

郑州瑞钻金刚石工具有限公司 ZHENGZHOU RUIZUAN DIAMOND TOOL CO., LTD.

专注于为客户提供解决方案 Focus on providing solutions for customers



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COMPANY PROFILE

公司概况 COMPANY OVERVIEW



郑州瑞钻金刚石工具有限公司成立于2014年,是一家专业从事砂轮、金刚石CBN砂轮及工具、PCD、PCBN、PDC、CVD、MCD、ND刀具、金工木工刀具、 研磨工具。 此外,我们正在努力开发新产品,以满足不同客户的不同要求。我们位于河南省省会郑州,交通便利。 我公司自成立以来,一直坚持以人为本,不断创新。 我们经验丰富的员工致力于严格的质量控制和周到的客户服务,随时讨论您的要求并确保客户完全满意。

Zhengzhou Ruizuan Diamond Tool Co., Ltd. was established in 2014. It is a company specializing in grinding wheels, diamond CBN grinding wheels and tools, PCD, PCBN, PDC, CVD, MCD, ND tools, metalworking and woodworking tools, and grinding tools. In addition, we are working hard to develop new products to meet the different requirements of different customers. We are located in Zhengzhou, the capital of Henan Province, with convenient transportation access. Since its establishment, our company has always adhered to people-oriented and continuous innovation. Our experienced staff are dedicated to strict quality control and thoughtful customer service, and are always available to discuss your requirements and ensure complete customer satisfaction.

公司理念 CORPORATE PHILOSOPHY

创新 Innovation

我们坚信创新是企业发展的源泉,持续投入研发,不断探索。

We firmly believe that innovtion is the source of enterprise development, and we continue to invest in research and development and continue to explore.



高效 Efficient

我们注重高效运作,确保项目按时交付,最大程度满足客户需求。

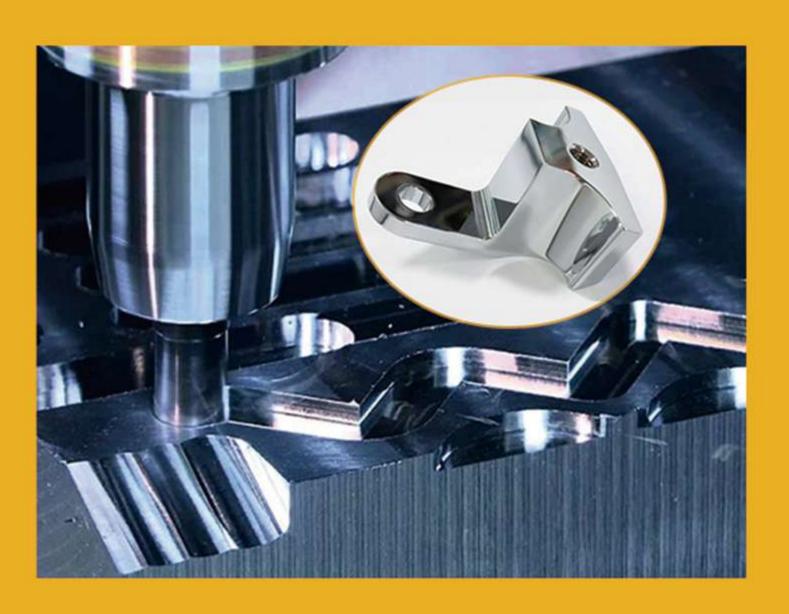
We focus on efficient operation to ensure that projects are delivered on time and meet customer needs to the greatest extent possible.



卓越 Excellence

我们以卓越为追求目标,努力为客户创造更大的价值和影响力。

We pursue excellence and strive to create greater value and impact for our customers.



专业团队 PROFESSIOAL TEAM





SUPERHARD MATERIALS

超硬材料

PCBN 立方氮化硼



PCBN材料,具有高硬度和极好的耐磨性。切削温度 可达1300℃。

PCBN material, with high hardness and excellent wear resistance. Cutting temperature can reach 1300°C.

用途 Application

淬硬钢HRC45-65(例如:碳素工具钢、轴承钢、模具 钢和高速钢);

粉末烧结体;

灰口铸铁,球墨铸铁,冷硬铸铁;

NI基、CO基、CR基、FE基高温合金等机械加工。

Machining hardened steels of HRC50~60 (e.g. carbon tool steels, ball bearing steels, die tool steels and high speed steel etc.)

Powder metallurgy.

Gray cast irons, cold hard cast irons

Ni-, Co-, Cr-, or Fe-based high temperature alloys.

特点 Features

以车代磨,省去磨削工艺

具备良好的尺寸控制和表面精度

高效加工,生产效率提高50%

铣削工艺也一样应用

如:铣制机床导轨,淬火钢HRC63°,节省85%工时

提高表面质量,可以达到光洁度Ra:0.3um

Replace grinding with turning.

Precise dimensions control and surface accuracy.

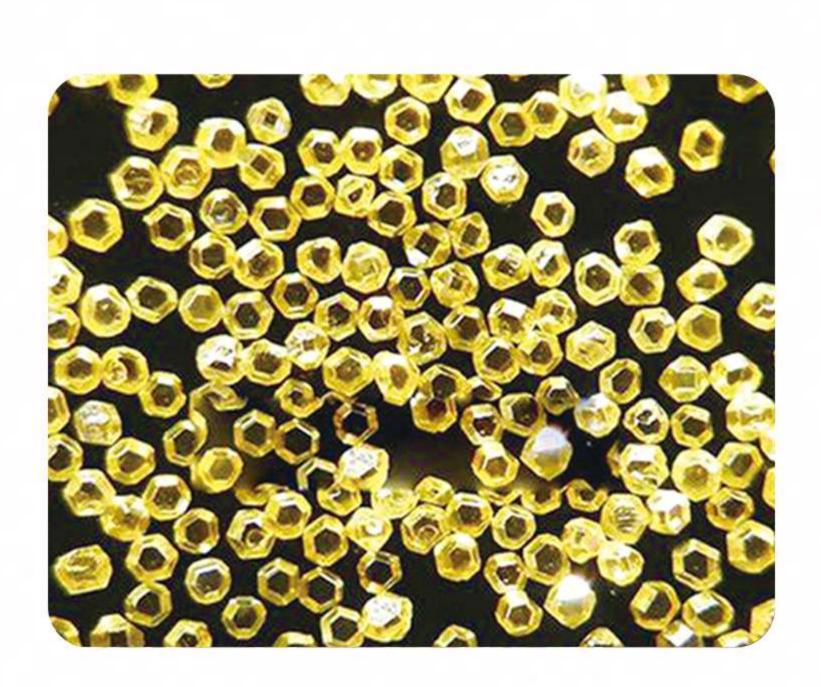
Efficient stock removal, production efficiency increased by 50%, not only for turning, but also for milling. E.G. For milling machine guide rails, hardened steel HRC63°, it can save 85% working-hours and improve the surface quality, the finish can reach Ra:0.3um.





