国机集团

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品质源于
1956

求实创新，追求卓越
PRAGMATIC INNOVATION
THE PURSUIT OF EXCELLENCE

金属陶瓷
轴承刀具
Cermet Bearing Cutting Tool

国机集团

成都工具研究所有限公司
CHENGDU TOOL RESEARCH INSTITUTE CO.,LTD

COMPANY PROFILE

公司简介

成都工具研究所有限公司（以下简称“工具所”）1956年创建于北京，是原国家机械工业部直属的我国机械行业唯一的综合性工具科研开发机构，1965年内迁至成都。1998年经国家科技部批准，成为“国家精密工具工程技术研究中心”和“国家工具生产力促进中心”的依托组件单位。1999年转制为科技型企业，进入中国机械工业集团有限公司。

Chengdu Tool Research Institute Co.,Ltd (hereafter CTRI) is founded in 1956 and formally under the direction of China's Machinery Ministry as the sole comprehensive tool researching and scientific developing institution of China's Machinery industry. CTRI moved to Chengdu in 1965. Approved by Ministry of Science and Technology, CTRI became the supporting institution of State Precision Tool Engineering Technology Research Center in 1998. It was later approved into China National Machinery Industry Corporation (SINOMACH) and transformed to a scientific and technological enterprise in 1999.

工具所主要从事精密切削刀具、精密测量仪器和表面改性技术三大类机械产品共性技术研究及其高新技术产品的开发与生产。已形成了以硬质合金石油管螺纹梳刀为主导并逐步发展了轴承刀具、超硬刀具、数控刀具、深孔加工刀具、汽车刀具、型线刀具、配套刀具、齿轮测量仪器、主动量仪、激光干涉仪、工具专机以及PVD、CVD、PCVD涂层技术服务、QPQ盐浴复合处理技术与装备等多种产品并存的产业结构。

CTRI is mainly engaged in precise cutting tools, measuring instruments, surface modified technique and advanced technological products. With the leading development of carbide chasers for oil pipe, CTRI extends products varieties for more industry structures, including bearing inserts, PCD/CBN cutting tools, CNC cutting tools, deep hole machining tools, automobile cutting tools, profile cutting tools, coupling tools, gear tester, in process gauge, calibration laser interferometer, special machines, and PVD, CVD, PCVD coating technical service, QPQ salt bath treatment technology and equipment.

行业地位

Industry Status

成都工具研究所是我国工具行业科研、技术的领头羊、行业归口所，以下组织挂靠在我所：

Chengdu Tool Research Institute is a leading scientific research and technology center in China tool industry. It also works as a supporting institute for the following organizations:

中国机械工业金属切削刀具技术协会
China metal cutting tool Engineering Association
中国机床工具工业协会工具分会
China Machine Tool & Tool Builder's Association Tools Branch
中国仪器仪表学会机械量测试仪器学会
China Instrument and Control Society
国家刀具质量监督监测中心
National Tool Quality Supervision and Monitoring Center
机械工业量具量仪产品质量监督检测中心
Mechanical industrial measuring instrument products Quality Supervision Testing Center
国家进出口商品检验局刀具认可实验室
China Import and Export Commodity Inspection Bureau tool accredited laboratory
国家进出口商品检验局量具量仪认可实验室
China Import and Export Commodity Inspection Bureau measuring instrument for Laboratory Accreditation
科技成果检测鉴定国家级检验机构（刀具）
Scientific and technological achievements identification of national inspection agency (tool)
科技成果检测鉴定部级检验机构（量具量仪）
Science and technology achievements inspection level inspection agency (measuring)
全国刀具标准化技术委员会秘书处
The tool Standardization Technical Committee Secretariat
全国量具量仪标准化技术委员会秘书处
The measuring tool and instrument Standardization Technical Committee Secretariat
ISO/TC 29 （工具）P成员国内归口单位
ISO/TC 29 (tool) P members internally controlled unit
ISO/TC213 （产品的几何和几何技术规范及检验）P成员国内归口单位
ISO/TC213 (geometry and geometry specification and inspection of products) P members internally controlled unit
CNACL 国家认可实验室
CNACL National Laboratory Accreditation
《工具技术》杂志社
Tool Engineering
国家精密工具生产力促进中心
National Precision Tool Productivity Promotion Center
中国机械工业金属切削刀具技术协会
China metal cutting tool Engineering Association
中国机械工程学会生产工程分会切削专业委员会
China Institute of mechanical engineering, production engineering branch, cutting Committee
四川省机械工程学会机加工专业委员会
Sichuan Mechanical Engineering Society Machine processing professional committee

品质源于
1956

科研成果
Scientific Achievements

自成都工具研究所成立以来，主要取得以下科研成果：

Followings are main scientific achievements since the foundation of CIRT :

一、国家发明奖三项：

Three National Invention Awards

齿轮整体误差测量新技术 发明二等奖

The second prize in new technology of integrated error measuring gear Invention

单晶金刚石钎焊工艺及焊料 发明二等奖

The second prize in mono-crystalline diamond brazing technology and solder Invention

无锡易磨高性能高速钢 发明三等奖

The third prize in Wuxi easy grinding high speed steel

二、国家科技进步奖八项

Eight "the national science and technology progress awards"

量具刀具产品标准的制定和贯彻 二等奖

The second prize in The formulation and implementation of measuring tool products standard

中模数硬质合金齿轮滚刀 三等奖

The third prize in the module of carbide gear hob

立方氮化硼聚晶机理及其应用 三等奖

The third prize in PCBN mechanism and application

涂层硬质合金刀片成套技术及装备研究 三等奖

The third prize in researching coated carbide inserts integrated technology and equipment

QPQ盐浴复合处理技术及成套设备 二等奖

The second prize in composite treatment technology for QPQ salt bath and complete sets of equipment

机电一体化发展预测与综合分析（合作项目） 三等奖

The third prize in Electromechanical integration development prediction and comprehensive analysis (cooperated projects)

材料动态断裂性能研究及其在典型机械零部件上的应用（合作项目） 三等奖

Research on dynamic fracture properties of materials and its application in the typical mechanical parts on the (cooperated project) the Third prize

机械工业共性数据库（合作项目） 二等奖

The second prize in Machinery industry common database (cooperated projects)

三、省部科技进步奖

The Provincial Department of science and Technology Progress Award

121项（略）

121 items (omission)

人力资源
Human Resources

全所共有职工500余人，其中科技人员320人，有突出贡献的国家级专家3人，享受国家政府津贴26人，省部级专家15人，研究员级高级工程师27人，高级工程师103人，高级会计师、高级经济师10人、中级技术人员140人，硕士研究生14人，大中专生146人，专业涉及机械、金属材料、电子、计算机、机电一体化等专业。

CTRI presently has almost 500 employees, 320 of whom are technical staff, 3 state-level experts with outstanding contribution, 26 recipients of government special allowance, 15 ministerial level experts, 27 professor level senior engineers, 103 senior engineers, 10 senior accountants and senior economists, 140 intermediate technical staff , 14 with master degree, 146 with college diploma and employees are widely involved in machinery, metal materials, electronic, computer, electromechanical integration specialty.

核心竞争力
Competitive Advantages

目前成都工具研究所已在刀具材料、精密复杂成形刀具与数控刀具设计及加工技术、刀具表面强化改性技术与装备、大型精密量仪设计制造、激光测量及光电传感器技术以及计算机软件等技术领域，形成了独特的整体、核心成套技术优势，初步构成了以硬质合金石油管螺纹梳刀、硬质合金精密异形刀具、超硬刀具、刀具表面强化技术及装备、齿轮测量仪、激光测量仪等六项主导产品，包含30多项核心、高新技术产品的产品技术结构，这些产品和技术大都处于国内领先或国际先进水平。

Chengdu Tool Research Institute has formed a completed and unique technical competitive advantages in tool material, precise and complex shaped cutter and NC tool design and processing technology, cutting tool surface modification and strengthening technology and equipment, large-scale design precision instrument manufacturing, laser and photoelectric sensor technology and computer software technology. It initially formed six leading products including carbide treading tools for oil pipe, carbide precision special-shaped inserts, super hard cutting tools, tool surface strengthening technology and equipment, gear measuring instrument, laser measuring instrument. Those products are supported by more than 30 core, high-tech products technology structure and most of these products and technology are leading technologies in the domestic and international advanced level.

质量控制

Quality Control

质量认证：ISO9001:2008
Quality Certification: ISO9001:2008

质量方针：
以技术创新为先导，以质量管理为保证，以持续改进为核心，以顾客满意为目标。
Quality policy:
To make technical innovation as the guide, the quality of management as the guarantee, continuous improvement as the core and take customer satisfaction as the goal.

质量目标：
★ 贯彻ISO9001：2008标准，通过ISO9001：2008质量管理体系认证，并保持体系有效运行。
★ 技术不断创新，每年设计开发新产品或新项目2项以上。
★ 以质量管理为保证，加强过程控制，实施持续改进，产品质量精益求精，确保产品出厂合格率达100%。三年内使主导产品合格率提高到95%以上，成品交检批次合格率达到95%。
★ 以顾客为关注焦点，增进顾客满意，三年内使顾客满意率达98%以上，顾客投诉解决率达到100%。
★ 顾客重大投诉为零，重大质量事故为零，重大设备安全事故为零。
The quality objectives:
★ in carrying out the standard of ISO9001:2008, through the ISO9001:2008 quality management system certification, and keep the system running effectively.
★ technology innovation, design and develop more than 2 new products or new projects each year
★ to guarantee the quality management , strengthen the process control, carry out continuous improvement, refine on product quality, to ensure 100% products manufactured pass rate. Increase leading products pass rate to 95% in three years and the finished product inspection pass rate to 95%.
★ customer focus, improve customer satisfaction, three years to make customer satisfaction rate reaches above 98%, to solve customer complaint rate reached 100%.
★ customer major complaints to zero, a major quality accidents to zero, zero accident of major equipment.

服务管理

Service management

服务宗旨：
全心全意为用户服务

服务承诺：
尽可能满足用户的合理需求

服务标准：
快速、及时、有效，向用户提供一流产品和一流服务

Service Aim : put one's heart and soul into service for the user

Service Commitment: to meet the reasonable needs of users as far as possible

Service standards: rapid, timely, effective, provide first-class products and first-class service to users

企业合作

Business cooperation

・与联合国合作建立中国量仪基地
・与德国klingelnberg公司合作，锥齿轮测量技术出口德国
・广范与国外公司进行技术交流与合作
・与国内大专院校、大型企业进行广范的技术交流与合作
・与英国普法永道咨询公司合作，全面提升企业形象和管理能力

・ cooperation with the United Nations to establish Chinese instrument base
・ cooperation with Klingelnberg (Germany), bevel gear measurement technology exported to Germany
・ technological exchanges and cooperation with foreign companies
・A wide range of cooperation and technological exchanges with colleges, universities and large domestic enterprises
・ cooperation with British consulting company to improve corporate image and management ability

金属陶瓷轴承刀具简介

Cermet Bearing Cutting Tool Brief Introduction

我公司轴承刀具的发展起源于1991年部基金课题“大截面硬质合金成型刀具的发展与研究”，其主要目的是能解决上海中国轴承厂从日本松板精工株式会社引进的第一条6205车加工自动线上的刀具问题。经过近20年的研究开发，我们具备给客户提供从刀具材料选择到全套加工方案的能力。

Bearing cutting tool in CTRI was originated from Government Project "Large Section Carbide Profile Insert Research and Development" aiming at solving cutting tools related problems in 6205 production line, China’s first production line imported from Japan by a Shanghai Bearing Manufacturer. CTRI is capable of providing systematic bearing machining solutions from cutting tools design, blank selection, to cutting tool manufacturing after over 20 years' research and development.

金属陶瓷材料是一种性能和使用范围介于陶瓷和硬质合金之间的刀具材料。它克服了陶瓷强度、韧性和抗塑性变形能力低的特点，具有陶瓷的高硬度、低密度、对钢的摩擦系数小、抗氧化性能、抗酸碱腐蚀性能优良等特点，同时还兼有硬质合金强度高、抗冲击性能强的特点。其材料硬度可达到HRA93，抗弯强度2200Mpa。已广泛应用与轴承车加工、金属切削刀具、耐磨件及密封件等领域。目前可提供进口金属陶瓷和我所专用针对轴承套圈车加工自主开发的金属陶瓷材料，可满足用户不用场合的需求。

Cermet, a kind of insert material whose performance and application is between ceramics and carbide. It overcomes ceramics' disadvantage of low strength, low toughness and low resistance to plastic deformation while demonstrates ceramics' advantage of high hardness, low density, low friction coefficient to steel, good anti-oxidization, anti-corrosion, anti-wear and anti-chemical material diffusion; this material also has high strength and anti-impact property of carbide; this material' s hardness can reach to HRA93, bending strength can arrive to 2200MPa. Nowadays, cermet material has been widely used in bearing turning, metal cutting, wear parts and sealing parts field.

我公司生产的金属陶瓷轴承成型刀具，主要用于轴承套圈加工上的成型加工，主要加工套圈的滚道、密封槽、倒角、大小油沟等。目前主要为轴承套圈车加工自动线配套，可为各种型号的深沟球轴承、圆锥滚子轴承、滚针轴承及其他类型的非标成型车加工及数控车加工提供全套解决方案。

Cermet bearing profile inserts manufactured by CTRI are mainly used for profile turning process of bearing rings. Inserts are mainly used for bearing raceway, seal groove, radius, front/rear groove etc. CTRI bearing inserts are currently applied in bearing automatic production line and CNC machine of bearing industry. Systematic solutions are available for various types of Deep Groove Ball Bearing (DGBB), Tapered Roller Bearing (TRB), Multi-roller Bearing (MRB), Wheel Hub Bearing (WHB), other non-standard turning and CNC turning.

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样本使用说明
Brochure Instruction

本样本所涉及的内容随着不断的研发改良而改变，导致与样本规格不尽相同。

Constant R & D and improvement might lead to different products specifications from related contents shown in this brochure.

样本根据轴承常见加工方式、刀片基体、专用刀杆分类整理。在选用时根据产品及机床情况选择相近的加工方式和合适的刀片基体类型，我们的非标刀具工程师将根据您的要求提供最优的非标加工方案和刀具。

This brochure is organized and categorized according to common processing, inserts blanks and dedicated tool holders. Special profile cutting tool engineers will provide the most suitable processing proposal and cutting tools based on customer' s production line condition and appropriate inserts blanks.

由于非标刀具在理论设计与刀具制作、现场使用等方面均有可能产生误差而影响产品尺寸精度，请遵循如下流程：沟通方案➞提供样刀➞反馈结果➞刀具优化➞再试样➞批产。

Component accuracy might be effected due to deviation between theoretical design and factory floor operation, thus, please follow below procedures: Communication on design proposal, providing samples, sending feedback, inserts improvement, second trial, bulk supply.

