GESAC®

切削刀具新产品

NEW CUTTING TOOLS PRODUCTS

G-PAK19.1

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Contents

目录

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不锈钢车削高通用性GM3220牌号

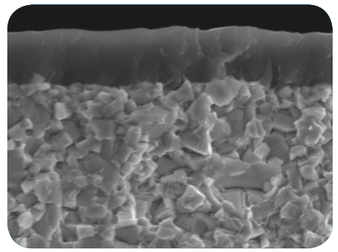
New Grade for Stainless Steel Turning with High Versatility—GM3220

- 广泛应用于阀门、管件、法兰、卫浴及通用机械行业。
  Widely used in valve、pipe fitting 、flange 、bathroom and general machinery industry.

- 全新多层纳米结构PVD涂层与高Co含量的亚微细晶硬质合金基体相结合，加上特殊的表面后处理技术，具有优异的抗积屑瘤特性、耐磨性及抗崩刃性。
  New multi-layer nanostructured PVD coating combine with micro-grain carbide substrate with high Co content and special surface treatment , providing excellent wear resistance and heat resistance ,and also can effectively inhibit built-up edge.

- 搭配不锈钢车削常用槽型，如负型SF、SM、LM、LR以及正型MM、GP，适合于连续~中等断续工况，不锈钢、软钢中低速度加工。
  Collocating with chip breakers which commonly used in ISO M, such as SF/SM/LM/LR(negative) & MM/GP(positive) series , suitable for stainless steel & soft steel in general cutting condition with medium or low speed.

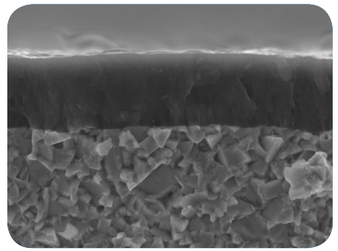
不锈钢车削PVD牌号应用一览表
Application Summary of PVD Grades for Stainless Steel



高通用性不锈钢车削PVD牌号GM3220 NEW
PVD Grade for Stainless Steel Turning with High Versatility：GM3220

• 全新多层纳米结构PVD涂层与高Co含量的亚微细晶硬质合金基体相结合，加上特殊的表面后处理技术，具有优异的抗积屑瘤特性、耐磨性及抗崩刃性。
New multi-layer nanostructured PVD coating combine with micro-grain carbide substrate with high Co content and special surface treatment , providing excellent wear resistance and heat resistance ,and also can effectively inhibit built-up edge.

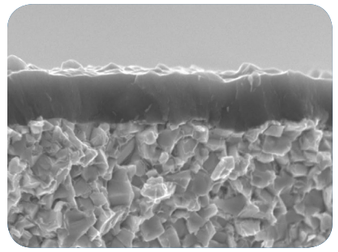
• 适合于连续~中等断续工况，不锈钢、软钢中低速度加工。
Suitable for ISO M & soft steel in general cutting condition with medium or low speed.



高抗崩性不锈钢车削PVD牌号GM3225
PVD Grade for Stainless Steel Turning with High Toughness：GM3225

• 全新纳米结构TiAlN涂层与高Co含量的亚微细晶硬质合金基体相结合，具有优异的抗崩刃性。
Optimized combination of TiAlN coating and micro-grain carbide substrate with high Co content provides excellent toughness.

• 适合于不稳定工况下不锈钢、软钢中低速度加工。
Suitable for ISO M & soft steel in unstable cutting condition with medium or low speed.



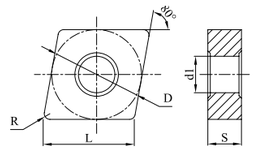
高耐磨性不锈钢车削PVD牌号GM3215
PVD Grade for Stainless Steel Turning with High Wear Resistance：GM3215

• 全新PVD TiAlN涂层与亚微细晶基体相结合，具有优异的膜基结合力、耐磨性和耐热性。
New TiAlN coating on submicron substrate with strong adhesion, superior wear resistance and good heat resistance.

• 适用于稳定工况下不锈钢、耐热合金等材料的中等速度加工。
Suitable for ISO M & S in stable cutting condition with medium speed.

车削刀片(负型)
Turning Inserts (Negative)

CN□□
菱形80°有孔
Rhombic80°,with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
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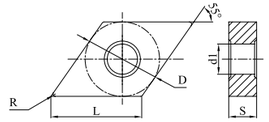
	CNMG120404-SF	12.9	12.7	4.76	5.16	0.4	●
	CNMG120408-SF	12.9	12.7	4.76	5.16	0.8	○
	CNMG090304-SM	9.7	9.525	3.18	3.81	0.4	○
	CNMG090308-SM	9.7	9.525	3.18	3.81	0.8	○
	CNMG09T304-SM	9.7	9.525	3.97	3.81	0.4	○
	CNMG09T308-SM	9.7	9.525	3.97	3.81	0.8	○
	CNMG120404-SM	12.9	12.7	4.76	5.16	0.4	●
	CNMG120408-SM	12.9	12.7	4.76	5.16	0.8	●
	CNMG120412-SM	12.9	12.7	4.76	5.16	1.2	○
	CNMG120416-SM	12.9	12.7	4.76	5.16	1.6	○
	CNMG160608-SM	16.1	15.875	6.35	6.35	0.8	○
	CNMG160612-SM	16.1	15.875	6.35	6.35	1.2	○
	CNMG160616-SM	16.1	15.875	6.35	6.35	1.6	○
	CNMG190608-SM	19.3	19.05	6.35	7.94	0.8	○
	CNMG190612-SM	19.3	19.05	6.35	7.94	1.2	○
	CNMG190616-SM	19.3	19.05	6.35	7.94	1.6	○
	CNMG120404-LM	12.9	12.7	4.76	5.16	0.4	●
	CNMG120408-LM	12.9	12.7	4.76	5.16	0.8	●
	CNMG120412-LM	12.9	12.7	4.76	5.16	1.2	○
	CNMG120408-LR	12.9	12.7	4.76	5.16	0.8	●
	CNMG120412-LR	12.9	12.7	4.76	5.16	1.2	●
	CNMG120416-LR	12.9	12.7	4.76	5.16	1.6	○
	CNMG160608-LR	16.1	15.875	6.35	6.35	0.8	○
	CNMG160612-LR	16.1	15.875	6.35	6.35	1.2	○
	CNMG190612-LR	19.3	19.05	6.35	7.94	1.2	○
	CNMG190616-LR	19.3	19.05	6.35	7.94	1.6	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(负型)
Turning Inserts (Negative)

DN□□

菱形55° 有孔
Rhombic55°,with Hole



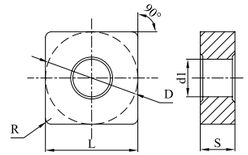
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d1	R	GM3220
	DNMG110404-SF	11.6	9.525	4.76	3.81	0.4	○
	DNMG110408-SF	11.6	9.525	4.76	3.81	0.8	○
	DNMG150404-SF	15.5	12.7	4.76	5.16	0.4	○
	DNMG150408-SF	15.5	12.7	4.76	5.16	0.8	○
	DNMG150604-SF	15.5	12.7	6.35	5.16	0.4	○
	DNMG150608-SF	15.5	12.7	6.35	5.16	0.8	○
	DNMG110404-SM	11.6	9.525	4.76	3.81	0.4	○
	DNMG110408-SM	11.6	9.525	4.76	3.81	0.8	○
	DNMG110412-SM	11.6	9.525	4.76	3.81	1.2	○
	DNMG150404-SM	15.5	12.7	4.76	5.16	0.4	●
	DNMG150408-SM	15.5	12.7	4.76	5.16	0.8	●
	DNMG150412-SM	15.5	12.7	4.76	5.16	1.2	○
	DNMG150604-SM	15.5	12.7	6.35	5.16	0.4	○
	DNMG150608-SM	15.5	12.7	6.35	5.16	0.8	○
	DNMG150612-SM	15.5	12.7	6.35	5.16	1.2	○
	DNMG110404-LM	11.6	9.525	4.76	3.81	0.4	○
	DNMG110408-LM	11.6	9.525	4.76	3.81	0.8	○
	DNMG150404-LM	15.5	12.7	4.76	5.16	0.4	●
	DNMG150408-LM	15.5	12.7	4.76	5.16	0.8	●
	DNMG150412-LM	15.5	12.7	4.76	5.16	1.2	○
	DNMG150604-LM	15.5	12.7	6.35	5.16	0.4	○
	DNMG150608-LM	15.5	12.7	6.35	5.16	0.8	○
	DNMG150612-LM	15.5	12.7	6.35	5.16	1.2	○
	DNMG150408-LR	15.5	12.7	4.76	5.16	0.8	●
	DNMG150412-LR	15.5	12.7	4.76	5.16	1.2	○
	DNMG150608-LR	15.5	12.7	6.35	5.16	0.8	○
	DNMG150612-LR	15.5	12.7	6.35	5.16	1.2	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(负型)
Turning Inserts (Negative)

SN□□

正方形90° 有孔
Square 90°,with Hole



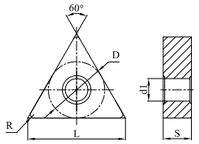
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d1	R	GM3220
	SNMG120404-SF	12.7	12.7	4.76	5.16	0.4	○
	SNMG120408-SF	12.7	12.7	4.76	5.16	0.8	○
	SNMG090304-SM	9.525	9.525	3.18	3.18	0.4	○
	SNMG090308-SM	9.525	9.525	3.18	3.18	0.8	○
	SNMG120404-SM	12.7	12.7	4.76	5.16	0.4	●
	SNMG120408-SM	12.7	12.7	4.76	5.16	0.8	●
	SNMG120412-SM	12.7	12.7	4.76	5.16	1.2	○
	SNMG120416-SM	12.7	12.7	4.76	5.16	1.6	○
	SNMG150608-SM	15.875	15.875	6.35	6.35	0.8	○
	SNMG150612-SM	15.875	15.875	6.35	6.35	1.2	○
	SNMG150616-SM	15.875	15.875	6.35	6.35	1.6	○
	SNMG190608-SM	19.05	19.05	6.35	7.94	0.8	○
	SNMG190612-SM	19.05	19.05	6.35	7.94	1.2	○
	SNMG190616-SM	19.05	19.05	6.35	7.94	1.6	○
	SNMG120404-LM	12.7	12.7	4.76	5.16	0.4	●
	SNMG120408-LM	12.7	12.7	4.76	5.16	0.8	●
	SNMG120412-LM	12.7	12.7	4.76	5.16	1.2	○
	SNMG120408-LR	12.7	12.7	4.76	5.16	0.8	●
	SNMG120412-LR	12.7	12.7	4.76	5.16	1.2	●
	SNMG150608-LR	15.875	15.875	6.35	6.35	0.8	○
	SNMG150612-LR	15.875	15.875	6.35	6.35	1.2	○
	SNMG190612-LR	19.05	19.05	6.35	7.94	1.2	○
	SNMG190616-LR	19.05	19.05	6.35	7.94	1.6	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(负型)
Turning Inserts (Negative)

TN□□

三角形60° 有孔
Triangle 60°,with Hole



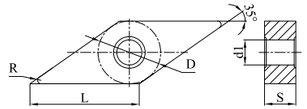
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d_1	R	GM3220
	TNMG160404-SF	16.5	9.525	4.76	3.81	0.4	●
	TNMG160408-SF	16.5	9.525	4.76	3.81	0.8	●
	TNMG160404-LF	16.5	9.525	4.76	3.81	0.4	○
	TNMG160408-LF	16.5	9.525	4.76	3.81	0.8	○
	TNMG160404-SM	16.5	9.525	4.76	3.81	0.4	●
	TNMG160408-SM	16.5	9.525	4.76	3.81	0.8	●
	TNMG160412-SM	16.5	9.525	4.76	3.81	1.2	○
	TNMG220408-SM	22	12.7	4.76	5.16	0.8	○
	TNMG220412-SM	22	12.7	4.76	5.16	1.2	○
	TNMG220416-SM	22	12.7	4.76	5.16	1.6	○
	TNMG160404-LM	16.5	9.525	4.76	3.81	0.4	●
	TNMG160408-LM	16.5	9.525	4.76	3.81	0.8	●
	TNMG160412-LM	16.5	9.525	4.76	3.81	1.2	○
	TNMG160404L-LV	16.5	9.525	4.76	3.81	0.4	●
	TNMG160404R-LV	16.5	9.525	4.76	3.81	0.4	●
	TNMG160408L-LV	16.5	9.525	4.76	3.81	0.8	●
	TNMG160408R-LV	16.5	9.525	4.76	3.81	0.8	●
	TNMG160408-LR	16.5	9.525	4.76	3.81	0.8	●
	TNMG160412-LR	16.5	9.525	4.76	3.81	1.2	○
	TNMG220408-LR	22	12.7	4.76	5.16	0.8	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(负型)
Turning Inserts (Negative)

VN□□

菱形35° 有孔
Rhombic35°,with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d_1	R	GM3220
	VNMG160404-SF	16.6	9.525	4.76	3.81	0.4	●
	VNMG160408-SF	16.6	9.525	4.76	3.81	0.8	●
	VNMG160404-SM	16.6	9.525	4.76	3.81	0.4	●
	VNMG160408-SM	16.6	9.525	4.76	3.81	0.8	●
	VNMG160404-LM	16.6	9.525	4.76	3.81	0.4	●
	VNMG160408-LM	16.6	9.525	4.76	3.81	0.8	●

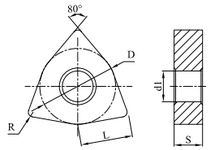
● 标准库存Stock ○ 需预定 Available Upon Order

A 车削\Turning

车削刀片(负型)
Turning Inserts (Negative)

WN□□

六边形80°有孔
Hexagon80°，with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
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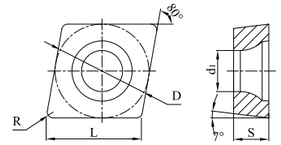
	WNMG060404-SF	6.5	9.525	4.76	3.81	0.4	○
	WNMG060408-SF	6.5	9.525	4.76	3.81	0.8	○
	WNMG080404-SF	8.7	12.7	4.76	5.16	0.4	●
	WNMG080408-SF	8.7	12.7	4.76	5.16	0.8	●
	WNMG080404-LF	8.7	12.7	4.76	5.16	0.4	○
	WNMG080408-LF	8.7	12.7	4.76	5.16	0.8	○
	WNMG060404-SM	6.5	9.525	4.76	3.81	0.4	○
	WNMG060408-SM	6.5	9.525	4.76	3.81	0.8	○
	WNMG060412-SM	6.5	9.525	4.76	3.81	1.2	○
	WNMG06T304-SM	6.5	9.525	3.97	3.81	0.4	○
	WNMG06T308-SM	6.5	9.525	3.97	3.81	0.8	○
	WNMG06T312-SM	6.5	9.525	3.97	3.81	1.2	○
	WNMG080404-SM	8.7	12.7	4.76	5.16	0.4	●
	WNMG080408-SM	8.7	12.7	4.76	5.16	0.8	●
	WNMG080412-SM	8.7	12.7	4.76	5.16	1.2	○
	WNMG060404-LM	6.5	9.525	4.76	3.81	0.4	○
	WNMG060408-LM	6.5	9.525	4.76	3.81	0.8	○
	WNMG060412-LM	6.5	9.525	4.76	3.81	1.2	○
	WNMG06T304-LM	6.5	9.525	3.97	3.81	0.4	○
	WNMG06T308-LM	6.5	9.525	3.97	3.81	0.8	○
	WNMG06T312-LM	6.5	9.525	3.97	3.81	1.2	○
	WNMG080404-LM	8.7	12.7	4.76	5.16	0.4	●
	WNMG080408-LM	8.7	12.7	4.76	5.16	0.8	●
	WNMG080412-LM	8.7	12.7	4.76	5.16	1.2	●
	WNMG080408-LR	8.7	12.7	4.76	5.16	0.8	●
	WNMG080412-LR	8.7	12.7	4.76	5.16	1.2	●

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(正型)
Turning Inserts (Positive)

CC□□

菱形80° 有孔
Rhombic80°,with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d1	R	GM3220
	CCMT060202-MM	6.5	6.35	2.38	2.8	0.2	○
	CCMT060204-MM	6.5	6.35	2.38	2.8	0.4	●
	CCMT060208-MM	6.5	6.35	2.38	2.8	0.8	●
	CCMT09T302-MM	9.7	9.525	3.97	4.4	0.2	○
	CCMT09T304-MM	9.7	9.525	3.97	4.4	0.4	●
	CCMT09T308-MM	9.7	9.525	3.97	4.4	0.8	●
	CCMT060204-GP	6.5	6.35	2.38	2.8	0.4	●
	CCMT060208-GP	6.5	6.35	2.38	2.8	0.8	●
	CCMT09T304-GP	9.7	9.525	3.97	4.4	0.4	●
	CCMT09T308-GP	9.7	9.525	3.97	4.4	0.8	●
	CCMT120404-GP	12.9	12.7	4.76	5.56	0.4	○
	CCMT120408-GP	12.9	12.7	4.76	5.56	0.8	○

