 KSP39	M35
T694NF04375-20RH3-A KSS29	M65	T820M160X200R6H-J KJU30	M33	T820NC#08-32RH4-A KSP32	M23	T820NF#10-32RH4-A KSP39	M23
T694NF04375-20RH5-A KSS29	M65	T820M160X200RD7-A KSMN34	M29	T820NC#08-32RH3-XL6 KSP39	M35	T820NF#10-32RH5-A KSP39	M23
T694NF05000-20RH5-A KSS29	M65	T820M160X200RD7-A KSP32	M29	T820NC#08-32RH4-A KSP32	M23		
T694NF06250-18RH3-A KSS29	M65	T820M160X200RD7-A KSP39	M29	T820NC#08-32RH5-A KSP39	M23		
T694NF06250-18RH3-A KSS29	M65	T820M180X250R6H-D6 KSP32	M32				
T820M020X040R6G-D1 KSP39	M31	T820M180X250R6H-D6 KSP39	M32				
T820M020X040R6H-D1 KSP32	M31	T820M180X250R6H-J KJU30	M33				
T820M020X040R6H-D1 KSP39	M31	T820M200X250R6H-D6 KSP32	M32				

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T820NF#10-32RH6-A KSP39	M23	T822NC#06-32RH3-A KSP32	M28	T830M100X150R6H-J KJSU30	M98	T830NC#08-32RH3-A KSMN34	M74
T820NF#10-32RH7-A KSP39	M23	T822NC#06-32RH4-A KSP39	M28	T830M100X150R6H-J KJSU31	M98	T830NC#08-32RH3-A KSP32	M74
T820NF#12-28RH3-A KSP39	M24	T822NC#06-32RH4-A KSP39	M28	T830M100X150RD6-A KSMN34	M88	T830NC#08-32RH3-A KSP39	M74
T820NF02500-24RH2-D1 KSP39	M26	T822NC#06-32RH5-A KSP39	M28	T830M100X150RD6-A KSP32	M88	T830NC#08-32RH3-XL4 KSP39	M99
T820NF02500-24RH3-D1 KSP39	M27	T822NC#06-32RH6-A KSP39	M28	T830M100X150RD6-A KSP39	M88	T830NC#08-32RH3-XL6 KSP39	M100
T820NF02500-28RH2-A KSP39	M24	T822NC#06-32RH7-A KSP39	M28	T830M120X175R6G-D6 KSP39	M93	T830NC#08-32RH4-A KSP39	M74
T820NF02500-28RH3-A KSMN34	M24	T822NC#08-32RH2-A KSP39	M28	T830M120X175R6H-D6 KSP32	M93	T830NC#08-32RH5-A KSP39	M74
T820NF02500-28RH3-A KSP32	M24	T822NC#08-32RH3-A KSMN34	M28	T830M120X175R6H-D6 KSP39	M93	T830NC#08-32RH6-A KSP39	M74
T820NF02500-28RH3-A KSP39	M24	T822NC#08-32RH4-A KSP32	M28	T830M120X175R6H-J KJSU30	M98	T830NC#08-32RH7-A KSP39	M74
T820NF02500-28RH4-A KSP39	M35	T822NC#08-32RH4-A KSMN34	M28	T830M120X175RD6-A KSMN34	M88	T830NC#10-24R2B-D1 KSP39	M74
T820NF02500-28RH4-A KSP39	M24	T822NC#08-32RH5-A KSP39	M28	T830M120X175RD6-A KSP32	M88	T830NC#10-24RH2-A KSP39	M74
T820NF02500-28RH5-A KSP39	M24	T822NC#08-32RH6-A KSP39	M28	T830M120X175RD6-A KSP39	M88	T830NC#10-24RH3-A KSMN34	M74
T820NF02500-28RH6-A KSP39	M24	T822NC#08-32RH7-A KSP39	M28	T830M140X200R6G-D6 KSP39	M93	T830NC#10-24RH3-A KSP32	M74
T820NF02500-28RH7-A KSP39	M24	T822NC#08-32RH8-A KSP39	M28	T830M140X200R6H-D6 KSP32	M93	T830NC#10-24RH3-A KSP39	M74
T820NF03125-24R2B-D1 KSP39	M26	T822NC#10-24RH3-A KSMN34	M28	T830M140X200R6H-D6 KSP39	M93	T830NC#10-24RH4-A KSP39	M74
T820NF03125-24R3B-D1 KSP39	M27	T822NC#10-24RH4-A KSP32	M28	T830M140X200R6H-D6 KSP39	M93	T830NC#10-24RH5-A KSP39	M74
T820NF03125-24RH3-A KSMN34	M24	T822NC#10-24RH5-A KSP39	M28	T830M160X200R6G-D6 KSP39	M93	T830NC#10-24RH7-A KSP39	M74
T820NF03125-24RH3-A KSP32	M24	T822NC#10-24RH6-A KSP39	M28	T830M160X200R6H-D6 KSP39	M93	T830NC#10-24RH8-A KSP39	M74
T820NF03125-24RH3-A KSP39	M24	T822NC#10-24RH7-A KSP39	M28	T830M160X200R6H-J KJSU30	M98	T830NC20500-20R2B-D1 KSP39	M84
T820NF03125-24RH4-A KSP39	M24	T822NF#06-40RH2-A KSP39	M28	T830M160X200RD7-A KSP39	M88	T830NC20500-20RH2-A KSP39	M75
T820NF03125-24RH4-A KSP39	M24	T822NF#06-40RH3-A KSP39	M28	T830M180X250R6H-D6 KSP39	M93	T830NC20500-20RH3-A KSMN34	M75
T820NF03125-24RH5-A KSP39	M24	T822NF#10-32RH3-A KSMN34	M28	T830M180X250R6H-J KJSU30	M98	T830NC20500-20RH3-A KSP32	M75
T820NF03125-24RH7-A KSP39	M24	T822NF#10-32RH4-A KSP32	M28	T830M180X250RD7-A KSP39	M88	T830NC20500-20RH4-A KSP39	M75
T820NF03750-24R2B-D1 KSP39	M26	T822NF#10-32RH5-A KSP39	M28	T830M200X250R6H-D6 KSP39	M93	T830NC20500-20RH4-A KSP39	M99
T820NF03750-24R3B-D1 KSP39	M27	T822NF#10-32RH6-A KSP39	M28	T830M200X250R6H-J KJSU30	M98	T830NC20500-20RH5-XL6 KSP39	M100
T820NF03750-24RH3-A KSMN34	M24	T822NF#10-32RH7-A KSP39	M28	T830M220X250R6H-D6 KSP39	M93	T830NC20500-20RH5-A KSP39	M75
T820NF03750-24RH3-A KSP32	M24	T822NF#10-32RH8-A KSP39	M28	T830M240X300R6H-D6 KSP39	M93	T830NC20500-20RH7-A KSP39	M75
T820NF03750-24RH3-A KSP39	M24	T822NF#12-28RH3-A KSP39	M28	T830M270X300R6H-D6 KSP39	M93	T830NC03125-18R2B-D1 KSP39	M84
T820NF03750-24RH3-XL6 KSP39	M35	T830M020X040R6G-D1 KSP39	M92	T830M300X350R6H-D6 KSP39	M93	T830NC03125-18RH3-A KSMN34	M75
T820NF03750-24RH4-A KSP39	M24	T830M020X040R6H-D1 KSP39	M92	T830M330X350R6H-D6 KSP39	M93	T830NC03125-18RH3-A KSP32	M75
T820NF03750-24RH5-A KSP39	M24	T830M025X045R6G-D1 KSP39	M92	T830M360X400R6H-D6 KSP39	M93	T830NC03125-18RH3-A KSP39	M75
T820NF03750-24RH6-A KSP39	M24	T830M025X045R6H-D1 KSP39	M92	T830MF080X100R6H-D4 KSP32	M92	T830NC03125-18RH3-XL6 KSP39	M100
T820NF03750-24RH7-A KSP39	M24	T830M030X050R6G-D1 KSP39	M92	T830MF080X100R6H-D4 KSP39	M92	T830NC03125-18RH4-A KSP39	M75
T820NF03750-24R2B-D1 KSP39	M26	T830M030X050R6H-D1 KSP32	M92	T830MF080X100RD5-A KSP39	M88	T830NC03125-18RH7-A KSP39	M75
T820NF03750-24R3B-D1 KSP39	M27	T830M030X050R6H-J KJSU30	M98	T830MF100X125R6H-D4 KSP32	M92	T830NC03750-16R2B-D1 KSP39	M84
T820NF03750-24RH3-A KSMN34	M24	T830M030X050R6H-J KJSU31	M98	T830MF100X125R6H-D4 KSP39	M92	T830NC03750-16RH3-A KSMN34	M75
T820NF03750-24RH3-A KSP32	M24	T830M030X050RD3-A KSP32	M88	T830MF100X125RD5-A KSP39	M88	T830NC03750-16RH3-A KSP32	M75
T820NF03750-24RH3-A KSP39	M24	T830M030X050RD3-A KSP39	M88	T830MF120X125R6H-D4 KSP39	M93	T830NC03750-16RH3-XL6 KSP39	M75
T820NF03750-24RH4-A KSP39	M24	T830M035X060R6H-D1 KSP39	M92	T830MF120X125R6H-D4 KSP32	M93	T830NC03750-16RH4-A KSP39	M75
T820NF03750-24RH4-A KSP39	M24	T830M040X070R6G-D1 KSP39	M92	T830MF120X125RD5-A KSP39	M88	T830NC04375-14R2B-D6 KSP39	M84
T820NF03750-24RH5-A KSP39	M24	T830M040X070R6H-D1 KSP32	M92	T830MF120X150R6H-D4 KSP32	M93	T830NC04375-14RH3-A KSMN34	M75
T820NF03750-24RH6-A KSP39	M26	T830M040X070R6H-D1 KSP39	M92	T830MF120X150RD5-A KSP39	M88	T830NC04375-14RH3-A KSP32	M75
T820NF03750-24RH7-A KSP39	M26	T830M040X070R6H-J KJSU30	M98	T830MF120X150RD6-A KSP39	M93	T830NC04375-14RH3-XL6 KSP39	M100
T820NF04375-20R2B-D6 KSP39	M27	T830M040X070R6H-J KJSU31	M98	T830MF140X150R6H-D4 KSP39	M93	T830NC04375-14RH4-A KSP39	M75
T820NF04375-20RH3-A KSMN34	M24	T830M040X070RD4-A KSP32	M88	T830MF140X150R6H-D4 KSP39	M93	T830NC04375-14RH7-A KSP39	M75
T820NF04375-20RH3-A KSP32	M24	T830M040X070RD4-A KSP39	M88	T830MF160X150R6H-D4 KSP39	M93	T830NC04375-14RH8-A KSP39	M75
T820NF04375-20RH3-A KSP39	M24	T830M040X070RD4-A KSP39	M88	T830MF160X150R6H-J KJSU30	M98	T830NC05000-13R2B-D6 KSP39	M84
T820NF04375-20RH4-A KSP39	M24	T830M040X070RD5-A KSP32	M88	T830MF160X150R6H-D4 KSP39	M93	T830NC05000-13RH3-A KSMN34	M75
T820NF04375-20RH4-A KSP39	M24	T830M040X070RD5-A KSP39	M88	T830MF180X150R6H-D4 KSP39	M93	T830NC05000-13RH3-A KSP32	M75
T820NF04375-20RH5-A KSP39	M24	T830M050X080R6G-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH4-A KSP39	M75
T820NF04375-20RH6-A KSP39	M24	T830M050X080R6H-D1 KSP32	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH5-XL6 KSP39	M100
T820NF04375-20RH7-A KSP39	M24	T830M050X080R6H-J KJSU30	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH5-A KSP39	M75
T820NF05000-20R2B-D6 KSP39	M26	T830M050X080R6H-J KJSU31	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH7-A KSP39	M75
T820NF05000-20R3B-D6 KSP39	M27	T830M050X080RD4-A KSMN34	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH7-A KSP39	M75
T820NF05000-20RH3-A KSMN34	M24	T830M050X080RD4-A KSP32	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF05000-20RH3-A KSP32	M24	T830M050X080RD4-A KSP39	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF05000-20RH3-A KSP39	M24	T830M060X100R6G-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF05000-20RH4-A KSP39	M24	T830M060X100R6H-D1 KSP32	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF05000-20RH4-A KSP39	M24	T830M060X100R6H-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF05000-20RH5-A KSP39	M24	T830M060X100R6H-J KJSU30	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF05000-20RH6-A KSP39	M24	T830M060X100R6H-J KJSU31	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF05000-20RH7-A KSP39	M24	T830M060X100RD5-A KSMN34	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF05000-20RH8-A KSP39	M24	T830M060X100RD5-A KSP32	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF05000-20RH9-A KSP39	M24	T830M060X100RD5-A KSP39	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF10000-12R2B-D6 KSP39	M26	T830M070X100R6H-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T820NF10000-12RH4-A KSP39	M25	T830M070X100R6H-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T820NF11250-12RH5-A KSP39	M25	T830M080X125R6H-D1 KSP32	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822M030X050RD3-A KSMN34	M30	T830M080X125R6H-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822M030X050RD3-A KSP32	M30	T830M080X125R6H-D6 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822M030X050RD3-A KSP39	M30	T830M080X125R6H-J KJSU30	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822M035X060RD4-A KSP39	M30	T830M080X125R6H-J KJSU31	M98	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822M040X070RD4-A KSMN34	M30	T830M080X125RD5-A KSMN34	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822M040X070RD4-A KSP32	M30	T830M080X125RD5-A KSP32	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822M040X070RD4-A KSP39	M30	T830M080X125RD5-A KSP39	M88	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822M050X080RD4-A KSMN34	M30	T830M100X150R6G-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822M050X080RD4-A KSP32	M30	T830M100X150R6H-D1 KSP32	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822M050X080RD4-A KSP39	M30	T830M100X150R6H-D1 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822NC#05-40RH2-A KSP39	M28	T830M100X150R6H-D6 KSP39	M92	T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100
T822NC#06-32RH2-A KSP39	M28			T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-A KSP39	M75
T822NC#06-32RH3-A KSMN34	M28			T830MF180X150RD6-A KSP39	M88	T830NC05000-13RH8-XL6 KSP39	M100

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T830NF#06-40RH2-A KSP39	M74	T832M030X050R6H-D1 KSP32	M94	T832NF#06-40RH3-A KSP39	M77	T838M200X250R6H-D6 KSP39	M96
T830NF#06-40RH3-A KSP39	M74	T832M030X050R6H-D1 KSP39	M94	T832NF#10-32RH3-A KSP39	M77	T838M200X250R6H-D6 KSJ31	M96
T830NF#10-32R2B-D1 KSP39	M84	T832M030X050RD3-A KSP39	M89	T832NF#10-32RH3-XL6 KSP39	M101	T838M220X250R6H-D6 KSP39	M96
T830NF#10-32R3B-D1 KSP39	M87	T832M035X060RD4-A KSP39	M89	T832NF#10-32RH5-A KSP39	M77	T838M220X250R6H-D6 KSJ31	M96
T830NF#10-32RH2-A KSP39	M75	T832M040X070R6H-D1 KSP32	M94	T832NF02500-28RH3-A KSP39	M77	T838M240X300R6H-D6 KSP39	M96
T830NF#10-32RH3-A KSMN34	M75	T832M040X070R6H-D1 KSP39	M94	T832NF02500-28RH3-XL6 KSP39	M101	T838M240X300R6H-D6 KSJ31	M96
T830NF#10-32RH3-A KSP32	M75	T832M040X070RD4-A KSP39	M89	T832NF02500-28RH5-A KSP39	M77	T838M270X300R6H-D6 KSP39	M96
T830NF#10-32RH3-A KSP39	M75	T832M050X080R6H-D1 KSP32	M94	T832NF03125-24RH3-A KSP39	M77	T838M270X300R6H-D6 KSJ31	M96
T830NF#10-32RH3-XL4 KSP39	M99	T832M050X080R6H-D1 KSP39	M94	T832NF03125-24RH5-A KSP39	M77	T838M300X350R6H-D6 KSP39	M96
T830NF#10-32RH3-XL6 KSP39	M100	T832M050X080RD4-A KSP39	M89	T832NF03750-24RH3-A KSP39	M77	T838M300X350R6H-D6 KSJ31	M96
T830NF#10-32RH4-A KSP39	M75	T832M060X100R6H-D1 KSP32	M94	T832NF03750-24RH3-XL6 KSP39	M101	T838M330X350R6H-D6 KSP39	M96
T830NF#10-32RH5-A KSP39	M75	T832M060X100R6H-D1 KSP39	M94	T832NF03750-24RH4-A KSP39	M77	T838M330X350R6H-D6 KSJ31	M96
T830NF#10-32RH6-A KSP39	M75	T832M060X100RD5-A KSP39	M89	T832NF03750-24RH5-A KSP39	M77	T838M360X400R6H-D6 KSP39	M96
T830NF#10-32RH7-A KSP39	M75	T832M070X100RD5-A KSP39	M89	T832NF04375-20RH3-A KSP39	M78	T838M360X400R6H-D6 KSJ31	M96
T830NF#12-28RH3-A KSP39	M75	T832M080X125R6H-D1 KSP32	M94	T832NF04375-20RH4-A KSP39	M78	T838M390X400R6H-D6 KSP39	M96
T830NF02500-28R2B-D1 KSP39	M84	T832M080X125R6H-D1 KSP39	M94	T832NF05000-20RH3-A KSP39	M78	T838M390X400R6H-D6 KSJ31	M96
T830NF02500-28R3B-D1 KSP39	M87	T832M080X125RD5-A KSP39	M89	T832NF05625-18RH3-A KSP39	M78	T838M420X450R6H-D6 KSP39	M96
T830NF02500-28RH2-A KSP39	M75	T832M100X150R6H-D1 KSP32	M94	T832NF06250-18RH3-A KSP39	M78	T838M420X450R6H-D6 KSJ31	M96
T830NF02500-28RH3-A KSMN34	M75	T832M100X150R6H-D1 KSP39	M94	T832NF06250-18RH4-A KSP39	M78	T838M480X500R6H-D6 KSP39	M96
T830NF02500-28RH3-A KSP32	M75	T832M100X150RD6-A KSP39	M89	T832NF07500-16RH3-A KSP39	M78	T838M480X500R6H-D6 KSJ31	M96
T830NF02500-28RH3-A KSP39	M75	T832M120X175R6H-D6 KSP32	M94	T834M030X050RD3-A KSP32	M88	T838M520X500R6H-D6 KSP39	M96
T830NF02500-28RH4-A KSP39	M75	T832M120X175R6H-D6 KSP39	M94	T834M030X050RD3-A KSP39	M88	T838M520X500R6H-D6 KSJ31	M96
T830NF02500-28RH5-A KSP39	M75	T832M120X175RD6-A KSP39	M89	T834NC#05-40RH2-A KSP39	M74	T838M600X075R6H-D4 KSP39	M95
T830NF02500-28RH6-A KSP39	M75	T832M140X200R6H-D6 KSP32	M94	T834NC#06-32RH2-A KSP39	M74	T838M600X075R6H-D4 KSJ31	M95
T830NF02500-28RH7-A KSP39	M75	T832M140X200R6H-D6 KSP39	M94	T834NC#06-32RH3-A KSMN34	M74	T838M600X075R6H-D4 KSP39	M95
T830NF03125-24R2B-D1 KSP39	M84	T832M140X200RD7-A KSP39	M89	T834NC#06-32RH3-A KSP32	M74	T838M600X075R6H-D4 KSJ31	M95
T830NF03125-24R3B-D1 KSP39	M87	T832M160X200R6H-D6 KSP32	M94	T834NC#06-32RH4-A KSP39	M74	T838M680X075R6H-D4 KSP39	M95
T830NF03125-24RH3-A KSMN34	M75	T832M160X200RD7-A KSP39	M89	T834NC#06-32RH4-A KSP39	M74	T838M680X075R6H-D4 KSJ31	M95
T830NF03125-24RH3-A KSP32	M75	T832M180X250R6H-D6 KSP32	M94	T834NC#06-32RH5-A KSP39	M74	T838M680X100R6H-D4 KSP39	M95
T830NF03125-24RH3-A KSP39	M75	T832M180X250R6H-D6 KSP39	M94	T834NC#06-32RH5-A KSP39	M74	T838M680X100R6H-D4 KSJ31	M95
T830NF03125-24RH3-XL6 KSP39	M100	T832M200X250R6H-D6 KSP32	M94	T834NC#06-32RH7-A KSP39	M74	T838M680X100RD5-A KSP39	M90
T830NF03125-24RH5-A KSP39	M75	T832M200X250R6H-D6 KSP39	M94	T834NF#06-40RH2-A KSP39	M74	T838M680X100RD5-A KSP39	M90
T830NF03125-24RH7-A KSP39	M75	T832MF080X100R6H-D4 KSP32	M94	T834NF#06-40RH3-A KSP39	M74	T838M680X100RD5-A KSP39	M90
T830NF03750-24R2B-D1 KSP39	M84	T832MF080X100R6H-D4 KSP39	M94	T838M020X040R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF03750-24R3B-D1 KSP39	M87	T832MF080X100RD5-A KSP39	M89	T838M020X040R6H-D1 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH3-A KSMN34	M75	T832MF100X125R6H-D4 KSP32	M94	T838M030X050R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH3-A KSP32	M75	T832MF100X125RD5-A KSP39	M89	T838M030X050RD3-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH3-A KSP39	M75	T832MF120X125R6H-D4 KSP32	M94	T838M030X050RD3-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH3-XL6 KSP39	M100	T832MF120X125RD5-A KSP39	M89	T838M035X060RD4-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH4-A KSP39	M75	T832MF120X150R6H-D4 KSP32	M94	T838M040X070R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH5-A KSP39	M75	T832MF120X150R6H-D4 KSP39	M94	T838M040X070R6H-D1 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF03750-24RH6-A KSP39	M75	T832MF120X150RD5-A KSP39	M89	T838M040X070RD4-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF04375-20R2B-D6 KSP39	M84	T832MF140X150R6H-D4 KSP32	M94	T838M040X070RD4-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF04375-20R3B-D6 KSP39	M87	T832MF140X150RD6-A KSP39	M89	T838M050X080R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH3-A KSMN34	M75	T832MF160X150RD6-A KSP39	M89	T838M050X080R6H-D1 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH3-A KSP32	M75	T832MF180X150RD6-A KSP39	M89	T838M050X080R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH3-A KSP39	M75	T832NC#04-40RH2-A KSP39	M77	T838M050X080R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH3-XL6 KSP39	M100	T832NC#04-40RH2-XL6 KSP39	M101	T838M050X080RD4-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH5-A KSP39	M75	T832NC#04-40RH3-A KSP39	M77	T838M060X100R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF04375-20RH6-A KSP39	M75	T832NC#04-40RH3-XL6 KSP39	M101	T838M060X100R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF05000-20R2B-D6 KSP39	M84	T832NC#04-40RH5-A KSP39	M77	T838M060X100RD5-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF05000-20R3B-D6 KSP39	M87	T832NC#06-32RH2-A KSP39	M77	T838M060X100R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH3-A KSMN34	M75	T832NC#06-32RH2-XL6 KSP39	M101	T838M060X100R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH3-A KSP32	M75	T832NC#06-32RH3-A KSP39	M77	T838M060X100RD5-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH3-A KSP39	M75	T832NC#06-32RH3-XL6 KSP39	M101	T838M060X100RD5-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH3-XL6 KSP39	M100	T832NC#06-32RH5-A KSP39	M77	T838M060X100RD5-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH5-A KSP39	M75	T832NC#08-32RH2-A KSP39	M77	T838M070X100RD5-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH6-A KSP39	M75	T832NC#08-32RH2-XL6 KSP39	M101	T838M080X125R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF05000-20RH7-A KSP39	M75	T832NC#08-32RH3-A KSP39	M77	T838M080X125R6H-D1 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF05625-18R2B-D6 KSP39	M84	T832NC#08-32RH3-XL6 KSP39	M101	T838M080X125R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF05625-18RH3-A KSMN34	M76	T832NC#10-24RH3-A KSP39	M77	T838M080X125R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF05625-18RH3-A KSP32	M76	T832NC#10-24RH4-A KSP39	M77	T838M080X125RD5-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF05625-18RH3-A KSP39	M76	T832NC02500-20RH3-A KSP39	M77	T838M080X125RD5-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF05625-18RH5-A KSP39	M76	T832NC02500-20RH3-XL6 KSP39	M101	T838M100X150R6H-D1 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18R2B-D6 KSP39	M84	T832NC02500-20RH5-A KSP39	M77	T838M100X150R6H-D1 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH3-A KSMN34	M76	T832NC03125-18RH3-A KSP39	M77	T838M100X150R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH3-A KSP32	M76	T832NC03125-18RH3-XL6 KSP39	M101	T838M100X150R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH3-A KSP39	M76	T832NC03125-18RH5-A KSP39	M77	T838M100X150RD6-A KSP32	M90	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH5-A KSP39	M76	T832NC03750-16RH3-A KSP39	M77	T838M120X175R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH6-A KSP39	M76	T832NC03750-16RH3-XL6 KSP39	M101	T838M120X175R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF06250-18RH7-A KSP39	M76	T832NC03750-16RH5-A KSP39	M77	T838M120X175RD6-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF07500-16R2B-D6 KSP39	M84	T832NC04375-14RH3-A KSP39	M78	T838M120X175RD6-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF07500-16RH3-A KSMN34	M76	T832NC04375-14RH3-XL6 KSP39	M101	T838M140X200R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF07500-16RH3-A KSP32	M76	T832NC04375-14RH5-A KSP39	M78	T838M140X200R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF07500-16RH3-A KSP39	M76	T832NC05000-13RH3-A KSP39	M78	T838M140X200R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF07500-16RH5-A KSP39	M76	T832NC05000-13RH5-A KSP39	M78	T838M160X200R6H-D6 KSP39	M95	T838M680X100RD5-A KSP39	M90
T830NF07500-16RH7-A KSP39	M76	T832NC05625-12RH3-A KSP39	M78	T838M160X200R6H-D6 KSJ31	M95	T838M680X100RD5-A KSP39	M90
T830NF08750-14R2B-D6 KSP39	M84	T832NC06250-11RH3-A KSP39	M78	T838M160X200RD7-A KSP39	M90	T838M680X100RD5-A KSP39	M90
T830NF08750-14RH4-A KSMN34	M76	T832NC06250-11RH5-A KSP39	M78	T838M180X250R6H-D6 KSP39	M96	T838M680X100RD5-A KSP39	M90
T830NF08750-14RH4-A KSP39	M76	T832NC07500-10RH3-A KSP39	M78	T838M180X250R6H-D6 KSJ31	M96	T838M680X100RD5-A KSP39	M90
T830NF08750-9R2B-D6 KSP39	M84	T832NF#06-40RH2-A KSP39	M77	T838M200X250R6H-D6 KSP39	M96	T838M680X100RD5-A KSP39	M90
T830NF1000-12RH4-A KSP39	M76			T838M200X250R6H-D6 KSJ31	M96	T838M680X100RD5-A KSP39	M90
T830NF10000-12R2B-D6 KSP39	M84					T838M680X100RD5-A KSP39	M90

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T838NC#04-40RH2-A KSP39.....	M79	T838NC07500-10R2B-D6 KSUJ31	M85	T838NF05625-18R2B-D4 KSUJ31	M85	T839NC02500-20RH5-A KSP39.....	M82
T838NC#04-40RH3-A KSP39.....	M79	T838NC07500-10RH3-A KSP32.....	M81	T838NF05625-18RH3-A KSP39.....	M80	T839NC03125-18RH3-A KSP39.....	M82
T838NC#04-40RH4-A KSP39.....	M79	T838NC07500-10RH3-A KSP39.....	M81	T838NF05625-18RH5-A KSP39.....	M80	T839NC03125-18RH5-A KSP39.....	M82
T838NC#04-40RH5-A KSP39.....	M79	T838NC07500-10RH5-A KSP39.....	M81	T838NF06250-18R2B-D4 KSP39.....	M85	T839NC03750-16RH3-A KSP39.....	M82
T838NC#05-40RH2-A KSP39.....	M79	T838NC08750-9R2B-D6 KSP39.....	M86	T838NF06250-18R2B-D4 KSUJ31	M85	T839NC03750-16RH5-A KSP39.....	M82
T838NC#06-32R2B-D1 KSP39.....	M85	T838NC08750-9R2B-D6 KSUJ31	M86	T838NF06250-18RH3-A KSP32.....	M80	T839NC04375-14RH3-A KSP39.....	M83
T838NC#06-32R2B-D1 KSUJ31.....	M85	T838NC08750-9RH4-A KSP39.....	M81	T838NF06250-18RH3-A KSP39.....	M80	T839NC04375-14RH5-A KSP39.....	M83
T838NC#06-32RH2-A KSP39.....	M79	T838NC10000-8R2B-D6 KSP39.....	M86	T838NF06250-18RH5-A KSP39.....	M80	T839NC05000-13RH3-A KSP39.....	M83
T838NC#06-32RH3-A KSP32.....	M79	T838NC10000-8R2B-D6 KSUJ31	M86	T838NF06250-18RH6-A KSP39.....	M81	T839NC05000-13RH5-A KSP39.....	M83
T838NC#06-32RH3-A KSP39.....	M79	T838NC10000-8RH5-A KSP32.....	M81	T838NF06250-18RH7-A KSP39.....	M81	T839NC05625-12RH3-A KSP39.....	M83
T838NC#06-32RH4-A KSP39.....	M79	T838NC10000-8RH5-A KSP39.....	M81	T838NF07500-16R2B-D4 KSP39.....	M85	T839NC05625-12RH5-A KSP39.....	M83
T838NC#06-32RH5-A KSP39.....	M79	T838NC11250-7R2B-D6 KSP39.....	M86	T838NF07500-16R2B-D4 KSUJ31	M85	T839NC06250-11RH3-A KSP39.....	M83
T838NC#06-32RH7-A KSP39.....	M79	T838NC11250-7R2B-D6 KSUJ31	M86	T838NF07500-16RH3-A KSP32.....	M81	T839NC06250-11RH5-A KSP39.....	M83
T838NC#08-32R2B-D1 KSP39.....	M85	T838NC11250-7RH6-A KSP39.....	M81	T838NF07500-16RH3-A KSP39.....	M81	T839NC07500-10RH3-A KSP39.....	M83
T838NC#08-32R2B-D1 KSUJ31.....	M85	T838NC12500-7R2B-D6 KSP39.....	M86	T838NF07500-16RH5-A KSP39.....	M81	T839NF#06-40RH2-A KSP39.....	M82
T838NC#08-32RH2-A KSP39.....	M79	T838NC12500-7R2B-D6 KSUJ31	M86	T838NF07500-16RH7-A KSP39.....	M81	T839NF#06-40RH3-A KSP39.....	M82
T838NC#08-32RH3-A KSP32.....	M79	T838NC13750-6R2B-D6 KSP39.....	M86	T838NF07500-16RH7-A KSP39.....	M81	T839NF#06-40RH4-A KSP39.....	M82
T838NC#08-32RH3-A KSP39.....	M79	T838NC13750-6R2B-D6 KSUJ31	M86	T838NF07500-16RH3-A KSP39.....	M81	T839NF#10-32RH3-A KSP39.....	M82
T838NC#08-32RH4-A KSP39.....	M79	T838NC15000-6R2B-D6 KSP39.....	M86	T838NF07500-16RH4-A KSP39.....	M81	T839NF#10-32RH5-A KSP39.....	M82
T838NC#08-32RH4-A KSP39.....	M79	T838NC15000-6R2B-D6 KSUJ31	M86	T838NF10000-12R2B-D4 KSP39.....	M86	T839NF#10-32RH5-A KSP39.....	M82
T838NC#08-32RH6-A KSP39.....	M79	T838NC17500-5R2B-D6 KSP39.....	M86	T838NF10000-12R2B-D4 KSUJ31	M86	T839NF03125-24RH3-A KSP39.....	M82
T838NC#08-32RH7-A KSP39.....	M79	T838NC17500-5R2B-D6 KSUJ31	M86	T838NF10000-12R2B-D4 KSP39.....	M86	T839NF03125-24RH5-A KSP39.....	M82
T838NC#10-24R2B-D1 KSP39.....	M85	T838NC20000-4.5R2B-D6 KSP39.....	M86	T838NF11250-12R2B-D4 KSP39.....	M86	T839NF03750-24RH3-A KSP39.....	M82
T838NC#10-24R2B-D1 KSUJ31.....	M85	T838NC20000-4.5R2B-D6 KSUJ31	M86	T838NF12500-12R2B-D4 KSP39.....	M86	T839NF03750-24RH5-A KSP39.....	M82
T838NC#10-24RH2-A KSP39.....	M79	T838NC20000-4.5R2B-D6 KSP39.....	M86	T838NF12500-12R2B-D4 KSUJ31	M86	T839NF03750-24RH4-A KSP39.....	M83
T838NC#10-24RH3-A KSP32.....	M79	T838NF#04-48RH2-A KSP39.....	M79	T838NF12500-12R2B-D4 KSP39.....	M86	T839NF03750-24RH5-A KSP39.....	M83
T838NC#10-24RH3-A KSP39.....	M79	T838NF#06-40R2B-D1 KSP39.....	M85	T838NF13750-12R2B-D4 KSP39.....	M86	T839NF04375-20RH3-A KSP39.....	M83
T838NC#10-24RH4-A KSP39.....	M79	T838NF#06-40R2B-D1 KSUJ31.....	M85	T838NF13750-12R2B-D4 KSUJ31.....	M86	T839NF04375-20RH5-A KSP39.....	M83
T838NC#10-24RH5-A KSP39.....	M79	T838NF#06-40RH2-A KSP39.....	M79	T838NF15000-12R2B-D4 KSP39.....	M86	T839NF04375-20RH3-A KSP39.....	M83
T838NC#10-24RH7-A KSP39.....	M79	T838NF#06-40RH3-A KSP39.....	M79	T838NF15000-12R2B-D4 KSUJ31.....	M86	T839NF05625-18RH3-A KSP39.....	M83
T838NC#12-24R2B-D1 KSP39.....	M85	T838NF#08-36R2B-D1 KSP39.....	M85	T839M030X050R6H-D1 KSP39.....	M97	T839NF06250-18RH3-A KSP39.....	M83
T838NC#12-24R2B-D1 KSUJ31.....	M85	T838NF#08-36R2B-D1 KSUJ31.....	M85	T839M030X050R6H-D1 KSUJ31.....	M97	T839NF06250-18RH5-A KSP39.....	M83
T838NC02500-20R2B-D1 KSP39.....	M85	T838NF#10-32R2B-D1 KSP39.....	M85	T839M030X050R6H-D1 KSP39.....	M97	T839NF07500-16RH3-A KSP39.....	M83
T838NC02500-20R2B-D1 KSUJ31.....	M85	T838NF#10-32R2B-D1 KSUJ31.....	M85	T839M030X050R6H-D1 KSP39.....	M97	T839NF07500-16RH5-A KSP39.....	M83
T838NC02500-20R2B-D6 KSP39.....	M85	T838NF#10-32RH2-A KSP39.....	M79	T839M035X060R4-A KSP39.....	M91	T846NPT01250-27R-AS KSUJ30.....	M153
T838NC02500-20R2B-D6 KSUJ31.....	M85	T838NF#10-32RH3-A KSP32.....	M79	T839M040X070R6H-D1 KSP39.....	M97	T846NPT02500-18R-A KSUJ30.....	M153
T838NC02500-20RH2-A KSP39.....	M80	T838NF#10-32RH3-A KSP39.....	M79	T839M040X070R6H-D1 KSUJ31.....	M97	T846NPT03750-18R-A KSUJ30.....	M153
T838NC02500-20RH3-A KSP32.....	M80	T838NF#10-32RH4-A KSP39.....	M80	T839M040X070R6H-D1 KSP39.....	M97	T846NPT05000-14R-A KSUJ30.....	M153
T838NC02500-20RH3-A KSP39.....	M80	T838NF#10-32RH5-A KSP39.....	M80	T839M050X080R6H-D1 KSP39.....	M97	T846NPT07500-14R-A KSUJ30.....	M153
T838NC02500-20RH5-A KSP39.....	M80	T838NF#10-32RH6-A KSP39.....	M80	T839M050X080R6H-D1 KSUJ31.....	M97	T848NPT00625-27R-D55 KSUJ30.....	M156
T838NC02500-20RH7-A KSP39.....	M80	T838NF#10-32RH7-A KSP39.....	M80	T839M050X080R6H-D1 KSP39.....	M97	T848NPT01250-27R-D55 KSUJ30.....	M156
T838NC03125-18R2B-D1 KSP39.....	M85	T838NF#12-28R2B-D1 KSP39.....	M85	T839M050X080R6H-D1 KSUJ31.....	M97	T848NPT02500-18R-D55 KSUJ30.....	M156
T838NC03125-18R2B-D1 KSUJ31.....	M85	T838NF#12-28RH3-A KSP39.....	M80	T839M060X100R6H-D1 KSP39.....	M97	T848NPT03750-18R-D55 KSUJ30.....	M156
T838NC03125-18R2B-D6 KSP39.....	M85	T838NF#12-28RH3-A KSP39.....	M80	T839M060X100R6H-D1 KSUJ31.....	M97	T848NPT05000-14R-D55 KSUJ30.....	M156
T838NC03125-18R2B-D6 KSUJ31.....	M85	T838NF02500-28R2B-D1 KSP39.....	M85	T839M060X100R6H-D1 KSP39.....	M97	T848NPT07500-14R-D55 KSUJ30.....	M156
T838NC03125-18RH3-A KSP32.....	M80	T838NF02500-28R2B-D1 KSUJ31.....	M85	T839M080X125R6H-D1 KSP39.....	M97	T848NPT10000-11.5R-D55 KSUJ30.....	M156
T838NC03125-18RH3-A KSP39.....	M80	T838NF02500-28R2B-D4 KSP39.....	M85	T839M080X125R6H-D1 KSUJ31.....	M97	T854NPT00625-27R-A KSP39.....	M152
T838NC03125-18RH5-A KSP39.....	M80	T838NF02500-28RH2-A KSP39.....	M80	T839M100X150R6H-D1 KSP39.....	M97	T854NPT0625-27R-A KSUJ31.....	M152
T838NC03125-18RH7-A KSP39.....	M80	T838NF02500-28RH3-A KSP32.....	M80	T839M100X150R6H-D1 KSUJ31.....	M97	T854NPT1250-27R-A KSUJ31.....	M152
T838NC03750-16R2B-D1 KSP39.....	M85	T838NF02500-28RH4-A KSP39.....	M80	T839M120X175R6H-D6 KSP39.....	M97	T854NPT2500-18R-A KSP39.....	M152
T838NC03750-16R2B-D1 KSUJ31.....	M85	T838NF02500-28RH4-A KSP39.....	M80	T839M120X175R6H-D6 KSUJ31.....	M97	T854NPT02500-18R-A KSUJ31.....	M152
T838NC03750-16R2B-D6 KSP39.....	M85	T838NF02500-28RH5-A KSP39.....	M80	T839M120X175R6H-D6 KSP39.....	M97	T854NPT05000-18R-A KSP39.....	M152
T838NC03750-16R2B-D6 KSUJ31.....	M85	T838NF02500-28RH6-A KSP39.....	M80	T839M140X200R6H-D6 KSP39.....	M97	T854NPT07500-18R-A KSP39.....	M152
T838NC03750-16RH3-A KSP32.....	M80	T838NF02500-28RH6-A KSP39.....	M80	T839M140X200R6H-D6 KSUJ31.....	M97	T854NPT10000-14R-A KSP39.....	M152
T838NC03750-16RH3-A KSP39.....	M80	T838NF03125-24R2B-D4 KSP39.....	M85	T839M140X200R6H-D6 KSP39.....	M97	T854NPT1250-27R-A KSP39.....	M152
T838NC03750-16RH3-A KSP39.....	M80	T838NF03125-24R2B-D4 KSUJ31.....	M85	T839M160X250R6H-D6 KSP39.....	M97	T854NPT2500-18R-A KSUJ31.....	M152
T838NC04375-14R2B-D6 KSP39.....	M85	T838NF03125-24RH3-A KSP32.....	M80	T839M160X250R6H-D6 KSUJ31.....	M97	T854NPT05000-14R-A KSUJ31.....	M152
T838NC04375-14R2B-D6 KSUJ31.....	M85	T838NF03125-24RH3-A KSP39.....	M80	T839M160X250R6H-D6 KSP39.....	M97	T854NPT07500-14R-A KSUJ31.....	M152
T838NC04375-14RH3-A KSP32.....	M80	T838NF03125-24RH5-A KSP39.....	M80	T839M180X250R6H-D6 KSP39.....	M97	T854NPT10000-11.5R-A KSP39.....	M152
T838NC04375-14RH3-A KSP39.....	M80	T838NF03125-24RH7-A KSP39.....	M80	T839M180X250R6H-D6 KSUJ31.....	M97	T854NPT1250-27R-A KSP39.....	M152
T838NC04375-14RH5-A KSP39.....	M80	T838NF03750-24R2B-D4 KSP39.....	M85	T839M200X250R6H-D6 KSP39.....	M97	T854NPT2500-18R-A KSUJ31.....	M152
T838NC04375-14RH7-A KSP39.....	M80	T838NF03750-24R2B-D4 KSUJ31.....	M85	T839M200X250R6H-D6 KSUJ31.....	M97	T854NPT05000-14R-A KSP39.....	M152
T838NC05000-13R2B-D6 KSP39.....	M85	T838NF03750-24RH3-A KSP32.....	M80	T839M200X250R6H-D6 KSP39.....	M97	T854NPT07500-14R-A KSP39.....	M152
T838NC05000-13R2B-D6 KSUJ31.....	M85	T838NF03750-24RH3-A KSP39.....	M80	T839MF100X125RD5-A KSP39.....	M91	T854NPT10000-11.5R-A KSP39.....	M152
T838NC05000-13RH3-A KSP32.....	M80	T838NF03750-24RH4-A KSP39.....	M80	T839MF100X125RD5-A KSP39.....	M91	T854NPT10000-11.5R-A KSUJ31.....	M152
T838NC05000-13RH3-A KSP39.....	M80	T838NF03750-24RH5-A KSP39.....	M80	T839MF120X125RD5-A KSP39.....	M91	T854NPT0625-27R-A KSP39.....	M152
T838NC05000-13RH5-A KSP39.....	M80	T838NF03750-24RH6-A KSP39.....	M80	T839MF120X125RD5-A KSP39.....	M91	T854NPT1250-27R-A KSP39.....	M152
T838NC05000-13RH7-A KSP39.....	M80	T838NF04375-20R2B-D4 KSP39.....	M85	T839MF120X125RD5-A KSP39.....	M91	T854NPT2500-18R-A KSUJ31.....	M152
T838NC05625-12R2B-D6 KSP39.....	M85	T838NF04375-20R2B-D4 KSUJ31.....	M85	T839MF140X150RD6-A KSP39.....	M91	T854NPT05000-14R-A KSUJ31.....	M152
T838NC05625-12R2B-D6 KSUJ31.....	M85	T838NF04375-20RH3-A KSP39.....	M80	T839MF140X150RD6-A KSP39.....	M91	T854NPT07500-14R-A KSUJ31.....	M152
T838NC05625-12RH3-A KSP32.....	M80	T838NF04375-20RH5-A KSP39.....	M80	T839MF160X150RD6-A KSP39.....	M91	T854NPT10000-11.5R-A KSUJ31.....	M152
T838NC05625-12RH3-A KSP39.....	M80	T838NF04375-20RH6-A KSP39.....	M80	T839MF160X150RD6-A KSP39.....	M91	T854NPT0625-27R-A KSP39.....	M152
T838NC05625-12RH5-A KSP39.....	M80	T838NF04375-20RH7-A KSP39.....	M80	T839MF180X150RD6-A KSP39.....	M91	T854NPT1250-27R-A KSP39.....	M152
T838NC05625-12RH5-A KSP39.....	M80	T838NF05000-20R2B-D4 KSP39.....	M85	T839NF040RH2-A KSP39.....	M82	T854NPTF01250-27R-AS KSUJ31.....	M152
T838NC06250-11R2B-D6 KSP39.....	M85	T838NF05000-20R2B-D4 KSUJ31.....	M85	T839NF040RH3-A KSP39.....	M82	T854NPTF02500-18R-A KSP39.....	M152
T838NC06250-11R2B-D6 KSUJ31.....	M85	T838NF05000-20RH3-A KSP32.....	M80	T839NF040RH3-A KSP39.....	M82	T854NPTF05000-14R-A KSP39.....	M152
T838NC06250-11RH3-A KSP39.....	M80	T838NF05000-20RH3-A KSP39.....	M80	T839NF040RH4-A KSP39.....	M82	T854NPTF07500-18R-A KSP39.....	M152
T838NC06250-11RH3-A KSP39.....	M80	T838NF05000-20RH5-A KSP39.....	M80	T839NF040RH5-A KSP39.....	M82	T854NPTF10000-11.5R-A KSP39.....	M152
T838NC06250-11RH5-A KSP39.....	M80	T838NF05000-20RH5-A KSP39.....	M80	T839NF040RH6-A KSP39.....	M82	T854NPTF1250-27R-AS KSUJ31.....	M152
T838NC06250-11RH7-A KSP39.....	M80	T838NF05000-20RH7-A KSP39.....	M80	T839NF040RH7-A KSP39.....	M82	T854NPTF2500-18R-A KSP39.....	M152
T838NC07500-10R2B-D6 KSP39.....	M85	T838NF05625-18R2B-D4 KSP39.....	M85	T839NF040RH8-A KSP39.....	M82	T854NPTF05000-14R-A KSUJ31.....	M152
		T838NF05625-18R2B-D4 KSUJ31.....	M85	T839NF040RH9-A KSP39.....	M82	T854NPTF0625-27R-A KSP39.....	M152
				T839NF040RH10-A KSP39.....	M82	T854NPTF1250-27R-AS KSUJ31.....	M152
				T839NF040RH11-A KSP39.....	M82	T854NPTF2500-18R-A KSP39.....	M152
				T839NF040RH12-A KSP39.....	M82	T854NPTF05000-14R-A KSP39.....	M152
				T839NF040RH13-A KSP39.....	M82	T854NPTF07500-18R-A KSP39.....	M152
				T839NF040RH14-A KSP39.....	M82	T854NPTF10000-11.5R-A KSP39.....	M152
				T839NF040RH15-A KSP39.....	M82	T854NPTF1250-27R-AS KSUJ31.....	M152
				T839NF040RH16-A KSP39.....	M82	T854NPTF2500-18R-A KSP39.....	M152
				T839NF040RH17-A KSP39.....	M82	T854NPTF05000-14R-A KSP39.....	M152
				T839NF040RH18-A KSP39.....	M82	T854NPTF07500-18R-A KSP39.....	M152
				T839NF040RH19-A KSP39.....	M82	T854NPTF10000-11.5R-A KSP39.....	M152
				T839NF040RH20-A KSP39.....	M82	T854NPTF1250-27R-AS KSUJ31.....	M152
				T839NF040RH21-A KSP39.....	M82	T854NPTF2500-18R-A KSP39.....	M152
				T839NF040RH22-A KSP39.....	M82	T854NPTF05000-14R-A KSP39.....	M152
				T839NF040RH23-A KSP39.....	M82	T854NPTF075	

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
T857G02500-19R-D56 KSP39	M155	TCMT18151FP KCU25	B257	TCMT3251LF KCK20B	B257	TCMT432LF KCK20B	B257
T857G02500-19R-D56 KSU31	M155	TCMT18152FP KCU10	B257	TCMT3251LF KCM15	B257	TCMT432LF KCP10B	B257
T857G03750-19R-D56 KSP39	M155	TCMT18152FP KCU25	B257	TCMT3251LF KCM25	B257	TCMT432LF KCP25	B257
T857G03750-19R-D56 KSU31	M155	TCMT21505FP KCU25	B257	TCMT3251LF KCM25B	B257	TCMT432LF KCP25B	B257
T857G05000-14R-D56 KSP39	M155	TCMT21505FP KTP10	B257	TCMT3251LF KCM35	B257	TCMW3251 KCK20B	B258
T857G05000-14R-D56 KSU31	M155	TCMT21505LF KC5010	B257	TCMT3251LF KCP10	B257	TCMW3252 KCK20B	B258
T857G06250-14R-D56 KSP39	M155	TCMT21505LF KC5025	B257	TCMT3251LF KCP10B	B257	TD6P K68	B266
T857G06250-14R-D56 KSU31	M155	TCMT215111 KT315	B256	TCMT3251LF KCP25	B257	TD6P05 KC5010	B266
T857G07500-14R-D56 KSP39	M155	TCMT2151FP KCK20B	B257	TCMT3251LF KCP25B	B257	TD6P1 KC5010	B266
T857G07500-14R-D56 KSU31	M155	TCMT2151FP KCM25	B257	TCMT3251LF KT315	B257	TD6P2 KC5010	B266
T857G08750-14R-D56 KSP39	M155	TCMT2151FP KCP10	B257	TCMT3251MP KCK20B	B258	TDHB12807501 KC5010	B263
T857G08750-14R-D56 KSU31	M155	TCMT2151FP KCP25	B257	TCMT3251MP KCM25	B258	TDHB12807501 KCU25	B263
T857G10000-11R-D56 KSP39	M155	TCMT2151FP KCU10	B257	TCMT3251MP KCM25B	B258	TDHB12807501 KT315	B263
T857G10000-11R-D56 KSU31	M155	TCMT2151FP KCU25	B257	TCMT3251MP KCP25	B258	TDHB12807505 KC5010	B263
T860NF02500-28RH3-XL6 KSP39	M100	TCMT2151FP KTP10	B257	TCMT3251MP KCU10	B258	TDHB12807505 KC5025	B263
T877G01250-28R-D56 KSP39	M154	TCMT2151LF KC5010	B257	TCMT325211 KT315	B256	TDHB12807505 KCU10	B263
T877G01250-28R-D56 KSU31	M154	TCMT2151LF KC5025	B257	TCMT3252FP KCM25	B257	TDHB12807505 KCU25	B263
T877G02500-19R-D56 KSP39	M154	TCMT2151LF KCK05	B257	TCMT3252FP KCP10	B257	TDHB1280751 KC5010	B263
T877G02500-19R-D56 KSU31	M154	TCMT2151LF KCK15	B257	TCMT3252FP KCP25	B257	TDHB1280751 KC5025	B263
T877G03750-19R-D56 KSP39	M154	TCMT2151LF KCK15B	B257	TCMT3252FP KCU10	B257	TDHB1280751 KCU10	B263
T877G03750-19R-D56 KSU31	M154	TCMT2151LF KCK20	B257	TCMT3252FP KCU25	B257	TDHB1280751 KCU25	B263
T877G05000-14R-D56 KSP39	M154	TCMT2151LF KCK20B	B257	TCMT3252FP KTP10	B257	TDHB1280751 KT315	B263
T877G05000-14R-D56 KSU31	M154	TCMT2151LF KCM15	B257	TCMT3252LF KC5010	B257	TDHB1280752 KC5025	B263
T877G06250-14R-D56 KSP39	M154	TCMT2151LF KCM15B	B257	TCMT3252LF KC5025	B257	TDHH12807505L KC5010	B263
T877G06250-14R-D56 KSU31	M154	TCMT2151LF KCM25B	B257	TCMT3252LF KCK05B	B257	TDHH12807505L KCU10	B263
T877G07500-14R-D56 KSP39	M154	TCMT2151LF KCM35	B257	TCMT3252LF KCK15	B257	TDHH12807505L KCU25	B263
T877G07500-14R-D56 KSU31	M154	TCMT2151LF KCP10	B257	TCMT3252LF KCK15B	B257	TDHH12807505R KCU10	B263
T877G08750-14R-D56 KSP39	M154	TCMT2151LF KCP10B	B257	TCMT3252LF KCK20	B257	TDHH1280751L KC5010	B263
T877G08750-14R-D56 KSU31	M154	TCMT2151LF KCP25	B257	TCMT3252LF KCK20B	B257	TDHH1280751L KCU10	B263
T877G10000-11R-D56 KSP39	M154	TCMT2151LF KCP25B	B257	TCMT3252LF KCM25	B257	TDHH1280751L KCU25	B263
T877G10000-11R-D56 KSU31	M154	TCMT2151LF KCP30	B257	TCMT3252LF KCM25B	B257	TDHH1280751R KCU10	B263
T9 S	T127-128, T131	TCMT2151LF KT315	B257	TCMT3252LF KCM35	B257	THW2M	T63, T65, V77, V139-142
TB15	V12, V19, V97-98, V102-103	TCMT2151UF KC5010	B258	TCMT3252LF KCP10	B257	THW3M	U28-29, U35-37
TB20	V26	TCMT2151UF KCP25	B258	TCMT3252LF KCP10B	B257	TK01338D	E60
TCGT21505HP KC5010	B256	TCMT2152FP KCM15	B257	TCMT3252LF KCP25	B257	TK01339D	E60
TCGT21505HP KC5410	B256	TCMT2152FP KCP25	B257	TCMT3252LF KCP25B	B257	TM24D053L102Z1	W4
TCGT21505HP KCU25	B256	TCMT2152FP KCU10	B257	TCMT3252LF KCP30	B257	TM24D059L118Z1	W4
TCGT2150LF KC5025	B256	TCMT2152FP KCU25	B257	TCMT3252LF KT315	B257	TM24D063L110Z2	W4
TCGT2150LF KCU10	B256	TCMT2152LF KC5010	B257	TCMT3252MF KCK15	B258	TM24D063L142Z1	W4
TCGT2151HP K313	B256	TCMT2152LF KC5025	B257	TCMT3252MF KCK15B	B258	TM24EN14BSF KC610M	W6
TCGT2151HP KC5010	B256	TCMT2152LF KCK05	B257	TCMT3252MF KCK20	B258	TM24EN14BSF KC635M	W6
TCGT2151HP KC5025	B256	TCMT2152LF KCK15	B257	TCMT3252MF KCK20B	B258	TM24EN18NPT KC610M	W6
TCGT2151HP KC5410	B256	TCMT2152LF KCK15B	B257	TCMT3252MF KCM25	B258	TM24EN18NPT KC610M	W6
TCGT2151HP KCU10	B256	TCMT2152LF KCK20	B257	TCMT3252MF KCM25B	B258	TM24EN18NPT KC635M	W7
TCGT2151HP KCU25	B256	TCMT2152LF KCK20B	B257	TCMT3252MF KCM35	B258	TM24EN18NPT KC635M	W7
TCGT2151LF KC5010	B256	TCMT2152LF KCM15	B257	TCMT3252MF KCP10	B258	TM24EN19BSF KC610M	W6
TCGT2151LF KC5025	B256	TCMT2152LF KCM25B	B257	TCMT3252MF KCP25	B258	TM24EN19BSF KC635M	W6
TCGT2151LF KCU10	B256	TCMT2152LF KCP10	B257	TCMT3252MF KCP25B	B258	TM24EN19BSPT KC610M	W7
TCGT2152HP KC5010	B256	TCMT2152LF KCP25	B257	TCMT3252MF KCP30	B258	TM24EN19BSPT KC635M	W7
TCGT32505HP KC5010	B256	TCMT2152LF KCP25B	B257	TCMT3252MP KCK20B	B258	TM24ENBLANK	W7
TCGT32505HP KCU25	B256	TCMT2152LF KCP30	B257	TCMT3252MP KCM15	B258	TM24N050ISO KC610M	W6
TCGT32505LF KC5010	B256	TCMT2152LF KT315	B257	TCMT3252MP KCM25	B258	TM24N050ISO KC635M	W6
TCGT3250LF KCU10	B256	TCMT2152MF KCK15	B258	TCMT3252MP KCM25B	B258	TM24N075ISO KC610M	W6
TCGT3251HP K313	B256	TCMT2152MF KCK20	B258	TCMT3252MP KCM35	B258	TM24N075ISO KC635M	W6
TCGT3251HP KC5010	B256	TCMT2152MF KCK20B	B258	TCMT3252MP KCP10	B258	TM24N100ISO KC610M	W6
TCGT3251HP KC5025	B256	TCMT2152MF KCM25B	B258	TCMT3252MP KCP25	B258	TM24N100ISO KC635M	W6
TCGT3251HP KC5410	B256	TCMT2152MF KCP25	B258	TCMT3252UF KC5010	B258	TM24N10UN KC610M	W6
TCGT3251HP KCU10	B256	TCMT2152MF KCP25B	B258	TCMT3252UF KCP25	B258	TM24N10UN KC635M	W6
TCGT3251LF KC5010	B256	TCMT2152MP KCK20B	B258	TCMT3253FP KCP10	B257	TM24N125ISO KC610M	W6
TCGT3251LF KCU10	B256	TCMT2152MP KCP25	B258	TCMT3253FP KCU10	B257	TM24N125ISO KC635M	W6
TCGT3252HP K313	B256	TCMT2152MP KCU10	B258	TCMT3253FP KCU25	B257	TM24N12UN KC610M	W6
TCGT3252HP KC5010	B256	TCMT2152UF KC5010	B258	TCMT3253LF KC5010	B257	TM24N12UN KC635M	W6
TCGT3252HP KC5025	B256	TCMT221FP KCP10B	B257	TCMT3253LF KCK15	B257	TM24N14UN KC610M	W6
TCGT3252HP KC5410	B256	TCMT221FP KCU10	B257	TCMT3253LF KCK20	B257	TM24N14UN KC635M	W6
TCGT3252HP KCU10	B256	TCMT221FP KCU25	B257	TCMT3253LF KCK20B	B257	TM24N150ISO KC610M	W6
TCGT3252LF KC5010	B256	TCMT222FP KCP05	B257	TCMT3253LF KCM25	B257	TM24N150ISO KC635M	W6
TCGT3252LF KCU10	B256	TCMT222FP KCU10	B257	TCMT3253MF KCK20	B258	TM24N16UN KC610M	W6
TCGW181505S0415MT KBH20	B338	TCMT222FP KCU25	B257	TCMT3253MF KCM25	B258	TM24N16UN KC635M	W6
TCGW18151S0415MT KBH20	B338	TCMT223FP KCP05	B257	TCMT3253MF KCK20	B258	TM24N175ISO KC610M	W6
TCGW21505S0415MT KBH10	B338	TCMT223FP KCU10	B257	TCMT3253MF KCK20B	B258	TM24N175ISO KC635M	W6
TCGW21505S0415MT KBH20	B338	TCMT32505LF KC5010	B257	TCMT3253MF KCM25B	B258	TM24N18UN KC610M	W6
TCGW2151FST KD1400	B366	TCMT32505LF KC5025	B257	TCMT3253MF KCP10	B258	TM24N18UN KC635M	W6
TCGW2151FST KD1425	B366	TCMT325111 KT315	B256	TCMT3253MF KCP25B	B258	TM24N200ISO KC610M	W6
TCGW2151S0415MT KBH10	B338	TCMT3251FP KCP10	B257	TCMT3253MP KCP25	B258	TM24N200ISO KC635M	W6
TCGW2151S0415MT KBH20	B338	TCMT3251FP KCP25	B257	TCMT432FP KCM25	B257	TM24N24UN KC610M	W6
TCGW2151S0525MT KBH10	B338	TCMT3251FP KCU10	B257	TCMT432FP KCP05	B257	TM24N24UN KC635M	W6
TCGW2152S0415MT KBH10	B338	TCMT3251FP KCU25	B257	TCMT432FP KCP25	B257	TM24N24UN KC610M	W6
TCGW2152S0415MT KBH20	B338	TCMT3251LF KC5010	B257	TCMT432FP KCU10	B257	TM24N24UN KC635M	W6
TCGW2152S0525MT KBH10	B338	TCMT3251LF KC5025	B257	TCMT432FP KCU25	B257	TM24N250ISO KC610M	W6
TCGW3251FST KD1400	B366	TCMT3251LF KCK05	B257	TCMT432LF KC5010	B257	TM24N250ISO KC635M	W6
TCMT18151FP KCP25B	B257	TCMT3251LF KCK15	B257	TCMT432LF KC5025	B257	TM24N28UN KC610M	W6
TCMT18151FP KCU10	B257	TCMT3251LF KCK20	B257	TCMT432LF KCK15B	B257	TM24N28UN KC635M	W6

