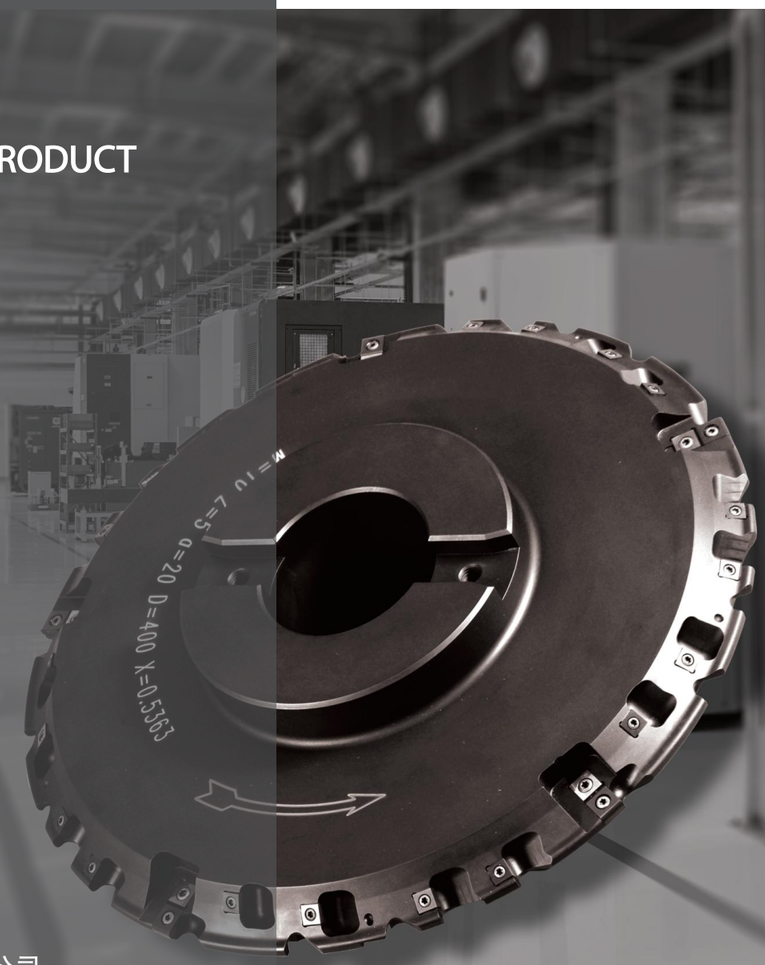
SOFTOOL

定制品样册

G—型线刀具

CUSTOMIZED PRODUCT
CATALOGUE

G ——
PROFILE
CUTTER



百斯图工具制造有限公司
SOFTOOL MANUFACTURING CO., LTD.

2022 -V01

百斯图工具制造有限公司

022-60379917

天津市武清区京滨工业园京滨大道99号

SofTool.sale@cxtc.com

www.xtc-bestool.com

公众号二维码　　视频号二维码

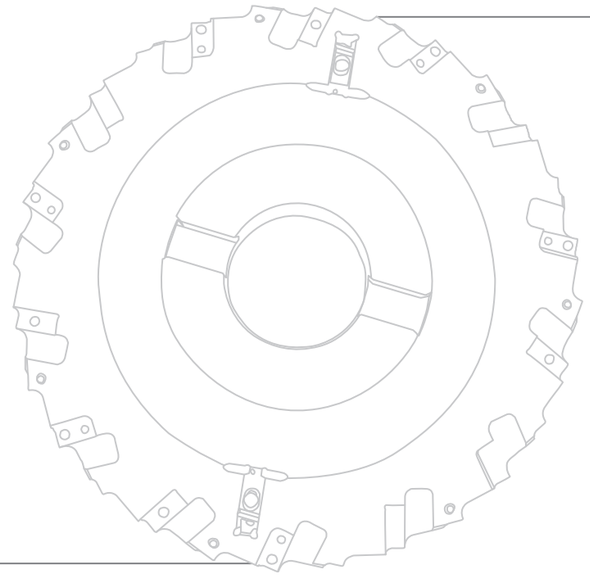
SOFTOOL

定制品样册

G—型线刀具

CUSTOMIZED PRODUCT
CATALOGUE

G - Profile Cutter



公司简介
COMPANY PROFILE

百斯图工具制造有限公司位于天津京滨工业园区，隶属于厦门钨业集团股份有限公司，新厂进行现代规模化投资并于2020年底投入使用。新厂配有多条自动化标准品产线，配备全套进口热处理、表面处理设备线，年产能达60万件，是一家专注于金属切削刀体的高新技术企业。

