

K4EVO

Work Materials



SOLID CARBIDE 4-FLUTE SQUARE END MILL

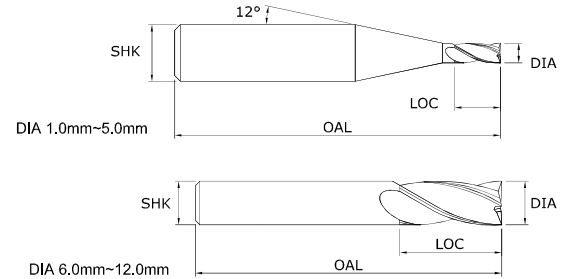
4刃钨钢平端铣刀



FEATURES:

Engineered with Variable Geometry Dynamics, which features:

- Superior Chatter Suppression.
- High Metal Removal Rate (MRR).
- Improved work piece surface quality.
- Deep Slotting 1xD.
- Suitable for Machining Stainless Steels, Titanium & High temperature Alloys.



PRODUCT CODE	DIA	LOC	OAL	SHK
K4EVO 010AL	1.0	3	50	4
K4EVO 015AL	1.5	4	50	4
K4EVO 020AL	2.0	5	50	4
K4EVO 025AL	2.5	6	50	4
K4EVO 030AL	3.0	8	57	6
K4EVO 040AL	4.0	11	57	6
K4EVO 050AL	5.0	13	57	6
K4EVO 060AL	6.0	13	57	6
K4EVO 080AL	8.0	19	63	8
K4EVO 100AL	10.0	22	72	10
K4EVO 120AL	12.0	26	83	12



DIA Tolerance h9

SHK Tolerance h6

K4EVON

Work Materials



SOLID CARBIDE 4-FLUTE NECK RELIEF SQUARE END MILL

4刃钨钢深沟平端铣刀



FEATURES:

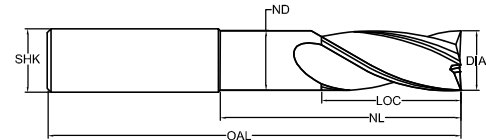
Engineered with Variable Geometry Dynamics, which features:

- Superior Chatter Suppression.
- High Metal Removal Rate (MRR).
- Improved work piece surface quality.
- Neck relief design for extended reach.
- Suitable for Machining Stainless Steels, Titanium & High temperature Alloys.

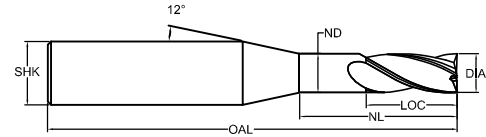


DIA Tolerance h9

SHK Tolerance h6



DIA 6.0 - 20.0mm



DIA 3.0 - 5.0mm

PRODUCT CODE	DIA	ND	LOC	NL	OAL	SHK
K4EVON 14 030AL	3.0	2.8	8	14	57	6
K4EVON 16 040AL	4.0	3.8	11	16	57	6
K4EVON 18 050AL	5.0	4.8	13	18	57	6
K4EVON 19 060AL	6.0	5.7	13	19	57	6
K4EVON 25 080AL	8.0	7.6	19	25	63	8
K4EVON 30 100AL	10.0	9.5	22	30	72	10
K4EVON 36 120AL	12.0	11.5	26	36	83	12
K4EVON 36 140AL	14.0	13.5	26	36	83	14
K4EVON 42 160AL	16.0	15.5	32	42	92	16
K4EVON 42 180AL	18.0	17.5	32	42	92	18
K4EVON 52 200AL	20.0	19.5	38	52	100	20

K4EVOR

Work Materials



SOLID CARBIDE 4-FLUTE CORNER RADIUS END MILL

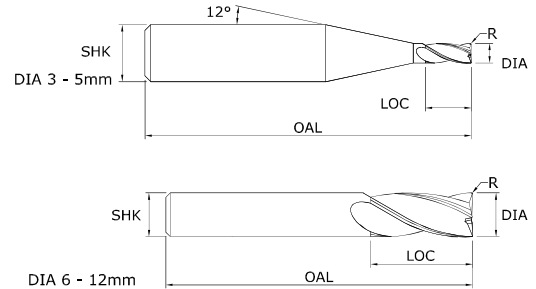
4刃钨钢R-角平端铣刀



FEATURES:

Engineered with Variable Geometry Dynamics, which features:

- Superior Chatter Suppression.
- High Metal Removal Rate (MRR).
- Improved work piece surface quality.
- Deep Slotting 1xD.
- Suitable for Machining Stainless Steels, Titanium & High temperature Alloys.