PCD 聚晶金刚石





金刚石是最硬的材料,采用特殊的高温高压工艺,可以在硬质合金基体上烧结一层紧密的聚晶金刚石层。这就是PCD.

Diamond is the hardest material, Using special high temperature and high diamond layer can be sintered on pressure process, A compact polycrystalline cemented carbide substrates - which is called PCD.

特点 Features

- 1、更快的切削速度
- 2、更长的刀具寿命
- 3、更好的表面光洁度
- 4、更精准的工件尺寸

- 1. Faster cutting speed
- 2. Longer tool life
- 3. Better surface finish
- 4. More Precise on Workpiece Dimensions

用途 Application

PCD刀片可用于切削非铁金属

- 1、铝合金,铜合金
- 2、非金属(纤维增强塑料,GFK和CFK)
- 3、硬质橡胶、三聚氰胺树脂聚合材料
- 4、木材,纤维板
- 5、纤维增强金属(MMC)

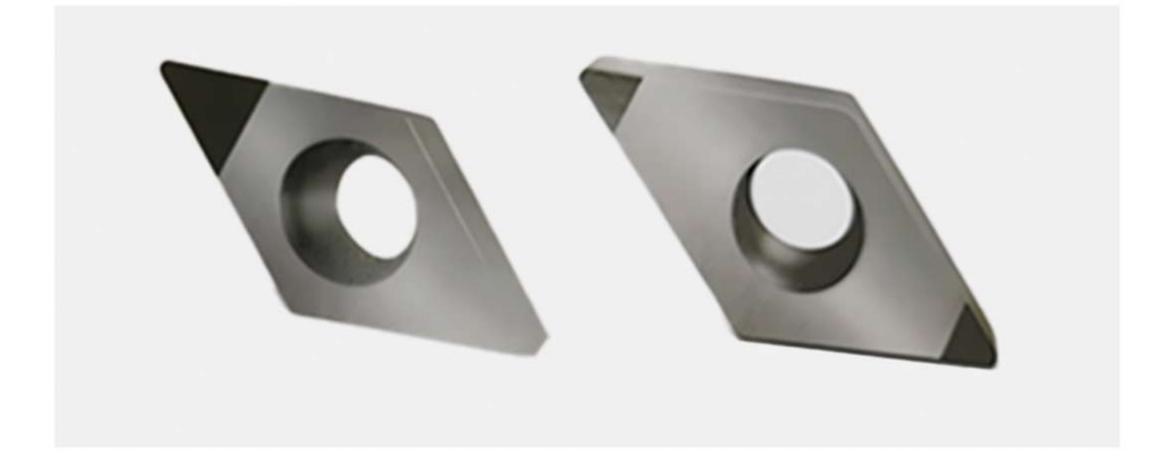
PCD can be used to cut non-ferrous metals

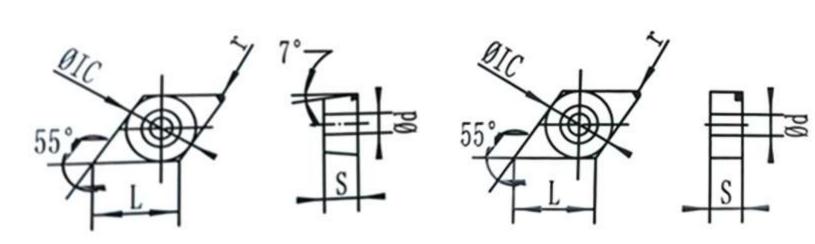
- 1. Aluminum alloy, Copper alloy.
- 2. Non-metal (Fiber reinforced plastic, GFK and CFK)
- 3. Hard rubber, Melamine resin polymer material
- 4、Wood, Fiberboard
- 5. Fiber reinforced metal (MMC)



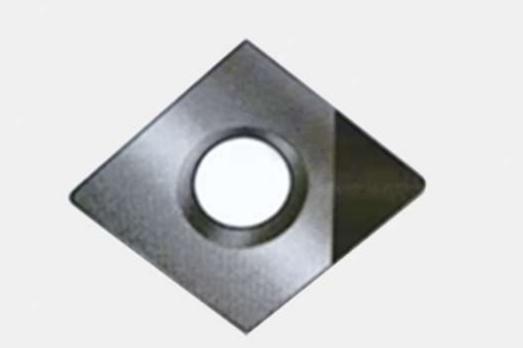


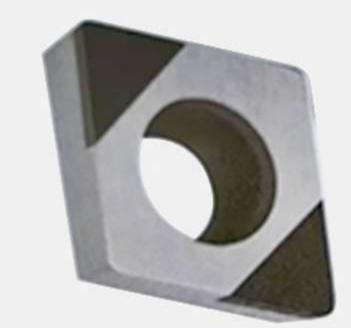
车片刀 PCD/PCBN TURNING INSERTS

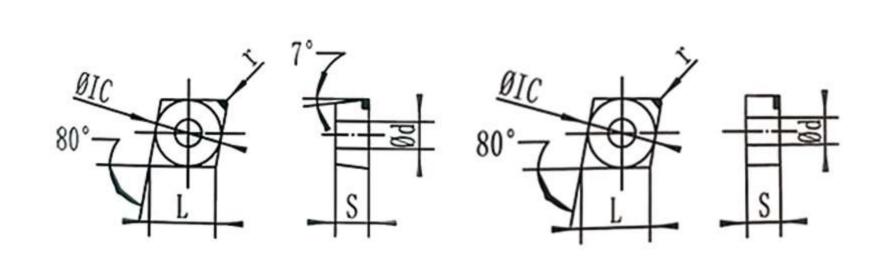




型号TYPE(DCGW/DNGA)