As a member of Xiamen Tungsten Co., Ltd., SofTool Manufacturing Co., Ltd. is located in Jingbin Industrial part in Tianjin. With modern scale investment, the new plant has been put into use at the end of 2020. With multiple automated production lines, a full set of top-end imported heat treatment, surface processing equipment lines, the annual production capacity is expected to reach 600 thousand pieces, we are a high-tech enterprise focusing on metal cutting tool bodies.

集产品研发、工艺设计、生产制造、OEM/ODM代工、产品销售为一体的钢制品制造企业，为全球客户专业提供PSC车刀体、铣刀体、钻杆、镗刀体、液压刀柄、热装刀柄、曲轴、型线刀具等产品及个性化专属解决方案，产品应用覆盖了风（核）能发电、模具制造、汽车、工程机械、铁路、

As a steel product manufacturing enterprise integrating product research and development, process design, manufacturing, OEM/ODM, and product sales, we provide professional cutter tools and personalized and exclusive solutions for PSC turning tool bodies, milling tool bodies, drilling stem, boring tool bodies, shrink chuck, hydraulic chuck, crank shaft for global customers. Our products are applied in wind (nuclear) power generation, mold manufacturing, automobiles, construction machinery, railways, petro-chemicals and other fields.

愿景 Vision

构建全球刀具行业的协助平台，
成为世界最具影响力的刀体制造企业。

To build a global synergistic platform
for the cutting tools,
to be one of the most influential tool
body manufacturing companies.

使命 Mission

引领刀体行业的健康发展；
助力刀具企业的产业升级。

Leading the healthy development for
the tool body industry;
expediting the industrial upgrades
for the tooling companies.

核心价值观 Core Value

以品质铸就企业，
以利益回馈客户，
以价值成就员工。

To build the company with quality,
to reward customers with benefits,
to cultivate employees with value.

品牌标语 Slogan

是刀具更是艺术。

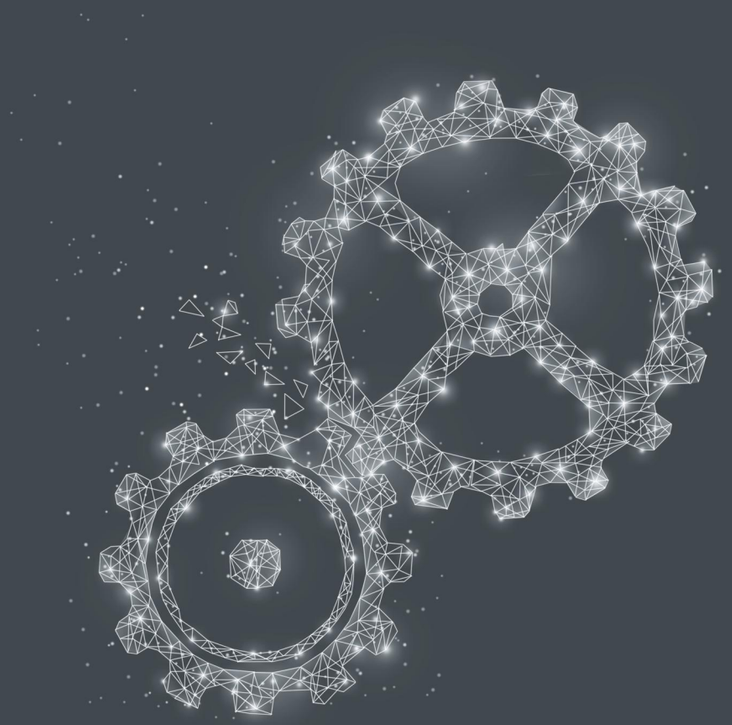
Tooling also arts.

