GESAC®

NEW

18.1

CUTTING TOOLS

切削刀具

G-PAK

XTC 厦门金鹭特种合金有限公司

Xiamen Golden Egret Special Alloy Co.,Ltd.

公司简介
About GESAC

厦门金鹭特种合金有限公司，成立于1989年，是一家中外合资的国家高新技术企业，隶属于中国六大稀土集团之一的厦门钨业股份有限公司。公司致力于高品质钨粉末材料、硬质合金、精密切削工具等钨系列产品的研发、生产，以及行业专业解决方案的提供，是世界知名的钨粉末、硬质合金及切削工具供应商。

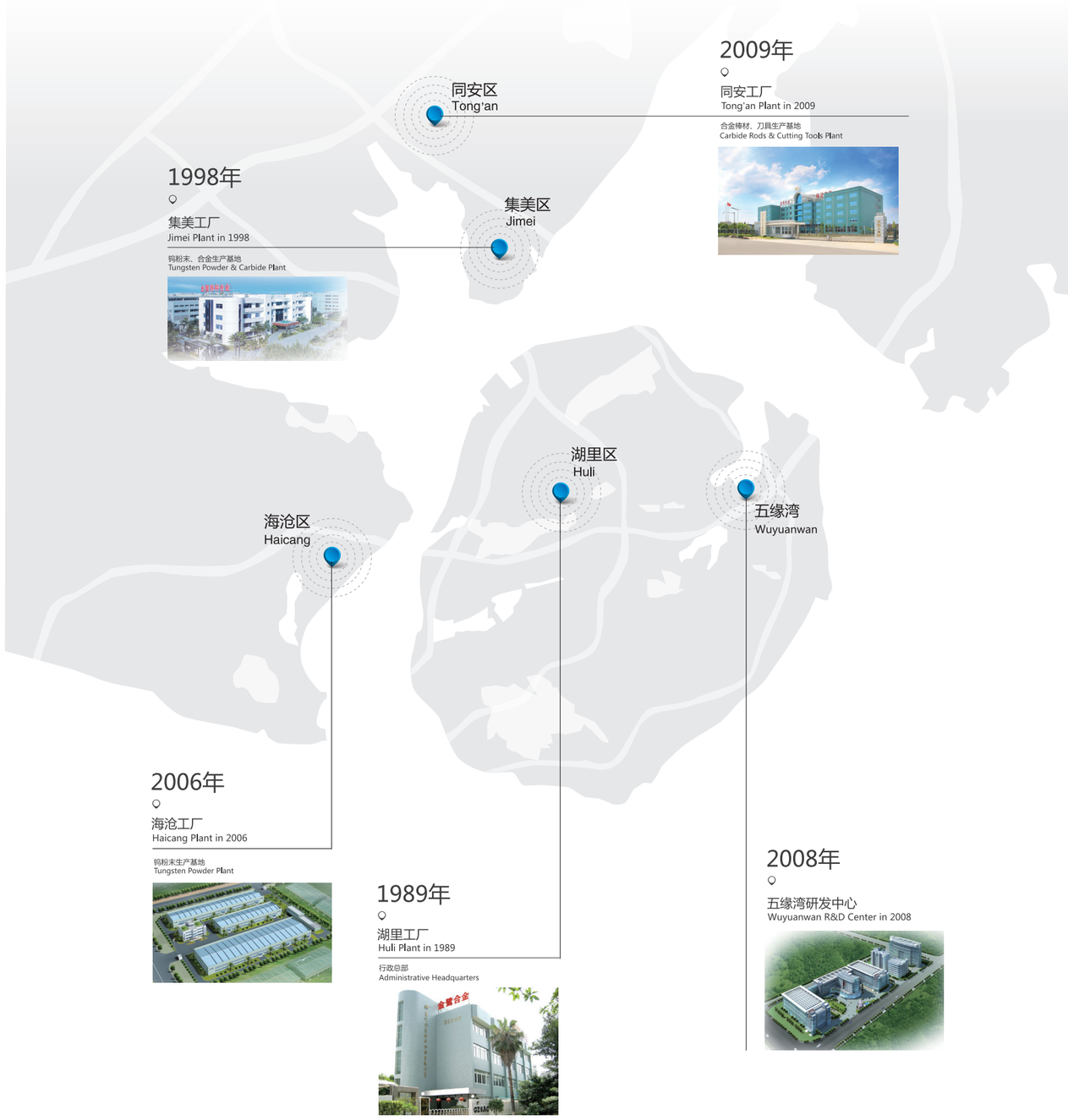
凭借完整钨产业链的产品集成技术研发，以及务实、创新的管理理念，厦门金鹭始终保持着强劲的发展势头，为全球用户提供最高性价比的钨粉末产品和服务，为现代工业领域解决高硬度、耐高温、耐磨损问题，提供了优良的产品和完善的解决方案，客户遍布全球四十多个工业发达国家和地区，享誉海内外。

公司拥有3个生产基地，3个海外销售公司和1个企业技术中心，独立承担并完成多项“国家科技支撑计划项目”，“国家科技重大专项”，“国家火炬计划项目”，“国家重点新产品”开发项目及省市重点研究课题，被评为“战略性新兴产业骨干企业”、“创新型企业”、“先进技术企业”。

Xiamen Golden Egret Special Alloy Co., Ltd. (GESAC), founded in 1989, is a Sino-foreign joint venture with national high-tech, affiliated with XTC, which is one of six major rare earth groups in China. GESAC is committed to research & development, production and professional solutions providing of high-quality tungsten powder materials, cemented carbide, precision cutting tools and other tungsten products. Up to now, GESAC has become world-famous manufacturer and supplier of tungsten powder, cemented carbide and precision cutting tools products.

With the Integrated Product Development of complete tungsten industry chain, as well as a pragmatic and innovative management concept, GESAC has always maintained a strong momentum of development, providing the cost effective tungsten powder products and services for global users, offering the excellent products and perfect solutions for solving high hardness, high temperature resistance and wear resistance topics. Our brand "Golden Egret" has become one of the leading brand in the market, enjoying famous reputation in more than 40 countries and regions.

GESAC owns three production bases, three overseas sales branches and one R&D center. We undertook and completed several development programs independently, including the “National Science and Technology Support Programs”, the “National Torch Program Projects”, and the “National Key Projects” and so on. GESAC was awarded as "Key Enterprise for Strategic Emerging Industry ", “Innovative Enterprise" and "Enterprise with Advanced Technology ".



金鹭工厂分布 | GESAC Facilities

GESAC

目录
Contents

TURNING

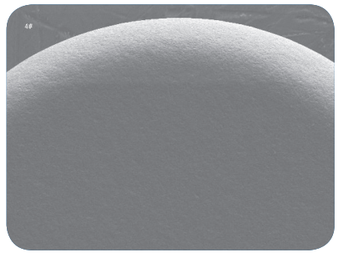
车削

A

金属陶瓷车削
Cermet Turning Inserts

- 广泛应用于阀门、轴类、汽车零部件、医疗器械及通用机械行业。
  Widely used in valve、shafts、auto parts、medical equipment and general machinery industry.
- 通用的精-半精加工槽型设计，双前角大刃宽设计，刀尖强度高。
  General chip-breaker design for semi-finishing, double-rake angle, smooth chip breaker, improve the cutting edge.
- 包括QF、MM等常规槽型系列，搭配全新的金属陶瓷车削GP91TM、GP31TM牌号，可涵盖金属陶瓷车削常用工况。
  Including QF series, MM series and other regular series with new grades for Cermet such as GP91TM、GP31TM ,cover most working conditions of steel turning.

金属陶瓷车削牌号应用一览表
Application Summary of Grades for Cermet

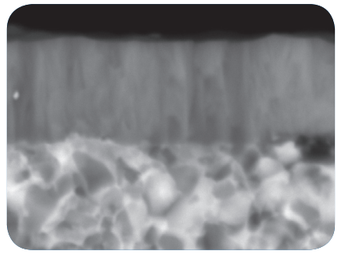


高性能金属陶瓷车削牌号GP91TM
Uncoated cermet：GP91TM

NEW

• 卓越的耐磨性和抗崩刃性，实现稳定的长寿命加工。
Achieving stability and long tool life with excellent wear resistance and fracture resistance.

• 适用于中高速切削。
Suitable for medium and high speed application.



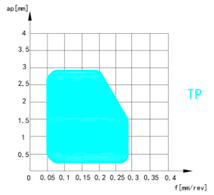
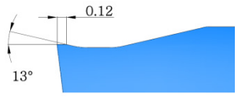
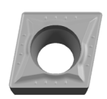
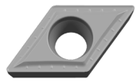
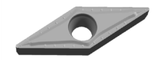
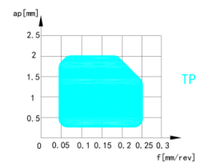
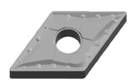
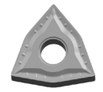
高性能涂层金属陶瓷车削牌号GP31TM
Coated cermet：GP31TM

NEW

• 高度润滑涂层，显著提升耐磨性。
Low friction coefficient and improved wear resistance greatly.

• 良好的耐热性和抗崩刃性
Provide excellent heat resistance and toughness

金属陶瓷车削新品一览表
Overview of Turning Inserts for Cermet

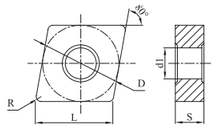
槽型 Geometry	特点 Features	加工范围 Application Range	槽型截面 Cross Section Geometry		80°菱形 80° Rhombic	55°菱形 55° Rhombic	90°正方形 90° Square	60°正三角形 60° Triangle	35°菱形 35° Rhombic	80°六边形 80° Trigon
TP 正型 Positive NEW	• 大刃宽设计,提升刀尖强度 • 整体花纹设计,安装稳定可靠 • 箭形断屑台,提高大切深时断屑性能 • Smooth chip breaker design, improve the cutting edge • Over pattern design, stable placement. Arrowhead chip breaker, good chip control under big cutting depth.									
					CCMT-TP	DCMT-TP		TCMT-TP	V*MT-TP	
TP 负型 Negative NEW	• 双前角,大刃宽设计,提升刀尖强度 • 整体花纹设计,安装稳定可靠 • 箭形断屑台,提高大切深时断屑性能 • Double-rake angle, smooth chip breaker design, improve the cutting edge • Over pattern design, stable placement. Arrowhead chip breaker, good chip control under big cutting depth.									
					CNMG-TP	DNMG-TP	SNMG-TP	TNMG-TP	VNMG-TP	WNMG-TP

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)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	CNMG090304-QF	9.525	9.525	3.18	3.81	0.4	○	○
	CNMG090308-QF	9.525	9.525	3.18	3.81	0.8	○	○
	CNMG120404-QF	12.7	12.7	4.76	5.16	0.4	●	●
	CNMG120408-QF	12.7	12.7	4.76	5.16	0.8	○	○
	CNMG120404R-SV	12.7	12.7	4.76	5.16	0.4	○	○
	CNMG120408R-SV	12.7	12.7	4.76	5.16	0.8	○	○
	CNMG120408L-SV	12.7	12.7	4.76	5.16	0.8	○	○
	CNMG090304-QM	9.525	9.525	3.18	3.81	0.4	○	○
	CNMG090308-QM	9.525	9.525	3.18	3.81	0.8	○	○
	CNMG120404-QM	12.7	12.7	4.76	5.16	0.4	○	○
	CNMG120408-QM	12.7	12.7	4.76	5.16	0.8	○	○
NEW 	CNMG120404-TP	12.7	12.7	4.76	5.16	0.4	●	●
	CNMG120408-TP	12.7	12.7	4.76	5.16	0.8	●	●

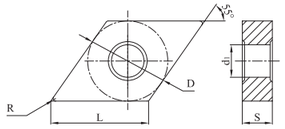
● 标准库存 Stock ○ 需预定 Available upon order

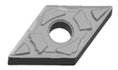
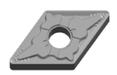
车削刀片(负型) / Turning Inserts (Negative)

DN□□

菱形55°有孔

Rhombic55°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	DNMG110404-QF	11.6	9.525	4.76	3.81	0.4	○	○
	DNMG110408-QF	11.6	9.525	4.76	3.81	0.8	○	○
	DNMG150404-QF	15.5	12.7	4.76	5.16	0.4	●	●
	DNMG150408-QF	15.5	12.7	4.76	5.16	0.8	●	○
	DNMG150604-QF	15.5	12.7	6.35	5.16	0.4	●	●
	DNMG150608-QF	15.5	12.7	6.35	5.16	0.8	●	○
	DNMG110404-QM	11.6	9.525	4.76	3.81	0.4	○	○
	DNMG110408-QM	11.6	9.525	4.76	3.81	0.8	○	○
	DNMG150404-QM	15.5	12.7	4.76	5.16	0.4	●	○
	DNMG150408-QM	15.5	12.7	4.76	5.16	0.8	●	○
NEW 	DNMG150404-TP	15.5	12.7	4.76	5.16	0.4	●	●
	DNMG150408-TP	15.5	12.7	4.76	5.16	0.8	●	○
	DNMG150604-TP	15.5	12.7	6.35	5.16	0.4	●	●
	DNMG150608-TP	15.5	12.7	6.35	5.16	0.8	●	○
NEW 	DNMG150404R-TS	15.5	12.7	4.76	5.16	0.4	●	●
	DNMG150404L-TS	15.5	12.7	4.76	5.16	0.4	●	○
	DNMG150408R-TS	15.5	12.7	4.76	5.16	0.8	○	○
	DNMG150408L-TS	15.5	12.7	4.76	5.16	0.8	○	○
	DNMG150404R-SV	15.5	12.7	4.76	5.16	0.4	●	○
	DNMG150404L-SV	15.5	12.7	4.76	5.16	0.4	○	○
	DNMG150408R-SV	15.5	12.7	4.76	5.16	0.8	○	○
	DNMG150408L-SV	15.5	12.7	4.76	5.16	0.8	○	○

● 标准库存 Stock ○ 需预定 Available upon order

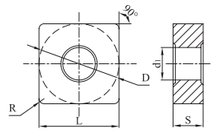
A 车削 / Turning

车削刀片(负型) / Turning Inserts (Negative)

SN□□

正方形90° 有孔

Square 90°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	SNMG090304-QF	9.525	9.525	3.18	3.81	0.4	○	○
	SNMG090308-QF	9.525	9.525	3.18	3.81	0.8	○	○
	SNMG120404-QF	12.7	12.7	4.76	5.16	0.4	○	○
	SNMG120408-QF	12.7	12.7	4.76	5.16	0.8	○	○
	SNMG120404R-SV	12.7	12.7	4.76	5.16	0.4	○	○
	SNMG120408R-SV	12.7	12.7	4.76	5.16	0.8	○	○
	SNMG120408L-SV	12.7	12.7	4.76	5.16	0.8	○	○
	SNMG090304-QM	9.525	9.525	3.18	3.81	0.4	○	○
	SNMG090308-QM	9.525	9.525	3.18	3.81	0.8	○	○
	SNMG120404-QM	12.7	12.7	4.76	5.16	0.4	○	○
	SNMG120408-QM	12.7	12.7	4.76	5.16	0.8	○	○
NEW 	SNMG120404-TP	12.7	12.7	4.76	5.16	0.4	○	○
	SNMG120408-TP	12.7	12.7	4.76	5.16	0.8	○	○

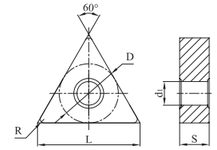
● 标准库存 Stock ○ 需预定 Available upon order

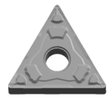
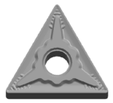
车削刀片(负型) / Turning Inserts (Negative)

TN□□

三角形60° 有孔

Triangle 60°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	TNMG160404-QF	16.5	9.525	4.76	3.81	0.4	●	●
	TNMG160408-QF	16.5	9.525	4.76	3.81	0.8	●	●
	TNMG110304-QM	11	6.35	3.18	2.26	0.4	○	○
	TNMG110308-QM	11	6.35	3.18	2.26	0.8	○	○
	TNMG160404-QM	16.5	9.525	4.76	3.81	0.4	●	○
	TNMG160408-QM	16.5	9.525	4.76	3.81	0.8	●	○
	TNMG160404R-SV	16.5	9.525	4.76	3.81	0.4	●	○
	TNMG160404L-SV	16.5	9.525	4.76	3.81	0.4	●	○
	TNMG160408R-SV	16.5	9.525	4.76	3.81	0.8	○	○
	TNMG160408L-SV	16.5	9.525	4.76	3.81	0.8	○	○
NEW 	TNMG160404R-TS	16.5	9.525	4.76	3.81	0.4	●	●
	TNMG160404L-TS	16.5	9.525	4.76	3.81	0.4	●	○
	TNMG160408R-TS	16.5	9.525	4.76	3.81	0.8	●	○
	TNMG160408L-TS	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	○	○
NEW 	TNMG160404-TP	16.5	9.525	4.76	3.81	0.4	●	●
	TNMG160408-TP	16.5	9.525	4.76	3.81	0.8	○	○

● 标准库存 Stock ○ 需预定 Available upon order

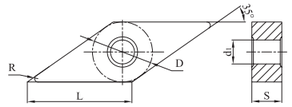
A 车削 / Turning

车削刀片(负型) / Turning Inserts (Negative)

VN□□

菱形35° 有孔

Rhombic35°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	VNMG160404-QF	16.6	9.525	4.76	3.81	0.4	●	●
	VNMG160408-QF	16.6	9.525	4.76	3.81	0.8	○	○
	VNMG160404-QM	16.6	9.525	4.76	3.81	0.4	●	○
	VNMG160408-QM	16.6	9.525	4.76	3.81	0.8	○	○
NEW 	VNMG160404-TP	16.6	9.525	4.76	3.81	0.4	●	●
	VNMG160408-TP	16.6	9.525	4.76	3.81	0.8	○	○

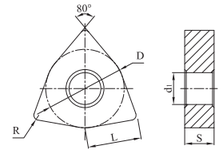
● 标准库存 Stock ○ 需预定 Available upon order

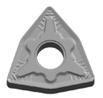
车削刀片(负型) / Turning Inserts (Negative)

WN□□

六边形80°有孔

Hexagon80°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	WNMG060404-QF	6.5	9.525	4.76	3.81	0.4	○	○
	WNMG060408-QF	6.5	9.525	4.76	3.81	0.8	○	○
	WNMG080404-QF	8.7	12.7	4.76	5.16	0.4	●	●
	WNMG080408-QF	8.7	12.7	4.76	5.16	0.8	●	○
	WNMG060404-QM	6.5	9.525	4.76	3.81	0.4	○	○
	WNMG060408-QM	6.5	9.525	4.76	3.81	0.8	○	○
	WNMG080404-QM	8.7	12.7	4.76	5.16	0.4	●	●
	WNMG080408-QM	8.7	12.7	4.76	5.16	0.8	●	○
	WNMG080404-SM	8.7	12.7	4.76	5.16	0.4	●	●
	WNMG080408-SM	8.7	12.7	4.76	5.16	0.8	○	○
NEW 	WNMG080404-TP	8.7	12.7	4.76	5.16	0.4	●	●
	WNMG080408-TP	8.7	12.7	4.76	5.16	0.8	○	○

● 标准库存 Stock ○ 需预定 Available upon order

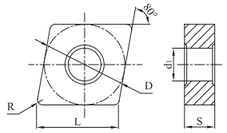
A 车削 / Turning

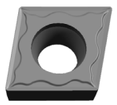
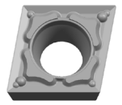
车削刀片(正型) / Turning Inserts (Positive)

CC□□

菱形80°有孔

Rhombic80°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	CCMT060202-GP	6.5	6.35	2.38	2.8	0.2	○	○
	CCMT060204-GP	6.5	6.35	2.38	2.8	0.4	●	●
	CCMT060208-GP	6.5	6.35	2.38	2.8	0.8	○	○
	CCMT09T302-GP	9.7	9.525	3.97	4.4	0.2	○	○
	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	○	○
	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	○	○
NEW 	CCMT060202-TP	6.5	6.35	2.38	2.8	0.2	●	○
	CCMT060204-TP	6.5	6.35	2.38	2.8	0.4	●	●
	CCMT060208-TP	6.5	6.35	2.38	2.8	0.8	●	○
	CCMT09T302-TP	9.7	9.525	3.97	4.4	0.2	●	○
	CCMT09T304-TP	9.7	9.525	3.97	4.4	0.4	●	●
	CCMT09T308-TP	9.7	9.525	3.97	4.4	0.8	●	○
	CCMT120404-TP	12.9	12.7	4.76	5.56	0.4	●	●
	CCMT120408-TP	12.9	12.7	4.76	5.56	0.8	●	○

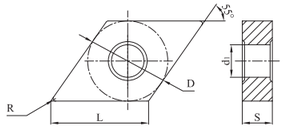
● 标准库存 Stock ○ 需预定 Available upon order

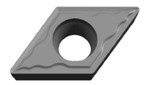
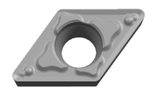
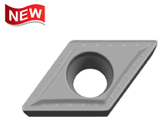
车削刀片(正型) / Turning Inserts (Positive)

DC□□

菱形55°有孔

Rhombic55°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	DCMT070202-GP	7.8	6.35	2.38	2.8	0.2	○	○
	DCMT070204-GP	7.8	6.35	2.38	2.8	0.4	●	●
	DCMT070208-GP	7.8	6.35	2.38	2.8	0.8	○	○
	DCMT11T302-GP	11.6	9.525	3.97	4.4	0.2	○	○
	DCMT11T304-GP	11.6	9.525	3.97	4.4	0.4	●	●
	DCMT11T308-GP	11.6	9.525	3.97	4.4	0.8	○	○
	DCMT070202-MM	7.8	6.35	2.38	2.8	0.2	○	○
	DCMT070204-MM	7.8	6.35	2.38	2.8	0.4	●	●
	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	○	○
NEW 	DCMT070202-TP	7.8	6.35	2.38	2.8	0.2	●	○
	DCMT070204-TP	7.8	6.35	2.38	2.8	0.4	●	●
	DCMT070208-TP	7.8	6.35	2.38	2.8	0.8	●	○
	DCMT11T302-TP	11.6	9.525	3.97	4.4	0.2	●	○
	DCMT11T304-TP	11.6	9.525	3.97	4.4	0.4	●	●
	DCMT11T308-TP	11.6	9.525	3.97	4.4	0.8	●	○

● 标准库存 Stock ○ 需预定 Available upon order

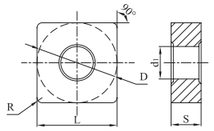
A 车削 / Turning

车削刀片(正型) / Turning Inserts (Positive)

SC□□

正方形90° 有孔

Square 90°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	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	○	○

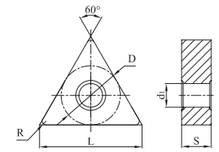
● 标准库存 Stock ○ 需预定 Available upon order

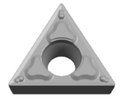
车削刀片(正型) / Turning Inserts (Positive)

TC□□

三角形60° 有孔

Triangle 60°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	TCMT090204-GP	9.6	5.56	2.38	2.5	0.4	○	○
	TCMT110202-GP	11	6.35	2.38	2.8	0.2	○	○
	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	○	
	TCMT110202-MM	11	6.35	2.38	2.8	0.2	○	○
	TCMT110204-MM	11	6.35	2.38	2.8	0.4	●	●
NEW 	TCMT090204-TP	9.6	5.56	2.38	2.5	0.4	●	●
	TCMT110204-TP	11	6.35	2.38	2.8	0.4	●	●
	TCMT110208-TP	11	6.35	2.38	2.8	0.8	●	○
	TCMT16T304-TP	16.5	9.525	3.97	4.4	0.4	●	●
	TCMT16T308-TP	16.5	9.525	3.97	4.4	0.8	●	○

● 标准库存 Stock ○ 需预定 Available upon order

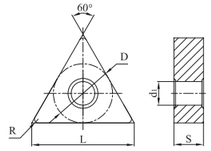
A 车削 / Turning

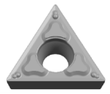
车削刀片(正型) / Turning Inserts (Positive)

TP□□

三角形60° 有孔

Triangle 60°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	TPMT110202-MM	11	6.35	2.38	3.3	0.2	○	○
	TPMT110204-MM	11	6.35	2.38	3.3	0.4	●	○
	TPMT110304-MM	11	3.35	3.18	3.3	0.4	●	●

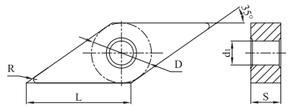
● 标准库存 Stock ○ 需预定 Available upon order

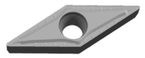
车削刀片(正型) / Turning Inserts (Positive)

VB□□

菱形35° 有孔

Rhombic35°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	VBMT160404-GP	16.6	9.525	4.76	4.4	0.4	●	●
	VBMT160408-GP	16.6	9.525	4.76	4.4	0.8	○	○
	VBMT160404-MM	16.6	9.525	4.76	4.4	0.4	●	●
	VBMT160408-MM	16.6	9.525	4.76	4.4	0.8	○	○
NEW 	VBMT160402-TP	16.6	9.525	4.76	4.4	0.2	○	○
	VBMT160404-TP	16.6	9.525	4.76	4.4	0.4	○	○
	VBMT160408-TP	16.6	9.525	4.76	4.4	0.8	○	○

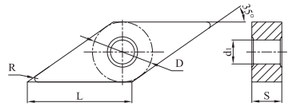
● 标准库存 Stock ○ 需预定 Available upon order

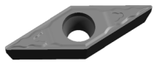
车削刀片(正型) / Turning Inserts (Positive)

VC□□

菱形35° 有孔

Rhombic35°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	VCMT110304-GP	11.2	6.35	3.18	2.8	0.4	○	○
	VCMT160404-GP	16.6	9.525	4.76	4.4	0.4	●	●
	VCMT160408-GP	16.6	9.525	4.76	4.4	0.8	○	○

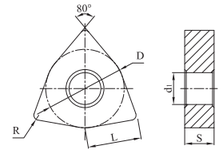
● 标准库存 Stock ○ 需预定 Available upon order

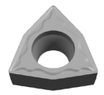
车削刀片(正型) / Turning Inserts (Positive)

WC□□

六边形80°有孔

Hexagon80°, with Hole



订货号 Ordering Code		尺寸 Dimension(mm)					牌号 Grade	
		L	D	S	d1	R	GP91TM	GP31TM
	WCMT06T304-GP	6.5	9.525	3.97	4.4	0.4	○	○
	WCMT06T308-GP	6.5	9.525	3.97	4.4	0.8	○	○