基于非标刀具的用户特殊性，一般均为针对您的要求单独制作，我们不做额外库存。在特殊情况下请联系我们的销售人员。

Extra stock normally is not available considering the specialty of profile cutting tools. Special design will be made under customer's request, please contact sales personnel in case of special conditions.

刀具使用注意事项
Precautions for Insert Application

1. 可转位式刀具在使用时若未把刀片与机夹等相关零件夹紧，在切削中有脱落或者飞出的可能，造成伤害事故。故安装刀片的定位面和紧固零件上，不允许有杂物粘附，应仔细检查后认为可靠再安装刀片。请使用附带的专用扳手夹固刀片与零件，专用扳手决不允许用作其他用途。

There is a possibility of inserts falling off or flying out resulting accidents if inserts and clamping block are not fastened when using indexable cutting tools. So, debris is not allowed on positioning surface and fastening parts, careful check up is necessary before mounting inserts. Please use attached wrench to clamp inserts and accessories, wrench is not allowed for other applications.

2. 若夹紧力太大时，会造成刀片产生破碎后脱落、飞散的危险。故只允许使用附带的专用扳手夹紧刀片等零件，不再使用其他辅助工具。

There is risk of inserts falling off or flying out after broken due to tight fastening and clamping. Therefore, it is only allowed to use the attached special wrench clamping inserts and other parts instead of other auxiliary tools.

3. 由于冲击负荷，刀具过度磨损，切削抵抗剧增，导致刀具破损飞溅，有伤害操作人员的可能，请使用防护用具和及时更换磨损刀具。

There is a possibility of harm to operators caused by cutting tools breakage and flying out under conditions of over loading, excessive insert wear, and increasing cutting resistance. So operators are advised to use protective equipment and change wore cutting tools timely.

4. 工具、工件高速切削时产生高温。高温的切削飞溅和过长切削排出，以及加工后立刻直接用手触摸均有烫伤的危险。在除去切削及拆卸工件时应关停机床，带上防护手套，使用钳子或夹子等工具。

High temperature will be caused due to high speed cutting. Risk of burning will be caused by high temperature cutting splash, long chips removal, and instant touch of inserts or component after processing. When removing chips and dismounting the component, machine needs to be shut down with protective gloves and clamping tools.

5. 工件在高温旋转加工时，如果机床夹具等的刚性和平衡性能差，会产生振动及颤振，使被加工工件产生振纹，影响加工质量；或使刀具破碎而发生危险情况。必须对机床进行试运转，确认没有振动及震颤等异常声音后再正式操作。

Vibration and flutter will be caused under high temperature rotating processing if machine shows poor rigidity and balance performance. Then vibration will be caused on the component, which will influence component quality or other dangers due to inserts breakage. So, it is advised to conduct machine commissioning and confirm no vibration and other abnormal sounds before formal operation.

6. 在存储刀具时要注意放在干燥处，切削液或其他液体会使其腐蚀，而降低刀具强度和成型精度。

It would be always better to store cutting tools in a dry place. Cutting liquid or other liquid will cause inserts corrosion and decrease cutting tools strength and profile accuracy.

7. 由于陶瓷刀具硬而脆的特性，在刃磨后和运输过程中有可能产生裂纹或微崩，出厂和使用前必须仔细检查。

Cermet cutting tools show hard and brittle nature. It is possible to produce a crack or micro fracture in the process of grinding and transportation, which must be carefully checked before and after shipping.

8. 成型刀具是取被加工工件曲线进行修正计算设计，因此在使用时要尽量让刀片刀尖点在工件回转的水平中心线上，即与工件中心等高或略低。

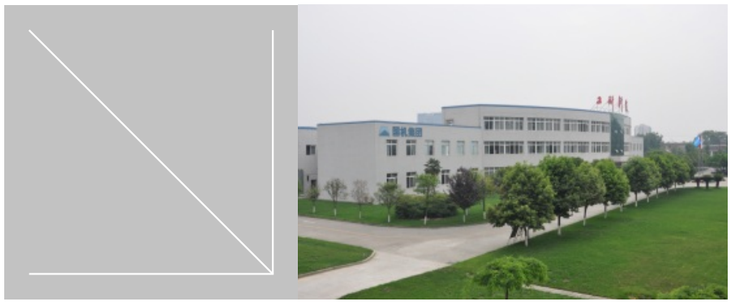
Profile cutting tools are designed with correction calculation according to component's curve, therefore, operators have to make sure inserts tip be in the horizontal center of the rotation of component, which means equal or little lower than component center.

9. 大多数成型刀具均按照可修模重复利用设计以降级您的刀具使用成本，为保证修模刀片耐用度，建议您设置固定的被加工工件数量进行强制换刀。

Most profile tools are designed for resharpening to reduce cost. To ensure the durability of resharpened inserts. Customers are recommended to set a fixed number of machined components and change inserts after that.

10. 刀具使用后请及时清理干净并放入标准刀具包装盒内，在返修时要用橡皮筋或其他办法扎牢刀片包装盒，并在邮寄包装箱内固定，以免刀片掉出相互碰撞损坏刀片。

Please promptly clean up the inserts and put them in a standard cutting tool box, fasten the inserts box with rubber before sending for resharpening. Fix the inserts boxes before sending to avoid collision damage of the inserts.



轴承刀具型号表示方法
Bearing Insert Designation

C

使用符号
Designation

A 表示被加工轴承套圈为外套
A indicates Bearing Component Outer Ring
B 表示被加工轴承套圈为内套
B indicates Bearing Component Inner Ring
K 表示加工方式，即可转位刀片方式加工
K indicates processing, indexable inserts processing
D 表示加工倒角
D indicates chamfer processing
G 表示加工沟道
G indicates raceway processing
M 表示加工密封槽
M indicates seal groove processing
MR-A 外沟道
MR-A Outer Track
MR-B 内沟道
MR-B Inner Track
NR- 表示内倒角
NR- Inner Radius
R 倒角半径
R Radius
R-OD 外倒角
R-OD Outer Radius
R-ID 内倒角
R-ID Inner Radius
S-A 四齿外圈密封槽刀
S-A Four corners Outer Seal Groove
S-B 四齿内圈密封槽刀
S-B Four corners Inner Seal Groove
WR- 表示外倒角
WR- Outer Radius
01 表示 被加工轴承套圈为外套
01 indicates Bearing Component Outer Ring
02 表示 被加工轴承套圈为内套
02 indicates Bearing Ring Inner Component

3A-S 三齿外圈密封槽刀
3A-S Three Corners Outer Ring Seal Groove
3B-S 三齿内圈密封槽刀
3B-S Three Corner Inner Ring Seal Groove

C

轴承刀片的型号表示规则
Bearing Insert Designation

轴承刀片的型号由给定意义的字母和套圈型号按一定顺序排列所组成，有两种表示规则。
Bearing inserts are designated with alphabet and component number, there are two ways for designation.

第一种表示规则
First Designation

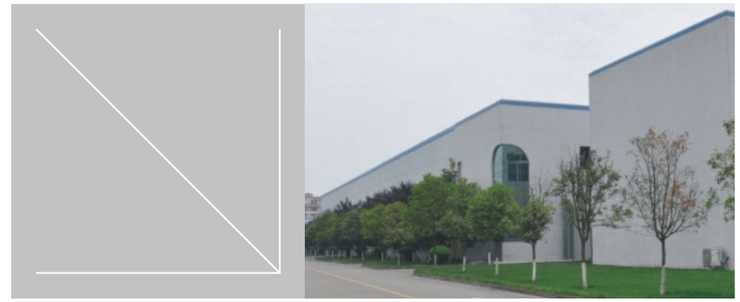
是由被加工的套圈型号前面部分如LA 6203，加上我方表示一定意义的英文大写字母表示，中间以空格连接。如轴承刀片型号“LA 6203 S-A”表示加工套圈型号为LA 6203 外圈的密封槽刀，中文名称简称“外密刀”。

Component number for example, LA 6203, plus certain alphabet with different meaning, and connected with space. For example, "LA 6203 S-A" indicates bearing component number LA 6203 outer seal groove inserts, named as "OR Seal Groove" .

第二种表示规则
Second Designation

第一号位为表示加工方式的特定字母，第二号位为表示套圈被加工部位的字母，第三号位开始为套圈型号的数字部分（一般为四位），最后两位为表示套圈内外的数字，它们与前面部分用连接号—连接。如轴承刀片型号“KM6309-01”,表示加工6309外套的可转位密封槽刀，中文名称简称“外密刀”。

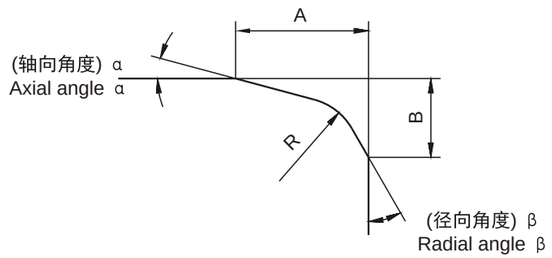
First number is alphabet with certain meaning, second number is alphabet indicating part to be machined, third number is component number (four numbers), the last two numbers indicate inner ring or outer ring, connected with joint mark "-" . For example, Bearing Insert "KM6309-01" means indexable seal groove inserts for OR 6309, named as "OR Seal Groove".



即时批产R刀具系列
Bulk Supply Radius Cutting Tool Series

以下R刀具在告知图示参数后可即时批量生产（角度单位：度）

Large amount of production can be arranged when major dimensions below are informed for radius insert (Unit of Angles: Degree)



序号 Line #	R	轴向角度 Axial angle	径向角度 Radial angle
1	0.2	15	30
2	0.28	10	45
3	0.3	20	20
4	0.3	12	30
5	0.3	10	15
6	0.33	12	35
7	0.4	12	18
8	0.5	15	15
9	0.5	20	20
10	0.5	32.5	32.5
11	0.5	12	30
12	0.6	20	20
13	0.6	15	25
14	0.6	12	12
15	0.65	15	30
16	0.65	25	40
17	0.7	12	30
18	0.7	12	18
19	0.7	12	45
20	0.7	22.5	22.5
21	0.74	12	35
22	0.75	30.5	30.5

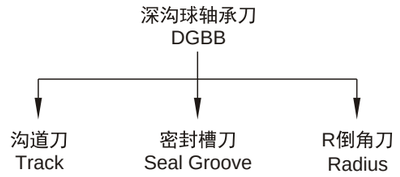
序号 Line #	R	轴向角度 Axial angle	径向角度 Radial angle
23	0.76	15	30
24	0.8	20	15
25	0.8	12	30
26	0.8	18	24
27	0.8	15	25
28	0.8	15	30
29	0.85	15	30
30	1	12	28
31	1	12	25
32	1	12	45
33	1	15	30
34	1	15	30
35	1	15	25
36	1	15	22
37	1	15	20
38	1	12	30
39	1	22.5	22.5
40	1.1	17.5	31
41	1.1	10	31
42	1.1	11	31
43	1.1	18	33
44	1.12	11.5	31

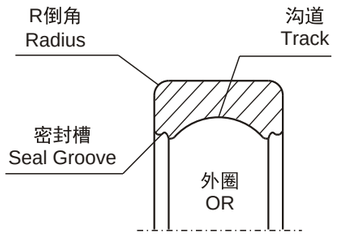
序号 Line #	R	轴向角度 Axial angle	径向角度 Radial angle
45	1.14	12	34
46	1.15	15	30
47	1.2	15	20
48	1.2	15	25
49	1.2	15	30
50	1.3	15	30
51	1.3	15	25
52	1.3	10	25
53	1.3	13	27
54	1.3	19	25
55	1.35	10	10
56	1.39	12	25
57	1.4	15	15
58	1.45	15	30
59	1.5	12	27
60	1.5	15	29
61	1.5	11°20′	15
62	1.5	30	30
63	1.5	20	20
64	1.52	10	31
65	1.55	15	25
66	1.6	12	30
67	1.6	15	22
68	1.6	15	`
69	1.7	10	25
70	1.7	15	20
71	1.75	15	30
72	1.75	20	20
73	1.8	20	30
74	1.85	15	30
75	1.85	12	30
76	2	35	35
77	2	15	30

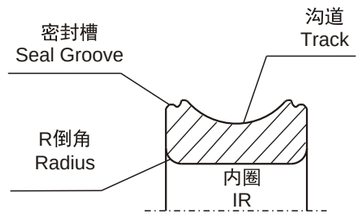
序号 Line #	R	轴向角度 Axial angle	径向角度 Radial angle
78	2	11	31
79	2	12	28
80	2	10	18
81	2	15	20
82	2	15	22.5
83	2	15	25
84	2	12	30
85	2	15	25
86	2.1	18	35
87	2.1	15	18
88	2.13	20	22
89	2.13	20	22
90	2.15	20	34
91	2.22	21.5	30
92	2.3	15	30
93	2.5	15	25
94	2.5	15	30
95	2.55	10	10
96	2.65	15	30
97	2.8	10	20
98	3	15	30
99	3	15	20
100	3.2	15	25
101	3.2	15	25
102	3.4	15	30
103	3.7	15	30
104	4	12.5	25
105	4	15	30
106	4.2	10	30
107	5.5	10	45
108	6.5	13.5	30
109	6.5	15	30

轴承常见加工类型 Bearing Cutting Tool Application

⦿ 深沟球轴承类 Deep Groove Ball Bearing







我所生产的轴承车加工用可转位成型刀片，几何形状经计算机辅助修正计算，完全达到加工精度要求，保证车加工的质量。车加工几何形状精度的提高使磨加工质量亦相应提高。

CTRI indexable profile inserts for bearing turning purpose completely reach the accuracy requirement and high qualified turning performance with advanced CAM technology. The increase of turning profile also improves grinding quality accordingly.

沟道刀具
Raceway Cutting Tool

用可转位成型沟道刀加工轴承沟道，省去困难而麻烦的刀具刃磨工作，调整工具的工作量亦大大减轻，大约提高车加工生产效率20%。在磨加工工序，磨削留量减少，减小工作行程生产率平均提高10%。车削加工时，当刀片的一个切削刃磨钝之后更换新的切削刃稍加调整就可获得合格的工件，消除调试所生产的废品。磨削时，过去由于车加工沟道几何形状及位置误差经常引起砂轮撞工件而产生废品，可转位沟道刀所加工的工件几何形状好，避免了撞车事故，减少了磨加工的废品率。其经济效益是十分显著的。

Indexable track inserts for bearing's raceway improve turning efficiency from cutting tools grinding and adjustment by 20% and another 10% in grinding process by reducing grinding allowance. Changing cutting edges can effectively get qualified components and reduce unqualified ones. Better CAM technology based indexable bearing profile insert avoids collapse with grinding wheels, reduces rates of spoiled components in the grinding process, and brings high economic benefits.