FIRST-RATE SERVICE

优质服务
FIRST-RATE SERVICE

恪守“品质优先 客户至上”的服务宗旨，利用技术、产能和规模优势，为客户提供质量稳定的产品和交付快捷的服务。

Adhering to the service tenet of quality-oriented, customer first, we take advantage of technology, capacity and scale to provide customers with stable quality products and fast delivery services .



精湛技术
EXCELLENT TECHNOLOGY

经验丰富的技术人才、高端设计仿真平台、先进工艺控制流程、国际进口数控设备、系统信息化管理，为客户攻坚克难，提供刀体解决方案。

In order to provide cutting tools solution and overcome difficulties for customers, experienced technical talents, high-tech design simulation platform, advanced controlling process, International imported CNC equipment, as well as system information management are integrated.

EXCELLENT TECHNOLOGY

SUPER-LARGE SCALE

超大规模
SUPER-LARGE SCALE

自动化生产线、高端进口热处理、表面处理加工设备线、投资10亿、年产能60万件，满足客户对产品的多种工艺需求。

Providing customers with various processing skills, such as automated production line, top-end imported heat treatment, surface processing equipment line with 1 billion investment and 600 thousand capacity to meet multiple demands.

序言 PREFACE

非常感谢各位查阅百斯图2022年综合样册。

本样册由标准品系列样册/OEM系列样册/定制品系列样册三大类组成，共包含7本产品样本，详见综合目录。

关于本产品样册中刊载的产品内容，由于进行研究开发改良，实际产品规格可能与产品样册中的规格有所不同，以产品实际情况为准，请予以理解。

* 本样册所刊载的所有产品均支持OEM贴牌业务。

关于所刊载的产品，用如下标识表示供货情况：

● 可供现货　　▲交货时间短　　○按需求定制

Thank you very much for using the comprehensive brochure from SofTool in 2022.

The brochure is composed of three categories: standard product series Catalogue, OEM series Catalogue, tailormade product series Catalogue. It contains 7 product sample books in total. Please refer to the comprehensive Catalogue for details.

Due to the research, development and improvement, the actual product specifications may be a little different from the content in the product catalogue. The actual product will be taken as final. We highly appreciate your kind understanding.

* Regarding the published products, please refer to the availability as follows.

The published products are labeled with following logos:

● available in stock　　▲ short lead time　　○ on request

综合目录
COMPREHENSIVE CATALOG

I

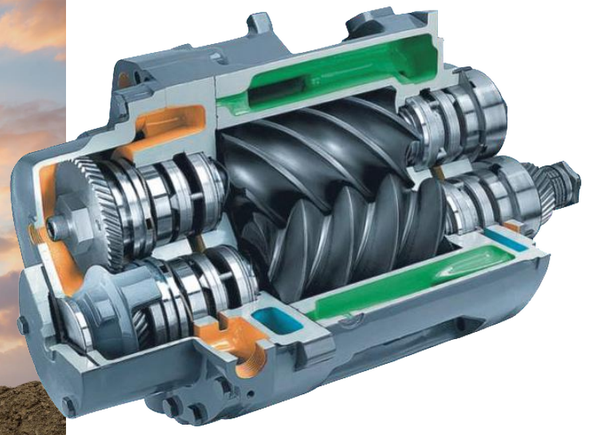
标准品样册	Standard Product Catalogue	
A 液压刀柄	Hydraulic Chuck	
B 热装刀柄	Shrink Chuck	
C 镗刀体	Boring Tool Body	
D PSC产品	PSC Product	

II

OEM样册	OEM Catalogue	
E OEM产品	OEM Product	

III

定制品样册	Customized Product Catalogue	
F 曲轴刀具	Crankshaft Cutter	
G 型线刀具	Profile Cutter	01-14



专业制造齿轮加工刀具，你可靠的合作伙伴！

Professional manufacturer of gear machining tools, your reliable partner!