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
TM24N32UN KC610M	W6	TM40N300ISO KC610M	W20	TM731M100X150R2DHA KCU32	M167	TNGA433T0820 KY1615	B339
TM24N32UN KC635M	W6	TM40N300ISO KC635M	W20	TM731M120X175R2DHA KCU32	M167	TNGG3305FF KC5025	B121
TM25BLANK	W15	TM40N8UN KC610M	W20	TM731M160X200R2DHA KCU32	M167	TNGG3305LF KC5010	B121
TM25D17L2622	W10	TM40N8UN KC635M	W20	TM731MF080X100R2DHA KCU32	M167	TNGG3305LF KCU10	B121
TM25D17L3622	W10	TM40N9UN KC610M	W20	TM741M060X100R2DHA KCU36	M169	TNGG331FF KC5010	B121
TM25D20L3723	W10	TM41D083L17721	W24	TM741M080X125R2DHA KCU36	M169	TNGG331FF KC5025	B121
TM25D20L4423	W10	TM41D097L16922	W24	TM741M100X150R2DHA KCU36	M169	TNGG331FF KCU10	B121
TM25D22L4323	W10	TM41D118L256Z3	W24	TM741M120X175R2DHA KCU36	M169	TNGG331LF KC5010	B121
TM25D22L5523	W10	TM41D142L169Z5	W24	TM741M140X200R2DHA KCU36	M169	TNGG332LF KC5010	B121
TM25D30L5525	W10	TM41D142L256Z4	W24	TM741M160X200R2DHA KCU36	M169	TNGG432FF KCU10	B121
TM25EN115NPT KC610M	W15	TM41EN8NPT KC610M	W26	TM741M180X250R2DHA KCU36	M169	TNGM332S0525MTCB1 KBH20	B340
TM25EN115NPT KC635M	W15	TM41EN8NPT KC635M	W26	TM741M200X250R2DHA KCU36	M169	TNGN234S0820 KBK45	B306
TM25EN11BSPT KC610M	W15	TM41ENBLANK	W26	TM741MF080X100R2DHA KCU36	M169	TNGG3305LF KCU10	B306
TM25EN11W KC610M	W15	TM41N300ISO KC610M	W26	TM741MF100X100R2DHA KCU36	M169	TNGP3305 KC5010	B121
TM25EN11W KC635M	W15	TM41N300ISO KC635M	W26	TM741MF100X125R2DHA KCU36	M169	TNGP3305 KCU10	B121
TM25EN12W KC610M	W15	TM41N350ISO KC610M	W26	TM741MF120X150R2DHA KCU36	M169	TNGP331 KC5010	B121
TM25EN14BSPT KC610M	W15	TM41N350ISO KC635M	W26	TM741NC0500-13R2DHA KCU36	M168	TNGP331 KC5410	B121
TM25EN14NPT KC610M	W15	TM41N400ISO KC610M	W26	TM741NC0750-10R2DHA KCU36	M168	TNGP331 KCU10	B121
TM25EN14NPT KC635M	W15	TM41N400ISO KC635M	W26	TM741NC0750-16R2DHA KCU36	M168	TNGP332 KC5010	B121
TM25EN14W KC610M	W15	TM41N450ISO KC610M	W26	TM741NC2500-20R2DHA KCU36	M168	TNGP332 KC5410	B121
TM25EN14W KC635M	W15	TM41N450ISO KC635M	W26	TM741NC3125-18R2DHA KCU36	M168	TNGP332 KCU10	B121
TM25INSERTSCREW	W4-5, W10-13, W17-19, W24-25	TM41N45UN KC610M	W26	TM741NC3750-16R2DHA KCU36	M168	TNGX334S0820 KBK45	B308
TM25N100ISO KC610M	W14	TM41N45UN KC635M	W26	TM741NF0500-20R2DHA KCU36	M168	TNMA332 K68	B122
TM25N100ISO KC635M	W14	TM41N4UN KC610M	W26	TM741NF0625-18R2DHA KCU36	M168	TNMA332 KCK15	B122
TM25N10UN KC610M	W14	TM41N4UN KC635M	W26	TM741NF2500-28R2DHA KCU36	M168	TNMA332 KCK15B	B122
TM25N10UN KC635M	W14	TM41N500ISO KC610M	W26	TM741NF3125-24R2DHA KCU36	M168	TNMA332 KCK20	B122
TM25N12UN KC610M	W14	TM41N500ISO KC635M	W26	TM741NF3750-24R2DHA KCU36	M168	TNMA332 KCK20B	B122
TM25N12UN KC635M	W14	TM41N550ISO KC610M	W26	TMC25D30L80Z4	W10	TNMA333 KCK15	B122
TM25N14UN KC610M	W14	TM41N550ISO KC635M	W26	TMS25D154L126Z5	W12	TNMA333 KCK20	B122
TM25N14UN KC635M	W14	TM41N5UN KC610M	W26	TMS25D193L138Z7	W12	TNMA334 KCK15	B122
TM25N150ISO KC610M	W14	TM41N5UN KC635M	W26	TMS25D232L158Z9	W12	TNMA334 KCK20	B122
TM25N150ISO KC635M	W14	TM41N600ISO KC610M	W26	TMS25D36L34Z5	W10	TNMA432 K68	B122
TM25N16UN KC610M	W14	TM41N600ISO KC635M	W26	TMS25D44L38Z6	W10	TNMA432 KCK05	B122
TM25N16UN KC635M	W14	TM41N6UN KC610M	W26	TMS25D52L40Z8	W10	TNMA432 KCK20B	B122
TM25N18UN KC610M	W14	TM41N6UN KC635M	W26	TMS40D193L19Z7	W18	TNMA433 KCK15B	B122
TM25N200ISO KC610M	W14	TM41N7UN KC610M	W26	TMS40D232L200Z9	W18	TNMA433 KCK20B	B122
TM25N200ISO KC635M	W14	TM41N7UN KC635M	W26	TMS41D210L200Z5	W25	TNMA544 KCK15	B122
TM25N20UN KC610M	W14	TM41N8UN KC610M	W26	TMS41D250L200Z6	W25	TNMG221FF KCU10	B123
TM25N20UN KC635M	W14	TM41N8UN KC635M	W26	TMST25D154L126Z5	W13	TNMG221FN KCP25	B123
TM25N250ISO KC610M	W14	TM711M030X050R2DHA KCU33	M165	TMST40D193L19Z7	W19	TNMG222FF KC5010	B123
TM25N250ISO KC635M	W14	TM711M040X070R2DHA KCU33	M165	TMT24D055L10Z21	W5	TNMG222FN KCP10	B123
TM25N300ISO KC610M	W14	TM711M050X080R2DHA KCU33	M165	TMT25D067L110Z2	W11	TNMG222FN KCP25	B123
TM25N300ISO KC635M	W14	TM711M060X100R2DHA KCU33	M165	TMT25D087L170Z3	W11	TNMG3305MS KC5010	B125
TM25N8UN KC610M	W14	TM711M080X125R2DHA KCU33	M165	TMT25D110L170Z4	W11	TNMG3305MS KC5025	B125
TM25N8UN KC635M	W14	TM711M100X150R2DHA KCU33	M165	TMT25D17L26Z2	W11	TNMG3305MS KCU10	B125
TM25N9UN KC610M	W14	TM711M120X175R2DHA KCU33	M165	TMT25D22L43Z3	W11	TNMG3305MS KCU25	B125
TM25N9UN KC635M	W14	TM711M140X200R2DHA KCU33	M165	TMT25D28L43Z4	W11	TNMG331FF KC5010	B123
TM40D087L169Z3	W17	TM711M160X200R2DHA KCU33	M165	TNG222T0820 KY1615	B339	TNMG331FF KCM15B	B123
TM40D087L256Z3	W17	TM711M180X250R2DHA KCU33	M165	TNG331T0820 KY1615	B339	TNMG331FF KCP10	B123
TM40D118L215Z4	W17	TM711M200X250R2DHA KCU33	M165	TNG332T0820 KY1615	B319, B339	TNMG331FF KCP10	B123
TM40D118L315Z3	W17	TM711MF040X050R2DHA KCU33	M165	TNG332T0820 KY3500	B339	TNMG331FF KT315	B123
TM40EN008NPT KC610M	W20	TM711MF050X050R2DHA KCU33	M165	TNG333T0820 KY1615	B339	TNMG331FN KCK05	B123
TM40EN008NPT KC635M	W20	TM711MF060X075R2DHA KCU33	M165	TNG334T0820 KY1615	B339	TNMG331FN KCK15B	B123
TM40EN008NPTF KC610M	W21	TM711MF080X100R2DHA KCU33	M165	TNG352T0820 KY1615	B339	TNMG331FN KCP05	B123
TM40EN008NPTF KC635M	W21	TM711MF100X100R2DHA KCU33	M165	TNG353T0820 KY1615	B339	TNMG331FN KCP10	B123
TM40EN011BSPT KC610M	W21	TM711MF120X100R2DHA KCU33	M165	TNG432T0820 KY1615	B339	TNMG331FN KCP10B	B123
TM40EN011BSPT KC635M	W21	TM711MF120X150R2DHA KCU33	M165	TNG433T0420 KYS25	B354	TNMG331FN KCP10B	B123
TM40EN115NPT KC610M	W20	TM711MF140X150R2DHA KCU33	M165	TNG434T0420 KYS25	B354	TNMG331FN KCP25B	B123
TM40EN115NPTF KC610M	W21	TM711MF160X150R2DHA KCU33	M165	TNG434T0820 KY3500	B319	TNMG331FN KT315	B123
TM40EN11BSF KC610M	W20	TM711MF180X150R2DHA KCU33	M165	TNGA331S0415MT KBH10	B339	TNMG331FF KC5010	B123
TM40EN11BSF KC635M	W20	TM711MF200X150R2DHA KCU33	M165	TNGA331S0415MT KBH20	B339	TNMG331FF KCM15	B123
TM40EN12BSF KC610M	W20	TM721M060X100R2DHA KCU32	M166	TNGA331S0525MT KBH20	B339	TNMG331FF KCU10	B123
TM40EN14BSF KC610M	W20	TM721M080X125R2DHA KCU32	M166	TNGA331S0735MT KBH20	B339	TNMG331FF KT315	B123
TM40EN16BSF KC610M	W20	TM721M100X150R2DHA KCU32	M166	TNGA332S0415MT KBH10	B339	TNMG331FW KC5010	B124
TM40ENBLANK	W21	TM721M120X175R2DHA KCU32	M166	TNGA332S0415MT KBH20	B339	TNMG331FW KCP05	B124
TM40N100ISO KC610M	W20	TM721M140X200R2DHA KCU32	M166	TNGA332S0525MT KBH20	B339	TNMG331FW KCU10	B124
TM40N100ISO KC635M	W20	TM721M160X200R2DHA KCU32	M166	TNGA332S0735MT KBH10	B339	TNMG331FW KCP10	B124
TM40N10UN KC610M	W20	TM721M180X200R2DHA KCU32	M166	TNGA332S0735MT KBH20	B339	TNMG331MN KCP10	B124
TM40N12UN KC610M	W20	TM721MF120X125R2DHA KCU32	M166	TNGA332T0820 KY1615	B339	TNMG331MN KCP10B	B124
TM40N12UN KC635M	W20	TM721MF140X150R2DHA KCU32	M166	TNGA332T0820 KY3500	B314	TNMG331MN KCP25	B124
TM40N14UN KC610M	W20	TM721NC0500-13R2DHA KCU32	M166	TNGA332T0820 KYK10	B314	TNMG331MN KCP25B	B124
TM40N150ISO KC610M	W20	TM721NC0625-11R2DHA KCU32	M166	TNGA333S0415MT KBH10	B339	TNMG331MN KCP30	B124
TM40N150ISO KC635M	W20	TM721NC2500-20R2DHA KCU32	M166	TNGA333S0415MT KBH20	B339	TNMG331MP KC5010	B124
TM40N16UN KC610M	W20	TM721NC3125-18R2DHA KCU32	M166	TNGA333S0525MT KBH10	B339	TNMG331MP KC510	B124
TM40N16UN KC635M	W20	TM721NC3750-16R2DHA KCU32	M166	TNGA333S0525MT KBH20	B339	TNMG331MP KCM15	B124
TM40N18UN KC610M	W20	TM721NC4375-14R2DHA KCU32	M166	TNGA333S0735MT KBH10	B339	TNMG331MP KCM15B	B124
TM40N200ISO KC610M	W20	TM721NC5625-12R2DHA KCU32	M166	TNGA333S0735MT KBH20	B339	TNMG331MP KCM25B	B124
TM40N200ISO KC635M	W20	TM731M040X070R2DHA KCU32	M167	TNGA333T0820 KY1615	B339	TNMG331MP KCM35B	B124
TM40N20UN KC610M	W20	TM731M050X080R2DHA KCU32	M167	TNGA333T0820 KY3500	B314	TNMG331MP KCU10	B124
TM40N20UN KC635M	W20	TM731M060X100R2DHA KCU32	M167	TNGA334T0820 KY3500	B314	TNMG331MS KC5010	B125
TM40N250ISO KC610M	W20	TM731M080X125R2DHA KCU32	M167	TNGA432T0820 KY1615	B339	TNMG331MS KC5025	B125

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
TNMG331MS KCU10	B125	TNMG332UP KCM15	B128	TNMG432MS KCU10	B125	TNMG543RP KCM25B	B127
TNMG331MS KCU25	B125	TNMG332UP KCM25	B128	TNMG432MS KCU25	B125	TNMG543RP KCM35	B127
TNMG331P KC5010	B126	TNMG333FN KCK05	B123	TNMG432P KCU10	B126	TNMG543RP KCP10	B127
TNMG331P KCU10	B126	TNMG333FN KCP05	B123	TNMG432RN KCP10B	B126	TNMG543RP KCP25	B127
TNMG331UP KCM25	B128	TNMG333FN KCP10B	B123	TNMG432RN KCP25	B126	TNMG543RP KCU10	B127
TNMG332CT KCPK05	B122	TNMG333FN KCP25	B123	TNMG432RN KCP25B	B126	TNMG543RP KCU25	B127
TNMG332FF KC5010	B123	TNMG333FN KT315	B123	TNMG432RN KCP30	B126	TNMG544MS K313	B125
TNMG332FF KCP05	B123	TNMG333FP KC5010	B123	TNMG432RN KCP30B	B126	TNMG544RN KCP10	B126
TNMG332FF KCP10B	B123	TNMG333FP KCM15	B123	TNMG432RN KCP40	B126	TNMG544RN KCP25	B126
TNMG332FF KCU10	B123	TNMG333FP KCU10	B123	TNMG432RN KCP40B	B126	TNMG544RN KCP25B	B126
TNMG332FF KT315	B123	TNMG333FW KCP05	B124	TNMG432RP KC5010	B127	TNMG544RN KCP30B	B126
TNMG332FN KCK05	B123	TNMG333FW KCP10B	B124	TNMG432RP KC5025	B127	TNMG544RN KCP40B	B126
TNMG332FN KCK15B	B123	TNMG333FW KT315	B124	TNMG432RP KCK20B	B127	TNMG544RP KCP25	B127
TNMG332FN KCP05B	B123	TNMG333MN KCP10B	B124	TNMG432RP KCM25	B127	TNMG544RP KCP25B	B127
TNMG332FN KCP10	B123	TNMG333MN KCP25	B124	TNMG432RP KCM25B	B127	TNMG544RP KCU10	B127
TNMG332FN KCP10B	B123	TNMG333MN KCP25B	B124	TNMG432RP KCP10B	B127	TNMG544RP KCP25	B122
TNMG332FN KCP25	B123	TNMG333MN KCP40	B124	TNMG432RP KCP25	B127	TNMG666 KCP40	B122
TNMG332FN KCP25B	B123	TNMG333MP KC5010	B124	TNMG432RP KCP25B	B127	TNMG666RN KCP10B	B126
TNMG332FN KT315	B123	TNMG333MP KCM15B	B124	TNMG432RP KCP40B	B127	TNMG666RN KCP25	B126
TNMG332FP KC5010	B123	TNMG333MP KCM25	B124	TNMG432RP KCU10	B127	TNMG666RN KCP25B	B126
TNMG332FP KCM15	B123	TNMG333MP KCM25B	B124	TNMG432RP KCU25	B127	TNMG666RN KCP30B	B126
TNMG332FP KCP10	B123	TNMG333MR KCK15B	B125	TNMG432UN KCK20	B127	TNMG666RN KCP40B	B126
TNMG332FP KCU10	B123	TNMG333MR KCP10B	B125	TNMG432UP KCM25	B128	TNMG666RP KCM25	B127
TNMG332FP KT315	B123	TNMG333MR KCP25B	B125	TNMG432UP KCM35	B128	TNMG666RP KCP25	B127
TNMG332FW KCP05	B124	TNMG333MW KCP10	B126	TNMG433 K68	B122	TNMG666RP KCP40	B127
TNMG332FW KCP10B	B124	TNMG333MW KCP10B	B126	TNMG433FN KCP10B	B123	TNMG666RP KCP40B	B127
TNMG332FW KT315	B124	TNMG333MW KCP25	B126	TNMG433FN KCP25	B123	TNMG666RP KCU10	B127
TNMG332MG KCP10B	B125	TNMG333RN KCP10B	B126	TNMG433MN KCP10B	B124	TNMG332RM KCP25	B128
TNMG332MN KCP05	B124	TNMG333RN KCP25	B126	TNMG433MN KCP25	B124	TNMG332RM KCP25B	B128
TNMG332MN KCP10	B124	TNMG333RN KCP25B	B126	TNMG433MN KCP25B	B124	TNMG332RM KCP30	B128
TNMG332MN KCP10B	B124	TNMG333RN KCP30	B126	TNMG433MN KCP30	B124	TNMG333RM KCP25	B128
TNMG332MN KCP25	B124	TNMG333RP KC5025	B127	TNMG433MN KCP40B	B124	TNMG432RM KCP25B	B128
TNMG332MN KCP25B	B124	TNMG333RP KCK20	B127	TNMG433MP KC5010	B124	TNMM432RP KCP10	B129
TNMG332MN KCP30	B124	TNMG333RP KCM25	B127	TNMG433MP KCM25	B124	TNMM432RP KCP10B	B129
TNMG332MN KCP30B	B124	TNMG333RP KCM35	B127	TNMG433MP KCM25B	B124	TNMM433RM KCP25	B128
TNMG332MP KC5010	B124	TNMG333RP KCP05	B127	TNMG433MR KCM25B	B125	TNMM433RM KCP25B	B128
TNMG332MP KCM15	B124	TNMG333RP KCP10	B127	TNMG433MS KCU10	B125	TNMM433RM KCP30	B128
TNMG332MP KCM15B	B124	TNMG333RP KCP10B	B127	TNMG433MS KCU25	B125	TNMM433RP KCM25B	B129
TNMG332MP KCM25	B124	TNMG333RP KCP25	B127	TNMG433P KCU10	B126	TNMM433RP KCP25	B129
TNMG332MP KCM25B	B124	TNMG333RP KCP25B	B127	TNMG433RN KCP10	B126	TNMM434RM KCP25B	B128
TNMG332MP KCM35	B124	TNMG333RP KCU25	B127	TNMG433RN KCP10B	B126	TNMM434RP KCP10	B129
TNMG332MP KCM35B	B124	TNMG333UN KCK05	B127	TNMG433RN KCP25	B126	TNMM434RP KCP10B	B129
TNMG332MP KCP25	B124	TNMG333UN KCK05B	B127	TNMG433RN KCP25B	B126	TNMM543RM KCP25	B128
TNMG332MP KCP25B	B124	TNMG333UN KCK15B	B127	TNMG433RN KCP30B	B126	TNMM543RM KCP30	B128
TNMG332MP KCU10	B124	TNMG333UN KCK20	B127	TNMG433RN KCP40B	B126	TNMM544RN KCP25	B128
TNMG332MR KCM25	B125	TNMG333UN KCK20B	B127	TNMG433RP KCM25	B127	TNMM666MR KCP25B	B128
TNMG332MR KCM25B	B125	TNMG334RP KCP10	B127	TNMG433RP KCM25B	B127	TNMP331 K313	B129
TNMG332MR KCP10B	B125	TNMG334UN KCK20	B127	TNMG433RP KCU10	B127	TNMP331K KCP25B	B129
TNMG332MR KCP25B	B125	TNMG431FN KCP25	B123	TNMG433RP KCP25B	B127	TNMP332 K313	B129
TNMG332MS KC5010	B125	TNMG431FP KC5010	B123	TNMG433RP KCP25B	B127	TNMP332K KCP25	B129
TNMG332MS KC5025	B125	TNMG431FP KCM15	B123	TNMG433RP KCP40	B127	TNMP332K KCP25B	B129
TNMG332MS KCU10	B125	TNMG431FP KCM25B	B123	TNMG433RP KCU10	B127	TNMP432K KCP25	B129
TNMG332MS KCU25	B125	TNMG431FP KCU10	B123	TNMG433RP KCU25	B127	TNMP432K KCP25B	B129
TNMG332MW KCP05	B126	TNMG431MN KCP10	B124	TNMG433UN KCK15	B127	TNMP434 K68	B129
TNMG332MW KCP10	B126	TNMG431MN KCP25	B124	TNMG433UN KCK20	B127	TNMS331 K68	B130
TNMG332MW KCP25	B126	TNMG431MN KCP25B	B124	TNMG434RN KCP25	B126	TNMS331FST KD1400	B366
TNMG332MW KCP25B	B126	TNMG431MN KCP30	B124	TNMG434RN KCP25B	B126	TNMS331FST KD1425	B366
TNMG332P KCU10	B126	TNMG431MS KC5010	B125	TNMG434RP KCK15	B127	TNMS332 K68	B130
TNMG332RN KCP10	B126	TNMG431MS KC5025	B125	TNMG434RP KCM25	B127	TNMS332FST KD1400	B366
TNMG332RN KCP10B	B126	TNMG431MS KCU10	B125	TNMG434RP KCU10	B127	TNMS332FST KD1425	B366
TNMG332RN KCP25	B126	TNMG431MS KCU25	B125	TNMG434RP KCP25B	B127	TNMS432 K68	B130
TNMG332RN KCP25B	B126	TNMG431P KCU10	B126	TNMG434RP KCU25	B127	TNMS432 KC5410	B130
TNMG332RN KCP30	B126	TNMG432FN KCP10B	B123	TNMG434UN KCK20	B127	TP15	V114
TNMG332RP KC5010	B127	TNMG432FN KCP25	B123	TNMG438RP KC5010	B127	TP20	T96-99, V25-26
TNMG332RP KC5025	B127	TNMG432FP KCM15	B123	TNMG438RP KCK20	B127	TP7	V4-5
TNMG332RP KCK05	B127	TNMG432FP KCU10	B123	TNMG438RP KCP10B	B127	TP8	V111, V113-114
TNMG332RP KCK20	B127	TNMG432MN KCP10	B124	TNMG438RP KCP25B	B127	TPCB2205 KC5010	B266
TNMG332RP KCM15	B127	TNMG432MN KCP10B	B124	TNMG438RP KCP30	B127	TPCG2205L KC5010	B266
TNMG332RP KCM25	B127	TNMG432MN KCP25	B124	TNMG542MS KC5025	B125	TPCG221L KC5010	B266
TNMG332RP KCP05	B127	TNMG432MN KCP25B	B124	TNMG542MS KCU25	B125	TPCG222L KC5010	B266
TNMG332RP KCP10	B127	TNMG432MN KCP40	B124	TNMG542RN KCP10	B126	TPCH2205 KC5010	B266
TNMG332RP KCP10B	B127	TNMG432MP KC5010	B124	TNMG542RN KCP25	B126	TPCH221 KC5010	B266
TNMG332RP KCP25	B127	TNMG432MP KCM15B	B124	TNMG542RN KCP25B	B126	TPG221 K313	B177
TNMG332RP KCP25B	B127	TNMG432MP KCM25	B124	TNMG542RN KCP30	B126	TPG221 K68	B177
TNMG332RP KCP30	B127	TNMG432MP KCM25B	B124	TNMG543MR KCP25B	B125	TPG221 KC5010	B177
TNMG332RP KCU10	B127	TNMG432MP KCP10B	B124	TNMG543RN KCP10	B126	TPG221 KCU10	B177
TNMG332RP KCU25	B127	TNMG432MP KCU10	B124	TNMG543RN KCP10B	B126	TPG221F KD1425	B367
TNMG332UN KCK05	B127	TNMG432MR KCM25	B125	TNMG543RN KCP25	B126	TPG221T0420 KY1615	B340
TNMG332UN KCK15	B127	TNMG432MR KCP25B	B125	TNMG543RN KCP30B	B126	TPG222 K68	B177
TNMG332UN KCK15B	B127	TNMG432MS K313	B125	TNMG543RN KCP40	B126	TPG222 KC5010	B177
TNMG332UN KCK20	B127	TNMG432MS KC5010	B125	TNMG543RP KC5010	B127	TPG222 KCU10	B177
TNMG332UN KCK20B	B127	TNMG432MS KC5025	B125	TNMG543RP KCM15	B127	TPG222T0420 KY1615	B340

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
TPG223T0420 KY1615.....	B340	TPGT3251HP KC5010	B267	TPMT2151LF KCM25B	B268	TPU321 K68	B178
TPG3205 K313.....	B177	TPGT3251HP KC5025	B267	TPMT2151LF KCP10	B268	TPU321 KCK15B.....	B178
TPG3205 K68	B177	TPGT3251HP KC5410	B267	TPMT2151LF KCP10B.....	B268	TPU321 KCP25B.....	B178
TPG3205 KC5010	B177	TPGT3251HP KCU10	B267	TPMT2151LF KCP25	B268	TPU321T0220 KY1615.....	B341
TPG321 K313.....	B177	TPGT3251HP KCQ25	B267	TPMT2151LF KCP25B	B268	TPU322 K68	B178
TPG321 K68	B177	TPGT3251LF KC5010	B267	TPMT2151LF KT315.....	B268	TPU322 KCK15B.....	B178
TPG321 KC5010.....	B177	TPGT3251LF KC5025.....	B267	TPMT2151UF KC5010.....	B269	TPU322 KCP25B.....	B178
TPG321 KCU10.....	B177	TPGT3252HP KC5010.....	B267	TPMT2151UF KCP05.....	B269	TPU322T0220 KY1615.....	B341
TPG321F KD1425.....	B367	TPGT3252HP KC5410.....	B267	TPMT2152FP KCU10.....	B267	TPU323T0220 KY1615.....	B341
TPG321T0220 KY1615.....	B340	TPGT3252HP KCU10.....	B267	TPMT2152LF KC5010.....	B268	TPU432 K68	B178
TPG321T0420 KY1615.....	B340	TPGT3252HP KCQ25.....	B267	TPMT2152LF KC5025.....	B268	TPU432 KCK15B.....	B178
TPG322 K313.....	B177	TPGT3252LF KC5010.....	B267	TPMT2152LF KCM25.....	B268	TPU432 KCP25B.....	B178
TPG322 K68	B177	TPGT3252LF KC5410.....	B267	TPMT2152LF KCP10B.....	B268	TPU433 K68	B178
TPG322 KC5010.....	B177	TPGT3252LF KCU10.....	B267	TPMT2152LF KCP25.....	B268	TPU433 KCK15B.....	B178
TPG322 KCU10.....	B177	TPGW2150S0415MT KBH20.....	B341	TPMT2152LF KCP25B.....	B268	TPU433 KCP25B.....	B178
TPG322F KD1425.....	B367	TPGW2151EC KB1345.....	B312	TPMT2152LF KT315.....	B268	TRAOL1615D.....	E70
TPG322T0220 KY1615.....	B340	TPGW2151FST KD1400.....	B367	TPMT2152MF KCK15.....	B268	TRAOL162D.....	E70
TPG322T0420 KY1615.....	B340	TPGW2151FST KD1425.....	B367	TPMT2152MF KCK20.....	B268	TRAOL163D.....	E70
TPG322T0820 KY3500.....	B320	TPGW2151S0415MT KBH20.....	B341	TPMT2152MF KCM25.....	B268	TRAOL164D.....	E70
TPG323 K313.....	B177	TPGW2152FST KD1400.....	B367	TPMT2152MF KCP25.....	B268	TRAOL2015D.....	E70
TPG323 KC5010.....	B177	TPGW2152S0415C KB5630.....	B312, B340	TPMT2152MF KCP25B.....	B268	TRAOL202D.....	E70
TPG323T0420 KY1615.....	B340	TPGW2152S0415MT KBH20.....	B341	TPMT2152MP KCP25.....	B269	TRAOL203D.....	E70
TPG323T0820 KY3500.....	B320	TPGW221S0415MT KBH10.....	B341	TPMT221FP KCP10B.....	B267	TRAOL204D.....	E70
TPG323T0820 KYK10.....	B320	TPGW221S0525MT KBH10.....	B341	TPMT221FP KCU10.....	B267	TRAOL2415E.....	E70
TPG324 K68	B177	TPGW222S0525MT KBH10.....	B341	TPMT221FP KCQ25.....	B267	TRAOL242E.....	E70
TPG324 KC5010.....	B177	TPGW3251FST KD1425.....	B367	TPMT222FP KCU10.....	B267	TRAOL243E.....	E70
TPG431 K313.....	B177	TPGW3251S0415MT KBH20.....	B341	TPMT3251FP KCK20.....	B267	TRAOL244E.....	E70
TPG431 K68	B177	TPGW3252FST KD1400.....	B367	TPMT3251FP KCM25.....	B267	TRAOR1615D.....	E70
TPG431 KC5010.....	B177	TPGW3252FST KD1425.....	B367	TPMT3251FP KCP10.....	B267	TRAOR162D.....	E70
TPG431 KCU10.....	B177	TPGW3252S0415MT KBH20.....	B341	TPMT3251FP KCP25.....	B267	TRAOR163D.....	E70
TPG432 K313.....	B177	TPGW3252S0525MT KBH20.....	B341	TPMT3251FP KCU10.....	B267	TRAOR164D.....	E70
TPG432 K68	B177	TPGW331S0415MT KBH10.....	B341	TPMT3251FP KCQ25.....	B267	TRAOR2015D.....	E70
TPG432 KC5010.....	B177	TPGW331S0525MT KBH10.....	B341	TPMT3251LF KC5010.....	B268	TRAOR202D.....	E70
TPG432 KCP25B.....	B177	TPGW332S0525MT KBH10.....	B341	TPMT3251LF KC5025.....	B268	TRAOR203D.....	E70
TPG432 KCU10.....	B177	TPGX0902ZPRGD KC7015.....	H85	TPMT3251LF KCK05.....	B268	TRAOR204D.....	E70
TPG432F KD1425.....	B367	TPGX0902ZPRGD KC7140.....	H85	TPMT3251LF KCK15.....	B268	TRAOR2415E.....	E70
TPG432T0820 KY3500.....	B320	TPGX0902ZPRGD KC7315.....	H85	TPMT3251LF KCM15.....	B268	TRAOR242E.....	E70
TPG433 K68	B177	TPGX1102ZPRGD KC7015.....	H85	TPMT3251LF KCM25B.....	B268	TRAOR243E.....	E70
TPG433 KC5010.....	B177	TPGX1102ZPRGD KC7140.....	H85	TPMT3251LF KCP10.....	B268	TRAOR244E.....	E70
TPG433 KCU10.....	B177	TPGX1102ZPRGD KC7315.....	H85	TPMT3251LF KCP10B.....	B268	TRHOR1615D.....	E70
TPG433T0820 KY3500.....	B320	TPGX1303ZPRGD KC7015.....	H85	TPMT3251LF KCP25.....	B268	TRHOR162D.....	E70
TPG434 K68	B177	TPGX1303ZPRGD KC7140.....	H85	TPMT3251LF KCP25B.....	B268	TRHOR2015D.....	E70
TPG434 KC5010.....	B177	TPGX1303ZPRGD KC7315.....	H85	TPMT3251LF KT315.....	B268	TRM50L0432M.....	E71
TPGF221 KC5010.....	B177	TPGX1603ZPRGD KC7015.....	H85	TPMT3252FP KCP10.....	B267	TRM50L0620M.....	E71
TPGF222 KCU10.....	B177	TPGX1603ZPRGD KC7140.....	H85	TPMT3252FP KCP25.....	B267	TRM50L0632M.....	E71
TPGF321 KC5010.....	B177	TPGX1603ZPRGD KC7315.....	H85	TPMT3252FP KCQ25.....	B267	TRM50L0640M.....	E71
TPGF321 KCU10.....	B177	TPMR221 KCK15B.....	B177	TPMT3252LF KC5010.....	B268	TRM50L0920M.....	E71
TPGF322 KC5010.....	B177	TPMR221 KCP25B.....	B177	TPMT3252LF KC5025.....	B268	TRM50L0932M.....	E71
TPGF322 KCP25B.....	B177	TPMR222 KCP25B.....	B177	TPMT3252LF KCK05.....	B268	TRM50L0950M.....	E71
TPGF322 KCU10.....	B177	TPMR321 KCK15B.....	B177	TPMT3252LF KCK15.....	B268	TRM50R0432M.....	E71
TPGF431 KCU10.....	B177	TPMR321 KCP25B.....	B177	TPMT3252LF KCK15B.....	B268	TRM50R0620M.....	E71
TPGF432 KCU10.....	B266	TPMR322 KCK15B.....	B177	TPMT3252LF KCK20.....	B268	TRM50R0632M.....	E71
TPGH321 KCU10.....	B266	TPMR322 KCP25B.....	B177	TPMT3252LF KCK20B.....	B268	TRM50R0640M.....	E71
TPGH321 KCU25.....	B266	TPMR432 KCP25B.....	B177	TPMT3252LF KCM25.....	B268	TRM50R0720M.....	E71
TPGH322 KC5010.....	B266	TPMT181505LF KC5010.....	B268	TPMT3252LF KCP10B.....	B268	TRM50R0920M.....	E71
TPGT181505LF KC5010.....	B267	TPMT18151FP KCU10.....	B267	TPMT3252LF KCP25.....	B268	TRM50R0932M.....	E71
TPGT181505LF KCU10.....	B267	TPMT18151FP KCU10.....	B267	TPMT3252LF KCP25B.....	B268	TRM50R0940M.....	E71
TPGT18151LF KC5010.....	B267	TPMT18151LF KC5010.....	B268	TPMT3252LF KT315.....	B268	TRM50R0950M.....	E71
TPGT18151LF KC5025.....	B267	TPMT18151LF KC5025.....	B268	TPMT3252MF KCK15.....	B268	TRTOR1615D.....	E71
TPGT18151LF KC5410.....	B267	TPMT18151LF KCK05.....	B268	TPMT3252MF KCK20.....	B268	TRTOR162D.....	E71
TPGT18151LF KCU10.....	B267	TPMT18151LF KCK15.....	B268	TPMT3252MF KCM15.....	B268	TRTOR2015D.....	E71
TPGT21505HP KC5010.....	B267	TPMT18151LF KCM15B.....	B268	TPMT3252MF KCM25B.....	B268	TRTOR202D.....	E71
TPGT21505HP KC5025.....	B267	TPMT18151LF KCP10B.....	B268	TPMT3252MF KCM25.....	B268	TT15.....	K42-43, T119-120, U17-18
TPGT21505HP KCU10.....	B267	TPMT18151LF KCP25.....	B268	TPMT3252MF KCP10.....	B268	TT25.....	K42-43, V87-88, V91, W40-43
TPGT21505LF KC5010.....	B267	TPMT18151LF KCP25B.....	B268	TPMT3252MF KCP30.....	B268	TT30.....	K42-43, W41
TPGT21505LF KC5025.....	B267	TPMT18151LF KT315.....	B268	TPMT3252MP KCK20B.....	B269	TPP15.....	S44-45, T120, U35-37
TPGT21505LF KCU10.....	B267	TPMT18152FP KCP25.....	B267	TPMT3252MP KCP25.....	B269	TPP20.....	S32, S50, V155-156
TPGT2150LF KCU10.....	B267	TPMT18152FP KCU10.....	B267	TPMT3252UF KCP10.....	B269	TPP25.....	S24
TPGT2151HP KC5010.....	B267	TPMT18152FP KCQ25.....	B267	TPMT3253MF KCK15.....	B268	TPP9.....	U28-29
TPGT2151HP KC5025.....	B267	TPMT21505FP KCU10.....	B267	TPMT3253MF KCK20.....	B268	TWDL10TM.....	056
TPGT2151HP KC5410.....	B267	TPMT21505LF KC5010.....	B268	TPMT3253MF KCK20B.....	B268	TWDL12TM.....	056
TPGT2151HP KCQ25.....	B267	TPMT21505UF KCP05.....	B269	TPMT3253MF KCP25.....	B268	TWDL16TM.....	056
TPGT2151LF KC5010.....	B267	TPMT2151FP KCP10.....	B267	TPMT3253MP KCP25.....	B269	TWDL20TM.....	056
TPGT2151LF KC5025.....	B267	TPMT2151FP KCP25.....	B267	TPMT432LF KC5010.....	B268	TWDL25TM.....	056
TPGT2151LF KC5410.....	B267	TPMT2151FP KCU10.....	B267	TPMT432LF KC5025.....	B268	TWDL32TM.....	056
TPGT2151LF KCU10.....	B267	TPMT2151FP KCQ25.....	B267	TPMT432LF KCK20.....	B268	TWDLTM.....	056
TPGT2152HP KC5010.....	B267	TPMT2151LF K313.....	B268	TPU221 K68	B178	TWTMBC.....	056
TPGT2152HP KC5410.....	B267	TPMT2151LF KC5010.....	B268	TPU221 KCK15B.....	B178	TWTMEXT.....	056
TPGT2152LF KC5010.....	B267	TPMT2151LF KC5025.....	B268	TPU221T0220 KY1615.....	B341	TWTMINSERTDL10.....	056
TPGT2152LF KCU10.....	B267	TPMT2151LF KCK15B.....	B268	TPU222 K68	B178	TWTMINSERTDL10W.....	056
TPGT32505HP KC5010.....	B267	TPMT2151LF KCK20.....	B268	TPU222 KCK15B.....	B178	TWTMINSERTDL12.....	056
TPGT32505HP KCU10.....	B267	TPMT2151LF KCM15.....	B268	TPU222T0220 KY1615.....	B341	TWTMINSERTDL12W.....	056

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
TWTMINSERTDL16	056	UCDE188J5BRA KCPM15	P30	UCDE750K5ARB KC643M	P32	UEBD0375J2A KC643M	P168
TWTMINSERTDL20	056	UCDE188J5BRB KC643M	P30	UCDE750K5ARB KCPM15	P32	UEBD0375J3A KC643M	P169
TWTMINSERTDL25	056	UCDE188J5BRB KCPM15	P30	UCDE750K5BRB KC643M	P30	UEBD0437J2A KC643M	P168
TWTMINSERTDL32	056	UCDE188J5BS KC643M	P30	UCDE750K5BRB KCPM15	P30	UEBD0437J3A KC643M	P169
UADE0250J4AQA KCPM15	P21	UCDE188J5BS KCPM15	P30	UCDE750K5BRF KC643M	P31	UEBD0500J2A KC643M	P168
UADE0250J4AQB KCPM15	P21	UCDE219J5BS KC643M	P30	UCDE750K5BS KC643M	P31	UEBD0500J3A KC643M	P169
UADE0375J4AQA KCPM15	P21	UCDE250J5ARA KC643M	P32	UCDE750K5BS KCPM15	P31	UEDE0078J3AS KC643M	P166
UADE0375J4AQB KCPM15	P21	UCDE250J5ARA KCPM15	P32	UCDV0375Y5CU KCPM15	012	UEDE009J3AS KC643M	P166
UADE0500J4AQB KCPM15	P21	UCDE250J5BRA KC643M	P30	UCDV0375Y5CV KCPM15	012	UEDE0125J3AS KC643M	P166
UADE0625J4AQB KCPM15	P21	UCDE250J5BRA KCPM15	P30	UCDV0500Y5CU KCPM15	012	UEDE0156J3AS KC643M	P166
UADE0750J4AQB KCPM15	P21	UCDE250J5BRB KC643M	P30	UCDV0500Y5CV KCPM15	012	UEDE0156J4AH KC643M	P167
UADE0750J4BQB KCPM15	P21	UCDE250J5BRB KCPM15	P30	UCDV0625Y5CU KCPM15	012	UEDE0188J3AS KC643M	P167
UADE1000J4ARA KC643M	P19	UCDE250J5BS KC643M	P30	UCDV0625Y5CV KCPM15	012	UEDE0188J4AH KC643M	P167
UADE1000J4ARB KC643M	P19	UCDE250J5BS KCPM15	P30	UCDV0750Y5CU KCPM15	012	UEDE0250J3AS KC643M	P166
UADE1000J4ARC KC643M	P19	UCDE281J5BS KC643M	P30	UCDV0750Y5CV KCPM15	012	UEDE0250J4AH KC643M	P167
UADE1000J4ARB KC643M	P19	UCDE312J5BRA KC643M	P30	UCDV1000Y5CU KCPM15	012	UEDE0312J3AS KC643M	P166
UADE1000J4ARF KC643M	P19	UCDE312J5BRA KCPM15	P30	UCDV1000Y5CV KCPM15	012	UEDE0312J4AH KC643M	P167
UADE1000J4BQB KCPM15	P21	UCDE312J5BRB KC643M	P30	UCDV1250Y5CU KCPM15	012	UEDE0375J3AS KC643M	P166
UADE1000J4ARA KC643M	P16	UCDE312J5BRB KCPM15	P30	UCDV1250Y5CV KCPM15	012	UEDE0375J4AH KC643M	P167
UADE250J4ARC KC643M	P17	UCDE312J5BS KC643M	P30	UDDE1000J5BRB KC643M	P33	UEDE0437J3AS KC643M	P166
UADE375J4ARA KC643M	P17	UCDE312J5BS KCPM15	P30	UDDE1000J5BRF KC643M	P33	UEDE0437J4AH KC643M	P167
UADE375J4ARB KC643M	P17	UCDE344J5BS KC643M	P30	UDDE1000J5BS KC643M	P33	UEDE0500J3AS KC643M	P166
UADE375J4ARC KC643M	P18	UCDE375J5ARA KC643M	P32	UDDE1000K5BRB KC643M	P33	UEDE0500J4AH KC643M	P167
UADE375J4BRA KC643M	P18	UCDE375J5ARA KCPM15	P32	UDDE1000K5BRF KC643M	P33	UGDE0250J5AE KC643M	P38
UADE375J4BRB KC643M	P18	UCDE375J5BRA KC643M	P30	UDDE1000K5BS KC643M	P33	UGDE0250J5ARA KC643M	P38
UADE500J4ARA KC643M	P18	UCDE375J5BRA KCPM15	P30	UDDE500J5BRA KC643M	P33	UGDE0250J5ARB KC643M	P38
UADE500J4ARB KC643M	P18	UCDE375J5BRB KC643M	P30	UDDE500J5BRB KC643M	P33	UGDE0250J5BE KC643M	P39
UADE500J4ARC KC643M	P18	UCDE375J5BRB KCPM15	P30	UDDE500J5BRF KC643M	P33	UGDE0250J5BRA KC643M	P39
UADE500J4ARE KC643M	P18	UCDE375J5BS KC643M	P30	UDDE500J5BS KC643M	P33	UGDE0250J5BRB KC643M	P39
UADE500J4BRA KC643M	P18	UCDE375J5BS KCPM15	P30	UDDE500K5BRA KC643M	P33	UGDE0312J5AE KC643M	P38
UADE500J4BRB KC643M	P18	UCDE375J5CRA KC643M	P30	UDDE500K5BRB KC643M	P33	UGDE0312J5ARA KC643M	P38
UADE500J4BRC KC643M	P18	UCDE375J5CRB KC643M	P30	UDDE500K5BRF KC643M	P33	UGDE0312J5ARB KC643M	P38
UADE500J4BRD KC643M	P18	UCDE438J5BS KC643M	P30	UDDE500K5BS KC643M	P33	UGDE0312J5BE KC643M	P39
UADE500J4BRE KC643M	P18	UCDE500J5BRA KC643M	P30	UDDE625J5BRB KC643M	P33	UGDE0312J5BRA KC643M	P39
UADE500J4CRA KC643M	P18	UCDE500J5BRA KCPM15	P30	UDDE625J5BS KC643M	P33	UGDE0312J5BRB KC643M	P39
UADE500J4CRB KC643M	P18	UCDE500J5BRB KC643M	P30	UDDE625K5BRB KC643M	P33	UGDE0375J5AE KC643M	P38
UADE500J4CRC KC643M	P18	UCDE500J5BRB KCPM15	P30	UDDE625K5BS KC643M	P33	UGDE0375J5ARA KC643M	P38
UADE500J4CRD KC643M	P18	UCDE500J5BRD KC643M	P30	UDDE750J5BRB KC643M	P33	UGDE0375J5ARB KC643M	P38
UADE500J4CRE KC643M	P18	UCDE500J5BRF KC643M	P30	UDDE750J5BRF KC643M	P33	UGDE0375J5BRC KC643M	P38
UADE625J4ARB KC643M	P19	UCDE500J5BRF KCPM15	P30	UDDE750J5BS KC643M	P33	UGDE0375J5BE KC643M	P39
UADE625J4ARC KC643M	P19	UCDE500J5BS KC643M	P30	UDDE750K5BRB KC643M	P33	UGDE0375J5BRA KC643M	P39
UADE750J4ARB KC643M	P19	UCDE500J5BS KCPM15	P30	UDDE750K5BRF KC643M	P33	UGDE0375J5BRB KC643M	P39
UADE750J4ARE KC643M	P19	UCDE500K5ARB KC643M	P32	UDDE750K5BS KC643M	P33	UGDE0375J5BRC KC643M	P39
UADE750J4BRA KC643M	P19	UCDE500K5ARB KCPM15	P32	UDDV0375Y5CQA KC643M	013	UGDE0500J5AE KC643M	P38
UADE750J4BRB KC643M	P19	UCDE500K5BRA KC643M	P30	UDDV0375Y5CQB KC643M	013	UGDE0500J5ARA KC643M	P38
UADE750J4BRC KC643M	P19	UCDE500K5BRB KC643M	P30	UDDV0375Y5CQC KC643M	013	UGDE0500J5ARB KC643M	P38
UADE750J4BRE KC643M	P19	UCDE500K5BRB KCPM15	P30	UDDV0375Y5CQD KC643M	013	UGDE0500J5ARC KC643M	P38
UBDE0500N4AQA KCSM15	P21	UCDE500K5BRB KCPM15	P30	UDDV0500Y5CQA KC643M	013	UGDE0500J5ARE KC643M	P39
UBDE0500N4AQB KCSM15	P21	UCDE500K5BRF KC643M	P30	UDDV0500Y5CQB KC643M	013	UGDE0500J5ARB KC643M	P39
UBDE0625N4AQB KCSM15	P21	UCDE500K5BRF KCPM15	P30	UDDV0500Y5CQC KC643M	013	UGDE0500J5BRB KC643M	P39
UBDE0625N4AQC KCSM15	P21	UCDE500K5BS KC643M	P30	UDDV0500Y5CQD KC643M	013	UGDE0500J5BRC KC643M	P39
UBDE0750N4AQB KCSM15	P21	UCDE500K5BS KCPM15	P30	UDDV0500Y5CQE KC643M	013	UGDE0625J5AE KC643M	P38
UBDE0750N4AQC KCSM15	P21	UCDE562J5BRA KC643M	P30	UDDV0625Y5CQA KC643M	013	UGDE0625J5ARA KC643M	P38
UBDE0750N4AQD KCSM15	P21	UCDE562J5BRB KC643M	P30	UDDV0625Y5CQB KC643M	013	UGDE0625J5ARB KC643M	P38
UBDE0750N4AQE KCSM15	P21	UCDE562J5BS KC643M	P30	UDDV0625Y5CQC KC643M	013	UGDE0625J5ARC KC643M	P38
UBDE0750N4BQB KCSM15	P21	UCDE625J5BRA KC643M	P30	UDDV0625Y5CQD KC643M	013	UGDE0625J5ARE KC643M	P38
UBDE0750N4BQC KCSM15	P21	UCDE625J5BRB KC643M	P30	UDDV0625Y5CQE KC643M	013	UGDE0625J5BE KC643M	P39
UBDE0750N4BQD KCSM15	P21	UCDE625J5BRB KCPM15	P30	UDDV0750Y5CQB KC643M	013	UGDE0625J5BRA KC643M	P39
UBDE0750N4BQE KCSM15	P21	UCDE625J5BRD KC643M	P30	UDDV0750Y5CQC KC643M	013	UGDE0625J5BRB KC643M	P39
UBDE1000N4BOB KCSM15	P21	UCDE625J5BS KC643M	P30	UDDV0750Y5CQD KC643M	013	UGDE0625J5BRC KC643M	P39
UBDE1000N4BQC KCSM15	P21	UCDE625J5BS KCPM15	P30	UDDV0750Y5CQE KC643M	013	UGDE0625J5BRD KC643M	P39
UBDE1000N4BQE KCSM15	P21	UCDE625K5ARB KC643M	P32	UDDV1000Y5CQB KC643M	013	UGDE0750J5AE KC643M	P38
UCDE1000J5BRA KC643M	P31	UCDE625K5ARB KCPM15	P32	UDDV1000Y5CQC KC643M	013	UGDE0750J5ARA KC643M	P38
UCDE1000J5BRB KC643M	P31	UCDE625K5BRB KC643M	P30	UDDV1000Y5CQD KC643M	013	UGDE0750J5ARB KC643M	P38
UCDE1000J5BRB KCPM15	P31	UCDE625K5BRB KCPM15	P30	UDDV1000Y5CQE KC643M	013	UGDE0750J5ARC KC643M	P38
UCDE1000J5BRD KC643M	P31	UCDE625K5BS KC643M	P30	UDDV1000Y5CQF KC643M	013	UGDE0750J5ARE KC643M	P38
UCDE1000J5BRD KCPM15	P31	UCDE625K5BS KCPM15	P30	UDDV1250Y5CQD KC643M	013	UGDE0750J5ARB KC643M	P38
UCDE1000J5BRE KC643M	P31	UCDE750J5BRA KC643M	P30	UDDV1250Y5CQF KC643M	013	UGDE0750J5BRB KC643M	P39
UCDE1000J5BRE KCPM15	P31	UCDE750J5BRB KC643M	P30	UEBD0078J2A KC643M	P168	UGDE0750J5BRC KC643M	P39
UCDE1000J5BRF KC643M	P31	UCDE750J5BRB KCPM15	P30	UEBD0078J3A KC643M	P169	UGDE0750J5BRD KC643M	P39
UCDE1000J5BRF KCPM15	P31	UCDE750J5BRD KC643M	P31	UEBD0094J2A KC643M	P168	UGDE0750J5BRD KC643M	P39
UCDE1000J5BS KC643M	P31	UCDE750J5BRD KCPM15	P31	UEBD0094J3A KC643M	P169	UGDE1000J5AE KC643M	P38
UCDE1000J5BS KCPM15	P31	UCDE750J5BRE KC643M	P31	UEBD0125J2A KC643M	P168	UGDE1000J5ARA KC643M	P38
UCDE1000K5ARB KC643M	P32	UCDE750J5BRE KCPM15	P31	UEBD0125J3A KC643M	P169	UGDE1000J5ARB KC643M	P38
UCDE1000K5ARB KCPM15	P32	UCDE750J5BRF KC643M	P31	UEBD0156J2A KC643M	P168	UGDE1000J5ARC KC643M	P38
UCDE1000K5BRB KC643M	P31	UCDE750J5BRF KCPM15	P31	UEBD0156J3A KC643M	P169	UGDE1000J5ARE KC643M	P38
UCDE1000K5BRB KCPM15	P31	UCDE750J5BS KC643M	P31	UEBD0188J2A KC643M	P168	UGDE1000J5BRB KC643M	P39
UCDE1000K5BRF KC643M	P31	UCDE750J5BS KCPM15	P31	UEBD0188J3A KC643M	P169	UGDE1000J5BRC KC643M	P39
UCDE1000K5BRF KCPM15	P31	UCDE750J5CRB KC643M	P31	UEBD0250J2A KC643M	P168	UGDE1000J5BRB KC643M	P39
UCDE1000K5BS KC643M	P31	UCDE750J5CRD KC643M	P31	UEBD0250J3A KC643M	P169	UGDE1000J5BRC KC643M	P39
UCDE1000K5BS KCPM15	P31	UCDE750J5CRF KC643M	P31	UEBD0312J2A KC643M	P168	UGDE1000J5BRD KC643M	P39
UCDE188J5BRA KC643M	P30	UCDE750J5CS KC643M	P31	UEBD0312J3A KC643M	P169	UJBE0125J6BP KCSM15	P74