● 标准库存 Stock ○ 需预定 Available upon order

推荐切削参数
Recommended Cutting Data

槽型 Geometry	工件材料 Workpiece Materials		硬度 Hardness	用途 Application	牌号 Grade	下限-推荐-上限 Min-Optimum-Max		
						切削速度 Cutting Speed Vc(m/min)	进给量 Feed Rate f(mm/rev)	切深 Depth of Cut ap(mm)
MM	P	软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.03-0.10-0.20	0.1-0.3-1.0
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.03-0.12-0.20	0.1-0.5-1.0
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.03-0.10-0.20	0.1-0.3-1.0
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.03-0.12-0.20	0.1-0.5-1.0
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.03-0.10-0.20	0.1-0.3-1.0
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.03-0.12-0.20	0.1-0.5-1.0
GP		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.05-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.05-0.15-0.22	0.3-1.0-1.5
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.05-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.05-0.15-0.22	0.3-1.0-1.5
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.05-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.05-0.15-0.22	0.3-1.0-1.5
TP 正型 Negative NEW		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.05-0.12-0.22	0.3-0.8-2.0
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.05-0.15-0.22	0.3-1.0-2.0
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.05-0.12-0.22	0.3-0.8-2.0
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.05-0.15-0.22	0.3-1.0-2.0
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.05-0.12-0.22	0.3-0.8-2.0
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.05-0.15-0.22	0.3-1.0-2.0
TP 负型 Negative NEW		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.05-0.12-0.28	0.3-1.0-3.0
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.05-0.15-0.28	0.3-1.2-3.0
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.05-0.12-0.28	0.3-1.0-2.5
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.05-0.15-0.28	0.3-1.2-2.5
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.05-0.12-0.28	0.3-1.0-2.5
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.05-0.15-0.28	0.3-1.2-2.5

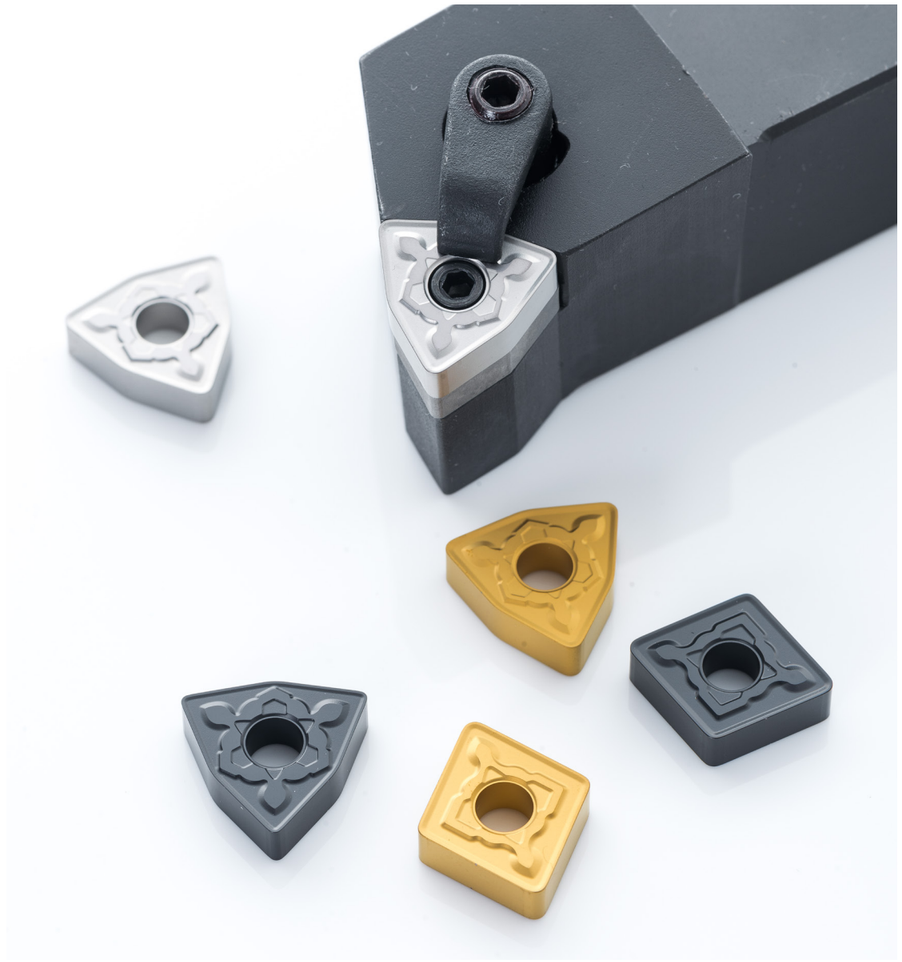
推荐切削参数
Recommended Cutting Data

槽型 Geometry	工件材料 Workpiece Materials		硬度 Hardness	用途 Application	牌号 Grade	下限-推荐-上限 Min-Optimum-Max		
						切削速度 Cutting Speed Vc(m/min)	进给量 Feed Rate f(mm/rev)	切深 Depth of Cut ap(mm)
QF	P	软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.04-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.04-0.15-0.22	0.3-1.0-1.5
		碳碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.04-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.04-0.15-0.22	0.3-1.0-1.5
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.04-0.12-0.22	0.3-0.8-1.5
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.04-0.15-0.22	0.3-1.0-1.5
QM		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.10-0.15-0.30	0.5-1.2-3.0
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.10-0.18-0.30	0.5-1.5-3.0
		碳碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.10-0.15-0.30	0.5-1.2-2.5
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.10-0.18-0.30	0.5-1.5-2.5
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.10-0.15-0.30	0.5-1.2-2.5
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.10-0.18-0.30	0.5-1.5-2.5
TS		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.10-0.15-0.35	0.5-1.0-3.0
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.10-0.20-0.35	0.5-1.2-3.0
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.10-0.15-0.35	0.5-1.0-3.0
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.10-0.20-0.35	0.5-1.2-3.0
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.10-0.15-0.30	0.5-1.0-3.0
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.10-0.20-0.30	0.5-1.2-3.0
SV		软钢 Mild Steel	≤HB180	稳定切削 Continuous	GP31TM	220-320-380	0.10-0.15-0.35	1.0-1.8-3.5
				不稳定切削 Interrtuption	GP91TM	180-250-330	0.10-0.20-0.35	1.0-2.0-3.5
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP31TM	140-220-300	0.10-0.15-0.35	1.0-1.8-3.0
				不稳定切削 Interrtuption	GP91TM	100-180-260	0.10-0.20-0.35	1.0-2.0-3.0
			HB280-350	稳定切削 Continuous	GP31TM	100-180-260	0.10-0.15-0.30	1.0-1.8-3.0
				不稳定切削 Interrtuption	GP91TM	60-120-200	0.10-0.20-0.30	1.0-2.0-3.0

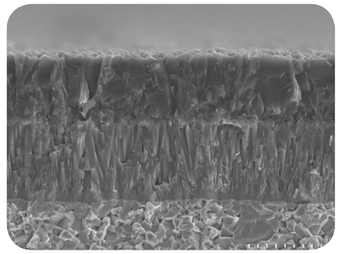
A 车型 / Turning

通用车削修光刃刀片
Universal Wiper Insert for Turning

- 广泛应用于钢材、铸铁半精-粗加工，如法兰、刹车盘等通用机械领域。
  Widely apply to steels and cast iron of semi-finishing-roughing, such as Flange, Brake disc etc in the field of general machinery.
- 特殊的精-半精加工槽型设计，切削锋利性与强度的双向保证，断屑效果优异。
  Special chip-breaker design for finishing to semi-finishing, guarantee for both edge sharpness and intensity , and with wide applicable range.
- WMV槽型系列搭配铸铁车削牌号GK1115，钢材车削牌号GP1225/GP1105，使之适用于钢车、铸车加工工况。
  WMV cover with different grades, includes GK1115(grade for cast iron) and GP1225/GP1105(grade for steel) ,which make it suitable for cast iron and steel turning.



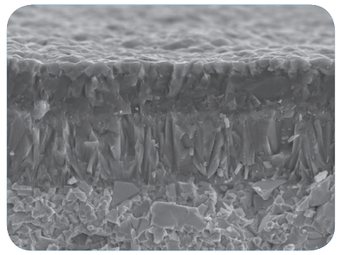
WMV槽型车削牌号应用一览表
Application Summary of Grades for WMV



高耐磨性铸铁车削CVD牌号GK1115
Extremely wear-resistance Cast Iron Turning CVD Grade-GK1115

• 高耐磨性细晶粒与MT-TiCN+厚的Al_2O_3涂层相结合，经过特殊的涂层后处理技术，表面光滑，在加工球墨铸铁和灰铸铁时，表现出良好的耐磨性与抗崩刃性。
MT-TiCN and thick Al_2O_3 coated on micro-grain carbide substrate, superior wear resistance. Smooth coating surface after special post-processing and shows superior wear resistance and fracture resistance.

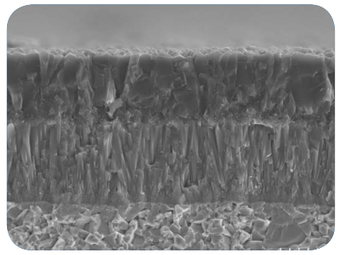
• 适用于灰铸铁和球墨铸铁的精-半精加工以及轻微断续加工。
Suitable for finishing and semi-finishing of nodular irons and gray irons in continuous and light interrupted conditions.



高通用性钢材车削CVD牌号GP1225
High versatility Steel Turning CVD Grade-GP1125

• 超精细MT-TiCN，Al_2O_3和表面光滑的TiN涂层结构与良好韧性的表面梯度合金基体结合，在具有良好抗磨损性能的同时，韧性大大提高。
Super fine MT-TiCN, Al_2O_3 and TiN coating on tough graded carbide substrate smooth surface and superior wear resistance and improved toughness.

• 适用于一般工况下钢、合金钢的半精到轻微粗加工。
Suitable for semi-finishing to medium roughing of steels and alloy steels in general conditions. condition with medium speed.

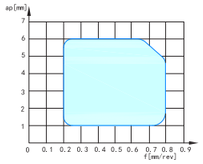
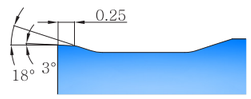
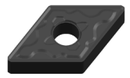
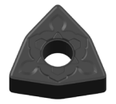


高耐磨性钢材车削CVD牌号GP1105
Extremely wear-resistance Steel Turning CVD Grade-GP1105

• 超微细Al_2O_3和MT-TiCN涂层与独特的梯度合金基体相结合，具有优异的耐磨性能。
Superfine Al_2O_3 and MT-TiCN coating on gradient carbide substrate provide excellent wear resistance.

• 适用于稳定工况下碳钢、合金钢等材料的精加工。
Suitable for finishing of steel & alloy steel under stable condition.

通用车削修光刃新品WMV一览表
Overview of Universal Wiper Inserts for WMV

槽型 Geometry	特点 Features	加工范围 Application Range	槽型截面 Cross Section Geometry		80°菱形 80° Rhombic	55°菱形 55° Rhombic	90°正方形 90° Square	60°正三角形 60° Triangle	35°菱形 35° Rhombic	80°六边形 80° Trigon
WMV	• 容屑空间大，大进给时，排屑顺畅，减少排屑阻力 • 兼备优异的切削锋利性与刀尖强度 • 采用多圆弧段修光刃，减小切削振动，获得更大加工范围和更好的表面质量 • Smoothly chip removal and lower cutting force due to big chip pocket • Make sure the sharpness and strength of cutting edge, • Multiple radius wiper design, to reduce the cutting vibration, enlarge the processing range and get the better surface quality				 Wiper	 Wiper		 Wiper		 Wiper
					CNMG-WMV	DNMX-WMV		TNMX-WMV		WNMG-WMV

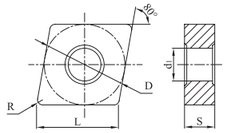
A 车削 / Turning

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				
		L	D	S	d1	R	GK1115	GK1120	GK1125	GP1105	GP1225
 Wiper	CNMG120408-WMV	12.9	12.7	4.76	5.16	0.8	●	○	●	●	●
	CNMG120412-WMV	12.9	12.7	4.76	5.16	1.2	●	○	●	●	●

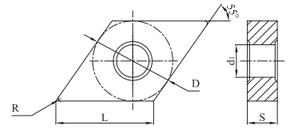
● 标准库存 Stock ○ 需预定 Available upon order

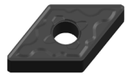
车削刀片(负型) / Turning Inserts (Negative)

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	GK1115	GK1120	GK1125	GP1105	GP1225
 Wiper	DNMX150408-WMV	15.5	12.7	4.76	5.16	0.8	●	○	○	●	●
	DNMX150412-WMV	15.5	12.7	4.76	5.16	1.2	●	○	○	●	●
	DNMX150608-WMV	15.5	12.7	6.35	5.16	0.8	●	○	○	●	●
	DNMX150612-WMV	15.5	12.7	6.35	5.16	1.2	●	○	○	●	●

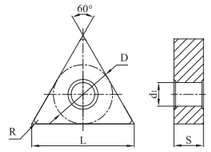
● 标准库存 Stock ○ 需预定 Available upon order

车削刀片(负型) / Turning Inserts (Negative)

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	d1	R	GK1115	GK1120	GK1125	GP1105	GP1225
 Wiper	TNMX160404-WMV	16.5	9.525	4.76	3.81	0.4	●	○	○	●	●
	TNMX160408-WMV	16.5	9.525	4.76	3.81	0.8	●	○	○	●	●

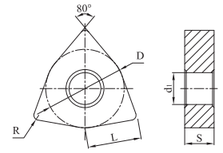
● 标准库存 Stock ○ 需预定 Available upon order

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				
		L	D	S	d1	R	GK1115	GK1120	GK1125	GP1105	GP1225
 Wiper	WNMG080408-WMV	8.7	12.7	4.76	5.16	0.8	●	○	●	●	●
	WNMG080412-WMV	8.7	12.7	4.76	5.16	1.2	●	○	●	●	●

● 标准库存 Stock ○ 需预定 Available upon order

推荐切削参数
Recommended Cutting Data

槽型 Geometry	工件材料 Workpiece Materials		硬度 Hardness	用途 Application	牌号 Grade	下限-推荐-上限 Min-Optimum-Max		
						切削速度 Cutting Speed Vc(m/min)	进给量 Feed Rate f(mm/rev)	切深 Depth of Cut ap(mm)
WMV	P	软钢 Low Carbon Steel	≤HB180	稳定切削 Continuous	GP1105	200-260-360	0.20-0.40-0.80	1.0-2.0-6.0
				不稳定切削 Interrtuption	GP1225	160-210-300	0.20-0.40-0.80	1.0-2.0-6.0
		碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-280	稳定切削 Continuous	GP1105	160-230-320	0.20-0.40-0.80	1.0-2.0-6.0
				不稳定切削 Interrtuption	GP1225	120-190-280	0.20-0.40-0.80	1.0-2.0-6.0
	K	灰口铸铁 Gray Cast Iron FC200、FC250等	≤HB250	稳定切削 Continuous	GK1115	230-350-500	0.20-0.40-0.80	1.0-2.0-6.0
				不稳定切削 Interrtuption	GK1125	220-320-480	0.20-0.40-0.80	1.0-2.0-6.0
		球墨铸铁 Nodular Cast Iron FCD450、FCD600等	≤HB270	稳定切削 Continuous	GK1115	180-260-380	0.20-0.40-0.80	1.0-2.0-6.0
				不稳定切削 Interrtuption	GK1125	160-230-350	0.20-0.40-0.80	1.0-2.0-6.0

切断切槽刀具
Parting and Grooving Tools

MR 系列
- 广泛应用于汽车零部件及通用机械行业。
  Widely used in auto parts and general machinery industry.
- 雪花形断屑槽和渐变式断屑壁设计，提供良好的断屑效果，导轨式定位槽设计，保证加工稳定性。
  Snowflake geometry and Graduated chip breaking arms provide excellent chip control , Guide rail locating slot Ensure the stability of machining.

GB系列
- 广泛应用于活塞、管件、传动轴、及通用机械行业。
  Widely used in piston、pipe fitting、transmission shaft and general machinery industry.
- 拥有圆头和方头形式的刀尖，E级精度，适合精-超精加工。
  Has round and square form，E accuracy, suitable for finishing-superfinishing.

切断切槽刀片型号表示规则
Parting and Grooving Inserts Identification System

GZ D 40 02 R 15 - FG

① 系列总称 Series
GK
GZ

② 刃数 Number of Cutting Edge
S=Single 单刃
D=Double 双刃

③ 刀片宽度 Insert Width
30=3mm
40=4mm

④ 刀尖圆弧半径 Corner Radius
02=0.2mm
04=0.4mm
20=2mm

⑤ 刀片方向 Hand of Insert
R=Right Hand 右手
L=Left Hand 左手
□=Neutral 中置

⑥ 带切削方向的刀片角度 Lead Angle
15=15°

⑦ 槽型	
第一个字母 First Character	第二个字母 Second Character Geometry
F=Low Feed 低进给	C=Cutting off 切断
M=Medium Feed 中等进给	T=Turning 车削
R=High Feed 高进给	G=Grooving 切槽
O=Optimize for Special Range 特定范围优化	R=Profiling 仿形车削

切断切槽刀杆型号表示规则
Parting and Grooving Tools Identification System

GZ E □ R 2525 - 4 T25 - □

① 系列总称 Series
GZ
GK

② 加工类型 Processing Type
E=External Processing 外圆加工
I=Internal Processing 内孔加工
F=Face Processing 端面加工

③ 刀杆外型 Tool Holder Shape
U=Undercutting 越程槽
P=Perpendicular 垂直式
□=Horizontal 直线式

④ 刀片方向 Hand of Insert
R=Right Hand 右手
L=Left Hand 左手
N=Neutral 中置

⑤ 刀柄尺寸 Shank Size
外圆刀杆 External Holer：高度*宽度 Height*Width
内孔刀杆 Internal Bar：最小加工直径*柄径 Min processing Diameter*Bar Diameter

⑥ 刀片宽度 Insert Width
4=4mm

⑦ 最大悬伸 Biggest Overhanging
25=25mm

⑧ 附加信息 Additional Information
D65/120：端面加工时首次切削的最小直径/最大直径 The min/max Diameter of the first face cutting
S=Stiffening Rib 带加强筋

A 车削 / Turning

GB系列刀片型号表示规则
GB Series Inserts Identification System

GB 4 125 R - 020

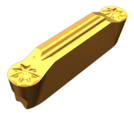
①	②	③	④	⑤
①系列总称 Series	②刀片尺寸 Insert Size	③刀片宽度 Insert Width	④刀片方向 Hand of Insert	⑤刀尖圆弧半径 Corner Radius
GB	3=9.525mm	125=1.25mm	R=Right Hand 右手	0.2=0.2mm
	4=12.7mm		L=Left Hand 左手	

GB系列刀杆型号表示规则
GB Series Tools Identification System

GB E R 2525 M 4 - □

①	②	③	④	⑤	⑥	⑦
①系列总称 Series	②加工类型 Processing Type	③刀片方向 Hand of Insert	④刀柄尺寸 Shank Size	⑤刀杆长度 Tool Holder Length	⑥刀片尺寸 Insert Size	⑦适合刀片宽度 Groove Size
GB	E=External Processing外圆加工	R=Right Hand 右手	外圆刀杆 External Holer：高度*宽度 Height*Width	K 125mm	3 IC=9.525mm	15 1.0≤W＜2.3（GB4）
	I=Internal Processing 内孔加工	L=Left Hand 左手	内孔刀杆 Internal Bar：最小加工直径*柄径 Min processing Diameter*Bar Diameter	M 150mm	4 IC=12.7mm	25 2.3≤W＜3.3（GB4）
				Q 180mm		35 W≥3.3（GB4）
				R 200mm		仅搭配GB4的外圆刀杆需做以上区别 Only for external holders with GB4 inserts

切断切槽刀具新品一览表
Overview of New Grooving Inserts

外形 Shape	系列 Series	应用 Application	宽度 Width	页码 Page
	MR	中等进给仿形加工 Medium Profiling	2.0-8.0 (mm)	P040
	GB	浅槽加工 Shallow Grooving	0.5-4.3 (mm)	P041-P042

切断切槽牌号应用一览表
Grades for Parting and Grooving

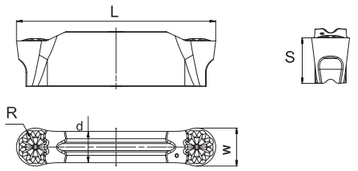
工件材料 Workpiece Material		P 钢 Steel						M 不锈钢 Stainless Steel					K 铸铁 Cast Iron					S 耐热、钛合金 HRSA、Titanium Alloy			
ISO		01	10	20	30	40	50	01	10	20	30	40	01	10	20	30	40	10	20	30	40
涂层硬质合金 Coated	CVD	GP1105																			
			GP1225											GK1115							
	PVD	GA4230							GA4230					GA4230							

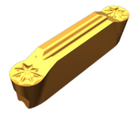
切断切槽刀片 / Parting and Grooving Inserts

MR

中等进给仿形加工刀片

MR Series Inserts for Medium Profiling



订货号 Ordering Code		尺寸 Dimensions(mm)					涂层硬质合金 Coated			
		W	R	L	d	S	GA4230	GP1105	GP1225	GK1115
	GKD2010-MR	2.0	1.0	16.0	1.2	3.5	●	●	○	●
	GKD3015-MR	3.0	1.5	21.2	2.35	4.8	●	●	○	●
	GKD4020-MR	4.0	2.0	21.0	3.3	4.8	●	●	○	●
	GKD5025-MR	5.0	2.5	26.0	4.1	5.8	●	●	○	●
	GKD6030-MR	6.0	3.0	26.0	5.0	5.8	●	●	○	●
	GKD8040-MR	8.0	4.0	31.0	6.0	6.5	●	●	○	●

● 适用刀杆，见第43页和第44页
● For tools, see page43 and page44

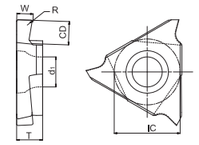
● 标准库存 Stock ○ 需预定 Available upon order

切断切槽刀片 / Parting and Grooving Inserts

GB

浅槽加工刀片

GB Series Inserts for Shallow Grooving



订货号 Ordering Code	W	CD	R	IC	T	d1	涂层硬质合金 Coated GA4230 R	涂层硬质合金 Coated GA4230 L
GB3050R/L-005	0.50	1.0	0.05	9.525	3.18	4.4	●	○
GB3075R/L-010	0.75	2.0	0.1	9.525	3.18	4.4	●	○
GB3080R/L-005	0.8	2.0	0.05	9.525	3.18	4.4	●	○
GB3095R/L-010	0.95	2.0	0.1	9.525	3.18	4.4	●	○
GB3100R/L-005	1	2.0	0.05	9.525	3.18	4.4	●	○
GB3100R/L-010	1	2.0	0.1	9.525	3.18	4.4	●	○
GB3120R/L-010	1.2	2.0	0.1	9.525	3.18	4.4	●	○
GB3120R/L-020	1.2	2.0	0.2	9.525	3.18	4.4	●	○
GB3125R/L-010	1.25	2.0	0.1	9.525	3.18	4.4	●	○
GB3140R/L-010	1.4	2.0	0.1	9.525	3.18	4.4	●	○
GB3140R/L-020	1.4	2.0	0.2	9.525	3.18	4.4	●	●
GB3145R/L-010	1.45	2.0	0.1	9.525	3.18	4.4	●	○
GB3150R/L-010	1.5	2.0	0.1	9.525	3.18	4.4	●	○
GB3150R/L-020	1.5	2.0	0.2	9.525	3.18	4.4	●	●
GB3175R/L-010	1.75	2.0	0.1	9.525	3.18	4.4	●	○
GB3200R/L-010	2	2.5	0.1	9.525	3.18	4.4	●	○
GB3200R/L-020	2	2.5	0.2	9.525	3.18	4.4	●	●
GB3250R/L-010	2.5	2.5	0.1	9.525	3.18	4.4	●	○
GB3250R/L-020	2.5	2.5	0.2	9.525	3.18	4.4	●	●
GB3300R/L-020	3.0	2.5	0.2	9.525	3.18	4.4	●	●
GB4125R/L -020	1.25	2.0	0.2	12.7	4.76	5.5	●	●
GB4150R/L-010	1.5	3.5	0.1	12.7	4.76	5.5	●	○
GB4150R/L-020	1.5	3.5	0.2	12.7	4.76	5.5	●	●
GB4175R/L-020	1.75	3.5	0.2	12.7	4.76	5.5	●	○

● 适用刀杆，见第45页和第46页
● For tools, see page45 and page46

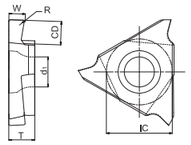
● 标准库存 Stock ○ 需预定 Available upon order

A 车削 / Turning

切断切槽刀片 / Parting and Grooving Inserts

GB

浅槽加工刀片
GB Series Inserts for Shallow Grooving



订货号 Ordering Code	尺寸 Dimensions(mm)						涂层硬质合金 Coated	
	W	CD	R	IC	T	d1	GA4230	
							R	L
GB4185R/L-020	1.85	3.5	0.2	12.7	4.76	5.5	●	●
GB4200R/L-005	2	3.5	0.05	12.7	4.76	5.5	●	○
GB4200R/L-010	2	3.5	0.1	12.7	4.76	5.5	●	○
GB4200R/L-020	2	3.5	0.2	12.7	4.76	5.5	●	●
GB4200R/L-030	2	3.5	0.3	12.7	4.76	5.5	●	○
GB4200R/L-050	2	3.5	0.5	12.7	4.76	5.5	●	○
GB4210R/L-050	2.1	4.0	0.5	12.7	4.76	5.5	●	○
GB4220R/L-030	2.2	4.0	0.3	12.7	4.76	5.5	●	○
GB4235R/L-050	2.35	4.0	0.5	12.7	4.76	5.5	●	○
GB4240R/L-050	2.4	4.0	0.5	12.7	4.76	5.5	●	○
GB4250R/L-030	2.5	4.0	0.3	12.7	4.76	5.5	●	●
GB4265R/L-030	2.65	4.0	0.3	12.7	4.76	5.5	●	○
GB4280R/L-030	2.8	5.0	0.3	12.7	4.76	5.5	●	○
GB4300R/L-030	3	4.0	0.3	12.7	4.76	5.5	●	●
GB4330R/L-030	3.3	5.0	0.3	12.7	4.76	5.5	●	○
GB4350R/L-030	3.5	5.0	0.3	12.7	4.76	5.5	●	●
GB4400R/L-040	4	5.0	0.4	12.7	4.76	5.5	●	●
GB4430R/L-040	4.3	5.0	0.4	12.7	4.76	5.5	●	○
GBR4100R/L-050	1	2.0	0.5	12.7	4.76	5.5	●	●
GBR4150R/L-075	1.5	3.5	0.75	12.7	4.76	5.5	●	●
GBR4200R/L-100	2.	3.5	1.0	12.7	4.76	5.5	●	●
GBR4250R/L-125	2.5	4.0	1.25	12.7	4.76	5.5	●	●
GBR4300R/L-150	3.0	4.0	1.5	12.7	4.76	5.5	●	●
GBR4400R/L-200	4	5.0	2.0	12.7	4.76	5.5	●	●

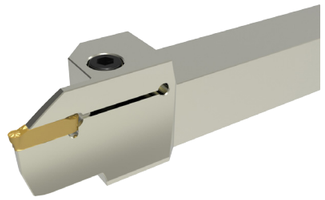
● 适用刀杆，见第45页和第46页
● For tools, see page45 and page46