齿轮在机械领域的使用范围十分广泛，无论是在传递大扭矩高载荷，还是在改变动力传递方向上，都起到十分重要的作用，尤其是在航空航天、风电、船舶等行业，齿轮在其中起着不可替代的作用。

Gear is widely used in the mechanical field. It plays a very important role in the transmission of large torque and high load, or in changing the direction of power transmission. Especially in the aerospace, wind power, shipbuilding and other industries, the gear plays an irreplaceable role.

作为齿轮加工的刀具只有比齿轮有着更高的精度要求，才能满足现代智能化的机械制造。作为国内高端刀具制造商的百斯图工具制造有限公司，在引进、吸收，改进国外先进齿轮刀具技术的同时，不断进行自我创新的提高和技术改善，并弥补了目前国内在齿轮铣削刀具方面的市场空缺，公司在可转位齿轮铣刀、滚刀、压缩机螺杆铣刀方面，具备了高精的制造能力以及技术设计水平。为推动刀具国产化，在不断努力前行。

As a gear processing tool, only with higer precision than gears can it meet the modern intelligent macginery manufacturing. As the high-end tool manufacturer in china, SofTool Manufacturing Co., Ltd. has continuously carried out self-innovation and technological improvement while introducing, absorbing and improving foreign technology of gear cutting tools, and has made up for the current domestic production in gear milling tools. With high-precision manufacturing capabilities and technical design levels in indexable gear milling cutters, hob cutters, and compressor screw milling cutters, we do continuons efforts to promote the domestication of cutting

百斯图依托厦钨集团共同研发了齿轮铣刀具刀片，在刀片材质、刀片涂层及槽型的开发方面，都具备了行业先进的技术水平。

Based on Xiamen Tungsten Co., Ltd. SofTool has jointly developed the gear milling cutter inserts. Has the advanced technology level, which in terms of insert material, insert coating and groove development.

公司致力于为客户提供性能更稳定，经济性能更好，同时能满足客户不同的工件及加工精度要求的刀具，有效的降低了客户的生产成本，提高了生产效率。

百斯图齿轮铣刀刀具为您提供优质的产品质量及服务。

Our company is committed to providing customers tools with more stable performance, better economic performance, and meeting different workparts and processing precision requirements. It effectively reduces the production cost of customers and improves production efficiency.

SofTool Gear milling tool provides you quality product and service.

型线刀具 Profile Cutter

齿轮铣刀与滚刀的选择

▶▶ CHOICE FOR GEAR MILLING CUTTER AND HOB CUTTER

齿轮铣刀与滚刀都可以满足齿轮的加工需求，如何选择这两种刀具？

取决于齿轮的齿数及批量。当齿轮模数较大、齿数较多，批量较多时滚刀效率更高，反之，齿轮铣刀更合适。

Gear milling cutters and hob cutters can meet the processing needs of the gear. How to choose these two cutters?

It depends on the number of teeth and batch of the gear. When the gear module number is larger, with more teeth and more batch, the hob cutter effeciency is higher. Otherwise, the gear milling cutter is more suitable.

▷ 齿轮铣刀加工范围 | Gear milling cutter processing range

铣刀的优点 | The advantages of Gear milling cutter

- **比可转位滚刀投资成本低**
- **可用于加工内外圆柱齿轮**
- Less than indexable hob cutter investment cost
- It can be used to process the inner and external cylindrical gears

模数 | Modulus

- **6-30**

精度等级 | Accuracy class

- **最高7级**
- The highest, level 7

▷ 滚齿刀加工范围 | Hob cutter processing range

滚刀的优点 | The advantages of Hob cutter

- **可实现最高生产效率**
- **齿数不受限制**
- Maximum production efficiency can be achieved
- The number of teeth is not limited

