



# SANCT

株洲山特科技有限公司  
Zhuzhou Shante Technology Co., Ltd

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# 数控刀具综合样本

NUMERICAL CONTROL TOOL SYNTHETIC SAMPLE



## 公司简介

COMPANY PROFILE >>>

株洲山特科技有限公司位于株洲国家高新技术开发区，公司是一家集硬质合金产品的研发、生产、销售为一体的企业。主要产品有硬质合金切削刀片、锯片、矿山工具、模具材料、PCD/CVD/PCBN氮化硼超硬刀具、硬质合金棒及非标硬质合金制品。广泛应用于模具工业、汽车工业、轨道交通、工程机械、3C工业、航空航天、能源设备、通用机械、石油化工等行业。高精度车削、铣削、镗销、钻削、切断切槽和螺纹绞削加工的数控刀片及配套刀具、硬质合金整体刀具及工具系统，并能根据客户的不同需求生产各类切削工具，为机械加工制造提供整体配套解决方案。

公司在硬质合金行业中享有较高的声誉。各种产品可以满足客户的不同需求公司拥有一批经验丰富的技术人员，先进的硬质合金生产设备，一流的检测中心配套精密模具生产线和深加工生产线。

Zhuzhou Shante Technology Co., Ltd. is located in Zhuzhou National High tech Development Zone. The company is an enterprise that integrates the research and development, production, and sales of hard alloy products. The main products include hard alloy cutting blades, saw blades, mining tools, mold materials, PCD/CVD/PCBN boron nitride superhard cutting tools, hard alloy rods, and non-standard hard alloy products. Widely used in the mold industry, automotive industry, rail transit, engineering machinery, 3C industry, aerospace, energy equipment, general machinery, petrochemical industry and other industries. CNC inserts and matching tools for high-precision turning, milling, boring, drilling, cutting grooves, and thread twisting, as well as solid carbide cutting tools and tool systems, can produce various cutting tools according to customers' different needs, providing overall supporting solutions for mechanical processing and manufacturing.

The company enjoys a high reputation in the hard alloy industry. Various products can meet the different needs of customers. The company has a group of experienced technical personnel, advanced hard alloy production equipment, first-class testing centers, precision mold production lines, and deep processing production lines.



## 装备水平

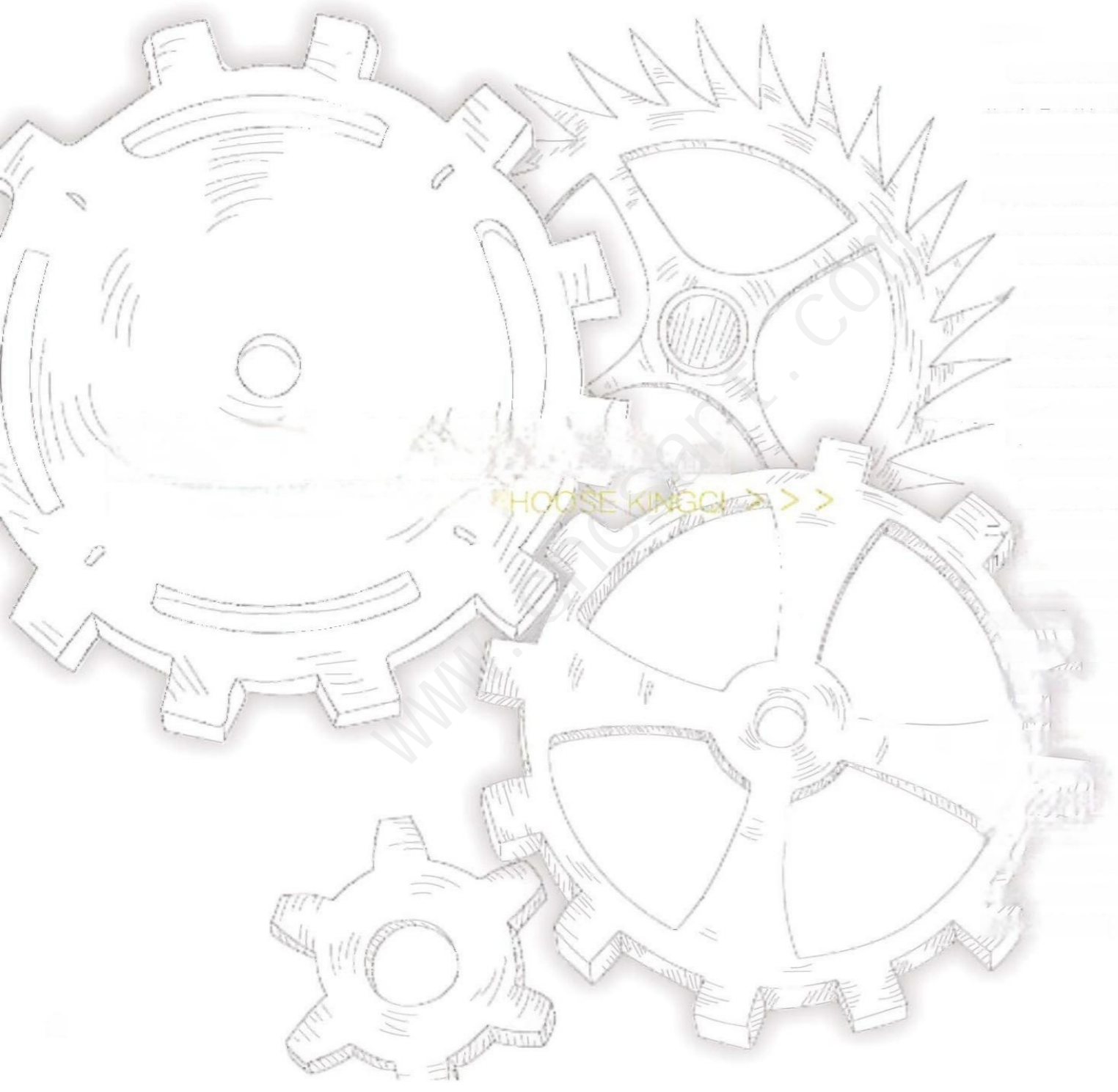
EQUIPMENT >>>



公司拥有从粉料、成型、烧结、研磨的完整刀片制造工艺装备生产线。压制成型采用国际上最先进的电动直驱自动压力机，其高精度满足了产品的高稳定性高精度连续生产的要求。烧结方面，应用最能满足刀片质量要求和外观质量要求的先进压力烧结设备。先进的研磨加工设备保证产品高精度的外观尺寸。涂层与巴尔查斯合作采用世界上最先进的物理涂层技术，保证产品性能进一步提高。全套世界一流生产设备保证每一片刀片在使用过程中达到始终如一。

The company has a complete blade manufacturing process equipment, including powder, molding, sintering, and grinding, on the Shengbang production line. The compression molding adopts the most advanced electric direct drive automatic press in the world, which meets the requirements of high stability, high precision and continuous production of products with high precision. In terms of sintering, advanced pressure sintering equipment that can best meet the requirements of blade quality overflow and appearance quality should be applied. Advanced grinding and processing equipment ensures high-precision appearance dimensions of products. The coating collaborates with Balzers to adopt the world's most advanced physical coating technology, ensuring further improvement in product performance. A complete set of world-class production equipment ensures that each blade remains consistent during use.





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## 聚晶金刚石材料——PCD

### POLYCRYSTALLINE DIAMOND MATERIALS >>>

金刚石作为一种超硬刀具材料应用于切削加工已有数百年历史。在刀具发展历程中，从十九世纪末到二十世纪中期。刀具材料以高速钢为代表；1927年德国首先研制出硬质合金刀具材料并获得广泛应用；二十世纪五十年代，瑞典和美国分别合成出人造金刚石，切削刀具从此步入以超硬合金刀具材料为代表的时期。二十世纪七十年代，人们利用高压合成技术合成了聚晶金刚石(PCD)，解决了天然金刚石数量稀少、价格昂贵的问题，使金刚石刀具的应用范围扩展到航空、航天、汽车、电子、石材等多个领域。

与大单晶金刚石以及常规CVD金刚石材料相比，作为刀具材料的聚晶金刚石有以下优点：

1)晶粒呈无序排列，各向同性，无解理面，因此它不像大单晶金刚石那样在不同晶面的强度、硬度以及耐磨性有较大区别，以及因解理面的存在而呈现脆性。

2)具有较高的强度，特别是PCD复合片，由于有硬质合金基体的支撑而又较高的抗冲击强度，在冲击较大时只会产生小晶粒破碎，而不会像单晶金刚石那样大块崩缺，因而PCD刀具不仅可以用来进行精切削加工和普通半精密加工，还可用作较大切削量的粗加工和断续加工(如铣削等)，这大大扩充了金刚石刀具材料的使用范围。

3)可以制备大块刀具胚料，满足大型加工刀具如铣刀的需要。

4)可以制成特定形状以适合于不同加工需要。由于PCD刀具大型化和加工技术如电火花和激光切割技术的提高，三角形、人字形以及其他异形刀坯均可加工成形。为适应特殊切削刀具的需要还可以设计成包裹式、夹心式与花卷式刀具坯料。

5)可以设计或预测产品的性能，赋予产品必要的特点以适应它的特定用途。比如选择细粒度的PCD刀具材料可使刀具的耐用度等等。

Diamond, as a superhard tool material, has been used in cutting for hundreds of years. In the development of cutting tools, from the late 19th century to the mid-20th century. Cutting tool materials are represented by high-speed steel; In 1927, Germany first developed hard alloy cutting tool materials and gained widespread application; In the 1950s, Sweden and the United States respectively synthesized synthetic diamond, and cutting tools entered a period represented by superhard alloy tool materials. In the 1970s, people used high-pressure synthesis technology to synthesize polycrystalline diamond (PCD), solving the problem of scarce and expensive natural diamonds, and expanding the application range of diamond cutting tools to multiple fields such as aviation, aerospace, automotive, electronics, and stone. Compared with large single crystal diamond and conventional CVD diamond materials, polycrystalline diamond as a tool material has the following advantages:

1) The grains are arranged in disorder, isotropic, and have no explanatory planes, so it does not have significant differences in strength, hardness, and wear resistance on different crystal planes like large single crystal diamonds, and exhibits brittleness due to the presence of explanatory planes.

2) PCD composite chips have high strength, especially due to the support of a hard alloy matrix and high impact resistance. When subjected to large impacts, only small grains will break, rather than large chunks like single crystal diamond. Therefore, PCD tools can not only be used for precision cutting and ordinary semi precision machining, but also for rough machining and intermittent machining with large cutting amounts (such as milling, etc.), greatly expanding the range of use of diamond tool materials.

3) It can prepare large tool blanks to meet the needs of large machining tools such as milling cutters.

4) It can be made into specific shapes to meet different processing needs. Due to the miniaturization of PCD cutting tools and the improvement of processing technologies such as electrical discharge and laser cutting, triangular, herringbone, and other shaped blanks can be machined into shapes. In order to meet the needs of special cutting tools, it can also be designed into wrapped, sandwich and Steamed rolls tool blanks.

5) It is possible to design or predict the performance of a product, endowing it with necessary features to adapt to its specific use. For example, choosing fine-grained PCD tool materials can improve the durability of the tool, and so on.

