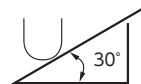


切削参数参考表

Recommended Milling Conditions

加工材料 Work Material			高硬度钢 Hardened Steels STAVAX・SKD61 (~52HRC)				高硬度钢 Hardened Steels SKD11 (~62HRC)				高速钢 High Speed Steels SKH (~68HRC)			
(R)球头半径 Radius	颈长 Under Neck Length	L(颈长)/ D(外径)	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			ap mm	ae mm	mm/min	min ⁻¹	ap mm	ae mm	mm/min	min ⁻¹	ap mm	ae mm	mm/min	min ⁻¹
0.05	0.3	3	0.005	0.005	200	50,000	0.003	0.005	150	50,000	0.002	0.003	120	50,000
	0.5	5	0.003	0.003	120	50,000	0.003	0.003	100	50,000	0.002	0.003	80	50,000
0.075	0.45	3	0.005	0.005	300	50,000	0.003	0.005	200	50,000	0.002	0.003	150	50,000
	0.75	5	0.003	0.003	200	50,000	0.003	0.003	150	50,000	0.002	0.003	100	50,000
0.1	0.6	3	0.005	0.005	500	50,000	0.005	0.005	380	50,000	0.003	0.003	280	50,000
	1	5	0.005	0.005	300	50,000	0.005	0.005	260	50,000	0.003	0.003	120	50,000
0.15	0.9	3	0.005	0.005	800	50,000	0.005	0.005	460	50,000	0.003	0.005	360	50,000
	1.5	5	0.005	0.005	480	50,000	0.005	0.005	320	50,000	0.003	0.005	280	50,000
0.2	1.2	3	0.005	0.01	1,200	50,000	0.005	0.01	820	50,000	0.005	0.005	580	50,000
	2	5	0.005	0.01	620	50,000	0.005	0.01	580	50,000	0.005	0.005	380	50,000
0.25	1.5	3	0.01	0.01	1,500	50,000	0.01	0.01	1,200	50,000	0.005	0.01	860	50,000
	2.5	5	0.01	0.01	800	50,000	0.01	0.01	680	50,000	0.005	0.01	540	50,000
0.3	3	5	0.01	0.02	1,600	40,000	0.01	0.02	1,200	40,000	0.01	0.01	920	40,000
	4	6.7	0.01	0.01	1,200	30,000	0.01	0.01	960	30,000	0.005	0.01	640	30,000
0.4	5	8.3	0.01	0.01	800	30,000	0.005	0.01	680	30,000	0.005	0.005	480	30,000
	4	5	0.01	0.03	1,500	30,000	0.01	0.02	1,200	30,000	0.01	0.01	920	30,000
0.5	4	4	0.03	0.05	2,400	40,000	0.02	0.03	2,400	40,000	0.02	0.02	1,500	40,000
	5	5	0.02	0.05	2,000	32,000	0.02	0.03	2,000	32,000	0.01	0.02	1,200	32,000
	6	6	0.02	0.03	1,500	25,000	0.01	0.02	1,500	25,000	0.01	0.01	1,000	25,000
	8	8	0.01	0.03	1,200	16,000	0.01	0.02	1,000	16,000	0.01	0.01	840	16,000
0.75	10	10	0.01	0.02	800	12,000	0.005	0.01	720	12,000	0.005	0.005	620	12,000
	0.75	5	0.02	0.03	2,000	32,000	0.01	0.03	1,800	32,000	0.01	0.01	1,200	32,000
1	6	3	0.05	0.05	4,000	40,000	0.03	0.03	4,000	40,000	0.02	0.03	2,600	40,000
	8	4	0.03	0.05	3,000	32,000	0.02	0.03	2,600	32,000	0.01	0.02	1,800	32,000
	10	5	0.02	0.03	2,000	24,000	0.01	0.03	1,600	24,000	0.01	0.02	1,200	24,000
备 注 Notes			※1 切深量为中精加工、精加工时的最大值。 ※2 切深量的ap表示轴向切深量，ae表示步距量。 ※3 建议使用油雾冷却方式。 ※4 请以相同的比率调整主轴转速和进给速度。 ※5 加工参数会因切深量和机床刚性的状况而有所不同。请每次调整后再使用。 ※6 请根据需要控制刀具的伸出量。 ※1 Depth of Cut shows the maximum value for semi-finishing and finishing. ※2 Depth of Cut: ap = Axial Depth of Cut / ae = Radial Depth of Cut. ※3 We recommend using oil mist coolant. ※4 Adjust both spindle speed and feed at the same rate. ※5 Adjust milling conditions according to the volume of Depth of Cut and rigidity of machine. ※6 Length of tool overhang must be as short as possible.											
			※7 外径与颈长之比 (L/D) 为5以上时，以加工面的倾斜角为30°以下作为参考条件。 ※7 Recommended milling conditions for the sizes L/D (Effective length / Diameter) = 5 or longer are based on machining inclined angle 30 deg. or lower.											



使用注意事项

加工环境 Advice on Cutting Environment

- 刀具偏摆量越小越好。
Minimize the deflection of cutting edge.

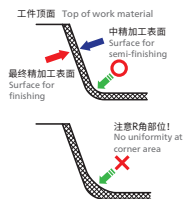
- 掌握机床主轴的伸缩量以及机床的水平状态，需要时采取恰当的措施。

To understand the nature of the expansion of the main spindle and machine posture transformation, and take measures against them.

精加工量(余量) Advice on Finishing Allowance (stock amount)

- 使用小径CBN铣刀时，精加工量(余量)均匀性非常重要。
When using small CBN End Mill, uniform finishing allowance (stock amount) is important.
- 粗加工・中精加工使用刀具磨损过大时，中精加工和精加工的余量会变大，从而影响刀具寿命和加工精度，所以预加工时留有均匀的加工余量非常重要。

When tool is used on roughing and semi-finishing and it has a big abrasion, finishing allowance (stock amount) on semi-finishing and finishing is increasing and it affects tool life and cutting accuracy. Therefore, it is important to get uniform stock amount in the pre-stage cutting.



Points in Use

长颈
Long Neck

球头
Ball



无涂层
Non-Coating

Ball

- H ~52高硬度钢
HRC Hardened Steel
- H ~60高硬度钢
HRC Hardened Steel
- H ~65高硬度钢
HRC Hardened Steel
- H ~70高硬度钢
HRC Hardened Steel

CBN
核心系列
CBN
Core Line