模数 | Modulus

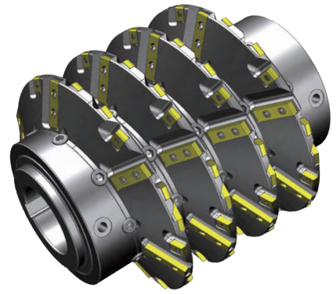
- **6-30**

结构 | Structure

- **单头和双头**
- **整体式和分体式**
- Single head and double head
- Integral and split

精度等级 | Accuracy class

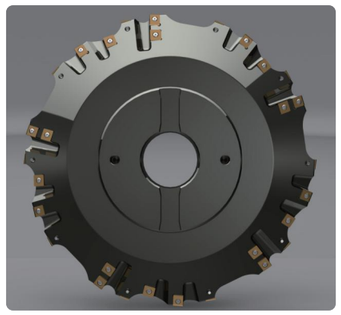
- **从C-B-A-AA**
- From B/C level to AAA/A



型线刀具 Profile Cutter

齿轮粗铣刀

▶▶ GEAR ROUGH MILLING CUTTER



齿轮粗铣刀用于圆柱式齿轮的毛坯粗开，刀具采用合理的型线设计以及高性能的铣削刀片，使刀具整体稳定性高，切削平稳。从而为齿轮加工提供更高的进给率，更优化的金属去除率和优异的刀片寿命。

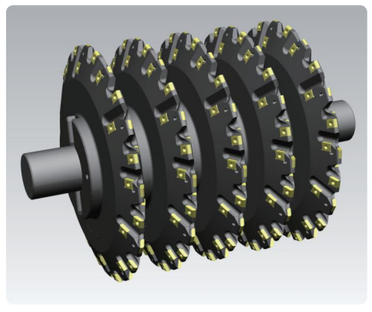
Gear rough milling cutter is used for the rough cutting of cylindrical gear. The cutter adopts reasonable profile design and high performance milling inserts, which makes has high overall stability and stable cutting. This provides higher feed rate, more optimized metal removal rate and excellent insert life for gear machining.

应用案例 Application cases

零件：齿轮	Part : Gear
模数：20	Module：20
压力角：20°	Pressure Angle：20°
齿数：134	Number of teeth：134
齿轮宽：240mm	Gear width：240mm
齿轮外径：1980mm	Gear diameter：1980mm
被加工材料：42CrMo	Processing materials：42CrMo
刀具参数：外径 = 420mm 有效切削刃齿数 = 6	Tool parameters：Cutter diameter = 420mm Effective cutting teeth = 6
切削参数：切削深度 = 20 mm 切削速度 =120m/min 进给量 = 280mm/min 每齿进给量 = 0.4mm	Cutting parameters: Cutting depth = 20 mm Cutting speed =120m/min Feed rate = 280mm/min Feed per tooth = 0.4mm

多盘式齿条铣刀

▶▶ MULTI-DISC RACK MILLING CUTTER



多盘式齿条铣刀适用于批量工件的粗加工与精加工，通过精心设计的连接方式将两个或多个高性能铣刀盘组合在一起，易于安装，并具有极好的重复装夹精度，与传统的高速钢及粉末冶金刀具相比，大大的提高了生产效率及刀具寿命。

Multi-disc rack milling cutter is suitable for roughing and finishing for bath workpieces. Combining two or more high-performance milling cutter discs by means of a well-designed connection, it owns easy installation and excellent repeated clamping accuracy. Compared with traditional HSS and powder metallurgy tool, the production efficiency and tool life are greatly improved.

优点	Advantages
较高的生产效率	Higher production efficiency
较长的刀具寿命	A longer tool life
可设计成内冷刀盘	Can be designed as internal cooling cutter
易于更换刀片	easily replace inserts

齿轮精铣刀

▶▶ GEAR FINISHING CUTTER

齿轮精铣刀用于圆柱式齿轮的精加工，合理的刀片分布，全磨制的刀片，有效的增加了刀具寿命，减少切削热，提高表面光洁度，精度最高可达7级。

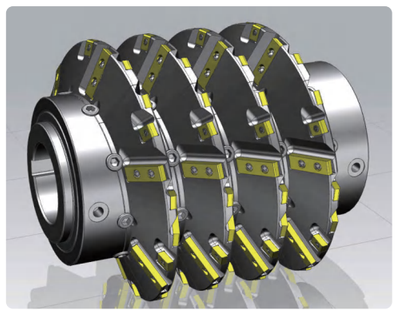
Gear finishing cutter is used for the finishing of cylindrical gear. Reasonable reasonable inserts distribution, full-ground edges, effectively increases tool life and reduces cutting heat, Improve the surface finish with up to 7-level accuracy.