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
UJDE1500N6FBD KCSM15	P64	UJDE750N6CRB KCSM15	P45	VBGT220LF KC5410	B280	VBMT221LF KCP05	B281
UJDE1500N6FBE KCSM15	P64	UJDE750N6CRC KCSM15	P45	VBGT220LF KCU10	B280	VBMT221LF KCP10	B281
UJDE1500N6FBF KCSM15	P64	UJDE750N6CRD KCSM15	P45	VBGT221HP KC5010	B280	VBMT221LF KCP10B	B281
UJDE1500N6FBH KCSM15	P64	UJDE750N6CRE KCSM15	P45	VBGT221HP KC5025	B280	VBMT221LF KCP25	B281
UJDE1500N6FBJ KCSM15	P64	UJDE750N6CS KCSM15	P45	VBGT221HP KC5410	B280	VBMT221LF KCP25B	B281
UJDE1500N6FBK KCSM15	P64	UJDV0375Y6CQA KCSM15	016	VBGT221HP KCU10	B280	VBMT221LF KT315	B281
UJDE1500N6FBL KCSM15	P65	UJDV0375Y6CQB KCSM15	016	VBGT221HP KCU25	B280	VBMT222FP KCM15	B281
UJDE1500N6GBB KCSM15	P65	UJDV0375Y6CQC KCSM15	016	VBGT221LF K313	B280	VBMT222FP KCP25	B281
UJDE1500N6GBC KCSM15	P65	UJDV0375Y6CQD KCSM15	016	VBGT221LF KC5010	B280	VBMT222FP KCU10	B281
UJDE1500N6GBD KCSM15	P65	UJDV0500Y6CQA KCSM15	016	VBGT221LF KC5025	B280	VBMT222FP KCU25	B281
UJDE1500N6GBE KCSM15	P65	UJDV0500Y6CQB KCSM15	016	VBGT221LF KCU10	B280	VBMT222LF KC5010	B281
UJDE1500N6GBF KCSM15	P65	UJDV0500Y6CQC KCSM15	016	VBGT22X0LF KC5025	B280	VBMT222LF KC5025	B281
UJDE1500N6GBH KCSM15	P65	UJDV0500Y6CQD KCSM15	016	VBGT3305LF K313	B280	VBMT222LF KCP05	B281
UJDE1500N6GBJ KCSM15	P65	UJDV0500Y6CQE KCSM15	016	VBGT3305LF KC5010	B280	VBMT222LF KCK20B	B281
UJDE1500N6GBK KCSM15	P65	UJDV0625Y6CQA KCSM15	016	VBGT3305LF KC5025	B280	VBMT222LF KCM25	B281
UJDE1500N6GBL KCSM15	P65	UJDV0625Y6CQB KCSM15	016	VBGT3305LF KC5410	B280	VBMT222LF KCP05	B281
UJDE1500N6GBM KCSM15	P65	UJDV0625Y6CQC KCSM15	016	VBGT3305LF KCU10	B280	VBMT222LF KCP10	B281
UJDE1500N6GBN KCSM15	P65	UJDV0625Y6CQD KCSM15	016	VBGT330LF KC5010	B280	VBMT222LF KCP25	B281
UJDE1500N6GBP KCSM15	P65	UJDV0625Y6CQE KCSM15	016	VBGT330LF KC5025	B280	VBMT222LF KCP25B	B281
UJDE1500N6GBQ KCSM15	P65	UJDV0750Y6CQB KCSM15	016	VBGT330LF KCU10	B280	VBMT3305FP KCM25	B281
UJDE1500N6GBR KCSM15	P65	UJDV0750Y6CQC KCSM15	016	VBGT331HP K313	B280	VBMT3305FP KCP25	B281
UJDE1500N6GBS KCSM15	P65	UJDV0750Y6CQD KCSM15	016	VBGT331HP K68	B280	VBMT3305FP KCU10	B281
UJDE1500N6GBT KCSM15	P65	UJDV0750Y6CQE KCSM15	016	VBGT331HP KC5010	B280	VBMT3305FP KCU25	B281
UJDE1500N6GBU KCSM15	P65	UJDV1000Y6CQB KCSM15	016	VBGT331HP KC5025	B280	VBMT3305FP KTP10	B281
UJDE1500N6GBV KCSM15	P65	UJDV1000Y6CQC KCSM15	016	VBGT331HP KC5410	B280	VBMT3305LF K313	B281
UJDE1500N6GBW KCSM15	P63	UJDV1000Y6CQD KCSM15	016	VBGT331HP KCU10	B280	VBMT3305LF KC5010	B281
UJDE1500N6GBX KCSM15	P63	UJDV1000Y6CQE KCSM15	016	VBGT331HP KCU25	B280	VBMT3305LF KC5025	B281
UJDE1500N6GBY KCSM15	P64	UJDV1000Y6CQF KCSM15	016	VBGT331LF KC5010	B280	VBMT3305LF KT315	B281
UJDE1500N6GBZ KCSM15	P64	UJDV1250Y6CQD KCSM15	016	VBGT331LF KC5025	B280	VBMT3311F KT315	B280
UJDE1500N6XBA KCSM15	P64	UJDV1250Y6CQE KCSM15	016	VBGT331LF KC5410	B280	VBMT3311F KCK20B	B281
UJDE1500N6XBB KCSM15	P64	UKBV0375Y4CN KCPM15	018	VBGT331LF KCU10	B280	VBMT3311F KCM15	B281
UJDE1500N6XBC KCSM15	P64	UKBV0500Y4CN KCPM15	018	VBGT332HP K313	B280	VBMT3311F KCM25	B281
UJDE1500N6XBD KCSM15	P64	UKBV0625Y4CN KCPM15	018	VBGT332HP KC5010	B280	VBMT3311F KCP05	B281
UJDE1500N6XBE KCSM15	P64	UKBV0750Y4CN KCPM15	018	VBGT332HP KC5025	B280	VBMT3311F KCP10	B281
UJDE1500N6XBF KCSM15	P64	UKBV1000Y4CN KCPM15	018	VBGT332HP KC5410	B280	VBMT3311F KCP10B	B281
UJDE1500N6XBG KCSM15	P64	UKDV0375Y4CU KCPM15	08	VBGT332HP KCU10	B280	VBMT3311F KCP25	B281
UJDE1500N6XBH KCSM15	P64	UKDV0375Y4CV KCPM15	08	VBGT332HP KCU25	B280	VBMT3311F KCP25B	B281
UJDE1500N6XBI KCSM15	P64	UKDV0500Y4CU KCPM15	08	VBGT33X0LF KC5025	B280	VBMT3311F KCU10	B281
UJDE1500N6XBJ KCSM15	P64	UKDV0500Y4CV KCPM15	08	VBGW221FST KD1400	B368	VBMT3311F KCU25	B281
UJDE1500N6XBK KCSM15	P64	UKDV0625Y4CU KCPM15	08	VBGW221FST KD1425	B368	VBMT3311F KTP10	B281
UJDE1500N6XBL KCSM15	P64	UKDV0625Y4CV KCPM15	08	VBGW221S0415MT KBH10	B341	VBMT3311F K313	B281
UJDE1500N6XBM KCSM15	P64	UKDV0625Y4CQ KCPM15	08	VBGW221S0415MT KBH20	B341	VBMT3311F KC5010	B281
UJDE1500N6XBN KCSM15	P64	UKDV0750Y4CU KCPM15	08	VBGW221S0415MT KBH20	B341	VBMT3311F KC5025	B281
UJDE1500N6XBO KCSM15	P64	UKDV0750Y4CV KCPM15	08	VBGW222S0415MT KBH10	B341	VBMT3311F KCK15	B281
UJDE1500N6XBP KCSM15	P46	UKDV1000Y4CU KCPM15	08	VBGW222S0415MT KBH20	B341	VBMT3311F KCK15B	B281
UJDE1500N6XBS KCSM15	P46	UKDV1250Y4CU KCPM15	08	VBGW331FST KD1400	B368	VBMT3311F KCK20B	B281
UJDE1500N6XBT KCSM15	P46	UKDV1250Y4CV KCPM15	08	VBGW331FST KD1425	B368	VBMT3311F KCM15	B281
UJDE1500N6XBU KCSM15	P44	ULDV0375Y4CQA KCSM15	09	VBGW331S0415MT KB5630	B312, B341	VBMT3311F KCM15B	B281
UJDE1500N6XBV KCSM15	P44	ULDV0375Y4CQB KCSM15	09	VBGW331S0415MT KBH10	B341	VBMT3311F KCM25	B281
UJDE1500N6XBW KCSM15	P44	ULDV0375Y4CQC KCSM15	09	VBGW332E KD1405	B367	VBMT3311F KCM25B	B281
UJDE1500N6XBX KCSM15	P44	ULDV0375Y4CQD KCSM15	09	VBGW332S0415MT KB5630	B312, B341	VBMT3311F KCP05	B281
UJDE1500N6XBY KCSM15	P44	ULDV0500Y4CQA KCSM15	09	VBGW332S0415MT KBH10	B341	VBMT3311F KCP10	B281
UJDE1500N6XBB KCSM15	P44	ULDV0500Y4CQB KCSM15	09	VBGW332S0415MT KBH20	B341	VBMT3311F KCP10B	B281
UJDE1500N6XBC KCSM15	P44	ULDV0500Y4CQC KCSM15	09	VBMR221 KC5010	E36	VBMT3311F KCP25	B281
UJDE1500N6XBD KCSM15	P44	ULDV0500Y4CQD KCSM15	09	VBMR221 KC5025	E36	VBMT3311F KCP25B	B281
UJDE1500N6XBE KCSM15	P44	ULDV0625Y4CQA KCSM15	09	VBMR221 KT315	E36	VBMT3311F KCP30	B281
UJDE1500N6XBF KCSM15	P44	ULDV0625Y4CQB KCSM15	09	VBMR221FP KCP10	E36	VBMT3311F KT315	B281
UJDE1500N6XBG KCSM15	P44	ULDV0625Y4CQC KCSM15	09	VBMR221FP KCP25	E36	VBMT3311F KCM25	B281
UJDE1500N6XBH KCSM15	P44	ULDV0625Y4CQD KCSM15	09	VBMR221FP KCU25	E36	VBMT3311F KCM25B	B281
UJDE1500N6XBI KCSM15	P44	ULDV0750Y4CQB KCSM15	09	VBMR222FP KCU10	E36	VBMT3311F KCP25	B281
UJDE1500N6XBJ KCSM15	P44	ULDV0750Y4CQC KCSM15	09	VBMT220511 KT315	B280	VBMT3311F KCP25B	B281
UJDE1500N6XBK KCSM15	P44	ULDV0750Y4CQD KCSM15	09	VBMT2205FP KCP25	B281	VBMT3321F KT315	B280
UJDE1500N6XBL KCSM15	P44	ULDV1000Y4CQB KCSM15	09	VBMT2205FP KCU10	B281	VBMT332FP KCK20	B281
UJDE1500N6XBM KCSM15	P44	ULDV1000Y4CQC KCSM15	09	VBMT220511 KT315	B280	VBMT332FP KCK20B	B281
UJDE1500N6XBN KCSM15	P44	ULDV1000Y4CQD KCSM15	09	VBMT2205FP KCP25	B281	VBMT332FP KCM15	B281
UJDE1500N6XBO KCSM15	P44	ULDV1000Y4CQE KCSM15	09	VBMT2205FP KCU10	B280	VBMT332FP KCM25	B281
UJDE1500N6XBP KCSM15	P44	ULDV1000Y4CQF KCSM15	09	VBMT221FP KCM15	B281	VBMT332FP KCP05	B281
UJDE1500N6XBS KCSM15	P44	ULDV1250Y4CQD KCSM15	09	VBMT2205LF KT315	B281	VBMT332FP KCP10	B281
UJDE1500N6XBT KCSM15	P44	ULDV1250Y4CQE KCSM15	09	VBMT2211F KT315	B280	VBMT332FP KCP10B	B281
UJDE1500N6XBU KCSM15	P44	VBGT2205HP KC5010	B280	VBMT221FP KCM25	B281	VBMT332FP KCP25	B281
UJDE1500N6XBV KCSM15	P46	VBGT2205HP KC5025	B280	VBMT221FP KCM25	B281	VBMT332FP KCP25B	B281
UJDE1500N6XBX KCSM15	P45	VBGT2205HP KCU10	B280	VBMT221FP KCP10	B281	VBMT332FP KCU10	B281
UJDE1500N6XBY KCSM15	P45	VBGT2205LF K68	B280	VBMT221FP KCP25	B281	VBMT332FP KCU25	B281
UJDE1500N6XBB KCSM15	P46	VBGT2205LF KC5010	B280	VBMT221FP KCU10	B281	VBMT332FP KTP10	B281
UJDE1500N6XBC KCSM15	P44	VBGT2205LF KC5025	B280	VBMT221FP KCU25	B281	VBMT332LF K313	B281
UJDE1500N6XBD KCSM15	P44	VBGT2205LF KCU10	B280	VBMT221FP KTP10	B281	VBMT332LF KC5010	B281
UJDE1500N6XBE KCSM15	P44	VBGT220LF KC5010	B280	VBMT221LF K313	B281	VBMT332LF KC5025	B281
UJDE1500N6XBF KCSM15	P44	VBGT220LF KC5025	B280	VBMT221LF KC5010	B281	VBMT332LF KCK05	B281
UJDE1500N6XBG KCSM15	P44			VBMT221LF KC5025	B281	VBMT332LF KCK15	B281
UJDE1500N6XBH KCSM15	P44			VBMT221LF KCK05	B281	VBMT332LF KCK15B	B281
UJDE1500N6XBI KCSM15	P44			VBMT221LF KCM15	B281	VBMT332LF KCK20	B281
UJDE1500N6XBJ KCSM15	P44			VBMT221LF KCM25B	B281	VBMT332LF KCM15	B281

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
VBMT332LF KCM15B	B281	VNGA332S0425MT KB5630	B313, B342	VNMG331MN KCP25B	B146	VNMG332UN KCK15B	B148
VBMT332LF KCM25	B281	VNGA332S0525MT KBH10	B342	VNMG331MN KCP30	B146	VNMG332UN KCK20	B148
VBMT332LF KCM25B	B281	VNGA332S0525MT KBH20	B342	VNMG331MP KC5010	B147	VNMG332UP KC5010	B148
VBMT332LF KCM35	B281	VNGA332S0735MT KBH20	B342	VNMG331MP KCM15	B147	VNMG332UP KCM15	B148
VBMT332LF KCP05	B281	VNGA332T0820 KY1615	B342	VNMG331MP KCM15B	B147	VNMG332UP KCM25	B148
VBMT332LF KCP10	B281	VNGA332T0820 KY3500	B315	VNMG331MP KCM25	B147	VNMG332UP KCU10	B148
VBMT332LF KCP10B	B281	VNGA333S0525MT KBH20	B342	VNMG331MP KCM25B	B147	VNMG333MP KCM15B	B147
VBMT332LF KCP25	B281	VNGA333T0820 KY1615	B342	VNMG331MP KCM35	B147	VNMG333MN KCP10	B146
VBMT332LF KCP25B	B281	VNGA432T0820 KY1615	B342	VNMG331MP KCU10	B147	VNMG333MN KCP25	B146
VBMT332LF KCP30	B281	VNGA432T0820 KYK25	B315	VNMG331MS K313	B147	VNMG333MN KCP25B	B146
VBMT332LF KT315	B281	VNMG3305FS KC5010	B144	VNMG331MS KC5010	B147	VNMG333MN KCP30	B146
VBMT332MP KCK20	B281	VNMG3305FS KCU10	B144	VNMG331MS KC5025	B147	VNMG333MP KC5010	B147
VBMT332MP KCK20B	B281	VNMG3305FS KCU25	B144	VNMG331MS KCU10	B147	VNMG333MP KCM15B	B147
VBMT332MP KCM25	B281	VNMG3305LF KC5010	B144	VNMG331MS KCU25	B147	VNMG333MP KCU10	B147
VBMT332MP KCM25B	B281	VNMG3305LF KCU10	B144	VNMG331P KC5010	B147	VNMG333MP KCM15	B147
VBMT332MP KCP25	B281	VNMG330FS KCU10	B144	VNMG331P KCU10	B147	VNMG333RN KCP10	B148
VBMT332MP KCP25B	B281	VNMG331FS KC5010	B144	VNMG331UN KCK15	B148	VNMG333RN KCP25	B148
VBMT333FP KCP10B	B281	VNMG331FS KC5025	B144	VNMG331UN KCK20	B148	VNMG333RN KCP25B	B148
VBMT333FP KCP25	B281	VNMG331FS KCU10	B144	VNMG331UP KC5010	B148	VNMG333RP KCP15	B148
VBMT333FP KCP25B	B281	VNMG331FS KCU25	B144	VNMG331UP KCM15	B148	VNMG333RP KCK15B	B148
VBMT333LF KCK05	B281	VNMG331LF KC5010	B144	VNMG331UP KCM25	B148	VNMG333RP KCK20	B148
VBMT333LF KCK20	B281	VNMG331LF KCU10	B144	VNMG332 K68	B145	VNMG333RP KCM25	B148
VBMT333LF KCK20B	B281	VNMG332FS KC5010	B144	VNMG332FF KC5010	B146	VNMG333RP KCP10	B148
VBMT333LF KCP25	B281	VNMG332FS KC5025	B144	VNMG332FF KCP05	B146	VNMG333RP KCP25	B148
VCGW331S0415MT KBH20	B342	VNMG332FS KCU10	B144	VNMG332FF KCP10	B146	VNMG333RP KCU10	B148
VCGW331S0525MT KBH20	B342	VNMG332FS KCU25	B144	VNMG332FF KCP10B	B146	VNMG333RP KCU25	B148
VCGW332S0415MT KBH20	B342	VNMG332LF K313	B144	VNMG332FF KCP25B	B146	VNMG333UP KCM15	B148
VCGW332S0525MT KBH20	B342	VNMG332LF KC5010	B144	VNMG332FF KCU10	B146	VNMG431LF KCP25B	B145
VCMR331 KC5010	E37	VNMG332LF KCU10	B144	VNMG332FF KT315	B146	VNMG431MS KC5010	B147
VCMR331 KC5025	E37	VNMG432LF KC5010	B144	VNMG332FN KCK05	B146	VNMG431MS KCU10	B147
VCMR331 KCM15B	E37	VNMG432LF KCU10	B144	VNMG332FN KCK15B	B146	VNMG431MS KCU25	B147
VCMR331 KCU25	E37	VNMG332S0525MTCB1 KBH20	B342	VNMG332FN KCP05	B146	VNMG432 K68	B145
VCMR331 KT315	E37	VNMG333S0525MTCB1 KBH20	B342	VNMG332FN KCP10	B146	VNMG432LF KCP25B	B145
VCMR331FP KCM25	E37	VNMP330 KC5010	B144	VNMG332FN KCP10B	B146	VNMG432MS KC5010	B147
VCMR331FP KCP10	E37	VNMP330 KC5410	B144	VNMG332FN KCP25	B146	VNMG432MS KC5025	B147
VCMR331FP KCP25	E37	VNMP330 KCU10	B144	VNMG332FN KCP25B	B146	VNMG432MS KCU10	B147
VCMR331FP KCU10	E37	VNMP3305 KC5010	B144	VNMG332FN KT315	B146	VNMG432MS KCU25	B147
VCMR331FP KCU25	E37	VNMP3305 KC5410	B144	VNMG332FP KC5010	B146	VNMG432RN KCP10	B148
VCMR332 KC5010	E37	VNMP3305 KCU10	B144	VNMG332FP KCM15	B146	VNMG432RN KCP10B	B148
VCMR332 KC5025	E37	VNMP331K K313	B145	VNMG332FP KCP10	B146	VNMG432RN KCP25	B148
VCMR332 KCM15B	E37	VNMP332K K313	B145	VNMG332FP KCP25B	B146	VNMG432RN KCP25B	B148
VCMR332 KCU10	E37	VNMP431 KC5010	B144	VNMG332FP KCU10	B146	VNMG432RN KCP30	B148
VCMR332 KCU25	E37	VNMP431 KCU10	B144	VNMG332FP KT315	B146	VNMG432RN KCP40	B148
VCMR332 KT315	E37	VNMP432 K313	B144	VNMG332LF KCP25B	B146	VNMG433 K68	B145
VCMR332FP KCK05	E37	VNMP432 KC5010	B144	VNMG332MR KCP05	B146	VNMG433RN KCP10	B148
VCMR332FP KCM25	E37	VNMP432 KCU10	B144	VNMG332MN KCP05B	B146	VNMG433RN KCP25	B148
VCMR332FP KCP10	E37	VNMG335T0820 KY3500	B319	VNMG332MN KCP10	B146	VNMG433RN KCP30	B148
VCMR332FP KCP25	E37	VNMG335T0820 KY3500	B319	VNMG332MN KCP10B	B146	VNMP331 K313	B149
VDIB1M302040C	C75	VNMA332 KCK05	B145	VNMG332MN KCP25	B146	VNMP331 K68	B149
VDIB1M402544C	C75	VNMA332 KCK15	B145	VNMG332MN KCP25B	B146	VNMP331K K68	B149
VDIB2M302040C	C75	VNMA332 KCK15B	B145	VNMG332MN KCP30	B146	VNMP331K KCP10B	B149
VDIB2M402544C	C75	VNMA332 KCK20	B145	VNMG332MP KC5010	B147	VNMP331K KCP25	B149
VDIB3M302040C	C76	VNMG3305MS K313	B147	VNMG332MP KCM15	B147	VNMP332 K313	B149
VDIB3M402544C	C76	VNMG3305MS KC5010	B147	VNMG332MP KCM15B	B147	VNMP332 K68	B149
VDIB4M302040C	C76	VNMG3305MS KC5025	B147	VNMG332MP KCM25	B147	VNMP332K K68	B149
VDIB4M402544C	C76	VNMG3305MS KCU10	B147	VNMG332MP KCM25B	B147	VNMP332K KCP10	B149
VDIB5M302040C	C77	VNMG3305MS KCU25	B147	VNMG332MP KCM35	B147	VNMP332K KCP10B	B149
VDIB5M402544C	C77	VNMG330MS KC5010	B147	VNMG332MP KCU10	B147	VNMP332K KCP25	B149
VDIB6M302040C	C77	VNMG330MS KCU10	B147	VNMG332MR KCM15B	B147	VNMS331 K68	B149
VDIB6M402544C	C77	VNMG330MS KCU25	B147	VNMG332MS K313	B147	VNMS331 KC5410	B149
VDIC1M302070C	C78	VNMG331FF KC5010	B146	VNMG332MS KC5010	B147	VNMS331E KD1405	B368
VDIC1M402585C	C78	VNMG331FF KCM15B	B146	VNMG332MS KC5025	B147	VNMS331FST KD1400	B368
VDIC2M302070C	C78	VNMG331FF KCP05	B146	VNMG332MS KCU10	B147	VNMS331FST KD1425	B368
VDIC2M402585C	C78	VNMG331FF KCP10	B146	VNMG332MS KCU25	B147	VNMS332 K68	B149
VDIC3M302070C	C79	VNMG331FF KCP10B	B146	VNMG332P K313	B147	VNMS332 KC5410	B149
VDIC3M402585C	C79	VNMG331FF KCU10	B146	VNMG332P KC5010	B147	VNMS332E KD1405	B368
VDIC4M302070C	C79	VNMG331FF KT315	B146	VNMG332P KCU10	B147	VNMS332FST KD1400	B368
VDIC4M402585C	C79	VNMG331FN KCK05	B146	VNMG332RN KCP10	B148	VNMS332FST KD1425	B368
VNGA331 K68	B144	VNMG331FN KCK15B	B146	VNMG332RN KCP10B	B148	VPGN331 KD1425	B369, E38
VNGA331FST KD1400	B368	VNMG331FN KCP05	B146	VNMG332RN KCP25	B148	VPGN332 KD1425	B369, E38
VNGA331S0415MT KBH10	B342	VNMG331FN KCP10	B146	VNMG332RN KCP25B	B148	VPGP443K KC5410	B145
VNGA331S0415MT KBH20	B342	VNMG331FN KCP10B	B146	VNMG332RP KC5010	B148	VPGR3305 K68	E38
VNGA331S0425MT KB5630	B313, B342	VNMG331FN KCP25	B146	VNMG332RP KC5025	B148	VPGR3305 KC5010	E38
VNGA331S0525MT KBH10	B342	VNMG331FN KCP25B	B146	VNMG332RP KCK15	B148	VPGR3305 KC5025	E38
VNGA331S0525MT KBH20	B342	VNMG331FN KT315	B146	VNMG332RP KCK20B	B148	VPGR3305 KC5410	E38
VNGA331S0735MT KBH20	B342	VNMG331FP KC5010	B146	VNMG332RP KCM15	B148	VPGR3305 KCU10	E38
VNGA331T0820 KY1615	B342	VNMG331FP KCM15	B146	VNMG332RP KCP10	B148	VPGR3305 KCU25	E38
VNGA332 K68	B144	VNMG331FP KCU10	B146	VNMG332RP KCP25	B148	VPGR3305FP KCP10	E39
VNGA332FST KD1400	B368	VNMG331FP KT315	B146	VNMG332RP KCU10	B148	VPGR331 K313	B369, E38
VNGA332FST KD1425	B368	VNMG331MN KCP10	B146	VNMG332RP KCU25	B148	VPGR331 K68	E38
VNGA332S0415MT KBH10	B342	VNMG331MN KCP10B	B146	VNMG332UN KCK05B	B148	VPGR331 KC5010	E38
VNGA332S0415MT KBH20	B342	VNMG331MN KCP25	B146	VNMG332UN KCK15	B148	VPGR331 KC5025	E38

For page references A–E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
VPGR331 KC5410	E38	WD50FDS63779M	H127	WNMG332FN KCP10	B157	WNMG431MS KCU25	B160
VPGR331 KCP25	E38	WD50FDS71172M	H126	WNMG332FN KCP25	B157	WNMG431P KC5010	B160
VPGR331 KCU10	E38	WD50FDS71292M	H126	WNMG332FN KT315	B157	WNMG431P KCM15B	B160
VPGR331 KCU25	E38	WD50FDS71452M	H127	WNMG332FP KC5010	B158	WNMG431P KCU10	B160
VPGR331 KD1425	B369, E38	WD50FDS80192M	H126	WNMG332FP KCM15	B158	WNMG431UN KCK15	B162
VPGR331 KT315	E38	WD50FDS80327M	H126	WNMG332FP KCP10	B158	WNMG431UN KCK20	B162
VPGR331FP KCM25	E39	WD50FDS80507M	H127	WNMG332FW KC5010	B158	WNMG432FF KC5010	B157
VPGR331FP KCP10	E39	WD50FDS90212M	H126	WNMG332FW KCP05	B158	WNMG432FF KCP10	B157
VPGR331FP KCP25	E39	WD50FDS90362M	H126	WNMG332FW KCP10	B158	WNMG432FN KCK05	B157
VPGR331FP KCU10	E39	WD50FDS90562M	H127	WNMG332FW KCU10	B158	WNMG432FN KCK15B	B157
VPGR331HP K313	E39	WLFNLR32CA19S	E61	WNMG332FW KT315	B158	WNMG432FN KCP05	B157
VPGR332 K313	B369, E38	WLFNLR32CA19S	E61	WNMG332MN KCP10	B159	WNMG432FN KCP10	B157
VPGR332 K68	E38	WLNJLR32CA19S	E55	WNMG332MN KCP10B	B159	WNMG432FN KCP10B	B157
VPGR332 KC5010	E38	WLNJLR32CA30S	E55	WNMG332MN KCP25	B159	WNMG432FN KCP25	B157
VPGR332 KC5025	E38	WLNJLR32CA19S	E55	WNMG332MN KCP25B	B159	WNMG432FN KCP25B	B157
VPGR332 KC5410	E38	WLNJLR32CA30S	E55	WNMG332MN KCP30	B159	WNMG432FN KT315	B157
VPGR332 KCP25B	E38	WLLNLR32CA19S	E61	WNMG332MP KC5010	B159	WNMG432FF KC5010	B158
VPGR332 KCU10	E38	WLLNLR32CA30S	E61	WNMG332MP KCM15	B159	WNMG432FP KCM15	B158
VPGR332 KCU25	E38	WLLNLR32CA19S	E61	WNMG332MP KCM25	B159	WNMG432FP KCM15B	B158
VPGR332 KD1425	B369, E38	WLLNLR32CA30S	E61	WNMG332MP KCM25B	B159	WNMG432FP KCP10	B158
VPGR332 KT315	E38	WNGA431S0415MT KBH20	B343	WNMG332MP KCM35B	B159	WNMG432FP KCP25	B158
VPGR332FP KCK05	E39	WNGA432FST KD1425	B369	WNMG332MP KCP25	B159	WNMG432FP KCU10	B158
VPGR332FP KCM25	E39	WNGA432S0415FWMHT KBH20	B343	WNMG332MP KCU10	B159	WNMG432FW KC5010	B158
VPGR332FP KCP10	E39	WNGA432S0415FWMHT KBH20	B343	WNMG332MR KCM15B	B159	WNMG432FW KCP05	B158
VPGR332FP KCP25	E39	WNGA432S0415MT KBH10	B343	WNMG332MR KCP25B	B159	WNMG432FW KCP10	B158
VPGR333 K68	B369, E38	WNGA432S0415MT KBH20	B343	WNMG332MS K313	B160	WNMG432FW KCP10B	B158
VPGR333 KC5010	E38	WNGA432S0525MT KBH10	B343	WNMG332MS KC5010	B160	WNMG432FW KCU10	B158
VPGR333 KCU10	E38	WNGA432S0525MT KBH20	B343	WNMG332MS KC5025	B160	WNMG432FW KT315	B158
VPGR333 KCU25	E38	WNGA432S0735MT KBH20	B343	WNMG332MS KCU10	B160	WNMG432MG KCP10B	B158
VPGR333 KD1425	B369, E38	WNGA432T0420 KYS30	B354	WNMG332MS KCU25	B160	WNMG432MG KCP25B	B158
VPGR333FP KCK05	E39	WNGA432T0420FW KY3500	B315	WNMG332MW KCP10	B160	WNMG432MN KCP05	B159
VPGR333FP KCM25	E39	WNGA432T0820 KY3500	B315	WNMG332MW KCP25	B160	WNMG432MN KCP10	B159
VPGR333FP KCP10	E39	WNGA432T0820 KYK25	B315	WNMG332RN KCP10B	B161	WNMG432MN KCP10B	B159
VPGR333FP KCP25	E39	WNGA433T0820 KY3500	B315	WNMG332RN KCP25	B161	WNMG432MN KCP25	B159
VPGR334 KC5010	E38	WNGA433T0820 KYK25	B315	WNMG332RN KCP25B	B161	WNMG432MN KCP25B	B159
VPGR334 KCU10	E38	WNGA434T0420 KYS30	B354	WNMG332RP KC5010	B161	WNMG432MN KCP30	B159
VPGR334FP KCP25	E39	WNGA434T0820 KY3500	B315	WNMG332RP KCM15	B161	WNMG432MN KCP30B	B159
WCMT2151FP KCU10	B286	WNGG4305LF KC5010	B156	WNMG332RP KCM25	B161	WNMG432MP KC5010	B159
WCMT2151FP KCU25	B286	WNGG4305LF KCU10	B156	WNMG332RP KCM25B	B161	WNMG432MP KCP05	B159
WCMT2151LF KC5010	B286	WNGG430LF KC5010	B156	WNMG332RP KCP10B	B161	WNMG432MP KCM15	B159
WCMT3252FP KCP25	B286	WNGG431FS KCU10	B156	WNMG332RP KCP25	B161	WNMG432MP KCM15B	B159
WCMT3252FP KCU10	B286	WNGG431LF KC5010	B156	WNMG332RP KCU10	B161	WNMG432MP KCM25	B159
WCMT3252LF KC5010	B286	WNGG431LF KCU10	B156	WNMG332RP KCU25	B161	WNMG432MP KCM25B	B159
WCMT3252LF KC5025	B286	WNGG432FS KCU10	B156	WNMG332UN KCK15	B162	WNMG432MP KCM35	B159
WD32FDS28076M	H126	WNGG432LF KC5010	B156	WNMG332UN KCK20B	B162	WNMG432MP KCM35B	B159
WD32FDS28128M	H126	WNGP432K KC5010	B156	WNMG332UP KCM25B	B162	WNMG432MP KCP10	B159
WD32FDS28190M	H127	WNGP432K KC5410	B156	WNMG333FW KCP10	B158	WNMG432MP KCP25	B159
WD32FDS28283M	H127	WNGX453T0820 KY3500	B319	WNMG333MN KCP10	B159	WNMG432MP KCP25B	B159
WD32FDS28345M	H127	WNGX453T0820 KYK10	B319	WNMG333MN KCP25	B159	WNMG432MP KCU10	B159
WD32FDS32082M	H126	WNMA332 KCK15	B157	WNMG333MN KCP30B	B159	WNMG432MR KCK15B	B159
WD32FDS32146M	H126	WNMA333 KCK20	B157	WNMG333MP KCM25	B159	WNMG432MR KCM15B	B159
WD32FDS32216M	H127	WNMA432 KCK15	B157	WNMG333RN KCP25	B161	WNMG432MR KCM25	B159
WD32FDS32321M	H127	WNMA432 KCK20	B157	WNMG333RP KCP10	B161	WNMG432MR KCM25B	B159
WD32FDS32391M	H127	WNMA432 KCK05	B157	WNMG333RP KCP25	B161	WNMG432MR KCM35	B159
WD32FDS36092M	H126	WNMA433 KCK15	B157	WNMG4305MS KC5010	B160	WNMG432MR KCP10B	B159
WD32FDS36166M	H126	WNMA433 KCK20	B157	WNMG4305MS KCU10	B160	WNMG432MR KCP25B	B159
WD32FDS36244M	H127	WNMA433 KCK15	B157	WNMG4305MS KCU25	B160	WNMG432MR KCP05	B159
WD32FDS36361M	H127	WNMA433 KCK15B	B157	WNMG430MS KCU10	B160	WNMG432MR KCU10	B159
WD32FDS36439M	H127	WNMA433 KCK20	B157	WNMG431FF KC5010	B157	WNMG432MS K313	B160
WD50FDS40100M	H126	WNMA434 KCK20	B157	WNMG431FF KCU10	B157	WNMG432MS KC5010	B160
WD50FDS40183M	H126	WNMG331FF KCP10	B157	WNMG431FN KCK05	B157	WNMG432MS KC5025	B160
WD50FDS40271M	H127	WNMG331FF KCU10	B157	WNMG431FN KCK05B	B157	WNMG432MS KCU10	B160
WD50FDS40403M	H127	WNMG331FN KCK05	B157	WNMG431FN KCP05	B157	WNMG432MW KCP10	B160
WD50FDS40491M	H127	WNMG331FN KCP10	B157	WNMG431FN KCP10	B157	WNMG432MW KCK15B	B160
WD50FDS45112M	H126	WNMG331FP KC5010	B158	WNMG431FN KCP10B	B157	WNMG432MW KCP05	B160
WD50FDS45206M	H126	WNMG331FP KCM15	B158	WNMG431FN KCP25B	B157	WNMG432MW KCP10B	B160
WD50FDS45304M	H127	WNMG331FP KCU10	B158	WNMG431FN KT315	B157	WNMG432MW KCP25	B160
WD50FDS45451M	H127	WNMG331FW KCP05	B158	WNMG431FP KC5010	B158	WNMG432MW KCP25B	B160
WD50FDS45549M	H127	WNMG331FW KCP05B	B158	WNMG431FP KCM15	B158	WNMG432MW KCPK05	B160
WD50FDS50228M	H126	WNMG331FW KCU10	B158	WNMG431FP KCP10	B158	WNMG432P KC5010	B160
WD50FDS50338M	H127	WNMG331FW KT315	B158	WNMG431FP KCP25	B158	WNMG432P KCM15B	B160
WD50FDS50503M	H127	WNMG331MN KCP10	B159	WNMG431FP KCU10	B158	WNMG432P KCU10	B160
WD50FDS50613M	H127	WNMG331MN KCP25	B159	WNMG431FW KCM15B	B158	WNMG432RN KCP10	B161
WD50FDS56140M	H126	WNMG331MP KC5010	B159	WNMG431FW KCP05	B158	WNMG432RN KCP10B	B161
WD50FDS56259M	H126	WNMG331MP KCM15	B159	WNMG431FW KCP10	B158	WNMG432RN KCP25	B161
WD50FDS56383M	H127	WNMG331MP KCM25B	B159	WNMG431FW KCU10	B158	WNMG432RN KCP25B	B161
WD50FDS56569M	H127	WNMG331MP KCU10	B159	WNMG431MS K313	B160	WNMG432RN KCP30	B161
WD50FDS56693M	H127	WNMG332FF KC5010	B157	WNMG431MS KC5010	B160	WNMG432RN KCP30B	B161
WD50FDS63154M	H126	WNMG332FF KCP10	B157	WNMG431MS KC5025	B160	WNMG432RN KCP40	B161
WD50FDS63289M	H126	WNMG332FF KCU10	B157	WNMG431MS KCU25	B160	WNMG432RP KC5010	B161
WD50FDS63429M	H127	WNMG332FN KCK15B	B157	WNMG431MS KCU10	B160	WNMG432RP KC5025	B161
WD50FDS63639M	H127						

For page references A-E, please see Volume I • Turning Tools Catalog.

Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)	Catalog No.	Page(s)
WNMG432RP KCK05	B161	WNMG433RP KCP05	B161	XDLT120508ERD721 GH2	V21	XRDA0500Y5CUC KCPM15	049
WNMG432RP KCK05B	B161	WNMG433RP KCP10	B161	XDLT120512ERD411 SP6519	V22	XRDA0500Y5CUE KCPM15	049
WNMG432RP KCK15	B161	WNMG433RP KCP10B	B161	XDLT120512ERD411 X500	V22	XRDA0625Y6CUC KCPM15	049
WNMG432RP KCK15B	B161	WNMG433RP KCP25	B161	XDLM090408SRD SC3025	V16	XRDA0625Y6CUE KCPM15	049
WNMG432RP KCK20	B161	WNMG433RP KCP25B	B161	XDLM090408SRD SC6525	V16	ZDET16M504FR721 GH1	T100
WNMG432RP KCK20B	B161	WNMG433RP KCP30	B161	XDLM090408SRD X400	V16	ZDET16M508FR721 GH1	T100
WNMG432RP KCM15	B161	WNMG433RP KCPK05	B161	XDLM090408SRD X500	V16	ZDET16M512FR721 GH1	T100
WNMG432RP KCM15B	B161	WNMG433RP KCU10	B161	XDLM120508SRD SC3025	V23	ZDET16M516FR721 GH1	T100
WNMG432RP KCM25	B161	WNMG433RP KCU25	B161	XDLM120508SRD X400	V23	ZDET16M520FR721 GH1	T100
WNMG432RP KCM25B	B161	WNMG433UN KCK05	B162	XDLM120508SRD X500	V23	ZDET16M525FR721 GH1	T100
WNMG432RP KCM35	B161	WNMG433UN KCK15	B162	XDPT090408ERD41 KCSM40	V15	ZDET16M525FR721 GH1	T100
WNMG432RP KCM35B	B161	WNMG433UN KCK15B	B162	XDPT090408ERD41 SC6525	V15	ZDET16M530FR721 GH1	T100
WNMG432RP KCP05	B161	WNMG433UN KCK20	B162	XDPT090408ERD41 SP6519	V15	ZDET16M530FR721 GH1	T100
WNMG432RP KCP10	B161	WNMG433UN KCK20B	B162	XDPT090408ERD41 X500	V15	ZDET16M532FR721 GH1	T100
WNMG432RP KCP10B	B161	WNMG433UP KC5010	B162	XDPT090412ERD411 KCSM40	V15	ZDET16M540FR721 GH1	T100
WNMG432RP KCP25	B161	WNMG433UP KCM25	B162	XDPT090412SRGP KC522M	V16	ZDET16M540FR721 GH1	T100
WNMG432RP KCP25B	B161	WNMG433UP KCM35	B162	XDPT090412SRGP KC725M	V16	ZDET16M550FR721 GH1	T100
WNMG432RP KCP30B	B161	WNMG433UP KCU10	B162	XDPT090412SRGP KCPK30	V16	ZDET16M560FR721 GH1	T100
WNMG432RP KCP40B	B161	WNMG434MN KCP25	B159	XDPT090412SRGP KCPM40	V16	ZDET16M560FR721 GH1	T100
WNMG432RP KCPK05	B161	WNMG434MN KCP25B	B159	XDPT120508ERD41 KCSM40	V22		
WNMG432RP KCU10	B161	WNMG434MR KCP10B	B159	XDPT120508ERD41 SC6525	V22		
WNMG432RP KCU25	B161	WNMG434MR KCP25B	B159	XDPT120508ERD41 SP6519	V22		
WNMG432UN KCK05B	B162	WNMG434RN KCP10	B161	XDPT120508ERD41 X500	V22		
WNMG432UN KCK15	B162	WNMG434RN KCP10B	B161	XDPT120512ERD411 KCSM40	V22		
WNMG432UN KCK15B	B162	WNMG434RN KCP25	B161	XDPT120515SRGP KC522M	V23		
WNMG432UN KCK20	B162	WNMG434RN KCP25B	B161	XDPT120515SRGP KC725M	V23		
WNMG432UN KCK20B	B162	WNMG434RP KCP10	B161	XDPT120515SRGP KCPK30	V23		
WNMG432UP KC5010	B162	WNMG434RP KCP25	B161	XDPT120515SRGP KCPM40	V23		
WNMG432UP KCM15	B162	WNMG434RP KCP25B	B161	XDPM090412SRD KC510M	V15		
WNMG432UP KCM25	B162	WNMG434RP KCU25	B161	XDPM090412SRD KC522M	V15		
WNMG432UP KCM25B	B162	WNMG434UN KCK15B	B162	XDPM090412SRD KCK15	V15		
WNMG432UP KCU10	B162	WNMG434UN KCK20	B162	XDPM090412SRD KCPK30	V15		
WNMG433FP KC5010	B158	WOEJ090512SRGD KC522M	V39	XDPM090412SRD KCPM40	V15		
WNMG433FP KCM15	B158	WOEJ090512SRGD KC725M	V39	XDPM120515SRD KC510M	V23		
WNMG433FW KCP05	B158	WOEJ090512SRGD KCPK30	V39	XDPM120515SRD KC522M	V23		
WNMG433FW KCP10	B158	WOEJ090512SRGD KCPM40	V39	XDPM120515SRD KCK15	V23		
WNMG433FW KCP10B	B158	WOEJ090512SRGD KCSM30	V39	XDPM120515SRD KCPK30	V23		
WNMG433MN KCP10	B159	WOEJ090512SRHD KC522M	V39	XDPM120515SRD KCPM40	V23		
WNMG433MN KCP10B	B159	WOEJ090512SRHD KC725M	V39	XELT160512ERD41 SC6525	V28		
WNMG433MN KCP25	B159	WOEJ090512SRHD KCPK30	V39	XELT160512ERD41 SP6519	V28		
WNMG433MN KCP25B	B159	WOEJ090512SRHD KCPM40	V39	XELT160512ERD41 X500	V28		
WNMG433MN KCP40B	B159	WPGT15105UF KC5010	B288	XELW160512SRD SC3025	V28		
WNMG433MP KC5010	B159	WPGT15105UF KCU10	B288	XELW160512SRD X400	V28		
WNMG433MP KCM15	B159	WPGT1510UF KC5010	B288	XEPT160512ERD41 KCSM40	V28		
WNMG433MP KCM25	B159	WPGT1510UF KCU10	B288	XEPT160516ERD41 KC522M	V28		
WNMG433MP KCM25B	B159	WPGT21505UF KCU10	B288	XEPT160516ERD41 KCPK30	V28		
WNMG433MP KCM35	B159	WPMT15121FP KCP25	B288	XEPT160516ERD41 KCPM40	V28		
WNMG433MP KCP10	B159	WPMT15121FP KCU10	B288	XEPW160520SRD KC522M	V28		
WNMG433MP KCP25B	B159	WPMT15121LF KC5025	B288	XEPW160520SRD KCK15	V28		
WNMG433MP KCU10	B159	WPMT2151FP KCM25	B288	XEPW160520SRD KCPK30	V28		
WNMG433MR KCM15B	B159	WPMT2151FP KCP25	B288	XEPW160520SRD KCPM40	V28		
WNMG433MR KCM25B	B159	WPMT2151FP KCU10	B288	XNGJ43ANENLD3W KC510M	S12		
WNMG433MR KCM35	B159	WPMT2151LF KC5010	B288	XNGJ43ANENLD3W KC522M	S12		
WNMG433MR KCP10B	B159	WPMT2151LF KC5025	B288	XNGJ43ANENLD3W KC725M	S12		
WNMG433MR KCP25B	B159	WPMT2151LF KCK20	B288	XNGJ43ANENLD3W KCPM40	S12		
WNMG433MR KCPK05	B159	WPMT2151LF KCP10	B288	XNGJ43ANENLD3W KCSM40	S12		
WNMG433MW KCM15B	B160	WPMT3251FP KCU10	B288	XNGJ43ANFNLDJ3W KC410M	S11		
WNMG433MW KCP05	B160	WPMT3251LF KC5010	B288	XNGJ535ANFNLDJ3W KC410M	S21		
WNMG433MW KCP10	B160	WPMT3251LF KCM15B	B288	XNGJ535ANSNGD3W KC725M	S21		
WNMG433MW KCP10B	B160	WPMT3251LF KCP25	B288	XNGJ535ANSNGD3W KCK15	S21		
WNMG433MW KCP25	B160	WPMT3252FP KCU10	B288	XNGJ535ANSNGD3W KCPK30	S21		
WNMG433MW KCP25B	B160	WPMT3252LF KC5010	B288	XNGJ535ANSNGD3W KCSM40	S21		
WNMG433RN KCP05	B161	WPMT3252LF KCK05	B288	XNXF43ZNEFLD3W KCK15	S90		
WNMG433RN KCP10	B161	WPMT3252LF KCM15	B288	XNXF43ZNEFLD3W KY3500	S90		
WNMG433RN KCP10B	B161	WPMT3252LF KCP25B	B288	XPLT060308ERD41 SC6525	V7		
WNMG433RN KCP25	B161	WXXNL4455X-FL	E60	XPLT060308ERD41 SP6519	V7		
WNMG433RN KCP25B	B161	WXXNR4455X-FL	E60	XPLT060308ERD41 X400	V7		
WNMG433RN KCP30	B161	XADA0375Y4CU45 KCPM15	048	XPLT060308ERD41 X500	V7		
WNMG433RN KCP30B	B161	XADA0375Y4CU60 KCPM15	048	XPNT050522RF SP6519	V115		
WNMG433RN KCP40B	B161	XADA0500Y5CU45 KCPM15	048	XPNT06062515RF SP6519	V115		
WNMG433RN KCPK05	B161	XADA0500Y5CU60 KCPM15	048	XPNT080832RF SP6519	V115		
WNMG433RP KC5010	B161	XADA0625Y6CU45 KCPM15	048	XPNT101043RF SP6519	V115		
WNMG433RP KCK05	B161	XADA0625Y6CU60 KCPM15	048	XPNT121254RF SP6519	V115		
WNMG433RP KCK15	B161	XDLT090408ERD41 SC6525	V14	XPNT161654RF SP6519	V115		
WNMG433RP KCK15B	B161	XDLT090408ERD41 SP6519	V14	XPPT060308ERD41 KCSM40	V7		
WNMG433RP KCK20	B161	XDLT090408ERD41 X500	V14	XPPW060310SRD KC510M	V7		
WNMG433RP KCK20B	B161	XDLT090408ERD721 GH2	V14	XPPW060310SRD KC522M	V7		
WNMG433RP KCM15	B161	XDLT090412ERD411 SP6519	V15	XPPW060310SRD KCPK30	V7		
WNMG433RP KCM25	B161	XDLT090412ERD411 X500	V15	XPPW060310SRD KCPM40	V7		
WNMG433RP KCM25B	B161	XDLT120508ERD41 SC6525	V21	XRDA0375Y4CUC KCPM15	049		
WNMG433RP KCM35	B161	XDLT120508ERD41 SP6519	V21	XRDA0375Y4CUE KCPM15	049		
WNMG433RP KCM35B	B161	XDLT120508ERD41 X500	V21	XRDA0500Y5CUB KCPM15	049		

For page references A–E, please see Volume I • Turning Tools Catalog.

▶ North America

United States

General Sales: 1 800 446 7738
FtMill.Service@kennametal.com
 Technical Support: 1 800 835 3668
na.techsupport@kennametal.com

Canada

General Sales: 800 446 7738
toronto.service@kennametal.com
 Technical Support: 1 800 835 3668
na.techsupport@kennametal.com

Mexico

General Sales: 001 888 402 4963
k-mx.service@kennametal.com

▶ Central/South America

Argentina

General Sales: +54 11 4719 0700
buenos-aires.ventas@kennametal.com

Brazil

General Sales: +55 19 3936 9200
bra.marketing@kennametal.com

Chile

General Sales: +56 2 2264 1177
kennametalchile@kennametalchile.cl

Venezuela

Hertec Group
 General Sales: +58 212 7510924
ventas@hertecgroup.com

El Salvador

Prometca S.A. DE C.V.
 General Sales: +503 2219 7579
portilloprometca@gmail.com

▶ Africa

Egypt

General Sales: +44 1384 408060
na.techsupport@kennametal.com

South Africa

General Sales: +27 11 748 9300
na.techsupport@kennametal.com

▶ Europe

Austria

General Sales: +43 2236 3798980
brunn.sales@kennametal.com
 Technical Support: 0800 202873
eu.techsupport@kennametal.com

Belgium

General Sales: 0800 81 372
belgium.sales@kennametal.com
 Technical Support: 0800 80850
eu.techsupport@kennametal.com

Czech Republic

Ricany Jazlovice
 General Sales: 800 900 840
k-prha.sales@kennametal.com

Denmark

Technical Support: 808 89298
na.techsupport@kennametal.com

Finland

Technical Support: 0800 919412
na.techsupport@kennametal.com

France

General Sales: +33 1 60 12 81 00
info.fr@kennametal.com
 Technical Support: 0805 540 367
eu.techsupport@kennametal.com

Germany

General Sales: +49 6003 8277 0
rosbach.sales@kennametal.com
 Technical Support: 0800 0006651
eu.techsupport@kennametal.com

Great Britain

General Sales: +44 1384 408060
kingswinford.service@kennametal.com
 Technical Support: 0800 032 8339
na.techsupport@kennametal.com

Hungary

General Sales: +36 96 618 150
gyoer.sales@kennametal.com

Ireland

General Sales: +44 1384 408060
na.techsupport@kennametal.com

Italy

General Sales: +39 02 895 961
milano.vendite@kennametal.com
 Technical Support: 800 916561
eu.techsupport@kennametal.com

Luxembourg

General Sales: +32 4 248 48 48
liege.sales@kennametal.com

Netherlands

General Sales: 0800 44 33 201
netherlands.sales@kennametal.com
 Technical Support: 0800 0201130
eu.techsupport@kennametal.com

Norway

Technical Support: 800 10080
na.techsupport@kennametal.com

Poland

General Sales: +48 61 6656501
poland.service@kennametal.com
 Technical Support: 00800 4411887
eu.techsupport@kennametal.com

Portugal

General Sales: +351 22 4119 400
porto.service@kennametal.com

Russia

General Sales: +7 495 4115386
moscow.information@kennametal.com
 Technical Support:
 Landline: 08800 5556394
 Cell Phone: +7 8005556394
eu.techsupport@kennametal.com

Slovakia

General Sales: 0800 044 053
k-eu-zilina.sales@kennametal.com

Spain

General Sales: +34 93 586 03 50
barcelona.service@kennametal.com

Sweden

Technical Support: 020799246
na.techsupport@kennametal.com

Turkey

General Sales: +90 216 574 4780
tr.information@kennametal.com

Ukraine

Technical Support: 0800502664
eu.techsupport@kennametal.com

 **East/Asia Pacific****Australia**

General Sales: 1 800 666 667
k-au.service@kennametal.com
Technical Support: 1 800 67 4037
ap-kmt.techsupport@kennametal.com

Bahrain

General Sales: +971 (0) 5529983
info@passtech.overmach.com

China

General Sales: +86 400 889 2135
Technical Support: 400 889 2238
k-cn.techsupport@kennametal.com

Dubai

General Sales: +971 (0) 5529983
info@passtech.overmach.com

India

General Sales: 1800 103 5138
Technical Support: 1800 103 5227
in.techsupport@kennametal.com

Indonesia

General Sales: +65 6265 9222
k-sg.sales@kennametal.com
Technical Support: 1800 6221031
ap-kmt.techsupport@kennametal.com

Israel

General Sales: +97 23 558 1313
arnold1@inter.net.il
Technical Support: 1809 449889
na.techsupport@kennametal.com

Japan

General Sales: +813 3820 2855
Technical Support: +813 3820 2855
ap-kmt.techsupport@kennametal.com

Korea

General Sales: +82 2 2109 6100
Technical Support: +080 728 0880
ap-kmt.techsupport@kennametal.com

Kuwait

General Sales: +971 (0) 5529983
info@passtech.overmach.com

Malaysia

General Sales: +6 03 5569 9080
Technical Support: 1800812990
ap-kmt.techsupport@kennametal.com

New Zealand

General Sales: 0800 536626
k-nz.service@kennametal.com
Technical Support: 0800 450941
ap-kmt.techsupport@kennametal.com

Oman

General Sales: +971 (0) 6 5529983
info@passtech.overmach.com

Pakistan

General Sales: +92 21 2465305
itsystem@brain.net.pk

Qatar

General Sales: +971 (0) 6 5529983
info@passtech.overmach.com

Saudi Arabia

General Sales: +971 (0) 6 5529983
info@passtech.overmach.com

Singapore*

General Sales: +65 62659222
k-sg.sales@kennametal.com
Technical Support: 1800 6221031
ap-kmt.techsupport@kennametal.com

** Vietnam and Philippines individuals should contact the Singapore office.*

Taiwan

General Sales: +886 4 2350 1920
taiwan.service@kennametal.com
Technical Support: 0800 666 197
ap-kmt.techsupport@kennametal.com

Thailand

General Sales: +662 642 3455
Technical Support: 18004417820
ap-kmt.techsupport@kennametal.com

United Arab Emirates

General Sales: +971 (0) 6 5529983
info@passtech.overmach.com

Visit **kennametal.com** for additional contact information for locations.