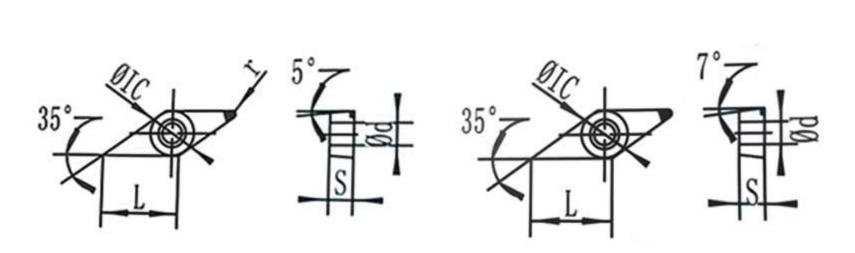




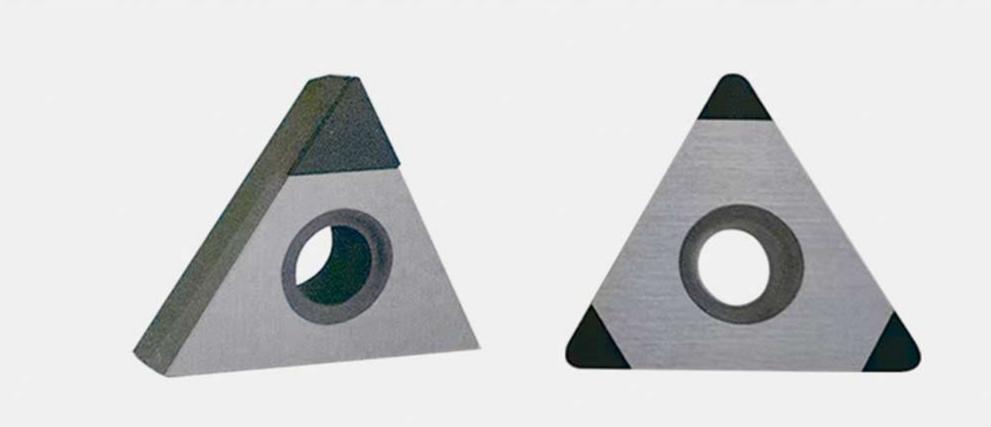


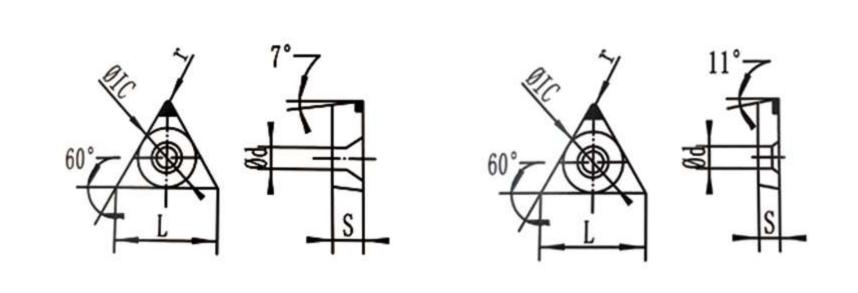
型号TYPE (CCGW/CNGA)





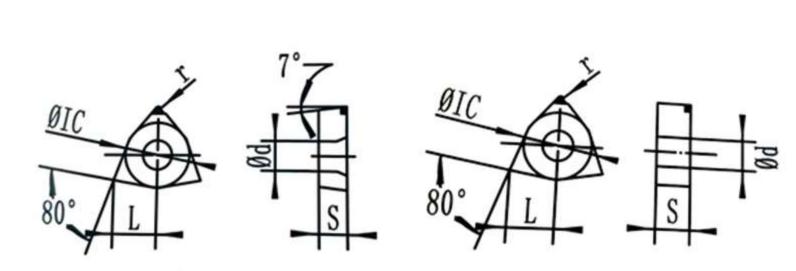
型号TYPE(VBGW/VCGW/VNGA)





型号TYPE (TCGW/TPGW/TNGA)

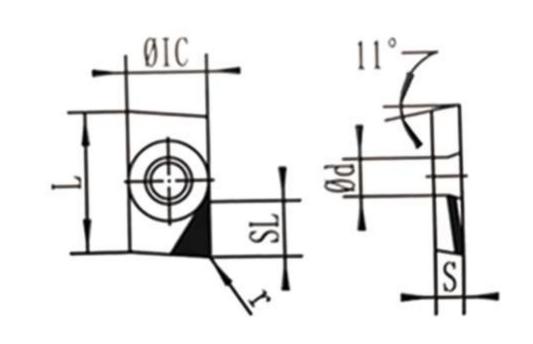




型号TYPE(WCGW/WNGA)

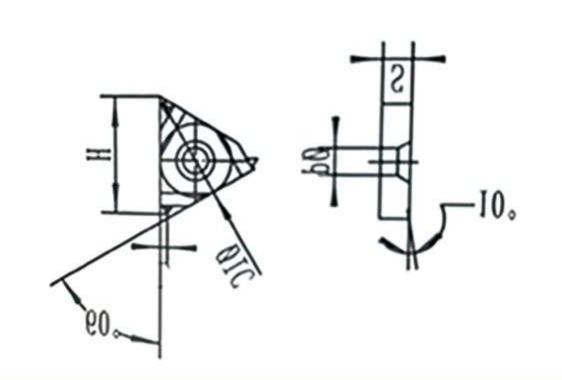






型号TYPE (APKT/APKW)