外圈沟道刀 Outer Ring Track Insert

主轴方向 Spindle Rotation	内排屑 Chip Removal Inside Spindle	外排屑 Chip Removal Away from Spindle	部分样刀 Samples
逆时针 Anti-Clockwise	NN	NW	
顺时针 Clockwise	SN	SW	

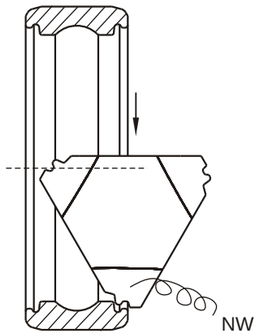
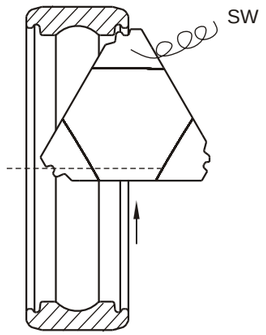
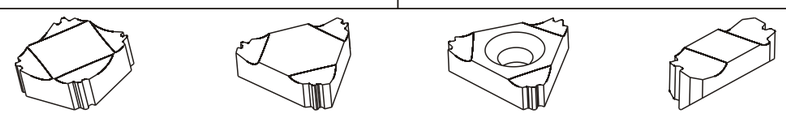
相对角的两种加工方式采用相同的刀片形式，在刀片反装时（刀片正面向下），刀杆沿轴向旋转180°对应的刀杆改为刀杆底面拧紧方式。在初次采购及变更加工方式时，请告知详细的加工工艺路线，以便设计人员对成型刀具刃口结构进行预判，选配合适的刀片及刀杆。目前，外沟刀基体有三角形、四边形、V型等。我们根据沟道R曲率大小、槽深、套圈结构及加工排屑方式综合考虑选择最合适的刀片基体。

Two types of processing in relative angle above use same inserts. When inserts are facing downwards, tool holder is rotated 180 degrees along the axial direction, clamping is changed to the bottom with a screw. So for first time purchase or changing processing, please inform engineers detailed processing so that engineers can make judgment for profile inserts edges, inserts and holders. Currently, outer ring raceway inserts blanks are triangle, square, and V shaped etc. According to R curvature, groove depth, bearing ring structure, processing and chip removal, we select the most suitable inserts blank.

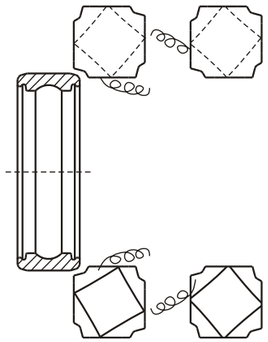
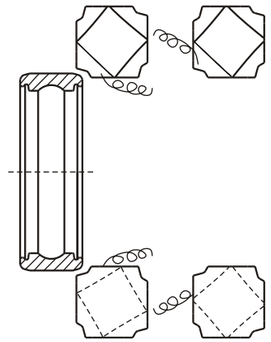
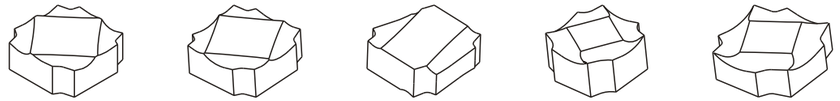
E

深沟球轴承类 Deep Groove Ball Bearing

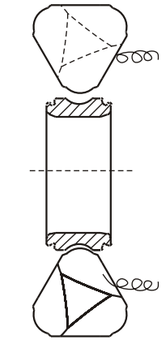
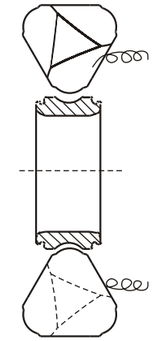
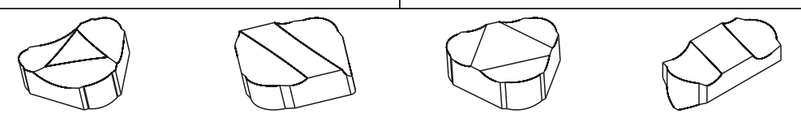
外圈密封槽刀 Outer Ring Seal Groove

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
排屑 Chip Removal		
部分样刀 Samples		

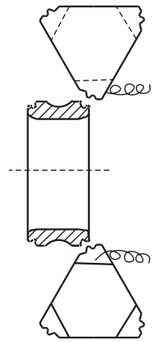
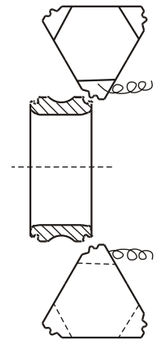
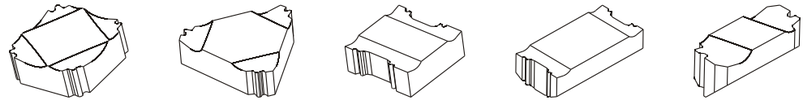
外圈R刀 Outer Ring Radius

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
排屑 Chip Removal		
部分样刀 Samples		

内圈沟道刀 Inner Ring Raceway Insert

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
排屑 Chip Removal		
部分样刀 Samples		

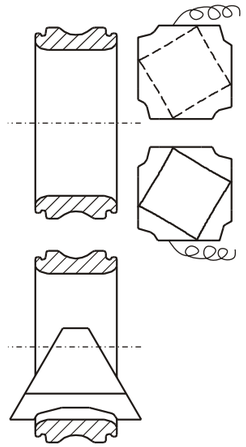
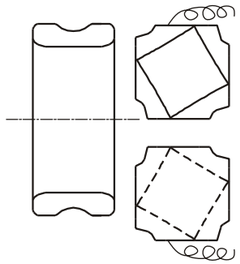
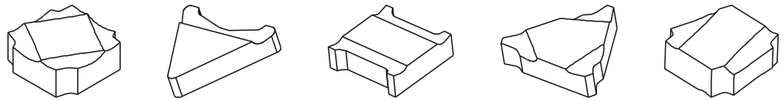
内圈密封槽刀 Inner Ring Seal Groove

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
排屑 Chip Removal		
部分样刀 Samples		

E

深沟球轴承类 Deep Groove Ball Bearing

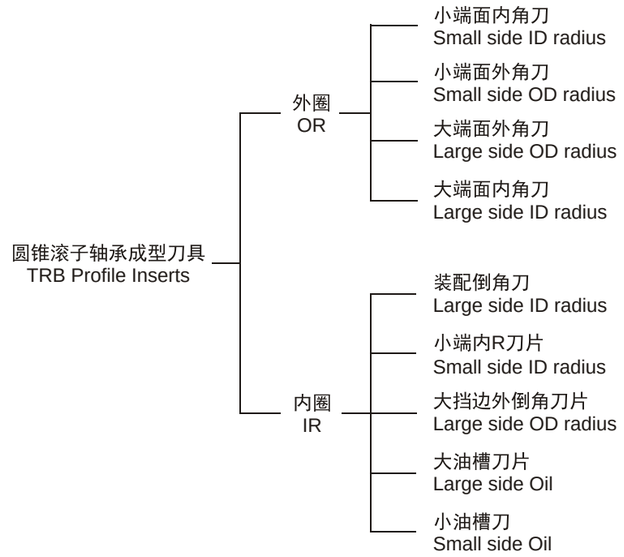
内圈R刀 Inner Ring Radius

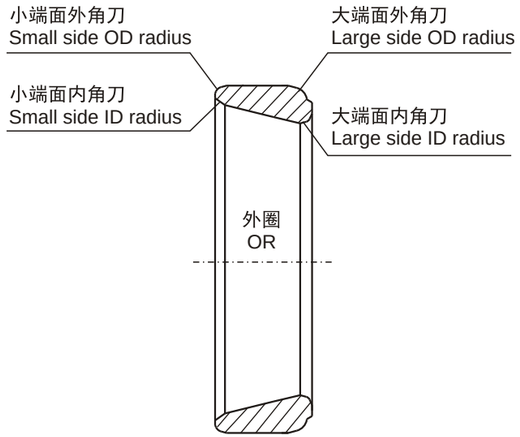
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
排屑 Chip Removal		
部分样刀 Samples		

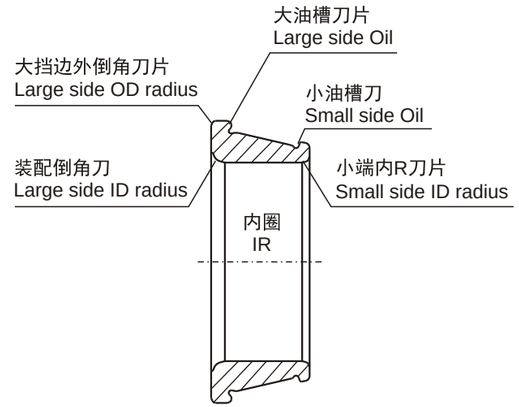
E

圆锥滚子轴承类 Taper Roller Bearing (TRB)

圆锥滚子轴承类 Taper Roller Bearing (TRB)







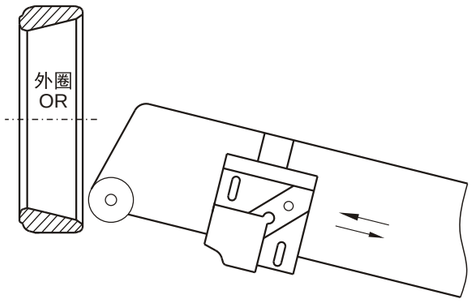
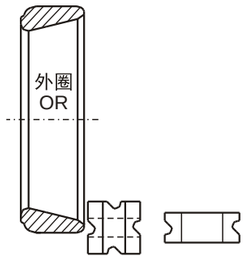
圆锥滚子轴承内外圈倒角刀具与深沟球轴承内外圈倒角加工方式相同，根据齿形尺寸大小刀片基体做相应调整。

Inner ring and outer ring of Taper Roller Bearing radius inserts are same as deep groove ball bearing radius inserts, design will be adjusted based on bearing dimensions and inserts blanks.

E

⊙ 圆锥滚子轴承类 Taper Roller Bearing (TRB)

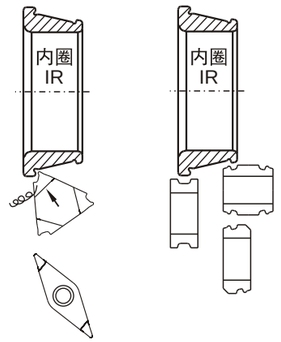
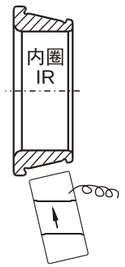
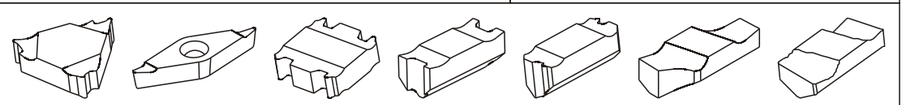
外圈 Outer Ring

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	顺时针 Clockwise
加工 Processing		

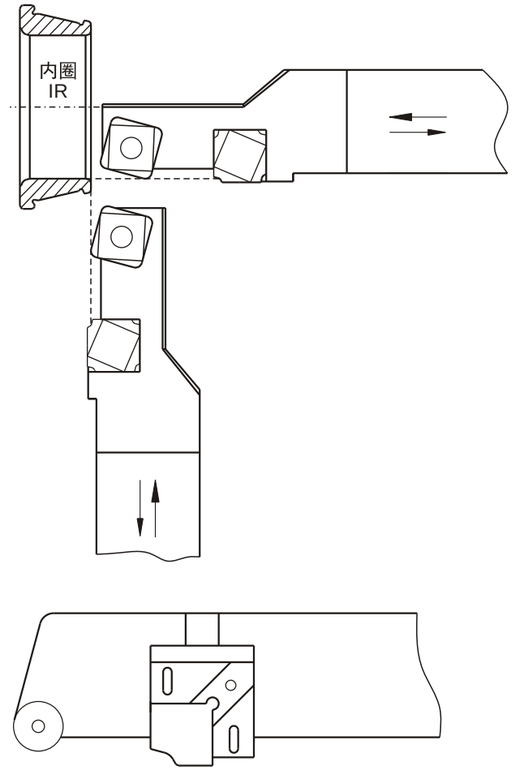
圆锥滚子轴承外圈倒角成型刀具参考深沟球类外圈倒角，部分成型加工方式见上图

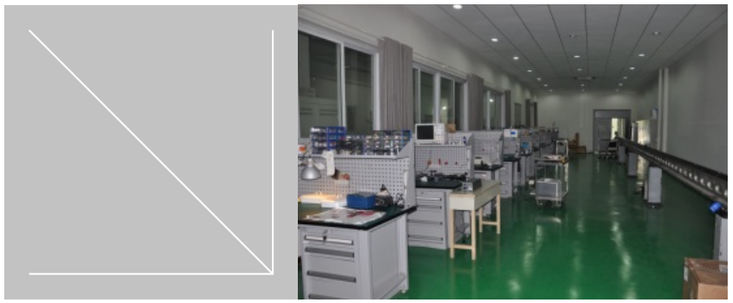
Taper Roller Bearing outer ring radius profile inserts can be referred to deep groove ball bearing. Above are part of profile inserts processing methods.