## PCD 刀具材料型号及特性

### PCD tool material model and characteristics

材质 material quality	粒度 granularity	耐磨性 wear resistance	韧性 toughness	特点及应用 Characteristics and Application
PKD002	2	低 low	较高 higher	刃口锋利、光洁度高、抗冲击韧性强，适用于较软的铝件、铜件、木材加工等 Sharp cutting edge, high smoothness, strong impact toughness, suitable for softer aluminum, copper, wood processing, etc
PKD010	10	中 in	中 in	光洁度、抗冲击韧性及耐磨性中，通用性材料应用范围较广，铜、铝、塑料、橡胶等 In terms of smoothness, impact resistance, toughness, and wear resistance, universal materials have a wide range of applications, such as copper, aluminum, plastic, rubber, etc
PKD025	25	高 high	低 low	耐磨性好、硬度高，抗冲击性及光洁度差，适用于高硬度材料及有机材料加工，如陶瓷、高硅铝、硬质合金等 Good wear resistance, high hardness, poor impact resistance and smoothness, suitable for processing high hardness materials and organic materials such as ceramics, high silicon aluminum, hard alloys, etc
PKD030+	30+2	较高 higher	中 in	耐磨性好、硬度高，抗冲击性及光洁度略差，适用于中硬到极高硬度材料加工及断续加工 Good wear resistance, high hardness, slightly poor impact resistance and smoothness, suitable for processing materials with medium to extremely high hardness and intermittent processing

## 聚晶立方氧化硼材料——PCBN

### POLYCRYSTALLINE CUBIC BORON OXIDE MATERIALS >>>

聚晶立方氧化硼(PCBN)是将立方氧化硼(CBN)微粉与结合剂在高温高压下烧结而成的聚晶体，结合剂主要有金属型(如Co、Ni)和陶瓷型(如TiC、TiN、Al<sub>2</sub>O<sub>3</sub>)两大类，立方氧化硼(CBN)的结构与金刚石相似，化学键类型相同，晶格常数相近，因此具有与金刚石相近的硬度和强度。

立方氧化硼的硬度仅次于金刚石，其显微硬度为8000~9000HV，聚晶立方氧化硼PCBN的硬度一般为3000~4700HV。在切削耐磨材料时其耐磨度是硬质合金刀具的50倍、涂层硬质合金刀具的30倍、陶瓷刀具的25倍。

由于PCBN刀具比陶瓷刀具具有较高的冲击强度和抗破损性能，通常用来加工铸铁、淬火钢等各种黑色金属材料。此外，一些特制的PCBN刀具能抵御高功率加工的切削复合、减少切削的冲击以及精加工时的磨损和切削热。

近年来，随着CNC(计算机数控)加工技术的迅猛发展以及数控机床的普遍使用，可实现高效率、高稳定性、长寿命加工的PCBN刀具的应用也日益普及，同时也引入了许多先进的切削加工概念，如高速切削、硬态加工、以车代磨、干式切削等。PCBN刀具已成为现代切削加工中不可缺少的刀具材料。

Polycrystalline cubic boron oxide (PCBN) is a polycrystalline material formed by sintering cubic boron oxide (CBN) micro powder and binder under high temperature and high pressure. The binder mainly includes two types: metal type (such as Co, Ni) and ceramic type (such as TiC, TiN, Al<sub>2</sub>O<sub>3</sub>). The structure of cubic boron oxide (CBN) is similar to diamond, with the same chemical bond type and lattice constant, thus having similar hardness and strength to diamond. The hardness of cubic boron oxide is second only to diamond, with a microhardness of 8000-9000HV. The hardness of polycrystalline cubic boron oxide PCBN is generally 3000-4700HV. When cutting wear-resistant materials, its wear resistance is 50 times that of hard alloy cutting tools, 30 times that of coated hard alloy cutting tools, and 25 times that of ceramic cutting tools. Due to its higher impact strength and damage resistance compared to ceramic knives, PCBN cutting tools are commonly used for processing various black metal materials such as cast iron and quenched steel. In addition, some specially designed PCBN tools can resist cutting composites from high-power machining, reduce cutting impacts, and minimize wear and cutting heat during precision machining. In recent years, with the rapid development of CNC (Computer Numerical Control) machining technology and the widespread use of CNC machine tools, the application of PCBN cutting tools that can achieve high efficiency, high stability, and long life machining has become increasingly popular. At the same time, many advanced cutting concepts have also been introduced, such as high-speed cutting, hard machining, replacing grinding with turning, dry cutting, etc. PCBN cutting tools have become an indispensable tool material in modern cutting processes.

## PCBN 刀具材料型号及特性

### PCBN tool material model and characteristics

材质 material quality	粒度 granularity	浓度 concentration	结合剂 BOND	特点及应用 Characteristics and Application
PKN9000	2	90%	氮化钛 Titanium nitride	球铁、灰铁、淬火钢断续加工 Intermittent processing of ductile iron, gray iron, and quenched steel
PKN980X	4	90%	金属 Metal	主要加工灰口铸铁性能最佳(HT200\HT250\HT300) Mainly processing gray cast iron with the best performance (HT200\HT250\HT300)
PKN960	2	90%	金属 Metal	主要加工粉末冶金、不锈钢 Mainly processing powder metallurgy and stainless steel
PKN900N	10	95%	金属 Metal	球铁、灰铁、淬火钢断续加工、高速钢 Mainly processing powder metallurgy and stainless steel
PKN210	2	50%	钛基结合剂 Titanium based bonding agent	主要车削高硬度淬火钢(HRC48-65) Mainly turning high hardness quenched steel (HRC48-65)
PKN65C	2	65%	碳化钛 Titanium carbide	蠕墨铸铁 vermicular graphite cast iron
PKN45A	2	70%	陶瓷 ceramics	加工淬火钢 Processing quenched steel

超硬刀具材料加工参数推荐 >>>

Superhard Cutting Tools Materials Processing Parameter Reference >>>

牌号 Grade	硬度 Work-piece materia	工件材料 Hardness	切削速度 V(m/min)	进给度 f(m/rev)	切削深度 Ap(mm)
PCBN	灰铁铸铁 Gray cast iron	HB170~300	500~150	0.1~0.4	0.1~1.5
	球墨铸铁 Nodular cast iron	HB240~300	200~400	0.1~0.4	0.1~0.5
	合金铸铁 Alloyed cast iron	HB240~300	150~300	0.05~0.4	0.1~0.5
	铁基合金 Fe-basedP/M	HBC45~50	50~150	0.05~0.4	0.05~0.5
PCBN	淬硬钢 Hardened steels	HBC55~65	80~200	0.05~0.2	0.05~0.2
	耐热合金 Heat-resistant alloys		50~200	0.05~0.2	0.05~0.2
PCD	铝及铝合金 Al and Alalloys		200~3000	0.05~0.5	0.05~1.0
	非金属 Non-mentals Cemented		100~500	0.05~0.5	0.05~1.0
	硬质合金 Carbide		20~30	0.05~0.2	0.05~0.2

计算公式 >>>

Calculation formula >>>

切削速度, m/分  
Cutting Speed v<sub>m</sub>

$$n = \frac{\pi \times D_c \times n}{1000}$$

V<sub>c</sub> = 切削速度

D<sub>c</sub> = 直径mm

n = 转/分

主轴转速, rpm  
Spindle Rotation

$$n = \frac{V_c \times 1000}{\pi \times D_c}$$

n = 主轴转速, 转/分

V<sub>c</sub> = 切削速度, m/分

D<sub>c</sub> = 直径mm

工作台进给, mm/分  
Working Table Feed

$$V_f = n \times z \times f_z$$

V<sub>f</sub> = 工作台进给, mm/分

n = 转/分

z = 齿数

f<sub>z</sub> = 进给量, mm/齿

聚晶立方氮化硼刀具使用注意事项 >>>

- 应用具有足够功率和刚性的机床系统;  
1. Application has enough power and the rigidity of machine tool system
- 尽量使用较大的刀尖圆弧半径, 以保证刀具的最大强度;  
2. Processing with Maximum Cutting Edge Radius, to ensure Cutting Tools lifespan
- 对刀刃进行负倒棱处理, 避免在断续切削时产生崩刀现象;  
3. Machining Cutting Edges Chamfer, to avoid Cutting Tools Collapse during intermittent cutting process
- 刀刃使用时间过长或者切割过程中停机均有可能造成刀刃破损、崩裂;  
4. Processing too long or downtime in cutting process will cause damage or collapse
- 在断续切削时不要使用冷却液。  
5. Donot use coolant during Intermittent Cutting

国际标准刀片型号介绍 >>>

International standard inserts Type introduction >>>

公制ISO Metric system ISO	C	C	M	W	09	T3	04	1	N	S	010	20	05	CB	ST
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
英制ANS Imperial system ANS	C	C	M	W	3	(2.5)	1	1	N	S	010	20	05	CB	ST
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

1	刀片形状 Shape	
H	正六边形 20°	菱形 C 80° D 55° F 75° M 86° V 35°
O	正八边形 35°	
P	正五边形 108°	
R	圆形	六边形 W 80°
S	正方形 90°	长方形 L 90°
T	正三角形 60°	平行四边形 A 85° U 82° K 55°

2	刀片后角 Clearance Angle	
3°	A	E
5°	B	F
7°	C	G
15°	D	N

4	固定、断屑槽 Standard, Chipbreaker	
N	G	B
R	W	H
F	T	C
A	Q	J
M	U	其他异形 X

3	公差 ISO			Tolerance-ANSI			
代号	允差mm			Code	inch		
级	刀尖高m	厚度s	内切圆IC		m	ic	s
C	±0.013	0.025	±0.02	C	±0.0005	±0.00	±0.001
H	±0.013	0.025	±0.013	H	±0.0005	±0.0005	±0.001
E	0.029	0.02	0.02	E	±0.001	0.001	±0.001
G	±0.025	±0.13	±0.02	G	±0.001	0.001	±0.005
K	0.013	0.025	±0.05~±0.13	K	0.0005	±0.002~±0.005	±0.001
M	0.08~±0.18	±0.13	0.05~±0.13	M	0.002~±0.005	±0.002~±0.005	±0.005
U	±0.13~±0.38	±0.13	±0.08~±0.25	U	0.005~±0.012	±0.005~±0.010	±0.005

5	内切圆直径 Inscribed Circle Dia							ISO		ANSI		6
代号	切刃长度(按刀片形状)							内切圆直径		Code	IC Size	刀片厚度 Thickness 7 刀片R角 Nose radius
	C	D	R	S	T	V	W	mm	(1.2)	inch		
S4	04	03	03	06	-	-	3.97	(1.5)	5/32			01 1.59 1 1/6
04	05	04	04	08	08	S3	4.76	(1.8)	3/16			02 2.38 (1.5) 3/32
05	06	05	05	09	09	03	5.56	-	7/32			T2 2.78 - -
06	07	06	06	11	11	04	6.35	(2.5)	1/4			03 3.18 2 1/8
08	09	07	07	13	13	05	7.94	-	5/16			T3 3.97 (2.5) 5/32
09	11	09	09	16	16	06	9.525	-	3/8			04 4.76 3 3/16
12	15	12	12	22	22	08	12.7	5	1/2			05 5.56 (3.5) 7/32
16	19	15	15	27	27	10	15.875	-	5/8			06 6.35 4 1/4
19	23	19	19	33	33	13	19.05	-	3/4			07 7.94 5 5/16
22	27	22	22	38	38	15	22.225	-	7/8			08 0.8 2 1/32
25	31	25	25	44	44	17	25.4	10	1			12 1.2 3 3/64
32	38	31	31	52	54	21	31.75	-	1-1/4			16 1.6 4 1/16
Re												20 2.0 5 5/64
00	0.03	(0.1)	0.001									24 2.4 6 3/32
01	0.1	(0.2)	0.004									28 2.8 7 7/64
02	0.2	(0.5)	0.008									32 3.2 8 1/8
04	0.4	1	1/64									M0 圆形刀片 0 ula

国际标准刀片型号介绍 >>>

Introduction to International Standard Blade Models >>>

PCD 精加工标准刀片介绍 >>>

Introduction to PCD precision machining standard blades >>>

14 刀片结构 Insert type						
SF	SL	SS	CB	CS	SWW	SWU
整面复合片	整体CBN局部	整体CBN	CBN复合片标准	CBN复合片整条边	整体CBN(W形)贯穿	整体CBN(U形)贯穿
Ful Face	Sold Tipped Corner	Sold CBM	Standard Tipped Corners	Standard Ful Edg	Solid Tipped Corners Type 'w'	Sold Tipped Corners Type 'u'

15 刃口形式 Cutting Edge Design		
E	WG	CB
圆角R刀片	修光刃	断屑槽刀片
Nose Radius	Wiper	Chip Breaker

10 主刀刃形状 Cutting Edge Design			
E	T	S	F
钝化	倒棱	倒棱+钝化	锋利刃口
Honed	Chamfered	Chamfered+Honed	Sharp Edge

8 刃数 Edges						
代号 Code	1	2	3	4	6	8
含义	一刃	二刃	三刃	四刃	六刃	八刃
Notes	edges	2 edges	3 edges	4 edges	6 edges	8 edges

11 倒角宽度 Chamfered Width						
代号 Code	000	010	020	005	015	030
尺寸 Size	-	0.05	0.1	0.15	0.2	0.3