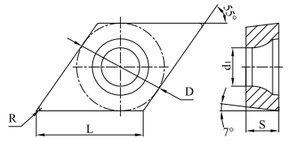
● 标准库存Stock ○ 需预定 Available Upon Order

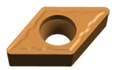
A 车削\Turning

车削刀片(正型)
Turning Inserts (Positive)

DC□□

菱形55° 有孔
Rhombic55°,with Hole



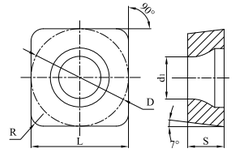
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d1	R	GM3220
	DCMT070202-MM	7.8	6.35	2.38	2.8	0.2	○
	DCMT070204-MM	7.8	6.35	2.38	2.8	0.4	●
	DCMT070208-MM	7.8	6.35	2.38	2.8	0.8	●
	DCMT11T302-MM	11.6	9.525	3.97	4.4	0.2	○
	DCMT11T304-MM	11.6	9.525	3.97	4.4	0.4	●
	DCMT11T308-MM	11.6	9.525	3.97	4.4	0.8	●
	DCMT070204-GP	7.8	6.35	2.38	2.8	0.4	○
	DCMT070208-GP	7.8	6.35	2.38	2.8	0.8	○
	DCMT11T304-GP	11.6	9.525	3.97	4.4	0.4	●
	DCMT11T308-GP	11.6	9.525	3.97	4.4	0.8	●
	DCMT11T312-GP	11.6	9.525	3.97	4.4	1.2	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(正型)
Turning Inserts (Positive)

SC□□

正方形90° 有孔
Square90°,with Hole



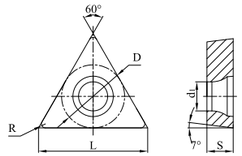
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d1	R	GM3220
	SCMT09T304-MM	9.525	9.525	3.97	4.4	0.4	○
	SCMT09T308-MM	9.525	9.525	3.97	4.4	0.8	○
	SCMT09T304-GP	9.525	9.525	3.97	4.4	0.4	○
	SCMT09T308-GP	9.525	9.525	3.97	4.4	0.8	○
	SCMT120404-GP	12.7	12.7	4.76	5.56	0.4	○
	SCMT120408-GP	12.7	12.7	4.76	5.56	0.8	○

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(正型)
Turning Inserts (Positive)

TC□□

菱形55° 有孔
Rhombic55°,with Hole



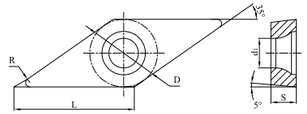
订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d_1	R	GM3220
	TCMT110202-MM	11	6.35	2.38	2.8	0.2	○
	TCMT110204-MM	11	6.35	2.38	2.8	0.4	●
	TCMT110208-MM	11	6.35	2.38	2.8	0.8	●
	TCMT16T304-MM	16.5	9.525	3.97	4.4	0.4	●
	TCMT16T308-MM	16.5	9.525	3.97	4.4	0.8	●
	TCMT110204-GP	11	6.35	2.38	2.8	0.4	○
	TCMT110208-GP	11	6.35	2.38	2.8	0.8	●
	TCMT16T304-GP	16.5	9.525	3.97	4.4	0.4	○
	TCMT16T308-GP	16.5	9.525	3.97	4.4	0.8	●

● 标准库存Stock ○ 需预定 Available Upon Order

车削刀片(正型)
Turning Inserts (Positive)

VB□□

菱形35° 有孔
Rhombic35°,with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d_1	R	GM3220
	VBMT110304-MM	11.2	6.35	3.18	2.8	0.4	○
	VBMT110308-MM	11.2	6.35	3.18	2.8	0.8	○
	VBMT160402-MM	16.6	9.525	4.76	4.4	0.2	○
	VBMT160404-MM	16.6	9.525	4.76	4.4	0.4	●
	VBMT160408-MM	16.6	9.525	4.76	4.4	0.8	●
	VBMT160404-GP	16.6	9.525	4.76	4.4	0.4	○
	VBMT160408-GP	16.6	9.525	4.76	4.4	0.8	●

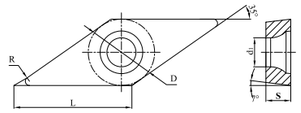
● 标准库存Stock ○ 需预定 Available Upon Order

A 车削 \ Turning

车削刀片(正型)
Turning Inserts (Positive)

VC□□

菱形35° 有孔
Rhombic35°,with Hole



订货号 Ordering code		尺寸 Dimension(mm)					涂层硬质合金 Coated
		L	D	S	d_1	R	GM3220
	VCMT110304-GP	11.2	6.35	3.18	2.8	0.4	○
	VCMT110308-GP	11.2	6.35	3.18	2.8	0.8	○
	VCMT160404-GP	16.6	9.525	4.76	4.4	0.4	○
	VCMT160408-GP	16.6	9.525	4.76	4.4	0.8	○

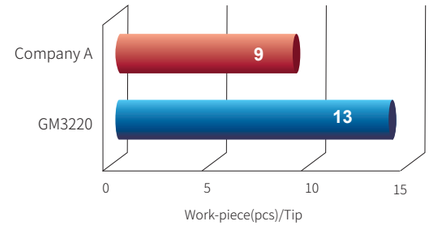
● 标准库存Stock ○ 需预定 Available Upon Order

加工案例
Application cases

不锈钢螺帽加工
Stainless steel nut

刀片型号 Tool type	WNMG080408-LM
刀具牌号 Grade	GM3220
加工材料 Workpiece	SUS 316L
切削速度 Vc	185m/min
进给量 f	0.13mm/r
切深 ap	0.5mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	外圆+端面连续切削 continuous turning of external circle & end face.

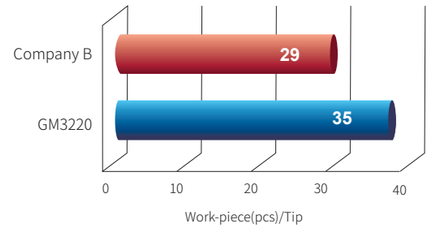
耐磨 Wear-resistance +40%



不锈钢法兰加工
Stainless steel flange

刀片型号 Tool type	CNMG120408-LR
刀具牌号 Grade	GM3220
加工材料 Workpiece	SUS 304
切削速度 Vc	85~150m/min
进给量 f	0.32mm/r
切深 ap	0.8mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	端面连续+强断续车削 Continuous & interrupted turning of end face.

抗崩 Toughness +20%



加工案例
Application cases

不锈钢管接头加工
Stainless steel pipe joint

刀片型号 Tool type	端面 end face：WNMG080408-LM 内孔 internal circle：CCMT09T308-MM
刀具牌号 Grade	GM3220
加工材料 Workpiece	SUS 304
切削速度 Vc	端面 end face：28~60m/min 内孔 internal circle：46m/min
进给量 f	端面 end face：0.15mm/r 内孔 internal circle：0.12mm/r
切深 ap	端面end face：2.5mm 内孔internal circle：0.8mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	端面+内孔连续车削 Continuous turning of end face & internal circle.

推荐切削参数
Recommended Cutting Data

负型刀片
Negative Inserts

ISO	被加工材料 Workpiece materials	硬度 Hardness	切削范围 Application range	用途 Application	断屑槽 Chip Breaker	牌号 Grade	下限-推荐-上限 Min-Optimum-Max 切削速度 Cutting Speed Vc(m/min)	切深 Depth of Cut ap(mm)	进给量 Feed rate f(mm/r)
M	马氏体 铁素体 SUS410 SUS430	≤HB230	精加工 Finishing	稳定切削 Continuous	SF	GS3115	120-190-250	0.10-0.80-1.50	0.08-0.10-0.20
				一般切削 General		GM3220	100-150-200	0.10-0.80-1.50	0.08-0.12-0.25
			半精加工 Semi-finishing	稳定切削 Continuous	SM	GM3215	120-160-200	1.00-2.00-3.00	0.15-0.20-0.30
				一般切削 General		GM3220	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
				不稳定切削 Interruption		GM3225	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
				稳定切削 Continuous	LM	GM3215	120-160-200	0.80-1.80-3.50	0.08-0.18-0.30
				一般切削 General		GM3220	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40
				不稳定切削 Interruption		GM3225	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40
			粗加工 Roughing	稳定切削 Continuous	LR	GM3215	120-160-200	1.50-3.00-5.00	0.15-0.25-0.40
				一般切削 General		GM3220	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50
				不稳定切削 Interruption		GM3225	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50
	奥氏体 SUS201 SUS304 SUS316	≤HB250	精加工 Finishing	稳定切削 Continuous	SF	GS3115	120-160-200	0.10-0.80-1.50	0.08-0.10-0.20
				一般切削 General		GM3220	80-130-180	0.10-0.80-1.50	0.08-0.12-0.25
			半精加工 Semi-finishing	稳定切削 Continuous	SM	GM3215	100-130-160	1.00-2.00-3.00	0.15-0.20-0.30
				一般切削 General		GM3220	60-110-150	1.00-2.00-3.00	0.15-0.20-0.35
				不稳定切削 Interruption		GM3225	60-110-150	1.00-2.00-3.00	0.15-0.20-0.35
				稳定切削 Continuous	LM	GM3215	100-130-160	0.80-1.80-3.50	0.08-0.18-0.30
				一般切削 General		GM3220	60-110-150	0.80-1.80-3.50	0.08-0.20-0.40
				不稳定切削 Interruption		GM3225	60-110-150	0.80-1.80-3.50	0.08-0.20-0.40
			粗加工 Roughing	稳定切削 Continuous	LR	GM3215	100-130-160	1.50-3.00-5.00	0.15-0.25-0.40
				一般切削 General		GM3220	60-110-150	1.50-3.00-5.00	0.15-0.30-0.50
				不稳定切削 Interruption		GM3225	60-110-150	1.50-3.00-5.00	0.15-0.30-0.50

A 车削\Turning

推荐切削参数
Recommended Cutting Data

负型刀片
Negative Inserts

ISO	被加工材料 Workpiece materials	硬度 Hardness	切削范围 Application range	用途 Application	断屑槽 Chip Breaker	牌号 Grade	下限-推荐-上限 Min-Optimum-Max		
							切削速度 Cutting Speed Vc(m/min)	切深 Depth of Cut ap(mm)	进给量 Feed rate f(mm/r)
P	软钢 Soft steel 10#/20#	≤HB230	半精加工 Semi-finishing	稳定切削 Continuous	SM	GM3215	120-160-200	1.00-2.00-3.00	0.15-0.20-0.30
				一般切削 General		GM3220	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
				不稳定切削 Interruption		GM3225	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
				稳定切削 Continuous	LM	GM3215	120-160-200	0.80-1.80-3.50	0.08-0.18-0.30
				一般切削 General		GM3220	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40
				不稳定切削 Interruption		GM3225	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40
			粗加工 Roughing	稳定切削 Continuous	LR	GM3215	120-160-200	1.50-3.00-5.00	0.15-0.25-0.40
				一般切削 General		GM3220	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50
				不稳定切削 Interruption		GM3225	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50

推荐切削参数
Recommended Cutting Data

正型刀片
Positive Inserts

ISO	被加工材料 Workpiece materials	硬度 Hardness	切削范围 Application range	用途 Application	断屑槽 Chip Breaker	牌号 Grade	下限-推荐-上限 Min-Optimum-Max		
							切削速度 Cutting Speed Vc(m/min)	切深 Depth of Cut ap(mm)	进给量 Feed rate f(mm/r)
M	马氏体 铁素体 SUS410 SUS430	≤HB230	精-半精加工 Finishing to Semi-finishing	稳定切削 Continuous	MM	GM3215	60-100-160	0.50-0.70-1.50	0.05-0.10-0.15
				一般切削 General		GM3220	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
				不稳定切削 Interruption		GM3225	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
			半精-粗加工 Semi-finishing to Roughing	稳定切削 Continuous	GP	GM3215	60-100-160	0.40-1.00-2.50	0.07-0.12-0.25
				一般切削 General		GM3220	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30
				不稳定切削 Interruption		GM3225	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30
	奥氏体 SUS201 SUS304 SUS316	≤HB250	精-半精加工 Finishing to Semi-finishing	稳定切削 Continuous	MM	GM3215	50-90-150	0.50-0.70-1.50	0.05-0.10-0.15
				一般切削 General		GM3220	40-70-140	0.50-0.70-1.50	0.05-0.10-0.20
				不稳定切削 Interruption		GM3225	40-70-140	0.50-0.70-1.50	0.05-0.10-0.20
			半精-粗加工 Semi-finishing to Roughing	稳定切削 Continuous	GP	GM3215	50-90-150	0.40-1.00-2.50	0.07-0.12-0.25
				一般切削 General		GM3220	40-70-140	0.40-1.00-2.50	0.07-0.12-0.30
				不稳定切削 Interruption		GM3225	40-70-140	0.40-1.00-2.50	0.07-0.12-0.30
P	软钢 Soft steel 10#/20#	≤HB230	精-半精加工 Finishing to Semi-finishing	稳定切削 Continuous	MM	GM3215	60-100-160	0.50-0.70-1.50	0.05-0.10-0.15
				一般切削 General		GM3220	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
				不稳定切削 Interruption		GM3225	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
			半精-粗加工 Semi-finishing to Roughing	稳定切削 Continuous	GP	GM3215	60-100-160	0.40-1.00-2.50	0.07-0.12-0.25
				一般切削 General		GM3220	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30
				不稳定切削 Interruption		GM3225	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30

A 车削 \ Turning

A

淬火钢车削涂层PCBN刀片-BHC100系列

New Coated Grade for Hardened steel Turning Inserts —BHC100 series

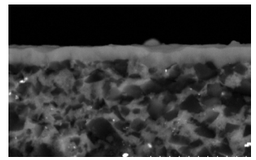
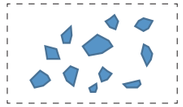
- 广泛应用于齿轮、轴承、传动轴、万向节等零件加工。
  Widely used in gear, bearing, shaft and CVJ.
- 抑制沟槽磨损，稳定实现优良的表面粗糙度的新型TiAlN涂层。
  Reduces notch wear and stably achieves excellent surface by employing a newly developed TiAlN coated.
- 搭配不同的刃口形式，如锋利刃型L、标准刃型M，强壮刃型H，适合于HRC50以上的淬火钢连续~断续工况加工。
  BHC100 Collocating with different Edge, such as L type for Continuous Turning, M type for General-purpose, H type for Heavy Interrupted Turning, suitable for above HRC50 Hardened steel in general cutting condition.

BHC100系列车削牌号应用一览表

Application Summary of BHC100 Grades for Hardened steel

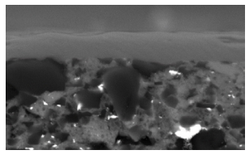
淬火钢连续车削涂层PCBN牌号 BHC115P NEW

PVD Grade for Hardened steel Continuous Turning：BHC115P

	AlTiN层 AlTiN层	最新AlTiN⁺涂层。 Newly developed TiAlN⁺ coated. 优异的耐热性及耐氧化性。 Excellent heat resistance and oxidation resistance.
		细晶CBN基体。 Fine grain CBN substrate. 优异的耐磨性与红硬性。 High wear resistant and red hardness.

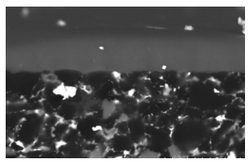
淬火钢通用车削涂层PCBN牌号 BHC125P NEW

PVD Grade for Hardened steel General-purpose：BHC125P

	AlTiN层 AlTiN层	最新AlTiN⁺涂层。 Newly developed TiAlN⁺ coated. 优异的耐热性及耐氧化性 Excellent heat resistance and oxidation resistance.
		混晶CBN基体。 Multi-modal grained CBN substrate. 兼具耐磨性与抗冲击性能。 Superior toughness and greatly improved wear resistance.

淬火钢强断续车削涂层PCBN牌号 BHC135P NEW

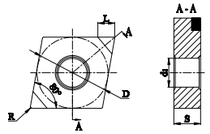
PVD Grade for Hardened steel Heavy Interrupted Turning：BHC135P

	AlTiN层 AlTiN层	最新AlTiN⁺涂层。 Newly developed TiAlN⁺ coated. 优异的耐热性及耐氧化性 Excellent heat resistance and oxidation resistance.
		高含量CBN基体。 High-content CBN substrate. 优异的抗冲击性及化学稳定性。 Superior impact resistance and chemical stability.