PRODUCT CODE	DIA	R	LOC	OAL	SHK
K4EVOR 03 030AL	3.0	0.3	8	57	6
K4EVOR 03 040AL	4.0	0.3	11	57	6
K4EVOR 03 050AL	5.0	0.3	13	57	6
K4EVOR 05 060AL	6.0	0.5	13	57	6
K4EVOR 05 080AL	8.0	0.5	19	63	8
K4EVOR 05 100AL	10.0	0.5	22	72	10
K4EVOR 05 120AL	12.0	0.5	26	83	12



DIA Tolerance h9

SHK Tolerance h6

K4EVORN

Work Materials



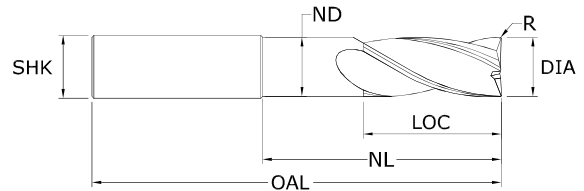
SOLID CARBIDE 4-FLUTE LONG SHANK NECK RELIEF CORNER RADIUS END MILL

4刃钨钢长柄深沟R-角平端铣刀



FEATURES:

- Long shank with neck relief enables extended reach of cut areas.
- Suitable for Machining Stainless Steels, Titanium & High temperature Alloys.



DIA Tolerance h9

SHK Tolerance h6

PRODUCT CODE	DIA	R	LOC	NL	OAL	SHK
K4EVORN 05 060AL	6.0	0.5	8	24	57	6
K4EVORN 10 080AL	8.0	1.0	10	32	63	8
K4EVORN 20 080AL	8.0	2.0	10	32	63	8
K4EVORN 10 100AL	10.0	1.0	12	40	72	10
K4EVORN 20 100AL	10.0	2.0	12	40	72	10
K4EVORN 10 120AL	12.0	1.0	15	48	83	12
K4EVORN 20 120AL	12.0	2.0	15	48	83	12
K4EVORN 30 120AL	12.0	3.0	15	48	83	12
K4EVORN 10 160AL	16.0	1.0	20	65	83	12
K4EVORN 20 160AL	16.0	2.0	20	65	92	16
K4EVORN 30 160AL	16.0	3.0	20	65	92	16
K4EVORN 40 160AL	16.0	4.0	20	65	92	16
K4EVORN 10 200AL	20.0	1.0	24	80	100	20
K4EVORN 20 200AL	20.0	2.0	24	80	100	20
K4EVORN 30 200AL	20.0	3.0	24	80	100	20
K4EVORN 40 200AL	20.0	4.0	24	80	100	20
K4EVORN 50 200AL	20.0	5.0	24	80	100	20

K4EVOBN

Work Materials



SOLID CARBIDE 4-FLUTE NECK RELIEF BALLNOSE END MILL

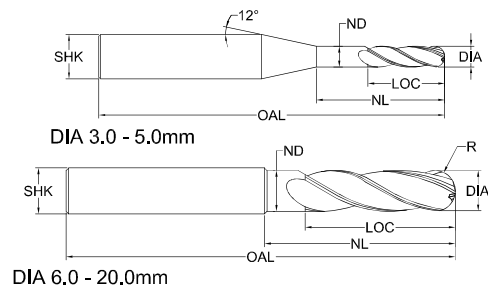
4刃钨钢深沟圆头铣刀



FEATURES:

Engineered with Variable Geometry Dynamics, which features:

- Superior Chatter Suppression.
- Ideal for 3D-profiling on difficult-to-cut materials.
- High Metal Removal Rate (MRR).
- Improved work piece surface quality.
- Deep Slotting 1xD.
- Suitable for Machining Stainless Steels, Titanium & High temperature Alloys.