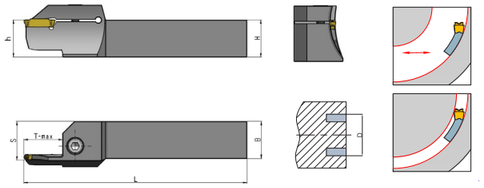
● 标准库存 Stock ○ 需预定 Available upon order

GK系列 / GK Series

端面槽刀杆-直线式

Face Grooving Holders - Horizontal





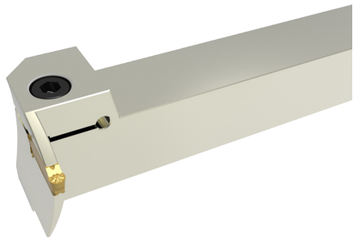
订货号 Ordering Code	库存 Stocks		适用刀片 Inserts	尺寸(mm) Dimensions							螺钉 Screw	扳手 Wrench
	R	L		H=h	B	L	S	T-max	Dmin	Dmax		
GKFR/L2525-2T12D75	○	○	GKD20...	25	25	150	26	15	75	100	SCAM6X20	TH50L
GKFR/L2525-2T12D90	○	○	GKD20...	25	25	150	26	15	90	150	SCAM6X20	TH50L
GKFR/L2525-3T15D68	○	○	GKD30...	25	25	150	26	15	68	100	SCAM6X20	TH50L
GKFR/L2525-3T15D90	○	○	GKD30...	25	25	150	26	15	90	160	SCAM6X20	TH50L
GKFR/L2525-4T15D62	●	●	GKD40...	25	25	150	26	15	62	120	SCAM6X20	TH50L
GKFR/L2525-4T15D112	●	●	GKD40...	25	25	150	26	15	112	200	SCAM6X20	TH50L
GKFR/L2525-5T25D68	○	○	GKD50...	25	25	150	26	15	68	95	SCAM6X20	TH50L
GKFR/L2525-5T25D85	○	○	GKD50...	25	25	150	26	15	85	130	SCAM6X20	TH50L
GKFR/L2525-6T25D68	○	○	GKD60...	25	25	150	26	15	68	100	SCAM6X20	TH50L
GKFR/L2525-6T25D88	○	○	GKD60...	25	25	150	26	15	88	180	SCAM6X20	TH50L
GKFR/L2525-8T25D45	○	○	GKD80...	25	25	150	26	15	45	80	SCAM6X20	TH50L
GKFR/L2525-8T25D75	○	○	GKD80...	25	25	150	26	15	75	150	SCAM6X20	TH50L

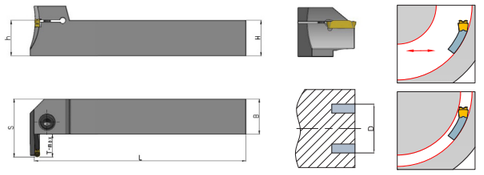
● 标准库存 Stock ○ 需预定 Available upon order

A 车削 / Turning

GK系列 / GK Series

端面槽刀杆-垂直式
Face Grooving Holders- Perpendicular



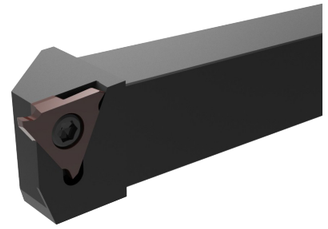


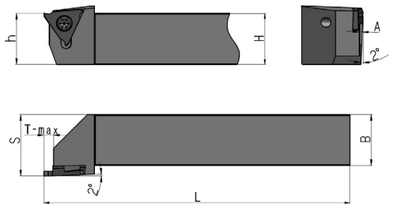
订货号 Ordering Code	库存 Stocks		适用刀片 Inserts	尺寸(mm) Dimensions							螺钉 Screw	扳手 Wrench
	R	L		H=h	B	L	S	T-max	Dmin	Dmax		
GKFPR/L2525-4T15D60	●	●	GKD40...	25	25	150	26	15	60	120	SCAM6X20	TH50L
GKFPR/L2525-4T15D112	●	●	GKD40...	25	25	150	26	15	112	200	SCAM6X20	TH50L

● 标准库存 Stock ○ 需预定 Available upon order

GB系列 / GB Series

外圆槽刀杆
External Grooving Holders





订货号 Ordering Code	库存 Stocks		适用刀片 Inserts	尺寸(mm) Dimensions						螺钉 Screw	扳手 Wrench
	R	L		H=h	B	L	S	A	T-max		
GBER/L2020K3	●	○	3...	20	20	125	25	—	2.5	SI60M 035120...	TT15P...
GBER/L2525M3	●	○	3...	25	25	150	30	—	2.5	SI60M 035120...	TT15P...
GBER/L2020K4-15	●	○	4... (1.0≤W<2.5)	20	20	125	25	1.0	4.0	SI60M 050120...	TT20P...
GBER/L2525M4-15	●	○	4... (1.0≤W<2.5)	25	25	150	30	1.0	4.0	SI60M 050120...	TT20P...
GBER/L2020K4-25	●	○	4... (2.5≤W<3.5)	20	20	125	25	2.0	4.5	SI60M 050120...	TT20P...
GBER/L2525M4-25	●	○	4... (2.5≤W<3.5)	25	25	150	30	2.0	4.5	SI60M 050120...	TT20P...
GBER/L2020K4-35	●	○	4... (3.5≤W<4.8)	20	20	125	25	3.0	5.5	SI60M 050120...	TT20P...
GBER/L2525M4-35	●	○	4... (3.5≤W<4.8)	25	25	150	30	3.0	5.5	SI60M 050120...	TT20P...

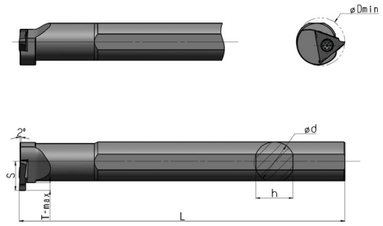
备注：SI60M035090...代表M3.5×9
Remark: SI60M035090...is meaning of M3.5×9

● 标准库存 Stock ○ 需预定 Available upon order

A 车削 / Turning

GB系列 / GB Series

内孔槽刀杆
Internal Grooving Holders



订货号 Ordering Code	库存 Stocks		适用刀片 Inserts	尺寸(mm) Dimensions						螺钉 Screw	扳手 Wrench
	R	L		Dmin	φd	h	L	S	T-max		
GBIR/L2620Q3	●	●	3...	26	20	18	180	13	3	SI60M 035120...	TT15P...
GBIR/L3525R4	●	●	4...	35	25	23	200	17.5	4.5	SI60M 050120...	TT20P...

备注：SI60M035090...代表M3.5×9
Remark: SI60M035090...is meaning of M3.5×9

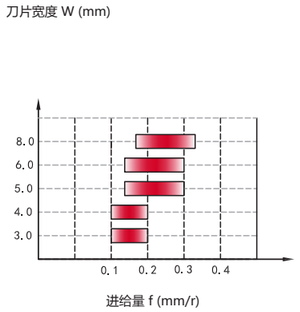
● 标准库存 Stock ○ 需预定 Available upon order

技术信息 / Technical Information

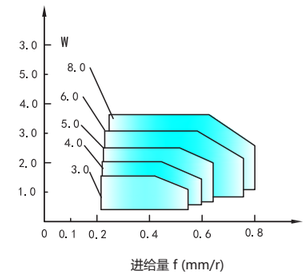
进给推荐值
Recommended Feed

MR

⊙ 径向进给 Radial Feed



⊙ 轴向进给 Axial Feed



GB

工件材料 Workpiece Material		进给 feed (mm/r)				
		刀宽 width (mm)				
		050-100	100-200	250-300	330-400	400-430
P	碳钢 Carbon Steel	①.0.03~0.08	①.0.04~0.09 ②.0.04~0.09	①.0.05~0.1 ②.0.05~0.1	①.0.05~0.12 ②.0.05~0.1	①.0.05~0.12 ②.0.05~0.1
P	合金钢 Alloy Steel	①.0.03~0.07	①.0.04~0.08 ②.0.04~0.08	①.0.05~0.09 ②.0.05~0.09	①.0.05~0.1 ②.0.05~0.1	①.0.05~0.1 ②.0.05~0.1
M	不锈钢 Stainless Steel	①.0.03~0.07	①.0.04~0.08 ②.0.04~0.08	①.0.05~0.09 ②.0.05~0.09	①.0.05~0.1 ②.0.05~0.1	①.0.05~0.1 ②.0.05~0.1
K	铸铁 Cast Iron	①.0.03~0.08	①.0.04~0.09 ②.0.04~0.09	①.0.05~0.1 ②.0.05~0.1	①.0.05~0.12 ②.0.05~0.1	①.0.05~0.12 ②.0.05~0.1

①径向进给 Radial Feed ②轴向进给 Axial Feed

A 车削 / Turning

技术信息 / Technical Information

切削速度推荐值
Recommended Cutting Speed

	工件材料 Workpiece Material	硬度 Hardness (HB)	切削速度 Cutting Speed Vc (m/min)		
			GA4230	GP1225	GK1115
P	低碳钢 Low Carbon Steel	80 – 170	110 (70-180)	120 (80-220)	
P	高碳钢 High Carbon Steel	170 –250	110 (70-150)	120 (80-220)	
P	低合金钢 Low-alloy Steel	140– 260	110 (40-150)	110 (60-180)	
P	高合金钢 High-alloy Steel	180– 300	110 (40-150)	110 (60-180)	
P	铸 Cast Steel	180– 300	110 (40-150)	110 (60-180)	
M	铁素体/马氏体 Ferritic/Martensitic	150– 270	110 (40-180)		
M	奥氏体 Austenitic	150– 270	110 (40-180)		
K	可锻铸铁 Malleable Cast Iron	150– 230	110 (50-180)		130 (50-200)
K	灰口铸铁 Gray Cast Iron	150– 230	110 (50-180)		130 (50-200)
K	球墨铸铁 Nodular Cast Iron	160– 260	100 (50-150)		100 (50-150)
S	高温合金 Heat-resistant Alloy	130– 400			
S	钛合金 Titanium Alloys	130– 400			

MILLING TOOLS
铣削刀具

B

可转位高经济型方肩铣削刀具
Indexable High Economic Shoulder Milling Tools

单面4刃方肩铣刀
SDKT+MES190

Single Face 4 Edges Shoulder Milling Tools
-SDKT+MES190

SDKT系列是一款4刃正形方肩铣刀具，具有高精度，低切削阻力的特点。
SDKT is a positive shoulder milling insert with 4 edges，it can achieve low cutting force and high accuracy machining.

双面6刃方肩铣刀
WNGU+MEE190

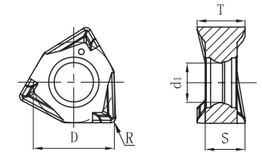
Double Face 6 Edges Shoulder Milling Tools
-WNGU +MEE190

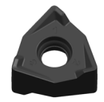
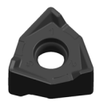
WNGU系列是一款6刃负形方肩铣刀具，特殊的刀片结构设计具有优良的抗崩性。
WNGU is a negative shoulder milling insert with 6 edges. Special structure design contributes to great crack-resistance

方肩铣削
Shoulder Milling

WNGU

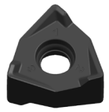
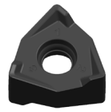
双面六刃方肩铣刀
Double side 6 Cutting Edges Shoulder Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions(mm)					涂层硬质合金 Coated								
		D	d_1	S	T	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	WNGU040304-GM	6.7	3.25	3.3	3.96	0.4	●	●	○	○	○	●	●		
	WNGU040308-GM	6.7	3.25	3.3	3.96	0.8	●	●	○	○	○	●	●		
	WNGU080608-GM	12.48	4.6	6.45	7.9	0.8	●	●		●	○	●			
	WNGU080608-GH	12.48	4.6	6.45	7.9	0.8	●	●	○	○		●	●		

●标准库存 Stock ○需预定 Available upon Order

WNGU 系列槽型
WNGU Series Geometry

通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
	
GM	GH
	
一般工况下实现高稳定性加工 High stability cutting in general condition	刀刃强度更好，适合粗加工 More stronger edge for rough cutting

方肩铣削
Shoulder Milling

MEE190
芯轴式
Arbor

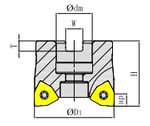


Fig1

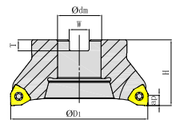


Fig2

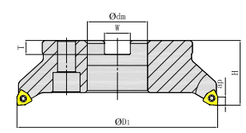


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大切深 apmax	匹配刀片 Gauge Insert	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD1	Φdm	H	W	T					
MEE190050R04A22WN08	50	4	50	22	40	10.4	6.3	7.5	WNGU0806	×	Fig1	●
MEE190050R05A22WN08	50	5	50	22	40	10.4	6.3	7.5	WNGU0806	√	Fig1	●
MEE190063R06A22WN08	63	6	63	22	40	10.4	6.3	7.5	WNGU0806	×	Fig1	●
MEE190080R07A27WN08	80	7	80	27	50	12.4	7	7.5	WNGU0806	×	Fig1	●
MEE190100R08B32WN08	100	8	100	32	50	14.4	8	7.5	WNGU0806	×	Fig2	●
MEE190125R11B40WN08	125	11	125	40	63	16.4	9	7.5	WNGU0806	×	Fig2	●
MEE190160R12C40WN08	160	12	160	40	63	16.4	9	7.5	WNGU0806	×	Fig3	●
MEE190200R16C60WN08	200	16	200	60	63	25.7	14	7.5	WNGU0806	×	Fig3	●

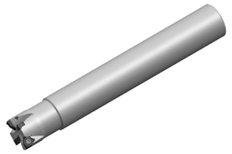
●标准库存 Stock ○需预定 Available upon Order

B 铣削 / Milling Tools

方肩铣削
Shoulder Milling

MEE190

直柄式
Shank



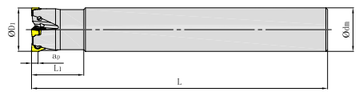


Fig4

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm) ΦD1	Φdm	L	L1	最大切深 apmax	匹配刀片 Gauge Insert	内冷 Inner-cooling	图示 Shape	库存 Stock
MEE190020R03P20WN04	20	3	20	20	150	30	4	WNGU0403	√	Fig4	●
MEE190025R04P25WN04	25	4	25	25	170	30	4	WNGU0403	√	Fig4	●
MEE190032R05P32WN04	32	5	32	32	195	30	4	WNGU0403	√	Fig4	●
MEE190035R05P32WN04	35	5	35	32	195	30	4	WNGU0403	√	Fig4	●
MEE190040R06P32WN04	40	6	40	32	195	30	4	WNGU0403	√	Fig4	●
MEE190040R03P32WN08	40	3	40	32	160	60	7.5	WNGU0806	×	Fig4	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表
Spare Parts

零件名称 Parts / 适用刀片 Insert	形状 Shape	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
				
WNGU0403		SI60M2.5X6.5-03610I	TT08P	×
		PSI60M025065-03610IS	PTT08PB	×
WNGU0806		SI60M4.0X11-05510I	TT15P	TT15T
		PSI60M040110-05510IS	PTT15PB	PTT15TB

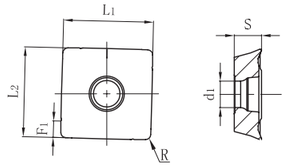
推荐切削参数
Recommended Cutting Data

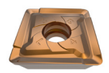
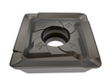
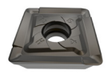
	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 (fz) mm/tooth 中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
				Vc (m/min)	GM	GH
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	180 (150-220)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
P	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
P	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
M	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GA4230 GK4125 GK2115	180 (150-220)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
K	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GA4230 GK4125 GK2115	120 (100-180)	0.15 (0.1-0.2)	0.2 (0.1-0.25)

方肩铣削
Shoulder Milling

SDKT

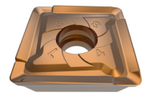
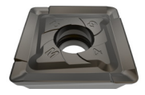
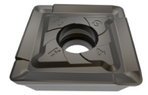
单面四刃方肩铣刀片
Single Side Four Edges Shoulder Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions(mm)						涂层硬质合金 Coated								
		L_1	L_2	S	F_1	d_1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	SDKT14T3PEER-GL	13.92	13.92	3.96	2.5	4.1	0.8		●	○	●	●	●	○		
	SDKT14T3PEER-GM	13.92	13.92	3.96	2.5	4.1	0.8		●	○	●	●		●		
	SDKT14T3PEER-GH	13.92	13.92	3.96	2.5	4.1	0.8	●	●	○	○	○	○	○		

●标准库存 Stock ○需预定 Available upon Order

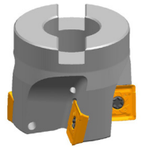
SDKT 系列槽型
SDKT Series Geometry

通用材料轻切削 Light Cutting for General Material	通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
		
GL	GM	GH
		
低切削阻力的轻载切削，获得更好的加工质量 Light cutting with low force to achieve excellent performance	一般工况下实现高稳定性加工 High stability cutting in general condition	刀刃强度更好，适合粗加工 More stronger edge for rough cutting

方肩铣削
Shoulder Milling

MES190

芯轴式
Arbor



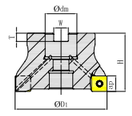


Fig1

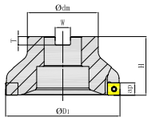


Fig2

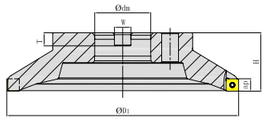


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大切深 apmax	匹配刀片 Gauge Insert	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD1	Φdm	H	W	T					
MES190050R04A22SD14	50	04	50	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190050R05A22SD14	50	05	50	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190063R05A22SD14	63	05	63	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190063R06A22SD14	63	06	63	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190080R06A27SD14	80	06	80	27	50	12.4	7	10	SDKT14	√	Fig1	●
MES190100R07B32SD14	100	07	100	32	50	14.4	8	10	SDKT14	×	Fig2	●
MES190100R08B32SD14	100	08	100	32	50	14.4	8	10	SDKT14	×	Fig2	●
MES190125R08B40SD14	125	08	125	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190125R10B40SD14	125	10	125	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190160R08C40SD14	160	08	160	40	63	16.4	9	10	SDKT14	×	Fig3	○
MES190160R12C40SD14	160	12	160	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190200R10C60SD14	200	10	200	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190200R16C60SD14	200	16	200	60	63	25.7	14	10	SDKT14	×	Fig3	●
MES190250R12C60SD14	250	12	250	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190250R18C60SD14	250	18	250	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190315R15D60SD14	315	15	315	60	80	25.7	14	10	SDKT14	×	Fig3	○
MES190315R24D60SD14	315	24	315	60	80	25.7	14	10	SDKT14	×	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MES190

圆柱直柄式/侧固式
Shank, Welden

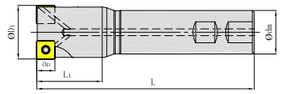


Fig4

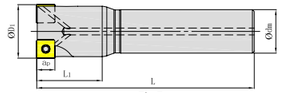


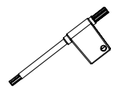
Fig5

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大切深 apmax	匹配刀片 Gauge Insert	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD1	Φdm	L	L1					
MES190040R03P20SD14	40	03	40	20	120	40	10	SDKT14	√	Fig4	●
MES190040R03W32SD14	40	03	40	32	170	40	10	SDKT14	√	Fig5	●
MES190040R04W32SD14	40	04	40	32	120	40	10	SDKT14	√	Fig5	○
MES190050R04W32SD14	50	04	50	32	120	50	10	SDKT14	√	Fig5	●
MES190050R05W32SD14	50	05	50	32	160	50	10	SDKT14	√	Fig5	○

●标准库存 Stock ○需预定 Available upon Order

B 铣削 / Milling Tools

刀体配件列表
Spare Parts

零件名称 Parts / 形状 Shape / 适用刀片 Insert	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
			
SDKT14*	SI60M3.5X10-05018I	TT15P	TT15T
	PSI60M035100-05018IS	PTT15PB	PTT15TB

推荐切削参数
Recommended Cutting Data

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		
					轻切削 (L) Light Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
				Vc (m/min)	GL	GM	GH
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
P	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP4225	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
P	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
M	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GA4225 GA4230 GM2140	120 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GA4230 GK4125 GK2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
K	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GA4230 GK4125 GK2115	120 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
H	淬火钢 Quenching Steel	HRC48-55	GA4230	80 (60-120)	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)

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

标示 Mark		说明 Description
螺旋角 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
	40° Helix	40°螺旋角 40°Helix
	45° Helix	45°螺旋角 45°Helix
	28°/30° Helix	双螺旋角 Variable Helix
	15°/40° Helix	双螺旋角 Variable Helix
	35°/38° Helix	双螺旋角 Variable Helix
	36°/39° 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
	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

标示 Mark		说明 Description
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

SAM200 小径深加工立铣刀

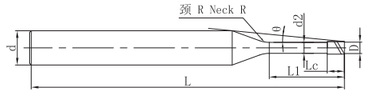
SAM200 EndMills for Small & Cavity Milling

- 适用于铜合金材料的深沟槽微加工。
  Suitable for deep cavity micro-processing of copper alloy.
- 采用新一代优质细晶基体+TiAlCrSiN高性能纳米涂层。
  Adopting a new generation of high performance fine cemented carbide substrate + TiAlCrSiN high performance nano coating.
- 特殊的角度及长避空设计。
  Special angles with reduced neck design.
- 高精度的刃径精度，高精度的球头轮廓。
  High precision diameter, High precision Ballnose profile.
- 高精度的刀柄 (h5)。
  High precision shank (h5).

SAM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square End Mill



标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	外径 D Mill Dia.	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
									0.5°	1°	1.5°	2°	3°	
SAM200-SN2-0.2-1-H	0.2	1	0.3	0.17	50	4	1	13.19	1.05	1.09	1.13	1.17	1.26	●
SAM200-SN2-0.3-1.5-H	0.3	1.5	0.45	0.27	50	4	2	12.31	1.59	1.67	1.74	1.81	1.96	●
SAM200-SN2-0.4-2-H	0.4	2	0.6	0.37	50	4	2	11.57	2.12	2.22	2.30	2.39	2.58	●
SAM200-SN2-0.5-2-H	0.5	2	0.75	0.47	50	4	2	11.49	2.12	2.22	2.30	2.39	2.58	●
SAM200-SN2-0.5-4-H		4						9.37	4.21	4.36	4.52	4.69	5.07	●
SAM200-SN2-0.5-6-H		6						7.90	6.28	6.50	6.73	6.99	7.55	●
SAM200-SN2-0.5-8-H		8						6.83	8.35	8.64	8.95	9.28	10.04	●
SAM200-SN2-0.6-2-H	0.6	2	0.9	0.57	50	4	4	11.21	2.17	2.32	2.45	2.56	2.78	●
SAM200-SN2-0.6-4-H		4						9.13	4.30	4.52	4.70	4.87	5.27	●
SAM200-SN2-0.6-6-H		6						7.70	6.40	6.67	6.91	7.17	7.75	●
SAM200-SN2-0.6-8-H		8						6.65	8.49	8.81	9.13	9.47	10.24	●
SAM200-SN2-0.8-4-H	0.8	4	1.2	0.76	50	4	4	8.94	4.28	4.48	4.66	4.83	5.22	●
SAM200-SN2-0.8-6-H		6						7.49	6.37	6.63	6.87	7.13	7.71	●
SAM200-SN2-0.8-8-H		8						6.44	8.46	8.77	9.09	9.43	10.20	●
SAM200-SN2-0.8-10-H		10						5.65	10.54	10.91	11.31	11.73	12.68	●
SAM200-SN2-1-4-H	1	4	1.5	0.96	50	4	4	8.70	4.28	4.48	4.66	4.83	5.22	●
SAM200-SN2-1-6-H		6			50			7.24	6.37	6.63	6.87	7.13	7.71	●
SAM200-SN2-1-8-H		8			50			6.20	8.46	8.77	9.09	9.43	10.20	●
SAM200-SN2-1-10-H		10			50			5.42	10.54	10.91	11.31	11.73	12.68	●
SAM200-SN2-1-12-H		12			55			4.82	12.61	13.05	13.52	14.03	15.17	●
SAM200-SN2-1-14-H		14			55			4.33	14.68	15.19	15.74	16.33	17.65	●
SAM200-SN2-1.5-6-H	1.5	6	2.25	1.44	50	4	4	6.59	6.33	6.58	6.82	7.07	7.64	●
SAM200-SN2-1.5-8-H		8			50			5.57	8.41	8.72	9.03	9.37	10.13	●
SAM200-SN2-1.5-12-H		12			55			4.25	12.56	13.00	13.47	13.97	15.10	●
SAM200-SN2-1.5-16-H		16			55			3.44	16.69	17.27	17.90	18.57	20.08	●
SAM200-SN2-1.5-18-H		18			60			3.14	18.76	19.41	20.12	20.87	22.56	●

● 标准库存 Stock
○ 需预定 Available upon Order

推荐切削参数 Cutting Parameters ※ P066

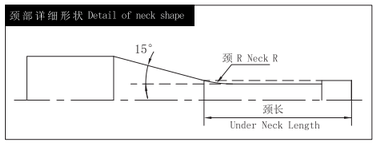
D	公差 Tol.
0.2≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

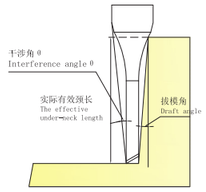
单位unit（mm）

SAM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square End Mill





SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Square

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
									0.5°	1°	1.5°	2°	3°	
SAM200-SN2-2-6-H	2	6	3	1.92	50	4	4	5.80	6.30	6.54	6.77	7.03	7.60	●
SAM200-SN2-2-8-H		8			50			4.83	8.38	8.68	8.99	9.33	10.08	●
SAM200-SN2-2-10-H		10			50			4.13	10.45	10.82	11.21	11.63	12.57	●
SAM200-SN2-2-12-H		12			55			3.61	12.52	12.96	13.42	13.93	15.06	●
SAM200-SN2-2-14-H		14			55			3.21	14.59	15.09	15.64	16.23	17.54	●
SAM200-SN2-2-16-H		16			55			2.88	16.65	17.23	17.86	18.53	无干涉	●
SAM200-SN2-2-24-H		24			65			2.06	24.92	25.79	26.72	27.72	无干涉	●
SAM200-SN2-2.5-10-H	2.5	10	3.75	2.4	55	4	4	3.33	10.42	10.78	11.17	11.59	12.53	●
SAM200-SN2-2.5-20-H		20			60			1.88	20.76	21.48	22.26	无干涉	无干涉	●
SAM200-SN2-3-10-H	3	10	4.5	2.88	60	6	4	5.47	10.40	10.76	11.15	11.57	12.51	●
SAM200-SN2-3-12-H		12			60			4.86	12.47	12.90	13.37	13.87	14.99	●
SAM200-SN2-3-20-H		20			65			3.35	20.74	21.46	22.23	23.07	24.94	●

● 标准库存 Stock
○ 需预定 Available upon Order

推荐切削参数 Cutting Parameters ※ P066

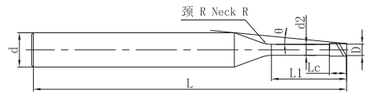
D	公差 Tol.
0.2≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

