

加工材料 Work Material	高硬度钢·高速钢 Hardened Steels · High Speed Steels STAVAX · SKD11 · SKH (~68HRC)			
	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
外径 Dia.	a_p mm	a_e mm	mm/min	min ⁻¹
0.2	0.002	0.003	50	60,000
0.3	0.002	0.003	100	60,000
0.4	0.002	0.003	150	60,000
0.5	0.003	0.005	200	60,000
0.6	0.003	0.005	240	60,000
0.8	0.003	0.008	280	60,000
1	0.005	0.01	300	60,000
1.5	0.005	0.02	400	60,000
2	0.005	0.03	500	60,000
备注 Notes	※1 切深量的 a_p 表示轴向切深量, a_e 表示径向切深量。 ※2 建议使用油雾冷却方式。 ※3 建议使用刚性较大的铣刀刀柄和机床。 ※4 请根据需要控制刀具的伸出量。 ※1 Depth of Cut: a_p =Axial Depth of Cut / a_e =Radial Depth of Cut. ※2 We recommend using oil mist coolant. ※3 Machine, tool chuck must be sufficiently accurate. ※4 Length of tool overhang must be as short as possible.			

长颈
Long Neck圆鼻
Corner无涂层
Non-Coating圆鼻
Radius

使用注意事项

Points in Use

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。

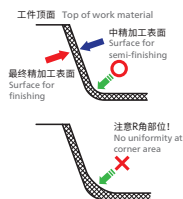
To understand the nature of the expansion of the main spindle and machine posture transformation, and take measures against them.

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.

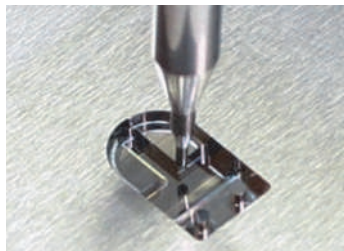
- 粗加工·中精加工使用刀具磨损过大时, 中精加工和精加工的余量会变大, 从而影响刀具寿命和加工精度, 所以预加工时留有均匀的加工余量非常重要。

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.

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

加工案例2 Machining Case 2

加工材料 Work material DC53(SKD11) 60HRC

使用刀具 Tool
SSF120 ϕ 0.8工件尺寸
 $10 \times 6 \times 2$ mmWork size
 $10 \times 6 \times 2$ mm表面粗糙度: Rz 70nm
Surface roughness: Rz70nm(1nm=0.001 μ m)

精加工参数 Conditions (Finishing process)

	底面加工 Bottom face milling	侧面加工 Side face milling
主轴转速 Spindle speed	35,000min ⁻¹	
进给速度 Feed	150mm/min	
切深量 Depth of cut	$3\mu\text{m} \times 8\mu\text{m}$ ($a_p \times a_e$)	$10\mu\text{m} \times 10\mu\text{m}$ ($a_p \times a_e$)
冷却方式 Coolant	油雾 Oil mist	
加工时间 Machining time	1小时30分钟 1hr 30min	

测量仪: 泰勒·霍普森公司制表面轮廓仪
Taylor Hobson Talysurf Measurement SystemCBN
核心系列
CBN
Core Line