Turning Icons

Shank: KM-TS™ (ISO 26622)	Shank: KM4X™	Shank: VDI Shank	DIN Number 69880	Through Coolant
Through Coolant: 100 bar	Through Coolant: 1500 psi	Through Coolant: 80 bar	Through Coolant: 1200 psi	ISO: 26622
ISO: 10889	Turning	Profiling	Facing	Face Grooving
Chamfering	Back Boring	Threading	Grooving	Cut-Off
I.D. Turning	I.D. Chamfering	I.D. Facing	I.D. Grooving	I.D. Face Grooving
Deep Grooving	I.D. Internal Threading			

Holemaking Icons

Countersinking/Stroke Chamfering	Taper Drilling	Counterboring	Drilling	Drilling: Inclined Entry
Drilling: Inclined Exit	Drilling: Exit Offset	Drilling: Flat Bottom	Drilling: Stacked Plates	Drilling: Convex
Drilling: Blind Hole	Drilling: Concave	Drilling: Chain	Drilling: Cross Hole	Drilling: Half Cylinder
Drilling: Corner Drilling 45°	Reaming: Through Hole	Reaming: Blind Hole	Reaming: Through Cross	Reaming: Blind and Cross Holes
Reaming: Interrupted Cut	Drilling Depth: 1 x D	Drilling Depth: 3 x D	Drilling Depth: 5 x D	Drilling Depth: 8 x D
Drilling Depth: 10 x D	Drilling Depth: 12 x D	Drilling Depth: 7 x D	Drilling Depth: 4 x D	Drilling Depth: 1.5 x D

(continued)

(Holemaking Icons — continued)

Corner Style: Corner Chamfer	Corner Style: Square End	Shank: Cylindrical Plain	Shank: Cylindrical Plain ≤h6	Shank: Cylindrical Weldon®
Shank: Cylindrical Whistle Notch	Shank: Cylindrical Whistle Notch 2°	Shank: Cylindrical with Flat	SK Shank: Rübüg	Shank: SK BT JIS B 6339
Shank: SK CAT(CV) ANSI B5.50	Shank: SK DV DIN 69871	Shank: Cylindrical Whistle Notch with Drive and Flange	Shank: Cylindrical with Flat and Flange	KM™ Shank
Shank: HSK DIN 69893	Shank: HSK DIN 69893 Form A	Shank: KM-TS™ (ISO 26622)	Shank: KM-XMZ	Shank: ER
Helix Angle: 0°	Helix Angle: 15°	Helix Angle: 30°	Tip Angle: 118°	Tip Angle: 130°
Balance (G 6.3/25,000)	Balance (G 6.3/10,000)	Balance (G 6.3/6,000)	Balance (G 16/20,000)	DIN Number 6537
DIN Number 6535	DIN Number 69893	DIN Number 69090-3	Drilling: No Coolant	Through Coolant: Radial: Drilling
Through Coolant: Radial: Reaming	Through Coolant: Radial: Indexable Drilling	Flood Coolant: Drilling	Through Coolant: MQL (Minimum Quantity Lubricant): Drilling	Through Coolant: Axial: Drilling
Through Coolant: Axial: Reaming	Through Coolant: Coolant Entry AD	Through Coolant: Coolant Entry AD/B	Tool Dimensions: 2 Flute/2 Margin/ Coolant	Tool Dimensions: 2 Flute/2 Margin/ No Coolant
Tool Dimensions: 2 Flute/3 Margin/ Coolant	Tool Dimensions: 2 Flute/4 Margin/ Coolant	Tool Dimensions: 2 Flute/4 Margin/ No Coolant	Tool Dimensions: 2 Flute/4 Margin/ X/Coolant	Tool Dimensions: 3 Flute/3 Margin/ Coolant
Tool Dimensions: 3 Flute/3 Margin/ No Coolant	Tool Dimensions: Flute Configuration: 2	Tool Dimensions: Flute Configuration: 3	Tool Dimensions: Flute Configuration: 4	

Tapping Icons

Countersinking/ Stroke Chamfering	Drilling: Flat Bottom	Drilling: Blind	Tapping: Through Hole	Tapping: Blind Hole
Tapping: Pipe Thread	Threading: Through Hole	HSS: High-Speed Steel	HSS-E: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness	HSS-E-PM: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness (PM = Powder Metal Steel)
HM: (Carbide)	Drilling Depth: 2 x D	Chamfer Form (3-4)	Chamfer Form B (3.5-5.5)	Chamfer Form C (2-3)
Chamfer Form D (3.5-5)	Chamfer Form E (1.5-2)	Chamfer Form (3-5)	Chamfer Form (2.5-3.5)	Chamfer Form (1-2)
Tapping Helix Angle: 0°	Tapping Helix Angle: 10°	Tapping Helix Angle: 15°	Tapping Helix Angle: L15°	Tapping Helix Angle: 25°
Tapping Helix Angle: 42°	Tapping Helix Angle: 45°	Multipurpose Taps: Spiral Point	Tension/ Compression	DIN Number 371
DIN Number 374	DIN Number 376	DIN Number 5156	DIN Number 2174	DIN ANSI
Through Coolant: Radial: Tapping	Flood Coolant: Tapping	Through Coolant: Axial: Tapping	Manufacturer's Specs: ISO 2	Manufacturer's Specs: ISO 3
Manufacturer's Specs: JIS	Class of Fit: 2B	Class of Fit: 3B	Class of Fit: 6H	Class of Fit: 6HX
Class of Fit: 6G	Class of Fit: 2BX	Class of Fit: 3BX	Unified Fine Thread	Unified Course Thread
American Tapered Pipe Thread for Threads with Dryseal Material	American Tapered Pipe Thread for Threads without Dryseal Material	American National Standards Institute	American Standard Straight Pipe Thread	American Standard Straight Pipe Thread Dryseal
Whitworth Pipe Thread	Unified Course Thread: J Profile	Unified Fine Thread: J Profile	ISO Metric Coarse Thread	ISO Metric Fine Thread

Solid End Milling Icons

Face Milling	Plunge Milling	Plunge Milling: Ball Nose	Ramping: Blank	Ramping: Up to 2°
Ramping: Up to 3°	Slotting: Ball Nose	Slotting: Ball Nose with AP Dimension	Slotting: Square End	Slotting: Square End with AP Dimension
Trochoidal Milling	Trochoidal Milling: Ball Nose	Side Milling/ Shoulder Milling: Ball Nose	Side Milling/ Shoulder Milling: Ball Nose with AE/AP Dimensions	Side Milling/ Shoulder Milling: Square End
Side Milling/ Shoulder Milling: Square End with AE/AP Dimensions	Side Milling/ Shoulder Milling: Eased Chamfer	Side Milling/ Shoulder Milling: Eased Chamfer with AE/AP Dimensions	Side Milling/ Shoulder Milling: Fine Finishing	Side Milling/ Shoulder Milling: Fine Finishing with AE/AP Dimensions
Side Milling/ Shoulder Milling: Finishing	Side Milling/ Shoulder Milling: Finishing with AE/AP Dimensions	Side Milling/ Shoulder Milling: Thin Wall Solid End Milling	Side Milling/ Shoulder Milling: Radius	Side Milling/ Shoulder Milling: Radius with AE/AP Dimensions
3D Profiling	3D Profiling with AE/AP Dimensions	3D Profiling with Square End Mill	Corner Style: Ball Nose	Corner Style: Corner Chamfer
Corner Style: Corner Radius	Corner Style: Square End	Corner Style: Torus	Corner Style: Taper Ball Nose	Shank: Cylindrical Plain
Shank: Cylindrical Weldon®	Shank: SK BT JIS B 6339	Shank: HSK: CAT: Drawbar Thread: 5/8-11 UNC	Shank: HSK A/ DIN69893	Shank: Safe-Lock™ ≤h6
Shank: Safe-Lock™	Shank: PSC Shank	Duo-Lock™ Connection	Helix Angle: 0°	Helix Angle: 15°
Helix Angle: 20°	Helix Angle: 25°	Helix Angle: 30°	Helix Angle: 35°	Helix Angle: 37°
Helix Angle: 38°	Helix Angle: 40°	Helix Angle: 45°	Helix Angle: 50°	Helix Angle: 43°
Helix Angle: 36°	Helix Angle: 35°/38°	Helix Angle: 37°/39°	Balance (G 2.5/25,000)	Through Coolant

(continued)

(Solid End Milling Icons — continued)

Through Coolant: Axial: Solid End Mill	Tool Dimensions: Flute Configuration: X (Variable)	Tool Dimensions: Flute Configuration: 2	Tool Dimensions: Flute Configuration: 3	Tool Dimensions: Flute Configuration: 4
Tool Dimensions: Flute Configuration: 5	Tool Dimensions: Flute Configuration: 6	Tool Dimensions: Flute Configuration: 12	ISO 26622	

Indexable Milling Icons

Counterboring	Spiral Circular	Drilling	Face Milling	Helical Milling
Plunge Milling	Plunge Milling: Ball Nose	Ramping: Blank	Slotting: Ball Nose	Slotting: Side
Slotting: Side with AE/AP Dimensions	Slotting: Side Milling: Ball Nose	Slotting: Square End	Slotting: T	Slotting: T with AP Dimension
Side Milling/ Shoulder Milling: Ball Nose	Side Milling/ Shoulder Milling: Bottom Shouldering	Side Milling/ Shoulder Milling: Square End	Side Milling/ Shoulder Milling: Eased Chamfer	Slotting: Shoulder Profiling
Slotting: Shoulder	3D Profiling	3D Profiling with Square End Mill	PCD PCD Tool	Pocketing
Shank: Cylindrical Plain	Shank: Cylindrical Weldon®	Shank: Cylindrical Weldon 2 Flat	Shank: Screw-On	SK Shank: R8
Shank: SK BT JIS B 6339	Shank: SK CAT(CV) ANSI B5.50	Shank: HSK DIN 69893	Shell Mill Shank	Milling: Through Coolant
Axial: Nozzle	Through Coolant: Pressurized Air Coolant: Radial: Indexable Milling			

Service and Support

Customer Application Support (CAS)

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

SERVICE LEVEL EXCELLENCE	Fast telephone response. Quick technical solutions. Efficient case management.	
SERVICES	Operating parameters. Process optimization. Hardware support. Tooling selection. Troubleshooting.	
BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY	Materials database. Application calculators. Tooling performance experts.	

Originating Country	Language	Phone	E-mail
Australia	English	1800 666 667	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	k-cn.techsupport@kennametal.com
Denmark	English	808 89298	na.techsupport@kennametal.com
Finland	English	0800 919412	na.techsupport@kennametal.com
France	French	080 5540 367	eu.techsupport@kennametal.com
Germany	German	0800 0006651	eu.techsupport@kennametal.com
India	English	1 800 103 5227	in.techsupport@kennametal.com
Israel	English	1809 449889	na.techsupport@kennametal.com
Italy	Italian	800 916561	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	ap-kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	ap-kmt.techsupport@kennametal.com
Mexico	Spanish	1800 253 0758	na.techsupport@kennametal.com
Netherlands	English	0800 0201 130	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	ap-kmt.techsupport@kennametal.com
Norway	English	800 10080	na.techsupport@kennametal.com
Poland	Polish	0080 04411887	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643	na.techsupport@kennametal.com
Sweden	English	020799246	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	ap-kmt.techsupport@kennametal.com
UK	English	0800 032 8339	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	eu.techsupport@kennametal.com
USA	English	800 835 3668	na.techsupport@kennametal.com

Numbers shown only serve the originating country listed.

P Steel	N Non-Ferrous	H Hardened Materials
M Stainless Steel	S High-Temp Alloys	C CFRP Materials
K Cast Iron		

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	A36, 1008, 1010, 1018 through 1029; 1108, 1117
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	10L18, 1200 Series, 1213, 12L14
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
M1	Austenitic Stainless Steel	–	<600	130–200	–	200 Series, 301, 302, 304, 304L, 309
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21
M3	Duplex Stainless Steel	–	<800	135–275	<30	323, 329, F55, 2205, S329000
K1	Gray Cast Iron	–	125–500	120–290	<32	class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	60-40-18, 65-45-12, 80-55-06; SAE J434: D4018, D4512, D5506; ASTM A47: Grade 32510, 35018; SAE J158: Grade M3210, M4504, M5003, M5503, M7002; ASTMA842: Grade 250, 300, 350, 400, 450
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	ASTM A536:100-70-03, 120-90-02, SAE J434: D7003, SAE J158: Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185
N1	Wrought Aluminum	–	–	–	–	2025, 5050, 7050, 1000, 2017
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	2024, 6061, 7075
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	–
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	C81500
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	–
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	Graphite, CFK, CFRP
N7	Metal Matrix Composites (MMC)	–	–	–	–	C63000
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	A-286, INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 25 (L605), Haynes 188, J-1570, Stellite, AiResist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102, INCOLOY 900 Series, Rene 41, Waspalloy, Monel®, K-500, MAR-M20, NIMONIC®, UDIMET®
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Pure: Ti 98.8, Ti 98.9, Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al
H1	Hardened Materials	–	–	–	44–48	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H2	Hardened Materials	–	–	–	48–55	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H3	Hardened Materials	–	–	–	56–60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H4	Hardened Materials	–	–	–	>60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
C1	CFRP, CFRP/CFRP	–	–	–	–	–
C2	CFRP/Non-Ferrous	–	–	–	–	–
C3	CFRP/High-Temp	–	–	–	–	–
C4	CFRP/Stainless Steel	–	–	–	–	–
C5	CFRP/Non-Ferrous/High-Temp	–	–	–	–	–

P Steel	N Non-Ferrous	H Hardened Materials
M Stainless Steel	S High-Temp Alloys	C CFRP Materials
K Cast Iron		

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	-	-
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	-	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	Ferritic, Martensitic, and PH Stainless Steels	-	600–900	<330	<35	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	-	900–1350	350–450	35–48	X102CrMo17, G-X120Cr29
M1	Austenitic Stainless Steel	-	<600	130–200	-	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	-	600–800	150–230	<25	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	Duplex Stainless Steel	-	<800	135–275	<30	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	Gray Cast Iron	-	125–500	120–290	<32	GG15, GG25, GG30, GG40, GTW40
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	-	<600	130–260	<28	GGG40, GTS35
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	-	>600	180–350	<43	GGG60, GTW55, GTS65
N1	Wrought Aluminum	-	-	-	-	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, AlMgSiPb
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	-	-	-	GAISiCu4, GDAISi10Mg
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	-	-	-	G-ALSi12, G-AISi17Cu4, G-AISi21CuNiMg
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	-	-	-	-	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	-	-	-	-	Lexan®, Hostalen™, Polystyrol, Makrolon®
N6	Carbon, Graphite Composites, CFRP	-	-	-	-	CFK, GFK
N7	Metal Matrix Composites (MMC)	-	-	-	-	-
S1	Iron-Based, Heat-Resistant Alloys	-	500–1200	160–260	25–48	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	-	1000–1450	250–450	25–48	Haynes® 188, Stellite® 6,21,31
S3	Nickel-Based, Heat-Resistant Alloys	-	600–1700	160–450	<48	INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75
S4	Titanium and Titanium Alloys	-	900–1600	300–400	33–48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	-	-	-	44–48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400
H2	Hardened Materials	-	-	-	48–55	-
H3	Hardened Materials	-	-	-	56–60	-
H4	Hardened Materials	-	-	-	>60	-
C1	CFRP, CFRP/CFRP	-	-	-	-	-
C2	CFRP/Non-Ferrous	-	-	-	-	-
C3	CFRP/High Temp	-	-	-	-	-
C4	CFRP/Stainless Steel	-	-	-	-	-
C5	CFRP/Non-Ferrous/High-Temp	-	-	-	-	-

P0 ■ Workpiece Materials Listing • Steel • P0

P0 Low-Carbon Steels, Long Chipping

Content: C <.25%

Tensile Strength RM (MPa)*: <530

Hardness (HB): <125

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
1013	US1 34-1	-	-	G10130	-	-	-	1233	-	-	1.0055	-
1010	C 10	045 M 10	S 10 C	G10100	C 10	XC 10	C 10	-	-	-	1.0301	-
1008	DD 11 (SIW 22)	HR 3	SPHD	-	DD 11	1 C	-	-	-	-	1.0332	-
1020	C 22	050 A 20	S 22 C	G10200	1 C 22	C 20	C 20	1450	-	-	1.0402	-
1025	C 25	070 M 26	S 22 C	G10250	1 C 25	C 25	C 25	-	-	-	1.0406	-
1012	B 500 H	-	S 12 C	G10120	B 500 B	XC 12	B 500 B	1332	-	-	1.0439	-
1018	C16.8	080 A 17	-	G10180	-	-	-	-	-	-	1.0453	-
1108	10 S 20	210 M 15	-	G 11080	10 S 20	10 F 1	CF 10 S 20	-	-	-	1.0721	-
1010	Ck 10	040 A 10	S 10 C	G10100	2 C 10	XC 10	C 10	1265	-	-	1.1121	-
1022	20 Mn 5	120 M 19	SMn 420	G 10220	20 Mn 5	20 M 5	G 22 Mn 3	-	-	-	1.1133	-
1015	Ck 15	080 M 15	S 15 C	G 10150	2 C 15	XC 15	C 15	1370	-	-	1.1141	-
1021	22 B 2	-	SWRCHB 220	G10210	C 22 BE 69	21 B 3	-	-	-	-	1.5508	-
-	PS 275 TM	S 275 M	-	-	S 275 M	S 275 M	S 275 M	-	-	-	1.8818	-
-	DI-MC 355 B	-	-	-	S 355 M	E 355	S 355 M	-	-	-	1.8823	-
-	DI-MC 420 B	S 420 M	-	-	S 420 M	E 420	S 420 M	-	-	-	1.8825	-
-	S 460 M	S 460 M	-	-	S 460 M	E460; S460M	S460M	-	-	-	1.8827	-
-	BTSIE 355 TM	S 355 ML	-	-	S 355 ML	E 355	S 355 ML	-	-	-	1.8834	-
-	BTSIE 420 TM	S 420 MI	-	-	S 420 ML	E 420	S 420 ML	-	-	-	1.8836	-
-	St E 320-3Z	-	-	-	S 320 GD + ZA	-	-	-	-	-	1.0250	-

P1 ■ Workpiece Materials Listing • Steel • P1

P1 Low-Carbon Steels, Short Chipping, Free Machining

Content: C <.25%

Tensile Strength RM (MPa)*: <530

Hardness (HB): <125

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	R St 34-2/ S 205 G2T	34/20CR	-	K02502	-	-	-	-	-	-	1.0034	-
-	St 33	HR 15	SS 330	K01400	-	A 33	Fe 320	-	-	-	1.0035	-
A 570 Gr. 33	UST 37-2	4360-40 B	SS 34	K 02502	S 235 JR G1	E 24-2	Fe 360 BFU	1311	-	-	1.0036	-
-	St 37-2	HS 37/23	STKR 400	K02702	S 235 JR	E 28-2	Fe 430 C	1412	-	-	1.0037	-
A 570 Gr. 36	R St 37-2/S235 JRG2	4260-40 C	SS 34	K 02502	S235 JR G 2	E 24-2 NE	Fe 360 BFN	1312	-	-	1.0038	-
-	S 235 JRH	S 235 JRH	-	-	S235JRH	E 24-2	S 235 JRH	-	-	-	1.0039	-
-	R St 42-1	-	-	K02507	-	-	-	-	-	-	1.0077	-
-	S235J2G3/Fe 360 D1	S 235 J 2 G 3	-	K01501	S 235 J2 G3	E 24-4	S 235 J2G3	1313	-	-	1.0161	-
-	C 10 Pb	-	-	-	C 10 GPb	-	-	-	-	-	1.0302	-
-	QSt 32-3	-	SWRCH6R	-	CB 4 FF KD	-	CB 4 F U	-	-	-	1.0303	-
-	St 35.8	-	STPT 38	K01201	-	-	-	-	-	-	1.0305	-
-	St 37-2	360	STKM 12 A	K02504	S 235 JR	E 24-2	Fe 360	1412	-	-	1.0308	-
-	C10D	-	SWRM 10	-	C 10 D	FM 10	C 10 D	-	-	-	1.0310	-
-	C12D	-	SWRM 12	-	C 12 D	-	C 12 D	-	-	-	1.0311	-
-	R St 15	FeP05	-	-	Fe P05	FeP05	FeP05	-	-	-	1.0312	-
-	D 6-2	0 1 5 A 03	SWRM 6	G10050	C 4 D	-	3 CD 5	-	-	-	1.0314	-
-	St 37.8	-	STB 35	-	-	-	Fe 37	-	-	-	1.0315	-
-	St 13	CR 3	SPCD	-	-	-	-	-	-	-	1.0333	-
-	D D 13 (SIW 24)	HS 3	SPHE	-	D D 13	3C	-	-	-	-	1.0335	-
-	UST 4/DC 04 G	-	-	-	D C 04 G 1	-	-	-	-	-	1.0336	-
-	Ro St 4/DC 04 GT	-	-	-	DC 04 GT	-	-	-	-	-	1.0337	-
-	St 4	DC 04/FeP04	SPCE	-	Fe P04	Fe 14	DC04/FeP04	-	-	-	1.0338	-
-	DC01Cu	-	-	-	DC 01 Cu	-	-	-	-	-	1.0344	-
-	RR St 3	CR 3	SPCD	-	Fe P03	F 13	DC 03/FeP 03	-	-	-	1.0347	-
-	U H /P 195GH	-	SGV 480	-	P 195 Gh	-	-	-	-	-	1.0348	-
-	St 14 Cu 3	-	-	-	DC 04 Cu	-	-	-	-	-	1.0354	-
-	-	3 CR	-	-	D D 12	D D 12	-	-	-	-	1.0398	-
1015	C 15	080 M 15	S 15 C	G10170	C 15	C 12	C 15	1350	-	-	1.0401	-
-	LSt 45.8	-	-	-	C 16	-	C 16	-	-	-	1.0407	-
-	C15D	-	SWRM 15	-	C 15 D	FM 15	C 15 D	-	-	-	1.0413	-
-	C20D	-	SWRM 20	-	C 20 D	FM 20	C 20 D	-	-	-	1.0414	-
-	C26D	-	SWRH 27	-	C 26 D	FM 26	C 26 D	-	-	-	1.0415	-
-	C18D	-	SWRM 17	-	C 18 D	FM 18	C 18 D	-	-	-	1.0416	-
-	RSt 44-2	440	-	G10160	-	-	-	-	-	-	1.0419	-
-	P265 NB	-	SG 295	-	P 265 NB	BS 2	-	-	-	-	1.0423	-
-	P 265 GH	151-400	SG 30	K02801	P 265 GH	A42CP	P 265 GH	1430	-	-	1.0425	-
-	C 22.3	-	-	-	C 22 G 1	-	-	-	-	-	1.0427	-
-	BSt 420 S	-	-	-	Fe B 400	-	-	-	-	-	1.0428	-
-	C 21	-	SFVC 1	K03504	P 305 GH	-	-	-	-	-	1.0432	-
-	GS-45	A1	SC 450	J03001	GE 230	E23-45M	-	1305	-	-	1.0446	-
-	TStE 275 (S 275 NL)	40EE	-	-	S 275 NL	S 275 NL	S 275 NL	-	-	-	1.0491	-
-	St 42.8	-	STPT 42	-	-	-	Fe 42	-	-	-	1.0498	-
-	S 335 N (StE 355)	50 E	-	-	S 355 N	E 355	S 355 N	2134	-	-	1.0545	-
-	S 355 NL (TStE 355)	50 E E	-	-	S 355 NL	E 355	S 355 N L	2135	-	-	1.0546	-
-	R 7 S 6/C 7 RG 2	-	-	-	C 7 RG 2	-	-	-	-	-	1.0709	-
B1112	9 S 20	220 M 07	SUM 21	G 11120	-	-	CF 9 S 22	-	-	-	1.0711	-
1213	9 SMn 28/11 SMn 30	230 M 07	SUM 22	G 12130	11 SMn 28	S 250	CF 9 SMn 28	1912	-	-	1.0715	-
12L13	9 SMnPb 28	-	SUM 22 L	G 12134	11 SMnPb 28	S 250 Pb	CF 9 SMnPb 28	1914	-	-	1.0718	-
-	15 S 22/15 S 20	En32M	SUM 32	-	15 S 22	-	-	1922	-	-	1.0723	-
-	15 SMn 13	15 SMn 13	-	-	15 SMn 13	15 SMn 13	-	-	-	-	1.0725	-
1215	9 SMn 36/11 S Mn 37	240 M 07	SUM 25	G 12150	11 SMn 37	S 300	CF 9 SMn 36	-	-	-	1.0736	-
12L14	9 SMnPb 36/11 SMnPb 37	-	-	G 12144	11 SMnPb 37	S 300 Pb	CF 9 SMnPb 36	1926	-	-	1.0737	-
-	11 SMnPbTe 37	11 SMn 37	-	-	11 SMn 37	-	-	-	-	-	1.0738	-
-	15 SPb 20/15 SPb 22	-	-	-	15 SPb 22	-	-	-	-	-	1.0753	-
-	36 SMn 14	36SMn14	-	-	36SMn14	36SMn14	-	-	-	-	1.0764	-
-	C10D2	-	-	-	C 10 D 2	FM 10	C 10 D 2	-	-	-	1.1114	-
-	Cq 10 (C 10 C)	-	SWRCH 10 K	-	C 10 KD	-	-	-	-	-	1.1122	-
-	C15D2	-	-	-	C 15 D 2	FM 15	C 15 D 2	-	-	-	1.1126	-
-	C 18D2	-	-	-	C 18 D 2	FM 18	C 18 D 2	-	-	-	1.1129	-

(continued)

P1
Workpiece Materials Listing • Steel • P1 (continued)
P1 Low-Carbon Steels, Short Chipping, Free Machining
Content: C <.25%
Tensile Strength RM (MPa): <530*
Hardness (HB): <125

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	GS-16 Mn 5	-	-	-	G 17 Mn 5	G 17 Mn 5	G17Mn5	-	-	-	1.1131	-
-	C20D2	-	-	-	C 20 D 2	FM 20	C20D 2	-	-	-	1.1137	-
-	C26D2	-	-	-	C 26 D 2	FM 26	C26D 2	-	-	-	1.1139	-
-	GC 16 E/GS-Ck 16	-	-	-	GC 16 E	-	-	-	-	-	1.1142	-
-	C 16 E	C 16 E	-	-	C 16 E	XC 18	-	-	-	-	1.1148	-
-	Cm 22	070 M 20	C 22 R (3 C 22)	-	3 C 22	XC 18 u	C 22 R	-	-	-	1.1149	-
-	Ck 22	050 A 20	S 22 C	G10230	2 C 22	XC 25	C 20	-	-	-	1.1151	-
-	Cq 22	-	SWRCH20K	-	C 21 KD	-	CB 20 FF	-	-	-	1.1152	-
-	Ck 25	070 M 26	S 25 C	G10250	2 C 25	XC 25	C 25	-	-	-	1.1158	-
-	C2D1	-	-	-	C 2 D 1	-	C 2 D 1	-	-	-	1.1185	-
-	19 MnVS 6	-	-	-	19 MnVS 6	-	-	-	-	-	1.1301	-
-	PS 275 TM	S 275 M	-	-	S 275 M	S 275 M	S 275 M	-	-	-	1.8818	-
-	DI-MC 355 B	-	-	-	S 355 M	E 355	S 355 M	-	-	-	1.8823	-
-	DI-MC 420 B	S 420 M	-	-	S 420 M	E 420	S 420 M	-	-	-	1.8825	-
-	S 460 M	S 460 M	-	-	S 460 M	E460/S460M	S460M	-	-	-	1.8827	-
-	BTSIE 355 TM	S 355 ML	-	-	S 355 ML	E 355	S 355 ML	-	-	-	1.8834	-
-	BTSIE 420 TM	S 420 ML	-	-	S 420 ML	E 420	S 420 ML	-	-	-	1.8836	-
-	S 235 J 0 W (Allwesta 360)	S 235 J 0 W	SMA 400 BW	-	S 235 JO W	S 235 J 0 W	-	-	-	-	1.8958	-
-	S 355 J 0 W (Allwesta 510)	WR 50 B	SMA 490 BW	-	S 235 JO W	E24W-3	S 235 JO W	-	-	-	1.8959	-
-	WTSt 37-2/S235JRW	WR 50 B	SMA 41 A	K11538	S 235 JR W	E 24 W-2	-	-	-	-	1.8960	-
-	WTSt 37-3	WR 50 C	SMA 50 A	-	S 235 J2 W	S 235 J 2 W	Fe 360 D FF	-	-	-	1.8961	-
-	USI 42-2	-	SS 41	-	-	HS 18-0-2-10	-	-	-	-	1.0040	-
-	St 37-2	-	-	-	S 235 JRC	E 24-2	S 235 JRC	-	-	-	1.0120	-
-	S 235 JR G1F	-	-	-	S 235 JRG 1 F	-	-	-	-	-	1.0160	-
-	St 12	DC 01/FeP01	SPCC	-	Fe P01	DC 01/feP01	DC 01/FeP0 1	-	-	-	1.0330	-
-	GS-38	A1	-	-	GE 200	230-400M	-	1306	-	-	1.0420	-
-	GS-20 Mn 5	-	SMnC 420	H15220	-	-	-	-	-	-	1.1120	-
-	G 20 Mn 5	-	-	-	G 20 Mn 5	-	G 20 Mn 5	-	-	-	1.6220	-

P2
Workpiece Materials Listing • Steel • P2
P2 Medium- and High-Carbon Steels
Content: C >.25%
Tensile Strength RM (MPa): >530*
Hardness (HB): <220 (HRC): <25

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	S 355 JR	En 50 B	SM 490 YA	-	S 1207	E36-2	Fe 510 BFN	-	-	-	1.0045	-
1035	C 35	060 A 35	S 35 C	G 10350	1 C 35	CC 35	C 35	1550	-	-	1.0501	-
1045	GS-C 45	080 M 46	S 45 C	G10450	1 C 45	CC 45	C 45	1650	-	-	1.0503	-
1040	C 40	080 M 40	S 40 C	G 10 400	1 C 40	C 40	C 40	-	-	-	1.0511	-
1046	S 355 K 2 G 4 Cu	-	-	G10460	S 355 K2 G4 Cu	-	-	-	-	-	1.0519	-
1030	C30	080 M 30	SUP 7	G 10 300	1 C 30	C 32	C 30	-	-	-	1.0528	-
1055	C 55	070 M 55	S 55 C	J05000	1 C 55	C 55	C 55	1655	-	-	1.0535	-
1551	C 50 Pb	-	-	G15510	C 50 G Pb	-	-	-	-	-	1.0542	-
-	GS-60	A3	-	-	GE 300	320-560M	C 45	1606	-	-	1.0558	-
1037	36 Mn4	170 H 36	-	G10370	-	-	-	-	-	-	1.0561	-
-	PSt 52-3 (S 355 J2 G3 F)	-	-	-	S 355 J2 G3 F	-	FE 510 C	-	-	-	1.0572	-
-	S 355 J2H (RoSt 52-3)	50D	-	-	S355J2H	-	S355J2H	-	-	-	1.0576	-
1060	C 60	080 A 62	S 60 C-CSP	G 10600	1 C 60	AF 70 C 55	C 60	-	-	-	1.0601	-
1070	C 67	CS 70	S 70 C -CSP	G10700	1 CS 67	C 68	C 67	-	-	-	1.0603	-
1074	C 75	CS 80	-	G10740	1 CS 75	C 75	C 75	-	-	-	1.0605	-
1059	C58D	-	S 58 C	G10590	C 58 D	FM 58	C 58 D	-	-	-	1.0609	-
1075	C76D	-	-	G10750	C 76 D	FM 76	C 76 D	-	-	-	1.0614	-
1080	C86D	CS 80	-	G10860	C 86 D	FM 86	C 86 D	-	-	-	1.0616	-
1095	C92D	95 CS	-	G10950	C 92 D	-	C 92 D	-	-	-	1.0618	-
1110	U 10 S 10	-	SUM 12	G11100	-	-	-	-	-	-	1.0702	-
11L08	10 SPb 20	-	-	G 11084	10 SPb 20	10 Pb F 2	CF 10 SPb 20	-	-	-	1.0722	-
1140	35 S 20	212 M 36	-	G 11400	35 S 20	35 MF 4	-	1957	-	-	1.0726	-
1146	45 S 20	212 M 44	-	G 11460	45 S 20	45 MF 4	-	1973	-	-	1.0727	-
1151	60 S 20	-	-	G11510	60 S 20	60 MF 4	-	-	-	-	1.0728	-
1141	36 Mn 6	212 M 36	S Mn 443	G 11410	-	-	-	-	-	-	1.1127	-
1039	40 Mn 4	150 M 36	-	G10390	-	35 M 5	-	-	-	-	1.1157	-
1536	34 Mn 5	En15B	SS 55	G15360	-	-	-	-	-	-	1.1166	-
1030	Cq 35	-	F.1133 (C 35 DF)	G 10300	C 35 KD	-	CB 35	-	-	-	1.1172	-
1034	Ck 34	080 M 34	S 34 C	G 10340	2 C 34	-	C 34	-	-	-	1.1173	-
1038 H	Ck 38	-	-	G 10380	-	XF 38	-	-	-	-	1.1176	-
1030	Ck 30	080 M 30	S 30 C	G 10300	2 C 30	XC 32	C 30	-	-	-	1.1178	-
1034	Ck 35	080 M 36	S 35 C	G 10340	2 C 35	XC 38 H1	C 35	1572	-	-	1.1181	-
1035	Cf 35	060 A 35	S 35 C	G 10350	C 35 G	XC 38 TS	C 35	1572	-	-	1.1183	-
1040	Ck 40	080 A 40	S 40 C	G 10400	2 C 40	XC 42 H1	C 40	-	-	-	1.1186	-
1045	Cf 45	060 A 47	S 45 C	G10450	C 45 G	XC 42 TS	C 43	1672	-	-	1.1193	-
1055	Ck 55	070 M 55	S 55 C	G10550	2 C 55	XC 55 H1	C 55	1655	-	-	1.1203	-
1050	Ck 50	080 M 50	S 50 C	G10500	2 C 50	XC 48 H1	C 50	1674	-	-	1.1206	-
1055	Cm 55	070 M 55	-	G 10550	3 C 55	XC 55 H1	C 55 R	-	-	-	1.1209	-
1053	Ck 53	En43C	S 53 C	G 10530	-	-	-	-	-	-	1.1210	-
1050	Cf 53	060 A 57	S 50 C	G 10500	C 53 G	XC 48 TS	C 48	1674	-	-	1.1213	-
1060	Ck 60	060 A 62	S 58 C	G 10640	2 C 60	XC 60	C 60	1678	-	-	1.1221	-
1552	52 Mn 5	-	-	G15520	-	-	-	-	-	-	1.1226	-
1065	FD (Federstahldraht)	095 A 65	-	G10650	C 68 D	-	-	-	-	-	1.1230	-
1070	Ck 67	060 A 67	S 70 C-CSP	G 10700	C 67 S	XC 68	C 70	1770	-	-	1.1231	-
1069	Ck 68	-	-	G10690	C 70 D	-	-	-	-	-	1.1234	-
1080	Ck 75	060 A 78	C 75	G 10800	C 75 S	XC 75	C 75	1774	-	-	1.1248	-
-	Cf 70	-	-	-	C 70 G	XC 70	-	-	-	-	1.1249	-
1090	Ck 85	-	SK 5 -CSP	G 10900	C 85 S	XC 90	C 90	-	-	-	1.1269	-
1085	90 Mn 4	080 A 83	SUP4	G 10850	-	-	-	-	-	-	1.1273	-
1095	Ck 101	060 A 96	SUP 4	G 10950	C 100 S	XC 100	C 100	1870	-	-	1.1274	-
1050	C 50	080 M 50	S 50 C	G 10 500	1 C 50	C 50	C 50	1674	-	-	1.0540	-
-	St 52-3 G	4360-50 B	SM 50 YB	-	S 355 J 2 G 3	E 36-3	Fe 510 B	2132	-	-	1.0570	-
1078	C78D	-	SWRH 77 B	G10780	C 78 D	FM 78	C 78 D	-	-	-	1.0620	-
1035	Cm 35	080 M 36	-	G 10350	3 C 35	38 H1 k	C 35 R	1572-03	-	-	1.1180	-
1566	66 Mn 4	-	-	G15660	-	-	-	-	-	-	1.1260	-
1084	C 85 W	-	SK 5	G10840	C 90 U	Y3 90	-	-	-	-	1.1830	-

NOTE: For legend, see page Y237.

P3

Workpiece Materials Listing • Steel • P3

P3 Alloy Steels and Tool Steels

Content: C >.25%

Tensile Strength RM (MPa)*: 600–850

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
1330	GS-30 Mn 5	120 M 36	SMn 433 H; SCMn 2	K13300	–	35 M 5	–	1330	–	–	1.1165	–
1330	28 Mn 6	150 M 28	SCMn 1	G 13300	28 Mn 6	35 M 5	C 28 Mn	–	–	–	1.1170	–
1335	36 Mn 5	150 M 36	SMn 438(H)	G13350	–	40 M 5	–	2120	–	–	1.1167	–
1345	StSch 90 C/GP 280 GH	–	–	G13450	GP 280 GH	GP 280 GH	GP 280 GH	–	–	–	1.0625	–
1513	P265	HR 40/30	–	G15130	–	12 M 5	–	–	–	–	1.0424	–
4142	43 CrMo 4	–	–	G41420	–	43 Cr Mo 4	–	–	–	–	1.3563	–
4147	48 CrMo 4	817 M 40	SNC 836	H41470	–	48 Cr Mo 4	–	–	–	–	1.3565	–
4419	GS-22 Mo 4	243-430	SCPH 11	G44190	G 20 Mo 5	G20Mo5	G 22 Mo 5	–	–	–	1.5419	–
4520	16 Mo 5	1503-245-420	SBC 690	K11522	–	16 Mo 5	–	–	–	–	1.5423	–
5015	15 Cr 3	523 M15	SCR 415 H	G50150	15 Cr 2	12 C 3	–	–	–	–	1.7015	–
5046	44 Cr 2	–	–	H50460	46 Cr 1 KD	44 Cr 2	–	–	–	–	1.3561	–
5115	16 MnCr 5	527 M 17	SCR 415	G 51150	16 MnCr 5 KD	16 MC 5	16 MnCr 5	2173	–	–	1.7131	–
5117	17 Cr 3	17 Cr 3	–	G51170	(15 Cr 2 KD)	18 C 3	–	–	–	–	1.7016	–
5130	28 Cr 4	530 A 30	–	G51300	28 Cr 4	30 CD 4	–	–	–	–	1.7030	–
5140	41 Cr 4	530 M 40	SCR 440 H	G51400	41 Cr 4	42 C 4	41 Cr 4	–	–	–	1.7035	–
5140	42 Cr 4	530 A 40	SCR 440	–	40 NiCrMo 3	42 C 4 TS	40 NiCrMo 3	2245	–	–	1.7045	–
9255	51 Si 7	250 A 53	–	G92550	–	51 S 7	48 Si 7	2090	–	–	1.0903	–
9255	55 Si 7	250 A 53	SKH 1; SKT 4	G92550	55 NiCrMoV 7	55 S 7	55 Si 7	2085	–	–	1.0904	–
9260	60 Si 7	251 A 60	–	G92600	60 Si 7	60 S 7	60 Si 7	–	–	–	1.5027	–
9262	60 SiCr 7	250 A 61	SUP 7	G92620	60 SiCr 8	60 SC 7	60 SiCr 8	–	–	–	1.0961	–
9262	60 SC 7	–	–	G92620	60 SiCr 8	61 SC 7	60 SiCr 8	–	–	–	1.5092	–
9262	60 SiCr 7	–	–	–	60 SiCr 8	–	–	–	–	–	1.7108	–
15B21 H	19 MnB 4	170 H 20	SWRCHB 420	H15211	19 MnB 4	20 MB 5	–	–	–	–	1.5523	–
15B21 H	20 MnB 5	–	SWRCHB 620	–	20 MnB 5	20 MnB 5	20 MnB 5	–	–	–	1.5530	–
50B40	37 CrB 1	120 M 36	SMnc 3 H	H50401	38 Cr 2	35 CB 1	–	–	–	–	1.7007	–
5130 H	34 Cr 4	530 A 32	SCR 430 H	G51300	34 Cr 4 KD	32 C 4	34 Cr 4 KB	–	–	–	1.7033	–
5132 H	37 Cr 4	530 A 36	SCR 435 H	G51320	37 Cr 4	38 C 4	36 CrMn 4	–	–	–	1.7034	–
A 204 Gr. A	15 Mo 3	1501-240	STFA 12	K11820	16 Mo 3	15 D3	16 Mo 3 KW	2912	–	–	1.5415	–
A 350-LF 5	10 Ni 14	503	SL 3 N 26	K31718	12 Ni 14	12Ni14	18 Ni 14 KT	–	–	–	1.5637	–
A 387 Gr. 12 Cl. 2	16 CrMo 4 4	–	–	K11564	–	–	A 18 CrMo 4 5 KW	–	–	–	1.7337	–
A 570 Gr. 36	St 37-3	4360-40 C	–	K01501	S 235 J2 G3	Fe 360 D1(2); E 24-3	Fe 360 D1(2)	1312	–	–	1.0116	–
A 570 Gr. 40	St 44-2	4360-43 B	SM 41 B	K 02502	S 275 JR	E 28-2	Fe 430 BFN	1412	–	–	1.0044	–
A 570 Gr. 50	St 50-2	4360-50 B	SS 50	–	E 295	A 50-2	Fe 490	2172	–	–	1.0050	–
A 573 Gr. 70	St 44-3	4360-43 C	SM 41 B	–	Fe 430 D1(2); S 275 J2 G3 (4)	Fe 430 D1(2); E 28-4	Fe 430 D FF	1414	–	–	1.0144	–
A 633 Gr. C	St E 355	P 355 N	SM 50 YB	K12000	P 355 N	E 355 R/FP	Fe E 355 KG	2132	–	–	1.0562	–
A 633 Gr. E	St E 420	S 420 N	SM 50 C	K02002	FeE 420 KGN	E 420-I	Fe E 420 KG	2143	–	–	1.8902	–
A 633 Gr. E	St E 460	P 460 N	SM 53 B	K02900	P 460 N	E 460-I	Fe E 460 KG	2143	–	–	1.8905	–
A-6	C 67 W	–	–	T30106	–	Y1 70	–	–	–	–	1.1744	–
E 52100	100 Cr 6	535 A 99	SUJ 2	G52986	100 Cr 6	100 C 6	100 Cr 6	2258	–	–	1.3505	–
O 2	90 MnCrV 8	BO 2	–	T31502	90 Mn V 8	90 MV 8	90 MnCrV 8 KU	–	–	–	1.2842	–
P21	90 Cr 3	–	–	T51621	–	–	–	–	–	–	1.2056	–
P3	10 NC 6	–	–	T51603	15 NiCr 6	10 NC 6	–	–	–	–	1.5713	–
P6	15 NiCr 14	–	SNC 22	T51606	–	10 NC 12	–	–	–	–	1.2735	–
T 8	C 80 W2	BW 1B	SKC 3	T12008	–	Y1 80	C 80 KU	–	–	–	1.1625	–
W 108	C 80 W1	–	–	T72301	C 80 U	Y1 90	C 80 KU	1880	–	–	1.1525	–
W 110	C 105 W1	B W 1 A	–	T72301	C 105 U	Y 105	C 100 KU	1880	–	–	1.1545	–
W 112	C 125 W	–	–	C 125 U	–	–	–	–	–	–	1.1563	–
W 112	C 125 W	–	SK 2	T72301	C 120 U	Y2 120	C 120 KU	–	–	–	1.1663	–
W 210	100 V 1	BW 2	SKS 43	T72302	100 V 2	Y1 105 V	102 V 2 KU	–	–	–	1.2833	–
–	St 50-1	–	–	–	–	–	–	–	–	–	1.0052	–
–	S 235 JO/ Fe 360 C	En 40C	–	–	S 235 JO	E24-3	Fe 360 CFN	–	–	–	1.0114	–
–	QSt 37-3	–	SWRCH 12R	–	–	–	–	–	–	–	1.0123	–
–	S 275 JO	En43C; S275JO	–	–	S 275 JO/ Fe 430 C	S 275 JO; E 28-3	S275JO; Fe430CFN	–	–	–	1.0143	–
–	S 275 J2 G4/ Fe 430 D 2	S 275 J2 G4	–	–	S 275 J2 G4	E28-4; S 275 J2 G4	S 275 J2 G4	1414	–	–	1.0145	–
–	Ro St 44-2	43C	–	–	S 275 JO H	–	S 275 JO H	–	–	–	1.0149	–
–	St 37.0	–	STPG 38	–	P 235 T1	–	–	–	–	–	1.0254	–
–	C9D	–	SWRM 8	–	C 9 D	FM 9	C 9 D	–	–	–	1.0304	–
–	C7D	C 7 D	SWRM 8	G10060	C 7 D	FM 8	C 7 D	–	–	–	1.0313	–
–	P235 GH	P 235 GH	SPV 50	K02503	P 235 GH	A 37 CP	Fe E 235	1330	–	–	1.0345	–
–	C 25 Pb	–	–	–	C 25 GPb	–	–	–	–	–	1.0411	–
–	L 245 MB	430	–	K03006	L 245 MB	L 245 MB	–	–	–	–	1.0418	–
–	P310 NB	224-410	SG 325	K02100	P280GH	BS 2	P 275 N	2103	–	–	1.0426	–
–	L 290 MB	–	–	–	L290MB	L 290 MB	–	–	–	–	1.0429	–
–	H III/P285NH	–	Sm 38	–	P 285 NH	–	–	–	–	–	1.0435	–
–	P310 NB	224-430	SG 325	K02100	P305GH	P 275 N	P 275 N	2103	–	–	1.0436	–
–	A St 41	P 275 N	STK 400	K02100	S 275 N	BS 3	P 275 N	2103	–	–	1.0437	–
–	B 500 A	–	SD 490	–	B 500 A	–	B 500 A	–	–	–	1.0438	–
–	H IV/P295NH	–	SG 37	K03102	–	–	Fe 460-2 KW	–	–	–	1.0445	–
–	StE 240.7	–	–	–	L 245 NB	L 245 NB	–	–	–	–	1.0457	–
–	TSIE 255	–	–	K11535	–	–	–	–	–	–	1.0463	–
–	15 Mn 3 Al	–	–	–	C 14 GAI	–	–	–	–	–	1.0468	–
–	19 Mn 6/P 355 GH	P 355 GH	SGV 46	K03300	P355GH	A 52 CP	Fe E355-2	2101	–	–	1.0473	–
–	17 Mn 4/P 295 GH	224-460B	SG 37	K03501	P 295 GH	A 48 CP	Fe E 295	2102	–	–	1.0481	–
–	19 Mn 5	224-460	SG 37	K 03102	–	A 52 CP; AP; FP	Fe 460-2 KW	–	–	–	1.0482	–
–	L 290 AG	–	–	–	L290GA	TS E 290	–	–	–	–	1.0483	–
–	L 290 NB	–	–	–	L290NB	L 290 NB	–	–	–	–	1.0484	–
–	21 Mn 6	–	–	K12320	–	–	–	–	–	–	1.0485	–
–	St E 285	P 275 N	SM 41 A	K 01802	P 275 N	P 275 N	Fe E 285 KG	–	–	–	1.0486	–
–	W St E 285	P 275 N	–	K 01802	P 275 NH	P 275 N	Fe E 285 KW	–	–	–	1.0487	–
–	T St E 285	P 275 NL 1	SLA 235 A	K 01803	P 275 NL 1	P 275 NL 1	Fe E 285 KT	–	–	–	1.0488	–
–	H 300/ZSt E 300	H280LA	–	–	H 280 LA	E 280 C	–	–	–	–	1.0489	–
–	S 275 NH	S 275 NH	–	–	S 275 NH	–	S 275 NH	–	–	–	1.0493	–
–	S 275 NLH	S275NLH	–	–	S 275 NLH	–	S275NLH	–	–	–	1.0497	–
–	C 35 Pb/C 35 GPb	–	–	–	C 35 Pb	–	–	–	–	–	1.0502	–
–	St E 315/P 315N	–	SM 50 A	K11506	P 315 N	–	Fe E 315 KG	–	–	–	1.0505	–
–	W St E 315	–	SNC 1	K02404	P 315 NH	–	Fe E 315 KW	2107	–	–	1.0506	–
–	St 55	–	STKM 16A	–	–	–	Fe 540	–	–	–	1.0507	–
–	T St E315	–	SLA 325 A	K02404	P 315 NL	–	–	2106	–	–	1.0508	–
–	C 40 Pb	–	–	–	C 40 G Pb	–	–	–	–	–	1.0512	–
–	C38D	–	SWRH 37	–	C 38 D	FM 38	C 38 D	–	–	–	1.0516	–
–	C48D	–	SWRH 48	–	C 48 D	FM 48	C 48 D	–	–	–	1.0517	–
–	C56D	–	–	–	C 56 D	FM 56	C 56 D	–	–	–	1.0518	–
–	S 355 NH	S 355 NH	–	–	S 355 NH	–	S 355 NH	–	–	–	1.0539	–
–	C42D	–	SWRH 42 B	–	C 42 D	FM 42	C 42 D	–	–	–	1.0541	–
–	S 355 JO H	50 C	–	–	S 355 JO H	–	S 355 JO H	–	–	–	1.0547	–
–	ZStE 340/ H 340	H 320 L A	–	–	H 320 LA	E 315 C	–	–	–	–	1.0548	–
–	S 335 NLH	50 EE	–	–	S 355 N LH	–	S 355 N L H	–	–	–	1.0549	–
–	S 355 JO	En 50 C; S 355 JO	SM 520 M	–	S 355 JO	S 355 JO; E 36-3	S 355 JO; Fe 510 C FN	–	–	–	1.0553	–
–	GS-70	50 C	–	–	S 355 JO C	E 36-3	Fe 510 C	–	–	–	1.0554	–



P3

Workpiece Materials Listing • Steel • P3 (continued)