单位unit（mm）

SAM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square End Mill



SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Square

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
									0.5°	1°	1.5°	2°	3°	
SAM200-SN2-3-24-H	3	24	4.5	2.88	70	6	4	2.90	24.87	25.74	26.67	27.67	无干涉	●
SAM200-SN2-3-36-H		36			75			2.06	37.27	38.57	39.97	41.46	无干涉	●
SAM200-SN2-4-16-H	4	16	6	3.86	60	6	4	2.89	16.58	17.16	17.78	18.45	无干涉	●
SAM200-SN2-4-25-H		25			70			1.99	25.89	26.79	27.76	无干涉	无干涉	●
SAM200-SN2-4-32-H		32			80			1.60	33.12	34.28	35.51	无干涉	无干涉	●
SAM200-SN2-4-48-H		48			90			1.11	49.66	51.39	无干涉	无干涉	无干涉	●
SAM200-SN2-5-16-H	5	16	7.5	4.85	70	6	4	1.60	16.58	17.15	17.77	无干涉	无干涉	●
SAM200-SN2-5-25-H		25			70			1.06	25.88	26.78	无干涉	无干涉	无干涉	●
SAM200-SN2-6-20-H	6	20	9	5.85	70	6	-	-	-	-	-	-	-	●
SAM200-SN2-6-30-H		30			80			-	-	-	-	-	-	●

● 标准库存 Stock
○ 需预定 Available upon Order

推荐切削参数 Cutting Parameters ※ P066

D	公差 Tol.
0.2≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

单位unit（mm）

B 铣削 / Milling Tools

推荐切削参数
Recommended Cutting Data

SAM200-SN2
小径深加工2刃平头立铣刀
2 Flute, Extended Neck-Square End Mill

工件材料 Workpiece Materials			铜，铜合金 Copper, Copper Alloys	
外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap (mm)	转速 n r/min	进给速度 Vf mm/min
0.2	1	0.014	45,000	637
0.3	1.5	0.021	43,200	612
0.4	2	0.028	34,560	762
0.5	2	0.035	34,560	762
	4	0.02	31,104	627
	6	0.013	27,648	488
	8	0.008	27,648	418
0.6	2	0.042	34,560	1089
	4	0.024	31,104	896
	6	0.015	31,104	896
	8	0.015	27,648	697
0.8	4	0.056	34,560	1089
	6	0.032	31,104	896
	8	0.02	31,104	896
	10	0.012	27,648	697
1	4	0.07	31,104	1465
	6	0.04	27,994	1210
	8	0.04	27,994	1210
	10	0.025	27,994	1210
	12	0.025	24,883	941
	14	0.025	24,883	941
1.5	6	0.11	24,192	1257
	8	0.08	21,773	1034
	12	0.06	21,773	941
	16	0.038	19,354	732
	18	0.038	19,354	732

【注意】请参考P.067页。 【Note】Please refer to P.067

推荐切削参数
Recommended Cutting Data
SAM200-SN2
小径深加工2刃平头立铣刀
2 Flute, Extended Neck-Square End Mill

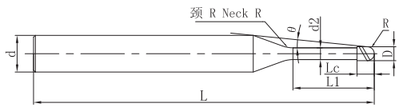
工件材料 Workpiece Materials			铜，铜合金 Copper, Copper Alloys	
外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap (mm)	转速 n r/min	进给速度 Vf mm/min
2	6	0.2	18,144	1257
	8	0.14	18,144	1257
	10	0.14	18,144	1257
	12	0.1	16,330	1034
	14	0.08	16,330	1034
	16	0.08	16,330	941
	24	0.05	14,515	732
2.5	10	0.18	15,552	1134
	20	0.1	13,997	1008
3	10	0.25	13,824	1198
	12	0.21	13,824	1198
	20	0.12	12,442	896
	24	0.08	12,442	896
	36	0.06	11,059	850
4	16	0.28	10,350	2070
	25	0.16	9,315	1677
	32	0.1	8,223	1481
	48	0.06	7,106	1015
5	16	0.3	8,113	1622
	25	0.3	7,301	1459
6	20	0.5	6,676	1466
	30	0.4	6,070	1332

【注意】
1.请结合工件材料、加工形状、使用合适的冷却液，推荐油冷或水冷。
2.实际加工中，请考虑加工形状、目的、使用机床等因素，对切削条件进行调整。
3.如果机床转速低于表中所列数值，则进给速度应与转速按同一比例降低。
【Note】
1. Use the appropriate coolant such as oil mist or emulsion for the work material and machining shape.
2. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
3. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

SAM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-BallNose EndMill



SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Ballnose

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	外径 D Mill Dia.	球半径 R	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
										0.5°	1°	1.5°	2°	3°	
SAM200-BN2-0.2-1-H	0.2	0.1	1	0.16	0.17	50	4	1	13.35	1.04	1.08	1.11	1.15	1.24	●
SAM200-BN2-0.4-2-H	0.4	0.2	2	0.32	0.37	50	4	2	11.83	2.11	2.20	2.28	2.36	2.53	●
SAM200-BN2-0.4-3-H			3						10.63	3.16	3.28	3.39	3.51	3.77	●
SAM200-BN2-0.4-4-H			4						9.64	4.20	4.34	4.49	4.66	5.02	●
SAM200-BN2-0.4-5-H			5						8.83	5.24	5.41	5.60	5.81	6.26	●
SAM200-BN2-0.5-2-H	0.5	0.25	2	0.4	0.47	50	4	2	11.83	2.11	2.20	2.27	2.35	2.52	●
SAM200-BN2-0.5-4-H			4						9.59	4.20	4.34	4.49	4.65	5.00	●
SAM200-BN2-0.5-6-H			6						8.06	6.27	6.48	6.71	6.95	7.49	●
SAM200-BN2-0.6-2-H	0.6	0.3	2	0.48	0.57	50	4	4	11.60	2.15	2.28	2.40	2.51	2.71	●
SAM200-BN2-0.6-4-H			4						9.39	4.28	4.49	4.66	4.83	5.19	●
SAM200-BN2-0.6-6-H			6						7.88	6.39	6.65	6.88	7.13	7.68	●
SAM200-BN2-0.6-8-H			8						6.79	8.48	8.79	9.10	9.43	10.17	●
SAM200-BN2-0.8-4-H	0.8	0.4	4	0.64	0.76	50	4	4	9.30	4.25	4.45	4.61	4.77	5.13	●
SAM200-BN2-0.8-6-H			6						7.74	6.36	6.61	6.83	7.07	7.61	●
SAM200-BN2-0.8-8-H			8						6.63	8.45	8.75	9.05	9.37	10.10	●
SAM200-BN2-0.8-10-H			10						5.79	10.53	10.88	11.26	11.67	12.58	●
SAM200-BN2-1-4-H	1	0.5	4	0.8	0.96	50	4	4	9.16	4.25	4.44	4.60	4.76	5.10	●
SAM200-BN2-1-6-H			6			50			9.44	6.35	6.60	6.82	7.06	7.59	●
SAM200-BN2-1-8-H			8			50			6.43	8.44	8.74	9.04	9.36	10.07	●
SAM200-BN2-1-10-H			10			50			5.60	10.52	10.88	11.25	11.66	12.56	●
SAM200-BN2-1-12-H			12			55			4.96	12.59	13.02	13.47	13.96	15.05	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差 Tol.
R≤0.25	±0.003
R>0.25	±0.005

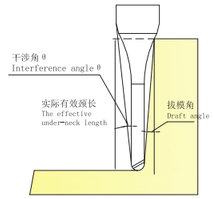
(mm)

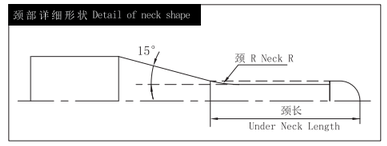
推荐切削参数 Cutting Parameters ※ P071

SAM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-BallNose EndMill





SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Ballnose

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半径 R	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
										0.5°	1°	1.5°	2°	3°	
SAM200-BN2-1.5-6-H	1.5	0.75	6	1.2	1.44	50	4	4	7.08	6.30	6.53	6.73	6.96	7.46	●
SAM200-BN2-1.5-8-H			8			50			5.92	8.38	8.67	8.95	9.26	9.95	●
SAM200-BN2-1.5-10-H			10			50			5.08	10.46	10.80	11.17	11.56	12.44	●
SAM200-BN2-1.5-12-H			12			55			4.45	12.53	12.94	13.38	13.86	14.92	●
SAM200-BN2-1.5-16-H			16			55			3.56	16.67	17.22	17.82	18.46	19.89	●
SAM200-BN2-1.5-18-H			18			60			3.24	18.74	19.36	20.03	20.76	22.38	●
SAM200-BN2-2-6-H	2	1	6	1.6	1.92	50	4	4	6.45	6.26	6.47	6.67	6.88	7.35	●
SAM200-BN2-2-8-H			8			50			5.27	8.34	8.61	8.88	9.18	9.84	●
SAM200-BN2-2-10-H			10			50			4.45	10.42	10.75	11.10	11.48	12.33	●
SAM200-BN2-2-12-H			12			55			3.85	12.49	12.89	13.32	13.78	14.81	●
SAM200-BN2-2-16-H			16			55			3.04	16.62	17.16	17.75	18.38	19.79	●
SAM200-BN2-2-20-H			20			60			2.51	20.76	21.44	22.18	22.98	无干涉	●
SAM200-BN2-2-24-H			24			70			2.13	24.89	25.72	26.61	27.58	无干涉	●
SAM200-BN2-3-8-H	3	1.5	8	2.4	2.88	55	6	4	7.03	8.28	8.52	8.77	9.04	9.66	●
SAM200-BN2-3-10-H			10			60			6.05	10.35	10.66	10.99	11.34	12.14	●
SAM200-BN2-3-12-H			12			60			5.30	12.42	12.80	13.20	13.64	14.63	●
SAM200-BN2-3-16-H			16			60			4.26	16.55	17.07	17.64	18.24	19.60	●
SAM200-BN2-3-20-H			20			65			3.55	20.69	21.35	22.07	22.84	24.57	●
SAM200-BN2-3-25-H			25			70			2.94	25.85	26.70	27.61	28.59	无干涉	●
SAM200-BN2-3-30-H			30			75			2.51	31.02	32.05	33.15	34.34	无干涉	●
SAM200-BN2-3-36-H			36			80			2.14	37.22	38.47	39.80	41.24	无干涉	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差 Tol.
R≤0.25	±0.003
R>0.25	±0.005

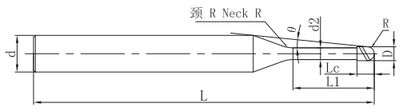
(mm)

推荐切削参数 Cutting Parameters ※ P071

SAM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-BallNose EndMill



标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半径 R	颈长 L1 Under Neck Length	刃长 Lc Flute Length	颈径 d2 Neck Dia.	全长 L Overall Length	柄径 d Shank Dia.	颈R Neck R	干涉角 θ Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
										0.5°	1°	1.5°	2°	3°	
SAM200-BN2-3-30-H	3	1.5	30	2.4	2.88	75	6	4	2.51	31.02	32.05	33.15	34.34	无干涉	●
SAM200-BN2-3-36-H			36			80			2.14	37.22	38.47	39.80	41.24	无干涉	●
SAM200-BN2-4-10-H	4	2	10	3.2	3.86	55	6	4	4.85	10.31	10.60	10.91	11.25	12.00	●
SAM200-BN2-4-12-H			12			60			4.15	12.38	12.74	13.13	13.55	14.48	●
SAM200-BN2-4-16-H			16			60			3.22	16.52	17.02	17.56	18.15	19.46	●
SAM200-BN2-4-20-H			20			65			2.63	20.65	21.30	22.00	22.75	无干涉	●
SAM200-BN2-4-25-H			25			70			2.14	25.82	26.65	27.54	28.50	无干涉	●
SAM200-BN2-4-32-H			32			75			1.70	33.05	34.14	35.30	无干涉	无干涉	●
SAM200-BN2-4-35-H			35			80			1.56	36.16	37.35	38.62	无干涉	无干涉	●
SAM200-BN2-4-48-H			48			90			1.15	49.59	51.25	无干涉	无干涉	无干涉	●
SAM200-BN2-5-16-H	5	2.5	16	4	4.85	65	6	4	1.86	16.49	16.98	17.50	无干涉	无干涉	●
SAM200-BN2-5-20-H			20			70			1.48	20.63	21.26	无干涉	无干涉	无干涉	●
SAM200-BN2-5-25-H			25			75			1.17	25.79	26.61	无干涉	无干涉	无干涉	●
SAM200-BN2-5-40-H			40			80			0.73	41.30	无干涉	无干涉	无干涉	无干涉	●
SAM200-BN2-6-12-H	6	3	12	4.8	5.85	60	6	-	-	-	-	-	-	-	●
SAM200-BN2-6-20-H			20			65			-	-	-	-	-	-	●
SAM200-BN2-6-30-H			30			75			-	-	-	-	-	-	●
SAM200-BN2-6-50-H			50			100			-	-	-	-	-	-	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差 Tol.
R≤0.25	±0.003
R>0.25	±0.005

(mm)

推荐切削参数 Cutting Parameters ※ P071

推荐切削参数

Recommended cutting data

SAM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-BallNose EndMill

工件材料 Workpiece Materials				铜，铜合金 Copper, Copper Alloys	
球半径R (mm)	外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap (mm)	转速 n r/min	进给速度 Vf mm/min
0.1	0.2	1	0.014	45000	378
0.2	0.4	2	0.028	45000	622
		3	0.016	45000	504
		4	0.01	45000	504
		5	0.008	41472	423
0.25	0.5	2	0.035	45000	1080
		4	0.02	38800	700
		6	0.016	34560	588
0.3	0.6	2	0.16	45000	3532
		4	0.16	45000	3200
		6	0.06	40435	2313
		8	0.053	37325	1746
0.4	0.8	4	0.078	45000	2430
		6	0.042	45000	2042
		8	0.02	44928	1455
		10	0.02	34560	1058
0.5	1	4	0.14	45000	3375
		6	0.06	45000	2836
		8	0.06	41990	1890
		10	0.038	41990	1890
		12	0.025	31104	1322
0.75	1.5	6	0.2	45000	4456
		8	0.09	35381	2522
		10	0.09	32659	2327
		12	0.09	32659	1940
		16	0.038	24192	1357
		18	0.038	24192	1357
1	2	6	0.4	34020	4593
		8	0.28	34020	4593
		10	0.21	31752	3811

【注意】请参考P.072页。 【Note】Please refer to P.072

推荐切削参数
Recommended Cutting Data

SAM200-BN2
小径深加工2刃球头立铣刀
2 Flute, Extended Neck-BallNose EndMill

工件材料 Workpiece Materials				铜，铜合金 Copper, Copper Alloys	
球半径R (mm)	外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap (mm)	转速 n r/min	进给速度 Vf mm/min
1	2	12	0.12	28577	3428
		16	0.12	26536	1911
		20	0.075	24494	1764
		24	0.05	18144	1234
1.5	3	8	0.6	25920	5832
		10	0.42	25920	5832
		12	0.315	24192	4354
		16	0.315	24192	3920
		20	0.18	20218	2730
		25	0.12	20218	2730
		30	0.12	18662	2520
		36	0.08	13824	1762
2	4	10	0.6	18630	5589
		12	0.48	18630	5589
		16	0.42	18630	5589
		20	0.42	16146	3875
		25	0.24	14531	3139
		32	0.16	13414	2415
		35	0.1	13414	2415
		48	0.1	9936	1689
2.5	5	16	0.53	13608	4899
		20	0.53	12636	4549
		25	0.3	11372	4094
		40	0.2	10498	2268
3	6	12	0.6	14580	6124
		20	0.5	13770	5370
		30	0.42	11232	3235
		50	0.15	9331	2418

【注意】
1.请结合工件材料、加工形状、使用合适的冷却液，推荐油冷或水冷。
2.实际加工中，请考虑加工形状、目的、使用机床等因素，对切削条件进行调整。
3.如果机床转速低于表中所列数值，则进给速度应与转速按同一比例降低。
【Note】
1. Use the appropriate coolant such as oil mist or emulsion for the work material and machining shape.
2. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
3. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

UP210通用加工立铣刀
UP210 Endmills for General Purpose

- 适用于普通钢、铸铁材料(≤48HRC)的加工。
  Suitable for steels & cast iron(≤48HRC).
- 采用高性能AlCr系涂层，耐高温、耐磨损。
  High performance AlCr series coating,high temperature resistance and high wear resistance.
- 推荐使用油雾冷却，水冷，油冷和气冷等。
  Recommend to use oil mist cooling, water cooling, oil cooling and air cooling etc.

UPR210/UPN210粗加工立铣刀

UPR210 & UPN210 Roughing Endmill

- 适用于普通钢、铸铁材料(≤48HRC)的半精加工、粗加工，金属去除率高。
  Suitable for semi finishing and roughing in steel and cast iron(≤48HRC) , provides high metal removal rate.
- GU类细晶基体搭配AlCr系高性能纳米涂层，实现了高耐磨性与高韧性的完美结合。
  GU series fine carbide substrate and AlCr series high performance nano coating provide superior wear resistance and toughness.
- 采用标准型波形齿设计和断屑齿设计，加工过程中产生细短切屑， 排屑顺畅，实现了高质量稳定加工。
  Standard knuckle-type teeth design and flat knuckle-type teeth design give fine and short chip, smooth chip removing, raise quality of production by suppressing chattering.
- UPR210系列采用45°大螺旋角及独特的U型槽设计，实现平稳切削。
  45° helix angle design and unique U type chip pocket design of UPR210 give stable machining.
- UPN210系列采用独特的大R槽型设计，实现良好的排屑性能。
  Unique large R type chip pocket design of UPN210 creates big chip pocket space and excellent chip removing performance.

UPR300波形齿粗加工立铣刀

UPR300 Roughing Endmill with Standard Knuckle-type Teeth

- 适用于普通钢、铸铁材料(≤48HRC)的大切深、大切宽的粗加工，金属去除率高。
  Suitable for large cutting depth and large cutting width for milling application in steel and cast iron (≤48HRC) , with a high metal removal rate.
- 采用密齿型波形齿设计，加工时产生超细短切屑，排屑性能优异、切削阻力小、机床负载小。
  Fine knuckle-type teeth design gives super fine and short chip, smooth chip removing, low cutting force and low machine load.
- 特殊的刃口处理，有效提高刀具在粗加工过程中抗崩性和耐磨性。
  Special handling of cutting edge, highly promoting the avalanche resistance and the wear resistance while cutting tool under roughing process.

刀具系列目录（按系列）
Endmills Index -Tool Series

适用加工材料 Workpiece Material	刃数 No.of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page		工件材料 Workpiece Material												
										P		M	K	N			S		H			
										1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4	
										碳钢、合金钢 Carbon Steel,Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel	
										< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC	
钢件 铸铁 Steels, Cast Iron	**UP210**																					
	4	Square	AlCrSiN	4 刃平头 - 尖角型 NEW 4 Flute, Standard Length-sharp end tooth	UP210-SC4	D4 ~ D20	P78	P88		◎	◎	○	◎									
	4	Square	AlCrSiN	4 刃平头 -45°螺旋角 NEW 4 Flute, Standard Length-45° helix angle	UP210-S4A	D4 ~ D20	P79			◎	◎	○	◎									
	4	Corner-R	AlCrSiN	4 刃圆角头 -45°螺旋角 NEW 4 Flute, Corner Radius-45° helix angle	UP210-R4A	D4 ~ D20	P80			◎	◎	○	◎									
	4	Chamfer	AlCrSiN	4 刃倒角铣刀 60° NEW 4 Flute, Chamfering milling cutters 60°	UP210-L60	D4 ~ D20	P82	P89		◎	◎	○	◎	○	○							
	4	Chamfer	AlCrSiN	4 刃倒角铣刀 90° NEW 4 Flute, Chamfering milling cutters 90°	UP210-L90	D4 ~ D20	P83			◎	◎	○	◎	○	○							
	4	Chamfer	AlCrSiN	4 刃倒角铣刀 120° NEW 4 Flute, Chamfering milling cutters 120°	UP210-L120	D4 ~ D20	P84			◎	◎	○	◎	○	○							
	UPR210																					
	4	Chamfer	AlCrSiN	4 刃粗加工平头 NEW 4 Flute Square, with Roughing Geometry	UPR210-S4	D6 ~ D20	P85	P90		◎	◎	○	◎						○			
	UPN210																					
	4	Chamfer	AlCrSiN	4 刃粗加工平头 NEW 4 Flute Square, with Roughing Geometry	UPN210-S4	D6 ~ D20	P86	P92		◎	◎	○	◎						○			
	UPR300																					
	4	Chamfer	AlCrSiN	3/4 刃粗加工平头 NEW 3&4 Flute Square, with Roughing Geometry	UPR300-S3/S4	D6 ~ D20	P87	P94		◎	◎	○	◎						○			

◎ 非常适合 Most Suitable ○ 一般适合 Suitable

UP210-SC4

4刃平头-尖角型

4 Flute, Standard Length-Sharp End Tooth

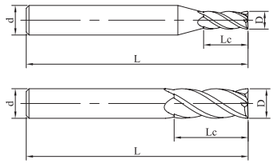


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SC4-04011	4	11	50	4	2	●
UP210-SC4-06016	6	16	50	6	2	●
UP210-SC4-08020	8	20	60	8	2	●
UP210-SC4-10025	10	25	75	10	2	●
UP210-SC4-12030	12	30	75	12	2	●
UP210-SC4-16036	16	36	100	16	2	○
UP210-SC4-20045	20	45	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

单位unit (mm)

工件材料 Workpiece Material					
P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P088

UP210-S4A

4刃平头-45°螺旋角

4 Flute, Standard Length-45° Helix Angle

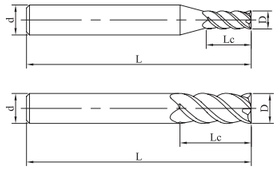


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S4A-04011	4	11	50	4	2	●
UP210-S4A-06016	6	16	50	6	2	●
UP210-S4A-08020	8	20	60	8	2	●
UP210-S4A-10025	10	25	75	10	2	●
UP210-S4A-12030	12	30	75	12	2	●
UP210-S4A-16036	16	36	100	16	2	○
UP210-S4A-20045	20	45	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

单位unit (mm)

工件材料 Workpiece Material					
P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P088

B 铣削 / Milling Tools

UP210-R4A

4刃圆角头-45°螺旋角

4 Flute, Corner Radius-45° Helix Angle

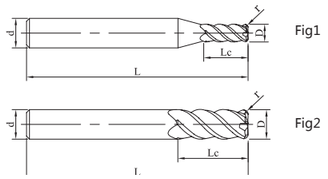


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R4A-04005	4	11	0.5	50	4	2	●
UP210-R4A-04010	4	11	1	50	4	2	●
UP210-R4A-06005	6	16	0.5	50	6	2	●
UP210-R4A-06010	6	16	1	50	6	2	●
UP210-R4A-06015	6	16	1.5	50	6	2	●
UP210-R4A-08003	8	20	0.3	60	8	2	●
UP210-R4A-08005	8	20	0.5	60	8	2	●
UP210-R4A-08010	8	20	1	60	8	2	●
UP210-R4A-08015	8	20	1.5	60	8	2	●
UP210-R4A-08020	8	20	2	60	8	2	●
UP210-R4A-10002	10	25	0.2	75	10	2	●
UP210-R4A-10005	10	25	0.5	75	10	2	●
UP210-R4A-10010	10	25	1	75	10	2	●
UP210-R4A-10015	10	25	1.5	75	10	2	●
UP210-R4A-10020	10	25	2	75	10	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

单位unit (mm)

工件材料 Workpiece Material

P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P088

UP210-R4A

4刃圆角头-45°螺旋角

4 Flute, Corner Radius-45° Helix Angle

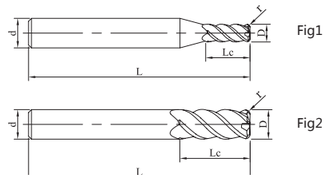


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R4A-10025	10	25	2.5	75	10	2	●
UP210-R4A-10030	10	25	3	75	10	2	●
UP210-R4A-12005	12	30	0.5	75	12	2	●
UP210-R4A-12010	12	30	1	75	12	2	●
UP210-R4A-12015	12	30	1.5	75	12	2	●
UP210-R4A-12020	12	30	2	75	12	2	●
UP210-R4A-12025	12	30	2.5	75	12	2	●
UP210-R4A-12030	12	30	3	75	12	2	●
UP210-R4A-16005	16	36	0.5	100	16	2	●
UP210-R4A-16010	16	36	1	100	16	2	●
UP210-R4A-16020	16	36	2	100	16	2	○
UP210-R4A-16030	16	36	3	100	16	2	○
UP210-R4A-20010	20	45	1	100	20	2	○
UP210-R4A-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

单位unit (mm)

工件材料 Workpiece Material

P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P088

B 铣削 / Milling Tools

UP210-L60

4刃60°倒角铣刀

4 Flute,Chamfering Milling Cutters 60°

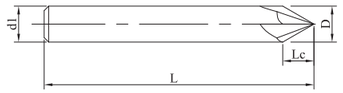


Fig1

SHANK h6 | 4 | AlCrSiN | Chamfer | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L60-04060	4	3.5	50	4	1	●
UP210-L60-06060	6	5.2	60	6	1	●
UP210-L60-08060	8	7	60	8	1	●
UP210-L60-10060	10	8.7	75	10	1	●
UP210-L60-12060	12	10.4	75	12	1	●
UP210-L60-16060	16	13.9	100	16	1	●
UP210-L60-20060	20	17.4	100	20	1	○

● 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

单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1 2 3 4	5	1 2 3	1 2 3	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	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 ※ P089

UP210-L90

4刃90°倒角铣刀

4 Flute,Chamfering Milling Cutters 90°

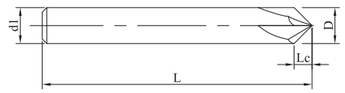


Fig1

SHANK h6 | 4 | AlCrSiN | Chamfer | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L90-04090	4	2	50	4	1	●
UP210-L90-06090	6	3	60	6	1	●
UP210-L90-08090	8	4	60	8	1	●
UP210-L90-10090	10	5	75	10	1	●
UP210-L90-12090	12	6	75	12	1	●
UP210-L90-16090	16	8	100	16	1	●
UP210-L90-20090	20	10	100	20	1	○

● 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

单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1 2 3 4	5	1 2 3	1 2 3	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	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 ※ P089

B 铣削 / Milling Tools

UP210-L120

4刃120°倒角铣刀

4 Flute, Chamfering Milling Cutters 120°

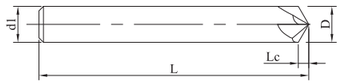


Fig1

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L120-040120	4	1.2	50	4	1	●
UP210-L120-060120	6	1.8	60	6	1	●
UP210-L120-080120	8	2.4	60	8	1	●
UP210-L120-100120	10	2.9	75	10	1	●
UP210-L120-120120	12	3.5	75	12	1	●
UP210-L120-160120	16	4.6	100	16	1	●
UP210-L120-200120	20	5.8	100	20	1	○

● 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

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1 2 3 4	5	1 2 3	1 2 3	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	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 ※ P089