内圈 Inner Ring

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples		

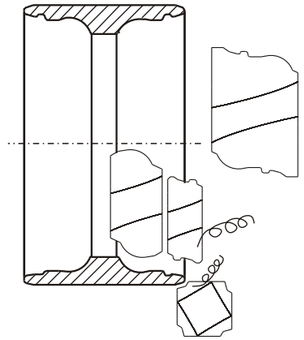
内圈组合刀杆加工 Inner Ring Combined Holder Processing

	组合加工 Combined Processing
逆时针 Anti-Clockwise	

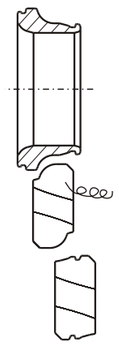
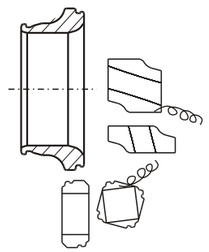
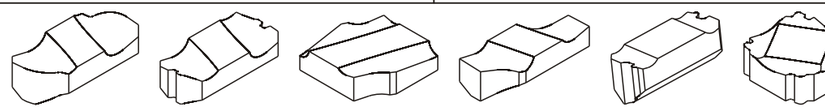


⊙ 轮毂轴承类 Wheel Hub Bearing

外圈 Outer Ring

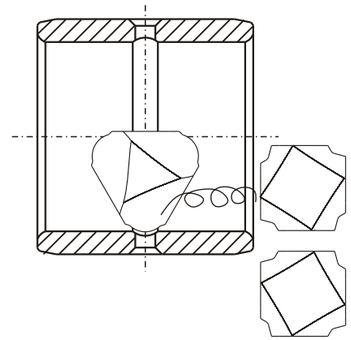
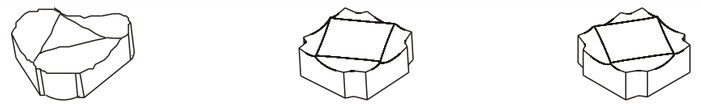
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise
排屑 Chip Removal	
部分样刀 Samples	

内圈 Inner Ring

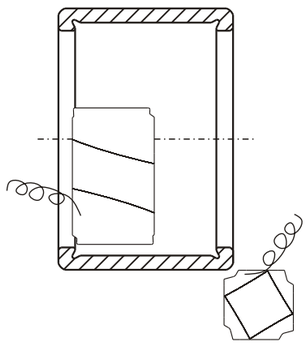
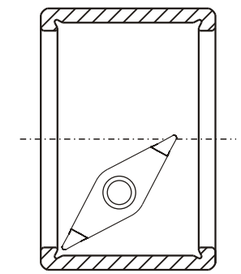
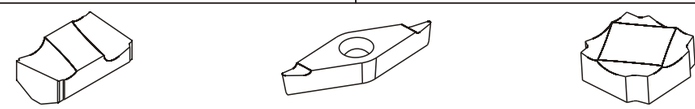
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples		

⊙ 滚针轴承类 Multi-Roll Bearing

内圈 Inner Ring

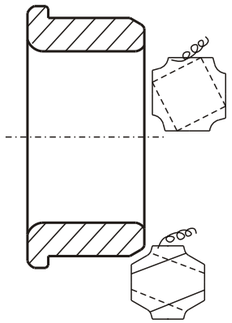
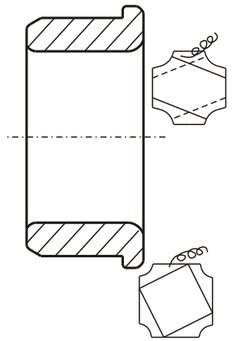
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise
排屑 Chip Removal	
部分样刀 Samples	

外圈 Outer Ring

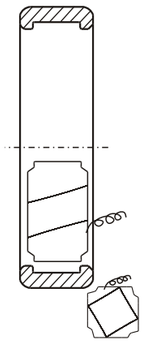
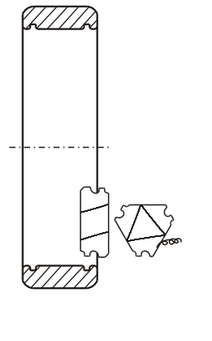
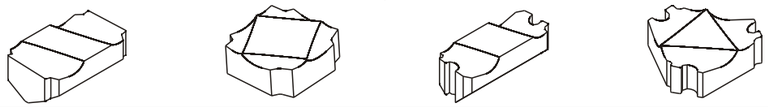
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples		

短圆柱轴承类 Short Cylinder Bearing

内圈 Inner Ring

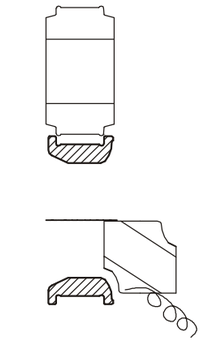
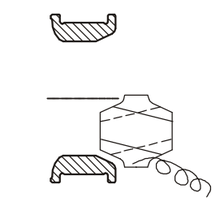
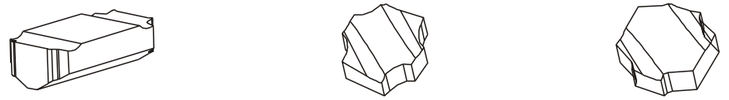
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples	同深沟球轴承类内外圈R刀具 Same as deep groove ball bearing inner and outer ring radius cutting tool	

外圈 Outer Ring

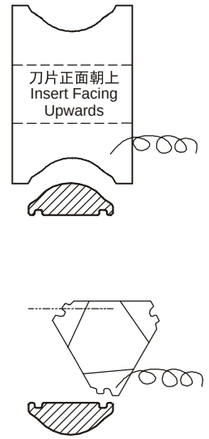
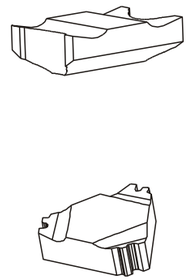
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples		

关节轴承类 Joint Bearing

内圈 Inner Ring

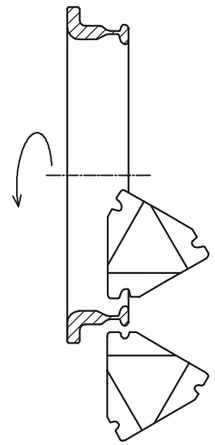
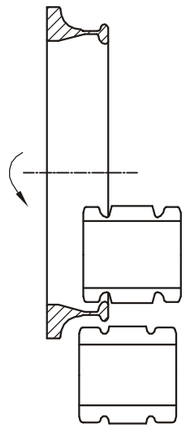
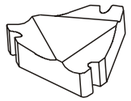
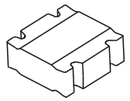
主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples		

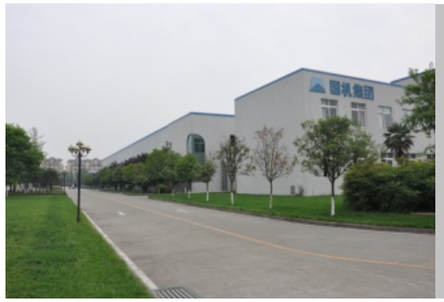
外圈 Outer Ring

主轴方向 Spindle Rotation	排屑 Chip Removal	部分样刀 Samples
逆时针 Anti-Clockwise		

E

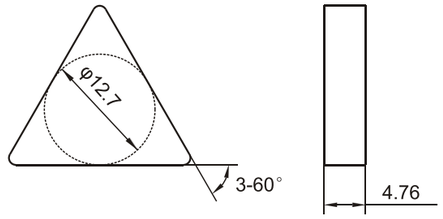
⊙ 纺织机械钢领圈类
Steel Collar In Textile Industry

主轴方向 Spindle Rotation	逆时针 Anti-Clockwise	逆时针 Anti-Clockwise
排屑 Chip Removal		
部分样刀 Samples	 	

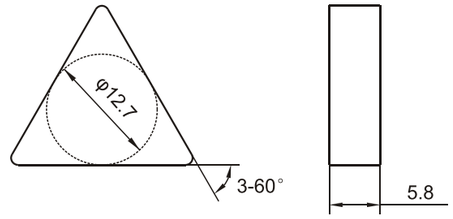


成型刀具(按基体分类) Profile Cutting Tools (Categorized by Blanks)