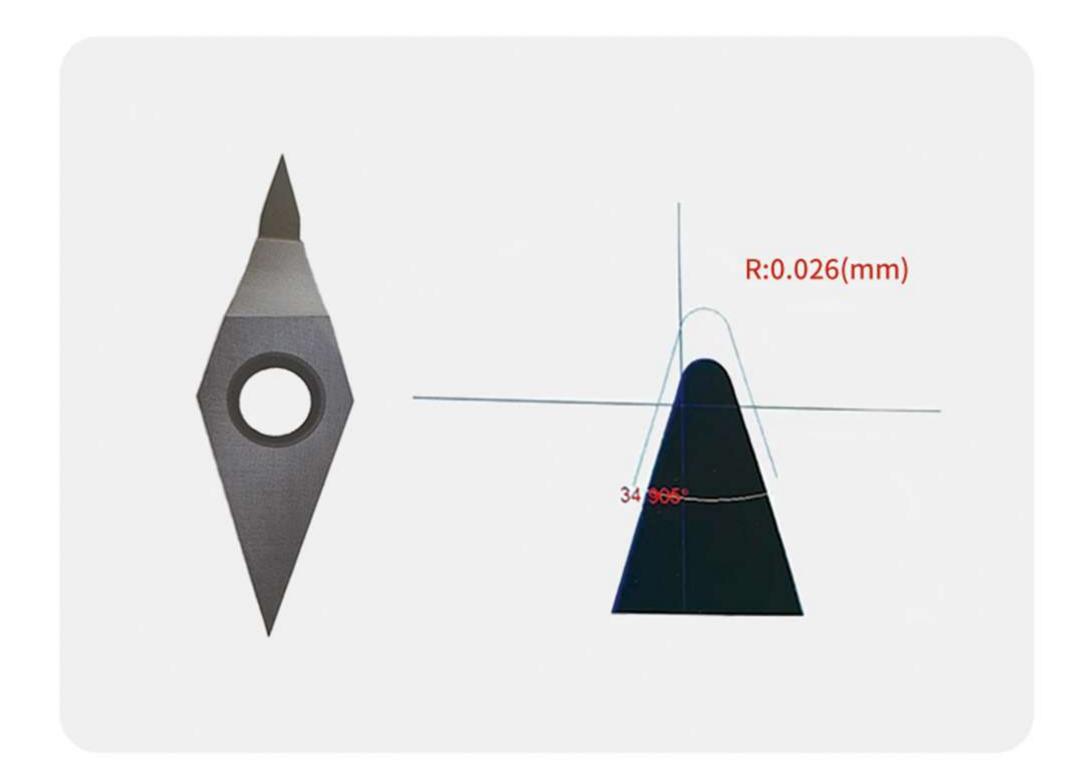


型号TYPE(ER/NR)



非标刀片 Non-standard inserts

可根据客户特定要求设计定制 Design and manufacture according to customer specific requirements.

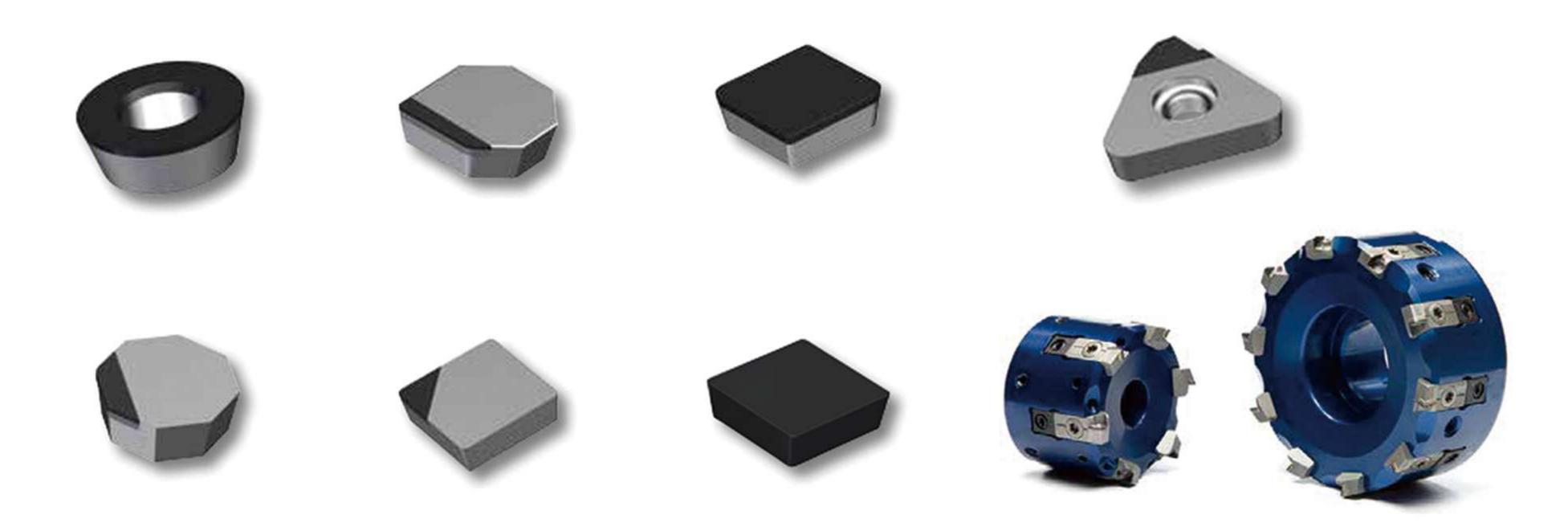


非标刀具 R0.01 Non-standard cutter

非标定做R0.01刀具 Non-standard custom R0.01 cutter R误差 Tolerances: 0.003mm



PCBN铣刀片系列 PCBN MILLING INSERT SERIES



主要用于铸铁类材质的加工, 铣削速度可达 800-1500M/MIN,是传统刀具的 5-10 倍, 加工粗糙度可达 RAO.2, 具有加工效率高、寿命长等优点。

It is mainly used for processing cast iron materials. The milling speed can reach 800-1500m/min, which is 5-10 times than of traditional tools. The processing roughness can reach Ra0.2. It has the advantages of high processing efficiency and long service life.