PCBN车削刀片(负型)
PCBN Turning Inserts (Negative)

CNGA

菱形80°有孔
Rhombic80°,with Hole

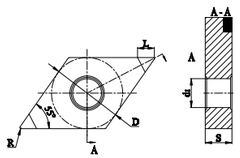


订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
CNGA120404L-2	2	2.2	12.7	4.76	5.16	0.4	●	○	○
CNGA120404M-2	2	2.2	12.7	4.76	5.16	0.4	●	●	○
CNGA120408L-2	2	2.2	12.7	4.76	5.16	0.8	○	○	○
CNGA120408M-2	2	2.2	12.7	4.76	5.16	0.8	●	●	●
CNGA120408H-2	2	2.2	12.7	4.76	5.16	0.8	●	●	●
CNGA120412M-2	2	2.2	12.7	4.76	5.16	1.2	●	●	●

● 标准库存Stock ○ 需预定 Available Upon Order

DNGA

菱形55°有孔
Rhombic55°,with Hole



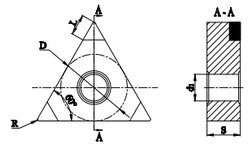
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
DNGA150404L-2	2	2.2	12.7	4.76	5.16	0.4	●	○	○
DNGA150404M-2	2	2.2	12.7	4.76	5.16	0.4	○	●	○
DNGA150408L-2	2	2.2	12.7	4.76	5.16	0.8	●	○	○
DNGA150408M-2	2	2.2	12.7	4.76	5.16	0.8	○	●	○
DNGA150412M-2	2	2.2	12.7	4.76	5.16	1.2	○	○	○
DNGA150604M-2	2	2.2	12.7	6.35	5.16	0.4	○	○	○
DNGA150608M-2	2	2.2	12.7	6.35	5.16	0.8	○	○	○
DNGA150612M-2	2	2.2	12.7	6.35	5.16	1.2	○	○	○

● 标准库存Stock ○ 需预定 Available Upon Order

PCBN车削刀片(负型)
PCBN Turning Inserts (Negative)

TNGA

三角形60° 有孔
Triangle 60°,with Hole

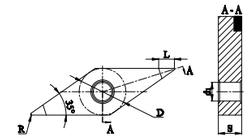


订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
TNGA160404L-3	3	2.2	9.525	4.76	3.81	0.4	●	○	○
TNGA160404M-3	3	2.2	9.525	4.76	3.81	0.4	●	●	○
TNGA160408L-3	3	2.2	9.525	4.76	3.81	0.8	●	●	○
TNGA160408M-3	3	2.2	9.525	4.76	3.81	0.8	●	●	●
TNGA160408H-3	3	2.2	9.525	4.76	3.81	0.8	○	●	○
TNGA160412M-3	3	2.2	9.525	4.76	3.81	1.2	○	○	○
TNGA160416H-3	3	2.2	9.525	4.76	3.81	1.6	○	○	●

● 标准库存Stock ○ 需预定 Available Upon Order

VNGA

菱形35° 有孔
Rhombic35°,with Hole



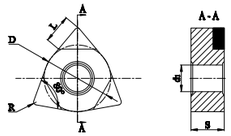
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
VNGA160404L-2	2	2.2	9.525	4.76	3.81	0.4	○	○	○
VNGA160404M-2	2	2.2	9.525	4.76	3.81	0.4	○	●	●
VNGA160408L-2	2	2.2	9.525	4.76	3.81	0.8	●	○	○
VNGA160408M-2	2	2.2	9.525	4.76	3.81	0.8	○	●	●
VNGA160412M-2	2	2.2	9.525	4.76	3.81	1.2	●	○	○

● 标准库存Stock ○ 需预定 Available Upon Order

PCBN车削刀片(负型)
PCBN Turning Inserts (Negative)

WNGA

六边形80° 有孔
Hexagon80°，with Hole



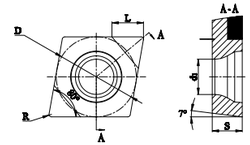
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
WNGA080404L-3	3	2.2	12.7	4.76	3.81	0.4	○	○	○
WNGA080404M-3	3	2.2	12.7	4.76	3.81	0.4	○	●	○
WNGA080408L-3	3	2.2	12.7	4.76	3.81	0.8	○	○	○
WNGA080408M-3	3	2.2	12.7	4.76	3.81	0.8	○	○	●
WNGA080408H-3	3	2.2	12.7	4.76	3.81	0.8	○	●	○
WNGA080412M-3	3	2.2	12.7	4.76	3.81	1.2	○	○	○

● 标准库存Stock ○ 需预定 Available Upon Order

PCBN车削刀片(正型)
PCBN Turning Inserts (Positive)

CCGW

菱形80°有孔
Rhombic80°,with Hole

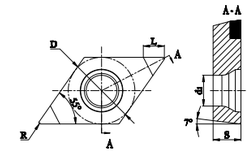


订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
CCGW060202L-2	2	2	6.35	2.38	2.8	0.2	○	○	○
CCGW060204L-2	2	2	6.35	2.38	2.8	0.4	●	●	○
CCGW060204M-2	2	2	6.35	2.38	2.8	0.4	○	○	○
CCGW060208L-2	2	2	6.35	2.38	2.8	0.8	○	○	○
CCGW060208M-2	2	2	6.35	2.38	2.8	0.8	●	○	○
CCGW09T302L-2	2	2	9.525	3.97	4.4	0.2	○	○	○
CCGW09T304L-2	2	2	9.525	3.97	4.4	0.4	●	○	○
CCGW09T304M-2	2	2	9.525	3.97	4.4	0.4	○	●	●
CCGW09T308L-2	2	2	9.525	3.97	4.4	0.8	○	○	○
CCGW09T308M-2	2	2	9.525	3.97	4.4	0.8	●	●	●
CCGW09T308H-2	2	2	9.525	3.97	4.4	0.8	○	●	○

● 标准库存Stock ○ 需预定 Available Upon Order

DCGW

菱形55°有孔
Rhombic55°,with Hole



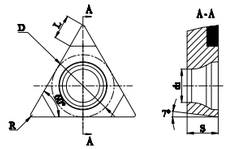
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
DCGW070202L-2	2	2	6.35	2.38	2.8	0.2	○	●	○
DCGW070204L-2	2	2	6.35	2.38	2.8	0.4	●	●	○
DCGW070204M-2	2	2	6.35	2.38	2.8	0.4	○	○	○
DCGW070208L-2	2	2	6.35	2.38	2.8	0.8	○	○	○
DCGW070208M-2	2	2	6.35	2.38	2.8	0.8	○	○	○
DCGW11T302L-2	2	2	9.525	3.97	4.4	0.2	○	○	○
DCGW11T304L-2	2	2	9.525	3.97	4.4	0.4	○	○	○
DCGW11T304M-2	2	2	9.525	3.97	4.4	0.4	●	●	●
DCGW11T308L-2	2	2	9.525	3.97	4.4	0.8	○	○	○
DCGW11T308M-2	2	2	9.525	3.97	4.4	0.8	●	●	●

● 标准库存Stock ○ 需预定 Available Upon Order

PCBN车削刀片(正型)
PCBN Turning Inserts (Positive)

TCGW

三角形60° 有孔
Triangle60°,with Hole

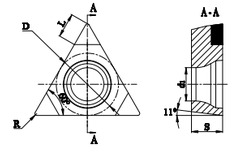


订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
TCGW110302L-3	3	2	6.35	3.18	3.4	0.2	○	○	○
TCGW110304L-3	3	2	6.35	3.18	3.4	0.4	○	○	○
TCGW110304M-3	3	2	6.35	3.18	3.4	0.4	○	●	○
TCGW110308L-3	3	2	6.35	3.18	3.4	0.8	○	○	○
TCGW110308M-3	3	2	6.35	3.18	3.4	0.8	○	○	○

● 标准库存Stock ○ 需预定 Available Upon Order

TPGW

三角形60° 有孔
Triangle60°,with HoleCoated PCBN



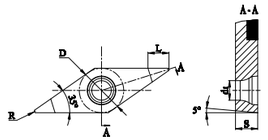
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
TPGW080202L-1	1	2	4.76	2.38	2.3	0.2	○	○	○
TPGW080204L-1	1	2	4.76	2.38	2.3	0.4	○	○	○
TPGW080208L-1	1	2	4.76	2.38	2.3	0.8	○	○	○
TPGW090202L-3	3	2	5.56	2.38	2.8	0.2	○	○	○
TPGW090204L-3	3	2	5.56	2.38	2.8	0.4	○	●	○
TPGW090208L-3	3	2	5.56	2.38	2.8	0.8	○	○	○
TPGW110202L-3	3	2	6.35	2.38	2.8	0.2	○	○	○
TPGW110204L-3	3	2	6.35	2.38	2.8	0.4	○	○	○
TPGW110208M-3	3	2	6.35	2.38	2.8	0.8	○	○	○
TPGW110302L-3	3	2	6.35	3.18	3.4	0.2	○	○	○
TPGW110304L-3	3	2	6.35	3.18	3.4	0.4	○	○	○
TPGW110304M-3	3	2	6.35	3.18	3.4	0.4	○	○	○
TPGW110308L-3	3	2	6.35	3.18	3.4	0.8	●	●	○
TPGW110308M-3	3	2	6.35	3.18	3.4	0.8	○	○	○

● 标准库存Stock ○ 需预定 Available Upon Order

PCBN车削刀片(正型)
PCBN Turning Inserts (Positive)

VBGW

菱形35° 有孔
Rhombic35°,with Hole

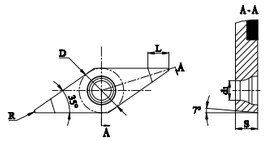


订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
VBGW110302L-2	2	2	6.35	3.18	2.8	0.2	○	○	○
VBGW110304L-2	2	2	6.35	3.18	2.8	0.4	○	●	○
VBGW110308L-2	2	2	6.35	3.18	2.8	0.8	○	●	○
VBGW110308M-2	2	2	6.35	3.18	2.8	0.8	○	○	○
VBGW160402L-2	2	2	9.525	4.76	4.4	0.2	○	○	○
VBGW160404L-2	2	2	9.525	4.76	4.4	0.4	○	○	○
VBGW160408L-2	2	2	9.525	4.76	4.4	0.8	○	○	○
VBGW160408M-2	2	2	9.525	4.76	4.4	0.8	●	●	○

● 标准库存Stock ○ 需预定 Available Upon Order

VCGW

菱形35° 有孔
Rhombic35°,with Hole



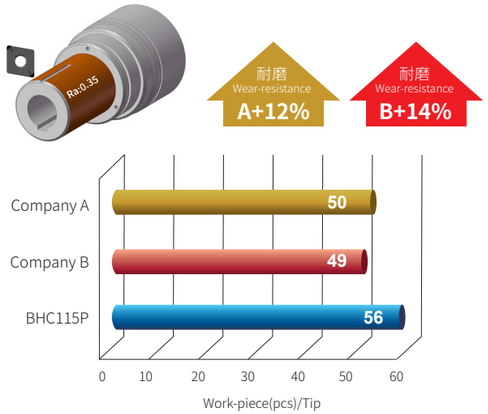
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					PCBN牌号 Coated PCBN		
		L	D	S	d1	R	BHC115P	BHC125P	BHC135P
VCGW110302L-2	2	2	6.35	3.18	2.8	0.2	○	○	○
VCGW110304L-2	2	2	6.35	3.18	2.8	0.4	○	○	○
VCGW110308L-2	2	2	6.35	3.18	2.8	0.8	○	○	○
VCGW110308M-2	2	2	6.35	3.18	2.8	0.8	○	○	○
VCGW160402L-2	2	2	9.525	4.76	4.4	0.2	○	○	○
VCGW160404L-2	2	2	9.525	4.76	4.4	0.4	○	○	○
VCGW160408L-2	2	2	9.525	4.76	4.4	0.8	○	○	○
VCGW160408M-2	2	2	9.525	4.76	4.4	0.8	○	●	○

● 标准库存Stock ○ 需预定 Available Upon Order

加工案例
Application cases

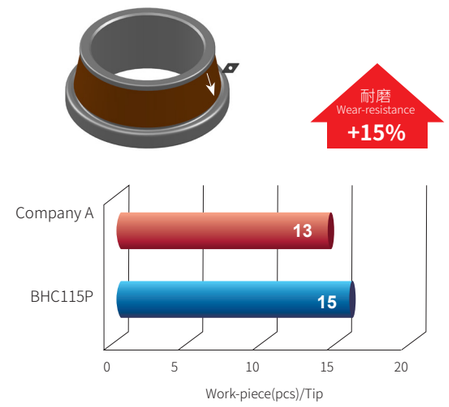
变速档齿轮合件
Variable Gear

刀片型号 Tool type	CNGA120404LS-2
刀具牌号 Grade	BHC115P
加工材料 Workpiece	SAE8620H（HRC58~62）
切削速度 Vc	141m/min
进给量 f	0.06mm/r
切深 ap	0.1mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	外圆轻断续精加工 Little Interrupted Turning of external circle.



重工轴承支撑
Bearing base of Heavy industry

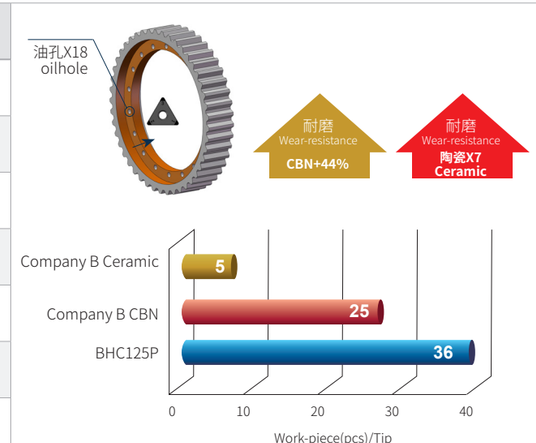
刀片型号 Tool type	DNGA150412HS-2
刀具牌号 Grade	BHC115P
加工材料 Workpiece	40Cr（HRC56）
切削速度 Vc	173m/min
进给量 f	0.12mm/r
切深 ap	0.2~0.6mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	外圆连续精加工。 Continuous turning of external circle.



加工案例
Application cases

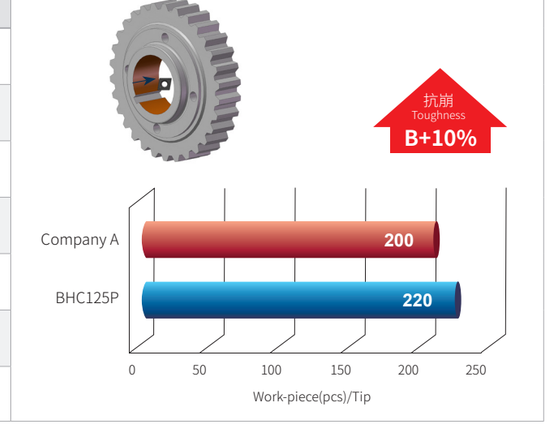
齿圈
Gear Ring

刀片型号 Tool type	TNGA160408H-3
刀具牌号 Grade	BHC125P
加工材料 Workpiece	20CrMnTiH（HRC62）
切削速度 Vc	198m/min
进给量 f	0.1mm/r
切深 ap	0.3~0.5mm
冷却方式 Cooling	干切 Dry
加工方式 Cutting method	内孔（D256/238）连续、端面断续精加工 Continuous turning of internal circle and Interrupted Turning of end face.



一档从动齿轮
Driven Gear

刀片型号 Tool type	CCGW09T308H-2
刀具牌号 Grade	BHC125P
加工材料 Workpiece	20CrMnTi（HRC60）
切削速度 Vc	112m/min
进给量 f	0.09mm/r
切深 ap	0.1mm
冷却方式 Cooling	湿切 Wet
加工方式 Cutting method	内孔断续精加工。 Interrupted Turning of internal circle.

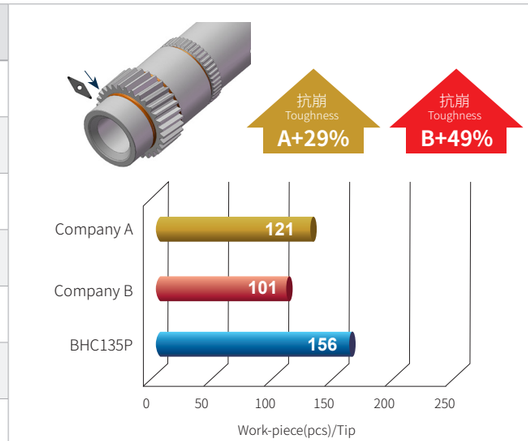


A 车削 \ Turning

加工案例
Application cases

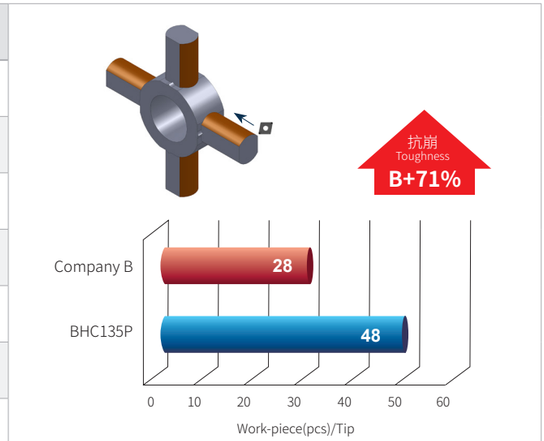
输入轴
Input shaft

刀片型号 Tool type	VNGA160404M-2
刀具牌号 Grade	BHC135P
加工材料 Workpiece	20CrMnTiH（HRC60）
切削速度 Vc	106m/min
进给量 f	0.08mm/r
切深 ap	0.12mm
冷却方式 Cooling	干切 dry
加工方式 Cutting method	外圆强断续精加工 Heavy interrupted Turning of external circle.



十字轴
Cross Axle

刀片型号 Tool type	CNGA120408MT-2
刀具牌号 Grade	BHC135P
加工材料 Workpiece	20CrMn5（HRC58~62）
切削速度 Vc	136m/min
进给量 f	0.09mm/r
切深 ap	0.2mm
冷却方式 Cooling	干切 dry
加工方式 Cutting method	外圆强断续精加工 Heavy interrupted Turning of external circle.



