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

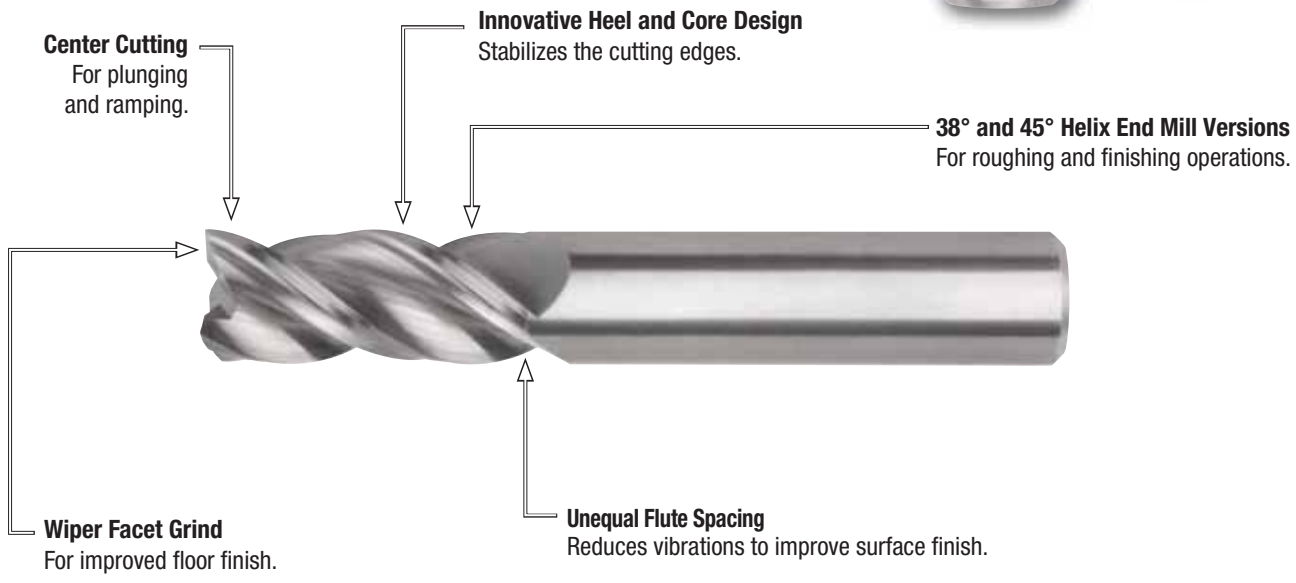
- Intermediate diameters available.
- Custom solutions available for machining titanium and other high-temperature alloys.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.

Extensive Standard Offering

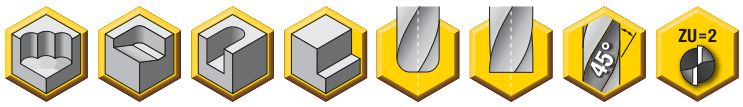
- Diameter ranges 3/16–1".
- Extended neck for long-reach applications and radii and sharp corner configurations.

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

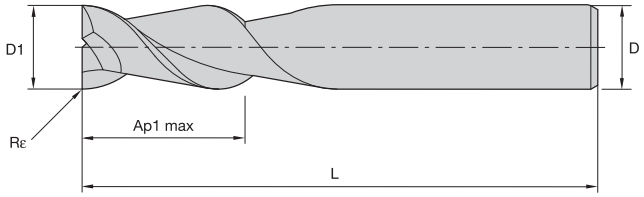




- Kennametal standards dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.



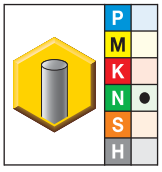




End Mill Tolerances

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

ABDF • Wiper Facet



● first choice
○ alternate choice

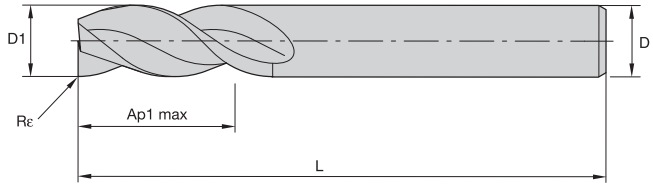
K600	D1	D	Ap1 max	L	Rε
ABDF0188J2ARA	3/16	3/16	3/8	2	.015
ABDF0188J2AS	3/16	3/16	3/8	2	—
ABDF0250J2ARA	1/4	1/4	1/2	2 1/2	.015
ABDF0250J2ARB	1/4	1/4	1/2	2 1/2	.030
ABDF0250J2AS	1/4	1/4	1/2	2 1/2	—
ABDF0312J2ARA	5/16	5/16	5/8	2 1/2	.015
ABDF0312J2ARB	5/16	5/16	5/8	2 1/2	.030
ABDF0312J2AS	5/16	5/16	5/8	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.

