



AE-VTSS 硬质合金抗振型铣刀 自动车床对应型

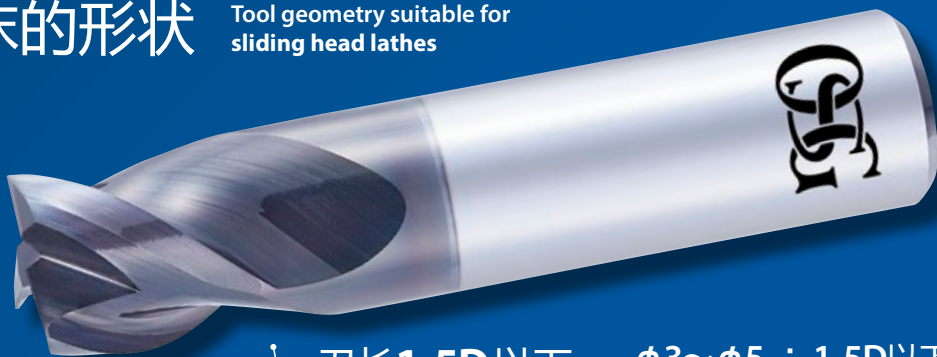
Anti-Vibration Carbide End Mill Compatible with Sliding Head Lathes

适用于自动车床的形状

Tool geometry suitable for sliding head lathes

全长 50mm以下
Overall length 50mm or less

$\phi 3 \sim \phi 10$: 45mm
 $\phi 12$: 50mm



刃长 1.5D 以下
Length of cut $1.5 \times D$ or less

$\phi 3 \sim \phi 5$: 1.5D 以下
 $1.5 \times D$ or less
 $\phi 6 \sim \phi 12$: 1D

实现多功能·高效率加工

Multi-functional and highly efficient machining

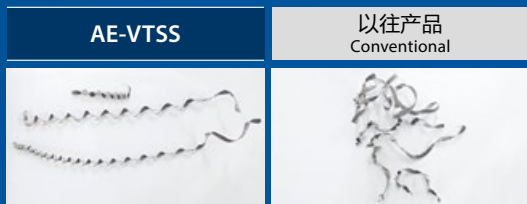
· 3刃式样和底刃钩形 (PAT.P. in Japan)

3-flute specification and bottom cutting edge hook shape

排屑性的提高和稳定的切屑形状

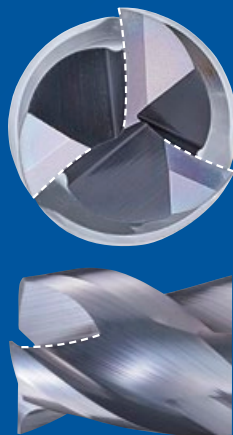
可对应钻削加工等所有类型的加工

Stable chip shape and improved chip evacuation
Can be used for a wide variety of processing such as plunging



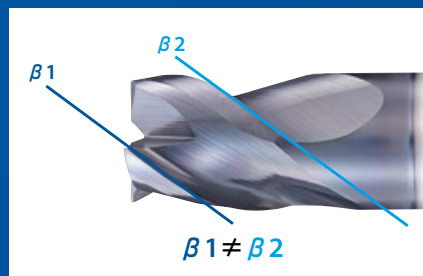
钻削加工时的切屑形状
Chip shape from plunging

加工材料 : SUS304
Work Material



· 不等导程·不等分割

Unequal spacing of teeth and variable-lead geometry



抑制振动, 稳定·高效率加工

Stable and high efficiency milling is made possible by the suppression of chattering