推荐切削参数
Recommended Cutting Data

正型刀片
Positive Inserts

ISO	被加工材料 Workpiece materials	硬度 Hardness	切削范围 Application range	用途 Application	断屑槽 Chip Breaker	牌号 Grade	下限-推荐-上限 Min-Optimum-Max 切削速度 Cutting Speed Vc(m/min)	切深 Depth of Cut ap(mm)	进给量 Feed rate f(mm/r)
K	灰铸铁 Gray Cast Iron	HB200~230	精加工 Finishing	通用 General	/	BKN115P	400-600-1500	0.05-0.20-0.50	0.05-0.20-0.40
K	合金铸铁 Alloy Cast Iron	≥HB200	精加工 Finishing	通用 General	/	BKN115P	200-400-800	0.05-0.20-0.50	0.05-0.20-0.40
K	球墨铸铁 Nodular Cast Iron	QT450~QT700	精加工 Finishing	通用 General	/	BKC120P	150-300-500	0.10-0.20-0.50	0.05-0.12-0.3
S	粉末冶金 Power Material	HRB50~90	精加工 Finishing	连续 Continuous	/	BKN115P	50-150-300	0.05-0.20-0.5	0.05-0.12-0.30
H	高硬度材料 Hardened steel	≥HRC50	精加工 Finishing	连续 Continuous	/	BHC115P	120-150-220	0.05-0.10-0.20	0.05-0.10-0.20
H	高硬度材料 Hardened steel	≥HRC50	精-粗加工 Finishing to Roughing	通用 General	/	BHC125P	100-130-180	0.05-0.10-0.50	0.05-0.10-0.20
H	高硬度材料 Hardened steel	≥HRC50	精-半精加工 Finishing to Semi-finishing	断续 Interruption	/	BHC135P	80-100-150	0.05-0.10-0.40	0.05-0.10-0.20

B

【QTD+MBA100】

高精度球头铣削刀具
High Precision Ball Nose Milling Tools

- 高精度：刀具安装R精度±0.01mm。
  High precision :R accuracy:±0.01mm.
- 低切削阻力：S曲线刃型设计，最大限度降低切削阻力。
  Low cutting force : helical edge design can significantly reduce cutting force.
- 长寿命：高强度刃口设计搭配特殊刃口处理，实现超长寿命。
  Long Tool Life: cutting edge with high strength structure and special edge treatment contribute to long tool life.
- 高硬牌号：超细晶硬质合金基体搭配高性能涂层，在高硬度材料精加工中发挥卓越的性能。
  Hardness grade：Ultrafine cemented carbide matrix with high performance coating plays an excellent role in the finish machining of high hardness materials.

应用领域
Application

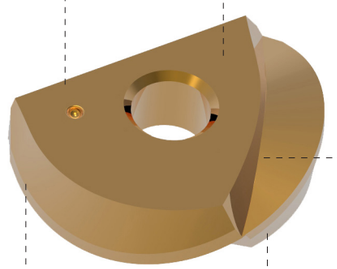
模具行业（主）- 覆盖件
Mould industry-panel mould

汽车行业 - 零件
Automobile industry-parts

通用机械 - 零件
General machinery-parts

航空航天 - 叶片
aerospace-blade

产品特点
Features



高精度
High precision

刀具 R 精度 ±10u
Radius accuracy ±10um

优质刀体配套
high quality body

多种刀体类型
Multiple body types

高硬度牌号
High-hardness grade

GH4115/GH4125

低切削阻力
Low cutting resistance

S 曲线刃型设计
helix edge shape

高硬加工寿命长
High life machining

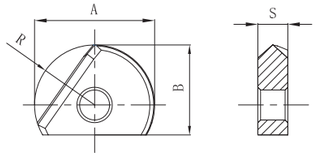
高强度刃角设计
High strength edge angle

独特的刃口处理
Special edge treatment

QTD

球头铣削刀片

general milling



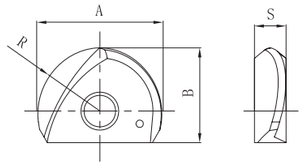
订货号 Ordering code		尺寸（mm） Dimensions				涂层硬质合金 Coated										硬质合金 Uncoated	金属陶瓷 Cermet
		R	A	B	S	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GS4130	GH4115	GH4125	GN9125	GP01TM
	QTD1203	6	12	10	3	●	○				○			●	●		
	QTD1604	8	16	12	4	●	○				●			●	●		
	QTD2005	10	20	15	5	●	○				●			●	●		
	QTD2506	12.5	25	18.5	6	●	○				○			●	●		
	QTD3007	15	30	22.5	7	●	○				○			●	●		
	QTD3207	16	32	23.5	7	●	○				○			●	●		

● 标准库存Stock ○ 需预定 Available Upon Order

QTD-S-T

曲线刃球头铣削刀片

Helical edge shape profile milling



订货号 Ordering code		尺寸（mm） Dimensions				涂层硬质合金 Coated										硬质合金 Uncoated	金属陶瓷 Cermet
		R	A	B	S	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GS4130	GH4115	GH4125	GN9125	GP01TM
	QTD1203-S-T	6	12	10	3									●	○		
	QTD1604-S-T	8	16	12	4									●	○		
	QTD2005-S-T	10	20	15	5									●	○		
	QTD2506-S-T	12.5	25	18.5	6									●	○		
	QTD3007-S-T	15	30	22.5	7									●	○		
	QTD3207-S-T	16	32	23.5	7									●	○		

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刀片安装步骤

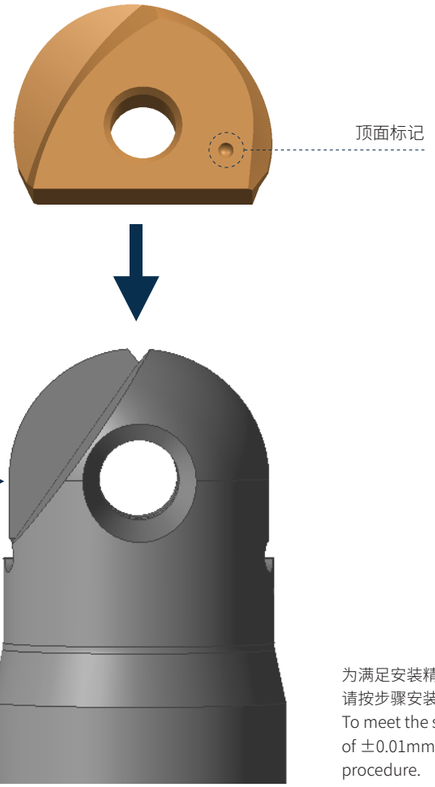
set –up procedures of inserts

1.清扫刀片座，通过气冷等方法清扫刀片座面。
Clean the insert seat, using air-blow or alike ,clean the seat.

2.将刀片的顶面标记对准刀具本体的螺钉紧固侧，插入刀片。
Put in the seat with its top positioned to the screw-tightening side of the tool body.

3.用专用扳手紧固高精度螺钉，此时请勿按压刀片。
Tighten the clamp screw with the special wrench .please do not press down the insert during this tightening process.

4.紧固结束。
This is the end of insert set-up.

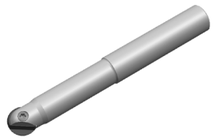


为满足安装精度R公差：±0.01mm，
请按步骤安装。
To meet the specification for precision of ±0.01mm ,please follow this procedure.

MBA100

直颈式

Straight tyle



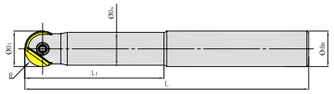


Fig1

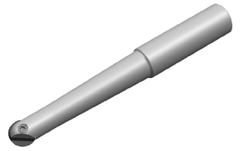
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions						匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD1	Φdm	ΦDa	L	L1	R				
MBA100-012R01P12-QT12S	12	1	12	12	10.5	90	30	6	QTD1203	×	Fig1	●
MBA100-012R01P12-QT12	12	1	12	12	10.5	120	60	6	QTD1203	×	Fig1	●
MBA100-012R01P12-QT12L	12	1	12	12	10.5	150	90	6	QTD1203	×	Fig1	●
MBA100-016R01P16-QT16S	16	1	16	16	14.5	100	35	8	QTD1604	×	Fig1	●
MBA100-016R01P16-QT16	16	1	16	16	14.5	135	70	8	QTD1604	×	Fig1	●
MBA100-016R01P16-QT16L	16	1	16	16	14.5	170	100	8	QTD1604	×	Fig1	●
MBA100-020R01P20-QT20S	20	1	20	20	18.5	110	45	10	QTD2005	×	Fig1	●
MBA100-020R01P20-QT20	20	1	20	20	18.5	160	80	10	QTD2005	×	Fig1	●
MBA100-020R01P20-QT20L	20	1	20	20	18.5	210	135	10	QTD2005	×	Fig1	●
MBA100-025R01P25-QT25S	25	1	25	25	23	125	50	12.5	QTD2506	×	Fig1	●
MBA100-025R01P25-QT25	25	1	25	25	23	180	100	12.5	QTD2506	×	Fig1	●
MBA100-025R01P25-QT25L	25	1	25	25	23	235	150	12.5	QTD2506	×	Fig1	●
MBA100-030R01P32-QT30S	30/32	1	30/32	32	28.5	150	60	15/16	QTD3007 QTD3207	×	Fig1	●
MBA100-030R01P32-QT30	30/32	1	30/32	32	28.5	200	120	15/16	QTD3007 QTD3207	×	Fig1	●
MBA100-030R01P32-QT30L	30/32	1	30/32	32	28.5	270	180	15/16	QTD3007 QTD3207	×	Fig1	●

● 标准库存Stock ○ 需预定 Available Upon Order

MBA100

锥颈式

Taper tyle



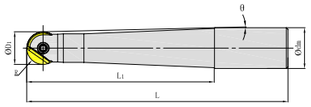


Fig2

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions						匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD1	Φdm	L	L1	R	Θ				
MBA100-012R01P16T-QT12L	12	1	12	16	145	85	6	1.5°	QTD1203	×	Fig2	●
MBA100-016R01P20T-QT16L	16	1	16	20	166	100	8	1°	QTD1604	×	Fig2	●
MBA100-020R01P25T-QT20L	20	1	20	25	191	115	10	1.5°	QTD2005	×	Fig2	●
MBA100-025R01P32T-QT25L	25	1	25	32	215	135	12.5	1.5°	QTD2506	×	Fig2	●
MBA100-030R01P32T-QT30L	30/32	1	30/32	32	240	160	15/16	0.5°	QTD3007 QTD3207	×	Fig2	●

● 标准库存Stock ○ 需预定 Available Upon Order

MBA100

可换式刀头

Modular head type

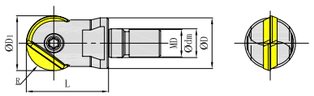


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions						匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD1	ΦD	Φdm	L	R	MD				
MBA100-012R01M06-QT12	12	1	12	11.5	6.5	20	6	M6	QTD1203	×	Fig3	●
MBA100-016R01M08-QT16	16	1	16	15	8.5	23	8	M8	QTD1604	×	Fig3	●
MBA100-020R01M10-QT20	20	1	20	18.5	10.5	30	10	M10	QTD2005	×	Fig3	●
MBA100-025R01M12-QT25	25	1	25	24	12.5	35	12.5	M12	QTD2506	×	Fig3	●
MBA100-030R01M16-QT30	30/32	1	30/32	29	17	43	15/16	M16	QTD3007 QTD3207	×	Fig3	●

● 标准库存Stock ○ 需预定 Available Upon Order

B 铣削\Milling

刀体配件列表
Accessory table

零件名称 Parts		刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner
形状 Shape / 适用刀片 Insert			
QTD1203/QTD1203-S-T	规格 Item	SBM3.5X9.5	TT10T
	订货号 Ordering Code	PSBM035095Q	PTT10TQ
QTD1604/QTD1604-S-T	规格 Item	SBM4.0X13.5	TT15T
	订货号 Ordering Code	PSBM040135Q	PTT15TQ
QTD2005/QTD2005-S-T	规格 Item	SBM5.0X16.5	TT20T
	订货号 Ordering Code	PSBM050165Q	PTT20TQ
QTD2506/QTD2506-S-T	规格 Item	SBM6.0X20	TT20T
	订货号 Ordering Code	PSBM060200Q	PTT20TQ
QTD3007/QTD3007-S-T	规格 Item	SBM8.0X25	TT30T
	订货号 Ordering Code	PSBM080250Q	PTT30TQ
QTD3207/QTD3207-S-T	规格 Item	SBM8.0X25	TT30T
	订货号 Ordering Code	PSBM080250Q	PTT30TQ

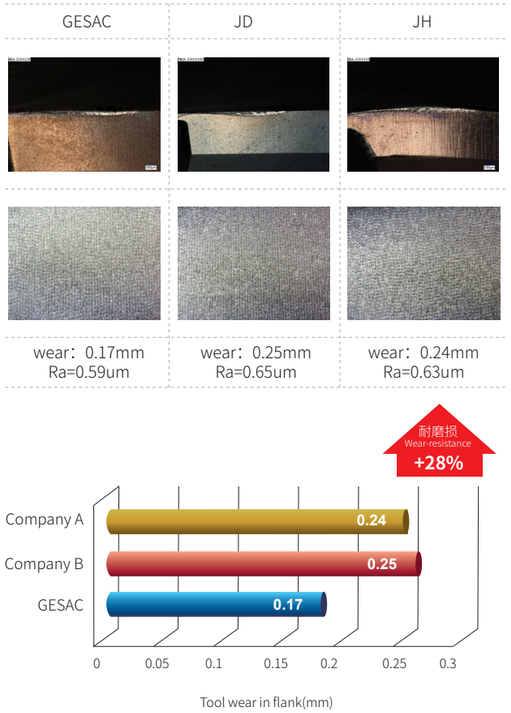
推荐切削参数
Recommended cutting conditions

被加工材料 Workpiece Material		材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃（fz）mm/tooth 刀具直径 Diameters：ΦD（mm）						最大切深 ap（mm）	最大切宽 ae（mm）
				Vc（m/min）	12	16	20	25	30	32		
P	软 钢 Mild Steel	≤ HB180	GA4225 GA4230	400 (350-450)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
	碳钢、低合金钢 Carbon Steel Low Alloy Steel	HB180-350	GA4225 GA4230	350 (300-400)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
	预硬钢 Mold steel	HRC35-45	GA4225 GA4230	350 (300-400)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
K	灰铸铁 Gray cast Iron	≤ HB280	GK4125 GH4125 GH4115	350 (300-400)	0.2-0.5	0.2-0.5	0.4-0.7	0.4-0.7	0.7-1.0	0.7-1.0	0.3-0.6	D/50
	球墨铸铁 Nodular Cast Iron	≤ HB350	GK4125 GH4125 GH4115	450 (400-500)	0.1-0.4	0.1-0.4	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.2-0.5	D/40
H	淬火钢 Hardened die steel	HRC48-55	GH4125 GH4115	150 (100-200)	0.1-0.4	0.1-0.4	0.2-0.5	0.2-0.5	0.2-0.5	0.2-0.5	0.1-0.3	D/50

加工案例
Application cases

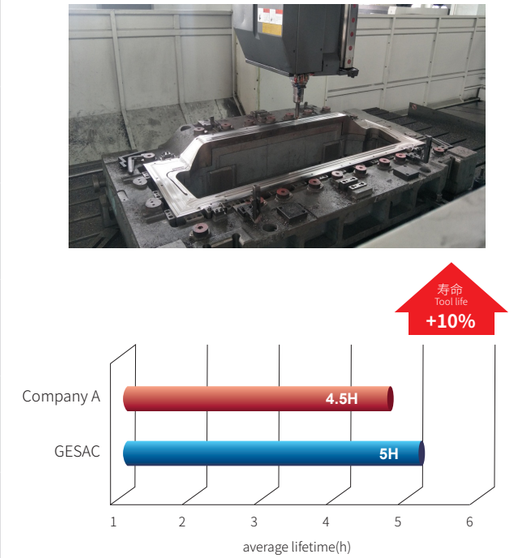
表面质量
Surface quality

刀体 Cutter	MBA100-020R01P20-QT20
测试规格 Inserts	QTD2005-S-T-GH4115
加工材料 Material	SKD11（58-62HRC）
加工方式 Application	3度斜坡铣削 3° slope milling
冷却方式 Coolant	气冷 Air
切削参数 Cutting Conditions	Vc=250m/min fz=0.4mm/z ap=0.2mm ae=0.2mm
加工时间 Life	加工4h，观察磨损及表面光洁度。 Evaluate performance after 4 hours machining by check surface quality.