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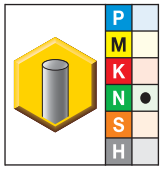




End Mill Tolerances

D1	tolerance h6	D	tolerance h6
<1/8"	+0/-.002"	<1/8"	+0/-.00024"
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ABDE • Wiper Facet



● first choice
○ alternate choice

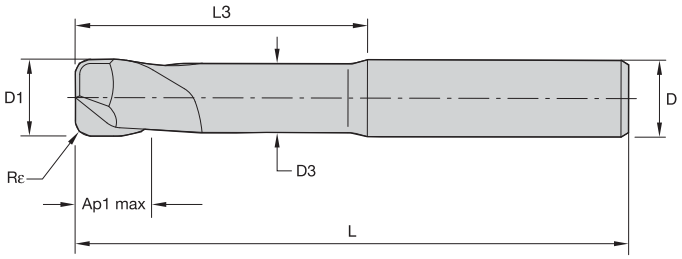
K600	D1	D	Ap1 max	L	Rε
ABDE0188J3ARA	3/16	3/16	7/32	2	.015
ABDE0188J3AS	3/16	3/16	7/32	2	–
ABDE0250J3ARB	1/4	1/4	1/2	2 1/2	.030
ABDE0250J3AS	1/4	1/4	1/2	2 1/2	–
ABDE0312J3ARB	5/16	5/16	5/8	2 1/2	.030
ABDE0312J3AS	5/16	5/16	5/8	2 1/2	–
ABDE0375J3ARB	3/8	3/8	3/4	2 1/2	.030
ABDE0375J3AS	3/8	3/8	3/4	2 1/2	–
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	–

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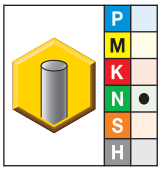




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1/4–3/8"	+0/-.00035"	1/4–3/8"	+0/-.00035"
13/32–11/16"	+0/-.00043"	13/32–11/16"	+0/-.00043"
23/32–1 3/16"	+0/-.00051"	23/32–1 3/16"	+0/-.00051"

ABDF • Wiper Facet • Extended Neck

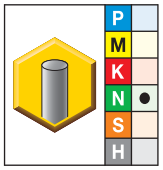


● first choice
○ alternate choice

K600	D1	D	D3	Ap1 max	L3	L	Rε
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

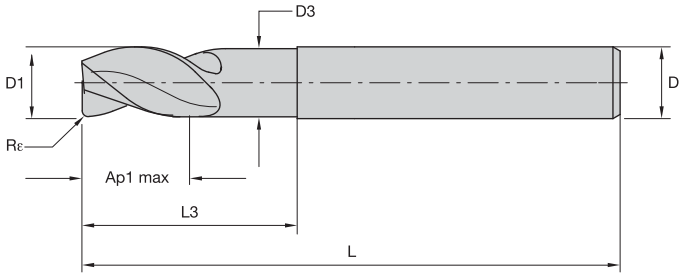
K600	D1	D	D3	Ap1 max	L3	L	Rε
ABDF0750J2BQD *	3/4	3/4	.705	1	2 1/2	6	.090
ABDF0750J2BQE	3/4	3/4	.705	1	2 1/2	6	.120
ABDF0750J2BQ	3/4	3/4	.705	1	2 1/2	6	—
ABDF0750J2CQB	3/4	3/4	.705	1	3 3/8	6	.030
ABDF0750J2CQ	3/4	3/4	.705	1	3 3/8	6	—
ABDF1000J2AQB *	1	1	.940	1 1/4	2 3/8	5	.030
ABDF1000J2AQE	1	1	.940	1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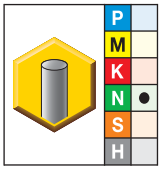




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D1	tolerance h6	D	tolerance h6
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1/8–7/32"	+0/-.002"	1/8–7/32"	+0/-.00031"
1/4–3/8"	+0/-.00035"	1/4–3/8"	+0/-.00035"
13/32–11/16"	+0/-.00043"	13/32–11/16"	+0/-.00043"
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ABDE • Wiper Facet • Extended Neck

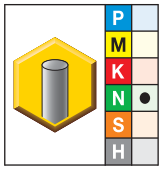


● first choice
○ alternate choice

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	—

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

ABDF...





Material Group		Side Milling (A) and Slotting (B) A ap	A ae	B ap	K600 Cutting Speed — vc SFM min	max	Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac.	D1 — Diameter 3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
							dec.	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
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...

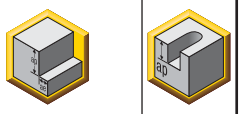




Material Group		Side Milling (A) and Slotting (B) A ap	A ae	B ap	K600 Cutting Speed — vc SFM min	max	Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac.	D1 — Diameter 3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
							dec.	.1875	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
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%.

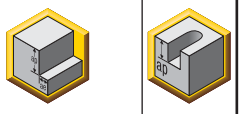
ABDF... with Neck





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					
							frac.	1/4	5/16	3/8	1/2	5/8	3/4	1
		ap	ae	ap	min	max	dec.	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
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		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					
							frac.	1/4	5/16	3/8	1/2	5/8	3/4	1
		ap	ae	ap	min	max	dec.	.2500	.3125	.3750	.5000	.6250	.7500	1.0000
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

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