UPR210-S4

4刃粗加工平头

4 Flute Square, with Roughing Geometry

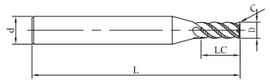


Fig1

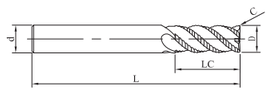


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
UPR210-S4-06016	6	16	0.2	50	6	2	●
UPR210-S4-08020	8	20	0.2	60	8	2	●
UPR210-S4-10025	10	25	0.3	75	10	2	●
UPR210-S4-12030	12	30	0.3	75	12	2	●
UPR210-S4-16036	16	36	0.4	100	16	2	●
UPR210-S4-20045	20	45	0.5	100	20	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差 Tol.
D≤6	0 -0.03
6<D≤10	0 -0.04
D>10	0 -0.05

单位unit（mm）

工件材料 Workpiece Material

P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎	○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P090

UPN210-S4

4刃粗加工平头

4 Flute Square, with Roughing Geometry

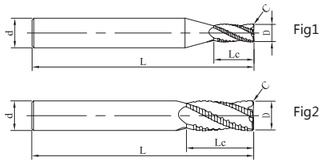


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
UPN210-S4-06016	6	16	0.2	50	6	2	●
UPN210-S4-08020	8	20	0.2	60	8	2	●
UPN210-S4-10025	10	25	0.3	75	10	2	●
UPN210-S4-12030	12	30	0.3	75	12	2	●
UPN210-S4-16036	16	36	0.4	100	16	2	●
UPN210-S4-20045	20	45	0.5	100	20	2	●

● 标准库存 Stock

○ 需预定 Available upon Order

D	公差 Tol.
D≤6	$^{0}_{-0.03}$
6 < D≤10	$^{0}_{-0.04}$
D>10	$^{0}_{-0.05}$

单位unit (mm)

工件材料 Workpiece Material

P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎	○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P092

UPR300-S3/S4

3/4刃粗加工平头

3&4 Flute Square, with Roughing Geometry

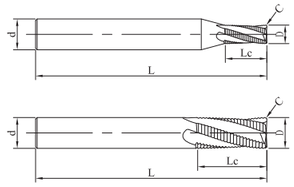


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
UPR300-S3-06016	6	16	0.2	50	6	2	●
UPR300-S3-08020	8	20	0.2	60	8	2	●
UPR210-S4-10025	10	25	0.3	75	10	2	●
UPR210-S4-12030	12	30	0.3	75	12	2	●
UPR210-S4-16036	16	36	0.4	100	16	2	●
UPR210-S4-20045	20	45	0.5	100	20	2	●

● 标准库存 Stock

○ 需预定 Available upon Order

D	公差 Tol.
D≤6	$^{0}_{-0.03}$
6<D≤10	$^{0}_{-0.04}$
D>10	$^{0}_{-0.05}$

单位unit（mm）

工件材料 Workpiece Material

P		M	K	H	
1 2 3 4	5	1 2 3	1 2 3	1	2 3
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (35-48HRC) Alloy Steel,Tool Steel(35-48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	高硬钢 Hardened Steel (45-55HRC)	高硬钢 Hardened Steel (> 55HRC)
◎	◎	○	◎	○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P094

B 铣削 / Milling Tools

推荐切削参数
Recommended Cutting Data

UP210- SC4、S4A、R4A
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 Steel(<35 HRC)	ap ≤ 1.5D	180	转速 (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae ≤ 0.15D		进给速度 (mm/min)	2140	2060	1830	1860	1830	1720	1720	1720
	合金钢 Alloy Steel,Tool Steel(35-48HRC)	ap ≤ 1D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae ≤ 0.12D		进给速度 (mm/min)	1210	1160	1100	1240	1130	1010	830	750
M	不锈钢 Stainless Steel	ap ≤ 1.5D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ap ≤ 0.15D		进给速度 (mm/min)	1380	1330	1190	1300	1230	1170	980	910
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron(< 32HRC)	ap ≤ 1.5D	160	转速 (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae ≤ 0.15D		进给速度 (mm/min)	1700	1630	1630	1500	1410	1360	1210	1120
	高合金铸铁 High Alloy Steel (35-45HRC)	ap ≤ 1D	140	转速 (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae ≤ 0.12D		进给速度 (mm/min)	1310	1340	1340	1250	1160	1120	1000	910

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UP210- L60、L90、L120
钢件、铸铁 For Steels, Cast Iron ——倒角 Chamfering

工件材料 Workpiece Material		Vc m/min	刃径 Tool Diameter(mm)	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel,Alloy Steel (<35 HRC)	130	转速 (min-1)	10350	6900	5175	4140	3450	2588	2070
			进给速度 (mm/min)	414	33	311	414	442	435	406
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	90	转速 (min-1)	7166	4777	3583	2866	2389	1791	1433
			进给速度 (mm/min)	229	191	172	172	239	229	241
M	不锈钢 Stainless Steel	80	转速 (min-1)	6369	4246	3185	2548	2123	1592	1274
			进给速度 (mm/min)	204	170	153	153	212	204	214
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	100	转速 (min-1)	7962	5308	3981	3185	2654	1990	1592
	高合金铸铁 (35-45HRC)		进给速度 (mm/min)	318	255	239	318	340	334	312
N	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys,Cast Aluminum Alloys (Si<12%)	150	转速 (min-1)	11943	7962	5971	4777	3981	2986	2389
	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys,Cast Aluminum Alloys (Si<12%)		进给速度 (mm/min)	621	573	597	611	669	585	602

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPR210- S4

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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy Steel (<35 HRC)	ap ≤ 1.5D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae ≤ 0.3D		进给速度 (mm/min)	1070	1070	1070	1070	1000	900
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.25D		进给速度 (mm/min)	630	660	690	700	570	535
M	不锈钢 Stainless Steel	ap ≤ 1.5D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ap ≤ 0.3D		进给速度 (mm/min)	580	610	630	640	525	490
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 1.5D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae ≤ 0.3D		进给速度 (mm/min)	1070	1070	1070	1070	1000	900
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.25D		进给速度 (mm/min)	630	660	690	700	570	535
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 1D	100	转速 (min-1)	5300	3980	3190	2650	1990	1590
		ae ≤ 0.125D		进给速度 (mm/min)	530	480	450	420	400	380

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPR210- S4

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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel,Alloy Steel(<35 HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	合金钢 Alloy Steel,Tool Steel(35-48HRC)	ap ≤ 0.75D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320
M	不锈钢 Stainless Steel	ap ≤ 0.75D	90	转速 (min-1)	4775	3580	2865	2385	1790	1432
				进给速度 (mm/min)	382	160	190	210	200	190
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	高合金铸铁 High Alloy Steel (35-45HRC)	ap ≤ 0.75D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPN210- S4
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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy Steel (<35 HRC)	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae ≤ 0.3D		进给速度 (mm/min)	990	990	990	990	930	830
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	ap ≤ 1D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae ≤ 0.25D		进给速度 (mm/min)	580	610	630	640	525	490
M	不锈钢 Stainless Steel	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ap ≤ 0.3D		进给速度 (mm/min)	280	310	330	350	310	290
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae ≤ 0.3D		进给速度 (mm/min)	990	990	990	990	930	830
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 1D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae ≤ 0.25D		进给速度 (mm/min)	580	610	630	640	525	490
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 1D	90	转速 (min-1)	4780	3580	2870	2390	1790	1430
		ae ≤ 0.125D		进给速度 (mm/min)	480	430	400	380	360	345

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPN210- S4
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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy Steel (<35 HRC)	ap ≤ 0.8D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	ap ≤ 0.5D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320
M	不锈钢 Stainless Steel	ap ≤ 0.8D	100	转速 (min-1)	5310	3980	3190	2655	1990	1600
				进给速度 (mm/min)	150	160	190	210	200	190
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 0.8D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 0.5D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPR300-S3/S4
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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy Steel (<35 HRC)	ap ≤ 1.5D	160	转速 (min-1)	8490	6370	5090	4240	3180	2550
		ae ≤ 0.4D		进给速度 (mm/min)	790	820	1040	1020	940	880
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	ap ≤ 1.5D	150	转速 (min-1)	7960	5970	4770	3980	2980	2390
		ae ≤ 0.3D		进给速度 (mm/min)	670	680	880	840	780	720
M	不锈钢 Stainless Steel	ap ≤ 1.5D	115	转速 (min-1)	6100	4580	3660	3050	2290	1830
		ap ≤ 0.4D		进给速度 (mm/min)	570	590	750	730	680	630
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 1.5D	150	转速 (min-1)	7960	5970	4770	3980	2980	2390
		ae ≤ 0.5D		进给速度 (mm/min)	880	910	1170	1110	1030	930
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 1.5D	130	转速 (min-1)	6900	5170	4140	3450	2590	2070
		ae ≤ 0.4D		进给速度 (mm/min)	520	530	680	660	610	570
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 1.5D	140	转速 (min-1)	7430	5570	4460	3710	2790	2230
		ae ≤ 0.3D		进给速度 (mm/min)	620	640	820	790	720	670

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that 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

UPR300-S3/S4
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)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy Steel (<35 HRC)	ap ≤ 1D	130	转速 (min-1)	6900	5175	4140	3450	2590	2070
				进给速度 (mm/min)	510	530	680	660	610	570
	合金钢 Alloy Steel,Tool Steel (35-48HRC)	ap ≤ 0.75D	120	转速 (min-1)	6370	4780	3820	3185	2390	1910
				进给速度 (mm/min)	430	440	560	540	500	460
M	不锈钢 Stainless Steel	ap ≤ 0.75D	90	转速 (min-1)	4780	3580	2870	2390	1790	1430
				进给速度 (mm/min)	360	370	470	460	430	395
K	灰铸铁 球墨铸铁 Gery Iron,Spher. Graph. Iron (< 32HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3185	2390	1910
				进给速度 (mm/min)	570	590	750	710	660	595
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 1D	100	转速 (min-1)	5310	3980	3185	2650	1990	1590
				进给速度 (mm/min)	320	325	420	410	375	350
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 0.3D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
				进给速度 (mm/min)	390	400	515	500	450	420

【注意】
1.请使用刚性较高的机床和刀柄。
2.请根据具体加工工况，适当调整转速、进给、切深和切宽。
3.上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1.Make sure machine are stable and use a precision holder.
2.Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3.The milling conditions are for endmill that overhang length is less than 4*D(mill dia.).
When the tool overhang length is longer, please adjust the speed,feed and cutting depth.

SH260-H 高硬钢加工通用立铣刀

SH260-H Endmill 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-S2-H

2刃平头

2 Flute, Standard Length

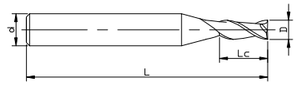


Fig1

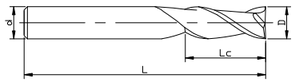


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S2-1-2.5-H	1	2.5	50	4	1	●
SH260-S2-2-5-H	2	5	50	4	1	●
SH260-S2-3-7.5-H	3	7.5	50	4	1	●
SH260-S2-4-10-H	4	10	50	4	2	●
SH260-S2-5-12.5-H	5	12.5	50	6	1	●
SH260-S2-6-15-H	6	15	50	6	2	●
SH260-S2-8-20-H	8	20	60	8	2	●
SH260-S2-10-25-H	10	25	75	10	2	●
SH260-S2-12-30-H	12	30	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	$^{0}_{-0.02}$

单位unit (mm)

工件材料 Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P120

SH260-SN2-H

2刃长颈平头

2 Flute, with Reduced Neck

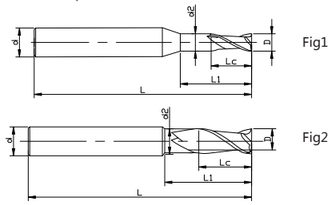


Fig1

Fig2

SHANK h6 | 2 | TiAlCrSiN | 35° Helix | Square

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-SN2-1-3-H	1	1.5	0.96	3	50	4	1	●
SH260-SN2-1-6-H	1	1.5	0.96	6	50	4	1	●
SH260-SN2-2-6-H	2	3	1.92	6	50	4	1	●
SH260-SN2-2-12-H	2	3	1.92	12	50	4	1	●
SH260-SN2-3-9-H	3	4.5	2.88	9	50	4	1	●
SH260-SN2-3-18-H	3	4.5	2.88	18	50	4	1	○
SH260-SN2-4-12-H-6	4	6	3.8	12	60	6	2	●
SH260-SN2-4-24-H-6	4	6	3.8	24	60	6	1	●
SH260-SN2-5-15-H	5	7.5	4.8	15	60	6	1	○
SH260-SN2-6-18-H	6	9	5.8	18	75	6	2	●
SH260-SN2-6-36-H	6	9	5.8	36	75	6	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P120

SH260-S4-H

4刃平头

4 Flute, Standard Length

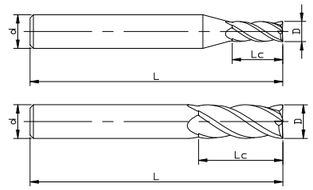


Fig1

Fig2

SHANK h6 | 4 | TiAlCrSiN | 30° Helix | Square

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S4-1-2.5-H	1	2.5	50	4	1	●
SH260-S4-1.5-4-H	1.5	4	50	4	1	●
SH260-S4-2-5-H	2	5	50	4	1	●
SH260-S4-2.5-6-H	2.5	6	50	4	1	●
SH260-S4-3-8-H-3	3	8	50	3	2	●
SH260-S4-4-10-H	4	10	50	4	2	●
SH260-S4-5-13-H	5	13	50	6	1	●
SH260-S4-6-15-H	6	15	50	6	2	●
SH260-S4-8-20-H	8	20	60	8	2	●
SH260-S4-10-25-H	10	25	75	10	2	●
SH260-S4-10-30-H	10	30	75	10	2	●
SH260-S4-12-30-H	12	30	75	12	2	●
SH260-S4-12-36-H	12	36	75	12	2	●
SH260-S4-16-40-H	16	40	100	16	2	●
SH260-S4-20-50-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
6<D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-SH4-H

4刃长柄平头

4 Flute, with Long Shank Length

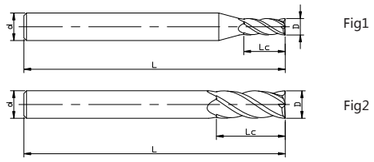


Fig1

Fig2

SHANK h6 | 4 | TiAlCrSiN | 30° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SH4-1-60-H	1	2.5	60	4	1	●
SH260-SH4-2-60-H	2	5	60	4	1	●
SH260-SH4-3-60-H	3	8	60	4	1	●
SH260-SH4-3-60-H-6	3	8	60	6	1	●
SH260-SH4-4-60-H	4	10	60	4	2	●
SH260-SH4-4-60-H-6	4	10	60	6	1	●
SH260-SH4-4-75-H-6	4	10	75	6	1	●
SH260-SH4-5-60-H	5	13	60	6	1	●
SH260-SH4-6-60-H	6	15	60	6	2	●
SH260-SH4-6-75-H	6	15	75	6	2	●
SH260-SH4-8-75-H	8	20	75	8	2	●
SH260-SH4-8-100-H	8	20	100	8	2	●
SH260-SH4-10-100-H	10	25	100	10	2	●
SH260-SH4-12-100-H	12	30	100	12	2	●
SH260-SH4-16-150-H	16	40	150	16	2	●
SH260-SH4-20-150-H	20	50	150	20	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-SN4-H

4刃长颈平头

4 Flute, with Reduced Neck

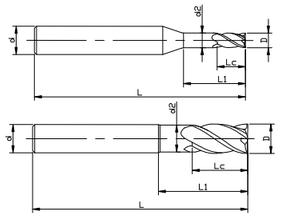


Fig1

Fig2

SHANK h6 | 4 | TiAlCrSiN | 30° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-SN4-1-3-H	1	2	0.96	3	50	4	1	○
SH260-SN4-1-6-H	1	2	0.96	6	50	4	1	●
SH260-SN4-2-6-H	2	4	1.92	6	50	4	1	●
SH260-SN4-2-12-H	2	4	1.92	12	50	4	1	●
SH260-SN4-3-9-H	3	6	2.88	9	50	4	1	●
SH260-SN4-3-18-H-6	3	6	2.88	18	60	6	1	○
SH260-SN4-4-12-H	4	8	3.8	12	60	4	2	●
SH260-SN4-4-24-H-6	4	8	3.8	24	60	6	1	○
SH260-SN4-5-15-H	5	10	4.8	15	60	6	1	○
SH260-SN4-6-18-H	6	12	5.8	18	75	6	2	○
SH260-SN4-6-24-H	6	12	5.8	24	75	6	2	●
SH260-SN4-8-24-H	8	16	7.8	24	75	8	2	○
SH260-SN4-8-32-H	8	16	7.8	32	100	8	2	●
SH260-SN4-10-30-H	10	20	9.8	30	100	10	2	○
SH260-SN4-10-40-H	10	20	9.8	40	100	10	2	●
SH260-SN4-12-36-H	12	24	11.8	36	100	12	2	○

● 标准库存Stock
○ 需预定Available upon Order

D	公差Tol
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit（mm）

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-SL4-H

4刃长刃平头
4 Flute, Long Flute Length

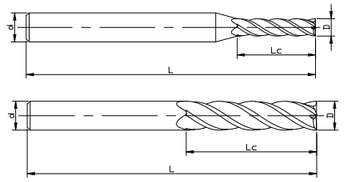


Fig1

Fig2

SHANK h6 | 4 | TiAlCrSiN | 30° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SL4-1-5-H	1	5	50	4	1	●
SH260-SL4-2-10-H	2	10	50	4	1	●
SH260-SL4-3-15-H	3	15	50	4	1	○
SH260-SL4-4-16-H	4	16	60	4	2	●
SH260-SL4-4-20-H-6	4	20	60	6	1	●
SH260-SL4-5-20-H	5	20	60	6	1	○
SH260-SL4-6-24-H	6	24	75	6	2	●
SH260-SL4-8-32-H	8	32	75	8	2	●
SH260-SL4-10-40-H	10	40	100	10	2	●
SH260-SL4-10-50-H	10	50	120	10	2	○
SH260-SL4-12-50-H	12	50	120	12	2	○
SH260-SL4-16-60-H	16	60	150	16	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-S6-H

6刃平头
6 Flute, Standard Length

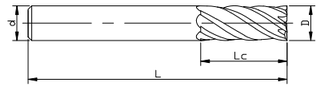


Fig1

SHANK h6 | 6 | TiAlCrSiN | 45° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S6-6-15-H	6	15	50	6	1	●
SH260-S6-8-20-H	8	20	60	8	1	●
SH260-S6-10-25-H	10	25	75	10	1	●
SH260-S6-12-30-H	12	30	75	12	1	●
SH260-S6-16-40-H	16	40	100	16	1	●
SH260-S6-20-45-H	20	45	100	20	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

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P122

SH260-SH6-H

6刃长柄平头
6 Flute,with Long Shank Length

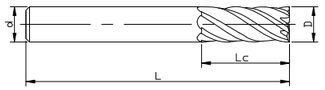


Fig1

SHANK h6 | 6 | TiAlCrSiN | 45° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SH6-6-60-H	6	15	60	6	1	●
SH260-SH6-8-75-H	8	20	75	8	1	●
SH260-SH6-10-100-H	10	25	100	10	1	●
SH260-SH6-12-100-H	12	30	100	12	1	●
SH260-SH6-16-120-H	16	45	120	16	1	●
SH260-SH6-20-120-H	20	60	120	20	1	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	$^{0}_{-0.01}$
D>6	$^{0}_{-0.02}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P122

SH260-SL6-H

6刃长刃平头
6 Flute, Long Flute Length

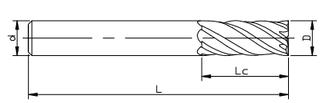


Fig1

SHANK h6 | 6 | TiAlCrSiN | 45° Helix | Square | L

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SL6-6-24-H	6	24	75	6	1	●
SH260-SL6-6-30-H	6	30	100	6	1	●
SH260-SL6-8-32-H	8	32	75	8	1	●
SH260-SL6-8-40-H	8	40	100	8	1	●
SH260-SL6-10-40-H	10	40	100	10	1	●
SH260-SL6-10-50-H	10	50	100	10	1	●
SH260-SL6-12-50-H	12	50	100	12	1	●
SH260-SL6-12-60-H	12	60	120	12	1	●
SH260-SL6-16-70-H	16	70	150	16	1	●
SH260-SL6-16-80-H	16	80	150	16	1	●
SH260-SL6-20-80-H	20	80	150	20	1	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	$^{0}_{-0.01}$
D>6	$^{0}_{-0.02}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P122

SH260-R2-H

2刃圆角头
2 Flute, Corner Radius

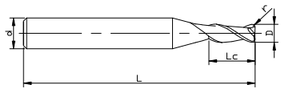


Fig1

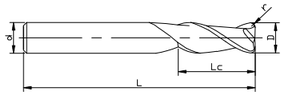
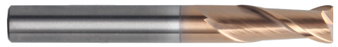


Fig2



标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R2-1-2.5-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R2-1-2.5-0.2-H	1	2.5	0.2	50	4	1	●
SH260-R2-2-5-0.2-H	2	5	0.2	50	4	1	●
SH260-R2-2-5-0.3-H	2	5	0.3	50	4	1	●
SH260-R2-3-7.5-0.2-H	3	7.5	0.2	50	4	1	●
SH260-R2-3-7.5-0.5-H	3	7.5	0.5	50	4	1	●
SH260-R2-4-10-0.2-H	4	10	0.2	50	4	2	●
SH260-R2-4-10-0.5-H	4	10	0.5	50	4	2	●
SH260-R2-6-15-0.5-H	6	15	0.5	50	6	2	●
SH260-R2-6-15-1-H	6	15	1	50	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

单位unit (mm)

工件材料 Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P120

SH260-RN2-H

2刃长颈圆角头
2 Flute Corner Radius, with Reduced Neck

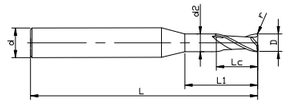


Fig1

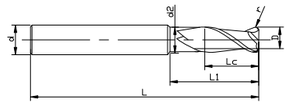


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN2-1-3-0.1-H	1	1.5	0.1	0.96	3	50	4	1	●
SH260-RN2-1-3-0.2-H	1	1.5	0.2	0.96	3	50	4	1	●
SH260-RN2-1-6-0.1-H	1	1.5	0.1	0.96	6	50	4	1	●
SH260-RN2-1-6-0.2-H	1	1.5	0.2	0.96	6	50	4	1	●
SH260-RN2-2-6-0.2-H	2	3	0.2	1.92	6	50	4	1	●
SH260-RN2-2-6-0.5-H	2	3	0.5	1.92	6	50	4	1	●
SH260-RN2-2-12-0.2-H	2	3	0.2	1.92	12	50	4	1	●
SH260-RN2-2-12-0.5-H	2	3	0.5	1.92	12	50	4	1	●
SH260-RN2-3-9-0.2-H	3	4.5	0.2	2.88	9	50	4	1	●
SH260-RN2-3-9-0.5-H	3	4.5	0.5	2.88	9	50	4	1	●
SH260-RN2-3-18-0.2-H	3	4.5	0.2	2.88	18	50	4	1	○
SH260-RN2-3-18-0.5-H	3	4.5	0.5	2.88	18	50	4	1	○
SH260-RN2-4-12-0.2-H	4	6	0.2	3.8	12	50	4	2	●
SH260-RN2-4-12-0.5-H	4	6	0.5	3.8	12	50	4	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

单位unit (mm)

工件材料 Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P120

B 铣削 / Milling Tools

SH260-RN2-H

2刃长颈圆角头

2 Flute Corner Radius, with Reduced Neck

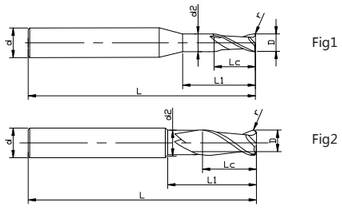


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN2-4-24-0.2-H	4	6	0.2	3.8	24	60	4	2	○
SH260-RN2-4-24-0.5-H	4	6	0.5	3.8	24	60	4	2	○
SH260-RN2-5-15-0.5-H	5	7.5	0.5	4.8	15	50	6	1	●
SH260-RN2-5-30-0.5-H	5	7.5	0.5	4.8	30	60	6	1	○
SH260-RN2-6-18-0.5-H	6	9	0.5	5.8	18	60	6	2	●
SH260-RN2-6-36-0.5-H	6	9	0.5	5.8	36	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	$^{0}_{-0.02}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P120

SH260-R4-H

4刃圆角头

4 Flute, Corner Radius

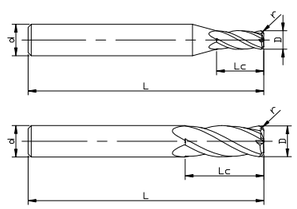


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4-1-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R4-1-0.2-H	1	2.5	0.2	50	4	1	●
SH260-R4-1.5-0.1-H	1.5	4	0.1	50	4	1	●
SH260-R4-1.5-0.2-H	1.5	4	0.2	50	4	1	●
SH260-R4-1.5-0.3-H	1.5	4	0.3	50	4	1	●
SH260-R4-2-0.1-H	2	5	0.1	50	4	1	●
SH260-R4-2-0.2-H	2	5	0.2	50	4	1	●
SH260-R4-2-0.3-H	2	5	0.3	50	4	1	●
SH260-R4-2-0.5-H	2	5	0.5	50	4	1	●
SH260-R4-3-0.2-H	3	8	0.2	50	4	1	●
SH260-R4-3-0.3-H	3	8	0.3	50	4	1	●
SH260-R4-3-0.5-H	3	8	0.5	50	4	1	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	$^{0}_{-0.01}$
6 < D≤12	$^{0}_{-0.02}$
D>12	$^{0}_{-0.03}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-R4-H

4刃圆角头
4 Flute, Corner Radius

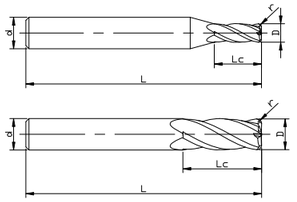


Fig1

Fig2

标记说明请参考P061页 See page 061 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-R4-3-0.2-H-3	3	8	0.2	50	3	2	●
SH260-R4-3-0.3-H-3	3	8	0.3	50	3	2	●
SH260-R4-4-0.2-H	4	10	0.2	50	4	2	●
SH260-R4-4-0.3-H	4	10	0.3	50	4	2	●
SH260-R4-4-0.5-H	4	10	0.5	50	4	2	●
SH260-R4-4-1-H	4	10	1	50	4	2	●
SH260-R4-5-0.2-H	5	13	0.2	50	6	1	●
SH260-R4-5-0.5-H	5	13	0.5	50	6	1	○
SH260-R4-6-0.2-H	6	15	0.2	50	6	2	●
SH260-R4-6-0.3-H	6	15	0.3	50	6	2	●
SH260-R4-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R4-6-1-H	6	15	1	50	6	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-R4-H