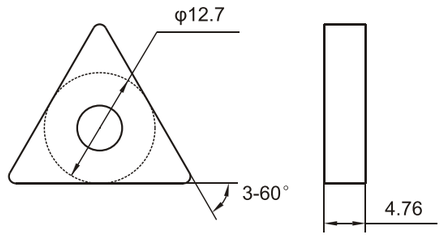
⊙ 三角形刀片类 Triangle Inserts



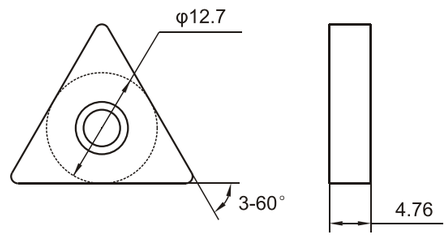
TNGN220408



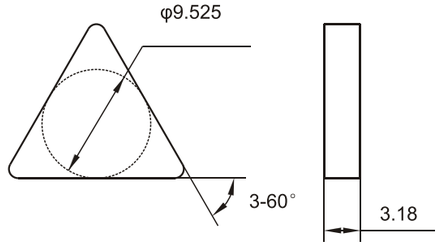
TNGN220508



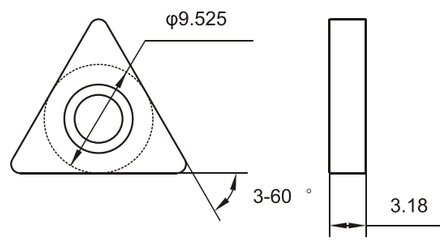
TNGA220408



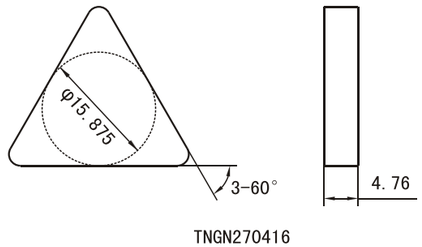
TNGW220408



TNGN160308



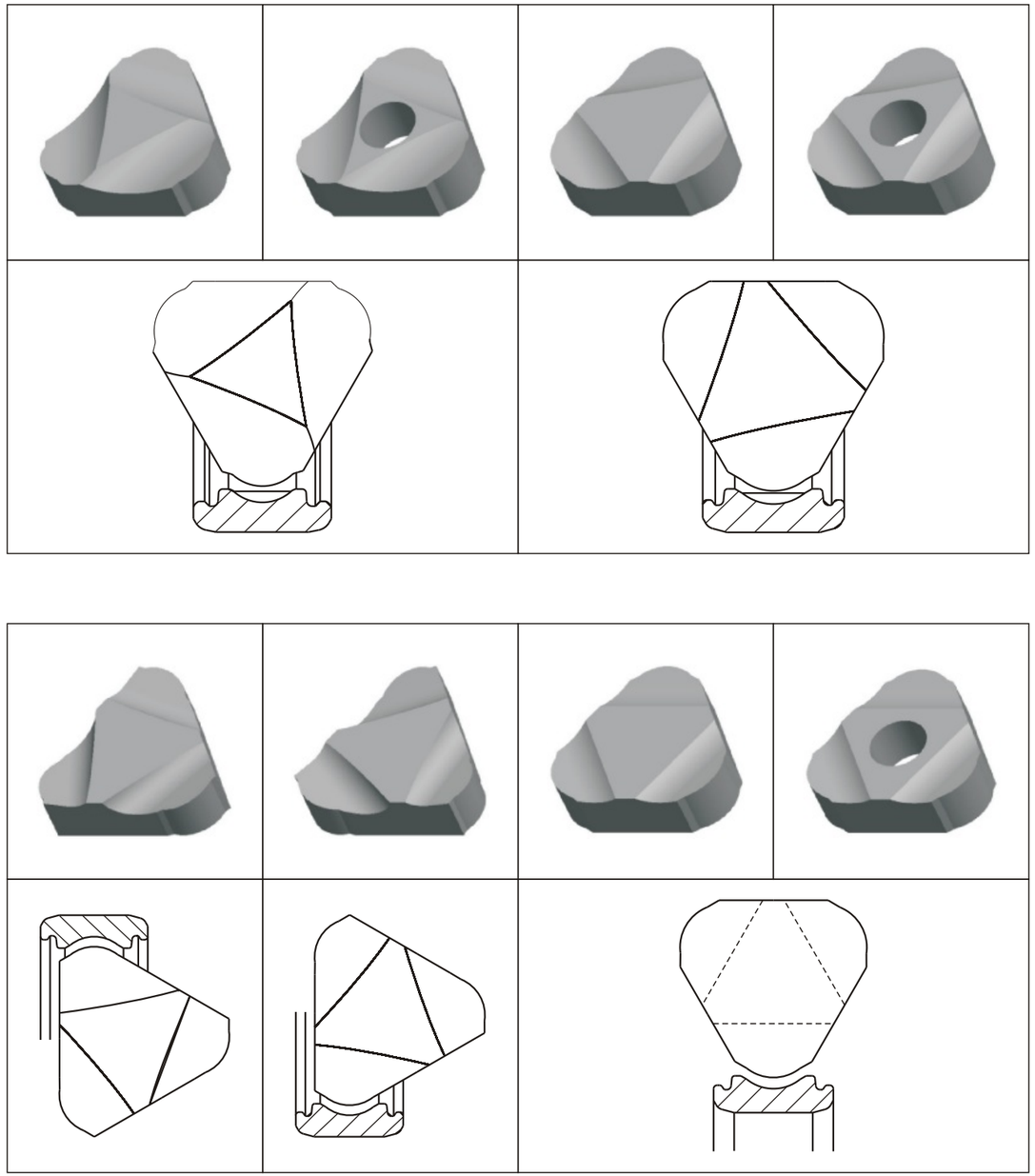
TNGW160308

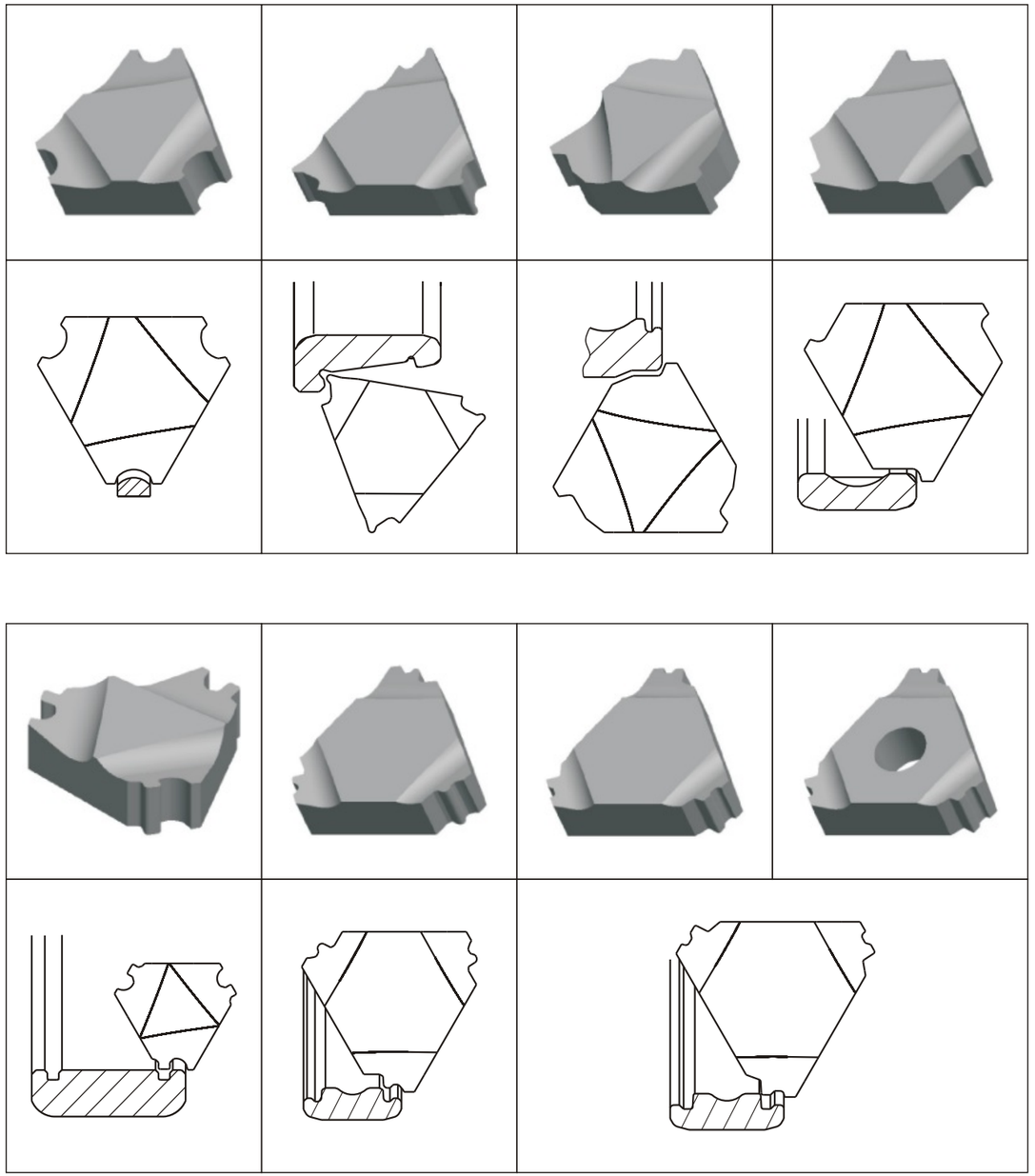


TNGN270416

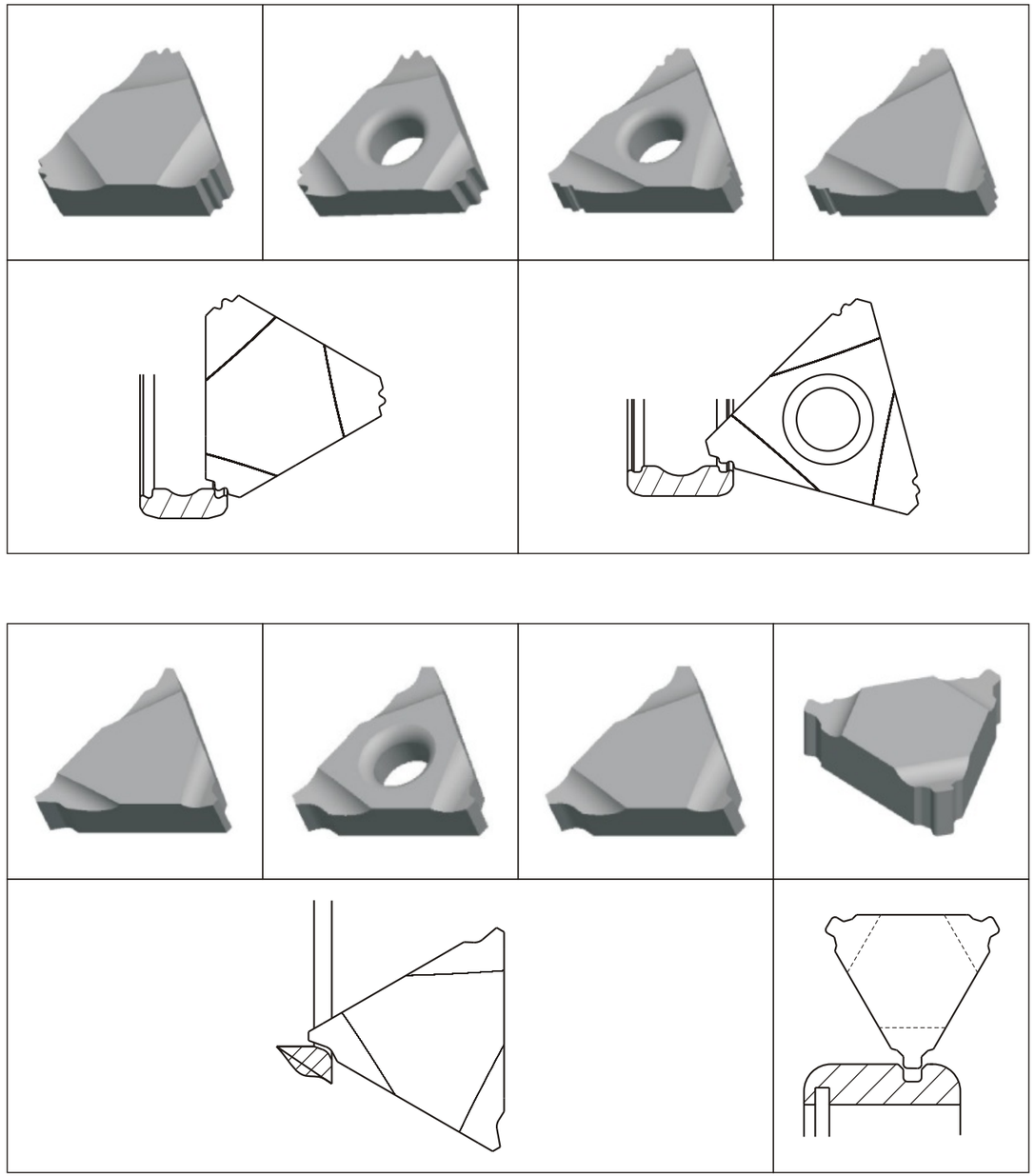
F

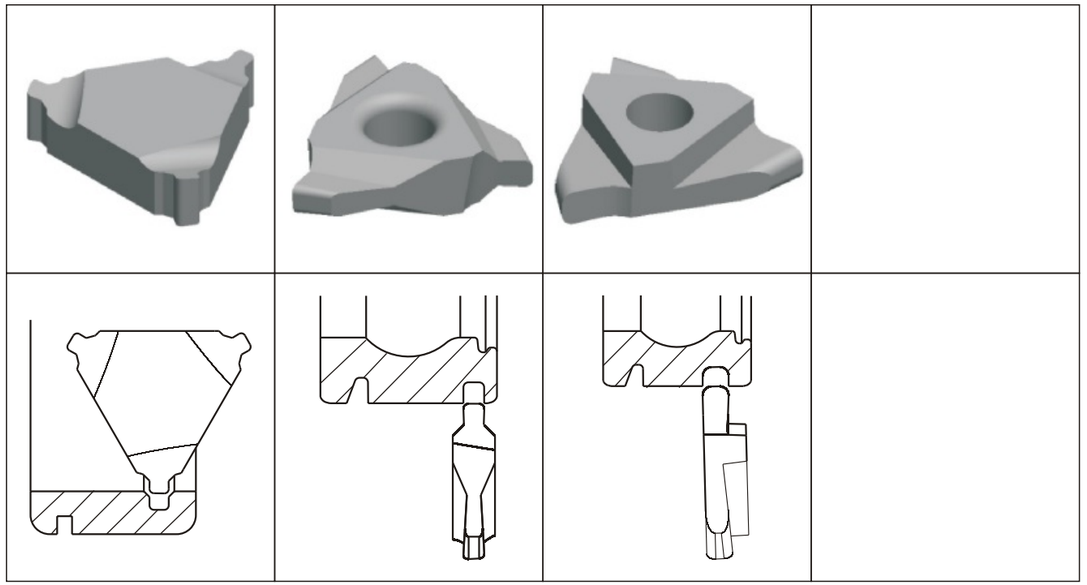
三角形刀片类
Triangle Inserts

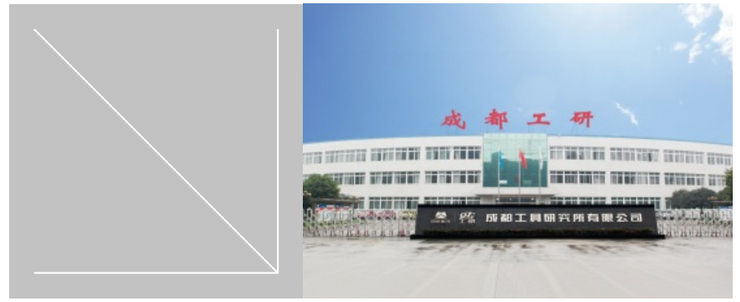




⊙ 三角形刀片类
Triangle Inserts



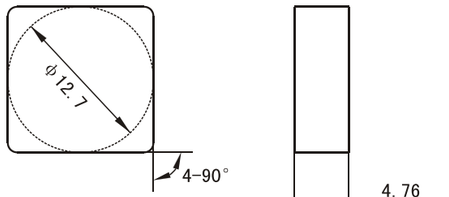




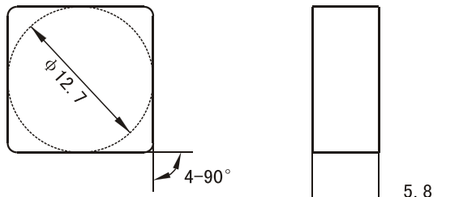
F

⊙ 四边形刀片类 Square Inserts

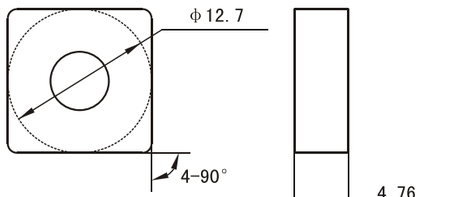
常见四边形刀片基体如下 Common Square Inserts Blanks are as follows:



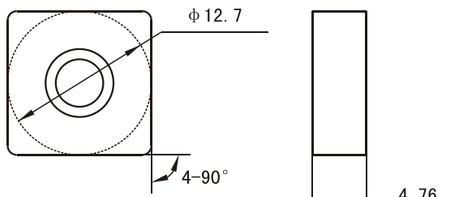
SNGN120408



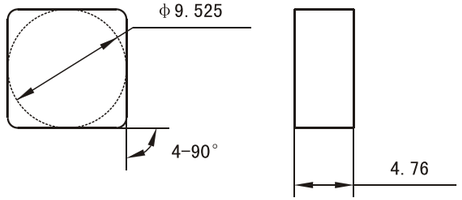
SNGN120508



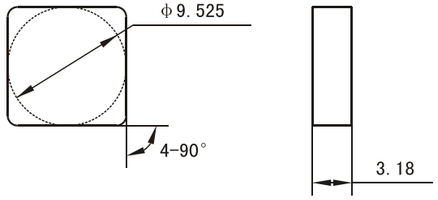
SNGA120408



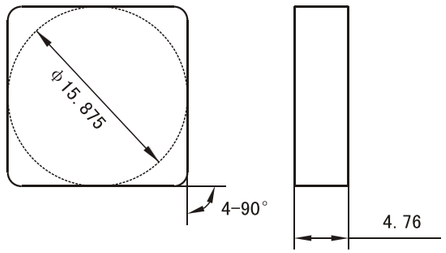
SNGW120408



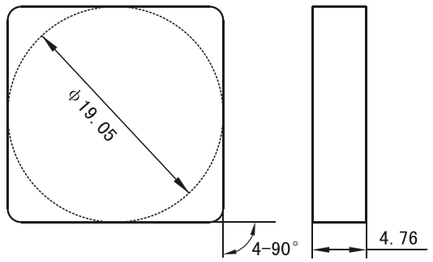
SNGN090408



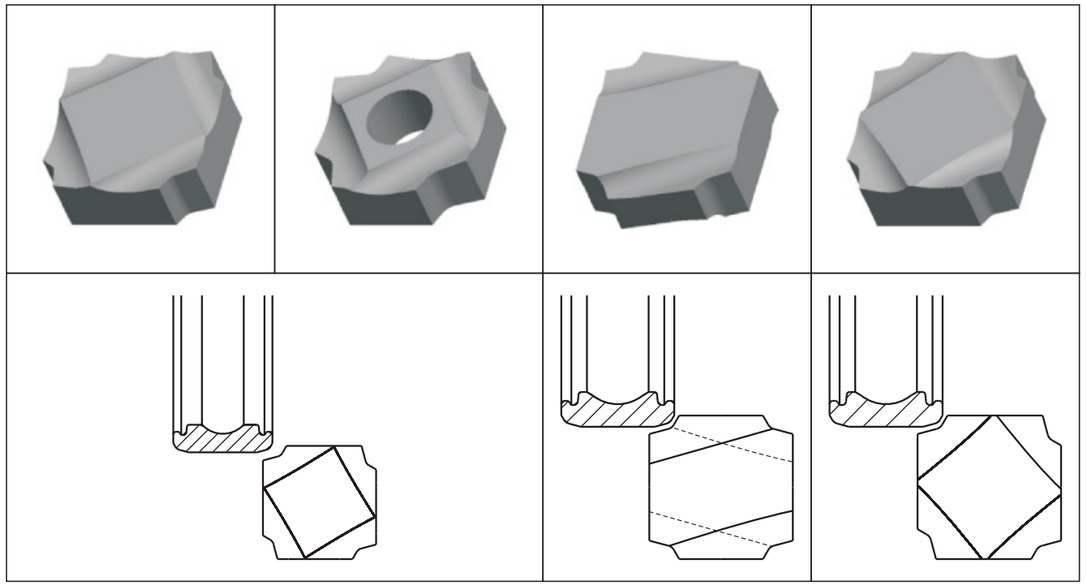
SNGN090308

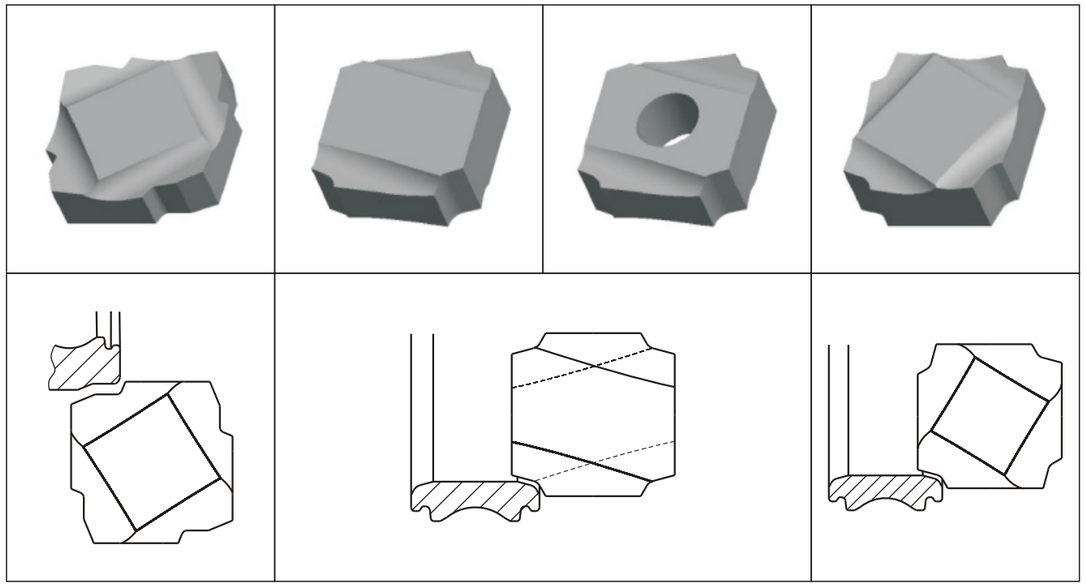


SNGN150412



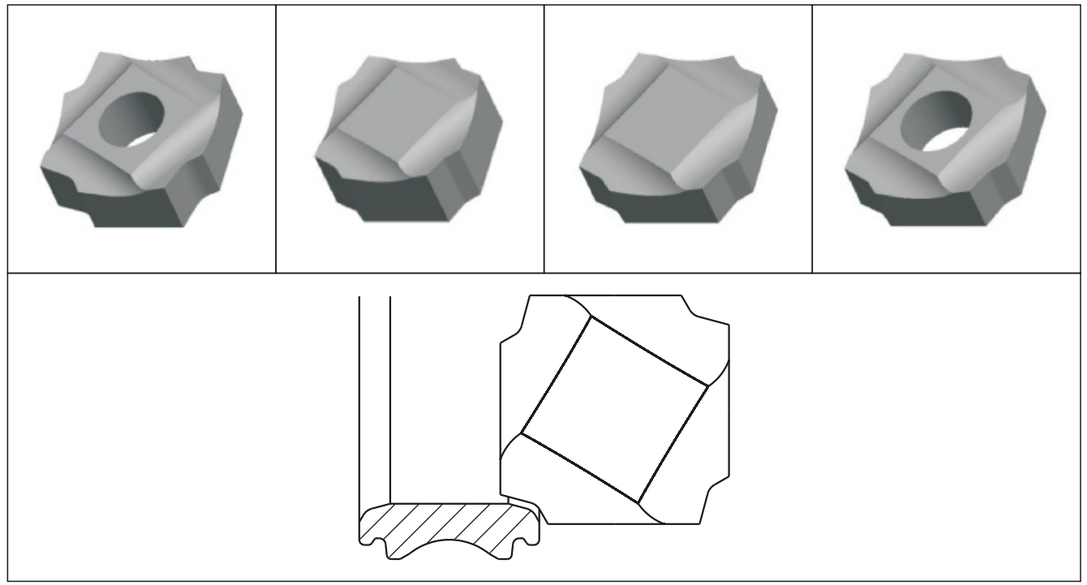
SNGN190412

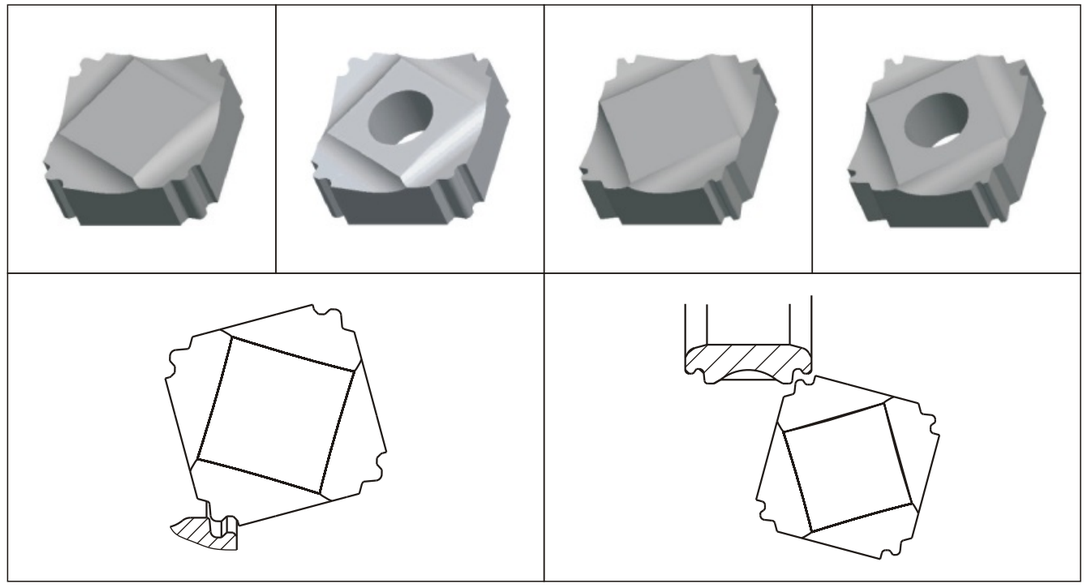


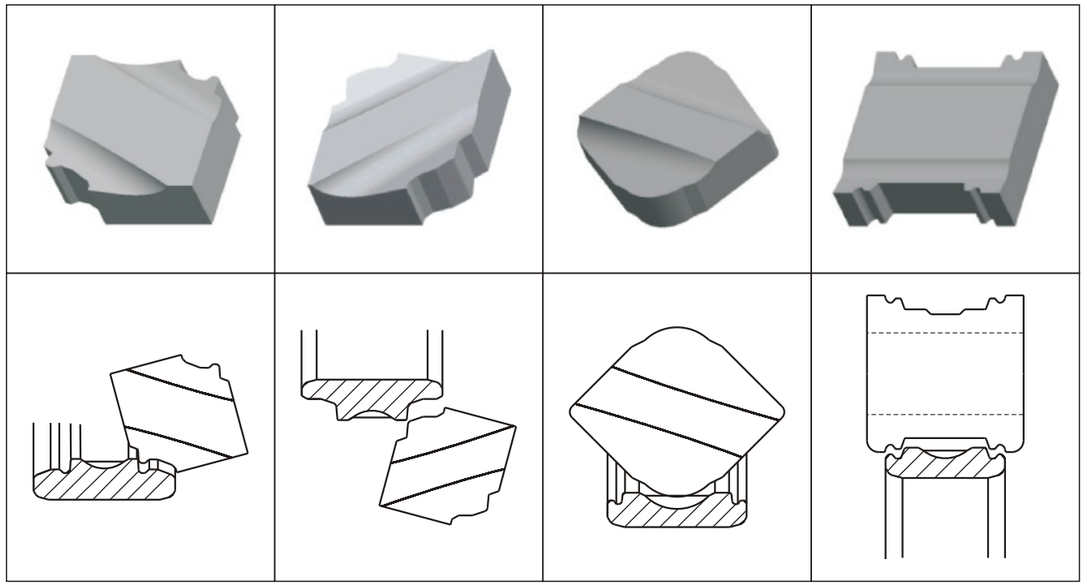


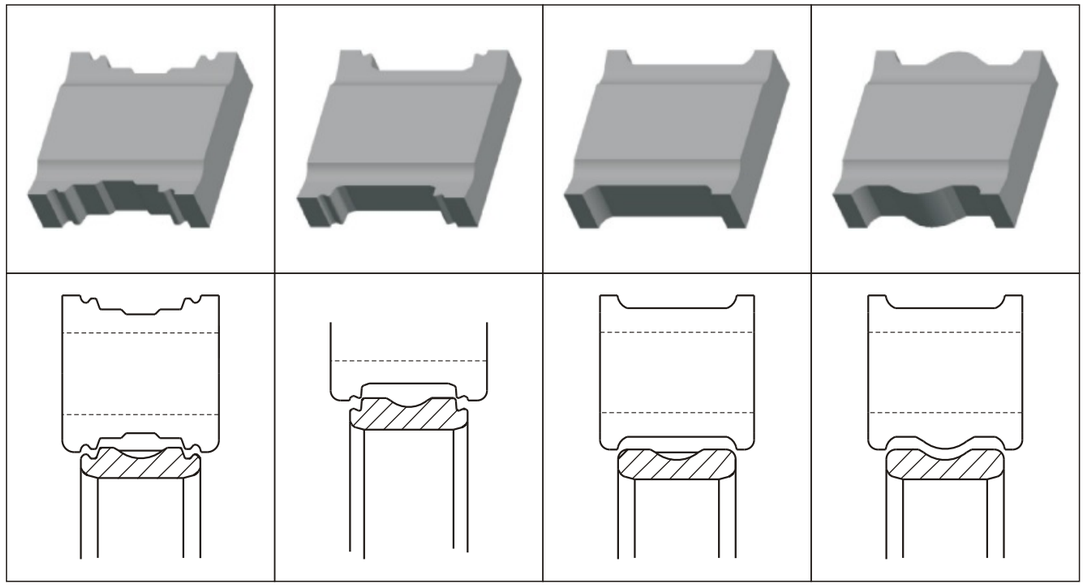
F

四边形刀片类
Square Inserts





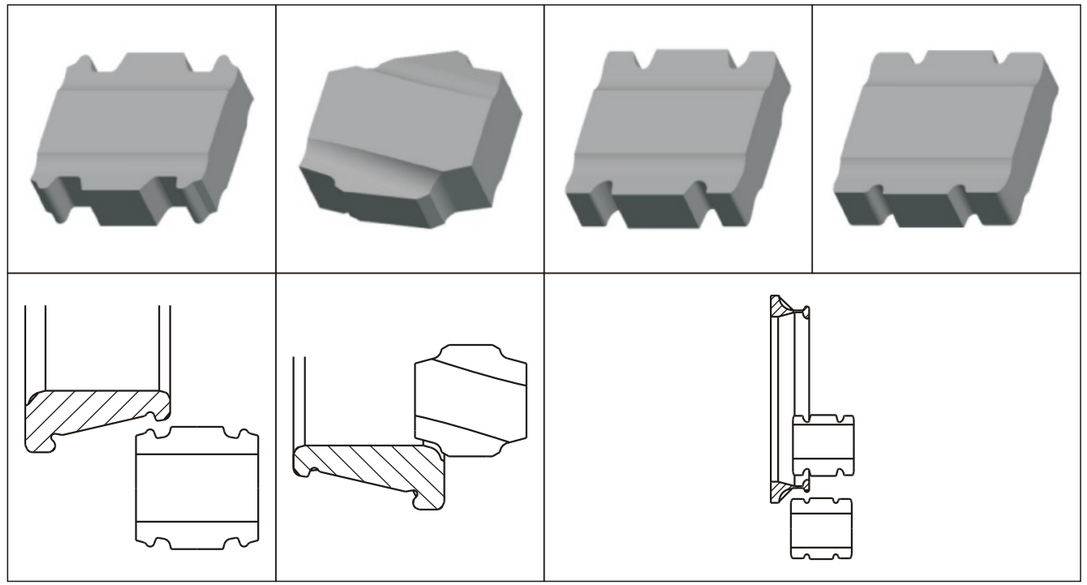


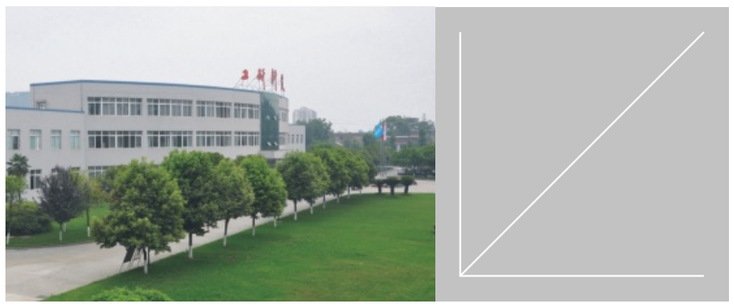


F

F

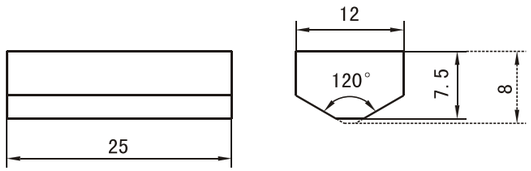
四边形刀片类
Square Inserts



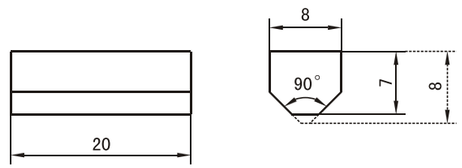


V (船)形刀片类
V shaped Inserts

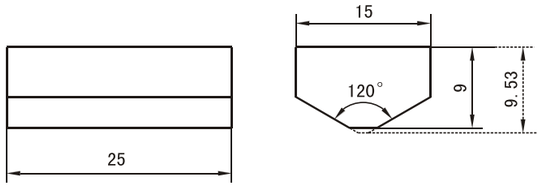
常见V形刀片基体如下：
Common V shaped Inserts Blanks are as follows



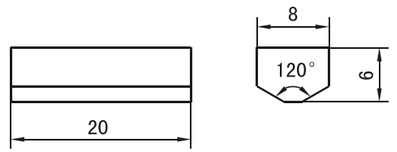
25×12×8和25×12×7.5两基体通用
25×12×8 and 25×12×7.5 Same Blank



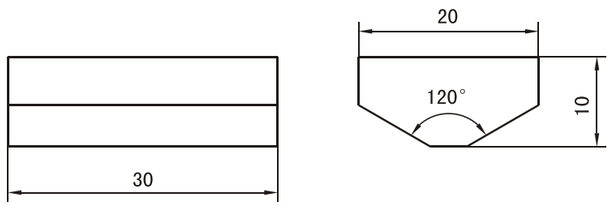
20×8×7和20×8×8两基体通用
20×8×7 and 20×8×8 Same Blank