应用案例 Application cases

零件：齿轮	Part：Gear
模数：20	Module：20
压力角：20°	Pressure Angle：20°
齿数：134	Number of teeth：134
齿轮宽：240mm	Gear width：240mm
齿轮外径：1980mm	Gear diameter：1980mm
被加工材料：42CrMo	Processing materials：42CrMo
刀具参数：外径 = 420mm 有效切削刃齿数 = 8	Tool parameters：Cutter diameter = 420mm Effective cutting teeth = 8
切削参数：切削深度 = 40 mm 切削速度 =140m/min 进给量 = 280mm/min 每齿进给量 = 0.4mm	Cutting parameters：Cutting depth = 40 mm Cutting speed =140m/min Feed rate = 280mm/min Feed per tooth = 0.4mm

可转位刀片滚刀

▶▶ INDEXABLE HOB CUTTER



可转位滚刀，实现了稳定可靠的生产加工，可用于外齿轮的粗加工到精加工，模块化设计让客户更换刀片更为方便快捷，较高的切削速度，再大大的提高了加工效率的同时也提高了轮廓表面质量，滚刀覆盖模数25。让切削更经济。

The indexable hob cutter realizes stable and reliable production and processing. It can be used for roughing and finishing of external gears. The modular design makes it easier and faster for customers to replace the inserts. The higher cutting speed not only greatly improves the processing efficiency, but also improves the surface quality of the contour. The hob covers modules 25, making cutting more economical.

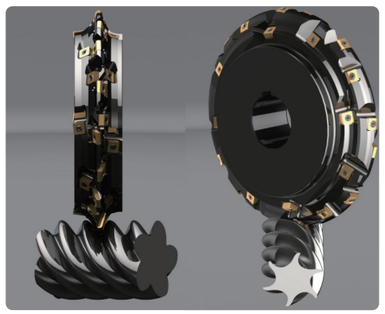
应用案例 Application cases

零件：齿轮	Part : Gear
模数：18	Module：18
压力角：20°	Pressure Angle：20°
齿数：101	Number of teeth：101
齿轮宽：150mm	Gear width：150mm
齿轮外径：1818mm	Gear diameter：1818mm
被加工材料：50Mn	Processing materials：50Mn
刀具参数：外径 = 300mm 有效切削刃齿数 = 24	Tool parameters：Cutter diameter = 300mm Effective cutting teeth = 24
切削参数：切削深度 = 22.5 mm 切削速度 =120m/min 轴向进给量 = 4mm/r	Cutting parameters：Cutting depth = 20 mm Cutting speed =120m/min Feed per tooth = 4mm/r

型线刀具 Profile Cutter

螺杆压缩机转子铣刀

▶▶ SCREW COMPRESSOR ROTOR MILLING CUTTER



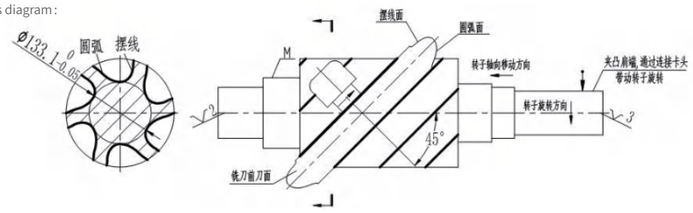
螺杆铣刀应用于压缩机阴阳转子的粗加工及精加工，小尺寸刀片在阴阳转子上均为通用，另外我们为客户提供了优化设计，专用的生产及检验设备，确保型线误差最小化。

Screw milling cutter is used in roughing and finishing of compressor female and male rotor. The small size inserts are universal in femal and male rotor. In addition, we provide customers with optimized design and special production and inspection equipment to ensure the minimization of profile error.