4刃圆角头
4 Flute, Corner Radius

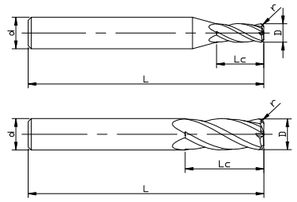


Fig1

Fig2

标记说明请参考P061页 See page 061 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-R4-8-0.2-H	8	20	0.2	60	8	2	●
SH260-R4-8-0.3-H	8	20	0.3	60	8	2	●
SH260-R4-8-0.5-H	8	20	0.5	60	8	2	●
SH260-R4-8-1-H	8	20	1	60	8	2	●
SH260-R4-10-0.2-H	10	25	0.2	75	10	2	○
SH260-R4-10-0.5-H	10	25	0.5	75	10	2	●
SH260-R4-10-1-H	10	25	1	75	10	2	●
SH260-R4-10-2-H	10	25	2	75	10	2	○
SH260-R4-12-0.5-H	12	30	0.5	75	12	2	●
SH260-R4-12-1-H	12	30	1	75	12	2	●
SH260-R4-12-2-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
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

B 铣削 / Milling Tools

SH260-RH4-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

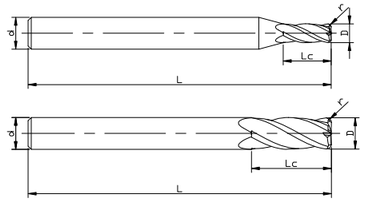


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4-4-60-0.2-H	4	10	0.2	60	4	2	●
SH260-RH4-4-60-0.3-H	4	10	0.3	60	4	2	●
SH260-RH4-4-60-0.5-H	4	10	0.5	60	4	2	●
SH260-RH4-4-75-0.5-H	4	10	0.5	75	4	2	●
SH260-RH4-4-60-1-H	4	10	1	60	4	2	●
SH260-RH4-4-75-0.5-H-6	4	10	0.5	75	6	1	●
SH260-RH4-4-60-1-H-6	4	10	1	60	6	1	●
SH260-RH4-6-60-0.3-H	6	15	0.3	60	6	2	●
SH260-RH4-6-60-0.5-H	6	15	0.5	6	6	2	○
SH260-RH4-6-75-0.5-H	6	15	0.5	75	6	2	●
SH260-RH4-6-100-0.5-H	6	15	0.5	100	6	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	$^{0}_{-0.01}$
6 < D≤12	$^{0}_{-0.02}$
D>12	$^{0}_{-0.03}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-RH4-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

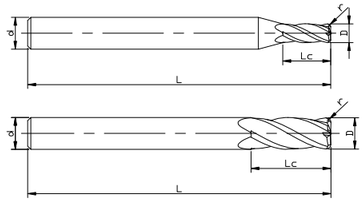


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4-6-60-1-H	6	15	1	60	6	2	●
SH260-RH4-6-75-1-H	6	15	1	75	6	2	●
SH260-RH4-8-75-0.3-H	8	20	0.3	75	8	2	○
SH260-RH4-8-75-0.5-H	8	20	0.5	75	8	2	●
SH260-RH4-8-100-0.5-H	8	20	0.5	100	8	2	●
SH260-RH4-8-75-1-H	8	20	1	75	8	2	●
SH260-RH4-10-100-0.5-H	10	25	0.5	100	10	2	●
SH260-RH4-10-100-1-H	10	25	1	100	10	2	●
SH260-RH4-12-100-0.5-H	12	30	0.5	100	12	2	●
SH260-RH4-12-100-1-H	12	30	1	100	12	2	●
SH260-RH4-12-120-1-H	12	30	1	120	12	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	$^{0}_{-0.01}$
6 < D≤12	$^{0}_{-0.02}$
D>12	$^{0}_{-0.03}$

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

B 铣削 / Milling Tools

SH260-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck

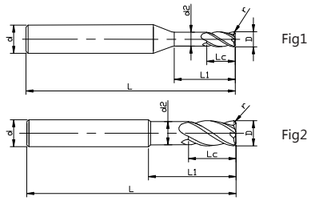


Fig1

Fig2

SHANK h5 | 4 | TiAlCrSiN | 30° Helix | Corner-R | L

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN4-1-3-0.1-H	1	2	0.1	0.96	3	50	4	1	○
SH260-RN4-1-6-0.1-H	1	2	0.1	0.96	6	50	4	1	●
SH260-RN4-1.5-4.5-0.1-H	1.5	3	0.1	1.45	4.5	50	4	1	○
SH260-RN4-1.5-9-0.1-H	1.5	3	0.1	1.45	9	50	4	1	●
SH260-RN4-2-6-0.2-H	2	4	0.2	1.92	6	50	4	1	○
SH260-RN4-2-12-0.2-H	2	4	0.2	1.92	12	50	4	1	●
SH260-RN4-2-6-0.3-H	2	4	0.3	1.92	6	50	4	1	○
SH260-RN4-2-12-0.3-H	2	4	0.3	1.92	12	50	4	1	○
SH260-RN4-3-9-0.2-H-6	3	6	0.2	2.88	9	60	6	1	●
SH260-RN4-3-18-0.2-H-6	3	6	0.2	2.88	18	60	6	1	●
SH260-RN4-3-9-0.3-H-6	3	6	0.3	2.88	9	60	6	1	○
SH260-RN4-3-18-0.3-H-6	3	6	0.3	2.88	18	60	6	1	○
SH260-RN4-4-12-0.2-H-6	4	8	0.2	3.8	12	60	6	1	●
SH260-RN4-4-12-0.3-H-6	4	8	0.3	3.8	12	60	6	1	○
SH260-RN4-4-12-0.5-H-6	4	8	0.5	3.8	12	60	6	1	●
SH260-RN4-4-24-0.5-H-6	4	8	0.5	3.8	24	75	6	1	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck

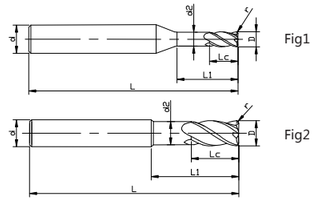


Fig1

Fig2

SHANK h5 | 4 | TiAlCrSiN | 30° Helix | Corner-R | L

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN4-6-18-0.2-H	6	12	0.2	5.8	18	75	6	2	○
SH260-RN4-6-24-0.2-H	6	12	0.2	5.8	24	75	6	2	○
SH260-RN4-6-18-0.5-H	6	12	0.5	5.8	18	75	6	2	●
SH260-RN4-6-24-0.5-H	6	12	0.5	5.8	24	75	6	2	●
SH260-RN4-8-24-0.2-H	8	16	0.2	7.8	24	75	8	2	○
SH260-RN4-8-32-0.2-H	8	16	0.2	7.8	32	75	8	2	○
SH260-RN4-8-24-0.5-H	8	16	0.5	7.8	24	75	8	2	●
SH260-RN4-8-32-0.5-H	8	16	0.5	7.8	32	75	8	2	●
SH260-RN4-10-30-0.5-H	10	20	0.5	9.8	30	100	10	2	●
SH260-RN4-10-40-0.5-H	10	20	0.5	9.8	40	100	10	2	●
SH260-RN4-10-30-1-H	10	20	1	9.8	30	100	10	2	●
SH260-RN4-10-40-1-H	10	20	1	9.8	40	100	10	2	●
SH260-RN4-12-36-0.5-H	12	24	0.5	11.8	36	100	12	2	●
SH260-RN4-12-48-0.5-H	12	24	0.5	11.8	48	100	12	2	●
SH260-RN4-12-36-1-H	12	24	1	11.8	36	100	12	2	●
SH260-RN4-12-48-1-H	12	24	1	11.8	48	100	12	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P121

SH260-B2-H

2刃球头
2 Flute, Ballnose

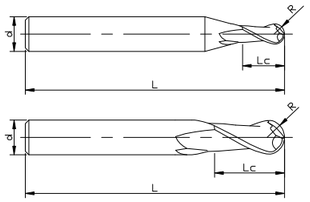


Fig1

Fig2

SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Ballnose

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH260-B2-1-1.5-H	1	0.5	1.5	50	4	1	●
SH260-B2-1.5-2.5-H	1.5	0.75	2.5	50	4	1	●
SH260-B2-2-3-H	2	1	3	50	4	1	●
SH260-B2-3-4.5-H	3	1.5	4.5	50	4	1	●
SH260-B2-3-4.5-H-3	3	1.5	4.5	50	3	2	●
SH260-B2-3-4.5-H-6	3	1.5	4.5	50	6	1	●
SH260-B2-4-6-H	4	2	6	50	4	2	●
SH260-B2-4-6-H-6	4	2	6	50	6	1	●
SH260-B2-5-7.5-H	5	2.5	7.5	50	6	1	●
SH260-B2-6-9-H	6	3	9	50	6	2	●
SH260-B2-8-12-H	8	4	12	60	8	2	●
SH260-B2-10-15-H	10	5	15	75	10	2	●
SH260-B2-12-18-H	12	6	18	75	12	2	●
SH260-B2-16-24-H	16	8	24	100	16	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P123

SH260-BH2-H

2刃长柄球头
2 Flute Ballnose, with Long Shank Length

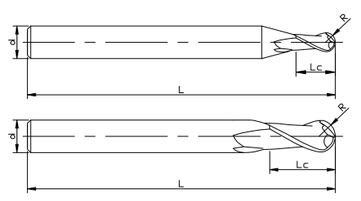


Fig1

Fig2

SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Ballnose

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH260-BH2-2-60-H	2	1	3	60	4	1	●
SH260-BH2-2-60-H-6	2	1	3	60	6	1	●
SH260-BH2-3-60-H	3	1.5	4.5	60	4	1	●
SH260-BH2-3-60-H-6	3	1.5	4.5	60	6	1	●
SH260-BH2-3-75-H-6	3	1.5	4.5	75	6	1	●
SH260-BH2-4-60-H	4	2	6	60	4	2	●
SH260-BH2-4-75-H	4	2	6	75	4	2	●
SH260-BH2-4-60-H-6	4	2	6	60	6	1	●
SH260-BH2-4-75-H-6	4	2	6	75	6	1	●
SH260-BH2-5-60-H	5	2.5	7.5	60	6	1	●
SH260-BH2-6-60-H	6	3	9	60	6	2	●
SH260-BH2-6-75-H	6	3	9	75	6	2	●
SH260-BH2-6-100-H	6	3	9	100	6	2	●
SH260-BH2-8-75-H	8	4	12	75	8	2	●
SH260-BH2-8-100-H	8	4	12	100	8	2	●
SH260-BH2-10-100-H	10	5	15	100	10	2	●
SH260-BH2-12-100-H	12	6	18	100	12	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P123

SH260-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck

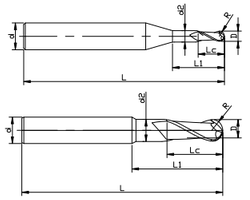


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-BN2-1-3-H	1	0.5	1	0.96	3	50	4	1	○
SH260-BN2-1-6-H	1	0.5	1	0.96	6	50	4	1	●
SH260-BN2-1.5-5-H	1.5	0.75	1.5	1.45	5	50	4	1	○
SH260-BN2-1.5-9-H	1.5	0.75	1.5	1.45	9	50	4	1	●
SH260-BN2-2-6-H	2	1	2	1.95	6	50	4	1	○
SH260-BN2-2-12-H	2	1	2	1.95	12	50	4	1	●
SH260-BN2-3-9-H	3	1.5	3	2.9	9	50	4	1	●
SH260-BN2-3-18-H	3	1.5	3	2.9	18	50	4	1	●
SH260-BN2-3-18-H-6	3	1.5	3	2.9	18	50	6	1	○

● 标准库存 Stock
○ 需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P123

SH260-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck

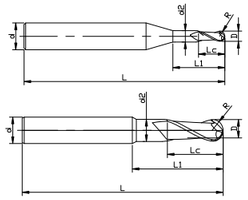


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-BN2-4-12-H	4	2	4	3.9	12	50	4	2	●
SH260-BN2-4-24-H	4	2	4	3.9	24	60	4	2	○
SH260-BN2-4-24-H-6	4	2	4	3.9	24	60	6	1	●
SH260-BN2-5-15-H	5	2.5	5	4.9	15	60	6	1	○
SH260-BN2-5-30-H	5	2.5	5	4.9	30	75	6	1	○
SH260-BN2-6-18-H	6	3	6	5.9	18	75	6	2	○
SH260-BN2-8-24-H	8	4	8	7.9	24	75	8	2	●
SH260-BN2-10-30-H	10	5	10	9.9	30	100	10	2	●
SH260-BN2-12-36-H	12	6	12	11.9	36	100	12	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	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 ※ P123

B 铣削 / Milling Tools

推荐切削参数
Recommended Cutting Data

SH260- S2、SN2、R2、RN2-H
合金钢、淬硬钢For Alloy Steels, Hardend Steels——槽铣 Sloting

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
				2	4	6	8	10	12
P	合金钢 Alloy Steel (30-45HRC)	Ae=1.0D Ap≤0.05D	转速N (min-1)	20000	10350	8500	6600	5250	4400
			进给速度F (mm/min)	520	550	630	610	580	580
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ae=1.0D Ap≤0.02D	转速N (min-1)	16000	8300	5200	3800	3100	2800
			进给速度F (mm/min)	380	410	340	320	300	300
	淬硬钢 Hardened Steel (55-60HRC)	Ae=1D Ap≤0.01D	转速N (min-1)	13500	6800	4600	3000	2400	2000
			进给速度F (mm/min)	240	240	230	190	180	170

SH260- S2、SN2、R2、RN2-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)	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
				2	4	6	8	10	12
P	合金钢 Alloy Steel (30-45HRC)	Ap≤0.8D Ae≤0.03D	转速N (min-1)	20000	10350	8500	6600	5250	4400
			进给速度F (mm/min)	720	750	880	610	820	820
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ap≤0.5D Ae≤0.03D	转速N (min-1)	16000	8300	5200	3800	3100	2800
			进给速度F (mm/min)	540	570	520	460	420	420
	淬硬钢 Hardened Steel (55-60HRC)	Ap≤0.5D Ae≤0.01D	转速N (min-1)	13500	6800	4600	3000	2400	2000
			进给速度F (mm/min)	340	360	350	270	250	250

【注意】
1. 请使用刚性较高的机床和刀柄。
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。
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。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. 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

SH260- S4、SH4、SL4、SN4、R4、RH4、RN4-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	刃径Dc Tool Dia (mm)					
					2	4	6	8	10	12
P	合金钢 Alloy Steel (30-45HRC)	ap≤1.2D ae≤0.08D	通用条件 General	转速N (min-1)	14000	7200	4800	3600	2900	2400
				进给速度F (mm/min)	800	900	1000	1100	1050	1000
			高速条件 High Speed	转速N (min-1)	20000	10000	7000	5200	4200	3600
				进给速度F (mm/min)	1200	1400	1600	1800	1600	1500
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	ap≤1.0D ae≤0.04D	通用条件 General	转速N (min-1)	12500	6400	4200	3200	2500	2100
				进给速度F (mm/min)	500	600	700	800	700	640
			高速条件 High Speed	转速N (min-1)	18000	9200	6100	4600	3600	3000
				进给速度F (mm/min)	900	1150	1300	1400	1300	1200
	淬硬钢 Hardened Steel (55-60HRC)	ap≤0.8D ae≤0.02D	通用条件 General	转速N (min-1)	11000	5600	3700	2800	2200	1900
				进给速度F (mm/min)	440	500	580	630	570	550
			高速条件 High Speed	转速N (min-1)	15000	8000	5300	4000	3200	2700
				进给速度F (mm/min)	790	900	1040	1100	1000	900

【注意】
1. 请使用刚性较高的机床和刀柄。
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。
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。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. 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 铣削 / Milling Tools

推荐切削参数
Recommended Cutting Data

SH260- S6、SH6、SL6-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)	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
				6	8	10	12	16	20
P	合金钢 Alloy Steel (30-45HRC)	Ap≤1.5D Ae≤0.05D	转速N (min-1)	6200	4800	4000	3200	2400	1600
			进给速度F (mm/min)	1674	1584	1560	1440	1296	960
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ap≤1.5D Ae≤0.03D	转速N (min-1)	4500	3600	3000	2400	1800	1200
			进给速度F (mm/min)	1215	1188	1170	1080	972	720
	淬硬钢 Hardened Steel (55-60HRC)	Ap≤1.5D Ae≤0.02D	转速N (min-1)	3100	2400	2000	1600	1200	800
			进给速度F (mm/min)	744	720	720	627	576	432

【注意】
1. 请使用刚性较高的机床和刀柄。
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。
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。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. 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

SH260-B2、BH2、BN2-H
合金钢、淬硬钢For Alloy Steels, Hardend Steels——仿型铣Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	切削域 Cutting Range	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
					R1*2	R2*4	R3*6	R4*8	R5*10	R6*12
P	合金钢 Alloy Steel (30-45HRC)	ap=0.05~0.1 ae≤0.02D	通用条件 General	转速N (min-1)	20000	10300	6900	5100	4100	3400
				进给速度F (mm/min)	1500	1650	1650	1700	1700	1750
			高速条件 High Speed	转速N (min-1)	35000	17500	11600	8700	7000	6000
				进给速度F (mm/min)	2600	2700	2700	2850	2850	2900
H	合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	ap=0.05~0.1 Ae≤0.02D	通用条件 General	转速N (min-1)	15900	8000	5300	4000	3200	2600
				进给速度F (mm/min)	1200	1300	1300	1350	1350	1400
			高速条件 High Speed	转速N (min-1)	28600	14300	9500	7200	5700	4500
				进给速度F (mm/min)	2200	2300	2300	2350	2350	2400
	淬硬钢 Hardened Steel (55-60HRC)	ap=0.05~0.1 ae≤0.02D	通用条件 General	转速N (min-1)	12000	6000	4000	2900	2400	2100
				进给速度F (mm/min)	900	960	960	920	920	900
			高速条件 High Speed	转速N (min-1)	25400	12700	8500	6400	5000	1900
				进给速度F (mm/min)	1800	1800	1800	1500	1500	1500

【注意】
1. 请使用刚性较高的机床和刀柄。
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。
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。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. 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.

SG200-M石墨模具专用加工立铣刀

SG200-M Specialized Processing Endmills For Graphite Mold

- 适用于3C电子行业3D曲面玻璃石墨模具高精度、专用化加工，推荐使用气冷。
  It is suitable for high precision and special processing of 3D curved glass graphite mould in 3C electronic industry.Air cooling is recommended.
- 高纯度金刚石涂层膜，适用于加工各类高低硬度石墨牌号，具有优越的耐磨性。
  High-purity diamond coating film,with excellent wear resistance,it is suitable for processing the graphite brands of different hardness.
- 特殊的预处理工艺，实现良好的加工表面质量。
  Exclusive pre-treatment technology to achieve good machining surface quality.

SG200-M-RN4

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck

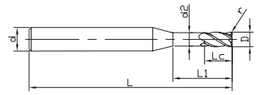


Fig1

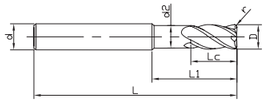


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-M-RN4-1-6-0.1-50	1	2	0.1	0.96	6	50	4	1	○
SG200-M-RN4-2-6-0.15-50	2	3.5	0.15	1.92	6	50	4	1	●
SG200-M-RN4-2-12-0.15-50	2	3.5	0.15	1.92	12	50	4	1	●
SG200-M-RN4-2-6-0.2-50	2	3.5	0.2	1.92	6	50	4	1	●
SG200-M-RN4-2-12-0.2-50	2	3.5	0.2	1.92	12	50	4	1	●
SG200-M-RN4-2-6-0.3-50	2	3.5	0.3	1.92	6	50	4	1	○
SG200-M-RN4-2-12-0.3-50	2	3.5	0.3	1.92	12	50	4	1	○
SG200-M-RN4-3-10-0.15-50	3	4	0.15	2.9	10	50	4	1	●
SG200-M-RN4-3-10-0.2-50	3	4	0.2	2.9	10	50	4	1	●
SG200-M-RN4-3-15-0.2-50	3	4	0.2	2.9	15	50	4	1	●
SG200-M-RN4-3-10-0.5-50	3	4	0.5	2.9	10	50	4	1	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤4	0 -0.010
D>4	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	不锈钢 Stainless Steel	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 ※ P129

SG200-M-RN4

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck

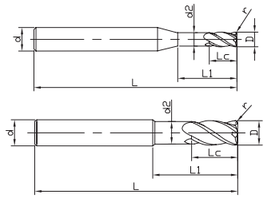


Fig1

Fig2

SHANK h5 | 4 | N-DIA | 40° Helix | Corner-R

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-M-RN4-4-10-0.2-50	4	6	0.2	3.9	10	50	4	2	●
SG200-M-RN4-4-15-0.5-50	4	6	0.5	3.9	15	50	4	2	●
SG200-M-RN4-4-10-1-50	4	6	1	3.9	10	50	4	2	○
SG200-M-RN4-6-25-0.5-50	6	9	0.5	5.9	25	50	6	2	●
SG200-M-RN4-6-25-1-50	6	9	1	5.9	25	50	6	2	○
SG200-M-RN4-6-20-1.5-50	6	15	1.5	5.9	20	50	6	2	○
SG200-M-RN4-6-20-2-50	6	15	2	5.9	20	50	6	2	○
SG200-M-RN4-8-30-1-60	8	10	1	7.9	30	60	8	2	○
SG200-M-RN4-10-35-0.5-75	10	15	0.5	9.8	35	75	10	2	●
SG200-M-RN4-10-45-1-75	10	15	1	9.8	45	75	10	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D≤4	0 -0.010
D>4	0 -0.015

单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	不锈钢 Stainless Steel	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 ※ P129

SG200-M-B2

2刃球头

2 Flute, Ballnose

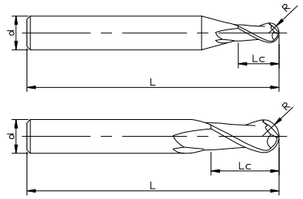


Fig1

Fig2

SHANK h5 | 2 | N-DIA | 30° Helix | Ballnose

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SG200-M-B2-0.4-1.5-50	0.4	0.2	1.5	50	4	1	○
SG200-M-B2-0.5-2-50	0.5	0.25	2	50	4	1	●
SG200-M-B2-0.6-2-50	0.6	0.3	2	50	4	1	○
SG200-M-B2-0.8-3-50	0.8	0.4	3	50	4	1	○
SG200-M-B2-1-3-50	1	0.5	3	50	4	1	●
SG200-M-B2-1.5-5-50	1.5	0.75	5	50	4	1	●
SG200-M-B2-2-6-50	2	1	6	50	4	1	●
SG200-M-B2-3-8-50	3	1.5	8	50	4	1	●
SG200-M-B2-4-16-50	4	2	16	50	4	2	●
SG200-M-B2-5-16-50	5	2.5	16	50	6	1	○
SG200-M-B2-6-16-50	6	3	16	50	6	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
R≤0.4	±0.003
R>0.4	±0.005

单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	不锈钢 Stainless Steel	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 ※ P129

SG200-M-BN2

2刃长颈球头

2 Flute Ballnose, with Reduced Neck

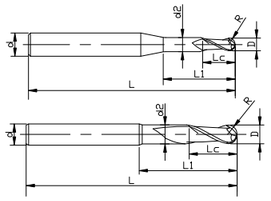


Fig1

Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-M-BN2-0.5-8-50	0.5	0.25	2	0.46	8	50	4	1	○
SG200-M-BN2-0.6-10-50	0.6	0.3	2	0.55	10	50	4	1	●
SG200-M-BN2-0.8-15-50	0.8	0.4	3	0.75	15	50	4	1	○
SG200-M-BN2-1-10-50	1	0.5	3	0.95	10	50	4	1	●
SG200-M-BN2-1-15-50	1	0.5	3	0.95	15	50	4	1	●
SG200-M-BN2-1.5-15-50	1.5	0.75	5	1.44	15	50	4	1	●
SG200-M-BN2-2-10-50	2	1	6	1.92	10	50	4	1	●
SG200-M-BN2-3-15-50	3	1.5	8	2.90	15	50	4	1	●
SG200-M-BN2-4-25-50	4	2	8	3.90	25	50	4	2	●
SG200-M-BN2-6-25-50	6	3	16	5.90	25	50	6	2	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
R≤0.4	±0.003
R>0.4	±0.005

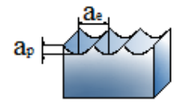
单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel,Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel,Tool Steel(≤48HRC)	不锈钢 Stainless Steel	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 ※ P129

推荐切削参数
Recommended Cutting Data



SG200-M-RN4、B2、BN2
石墨For Graphite——仿形铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	切削域 Cutting Range	转速 (min-1)	进给速度 (mm/min)
N	石墨 Graphite	0.03≤ap≤0.05 0.03≤ae≤0.05	通用条件 General	10000~15000	2000~3000
			高速条件 High Speed	25000~32000	3500~4500

【注意】
1. 请使用刚性较高的石墨加工专用设备和高精度刀柄，推荐气冷加工。
2. 请根据切削速度、设备刚性、实际加工形状与目的等情况可适当调整转速、进给速度和切深量。
3. 尽量控制刀具悬长，保证刀具加工刚性，避免产生振动。

【Note】
1. Make sure work piece and special machine for graphite processing are stable and use a high precision holder, air cooling is recommended.
2. Please adjust the speed,feed and cutting depth according to actual cutting conditons.
3. Try to control the length of the tool to ensure the tool processing stably,avoid vibration.

B 铣削 / Milling Tools

ST210钛合金高性能加工立铣刀

ST210 High Performance Endmills for Titanium Alloys

- 适用于钛合金材料（TA7、TC4、TC18）及不锈钢材料高性能加工。
  Suitable for high performance machining of titanium alloys（TA7，TC4，TC18） and stainless steel.
- 不等分度、不等螺旋，有效抑制振动的产生，更高的加工表面质量。
  Variable helix and differential flute pith design，reduces vibration and improves surface quality.
- 偏心圆弧后角设计，刃口强度高，可以实现稳定切削加工。
  Eccentric relief design，improves tool stability.
- 采用难加工材料专用基体，更长的刀具切削寿命。
  Special carbide substrate for machining of difficult-to-cut materials, highest tool life.