P3 Alloy Steels and Tool Steels

Content: C >.25%

Tensile Strength RM (MPa)*: 600–850

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	ZStE 420/H 420	46/40HR, HS, CS	–	–	H 400 LA	H 400 LA	–	–	–	–	1.0556	–
–	P355 NB	–	SG 365	–	P 355 NB	BS 4	–	–	–	–	1.0557	–
–	W St E 355	P 355 NH	–	K01600	P 355 NH	P 355 NH	Fe E 355 KW	–	–	–	1.0565	–
–	T St E355	P 355 NL1	SLA 37	–	P 355 NL1	P 355 NL1	Fe E 355 KT	–	–	–	1.0566	–
–	P355 QH1	P 355 QH	–	–	P 355 QH	P 355 QH	–	–	–	–	1.0571	–
–	S 355 J 2 G 4	S 355 J 2 G 4	–	–	S 355 J 2 G 4	S 355 J 2 G 4	S 355 J 2 G 4	–	–	–	1.0577	–
–	L 360 MB	–	–	–	L 360 MB	L 360 MB	–	–	–	–	1.0578	–
–	St 52.4	–	STS 49	–	–	–	–	–	–	–	1.0581	–
–	L 360 NB/StE 360.7	–	–	–	L360NB	L 360 NB	–	–	–	–	1.0582	–
–	S 355 J 2 G 3 Cu/St 52-3 Cu3	–	–	–	S 355 J2 G3 Cu + CR	–	–	–	–	–	1.0585	–
–	C50D	–	–	–	C 50 D	FM 50	C 50 D	–	–	–	1.0586	–
–	QSt 52-3 Cu 3	–	–	–	S 355 J2 G3 Cu C	–	–	–	–	–	1.0587	–
–	D 53-2	–	SWRH 52 B	–	C 52 D	FM 52	C 52 D	–	–	–	1.0588	–
–	S 355 J 2 G 4 Cu	–	–	–	S 355 J2 G4 Cu	–	–	–	–	–	1.0592	–
–	S355k2G3/Fe 510 DD1 (MULTIST)	S 355 K 2 G 3	SM 520 C	K02505	S 355 K 2 G 3	E36-4	S 355 K 2 G 3	–	–	–	1.0595	–
–	S355k2G4/Fe 510 DD 2 (MULTIST)	S 355 K 2 G 4	–	–	S 355 K 2 G 4	S 355 K 2 G 4	S 355 K 2 G 4	–	–	–	1.0596	–
–	C62D	–	SWRH 62 B	–	C 62 D	FM 62	C 62 D	–	–	–	1.0611	–
–	C66D	–	–	–	C 66 D	FM 66	C 66 D	–	–	–	1.0612	–
–	C68D	–	SWRH 67 B	–	C 68 D	FM 68	C 68 D	–	–	–	1.0613	–
–	C70D	–	–	–	C 70 D	FM 70	C 70 D	–	–	–	1.0615	–
–	C72D	–	SWRH 72 B	–	C 72 D	FM 72	C 72 D	–	–	–	1.0617	–
–	GS-C 25	–	SCPH 1	–	GP 240 GH	GP 240 GH	GP 240 Gh	–	–	–	1.0619	–
–	C80D	–	–	–	C 80 D	FM 80	C 80 D	–	–	–	1.0622	–
–	C82D	–	SWRH 82 B	–	C 82 D	FM 82	C 82 D	–	–	–	1.0626	–
–	35 SPb 20	35 SPb 20	–	–	35 SPb 20	35 SPb 20	–	–	–	–	1.0756	–
–	45 SPb 20	–	–	–	46 SPb 20	–	–	–	–	–	1.0757	–
–	38 SMnPb 28	38 SMnPb 28	–	–	38 SMnPb 28	38 SMnPb 28	–	–	–	–	1.0761	–
–	44 SMn 28	44 SMn 28	–	–	44 SMn 28	44 SMn 28	–	–	–	–	1.0762	–
–	44 SMnPb 28	44 SMnPb 28	–	–	44 SMnPb 28	44 SMnPb 28	–	–	–	–	1.0763	–
–	36 SMnPb 14	36 SMnPb 14	–	–	36 SMnPb 14	36 SMnPb 14	–	–	–	–	1.0765	–
–	QSt E 690 TM (S 700 MC)	–	–	–	S 700 MC	S 690 MC	S 700 MC	–	–	–	1.0966	–
–	QSt E 260 N 7 S 260 NC	–	AE 275 NC	–	S 260 NC	–	S 260 NCX	–	–	–	1.0971	–
–	QSt E 300 TM/S 315 MC	43 F35 HR, HS, CS	–	–	S 315 MC	E 315 D	S 315 MC	–	–	–	1.0972	–
–	QSt E 300 N 7 / S 315 NC	–	AE 340 NC	–	S 315 NC	–	S 315 NC	–	–	–	1.0973	–
–	QSt E340 TM	HR 40/30	–	–	S 340 MC	E 335 D	–	–	–	–	1.0974	–
–	QSt E340 N	–	–	–	S 340 NC	–	Fe E 355 TD	–	–	–	1.0975	–
–	QSt E 360TM	–	–	–	S 355 MC	E 355 D	Fe E 355 TM	–	–	–	1.0976	–
–	QSt E360 N	–	–	–	S 355 NC	–	Fe E 355 TD	–	–	–	1.0977	–
–	QSt E380 TM	–	–	–	S 380 MC	E 390 D	–	–	–	–	1.0978	–
–	QSt E380 N	–	–	–	S 380 NC	–	Fe E 380 TD	–	–	–	1.0979	–
–	QSt E420 TM	HR 50 F 45	–	–	S 420 MC	E 430 D	Fe E 420 TM	–	–	–	1.0980	–
–	QSt E 420 N	–	–	–	S 420 NC	–	Fe E 420 TD	–	–	–	1.0981	–
–	QSt E 460 TM	50/45 HR	–	–	S 460 MC	E 445 D	–	–	–	–	1.0982	–
–	QSt E 460 N	–	–	–	S 460 NC	–	Fe E 460 TD	–	–	–	1.0983	–
–	QSt E500 TM	–	–	–	S 500 MC	E 490 D	Fe E 490 TM	2662	–	–	1.0984	–
–	QSt E500 N	–	–	–	S 500 NC	–	–	–	–	–	1.0985	–
–	QSt E550 TM	60/55 HS	–	–	S 550 MC	E 560 D	Fe E 560 TM	–	–	–	1.0986	–
–	QSt E550 N	–	–	–	S 550 NC	–	–	–	–	–	1.0987	–
–	ESiE 285	P 275 NL 2	STK 400	–	P 275 NL 2	P 275 NL 2	P 275 NL 2	–	–	–	1.1104	–
–	ESiE 315	–	–	–	S 315 NL 1	–	–	–	–	–	1.1105	–
–	ESiE 355	P 355 NL 2	STK 500	–	P 355 NL 2	P 355 NL 2	P 355 NL 2	–	–	–	1.1106	–
–	C5D2	–	–	–	C 5 D 2	FM 6	C 5 D 2	–	–	–	1.1111	–
–	C8D2	–	–	–	C 8 D 2	FM 8	C 8 D 2	–	–	–	1.1113	–
–	C 10 E W/RSD 11	–	–	–	C 10 EW	–	–	–	–	–	1.1115	–
–	C32D2	–	–	–	C 32 D 2	FM 32	C 32 D 2	–	–	–	1.1143	–
–	C36D2	–	–	–	C 36 D 2	FM 36	C 36 D 2	–	–	–	1.1145	–
–	C40D2	–	–	–	C 40 D 2	FM 40	C 40 D 2	–	–	–	1.1153	–
–	C42D2	–	–	–	C 42 D 2	FM 42	C 42 D 2	–	–	–	1.1154	–
–	C46D2	–	–	–	C 46 D 2	FM 46	C46D 2	–	–	–	1.1162	–
–	C 25 R	C 25 R	–	–	C 25 R	C 25 R	C 25 R	–	–	–	1.1163	–
–	C48D2	–	–	–	C 48 D 2	FM 48	C48 D 2	–	–	–	1.1164	–
–	20 Mn 6	150 M 19	–	–	–	20 M 5	20 Mn 6	–	–	–	1.1169	–
–	C50D2	–	–	–	C 50 D 2	FM 50	C50D 2	–	–	–	1.1171	–
–	C 30 R	C 30 R	C 30 R (3 C 30)	–	C 30 R	C 30 R	C 30 R	–	–	–	1.1179	–
–	C3D1	–	–	–	C 3 D 1	–	C 3 D 1	–	–	–	1.1187	–
–	C40R/Cm 40	C 40 R	–	–	C 40 R	C 40 R	C 40	–	–	–	1.1189	–
–	Ck 45	080 M 46	S 45 C	–	2 C 45	XC 42	C 40	1672	–	–	1.1191	–
–	Cq 45	–	SWRCH45K	–	C 45 KD	–	–	–	–	–	1.1192	–
–	C 45 R	080 M 46	S 50 C	–	C 45 R	XC 48 Htu	C 45 R	1672	–	–	1.1201	–
–	C52D2	–	–	–	C 52 D 2	FM 52	C 52 D 2	–	–	–	1.1202	–
–	C 53 R/Cm 53	–	–	–	C 53 R	–	–	–	–	–	1.1205	–
–	C 10 R	C 10 R	–	–	C 10 R	C 10 R	–	–	–	–	1.1207	–
–	C 16 R	C 16 R	–	–	C 16 R	C 16 R	–	–	–	–	1.1208	–
–	C58D2	–	–	–	C 58 D 2	FM 58	C 58 D 2	–	–	–	1.1212	–
–	C62D2	–	–	–	C 62 D 2	FM 62	C 62 D 2	–	–	–	1.1222	–
–	Cm 60	C 60 R	–	–	3 C 60	C 60 R	C 60 R	–	–	–	1.1223	–
–	C60D2	–	–	–	C 60 D 2	FM 60	C 60 D 2	–	–	–	1.1228	–
–	C68D2	–	–	–	C 68 D 2	FM 68	C 68 D 2	–	–	–	1.1232	–
–	C66D2	–	–	–	C 66 D 2	FM 66	C 66 D 2	–	–	–	1.1236	–
–	C50R	C 50 R	–	–	C 50 R	FM 50	C 50 R	–	–	–	1.1241	–
–	C72D2	–	–	–	C 72 D 2	FM 72	C 72 D 2	–	–	–	1.1242	–
–	C70D2	–	–	–	C 70 D 2	FM 70	C 70 D 2	–	–	–	1.1251	–
–	C78D2	–	–	–	C 78 D 2	FM 78	C 78 D 2	–	–	–	1.1252	–
–	C76D2	–	–	–	C 76 D 2	FM 76	C 76 D 2	–	–	–	1.1253	–
–	C80D2	–	–	–	C 80 D 2	FM 80	C 80 D 2	–	–	–	1.1255	–

NOTE: For legend, see page Y237.

(continued)



P3

■ Workpiece Materials Listing • Steel • P3 (continued)

P3 Alloy Steels and Tool Steels

Content: C >.25%

Tensile Strength RM (MPa)*: 600–850

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	C82D2	-	-	-	C 82 D 2	FM 82	C 82 D 2	-	-	-	1.1262	-
-	C86D2	-	-	-	C 86 D 2	FM 86	C 86 D 2	-	-	-	1.1265	-
-	C88D2	-	-	-	C 88 D 2	-	C 88 D 2	-	-	-	1.1272	-
-	C92D2	-	-	-	C 92 D 2	-	C 92 D 2	-	-	-	1.1282	-
-	C98D2	-	-	-	C 98 D 2	-	C 98 D 2	-	-	-	1.1283	-
-	46 MnVS 6	-	-	-	46 MnVS 6	-	-	-	-	-	1.1304	-
-	C 90 U	-	-	-	C90U	-	-	-	-	-	1.1535	-
-	85 Cr 1	-	-	-	-	Y1 100 C 2	-	-	-	-	1.2004	-
-	140 Cr 3	-	-	-	140 Cr 2	Y2 140 C	-	-	-	-	1.2008	-
-	21 MnCr 5	-	SKS 8	-	21 MnCr 5	20 NC 5	-	-	-	-	1.2162	-
-	40 CrMnNiMo 8 6 4	-	SCR 420 H	-	40 CrMnNiMo 8-6-4	-	-	-	-	-	1.2738	-
-	16 CrNiMo 6	820A16	-	-	-	16 NCD 6	16NiCrMo6	-	-	-	1.3531	-
-	100 CrMn 7 3	-	-	-	100 CrMnMo 7	100 CD 7	-	-	-	-	1.3536	-
-	100 CrMo 7	-	SUS 4	K19965	100 CrMo 7	100 CD 7	100CrMo7	-	-	-	1.3537	-
-	100 CrMnMo 8	-	-	-	-	100 CrMnMo 8	-	-	-	-	1.3539	-
-	46 Si 7	-	-	-	45 Si	46 S 7	-	-	-	-	1.5024	-
-	55 Si 7	250 A 53	-	G92550	56 Si 7	55 S 7	55 Si 8	2085	-	-	1.5026	-
-	37 MnSi 5	-	-	-	-	38 MS 5	-	F.130.A	-	-	1.5122	-
-	15 MnMoV 4 5	-	-	-	15 MnMoV 4-5	15 MDV 4.05	-	-	-	-	1.5402	-
-	11 MnMo 4 5	-	-	K11123	11 MnMo 45 KE	-	-	-	-	-	1.5425	-
-	13 MnMo 6 5	-	-	K11424	11 MnMo 65 KE	-	-	-	-	-	1.5426	-
-	35 B 2	-	SWRCHB 237	-	C 35 B	35 B 3	-	-	-	-	1.5511	-
-	24 Ni 8	-	SCPL 21	J22501	G 9 Ni 10	22 N 8	G9Ni10	-	-	-	1.5633	-
-	10 NiCr 5 4	10NiCr5-4	-	-	10 NiCr 5-4	10 NiCr 5-4	-	-	-	-	1.5805	-
-	18 MnMoNi 5 5	-	-	-	18 MnMoNi 5-5	-	-	-	-	-	1.6308	-
-	20 MnMoNi 4 5	-	SQV 2 B	K12539	20 MnMoNi 4-5	-	-	-	-	-	1.6311	-
-	15 MnCrMoNiV 5 3	-	-	-	15 MnCrMoNiV 5-3	-	-	-	-	-	1.6920	-
-	17 CrS 3	17 CrS3	-	-	17 CrS 3	17 CrS 3	-	-	-	-	1.7014	-
-	28 CrS 4	-	-	-	28CrS4	28CrS4	-	-	-	-	1.7036	-
-	34 CrS 4	34 CrS 4	-	-	34 CrS 4	34 CrS 4	34 CrS 4	-	-	-	1.7037	-
-	41 CrS 4	41 CrS 4	-	-	41 CrS 4	41 CrS 4	41 CrS 4	2245	-	-	1.7039	-
-	38 Cr 4	-	-	-	38 Cr 4	-	-	-	-	-	1.7043	-
-	16 CrMo 4	18 CrMo4	SCM 418 H	-	18 CrMo 4	15 CD 3.5	18 CrMo 4	-	-	-	1.7242	-
-	12 CrMo 11 10	-	-	-	-	-	-	-	-	-	1.7305	-
-	22 CrMoS 3 5	-	-	-	22 CrMoS 3-5	22 CrMoS 3-5	-	-	-	-	1.7333	-
-	12 CrMo 19 5	3606-625	SCMV 6	K41545	X 12 CrMo 5	2 10 CD 5.05	16 CrMo 20 5	-	-	-	1.7362	-
-	X 7 CrMo 6 1	B 5	-	S50281	CM 5-IG	-	-	-	-	-	1.7373	-
-	51 CrMoV 4	-	-	-	51 CrMoV 4	51 CDV 4	51 CrMoV 4	-	-	-	1.7701	-
-	21 CrMoV 5 7	-	-	K14073	21 CrMoV 5-7	20 CDV 5.07	-	-	-	-	1.7709	-
-	20 CrMoVTiB 4 10	-	-	-	20 CrMoVTiB 4-10	20 CrMoVTiB 4-10	-	-	-	-	1.7729	-
-	PS 275 TMK	S 275 ML	-	-	S 275 ML	S 275 ML	S 275 ML	-	-	-	1.8819	-
-	S 500 M	-	-	-	S 500 m	-	-	-	-	-	1.8829	-
-	BTSIE 460 TM	S 460 ML	-	-	S 460 ML	E 460	S 460 ML	-	-	-	1.8838	-
-	S 500 ML	-	-	-	S 500 ML	-	-	-	-	-	1.8839	-
-	S 275 MH	-	-	-	S 275 MH	-	S 275 MH	-	-	-	1.8843	-
-	S 275 MLH	-	-	-	S 275 MLH	-	S 275 MLH	-	-	-	1.8844	-
-	S 355 MH	-	-	-	S 355 MH	-	S 355 MH	-	-	-	1.8845	-
-	S 355 MLH	-	-	-	S 355 MLH	-	S 355 MLH	-	-	-	1.8846	-
-	S 420 MH	-	-	-	S 420 MH	-	S 420 MH	-	-	-	1.8847	-
-	S 420 MLH	-	-	-	S 420 MLH	-	S 420 MLH	-	-	-	1.8848	-
-	S 460 MH	-	-	-	S 460 MH	-	S 460 MH	-	-	-	1.8849	-
-	SIE 460	S 460 N	-	-	S 460 N	E 460	S 460 N	-	-	-	1.8901	-
-	TSIE 460	S 460 L	-	-	S 460 NL	E460	S 460 NL	-	-	-	1.8903	-
-	S 550 Q	-	-	-	S 550 Q	E 550	S 550 Q	-	-	-	1.8904	-
-	S 460 Q	55 F	-	-	S 460 Q	E 460	S 460 Q	-	-	-	1.8908	-
-	S 420 NL/TSIE 420	S 420 NL	STK 540	K02002	S 420 NL	E 420 T-I	Fe E 420 KT	-	-	-	1.8912	-
-	S 620 Q	-	-	-	S 620 Q	E 620	S 620 Q	-	-	-	1.8914	-
-	T St E 460/P460NL1	P 460 NL 1	-	K02900	P 460 NL1	E 460 T-I	Fe E 460 KT	-	-	-	1.8915	-
-	S 460 QL1	55 F	-	-	S 460 QL 1	-	-	-	-	-	1.8916	-
-	T St E 500	-	-	K02001	-	E 500 T-I	-	-	-	-	1.8917	-
-	ESIE 460/P460N2	P 460 NL 2	-	-	P 460 NL 2	P 460 NL 2	P 460 NL 2	-	-	-	1.8918	-
-	ESIE 500/S500NL1	-	-	-	S 500 NL 1	-	-	-	-	-	1.8919	-
-	TSIE 690 VA/S690G1QL	-	-	-	S 690 G 1 QL	-	-	-	-	-	1.8920	-
-	TSIE 690 VB/S690G2QL	-	-	K11646	S 690 G 2 QL	-	-	-	-	-	1.8921	-
-	S 690 G 4 QL/TSIE 690 VC	-	-	-	S 690 G 4 QL	-	-	-	-	-	1.8922	-
-	S 590 QL/TSIE 590 V	-	-	-	S 590 QL	-	-	-	-	-	1.8923	-
-	S 500 Q (SIE 500 V)	-	-	-	S 500 Q	E 500	S 500 Q	2614	-	-	1.8924	-
-	S 890 QL 1 (ESIE 90 V)	-	-	-	S 890 QL 1	-	-	-	-	-	1.8925	-
-	S 690 QL (TSIE 690 V)	-	-	-	S 690 QL	-	-	-	-	-	1.8928	-
-	S 690 Q/SIE 690 V	-	SHY 685 NS	-	S 690 Q	E 690	S 690 Q	-	-	-	1.8931	-
-	WSt E 420/P420NH	S 420 NL	STK 540	K02002	S 420 NL	S 420 NL	Fe E 420 KW	-	-	-	1.8932	-
-	S 960 QL/TSIE 960 V	-	-	-	S 960 QL	-	-	-	-	-	1.8933	-
-	WSt E 460/P460NH	P 460 NH	-	K02900	P 460 NH	P 460 NH	Fe E 460 KW	-	-	-	1.8935	-
-	S 960 Q	-	-	-	S 960 Q	E 960 T-II	S 960 Q	-	-	-	1.8941	-
-	S 355 J 0 WP	WR 50 A	-	-	S 355 JO WP	E 36 W-A3	S 355 JO WP	-	-	-	1.8945	-
-	S 355 J 2 WP	S 355 J 2 WP	-	-	S 355 J2 WP	E36W-A4	S 355 J2 WP	-	-	-	1.8946	-
-	L 415 QB	-	-	-	L 415 QB	L 415 QB	-	-	-	-	1.8947	-
-	L 360 QB	-	-	-	L 360 QB	L 360 QB	-	-	-	-	1.8948	-
-	L 450 QB	-	-	-	L 450 QB	L 450 QB	-	-	-	-	1.8952	-
-	S 460 NH (FGS 47)	-	-	-	S 460 NH	-	S 460 NH	-	-	-	1.8953	-
-	L 485 QB	-	-	-	L 485 QB	L 485 QB	-	-	-	-	1.8955	-
-	S 460 NLH/FGS 47	-	-	-	S 460 NLH	-	S460NLH	-	-	-	1.8956	-
-	L 555 QB	-	-	-	L 555 QB	L 555 QB	-	-	-	-	1.8957	-
-	9 CrNiCuP 3 2 4	WR 50 A	SPA-H	K11430	-	-	-	-	-	-	1.8962	-
-	WTSI 52-3	WR 50 C	SMA 58 W	K11430	S 355 J 2 G 1 W	E 36 W-A2	-	-	-	-	1.8963	-
-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	-	1.8965	-

(continued)

P3
Workpiece Materials Listing • Steel • P3 (continued)
P3 Alloy Steels and Tool Steels
Content: C >.25%
Tensile Strength RM (MPa): 600–850*
Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	S 355 K 2 G 1 W	S 355 K 2 G 1 W	SMA 490 CW	–	S 355 K 2 G 1 W	S 355 K 2 G 1 W	S 355 K 2 G 1 W	–	–	–	1.8966	–
–	S 355 K 2 G 2 W	S 355 K 2 G 2 W	–	–	S 355 K 2 G 2 W	S 355 K 2 G 2 W	S 355 K 2 G 2 W	–	–	–	1.8967	–
–	QStE 600 TM/S 600 MC	–	–	–	S 600 MC	E 620 D	S 600 MC	–	–	–	1.8969	–
–	SfE 415.7/L 415 NB	–	–	–	L 415 NB	L 415 NB	–	–	–	–	1.8972	–
–	SfE 415.7 TM/L 415 MB	–	–	–	L 415 MB	L 415 MB	–	–	–	–	1.8973	–
–	S 700 MC (QStE 690 TM)	–	–	–	S 700 MC	E 690 D	S 700 MC	–	–	–	1.8974	–
–	L 450 MB/SfE 445.7 TM	–	–	–	L 450 MB	L 450 MB	–	–	–	–	1.8975	–
–	S 650 MC (QStE 650 TM)	–	–	–	S 650 MC	E 620 D	S 650 MC	–	–	–	1.8976	–
–	L 485 MB/SfE 480.7 TM	–	–	–	L 485 MB	L 485 MB	–	–	–	–	1.8977	–
–	SfE 550.7 TM/L 555 MB	–	–	–	L 555 MB	L 555 MB	–	–	–	–	1.8978	–
–	St 60-2	4360-55 E	SM 58	–	E 335	A 60-2	Fe 60-2	1650	–	–	1.0060	–
–	St 70-2	E 360	–	–	E 360	A 70-2	Fe 70-2	1655	–	–	1.0070	–
–	C 4D	–	–	–	C 4 D	FM 5	C 4 D	–	–	–	1.0300	–
–	C 22 B	–	–	–	P 250 GH	–	–	–	–	–	1.0460	–
–	H 260/ZSt E 260	H 240 LA	–	–	H 240 LA	E 240 C	–	–	–	–	1.0480	–
–	C 32D	–	SWRH 32	K02701	C 32 D	FM 32	C 32 D	–	–	–	1.0530	–
–	ZStE 380/H 380	H 360 L A	–	–	H 360 LA	E 355 C	–	–	–	–	1.0550	–
–	C 60D	–	–	–	C 60 D	FM 60	C 60 D	–	–	–	1.0610	–
–	38 SMn 28	38 SMn 28	–	–	38 SMn 28	38 SMn 28	–	–	–	–	1.0760	–
–	QSt E 260 TM/S 260 MC	–	–	–	S 260 MC	41 S 7	Fe E 275 TM	–	–	–	1.0970	–
–	C 3D2	–	–	–	C 3 D 2	FM 5	C 3 D 2	–	–	–	1.1110	–
–	C 38D2	–	–	–	C 38 D 2	FM 38	C 38 D 2	–	–	–	1.1150	–
–	C 42 E AI/Ck 42 AI	–	–	–	S 355 G15	–	–	–	–	–	1.1190	–
–	C 56D2/D 55-2	–	–	–	C 56 D 2	FM 56	C 56 D 2	–	–	–	1.1220	–
–	C 70 W1	–	–	–	CT 70	C 70 E 2 U	C 70 K U	–	–	–	1.1520	–
–	C 45 W	–	–	–	C 45 U	Y3 42	–	–	–	–	1.1730	–
–	C 60 W	–	SK 7	–	–	Y3 55	–	–	–	–	1.1740	–
–	100 CrMn 6	–	–	K19195	100 CrMn 6	100 CM 6	–	–	–	–	1.3520	–
–	28 B 2	–	SWRCHB 26	–	C 30 B	20 B 3	–	–	–	–	1.5510	–
–	St E 380	–	SM 50 B	–	S 380 N	–	Fe E 390 KG	–	–	–	1.8900	–
–	TSfE 380/S380NL	–	–	–	S 380 NL	–	Fe E 390 KT	2117	–	–	1.8910	–
–	S 890 Q	–	–	–	S 890 Q	S 890 Q	–	–	–	–	1.8940	–
–	46 Si 7	–	–	–	45 Si	46 S 7	–	–	–	–	1.5024	–
–	55 Si 7	250 A 53	–	G92550	56 Si 7	55 S 7	55 Si 8	2085	–	–	1.5026	–
–	37 MnSi 5	–	–	–	–	38 MS 5	–	F.130.A	–	–	1.5122	–
–	15 MnMoV 4 5	–	–	–	15 MnMoV 4-5	15 MDV 4.05	–	–	–	–	1.5402	–
–	11 MnMo 4 5	–	–	K11123	11 MnMo 45 KE	–	–	–	–	–	1.5425	–
–	13 MnMo 6 5	–	–	K11424	11 MnMo 65 KE	–	–	–	–	–	1.5426	–
–	35 B 2	–	SWRCHB 237	–	C 35 B	35 B 3	–	–	–	–	1.5511	–
–	24 Ni 8	–	SCPL 21	J22501	G 9 Ni 10	22 N 8	G9Ni10	–	–	–	1.5633	–
–	10 NiCr 5 4	10NiCr5-4	–	–	10 NiCr 5-4	10 NiCr 5-4	–	–	–	–	1.5805	–
–	18 MnMoNi 5 5	–	–	–	18 MnMoNi 5-5	–	–	–	–	–	1.6308	–
–	20 MnMoNi 4 5	–	SQV 2 B	K12539	20 MnMoNi 4-5	–	–	–	–	–	1.6311	–
–	15 MnCrMoNiV 5 3	–	–	–	15 MnCrMoNiV 5-3	–	–	–	–	–	1.6920	–
–	17 CrS 3	17 CrS3	–	–	17 CrS 3	17 CrS 3	–	–	–	–	1.7014	–
–	28 CrS 4	–	–	–	28CrS4	28CrS4	–	–	–	–	1.7036	–
–	34 CrS 4	34 CrS 4	–	–	34 CrS 4	34 CrS 4	34 CrS 4	–	–	–	1.7037	–
–	41 CrS 4	41 CrS 4	–	–	41 CrS 4	41 CrS 4	41 CrS 4	2245	–	–	1.7039	–
–	38 Cr 4	–	–	–	38 Cr 4	–	38 Cr 4	–	–	–	1.7043	–
–	16 CrMo 4	18 CrMo4	SCM 418 H	–	18 CrMo 4	15 CD 3.5	18 CrMo 4	–	–	–	1.7242	–
–	12 CrMo 11 10	–	–	–	–	–	–	–	–	–	1.7305	–
–	22 CrMoS 3 5	–	–	–	22 CrMoS 3-5	22 CrMoS 3-5	–	–	–	–	1.7333	–
–	12 CrMo 19 5	3606-625	SCMV 6	K41545	X 12 CrMo 5	Z 10 GD 5.05	16 CrMo 20 5	–	–	–	1.7362	–
–	X 7 CrMo 6 1	B 5	–	S50281	CM 5-IG	–	–	–	–	–	1.7373	–
–	51 CrMoV 4	–	–	–	51 CrMoV 4	51 CDV 4	51 CrMoV 4	–	–	–	1.7701	–
–	21 CrMoV 5 7	–	–	K14073	21 CrMoV 5-7	20 CDV 5.07	–	–	–	–	1.7709	–
–	20 CrMoVTiB 4 10	–	–	–	20 CrMoVTiB 4-10	20 CrMoVTiB 4-10	–	–	–	–	1.7729	–
–	PS 275 TMK	S 275 ML	–	–	S 275 ML	S 275 ML	S 275 ML	–	–	–	1.8819	–
–	S 500 M	–	–	–	S 500 m	–	–	–	–	–	1.8829	–
–	BTSfE 460 TM	S 460 ML	–	–	S 460 ML	E 460	S 460 ML	–	–	–	1.8838	–
–	S 500 ML	–	–	–	S 500 ML	–	–	–	–	–	1.8839	–
–	S 275 MH	–	–	–	S 275 MH	–	S 275 MH	–	–	–	1.8843	–
–	S 275 MLH	–	–	–	S 275 MLH	–	S 275 MLH	–	–	–	1.8844	–
–	S 355 MH	–	–	–	S 355 MH	–	S 355 MH	–	–	–	1.8845	–
–	S 355 MLH	–	–	–	S 355 MLH	–	S 355 MLH	–	–	–	1.8846	–
–	S 420 MH	–	–	–	S 420 MH	–	S 420 MH	–	–	–	1.8847	–
–	S 420 MLH	–	–	–	S 420 MLH	–	S 420 MLH	–	–	–	1.8848	–
–	S 460 MH	–	–	–	S 460 MH	–	S 460 MH	–	–	–	1.8849	–
–	SfE 460	S 460 N	–	–	S 460 N	E 460	S 460N	–	–	–	1.8901	–
–	TSfE 460	S 460 L	–	–	S 460 NL	E460	S 460 NL	–	–	–	1.8903	–
–	S 550 Q	–	–	–	S 550 Q	E 550	S 550 Q	–	–	–	1.8904	–
–	S 460 Q	55 F	–	–	S 460 Q	E 460	S 460 Q	–	–	–	1.8908	–
–	S 420 NL/TSfE 420	S 420 NL	STK 540	K02002	S 420 NL	E 420 T-I	Fe E 420 KT	–	–	–	1.8912	–
–	S 620 Q	–	–	–	S 620 Q	E 620	S 620 Q	–	–	–	1.8914	–
–	T St E 460/P460NL1	P 460 NL 1	–	K02900	P 460 NL 1	E 460 T-I	Fe E 460 KT	–	–	–	1.8915	–
–	S 460 QL 1	55 F	–	–	S 460 QL 1	–	–	–	–	–	1.8916	–
–	T St E 500	–	–	K02001	–	E 500 T-I	–	–	–	–	1.8917	–
–	ESfE 460/P460Ni2	P 460 NL 2	–	–	P 460 NL 2	P 460 NL 2	P 460 NL 2	–	–	–	1.8918	–
–	ESfE 500/S500NL1	–	–	–	S 500 NL 1	–	–	–	–	–	1.8919	–
–	TSfE 690 VA/S690G1QL	–	–	–	S 690 G 1 QL	–	–	–	–	–	1.8920	–
–	TSfE 690 VB/S690G2QL	–	–	K11646	S 690 G 2 QL	–	–	–	–	–	1.8921	–
–	S 690 G 4 QL/TSfE 690 VC	–	–	–	S 690 G 4 QL	–	–	–	–	–	1.8922	–
–	S 590 QL/TSfE 590 V	–	–	–	S 590 QL	–	–	–	–	–	1.8923	–
–	S 500 Q (SfE 500 V)	–	–	–	S 500 Q	E 500	S 500 Q	2614	–	–	1.8924	–
–	S 890 QL 1 (ESfE 90 V)	–	–	–	S 890 QL 1	–	–	–	–	–	1.8925	–
–	S 690 QL (TSfE 690 V)	–	SHY 685 NS	–	S 690 QL	–	–	–	–	–	1.8928	–
–	S 690 Q/SfE 690 V	–	SHY 685 N	–	S 690 Q	E 690	S 690 Q	–	–	–	1.8931	–

NOTE: For legend, see page Y237.

(continued)

P3

Workpiece Materials Listing • Steel • P3 (continued)

P3 Alloy Steels and Tool Steels

Content: C >.25%

Tensile Strength RM (MPa)*: 600–850

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	WSt E 420/P420NH	S 420 NL	STK 540	K02002	S 420 NL	S 420 NL	Fe E 420 KW	-	-	-	1.8932	-
-	S 960 QL/TSIE 960 V	-	-	-	S 960 QL	-	-	-	-	-	1.8933	-
-	WSt E 460/P460NH	P 460 NH	-	K02900	P 460 NH	P 460 NH	Fe E 460 KW	-	-	-	1.8935	-
-	S 960 Q	-	-	-	S 960 Q	E 960 T-II	S 960 Q	-	-	-	1.8941	-
-	S 355 J 0 WP	WR 50 A	-	-	S 355 J0 WP	E 36 W-A3	S 355 J0 WP	-	-	-	1.8945	-
-	S 355 J 2 WP	S 355 J 2 WP	-	-	S 355 J2 WP	E36W-A4	S 355 J2 WP	-	-	-	1.8946	-
-	L 415 OB	-	-	-	L 415 OB	L 415 OB	-	-	-	-	1.8947	-
-	L 360 OB	-	-	-	L 360 OB	L 360 OB	-	-	-	-	1.8948	-
-	L 450 OB	-	-	-	L 450 OB	L 450 OB	-	-	-	-	1.8952	-
-	S 460 NH (FGS 47)	-	-	-	S 460 NH	-	S 460 NH	-	-	-	1.8953	-
-	L 485 OB	-	-	-	L 485 OB	L 485 OB	-	-	-	-	1.8955	-
-	S 460 NLH/FG S 47	-	-	-	S 460 NLH	-	S460NLH	-	-	-	1.8956	-
-	L 555 OB	-	-	-	L 555 OB	L 555 OB	-	-	-	-	1.8957	-
-	9 CrNiCuP 3 2 4	WR 50 A	SPA-H	K11430	-	-	-	-	-	-	1.8962	-
-	WTSt 52-3	WR 50 C	SMA 58 W	K11430	S 355 J 2 G 1 W	E 36 W-A2	-	-	-	-	1.8963	-
-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	-	1.8965	-
-	S 355 K 2 G 1 W	S 355 K 2 G 1 W	SMA 490 CW	-	S 355 K2 G1 W	S 355 K2 G1 W	S 355 K 2 G 1 W	-	-	-	1.8966	-
-	S 355 K 2 G 2 W	S 355 K 2 G 2 W	-	-	S 355 K2G2W	S 355 K 2 G 2 W	S 355 K 2 G 2 W	-	-	-	1.8967	-
-	QStE 600 TM/S 600 MC	-	-	-	S 600 MC	E 620 D	S 600 MC	-	-	-	1.8969	-
-	SIE 415.7/L 415 NB	-	-	-	L 415 NB	L 415 NB	-	-	-	-	1.8972	-
-	SIE 415.7 TML 415 MB	-	-	-	L 415 MB	L 415 MB	-	-	-	-	1.8973	-
-	S 700 MC (QStE 690 TM)	-	-	-	S 700 MC	E 690 D	S 700 MC	-	-	-	1.8974	-
-	L 450 MB/SIE 445.7 TM	-	-	-	L 450 MB	L 450 MB	-	-	-	-	1.8975	-
-	S 650 MC (QStE 650 TM)	-	-	-	S 650 MC	E 620 D	S 650 MC	-	-	-	1.8976	-
-	L 485 MB/SIE 480.7 TM	-	-	-	L 485 MB	L 485 MB	-	-	-	-	1.8977	-
-	SIE 550.7 TML 555 MB	-	-	-	L 555 MB	L 555 MB	-	-	-	-	1.8978	-
-	St 60-2	4360-55 E	SM 58	-	E 335	A 60-2	Fe 60-2	1650	-	-	1.0060	-
-	St 70-2	E 360	-	-	E 360	A 70-2	Fe 70-2	1655	-	-	1.0070	-
-	C 4 D	-	-	-	C 4 D	FM 5	C 4 D	-	-	-	1.0300	-
-	C 22 8	-	-	-	P 250 GH	-	-	-	-	-	1.0460	-
-	H 260/ZSt E 260	H 240 LA	-	-	H 240 LA	E 240 C	-	-	-	-	1.0480	-
-	C 32 D	-	SWRH 32	K02701	C 32 D	FM 32	C 32 D	-	-	-	1.0530	-
-	ZStE 380/H 380	H 360 L A	-	-	H 360 LA	E 355 C	-	-	-	-	1.0550	-
-	C 60 D	-	-	-	C 60 D	FM 60	C 60 D	-	-	-	1.0610	-
-	38 SMn 28	38 SMn 28	-	-	38 SMn 28	38 SMn 28	-	-	-	-	1.0760	-
-	QSt E 260 TM/5260 MC	-	-	-	S 260 MC	41 S 7	Fe E 275 TM	-	-	-	1.0970	-
-	C 3 D 2	-	-	-	C 3 D 2	FM 5	C 3 D 2	-	-	-	1.1110	-
-	C 38 D 2	-	-	-	C 38 D 2	FM 38	C 38 D 2	-	-	-	1.1150	-
-	C 42 E Al/Ck 42 Al	-	-	-	S 355 G15	-	-	-	-	-	1.1190	-
-	C 56 D 2/D 55-2	-	-	-	C 56 D 2	FM 56	C 56 D 2	-	-	-	1.1220	-
-	C 70 W 1	-	-	-	CT 70	C 70 E 2 U	C 70 K U	-	-	-	1.1520	-
-	C 45 W	-	-	-	C 45 U	Y3 42	-	-	-	-	1.1730	-
-	C 60 W	-	SK 7	-	-	Y3 55	-	-	-	-	1.1740	-
-	100 CrMn 6	-	-	K19195	100 CrMn 6	100 CM 6	-	-	-	-	1.3520	-
-	28 B 2	-	SWRCHB 26	-	C 30 B	20 B 3	-	-	-	-	1.5510	-
-	St E 380	-	SM 50 B	-	S 380 N	-	Fe E 390 KG	-	-	-	1.8900	-
-	TSIE 380/S380NL	-	-	-	S 380 NL	-	Fe E 390 KT	2117	-	-	1.8910	-
-	S 890 Q	-	-	-	S 890 Q	S 890 Q	S 890 Q	-	-	-	1.8940	-

P4

Workpiece Materials Listing • Steel • P4

P4 Alloy Steels and Tool Steels

Content: C >.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
A 570 Gr. 40	St 44-2	4360-43 B	SM 41 B	K 02502	S 275 JR	E 28-2	Fe 430 BFN	1412	-	-	1.0044	-
-	S 235 J0/Fe 360 C	En 40C	-	-	S 235 J0	E24-3	Fe 360 CFN	-	-	-	1.0114	-
A 570 Gr. 36	St 37-3	4360-40 C	-	K01501	S 235 J2 G3	Fe 360 D1(2); E 24-3	Fe 360 D1(2)	1312	-	-	1.0116	-
-	QSt 37-3	-	SWRCH 12R	-	-	-	-	-	-	-	1.0123	-
-	S 275 J0	En43C; S275J0	-	-	S 275 J0/Fe 430 C	S 275 J0; E 28-3	S275J0; Fe430CFN	-	-	-	1.0143	-
A 573 Gr. 70	St 44-3	4360-43 C	SM 41 B	-	Fe 430 D1(2); S 275 J2 G3 (4)	Fe 430 D1(2); E 28-4	Fe 430 D FF	1414	-	-	1.0144	-
-	S 275 J2 G4/Fe 430 D 2	S 275 J2 G4	-	-	S 275 J2 G4	E28-4; S 275 J2 G4	S 275 J2 G4	1414	-	-	1.0145	-
-	Ro St 44-2	43C	-	-	S 275 J0 H	-	S 275 J0 H	-	-	-	1.0149	-
-	St 37.0	-	STPG 38	-	P 235 T1	-	-	-	-	-	1.0254	-
-	C 9 D	-	SWRM 8	-	C 9 D	FM 9	C 9 D	-	-	-	1.0304	-
-	C 7 D	C 7 D	SWRM 8	G10060	C 7 D	FM 8	C 7 D	-	-	-	1.0313	-
-	L 210 GA	-	-	-	L 210 GA	TS E 220 class 2	-	-	-	-	1.0319	-
-	USD 7/C 8 G 1 W	-	-	-	C 8 G 1 W	-	-	-	-	-	1.0323	-
-	RSD 7/C8G2W	-	-	-	C 8 G 2 W	-	-	-	-	-	1.0324	-
-	RSD 10 Si/C10WSi	-	-	-	C 10 W Si	-	-	-	-	-	1.0339	-
-	P 235 GH	P 235 GH	SPV 50	K02503	P 235 GH	A 37 CP	Fe E 235	1330	-	-	1.0345	-
-	RRSD 10/C10 W	-	-	-	C 10 W	-	-	-	-	-	1.0351	-
-	St 45.8	-	STB 410	K02727	-	-	-	-	-	-	1.0405	-
-	C 25 Pb	-	-	-	C 25 GPb	-	-	-	-	-	1.0411	-
-	L 245 MB	430	-	K03006	L 245 MB	L 245 MB	-	-	-	-	1.0418	-
1513	P 265	HR 40/30	-	G15130	-	12 M 5	-	-	-	-	1.0424	-
-	P 310 NB	224-410	SG 325	K02100	P280GH	BS 2	P 275 N	2103	-	-	1.0426	-
-	L 290 MB	-	-	-	L290MB	L 290 MB	-	-	-	-	1.0429	-
-	H III/P285NH	-	Sm 38	-	P 285 NH	-	-	-	-	-	1.0435	-
-	P 310 NB	224-430	SG 325	K02100	P305GH	P 275 N	P 275 N	2103	-	-	1.0436	-
-	A St 41	P 275 N	STK 400	K02100	S 275 N	BS 3	P 275 N	2103	-	-	1.0437	-
-	B 500 A	-	SD 490	-	B 500 A	-	B 500 A	-	-	-	1.0438	-
-	GS-45	-	SC 450	-	-	-	-	-	-	-	1.0443	-
-	H IV/P295NH	-	SG 37	K03102	-	-	Fe 460-2 KW	-	-	-	1.0445	-

(continued)

P4
Workpiece Materials Listing • Steel • P4 (continued)

P4 Alloy Steels and Tool Steels

Content: C>.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	StE 240.7	–	–	–	L 245 NB	L 245 NB	–	–	–	–	1.0457	–
–	H11/L 235 GA	–	–	–	L 235 GA	–	–	–	–	–	1.0458	–
–	L 245 GA/RSStE 240.7	–	–	–	L 245 GA	TS E 250	–	–	–	–	1.0459	–
–	St E255	–	–	K01800	–	–	–	–	–	–	1.0461	–
–	TSStE 255	–	–	K11535	–	–	–	–	–	–	1.0463	–
–	15 Mn 3 Al	–	–	–	C 14 GAl	–	–	–	–	–	1.0468	–
–	21 Mn 4	–	–	–	–	–	20 Mn 4	–	–	–	1.0469	–
–	19 Mn 6/P 355 GH	P 355 GH	SGV 46	K03300	P355GH	A 52 CP	Fe E355-2	2101	–	–	1.0473	–
–	17 Mn 4/P 295 GH	224-460B	SG 37	K03501	P 295 GH	A 48 CP	Fe E 295	2102	–	–	1.0481	–
–	19 Mn 5	224-460	SG 37	K 03102	–	A 52 CP; AP; FP	Fe 460-2 KW	–	–	–	1.0482	–
–	L 290 AG	–	–	–	L290GA	TS E 290	–	–	–	–	1.0483	–
–	L 290 NB	–	–	–	L290NB	L 290 NB	–	–	–	–	1.0484	–
–	21 Mn 6	–	–	K12320	–	–	–	–	–	–	1.0485	–
–	St E 285	P 275 N	SM 41 A	K 01802	P 275 N	P 275 N	Fe E 285 KG	–	–	–	1.0486	–
–	W St E 285	P 275 N	–	K 01802	P 275 NH	P 275 N	Fe E 285 KW	–	–	–	1.0487	–
–	T St E 285	P 275 NL 1	SLA 235 A	K 01803	P 275 NL 1	P 275 NL 1	Fe E 285 KT	–	–	–	1.0488	–
–	H 300/ZSt E 300	H280LA	–	–	H 280 LA	E 280 C	–	–	–	–	1.0489	–
–	S 275 NH	S 275 NH	–	–	S 275 NH	–	S 275 NH	–	–	–	1.0493	–
–	S 275 NLH	S275NLH	–	–	S 275 NLH	–	S275NLH	–	–	–	1.0497	–
–	L 360 GA	–	–	–	L 360 GA	–	–	–	–	–	1.0499	–
–	C 35 Pb/C 35 GPb	–	–	–	C 35 Pb	–	–	–	–	–	1.0502	–
–	St E 315/P 315N	–	SM 50 A	K11506	P 315 N	–	Fe E 315 KG	–	–	–	1.0505	–
–	W St E 315	–	SNC 1	K02404	P 315 NH	–	Fe E 315 KW	2107	–	–	1.0506	–
–	St 55	–	STKM 16A	–	–	–	Fe 540	–	–	–	1.0507	–
–	T St E315	–	SLA 325 A	K02404	P 315 NL	–	–	2106	–	–	1.0508	–
–	C 40 Pb	–	–	–	C 40 G Pb	–	–	–	–	–	1.0512	–
–	C38D	–	SWRH 37	–	C 38 D	FM 38	C 38 D	–	–	–	1.0516	–
–	C48D	–	SWRH 48	–	C 48 D	FM 48	C 48 D	–	–	–	1.0517	–
–	C56D	–	–	–	C 56 D	FM 56	C 56 D	–	–	–	1.0518	–
–	StSch 700 (R 0 700)	–	–	–	R 0700	–	–	–	–	–	1.0521	–
–	StSch800 (R 0 800)	–	–	–	R 0800	–	–	–	–	–	1.0524	–
–	Cf 45 Pb	–	–	–	–	–	C 46	–	–	–	1.0526	–
–	C32D	–	SWRH 32	K02701	C 32 D	FM 32	C 32 D	–	–	–	1.0530	–
–	GL-A 40 (S 390 G 1 S)	–	–	–	S 390 G 1 S	–	–	–	–	–	1.0532	–
–	S 355 NH	S 355 NH	–	–	S 355 NH	–	S 355 NH	–	–	–	1.0539	–
–	C42D	–	SWRH 42 B	–	C 42 D	FM 42	C 42 D	–	–	–	1.0541	–
–	Schienen 60 F(R 0600/ St Sch 60)	–	–	–	R 0600	–	–	–	–	–	1.0544	–
–	S 355 JO H	50 C	–	–	S 355 JO H	–	S 355 JO H	–	–	–	1.0547	–
–	ZStE 340/H 340	H 320 L A	–	–	H 320 LA	E 315 C	–	–	–	–	1.0548	–
–	S 335 NLH	50 EE	–	–	S 355 N LH	–	S 355 N L H	–	–	–	1.0549	–
–	GS-52	A2	–	–	GE 260	–	–	–	–	–	1.0552	–
–	S 355 JO	En 50 C; S 355 JO	SM 520 M	–	S 355 JO	S 355 JO; E 36-3	S 355 JO; Fe 510 C FN	–	–	–	1.0553	–
–	GS-70	50 C	–	–	S 355 JO C	E 36-3	Fe 510 C	–	–	–	1.0554	–
–	GS-62	–	–	–	S 355 GO 1	–	–	–	–	–	1.0555	–
–	ZStE 420/H 420	46/40HR,HS,CS	–	–	H 400 LA	H 400 LA	–	–	–	–	1.0556	–
–	P355 NB	–	SG 365	–	P 355 NB	BS 4	–	–	–	–	1.0557	–
–	GS-62.3	–	–	–	S 355 GO 2	–	–	–	–	–	1.0559	–
A 633 Gr. C	St E 355	P 355 N	SM 50 YB	K12000	P 355 N	E 355 R/FP	Fe E 355 KG	2132	–	–	1.0562	–
–	N 80	–	–	–	–	–	–	–	–	–	1.0564	–
–	W St E 355	P 355 NH	–	K01600	P 355 NH	P 355 NH	Fe E 355 KW	–	–	–	1.0565	–
–	T St E355	P 355 NL1	SLA 37	–	P 355 NL1	P 355 NL1	Fe E 355 KT	–	–	–	1.0566	–
–	32 Mn 3	–	–	–	–	–	–	–	–	–	1.0567	–
–	P355 QH1	P 355 QH	–	–	P 355 QH	P 355 QH	–	–	–	–	1.0571	–
–	ZStE 460/H 460	–	–	–	–	–	–	–	–	–	1.0574	–
–	S 355 J 2 G 4	S 355 J 2 G 4	–	–	S 355 J 2 G 4	S 355 J 2 G 4	S 355 J 2 G 4	–	–	–	1.0577	–
–	L 360 MB	–	–	–	L 360 MB	L 360 MB	–	–	–	–	1.0578	–
–	St 52.4	–	STS 49	–	–	–	–	–	–	–	1.0581	–
–	L 360 NB/StE 360.7	–	–	–	L360NB	L 360 NB	–	–	–	–	1.0582	–
–	S 355 J 2 G 3 Cu/St 52-3 Cu3	–	–	–	S 355 J2 G3 Cu + CR	–	–	–	–	–	1.0585	–
–	C50D	–	–	–	C 50 D	FM 50	C 50 D	–	–	–	1.0586	–
–	QSt 52-3 Cu 3	–	–	–	S 355 J2 G3 Cu C	–	–	–	–	–	1.0587	–
–	D 53-2	–	SWRH 52 B	–	C 52 D	FM 52	C 52 D	–	–	–	1.0588	–
–	FSStE 355 OS 3/S355G03	–	–	K12000	S 355 G03	–	–	–	–	–	1.0591	–
–	S 355 J 2 G 4 Cu	–	–	–	S 355 J2 G4 Cu	–	–	–	–	–	1.0592	–
–	S355K2G3/Fe 510 DD1 (MULTIST)	S 355 K 2 G 3	SM 520 C	K02505	S 355 K 2 G 3	E36-4	S 355 K 2 G 3	–	–	–	1.0595	–
–	S355K2G4/Fe 510 DD 2 (MULTIST)	S 355 K 2 G 4	–	–	S 355 K 2 G 4	S 355 K 2 G 4	S 355 K 2 G 4	–	–	–	1.0596	–
–	C 30 Pb	–	–	–	C 3 0 GPb	–	–	–	–	–	1.0598	–
–	C 60 Pb	–	–	–	C 60 GPb	–	–	–	–	–	1.0602	–
–	C 67 GPb/C 67 Pb	–	–	–	C 67 GPb	–	–	–	–	–	1.0606	–
–	C 75 GPb/C 75 Pb	–	–	–	C 75 GPb	–	–	–	–	–	1.0607	–

NOTE: For legend, see page Y237.