PCD铣刀片系列 PCD MILING INSERT SERIES

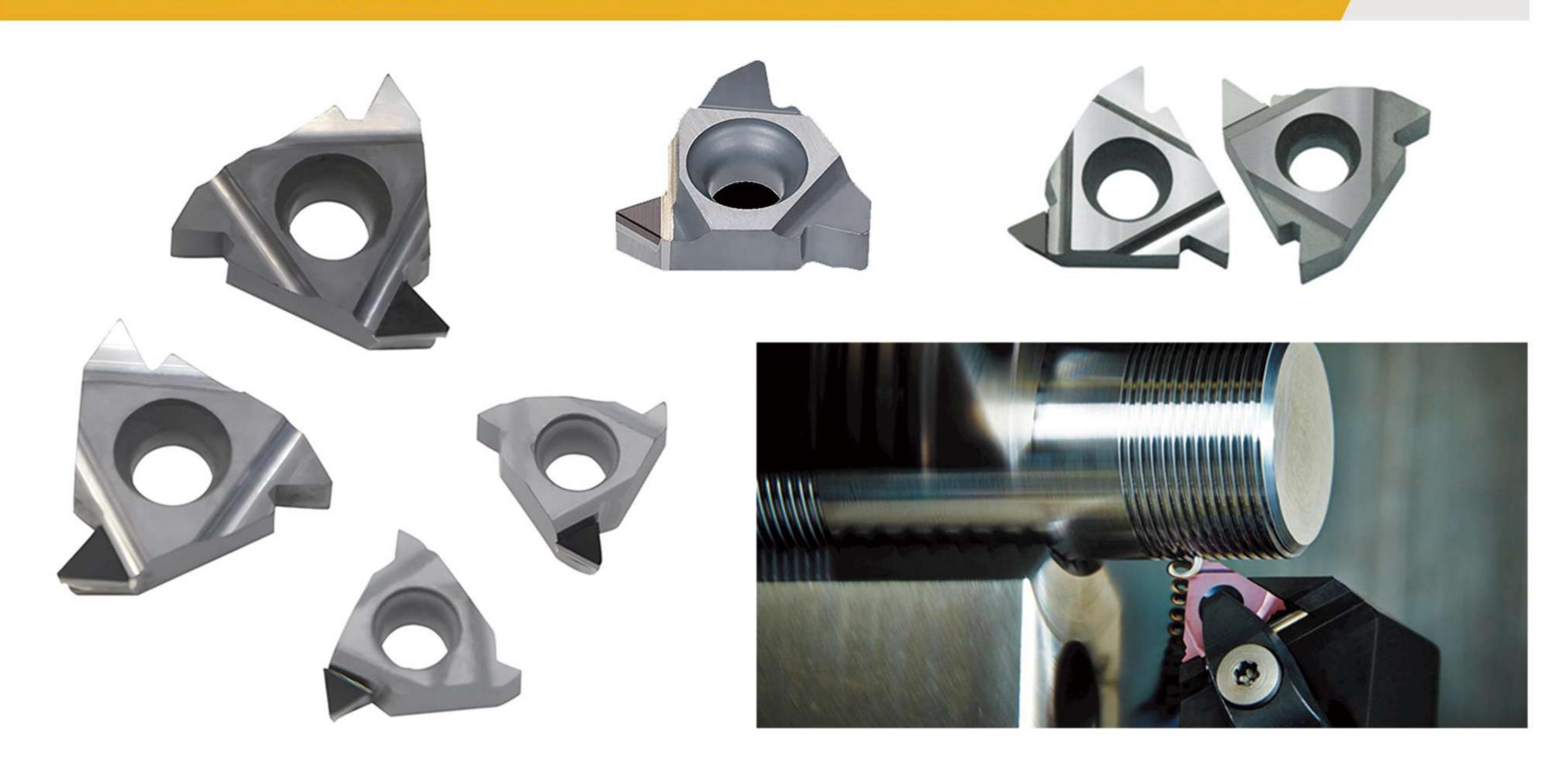


用于有色金属的精加工,具有高耐磨、抗冲击、不粘屑等特点。适用于批量生产线的加工,在发动机行业中针对压铸铝材质加工中得到广泛应用。由于 PCD 铣削刀具对铝合金材质具有优良的加工特性,今后也必将在加工行业中得到更全面地发展和推广。

Used for finishing of nonferrous metals, it has the characteristics of high wear resistance, impact resistance, and non-sticky chips. It is suitable for mass production line processing and is widely used in the engine industry for die-cast aluminum material processing. Since PCD milling tools have excellent processing characteristics for aluminum alloy materials, they will surely be more comprehensively developed and promoted in the processing industry in the future.



PCD PCBN 螺纹刀片 PCD/PCBN THREADING INSERTS



如今,特殊材料、高进给率和特定螺纹设计带来了许多加工问题。我们是您可靠的合作伙伴,可生产能够克服这些问题的 PCD/PCBN 刀片。常规螺距范围从 0.3 毫米到 38 毫米,我们的工程师始终可以为您的特定螺纹加工应用设计工具。

Today's exotic materials, high feeds rate and specific thread designs pose many machining issues. We are your reliable partner to produce an PCD/PCBN insert capable of overcoming these issues. From a .3mm to 38mm is routine thread pitch ranging, our engineers can design tooling for your specific threading application always.

钻铰刀具系列 PCD/PCBN DRILLING & T TOOLS



钻孔和铰孔是孔加工的常用方法。当您需要更精确的孔或耐用的孔加工工具时, PCD/PCBN 钻头、铰刀是理想的工具。有时, 我们将两个过程(钻孔和铰孔)合并到一个工具中, 以节省加工步骤和时间。选择我们的 PCD/PCBN 钻头和铰刀来精确加工您的工件!

Drilling & Reaming are common methods for hole processing. When you need a more prescise holes or a durable hole processing tools, PCD/PCBN drill, reamers are ideal tools. Sometimes, we combine two processes—drilling and reaming—into one tool to save processing steps and times. Choose our PCD/PCBN drill and reamers to process your workpieces precisely!