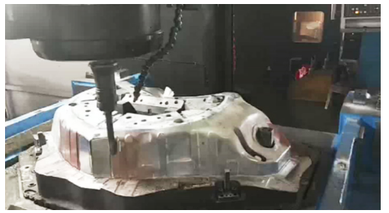
加工寿命
Processing life

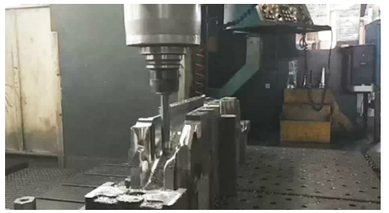
刀体 Cutter	MBA100-030R01P32-QT30L
测试规格 Inserts	QTD3007-S-T-GH4115
加工材料 Material	Cr12MoV（58-62HRC） 覆盖件模具 Panel mould
加工方式 Application	仿形铣 Profile milling
冷却方式 Coolant	气冷 Air
切削参数 Cutting Conditions	Vc=250m/min fz=0.3mm/z ap=0.5mm ae=0.37mm



加工寿命
Processing life

刀体 Cutter	MBA100-030R01P32-QT30L
测试规格 Inserts	QTD3007-S-T-GH4115
加工材料 Material	Cr12MoV（58-62HRC） 覆盖件模具 Panel mould
加工方式 Application	仿形铣 Profile milling
冷却方式 Coolant	气冷 Air
切削参数 Cutting Conditions	Vc=250m/min fz=0.3mm/z ap=0.5mm ae=0.37mm
切削效果 Cutting effect	图1：侧壁铣削加工： 客户要求4h，我司刀具4h，满足要求。 图2：型腔曲面铣削加工： 客户要求5h，我司刀具5h，满足要求。 figure1：standing walls milling： still nomal wear even after 4 hours process. figure 2：profile milling： still nomal wear even after 5 hours process.





标记说明
Guidelines to Icons

标示 Mark		说明 Description
柄部形状 Shank	SHANK h5	ISO 标准柄部 ISO Standard Shank
	SHANK h6	ISO 标准柄部 ISO Standard Shank
涂层 Coating	AlCrN	AlCrN涂层 AlCrN Coating
	AlCrSiN	AlCrSiN涂层 AlCrSiN Coating
	TiAlN	TiAlN涂层 TiAlN Coating
	AlTiN nano	AlTiN纳米涂层 Nano Coating AlTiN
	AlCrN/ TiSiN	AlCrN/TiSiN多层 AlTiN/TiSiN Coating
	AlTiN/ TiSiN	AlTiN/TiSiN纳米多层 Nano Coating AlTiN/ TiSiN
	TiAlCrSiN	TiAlCrSiN涂层 TiAlCrSiN Coating
	N-DIA	粗晶金刚石涂层 Normal Diamond Coating
	U-DIA	超细晶金刚石涂层 Ultra Fine Grain Diamond Coating
切削方式 Cutting Condition		侧铣 For Side Milling
		槽铣 For Slotting
		仿形切削 For Profile Milling
		螺旋插补铣 spiral Cutting
		摆线铣 Trochoidal Performance Cutting

标示 Mark		说明 Description
螺旋角 Helix	-20° Helix	左20°螺旋角 -20°Helix
	15° Helix	15°螺旋角 15°Helix
	20° Helix	20°螺旋角 20°Helix
	28° Helix	28°螺旋角 28°Helix
	30° Helix	30°螺旋角 30°Helix
	35° Helix	35°螺旋角 35°Helix
	38° Helix	38°螺旋角 38°Helix
	40° Helix	40°螺旋角 40°Helix
	45° Helix	45°螺旋角 45°Helix
	15°/40° Helix	双螺旋角 Variable Helix
	35°/37° Helix	双螺旋角 Variable Helix
	35°/38° Helix	双螺旋角 Variable Helix
	38°/40° Helix	双螺旋角 Variable Helix
	47°/45°/43° Helix	不等螺旋角 Variable Helix
刃数 No.of Flutes	1	1 刃立铣刀 1 Flute Endmills
	2	2 刃立铣刀 2 Flute Endmills

标示 Mark		说明 Description
刃数 No.of Flutes	3	3 刃立铣刀 3 Flute Endmills
	4	4 刃立铣刀 4 Flute Endmills
	5	5 刃立铣刀 5 Flute Endmills
	6	6 刃立铣刀 6 Flute Endmills
	12	12 刃立铣刀 12 Flute Endmills
底刃形状 Endteeth Type	Square	平头 Square
	Corner-R	圆角头 Corner Radius
	Ballnose	球头 Ballnose
	Chamfer	刀尖倒角 Square with Chamfer
	Chamfer	倒角 Chamfer
工件材料 Workpiece Material	P	钢 Steels
	M	不锈钢 Stainless Steels
	K	铸铁 Cast Iron
	N	非铁材料 Non-ferrous Materials
	S	高温合金、钛合金 Heat- resistant Super Alloys, Titanium Alloys
	H	高硬度材料 High Hardened Materials

B

PP300系列普通钢高效加工立铣刀
PP300 Series Endmills for High Performance Cutting

- 适用于普通钢、铸铁材料(≤48HRC) 的侧铣、槽铣、螺旋插补铣、摆线铣等多种高效加工，金属去除率高。
  Suitable for high efficiency machining of steels and cast iron(≤48HRC) through the machining methods of side milling, groove milling, spiral cutting , trochoidal performance cutting and so on. Having the ability of high metal removal rate.
- 不等齿距、不等螺旋设计，有效抑制高频震颤，发挥超群的抗震能力，实现大切深、大切宽的高效稳定加工。
  With the design of differential flute pitch and unequal helix, effective restrain vibration. With the extraordinary vibration resistance, stable and effective machining the tool by a large ap and a large ae.
- 采用变槽深设计，保证刀具即有足够的排屑空间，又有足够的刚性。
  With the design of variable grooves, ensure the end mills have enough groove space and strong stiffness.

PP300-C2

2刃平头(刃尖倒角)
2 Flute with Chamfer

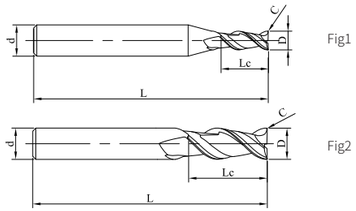


Fig1

Fig2

SHANK h6 | 2 | AlCrSiN | 45° Helix | Chamfer

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
PP300-C2-02002	2	6	0.02	50	4	1	○
PP300-C2-03003	3	9	0.03	50	4	1	○
PP300-C2-04004	4	11	0.04	50	4	2	●
PP300-C2-05005	5	13	0.05	50	6	1	○
PP300-C2-06006	6	16	0.06	50	6	2	●
PP300-C2-08008	8	20	0.08	60	8	2	●
PP300-C2-10010	10	25	0.10	75	10	2	●
PP300-C2-12012	12	30	0.12	75	12	2	●

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	不锈钢 StainlessSteel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P050

PP300-C3

3刃平头变螺旋(刃尖倒角)
3 Flute, Variable Helix with Chamfer

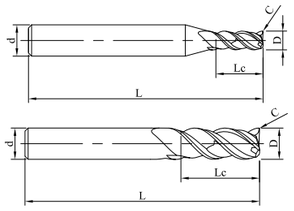


Fig1

Fig2

SHANK h6 | 3 | AlCrSiN | 47°|45°|43° Helix | Chamfer

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
PP300-C3-03003	3	9	0.03	50	4	1	○
PP300-C3-63003	3	9	0.03	50	6	1	○
PP300-C3-04004	4	11	0.04	50	4	2	●
PP300-C3-64004	4	11	0.04	50	6	1	○
PP300-C3-05005	5	13	0.05	50	6	1	○
PP300-C3-06006	6	16	0.06	50	6	2	●
PP300-C3-08008	8	20	0.08	60	8	2	●
PP300-C3-10010	10	25	0.10	75	10	2	●
PP300-C3-12012	12	30	0.12	75	12	2	●
PP300-C3-16015	16	36	0.15	100	16	2	●
PP300-C3-20015	20	45	0.15	100	20	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	不锈钢 StainlessSteel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P052

PP300-C4

4刃平头双螺旋(刃尖倒角)

4 Flute, Variable Helix with Chamfer

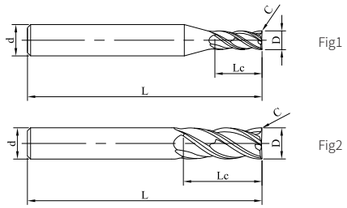


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35°/37° Helix | Chamfer

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
PP300-C4-03003	3	9	0.03	50	4	1	○
PP300-C4-63003	3	9	0.03	50	6	1	○
PP300-C4-04004	4	11	0.04	50	4	2	●
PP300-C4-64004	4	11	0.04	50	6	1	○
PP300-C4-05005	5	13	0.05	50	6	1	○
PP300-C4-06006	6	16	0.06	50	6	2	●
PP300-C4-08008	8	20	0.08	60	8	2	●
PP300-C4-10010	10	25	0.10	75	10	2	●
PP300-C4-12012	12	30	0.12	75	12	2	●
PP300-C4-16015	16	36	0.15	100	16	2	●
PP300-C4-20015	20	45	0.15	100	20	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	不锈钢 StainlessSteel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P054

PP300-R4

4刃圆角头双螺旋

4 Flute Corner Raidus, with Variable Helix

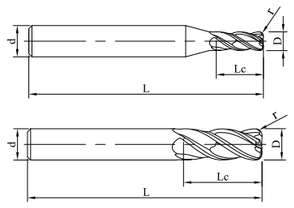


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35°/37° Helix | Corner-R

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
PP300-R4-04005	4	11	0.5	50	4	2	●
PP300-R4-05005	5	13	0.5	50	6	1	○
PP300-R4-06005	6	16	0.5	50	6	2	●
PP300-R4-06010	6	16	1	50	6	2	●
PP300-R4-08005	8	20	0.5	60	8	2	●
PP300-R4-08010	8	20	1	60	8	2	●
PP300-R4-10005	10	25	0.5	75	10	2	●
PP300-R4-10010	10	25	1	75	10	2	●
PP300-R4-10020	10	25	2	75	10	2	●
PP300-R4-12005	12	30	0.5	75	12	2	●
PP300-R4-12010	12	30	1	75	12	2	●
PP300-R4-12020	12	30	2	75	12	2	○
PP300-R4-16010	16	36	1	100	16	2	○
PP300-R4-16020	16	36	2	100	16	2	○
PP300-R4-20010	20	45	1	100	20	2	○
PP300-R4-20020	20	45	2	100	20	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	不锈钢 StainlessSteel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

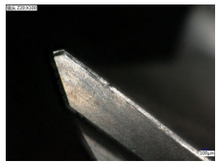
◎ 最适合 Most Suitable ○ 适合Suitable

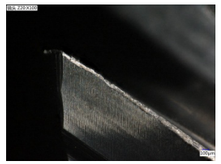
推荐切削参数 Cutting Parameters ※ P054

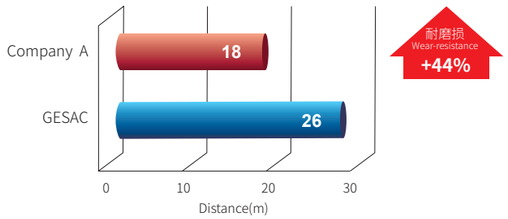
加工案例
Application cases

PP300 系列 45# 槽铣
PP300 series - slotting of 45#

刀具型号 Type	PP300-C3-10010
刀具规格 Size	D10*C0.1*25*75*d10
加工材料 Workpiece	45# (180HB)
切削速度 Cutting Speed	5730RPM (180m/min)
进给速度 Feed Rate	911mm/min(0.053mm/z)
切削方式 Cutting Method	槽铣 Slotting
切削量 Cutting Depth	ap=10mm, ae=10mm
冷却方式 Cooling Method	乳化液 Emulsion

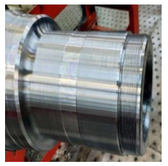

GESAC

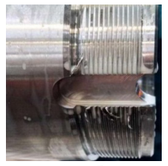

Company A

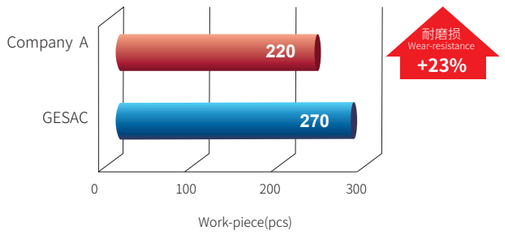


PP300 系列后桥轴端部键槽加工
PP300 series - machining of key seat

刀具型号 Type	PP300-C4-12012
刀具规格 Size	D12*C0.12*30*75*d12
加工材料 Workpiece	铸钢 (25HRC)
切削速度 Cutting Speed	800RPM (30m/min)
进给速度 Feed Rate	100mm/min(0.03mm/z)
切削方式 Cutting Method	槽铣 Slotting
切削量 Cutting Depth	ap=5mm, ae=12mm
冷却方式 Cooling Method	乳化液 Emulsion


加工前
Before processing


加工后
After processing

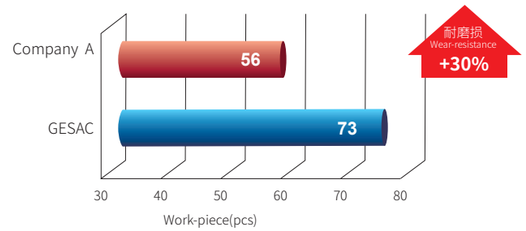


PP300 系列差速器壳体
PP300 series - differential cage

刀具型号 Type	PP300-R4-10020
刀具规格 Size	D10*R2*25*75*d10
加工材料 Workpiece	40Cr (30~35HRC)
切削速度 Cutting Speed	3800RPM (119m/min)
进给速度 Feed Rate	1200mm/min(0.08mm/z)
切削方式 Cutting Method	槽铣 Slotting
切削量 Cutting Depth	ap=5mm,ae=10mm
冷却方式 Cooling Method	乳化液 Emulsion


加工前
Before processing


加工后
After processing



推荐切削参数
Recommended Cutting Data

PP300- C2
钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.5D	200	转速 (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		进给速度 (mm/min)	1910	1750	1380	1350	1270	1220	1110	1080
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	1270	1070	950	950	810	720	600	520
M	不锈钢 Stainless Steel	ap≤1.5D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		进给速度 (mm/min)	1430	2390	1910	1910	1810	1670	1370	1240
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	转速 (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		进给速度 (mm/min)	1720	1430	1240	1070	970	950	820	740
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	1270	1190	1030	890	810	760	660	570

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

推荐切削参数
Recommended Cutting Data

PP300- C2
钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.0D	100	转速 (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				进给速度 (mm/min)	760	870	690	600	570	500	560	560
	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	510	570	470	380	360	340	350	340
M	不锈钢 Stainless Steel	ap≤0.3D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	370	330	330	310	290	300	250	230
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	510	510	470	380	370	350	320	280
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	390	390	370	310	290	280	260	230

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

推荐切削参数
Recommended Cutting Data

PP300- C3
钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.5D	200	转速 (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		进给速度 (mm/min)	2860	2630	2070	2030	1910	1830	1670	1620
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	1910	1610	1430	1430	1220	1070	890	790
M	不锈钢 Stainless Steel	ap≤1.5D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		进给速度 (mm/min)	2150	1790	1430	1430	1360	1250	1030	930
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	转速 (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		进给速度 (mm/min)	2580	2150	1860	1610	1460	1430	1230	1120
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	1910	1790	1550	1340	1220	1130	980	860

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

推荐切削参数
Recommended Cutting Data

PP300- C3
钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.0D	100	转速 (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				进给速度 (mm/min)	1140	1310	1030	890	860	760	840	840
	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	760	860	700	570	530	510	520	520
M	不锈钢 Stainless Steel	ap≤0.3D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	560	500	500	470	440	450	380	350
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	760	760	700	570	550	530	480	420
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	580	580	560	460	430	420	400	350

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

推荐切削参数
Recommended Cutting Data

PP300- C4/R4
钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.5D	200	转速 (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		进给速度 (mm/min)	3820	3500	2760	2710	2550	2440	2230	2160
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	2550	2150	1910	1910	1620	1430	1190	1050
M	不锈钢 Stainless Steel	ap≤1.5D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		进给速度 (mm/min)	2860	2390	1910	1910	1810	1670	1370	1240
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	转速 (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		进给速度 (mm/min)	3440	2860	2480	2150	1950	1910	1650	1490
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	150	转速 (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		进给速度 (mm/min)	2550	2390	2070	1790	1620	1510	1310	1150

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

推荐切削参数
Recommended Cutting Data

PP300- C4/R4
钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter (mm)	3	4	6	8	10	12	16	20
P	碳钢合金钢 Carbon steel,Alloy (<35HRC)	ap≤1.0D	100	转速 (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				进给速度 (mm/min)	1530	1750	1380	1190	1150	1010	1110	1120
	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	1020	1150	930	760	710	680	700	690
M	不锈钢 Stainless Steel	ap≤0.3D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	740	670	670	620	590	590	510	470
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	转速 (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				进给速度 (mm/min)	1020	1020	930	760	730	700	640	560
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	转速 (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				进给速度 (mm/min)	770	780	740	610	580	560	530	470

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

B

SH260-H 高硬钢加工通用立铣刀

SH260-H Endmills Optimized for Hardened Steels

- 适用于30~60HRC高硬度材料的精加工、半精加工。
  Suitable for semi-finishing and finishing of 30~60HRC hardened steels.
- 高强度、高韧性的基体材质配合新研发的高硬涂层，有效延长刀具使用寿命。
  High strength,high toughness matrix materials with newly developed coating , lengthens the tool life significantly.
- 独特的槽型结构，实现卓越的高硬钢材料加工。
  Unique flute structure,enables spectacular hardened steels milling.
- 推荐使用油冷或者油雾冷却。
  Recommend to use oil or oil mist cooling.