9 切削方向 Cutting direction						
代号 Code	R	L	N			
含义	正手	反手	无方向			
Notes	R	L	N			

13 倒圆大小 Honed Size						
代号 Code	00	02	05	10	20	30
尺寸 Size	-	0.002	0.005	0.01	0.02	0.03

12 倒棱角度 Chamfered Angle									
代号 Code	α	00	10	15	20	25	30	35	45
含义 Size		-	10	15	20	25	30	35	45

图形Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm				
		ic	Φd	T	r	S
35° 菱形 · 正型 · 有孔 35° diamond shaped, regular, perforated 图形Shape	VCMT080201				0.1	
	VCMT080202	4.76	2.3	2.38	0.2	3.5
	VCMT080204				0.4	
	VBMT110302	6.35	2.8	3.18	0.2	4.5
	VBMT110304				0.4	
	VCMT110302	6.35	2.8	3.18	0.2	4.5
	VCMT110304				0.4	
35° 菱形 · 正型 · 有孔 35° diamond shaped, regular, perforated 图形Shape	VCMT160402				0.2	
	VCMT160404				0.4	
	VCMT160408	9.525	4.4	4.76	0.8	5.5
	VCMT160412				1.2	
	VBMG160402	9.525	3.81	4.76	0.2	5.5
	VBMG160404				0.4	
	VBMG160406				0.6	
35° 菱形 · 正型 · 有孔 35° diamond shaped, regular, perforated 图形Shape	VBMG160408	9.525	3.81	4.76	0.8	5.0
	VBMG160412				1.2	
	DCMT070202	6.35	2.8	2.38	0.2	3.3
	DCMT070204				0.4	
	DCMT070208	6.35	2.8	2.38	0.8	3.0
	DCMT11T301	9.525	4.4	3.97	0.1	4.3
	DCMT11T302				0.2	
55° 菱形 · 正型 · 有孔 55° diamond shaped, regular, perforated 图形Shape	DCMT11T304				0.4	
	DCMT11T306	9.525	4.4	3.97	0.6	4.0
	DCMT11T308				0.8	
	DCMT11T312	9.52	4.4	3.97	1.2	3.5
	DNMG110402	9.525	3.81	4.76	0.2	4.5
	DNMG110402				0.4	
	DNMG150402	12.7	5.16	4.76	0.2	4.5
55° 菱形 · 正型 · 有孔 55° diamond shaped, regular, perforated 图形Shape	DNMG150404				0.4	
	DNMG150408				0.8	
	DNMG150412	12.7	5.16	4.76	1.2	4.0
	TNMA160404	9.525	3.81	4.76	0.4	4.5
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形Shape	TNMA160408				0.8	
	TNMA160412	9.525	3.81	4.76	1.2	4.0

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60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm							
		ic	Φd	T	r	S			
	TBMT060102	3.97	2.3	1.59	0.2	2.1			
	TBMT060104				0.4	2.0			
	TCMT060102				0.2	2.1			
	TCMT060104				0.4	2.0			
	TPMT060102				0.8	2.1			
	TPMT060104				1.2	2.0			
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	TCMT080202	4.76	2.3	2.38	0.2	3.0			
	TCMT080204				0.4				
	TCMT080208				0.8		2.8		
	TPMH080202				0.2		3.0		
	TPMH080204				0.4				
	TCMT090201				0.1				
TCMT090202	5.56	3.0	2.38	0.2	3.3				
TCMT090204	0.4	3.0							
TCMT110202	6.35	2.8	2.38	0.2	3.3				
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	TCMT110204	6.35	3	2.38	0.4	3.1			
	TCMH110202				0.2	3.3			
	TCMH110204				0.4	3.1			
	TCMT110302				6.35	3	3.18	0.2	3.3
	TCMT110304				0.4	3.1			
	TCMH110302				6.35	3	3.18	0.2	3.3
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	TCMH110304	6.35	3	3.18	0.4	3.1			
	TCMT160302				9.525	4.4	3.18	0.2	4.3
	TCMT160304							0.4	4.3
	TCMT160308							0.8	4
	TCMT16T302						3.97	0.2	4.3
	TCMT16T304							0.4	4.3
TCMT16T308	0.8	4							
60° 三角形 · 正型 · 无孔 60° triangle, regular, no hole 图形 Shape	TEMT16T302	9.525	4.4	3.97	0.2	4.3			
	TEMT16T304	0.4	4.3						
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	TNMG160402	9.525	3.81	4.76	0.2	4			
	TNMG160404				0.4		4.3		
	TNMG160408				0.8				
	TNMG160412				1.2		4		

55° 菱形 · 负型 · 有孔 55° diamond shaped, negative, perforated 图形 Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm					
		ic	Φd	T	r	S	
	DNMG110402	4.3	2.8	1.60	0.2	2.0	
	DNMG110402				0.4		
	DNMG150402	6.35	2.8	2.38	0.2	2.8	
	DNMG150404				0.4	2.5	
	DNMG150408				0.2	2.8	
	DNMG150412				0.4	2.5	
80° 菱形 · 正型 · 有孔 80° diamond shaped, regular, perforated 图形 Shape	CCMT09T301	9.525	4.4	3.97	0.1	3.5	
	CCMT09T302				0.2		
	CCMT09T304				0.4		3.2
	CCMT09T308				0.8		3.0
	CCMT09T312				1.2		2.8
	CCMT120402				12.7		5.5
CCMT120404	0.4						
CCMT120408	0.8	3.2					
CCMT120412	1.2	3.0					
80° 菱形 · 正型 · 有孔 80° diamond shaped, regular, perforated 图形 Shape	CNMG120402	12.7	5.16	4.76	0.2	3.5	
	CNMG120404				0.4		
	CNMG120406				0.6		
	CNMG120408				0.8		3.2
	CNMG120412				1.2		3.0
80° 六边形 · 正型 · 有孔 80° hexagonal, regular, perforated 图形 Shape	WBMT060102	9.525	2.3	1.59	0.2	2.2	
	WBMT060104				0.4	2.0	
	WBMT080202				0.2	2.2	
60° 三角形 · 正型 · 无孔 60° triangle, regular, no hole 图形 Shape	WBMT080204	12.7	2.3	2.38	0.4	2.0	
	TPGN090202	5.56	-	2.38	0.2	3.3	
TPGN090204	0.4				3.0		
60° 三角形 · 正型 · 无孔 60° triangle, regular, no hole 图形 Shape	TPGN110202	6.35	-	3.18	0.2	3.3	
	TPGN110204				0.4	3.0	
	TPGN160202				9.525	-	4.76
TPGN160204	0.2	3.8					
TPGN16T202	0.2	4					
TPGN16T204	0.4	3.8					
60° 三角形 · 正型 · 无孔 60° triangle, regular, no hole 图形 Shape	TPGN220202	12.7	-	4.76	0.2	4.5	
	TPGN220204				0.4	4.2	
TPGN220208	0.8	4					

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90° 正边形 · 负型 · 有孔 90° positive edge shape, negative shape, perforated 图形Shape Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm							
		ic	Φd	T	r	S			
	SEHT120402	12.70	5.5	4.75	0.2	4.2			
	SEHT120404				0.4	4			
	SEHT120408				0.8	3.8			
	SEHT120412				1.2	3.8			
85° 负型 · 有孔 85° negative type with holes 图形Shape Shape	APKT113502	6.35	2.8	3.5	0.2	3.5			
	APKT113504				0.4				
	APKT113508				0.8	3.2			
	APKT160404				12.70	5.5	4.75	0.4	3.2
	APKT160408							0.8	4
APKT160412	0.2	3.8							
90° 正边形 · 负型 · 有孔 90° positive edge shape, negative shape, perforated 图形Shape Shape	SNMG090302	9.525	3.81	3.18	0.2	3.5			
	SNMG090304				0.4				
	SNMG090308				0.8	3.2			
	SNMG120302				12.70	5.16	4.76	0.2	4
	SNMG120304							0.2	3.8
SNMG120308	0.8								
80° 六边形 · 正型 · 有孔 80° hexagonal, regular, perforated 图形Shape Shape	WNMG06T302	9.525	3.81	3.97	0.2	3.5			
	WNMG06T304				0.2				
	WNMG080402	12.70	5.16	4.76	0.2	3.2			
	WNMG080404				0.4	3.5			
	WNMG080408				0.2	3.2			
WNMG080412	0.4	3.0							

60° 三角形 · 正型 · 有孔 60° triangle, regular, perforated 图形Shape Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm							
		ic	Φd	s	r	la			
	CCGW060202	6.35	2.8	2.38	0.2	3.5			
	CCGW060204				0.4				
	CCGW060208				0.8				
	CCGW09T302				9.525		4.4	3.97	0.2
	CCGW09T304								0.4
	CCGW09T308								0.8
55° 菱形 · 正型 · 有孔 55° diamond shaped, regular, perforated 图形Shape Shape	DCGW070202	6.35	2.8	2.38	0.2	3.5			
	DCGW070204				0.4				
	DCGW070208				0.8				
	DCGW11T302				9.525		4.4	3.97	0.2
	DCGW11T304								0.4
DCGW11T308	0.8								
DCGW110412	9.525	4.4	4.76	1.2	3.5				
35° 菱形 · 正型 · 有孔 35° diamond shaped, regular, perforated 图形Shape Shape	VBGW110302	6.35	2.8	2.38	0.2	3.5			
	VBGW110304				0.4				
	VBGW110308				0.8				
	VBGW160402				9.525		4.4	4.76	0.2
	VBGW160404								0.4
	VBGW160408								0.8
VBGW160412	1.2								
35° 菱形 · 正型 · 有孔 35° diamond shaped, regular, perforated 图形Shape Shape	VCGW080202	4.76	2.3	2.38	0.1	3.5			
	vCGW080204				0.2				
	VCGW080208				0.4				
	VCGW110302				6.35		2.8	3.18	0.8
	vCGW110304								1.2
	VCGW110308								0.2
	VCGW160402				9.525		4.4	4.76	0.4
	VCGW160404								0.8
	VCGW160408								1.2
	VCGW160408								1.2

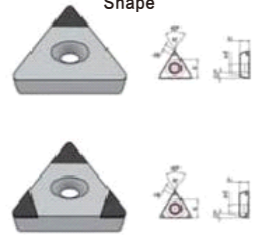

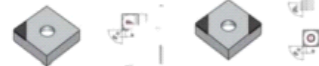


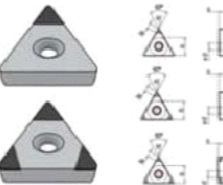
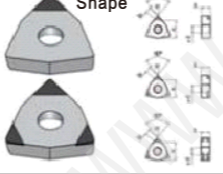

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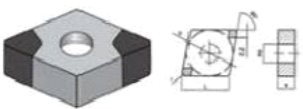
PCBN Introduction to precision machining standard blades >>>

	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm				
		ic	Φd	s	r	la
60° 三角形 · 正型 · 有孔 60° triangle, regular, perforated 图形Shape 	TPGW080202	4.76	2.4	2.38	0.2	3.5
	TPGW080204				0.4	
	TPGW090202	5.56	2.5	2.38	0.2	3.5
	TPGW090204				0.4	
	TPGW090208				0.8	
	TPGW110202	6.35	2.8	3.18	0.2	3.5
	TPGW110204				0.4	
	TPGW160302	9.525	4.4	3.18	0.2	3.5
	TPGW160304				0.4	
	TPGW160308				0.8	
TPGW160402	0.2					
TPGW160404	9.525	4.4	4.76	0.4	3.5	
TPGW160408				0.8		
80° 菱形 · 负型 · 有孔 80° diamond shaped, negative, perforated 图形Shape 	CNGA120402	12.7	5.15	4.76	0.2	3.5
	CNGA120404				0.4	
	CNGA120408				0.8	
	CNGA120412				1.2	
55° 菱形 · 负型 · 有孔 55° diamond shaped, negative, perforated 图形Shape 	DNGA150402	12.7	5.16	4.76	0.2	3.5
	DNGA150404				0.4	
	DNGA150408				0.8	
	DNGA150412				1.2	
	DNGA150602	12.7	5.15	6.35	0.2	3.5
	DNGA150604				0.4	
	DNGA150608				0.8	
	DNGA150612				1.2	
90° 正方形 · 负型 · 有孔 90° square, negative, perforated 图形Shape 	SNGA120402	12.7	5.16	4.76	0.2	3.5
	SNGA120404				0.4	
	SNGA120408				0.8	
	SNGA120412				1.2	