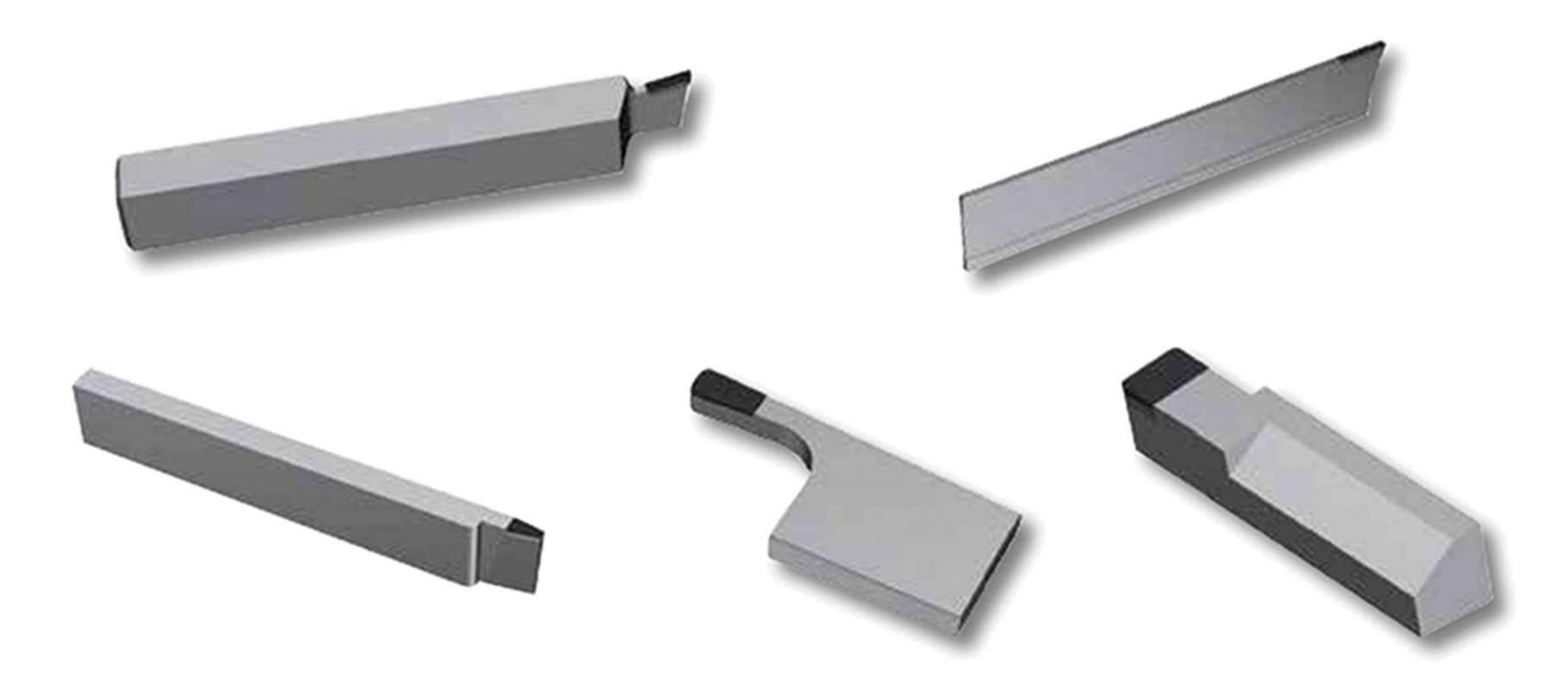
PCD/PCBN 镗刀 PCD/PCBN BORING TOOL



广泛应用于各机械行业的加工。其中汽车发动机阀座锥面、气门导管孔对其圆柱度、同轴度的要求非常严格,而PCD/PCBN镗刀系列 刀具高精度的加工不仅保证了气门的密封性,更保障了发动机的性能,同时提高了生产效率。

It is widely used in the processing of various mechanical industries. The requirements for the cylindricity and coaxiality of the valve seat cone surface and valve guide hole of the automobile engine are very strict, and the high-precision processing of the PCD/PCBN boring tool series not only ensures the sealing of the valve, but also guarantees the performance of the engine, while improving production efficiency.

PCD/PCBN槽刀 PCD/PCBN GROOVING TOOLS



在齿轮行业和空调压缩机行业中,PCBN系列槽刀主要针对淬硬钢和铸铁两类材质的精加工,如在齿轮HRC58-62硬度的加工过程中,可实现对齿轮的槽部、外径、内孔及端面的精加工,达到以车代磨的效果。而空调压缩机对加工刀具的精度要求严格,采用高耐磨性PCBN刀具。可提高表面的加工精度,节约了生产成本,提高了工作效率,目前淬硬钢和铸铁加工技术都已在此行业内广泛使用。

In the gear industry and air-conditioning compressor industry, PCBN series slot cutters are mainly used for finishing of hardened steel and cast iron. For example, in the processing of gears with HRC58-62 hardness, the slot, outer diameter, inner hole and end face of the gear can be finished, achieving the effect of turning instead of grinding. Air-conditioning compressors have strict requirements on the precision of machining tools, and use high-wear-resistant PCBN tools. It can improve the surface machining accuracy, save production costs, and improve work efficiency. At present, hardened steel and cast iron processing technologies have been widely used in this industry.



轮毂刀系列 WHEEL HUB TOOL SERIES





轮毂刀具采用PCD材质,具有良好的导热性能,耐冲击性极佳,可实现重切削及断续切削。而独特的刃部处理能在加工过程中实现挤压一车削工艺,可弥补铸造微孔的缺陷,在高速切削中,提高了切削的精度和表面的光洁度。

The wheel hub cutter is made of PCD material, which has good thermal conductivity and excellent impact resistance, and can achieve heavy cutting and intermittent cutting. The unique blade treatment can realize the extrusion-turning process during the processing, which can make up for the defects of casting micropores and improve the cutting accuracy and surface finish in high-speed cutting.

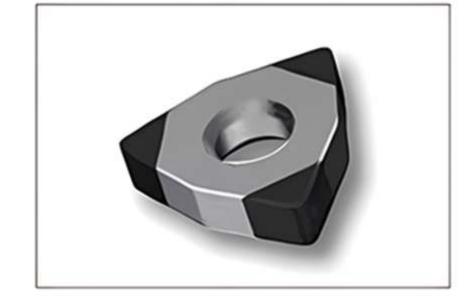
车削刀系列 BRAKE SYSTEM TRUNING TOOL SERIES

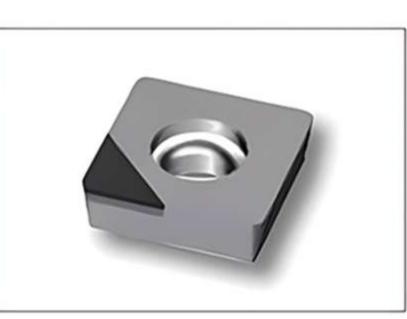
在轧辊和刹车盘的切削加工过程中,由于工件本身硬度较高,结构较为复杂,因此在加工时有较高的切削难度。而刀具性能和质量的优劣,直接影响切削加工的效率、加工精度和加工表面质量。由于该工件表层组织硬而脆,在加工过程中,选择 PCBN 整体焊接式刀具,可提高刀具使用寿命。

In the process of cutting rollers and brake discs, the workpieces are difficult to cut due to their high hardness and complex structure. The performance and quality of the tool directly affect the efficiency, accuracy and surface quality of the cutting process. Since the surface structure of the workpiece is hard and brittle, the workpieces are prone to damage during the machining process. Choosing PCBN integrally welded tools can increase the tool life.