SH260-S4A-H

4刃平头

4 Flute, Standard Length

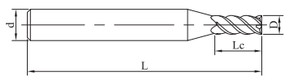


Fig1

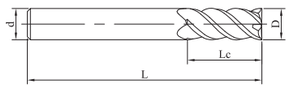


Fig2

SHANK h6 | 4 | TiAlCrSiN | 45° Helix | Square

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S4A-1-3-H	1	3	50	4	1	●
SH260-S4A-1.5-4-H	1.5	4	50	4	1	○
SH260-S4A-2-5-H	2	5	50	4	1	○
SH260-S4A-2.5-6-H	2.5	6	50	4	1	●
SH260-S4A-3-8-H	3	8	50	4	1	●
SH260-S4A-4-10-H	4	10	50	4	2	●
SH260-S4A-5-13-H	5	13	50	6	1	●
SH260-S4A-6-15-H	6	15	50	6	2	●
SH260-S4A-8-20-H	8	20	60	8	2	●
SH260-S4A-10-25-H	10	25	75	10	2	●
SH260-S4A-10-30-H	10	30	75	10	2	●
SH260-S4A-12-30-H	12	30	75	12	2	●
SH260-S4A-16-45-H	16	45	100	16	2	○
SH260-S4A-20-50-H	20	50	100	20	2	●

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material					
P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

SH260-SH4A-H

4刃长柄平头

4 Flute, with Long Shank Length

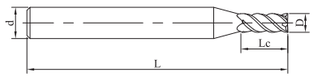


Fig1

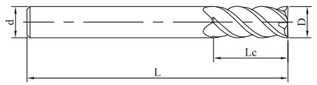


Fig2

SHANK h6 | 4 | TiAlCrSiN | 45° Helix | Square

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SH4A-3-60-H	3	9	60	4	1	●
SH260-SH4A-4-60-H	4	12	60	4	2	●
SH260-SH4A-4-75-H-6	4	12	75	6	1	●
SH260-SH4A-5-60-H	5	15	60	6	1	○
SH260-SH4A-6-75-H	6	18	75	6	2	●
SH260-SH4A-6-100-H	6	18	100	6	2	●
SH260-SH4A-8-75-H	8	24	75	8	2	●
SH260-SH4A-8-100-H	8	24	100	8	2	●
SH260-SH4A-10-100-H	10	30	100	10	2	●
SH260-SH4A-12-100-H	12	36	100	12	2	●
SH260-SH4A-16-150-H	16	48	150	16	2	●
SH260-SH4A-20-150-H	20	60	150	20	2	●

● 标准库存 Stock

○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material

P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

SH260-SL4A-H

4刃长刃平头

4 Flute, with Long edge Length

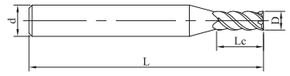


Fig1

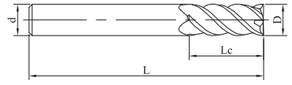


Fig2

SHANK h6 | 4 | TiAlCrSiN | 45° Helix | Square

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SL4A-3-12-H-6	3	12	50	6	1	○
SH260-SL4A-4-16-H	4	16	60	4	2	●
SH260-SL4A-5-20-H	5	20	60	6	1	●
SH260-SL4A-6-24-H	6	24	75	6	2	●
SH260-SL4A-8-36-H	8	36	100	8	2	●
SH260-SL4A-10-45-H	10	45	100	10	2	●
SH260-SL4A-10-50-H	10	50	150	10	2	●
SH260-SL4A-12-50-H	12	50	100	12	2	●
SH260-SL4A-12-60-H	12	60	150	12	2	●
SH260-SL4A-16-65-H	16	65	150	16	2	●
SH260-SL4A-20-75-H	20	75	150	20	2	●

● 标准库存 Stock

○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material

P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

SH260-R4A-H

4刃圆角头

4 Flute, Corner Radius

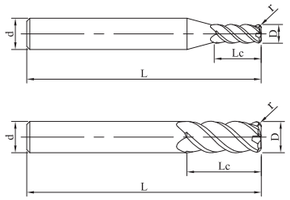


Fig1

Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4A-1-0.1-H	1	2.5	0.1	50	4	1	○
SH260-R4A-1-0.2-H	1	2.5	0.2	50	4	1	○
SH260-R4A-2-0.1-H	2	5	0.1	50	4	1	○
SH260-R4A-2-0.2-H	2	5	0.2	50	4	1	●
SH260-R4A-2-0.3-H	2	5	0.3	50	4	1	○
SH260-R4A-2-0.5-H	2	5	0.5	50	4	1	○
SH260-R4A-3-0.2-H	3	7.5	0.2	50	4	1	●
SH260-R4A-3-0.3-H	3	7.5	0.3	50	4	1	●
SH260-R4A-3-0.2-H-3	3	7.5	0.2	50	3	1	●
SH260-R4A-3-0.5-H	3	7.5	0.5	50	4	1	●
SH260-R4A-4-0.2-H	4	10	0.2	50	4	2	●
SH260-R4A-4-0.5-H	4	10	0.5	50	4	2	○
SH260-R4A-4-0.5-H-6	4	10	0.5	50	6	1	○
SH260-R4A-5-0.2-H	5	13	0.2	50	6	1	○
SH260-R4A-5-0.5-H	5	13	0.5	50	6	1	○

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material

P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

SH260-R4A-H

4刃圆角头

4 Flute, Corner Radius

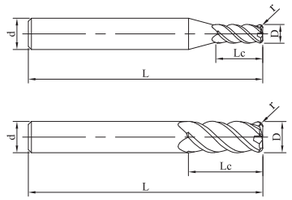


Fig1

Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4A-6-0.2-H	6	15	0.2	50	6	2	○
SH260-R4A-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R4A-6-1-H	6	15	1	50	6	2	○
SH260-R4A-8-0.2-H	8	20	0.2	60	8	2	○
SH260-R4A-8-0.5-H	8	20	0.5	60	8	2	●
SH260-R4A-8-1-H	8	20	1	60	8	2	●
SH260-R4A-10-0.2-H	10	25	0.2	75	10	2	○
SH260-R4A-10-0.5-H	10	25	0.5	75	10	2	●
SH260-R4A-10-1-H	10	25	1	75	10	2	●
SH260-R4A-10-2-H	10	25	2	75	10	2	●
SH260-R4A-12-0.5-H	12	30	0.5	75	12	2	○
SH260-R4A-12-1-H	12	30	1	75	12	2	○
SH260-R4A-12-2-H	12	30	2	75	12	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material

P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

B 铣削 \ Milling

SH260-RH4A-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

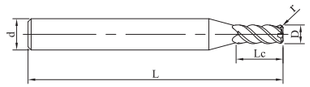


Fig1

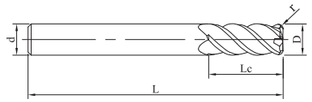


Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4A-2-60-0.5-H-6	2	6	0.5	60	6	1	○
SH260-RH4A-3-60-0.5-H-6	3	9	0.5	60	6	1	○
SH260-RH4A-4-75-0.5-H-6	4	12	0.5	75	6	1	●
SH260-RH4A-4-60-0.2-H	4	12	0.2	60	4	2	○
SH260-RH4A-4-60-0.5-H	4	12	0.5	60	4	2	○
SH260-RH4A-4-75-0.5-H	4	12	0.5	75	4	2	●
SH260-RH4A-6-60-0.2-H	6	18	0.2	60	6	2	○
SH260-RH4A-6-75-0.2-H	6	18	0.2	75	6	2	○
SH260-RH4A-6-100-0.5-H	6	18	0.5	100	6	2	○
SH260-RH4A-6-60-0.5-H	6	18	0.5	60	6	2	●
SH260-RH4A-6-75-0.5-H	6	18	0.5	75	6	2	●
SH260-RH4A-6-60-1.0-H	6	18	1	60	6	2	○

● 标准库存 Stock

○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material					
P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

SH260-RH4A-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

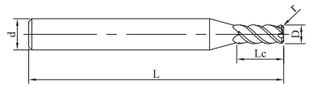


Fig1

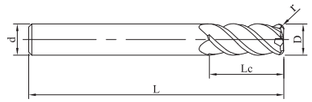


Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4A-6-75-1-H	6	18	1	75	6	2	●
SH260-RH4A-8-75-0.5-H	8	24	0.5	75	8	2	●
SH260-RH4A-8-100-0.5-H	8	24	0.5	100	8	2	●
SH260-RH4A-8-75-1-H	8	24	1	75	8	2	●
SH260-RH4A-8-100-1-H	8	24	1	100	8	2	●
SH260-RH4A-10-100-0.5-H	10	30	0.5	100	10	2	●
SH260-RH4A-10-120-0.5-H	10	30	0.5	120	10	2	●
SH260-RH4A-10-100-1-H	10	30	1	100	10	2	●
SH260-RH4A-10-120-1-H	10	30	1	120	10	2	●
SH260-RH4A-12-100-0.5-H	12	36	0.5	100	12	2	●
SH260-RH4A-12-120-0.5-H	12	36	0.5	120	12	2	●
SH260-RH4A-12-100-1-H	12	36	1	100	12	2	●

● 标准库存 Stock

○ 需预定 Available Upon Order

D	公差Tol
D≤6	0 -0.01
D>6	0 -0.02

unit (mm)

工件材料 Workpiece Material					
P			H		
1234	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, AlloySteel (<35HRC)	合金钢 Alloy Steel,ToolSteel (48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (<35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (>60HRC)
○	◎		◎	◎	○

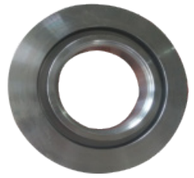
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P065

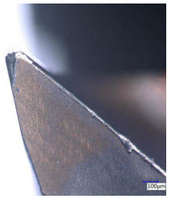
加工案例
Application cases

SH260-H 零部件加工
SH260-H Parts Processing

刀具型号 Type	SH260-S4A-8-20-H
刀具规格 Size	D8*20*60*d8
加工材料 Workpiece	20CrMo(48-52HRC)
切削速度 Cutting Speed	2500RPM(62.8m/min)
进给速度 Feed Rate	1000mm/min(0.1mm/z)
切削方式 Cutting Method	槽铣 Slot milling
切削量 Cutting Depth	ap=1mm,ae=8mm
冷却方式 Cooling Method	水基乳化液 Emulsion
寿命 Life	加工11个工件 11 workpieces


毛坯件
Blank piece


加工成品
Finished product


刀具磨损
Tool Wear

推荐切削参数
Recommended Cutting Data

SH260- S4A、SH4A、SL4A、R4A、RH4A-H
合金钢、淬硬钢For Alloy Steels, Hardend Steels——侧铣 Side Milling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	切削域 Cutting Range	切削条件 Cutting Condition	2	4	6	8	10	12
P	合金钢 Alloy Steel (30-45HRC)	Ap≤1.2D Ae≤0.05D	通用条件 General	转速 (min-1)	14000	7200	4800	3600	2900	2400
				进给速度 (mm/min)	800	900	1000	1100	1050	1000
			高速条件 High Speed	转速 (min-1)	28000	14000	9500	7100	5700	4750
				进给速度 (mm/min)	1500	2000	2800	2500	2500	2300
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ap≤1.0D Ae≤0.03D	通用条件 General	转速 (min-1)	12500	6400	4200	3200	2500	2100
				进给速度 (mm/min)	500	600	700	800	700	640
			高速条件 High Speed	转速 (min-1)	23800	12000	8000	5900	4800	3900
				进给速度 (mm/min)	1190	1500	2000	1800	1700	1560
	淬硬钢 Hardened Steel (55-60HRC)	Ap≤0.8D Ae≤0.02D	通用条件 General	转速 (min-1)	11000	5600	3700	2800	2200	1900
				进给速度 (mm/min)	440	500	580	630	570	550
			高速条件 High Speed	转速 (min-1)	18000	9200	6100	4600	3600	3000
				进给速度 (mm/min)	900	1150	1300	1400	1300	1200

1、请使用刚性较高的机床和刀柄。
Make sure work piece and machine are stable and use a precision holder.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia).When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

4、冷却方式推荐油雾，切削油。
Cooling method recommend to use oil mist or oil.

B

SM200牙科行业义齿加工系列立铣刀

SM200 Denture processing endmill for dental industry

- 高精度的尺寸公差设计，保证义齿加工精度。
  High precision of dimension tolerance design,guarantee the denture processing precision.
- 锋利的刃口设计有效解决义齿崩口问题。
  Sharp edge design effectively solve the problem of denture processing collapse.
- 先进的涂层工艺，刀具耐磨性高。
  Advanced coating technology,high wear resistance.
- 适合牙科行业氧化锆、钛合金、钴铬合金等材料的加工，氧化锆加工推荐使用干切削，钛合金、钴铬合金等金属材料加工推荐使用湿式切削。
  Suitable for processing zirconia，titanium alloy，cobalt chromium alloy and so on material in dental industry.Dry cutting is recommended for zirconia processing，titanium alloy.Wet cutting is recommended for cobalt chromium alloy and so on metal materia processing.

SM200-TD2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck

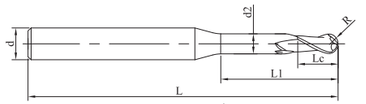


Fig1

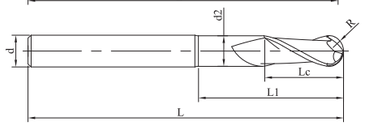


Fig2

SHANK h6 | 2 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-TD2-0.6-5-45-d3	0.6	0.3	2	0.55	5	45	3	2	1	●
SM200-TD2-0.6-5-50-d3	0.6	0.3	2	0.55	5	50	3	2	1	●
SM200-TD2-0.6-5-45-d4	0.6	0.3	2	0.55	5	45	4	2	1	●
SM200-TD2-0.6-5-50-d4	0.6	0.3	2	0.55	5	50	4	2	1	●
SM200-TD2-0.6-5-45-d6	0.6	0.3	2	0.55	5	45	6	2	1	○
SM200-TD2-0.6-5-50-d6	0.6	0.3	2	0.55	5	50	6	2	1	○
SM200-TD2-0.6-12-45-d3	0.6	0.3	2	0.55	12	45	3	2	1	○
SM200-TD2-0.6-12-50-d3	0.6	0.3	2	0.55	12	50	3	2	1	○
SM200-TD2-0.6-12-45-d4	0.6	0.3	2	0.55	12	45	4	2	1	○
SM200-TD2-0.6-12-50-d4	0.6	0.3	2	0.55	12	50	4	2	1	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-TD2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck

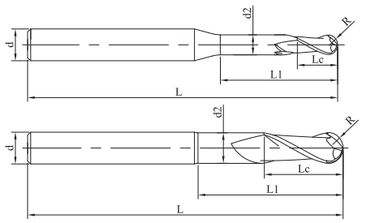


Fig1

Fig2

SHANK h6 | 2 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-TD2-0.6-12-45-d6	0.6	R0.3	2	0.55	12	45	6	2	1	○
SM200-TD2-0.6-12-50-d6	0.6	R0.3	2	0.55	12	50	6	2	1	○
SM200-TD2-1-16-50-d3	1	R0.5	6	0.95	16	50	3	2	1	●
SM200-TD2-1-16-55-d3	1	R0.5	6	0.95	16	55	3	2	1	○
SM200-TD2-1-16-50-d4	1	R0.5	6	0.95	16	50	4	2	1	●
SM200-TD2-1-16-55-d4	1	R0.5	6	0.95	16	55	4	2	1	○
SM200-TD2-1-16-50-d6	1	R0.5	6	0.95	16	50	6	2	1	●
SM200-TD2-1-16-55-d6	1	R0.5	6	0.95	16	55	6	2	1	○
SM200-TD2-1-18-50-d3	1	R0.5	6	0.95	18	50	3	2	1	○
SM200-TD2-1-18-55-d3	1	R0.5	6	0.95	18	55	3	2	1	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-TD2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck

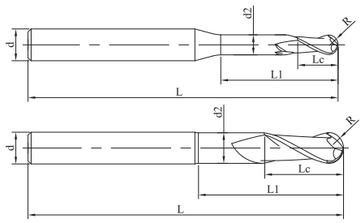


Fig1

Fig2

SHANK h6 | 2 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-TD2-1-18-50-d4	1	R0.5	6	0.95	18	50	4	2	1	○
SM200-TD2-1-18-55-d4	1	R0.5	6	0.95	18	55	4	2	1	○
SM200-TD2-1-18-50-d6	1	R0.5	6	0.95	18	50	6	2	1	○
SM200-TD2-1-18-55-d6	1	R0.5	6	0.95	18	55	6	2	1	○
SM200-TD2-2-16-50-d3	2	R1	8	1.95	16	50	3	2	1	●
SM200-TD2-2-16-55-d3	2	R1	8	1.95	16	55	3	2	1	○
SM200-TD2-2-16-50-d4	2	R1	8	1.95	16	50	4	2	1	●
SM200-TD2-2-16-55-d4	2	R1	8	1.95	16	55	4	2	1	○
SM200-TD2-2-16-50-d6	2	R1	8	1.95	16	50	6	2	1	●
SM200-TD2-2-16-55-d6	2	R1	8	1.95	16	55	6	2	1	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