(continued)

P4

■ Workpiece Materials Listing • Steel • P4 (continued)

P4 Alloy Steels and Tool Steels

Content: C>.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	C62D	-	SWRH 62 B	-	C 62 D	FM 62	C 62 D	-	-	-	1.0611	-
-	C66D	-	-	-	C 66 D	FM 66	C 66 D	-	-	-	1.0612	-
-	C68D	-	SWRH 67 B	-	C 68 D	FM 68	C 68 D	-	-	-	1.0613	-
-	C70D	-	-	-	C 70 D	FM 70	C 70 D	-	-	-	1.0615	-
-	C72D	-	SWRH 72 B	-	C 72 D	FM 72	C 72 D	-	-	-	1.0617	-
-	GS-C 25	-	SCPH 1	-	GP 240 GH	GP 240 GH	GP 240 Gh	-	-	-	1.0619	-
-	GP 240 GR	-	-	-	GP 240 GR	GP 240 GR	GP 240 GR	-	-	-	1.0621	-
-	C80D	-	-	-	C 80 D	FM 80	C 80 D	-	-	-	1.0622	-
-	StSch 900 A (R 0900)	-	-	-	R 0900	-	-	-	-	-	1.0623	-
-	StSch 900 B (R 0900 Mn)	-	-	-	R 0900 Mn	-	-	-	-	-	1.0624	-
1345	StSch 90 C/GP 280 GH	-	-	G13450	GP 280 GH	GP 280 GH	GP 280 GH	-	-	-	1.0625	-
-	C82D	-	SWRH 82 B	-	C 82 D	FM 82	C 82 D	-	-	-	1.0626	-
-	C88D	-	-	-	C 88 D	-	C 88 D	-	-	-	1.0628	-
-	StSch 1200 (R 1200)	-	-	-	R 1200	-	-	-	-	-	1.0631	-
-	C 61/60 Mn 3	-	-	-	C 61	-	C 61	-	-	-	1.0642	-
-	C 85/85 Mn 3	-	-	-	C 85	-	C 85	-	-	-	1.0647	-
-	35 SPb 20	35 SPb 20	-	-	35 SPb 20	35 SPb 20	-	-	-	-	1.0756	-
-	45 SPb 20	-	-	-	46 SPb 20	-	-	-	-	-	1.0757	-
-	38 SMnPb 28	38 SMnPb 28	-	-	38 SMnPb 28	38 SMnPb 28	38 SMnPb 28	-	-	-	1.0761	-
-	44 SMn 28	44 SMn 28	-	-	44 SMn 28	44 SMn 28	44 SMn 28	-	-	-	1.0762	-
-	44 SMnPb 28	44 SMnPb 28	-	-	44 SMnPb 28	44 SMnPb 28	44 SMnPb 28	-	-	-	1.0763	-
-	36 SMnPb 14	36 SMnPb 14	-	-	36 SMnPb 14	36 SMnPb 14	36 SMnPb 14	-	-	-	1.0765	-
9255	51 Si 7	250 A 53	-	G92550	-	51 S 7	48 Si 7	2090	-	-	1.0903	-
9255	55 Si 7	250 A 53	SKH 1; SKT 4	G92550	55 NiCrMoV 7	55 S 7	55 Si 8	2085	-	-	1.0904	-
-	StSch 1100 (R 1100 Cr)	-	-	-	R 1100 Cr	-	-	-	-	-	1.0915	-
9262	60 SiCr 7	250 A 61	SUP 7	G92620	60 SiCr 8	60 SC 7	60 SiCr 8	-	-	-	1.0961	-
-	QSt E 690 TM (S 700 MC)	-	-	-	S 700 MC	S 690 MC	S 700 MC	-	-	-	1.0966	-
-	QSt E 260 N 7 S 260 NC	-	AE 275 NC	-	S 260 NC	-	S 260 NCX	-	-	-	1.0971	-
-	QSt E 300 TM/S 315 MC	43 F35 HR,HS,CS	-	-	S 315 MC	E 315 D	S 315 MC	-	-	-	1.0972	-
-	QSt E 300 N 7/S 315 NC	-	AE 340 NC	-	S 315 NC	-	S 315 NC	-	-	-	1.0973	-
-	QSt E 340 TM	HR 40/30	-	-	S 340 MC	E 335 D	-	-	-	-	1.0974	-
-	QSt E 340 N	-	-	-	S 340 NC	-	Fe E 355 TD	-	-	-	1.0975	-
-	QSt E 360TM	-	-	-	S 355 MC	E 355 D	Fe E 355 TM	-	-	-	1.0976	-
-	QSt E 360 N	-	-	-	S 355 NC	-	Fe E 355 TD	-	-	-	1.0977	-
-	QSt E 380 TM	-	-	-	S 380 MC	E 390 D	-	-	-	-	1.0978	-
-	QSt E 380 N	-	-	-	S 380 NC	-	Fe E 380 TD	-	-	-	1.0979	-
-	QSt E 420 TM	HR 50 F 45	-	-	S 420 MC	E 430 D	Fe E 420 TM	-	-	-	1.0980	-
-	QSt E 420 N	-	-	-	S 420 NC	-	Fe E 420 TD	-	-	-	1.0981	-
-	QSt E 460 TM	50/45 HR	-	-	S 460 MC	E 445 D	-	-	-	-	1.0982	-
-	QSt E 460 N	-	-	-	S 460 NC	-	Fe E 460 TD	-	-	-	1.0983	-
-	QSt E 500 TM	-	-	-	S 500 MC	E 490 D	Fe E 490 TM	2662	-	-	1.0984	-
-	QSt E 500 N	-	-	-	S 500 NC	-	-	-	-	-	1.0985	-
-	QSt E 550 TM	60/55 HS	-	-	S 550 MC	E 560 D	Fe E 560 TM	-	-	-	1.0986	-
-	QSt E 550 N	-	-	-	S 550 NC	-	-	-	-	-	1.0987	-
-	FSiE 355 QS 3/S355G04	-	-	-	S 355 G04	-	-	-	-	-	1.1102	-
-	ESiE 285	P 275 NL 2	STK 400	-	P 275 NL 2	P 275 NL 2	P 275 NL 2	-	-	-	1.1104	-
-	ESiE 315	-	-	-	S 315 NL 1	-	-	-	-	-	1.1105	-
-	ESiE 355	P 355 NL 2	STK 500	-	P 355 NL 2	P 355 NL 2	P 355 NL 2	-	-	-	1.1106	-
-	C5D2	-	-	-	C 5 D 2	FM 6	C 5 D 2	-	-	-	1.1111	-
-	USD 5/C 8 E1 W	-	-	-	C 8 E 1 W	-	-	-	-	-	1.1112	-
-	C8D2	-	-	-	C 8 D 2	FM 8	C 8 D 2	-	-	-	1.1113	-
-	C 10 E W/RSD 11	-	-	-	C 10 EW	-	-	-	-	-	1.1115	-
-	USD 6/C 8 E2 W	-	-	-	C 8 E 2 W	-	-	-	-	-	1.1116	-
-	G 24 Mn 4/GS 24 Mn 4	-	-	-	G 24 Mn 4	-	-	-	-	-	1.1136	-
-	C32D2	-	-	-	C 32 D 2	FM 32	C 32 D 2	-	-	-	1.1143	-
-	C36D2	-	-	-	C 36 D 2	FM 36	C 36 D 2	-	-	-	1.1145	-
-	C38D2	-	-	-	C 38 D 2	FM 38	C 38 D 2	-	-	-	1.115	-
-	C 25 R	C 25 R	-	-	C 25 R	C 25 R	C 25 R	-	-	-	1.1163	-
-	C48D2	-	-	-	C 48 D 2	FM 48	C 48 D 2	-	-	-	1.1164	-
1330	GS-30 Mn 5	120 M 36	SMn 433 H; SCMn 2	K13300	-	35 M 5	-	1330	-	-	1.1165	-
1335	36 Mn 5	150 M 36	SMn 438(H)	G13350	-	40 M 5	-	2120	-	-	1.1167	-
-	G 40 Mn 5/GS 40 Mn 5	-	-	-	G 40 Mn 5	-	-	-	-	-	1.1168	-
-	20 Mn 6	150 M 19	-	-	-	20 M 5	20 Mn 6	-	-	-	1.1169	-
-	C50D2	-	-	-	C 50 D 2	FM 50	C50D 2	-	-	-	1.1171	-
-	Ck 38 Pb	-	-	-	25 Mn 4	-	-	-	-	-	1.1177	-
-	C 30 R	C 30 R	C 30 R (3 C 30)	-	C 30 R	C 30 R	C 30 R	-	-	-	1.1179	-
-	Ck 35 Pb	-	-	-	S 355 G 13	-	-	-	-	-	1.1182	-
-	Ck 36	-	-	-	S 355 G 14	-	-	-	-	-	1.1184	-
-	C301	-	-	-	C 3 D 1	-	C 3 D 1	-	-	-	1.1187	-
-	C40R/Cm 40	C 40 R	-	-	C 40 R	C 40 R	C 40	-	-	-	1.1189	-
-	C52D2	-	-	-	C 52 D 2	FM 52	C 52 D 2	-	-	-	1.1202	-
-	C 53 R/Cm 53	-	-	-	C 53 R	-	-	-	-	-	1.1205	-
-	C 10 R	C 10 R	-	-	C 10 R	C 10 R	-	-	-	-	1.1207	-
-	C 16 R	C 16 R	-	-	C 16 R	C 16 R	-	-	-	-	1.1208	-
-	C58D2	-	-	-	C 58 D 2	FM 58	C 58 D 2	-	-	-	1.1212	-
-	Ck 53 Pb	-	-	-	C 90 S	-	-	-	-	-	1.1217	-
-	C62D2	-	-	-	C 62 D 2	FM 62	C 62 D 2	-	-	-	1.1222	-
-	Cm 60	C 60 R	-	-	3 C 60	C 60 R	C 60 R	-	-	-	1.1223	-
-	C60D2	-	-	-	C 60 D 2	FM 60	C 60 D 2	-	-	-	1.1228	-
-	C68D2	-	-	-	C 68 D 2	FM 68	C 68 D 2	-	-	-	1.1232	-
-	C66D2	-	-	-	C 66 D 2	FM 66	C 66 D 2	-	-	-	1.1236	-
-	C50R	C 50 R	-	-	C 50 R	FM 50	C 50 R	-	-	-	1.1241	-
-	C72D2	-	-	-	C 72 D 2	FM 72	C 72 D 2	-	-	-	1.1242	-
-	C70D2	-	-	-	C 70 D 2	FM 70	C 70 D 2	-	-	-	1.1251	-
-	C78D2	-	-	-	C 78 D 2	FM 78	C 78 D 2	-	-	-	1.1252	-
-	C76D2	-	-	-	C 76 D 2	FM 76	C 76 D 2	-	-	-	1.1253	-
-	C80D2	-	-	-	C 80 D 2	FM 80	C 80 D 2	-	-	-	1.1255	-
-	C82D2	-	-	-	C 82 D 2	FM 82	C 82 D 2	-	-	-	1.1262	-
-	C86D2	-	-	-	C 86 D 2	FM 86	C 86 D 2	-	-	-	1.1265	-
-	C88D2	-	-	-	C 88 D 2	-	C 88 D 2	-	-	-	1.1272	-
-	C92D2	-	-	-	C 92 D 2	-	C 92 D 2	-	-	-	1.1282	-
-	C98D2	-	-	-	C 98 D 2	-	C 98 D 2	-	-	-	1.1283	-
-	46 MnVS 6	-	-	-	46 MnVS 6	-	-	-	-	-	1.1304	-
-	C 90 U	-	-	-	C90U	-	-	-	-	-	1.1535	-
-	C 110 U	-	-	-	C 110 U	-	-	-	-	-	1.1554	-
-	C 120 U	-	-	-	C120U	-	-	-	-	-	1.1555	-
T 8	C 80 W2	BW 1B	SKC 3	T12008	-	Y1 80	C 80 KU	-	-	-	1.1625	-
-	C 105 W2	-	SK 3	-	-	-	-	-	-	-	1.1645	-
-	C 135 W	-	SK 1	-	-	Y2 140	C 140 KU	-	-	-	1.1673	-
A-6	C 67 W	-	-	T30106	-	Y1 70	-	-	-	-	1.1744	-

(continued)



P4

Workpiece Materials Listing • Steel • P4 (continued)

P4 Alloy Steels and Tool Steels

Content: C>.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	125 Cr 1	–	–	–	125 Cr 2	Y2 120 C	–	–	–	–	1.2002	–
–	85 Cr 1	–	–	–	–	Y1 100 C 2	–	–	–	–	1.2004	–
–	140 Cr 3	–	SKS 8	–	140 Cr 2	Y2 140 C	–	–	–	–	1.2008	–
–	105 Cr 4	–	SKC 11	–	–	–	–	–	–	–	1.2057	–
–	21 MnCr 5	–	SCR 420 H	–	21 MnCr 5	20 NC 5	–	–	–	–	1.2162	–
–	35 CrMo 7	–	–	–	35 CrMo 7	–	–	–	–	–	1.2302	–
–	48 CrMoV 67	–	–	–	–	45 CDV 6	–	–	–	–	1.2323	–
P6	15 NiCr 14	–	SNC 22	T51606	–	10 NC 12	–	–	–	–	1.2735	–
–	40 CrMnNiMo 8 6 4	–	–	–	40 CrMnNiMo 8-6-4	–	–	–	–	–	1.2738	–
–	57 NiCrMoV 7 7	–	–	–	55 NiCrMoV 7	–	–	–	–	–	1.2744	–
–	70 MnMoCr 8	–	–	–	70 MnMoCr 8	–	–	–	–	–	1.2824	–
–	95 MnWCr 5	–	–	–	95 MnWCr 5	–	–	–	–	–	1.2825	–
–	60 MnSi 4	–	–	–	–	60 MSC 4	–	–	–	–	1.2826	–
–	101 Cr 6	–	–	–	–	–	102 Cr 6 KU	–	–	–	1.3514	–
–	16 CrNiMo 6	820A16	–	–	–	16 NCD 6	16NiCrMo6	–	–	–	1.3531	–
–	100 CrMn 7 3	–	–	–	100 CrMnMo 7	100 CD 7	–	–	–	–	1.3536	–
–	100 CrMo 7	–	SUS 4	K19965	100 CrMo 7	100 CD 7	100CrMo7	–	–	–	1.3537	–
–	100 CrMnMo 8	–	–	–	–	100 CrMnMo 8	–	–	–	–	1.3539	–
5046	44 Cr 2	–	–	H50460	46 Cr 1 KD	44 Cr 2	–	–	–	–	1.3561	–
4142	43 CrMo 4	–	–	G41420	–	43 Cr Mo 4	–	–	–	–	1.3563	–
4147	48 CrMo 4	817 M 40	SNC 836	H41470	–	48 CrMo 4	–	–	–	–	1.3565	–
–	46 Si 7	–	–	–	45 Si	46 S 7	–	–	–	–	1.5024	–
9259H	51 Si 7	–	–	–	50 Si 7	–	48 Si 7	2090	–	–	1.5025	–
–	55 Si 7	250 A 53	–	G92550	56 Si 7	55 S 7	55 Si 8	2085	–	–	1.5026	–
9260	60 Si 7	251 A 60	–	G92600	60 Si 7	60 S 7	60 Si 7	–	–	–	1.5027	–
–	65 Si 7	–	SUP 7	–	–	–	–	–	–	–	1.5028	–
–	12 Mn 8	–	–	–	11 Mn 8 KE	–	–	–	–	–	1.5086	–
9262	60 SC 7	–	–	G92620	60 SiCr 8	61 SC 7	60 SiCr 8	–	–	–	1.5092	–
–	37 MnSi 5	–	–	–	–	38 MS 5	–	F.130.A	–	–	1.5122	–
–	50 MnSi 4	–	–	K04800	–	–	–	–	–	–	1.5131	–
–	15 MnMoV 4 5	–	–	–	15 MnMoV 4-5	15 MDV 4.05	–	–	–	–	1.5402	–
A 204 Gr. A	15 Mo 3	1501-240	STFA 12	K11820	16 Mo 3	15 D3	16 Mo 3 KW	2912	–	–	1.5415	–
4419	GS-22 Mo 4	243-430	SCPH 11	G44190	G 20 Mo 5	G20Mo5	G 22 Mo 5	–	–	–	1.5419	–
–	20 MnMo 3 5	–	–	K12121	–	–	–	–	–	–	1.5421	–
–	G 18 Mo 5	–	–	–	G18Mo5	–	G 18 Mo5	–	–	–	1.5422	–
4520	16 Mo 5	1503-245-420	SBC 690	K11522	–	–	16 Mo 5	–	–	–	1.5423	–
–	11 MnMo 4 5	–	–	K11123	11 MnMo 45 KE	–	–	–	–	–	1.5425	–
–	13 MnMo 6 5	–	–	K11424	11 MnMo 65 KE	–	–	–	–	–	1.5426	–
–	13 MnMo 8 5	–	–	K11423	11 MnMo 85 KE	–	–	–	–	–	1.5427	–
–	35 B 2	–	SWRCHB 237	–	C 35 B	35 B 3	–	–	–	–	1.5511	–
15B21 H	19 MnB 4	170 H 20	SWRCHB 420	H15211	19 MnB 4	20 MB 5	–	–	–	–	1.5523	–
15B21 H	20 MnB 5	–	SWRCHB 620	–	20 MnB 5	20 MB 5	20 MnB 5	–	–	–	1.553	–
–	24 Ni 8	–	SCPL 21	J22501	G 9 Ni 10	22 N 8	G9Ni10	–	–	–	1.5633	–
A 350-LF 5	10 Ni 14	503	SL 3 N 26	K31718	12 Ni 14	12Ni14	18 Ni 14 KT	–	–	–	1.5637	–
P3	10 NC 6	–	–	T51603	15 NiCr 6	10 NC 6	–	–	–	–	1.5713	–
–	10 NiCr 5 4	10NiCr5-4	–	–	10 NiCr 5-4	10 NiCr 5-4	–	–	–	–	1.5805	–
–	18 MnMoNi 5 5	–	–	–	18 MnMoNi 5-5	–	–	–	–	–	1.6308	–
–	20 MnMoNi 4 5	–	SQV 2 B	K12539	20 MnMoNi 4-5	–	–	–	–	–	1.6311	–
–	10 NiMnMo 6 5	–	–	K11160	–	–	–	–	–	–	1.6312	–
–	16 NiCrMo 12 6	–	–	–	–	16 NCD 13	–	–	–	–	1.6782	–
–	15 MnCrMoNiV 5 3	–	–	–	15 MnCrMoNiV 5-3	–	–	–	–	–	1.6920	–
50B40	37 CrB 1	120 M 36	SMnC 3 H	H50401	38 Cr 2	–	35 CB 1	–	–	–	1.7007	–
–	13 Cr 2	–	–	–	–	–	–	–	–	–	1.7012	–
–	17 CrS 3	17 CrS3	–	–	17 CrS 3	17 CrS 3	–	–	–	–	1.7014	–
5015	15 Cr 3	523 M15	SCr 415 H	G50150	15 Cr 2	12 C 3	–	–	–	–	1.7015	–
5117	17 Cr 3	17 Cr 3	–	G51170	(15 Cr 2 KD)	18 C 3	–	–	–	–	1.7016	–
5130 H	34 Cr 4	530 A 32	SCr 430 H	G51300	34 Cr 4 KD	32 C 4	34 Cr 4 KB	–	–	–	1.7033	–
5132 H	37 Cr 4	530 A 36	SCr 435 H	G51320	37 Cr 4	38 C 4	36 CrMn 4	–	–	–	1.7034	–
5140	41 Cr 4	530 M 40	SCr 440 H	G51400	41 Cr 4	42 C 4	41 Cr 4	–	–	–	1.7035	–
–	28 CrS 4	–	–	–	28CrS4	28CrS4	–	–	–	–	1.7036	–
–	34 CrS 4	34 CrS 4	–	–	34 CrS 4	34 CrS 4	34 CrS 4	–	–	–	1.7037	–
–	41 CrS 4	41 CrS 4	–	–	41 CrS 4	41 CrS 4	41 CrS 4	2245	–	–	1.7039	–
–	38 Cr 4	–	–	–	38 Cr 4	–	38 Cr 4	–	–	–	1.7043	–
5140	42 Cr 4	530 A 40	SCr 440	–	40 NiCrMo 3	42 C 4 TS	40 NiCrMo 3	2245	–	–	1.7045	–
–	54 SiCr 6	–	–	–	–	54 SC 6	–	–	–	–	1.7102	–
–	67 SiCr 5	–	–	–	67 SiCr 5	–	67 SiCr 5	–	–	–	1.7103	–
9262	60 SiCr 7	–	–	–	60 SiCr 8	–	–	–	–	–	1.7108	–
–	52 SiCrNi 5	–	–	–	–	52 SCN 5	–	–	–	–	1.7117	–
5115	16 MnCr 5	527 M 17	SCR 415	G 51150	16 MnCr 5 KD	16 MC 5	16 MnCr 5	2173	–	–	1.7131	–
–	49 CrMo 4	–	SCM 445	–	–	–	–	–	–	–	1.7238	–
–	16 CrMo 4	18 CrMo4	SCM 418 H	–	18 CrMo 4	15 CD 3.5	18 CrMo 4	–	–	–	1.7242	–
–	10 CrMo 11	–	–	–	–	12 CD 10	–	–	–	–	1.7276	–
–	16 CrMo 9 3	–	–	–	–	20 CD 8	–	–	–	–	1.7281	–
–	22 CrMoS 3 5	–	–	–	22 CrMoS 3-5	22 CrMoS 3-5	–	–	–	–	1.7333	–
A 387 Gr. 12 Cl. 2	16 CrMo 4 4	–	–	K11564	–	–	A 18 CrMo 4 5 KW	–	–	–	1.7337	–
–	12 CrMo 8 5	–	–	K21509	–	–	–	–	–	–	1.7358	–
–	12 CrMo 19 5	3606-625	SCMV 6	K41545	X 12 CrMo 5	Z 10 CD 5.05	16 CrMo 20 5	–	–	–	1.7362	–
–	X 7 CrMo 6 1	B 5	–	S50281	CM 5-IG	–	–	–	–	–	1.7373	–
–	12 CrMo 9 10	–	–	–	–	12 CrMo 9-10	–	–	–	–	1.7375	–
–	SG-CrMo 9	–	–	S50480	–	–	–	–	–	–	1.7388	–
–	51 CrMoV 4	–	–	–	51 CrMoV 4	51 CDV 4	51 CrMoV 4	–	–	–	1.7701	–
–	21 CrMoV 5 7	–	–	K14073	21 CrMoV 5-7	20 CDV 5.07	–	–	–	–	1.7709	–
–	20 CrMoVTiB 4 10	–	–	–	20 CrMoVTiB 4-10	20 CrMoVTiB 4-10	–	–	–	–	1.7729	–
6150	50 CrV 4	735 A 50	SUP 10	G61500	51 CrV 4	50 CV 4	50 CrV 4	2230	–	–	1.8159	–
–	PS 275 TMK	S 275 ML	–	–	S 275 ML	S 275 ML	S 275 ML	–	–	–	1.8819	–
–	S 355 G1 M	–	–	–	S 355 G 1 M	–	–	–	–	–	1.8822	–
–	BTSIE 460 TM	S 460 ML	–	–	S 460 ML	E 460	S 460 ML	–	–	–	1.8838	–
–	S 500 ML	–	–	–	S 500 ML	–	–	–	–	–	1.8839	–

NOTE: For legend, see page Y237.

(continued)



P4

Workpiece Materials Listing • Steel • P4 (continued)

P4 Alloy Steels and Tool Steels

Content: C>.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	S 275 MH	-	-	-	S 275 MH	-	S 275 MH	-	-	-	1.8843	-
-	S 275 MLH	-	-	-	S 275 MLH	-	S 275 MLH	-	-	-	1.8844	-
-	S 355 MH	-	-	-	S 355 MH	-	S 355 MH	-	-	-	1.8845	-
-	S 355 MLH	-	-	-	S 355 MLH	-	S 355 MLH	-	-	-	1.8846	-
-	S 420 MH	-	-	-	S 420 MH	-	S 420 MH	-	-	-	1.8847	-
-	S 420 MLH	-	-	-	S 420 MLH	-	S 420 MLH	-	-	-	1.8848	-
-	S 460 MH	-	-	-	S 460 MH	-	S 460 MH	-	-	-	1.8849	-
-	S 460 MLH	-	-	-	S 460 MLH	-	S 460 MLH	-	-	-	1.885	-
-	FSiE 355 OS 4/ S420G5Q	-	-	-	S 420 G 2	-	-	-	-	-	1.8853	-
-	P 550 QL	-	-	-	P 550 QL	-	-	-	-	-	1.8878	-
-	SiE 460	S 460 N	-	-	S 460 N	E 460	S 460N	-	-	-	1.8901	-
A 633 Gr. E	St E 420	S 420 N	SM 50 C	K02002	FeE 420 KGN	E 420-I	Fe E 420 KG	2143	-	-	1.8902	-
-	TSiE 460	S 460 L	-	-	S 460 NL	E460	S 460 NL	-	-	-	1.8903	-
-	S 550 Q	-	-	-	S 550 Q	E 550	S 550 Q	-	-	-	1.8904	-
A 633 Gr. E	St E 460	P 460 N	SM 53 B	K02900	P 460 N	E 460-I	Fe E 460 KG	2143	-	-	1.8905	-
-	BGH 8906	55 F	-	-	S 460 QL	S 460 QL	S 460 QL	-	-	-	1.8906	-
-	St E 500	-	SM 58	K02001	-	-	-	-	-	-	1.8907	-
-	S 460 Q	55 F	-	-	S 460 Q	E 460	S 460 Q	-	-	-	1.8908	-
-	S 420 NL/TSiE 420	S 420 NL	STK 540	K02002	S 420 NL	E 420 T-I	Fe E 420 KT	-	-	-	1.8912	-
-	ESiE 420/ S420NL1	-	STK 540	-	-	-	-	-	-	-	1.8913	-
-	S 620 Q	-	-	-	S 620 Q	E 620	S 620 Q	-	-	-	1.8914	-
-	T St E 460/ P460NL1	P 460 NL 1	-	K02900	P 460 NL1	E 460 T-I	Fe E 460 KT	-	-	-	1.8915	-
-	S 460 QL1	55 F	-	-	S 460 QL 1	-	-	-	-	-	1.8916	-
-	T St E 500	-	-	K02001	-	E 500 T-I	-	-	-	-	1.8917	-
-	ESiE 460/ P460NL2	P 460 NL 2	-	-	P 460 NL 2	P 460 NL 2	P 460 NL 2	-	-	-	1.8918	-
-	ESiE 500/ S500NL1	-	-	-	S 500 NL 1	-	-	-	-	-	1.8919	-
-	TSiE 690 VB/ S690G2QL	-	-	K11646	S 690 G 2 QL	-	-	-	-	-	1.8921	-
-	S 690 G 4 QL/ TSiE 690 VC	-	-	-	S 690 G 4 QL	-	-	-	-	-	1.8922	-
-	S 590 QL/TSiE 590 V	-	-	-	S 590 QL	-	-	-	-	-	1.8923	-
-	S 500 Q (StE 500 V)	-	-	-	S 500 Q	E 500	S 500 Q	2614	-	-	1.8924	-
-	S 890 QL 1 (ESiE 90 V)	-	-	-	S 890 QL 1	-	-	-	-	-	1.8925	-
-	S 690 QL (TSiE 690 V)	-	SHY 685 NS	-	S 690 QL	-	-	-	-	-	1.8928	-
-	TSiE 690 VD/ S690G3QL	-	-	-	S 690 G 3 QL	-	-	-	-	-	1.8929	-
-	S 690 Q/TSiE 690 V	-	SHY 685 N	-	S 690 Q	E 690	S 690 Q	-	-	-	1.8931	-
-	WSt E 420/ P420NH	S 420 NL	STK 540	K02002	S 420 NL	S 420 NL	Fe E 420 KW	-	-	-	1.8932	-
-	S 960 QL/TSiE 960 V	-	-	-	S 960 QL	-	-	-	-	-	1.8933	-
-	WSt E 460/ P460NH	P 460 NH	-	K02900	P 460 NH	P 460 NH	Fe E 460 KW	-	-	-	1.8935	-
-	P420 QH	-	-	-	P 420 QH	-	-	-	-	-	1.8936	-
-	TSiE 770 V/ S770QL	-	-	-	S 770 QL	-	-	-	-	-	1.8938	-
-	ESiE 790 V/ S790QL1	-	-	-	S 790 QL 1	-	-	-	-	-	1.8939	-
-	S 960 Q	-	-	-	S 960 Q	E 960 T-II	S 960 Q	-	-	-	1.8941	-
-	S 550 G 1 QL 1/ ESiE 550 VA	-	-	-	S 550 G 1 QL 1	-	-	-	-	-	1.8944	-
-	S 355 J 0 WP	WR 50 A	-	-	S 355 J0 WP	E 36 W-A3	S 355 J0 WP	-	-	-	1.8945	-
-	S 355 J 2 WP	S 355 J 2 WP	-	-	S 355 J2 WP	E36W-A4	S 355 J2 WP	-	-	-	1.8946	-
-	L 415 QB	-	-	-	L 415 QB	L 415 QB	-	-	-	-	1.8947	-
-	L 360 QB	-	-	-	L 360 QB	L 360 QB	-	-	-	-	1.8948	-
-	L 450 QB	-	-	-	L 450 QB	L 450 QB	-	-	-	-	1.8952	-
-	S 460 NH (FGS 47)	-	-	-	S 460 NH	-	S 460 NH	-	-	-	1.8953	-
-	ESiE620VA/S 620 G 1 QL 1	-	-	-	S 620 G 1 QL 1	-	-	-	-	-	1.8954	-
-	L 485 QB	-	-	-	L 485 QB	L 485 QB	-	-	-	-	1.8955	-
-	S 460 NLH/FG S 47	-	-	-	S 460 NLH	-	S460NLH	-	-	-	1.8956	-
-	L 555 QB	-	-	-	L 555 QB	L 555 QB	-	-	-	-	1.8957	-
-	9 CrNiCuP 3 2 4	WR 50 A	SPA-H	K11430	-	-	-	-	-	-	1.8962	-
-	WTSt 52-3	WR 50 C	SMA 58 W	K11430	S 355 J 2 G 1 W	E 36 W-A2	-	-	-	-	1.8963	-
-	ESiE 690 VA	-	-	-	S 690 G1 QL1	-	-	-	-	-	1.8964	-
-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	S 355 J 2 G 2 W	S 355 J 2 G 2 W	S 355 J 2 G 2 W	-	-	-	1.8965	-
-	S 355 K 2 G 1 W	S 355 K 2 G 1 W	SMA 490 CW	-	S 355 K2 G1 W	S 355 K2 G1 W	S 355 K 2 G 1 W	-	-	-	1.8966	-
-	S 355 K 2 G 2 W	S 355 K 2 G 2 W	-	-	S 355 K2G2W	S 355 K 2 G 2 W	S 355 K 2 G 2 W	-	-	-	1.8967	-
-	QSiE 600 TM/S 600 MC	-	-	-	S 600 MC	E 620 D	S 600 MC	-	-	-	1.8969	-
-	SiE 415..7/L 415 NB	-	-	-	L 415 NB	L 415 NB	-	-	-	-	1.8972	-
-	SiE 415.7 TM/L 415 MB	-	-	-	L 415 MB	L 415 MB	-	-	-	-	1.8973	-
-	S 700 MC (QSiE 690 TM)	-	-	-	S 700 MC	E 690 D	S 700 MC	-	-	-	1.8974	-
-	L 450 MB/SiE 445.7 TM	-	-	-	L 450 MB	L 450 MB	-	-	-	-	1.8975	-
-	S 650 MC (QSiE 650 TM)	-	-	-	S 650 MC	E 620 D	S 650 MC	-	-	-	1.8976	-
-	L 485 MB/SiE 480.7 TM	-	-	-	L 485 MB	L 485 MB	-	-	-	-	1.8977	-
-	SiE 550.7 TM/L 555 MB	-	-	-	L 555 MB	L 555 MB	-	-	-	-	1.8978	-

(continued)



P4

Workpiece Materials Listing • Steel • P4 (continued)

P4 Alloy Steels and Tool Steels

Content: C>.25%

Tensile Strength RM (MPa)*: 850–1400

Hardness (HB): 350–450 (HRC): 35–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
A 570 Gr. 50	St 50-2	4360-50 B	SS 50	–	E 295	A 50-2	Fe 490	2172	–	–	1.0050	–
–	St 60-2	4360-55 E	SM 58	–	E 335	A 60-2	Fe 60-2	1650	–	–	1.0060	–
–	St 70-2	E 360	–	–	E 360	A 70-2	Fe 70-2	1655	–	–	1.0070	–
–	C4D	–	–	–	C 4 D	FM 5	C 4 D	–	–	–	1.0300	–
–	C 22 8	–	–	–	P 250 GH	–	–	–	–	–	1.0460	–
–	H 260/ZSt E 260	H 240 LA	–	–	H 240 LA	E 240 C	–	–	–	–	1.0480	–
–	ZStE 380/H 380	H 360 L A	–	–	H 360 LA	E 355 C	–	–	–	–	1.0550	–
–	GL-E - 40 (S 390 G 3 S)	–	–	–	S 390 G 3 S	–	–	–	–	–	1.0560	–
–	C60D	–	–	–	C 60 D	FM 60	C 60 D	–	–	–	1.0610	–
–	C 64/64 Mn 3	–	–	–	C 64	–	–	–	–	–	1.0640	–
–	38 SMn 28	38 SMn 28	–	–	38 SMn 28	38 SMn 28	–	–	–	–	1.0760	–
–	QSt E 260 TM/5260 MC	–	–	–	S 260 MC	41 S 7	Fe E 275 TM	–	–	–	1.0970	–
–	C3D2	–	–	–	C 3 D 2	FM 5	C 3 D 2	–	–	–	1.1110	–
1330	28 Mn 6	150 M 28	SCMn 1	G 13300	28 Mn 6	35 M 5	C 28 Mn	–	–	–	1.1170	–
–	C 42 E Al/Ck 42 Al	–	–	–	S 355 G15	–	–	–	–	–	1.1190	–
–	C56D2/D 55-2	–	–	–	C 56 D 2	FM 56	C 56 D 2	–	–	–	1.1220	–
–	C 70 W1	–	–	–	CT 70	C 70 E 2 U	C 70 KU	–	–	–	1.1520	–
–	C 70 W2	–	–	–	C 70 U	–	–	–	–	–	1.1620	–
–	C 45 W	–	–	–	C 45 U	Y3 42	–	–	–	–	1.1730	–
–	C 60 W	–	SK 7	–	–	Y3 55	–	–	–	–	1.1740	–
–	100 CrMn 6	–	–	K19195	100 CrMn 6	100 CM 6	–	–	–	–	1.3520	–
–	28 B 2	–	SWRCHB 26	–	C 30 B	20 B 3	–	–	–	–	1.5510	–
5130	28 Cr 4	530 A 30	–	G51300	28 Cr 4	30 CD 4	–	–	–	–	1.7030	–
–	S 420 G1 M	–	–	–	P 550 M	–	–	–	–	–	1.8830	–
–	St E 380	–	SM 50 B	–	S 380 N	–	Fe E 390 KG	–	–	–	1.8900	–
–	TSIE 380/S380NL	–	–	–	S 380 NL	–	Fe E 390 KT	2117	–	–	1.8910	–
–	TSIE 690 VA/S690G1QL	–	–	–	S 690 G 1 QL	–	–	–	–	–	1.8920	–
–	WSt E 380/P380Nh	–	–	–	P 380 NH	–	Fe E 390 KW	2116	–	–	1.8930	–
–	S 890 Q	–	–	–	S 890 Q	S 890 Q	S 890 Q	–	–	–	1.8940	–

P5

Workpiece Materials Listing • Steel • P5

P5 Ferritic, Martensitic, and PH Stainless Steels

Tensile Strength RM (MPa)*: 600–900

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
410 S	X 7 Cr 14	–	–	–	–	–	–	–	–	–	1.4001	–
405	X 6 CrAl 13	405 S 17	SUS 405	S40500	X 6 CrAl 13	Z 6 CA 13	X 6 CrAl 13	2302	–	–	1.4002	–
–	X 2 CrNi 1 2	–	–	–	Hyfab3/12	CLC4003	F12N(Mn<1.50)	–	–	–	1.4003	–
416	X 12CrS 13	416 S 21	SUS416	S41600	X 12 CrS 13	Z 12 CF 13	X12CrS13	2380	–	–	1.4005	ATI 416™
410	X 12Cr 13	410 S 21	SUS410	S 41000	(X 12 Cr 13 KD)	Z 12 C 13	X12Cr13	2302	–	–	1.4006	ATI 410™
414	GX 8 CrNi 1 3	410 C 21	SCS 1	S41400	GX 7 CrNiMo 12-1	Z 12 CN 13 M	GX 12 Cr 13	–	–	–	1.4008	–
–	X 8 Cr 14	–	SUS Y 410	S41080	X 8 Cr 13 KE	–	–	–	–	–	1.4009	B13Fe
–	GX 12 Cr 1 2	–	–	–	GX12Cr12	GX12Cr12	–	–	–	–	1.4011	–
–	N 3 2 0 (LW)	–	–	–	3S62	–	–	–	–	–	1.4014	–
–	X 8 Cr 18	–	SUS Y 430	S43080	–	–	–	–	–	–	1.4015	B17Fe
430	X 8 Cr 17	430 S 15	SUS430	S 43000	X 8 Cr 17	Z8C17	X8Cr17	2320	–	–	1.4016	ATI 430™
–	X 6 CrNi 17 1	–	–	–	X6CrNi17-1	F17N	X6CrNi17-1	–	–	–	1.4017	–
420	X20Cr13	420 S 37	SUS 420J1	S42000	X 20 Cr 13	Z20C13	X20Cr13	2303	–	–	1.4021	ATI 420™
403	X 15 Cr 13	420 S 29	SUS 410 J1	J91201	X 15 Cr 13	Z 12 C 13 M	X 12 Cr 13	2301	–	A403M	1.4024	ATI 403™
–	GX 20 Cr 1 4	420 C 29	SGS 2	–	–	Z 20 C 13 M	–	–	–	A743-4	1.4027	–
420	X 40 Cr 13	–	SUS 420 J2	S42080	X 40 Cr 13	Z 40 C 14	X 40 Cr 14	2304	–	–	1.4031	–
–	GX 120 Cr 29	425 C 11	–	–	–	–	–	–	–	F30C	1.4086	–
430 F	X 12 CrMoS 17	441 S 29	SUS 430 F	S 43020	X 14 CrMoS 17	Z 10 CF 17	X 10 CrS 17	2383	–	–	1.4104	–
430	X 4 CrMoS 18	–	SUS 430F	–	X 6 CrMoS 17	Z 6 CDF 18 - 02	–	–	–	–	1.4105	–
–	X 2 CrMoSiS 18 2 1	–	–	J91151	–	–	–	–	–	CA15	1.4106	–
–	GX 8 CrNi 1 2	–	–	–	GX 8 CrNi 12	GX8CrNi 12	G X 8 CrNi 12	–	–	–	1.4107	–
434	X 6CrMo 17	434 S 17	SUS434	S43400	434S17	Z8CD17-01	X8CrMo17	2325	–	–	1.4113	AL 434
–	X 15 CrMo 13	–	–	–	–	–	–	–	–	–	1.4119	–
–	GX 70 CrMo 29 2	–	–	–	–	Z 60 CD 29.2 M	–	–	–	–	1.4136	–
–	X 2 CrNi 24 12	309 S 93	–	–	X 2 CrNi 24 13 KE	Z 2 CN 24-14	–	–	–	–	1.4332	CN23/12-IG
–	X 5 NiCr 32 21	–	–	S33200	–	–	–	–	–	B536	1.4333	H521
–	GX 5 CrNiMo 16 5	–	–	–	GX 4 CrNiMo 16-5-1	GX4CrNiMo 16-5-1	G X 4 CrNiMo 16-5-1	–	–	–	1.4405	–
–	ERO 4411 A	–	–	–	GX 4 CrNiMo 16-5-2	GX 4 CrNiMo 16-5-2	–	–	–	–	1.4411	–
–	X 38 CrMo 14	–	–	–	–	–	–	–	–	–	1.4419	–
–	X 8 CrTi 18	–	–	–	X 6 Cr 18 KE	–	–	–	–	–	1.4502	–
430 Nb	X 6 CrNb 17	–	SUS 430 LX	–	X 3 CrNb 17	Z 8 CNb 17	X 6 CrNb 17	–	–	–	1.4511	AXC525
409	X 6 CrTi 12	409 S 19	SUH 409	S40900	X 5 CrTi 12	Z 6 CT 12	X 6 CrTi 12	–	–	–	1.4512	–
–	X 6 CrNiTi 12	–	–	–	X 6 CrNiTi 12	X 6 CrNiTi 12	X 6 CrNiTi 12	–	–	–	1.4516	–
–	X 2 CrTi 12	–	SUS 430 LX	–	X 2 CrTi 17	F 20T	X 2 CrTi 17	–	–	–	1.4520	–
–	X 8 CrMoTi 17	–	–	–	X 2 CrMoTiS 18 2	X2CrMoTiS18-2	–	–	–	–	1.4523	1802
–	GX 5 CrNiCu 16 4	–	–	–	GX 5 CrNiCu 16-4	GX 5 CrNiCu 16-4	–	–	–	–	1.4525	–
–	X 6 CrMoNb 17 1	–	–	–	X 6 CrMoNb 17-1	X6CrMoNb 17-1	F 17 Mnb	–	–	–	1.4526	–
904 L	X 1 NiCrMoCuN 25 20 5	904 S 13	–	N08904	X 1 NiCrMoCuN 25 20 5	Z 1 NCDU 25 20	–	2562	–	–	1.4539	ATI 904L™
348	X 5 CrNiNb 18 10	S 527	–	J92640	–	–	X 6 CrNiNb 18 11	–	–	–	1.4546	ATI 348™
–	X 5 CrNiNb 19 9	–	SUS Y 347	S34780	X 5 CrNiNb 20 10 KE	Z 6 CNNb 20-10	–	–	–	–	1.4551	–
–	GX 7 NiCrMoCuNb 42 20	–	–	–	GX 7 NiCrMoCuNb 4220	–	–	–	–	–	1.4559	–
–	X 5 CrNiMoNb 19 12	318 S 96	–	S31980	X 5 CrNiMoNb 19 12 03 KE	Z 4 CND5Nb 19-12-03	–	–	–	–	1.4576	–
–	X 2 CrAlTi 18 2	–	–	–	X 2 CrAlTi 18-2	DMV 59	X 2 CrAlTi 18-2	–	–	–	1.4605	–
–	X 10 CrAl 7	–	–	–	X 10 CrAl 7	–	–	–	–	–	1.4713	–

NOTE: For legend, see page Y237.

(continued)



P5

Workpiece Materials Listing • Steel • P5 (continued)

P5 Ferritic, Martensitic, and PH Stainless Steels

Tensile Strength RM (MPa)*: 600–900

Hardness (HB): <330 (HRC): <35

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	X 215 Cr 12	-	-	-	-	-	-	-	-	-	1.4721	-
H-12	X 10 CrAl 13	BH 12	SUS 405	T20812	X 10 CrAl 13	Z 10 C 13	X 10 CrAl 12	-	-	-	1.4724	-
430	X 10 CrAl 18	(430 S 15)	SUH 21	S43000	-	Z 10 CAS 18	(X 8 Cr 17)	-	-	-	1.4742	-
446	X 10 CrAl 25	-	SUH 442	S44600	X 10 CrAl 24	Z 10 CAS 24	X 16 Cr 26	2322	-	-	1.4762	-
-	GX 40 CrNiSi 27 4	-	-	J92605	-	-	-	-	-	-	1.4823	-
-	X 12 CrNi 22 12	311 S 94	SUS Y 309	S30980	X 15 CrNi 23 13	-	X 16 CrNi 23 14	-	-	309	1.4829	-
-	X 9 CrNiSiNCe 21 11 2	-	-	-	X 9 CrNiSiNCe 21-11-2	-	-	-	-	-	1.4835	-
314	X 15 CrNiSi 25 20	314 S 25	SUH 310	S31400	X 15 CrNiSi 25 20	Z 15 CNS 25.20	X 16 CrNiSi 25 20	-	-	-	1.4841	Cronifer® 2520
-	X 12 CrNi 25 20	310 S 94	-	S31080	X 12 CrNi 26 21 KE	Z 12 CN 26-21	-	-	-	-	1.4842	-
-	CrNi 25 20	-	SCS 18	S31400	-	-	-	-	-	-	1.4843	-
310 S	X 12 CrNi 25 21	310 S 24	SUS 310 S	S31008	X 8 CrNi 25 21	Z 12 CN 25.20	X 6 CrNi 25 20	2361	-	-	1.4845	ATI 310S™
HK	X 40 CrNiSi 25 20	310 C 40	SCH 21	J94204	-	-	GX 40 CrNi 26 20	-	-	-	1.4848	-
-	GX 40 NiCrSiNb 38-18	-	-	-	3072.76	-	-	-	-	-	1.4849	-
-	GX 10 NiCrNb 32 20	-	-	J95151	-	-	-	-	-	-	1.4859	-
330	X 12 NiCrSi 35 16	NA 17	SUH 330	N08330	X 12 NiCrSi 35 1 6	Z 12 NCS 37.18	-	-	-	-	1.4864	-
-	X40NiCrSi38-18	330 C 40	SCH15/SCH16	J94605	330C11/330C40/331C40	-	GX50NiCr39-19	-	-	-	1.4865	-
-	GX 50 CrNi 30-30	-	-	N08801	-	Z5NCT3220	-	-	-	-	1.4868	-
B163	X 10 NiCrAlTi 32 20	NA 15	NCF800(TP)	-	NA15(H)	Z10NC32.21	-	-	B163	-	1.4876	B163
-	X 6 NiCrNbCe 32 27	-	-	-	X 6 NiCrNbCe 32-27	-	-	-	-	-	1.4877	-
-	X 12 NiCrSi 35 19	-	-	N08830	X1 0 NiCrSi 35 19	-	-	-	-	-	1.4886	330
-	X 10 NiCrSiNb 35 22	-	-	-	X10NiCrSiNb35-22	-	-	-	-	-	1.4887	-
-	X 10 CrMoV 9 1	-	-	S59180	X 10 CrMoV 9-1	-	-	-	-	-	1.4903	-
-	X 20 CrMoV 12 1	-	-	-	X 20 CrMoV 11-1	-	X 20 CrMoV 12 01 KW	2317	-	-	1.4922	-
-	GX 22 CrMoV 12 1	-	-	-	G-X 22 CrMoV 12 1	GX23CrMoV12-1	G X 23 CrMoV 12-1	-	-	-	1.4931	-
422	X 20 CrMoWV 12 1	-	SUH 616	S42200	-	-	X 22 CrMoWV 12 1	-	-	-	1.4935	-
661	X 12 CrCoNi 21 20	-	SUH 661	R30155	-	-	-	-	-	-	1.4971	-
R30155	X 12 CrCoNiMoWNB 21 20 20	-	-	R30155	X 12 CrCoNiMoWNB 21 20 20	Z 12 CKNDWNB 21.20.20	N-155	-	-	-	1.4974	-
-	X 40 CoCrNi 20 20	-	-	-	-	Z 42 CNKDWNB	-	-	-	-	1.4977	-
403	X 6 Cr 13	403 S 17	SUS 403	S 40300	X 6 Cr 13	Z 6 C 13	X 6 Cr 13	2301	-	A240	1.4000	ATI 410S™
439	X 6 CrTi 17	-	SUS 430 LX	S 43035	X 8 CrTi 1 7	Z 8 CT 1 7	X 6 CrTi 17	-	-	-	1.4510	430 Ti
-	X 22 CrMoV 1 -1 = ST12T	-	-	-	-	-	-	-	-	A437-76 Grade B4B	-	ATI FV448™
409 Cb	-	-	-	-	-	-	-	-	-	-	-	ATI 409Cb™
436 S	-	-	-	-	-	-	-	-	-	-	-	ATI 436S™
439 HP	-	-	-	S43035	-	-	-	-	-	-	-	ATI 439 HP™
441 HP	-	-	-	-	-	-	-	-	-	-	-	ATI 441 HP™
-	-	-	-	S44735	-	-	-	-	-	A240	-	AL 29-4C®
-	-	-	-	-	-	-	-	-	-	B625	-	ATI E-BRITE®
403Cb	-	-	-	-	-	-	-	-	-	-	-	T656
420 modified	-	-	-	-	-	-	-	-	-	-	-	Stavax ESR
-	-	-	-	-	-	-	-	-	-	-	-	420HC
-	-	-	-	-	-	-	-	-	-	-	-	CPM 154
-	-	-	-	-	-	-	-	-	-	-	-	CPM® S30V®
-	-	-	-	-	-	-	-	-	-	-	-	CPM® S35VN®
420 V	-	-	-	-	-	-	-	-	-	-	-	CPM® S90V®
-	-	-	-	-	-	-	-	-	-	-	-	M390
422	-	-	-	S42200	-	-	-	-	-	-	-	616

P6

Workpiece Materials Listing • Steel • P6

P6 High-Strength Ferritic, Martensitic, and PH Stainless Steels Tensile Strength RM (MPa): 900–1350
Hardness (HB): 350–450 (HRC): 35–48*

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	17-7 PH	301 S 81	SUS 631	S17700	X 7 CrNiAl 17-7	X7CrNiAl17-7; Z9CNA17-07	X 7 CrNiAl 17-7	2388	–	A693	1.4564	ATI 17-7™
–	GX 22 CrNi 17	ANC 2	–	J91803	–	Z 20 CN 17.2 M	–	–	–	CB30	1.4059	–
–	GX 30 CrSi 6	–	–	–	–	–	–	–	–	–	1.4710	–
–	GX 4 CrNi 13 4	–	–	–	GX 4 CrNi 13-4	GX 4 CrNi 13-4	GX 4 CrNi 13-4	–	–	–	1.4317	–
–	GX 40 CrSi 17	–	–	–	–	–	GX 35 Cr 17	–	–	–	1.4740	–
–	GX 40 CrSi 24	–	SCH 1	–	–	–	GX 35 Cr 13	–	–	–	1.4745	–
–	GX 40 CrSi 28	452 C 11	SCH 2	J92605	–	–	GX 35 Cr 28	–	–	CC50	1.4776	–
–	X 105 CrCoMo 18 2	–	–	–	–	–	–	–	–	–	1.4528	N690
440 C	X 105CrMo 17	–	SUS 440C	S44004	X 105 CrMo 17	Z 100 CD 17	X 105 CrMo 17	–	–	–	1.4125	ATI 440C™
–	X 110 CrMoV 15	–	SUS 430 LX	–	–	Z 4 CN b 17	X 6 CrNb 17	–	–	–	1.4111	–
5718.9	X 12 CrNiMo 12	S.151	–	S64152	–	Z12CNDV12	–	–	–	–	1.4939	ATI Jethete™ M152
–	X 12 CrNiMoV 12 3	–	–	–	X 12 CrNiMoV 12-3	X 12 CrNiMoV 12-3	–	–	–	–	1.4938	T522
–	X 15 TN	–	–	–	420S25	Z40CDV16-02	X40CrNiMoVN16-2	–	–	F899	1.4123	X 15 TN
15-5 PH	X 15 U 5 W	–	–	S15500	–	Z6CNU15.05	–	–	–	A564/ A693/A705	1.4545	ATI 15-5™
–	X 19 CrMoNbVN 11 1	–	–	–	–	Z 21 CDNbV 11	–	–	–	–	1.4913	Jethete X19
431	X 19 CrNi 17 2	431 S 29	SUS 431	S 43100	X 19 CrNi 17 2	Z 15 CN 16.02	X 16 CrNi 16	2321	–	–	1.4057	431 (HT)
–	X 20 CrMo 17 1	–	–	–	–	–	–	–	–	–	1.4115	B17MoFe
420F Mod	X 22 CrMoNiS 13 1	–	–	–	–	–	–	–	–	–	1.4121	Bioline 4C27A
–	X 22 CrMoV 12 1	762	–	–	X 22 CrMoV 12-1	Z 21 CDV 12	X 22 CrMoV 12 1	–	–	–	1.4923	Jethete X20
420	X 29 CrS 13	416 S 37	SUS 416	–	X 29 CrS 13	Z29CF13	X 29 CrS 13	–	–	–	1.4029	–
–	X 3 CrNiCuTi 12 9	–	–	S45500	–	–	X 6 CrNiNb 18 11	–	–	–	1.4543	ATI 455™
13-8 PH	X 3 CrNiMoAl 13 8 2	–	–	S13800	–	Z4 CNDAT 13 09	–	–	–	–	1.4534	ATI 13-8Mo™
420 F	X 30 Cr 13	420 S 45	SUS420J2	S42020	X 30 Cr 13	Z 30 C 13	X 30 Cr 13	2304	–	CA40	1.4028	–
–	X 30CrMoN 15 1	–	–	–	420S45	Z33C13	–	2304	–	–	1.4108	N360
–	X 35 CrMo 17	–	–	–	X 39 CrMo 17 1	X39CrMo17-1	X 35 CrMo 17	–	–	–	1.4122	–
–	X 4 CrNiCuNb 16 4	–	–	J92200	–	Z 4 CNUb 16.4 M	–	–	–	–	1.4540	–
415 M	X 4 CrNiMo 16 5 1	–	–	–	X 4 CrNiMo 16 5 1	Z 6 CND 16.05.01	–	2387	–	–	1.4418	APX4
–	X 40 CrNi 25 21	310 S 98	SCH 13	–	–	–	–	–	–	–	1.4846	–
–	X 40 CrSiMo 10 2	–	SUH3	–	X 40 CrSiMo 10-2	Z40CSD10	–	–	–	–	1.4731	–
420	X 45 Cr 13	(420 S45)	–	–	–	Z 40 C 14	X 40 Cr 14	–	–	–	1.4034	–
–	X 45 CrMoV 15	–	–	–	X 50 CrMoV 15	Z 50 CD 15	X 50 CrMo V 15	–	–	–	1.4116	UGI 4116N
HNV3	X 45 CrSi 9 3	–	SUH1	–	401S45	Z45CS9	X45CrSi8	–	HNV3	–	1.4718	–
HNV 2	X 45 SiCr 4	–	–	S64006	–	–	–	–	–	–	1.4704	–
CA 6-NM	X 5 CrNi 134	425 C 11	SCS 5	J91540	X 3 CrNiMo 13 4	Z 4 CDN 13.4	X 6 CrNi 13 04	2385	–	–	1.4313	–
630	X 5 CrNiCuNb 16 4	–	SUS 630	–	X 5 CrNiCuNb 16-4	Z6CNU17.04	–	–	–	CB7Cu	1.4542	UGIMA® 4542
17-4 PH	X 5 CrNiCuNb 17 4 4	–	SUS 630	S17400	X 5 CrNiCuNb 16-4	X5CrNiCuNb16.4	–	–	–	A693	1.4548	–
–	X 5 CrNiMoCuNb 14 5	–	–	–	X 5 CrNiMoCuNb 14-5	X 5 CrNiMoCuNb 14-5	X 5 CrNiMoCuNb 14-5	–	–	–	1.4594	–
–	X 50 CoCrNi 20 20	–	–	–	–	–	–	–	–	–	1.4978	–
EV8	X 53 CrMnNiN 2 9	349 S 54	SUH35/SUH36	S63008	349S54	Z52CMN21.09	X53CrMnNiN21-9	–	EV8	–	1.4871	–
–	X 55 CrMo 14	–	–	–	–	Z 50 CD 13	–	–	–	–	1.4110	–
–	X 60 CrMnMoVNB 21 10	–	–	–	–	Z 60 CMDVNb 21-10 Az	–	–	–	–	1.4785	–
440 A	X 65 CrMo 14	–	SUS 440A	S44002	X 70 CrMo 15	Z 70 CD 14	–	–	–	–	1.4109	ATI 440A™
–	X 7 CrNiAl 17 7	301 S 81	SUS 631	S17700	X 7 CrNiAl 17-7	X7CrNiAl17-7; Z9CNA17-07	X 7 CrNiAl 17-7	2388	–	A693	1.4568	–
632	X 7 CrNiMoAl 15 7	–	–	S15700	–	–	–	–	–	–	1.4574	PH 15-7 Mo®
–	X 8 CrCoNiMo 10 6	Z 9 CKD 11	–	–	S152	Z10CKD10	–	–	–	–	1.4911	ATI FV535™
15-7 PH	X 8 CrNiMoAl 15 7 2	–	–	S15700	X 8 CrNiMoAl 15-7-2	Z8CNDAl15.07	X 8 CrNiMoAl 15-7-2	–	–	A693	1.4532	ATI 15-7™
HNV 6	X 80 CrNiSi 20	443 S 65	SUH 4	S65006	X 80 CrNiSi 20	Z 80 CSN 20.02	X 80 CrSiNi 20	–	–	–	1.4747	–
–	X 85 CrMoV 18 2	–	–	–	X 85 CrMoV 18 2	Z 85 CDMV 18.02	X 85 CrMoV 19 3	–	–	–	1.4748	–
440 B	X 90 CrMoV 18	409 S 1 9	SUS 440 B	S44003	X 90 CrMoV 18	Z 3 CT 1 2	X 6 Cr Ti 1 2	–	–	–	1.4112	–
–	X45CrNiW18-9	331 S 40	SUH31	–	X 45 CrNiW 18 9	Z35CNWS14.14	X45CrNiW18-9	–	–	–	1.4873	–

NOTE: For legend, see page Y237.