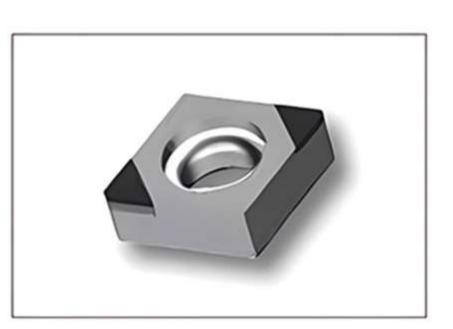


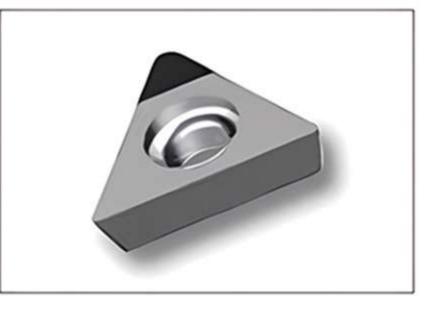


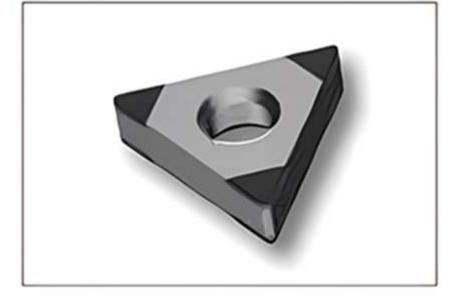














成型刀具系列 PCD/PCBN PROFILE TOOL SERIES



近年来,随着我国制造业的发展,各制造厂家在不断提高产品质量和性能的同时,更加关注零部件加工的效率和成本。

成型刀具系列具有使用性能稳定、生产效率高等特点,备受广大客户的青睐,为了满足不同客户的实际需求,我们一直致力于新产品的研发和升级,这些产品已广泛应用于航空航天、汽车制造、医疗器械等领域的加工,并取得显著效果。

In recent years, with the development of manufacturing industry, manufacturers have paid more attention to the efficiency and cost of parts processing while continuously improving product quality and performance.

The forming tool series has the characteristics of stable performance and high production efficiency, and is favored by customers. In order to meet the actual needs of different customers, we have been committed to the development and upgrading of new products. These products have been widely used in aerospace and automobile manufacturing., medical equipment and other fields of processing, and achieved remarkable results.

槽铣刀系列 PCD/PCBN GROOVE MILLING CUTTER SERIES



成型槽铣刀成功运用到槽铣中来,多根槽一次成型铣削,减少刀具使用及换刀次数,大大提高了加工效率。刀具中心出水设计,可以有效减少切削区域的加工热量,减少刀具磨损,使刀具拥有更长的加工寿命。

The profiled slot milling cutter is successfully applied to slot milling. Multiple slots can be profiled and milled at one time, which reduces the number of tool usage and tool changes, greatly improving processing efficiency. The water outlet design at the center of the tool can effectively reduce the processing heat in the cutting area, reduce tool wear, and make the tool have a longer processing life.



面铣刀系列 PCD/PCBN FACE MILLING CUTTER SERIES







精加工缸体主平面,采用切削刀片和修光刀片相组合的模式,切削刀片设计有负倒棱以满足双材质加工时所产生的大冲击力,防止刀具崩刃,最大限度的发挥刀具的使用寿命。修光刀片有多种刃型可选,以满足客户对表面 RZ、PT值的特殊需求。超短的交货期,简单的操作方法,更高的经济性,真正降低了客户的单件成本!

The main plane of the cylinder body is finely processed by combining cutting blades and wiper blades. The cutting blades are designed with negative chamfers to meet the large impact force generated when processing dual materials, prevent tool customers' special needs for surface RZ and PT values. Ultra-short delivery time, simple operation methods, and higher economy truly reduce customers' unit costs!

球头铣刀系列 PCD/PCBN BALLNOSE END MILLS



先进的成型刀具刃磨工艺,不仅可以保证球铣刀严格的圆弧精确,而且可以使每只刀具的一致性得到保证,以适应于双主轴加工使用要求,减少您的调机时间,以可靠的刀具质量实现更高的工艺安全性!轻快的切削加工环境保证无可挑剔的表面粗糙度,更长的刀具寿命满足您对高效率、高灵活性的需求!

The advanced forming tool grinding process can not only ensure the strict arc accuracy of the ball milling cutter, but also ensure the consistency of each tool to adapt to the requirements of dual-spindle processing, reduce your machine adjustment time, and achieve higher process safety with reliable tool quality! The light cutting environment ensures impeccable surface roughness, and the longer tool life meets your needs for high efficiency and high flexibility!



复合刀具系列 PCD/PCBN COMPOSITE PROFILE TOOL SERIES



采用国外进口超细微粒 PCD 材质及进口高端设备,可以刃磨出极高的刃口质量,更加锋利的切削刀刃降低了切削阻力和扭矩,使刀具在加工铝型材时能够拥有更高的使用寿命和表面质量。切割加工使用0.15MM超细的包锌丝,可以保证刃口内轮廓拐角、圆弧 0.075MM以内,从而能够保证要求极高的工件轮廓精度。

PCD成型复合刀具的巧妙设计,有效的避免了因机床主轴、工装夹具刚性不足所引起的振刀现象。加工尺寸高度集成化,一次进刀全部完成,大大提高了工艺的安全性和生产效率。

The use of imported ultra-fine particle PCD material and imported advanced equipment can sharpen the edge to a very high quality. The sharper cutting edge reduces the cutting resistance and torque, so that the tool can have a longer service life and surface quality when processing aluminum profiles. The tool edge cutting process uses 0.15mm ultra-fine zinc-coated wire to ensure that the inner contour corner and arc of the edge are within 0.075mm, thereby ensuring the extremely high contour accuracy of the workpiece.