	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm				
		ic	Φd	s	r	la
60° 三角形 · 负型 · 有孔 60° triangle, negative, perforated 图形Shape 	TNGA160402	9.525	9.81	4.76	0.2	3.5
	TNGA160404				0.4	
	TNGA160408				0.8	
	TNGA160412				1.2	
	VNGA160402				9.525	
VNGA160404	0.4					
VNGA160408	0.8					
VNGA160412	1.2					
80° 六边形 · 负型 · 有孔 80° hexagonal, negative, perforated 图形Shape 	WNGA080402	12.7	5.16	4.76	0.2	3.6
	WNGA080404				0.4	
	WNGA080408				0.8	
	WNGA080412				1.2	
85° 三角形 · 负型 · 有孔 80° hexagonal, negative, perforated 图形Shape 	APKT113502	6.36	2.8	3.5	0.2	3.5
	APKT113504				0.4	
	APKT113508				0.8	
	APKT160404	9.525	3.81	3.97	0.4	4
	APKT160408				0.8	3.8
	APKT160412				1.2	3.5

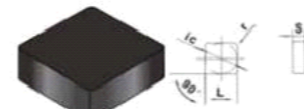
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55° 菱形 · 负型 · 有孔 55° diamond shaped, negative, perforated 图形 Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm				
		ic	Φd	s	r	la
	CNGA120404-4N	12.7	5.16	4.76	0.4	4.5
	CNGA120408-4N				0.8	
	CNGA120412-4N				1.2	
55° 菱形 · 负型 · 有孔 60° triangle, negative, perforated 图形 Shape	TNGA160404-6N	6.35	2.26	4.76	0.4	4.5
	TNGA160408-6N				0.8	
	TNGA160412-6N				1.2	
90° 正方形 · 负型 · 有孔 90° square, negative, perforated 图形 Shape	SNGA120404-8N	12.7	5.16	4.76	0.4	4.5
	SNGA120408-8N				0.8	
	SNGA120412-8N				1.2	
80° 六边形 · 负型 · 有孔 80° hexagonal, negative, perforated 图形 Shape	WNGA080404-6N	12.7	5.16	4.76	0.4	4.5
	WNGA080408-6N				0.8	
	WNGA080412-6N				1.2	

粗加工PCBN 刀片介绍 >>>

Introduction to rough machining PCBN blades >>>

90° 粗加工刀片 90° rough machining blade 图形 Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm			
		ic	s	r	la
	SNMN120404	12.7	4.76	0.4	4.5
	SNMN120408			0.8	
	SNMN120412			1.2	
360° 粗加工刀片 360° rough machining blade 图形 Shape	RNMN080400	8.5	4.76	0	9.5
	RNMN090400	9.525	4.76	0	9.525
	RNMN120400	12.7	4.76	0	12.7
	RNMN12T600		6.80		
	RNMN150700	15.875	7.94	0	15.875
80° 六边形 · 粗加工刀片 80° hexagonal rough machining blade 图形 Shape	WNMN060304	9.525	3.18	0.4	6.5
	WNMN080408	12.7	4.76	0.8	8.72
	WNMN080412			1.2	
60° 三角形 · 粗加工刀片 60° triangle rough machining blade 图形 Shape	TNMN160404	9.525	4.76	0.4	8.72
	TNMN160408			0.8	
	TNMN160412			1.2	

**切槽、切断用刀 >>>**  
 Cutting groove and cutting knife >>>

最新推出机卡式PCD 切槽刀切断刀，可实现各种铝件、铜件和其他有色金属外圆槽、端面槽、内孔槽的刀削；PCBN 切槽刀、切断刀，可实现各种铸铁、淬火钢、粉末冶金和其它黑色金属的外圆槽、端面槽、内孔槽的车削。装卡方便、经济实惠，可实现部分材质的快进给切削。

The latest introduction of a machine card PCD slotting knife can achieve cutting of various aluminum, copper, and other non-ferrous metal outer circular grooves, end face grooves, and inner hole grooves; PCBN The slotting knife and cutting knife can achieve the turning of various cast iron, quenched steel, powder metallurgy, and other black metal outer circular grooves, end face grooves, and inner hole grooves. Easy to install and cost-effective, it can achieve fast cutting of some materials.



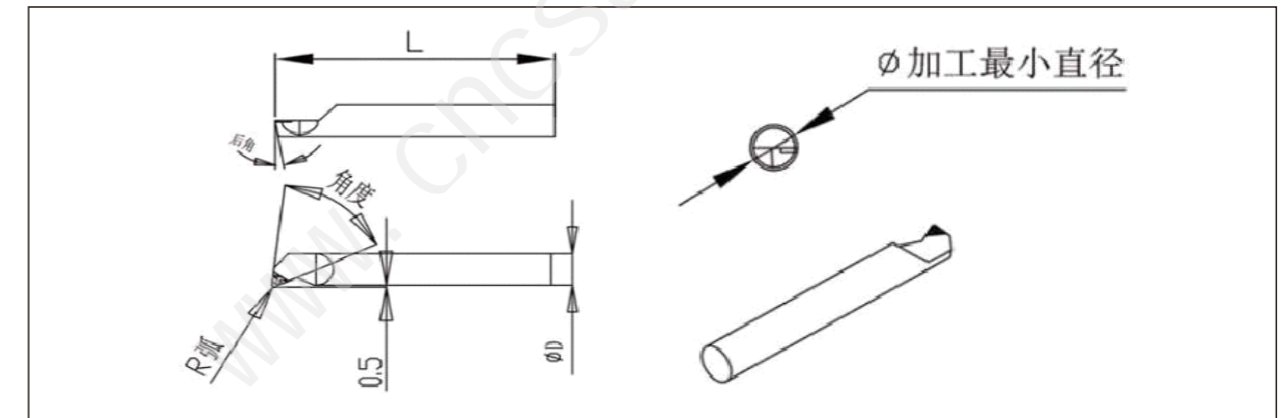
**GDM型 >>>**  
 GDM type >>>

形状 shape		型号 Model	尺寸(mm) Size (mm)				
有方向标示的刀片的图示为右手方向(R) The illustration of the blade with directional markings is in the right-hand direction			W	rE	L	H	
切槽、横进给 Groove cutting and horizontal feed	通用2刀尖样式 Universal 2 Blade Tip Style	KCGML	240-02	2.4	0.2	20	4.3
			300-02		0.2		
			300-04	3.0	0.4		
			400-02		0.2		
			400-04	4.0	0.4		
			400-08		0.8		
			500-04		0.4		
			500-08	5.0	0.8		
仿形加工 圆槽加工、 imitation machining, circular groove machining	2刀尖样式 2 blade tip styles	KCRMN	300-R1.5	3.0	1.5	20	4.3
			400-R2	4.0	2.0		
			500-R2.5	2.5	2.5		

**PCD\PCBN 高精内孔刀 >>>**  
 PCD\PCBN High precision inner hole cutter >>>

生产3、4、5、6、7、8、9、10mm 等直径小孔加工刀具，可用于铝件、铸件、淬火钢、粉末冶金件加工

Produce small hole machining tools with diameters of 3, 4, 5, 6, 7, 8, 9, 10mm, etc., which can be used for processing aluminum parts, cast iron parts, quenched steel, and powder metallurgy parts

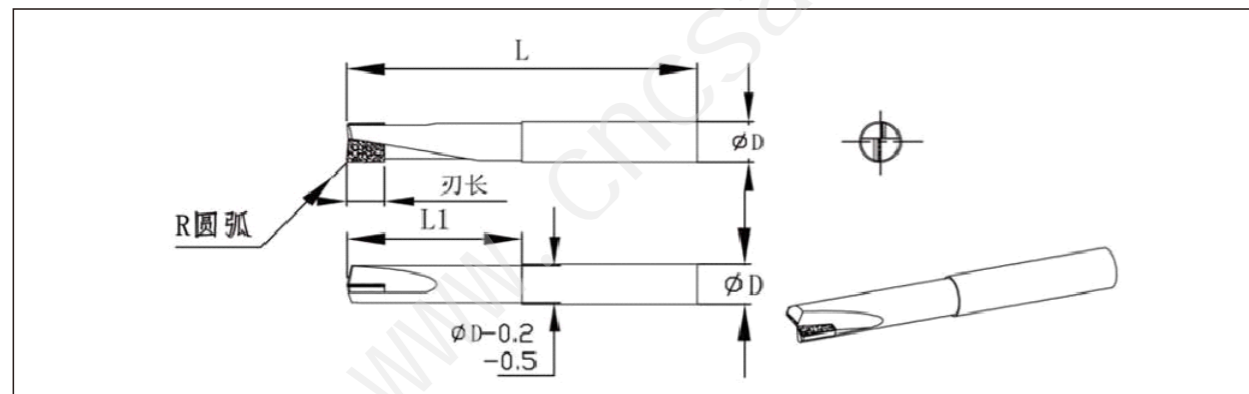



形状 shape		型号 Model	尺寸(mm) Size (mm)			
有方向标示的刀片的图示为右手方向(R) The illustration of the blade with directional markings is in the right-hand direction			最小加工孔径 Minimum machining aperture	角度 angle	ΦD	L
	Mm内孔工 Mm inner hole worker	3.8内孔 3.8 Inner hole	60	Φ3	80	
	4MM内孔刀 4MM inner hole knife	4.8内孔 4.8 Inner hole	60	Φ4	80	
	5MM内孔刀 5MM inner hole knife	5.8内孔 5.8 Inner hole	60	Φ5	80	
	6MM内孔刀 6MM inner hole knife	6.8内孔 6.8 Inner hole	60	Φ6	80	
	7MM内孔刀 7MM inner hole knife	7.8内孔 7.8 Inner hole	80	Φ7	80	
	8MM内孔刀 8MM inner hole knife	8.8内孔 8.8 Inner hole	80	Φ8	80	
	9MM内孔刀 9MM inner hole knife	9.9内孔 9.9 Inner hole	80	Φ9	80	
	10MM内孔刀 10MM inner hole knife	10.8内孔 10.8 Inner hole	80	Φ10	80	

**PCD/PCBN铣刀 >>>**  
 PCD/PCBN milling cutter >>>

生产高精度PCD、PCBN高精密铣刀，可加工各种铝件、铸铁件、淬火钢、模具钢、粉末冶金等材质的高精密加工，接受来图定制。

We produce high-precision PCD and PCBN milling cutters, which can process various materials such as aluminum, cast iron, quenched steel, mold steel, powder metallurgy, etc. We accept customized drawings.