25×15×9和25×15×9.53两基体通用
25×15×9 and 25×15×9.53 Same Blank

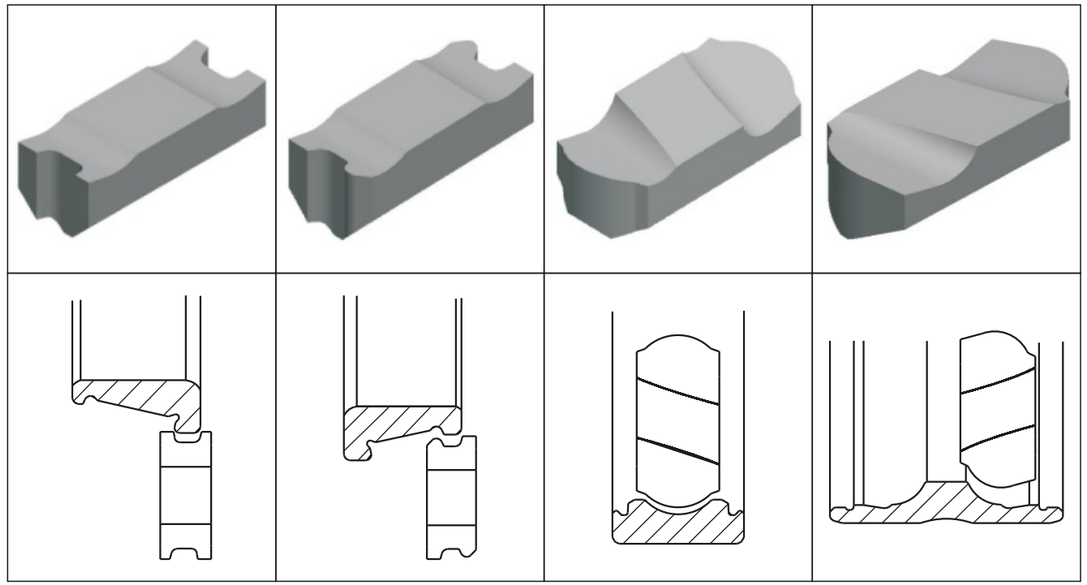


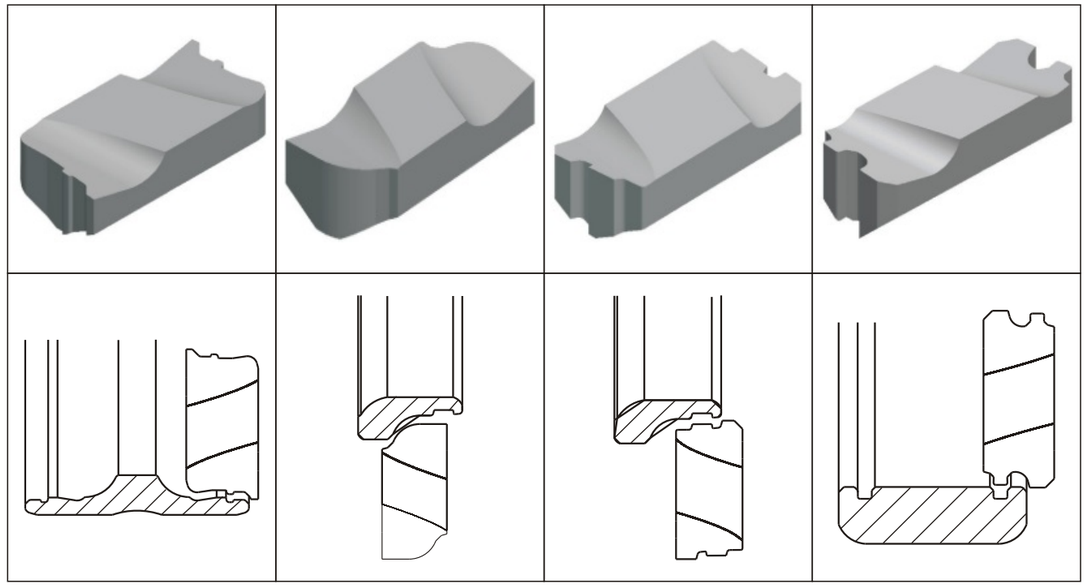
20×8×6

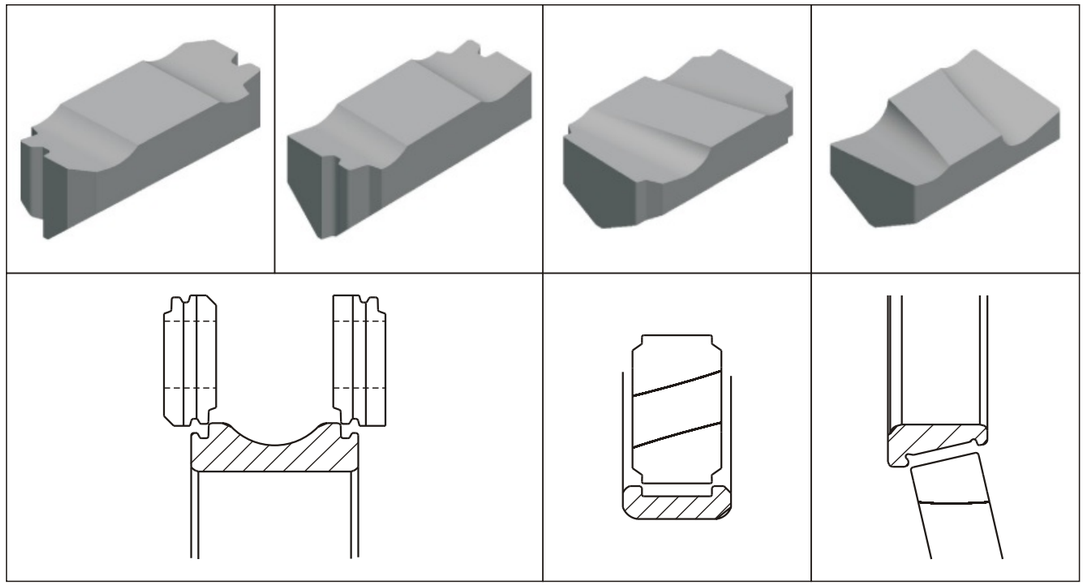


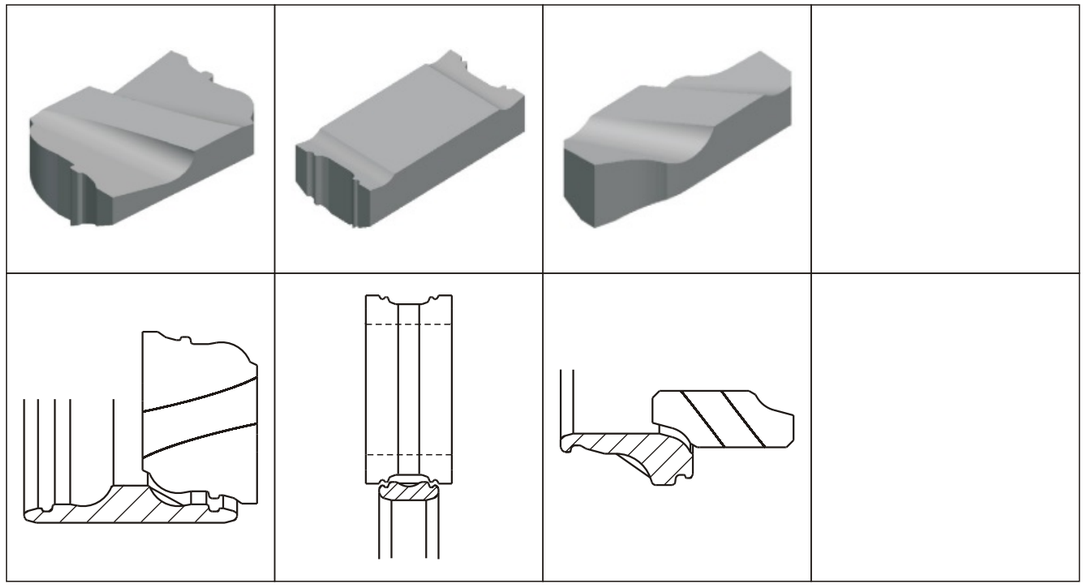
30×20×10

V (船)形刀片类
V shaped Inserts



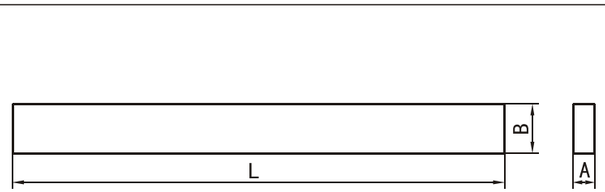






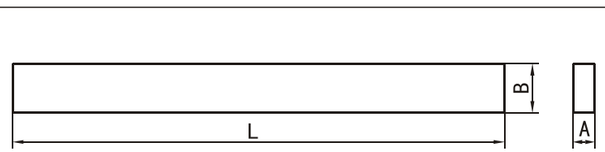
配套刀具
Coupling Cutting Tools

1、分套刀（横拔刀 特殊要求可定做）
Trepanning Tools Special Requests are available



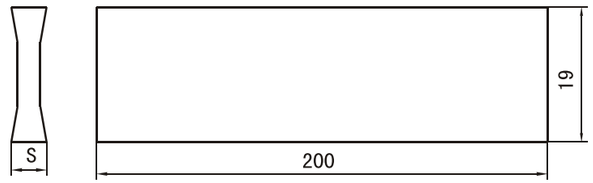
参数 Parameter (mm) / 序号 Line #	A	B	L
1	3	7	150
2	3.5	8	150
3	3	7	72
4	3.5	8	72
5	4.5	8	150

1、内径刀（特殊要求可定做）
Boring Tools Special Requests are available

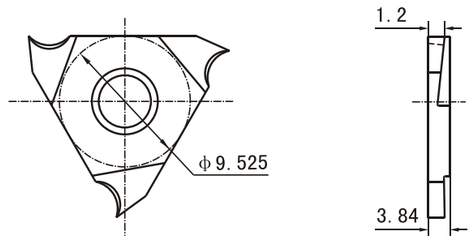


参数 Parameter (mm) / 序号 Line #	A	B	L
1	5.5	7	80
2	5	5	80

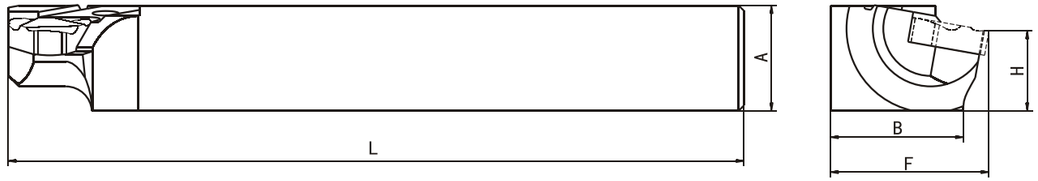
2、切断刀（特殊要求可定做）
Cutting Off Tools Special Requests are available



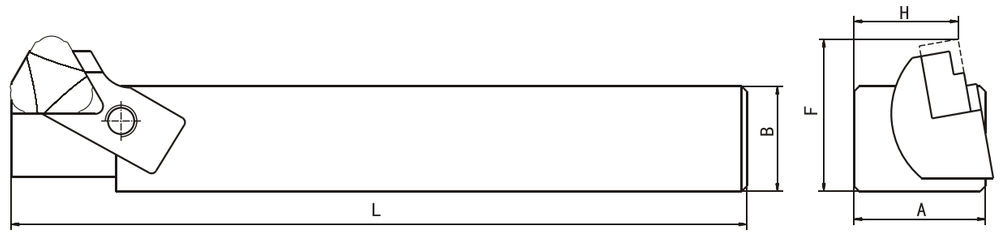
参数 Parameter (mm) / 序号 Line #	S
1	1.0
2	1.2
3	1.4
4	1.8



专用刀杆
Dedicated Tool Holder

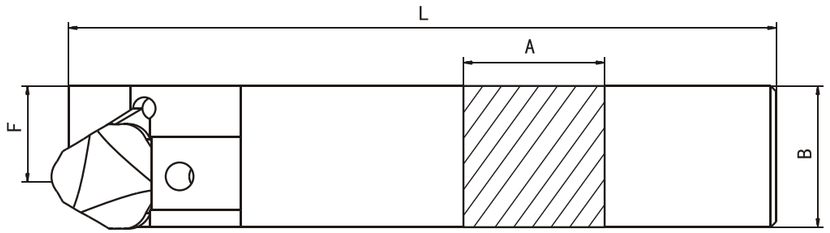


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TGY10L130R	13.5	28	19	20	130	TNGN220408	YB-40°	M6	5MM
TGY10L140R	15	30	20	20	140	TNGN220408	YB-TGY10L140R	M6	5MM
TGY10L160R	20	31	25	25	160	TNGN220408	YB-25°	M6	5MM
T15GY10L160R	16.8	36.5	25	25	160	TNGN270416	YB-T15GY10L160R	M6	5MM

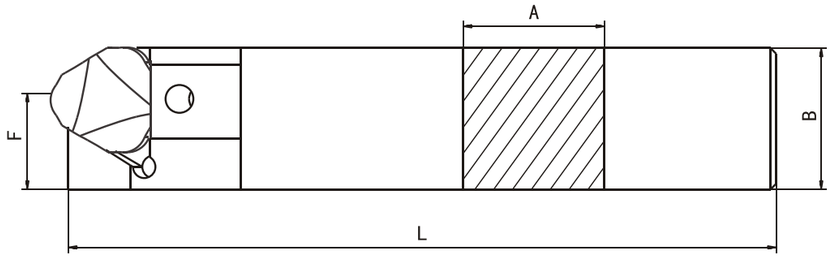


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TGY10L150L	19.8	29	25	20	150	TNGN220408	YB-25°(L)	M6	5MM
T15GY10L160L	16.4	36.5	25	25	160	TNGN270416	YB-T15GY10L160L	M6	5MM

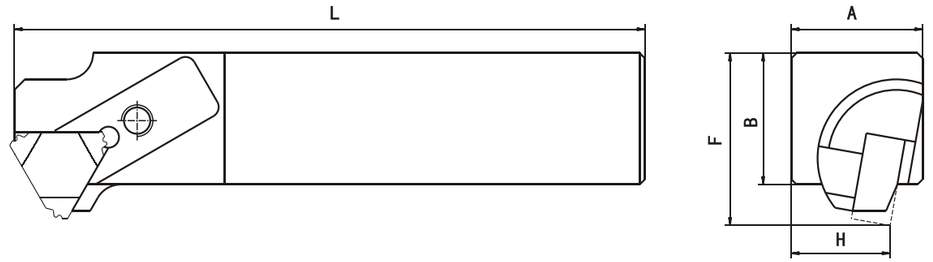
专用刀杆
Dedicated Tool Holder



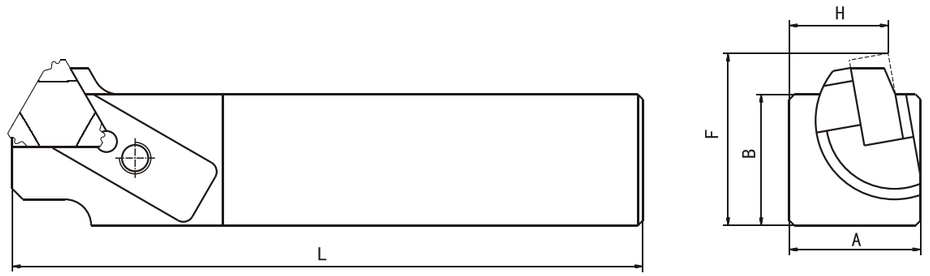
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
NGX10L160R	20.4	17	25	25	160	TNGN220408	YB-NGX10L160R	M6	5MM
NGX10L160RF	20.4	17	25	25	160	TNGN220408	YB-NGX10L160RF	M6	5MM
N15GX10L160R	20.3	16	25	25	160	TNGN270416		M6	5MM



刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
NGX10L160L	20.4	17	25	25	160	TNGN220408	YB-NGX10L160L	M6	5MM
N15GX10L160L	20.3	16	25	25	160	TNGN270416	YB-N15GX10L160L	M6	5MM

