



加工材料 Work Material	调质钢·高硬度钢 Prehardened Steels·Hardened Steels NAK·STAVAX (~52HRC)					调质钢·高硬度钢 Prehardened Steels·Hardened Steels SKD11·PD613·ELMAX (~60HRC)					高速钢 High Speed Steels SKH·HAP (~68HRC)				
	切深量 Depth of Cut		进给速度 Feed	进刀速度 Approaching Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	进刀速度 Approaching Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	进刀速度 Approaching Feed	主轴转速 Spindle Speed
	a_p mm	a_e mm	mm/min	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	mm/min	min^{-1}
0.01	0.0005	0.001	5	3	60,000	0.0005	0.001	5	3	60,000	0.0005	0.0005	3	1	60,000
0.015	0.001	0.001	30	5	60,000	0.001	0.001	20	5	60,000	0.0005	0.001	10	3	60,000
0.02	0.001	0.002	80	5	60,000	0.001	0.001	60	5	60,000	0.001	0.001	40	5	60,000
0.025	0.001	0.002	120	10	60,000	0.001	0.0015	100	10	60,000	0.001	0.001	60	5	60,000
0.03	0.002	0.002	180	10	60,000	0.001	0.002	140	10	60,000	0.001	0.001	80	10	60,000
0.04	0.003	0.003	280	30	60,000	0.002	0.003	200	30	60,000	0.002	0.002	120	20	60,000
0.05	0.005	0.005	400	30	60,000	0.003	0.005	300	30	60,000	0.002	0.003	180	20	60,000

备注 Notes

※1 切深量的 a_p 表示轴向切深量, a_e 表示步距量。
 ※2 拆装或者预调刀具时请务必小心。
 ※3 建议使用油雾冷却方式。
 ※4 请尽量抑制刀具的偏摆量。
 (可能的话, 请确认所用主轴转速下的动态偏摆精度。)
 ※5 进刀角度请设在 3° 以下。
 ※6 增加切深量会导致刀具折断。特别须注意 a_p 值的设定。
 ※1 Depth of Cut: a_p =Axial Depth of Cut / a_e =Radial Depth of Cut.
 ※2 Handle with care when exchanging and presetting tool.
 ※3 We recommend using oil mist coolant.
 ※4 Minimize chucking runout.
 (Recommend to measure actual runout at activated spindle speed.)
 ※5 Tool approaching angle must be 3 degrees or below.
 ※6 Increase of Depth of Cut may cause a tool breakage, especially careful for Axial Depth of Cut.

使用注意事项

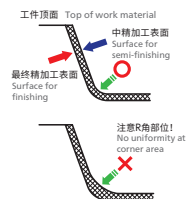
Points in Use

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.

P 调质钢
Prehardened SteelH ~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