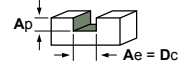
PRODUCT CODE	DIA	R	ND	LOC	NL	OAL	SHK
K4EVOBN 075 030AL	3.0	1.5	2.9	4.5	7.5	57	6
K4EVOBN 100 040AL	4.0	2	3.9	6	10	57	6
K4EVOBN 125 050AL	5.0	2.5	4.9	7.5	12.5	57	6
K4EVOBN 150 060AL	6.0	3	5.85	9	15	57	6
K4EVOBN 200 080AL	8.0	4	7.85	12	20	63	8
K4EVOBN 250 100AL	10.0	5	9.7	15	25	72	10
K4EVOBN 300 120AL	12.0	6	11.7	18	30	83	12
K4EVOBN 400 160AL	16.0	8	15.5	24	40	92	16
K4EVOBN 500 200AL	20.0	10	19.5	30	50	100	20



Operating Parameters For EVO Series

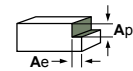


SLOT MILLING 槽切削



ISO WORK MATERIAL CODE	P Carbon Steel & Cast Iron (~25HRC)		P Alloy Steel (~30HRC)		P StainlessSteel 400 Series (< 750 N/mm ²)		M StainlessSteel 300 Series (≥ 750 N/mm ²)		S Titanium Alloy (< 1300 N/mm ²)		S High Temperature Alloy (< 1300 N/mm ²)	
	Dc (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)
1.0	20000	210	18000	200	16000	180	14500	160	13000	150	5100	35
1.5	19500	230	16000	220	14500	200	13000	160	11500	170	4200	40
2.0	17000	250	15000	240	13500	200	11000	180	10200	180	3600	50
2.5	16500	280	14500	260	12000	230	9500	210	9400	200	3200	55
3.0	15000	300	13000	260	11000	240	8200	210	8000	200	2800	55
4.0	13000	400	10000	380	9800	260	7300	240	7500	260	2200	80
5.0	10000	500	9000	380	8000	380	6200	260	6100	280	1800	110
6.0	8650	630	7750	440	6900	570	4800	350	4400	350	1450	110
8.0	6490	660	5925	570	5500	560	3900	350	3700	360	1080	110
10.0	5190	750	4890	660	4400	550	3000	360	2900	360	920	110
12.0	4330	750	4100	660	3500	550	2200	350	2200	350	700	110
Depth of Cut (DOC)	Ap (mm) = 0.5 - 1.0 x Dc Ae (mm) = 1.0 x Dc						Ap (mm) = 0.5 x Dc Ae (mm) = 1.0 x Dc					

SIDE MILLING 侧面切削



1.0	19500	200	18700	180	17400	150	12000	140	11600	160	4200	45
1.5	18700	240	17200	210	16800	170	11600	140	10800	160	4000	50
2.0	17200	250	16800	220	15500	180	10200	150	9850	180	3600	50
2.5	16800	280	15500	250	14700	200	9300	180	9100	210	3200	60
3.0	15000	360	13000	330	12000	310	8500	210	8000	230	3000	70
4.0	13000	430	10000	400	9000	360	7500	240	7500	260	1900	80
5.0	11000	530	9000	480	8500	450	6700	260	6200	350	1700	100
6.0	10000	650	8500	490	6900	540	6200	350	4600	420	1650	110
8.0	7400	700	6500	620	5500	680	4520	350	3400	410	1200	110
10.0	5900	800	5100	720	4400	770	3530	360	2700	420	950	120
12.0	4800	800	4500	720	3500	770	3110	350	2200	410	800	120
Depth of Cut (DOC)	ROUGHING: Ap (mm) = 1.5 x Dc						Ae (mm) = 0.3 - 0.5 x Dc					
1.0	19500	200	18700	180	17400	150	12000	140	11600	160	4200	45
1.5	18700	240	17200	210	16800	170	11600	140	10800	160	4000	50
2.0	17200	250	16800	220	15500	180	10200	150	9850	180	3600	50
2.5	16800	280	15500	250	14700	200	9300	180	9100	210	3200	60
3.0	17000	360	15000	430	13000	300	8500	275	9000	280	3300	85
4.0	15000	430	13000	520	11000	360	7500	330	8500	310	2900	100
5.0	13000	530	11000	625	9500	500	6700	480	7200	420	2000	125
6.0	11500	650	9000	635	7500	530	6200	510	5600	490	1600	140
8.0	8400	700	7400	800	6200	560	4700	540	4100	490	1200	140
10.0	6900	800	6100	930	4900	575	3700	550	3200	500	1000	150
12.0	5700	800	5400	930	3900	565	3300	530	2700	500	850	150
Depth of Cut (DOC)	FINISHING: Ap (mm) = 1.5 x Dc						Ae (mm) = 0.05 - 0.1 x Dc					

Note: ■ For effective machining of austenitic stainless steel, water-soluble cutting fluid is recommended whereas when machining heat-resistant alloy, non-soluble cutting fluid is always preferred.