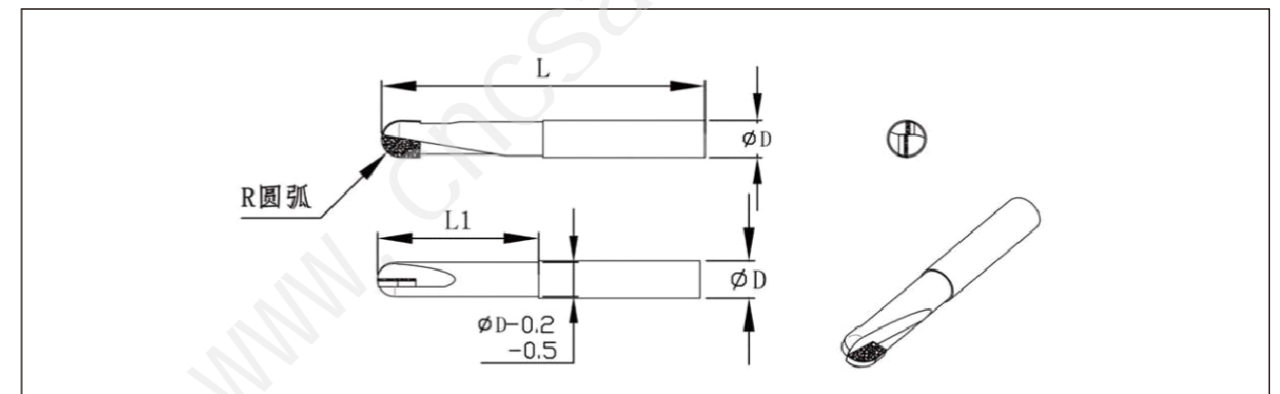


形状 shape		型号 Model	尺寸(mm) Size (mm)				
铣刀图示 Diagram of milling cutter	刃数 Blade count		L1	刃长 blade length	φD	R弧 R arc	L
	1	φ2.5铣刀 φ2.5 milling cutter	10	3.5	φ6	R0.2	50
	1/2	φ4铣刀 φ4 milling cutter	10	4	φ6	R0.2	50
	1/2	φ6铣刀 φ6 milling cutter	25	6	φ6	R0.2	50
	1/2	φ8铣刀 φ8 milling cutter	25	6.6	φ8	R0.2	80
	1/2	φ10铣刀 φ10 milling cutter	35	6.6	φ10	R0.2	80
	1/2	φ12铣刀 φ12 milling cutter	35	6.6	φ12	R0.2	80
	1/2	φ14铣刀 φ14 milling cutter	35	6.6	φ14	R0.2	100
	1/2	φ16铣刀 φ16 milling cutter	35	6.6	φ16	R0.2	100

**PCD\PCBN 圆弧铣刀 >>>**  
 PCD\PCBN Circular milling cutter >>>

生产高精度PCD、PCBN 球头铣刀及圆鼻刀，可加工各种铝件、铸铁件、淬火钢、模具钢、粉末冶金等材质的高精密加工，接受来图定制。

Produce high-precision PCD, PCBN ball end milling cutters and nose cutters, capable of processing various aluminum parts, cast iron parts, quenched steel. High precision machining of materials such as mold steel and powder metallurgy, accepting customized drawings.

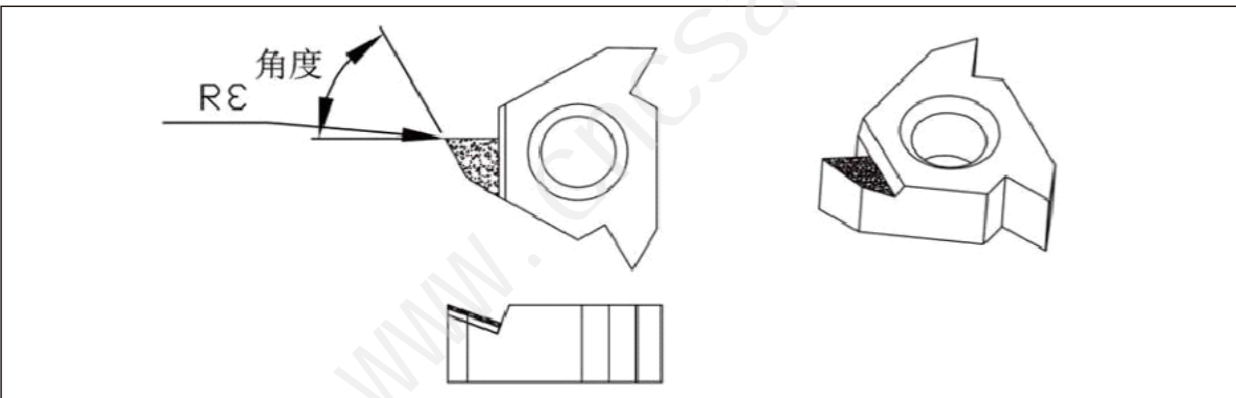


形状 shape		型号 Model	尺寸(mm) Size (mm)			
圆弧铣刀图示 Diagram of arc milling cutter	刃数 Blade count		直径 diameter	L1	φD	L
	1	R1.25铣刀 R1.25 milling cutter	φ2.5	10	φ6	50
	1	R2铣刀 R2 milling cutter	φ4	10	φ6	50
	1/2	R3铣刀 R3 milling cutter	φ6	25	φ6	50
	1/2	R4铣刀 R4 milling cutter	φ8	25	φ8	80
	1/2	R5铣刀 R5 milling cutter	φ10	35	φ10	80
	1/2	R6铣刀 R6 milling cutter	φ12	35	φ12	80
	1/2	R7铣刀 R7 milling cutter	φ14	35	φ14	100
	1/2	R8铣刀 R8 milling cutter	φ16	35	φ16	100

**PCD/PCBN 螺纹刀片** >>>  
 PCD/PCBN Threaded blade >>>

专业生产PCD、PCBN螺纹刀片，ISO 标准应用于铝件、淬火钢、ER、IR Ag6016系列、11系列。

Specializing in the production of PCD and PCBN threaded blades, ISO standards are applied to aluminum parts, quenched steel, ER, IR, Ag6016 series, and 11 series.



型号 model	适用螺纹 Applicable thread		尺寸 (mm) Size (mm)		角度 (°) Angle (°)
	M	UN UNF	r <sub>ε</sub>	S	θ
	螺距 pitch				
	mm	牙/英寸 Teeth per inch			
16 IR/L A60	0.5~1.5	48~16	0.02	1.00	60°
16 IR/L A60	48~16	48~16	0.02	1.00	60°

**新品推荐** >>>  
 New Porcelain Products >>>

高精度可调式铣刀盘  
 High precision adjustable milling cutter head



85° 平行四边形-负型-有孔 85° parallelogram - negative - perforated 图形 Shape	公制代码ISO Metric Code ISO	刀片参数 Dimensions in mm				
		ic	φd	s	r	la
	APKT113502	6.35	2.8	3.5	0.2	3.5
	APKT113504				0.4	
	APKT113508				0.8	3.2
	APKT160404	9.525	3.81	3.97	0.4	4
	APKT160408				0.8	3.8
APKT160412	1.2				3.5	
	SEHT120402	12.70	5.5	4.76	0.2	4.2
	SEHT120404				0.4	4
	SEHT120408				0.8	3.8
	SEHT120412				1.2	3.8

**PCD 成型铰刀介绍**

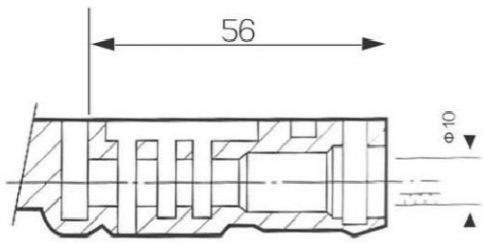


Introduction to PCD Forming Reamer >>>

**PCD 铰刀的加工事例**

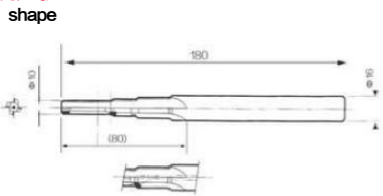
汽车油压零部件调节阀门的铰刀加工 >>>

Examples of PCD Reamer Processing  
 Reamer machining of regulating valves  
 for automotive hydraulic components>>>



项目 project	硬质合金铰刀 Hard alloy reamer	PCD铰刀 PCD reamer
切削速度 (m/min) Cutting speed (m/min)	120	120
进给速度 (mm/rev) Feed rate (mm/rev)	0.2	0.2
加工余量 (mm/径) Machining allowance (mm/diameter)	0.4	0.4
切削液 cutting fluid	油性 water-solubility	水溶性 oiliness
加工表面光洁度 (μm Rz)	8	3
真圆度	10	5
运行成本	1	0.5

**形状**



刀径 φD Knife diameter φD	最大刃数 Maximum number of blades	其它样式 Other styles
φ3~φ4	单刃 Single blade	刃径公差 标准样式 φD±0.0025mm Blade diameter tolerance standard style φD±0.0025mm
φ4~φ6以下 Below φ4~φ6	3刃 3 Blades	标准样式 φD±0.0015mm(φ5以上φ25以下) Standard Western style with a diameter of ±0.0015mm (for diameters above 5 and below 25)
φ6~φ8	4刃 4 Blades	全长 最大长度450mm (标准LD=3~5) The maximum length of the entire length is 450mm (standard LD=3-5)
φ8以上 Above φ8	6刃 6 Blades	

**产品介绍**

Product Introduction

PCD铰刀 (1段铰刀)	基体材质 (1) 整体硬质合金 (2) 前端硬质合金 (3) 淬火钢 用途 HDD、CD-ROM、锁壁等	
PCD铰刀 (带倒角)	基体材质 (1) 整体硬质合金 (2) 前端硬质合金 (3) 淬火钢 用途 压缩机壳体、ABS传动装置、动力转向等	
PCD铰刀 (成型多段式)	基体材质 (1) 整体硬质合金 (2) 前端硬质合金 (3) 淬火钢 用途 油泵、转向、AT油压控制体等	
PCD升空加工铰刀 (多段式)	基体材质 (1) 前端硬质合金 用途 AT油压控制体及其他	
PCD铰刀 (带断削槽)	基体材质 (1) 前端硬质合金 用途 ABS体、油泵、AT油压控制体等	

**PCD 成型铣刀介绍**

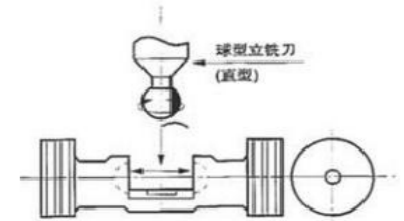


Introduction to PCD formed milling cutters >>>

**PCD 球型立铣刀的加工事例**

汽车空调用压缩机零部件的球面加工 >>>

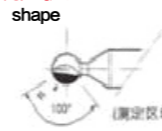
Processing example of PCD ball end mill  
 Spherical machining of compressor components  
 for automotive air conditioning >>>



加工结果 Processing results	表面光洁度 Surface smoothness 真圆度 True roundness	16 μm Rz以下 Below 16 μm Rz 50 μm
工件 workpiece	ADC12 [Si 11.5%含有] ADC12 [Si 11.5% contained]	
切削条件 Cutting conditions	转数N=1200 [rpm] Rotation speed N=1200 [rpm] 进给f=0.005[mm/rev]最终 Feed rate f=0.005 [mm/rev] Final	
切削条件 Cutting conditions	φ15.9×100L 球径公差±0.01mm R公差±0.01mm Ball diameter tolerance ±0.01mm R tolerance ±0.01mm	

刃长 blade length	8mm以下 Below 8mm (前刀角0°的时候: 最大可制作25mm) When the rake angle is 0°, the maximum production capacity is 25mm
前刀角(轴向前刀角) Front blade angle (Axial rake angle)	8°以下 Below 8° (轴向前刀角)(10时刃长4mm以下) (blade length below 4mm at 10 o'clock)