加工数据 Cutting Data

加工材料 : SCM435 $\phi 12$ 棒材
Work Material : Bar material

使用机械 : CNC自动车床
Machine : CNC sliding head lathe

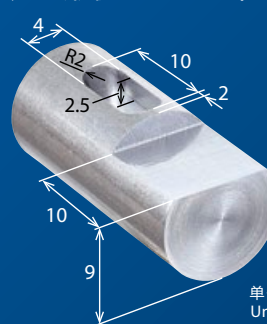
切削油剂 : 无^{*}
Coolant : None

※视频拍摄采用干式加工
Dry machining is used for filming purposes

Scan code for video

加工部位 Milling Part	加工内容 Milling Process	加工方法 Milling Method	使用工具 Tool	切削速度 Cutting Speed (m/min)	进给速度 Feed (mm/min)	ap (mm)	ae (mm)
平面 Face	粗加工 Roughing	D-CUT (正面切削) D-cut (Frontal Milling)	AE-VTSS $\phi 12$	90 (2,400min ⁻¹)	200 (0.028mm/t)	1.4×2次 2 times	9.8
	精加工 Finishing					0.2	10
键槽 Slot	粗加工 Roughing	钻削切削 Plunging	AE-VTSS $\phi 4$	70 (5,600min ⁻¹)	115 (0.021mm/rev)	1.2	—
		槽切削 Slot Milling			500 (0.03mm/t)	1.2	4
	精加工 Finishing	钻削切削 Plunging			115 (0.021mm/rev)	0.1	—
		槽切削 Slot Milling			500 (0.03mm/t)	0.1	4

加工形状 Processed shape



单位:mm
Unit:mm

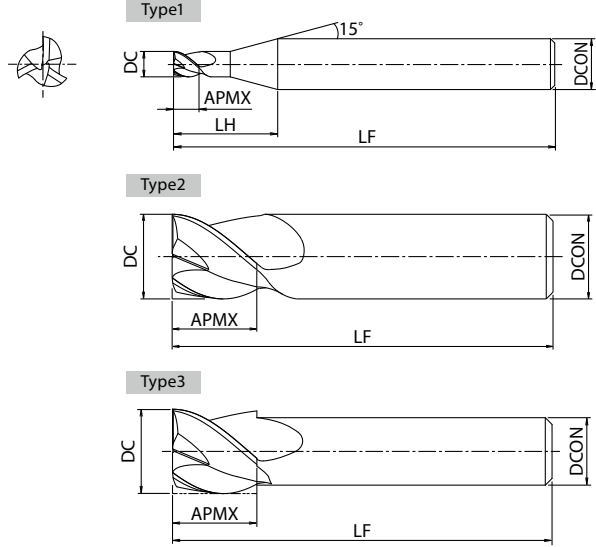
扫一扫看
加工视频



对于键槽的粗加工, 为了确保深度为2.5mm, 需进行两次相同的加工。
For roughing of the slot, the same machining is performed twice to secure a depth of 2.5mm.



AE-VTSS



单位:mm Unit:mm

商品号 EDP No.	外径×刃长×柄径 DC×APMX×DCON	全长 LF	LH	形状 Type	库存 Stock
8557251	3 × 4.5 × 6	45	12.2	1	A ●
8557252	4 × 6 × 6	45	11.9	1	
8557253	5 × 6 × 6	45	11.7	1	
8557254	6 × 6 × 6	45	—	2	
8557255	8 × 8 × 8	45	—	2	
8557256	10 × 10 × 10	45	—	2	
8557257	12 × 12 × 10	50	—	3	

● = 标准库存品 ● = Standard stock item

标识种类 Guide for Icons

1 材质 Tool Materials

CARBIDE 硬质合金
Tungsten Carbide

2 表面处理 Surface Treatment

DUARISE DUARISE涂层
DUARISE Coating

3 螺旋角 Helix Angle

40~43° 表示铣刀排屑槽的螺旋角度
Helix angle of flute for end mills

4 外径的许容差 Tolerance for milling diameter

0~-0.02 表示铣刀的外径
Tolerance for milling diameter

5 热缩 Shrink

SHRINK FIT 也推荐使用热缩刀柄
Suitable for the shrink holder system

加工材料对应表 Applicable Work Materials

	一般构造用钢 碳素钢 Mild Steel Carbon Steel	合金钢 合金工具钢 Alloy Steel Tool Steel	预硬钢 淬火钢 Prehardened Steel Hardened Steel			不锈钢 Stainless Steel	铸铁 Cast Iron	铜合金 Copper Alloy	铝合金 Aluminium Alloy	钛合金 Titanium Alloy	耐热合金 Heat Resistant Alloy
			~ 40HRC	~ 45HRC	~ 55HRC	≤ 200HB	~ 350HB				
AE-VTSS	○	○	○	○		○	○	○	○	○	○