■ The tool is designed with variable helix, which helps in controlling cutting vibration, however machine rigidity and proper workpiece clamping is important when machining at high material removal rate.

■ Please ensure flood coolant applied with adequate pressure.

Dc = Cutter Diameter (mm) 切削直径
Ap = Depth of cut (mm) 切削深度

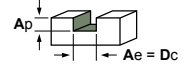
n = Spindle Speed (mm⁻¹) 转速

Vf = Feed Rate (mm/min) 进给速
Ae = Width of Cut (mm) 切削宽度

Operating Parameters For EVO Series

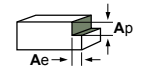
K4EVON

SLOT MILLING 槽切削



ISO WORK MATERIAL CODE	P Carbon Steel & Cast Iron (~25HRC)		P Alloy Steel (~30HRC)		P StainlessSteel 400 Series (< 750 N/mm ²)		M StainlessSteel 300 Series (≥ 750 N/mm ²)		S Titanium Alloy (< 1300 N/mm ²)		S High Temperature Alloy (< 1300 N/mm ²)	
	Dc (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)
3.0	14700	285	12740	245	10780	228	8030	195	7840	190	2740	50
4.0	12740	380	9800	360	9600	245	7150	225	7350	245	2150	75
5.0	9800	475	8820	360	7840	360	6070	245	5970	265	1760	80
6.0	8477	595	7595	415	6760	540	4700	330	4310	330	1420	80
8.0	6360	625	5800	540	5390	530	3820	330	3620	340	1050	90
10.0	5085	712	4790	625	4310	520	2940	340	2840	340	900	90
12.0	4240	712	4100	660	3430	520	2150	330	2150	330	680	80
Depth of Cut (DOC)	Ap (mm) = 0.5 - 1.0 x Dc Ae (mm) = 1.0 x Dc						Ap (mm) = 0.5 x Dc Ae (mm) = 1.0 x Dc					

SIDE MILLING 侧面切削



3.0	16660	340	14700	405	12740	285	8330	200	8820	265	3234	80
4.0	14700	400	12740	490	10780	340	7350	225	8330	290	2842	95
5.0	12740	500	10780	590	9310	475	6560	245	7056	400	1960	118
6.0	11270	610	8820	600	7350	500	6070	330	5488	460	1568	130
8.0	8230	665	7250	760	6076	530	4420	330	4018	460	1176	130
10.0	6760	760	5970	880	4802	545	3450	340	3136	475	980	140
12.0	5580	760	5290	880	3822	535	3040	330	2646	475	833	140
Depth of Cut (DOC)	Ap (mm) = 1.5 x Dc Ae (mm) = 0.05 - 0.1 x Dc											

- Note:**
- For effective machining of austenitic stainless steel, water-soluble cutting fluid is recommended whereas when machining heat-resistant alloy, non-soluble cutting fluid is always preferred.
 - The tool is designed with variable helix, which helps in controlling cutting vibration, however machine rigidity and proper workpiece clamping is important when machining at high material removal rate.
 - Please ensure flood coolant applied with adequate pressure.