**形状**



轮廓(真圆度)数据 2 μm  
 Contour (true roundness) data 2 μm

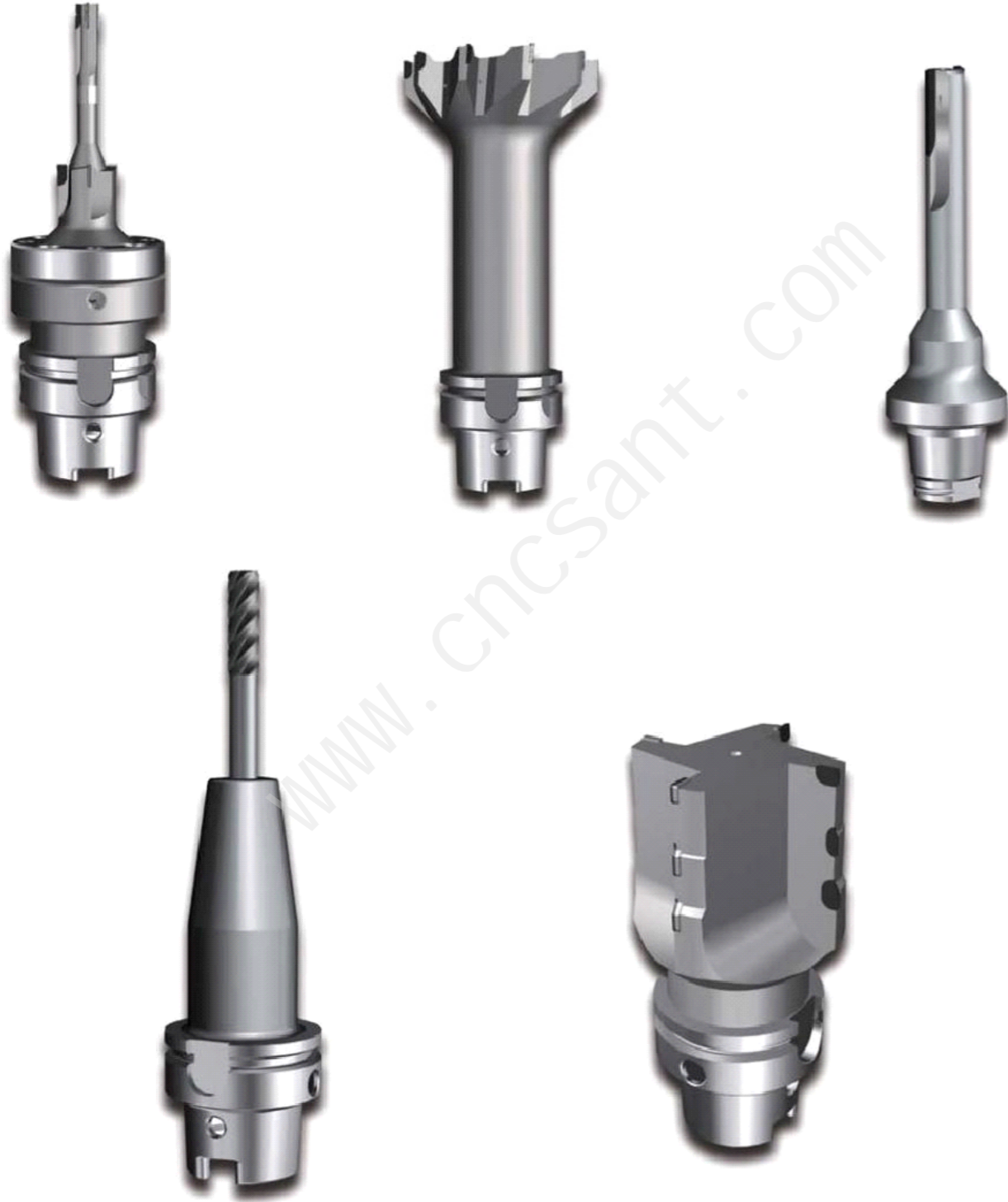
刀径 φD Knife diameter φD	最大刃数 Maximum number of blades	其它样式 Other styles
φ3~φ4	单刃 Single blade	刃径公差 标准样式 φD±0.0025mm Blade diameter tolerance standard style φD±0.0025mm
φ4~φ6以下 Below φ4~φ6	3刃 3 Blades	标准样式 φD±0.0015mm(φ5以上φ25以下) Standard Western style with a diameter of ±0.0015mm (for diameters above 5 and below 25)
φ6~φ8	4刃 4 Blades	全长 最大长度450mm (标准LD=3~5) The maximum length of the entire length is 450mm (standard LD=3-5)
φ8以上 Above φ8	6刃 6 Blades	

**产品介绍**

Product Introduction

PCD立铰刀 (球型立铰刀)	基体材质 (1) 整体硬质合金 (2) 淬火钢 用途 压缩机零件、其他等	
PCD立铰刀 (T槽)	基体材质 (1) 整体硬质合金 (2) 淬火钢 用途 T槽加工用	
去铸造毛刺用PCD铣刀	基体材质 (1) 整体硬质合金 (2) 淬火钢 用途 HDD、缸体	
PCD镗孔刀	基体材质 (1) 整体硬质合金 (2) 淬火钢 用途 各种镗孔加工用	

**成型刀具系列** >>>  
Forming Tool Series >>>



**槽铣刀系列** >>>  
Groove milling cutter series >>>



**刀柄链接系列** >>>  
Knife handle link series >>>



**PCD 非标刀具系列** >>>  
PCD non-standard cutting tool series >>>



**刀柄刀杆系列** >>>  
Knife handle and handle series >>>

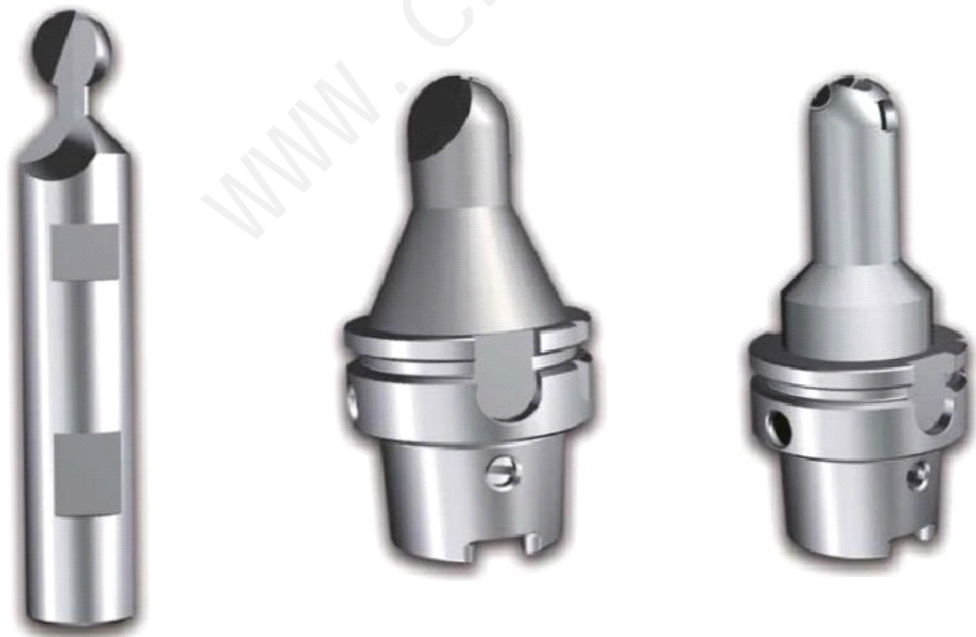




**面铣刀系列** >>>  
Face milling cutter series >>>



**刀柄链接系列** >>>  
Knife handle link series >>>



**PCD、PCBN镗刀系列** >>>  
PCD, PCBN boring tool series >>>



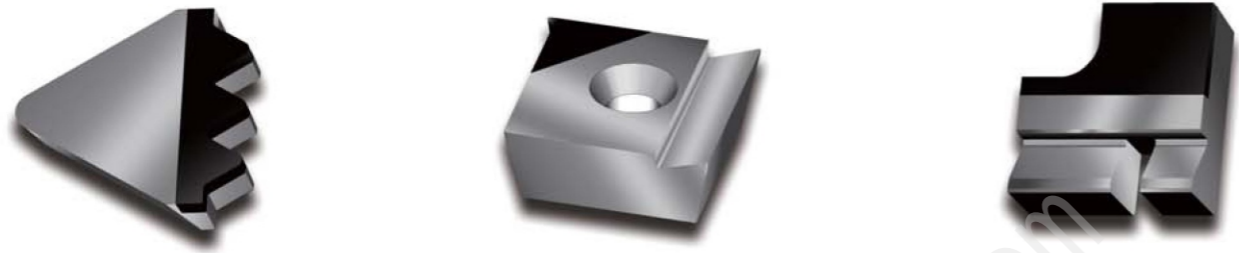
**复合刀具系列** >>>  
Composite Tool Series >>>



**PCBN铣刀片系列** >>>  
PCBN milling cutter series >>>

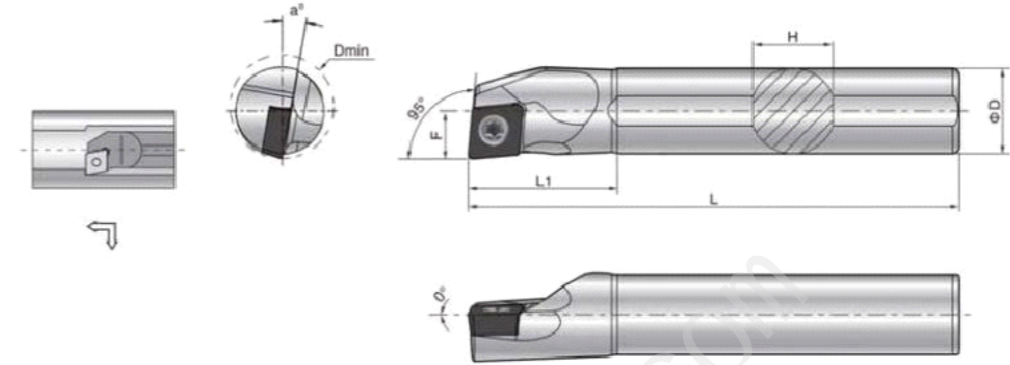


成型刀具系列 >>>



PCD/PCBN 内孔刀杆 >>>

PCD/PCBN Inner hole tool holder >>>



S ISO钢制刀杆(减震型)

S ISO Steel Knife Rod (Shock Absorbed Type)

- 订货示例:  
 1件 S20Q-D22-SCLCR-06  
 1件 S20Q-D22-SCLCL-06  
 R=右手 L=左  
 ● 供货时不包括刀片。

- Example of ordering:  
 1 piece S20Q-D22-SCLCR-06  
 1 piece S20Q-D22-SCLCL-06  
 R=right hand L=left hand  
 ● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	D	F	L	L1	H	DMIN				
S08H-D10-SCLCR/L-06 S10K-D12-SCLCR/L-06 S12M-D14-SCLCR/L-06 S14N-D16-SCLCRA-0	8 10 12 14	5.5 6 7 8	100 125 150 160	18 21 25 25	7.2 9 11 13	10 12 14 16	0.4	CC**0602**	B25060G	T8D
S16P-D18 CR -09 S200-D22-SCLCRL-0 S25R-D30-SCLCRL-09 S32S-D38-SCLCRL-12	16 20 25 32	9 11 15 19	170 180 200 250	28 32 42 50	15 18 23 30	18 22 30 38	0.8	CC**09T3**	B40100J B50140J	T15D T20D

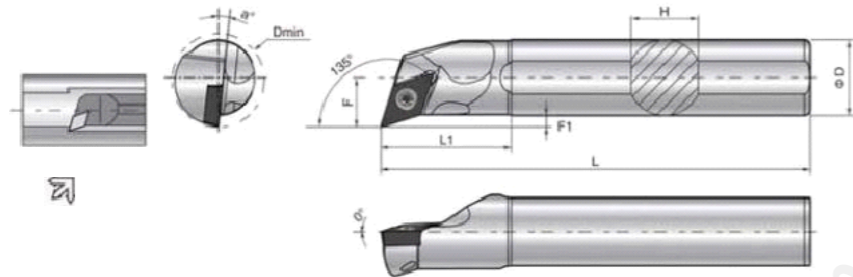
硬质合金刀杆

Hard alloy tool holder

型号 Model	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	D	F	L	L1	H	DMIN				
C08K-D10-SCLCRL-06 C10K-D12-SCLCRL-06 C12M-D14-SCLCRL-06 C14N-D16-SCLCRL-06	8 10 12 14	5.5 6 7 8	135 135 150 160	18 21 25 25	7.4 9.3 11.2 13	10 12 14 16	0.4	CC**0602**	B25060G	T8D
C160-D18-SCLCRL-09 C20R-D22-SCLCRL-09	16 20	9 11	180 200	28 32	15 18	18 22	0.8	CC**09T3**	B40100J	T15D

**PCD/PCBN 内孔刀杆** >>>

PCD/PCBN Inner hole tool holder >>>



**S ISO钢制刀杆(减震型)**

S ISO Steel Knife Rod (Shock Absorbed Type)

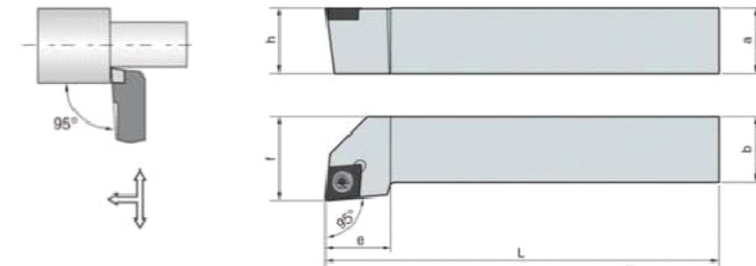
- 订货示例:  
 1件 S20Q-D25-SDQCR-11  
 1件 S20Q-D25-SDQCL-11  
 R=右手 L=左手  
 ● 供货时不包括刀片。