AE-VTSS 切削条件基准表 Cutting Condition

槽切削 Slot Milling

加工材料 Work Material	一般构造用钢·碳素钢·铸铁 Mild Steel · Carbon Steel · Cast Iron SS400 · S55C · FC250 (~750N/mm ²)		合金钢·合金工具钢 Alloy Steel · Tool Steel SCM · SKS · SKD (~30HRC)		预硬钢·淬硬钢 Prehardened Steel · Hardened Steel PX5 · NAK80 (30 ~ 45HRC)		不锈钢 Stainless Steel SUS304 · SUS420 (≤200HB)		析出硬化体不锈钢 Precipitation Stainless Steel SUS630		钛合金 Titanium Alloy Ti-6Al-4V	
切削速度 Cutting Speed (m/min)	100		70		60		60		50		50	
外径 Mill Dia. (mm)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)
3	10,600	650	7,400	480	6,400	350	6,400	330	5,300	300	5,300	280
4	8,000	670	5,600	500	4,800	350	4,800	340	4,000	320	4,000	310
5	6,400	710	4,500	560	3,800	420	3,800	390	3,200	340	3,200	330
6	5,300	740	3,700	620	3,200	460	3,200	260	2,700	330	2,700	320
8	4,000	630	2,800	500	2,400	440	2,400	260	2,000	310	2,000	300
10	3,200	580	2,200	490	1,900	380	1,900	240	1,600	290	1,600	280
12	2,700	560	1,900	460	1,600	380	1,600	230	1,300	290	1,300	280
切削深度 Depth of Cut	a_p 0.5D						a_p 0.25D					

侧面切削 Side Milling

加工材料 Work Material	一般构造用钢·碳素钢·铸铁 Mild Steel · Carbon Steel · Cast Iron SS400 · S55C · FC250 (~750N/mm ²)		合金钢·合金工具钢 Alloy Steel · Tool Steel SCM · SKS · SKD (~30HRC)		预硬钢·淬硬钢 Prehardened Steel · Hardened Steel PX5 · NAK80 (30 ~ 45HRC)		不锈钢 Stainless Steel SUS304 · SUS420 (≤200HB)		析出硬化体不锈钢 Precipitation Stainless Steel SUS630		钛合金 Titanium Alloy Ti-6Al-4V	
切削速度 Cutting Speed (m/min)	100		90		80		70		70		60	
外径 Mill Dia. (mm)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)
3	10,600	960	9,600	610	8,500	460	7,400	310	7,400	330	6,400	310
4	8,000	1,060	7,200	650	6,400	480	5,600	350	5,600	360	4,800	340
5	6,400	1,150	5,700	690	5,100	540	4,500	370	4,500	370	3,800	340
6	5,300	1,190	4,800	870	4,200	630	3,700	420	3,700	380	3,200	360
8	4,000	1,020	3,600	870	3,200	620	2,800	400	2,800	300	2,400	280
10	3,200	960	2,900	780	2,500	530	2,200	380	2,200	280	1,900	270
12	2,700	810	2,400	720	2,100	440	1,900	360	1,900	280	1,600	250
切削深度 Depth of Cut	a_p						a_e					
	1D						0.2D					