Dc = Cutter Diameter (mm) 切削直径
Ap = Depth of cut (mm) 切削深度

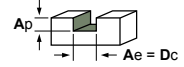
n = Spindle Speed (mm⁻¹) 转速

Vf = Feed Rate (mm/min) 进给速
Ae = Width of Cut (mm) 切削宽度

Operating Parameters For EVO Series

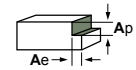


SLOT MILLING 槽切削



ISO WORK MATERIAL CODE	P K Carbon Steel & Cast Iron (~25HRC)		P Alloy Steel (~30HRC)		P StainlessSteel 400 Series (< 750 N/mm ²)		M StainlessSteel 300 Series (≥ 750 N/mm ²)		S Titanium Alloy (< 1300 N/mm ²)		S High Temperature Alloy (< 1300 N/mm ²)	
	Dc (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)
3.0	15000	300	13000	260	11000	240	8200	210	8000	200	2800	55
4.0	13000	400	10000	380	9800	260	7300	240	7500	260	2200	80
5.0	10000	500	9000	380	8000	380	6200	260	6100	280	1800	110
6.0	8650	630	7750	440	6900	570	4800	350	4400	350	1450	110
8.0	6490	660	5925	570	5500	560	3900	350	3700	360	1080	110
10.0	5190	750	4890	660	4400	550	3000	360	2900	360	920	110
12.0	4330	750	4100	660	3500	550	2200	350	2200	350	700	110
Depth of Cut (DOC)	Ap (mm) = 0.5 - 1.0 x Dc Ae (mm) = 1.0 x Dc						Ap (mm) = 0.5 x Dc Ae (mm) = 1.0 x Dc					

SIDE MILLING 侧面切削



3.0	15300	370	13260	340	12240	320	8670	215	8160	235	3060	75
4.0	13250	440	10200	415	9180	370	7650	245	7650	265	1938	85
5.0	11200	545	9180	495	8670	460	6830	265	6320	360	1734	105
6.0	10200	660	8670	500	7040	550	6320	360	4690	430	1683	115
8.0	7550	720	6630	635	5610	700	4610	360	3460	420	1224	115
10.0	6000	820	5200	740	4480	790	3600	370	2750	430	969	125
12.0	4890	820	4590	740	3570	790	3170	360	2240	420	816	125
Depth of Cut (DOC)	ROUGHING: Ap (mm) = 1.5 x Dc						Ae (mm) = 0.3 - 0.5 x Dc					
3.0	17340	375	15300	445	13260	325	8670	285	9180	290	3360	85
4.0	15300	445	13260	540	11220	375	7650	340	8670	320	2950	105
5.0	13260	550	11220	650	9690	520	6830	495	7340	435	2040	130
6.0	11730	675	9180	660	7650	550	6320	530	5710	505	1630	145
8.0	8568	725	7545	830	6320	582	4790	560	4180	505	1220	145
10.0	7038	830	6220	965	4990	595	3770	570	3260	520	1020	155
12.0	5814	830	5500	965	3970	585	3360	550	2750	520	860	155
Depth of Cut (DOC)	FINISHING: Ap (mm) = 1.5 x Dc						Ae (mm) = 0.05 - 0.1 x Dc					

- Note:**
- For effective machining of austenitic stainless steel, water-soluble cutting fluid is recommended whereas when machining heat-resistant alloy, non-soluble cutting fluid is always preferred.
 - The tool is designed with variable helix, which helps in controlling cutting vibration, however machine rigidity and proper workpiece clamping is important when machining at high material removal rate.
 - Please ensure flood coolant applied with adequate pressure.

Dc = Cutter Diameter (mm) 切削直径
Ap = Depth of cut (mm) 切削深度

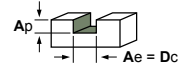
n = Spindle Speed (mm⁻¹) 转速

Vf = Feed Rate (mm/min) 进给速
Ae = Width of Cut (mm) 切削宽度

Operating Parameters For EVO Series

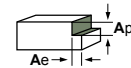


SLOT MILLING 槽切削



ISO WORK MATERIAL CODE	P Carbon Steel & Cast Iron (~25HRC)		P Alloy Steel (~30HRC)		P StainlessSteel 400 Series (< 750 N/mm ²)		M StainlessSteel 300 Series (≥ 750 N/mm ²)		S Titanium Alloy (< 1300 N/mm ²)		S High Temperature Alloy (< 1300 N/mm ²)	
	Dc (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)
6.0	5830	280	4880	230	6360	355	4450	230	4240	235	1220	40
8.0	4370	400	3660	335	4775	435	3340	250	3180	290	915	62
10.0	3500	505	2920	420	3820	440	2670	275	2545	995	730	65
12.0	2910	460	2440	390	3180	405	2220	255	2120	270	610	62
16.0	2180	400	1830	335	2385	400	1670	250	1590	260	458	60
20.0	1750	390	1460	320	1910	355	1335	240	1270	240	365	55
Depth of Cut (DOC)	Ap (mm) ≤ 0.5 x Dc Ae (mm) = 1.0 x Dc											

