

4EHE					Cutting Conditions							
Side Cutting												
Material	ToolSteels/Mould Steels SCM/HPM				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Hardened Steels STAVAX/SKD11			
Hardness	30~ 40HRC				40~ 45HRC				45 ~ 55HRC			
Outside Dia	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth
Ø 1	40,000	720	1.50	0.05	40,000	860	1.50	0.05	40,000	308	0.50	0.03
Ø 1.5	40,000	900	2.25	0.08	40,000	750	2.25	0.08	38,500	350	0.75	0.05
Ø 2	40,000	1200	3.00	0.10	38,000	1080	3.00	0.10	36,500	504	1.00	0.06
Ø 3	38,400	2736	4.50	0.15	34,560	2462	4.50	0.15	27,648	1149	1.50	0.09
Ø 4	28,800	3168	6.00	0.20	25,920	2851	6.00	0.20	20,736	1331	2.00	0.12
Ø 5	24,000	3600	7.50	0.25	21,600	3240	7.50	0.25	17,280	1512	2.50	0.15
Ø 6	19,200	4176	9.00	0.30	17,280	3758	9.00	0.30	13,824	1754	3.00	0.18
Ø 8	14,400	4176	12.00	0.40	12,960	3758	12.00	0.40	10,368	1754	4.00	0.24
Ø 10	11,520	4176	15.00	0.50	10,368	3758	15.00	0.50	8,294	1754	5.00	0.30
Ø 12	9,600	3456	18.00	0.60	8,640	3110	18.00	0.60	6,912	1452	6.00	0.36
Ø 16	7,200	2592	24.00	0.80	6,480	2333	24.00	0.80	5,184	1089	8.00	0.48
Ø 20	5,760	2088	30.00	1.00	5,184	1879	30.00	1.00	4,147	877	10.00	0.60
Depth of cut		0.05D 1.5D ~ 50HRC 0.03D 0.5D 50HRC ~										

- Use a rigid precise machine and holder.
- Ap(mm): Axial Depth of cut.
- Ae(mm): Radial Depth of cut.
- The edge of the flute precisely grinded, if you want measure the tool and to avoid damaging on the flutes, use non-contact measuring method.
- When milling workpiece HRC over 50 hardened steel, reduce 20% of the RPM and feed compared to the same diameter.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If you clamp the endmill with long overhang of effective length, reduce RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (Ø1 or less, the vibration tolerance management should be within 5µm).
- Air blow or oil mist is recommended for smooth chip emission, and wet coolant milling is recommended for copper material.
- The Above condition are only reference. In actual machining conditions adjust these parameters according to the milling shape, machine ability and the operation environment.