钻削 Plunging

加工材料 Work Material	一般构造用钢·碳素钢·铸铁 Mild Steel · Carbon Steel · Cast Iron SS400 · S55C · FC250 (~750N/mm ²)		合金钢·合金工具钢 Alloy Steel · Tool Steel SCM · SKS · SKD (~30HRC)		预硬钢·淬硬钢 Prehardened Steel · Hardened Steel PX5 · NAK80 (30 ~ 45HRC)		不锈钢 Stainless Steel SUS304 · SUS420 (≤200HB)		析出硬化体不锈钢 Precipitation Stainless Steel SUS630		钛合金 Titanium Alloy Ti-6Al-4V	
切削速度 Cutting Speed (m/min)	100		70		60		60		50		50	
外径 Mill Dia. (mm)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)	转速 Speed (min ⁻¹)	进给速度 Feed (mm/min)
3	10,600	250	7,400	115	6,400	110	6,400	110	5,300	60	5,300	60
4	8,000	250	5,600	115	4,800	110	4,800	110	4,000	60	4,000	60
5	6,400	285	4,500	120	3,800	110	3,800	110	3,200	65	3,200	65
6	5,300	320	3,700	120	3,200	110	3,200	110	2,700	70	2,700	70
8	4,000	300	2,800	110	2,400	100	2,400	100	2,000	65	2,000	65
10	3,200	290	2,200	105	1,900	95	1,900	95	1,600	60	1,600	60
12	2,700	275	1,900	100	1,600	90	1,600	90	1,300	55	1,300	55
切削深度 Depth of Cut	a_p ≤0.5D											

- 请使用高刚性，高精度的机械、刀柄。
- 转速是通过基准切削速度的中央值计算出的。请根据工件的夹力，机械的刚性等使用情况进行转速、进给速度的调整。
- 请使用适应加工材料，发烟量少的切削油剂。
- 干式加工情况下，为了不造成切屑阻塞，请使用气冷方式除去切屑。
- 加工不锈钢、析出硬化体不锈钢、钛合金，推荐使用水溶性切削油剂。
- 对加工精度有要求的情况下，请适当下调转速，进给速度及切削深度。

- Use a rigid and precise machine and holder.
- The rotational speed is calculated by the median of the recommended cutting speed. Adjustment may be necessary depending on the rigidity of the workpiece fixture and machine.
- Please use a suitable fluid with high smoke retardant properties.
- During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
- Please use water-soluble coolant when machining stainless steel, precipitation stainless steel, titanium alloy.
- Reduce speed and feed as well as depth of cut when high precision is required.



AE-VMSS 硬质合金抗振铣刀 超短刃 直角型

Anti-Vibration Stub Carbide End Mill Right Angle Type

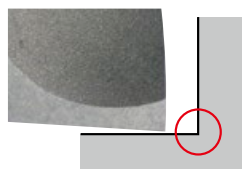
- 需要完全垂直的直角的场合，请使用直角型！
Choose the right angle type for milling straight corners!

产品系列 Lineup

$\phi 1 \sim \phi 6$

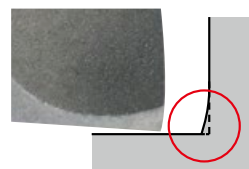


直角型
Right Angle Type
AE-VMSS(-RA)



无切削残余的直角
Straight corners with no uncut residue

平头型
Square Type
AE-VTSS



扫一扫了解详情
Scan for details

Phoenix PSE 方肩铣刀系列 自动车床对应型

Shoulder Cutter Series Compatible with Sliding Head Lathes

OSG PHOENIX

- 适用于自动车床的形状
Tool geometry suitable for sliding head lathes

产品系列 Lineup

$\phi 10 \sim \phi 25$



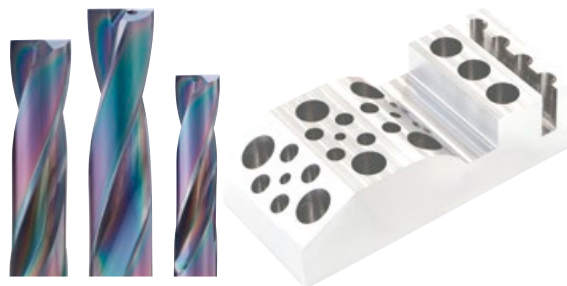
ADF 硬质合金平头钻

Carbide Flat Drill

- 也可对应小径孔加工
Also supports small diameter drilling

产品系列 Lineup

ADF-2D : $\phi 0.2 \sim \phi 20$ ADF-NC : $\phi 2 \sim \phi 12$
ADFO-3D : $\phi 3 \sim \phi 20$ ADFO-NC : $\phi 3 \sim \phi 10$
ADFSL-2D : $\phi 3 \sim \phi 20$



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