- Example of ordering:  
 1 piece of S20Q-D25-SDQCR-11  
 1 piece of S20Q-D25-SDQCL-11  
 R=right hand L=left hand  
 ● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)							刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	D	F	F1	L	L1	H	Dmin				
S10K-D13-SDO CR/L-07 S12M-D16-SDO CR/L-07 S16P-D20-SDO CR/L-07	10 12 16	7.6 8.6 10.6	2.6 2.6 2.6	125 150 170	25 25 30	9 11 15	9 11 15	0.4	Cc**0702**	B25060G	T8D
S20Q-D25-SDQCR/L-11 S25R-D32-SDQCR/L-11	20 25	13 17	3.7 3.7	180 200	35 40	18 23	18 23	0.8	CC**11T3**	B40100J	T15D

**PCD 外圆刀杆** >>>

PCBN outer cylindrical tool holder >>>



**S ISO钢制刀杆(减震型)**

S ISO Steel Knife Rod (Shock Absorbed Type)

- 订货示例:  
 1件 SCLCR 2525M09  
 1件 SCLCR 2525M09  
 R=右手 L=左  
 ● 供货时不包括刀片。

- Example of ordering:  
 1 piece SCLCR 2525M09  
 1 piece SCLCR 2525M09  
 R=right hand L=left hand  
 ● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	a	b	L	h	f	g				
SCLCR/L 1616 H09 SCLCR/L 2020 K09 SCLCR/L 2525 M09	16 20 25	16 20 25	100 125 150	16 20 25	20 25 32	16 25 25	0.8	CC 09T3	B40100J	T15D
SCLCR/L 2020 K12 SCLCR/L 2525 M12	20 25	20 25	125 150	20 25	25 32	25 25	0.8	CC 1204	B50140J	T20D

**S ISO钢制刀杆(减震型)**

S ISO Steel Knife Rod (Shock Absorbed Type)

- 订货示例:  
 1件 S08H-D10-SDQCR-07  
 1件 S08H-D10-SDQCL-07  
 R=右手 L=左手  
 ● 供货时不包括刀片。

- Example of ordering:  
 1 piece of S08H-D10-SDQCR-07  
 1 piece of S08H-D10-SDQCL-07  
 R=right hand L=left hand  
 ● Blades are not included in the supply.

型号	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	D	F	L	L1	H	DMIN				
S08H-S10-STUPR/L-07	8	5	100	17	7.2	10	0.4	TP**0725**	B20050J	T6D
S10K-D12-STUPR/L-09 S12M-D14-STUPR/L-09	10 12	6 7	125 150	21 25	9 11	12 14	0.4	TP**0902**	B22050J	T8D
S16P-D18-STUPR/L-11 S20Q-D22-STUPR/L-11	16 20	9 11	170 180	28 32	15 18	18 22	0.4	日系刀片 TP**1103**	B20070E	T10D
S14N-D16-STUPR/L-11 S16P-D18-STUPR/L-11 S20Q-D22-STUPR/L-11	14 16 20	8 9 11	160 170 180	26 28 32	13 15 18	16 18 22	0.4	TC**1102**	B25060G	T8D
S25R-D230-STUPR/L-16	25	15	200	42	23	30	0.8	TC**16T3**	B40100J	T15D

**S ISO钢制刀杆(减震型)**

S ISO Steel Knife Rod (Shock Absorbed Type)

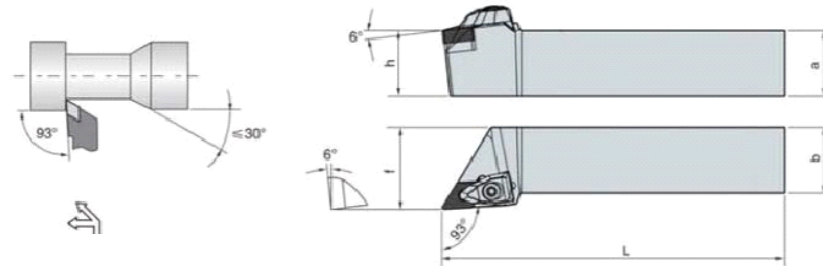
- 订货示例:  
 1件 SCLCR 2525M07  
 1件 SCLCL 2525M07  
 R=右手 L=左  
 ● 供货时不包括刀片。

- 订货示例:  
 1件 SCLCR 2525M07  
 1件 SCLCL 2525M07  
 R=右手 L=左  
 ● 供货时不包括刀片。

型号 Model	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	a	b	L	h	f	g				
SCLCR/L 1616 H07 SCLCR/L 2020 K07 SCLCR/L 2525 M07	16 20 25	16 20 25	100 125 150	16 20 25	20 25 32	16 25 25	0.4	CC 0702	B2506G	T8D
SCLCR/L 1616 H11 SCLCR/L 1616 K11 SCLCR/L 2525 M11	16 20 25	16 20 25	100 125 150	16 20 25	20 25 32	25 25 25	0.8	CC 11T3	B40100J	T15D

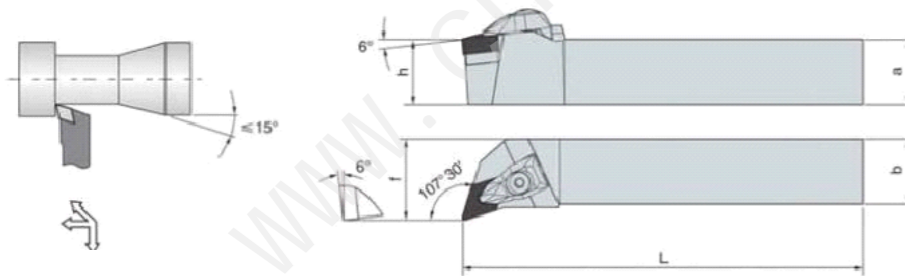
**PCBN 外圆刀杆 >>>**

PCBN outer cylindrical tool holder >>>



- 订货示例:  
1件 TDJNR 2525M11  
1件 TDJNL 2525M11  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece TDJNR 2525M11  
1 piece TDJNL 2525M11  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
TDJNR/L 1616 H11	16	16	100	16	20	0.8	DN**1104**	TD1103	B40100J	TCL03	MS 04017	SP 608	S3L/T15F
TDJNR/L 2020 K11	20	20	125	20	25								
TDJNR/L 2525 M11	25	25	150	25	32								
TDJNR/L 2020 K15	20	20	125	20	25	0.8	DN**1506**	TD1504	B40100J	TCL04	MS 05020	SP 713	S4L/T15F
TDJNR/L 2525 M15	25	25	150	25	32								
TDJNR/L 3232 P15	32	30	170	32	40								
TDJNR/L 4040 R15	40	40	200	40	50								

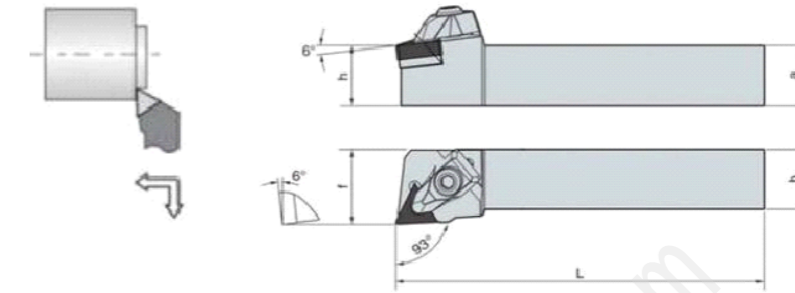


- 订货示例:  
1件 TDQNR 2525M11  
1件 TDQNL 2525M11  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece TDQNR 2525M11  
1 piece TDQNL 2525M11  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
TDQNR/L 1616 H11	16	16	100	16	20	0.8	DN**1104**	TD1103	B40100J	TCL03	MS 04017	SP 608	S3L/T15F
TDQNR/L 2020 K11	20	20	125	20	25								
TDQNR/L 2525 M11	25	25	150	25	32								
TDQNR/L 2020 K15	20	20	125	20	25	0.8	DN**1506**	TD1504	B40100J	TCL04	MS 05020	SP 713	S4L/T15F
TDQNR/L 2525 M15	25	25	150	25	32								
TDQNR/L 3232 P15	32	30	170	32	40								
TDQNR/L 4040 R15	40	40	200	40	50								

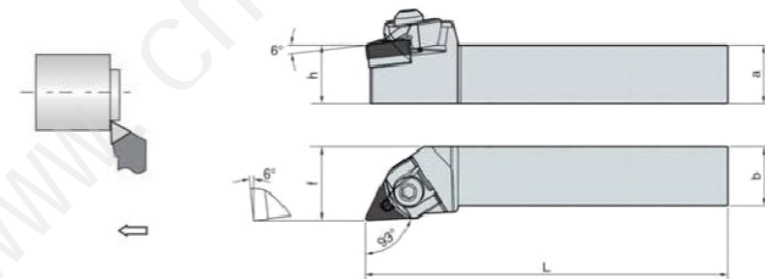
**PCBN 外圆刀杆 >>>**

PCBN outer cylindrical tool holder >>>



- 订货示例:  
1件 TDJNR 2525M16  
1件 TDJNL 2525M16  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece TDJNR 2525M16  
1 piece TDJNL 2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
TDJNR/L 1616 H11	16	16	100	16	20	0.8	TN**1604**	TT1603	B40100J	TCL03	MS 04017	SP 608	S3L/T15F
TDJNR/L 2020 K11	20	20	125	20	25								
TDJNR/L 2525 M11	25	25	150	25	32								
TDJNR/L 3232 P22	32	32	170	32	40	0.8	TN**2204**	TT2204	B40100J	TCL04	MS 05020	SP 713	S4L/T15F
TDJNR/L 4040 R22	40	40	200	40	50								

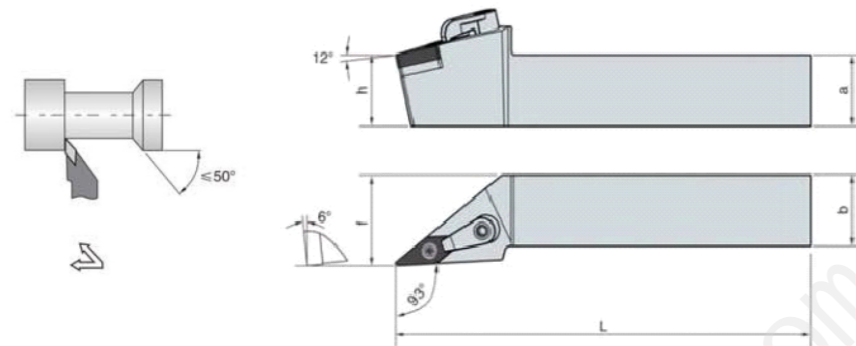


- 订货示例:  
1件 SCLCR 2525M07  
1件 SCLCL 2525M07  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece MVJNR 2525M16  
1 piece MVJNL 2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
WTJNR/L 1616 K16	16	16	100	16	20	0.8	TN**1604**	MTS1603	MSPS515	CS 06011	MCLS1608	MS 05026	S3L/S4L
WTJNR/L 2020 K16	20	20	125	20	25								
WTJNR/L 2525 M16	25	25	150	25	32								
WTJNR/L 3232 P16	32	32	170	32	40	0.8	TN**2204**	MTS2204	MSPS719	CS 06011	MCLS2210	MS 06028	S4L/S4L
WTJNR/L 4040 R16	40	40	200	40	50								

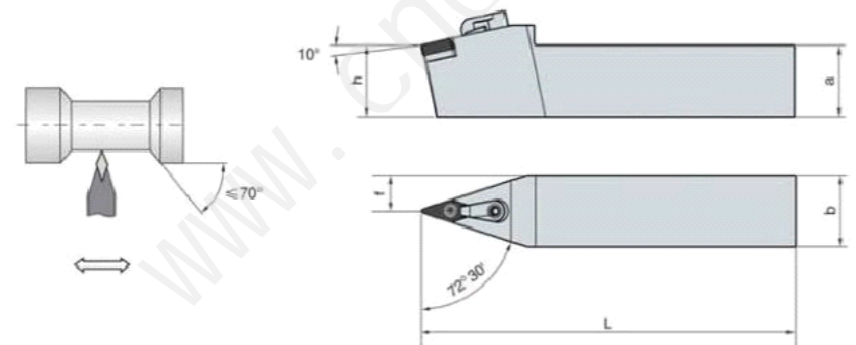
PCBN 外圆刀杆 >>>

PCBN outer cylindrical tool holder >>>



- 订货示例:  
1件 MVJNR 2525M16  
1件 MVJNR 2525M16  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece MVJNR 2525M16  
1 piece MVJNR 2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀尖圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	扳手 wrench
	a	b	L	h	f							
MVJNR 2020 K16	20	20	125	20	25	0.8	Vn**1104**	MSV-322 (MV1603)	MLP34L (MSP513)	MCPM-22 (MCL2414)	MCS625-3 (WS 06025)	SL/S3L
MVJNR 2525M16	25	25	150	25	32							
MVJNR 2525P16	32	32	170	32	40							