应用案例 Application cases

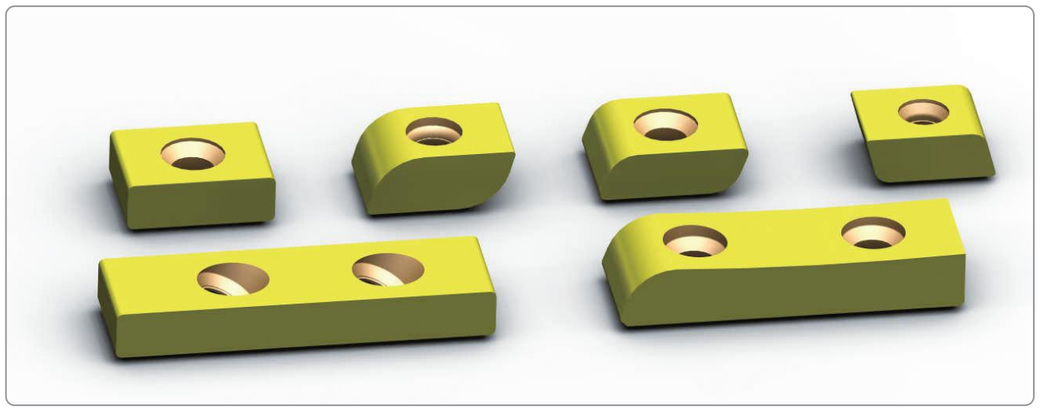
零件：螺杆压缩机转子	Part: Screw compressor rotors
粗铣齿形	Rough milling tooth
被加工材料：QT600-3	processing materials：QT600-3
刀具参数：外径 = 250mm 有效切削刃齿数 = 2	Tool parameters：Cutter diameter = 250mm Effective cutting teeth = 2
切削参数：切削速度 =110m/min 进给量 = 150mm/min	Cutting parameters: Cutting speed =120m/min Feed rate = 150mm/min

工艺简图 | Process diagram：



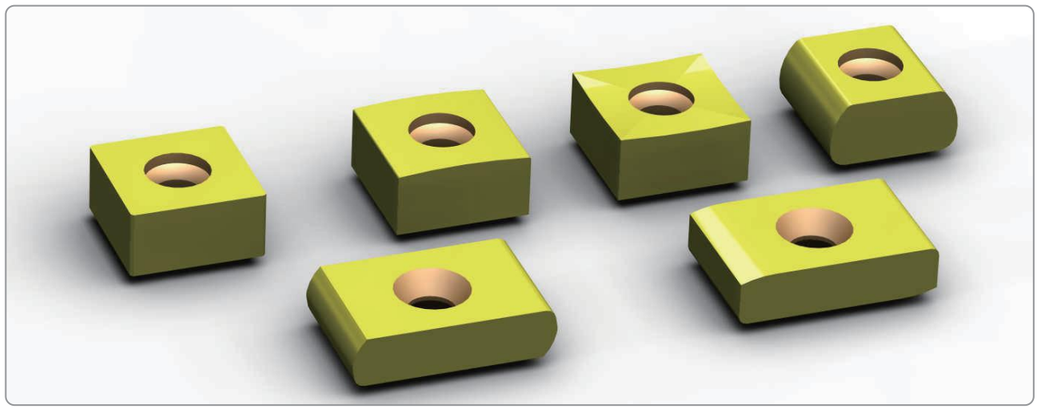
齿轮加工刀片

▶▶ GEAR CUTTING INSERT



螺杆压缩机转子铣刀刀片

▶▶ SCREW COMPRESSOR ROTOR MILLING CUTTER INSERT



可根据客户需求单独定制

Can be customized on request

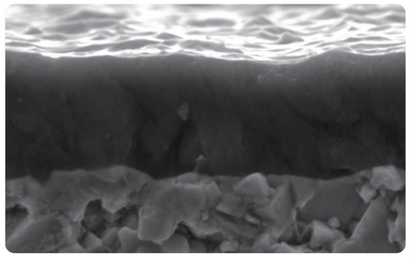
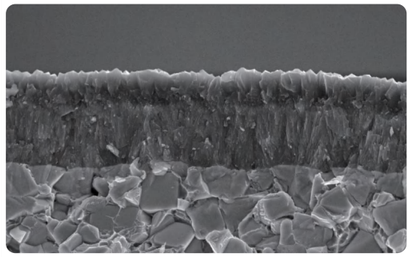
型线刀具 Profile Cutter

齿轮铣削用刀片牌号简介

▶▶ GEAR CUTTING INSERT GRADE

公司拥有GA4230、GM2140、GK2115、GP4225等不同牌号的刀片，满足于客户不同材质工件的加工。

SofTool has GA4230, GM2140, GK2115, GP4225 and other different grades to satisfy customers with the processing of different materials.