M1 ■ Workpiece Materials Listing • Stainless Steel • M1

M1 Austenitic Stainless Steel

Tensile Strength RM (MPa)*: <600

Hardness (HB): 130–200

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
CF-8	X 6 CrNi 18 9	304 C 15	SCS 13	–	X 2 CrNiN 18 7	Z 6 CN 18.10 M	G X 5 CrNi 19-10	2333	–	CF8	1.4308	CF-8
–	X 2 NiCr 18 16	–	–	–	–	Z 3 CDT 18-02	–	–	–	–	1.4321	–
–	X 1 CrNi 25 21	–	–	–	X 1 CrNi 25 21	X1CrNi25-21	X 1 CrNi 25-21	–	–	–	1.4335	Uranus 65
610	X1CrNiSi 18-15-4	–	–	S30600	X 1 CrNiSi 18-15-4	Z1 CNS 17.5	X 1 CrNiSi 18-15-4	–	–	A240-97A	1.4361	ATI 610™
CF-8M	X 6 CrNiMo 18 10	316 C 16	SCS 14	J92900	GX 5 CrNiMo 19-11-2	GX5CrNiMo 19-11-2	G X 5 CrNiMo 19-11-2	2343	–	–	1.4408	–
–	GX 2 CrNiMo 19 11 2	–	–	–	GX 2 CrNiMo 19-11-2	GX 2 CrNiMo 19-11-2	GX 2 CrNiMo 19-11-2	–	–	–	1.4409	–
–	ERO 4412 AHMo	–	–	J92900	GX 5 CrNiMo19-11-3	GX 5 CrNiMo 19-11-3	–	–	–	A743CF8M	1.4412	–
–	ERO 4416 AHCRMo	–	–	–	GX 2 NiCrMoN 25-20-5	GX2NiCrMoN 25-20-5	–	–	–	–	1.4416	–
–	GX 6 CrNiMo 18 12	317 C 12	–	–	–	–	–	–	–	–	1.4437	–
–	X 2 CrNiMo 18 16 5	–	–	S31780	–	–	–	–	–	–	1.4440	–
–	GX 2 CrNiMoN 17 1 3 4	–	–	–	GX 2 CrNiMoN 17 1 3 4	–	–	–	–	–	1.4446	–
–	GX 6 CrNiMo 17 13	317 C 16	–	J93000	–	–	–	–	–	C68M	1.4448	–
–	GX 2 NiCrMo 28 20 2	–	–	–	GX 2 NiCrMo 28-20-2	GX 2 NiCrMo 28-20-2	GX 2 NiCrMo 28-20-2	–	–	–	1.4458	–
–	GX 4 NiCrCuMo 30 20 4	–	–	–	GX 4 NiCrCuMo 30-20-4	GX 4 NiCrCuMo 30-20-4	–	–	–	–	1.4527	–
–	GX 5 CrNiNb 18 9	347 C 17	SCS 21	J92710	GX 5 CrNiNb 19-11	Z 4 C2NNb 19.10 M	G-X 5 CrNiNb 19-11	–	–	–	1.4552	–
–	GX 2 CrNiMoCuN 20 18 6	–	–	–	GX 2 CrNiMoCuN 20-18-6	GX 2 CrNiMoCuN 20-18-6	–	–	–	–	1.4557	–
–	X 3 CrNiCuMo 17 11 3 2	–	–	–	X 3 CrNiCuMo17 11 3 2	X3CrNiCuMo 17-11-3-2	X 3 CrNiCuMo 17-11-3-2	–	–	–	1.4578	–
–	GX 5 CrNiMoNb 18 10	318 C 17	SCS 22	–	GX 5 CrNiMoNb 19-11-2	Z 4 C2NDNb 18.12 M	GX 5 CRNOMONB 20 11	–	–	–	1.4581	–
–	GX 2 NiCrMoCu 25 2 0 5	–	–	–	GX 2 NiCrMoCu 25-20-5	GX 2 NiCrMoCu 25-20-5	–	–	–	–	1.4584	–
–	GX 7 CrNiMoCuNb 18 18	–	–	J94651	–	–	–	–	–	–	1.4585	–
–	GX 2 NiCrMoCuN 29 25 5	–	–	–	GX 2 NiCrMoCuN 29-25-5	GX 2 NiCrMoCuN 29-25-5	–	–	–	–	1.4587	–
–	GX 2 NiCrMoCuN 25 20 6	–	–	–	GX 2 NiCrMoCuN 25-20-6	GX 2 NiCrMoCuN 25-20-6	–	–	–	–	1.4588	–
–	GX 25 CrNiSi 18 9	302 C 35	–	J92602	–	–	G X 16 CrNi 20 10	–	–	CF20	1.4825	–
–	GX 40 CrNiSi 22 9	–	SCH 12	J92603	–	–	–	–	–	–	1.4826	–
–	GX 50 CrNiNb 25 22	–	–	–	–	–	–	–	–	–	1.4836	–
–	GX 40 CrNiSi 25 12	309 C 30	SCS 17	J93503	–	–	GX 35 CrNi 25 12	–	–	CE30	1.4837	–
334	X 8 CrNiAlTi 20 20	–	–	S33400	–	–	–	–	–	–	1.4847	ATI 334™
–	GX 40 NiCrSiNb 38 18	–	–	N08004	–	–	–	–	–	–	1.4849	–
–	GX 40 NiCrSiNb 35 25	–	–	–	–	–	–	–	–	–	1.4852	–
–	GX 40 NiCrSi 35 25	–	–	J95705	–	–	GX 50 NiCr 35 25	–	–	–	1.4857	–
105 MA	BGH 4892	–	–	–	–	–	–	–	–	–	1.4892	–
–	X 3 CrNi 18 11	–	–	–	–	–	X 2 CrNiN 18 11	–	–	–	1.4949	–
–	X 2 CrNiMo 19 12	316 S 93	–	S31683	x 2 CrNiMo 19 13 03 KE	Z 2 CND 19-12-03	–	–	–	–	1.4430	–
–	GX 7 NiCrMoCuNb 25 20	–	SCS 23	J95150	10.204.3.1B	Z 3 NCDU 25.20 M	GX 5 NiCrCuMo 29 21	–	–	–	1.4500	–
–	X 3 CrNiCu 19 9 2	–	–	–	S 124 M	PHYHQ 4560	304 RH1	–	–	–	1.4560	ACX276
–	–	–	–	S63198	–	–	–	–	–	19-9 DL	–	19-9 DL
–	X 2 CrNiMoN 17 13 3	–	–	–	–	Z 2 CND 17.13	X 2 CrNiMoN 17 13 3	–	–	–	–	–
332	–	–	–	N08800	–	–	–	–	–	–	–	ATI 332™
–	–	–	–	N08367	–	–	–	–	–	–	–	AL-6XN®
611	–	–	–	S30601	–	–	–	–	–	A240-97A	–	ATI 611™

M2 ■ Workpiece Materials Listing • Stainless Steel • M2

M2 High-Strength Austenitic Stainless and Cast Stainless Steels

Tensile Strength RM (MPa)*: 600–800

Hardness (HB): 150–230 (HRC): <25

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
304 H	X 5 CrNi 18 10	304 S 15	SUS 304	S30409	X 6 CrNi 18 10 KD	Z 6 CN 18.09	X 5 CrNi 18 10	2332	–	–	1.4301	–
–	X 5 CrNi 19 9	308 S 96	–	S30888	X 6CrNi 20 10 KE	–	–	–	–	–	1.4302	–
305	X 4 CrNi 18 12	305 S 19	SUS 305	S30500	X 4 CrNi18 12 KD	Z 5 CN 18.12	X 4 CrNi 19 10	–	–	–	1.4303	–
303	X 10 CrNiS 18 9	303 S 21	SUS 303	S30300	X 10 CrNiS 18 9	Z 10 CNF 18.09	X 10 CrNiS 18 09	2346	–	–	1.4305	ATI 303™
304 L	X 2 CrNi 19 11	304 C 12	SUS 304L	S30403	X 3 CrNi18 10 KD	Z 2 CN 18.09	GX 2 CrNi 19 10	2352	–	CF3	1.4306	ATI 304L™
304 L	X 2 CrNi 18 9	304 S 11	SUS 304L	–	X 2 CrNi 18 9	CLC18.9.L	X 2 CrNi 18-9	–	–	–	1.4307	–
–	GX 2 CrNi 19 11	304 C 12	–	J92500	GX2CrNi19-11	GX2CrNi19-11	GX2CrNi19-11	2352	–	CF3	1.4309	–
304 LN	X 2 CrNiN 18 10	304 S 62	SUS 304 LN	S30453	X 2 CrNiN 18 10	Z 8 CN 18.12	X 8 CrNi 19 10	2371	–	–	1.4311	–
305	GX 10 CrNi 18 8	302 C 25	SCS 12	–	–	Z 10 CN 18.9 M	–	–	–	–	1.4312	ATI 305™
308 L	X 2 CrNi 19 9	308 S 92	SUS Y 308L	S30883	X 2 CrNi 20 10 KE	Z 2 CN 20.10	–	–	–	–	1.4316	–
–	X 2 CrNiN 18 7	–	–	–	X 2 CrNiN 18-7	18-7L	18-7L	–	–	–	1.4318	–
302	X 10 CrNi 18 9	302 S 26	SUS 302	S20200	302S31	Z10CN18-09	X 10 CrNi 18 09	2330	–	–	1.4319	ATI 302™
301	X 10 CrNi 18 9	302 S 26	–	J92501	X 10 CrNi 18 9	–	–	–	–	–	1.4324	–
–	X 10 CrNi 30 9	312 S 94	–	–	X 12 CrNi 30 09 KE	Z 10 CN 31-10	–	–	–	–	1.4337	–
–	X 3 CrNi 13 4	–	–	S41086	X 3 CrNi 14 04 KE	–	–	–	–	–	1.4351	410NiMo
202	X 3CrMnNiN 18 8 7	–	–	–	284S16	Z8CMN18-08-05	–	–	–	–	1.4371	–
201	X 12 CrMnNiN 17 7 5	284 S 16	SUS 201	–	X 12 CrMnNiN 17-7-5	X 12 CrMnNiN17-7-5	X 12 CrMnNiN 17-7-5	–	–	–	1.4372	ACX060
316	X 5 CrNiMo 17 12 2	316 S 16	SUS 316	S31600	X6 CrNiMo 17 12 2 KD	Z 6 CND 17.11	X 5 CrNiMo 17 12	2347	–	–	1.4401	ATI 316™
316L	X 2 CrNiMo 17 13 2	316 S 12	SUS 316 L	S31603	GX 3 CrNiMo 17 12 2 KD	Z 3 CND 19.10 M	GX 2 CrNiMo 19 11	2348	–	–	1.4404	ATI 316L™
316 LN	X 2 CrNiMoN 17 12 2	316 S 61	SUS 316 LN	S31653	X 3 CrNiMoN 17 12 2	Z 2 CND 17.12 Az	X 2 CrNiMoN 17 12	2353	–	–	1.4406	ATI 316LN™
–	X 5 CrNiMo 13 4	–	–	J91550	–	Z 6 CND 16.05.01	–	–	–	–	1.4407	–
–	X12CrNiMoS18-11	–	–	–	–	Z3CNDf17-13	–	–	–	–	1.4427	Chronifer® Special KL
316L	X 2 CrNiMo 17 12 3	316 S 13	SUS 316L	–	X 2 CrNiMo 17 12 2	Z 3 CND 17-13-30	X 2 CrNiMo 17-12-3	2348/2353/2354	–	–	1.4432	–
–	X 2 CrNiMoN 18 12 4	–	–	–	317 LN	CLC18.12.4.LN	X2CrNiMoN1812-4	–	–	–	1.4434	–
316 L	X 2 CrNiMo 18 14 3	316 S 11	SCS 16	S31603	X 2 CrNiMo 18 16	Z 2 CND 17.13	X 2 CrNiMo 17 13	2353	–	–	1.4435	–
316	X 5 CrNiMo 17 1 3 3	316 S 16	SUS 316	S31600	X6 CrNiMo 18 13 3 KD	Z 6 CND 17.12	X 5 CrNiMo 17 13	2343	–	–	1.4436	–
317 L	X 2 CrNiMo 18 16 4	317 S 12	SUS 317 L	S31703	X 3 CrNiMo 18 16 4	Z 2 CND 19.15	X 2 CrNiMo 18 15	2367	–	–	1.4438	ATI 317L™
–	X 2 CrNiMoN 17 13 5	–	–	–	X 3 CrNiMo 17 13 5	Z 3 CND 18.14-05 AZ	–	–	–	–	1.4439	–
–	X 2 CrNiMo 18 15 4	–	–	S31675	–	X 3 CrNiMoN 19-14	–	–	–	–	1.4442	–
317	X 5 CrNiMo 17 13	317 S 16	SUS 317	S31700	–	–	X 5 CrNiMo 18 15	–	–	–	1.4449	AL 317L+E55
–	X 5 CrNiCuNb 16 4	–	–	–	–	Z7CNU16.04	–	–	–	–	1.4452	–
–	–	–	–	S21904	–	–	–	–	–	A666	1.4454	ATI 219
–	X 2 CrNiMnMoN 20 16	–	–	–	X 2 CrNiMnMoN 20 15 08 KE	–	–	–	–	–	1.4455	–
–	X 1 CrNiMoN 25 2 5 2	–	–	S31050	–	–	–	–	–	–	1.4465	2RE69

(continued)

M2 ■ Workpiece Materials Listing • Stainless Steel • M2 (continued)
M2 High-Strength Austenitic Stainless and Cast Stainless Steels Tensile Strength RM (MPa)*: 600–800
Hardness (HB): 150–230 (HRC): <25

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	X 1 CrNiMoN 25 22 2	-	-	-	725 LN	DMV 25.22.2	X 1 CrNiMoN 25-22-2	-	-	-	1.4466	-
-	X 1 NiCrMoCuN 25 20 6	-	-	-	-	-	-	-	-	-	1.4529	Uranus B26 6Mo
-	GX 2 NiCrMoCuN 25 20	-	-	J94650	GX 2 CrNiMoCuN 25-20-6	-	-	-	-	-	1.4536	-
-	X 1 CrNiMoCuN 25 25 5	-	-	-	-	X 1 CrNiMoCuN 25-25-5	X 1 CrNiMoCuN 25-25-5	-	-	-	1.4537	-
321	X 6 CrNiTi 18 10	321 S 12	SUS 321	S32100	X 6 CrNiTi 18 10	Z 6 CNT 18.10	X 6 CrNiTi 18 11	2337	-	-	1.4541	ATI 321™
321	A 700	304 S 31	-	J92630	-	Z 10 CNT 18 11	X 6 CrNiTi 18 11	-	-	-	1.4544	-
-	X 1 CrNiMoCuN 20 18 7	X 1 CrNiMoCuN 20 18 7	-	S31254	X 1 CrNiMoCuN 20-18-7	X 1 CrNiMoCuN 20-18-7	X 1 CrNiMoCuN 20-18-7	-	-	-	1.4547	Uranus B25 6Mo
-	X 2 NiCrAlTi 32 20	-	NCF 800 TB	-	-	-	-	-	-	-	1.4558	-
-	X 1 NiCrMoCuN 31 27 4	-	-	-	X 1 NiCrMoCu 31 27 4	X 1 NiCrMoCuN 31-27-4	X 1 NiCrMoCuN 31-27-4	2584	-	-	1.4563	-
-	X 3 CrNiCu 18 9 4	394 S 17	SUS XM7	-	X3CrNiCu18-9-4	304CU	304K	-	-	-	1.4567	-
316 Ti	X 6 CrNiMoTi 17 12 2	320 S 31	SUS 316Ti	-	X 6 CrNiMoTi 17 12 2	Z 6 CNDT 17.12	X 6 CrNiMoTi 17 12	2350	-	-	1.4571	ATI 316Ti™
-	GX 5 CrNiMoNb 23 9	-	-	-	-	-	-	-	-	-	1.4572	-
316 Ti	X 10 CrNiMoTi 18 12	320 S 33	SUS 316Ti	S31635	-	-	X 6 CrNiMoTi 17 13	-	-	-	1.4573	-
318	X 10 CrNiMoNb 18 12	-	-	-	-	-	X 6 CrNiMoNb 17 13	-	-	-	1.4583	-
-	X 2 CrNiCu 19 10	-	-	-	X 2 CrNiCu 19-10	TX 304L	-	-	-	-	1.4650	-
-	X1CrNiMoCuN24-22-8	-	-	S32654	-	-	-	-	-	-	1.4652	654 SMO®
-	153 MA	-	-	S30415	X 6 CrNiSiNce 19 10	-	-	-	-	-	1.4818	153 MA™
-	X 20 CrNiSi 25 4	-	-	S44635	X 15 CrNiSi 25 4	Z 20 CNS 25.04	X 20 CrNiSi 25 4	-	-	-	1.4821	-
309	X 15 CrNiSi 20 12	309 S 24	SUH 309	S30900	X 15 CrNiSi 20 12	Z 15 CNS 20.12	X 16 CrNiSi 25,20	-	-	-	1.4828	ATI 309™
309 S	X 7 CrNi 23 14	309 S 24	SUS 309 S	J93400	X 12 CrNi 23 13	Z 15 CN 24.13	X 6 CrNi 23 14	-	-	-	1.4833	-
-	353 MA	-	-	S35315	X 6 NiCrSiNce 35-25	-	-	-	-	-	1.4854	353 MA®
-	X 8 NiCrSi 38 18	NA 17	-	N08330	-	Z 12 NCS 37.18	-	-	-	-	1.4862	-
-	X 33 CrNiMnN 23 8	-	-	-	X 33 CrNiMnN 23-8	X 33 CrNiMnN 23-8	-	-	-	-	1.4866	-
EV 12	X 55 CrMnNiN 20 8	-	-	S63012	X 55 CrMnNiN 20-8	Z 55 CMN 20.08 Az	-	-	-	-	1.4875	-
321	X 12 CrNiTi 18 9	321 S 20	SUS 321	S32100	X 10 CrNiTi 18 10	Z 6 CNT 18.12	X 6 CrNiTi 18.11	2337	-	-	1.4878	ACX315
EV 11	X 70 CrMnNiN 21 6	-	-	S63011	-	-	X 70 CrMnNiN 21 6	-	-	-	1.4881	-
-	X 50 CrMnNiNbN 21 9	-	-	-	X 50 CrMnNiNbN 21-9	Z 50 CMNNb 21.09	-	-	-	-	1.4882	-
-	X 7 CrNiNb 18 10	-	SUS347H	S34709	X7CrNiNb18-10	X7CrNiNb18-10	-	-	-	-	1.4912	-
316 H	X 6 CrNiMo 17 13	316 S 51	-	S31609	X 6 CrNiMo 17 12 2	Z 6 CND 17-13 B	-	-	-	-	1.4919	-
321 H	X 8 CrNiTi 18 10	-	-	-	X 6 CrNiTiB 18-10	Z 6 CNT 18-10 B	X 6 CrNiTiB 11	-	-	-	1.4941	-
A660	X 4 NiCrTi 25 15	HR251	SUH 660	S66286	-	Z 6 NCTDV 25.15 B	-	-	-	-	1.4943	Discaloy
-	X 6 CrNiWNB 16 16	-	-	-	-	-	-	-	-	-	1.4945	-
-	X 6 CrNi 18 11	304 S 51	-	S30480	X 6 CrNi 18 10	Z 6 CN 18-09	X 5 CrNi 18 10 KW	2333	-	-	1.4948	-
-	X 6 CrNi 25 20	-	-	-	310 H	-	-	-	-	-	1.4951	-
-	X 8 CrNiNb 16 13	347 S 51	-	-	-	-	-	-	-	-	1.4961	-
-	Esshete 12 50	-	-	S21500	X 10 CrNiMoMnNbVB 15-10-1	X 10 CrNiMoMnNbVB 15-10-1	-	-	-	A213	1.4982	Esshete 1250
-	X 8 CrNiMoNB 16 16	-	-	-	X 7 CrNiMoNB 16-16	-	-	-	-	-	1.4986	-
301	X 12 CrNi 17 7	301 S 21	SUS 301	S30100	X 12 CrNi 17 7	Z 12 CN 17.07	X 12 CrNi 17 07	2331	-	-	1.4310	ATI 301™
-	GX 40 CrNi 27 4	-	-	J92615	-	-	GX 35 CrNi 28 05	-	-	-	1.4340	-
304	X 5 CrNi 18 9	304 S 31	SUS 304	S30400	1	Z6CN18.09	X5CrNi1810	2332/2333	-	A276	1.4350	ATI 304™
-	X 15 CrNiMn 18 8	307 S 98	-	-	X 15 CrNiMn 18 08 KE	Z 8 CNM 19-09-07	-	-	-	-	1.4370	-
S32750	GX 10 CrNiMo 18 9	-	SCS 14 A	S32750	X 2 CrNiMoN 25-7-4	Z 5 CND 20.10 M	X 2 CrNiMoN 25-7-4	-	-	-	1.4410	-
-	X 5 CrNiMo 18 11	315 S 16	-	-	-	-	-	2340	-	-	1.4420	-
347	X 6 CrNiNb 18 10	347 S 17	SUS 347	S34700	X 6 CrNiNb 18 10	Z 6 CANN 18.10	X 6 CrNiNb 18 11	2338	-	-	1.4550	ATI 347™
316 Cb	X 6 CrNiMoNb 17 12 2	318 S 17	-	-	X 6 CrNiMoNb 17 12 2	Z 6 CNDNb 17.12	X 6 CrNiMoNb 17 12	-	-	-	1.4580	-
-	X 3 CrNiMoN 17 13	-	-	-	X 3 CrNiMoN 17-13-3	-	X 2 CrNiMoN 17 12	-	-	-	1.4910	-
-	X 6 CrNi 23 13	-	-	-	309 H	-	-	-	-	-	1.4950	-
A286	X 6 NiCrTiMoVB 25-15-2	286 S 31	-	S66286	X 6 NiCrTiMoVB 21-15-2	-	-	-	-	-	1.4980	Incoloy A 286
XM-19	-	-	-	S20910	-	-	-	-	-	F1314	-	ATI XM-19™
303 plus X	-	-	-	S30310	-	-	-	-	-	XM-5	-	303 plus X
-	X 2 CrNi 18 13 3	-	-	-	-	-	-	-	-	-	-	Staybrite® 4435NCu
218	-	-	-	S21800	-	-	-	-	-	-	-	Nitronic 60
201LN	-	-	-	S20153	-	-	-	-	-	-	-	ATI 201LN™-MIL
-	X 2 CrNiMoN 17 13 3	-	-	-	-	Z 2 CND 17.13	X 2 CrNiMoN 17 13 3	-	-	-	-	AL 316LXN
-	-	-	-	S31675	-	-	-	-	-	F1586	-	ATI REX 734™
-	-	-	-	-	-	-	-	-	-	-	-	P558
-	X 1 NiCrMoCu 22 24 6	-	-	-	-	-	-	-	-	-	-	Uranus B66
-	-	-	-	-	-	-	-	-	-	-	-	ATI Datalloy 2®
-	-	-	-	-	-	-	-	-	-	-	-	ATI Staballoy® AG17®
-	-	-	-	-	-	-	-	-	-	-	-	P530
-	X 1 NiCrMoCu 31 27 4	-	-	N08028	-	-	-	-	-	-	-	Uranus B28
-	-	-	-	-	-	-	-	-	-	-	-	P750
-	-	-	-	-	-	-	-	-	-	-	-	P750-I
-	X 4 CrNiMoN 21 9 4	-	-	-	-	-	-	-	-	F1586	-	M30NW
-	-	-	-	-	-	-	-	-	-	-	-	P550
-	-	-	-	-	-	-	-	-	-	-	-	P580
-	-	-	-	-	-	-	-	-	-	-	-	P650
-	-	-	-	-	-	-	-	-	-	-	-	ATI Datalloy HP™

NOTE: For legend, see page Y237.

M3 ■ Workpiece Materials Listing • Stainless Steel • M3

M3 Duplex Stainless Steel Tensile Strength RM (MPa)*: <800 Hardness (HB): 135–275 (HRC): <30

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	GX 120 CrMo 29 2	–	–	–	–	–	–	–	–	F30M	1.4138	PK324
–	X 2 CrMnNiN 21 5 1	–	–	S32101	–	–	–	–	–	–	1.4162	LDX2101
–	GX 6 CrNiN 26 7	–	–	–	GX 6 CrNiN 26-7	–	–	–	–	–	1.4347	–
S32304	X 2 CrNiN 23 4	–	–	S32304	SAF 2304	35 N	X 2 CrNiN 23-4	2327	–	A240	1.4362	ATI 2304™
S31500	X 2 CrNiMoSi 19 5	–	–	S39215	GX 2 CrNiMoN 25-7-3	GX 2 CrNiMoN 25-7-3	–	2376	–	–	1.4417	–
S31803	X 2 CrNiMoN 22 5 3	318 S 13	SUS 329J 3L	S31803, S32205	X 2 CrNiMoN 22 5 3	Z 3 CNL 22.05 AZ	X 2 CrNiMoN 22-5-3	2377	F51	2205	1.4462	ATI 2205™
–	GX 6 CrNiMo 24 8 2	–	–	–	–	–	–	–	–	–	1.4463	–
–	GX 2 CrNiMoN 25 6 3	–	–	–	GX 2 CrNiMoN 25-6-3	GX 2 CrNiMoN 25-6-3	–	–	–	–	1.4468	–
–	GX 2 CrNiMoN 26 7 4	–	–	J93404	GX 2 CrNiMoN 26-7-4	GX 2 CrNiMoN 26-7-4	GX 2 CrNiMoN 26-7-4	–	–	–	1.4469	–
–	X 2 CrNiMoCuWN 25 7 4	–	–	S32760	X 2 CrNiMoCuWN 25 7 4	X 2 CrNiMoCuWN 25-7-4	X 2 CrNiMoCuWN 25-7-4	–	F 55	–	1.4501	F55
2507	X 2 CrNiMoCuN 25 6 3	–	–	–	X 2 CrNiMoCuN 25-6-3	DMV25.7Cu	329SK	–	–	–	1.4507	Uranus 52N+
–	GX 2 CrNiMoCuWN 25 8 4	–	–	–	X 6 CrNiCu 18 10 4 KD	Z 4 CNUD 17-11-03 FF	–	–	–	–	1.4508	–
–	GX 2 CrNiMoCuN 25 6 3 3	–	–	–	GX 2 CrNiMoCuN 25-6-3-3	GX 2 CrNiMoCuN 25-6-3-3	GX 2 CrNiMoCuN 25-6-3-3	–	–	–	1.4517	–
–	X 4 CrNiMoNb 25 7	–	SCS 22	–	–	–	–	–	–	–	1.4582	PK343
–	BGH 4593	–	–	–	GX 3 CrNiMoCuN 24 6 2 3	–	–	–	–	–	1.4593	Noridur®
329	X 4 CrNiMo 27 5 2	–	SUS 329 J1	S32900	X 3 CrNiMo 27 5 2	X 2 CrNiMo 25-7-3	X 3 CrNiMo 27-5-2	2324	–	A240	1.4460	10RE51
–	GX 2 CrNiMoN 22 5 3	–	–	–	GX 2 CrNiMoN 22-5-3	GX 2 CrNiMoN 22-5-3	GX 2 CrNiMoN 22-5-3	–	–	–	1.4470	–
S32550	–	–	–	S32550	–	–	–	–	–	–	–	Ferralum® alloy 255
–	–	–	–	S32003	–	–	–	–	–	–	–	ATI 2003®
–	–	–	–	S80211	–	–	–	–	–	–	–	ATI 2102™
–	–	–	–	S32550	–	–	–	–	–	–	–	ATI 255™
–	–	–	–	S34565	–	–	–	–	–	–	–	ATI 4565™
–	X 2 CrNiMoN 25 6 3	–	–	–	–	–	–	–	–	–	–	Uranus 47N+
–	–	–	–	–	–	–	F60	–	–	32760	–	Zeron® 100

Cast Iron

K1 ■ Workpiece Materials Listing • Cast Iron • K1

K1 Gray Cast Iron Tensile Strength RM (MPa)*: 125–500 Hardness (HB): 120–290 (HRC): <32

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	GG-150HB	–	–	–	GJL-HB 170	–	–	–	–	–	0.6012	–
A48-25 B	GG-15	Grade 150	FC 150	–	GJL-150	FGL 150	G 15	0115-00	–	A 48 Class 25	0.6015	–
–	GG-170HB	–	–	N06985	GJL-HB 205	–	–	–	–	–	0.6017	–
–	GG-190HB	–	–	N06022	GJL-HB 230	–	–	–	–	–	0.6022	–
A48-35 B	GG-25	Grade 260	FC 250	–	GJL-250	FGL 250	G 25	0125-00	–	A 48 Class 35	0.6025	–
–	GG-26	–	FC260	–	–	–	G 26	0126-00	–	–	0.6026	–
–	GG-220HB	–	–	W06027	GJL-HB 250	FGL 250	–	–	–	–	0.6027	–
–	GG-240HB	–	–	–	GJL-HB 275	–	–	–	–	–	0.6032	–
A48-50 B	GG-35	Grade 350	FC 350	–	GJL-350	FGL 350	G 35	0135-00	–	A 48 Class 50	0.6035	–
–	GG-260HB	–	–	–	GJL-HB 275	–	–	–	–	–	0.6037	–
A48-20 B	GG-10	Grade 100	FC 100	–	GJL-100	FGL 100	G 10	0110-00	–	A 48 Class 20	0.6010	–
A48-30 B	GG-20	Grade 220	FC 200	W06020	GJL-200	FGL 200	G 20	0120-00	–	A 48 Class 30	0.6020	–
A48-45 B	GG-30	Grade 300	FC 300	–	GJL-300	FGL 300	G 30	0130-00	–	A 48 Class 45	0.6030	–
A48-55 B	GG-40	Grade 400	–	–	GJL-400	FGL 400	–	0140-00	–	A 48 Class 55	0.6040	–
A48-40	–	–	–	–	–	–	–	–	–	A 48 Class 40	–	–
A48-60	–	–	–	–	–	–	–	–	–	A 48 Class 60	–	–
–	–	–	–	–	–	–	–	–	G1800	A 159 G1800	–	–
–	–	–	–	–	–	–	–	–	G3000	A 159 G3000	–	–
–	–	–	–	–	–	–	–	–	G10H18	A 159 G3000	–	–
–	–	–	–	–	–	–	–	–	G11H18	A 159 G3000	–	–
–	–	–	–	–	–	–	–	–	G3500	A 159 G3500	–	–
–	–	–	–	–	–	–	–	–	G11H20	A 159 G3500	–	–
–	–	–	–	–	–	–	–	–	G4000	A 159 G4000	–	–
–	–	–	–	–	–	–	–	–	G13H19	A 159 G4000	–	–
–	–	–	–	–	–	–	–	–	G12H21	A 159 G4000	–	–
–	–	–	–	–	–	–	–	–	G9H12	A 159 G1800	–	–
–	GG-26-Cr	–	–	–	–	–	–	–	–	–	–	–
–	GG-25-Cr	–	–	–	–	–	–	–	–	–	–	–

K2 ■ Workpiece Materials Listing • Cast Iron • K2

 K2 Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)
 Hardness (HB): 130–260 (HRC): <28

Tensile Strength RM (MPa)*: <600

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	GGL-NiMn137	L-NiMn 13 7	FCA NiMn 13 7	F43000	GJLA-XNiMn 13-7	L-NM 13 7	-	-	-	-	0.6652	-
A 436 Type 1	GGL-NiCuCr1562	L-NiCuCr 15 6 2	FCA-NiCuCr 15 6 2	F41000	GJLA-XNiCuCr 15-6-2	L-NUC 15 6 2	-	-	-	-	0.6655	-
A 436 Type 1b	GGL-NiCuCr1563	L-NiCuCr 15 6 3	FCA-NiCuCr 15 6 3	F41001	GJLA-XNiCuCr 15-6-3	L-NUC 15 6 3	-	-	-	-	0.6656	-
A 436 Type 2b	GGL-NiCr203	L-NiCr 20 3	FCA-NiCr 20 3	F41003	GJLA-XNiCr 20-3	L-NC 20 3	-	-	-	-	0.6661	-
-	GGL-NiSiCr2053	L-NiSiCr 20 5 3	FCA-NiSiCr 20 5 3	-	GJLA-XNiSiCr 20-5-3	L-NSC 20 5 3	-	-	-	-	0.6667	-
A 436 Type 3	GGL-NiCr303	L-NiCr 30 3	FCA-NiCr 30 3	F41004	GJLA-XNiCr 30-3	L-NC 30 3	-	-	-	-	0.6676	-
-	GGG-35.3	-	-	-	GJS-350-22	-	-	0717-15	-	-	0.7033	-
-	GGG-40.3	SNG 370/17	FCD 370	-	GJS-400-18	FGS 370-17	GSO 42/15	0717-15	-	-	0.7043	-
-	GGG-45	-	FCD 450	-	-	-	-	-	-	-	0.7045	-
-	-	-	-	-	-	FGS450.10	-	-	-	-	0.7049	-
-	GGG-65	-	-	-	-	-	-	-	-	-	0.7065	-
-	GGG-NiMn137	S-NiMn 13 7	FCDA-NiMn 13 7	-	GJSA-XNiMn 13-7	S-Mn 13 7	-	0772-00	-	-	0.7652	-
-	GGG-NiCrNb202	S2W	FCDA-NiCrNb 20 2	-	GJSA-XNiCrNb 20-2	-	-	-	-	-	0.7659	-
A 439 Type D-2B	GGG-NiCr203	S-NiCr 20 3	FCDA-NiCr 20 3	F43001	GJSA-XNiCr 20-3	-	-	-	-	-	0.7661	-
-	GGG-NiSiCr2052	S-NiSiCr 20 5 2	FCDA-NiSiCr 20 5 2	-	GJSA-XNiSiCr 20-5-2	S-NSC 20 5 2	-	-	-	-	0.7665	-
A 571 Type D-2M	GGG-NiMn234	S-NiMn 23 4	FCDA-NiMn 23 4	-	GJSA-XNiMn 23-4	S-NM 23 4	-	-	-	-	0.7673	-
A 439 Type D-3	GGG-NiCr303	S-NiCr 30 3	FCDA-NiCr 30 3	F43003	GJSA-XNiCr 30-3	S-NC 30 3	-	-	-	-	0.7676	-
A 439 Type D-3A	GGG-NiCr301	S-NiCr 30 1	FCDA-NiCr 30 1	F43004	GJSA-XNiCr 30-1	S-NC 30 1	-	-	-	-	0.7677	-
-	GGG-NiSiCr3055	-	FCDA-NiSiCr 30 5 5	-	GJSA-XNiSiCr 30-5-5	-	-	-	-	-	0.7679	-
A 439 Type D-5	GGG-Ni35	S-Ni 35	FCDA-Ni 35	F43006	GJSA-XNi 35	S-N 35	-	-	-	-	0.7683	-
A 439 Type D-5A	GGG-NiCr353	S-NiCr 35 3	FCDA-NiCr 35 3	F43007	GJSA-XNiCr 35-3	S-NC 35 3	-	-	-	-	0.7685	-
-	GGG-NiSiCr3552	-	FCDA-NiSiCr 35 5 2	-	GJSA-XNiSiCr 35-5-2	FGS Ni35 Si 5 Cr2	-	-	-	-	0.7688	-
-	GTW-35-04	W 35-04	FCMW 330 class 1	-	GJMW-35-0-4	MB 35-7	W 35-04	-	-	-	0.8035	-
-	GTW-S-38-1 2	W 38-12	-	-	GJMW-360-12	MB 300-12	-	-	-	-	0.8038	-
-	GTW-45-07	W 45-07	FCMWP 440 class 3	-	GJMW-450-7	MB 450-7	GMB 45	-	-	-	0.8045	-
-	GTW-55	-	-	-	-	-	GMB 55	-	-	-	0.8055	-
-	GTW-65	-	-	-	-	-	GMB 65	-	-	-	0.8065	-
32510	GTS-35-10	B 340/12	FCMP 330	-	GJMB-350-10	MN 350-10	-	815	-	-	0.8135	-
40010	GTS-45-06	P 440/7	FCMP 440	-	GJMB-450-6	MN 450 - 6	P 45-06	852	-	-	0.8145	-
50005	GTS-55-04	P 510/4	FCMP 490	-	GJMB-550-4	MN 550-4	P 55-04	854	-	-	0.8155	-
70003	GTS-65-02	P 570/3	FCMP 540	-	GJMB-650-2	MN 650-3	P 65-02	0858-00, 0856-00	-	-	0.8165	-
90001	GTS-70-02	P 690/2	FCMP 690	-	GJMB-700-2	MN 700-2	P 70-02	0862-03; 0864-03	-	-	0.8170	-
-	GGV-30	-	-	-	GJV-300	-	-	-	-	-	0.9991	-
A 436 Type 2	GGL-NiCr202	L-NiCr 20 2	FCA-NiCr 20 2	F41002	GJLA-XNiCr 20-2	L-NC 20 2	-	0523-00	-	-	0.6660	-
A 436 Type 4	GGL-NiSiCr3055	L-NiSiCr 30 5 5	FCA-NiSiCr 30 5 5	F41005	GJLA-XNiSiCr 30-5-5	L-NSC 30 5 5	-	-	-	-	0.6680	-
60-40-18	GGG-40	SNG 420/12	FCD 400 class 1	F32800	GJS-400-15	FGS400-12	GS400-12	0717-02	60-40-18	60-40-18	0.7040	-
65-45-12	GGG-50	SNG 500/7	FCD 500	F33100	GJS-500-7	FGS 500-7	GS 500/7	0727-02	65-45-12	65-45-12	0.7050	-
-	GGG-60	SNG 600/3	FCD 600-3	-	GJS-600-3	-	GS 600/3	-	80-55-06	80-55-06	0.7060	-
100-70-03	GGG-70	SNG 700/2	FCD 700	F34800	GJS-700-2	FGS 700-2	GS 700-2	0737-01	100-70-03	100-70-03	0.7070	-
120-90-02	GGG-80	SNG 800/2	FCD 800	F36200	GJS-800-2	FGS 800-2	GS 800-2	-	120-90-02	120-90-02	0.7080	-
A 439 Type D-2	GGG-NiCr202	L-NiCuCr 20 2	FCDA-NiCr 20 2	-	GJSA-XNiCr 20-2	L-NC 20 2	-	0523-00	-	-	0.7660	-
A 439 Type D-2C	GGG-Ni22	S-Ni 22	FCDA-Ni 22	F43002	GJSA-XNi 22	S-N 22	-	-	-	-	0.7670	-
A 439 Type D-4	GGG-NiSiCr3053	S-NiSiCr 30 5 5	FCDA-NiSiCr 30 5 4	F43005	GJSA-XNiSiCr 30-5-3	S-NSC 30 5 5	-	-	-	-	0.7680	-
-	GTW-40-05	W 40-05	FCMW 370	-	GJMW-400-5	MB 400-5	GMB 40	-	-	-	0.8040	-
-	GGV-40	-	-	-	GJV-400	-	-	-	-	-	0.9990	-
80-55-06	-	-	-	F33800	-	FGS 350-22	-	0732-03	D5506	-	-	-
-	-	-	-	-	-	-	-	-	D4018	-	-	-
-	-	-	-	-	-	-	-	-	D400	-	-	-
-	-	-	-	-	-	-	-	-	D4512	-	-	-
-	-	-	-	-	-	-	-	-	D450	-	-	-
-	-	-	-	-	-	-	-	-	M3210	-	-	-
-	-	-	-	-	-	-	-	-	M4504	-	-	-
-	-	-	-	-	-	-	-	-	M5003	-	-	-
-	-	-	-	-	-	-	-	-	M5503	-	-	-
-	-	-	-	-	-	-	-	-	M7002	-	-	-
-	-	-	-	-	-	-	-	-	D7003	-	-	-
-	-	-	-	-	-	-	-	-	M8501	A 602 M8501	-	-
-	GGV-45	-	-	-	GJV-450	-	-	-	-	-	-	-
-	GGG-SiMo3.08	-	-	-	-	-	-	-	-	-	-	-
-	GGG-SiMo4.10	-	-	-	-	-	-	-	-	-	-	-
-	GGG-SiMo5.10	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	HPI C13 06
-	GGV-35	-	-	-	GJV-350	-	-	-	-	-	-	-
-	GGV-50	-	-	-	GJV-500	-	-	-	-	-	-	-

K3 ■ Workpiece Materials Listing • Cast Iron • K3

K3 High-Strength Ductile Irons and Austempered Ductile Iron (ADI)

Tensile Strength RM (MPa)*: >600

Hardness (HB): 180–350 (HRC): <43

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	-	-	-	-	-	-	-	-	-	A 897 125-80-10	-	-
-	-	-	-	-	-	-	-	-	-	A 897 150-100-7	-	-
-	-	-	-	-	-	-	-	-	-	A 897 175-125-4	-	-
-	-	-	-	-	-	-	-	-	-	A 897 200-150-1	-	-
-	-	-	-	-	-	-	-	-	-	A 897 230-185	-	-

NOTE: For legend, see page Y237.

N1

Workpiece Materials Listing • Non-Ferrous Metals • N1

N1 Wrought Aluminum

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
1080	Al99.8	-	1A	-	-	-	-	-	-	-	3.0128	-
1050	Al99.5	L 31	1B	-	-	A 59050 C	-	-	-	-	3.0255	-
-	SG-Al 99.5	-	-	-	-	-	-	-	-	-	3.0259	-
1070	Al99.7	-	-	-	-	-	4508	-	-	-	3.0275	-
3103	AlMn	-	N3	-	-	-	-	-	-	-	3.0515	-
3003	AlMnCu	-	-	-	-	-	-	-	-	-	3.0517	-
3005	AlMn1Mg0.5	-	-	-	-	-	-	-	-	-	3.0525	-
3004	AlMn1Mg1	-	-	-	-	-	-	-	-	-	3.0526	-
-	AlMgSiPb	-	-	-	-	-	-	-	-	-	3.0615	-
-	SG-Al 99.5Ti	-	-	-	-	-	-	-	-	-	3.0805	-
-	SG-Al 99.5 Ti	-	-	-	-	-	-	-	-	-	3.0805	-
2014	AlCuSiMn	-	H15	-	-	A-U4SG	3581	-	-	-	3.1255	-
2017	AlCuMg 1	-	-	-	AW-2017 A	A-U4G	3579	-	-	-	3.1325	-
2024	AlCuMg 2	-	L97	-	AW-2024	A-U4G1	-	-	-	-	3.1355	-
-	AlCuMgPb	-	-	-	-	-	-	-	-	-	3.1645	-
2011	AlCuBiPb	-	FC1	-	-	A-U5PbBi	6362	-	-	-	3.1655	-
6082	AlMgSi 1	-	H30	-	AW-6005 A	A-SGMO.7	3571	-	-	-	3.2315	-
6060	AlMgSi0.5	-	-	-	-	-	-	-	-	-	3.3206	-
6063	AlMgSi0.7	-	H9	-	-	A-GS	3569	-	-	-	3.3206	-
6463	EAlMgSi0.5	-	91E	-	-	-	-	-	-	-	3.3207	-
5005	AlMg 1	-	N41	-	AW-6082	A-G0.6	5764-66	-	-	-	3.3315	-
5050	-	-	-	-	-	-	-	-	-	-	3.3316	-
5052	AlMg2.5	-	2L56	-	-	A-G2.5C	4574	-	-	-	3.3523	-
5754	AlMg 3	-	N5	-	-	A-G3M	3575	-	-	-	3.3535	-
5454	AlMg2.5Mn	-	N51	-	-	A-G2.5MC	7789	-	-	-	3.3537	-
5086	AlMg4Mn	-	-	-	-	-	-	-	-	-	3.3545	-
-	SG-Al Mg 4.5 Mn Zr	-	-	-	-	-	-	-	-	-	3.3546	-
5083	AlMg4.5Mn	-	N8	-	-	A-G4.5MC	7790	-	-	-	3.3547	-
5056	AlMg5	-	N6	-	-	A-G5	3576	-	-	-	3.3549	-
-	AlMg 5	-	-	-	-	-	-	-	-	-	3.3555	-
7050	AlZnMgCu0.5	L 86	-	-	-	AZ 4 GU/9051	811-04	-	-	-	3.4144	-
7020	AlZn4.5Mg1	-	H17	-	-	A-Z5G	-	-	-	-	3.4335	-
7022	AlZnMgCu0.5	-	-	-	-	-	-	-	-	-	3.4345	-
-	AlZn5.5MgCu	-	-	-	-	-	-	-	-	-	3.4365	-
7075	AlZnMgCu 1.5	-	DTD5074	A97075	AL-P7075	A-Z5GU	3735	-	7075	-	3.4365	-
1000	Al99.5H	L31	-	-	-	A59050C	-	-	-	-	3.0250	-
-	Al99.8	-	-	-	-	-	-	-	-	-	3.0280	-
-	AlMg3Mn	-	-	-	-	-	-	-	-	-	-	-
2025	-	-	A 2025 FD	A92025	-	-	-	-	2025	B 247 2025	-	-
1100	-	-	-	-	-	-	-	-	-	-	-	-
3105	-	-	-	-	-	-	-	-	-	-	-	-
5657	AlMg0.8Si	-	-	-	-	-	-	-	-	-	-	-
6070	-	-	-	-	-	-	-	-	-	-	-	-
6262	-	-	-	-	-	-	-	-	-	-	-	-
7003	-	-	-	-	-	-	-	-	-	-	-	-
2050	-	-	-	-	-	-	-	-	-	-	-	-
7475	-	-	-	-	-	-	-	-	-	-	-	-
7175	-	-	-	-	-	-	-	-	-	-	-	-
7178	-	-	-	-	-	-	-	-	-	-	-	-
5251	AlMg2Mo3	-	N4	-	-	A-G2M	3574	-	-	-	-	-
6151	-	-	-	-	-	-	-	-	-	-	-	-
7001	-	-	-	-	-	-	-	-	-	-	-	-
7040	-	-	-	-	-	-	-	-	-	-	-	-

N2

Workpiece Materials Listing • Non-Ferrous Metals • N2

N2 Low-Silicon Aluminum Alloys and Magnesium Alloys Content: Si <12.2%

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	SG-Al99.8	-	-	-	-	-	-	-	-	-	3.0286	-
-	G-AlCu 4 TiMg	-	-	-	-	-	-	-	-	-	3.1371	-
-	G-AlCu 4 TiMg	-	-	-	-	-	-	-	-	-	3.1371	-
-	G-AlCu 5 Ni 1.5	-	-	-	-	-	-	-	-	-	3.1754	-
-	G-AlCu 4 Ti	-	-	-	-	-	-	-	-	-	3.1841	-
-	G-AlSi 5 Cu 1	-	-	-	-	-	-	-	-	-	3.2131	-
-	G-AlSi 6 Cu 4	-	-	-	-	-	-	-	-	-	3.2151	-
-	G-AlSi 8 Cu 3	-	-	-	-	-	-	-	-	-	3.2161	-
-	G-AlSi 9 Cu 3	-	-	-	-	-	-	-	-	-	3.2163	-
-	G-AlSi 1 1	-	-	-	-	-	-	-	-	-	3.2211	-
-	SG-AlSi 5	-	-	-	-	-	-	-	-	-	3.2245	-
-	SG-AlSi 5	-	-	-	-	-	-	-	-	-	3.2245	-
-	G-AlSi 5 Mg	-	-	-	-	-	-	-	-	-	3.2341	-
4218 B	G-AlSi 7 Mg	-	-	-	-	-	-	-	-	-	3.2371	-
-	G-AlSi 9 Mg	-	-	-	-	-	-	-	-	-	3.2373	-
-	G-AlSi 10 Mg	-	-	-	-	-	-	-	-	-	3.2381	-
-	G-D AlSi 10 Mg	-	-	-	-	-	-	-	-	-	3.2382	-
A 360.2	G-AlSi 10 Mg(Cu)	LM 9	-	-	-	-	-	4253	-	-	3.2383	-
A 413.0	G-D AlSi 12	-	-	-	-	-	-	4247	-	-	3.2582	-
-	SG-AlSi 12	-	-	-	-	-	-	-	-	-	3.2585	-
-	G-D AlSi 12(Cu)	-	-	-	-	-	-	-	-	-	3.2982	-
6061	AlMgSiCu	-	H20	-	-	A-GSUC	6170	-	-	-	3.3211	-
-	G-AlMg 3 Si	-	-	-	-	-	-	-	-	-	3.3241	-
-	G-AlMg 5 Si	-	-	-	-	-	-	-	-	-	3.3261	-
-	G-D AlMg 9	-	-	-	-	-	-	-	-	-	3.3292	-
-	G-AlMg5Si(Cu,Mn)	-	-	-	-	-	-	-	-	-	3.3458	-
-	SG-AlMg 3	-	-	-	-	-	-	-	-	-	3.3536	-

N2
Workpiece Materials Listing • Non-Ferrous Metals • N2 *(continued)*
N2 Low-Silicon Aluminum Alloys and Magnesium Alloys Content: Si <12.2%

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	G-AlMg 3	-	-	-	-	-	-	-	-	-	3.3541	-
-	SG-AlMg 4.5 Mn	-	-	-	-	-	-	-	-	-	3.3548	-
-	SG-AlMg 5	-	-	-	-	-	-	-	-	-	3.3556	-
-	G-AlMg 5	-	-	-	-	-	-	-	-	-	3.3561	-
ZE 41	G-MgZn 4 SE 1 Zr 1	MAG 5	-	-	MCMgZn 4 RE 1 Zr	G-Z 4 TR	-	-	-	-	3.5101	-
-	G-MgZn 5 Th 2 Zr 1	-	-	-	-	-	-	-	-	-	3.5102	-
EZ 33	MgSE 3 Zn 2 Zr 1	MAG 6	-	-	MCMgRE 3 Zn 2 Zr	G-TR 3 Z 2	-	-	-	-	3.5103	-
-	MgAl 9 Zn 1	-	-	-	-	-	-	-	-	-	3.5104	-
-	G-MgTh 3 Zn 2 Zr 1	-	-	-	-	-	-	-	-	-	3.5105	-
QE 22	G-MgAg 3 SE 2 Zr 1	MAG 12	-	-	MCMgRE 2 Ag 2 Zr	G-Ag 22.5	-	-	-	-	3.5106	-
-	G-D MgAl 6 Zn 1	-	-	-	-	-	-	-	-	-	3.5612	-
-	G-D MgAl 6	-	-	-	-	-	-	-	-	-	3.5662	-
AZ 81	G-MgAl 8 Zn 1	MAG 1	-	-	MCMgAl 8 Zn 1	G-A 9	-	-	-	-	3.5812	-
AZ 91	G-MgAl 9 Zn 1	MAG 7	-	-	MCMgAl 9 Zn 1	G-A 9 Z 1	-	-	-	-	3.5912	-
-	G-MgAl 8 Zn 1	-	-	-	-	-	-	-	-	-	3.5200	-
AS 41	G-D MgAl 4 Si 1	-	-	-	MCMgAl4Si	G-A4S 1	-	-	-	-	3.5470	-
-	G-AlZn10Si8Mg	-	-	-	-	-	-	-	-	-	-	-
AS 7 G	AlSi7Mg	-	-	-	-	-	-	-	-	-	-	-
2117	-	-	-	-	-	-	-	-	-	-	-	-
2218	AlCuMgNi2	-	-	-	-	-	-	-	-	-	-	-
2091	-	-	-	-	-	-	-	-	-	-	-	-
8090	-	-	-	-	-	-	-	-	-	-	-	-
2090	-	-	-	-	-	-	-	-	-	-	-	-
2224	-	-	-	-	-	-	-	-	-	-	-	-
2094	-	-	-	-	-	-	-	-	-	-	-	-
2095	-	-	-	-	-	-	-	-	-	-	-	-
2097	-	-	-	-	-	-	-	-	-	-	-	-
2098	-	-	-	-	-	-	-	-	-	-	-	-
2099	-	-	-	-	-	-	-	-	-	-	-	-
2195	-	-	-	-	-	-	-	-	-	-	-	-
2196	-	-	-	-	-	-	-	-	-	-	-	-
2197	-	-	-	-	-	-	-	-	-	-	-	-
2198	-	-	-	-	-	-	-	-	-	-	-	-
2297	-	-	-	-	-	-	-	-	-	-	-	-
2397	-	-	-	-	-	-	-	-	-	-	-	-
8017	-	-	-	-	-	-	-	-	-	-	-	-
8024	-	-	-	-	-	-	-	-	-	-	-	-
8091	-	-	-	-	-	-	-	-	-	-	-	-
8093	-	-	-	-	-	-	-	-	-	-	-	-
2199	-	-	-	-	-	-	-	-	-	-	-	-

N3
Workpiece Materials Listing • Non-Ferrous Metals • N3
N3 High-Silicon Aluminum Alloys and Magnesium Alloys Content: Si >12.2%

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
A 413.1	G-AISI 12(Cu)	LM 20	-	-	-	-	-	4260	-	-	3.2583	-
A 413.2	G-AISI 12	LM 6	-	-	-	-	-	4261	-	-	3.2581	-
-	G-AISI17Cu4Mg	-	-	-	-	-	-	-	-	-	-	-
-	GK-AISI18CuNiMg	-	-	-	-	-	-	-	-	-	-	-
-	GK-AISI21CuNiMg	-	-	-	-	-	-	-	-	-	-	-
-	GK-AISI12CuNiMg	-	-	-	-	-	-	-	-	-	-	-
-	GK-AISI25CuNiMg	-	-	-	-	-	-	-	-	-	-	-
-	G-AISI 21 CuNiMg	-	-	-	-	-	-	-	-	-	-	-
4032	-	-	-	-	-	-	-	-	-	-	-	-

N4
Workpiece Materials Listing • Non-Ferrous Metals • N4
N4 Copper-, Brass-, Zinc-Based on Machinability Index Range of 70-100

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
C 11000	E-Cu 58	C 101	-	-	-	Cn-a2	-	-	-	-	2.0065	-
C 81100	G-CuL 45	HCC 1	-	-	-	-	-	-	-	-	2.0082	-
C 81100	G-Cu L 50	HCC 1	-	-	-	-	-	-	-	-	2.0085	-
-	CuZn 40 MnPb	-	-	-	-	-	-	-	-	-	2.0241	-
C 26000	CuZn 30	CZ 102	C 2600	-	-	CuZn 30	-	-	-	-	2.0265	-
C 27200	CuZn 37	CZ 108	-	-	-	CuZn 37	C 2720	-	-	-	2.0321	-
-	CuZn 36 Pb 1.5	-	-	-	-	-	-	-	-	-	2.0331	-
-	S-CuZn40	-	-	-	-	-	-	-	-	-	2.0366	-
-	CuZn 39 Pb 3 + D567	-	-	-	-	-	-	-	-	-	2.0401	-
-	CuZn 40 Pb 2	-	-	-	-	-	-	-	-	-	2.0402	-
B-198	G-CuZn 15Si 4	-	-	-	-	-	-	-	-	-	2.0492	-
-	CuZn 40Al 1	-	-	-	-	-	-	-	-	-	2.0561	-
-	G-KCuZn 38 Al	-	-	-	-	-	-	-	-	-	2.0591	-
C 86500	G-CuZn 35 Al 1	HTB 1	-	-	-	U-Z 36 N 3	-	-	-	-	2.0592	-
-	G-KCuZn 37 Al 1	-	-	-	-	-	-	-	-	-	2.0595	-
C 86200	G-CuZn 34 Al 2	HTB 1	-	-	-	U-Z 36 N 3	-	-	-	-	2.0596	-
-	G-CuZn 25 Al 5	-	-	-	-	-	-	-	-	-	2.0598	-
-	S - CuNi 30 Fe	-	-	-	-	-	-	-	-	-	2.0837	-
-	CuNi 10 Fe 1 Mn	-	-	-	-	-	-	-	-	-	2.0872	-

NOTE: For legend, see page Y237.