ST210-S4

4刃平头

4 Flutes Square

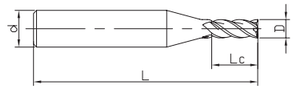


Fig1

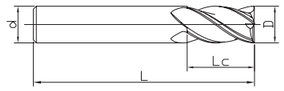


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure NO	库存 Stock
ST210-S4-02006	2	6	50	4	1	●
ST210-S4-02506	2.5	6	50	4	1	●
ST210-S4-03009	3	9	50	4	1	●
ST210-S4-03509	3.5	9	50	4	1	●
ST210-S4-04011	4	11	50	4	2	●
ST210-S4-04511	4.5	11	50	4	1	○
ST210-S4-05013	5	13	50	6	1	●
ST210-S4-06016	6	16	50	6	2	●
ST210-S4-08020	8	20	60	8	2	●
ST210-S4-10025	10	25	72	10	2	●
ST210-S4-12030	12	30	75	12	2	●
ST210-S4-14032	14	32	80	14	2	○
ST210-S4-16036	16	36	100	16	2	●
ST210-S4-20045	20	45	100	20	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

单位unit（mm）

工件材料 Workpiece Material

P		M	S		
1 2 3 4	5	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	TA	TC	TB
○	○	◎	◎	◎	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※P135

ST210-R4

4刃圆角头

4 Flutes Corner Radius

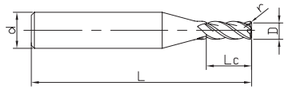


Fig1

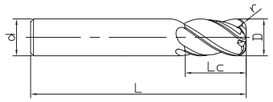


Fig2

标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	r	Lc	L	d	图号 Figure NO	库存 Stock
ST210-R4-02002	2	0.2	6	50	4	1	○
ST210-R4-03003	3	0.3	9	50	4	1	○
ST210-R4-03005	3	0.5	9	50	4	1	○
ST210-R4-04005	4	0.5	11	50	4	2	●
ST210-R4-04010	4	1	11	50	4	2	●
ST210-R4-05005	5	0.5	13	50	6	1	○
ST210-R4-06005	6	0.5	16	50	6	2	●
ST210-R4-06010	6	1	16	50	6	2	●
ST210-R4-08005	8	0.5	20	60	8	2	●
ST210-R4-08010	8	1	20	60	8	2	●
ST210-R4-10005	10	0.5	25	72	10	2	●
ST210-R4-10010	10	1	25	72	10	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D<6	$^{0}_{-0.02}$
6≤D≤12	$^{0}_{-0.03}$
D>12	$^{0}_{-0.04}$

单位unit（mm）

工件材料 Workpiece Material					
P		M	S		
1 2 3 4	5	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	TA	TC	TB
○	○	◎	◎	◎	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P135

ST210-R4

4刃圆角头

4 Flutes Corner Radius

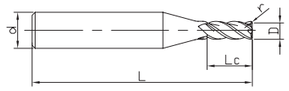


Fig1

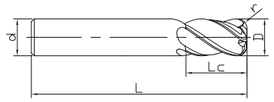
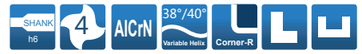


Fig2



标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	r	Lc	L	d	图号 Figure NO	库存 Stock
ST210-R4-10020	10	2	25	72	10	2	○
ST210-R4-12010	12	1	30	75	12	2	●
ST210-R4-12020	12	2	30	75	12	2	○
ST210-R4-12030	12	3	30	75	12	2	●
ST210-R4-16010	16	1	36	100	16	2	●
ST210-R4-16020	16	2	36	100	16	2	○
ST210-R4-16030	16	3	36	100	16	2	●
ST210-R4-20010	20	1	45	100	20	2	●
ST210-R4-20020	20	2	45	100	20	2	○
ST210-R4-20030	20	3	45	100	20	2	●

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
D<6	$^{0}_{-0.02}$
6≤D≤12	$^{0}_{-0.03}$
D>12	$^{0}_{-0.04}$

单位unit（mm）

工件材料 Workpiece Material					
P		M	S		
1 2 3 4	5	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	TA	TC	TB
○	○	◎	◎	◎	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

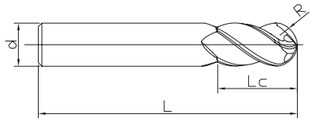
推荐切削参数 Cutting Parameters ※ P135

B 铣削 / Milling Tools

ST210-B4

4刃球头

4 Flutes Ball Nose



标记说明请参考P061页 See page 061 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	库存 Stock
ST210-B4-02004	2	1	4	50	6	○
ST210-B4-03006	3	1.5	6	50	6	○
ST210-B4-04008	4	2	8	50	6	●
ST210-B4-05010	5	2.5	10	50	6	○
ST210-B4-06012	6	3	12	50	6	●
ST210-B4-08014	8	4	14	60	8	●
ST210-B4-10018	10	5	18	75	10	●
ST210-B4-12022	12	6	22	75	12	○
ST210-B4-16030	16	8	30	100	16	○
ST210-B4-20038	20	10	38	100	20	○

● 标准库存 Stock
○ 需预定 Available upon Order

D	公差Tol
R≥1	±0.02

单位unit（mm）

工件材料 Workpiece Material					
P		M	S		
1 2 3 4	5	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	TA	TC	TB
○	○	◎	◎	◎	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P137

推荐切削参数
Recommended Cutting Data

ST210- S4/R4

钛合金、不锈钢 For Titanium Alloys, Stainless Steel —— 侧铣 Side Milling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Diameter (mm)	2	4	6	8	10	12	16	20
S	钛合金 Titanium Alloy	ap≤1.5D ae≤0.25D	60	转速 Speed (min^{-1})	9555	4780	3185	2390	1910	1590	1195	955
				进给速度 Feed Rate (mm/min)	380	285	320	335	345	350	310	305
M	不锈钢 Stainless Steel	ap≤1.5D ae≤0.25D	80	转速 Speed (min^{-1})	12740	6370	4245	3185	2545	2020	1590	1275
				进给速度 Feed Rate (mm/min)	760	510	510	510	510	485	445	430

【注意】
1. 请使用刚性较高的机床和刀柄。
2. 请根据具体加工工况，适当调整转速、进给、切深和切宽。
3. 上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。

【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3. The milling conditions are for endmill that 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

ST210- S4/R4
钛合金、不锈钢 For Titanium Alloys, Stainless Steel—— 槽铣 Slotting

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Diameter (mm)	2	4	6	8	10	12	16	20
S	钛合金 Titanium Alloy	ap≤1D ae=1D	40	转速 Speed (min-1)	6370	3185	2120	1590	1270	1060	795	635
				进给速度 Feed Rate (mm/min)	255	190	170	190	200	210	190	190
M	不锈钢 Stainless Steel	ap≤1D ae=1D	60	转速 Speed (min-1)	9555	4775	3185	2390	1910	1590	1195	955
				进给速度 Feed Rate (mm/min)	380	285	320	335	345	350	310	305

【注意】
1. 请使用刚性较高的机床和刀柄。
2. 请根据具体加工工况，适当调整转速、进给、切深和切宽。
3. 上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3. The milling conditions are for endmill that 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

ST210- B4
钛合金、不锈钢 For Titanium Alloys, Stainless Steel —— 仿型铣 Profiling

工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Diameter (mm)	2	4	6	8	10	12	16	20
S	钛合金 Titanium Alloy	ap≤0.2D ae≤0.3D	60	转速 Speed (min-1)	9555	4780	3185	2390	1910	1590	1195	955
				进给速度 Feed Rate (mm/min)	380	285	320	335	345	350	310	305
M	不锈钢 Stainless Steel	ap≤0.2D ae≤0.3D	80	转速 Speed (min-1)	12740	6370	4245	3185	2545	2020	1590	1275
				进给速度 Feed Rate (mm/min)	760	510	510	510	510	485	445	430

【注意】
1. 请使用刚性较高的机床和刀柄。
2. 请根据具体加工工况，适当调整转速、进给、切深和切宽。
3. 上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。
【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3. The milling conditions are for endmill that 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 铣削 / Milling Tools

STB200锥度球头立铣刀

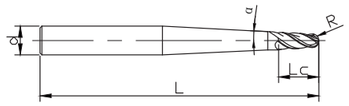
STB200 Taper Ball Nose

- 适用于叶盘叶片的半精加工、精加工。
  Suitable for semi-finishing and finishing of blisks and blades.
- 锥度避空设计及抑震设计，适合大悬伸加工。
  Taper avoidance design and vibration suppression design，suitable for large overhang 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。
  Sultra-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′.

STB200-F4

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P061页 See page 061 for guidelines to icons

订货号 Ordering Code	α	R	Lc	L	d	库存 Stock
STB200-F4-04002006	2	2	10	80	6	○
STB200-F4-06002008	2	3	10	80	8	○
STB200-F4-08002010	2	4	15	100	10	○
STB200-F4-10002012	2	5	20	120	12	○

● 标准库存 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
○	○	◎	◎	◎

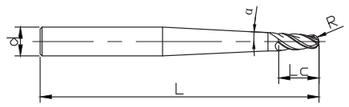
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P141

STB200-F4

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P061页 See page 061 for guidelines to icons

订货号 Ordering Code	α	R	Lc	L	d	库存 Stock
STB200-F4-03003006	3	1.5	10	80	6	○
STB200-F4-04003006	3	2	10	80	6	○
STB200-F4-05003008	3	2.5	10	80	8	○
STB200-F4-06003010	3	3	10	100	10	○
STB200-F4-08003012	3	4	15	120	12	○
STB200-F4-10003016	3	5	20	120	16	○

● 标准库存 Stock
○ 需预定 Available upon Order

	公差Tol
R	±0.01
α	±3 '

单位unit（mm）

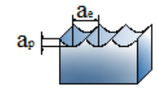
工件材料 Workpiece Material					
P		M	S		
1 2 3 4	5	1 2 3	1 2 3	4	
碳钢、合金钢 Carbon Steels , Alloy Steels < 35HRC	合金钢 Alloy Steels < 48HRC	不锈钢 Stainless Steel	高温合金 HRSA	钛合金 Titanium Alloys	
○	○	◎	◎	◎	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P141

推荐切削参数

Recommended Cutting Data



STB210- F4

锥度球头Taper ball nose——仿型铣Profiling

工件材料 Workpiece Material		切削量 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

【注意】
1. 请使用刚性较高的机床和刀柄。
2. 请根据具体加工工况，适当调整转速、进给、切深和切宽。
3. 上表切削参数是按照刀具悬长为直径4倍以下时制定，若刀具悬长过长，加工时易产生振动，请适当调整转速、进给和切深。

【Note】
1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed,feed , cutting depth and width according to actual cutting conditions.
3. The milling conditions are for endmill that 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 铣削 / Milling Tools

D918S高性能普通钢加工麻花钻

D918S High Performance Twist Drills for Steel

- 适用于软钢、断续切削、冷却条件差及其他恶劣工况的钻削加工。
  Suitable for drilling mild Steel, Interrupted cutting, defective cooling condition and other severe working condietions.
- 全新波形刃设计，兼顾刀尖强度及切削锋利性。
  New Curved edge design , balance tip strength and sharpness.
- 全新G型槽设计，增强断屑性能，提升刀具刚性。
  New G form flute design, strengthens chip breaking performance and tool rigidity.
- 全新基体涂层升级，工况适应性更强，通用性更好。
  New substrate and upgraded coating, contributes to higher flexibility for various drilling conditions and better universality.

DRILLING TOOLS

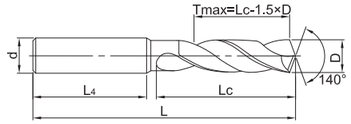
孔加工刀具

C

D918S-A3N

高性能普通钢加工3D外冷麻花钻

High Performance 3D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlCrN/TiSiN | 3D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A3N-0300	3.00	20	36	62	6	
D918S-A3N-0330	3.30	20	36	62	6	M4
D918S-A3N-0400	4.00	24	36	66	6	
D918S-A3N-0420	4.20	24	36	66	6	M5
D918S-A3N-0500	5.00	28	36	66	6	M6
D918S-A3N-0600	6.00	28	36	66	6	
D918S-A3N-0680	6.80	34	36	79	8	M8
D918S-A3N-0700	7.00	34	36	79	8	M8×1
D918S-A3N-0800	8.00	41	36	79	8	
D918S-A3N-0850	8.50	47	40	89	10	M10
D918S-A3N-0900	9.00	47	40	89	10	M10×1
D918S-A3N-1000	10.00	47	40	89	10	
D918S-A3N-1030	10.30	55	45	102	12	M12
D918S-A3N-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

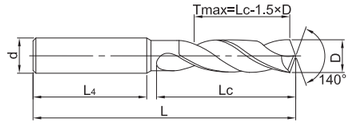
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

D918S-A3N

高性能普通钢加工3D外冷麻花钻

High Performance 3D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlCrN/TiSiN | 3D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A3N-1100	11.00	55	45	102	12	
D918S-A3N-1200	12.00	55	45	102	12	M14
D918S-A3N-1250	12.50	60	45	107	14	M14×1.5
D918S-A3N-1300	13.00	60	45	107	14	
D918S-A3N-1400	14.00	60	45	107	14	M16
D918S-A3N-1450	14.50	65	48	115	16	M16×1.5
D918S-A3N-1500	15.00	65	48	115	16	
D918S-A3N-1600	16.00	65	48	115	16	
D918S-A3N-1700	17.00	73	48	123	18	
D918S-A3N-1800	18.00	73	48	123	18	
D918S-A3N-1900	19.00	79	50	131	20	
D918S-A3N-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ 最适合 Most suitable ○ 适合 Suitable

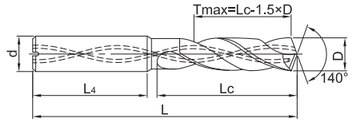
推荐切削参数 Cutting Parameters ※ P152-153

C 孔加工 / Drilling

D918S-A3C

高性能普通钢加工3D内冷麻花钻

High Performance 3D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A3C-0300	3.00	20	36	62	6	
D918S-A3C-0330	3.30	20	36	62	6	M4
D918S-A3C-0400	4.00	24	36	66	6	
D918S-A3C-0420	4.20	24	36	66	6	M5
D918S-A3C-0500	5.00	28	36	66	6	M6
D918S-A3C-0600	6.00	28	36	66	6	
D918S-A3C-0680	6.80	34	36	79	8	M8
D918S-A3C-0700	7.00	34	36	79	8	M8×1
D918S-A3C-0800	8.00	41	36	79	8	
D918S-A3C-0850	8.50	47	40	89	10	M10
D918S-A3C-0900	9.00	47	40	89	10	M10×1
D918S-A3C-1000	10.00	47	40	89	10	
D918S-A3C-1030	10.30	55	45	102	12	M12
D918S-A3C-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

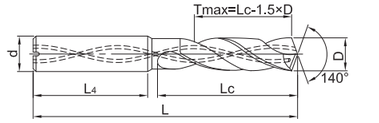
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

D918S-A3C

高性能普通钢加工3D内冷麻花钻

High Performance 3D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A3C-1100	11.00	55	45	102	12	
D918S-A3C-1200	12.00	55	45	102	12	M14
D918S-A3C-1250	12.50	60	45	107	14	M14×1.5
D918S-A3C-1300	13.00	60	45	107	14	
D918S-A3C-1400	14.00	60	45	107	14	M16
D918S-A3C-1450	14.50	65	48	115	16	M16×1.5
D918S-A3C-1500	15.00	65	48	115	16	
D918S-A3C-1600	16.00	65	48	115	16	
D918S-A3C-1700	17.00	73	48	123	18	
D918S-A3C-1800	18.00	73	48	123	18	
D918S-A3C-1900	19.00	79	50	131	20	
D918S-A3C-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

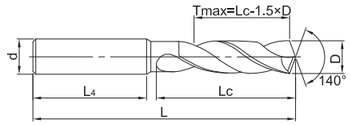
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

D918S-A5N

高性能普通钢加工5D外冷麻花钻

High Performance 5D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A5N-0300	3.00	28	36	66	6	
D918S-A5N-0330	3.30	28	36	66	6	M4
D918S-A5N-0400	4.00	36	36	74	6	
D918S-A5N-0420	4.20	36	36	74	6	M5
D918S-A5N-0500	5.00	44	36	82	6	M6
D918S-A5N-0600	6.00	44	36	82	6	
D918S-A5N-0680	6.80	53	36	91	8	M8
D918S-A5N-0700	7.00	53	36	91	8	M8×1
D918S-A5N-0800	8.00	53	36	91	8	
D918S-A5N-0850	8.50	61	40	103	10	M10
D918S-A5N-0900	9.00	61	40	103	10	M10×1
D918S-A5N-1000	10.00	61	40	103	10	
D918S-A5N-1030	10.30	71	45	118	12	M12
D918S-A5N-1050	10.50	71	45	118	12	M12×1.5

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material						
P			M	K		
1 2 3 4	5	6 7	1 2 3	1 2	3	
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)	
◎	◎	○	○	○	○	

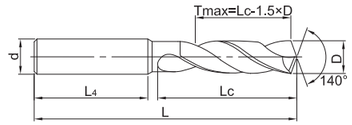
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

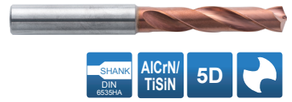
D918S-A5N

高性能普通钢加工5D外冷麻花钻

High Performance 5D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth



标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A5N-1100	11.00	71	45	118	12	
D918S-A5N-1200	12.00	71	45	118	12	M14
D918S-A5N-1250	12.50	77	45	124	14	M14×1.5
D918S-A5N-1300	13.00	77	45	124	14	
D918S-A5N-1400	14.00	77	45	124	14	M16
D918S-A5N-1450	14.50	83	48	133	16	M16×1.5
D918S-A5N-1500	15.00	83	48	133	16	
D918S-A5N-1600	16.00	83	48	133	16	
D918S-A5N-1700	17.00	93	48	143	18	
D918S-A5N-1800	18.00	93	48	143	18	
D918S-A5N-1900	19.00	101	50	153	20	
D918S-A5N-2000	20.00	101	50	153	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material						
P			M	K		
1 2 3 4	5	6 7	1 2 3	1 2	3	
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)	
◎	◎	○	○	○	○	

◎ 最适合 Most suitable ○ 适合 Suitable

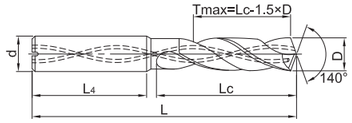
推荐切削参数 Cutting Parameters ※ P152-153

C 孔加工 / Drilling

D918S-A5C

高性能普通钢加工5D内冷麻花钻

High Performance 5D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A5C-0300	3.00	28	36	66	6	
D918S-A5C-0330	3.30	28	36	66	6	M4
D918S-A5C-0400	4.00	36	36	74	6	
D918S-A5C-0420	4.20	36	36	74	6	M5
D918S-A5C-0500	5.00	44	36	82	6	M6
D918S-A5C-0600	6.00	44	36	82	6	
D918S-A5C-0680	6.80	53	36	91	8	M8
D918S-A5C-0700	7.00	53	36	91	8	M8×1
D918S-A5C-0800	8.00	53	36	91	8	
D918S-A5C-0850	8.50	61	40	103	10	M10
D918S-A5C-0900	9.00	61	40	103	10	M10×1
D918S-A5C-1000	10.00	61	40	103	10	
D918S-A5C-1030	10.30	71	45	118	12	M12

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

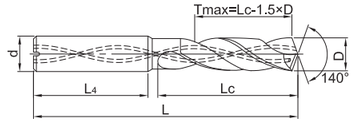
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

D918S-A5C

高性能普通钢加工5D内冷麻花钻

High Performance 5D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D918S-A5C-1050	10.50	71	45	118	12	M12×1.5
D918S-A5C-1100	11.00	71	45	118	12	
D918S-A5C-1200	12.00	71	45	118	12	M14
D918S-A5C-1250	12.50	77	45	124	14	M14×1.5
D918S-A5C-1300	13.00	77	45	124	14	
D918S-A5C-1400	14.00	77	45	124	14	M16
D918S-A5C-1450	14.50	83	48	133	16	M16×1.5
D918S-A5C-1500	15.00	83	48	133	16	
D918S-A5C-1600	16.00	83	48	133	16	
D918S-A5C-1700	17.00	93	48	143	18	
D918S-A5C-1800	18.00	93	48	143	18	
D918S-A5C-1900	19.00	101	50	153	20	
D918S-A5C-2000	20.00	101	50	153	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material					
P			M	K	
1 2 3 4	5	6 7	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	合金钢、工具钢 Alloy Steel, Tool Steel (35-48HRC)	PH 与铁素体 / 马氏体不锈钢 PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁 High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P152-153

D918S 系列麻花钻推荐切削参数
D918S Series Recommended Cutting Data

	工件材料 Workpiece Material	切削速度 Vc (m/min)		进给量 fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	低碳钢，长切屑 Low-carbon Steels, Long Chipping (< 125HB)	100 80 50	140 100 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
P	低碳钢，短切屑，易切钢 Low-carbon Steels，Short Chipping，Free cutting Steels (< 125HB)	100 75 50	140 100 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
P	高碳钢及中碳钢 High-carbon Steels, Medium carbon Steels (< 25HRC)	90 70 45	120 80 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
P	合金钢，工具钢 Alloy Steels，Tool Steels. (< 35HRC)	90 70 45	110 80 50	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
P	合金钢，工具钢 Alloy Steels，Tool Steels. (35-48HRC)	80 60 40	90 60 40	0.09 0.12 0.14	0.10 0.14 0.17	0.13 0.17 0.22	0.17 0.23 0.29	0.21 0.28 0.35
M	奥氏体不锈钢 Austenitic Stainless Steels(130- 200HB)	40 30 20	80 60 40	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.12 0.14	0.08 0.13 0.18	0.09 0.15 0.20
M	高强度的奥氏体和铸造不锈钢 High-Strength Austenitic Stainless Steels and Cast Stainless Steels (< 25HRC)	40 30 20	80 60 40	0.03 0.06 0.08	0.04 0.08 0.10	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.11 0.14
M	双相不锈钢 Duplex Stainless Steels (<30HRC)	35 25 20	60 45 30	0.03 0.06 0.08	0.04 0.08 0.10	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.11 0.14
K	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (<28HRC)	100 80 60	140 120 60	0.13 0.17 0.20	0.15 0.20 0.23	0.17 0.25 0.30	0.20 0.27 0.35	0.23 0.30 0.40
K	中等难加工的合金铸铁、球磨铸铁 Moderately Difficult Alloy Cast Iron, Nodular Cast Iron (<28HRC)	100 80 60	140 120 60	0.11 0.15 0.18	0.13 0.17 0.20	0.15 0.20 0.25	0.17 0.25 0.32	0.20 0.28 0.36
K	难加工的高合金铸铁、球磨铸铁 Difficult Cutting High-alloy Cast Iron, Nodular Cast Iron (<45HRC)	90 70 60	100 90 60	0.06 0.09 0.11	0.08 0.10 0.13	0.10 0.13 0.16	0.12 0.16 0.20	0.14 0.20 0.26

【注意】
1. 请使用刚性较高的机床，建议采用液压刀柄、热涨刀柄、带弹簧夹头的强力刀柄
2. 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
3. 此标准切削条件表适用于水溶性切削液
4. 对于表中没有的刀具刃径规格，请参照表中最接近的刃径规格选择切削参数，同时加工时请根据实际加工情况适当调整切削参数

【Note】
1. Make sure work piece and machine are stable and use a precision holder, Use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The Recommended Cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, Please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

D918S 系列麻花钻推荐切削参数
D918S Series Recommended Cutting Data

	工件材料 Workpiece Material	切削速度 Vc (m/min)		进给量 fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	低碳钢，长切屑 Low-carbon Steels, Long Chipping (< 125HB)	100 80 50	140 100 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
P	低碳钢，短切屑，易切钢 Low-carbon Steels，Short Chipping，Free cutting Steels (< 125HB)	100 75 50	140 100 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
P	高碳钢及中碳钢 High-carbon Steels, Medium carbon Steels (< 25HRC)	90 70 45	120 80 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
P	合金钢，工具钢 Alloy Steels，Tool Steels. (< 35HRC)	90 70 45	110 80 50	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
P	合金钢，工具钢 Alloy Steels，Tool Steels. (35-48HRC)	80 60 40	90 60 40	0.22 0.30 0.37	0.26 0.35 0.41	0.28 0.37 0.44	0.31 0.38 0.46	0.31 0.39 0.47
M	奥氏体不锈钢 Austenitic Stainless Steels(130- 200HB)	40 30 20	80 60 40	0.10 0.17 0.22	0.11 0.18 0.24	0.12 0.20 0.24	0.13 0.22 0.26	0.14 0.24 0.28
M	高强度的奥氏体和铸造不锈钢 High-Strength Austenitic Stainless Steels and Cast Stainless Steels (< 25HRC)	40 30 20	80 60 40	0.08 0.13 0.16	0.09 0.13 0.18	0.10 0.14 0.18	0.10 0.14 0.20	0.12 0.16 0.22
M	双相不锈钢 Duplex Stainless Steels (<30HRC)	35 25 20	60 45 30	0.08 0.13 0.16	0.09 0.13 0.18	0.10 0.14 0.18	0.10 0.14 0.20	0.12 0.16 0.22
K	灰铸铁、球墨铸铁 Grey Cast Iron, Nodular Cast Iron (<28HRC)	100 80 60	140 120 60	0.25 0.33 0.45	0.28 0.36 0.48	0.30 0.40 0.50	0.32 0.42 0.52	0.35 0.45 0.55
K	中等难加工的合金铸铁、球磨铸铁 Moderately Difficult Alloy Cast Iron, Nodular Cast Iron (<28HRC)	100 80 60	140 120 60	0.22 0.30 0.42	0.24 0.33 0.45	0.25 0.35 0.48	0.28 0.38 0.48	0.30 0.40 0.50
K	难加工的高合金铸铁、球磨铸铁 Difficult Cutting High-alloy Cast Iron, Nodular Cast Iron (<45HRC)	90 70 60	100 90 60	0.16 0.22 0.28	0.18 0.24 0.30	0.20 0.26 0.32	0.22 0.28 0.34	0.23 0.28 0.35

【注意】
1. 请使用刚性较高的机床，建议采用液压刀柄、热涨刀柄、带弹簧夹头的强力刀柄
2. 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
3. 此标准切削条件表适用于水溶性切削液
4. 对于表中没有的刀具刃径规格，请参照表中最接近的刃径规格选择切削参数，同时加工时请根据实际加工情况适当调整切削参数

【Note】
1. Make sure work piece and machine are stable and use a precision holder, Use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The Recommended Cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, Please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

D968S高效不锈钢加工麻花钻

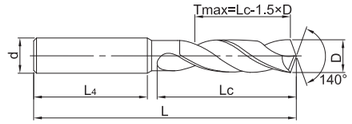
D968S High Efficient Twist Drills for Stainless Steel

- 适用于不锈钢、碳钢、合金钢、耐热合金和钛合金等材料加工高效钻削加工。
  Suitable for Stainless Steel, Carbon Steel, Alloy Steel, Heat-resistant Alloys and Titanium Alloys efficient drilling.
- 独特底刃设计，具有更强的断屑能力和更大的容屑空间。
  Unique point,better chip formation and evacuation.
- 全新的基体涂层配合—超强的韧性和抗磨损能力。
  Creative combination of coating and grade,super toughness and high wear resistance.
- 超大槽型设计，具有优良的排屑性能。
  Optimization of flute outline,excellent chip evacuation.