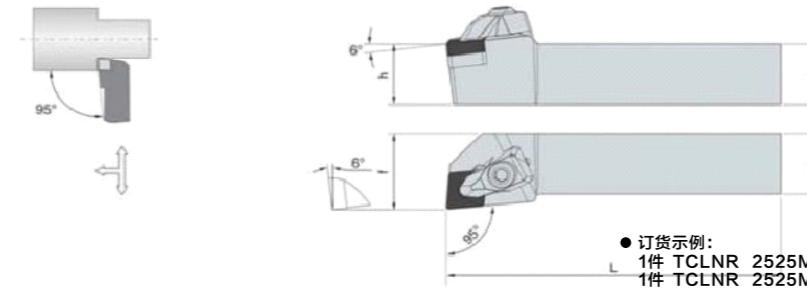


- 订货示例:  
1件 MVVNN2525M16  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece MVVNN2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀尖圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	扳手 wrench
	a	b	L	h	f							
MVVNN 2020 K16	20	20	125	20	10	0.8	VN**1604**	MSV-322 (MV1603)	MLP34L (MSP513)	MCPM-22 (MCL2414)	MCS828-4	S2L/S4L
MVVNN 2525M16	25	25	150	25	12.5							
MVVNN 3232P16	32	32	170	32	16							

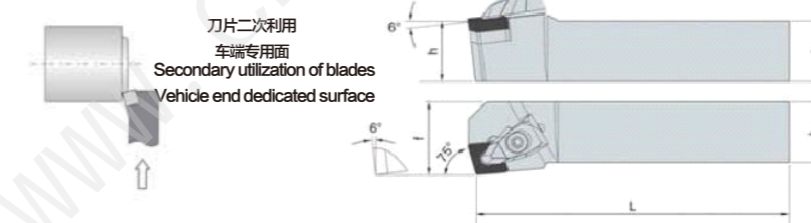
PCBN 外圆刀杆 >>>

PCBN outer cylindrical tool holder >>>



- 订货示例:  
1件 TCLNR 2525M12  
1件 TCLNR 2525M12  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece TCLNR 2525M12  
1 piece TCLNR 2525M12  
R=right hand L=left hand  
● Blades are not included in the supply.

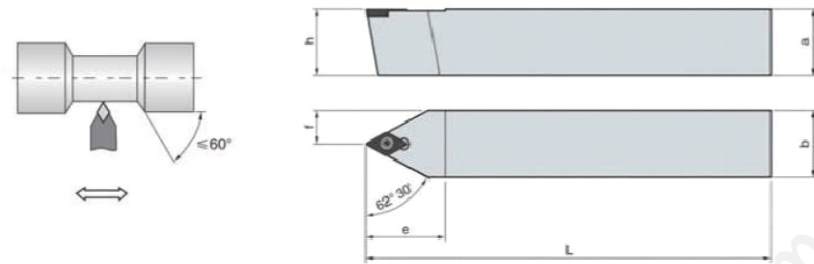
型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
TCLNR/L 2020 K12	20	20	125	20	25	0.8	CN**1604**	TC1204	B40100J	TCL04	MS 05020	SP 713	S4L/T15F
TCLNR/L 2525M12	25	25	150	25	32								
TCLNR/L 3225 P12	32	25	170	32	32								
TCLNR/L 3232 P12	32	32	170	32	40								
TCLNR/L 2525 M16	25	25	150	25	32	1.2	CN**1606**	TC1606	B50120J	TCL05	MS 06020	SP 913	S5L/T20F
TCLNR/L 3225 P16	32	32	170	32	32								
TCLNR/L 3232 P16	32	32	170	32	40								
TCLNR/L 4040 R16	40	40	200	40	50								
TCLNR/L 3232 P19	32	32	170	32	40	1.2	CN**1906**	TC1906	B50120J	TCL06	MS 08025	SP 1115	S6L/T20F
TCLNR/L 4040 R19	40	40	200	40	50								



- 订货示例:  
1件 TCKNR 2525M12  
1件 TCKNL 2525M12  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece TCKNR 2525M12  
1 piece TCKNL 2525M12  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板 platen	压板螺钉 Pressure plate screw	弹簧 spring	扳手 wrench
	a	b	L	h	f								
TCKLNR/L 2020 K12	20	20	125	20	25	0.8	CN**1204**	TC 1204	B40100J	TCL04	MS 05020	SP 713	S4L/T15F
TCKLNR/L 2525 M12	25	25	150	25	32								
TCKLNR/L 3232 P12	32	32	170	32	40								
TCKLNR/L 2525 M16	25	25	150	25	32	1.2	CN**1606**	TC 1606	B50120J	TCL05	MS 06020	SP 913	S5L/T20F
TCKLNR/L 3232 P16	32	32	170	32	40								
TCKLNR/L4040R16	40	40	200	40	50								
TCKLNR/L 3232 P19	32	32	170	32	40	1.2	CN**1906**	TC 1906	B50120J	TCL06	MS 06025	SP 1115	S6L/T20F
TCKLNR/L 4040 R19	40	40	200	40	50								

**PCD 外圆刀杆** >>>  
 PCD outer cylindrical tool holder >>>

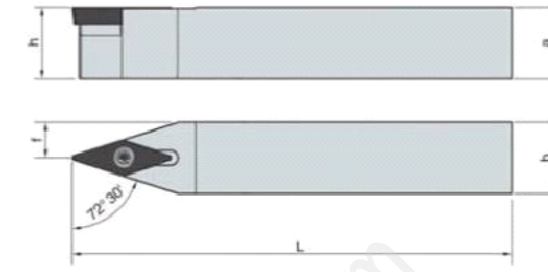
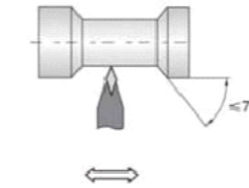


- 订货示例:  
1件 SDPCN 2525 M07  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece SDPCN 2525 M07  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)						刀片圆角 Blade tip rounded corner	刀片 blade	螺钉 screw	扳手 wrench
	a	b	L	h	f	e				
SDPCN 1616 H07 SDPCN 2020 K07 SDPCN 2525 M07	16 20 25	16 20 25	100 125 150	16 20 25	8 10 12.5	15 20 25	0.4	DC**0702**	B25060G	T8D
SDPCN 1616 H11 SDPCN 2020 K11 SDPCN 2525 M11	16 20 25	16 20 25	100 125 150	16 20 25	8 10 12.5	25 25 25	0.8	DC**11T3**	B40100J	T15D

**PCD 外圆刀杆** >>>  
 PCD outer cylindrical tool holder >>>

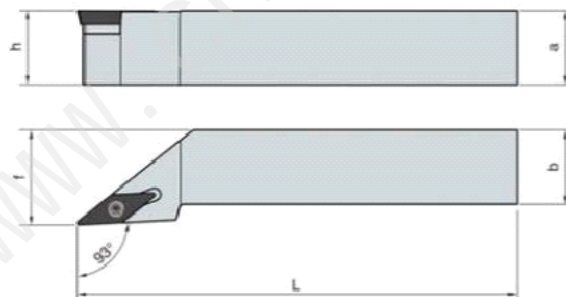
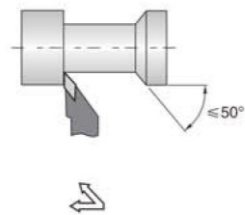
安装VB系列刀片  
 Install VB series blades



- 订货示例:  
1件 SVVCN 2525M16  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece SVVCN 2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀片圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺钉 Knife pad screw	螺钉 screw	扳手 wrench
	a	b	L	h	f						
SVVCN 1616 H11 SVVCN 2020 K11 SVVCN 2525 M11	16 20 25	16 20 25	100 125 150	16 20 25	8 10 12.5	0.4	VB**1103**	—	—	B25060G	T8D
SVVCN 2020 K16 SVVCN 2525 M16	20 25	20 25	125 150	20 25	10 12.5	0.8	VB**1604**	SV 1603	DS 535	B35120J	T15D

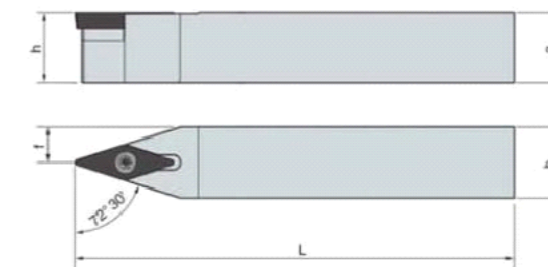
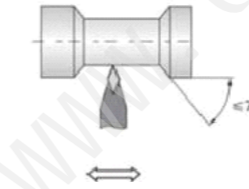
安装VB系列刀片  
 Install VB series blades



- 订货示例:  
1件 SVJBR 2525M16  
1件 SVJBL 2525M16  
R=右手 L=左手  
● 供货时不包括刀片。
- Example of ordering:  
1 piece SVJBR 2525M16  
1 piece SVJBL 2525M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀尖圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	压板螺钉 Pressure plate screw	扳手 wrench
	a	b	L	h	f						
SVJBR/L 1616 H11 SVJBR/L 2020 K11 SVJBR/L 2525 M11	16 20 25	16 20 25	100 125 150	16 20 25	20 25 32	0.4	VB**1103**	—	—	B2506G	T8D
SVJBR/L 1616 H16 SVJBR/L 2020 K16 SVJBR/L 2525 M16	16 20 25	16 20 25	100 125 150	16 20 25	20 25 32	0.8	VB**1604**	SV 1603	DS 535	B35120J	T15D





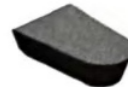

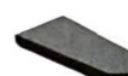
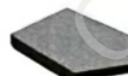
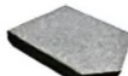













安装VC系列刀片  
 Install VC series blades
























- 订货示例:  
1件 SVVCN 2525 M16  
R=右手 L=左  
● 供货时不包括刀片。
- Example of ordering:  
1 piece SVVCN 2525 M16  
R=right hand L=left hand  
● Blades are not included in the supply.

型号 Model	尺寸(mm) Size (mm)					刀尖圆角 Blade tip rounded corner	刀片 blade	刀垫 shim	刀垫螺丝 Knife pad screw	螺钉 screw	弹簧 spring	扳手 wrench
	a	b	L	h	f							
SVVCN 1616H11 SVVCN 2020 K11 SVVCN 2525 M11	16 20 25	16 20 25	100 125 150	16 20 25	8 10 12.5	0.4	VC**1103**	—	—	MS 05020	SP 713	T8D
SVVCN 2020 K16 SVVCN 2525 M16	20 25	20 25	125 150	20 25	10 12.5	0.8	VC**1604**	SV 1603	DS 535	MS 06020	SP 913	T15D

采掘硬质合金 >>>  
 Cemented Carbide for mining >>>

				
M21	M22	M20	M21	
				
M14	M11	M11	M10	M10
				
T50	T40	T30	T21	
				
T20	T12	T11	T10	
				
K31	K31	K0、K20	K1、K20	K21

采掘硬质合金 >>>  
 Cemented Carbide for mining >>>

				
定制盾构刀片	球形齿 Spherical buttons			
				
锥形齿 Conical buttons		楔形齿 Wedge buttons		
				
边楔齿 Eccentric wedge buttons	勺形齿 Spoon buttons	平顶齿 Flat top buttons	抛物线形齿 Parabolic buttons	
				
尖爪齿 Pointed claw buttons	挖路齿 Parabolic buttons			
				
截煤齿 Auger	截煤齿 Auger	M23	M24	