(continued)

N4 ■ Workpiece Materials Listing • Non-Ferrous Metals • N4 (continued)

N4 Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	S - CuNi 10 Fe	–	–	–	–	–	–	–	–	–	2.0873	–
–	CuNi 30 Mn 1 Fe	–	–	–	–	–	–	–	–	–	2.0882	–
–	SG-Cu Al 8	–	–	–	–	–	–	–	–	–	2.0921	–
–	SG-CuAl 8 Ni 2	–	–	–	–	–	–	–	–	–	2.0922	–
–	SG-CuAl 9 Ni5 Fe	–	–	–	–	–	–	–	–	–	2.0927	–
–	CuAl 10 Fe 3 Mn 2	CA 103	–	–	–	U-A 10 Fe	–	–	–	–	2.0936	–
–	SG-Cu Al 10 Fe	–	–	–	–	–	–	–	–	–	2.0937	–
C 63000	CuAl 10 Ni 5 Fe 4	Ca 104	–	–	–	U-A 10 N	–	–	–	–	2.0966	–
B-148-52	G-CuAl 10 Ni	–	–	–	–	–	–	–	–	–	2.0975	–
–	SG-Cu Sn	–	–	–	–	–	–	–	–	–	2.1006	–
–	SG-Cu Sn 6	–	–	–	–	–	–	–	–	–	2.1022	–
C 90800	G-CuSn 12	Pb 2	–	–	–	UE 12 P	–	–	–	–	2.1052	–
–	G-CuSn 12 Pb	–	–	–	–	–	–	–	–	–	2.1061	–
–	G-CuSn 10 Zn	–	–	–	–	–	–	–	–	–	2.1086	–
C 93200	G-CuSn 7 ZnPb	–	–	–	–	U-E 7 Z 5 Pb 4	–	–	–	–	2.1090	–
–	G-CuSn 6 ZnNi	LG 4	–	–	–	–	–	–	–	–	2.1093	–
C 83600	G-CuSn 5 ZnPb	LG 2	–	–	–	U-E 5 Pb 5 Z 5	–	–	–	–	2.1096	–
–	G-CuSn 2 ZnPb	–	–	–	–	–	–	–	–	–	2.1098	–
C 93700	G-CuPb 10 Sn	LB 2	–	–	–	U-E 10 Pb 10	–	–	–	–	2.1176	–
C 93800	G-CuPb 15 Sn	LB 1	–	–	–	U-Pb 15 E 8	–	–	–	–	2.1182	–
C 94100	G-CuPb 20 Sn	LB 5	–	–	–	U-Pb 20	–	–	–	–	2.1188	–
C 81500	G-CuCrF 35	CC1-FF	–	–	–	–	–	–	–	–	2.1292	–
C 18200	CuCrZr	CC 102	–	–	–	U-Cr 0,8 Zr	–	–	–	–	2.1293	–
–	SG-Cu Mn 13 Al 7	–	–	–	–	–	–	–	–	–	2.1367	–
–	SG-Cu Si 3	–	–	–	–	–	–	–	–	–	2.1461	–
CuSi 3 Mn	–	–	–	–	–	–	–	–	–	–	2.1525	–
–	OF-Cu	–	–	–	–	–	–	–	–	–	2.0040	–
B-120	E-Cu 57	–	–	–	–	–	–	–	–	–	2.0060	–
C 10300	SE-Cu	C 101	–	–	–	Cu-c1	–	–	–	–	2.0070	–
–	CuZn 5	–	–	–	–	–	–	–	–	–	2.0220	–
C 23000	CuZn 15	CZ 102	C 2300	–	–	CuZn 15	–	–	–	–	2.0240	–
–	G-CuZn 33 Pb	–	–	–	–	–	–	–	–	–	2.0290	–
–	CuZn 36 Pb 2	–	–	–	–	–	–	–	–	–	2.0330	–
–	G-CuZn 37 Pb	–	–	–	–	–	–	–	–	–	2.0340	–
–	CuZn 40	–	–	–	–	–	–	–	–	–	2.0360	–
–	CuZn 39 Pb 2	–	–	–	–	–	–	–	–	–	2.0380	–
–	CuZn 20 Al 2	–	–	–	–	–	–	–	–	–	2.0460	–
–	CuZn 37Al 1	–	–	–	–	–	–	–	–	–	2.0510	–
–	CuZn 40 Al 2	–	–	–	–	–	–	–	–	–	2.0550	–
–	G-CuZn 40 Fe	–	–	–	–	–	–	–	–	–	2.0590	–
–	G-CuAl 10 Fe	–	–	–	–	–	–	–	–	–	2.0940	–
C 90700	G-CuSn 10	CT 1	–	–	–	–	–	–	–	–	2.1050	–
C 91700	G-CuSn 12 Ni	–	–	–	–	–	–	–	–	–	2.1060	–
–	C35100	–	–	–	–	–	–	–	–	–	–	–
–	17665	–	–	C95500	–	–	–	–	–	–	–	–
–	MS60	–	–	–	–	–	–	–	–	–	–	–

N5 ■ Workpiece Materials Listing • Non-Ferrous Metals • N5

N5 Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	LEXAN	–	–	–	–	–	–	–	–	–	–	–
–	HOSTALEN	–	–	–	–	–	–	–	–	–	–	–
–	Polystyrol	–	–	–	–	–	–	–	–	–	–	–
–	Makralon	–	–	–	–	–	–	–	–	–	–	–

N6 ■ Workpiece Materials Listing • Non-Ferrous Metals • N6

N6 Carbon, Graphite Composites, CFRP

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	GFK	–	–	–	–	–	–	–	–	–	–	–
–	CFK	–	–	–	–	–	–	–	–	–	–	–
Graphite	–	–	–	–	–	–	–	–	–	–	–	–
CFRP	–	–	–	–	–	–	–	–	–	–	–	–

S1

Workpiece Materials Listing • High-Temp Alloys • S1

S1 Iron-Based, Heat-Resistant Alloys

Tensile Strength RM (MPa)*: 500–1200

Hardness (HB): 160–260 (HRC): 25–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	X 10 Cr 25	-	-	-	-	-	-	-	-	-	1.3811	-
-	D 1 a	-	-	-	-	-	-	-	-	-	1.3915	-
-	D 3	BD 3	-	-	X 210 Cr 1 2	Z 200 C 12	X 205 Cr 12 KU	-	-	-	1.3916	-
-	RNi 12	-	-	-	-	-	-	-	-	-	1.3926	-
-	RNi 8	-	-	-	-	-	-	-	-	-	1.3927	-
-	GX 2 NiCoMoTi1 7 10	-	-	-	-	-	-	-	-	-	1.6351	Maraging
6501, 6512, 6520	X 2 NiCoMo 18 8 5	-	-	UNS K92890	S162	Z2NKD18.8	-	-	-	ASTM A646	1.6359	ATI VascoMax® C-250
-	X 2 NiCoMo 18-8-5	-	-	K92890	-	-	-	-	-	-	1.6359	Maraging
-	X 1 CrNiCoMo 13 8 5	-	-	-	-	-	-	-	-	-	-	Maraging
-	Ni 36	-	-	-	-	-	-	-	-	-	1.3910	Magnifer 36
-	Ni 46	-	-	-	-	-	-	-	-	-	1.3920	-
-	X 2 CrNiCoMo 12 8 5	-	-	-	-	-	-	-	-	-	1.6980	Maraging
ASTM B463	-	-	-	UNS N08020	-	-	-	-	-	ASTM B463	2.4660	20CB-3
ASTM A666	-	-	-	-	-	-	-	-	-	ASTM A666	-	6/21/09
ASTM B753	-	-	-	-	-	-	-	-	-	ASTM B753	-	AL 4750
S66286	-	-	NAS 660	UNS S66286	-	-	-	A-286	-	-	-	ATI A286™
-	-	-	-	UNS K92810	-	-	-	-	-	-	-	ATI VascoMax® C-200
6514	-	-	-	UNS K93120	-	-	-	-	-	-	-	ATI VascoMax® C-300
-	-	-	-	-	-	-	-	-	-	-	-	ATI VascoMax® C-350
-	-	-	-	-	-	-	-	-	-	-	-	ATI VascoMax® T-200
6518, 6519, 6591	-	-	-	-	-	-	-	-	-	-	-	ATI VascoMax® T-250
-	-	-	-	-	-	-	-	-	-	-	-	ATI VascoMax® T-300
5725	-	-	-	-	-	Z3NCT25	-	-	SAE 16-25-6	-	-	Discaloy 16-25-6
ASTM A638	-	-	-	-	-	Z3NCT25	-	-	Discaloy	ASTM A638	-	Discaloy 24
5768	X 12 CrCoNi 21 20	-	-	R30556	-	Z12CKNDWNb21.20.20	-	-	-	-	-	Haynes® 556
ASTM F30	-	-	-	-	-	-	-	-	Invar	ASTM F30	-	Invar 42
5768	-	-	-	UNS R30155	-	Z12CNKDW20	-	-	-	-	-	Multimet N-155
5533	X 40 CoCrNi 20 20	-	-	-	-	Z42CKNDW	-	-	-	-	-	Multimet N-156
-	X 2 NiCrAlTi 32 20	-	-	-	-	-	-	-	-	-	-	S 590
AISI:665	-	-	-	-	-	Z8NCTDA2613	-	-	-	-	-	Sanicro 30
-	-	-	-	-	-	-	-	-	-	-	-	W-545

S2

Workpiece Materials Listing • High-Temp Alloys • S2

S2 Cobalt-Based, Heat-Resistant Alloys

Tensile Strength RM (MPa)*: 1000–1450

Hardness (HB): 250–450 (HRC): 25–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
-	CoCr 26 Ni 9 Mo	-	-	-	-	-	-	-	-	-	2.4681	-
-	CoCr 25 NiW	-	-	-	-	KC25WN	-	-	-	ASTM A567	2.4682	Stellite® 31 (X40)
-	CoCr 22 NiW	-	-	-	-	-	-	-	-	-	2.4683	-
-	CoCr 28 Mo	-	-	-	-	KC27D5NFe	-	-	-	ASTM F-75	2.4691	HS 21
-	CoCr 20 Ni 15 Mo	-	-	-	-	-	-	-	-	-	2.4711	-
-	CoCr 29 Mo	-	-	-	-	-	-	-	-	-	2.4723	-
-	CoCr 33 W	-	-	-	-	-	-	-	-	-	2.4775	-
-	CoCr 28	-	-	-	-	-	-	-	-	-	2.4778	-
-	CoCr 28 Nb	-	-	-	-	-	-	-	-	-	2.4779	-
-	-	-	-	-	-	-	-	-	-	-	2.4964	F 90
-	-	-	-	R30605	-	KC20WN	-	-	-	ASTM F90	2.4964	Haynes 25
-	CoCr 20 W 15 Ni	HR 240	-	R30605	-	KC20WN	-	-	-	5759	2.4964	L 605
-	CoCr 20 W 15 Ni	-	-	CAST Version of L605	-	KC20WN	-	-	-	5759	2.4964	Stellite 25
AMS 5399	NiCr 19 Co 11 MoTi	-	-	-	-	NC 19 KDT	-	-	-	-	2.4973	-
-	CoCr 20 Ni 20 W	-	-	-	-	-	-	-	-	5534	2.4979	S 816
-	CoCr20NiW	-	-	-	-	-	-	-	-	-	2.4989	-
-	-	-	-	R31537 & R31538	-	CoCr28Mo	-	-	-	ASTM F1537	-	F 1537
-	-	-	-	-	-	-	-	-	-	ASTM F562	-	F 562
-	-	-	-	-	-	-	-	-	-	ASTM F563	-	F 563
-	-	-	-	R30188	-	KC22N22W14Fe	-	-	-	-	-	Haynes 188
AISI 670	CoCr 20 W 15 Ni	-	-	-	-	KC20WN	-	-	-	5380	-	HS 25
-	CoCr 26 Ni 14 Mo	-	-	-	-	-	-	-	-	-	-	HS 30
-	CoCr 19 W 14 NiB	-	-	-	-	-	-	-	-	-	-	HS 36
-	-	-	-	-	-	-	-	-	-	-	-	L 251
-	CoCrW 10 TaZrB	-	-	-	-	KC21W10Ta9	-	-	-	-	-	MAR-M 302
-	CoCr 22 W 9 TaZrNb	-	-	-	-	KC21W9Ta	-	-	-	-	-	MAR-M 322
-	CoCr 24 Ni 10 WTaZrB	-	-	-	-	KC23N10W7Ta	-	-	-	-	-	MAR-M 509
-	-	-	-	-	-	KC20N20Ta7	-	-	-	-	-	MAR-M 905
-	CoCr 20 Ni 20 Ta	-	-	-	-	KC20N20Ta7	-	-	-	-	-	MAR-M 918
-	-	-	-	R30159	-	-	-	-	-	-	-	MP159
-	-	-	-	R30035	-	-	-	-	-	-	-	MP35N
-	-	-	-	-	-	KC33W13	-	-	-	-	-	Stellite 1
-	-	-	-	-	-	KC28W8	-	-	-	-	-	Stellite 12
-	-	-	-	-	-	KC22N22W14Fe	-	-	-	-	-	Stellite 188
-	-	-	-	-	-	KC26NW	-	-	-	-	-	Stellite 6
-	-	-	-	-	-	-	-	-	-	-	-	Stellite 8 (F75)
-	CoCr 25 Ni 20 MoWNB	-	-	-	-	KC25N20DFeWNB	-	-	-	-	-	V-36
-	CoCr 21 Mo 11 W	-	-	-	-	KC21W11ANbT	-	-	-	-	-	WI-52
-	-	-	-	-	-	KC25N10W7Fe	-	-	-	-	-	X 45
-	-	-	-	-	-	-	-	-	J-1570	-	-	-
-	K13C20N126Fe15D7	-	-	R3003 & R3008	-	K13C20N126Fe15D7	-	-	-	ASTM F1058	-	-

NOTE: For legend, see page Y237.

S3

Workpiece Materials Listing • High-Temp Alloys • S3

S3 Nickel-Based, Heat-Resistant Alloys

Tensile Strength RM (MPa)*: 600–1700

Hardness (HB): 160–450 (HRC): <48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
--	X 7 NiCrCoMo 54 20	--	--	--	--	--	--	--	--	--	1.2789	--
--	Ni 99.7 Mg 0.07	--	--	J24053	--	--	--	--	--	A 915 J24053	2.4053	--
--	LC-Ni 99.6	--	--	N02201	--	--	--	--	--	--	2.4061	--
--	--	--	--	N02200	--	--	--	--	--	--	2.4066	200
Nickel 200	Ni 99.2	NA 11	--	N02200	--	--	--	--	--	--	2.4066	--
--	--	--	--	N02201	--	--	--	--	--	--	2.4068	201
Nickel 201	LC-Ni 99	NA 12	--	--	--	--	--	--	--	--	2.4068	--
--	NiMn 1	--	--	--	--	--	--	--	--	--	2.4106	--
--	NiMn 1 C	--	--	--	--	--	--	--	--	--	2.4108	--
--	NiMn 1.5	--	--	--	--	--	--	--	--	--	2.4109	--
--	NiMn 3 Al	--	--	--	--	--	--	--	--	--	2.4122	--
--	NiMn 3 SiMg	--	--	--	--	--	--	--	--	--	2.4126	--
--	NiCr 2 Mn	--	--	--	--	--	--	--	--	--	2.4145	--
--	NiCr 2 MnSi	--	--	--	--	--	--	--	--	--	2.4146	--
--	NiCr 5 MnSi	--	--	--	--	--	--	--	--	--	2.4151	--
--	SG-NiTi 4	NA32	--	--	NA 32	--	--	--	--	--	2.4155	--
CZ-100	G-Ni 93 C	--	--	--	--	--	--	--	--	--	2.4175	--
--	NiCr 4 Mn	--	--	--	--	--	--	--	--	--	2.4199	--
M 35-1/2	G-NiCu 30 Nb	--	--	N24030	--	--	--	--	--	--	2.4365	--
--	EL-NiCu 30 Mn	--	--	N04402	--	--	--	--	--	--	2.4366	--
M 30-H	G-NiCu 30 Si 3	--	--	--	--	--	--	--	--	--	2.4367	--
M-255	G-NiCu 30 Si 4	--	--	--	--	--	--	--	--	--	2.4368	--
--	NiCu 30 Al	--	--	--	--	--	--	--	--	--	2.4374	--
--	NiCu 30 Al	NA 18	--	N05500	3072.76	NU 30 AT	--	--	--	--	2.4375	Monel® K500
--	SG-NiCu 30 MnTi	NA 33	--	--	--	--	--	--	--	--	2.4377	--
--	NiFe 16 CuCr	--	--	--	--	--	--	--	--	--	2.4501	--
--	G-NiMo 16 CrW	--	--	--	--	--	--	--	--	--	2.4537	--
--	NiCr 21 Mo 14 W	--	--	N26022	--	--	--	--	--	--	2.4602	INCONEL® alloy 622
--	NiCr 30 FeMo	--	--	--	--	--	--	--	--	--	2.4603	Hastelloy® G-30
--	--	--	--	N06059	--	--	--	--	--	ASTM B575	2.4605	Allcorr
--	NiCr 23 Mo 16 Al	--	--	--	--	--	--	--	--	--	2.4605	--
--	SG/UP-NiCr 23 Mo 16	--	--	--	--	--	--	--	--	--	2.4607	--
--	NiCr 26 MoW	--	--	--	--	--	--	--	--	--	2.4608	--
--	SG-NiMo 27	--	--	--	--	--	--	--	--	--	2.4615	--
--	NiMo 28	--	--	N10665	--	NiMo 28	--	--	--	--	2.4617	--
--	NiCr 22 Mo 6 Cu	--	--	--	--	--	--	--	--	--	2.4618	--
--	--	--	--	N06985	--	--	--	--	--	--	2.4619	Hastelloy G-3
--	NiCr 22 Mo 7 Cu	--	--	N06985	--	--	--	--	--	--	2.4619	--
--	SG-NiCr 23 Al	NA 49	--	--	--	--	--	--	--	--	2.4626	--
--	SG-NiCr 22 Co 12 Mo	NA 50	--	--	--	--	--	--	--	--	2.4627	--
--	NiCr 20 Ti	HR5	--	N06075	HR5, 203.4	NC 20 T	--	--	--	--	2.4630	Nimonic® 75
--	NiCr 20 TiAl	NA 20	NCF 80A	N07080	HR401, 601	NC 20 TA	--	--	--	--	2.4631	Nimonic 80A
--	NiCr 20 Co 18 Ti	NA 36	--	N07090	HR2, 202	NC20KTA	--	--	--	--	2.4632	Nimonic 90
--	NiCo 20 Cr 15 MoAlTi	--	--	N13021	HR3	NCKD20ATV	--	--	--	--	2.4634	Nimonic 105
--	NiCo 15 Cr 15 MoAlTi	HR4	--	--	HR401, 601	NCVK15ATD	--	--	--	--	2.4636	Nimonic 115
AISI 687	NiCo 15 Cr 15 MoAlTi	--	--	--	--	NCKD20AT	--	--	--	--	2.4636	Udimet® 700
--	NiCr 22 Mo 8 AlCuTi	--	--	--	--	--	--	--	--	--	2.4637	--
--	SG-NiCr 20	NA 34	--	--	--	--	--	--	--	--	2.4639	--
--	NiCr 21 Mo 6 Cu	--	NCF 600 TP	--	--	--	--	--	--	--	2.4641	--
--	NiCr 29 Fe	--	NCF 690	N06690	--	NC 30 Fe	--	--	--	--	2.4642	INCONEL® alloy 690
--	NiCr 25 FeAlYC	--	--	--	--	--	--	--	--	--	2.4647	--
--	NiCr 20 CoMoTi	NA 38	NCF 690	N07263	HR10	NCK 20 D	--	--	--	--	2.4650	Nimonic C263
--	EL-NiCr 26 Mo	--	--	--	--	--	--	--	--	--	2.4652	--
--	NiCr 19 Co 14 Mo 4 Ti	--	--	N07001	--	NC20K14Y	--	--	--	--	2.4654	Waspaloy
--	SG-NiCr 29 Mo	--	--	--	--	--	--	--	--	--	2.4656	--
--	NiCr 70 30	--	--	N06008	--	--	--	--	--	--	2.4658	--
--	SG-NiCr 30 Mo 5 W	--	--	--	--	--	--	--	--	--	2.4659	--
--	EL-NiCr 29 Mo 5 W	--	--	--	--	--	--	--	--	--	2.4661	--
--	NiFe 35 Cr 14 MoTi	--	--	N09901	--	Z8NCDT42	--	--	--	--	2.4662	INCOLOY® 901
--	NiCr 13 Mo 6 Ti 3	--	--	N09901	--	Z8NCDT42	--	--	--	--	2.4662	Nimonic 901
--	NiCr 23 Co 12 Mo	--	--	N06617	--	NC22K12D9A	--	--	--	--	2.4663	INCONEL® alloy 617
--	NiCr 22 FeMo	--	--	N06002	HR6, 204	NC22FeD	--	--	--	--	2.4665	Hastelloy X
--	NiCr 22 Fe 18 Mo	NA 40	--	N06002	--	NC22FeD	--	--	--	--	2.4665	INCONEL alloy HX
--	NiCr 18 CoMo	--	--	--	--	NKCD20ATU	--	--	--	--	2.4666	Nimonic PK25
--	SG-NiCr 19 NbMoTi	NA 51	--	--	--	--	--	--	--	--	2.4667	--
--	NiCr 19 FeNbMo	--	--	N07718	HR8	NC 19 Fe Nb	--	--	--	--	2.4668	INCONEL alloy 718
--	NiCr 15 Fe 7 TiAl	--	--	N07750	--	NC 15 Fe 7 TA	--	--	--	--	2.4669	INCONEL alloy X750
--	G-NiCr 12 Al 6 MoNb	--	--	--	--	--	--	--	--	--	2.4671	--
--	G-NiCr 20 Co 20 MoTi	--	--	--	--	--	--	--	--	--	2.4672	--
--	NiCo 15 Cr 10 MoAlTi	--	--	N13100	--	NK15CAT	--	--	--	--	2.4674	IN 100
--	NiCo 15 Cr 10 MoAlTi	--	--	--	--	NK15C10A5T	--	--	--	--	2.4674	René 100
--	G-NiCo 15 Cr 10 AlTiMo	--	--	--	--	--	--	--	--	--	2.4674	--
--	G-NiCo 10 W 10 CrAlNb	--	--	--	--	--	--	--	--	--	2.4676	--
--	G-NiCr 50	--	--	--	--	--	--	--	--	--	2.4678	--
--	G-NiCr 35	--	--	--	--	--	--	--	--	--	2.4679	--
--	--	--	--	N10665	--	--	--	--	--	N7M	2.4685	Hastelloy B-2
CW-12 MW	G-NiMo 17 CrW	--	--	--	--	--	--	--	--	--	2.4686	--
--	NiCr 25 Mo 7 Ti	--	--	--	--	--	--	--	--	--	2.4693	--
--	NiCr 16 Fe 7 TiAl	--	--	N 07751	--	--	--	--	--	--	2.4694	INCONEL alloy 751
--	G-NiCr 20 Mo 15	--	--	--	--	--	--	--	--	--	2.4697	--
--	NiCr 22 W 14 Mo	--	--	--	--	--	--	--	--	--	2.4733	--
--	NiCr 20 AlY	--	--	--	--	--	--	--	--	--	2.4764	--
--	NiCr 17 AlWY	--	--	--	--	--	--	--	--	--	2.4765	--
--	SG-NiCr 20 Nb	NA 35	--	--	--	--	--	--	--	--	2.4806	--
--	G-NiCr 50 Nb	--	--	--	--	--	--	--	--	--	2.4813	--
--	NiCr 15 Fe	NA 14	NCF 600	N06600	3072.76	NC 15 Fe	--	--	--	--	2.4816	INCONEL alloy 600
--	G-NiMo 30	--	--	N10276	--	NC 15 D 14 KFe	--	--	--	--	2.4819	Hastelloy C-276
ASME SB575	NiMo 16 Cr 15 W	--	--	N10276	--	NC 17 D	--	--	--	--	2.4819	Nimonic C276

(continued)

S3

Workpiece Materials Listing • High-Temp Alloys • S3 (continued)

S3 Nickel-Based, Heat-Resistant Alloys

Tensile Strength RM (MPa)*: 600–1700

Hardness (HB): 160–450 (HRC): <48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	SG-NiCr 21 Mo 9 Nb	–	–	–	–	–	–	–	–	–	2.4831	–
–	NiCr 20 Mo 15	–	–	–	–	–	–	–	–	–	2.4836	–
–	SG-NiCr 20 Mo 15	–	–	–	–	–	–	–	–	–	2.4839	–
–	–	–	–	N06601	–	–	–	–	–	–	2.4851	Haynes® 601
–	NiCr 23 Fe	–	NCF 601	N06601	–	NC 23 Fe 14 A	–	–	–	–	2.4851	INCONEL alloy 601
–	NiFe 33 Cr 25 Co	–	–	–	–	–	–	–	–	–	2.4854	–
–	NiCr 19 Mo 9 Si	–	–	–	–	–	–	–	–	–	2.4855	–
ASME SB443	NiCr 22 Mo 9 Nb	–	–	N06625	–	NC 22 Fe DNb	–	–	–	–	2.4856	Haynes 625
ASME SB443.4	NiCr 22 Mo 9 Nb	NA 21	NCF 625	N06625	–	NC 22 Fe DNb	–	–	–	–	2.4856	INCONEL alloy 625
ASME SB163	NiCr 21 Mo	–	–	N08825	3072.76	NC21FeDU	–	–	–	–	2.4858	INCOLOY® 825
–	NiCr 60 15	–	–	–	–	–	–	–	–	–	2.4867	–
–	NiCr 80 20	–	–	–	–	–	–	–	–	–	2.4869	–
–	NiCr 20 AISI	–	–	–	–	–	–	–	–	–	2.4872	–
–	G-NiCr 28 W	–	–	–	–	–	–	–	–	–	2.4879	Centralloy® 4879
–	NiCr 17 Mo 17 FeW	–	–	N10002	–	NC17DWY	–	–	–	CW12MW	2.4883	Hastelloy C
–	G-NiMo 16 Cr	–	–	–	–	–	–	–	–	–	2.4883	–
–	SG-NiMo 16 cr 16 W	NA 48	–	–	–	–	–	–	–	–	2.4886	–
–	G-NiCr 13 MoAl	–	–	–	–	–	–	–	–	–	2.4888	–
–	NiCr 20 Ti	HR 5	–	N06621	–	NC 20 T	–	–	–	–	2.4951	–
–	NiCr 20 TiAl	NA 20	NCF 80 A	N07080	–	NC 20 TA	–	–	–	–	2.4952	–
–	NiFe 25 Cr 20 NbTi	–	–	–	NiFe 25 Cr 20 NbTi	–	–	–	–	–	2.4955	–
–	NiCr 20 Co 18 Ti	NA 19	–	N07090	–	–	–	–	–	–	2.4969	–
–	NiCr 22 W 12 Fe	–	–	–	–	–	–	–	–	–	2.4972	–
–	NiCr 19 Co 11 MoTi	–	–	N07041	–	NC19KDT	–	–	–	–	2.4973	René 41
–	NiFeCr 12 Mo	–	–	–	–	–	–	–	–	–	2.4975	–
–	NiCr 20 Mo	–	–	–	–	–	–	–	–	–	2.4976	–
–	NiCr 20 CoMo	–	–	–	–	–	–	–	–	–	2.4982	–
–	NiCr 18 Co	–	–	N07500	–	–	–	–	–	–	2.4983	Co500
AISI 684	NiCr 18 CoMoAlTi	–	–	N07500	–	NCK19DAT	–	–	–	–	2.4983	Udimet® 500
–	Ni 99.6	NA 46	–	–	–	–	–	–	–	–	2.4060	–
–	NiMn 2	–	–	–	–	–	–	–	–	–	2.4110	–
SZ-100	G-Ni 95	–	–	–	–	–	–	–	–	–	2.4170	–
–	G-Ni 93 Si	–	–	–	–	–	–	–	–	–	2.4180	–
–	NiCu 30 Fe	–	–	N04400	3072.76	NU30	–	–	–	–	2.4360	Monel® 400
–	NiCu 30 Ti	–	–	–	–	–	–	–	–	–	2.4370	Monel 60
–	NiFe 44	–	–	–	–	–	–	–	–	–	2.4420	Magnifer 53
–	NiFe 16 CuMo	–	–	–	–	–	–	–	–	–	2.4530	Perm 77
–	NiFeK 6040	–	–	–	–	–	–	–	–	–	2.4560	–
–	NiMo 16 Cr 16 Ti	NA 45	–	N26455	–	–	–	–	–	–	2.4610	Hastelloy C-4
–	NiCr 20 CuMo	–	–	N08020	–	20CB-3	–	–	–	ASTM B463	2.4660	INCOLOY 020
–	G-NiCr 13 Al 16 MoNb	–	–	–	HC203	NC13AD	–	–	–	–	2.4660	–
–	G-NiCr 50 Nb	–	–	–	–	–	–	–	–	–	2.4670	Nimocast 713
–	NiMo 23 Cr 8 Fe	–	–	–	–	–	–	–	–	–	2.4710	–
–	NiMo 30	–	–	–	–	ND27FeV	–	–	–	N-12 MV	2.4810	Hastelloy B
–	NiCr 45 23	–	–	–	–	–	–	–	–	–	2.4890	–
–	–	–	–	N13017	–	NK17C15D5AT	–	–	–	–	–	Astroloy
–	–	–	–	–	–	–	–	–	–	–	–	Centralloy® 60HTD
AISI 686	–	–	–	–	–	NC15Fe10D5AT	–	–	–	–	–	GMR 235
–	NiCr 16 MoAl	–	–	–	–	NC15D5FeAT	–	–	–	–	–	GMR 235-D
–	–	–	–	–	–	–	–	–	–	CW6M	–	Hastelloy C-22
–	–	–	–	N06007	–	NC22Fe19D6KTA	–	–	–	–	–	Hastelloy G
–	–	–	–	N10003	–	–	–	–	–	–	–	Hastelloy N
–	–	–	–	N06635	–	NC15D14KFe	–	–	–	–	–	Hastelloy S
–	–	–	–	N10004	–	–	–	–	–	–	–	Hastelloy W
–	–	–	–	N07263	–	NC20K20D6T	–	–	–	–	–	Haynes® 263
–	–	–	–	–	–	–	–	–	–	–	–	Haynes 282
–	NiCr 15 Fe	–	–	N06600	–	–	–	–	–	–	–	Haynes 600
–	–	–	–	–	–	–	–	–	–	–	–	Haynes 75
–	NiCo 32 Cr 26 Mo	–	–	–	–	–	–	–	–	–	–	HS27
–	–	–	–	N06102	–	–	–	–	–	–	–	IN 102
ASME SB409	X 10 NiCrAlTi 32-20	–	–	N08800	3082.76	Z10NC3221	–	–	–	–	–	INCOLOY 800
–	–	–	–	–	–	Z4NC3221	–	–	–	–	–	INCOLOY 802
–	–	–	–	–	–	NC29Fe25	–	–	–	–	–	INCOLOY 804
–	NiFe 42 K 15 Nb	–	–	N19903	–	Z3NK28	–	–	–	–	–	INCOLOY 903
–	–	–	–	N19907	–	–	–	–	–	–	–	INCOLOY 907
–	–	–	–	N09925	–	–	–	–	–	–	–	INCOLOY 925
–	–	–	–	N09945	–	–	–	–	–	–	–	INCOLOY 945
ASME SB575	–	–	–	–	–	NiMo16Cr15	–	–	–	–	–	INCONEL alloy 22
–	–	–	–	–	–	–	–	–	–	–	–	INCONEL alloy 230
–	–	–	–	–	–	–	–	–	–	–	–	INCONEL alloy 600SP
–	–	–	–	–	–	–	–	–	–	–	–	INCONEL alloy 62
–	–	–	–	N06626	–	–	–	–	–	–	–	INCONEL alloy 625LCF
–	–	–	–	–	–	NC15A	–	–	–	–	–	INCONEL alloy 702
–	–	–	–	N09706	–	NFe10C16NbT	–	–	–	–	–	INCONEL alloy 706
–	–	–	–	N07718	–	–	–	–	–	–	–	INCONEL alloy 718 OP
–	–	–	–	–	–	NC16Fe8TM	–	–	–	–	–	INCONEL alloy 721
–	NiCr 16 FeTi	–	–	–	–	NC16FeTi	–	–	–	–	–	INCONEL alloy 722
–	–	–	–	N07722	–	–	–	–	–	–	–	INCONEL alloy 783
–	–	–	–	R30783	–	–	–	–	–	–	–	INCONEL alloy 783
–	–	–	–	N09925	–	–	–	–	–	B983 N09925	–	INCONEL alloy 925
–	–	–	–	N10276	–	–	–	–	–	–	–	INCONEL alloy C-276
–	–	–	–	N07754	–	–	–	–	–	–	–	INCONEL alloy MA754
–	–	–	–	N07751	–	–	–	–	–	–	–	INCONEL alloy X751
–	–	–	–	K93600 K93603	–	–	–	–	–	ASTM F1684	–	INVAR® 36
–	NiCr 20 Co 18 Ti	–	–	–	–	–	–	–	–	–	–	Jessop G81
–	G-NiCr 19 Co	–	–	N07252	–	–	–	–	–	–	–	M 252
–	–	–	–	N04405	–	–	–	–	–	–	–	Monel® R405

NOTE: For legend, see page Y237.

(continued)

S3

■ Workpiece Materials Listing • High-Temp Alloys • S3 (continued)

S3 Nickel-Based, Heat-Resistant Alloys

Tensile Strength RM (MPa)*: 600–1700

Hardness (HB): 160–450 (HRC): <48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
–	NiFe 33 Cr 17 Mo	–	–	–	–	–	–	–	–	–	–	Nimocast PD16
–	–	–	–	–	HC202	NC20N13	–	–	–	–	–	Nimocast PE10
–	–	–	–	–	–	NC19K18Fe5TA	–	–	–	–	–	Nimonic® 95
ASME SB575	–	–	–	N06022	–	–	–	–	–	–	–	Nimonic C22
–	NiCr 22 Fe 18 Mo	–	–	–	HR6, 204	NC22FeD	–	–	–	–	–	Nimonic PE13
–	NiFe 33 Cr 17 Mo	–	–	–	HR207	NW11AC	–	–	–	–	–	Nimonic PE16
–	NiCr 20 Co 16 MoTi	–	–	–	–	NC19KDUN	–	–	–	–	–	Nimonic PK33
–	–	–	NCF 3015	–	–	–	–	–	–	–	–	NiReVa 3015
AISI 686	–	–	–	–	–	–	–	–	–	–	–	R-235
AISI 690	–	–	–	–	–	Z6NKCdT38	–	–	–	–	–	Refractaloy 26
–	–	–	–	–	–	NK10C8W7ATaTD	–	–	–	–	–	René 125
–	–	–	–	–	–	NK15C14D6AWT	–	–	–	–	–	René 65
–	–	–	–	–	–	NC15K15ADT	–	–	–	–	–	René 77
–	–	–	–	–	–	NC14K9T5DWA	–	–	–	–	–	René 80
–	–	–	–	–	–	NC14K8	–	–	–	–	–	René 95
–	NiTa 9 Co 8 W 6 CrAl	–	–	–	–	NTa9K7C6W5A5DT	–	–	–	–	–	TRW VIA
–	NiCr 19 NbMo	–	–	–	–	NC18Fe18Nb6DWT	–	–	–	–	–	Udimet® 630
–	–	–	–	–	–	NCK18TDA	–	–	–	–	–	Udimet 710
–	–	–	–	–	–	NC18K15TDA	–	–	–	–	–	Udimet 720

S4

■ Workpiece Materials Listing • High-Temp Alloys • S4

S4 Titanium and Titanium Alloys

Tensile Strength RM (MPa)*: 900–1600

Hardness (HB): 300–400 (HRC): 33–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
R 50250	Ti-99.8	2 TA 1	–	UNS R50250	TA6, TA7, TA8, TA9	AIR:9182T35	–	–	–	ASTM B381F1	3.7025	ATI 30 CP Grade 1
R 50400	Ti-99.7	2 TA 2-5	–	UNS R50400	TA2.5	AIR:9182T40	–	–	–	ASTM B381F2	3.7035	ATI 40 CP Grade 2
–	SG-Ti 2	–	–	–	–	–	–	–	–	–	3.7036	–
R 50550	Ti-99.6	TA 3	–	UNS R50550	TA2, TA3, TA4, TA5	AIR:9182T50	–	–	–	ASTM B381F3	3.7055	ATI 55 CP Grade 3
R 50700	Ti-99.5	2 TA 6-9	–	UNS R50700	–	AIR:9182T60	–	–	–	ASTM B381F4	3.7065	ATI 70 CP Grade 4
–	TiNi 0.8 Mo 0.3	–	–	UNS R53400	–	–	–	–	Ti-3Al-1.5Mn	ASTM Grade 12	3.7105	–
Ti 5Al-2.5Sn	TiAl 5 Sn 2.5	–	–	UNS R54520	TA 14,17	T-A5E	–	–	Ti-5Al-2.5Sn	–	3.7115	ATI Grade 6
–	TiCu 2	2 TA 21-24	–	–	–	–	–	–	Ti-2Cu	–	3.7124	–
R 54620	TiAl 6 Sn 2 Zr 4 Mo 2 Si	–	–	UNS R54620	–	–	–	–	Ti-6Al-2Sn-2Zr-4Mo-2Si	–	3.7145	–
–	TiAl 6 ZrMo 0.5	TA 43	–	–	–	–	–	–	Ti-6-5-0.5	–	3.7155	–
R 56400	TiAl 6 V 4	TA 10-13	TC4	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56	TA6V	–	–	Ti-6Al-4V	–	3.7164	ATI 6-4™
–	TiAl 6 V4	–	TC4	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56	TA6V; AIR:9183	–	–	Ti-6Al-4V (Beta)	–	3.7164	–
R 56620	TiAl 6 V 6 Sn2	–	–	UNS R56620	–	–	–	–	Ti-6Al-6V-2Sn	–	3.7175	ATI 6-6-2™
–	TiAl 4 Mo 4 Sn 2	TA 45-51	–	–	–	–	–	–	Ti-4Al-4Mo-2Sn	–	3.7185	–
–	TiAl 3 V2.5	–	–	UNS R56320	–	–	–	–	Ti-3Al-2.5V	ASTM Grade 9	3.7195	ATI 3-2.5-MIL™
R 52250	Ti 1 Pd	TP 1	–	UNS R 52250	–	–	–	–	–	ASTM Grade 11	3.7225	–
R 52400	Ti 2 Pd	–	–	UNS R 52400	–	–	–	–	–	ASTM Grade 7	3.7235	–
–	Ti 3 Pd	–	–	–	–	–	–	–	–	–	3.7255	–
–	TiAl 5 Fe 2.5	–	–	–	–	–	–	–	Ti-5Al-2.5Fe	–	3.7110	–
–	TiV13Cr11Al3	–	–	–	–	–	–	–	Ti-13V-11Cr-3Al	–	–	11/13/03
–	Ti-10V-2Fe-3Al	–	–	–	–	–	–	–	Ti-10.2.3	–	–	ATI 10-2-3™
–	–	–	–	UNS R58153	–	–	–	–	Ti-15-333	–	–	ATI 15-333™
–	–	–	–	–	–	–	–	–	Ti-15Mo (Alpha + Beta)	–	–	ATI 15Mo™ (Alpha + Beta)
–	–	–	–	–	–	–	–	–	Ti-15Mo (Beta)	–	–	ATI 15Mo™ (Beta)
–	Ti5Al2Sn2Zr4Cr4Mo	–	–	UNS R58650	–	–	–	–	–	–	–	ATI 17™
–	TiAl 3 V 8 Cr 6 Mo 4 Z 4	–	–	–	–	–	–	–	Ti-3Al-8V-6Cr-4Mo-4Zr	ASTM Grade 19	–	ATI 38-644™
–	–	–	–	UNS R54250	–	–	–	–	Ti-425	ASTM B265	–	ATI 425®
–	–	–	–	–	–	–	–	–	Ti-425 MIL	–	–	ATI 425®-MIL
–	TiAl 4 Mo 4 Sn 2 Si 0.5	–	–	–	5103	T-A4DE	–	–	Ti-4Al-4Mo-2Sn-0.5Si	–	–	ATI 4-4-2™
–	–	–	–	–	–	–	–	–	Ti-45Nb	–	–	ATI 45Nb™
–	–	–	–	–	–	–	–	–	Ti-5Al-5V-5Mo-3Cr	–	–	ATI 5-5-5-3 PM™
–	–	–	–	–	–	–	–	–	Ti-6Al-2Sn-2Zr-2Mn-2Cr-0.2Si	–	–	ATI 6-2222™
–	–	–	–	UNS R54620	–	–	–	–	Ti-6Al-4Zr-2Mo-2Sn	–	–	ATI 6-2-4-2 PM™
–	TiAl6Zr4Mo2Sn2	–	–	UNS R54620 modified	–	–	–	–	Ti-6Al-4Zr-2Mo-2Sn-0.2Si	–	–	ATI 6-2-4-2-Si PM™
–	–	–	–	UNS R56260	–	–	–	–	–	–	–	ATI 6-2-4-6™
–	–	–	–	UNS R56401	–	–	–	–	Ti-6-2-4-6	–	–	ATI 6-4 ELI™
–	–	–	–	–	–	–	–	–	Ti-6Al-4V ELI	–	–	–
–	TiAl 6 V4	–	–	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56	TA6V; AIR:9183	–	–	Ti-6Al-4V MIL	–	–	ATI 6-4-MIL™
–	TiAl 6 V4	–	–	UNS R56400	TA10 TA11 TA12 TA13 TA28 TA56	TA6V; AIR:9183	–	–	Ti-6Al-4V MIL (HT)	–	–	ATI 6-4-MIL™
–	–	–	–	UNS R56700	–	–	–	–	Ti-6-7	ASTM F 1295	–	ATI 6-7™
–	TiAl8Mo1V1	–	–	UNS R54810	–	–	–	–	Ti-8Al-1Mo-1V	–	–	ATI 8-1-1™
–	–	–	–	–	–	–	–	–	Ti-15Mo-3Nb-3Al-0.2Si	ASTM Grade 21	–	Beta 21-S
–	–	–	–	–	–	–	–	–	Ti-12Mo-6Zr-2Fe	–	–	TMZF
–	TiAl7Nb	–	–	–	–	–	–	–	Ti-6Al-7Nb	–	–	–
–	TiAl7Mo4	–	–	–	–	–	–	–	–	ASTM B381	–	–
–	TiAl 4 Mo 4 Sn 4 Si 0.5	–	–	–	5203	–	–	–	Ti-4Al-4Mo-4Sn-0.5Si	–	–	–
–	TiAl6Zr5Mo0.5Si0.25	–	–	–	–	T.AGZ.50	–	–	Ti-6Al-5Zr-0.5Mo-0.25Si	–	–	–
–	TiAl6Zr5Mo4CuSi0.2	–	–	–	M201	–	–	–	Ti-6Al-5Zr-4Mo-Cu-0.2Si	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	Ti-5Al-5Mo-5V-1Cr-1Fe	–	–	–
–	–	–	–	UNS %58210	–	–	–	–	Ti Beta 21 S	ASTM Grade 21	–	–
Ti 98.8	Ti 98.8	–	–	–	–	–	–	–	–	–	–	–
Ti 99.9	Ti 99.9	–	–	–	–	–	–	–	–	–	–	–
–	TiAl 6 Sn 2 Zr 4 Mo 2	–	–	–	–	–	–	–	–	–	–	–

NOTE: For legend, see page Y237.

H1 Workpiece Materials Listing • Hardened Steels and Irons • H1

H1 Hardened Materials Hardness (HRC): 44–48

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
H 11	X 38 CrMoV 5 H1	BH 11	SKD 6	T20811	X 38 CrMoV 5 H1	Z 38 CDV 5	X 37 CrMoV 5 1 KU	–	–	–	1.2343	–
H11	X 38 CrMoV 5 H1	BH 11	SKD 6	T20811	X 38 CrMoV 5 H1	Z 38 CDV 5	X 37 CrMoV 5 1 KU	–	–	–	1.2343	–
H 13	X 40 CrMoV 5 1	BH 13	SKD 61	T20813	X 40 CrMoV 5 1	Z 40 CDV 5	X 40 CrMoV 5 1 1 KU	2242	–	–	1.2344	–
H 10	X 32 CrMoV 3 3	BH 10	SKD 7	T 20810	X 32 CrMoV 12H-28	32 DCV 28	30 CrMoV 12 27 KU	–	–	–	1.2365	–
H19	X 45 CrCoW 5 5 5	–	–	–	–	–	–	–	–	–	1.2678	–
A 532 I B NiCr-LC L6	GX 260 NiCr 42	Grade 2 A	0512-00	F45001	GJH-X260NiCr 4-2	–	–	0512-00	–	–	0.9620	–
	–	–	–	–	–	55 NCDV 07 (HT)	–	–	–	–	–	–

H2 Workpiece Materials Listing • Hardened Steels and Irons • H2

H2 Hardened Materials Hardness (HRC): 48–55

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
A 532 I A NiCr-HC	G-X 330 NiCr 42	Grade 2 B	0513-00	F45000	GJH-X330NiCr 4-2	FB Ni 4 Cr2 HC	–	0513-00	–	–	0.9625	–
H 21	X 30 WCrV 93	BH 21	SKD 5	T 20821	X 30 WCrV 9 3	Z 30 WCV 9	X 30 WCrV 9 3 KU	–	–	–	1.2581	–
H 12	X 37 CrMoV 5 1	BH 12	SKD 62	T20812	–	Z 35 CWDV 5	X 35 CrMoV 05 KU	–	–	–	1.2606	–
–	G-X 300 NiMo 3 Mg	–	–	–	GJH-X300NiMo 3 Mg	–	–	–	–	–	0.9610	–
A 532 I B NiCr-LC	GX 260 NiCr 42	Grade 2 A	0512-00	F45001	GJH-X260NiCr 4-2	–	–	0512-00	–	–	0.9620	–
A 532 III A 25% Cr	GX 260 Cr 27	Grade 3 D	0466-00	–	GJH-X260Cr 27	–	–	–	–	–	0.9650	–
–	X 2 NiCoMoTi 180905	–	–	–	–	Z 2 NKD 180905	–	–	–	–	–	Durimphy
K12	–	–	–	–	–	–	–	–	–	–	–	ATI K12 MIL

H3 Workpiece Materials Listing • Hardened Steels and Irons • H3

H3 Hardened Materials Hardness (HRC): 56–60

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
A 532 IIC15% CrMo-HC	G-X 300CrMo 15 3	Grade 3 A	–	–	GJH-X300CrMo 15-3	–	–	–	–	–	0.9635	–
–	G-X 300 CrMoNi 15 2 1	Grade 3 B	–	F45005	GJH-X300CrMoNi15-2-1	–	–	–	–	–	0.9640	–
A 532 IID20% CrMo-LC	GX 260 CrMoNi 20 2 1	Grade 3 C	–	F45007	GJH-X260CrMoNi20-2-1	–	–	–	–	–	0.9645	–
A 532 III A 25% Cr	G-X 300 CrMo 27 1	Grade 3 E	–	–	GJH-X300CrMo 27-1	–	–	–	–	–	0.9655	–
A 2	X 100 CrMoV 5 1	SKD 12	–	–	BA 2	Z 100 CDV 5 (HT)	X 100 CrMoV 51 KU	2260	–	–	1.2363	–
D7 (HT)	–	–	–	T30407	–	Z 230 CVA 12 04	–	–	–	–	1.2378	–
Q 2	90 MnCrV 8	B0 2	–	T31502	90 MnV 8	90 MnV 8	90 MnVCr 8 KU	–	–	–	1.2842	–
A 532 I D Ni-HiCr	G-X 300 CrNiSi 95 2	Grade 2 C	0457-00	F45003	GJH-X300CrNiSi 9-5-2	–	–	–	–	–	0.9630	Nihard type 4
S 1	60 WCrV 7	BS 1	–	–	6020 WCrV 8	55 WC 20	55 WCrV 8 KU	–	–	–	1.2550	–
S 1	60 WCrV 7	BS 1	–	–	60 WCrV 8	55 WC 20	55 WCrV 8 UK	–	–	–	1.2550	–
S 7	50 CrMoV 13 14	–	–	–	–	–	–	–	–	–	–	Cryodur 2357
K 12 (HT)	–	–	–	–	–	–	–	–	–	–	–	ATI K12-MIL

H4 Workpiece Materials Listing • Hardened Steels and Irons • H4

H4 Hardened Materials Hardness (HRC): >60

AISI**	DIN	BTS	JIS	UNS	EN	AFNOR	UNI	SIS	SAE	ASTM	Material Number	Manufacturer Reference
W 108	C 80 W 1	–	–	T72301	C 80 U	Y1 90	C 80 KU	1880	–	–	1.1525	–
D 2	X 155 CrVMo 12 1	BD 2	SKD §§	T 30402	X 153 CrMoV 12	Z 160 CDV 12	X 155 CrVMo 12 1 KU	2310	–	–	1.2379	–
–	100 W4	–	SKS 21	–	–	–	–	–	–	–	1.2515	–
D 3	X 210 Cr 12	BD 3	SKD 1	T30403	X 210 Cr 1 2	Z 200 C 12	X 205 Cr 12 KU	–	–	–	1.2080	–
0 7	110 WCrV 5	–	–	–	–	–	–	–	–	–	–	–
–	Mh97 + Pb	–	–	–	–	–	–	–	–	–	–	LAW 100 Pb

Workpiece Materials Listing Legend

* 1 Mpa = 145 psi.

** Includes ASTM and SAE material specifications.

AISI — American Iron and Steel Institute

AFNOR — French National Organization for Standardization

AMS — Aerospace Material Specifications

ASTM — American Society of Mechanical Engineers

BS — British Standards

DIN — German Institute for Standardization

EN — European Standards

JIS — Japanese Industrial Standards

SAE — Society of Automotive Engineers

SIS — Swedish Standards Institute

UNI — Italian Organization for Standardization

UNS — Unified Numbering System









Service and Support

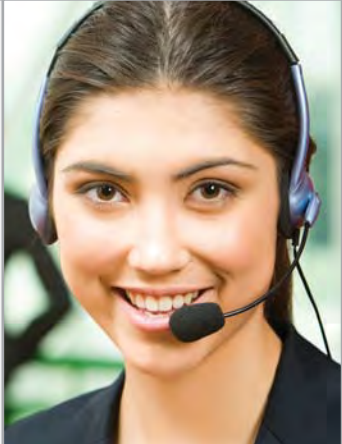
Customer Application Support (CAS)

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

SERVICE LEVEL EXCELLENCE	Fast telephone response. Quick technical solutions. Efficient case management.	
SERVICES	Operating parameters. Process optimization. Hardware support. Tooling selection. Troubleshooting.	
BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY	Materials database. Application calculators. Tooling performance experts.	

Originating Country	Language	Phone	E-mail
Australia	English	1800 666 667	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	k-cn.techsupport@kennametal.com
Denmark	English	808 89298	na.techsupport@kennametal.com
Finland	English	0800 919412	na.techsupport@kennametal.com
France	French	080 5540 367	eu.techsupport@kennametal.com
Germany	German	0800 0006651	eu.techsupport@kennametal.com
India	English	1 800 103 5227	in.techsupport@kennametal.com
Israel	English	1809 449889	na.techsupport@kennametal.com
Italy	Italian	800 916561	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	ap-kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	ap-kmt.techsupport@kennametal.com
Mexico	Spanish	1800 253 0758	na.techsupport@kennametal.com
Netherlands	English	0800 0201 130	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	ap-kmt.techsupport@kennametal.com
Norway	English	800 10080	na.techsupport@kennametal.com
Poland	Polish	0080 0441 1887	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643	na.techsupport@kennametal.com
Sweden	English	020799246	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	ap-kmt.techsupport@kennametal.com
UK	English	0800 032 8339	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	eu.techsupport@kennametal.com
USA	English	800 835 3668	na.techsupport@kennametal.com

Numbers shown only serve the originating country listed.

METALCUTTING SAFETY

IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalog!

Projectile and Fragmentation Hazards:

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult the Kennametal Metalcutting Safety booklet, available free from Kennametal at 724 539 5747 or fax 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724 539 5066 or fax 724 539 5372.

Kennametal, the stylized K, A2, A4, AluMill, Beyond, Beyond Blast, Beyond Drive, Beyond Evolution, Blue Box, CTR, DFC, DFR, DFS, DFSP, DFT, Dodeka, Dodeka MAX, Drill Fix, ERICKSON, Fix-Perfect, GOdrill, GOMill, GOTap, Green Box, HARVI, HexaCut, HTS, HydroForce, K10, K715, KB1345, KB5630, KBK45, KC5010, KC5025, KC522M, KC625M, KC633M, KC635M, KC637M, KC639M, KC643M, KC7135, KC7210, KC7225, KC725M, KC7315, KC7320, KC7325, KC7410, KC9105, KCK10, KCM15, KCMS, KCMS35, KCNO5, KCP15, KCPK10, KCPK15, KCPK20, KCPK30, KCPM15, KCPM40, KCPM45, KCSM15, KCU10, KCU25, KCU40, KCU45, KD1400, KD1405, KD1415, KD1420, KD1425, KDF400, KDMB, KDMT, KenClamp, Kendex, KenFeed, Kenlever, Kenloc, Kenna Perfect, Kenna Universal, KenTIP, KF1, KGEN, KIPR, K-Lock, KM, KM25, KM40, KM40TS, KM4X, KM4X100, KM-TS, KN25, KNS, KP6505, KP6525, KSCM, KSEM, KSEM PLUS, KSOM, KSRM, KSSM, KSSM8+, KSSR, KSSS, KTMS, KTP10, KU25T, KVNS, KY1310, KY3500, KYK10, KYK25, KYS40, Load Optimised Insert Spacing, MaxiMet, MEGA, Mill 1-7, Mill 1-10, Mill 1-14, Mill 1-18, Mill 1-25, Mill 4, Mill 4-11, Mill 4-15, Mill 16, ModBORE, NOVO, RIQ, RHR, Rodeka, Romicon, RMS, SIF, SEFAS, Stellite, Stellram, Top Notch, Wedgelock, X-Grade, and Y-TECH are trademarks of Kennametal, Inc. and are used as such herein. The absence of a product, service name, or logo from this list does not constitute a waiver of the Kennametal trademark or other intellectual property rights concerning that name or logo.

Android™ is a trademark of Google Inc.

ATI 416™, ATI 410™, ATI 430™, ATI 420™, ATI 403™, ATI 904L™, ATI 348™, etc. are trademarks of Allegheny Technologies, Inc.

Discaloy™ is a trademark of Westinghouse Electric Corporation.

DUO-LOCK® is a registered trademark and Duo-Lock™ is a trademark of Haimer GmbH.

Google Play™ is a trademark of Google Inc.

Hardox® is a registered trademark of SSAB Technology AB Corporation.

Hastelloy® and Haynes® are registered trademarks of Haynes International, Inc. Corporation.

Hostalen™ is a trademark of Hoechst GmbH Corporation.

INCONEL®, Monel®, NIMONIC®, and Udimet® are registered trademarks of Special Metals Corporation.

iPhone® and iTunes® are registered trademarks of Apple Inc., registered in the U.S. and other countries.

Lexan® is a registered trademark of Sabic Innovative Plastics IP B.V. Company.

Makrolon® is a registered trademark of Bayer Aktiengesellschaft.

Mazak® and INTEGREX® are registered trademarks of Yamatomo Kosan Kabushiki Kaisha Corporation.

Roto-Glyd® is a registered trademark and Roto-Glyd™ Ring is a trademark of Trelleborg Sealing Solutions.

SAFE-LOCK® is a registered trademark and Safe-Lock™ is a trademark of Haimer GmbH.

Teflon™ is a trademark of The Chemours Company FC, LLC.

Weldon® is a registered trademark of Weldon Tool Company.

MASTER CATALOG

WORLD HEADQUARTERS

Kennametal Inc.

600 Grant Street | Suite 5100
Pittsburgh, PA 15219 USA
Tel: 1 800 446 7738
ftmill.service@kennametal.com

EUROPEAN HEADQUARTERS

Kennametal Europe GmbH

Rheingoldstrasse 50
CH 8212 Neuhausen am Rheinfall
Switzerland
Tel: +41 52 6750 100
neuhausen.info@kennametal.com

ASIA-PACIFIC HEADQUARTERS

Kennametal Singapore Pte. Ltd.

3A International Business Park
Unit #01-02/03/05, ICON@IBP
Singapore 609935
Tel: +65 6265 9222
k-sg.sales@kennametal.com

INDIA HEADQUARTERS

Kennametal India Limited

CIN: L27109KA1964PLC001546
8/9th Mile, Tumkur Road
Bangalore - 560 073
Tel: +91 080 22198444 or +91 080 43281444
bangalore.information@kennametal.com



kennametal.com