B 铣削 \ Milling

SM200-TD2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck

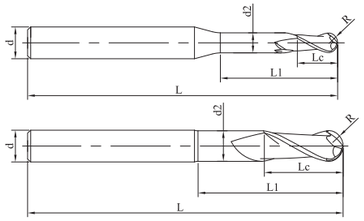


Fig1

Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-TD2-2-20-50-d3	2	R1	8	1.95	20	50	3	2	1	●
SM200-TD2-2-20-55-d3	2	R1	8	1.95	20	55	3	2	1	○
SM200-TD2-2-20-50-d4	2	R1	8	1.95	20	50	4	2	1	●
SM200-TD2-2-20-55-d4	2	R1	8	1.95	20	55	4	2	1	○
SM200-TD2-2-20-50-d6	2	R1	8	1.95	20	50	6	2	1	●
SM200-TD2-2-20-55-d6	2	R1	8	1.95	20	55	6	2	1	○
SM200-TD2-3-20-55-d3	3	R1.5	10	2.95	20	55	3	2	2	○
SM200-TD2-3-20-55-d4	3	R1.5	10	2.95	20	55	4	2	1	○
SM200-TD2-3-20-55-d6	3	R1.5	10	2.95	20	55	6	2	1	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

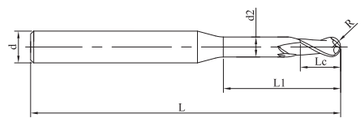
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-TP2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck



标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	库存 Stock
SM200-TP2-1-4-45-d6	1	R0.5	2.5	0.95	4	45	6	2	○
SM200-TP2-1-6-45-d6	1	R0.5	2.5	0.95	6	45	6	2	○
SM200-TP2-1-8-45-d6	1	R0.5	2.5	0.95	8	45	6	2	○
SM200-TP2-1-8-50-d6	1	R0.5	2.5	0.95	8	50	6	2	●
SM200-TP2-1-10-45-d6	1	R0.5	2.5	0.95	10	45	6	2	○
SM200-TP2-1-10-50-d6	1	R0.5	2.5	0.95	10	50	6	2	●
SM200-TP2-1-12-45-d6	1	R0.5	2.5	0.95	12	45	6	2	○
SM200-TP2-1-12-50-d6	1	R0.5	2.5	0.95	12	50	6	2	○
SM200-TP2-1.5-10-45-d6	1.5	R0.75	3	1.45	10	45	6	2	○
SM200-TP2-1.5-12-45-d6	1.5	R0.75	3	1.45	12	45	6	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.5≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
				◎

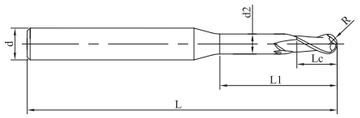
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-TP2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck



标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	库存 Stock
SM200-TP2-1.5-12-50-d6	1.5	R0.75	3	1.45	12	50	6	2	●
SM200-TP2-1.5-14-45-d6	1.5	R0.75	3	1.45	14	45	6	2	○
SM200-TP2-1.5-14-50-d6	1.5	R0.75	3	1.45	14	50	6	2	●
SM200-TP2-2-5-45-d6	2	R1	3	1.95	5	45	6	2	○
SM200-TP2-2-8-45-d6	2	R1	3	1.95	8	45	6	2	○
SM200-TP2-2-12-45-d6	2	R1	3	1.95	12	45	6	2	○
SM200-TP2-2-12-50-d6	2	R1	3	1.95	12	50	6	2	○
SM200-TP2-2-14-45-d6	2	R1	3	1.95	14	45	6	2	○
SM200-TP2-2-14-50-d6	2	R1	3	1.95	14	50	6	2	●
SM200-TP2-2-16-45-d6	2	R1	3	1.95	16	45	6	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.5≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
				◎

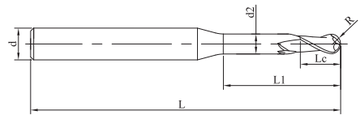
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-TP2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck



标记说明请参考P042页 See page 042 for guidelines to icons

》续前 continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	库存 Stock
SM200-TP2-2-16-50-d6	2	R1	3	1.95	16	50	6	2	●
SM200-TP2-3-8-45-d6	3	R1.5	4	2.95	8	45	6	2	○
SM200-TP2-3-10-45-d6	3	R1.5	4	2.95	10	45	6	2	○
SM200-TP2-3-12-45-d6	3	R1.5	4	2.95	12	45	6	2	○
SM200-TP2-3-12-50-d6	3	R1.5	4	2.95	12	50	6	2	●
SM200-TP2-3-16-45-d6	3	R1.5	4	2.95	16	45	6	2	○
SM200-TP2-3-16-50-d6	3	R1.5	4	2.95	16	50	6	2	●

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.5≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
				◎

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

B 铣削 \ Milling

SM200-RO2/RO3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

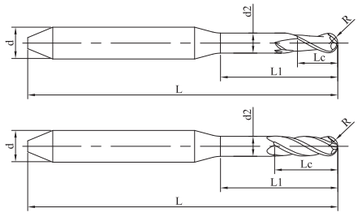


Fig1

Fig2

互换设备 Compatible Machine

DWX50，DWX30，DWX51D

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-RO2-0.6-6-50-d4	0.6	R0.3	2	0.55	6	50	4	2	1	●
SM200-RO2-0.6-14-50-d4	0.6	R0.3	2	0.55	14	50	4	2	1	○
SM200-RO2-1-16-50-d4	1	R0.5	6	0.95	16	50	4	2	1	●
SM200-RO2-1-20-50-d4	1	R0.5	6	0.95	20	50	4	2	1	●
SM200-RO2-2-16-50-d4	2	R1	8	1.95	16	50	4	2	1	●
SM200-RO2-2-20-50-d4	2	R1	8	1.95	20	50	4	2	1	●
SM200-RO2-3-20-50-d4	3	R1.5	10	2.95	20	50	4	2	1	○
SM200-RO3-1-16-50-d4	1	R0.5	6	0.95	16	50	4	3	2	○
SM200-RO3-1-20-50-d4	1	R0.5	6	0.95	20	50	4	3	2	○
SM200-RO3-2-16-50-d4	2	R1	8	1.95	16	50	4	3	2	○
SM200-RO3-2-20-50-d4	2	R1	8	1.95	20	50	4	3	2	○
SM200-RO3-3-20-50-d4	3	R1.5	10	2.95	20	50	4	3	2	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-VH2/VH3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

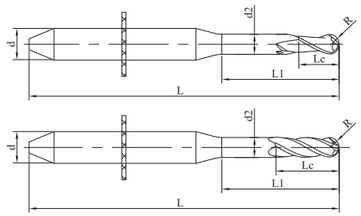


Fig1

Fig2

互换设备 Compatible Machine

5Axes，Wieland，Brux Zir，EzMill，Jensen

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-VH2-0.6-7-40-d3	0.6	R0.3	2	0.55	7	40	3	2	1	●
SM200-VH2-0.6-11-40-d3	0.6	R0.3	2	0.55	11	40	3	2	1	○
SM200-VH2-1-17-40-d3	1	R0.5	5	1.95	17	40	3	2	1	○
SM200-VH2-2-17-40-d3	2	R1	8	2.95	17	40	3	2	1	○
SM200-VH3-1-16-40-d3	1	R0.5	5	1.95	16	40	3	3	2	●
SM200-VH3-2-17-40-d3	2	R1	8	2.95	17	40	3	3	2	●

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-WI2/WI3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

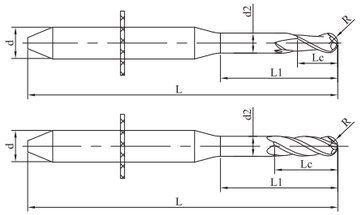


Fig1

Fig2

专用设备 Dedicated Device
Wieland

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-WI2-0.6-7-40-d3	0.6	R0.3	2	0.55	7	40	3	2	1	●
SM200-WI2-0.7-7-40-d3	0.7	R0.35	2	0.65	7	40	3	2	1	○
SM200-WI2-1-17-40-d3	1	R0.5	5	0.95	17	40	3	2	1	○
SM200-WI2-2-17-40-d3	2	R1	8	1.95	17	40	3	2	1	○
SM200-WI2-2.5-20-40-d3	2.5	R1.25	10	2.45	20	40	3	2	1	○
SM200-WI3-1-17-40-d3	1	R0.5	5	0.95	17	40	3	3	2	●
SM200-WI3-2-17-40-d3	2	R1	8	1.95	17	40	3	3	2	●
SM200-WI3-2.5-20-40-d3	2.5	R1.25	10	2.45	20	40	3	3	2	●

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.25	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-IM2/IM3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

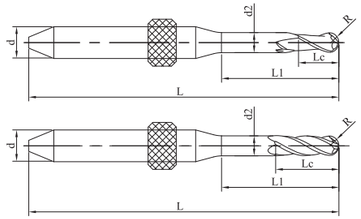


Fig1

Fig2

专用设备 Dedicated Device：250i

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-IM2-0.6-7-48-d3	0.6	R0.3	2	0.55	7	48	3	2	1	●
SM200-IM2-0.65-12-48-d3	0.65	R0.325	2	0.60	12	48	3	2	1	○
SM200-IM2-1-16-48-d3	1	R0.5	2	0.95	16	48	3	2	1	●
SM200-IM2-2-20-48-d3	2	R1	8	1.95	20	48	3	2	1	●
SM200-IM2-2.5-20-48-d3	2.5	R1.25	9	2.45	20	48	3	2	1	●
SM200-IM3-1-16-48-d3	1	R0.5	2	0.95	16	48	3	3	2	○
SM200-IM3-2-20-48-d3	2	R1	8	1.95	20	48	3	3	2	○
SM200-IM3-2.5-20-48-d3	2.5	R1.25	9	2.45	20	48	3	3	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.25	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ 085

SM200-IM2/IM3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

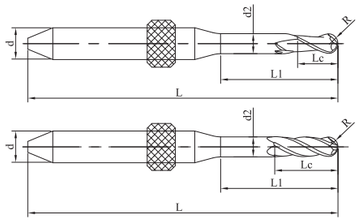


Fig1

Fig2

互换设备 Compatible Machine

450i，540i，DMG

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-IM2-0.6-7-53-d6	0.6	R0.3	2	0.55	7	53	6	2	1	○
SM200-IM2-0.65-12-53-d6	0.65	R0.325	2	0.60	12	53	6	2	1	○
SM200-IM2-1-16-53-d6	1	R0.5	2	0.95	16	53	6	2	1	●
SM200-IM2-2-20-53-d6	2	R1	8	1.95	20	53	6	2	1	●
SM200-IM2-2.5-20-53-d6	2.5	R1.25	9	2.45	20	53	6	2	1	●
SM200-IM3-1-16-53-d6	1	R0.5	2	0.95	16	53	6	3	2	○
SM200-IM3-2-20-53-d6	2	R1	8	1.95	20	53	6	3	2	○
SM200-IM3-2.5-20-53-d6	2.5	R1.25	9	2.45	20	53	6	3	2	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.25	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-ZI2/ZI3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

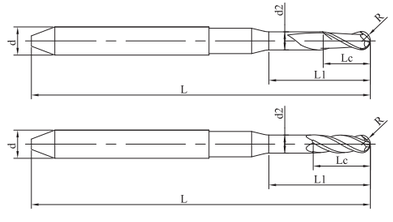


Fig1

Fig2

互换设备 Compatible Machine

M1，M5

SHANK h6 | 2 | 3 | N-DIA | 30° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-ZI2-0.5-5-57-d3	0.5	R0.25	3	0.45	5	57	3	2	1	○
SM200-ZI2-0.5-5-50-d6	0.5	R0.25	3	0.45	5	50	6	2	1	○
SM200-ZI2-1-16-57-d3	1	R0.5	8	0.95	16	57	3	2	1	○
SM200-ZI2-1-12-50-d6	1	R0.5	6	0.95	12	50	6	2	1	●
SM200-ZI2-2-18-57-d3	2	R1	10	1.95	18	57	3	2	1	○
SM200-ZI2-2-18-50-d6	2	R1	10	1.95	18	50	6	2	1	●
SM200-ZI3-1-16-57-d3	1	R0.5	8	0.95	16	57	3	3	2	○
SM200-ZI3-1-12-50-d6	1	R0.5	6	0.95	12	50	6	3	2	○
SM200-ZI3-2-18-57-d3	2	R1	10	1.95	18	57	3	3	2	○
SM200-ZI3-2-18-50-d6	2	R1	10	1.95	18	50	6	3	2	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.25≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

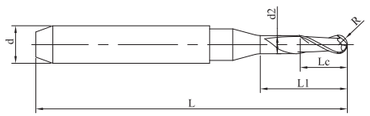
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-ZI2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck



专用设备Dedicated Device

M1

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	库存 Stock
SM200-ZI2-2-18-50-d6	2	R1	3	1.95	18	50	6	2	○
SM200-ZI2-3-18-50-d6	3	R1.5	4	2.95	18	50	6	2	○

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.25≤R≤1.25	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
				◎

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P085

SM200-AM2/AM3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

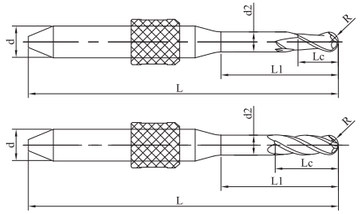


Fig1

Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-AM2-0.6-7-47-d3	0.6	R0.3	2	0.55	7	47	3	2	1	●
SM200-AM2-1-17-47-d3	1	R0.5	6	0.95	17	47	3	2	1	○
SM200-AM2-2.5-17-47-d3	2.5	R1.25	9	2.45	17	47	3	2	1	○
SM200-AM3-1-17-47-d3	1	R0.5	6	0.95	17	47	3	3	2	●
SM200-AM3-2.5-17-47-d3	2.5	R1.25	9	2.45	17	47	3	3	2	●

● 标准库存 Stock

○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.25	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P086

SM200-AR2/AR3

2/3刃长颈球头

2/3 Flute, Ballnose With Reduced Neck

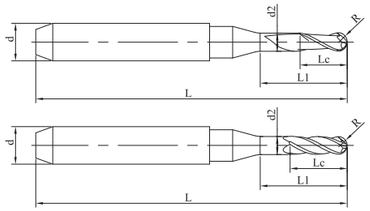


Fig1

Fig2

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	图号 Figure No.	库存 Stock
SM200-AR2-0.6-13-50-d6	0.6	R0.3	2	0.55	13	50	6	2	1	○
SM200-AR2-0.6-13-63-d6	0.6	R0.3	2	0.55	13	63	6	2	1	○
SM200-AR2-1-16-50-d6	1	R0.5	6	0.95	16	50	6	2	1	●
SM200-AR2-1-16-63-d6	1	R0.5	6	0.95	16	63	6	2	1	○
SM200-AR2-2-20-50-d6	2	R1	8	1.95	20	50	6	2	1	●
SM200-AR2-2-20-63-d6	2	R1	8	1.95	20	63	6	2	1	○
SM200-AR3-1-16-50-d6	1	R0.5	6	0.95	16	50	6	3	2	○
SM200-AR3-1-16-63-d6	1	R0.5	6	0.55	16	63	6	3	2	○
SM200-AR3-2-20-50-d6	2	R1	8	1.95	20	50	6	3	2	○
SM200-AR3-2-20-63-d6	2	R1	8	1.95	20	63	6	3	2	○

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
		◎		

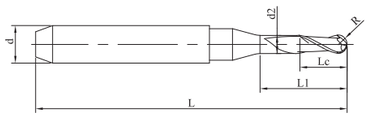
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P086

SM200-AR2

2刃长颈球头

2 Flute, Ballnose With Reduced Neck



标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	刃数 Flute	库存 Stock
SM200-AR2-1-8-50-d6	1	R0.5	3	0.95	8	50	6	2	●
SM200-AR2-1.5-10-50-d6	1.5	R0.75	3	1.45	10	50	6	2	●
SM200-AR2-2-12-50-d6	2	R1	3	1.95	12	50	6	2	●
SM200-AR2-3-14-50-d6	3	R1.5	2.5	2.95	14	50	6	2	●

● 标准库存 Stock
○ 需预定 Available Upon Order

R	公差Tol
0.3≤R≤1.5	±0.007

unit (mm)

工件材料 Workpiece Material				
N			S	
123	4	5	123	45
铝合金 Aluminium Alloys	铜合金 Copper Alloys	氧化锆 Zirconia	高温合金 HRSA	钛合金/钴铬合金 Titanium Alloys/Cobalt Chromium Alloys
				◎