D968S-A3N

高效不锈钢加工3D外冷麻花钻

High Efficient 3D External Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 3D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A3N-0100	1.00	7	30	45	4	
D968S-A3N-0200	2.00	13	36	55	4	
D968S-A3N-0300	3.00	20	36	62	6	
D968S-A3N-0330	3.30	20	36	62	6	M4
D968S-A3N-0400	4.00	24	36	66	6	
D968S-A3N-0420	4.20	24	36	66	6	M5
D968S-A3N-0500	5.00	28	36	66	6	M6
D968S-A3N-0600	6.00	28	36	66	6	
D968S-A3N-0680	6.80	34	36	79	8	M8
D968S-A3N-0700	7.00	34	36	79	8	M8×1
D968S-A3N-0800	8.00	41	36	79	8	
D968S-A3N-0850	8.50	47	40	89	10	M10
D968S-A3N-0900	9.00	47	40	89	10	M10×1
D968S-A3N-1000	10.00	47	40	89	10	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

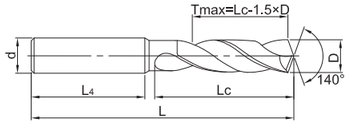
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A3N

高效不锈钢加工3D外冷麻花钻

High Efficient 3D External Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A3N-1030	10.30	55	45	102	12	M12
D968S-A3N-1050	10.50	55	45	102	12	M12×1.5
D968S-A3N-1100	11.00	55	45	102	12	
D968S-A3N-1200	12.00	55	45	102	12	M14
D968S-A3N-1250	12.50	60	45	107	14	M14×1.5
D968S-A3N-1300	13.00	60	45	107	14	
D968S-A3N-1400	14.00	60	45	107	14	M16
D968S-A3N-1450	14.50	65	48	115	16	M16×1.5
D968S-A3N-1500	15.00	65	48	115	16	
D968S-A3N-1600	16.00	65	48	115	16	
D968S-A3N-1700	17.00	73	48	123	18	
D968S-A3N-1800	18.00	73	48	123	18	
D968S-A3N-1900	19.00	79	50	131	20	
D968S-A3N-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

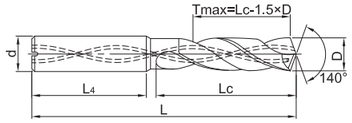
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A3C

高效不锈钢加工3D内冷麻花钻

High Efficient 3D Inner Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A3C-0300	3.00	20	36	62	6	
D968S-A3C-0330	3.30	20	36	62	6	M4
D968S-A3C-0400	4.00	24	36	66	6	
D968S-A3C-0420	4.20	24	36	66	6	M5
D968S-A3C-0500	5.00	28	36	66	6	M6
D968S-A3C-0600	6.00	28	36	66	6	
D968S-A3C-0680	6.80	34	36	79	8	M8
D968S-A3C-0700	7.00	34	36	79	8	M8×1
D968S-A3C-0800	8.00	41	36	79	8	
D968S-A3C-0850	8.50	47	40	89	10	M10
D968S-A3C-0900	9.00	47	40	89	10	M10×1
D968S-A3C-1000	10.00	47	40	89	10	
D968S-A3C-1030	10.30	55	45	102	12	M12
D968S-A3C-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

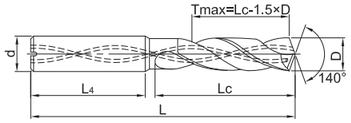
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A3C

高效不锈钢加工3D内冷麻花钻

High Efficient 3D Inner Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 3D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A3C-1100	11.00	55	45	102	12	
D968S-A3C-1200	12.00	55	45	102	12	M14
D968S-A3C-1250	12.50	60	45	107	14	M14×1.5
D968S-A3C-1300	13.00	60	45	107	14	
D968S-A3C-1400	14.00	60	45	107	14	M16
D968S-A3C-1450	14.50	65	48	115	16	M16×1.5
D968S-A3C-1500	15.00	65	48	115	16	
D968S-A3C-1600	16.00	65	48	115	16	
D968S-A3C-1700	17.00	73	48	123	18	
D968S-A3C-1800	18.00	73	48	123	18	
D968S-A3C-1900	19.00	79	50	131	20	
D968S-A3C-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

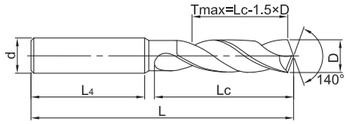
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A5N

高效不锈钢加工5D外冷麻花钻

High Efficient 5D External Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 5D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A5N-0300	3.00	20	36	62	6	
D968S-A5N-0330	3.30	20	36	62	6	M4
D968S-A5N-0400	4.00	24	36	66	6	
D968S-A5N-0420	4.20	24	36	66	6	M5
D968S-A5N-0500	5.00	28	36	66	6	M6
D968S-A5N-0600	6.00	28	36	66	6	
D968S-A5N-0680	6.80	34	36	79	8	M8
D968S-A5N-0700	7.00	34	36	79	8	M8×1
D968S-A5N-0800	8.00	41	36	79	8	
D968S-A5N-0850	8.50	47	40	89	10	M10
D968S-A5N-0900	9.00	47	40	89	10	M10×1
D968S-A5N-1000	10.00	47	40	89	10	
D968S-A5N-1030	10.30	55	45	102	12	M12

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

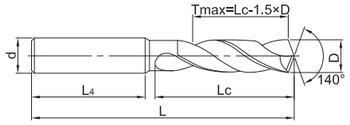
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A5N

高效不锈钢加工5D外冷麻花钻

High Efficient 5D External Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 5D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A5N-1050	10.50	55	45	102	12	M12×1.5
D968S-A5N-1100	11.00	55	45	102	12	
D968S-A5N-1200	12.00	55	45	102	12	M14
D968S-A5N-1250	12.50	60	45	107	14	M14×1.5
D968S-A5N-1300	13.00	60	45	107	14	
D968S-A5N-1400	14.00	60	45	107	14	M16
D968S-A5N-1450	14.50	65	48	115	16	M16×1.5
D968S-A5N-1500	15.00	65	48	115	16	
D968S-A5N-1600	16.00	65	48	115	16	
D968S-A5N-1700	17.00	73	48	123	18	
D968S-A5N-1800	18.00	73	48	123	18	
D968S-A5N-1900	19.00	79	50	131	20	
D968S-A5N-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

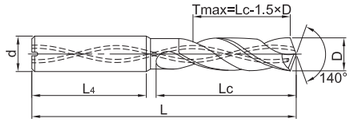
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A5C

高效不锈钢加工5D内冷麻花钻

High Efficient 5D Inner Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 5D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A5C-0300	3.00	20	36	62	6	
D968S-A5C-0330	3.30	20	36	62	6	M4
D968S-A5C-0400	4.00	24	36	66	6	
D968S-A5C-0420	4.20	24	36	66	6	M5
D968S-A5C-0500	5.00	28	36	66	6	M6
D968S-A5C-0600	6.00	28	36	66	6	
D968S-A5C-0680	6.80	34	36	79	8	M8
D968S-A5C-0700	7.00	34	36	79	8	M8×1
D968S-A5C-0800	8.00	41	36	79	8	
D968S-A5C-0850	8.50	47	40	89	10	M10
D968S-A5C-0900	9.00	47	40	89	10	M10×1
D968S-A5C-1000	10.00	47	40	89	10	
D968S-A5C-1030	10.30	55	45	102	12	M12
D968S-A5C-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

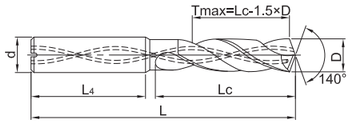
◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S-A5C

高效不锈钢加工5D内冷麻花钻

High Efficient 5D Inner Cooling Twist Drills for Stainless Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

SHANK DIN 6535HA | AlTiN nano | 5D

标记说明请参考P61页 See page 61 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D968S-A5C-1100	11.00	55	45	102	12	
D968S-A5C-1200	12.00	55	45	102	12	M14
D968S-A5C-1250	12.50	60	45	107	14	M14×1.5
D968S-A5C-1300	13.00	60	45	107	14	
D968S-A5C-1400	14.00	60	45	107	14	M16
D968S-A5C-1450	14.50	65	48	115	16	M16×1.5
D968S-A5C-1500	15.00	65	48	115	16	
D968S-A5C-1600	16.00	65	48	115	16	
D968S-A5C-1700	17.00	73	48	123	18	
D968S-A5C-1800	18.00	73	48	123	18	
D968S-A5C-1900	19.00	79	50	131	20	
D968S-A5C-2000	20.00	79	50	131	20	

尺寸范围 nominal size range	D(m7)	d(h6)
≥2—3	+0.002/+0.012	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material			
P	M	S	
1 2 3 4	1 2 3	1 2	3
碳钢、合金钢 Steel, Alloy Steel (< 35HRC)	不锈钢 Stainless Steel	高温合金 HRSA (< 45HB)	钛合金 Titanium Alloys (< 400HB)
○	◎	○	○

◎ 最适合 Most suitable ○ 适合 Suitable

推荐切削参数 Cutting Parameters ※ P163-164

D968S 系列麻花钻推荐切削参数

D968S Series Recommended Cutting Data

工件材料 Workpiece Material		Vc (m/min)		进给量fn (mm/rev)				
				Φ3	Φ4	Φ6	Φ8	Φ10
P	低碳钢，长切屑 Low-carbon Steels, Long Chipping (< 125HB)	100 80 50	140 100 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
	低碳钢，短切屑，易切钢 Low-carbon Steels，Short Chipping，Free cutting Steels (< 125HB)	100 75 50	140 100 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
	高碳钢及中碳钢 High-carbon Steels, Medium carbon Steels (< 25HRC)	90 70 45	120 80 60	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
	合金钢，工具钢 Alloy Steels，Tool Steels. (< 35HRC)	90 70 45	110 80 50	0.09 0.13 0.16	0.11 0.15 0.19	0.14 0.19 0.23	0.19 0.25 0.31	0.23 0.30 0.38
M	奥氏体不锈钢 Austenitic Stainless Steels (130- 200HB)	40 30 20	80 60 40	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.12 0.14	0.08 0.13 0.18	0.09 0.15 0.20
	高强度的奥氏体和铸造不锈钢 High-Strength Austenitic Stainless Steels and Cast Stainless Steels (< 25HRC)	40 30 20	80 60 40	0.03 0.06 0.08	0.04 0.08 0.10	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.11 0.14
	双相不锈钢 Duplex Stainless Steels (<30HRC)	35 25 20	60 45 30	0.03 0.06 0.08	0.04 0.08 0.10	0.05 0.08 0.10	0.06 0.10 0.12	0.07 0.11 0.14
S	铁基高温合金 Iron-based Heat-resistant Alloys (160-260HB)	-	50 40 25	0.03 0.05 0.08	0.04 0.07 0.10	0.05 0.09 0.10	0.06 0.10 0.12	0.07 0.12 0.14
	钴基高温合金 Cobalt-based Heat-resistant AlloysCobaltbased Heat-resistant Alloys (250-450HB)	-	50 40 25	0.03 0.05 0.08	0.04 0.07 0.10	0.05 0.09 0.10	0.06 0.10 0.12	0.07 0.12 0.14
	镍基高温合金 Nickel-based Heat-resistant Alloys (160-450HB)	-	50 40 25	0.03 0.05 0.07	0.04 0.07 0.09	0.05 0.09 0.10	0.06 0.10 0.12	0.07 0.12 0.14
	钛及钛合金 Titanium and Titanium Alloys (300-400HB)	-	45 35 20	0.03 0.04 0.06	0.04 0.06 0.08	0.05 0.08 0.10	0.06 0.09 0.11	0.07 0.10 0.12

【注意】
1. 请使用刚性较高的机床，建议采用液压刀柄、热涨刀柄、带弹簧夹头的强力刀柄
2. 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
3. 此标准切削条件表适用于水溶性切削液
4. 对于表中没有的刀具刃径规格，请参照表中最接近的刃径规格选择切削参数，同时加工时请根据实际加工情况适当调整切削参数

【Note】
1. Make sure work piece and machine are stable and use a precision holder, Use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The Recommended Cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, Please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

D968S 系列麻花钻推荐切削参数
D968S Series Recommended Cutting Data

	工件材料 Workpiece Material	Vc (m/min)		进给量fn (mm/rev)				
				Φ12	Φ14	Φ16	Φ18	Φ20
P	低碳钢，长切屑 Low-carbon Steels, Long Chipping (< 125HB)	100 80 50	140 100 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
	低碳钢，短切屑，易切钢 Low-carbon Steels，Short Chipping，Free cutting Steels (< 125HB)	100 75 50	140 100 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
	高碳钢及中碳钢 High-carbon Steels, Medium carbon Steels (< 25HRC)	90 70 45	120 80 60	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
	合金钢，工具钢 Alloy Steels，Tool Steels. (< 35HRC)	90 70 45	110 80 50	0.24 0.33 0.41	0.28 0.38 0.45	0.30 0.42 0.50	0.33 0.42 0.50	0.34 0.43 0.51
M	奥氏体不锈钢 Austenitic Stainless Steels (130- 200HB)	40 30 20	80 60 40	0.10 0.17 0.22	0.11 0.18 0.24	0.12 0.20 0.24	0.13 0.22 0.26	0.14 0.24 0.28
	高强度的奥氏体和铸造不锈钢 High-Strength Austenitic Stainless Steels and Cast Stainless Steels (< 25HRC)	40 30 20	80 60 40	0.08 0.13 0.16	0.09 0.13 0.18	0.10 0.14 0.18	0.10 0.14 0.20	0.12 0.16 0.22
	双相不锈钢 Duplex Stainless Steels (<30HRC)	35 25 20	60 45 30	0.08 0.13 0.16	0.09 0.13 0.18	0.10 0.14 0.18	0.10 0.14 0.20	0.12 0.16 0.22
S	铁基高温合金 Iron-based Heat-resistant Alloys (160-260HB)	-	50 40 25	0.08 0.14 0.16	0.09 0.15 0.18	0.10 0.17 0.18	0.10 0.16 0.20	0.12 0.18 0.22
	钴基高温合金 Cobalt-based Heat-resistant AlloysCobaltbased Heat-resistant Alloys (250-450HB)	-	50 40 25	0.08 0.14 0.16	0.09 0.15 0.18	0.10 0.17 0.18	0.10 0.16 0.20	0.12 0.18 0.22
	镍基高温合金 Nickel-based Heat-resistant Alloys (160-450HB)	-	50 40 25	0.08 0.14 0.16	0.09 0.15 0.18	0.10 0.17 0.18	0.10 0.16 0.20	0.12 0.18 0.22
	钛及钛合金 Titanium and Titanium Alloys (300-400HB)	-	45 35 20	0.08 0.12 0.14	0.09 0.13 0.16	0.10 0.14 0.16	0.10 0.15 0.18	0.12 0.16 0.20

【注意】
1. 请使用刚性较高的机床，建议采用液压刀柄、热涨刀柄、带弹簧夹头的强力刀柄
2. 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
3. 此标准切削条件表适用于水溶性切削液
4. 对于表中没有的刀具刃径规格，请参照表中最接近的刃径规格选择切削参数，同时加工时请根据实际加工情况适当调整切削参数

【Note】
1. Make sure work piece and machine are stable and use a precision holder, Use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The Recommended Cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, Please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

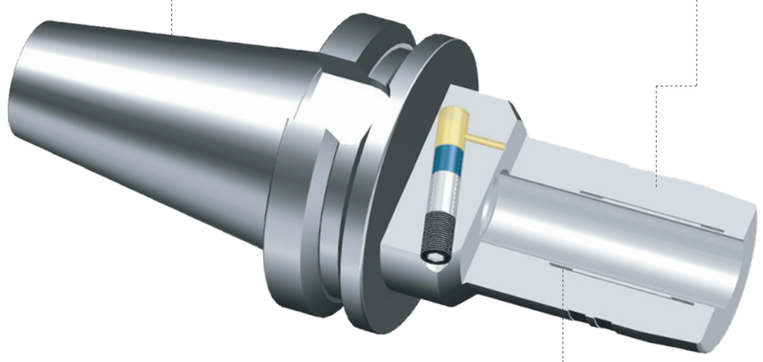
BT/HSK工具系统
BT/HSK Tooling System

- 适用于BT/HSK-A型主轴接口，广泛应用于各种机械加工行业。
  Suitable for BT/HSK-A spindle interface and widely used in various machining industries.
- 深冷处理，最小刀具偏摆(3D)≤3μm，高精度与高稳定性。
  Cryogenic treatment, minimum tool runout(3D)≤3μm,high accuracy and stability.
- 通用性好，效率高，产品系列丰富。
  Good commonality, high efficiency, abundant product series.

GHP 液压刀柄
GHP Hydraulic Chuck

AT3 级别 7:24 锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24 ≤ AT3, cryogenic treatment reduces deformation to maintain the precision of the handle.

厚实与超细长刀体两种设计，应对不同加工环境，具有良好的减震及避让功能。
The two designs of thick and thin blade are designed to cope with different processing environment, and have goods shock absorption and avoidance.



操作简单 / Simplicity of operator

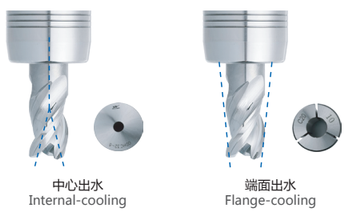
操作简单，仅需一支T型扳手就可以完成刀具的装夹。
Simple operation, only a T-wrench can complete the installation and disassembly of the tool.

刀体与内衬套一体化，比使用普通密封圈的分体结构更加稳定，刚性及耐用度更高。
The integral of the chuck and the inner liner is more stable and rigid than the separation of the normal sealing ring.

3um 精度高 / Higher precision

3D 处刀具径向跳动 3um 以下，大幅度提高表面光洁度和刀具寿命。刀体动平衡：G2.5; 20000rpm，最高转速：30000 rpm。
Runout(X3D) ≤ 3um, increase surface-finish quality significantly and tool life, balanced: G2.5; 20000 rpm, Max: 30000 rpm.

出水方式 / Cooling



使用不同类型筒夹可以实现中心出水和端面出水的冷却方式。
You can quickly switch internal-cooling and flange-cooling by change collets.

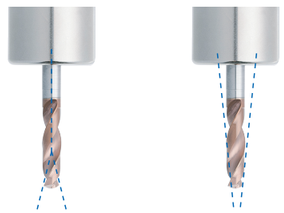
GSK高速精密筒夹刀柄
GSK High Precision Chuck

无槽螺帽设计，提高整体平衡性，高转速下静音可靠，防止切削液飞溅。
Notch-free design, prevent vibration, reduce noise splattering coolant, assure increased strength of nut itself.

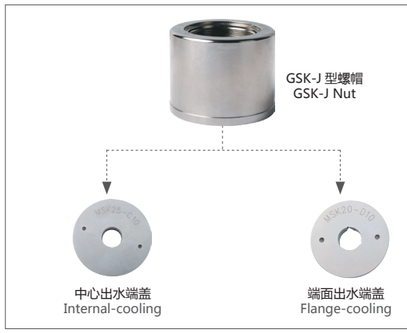
广泛应用于模具、飞机汽车零部件等高速精密加工。
It is widely used in mould, aircraft parts and other high speed precision processing industry.

AT3级别7:24锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24≤AT3,cryogenic treatment reduces deformation to maintain the precision of the handle.

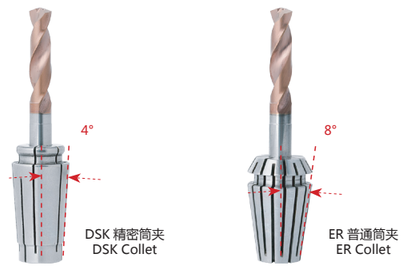
出水方式 / Cooling



通过更换两种不同密封盖可快速切换中心出水和端面出水方式。
By replacing two different seal covers, you can quickly switch internal-cooling and flange-cooling.



加持力大 / Higher clamping force



搭配新型 DSK 精密筒夹，夹持力更大，加工精度更高更稳定。
With the new DSK collet, the clamping force is bigger and the precision is higher and more stable.

5um 精度高 / Higher precision

3D 处刀具径向跳动 5um 以下，大幅度提高表面光洁度和刀具寿命。刀体动平衡：G2.5；25000 rpm，最高转速：45000 rpm 。
Runout(X3D) ≤ 5um, increase surface-finish quality significantly and tool life, balanced: G2.5;25000rpm, Max: 45000 rpm.

C 孔加工 / Drilling

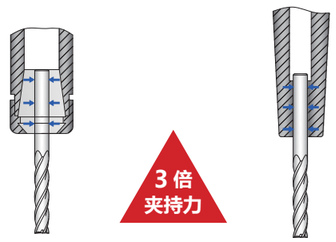
SF热缩刀柄
SF Shrink Fit Holder

3D 处刀具径向跳动 3um 以下，大幅度提高表面光洁度和刀具寿命。刀体动平衡：G2.5;25000 rpm，最高转速：50000 rpm 。
Runout(x3D)≤ 3um, increase surface-finish quality significantly and tool life, balanced: G2.5;25000 rpm, Max: 50000 rpm.

广泛应用于模具、飞机汽车零部件等高速精密加工。
It is widely used in mould, aircraft parts and other high speed precision processing industry.

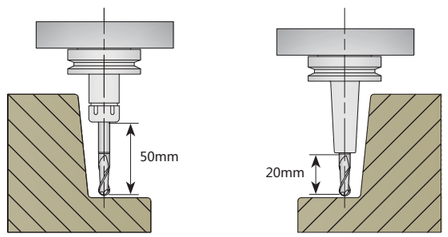
AT3级别7:24锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24≤AT3,cryogenic treatment reduces deformation to maintain the precision of the handle.

夹持力强 / Higher clamping force



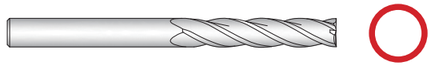
刀柄与刀具一体的结构使夹持力更均匀更强劲。
The integrated structure of the handle and cutter brings a strong and uniform clamping force.

适合深腔加工 / Suitable for deep cavity processing

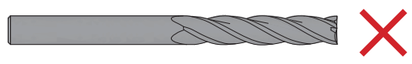


细长结构有利于避让，适用于深腔加工。
The slender structure is good for avoiding and suitable for deep cavity processing.

适用刀具 / Applicable tools



硬质合金刀具
Cemented Carbide Tools

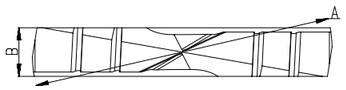


高速钢刀具
High-speed Steel Tools

MCMG+GSD铲钻
MCMG+GSD Spade Drill

- 广泛应用于法兰、汽车、模具及通用机械行业钻孔加工。
  Widely used in drilling of flange, automobile, mould and general machinery industry.
- XR型横刃修磨及特殊的刃口处理，确保钻孔的稳定性。
  XR chisel edge regrinding and special edge treatment to ensure drilling stability.
- 一个刀杆可搭配多个刀片，节约成本。
  One tool body can be matched with multiple inserts to save cost.

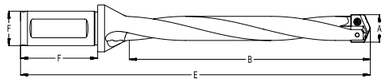
铲钻刀片
Inserts of Spade Drill



订货号 Ordering Code	直径A Diameter (mm)	厚度B Thickness (mm)	牌号 Grade	订货号 Ordering Code	直径 Diameter (mm)	厚度 Thickness (mm)	牌号 Grade
			GM3225				GM3225
MCMG013003-DS	13.00	3.18	●	MCMG0215T3-DS	21.50	3.97	●
MCMG014003-DS	14.00		●	MCMG0220T3-DS	22.00		●
MCMG014503-DS	14.50		●	MCMG0225T3-DS	22.50		○
MCMG015003-DS	15.00		●	MCMG0230T3-DS	23.00		●
MCMG015503-DS	15.50		●	MCMG0235T3-DS	23.50		○
MCMG016003-DS	16.00		●	MCMG0240T3-DS	24.00		●
MCMG016503-DS	16.50		●	MCMG025004-DS	25.00	4.76	●
MCMG017003-DS	17.00		●	MCMG026004-DS	26.00		●
MCMG017503-DS	17.50		●	MCMG027004-DS	27.00		●
MCMG0180T3-DS	18.00	3.97	●	MCMG028004-DS	28.00		●
MCMG0185T3-DS	18.50		●	MCMG029004-DS	29.00		●
MCMG0190T3-DS	19.00		●	MCMG030004-DS	30.00		●
MCMG0195T3-DS	19.50		●	MCMG031004-DS	31.00		●
MCMG0200T3-DS	20.00		●	MCMG032004-DS	32.00		●
MCMG0205T3-DS	20.50		●	MCMG033004-DS	33.00		●
MCMG0210T3-DS	21.00		●	MCMG034004-DS	34.00		●

●标准库存 Stock ○需预定 Available upon order

侧固式法兰柄螺旋槽刀杆
The Lateral Fixation Type Flange Shank and Helical Flute Holder



订货号 Ordering Code	钻孔范围A Drill Insert Range	最大钻深B Max. Drill Depth	总长E Overall Length	侧固柄F Shank		螺旋槽 Helical Flute
				直径 Dia.	长度 Length	
GSD-125-04D-FC20	13.0 ~ 15.0	63.5	142.1	20.0	50.0	●
GSD-125-07D-FC20		114.3	192.9			●
GSD-125-11D-FC20		177.8	256.4			●
GSD-150-03D-FC20	15.5 ~ 17.5	63.5	142.1			●
GSD-150-06D-FC20		114.3	192.9			●
GSD-150-10D-FC20		177.8	256.4			●
GSD-175-05D-FC25	18.0 ~ 21.5	117.5	210.8	25.0	56.0	●
GSD-175-07D-FC25		168.3	261.6			●
GSD-175-12D-FC25		269.9	363.2			●
GSD-215-04D-FC25	22.0 ~ 24.0	117.5	210.8			●
GSD-215-07D-FC25		168.3	261.6			●
GSD-215-11D-FC25		269.9	363.2			●
GSD-245-04D-FC32	25.0 ~ 29.0	136.5	239.4	32.0	60.0	●
GSD-245-06D-FC32		187.3	290.2			●
GSD-245-09D-FC32		288.9	391.8			●
GSD-295-03D-FC32	30.0 ~ 35.0	136.5	239.4			●
GSD-295-05D-FC32		187.3	290.2			●
GSD-295-08D-FC32		288.9	391.8			●

●标准库存 Stock ○需预定 Available upon order

侧固式法兰柄直槽刀杆
The Lateral Fixation Type Flange Shank and Straight Flute Holder

订货号 Ordering Code	钻孔范围A Drill Insert Range	最大钻深B Max. Drill Depth	总长E Overall Length	侧固柄F Shank		直槽 Straight Flute
				直径 Dia.	长度 Length	
GSD-125-01D-FC20-S	13.0 ~ 15.0	22.2	97.6	20.0	50.0	●
GSD-125-02D-FC20-S		34.9	113.5			●
GSD-125-19D-FC20-S		295.0	373.9			○
GSD-125-25D-FC20-S		387.0	466.0			○
GSD-150-01D-FC20-S	15.5 ~ 17.5	22.2	97.6			●
GSD-150-02D-FC20-S		34.9	113.5			●
GSD-150-16D-FC20-S		295.0	373.9			○
GSD-150-22D-FC20-S		387.0	466.0			○
GSD-175-02D-FC25-S	18.0 ~ 21.5	47.6	131.8	25.0	56.0	●
GSD-175-03D-FC25-S		66.7	163.2			●
GSD-175-21D-FC25-S		457.0	550.5			○
GSD-175-26D-FC25-S		569.0	658.5			○
GSD-215-01D-FC25-S	22.0 ~ 24.0	47.6	131.8			●
GSD-215-02D-FC25-S		66.7	163.2			●
GSD-215-19D-FC25-S		457.0	550.5			●
GSD-215-23D-FC25-S		569.0	658.5			○
GSD-245-01D-FC32-S	25.0 ~ 29.0	57.2	148.5	32.0	60.0	●
GSD-245-02D-FC32-S		85.7	188.6			●
GSD-245-17D-FC32-S		511.0	614.1			○
GSD-245-23D-FC32-S		692.0	795.1			○
GSD-295-01D-FC32-S	30.0 ~ 35.0	57.2	148.5			●
GSD-295-02D-FC32-S		85.7	188.6			●
GSD-295-14D-FC32-S		511.0	614.1			●
GSD-295-19D-FC32-S		692.0	795.1			○

●标准库存 Stock ○需预定 Available upon order

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