The ingenious design of PCD forming composite tool effectively avoids the tool vibration caused by insufficient rigidity of machine tool spindle and fixture. The processing size is highly integrated and all the cutting is completed in one time, which greatly improves the process safety and production efficiency.





刀杆刀柄系列 ARBOR TOOL HOLDER SERIES



在专业生产超硬材料(PCD/PCBN)刀具等产品的同时,可以根据各类机械加工厂家的使用不同,生产制造非标类成套复合刀具、刀柄、刀杆、非标工装夹具等产品。

粗精加工凸轮轴孔,此方案中 PCD 材质不仅作为切削刃,也作为导向条的材质,充分利用 PCD 摩擦系数小的特点,高精度微调机构设计可以快速、简单的调节刀具尺寸到要求状态,高刚性锁紧压板提供强劲的压紧力,更高的工艺安全性加上特殊的出水孔设计,在深长孔加工中不仅可以保证凸轮轴孔的公差、圆度、同轴度还可以获得良好的表面粗糙度。

While specializing in the production of superhard material (PCD/PCBN) cutting tools, we can also produce non-standard sets of composite cutting tools, tool holders, tool rods, non-standard tooling fixtures and other products according to the different needs of various mechanical processing manufacturers.

In the rough and fine machining of camshaft holes, PCD material is used not only as the cutting edge but also as the material of the guide strip. The small friction coefficient of PCD is fully utilized. The high-precision fine-tuning mechanism design can quickly and easily adjust the tool size to the required state. The high-rigidity locking plate provides a strong clamping force. The higher process safety and the special water outlet design can not only ensure the tolerance, roundness and coaxiality of the camshaft hole in the deep and long hole processing, but also obtain good surface roughness.

BT 刀柄链接系列 BT SERIES TOOL HOLDER



集粗精加工活塞销孔、卡簧槽、孔口/孔底倒角为一体,一次换刀完成多道工序,效率更高, PCD 切刃磨损后可以提供修磨、换片服务。

It integrates rough and fine machining of piston pin holes, circlip grooves, and chamfering of hole mouths/bottoms. Multiple processes can be completed in one tool change, which is more efficient. After the PCD cutting edge is worn, it can provide grinding and blade replacement services.



HSK、HFS 链接方式系列 HSK、HFS SERIES TOOL HOLDER



随着机床装备业和机械制造业的不断发展,HSK、HFS 链接市式的 PCD 刀具应用更加广泛。 例如:该系列力具用于汽车发动机缸盖气门导管、座圈底孔及导管孔、座圈锥面、变速箱壳体等部位的加工。

在加工过程中,HSK、HFS 链接方式的 PCD 刀具以锥面和端面与机床主轴拉紧链接,重复装夹定位准确,适用高速切削,有更可靠的稳定性、刚性,实现高精高效的加工。

With the continuous development of machine tool equipment industry and machinery manufacturing industry, HSK and HFS linked PCD cutting tools are more widely used.

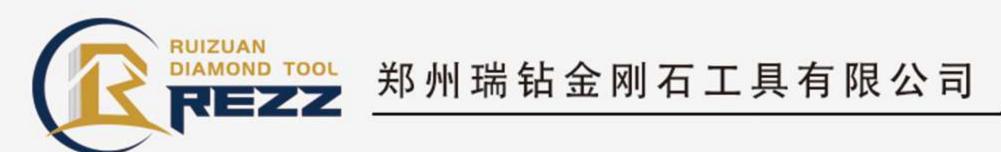
For example: This series of tools are used for processing automobile engine cylinder head valve guides, seat ring bottom holes and guide holes, seat ring cone surfaces, gearbox housings and other parts.

During the machining process, the PCD tools with HSK and HFS connection methods are tightly connected to the machine tool spindle with the conical surface and end face. They can be repeatedly clamped and positioned accurately, are suitable for high-speed cutting, have more reliable stability and rigidity, and achieve high-precision and efficient machining.



可根据客户不同的机床刚性选配热缩式、一体式、法兰盘转接式等不同的刀柄接口。刀具出厂预设动平衡等级 G2.5,并带有内冷孔,提高刀具使用寿命。

Different tool holder interfaces such as heat shrink, integrated, and flange adapter can be selected according to the rigidity of different machine tools. The tool is factory preset with dynamic balance level G2.5 and has internal coolant holes to increase tool life.



刀具客户咨情表

Cutting Tools Questionnaire

各尸基本资料 Customer Basic:	
公司/Company Name:	联系人 Contact:
地址 Address:	电话 Phone:
工件详情 Workpiece Detais:	
工件名称 Workpiece Name:	工件材料 Workpiece Materials:
材料硬度 Material Hardness:	图纸 Drawing:
加工情况 Processing Details:	加工工序 Processing procedures:
加工余量 Machining allowance:	其他要求 Other Requests:
技术参数 Technical Parameters: 机床品牌及型号 Machine Brands+Types:	
冷却方式 Cooling method: 冷却方式: □ 水Water □ 油Oil □ 3	≥气Air
切削参数 Cutting Parameters: 切削线速度 Cutting Linear Speeds: m 进给量 Feeding Rates:mm/n	/min 切削深度 Cutting Depth: mm
切削方式 Cutting Methods: 连续切削 Continious Cutting	□ 断续切削 Interrupt Cutting
目前使用刀具情况 Current Tool Detail	s:
	Brand: 型号 Code:
刀具材质 Tool Materials:	
□ 高速钢 HSS Steel □ 硬质合金 Tu	ngsten Carbide
□ 聚晶金刚石 PCD □ 立方氮化硼 I	PCBN 天然金刚石 Natural Diamond
□ 单晶金刚石 MCD □ 人造金刚石C	:VD
目前刀具表现 Current Tool Perfoman	ce:

郑州瑞钻金刚石工具有限公司 ZHENGZHOU RUIZUAN DIAMOND TOOL CO., LTD.







INNOVATION

EFFICIENT

EXCELLENCE