牌号 | Grade	GA4230	GM2140
组织形貌 Tissue shape		
特点 | Features	采用全新升级TiAlN+涂层具有优异的耐热性和耐氧化性，与高耐磨损性与耐破损性的硬质合金基体结合强度高，实现对中低硬度的钢材及铸铁的加工。 The new upgraded TiAlN+ coating has excellent heat resistance and oxidation resistance. Highly combining with carbide matrix of high wear resistance and damage resistance, it realizes the processing for medium and low hardness steel and castion.	采用全面升级的MT-TiCN+ Al2O3涂层 搭配高强度细晶硬质合金基体，兼备耐磨性、韧性及热稳定性，适用于调质钢、非调制钢，球墨铸铁，灰口铸铁等多种材料的加工，高硬度材料的首选牌号。 Fully upgraded MT-TiCN+ Al2O3 coating with high strength fine crystal carbide matrix, both wear resistance, toughness and thermal stability, suitable for the processing of adjustable steel, non-modulated steel, ductile cast iron, gray cast iron and other materials, the preferred license number of high hardness materials.

注意事项与维修服务

▶▶ 错误的使用刀具可能导致危险的事情发生，为了防止意外情况的发生，请务必认真阅读以下的注意事项。

- 在安装刀具时请不要将手直接与刀片切削刃接触避免划伤。
- 请安装刀片之前，需要对刀片槽进行清理，确保刀片槽内无铁屑、灰尘等。
- 建议使用我公司扭矩扳手，以保证每一个刀片获得相同的夹紧力，获得稳定及较长的刀具寿命。
- 请勿接触旋转中的刀具。
- 加工时请穿戴防护服及护目镜，防止飞溅的高温铁屑的伤害。
- 保存刀具前，请将刀具上的铁屑、切削液、灰尘等进行清理，并进行防锈处理，放置到指定位置。

▶▶ 当您购买百斯图刀具时，我们除了保证您得到高品质的产品、优秀的服务，还提供给您维修服务。

▶▶ 即使您严格按照流程操作，不同的原因也会导致刀具的损坏，百斯图将为您提供价格便宜，快速及细致全面的维修服务，刀具修理完全按照新刀的标准控制，以保证您的产品质量。

▶▶ 百斯图一直以来秉承持续改进、不断创新的理念，以提供最好的刀具服务，帮客户实现企业价值为使命，期待与您的合作。

INSTRUCTIONS AND MAINTENANCE SERVICE

▶▶ The wrong use of cutter can lead to dangerous things. To prevent accidents, please read the following precautions carefully.

When installing the cutter, please do not directly touch the cutting edge of the insert to avoid scratches.

Before installing the insert, clean the pockets to ensure no iron chips, dust, etc.

It is recommended to use our torque wrench to ensure the same clamping force of each insert for stable and longer tool life.

Do not touch the rotating tools.

Please wear protective clothing and goggles during processing to prevent damage from splashing high temperature iron filings.

Before saving the cutter, clean the iron chips, cutting □uid, dust on the cutter, make anti-rust treatment and place it in the speci□ed position.

▶▶ When you buy SofTool cutters, we provide you high-quality products, excellent service as well as maintenance services.

▶▶ Even if you strictly follow the process, di□erent reasons will cause damage to the cutter. SofTool will provide you with cheap, fast and comprehensive maintenance service, tool repair is completely controlled by the standard of the new cutter to ensure the quality of your product.

▶▶ Adhering to the concept of continuous improvement and innovation, with the mission of providing best tool and service and helping customers achieve value, SofTool is looking forward to cooperating with you!