SIDE MILLING 侧面切削



6.0	6790	350	5670	295	6790	405	4825	270	4880	290	1325	52
8.0	5090	510	4255	425	5090	500	3620	300	3660	365	995	75
10.0	4070	585	3400	485	4070	470	2895	300	2925	335	795	73
12.0	3390	595	2830	500	3390	470	2410	305	2440	340	663	74
16.0	2540	505	2125	425	2540	460	1810	295	1830	335	495	73
20.0	2035	495	1700	415	2035	420	1445	280	1460	300	398	70
Depth of Cut (DOC)	ROUGHING: Ap (mm) = 0.1 x Dc Ae (mm) = 1.0 x Dc											
6.0	7420	470	6150	390	6250	450	5300	360	4500	320	1220	58
8.0	5570	680	4610	570	4695	375	3970	410	3380	405	915	88
10.0	4450	800	3690	660	3750	540	3180	405	2700	385	732	85
12.0	3710	810	3075	670	3130	550	2650	420	2250	395	610	85
16.0	2785	690	2300	570	2345	530	1985	410	1690	385	458	82
20.0	2220	670	1845	560	1870	480	1590	380	1350	352	366	80
Depth of Cut (DOC)	FINISHING: Ap (mm) = 0.4 x Dc Ae (mm) = 1.0 x Dc											

- Note:**
- For effective machining of austenitic stainless steel, water-soluble cutting fluid is recommended whereas when machining heat-resistant alloy, non-soluble cutting fluid is always preferred.
 - Speeds & feeds supplied are based on the minimum tool overhang protrusion from chuck. Reduce accordingly should the amount exceeded.
 - Please ensure flood coolant applied with adequate pressure.

Dc = Cutter Diameter (mm) 切削直径
Ap = Depth of cut (mm) 切削深度

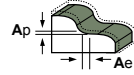
n = Spindle Speed (mm⁻¹) 转速

Vf = Feed Rate (mm/min) 进给速
Ae = Width of Cut (mm) 切削宽度

Operating Parameters For EVO Series

K4EVOBN

CONTOUR MILLING 等高切削



ISO WORK MATERIAL CODE	P Carbon Steel & Cast Iron (~25HRC)		P Alloy Steel (~30HRC)		P StainlessSteel 400 Series (< 750 N/mm ²)		M StainlessSteel 300 Series (≥ 750 N/mm ²)		S Titanium Alloy (< 1300 N/mm ²)		S High Temperature Alloy (< 1300 N/mm ²)	
	Dc (mm)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)
3.0	12600	1560	11900	1150	8170	490	9010	720	4980	355	2228	125
4.0	9470	1250	8990	970	6125	368	6764	540	3740	265	1671	94
5.0	7550	1120	7190	860	4900	490	5410	540	2990	260	1337	91
6.0	6300	1200	5990	965	4085	490	4500	740	2490	365	1114	125
8.0	4730	1400	4495	1050	3060	490	3380	605	1870	300	836	104
10.0	3780	1220	3595	935	2450	440	2700	540	1490	270	668	94
12.0	3150	1080	2995	835	2020	405	2250	495	1240	240	557	85
16.0	2360	870	2245	665	1530	330	1690	405	935	200	418	70
20.0	1890	840	1790	645	1225	284	1350	350	748	170	334	60
Depth of Cut (DOC)	Ap (mm) = 1.0 x Dc Ae (mm) = 0.5 x Dc						Ap (mm) = 0.3 x Dc Ae (mm) = 0.5 x Dc		Ap (mm) = 0.3 x Dc Ae (mm) = 0.2 x Dc			

- Note:**
- For effective machining of austenitic stainless steel, water-soluble cutting fluid is recommended whereas when machining heat-resistant alloy, non-soluble cutting fluid is always preferred.
 - Speeds & feeds supplied are based on the minimum tool overhang protrusion from chuck. Reduce accordingly should the amount exceeded.
 - Please ensure flood coolant applied with adequate pressure.

Dc = Cutter Diameter (mm) 切削直径
Ap = Depth of cut (mm) 切削深度

n = Spindle Speed (mm⁻¹) 转速

Vf = Feed Rate (mm/min) 进给速
Ae = Width of Cut (mm) 切削宽度