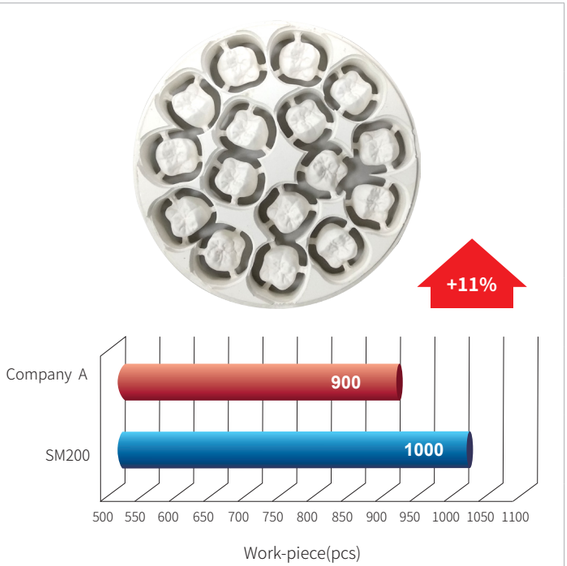
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P086

加工案例
Application cases

氧化锆义齿加工
Zirconia denture Machining

刀具型号 Type	SM200-TD2-2-16-50-d3
刀具规格 Size	R1*8*16*50*d3
加工材料 Workpiece	氧化锆 Zirconia
切削速度 Cutting Speed	132m/min
进给速度 Feed Rate	1100mm/min
切削方式 Cutting Method	仿形铣 Profiling
切削量 Cutting Depth	ap=0.1mm，ae=0.6mm
冷却方式 Cooling Method	干式 Dry Cutting



推荐切削参数
Recommended Cutting Data

SM200-TD2
氧化锆For Zirconia ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	0.6	1	2
N	氧化锆 Zirconia	ap=0.05D	转速 (min-1)	40100~43800	34500~38300	27300
		ae=0.3D	进给速度 (mm/min)	430~470	760~840	1200

SM200-TP2
钛合金For Titanium Alloys ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	1	1.5	2	3
S	钛合金 Titanium Alloys	ap=0.05D	转速 (min-1)	37900	30600	23700	15800
		ae=0.3D	进给速度 (mm/min)	860~1150	1390	1080~1430	1430

SM200-RO2/RO3/VH2/VH3/WI2/WI3/IM2/IM3
氧化锆For Zirconia ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	0.6	1	2
N	氧化锆 Zirconia	ap=0.05D	转速 (min-1)	26800~29200	23000~25600	18300
		ae=0.3D	进给速度 (mm/min)	320~350	460~510	730

SM200-ZI2/ZI3
氧化锆、钛合金For Zirconia，Titanium Alloys ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	1	2	3
N	氧化锆 Zirconia	ap=0.05D	转速 (min-1)	23000~25600	18300	--
		ae=0.3D	进给速度 (mm/min)	460~510	730	--
S	钛合金 Titanium Alloys	ap=0.05D	转速 (min-1)	--	18300	12200
		ae=0.3D	进给速度 (mm/min)	--	690~920	920

推荐切削参数
Recommended Cutting Data

SM200-AM2/AM3
氧化锆For Zirconia ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	0.6	1
N	氧化锆 Zirconia	ap=0.05D	转速 (min-1)	26800~29200	23000~25600
		ae=0.3D	进给速度 (mm/min)	320~350	460~510

SM200-AR2/AR3
氧化锆、钛合金For Zirconia，Titanium Alloys ——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	刃径 Tool Diameter (mm)	0.6	1	1.5	2	3
N	氧化锆 Zirconia	ap=0.05D	转速 (min-1)	26800~29200	23000~25600	--	18300	--
		ae=0.3D	进给速度 (mm/min)	320~350	460~510	--	730	--
S	钛合金 Titanium Alloys	ap=0.05D	转速 (min-1)	--	29200	23600	18300	12200
		ae=0.3D	进给速度 (mm/min)	--	550~7440	890	690~920	920

1、请根据刀具型号选择对应的机床和刀柄。
Please select the stable machine and holder according to tool type.

2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
Please adjust the speed,feed and cutting depth according to actual cutting conditons.

3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。
The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

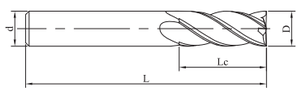
B

SS600高强度钢加工立铣刀
SS600 Endmills for High Strength Steels

- 适用于加工高强度钢、沉淀硬化不锈钢、钛合金等。
  Suitable for processing high strength steel, precipitated hardened stainless steel, titanium alloy, etc.
- 槽铣性能优异，刃口强度高，抗崩刃。
  Excellent slot milling performance, high edge strength.
- 不等螺旋不等分度设计，切削过程稳定。
  Variable helix and differential flute pith design,stable cutting process.
- 抛物线型容屑槽设计，拥有优异的排屑能力。
  Parabolic chip groove with excellent chip removal capability.

SS600-S4

4 刃平头
4 Flutes Square



SHANK h6 | 4 | AlTiN | 35°/38° Helix | Square

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	库存 Stock
SS600-S4-04011	4	11	50	4	●
SS600-S4-64011	4	11	50	6	●
SS600-S4-06016	6	16	50	6	●
SS600-S4-08020	8	20	60	8	●
SS600-S4-10025	10	25	75	10	●
SS600-S4-12026	12	26	83	12	●
SS600-S4-16032	16	32	92	16	●
SS600-S4-20038	20	38	100	20	●

●库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.03
D>12	0 -0.04

单位unit（mm）

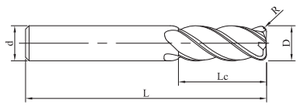
工件材料 Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
碳钢、合金钢 Carbon Steels，Alloy Steels <35HRC	合金钢 Alloy Steels <48HRC	不锈钢 Stainless Steel	铸铁 Cast iron	高温合金 HRSA	钛合金 Titanium Alloys
◎	◎	◎	○	○	◎

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P092

SS600-R4

4刃圆角头
4 Flutes Corner Radius



SHANK h6 | 4 | AlTiN | 35°/38° Helix | Corner-R

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	库存 Stock
SS600-R4-04005	4	0.5	11	50	4	●
SS600-R4-64005	4	0.5	11	50	6	●
SS600-R4-06005	6	0.5	16	50	6	●
SS600-R4-06010	6	1	16	50	6	●
SS600-R4-08005	8	0.5	20	60	8	●
SS600-R4-08010	8	1	20	60	8	●
SS600-R4-10005	10	0.5	25	75	10	●
SS600-R4-10010	10	1	25	75	10	●
SS600-R4-12005	12	0.5	26	83	12	●
SS600-R4-12010	12	1	26	83	12	●
SS600-R4-16010	16	1	32	92	16	●
SS600-R4-16020	16	2	32	92	16	●
SS600-R4-20010	20	1	38	100	20	●
SS600-R4-20020	20	2	38	100	20	●

●库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.03
D>12	0 -0.04

单位unit（mm）

工件材料 Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
碳钢、合金钢 Carbon Steels，Alloy Steels <35HRC	合金钢 Alloy Steels <48HRC	不锈钢 Stainless Steel	铸铁 Cast iron	高温合金 HRSA	钛合金 Titanium Alloys
◎	◎	◎	○	○	◎

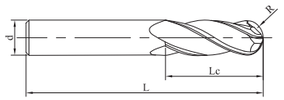
◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P092

SS600-B4

4刃球头

4 Flutes Ball Nose



SHANK h6 | 4 | AlTiN | 35°/38° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	库存 Stock
SS600-B4-06012	6	3	12	50	6	○
SS600-B4-08014	8	4	14	60	8	○
SS600-B4-10018	10	5	18	75	10	○
SS600-B4-12022	12	6	22	75	12	○
SS600-B4-16030	16	8	30	100	16	○
SS600-B4-20030	20	10	38	100	20	○

●库存 Stock ○需预定 Available upon Order

R	公差Tol
R≥3	± 0.020

单位unit（mm）

工件材料 Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
碳钢、合金钢 Carbon Steels，Alloy Steels ＜35HRC	合金钢 Alloy Steels ＜48HRC	不锈钢 Stainless Steel	铸铁 Cast iron	高温合金 HRSA	钛合金 Titanium Alloys
◎	◎	◎	○	○	◎

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P093

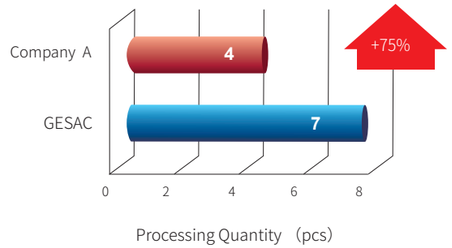
加工案例

Application cases

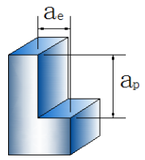
案例：SS600-B4系列 铰链板深槽加工

Case：SS600-B4 Endmills for Machining Groove Of Hinge Plate

刀具型号 Type	SS600-B4-12022
刀具规格 Size	R6*22*75*d12
加工材料 Workpiece Material	15-5PH
转速 Speed	475RPM (18m/min)
进给速度 Feed Rate	47.5mm/min (0.025mm/z)
切削方式 Cutting Method	仿形 Profiling
切深量 Cutting Depth	ap=4.5mm，ae=3mm
冷却方式 Cooling Method	乳化液、外冷 Emulsion,External Cooling

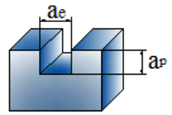


推荐切削参数
Recommended Cutting Data



SS600-S4/R4
高强度钢For High Strength Steels——侧铣Side milling

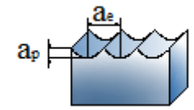
工件材料 Workpiece Material		切深量 Cutting Depth (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	4	6	8	10	12	16	20
M	不锈钢 Stainless steel	ap≤1.5D	80 (60~110)	转速 Speed (min-1)	6730	4245	3185	2545	2020	1590	1275
		ae≤0.25D		进给速度 Feed Rate (mm/min)	510	510	510	510	485	445	430
S	钛合金 Titanium Alloys	ap≤1.5D	60 (40~100)	转速 Speed (min-1)	4780	3185	2390	1910	1590	1195	955
		ae≤0.25D		进给速度 Feed Rate (mm/min)	285	320	335	354	350	310	305



SS600-S4/R4
高强度钢 For High Strength Steels——槽铣 Slotting

工件材料 Workpiece Material		切深量 Cutting Depth (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	4	6	8	10	12	16	20
M	不锈钢 Stainless steel	ap≤1.5D	60 (50~70)	转速 Speed (min-1)	4775	3185	2390	1910	1590	1195	955
		ae≤1D		进给速度 Feed Rate (mm/min)	285	320	335	345	350	310	305
S	钛合金 Titanium Alloys	ap≤1.5D	40 (30~60)	转速 Speed (min-1)	3185	2120	1590	1270	1060	792	635
		ae≤1D		进给速度 Feed Rate (mm/min)	190	190	190	200	210	190	190

推荐切削参数
Recommended Cutting Data



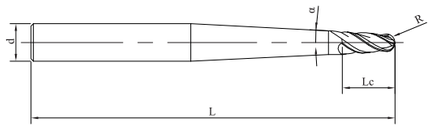
SS600-B4
高强度钢For High Strength Steels ——仿型铣Profiling

工件材料 Workpiece Material		切深量 Cutting Depth (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	6	8	10	12	16	20
M	不锈钢 Stainless steel	ap≤0.2D	100 (80~120)	转速 Speed (min-1)	5300	3980	3180	2650	1990	1590
		ae≤0.2D		进给速度 Feed Rate (mm/min)	1100	1100	1080	1050	1030	1020
S	钛合金 Titanium Alloys	ap≤0.2D	70 (60~80)	转速 Speed (min-1)	3715	2785	2230	1860	1390	1110
		ae≤0.2D		进给速度 Feed Rate (mm/min)	670	610	535	480	445	352

B

STB200锥度球头立铣刀
STB200 Taper Ball Nose

STB200-TB24
4刃锥度球头立铣刀
4 Flutes Taper Ball Nose



SHANK h6 | 4 | AlTiN | 35° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	α	R	Lc	L	d	库存 Stock
STB200-TB24-04002006	2	2	10	80	6	○
STB200-TB24-06002008	2	3	10	80	8	○
STB200-TB24-08002012	2	4	15	100	10	○
STB200-TB24-10002014	2	5	20	120	12	○

●库存 Stock ○需预定 Available upon Order

	公差Tol
R	±0.01
α	±3′

单位unit（mm）

- 适用叶盘叶片的半精加工、精加工。
  Suitable for semi-finishing and finishing of blisk and blade.
- 锥度避空设计及抑震设计，适合大悬伸加工。
  Suitable for large suspension processing.
- 采用超细颗粒基体及高性能专用纳米涂层，耐磨性高，加工稳定。
  Ultra-fine cemented carbide and special coating，high wear resistance, longer tool life.
- 高轮廓精度，圆角半径精度±0.01mm，锥度精度±3′。
  High precision profile，Radius tolerance±0.01mm，Taper tolerance±3′.

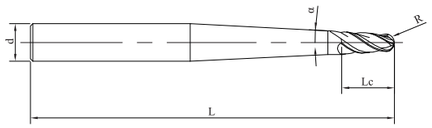
工件材料 Workpiece Material				
P		M	S	
1234	5	123	123	4
碳钢、合金钢 Carbon Steels，Alloy Steels ＜35HRC	合金钢 Alloy Steels ＜48HRC	不锈钢 Stainless Steel	高温合金 HRSA	钛合金 Titanium Alloys
○	○	◎	◎	◎

◎ 最适合 Most Suitable ○ 适合Suitable

推荐切削参数 Cutting Parameters ※ P098

STB200-TB34

4刃锥度球头立铣刀
4 Flutes Taper Ball Nose



SHANK h6 | 4 | AlTiN | 35° Helix | Ballnose

标记说明请参考P042页 See page 042 for guidelines to icons

订货号 Ordering Code	α	R	Lc	L	d	库存 Stock
STB200-TB34-03003006	3	1.5	10	80	6	○
STB200-TB34-04003006	3	2	10	80	6	○
STB200-TB34-05003008	3	2.5	10	80	8	○
STB200-TB34-06003010	3	3	10	100	10	○
STB200-TB34-08003012	3	4	15	120	12	○
STB200-TB34-10003016	3	5	20	120	16	○

●库存 Stock ○需预定 Available upon Order

	公差Tol
R	±0.01
α	±3'

单位unit（mm）

工件材料 Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
碳钢、合金钢 Carbon Steels，Alloy Steels ＜35HRC	合金钢 Alloy Steels ＜48HRC	不锈钢 Stainless Steel	高温合金 HRSA	钛合金 Titanium Alloys
○	○	◎	◎	◎

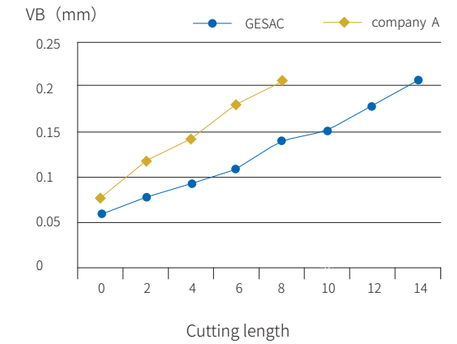
◎ 最适合 Most Suitable ○ 适合Suitable

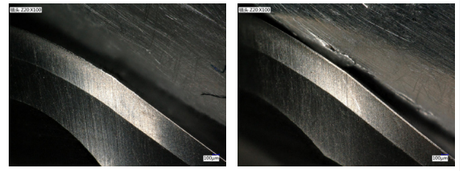
推荐切削参数 Cutting Parameters ※ P098

加工案例
Application cases

案例：STB200-TB24仿形精加工
Case：STB200-TB24 Profiling machining

刀具型号 Type	STB200-TB24-06002008
刀具规格 Size	R3*2°*10*80*d8
加工材料 Workpiece Material	GH4169
转速 Speed	1600RPM（30m/min）
进给速度 Feed Rate	128mm/min（0.02mm/z）
切削方式 Cutting Method	仿形铣 Profiling
切深量 Cutting Depth	ap=0.48mm，ae=0.8mm
冷却方式 Cooling Method	乳化液、外冷 Emulsion，External Cooling
加工效果 Result	STB200系列刀具具有良好的抗崩缺能力，同时拥有优异的耐磨损性能。 STB200 series endmill has excellent crack resistance and wear resistance.



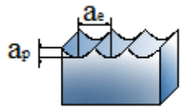


GESAC　Company A

After cutting 8m

B 铣削\Milling

推荐切削参数
Recommended Cutting Data



STB200
锥度球头Taper ball nose——仿型铣Profiling

工件材料 Workpiece Material		切深量 Cutting Depth (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	3	4	5	6	8	10
M	不锈钢 Stainless Steel	ap≤0.2D	100 (80~120)	转速 Speed (min^{-1})	10600	7960	6370	5300	3980	3180
		ae≤0.2D		进给速度 Feed Rate (mm/min)	1160	1020	1020	1100	1100	1080
S	高温合金 HRSA	ap≤0.03D	35 (25~45)	转速 Speed (min^{-1})	3715	2785	2225	1855	1390	1115
		ae≤0.03D		进给速度 Feed Rate (mm/min)	295	245	230	220	220	265
	钛合金 Titanium Alloys	ap≤0.2D	70 (60~80)	转速 Speed (min^{-1})	7430	5570	4450	3715	2785	2230
		ae≤0.3D		进给速度 Feed Rate (mm/min)	740	670	715	670	610	535

叶盘加工解决方案
Processing Solution for Blisk

MEMO

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