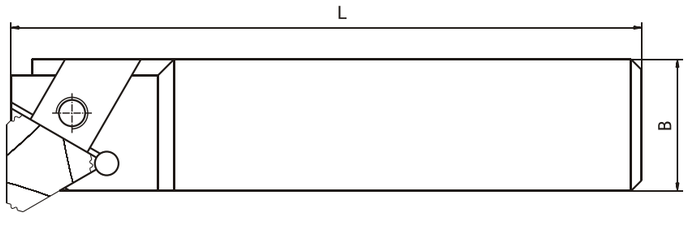


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TMY10L160R	18.8	32.8	25	25	160	TNGN220408	YB-25°	M6	5MM
TMY10L130R	12.5	29.3	20	20	130	TNGN220408	YB-25°	M6	5MM
TMY10L130RF	12.5	29.3	20	20	130	TNGN220408	YB-25°	M6	5MM
TMY8L130R	17.7	22.4	20	20	130	TNGN220408	YB-6°	M6	5MM

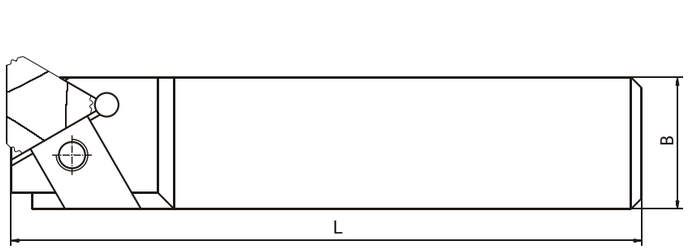


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TMY8L130L	17.7	22.4	20	20	130	TNGN220408	YB-6°	M6	5MM

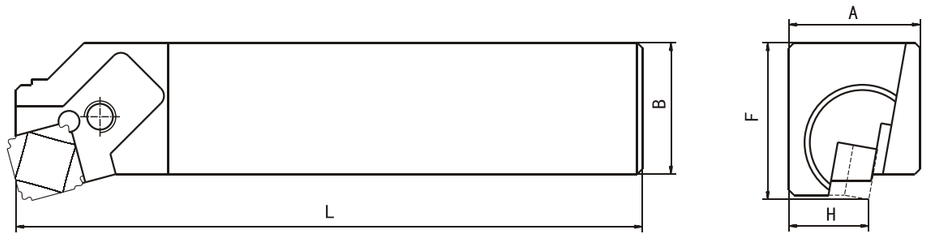
专用刀杆
Dedicated Tool Holder



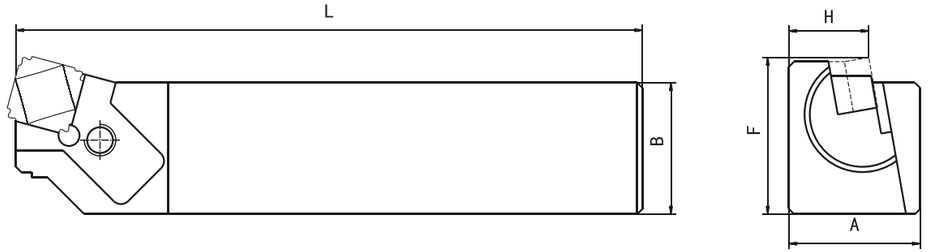
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TMY10L160RSP	20.5	28.4	25	25	160	TNGN220408	YB-TMY10L160RSP	M6	5MM
TMY13L140RSPYB	11.5	18.24	15	16.5	140	TNGN160308	YB-TMY13L140RSPYB	M4	3MM
TMY13L140RSP	11.5	18.24	15	16.5	140	TNGW160308		M4	3MM



刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TMY10L160LSP	20.5	28.4	25	25	160	TNGN220408	YB-TMY10L160LSP	M6	5MM

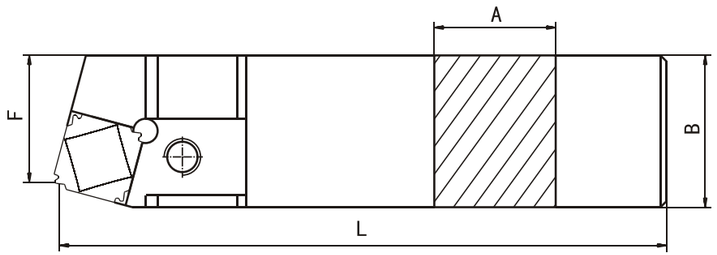


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
SMY10L160R	15.2	29.8	25	25	160	SNGN120408	YB-65°	M6	5MM
SMY15L160R	14.5	29	25	25	160	SNGN120408	YB-65°	M6	5MM
SMY7L120R	17.7	22.9	20	20	120	SNGN120408	YB-SMY7L120R	M6	5MM

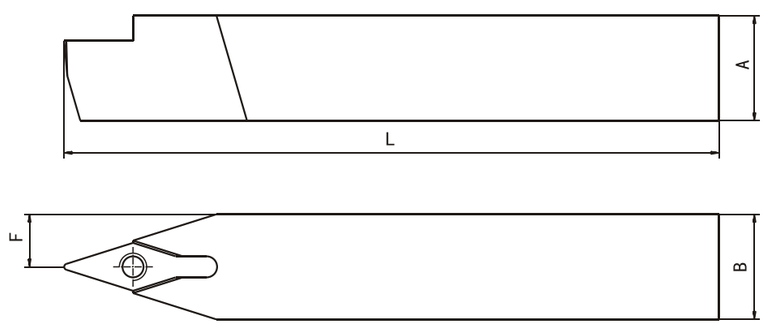


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
SMY7L120L	17.7	22.9	20	20	120	SNGN120408	YB-SMY7L120R	M6	5MM

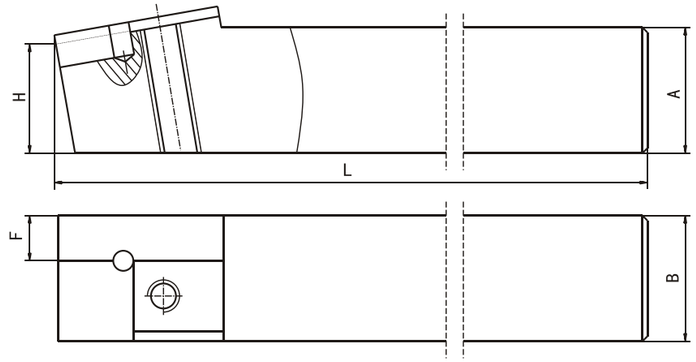
专用刀杆
Dedicated Tool Holder



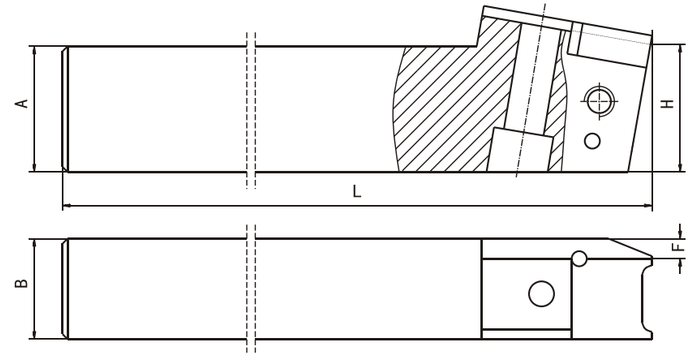
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
SMX10L140R	17.4	20.9	20	25	140	SNGN120408	YB-65°	M6	5MM



刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	F	A	B	L				
SVVBN2020K16	20	10	20	20	125	VBMT160404/08		M4	T15

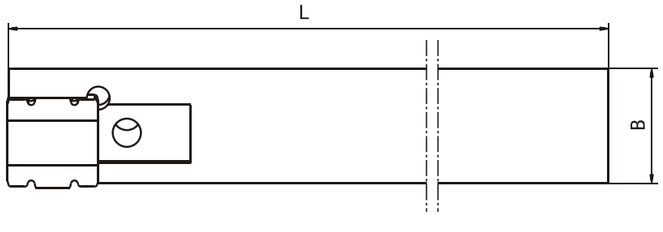


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	F	A	B	L				
SMDX10L160R	21.5	9	25	25	160	SNGN150412	YB-SMDX10L160R	M6	5MM

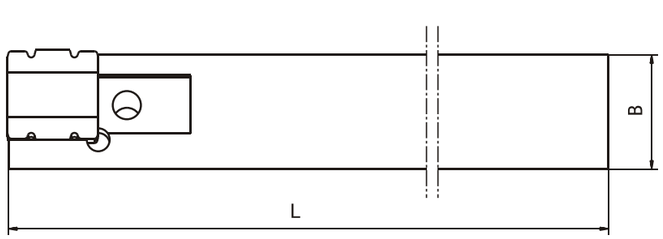


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	F	A	B	L				
SMDX10L160FC	25.4	4	25	20	160	SNGN150412	YB-SMDX10L160FC	M6	5MM
							LM-SMDX10L160FC		

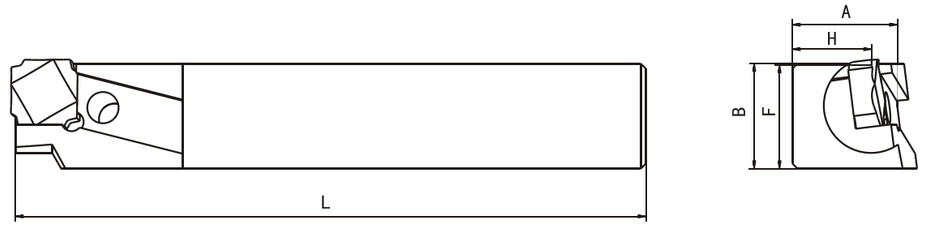
专用刀杆
Dedicated Tool Holder



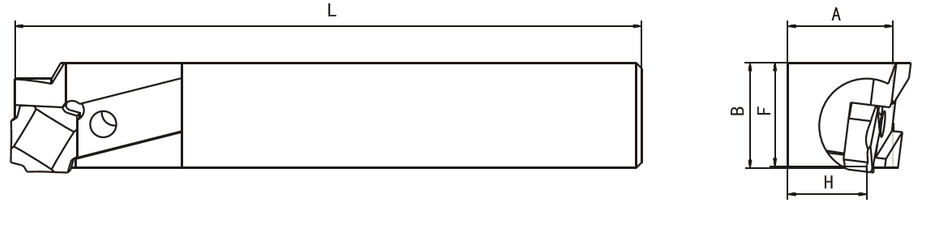
刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	侧压螺钉 Screw	L			
SMDX10L160R-ZX15.7	15.3	20.8	18	20	M4	150	SNGN150412	M6	5MM
SMDX10L160R-ZX14.3	15.3	20.8	18	20	M4	150	SNGN140408	M6	5MM
SMDX10L160R-ZX12.5	15.3	20.8	18	20	M4	150	SNGN120408	M6	5MM



刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	侧压螺钉 Screw	L			
SMDX10L160L-ZX15.7	15.3	20.8	18	20	M4	150	SNGN150412	M6	5MM
SMDX10L160L-ZX14.3	15.3	20.8	18	20	M4	150	SNGN140408	M6	5MM
SMDX10L160L-ZX12.5	15.3	20.8	18	20	M4	150	SNGN120408	M6	5MM

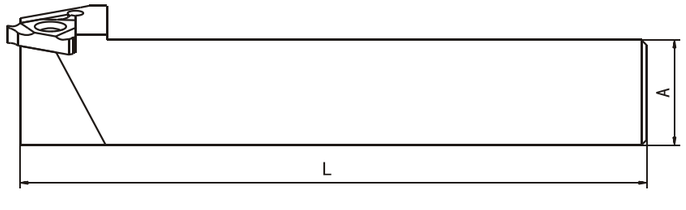


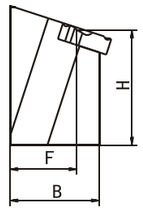
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
X7Y7L160-WR12	19	26	25	25	160	SNGN120408	YB-65°	M6	5MM
X7Y7L160-WR12F	19	26	25	25	160	SNGN120408	YB-65°	M6	5MM
X7Y7L140-WR12	15	19.8	20	20	140	SNGN120408	YB-X7Y7L140-WR12	M6	5MM
X7Y7L150-WR12JH	14.1	19.8	20	20	150	SNGN120508	YB-X7Y7L150-WR12JH	M6	5MM
X7Y7L160-WR16	17.8	26.5	25	25	160	SNGN150412	YB-65°	M6	5MM



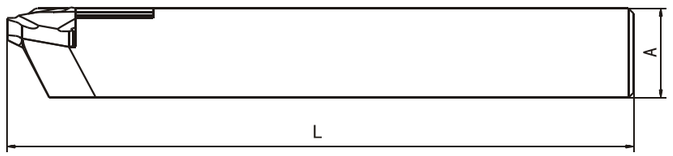
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
X7Y7L160-NR12	19	26	25	25	160	SNGN120408	YB-65°	M6	5MM
X7Y7L140-NR12	15	19.6	20	20	140	SNGN120408	YB-X7Y7L140-NR12	M6	5MM
X7Y7L160-NR16	17.8	26.5	25	25	160	SNGN150412	YB-65°	M6	5MM
X9Y9L120-NR9	12	19	18	20	120	SNGN090408	YB-X9Y9L120-NR9	M4	3MM
X9Y9L120-NR12	12	19	18	20	120	SNGN120408	YB-X9Y9L120-NR12	M6	5MM

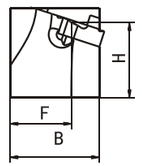
专用刀杆
Dedicated Tool Holder



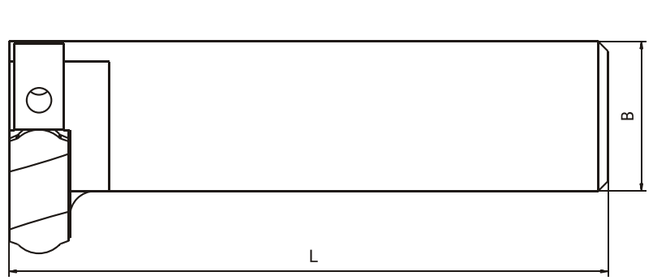


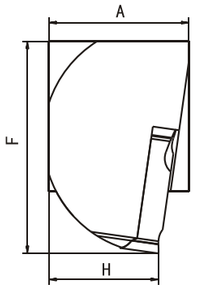
刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
NRY18L140R	21.9	12.7	20	17	140	TNGW160308		M4	T15



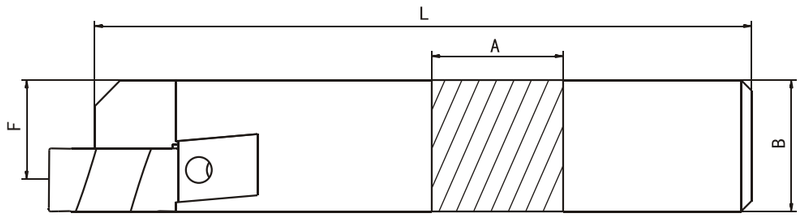


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
NRY18L140RYB	14.3	11.7	17	17	140	TNGN160308	YB-NRY18L140RYB	M4	3MM
NRY20L140R	15.7	15.8	20	23	140	TNGN220408	YB-NRY20L140R	M6	5MM



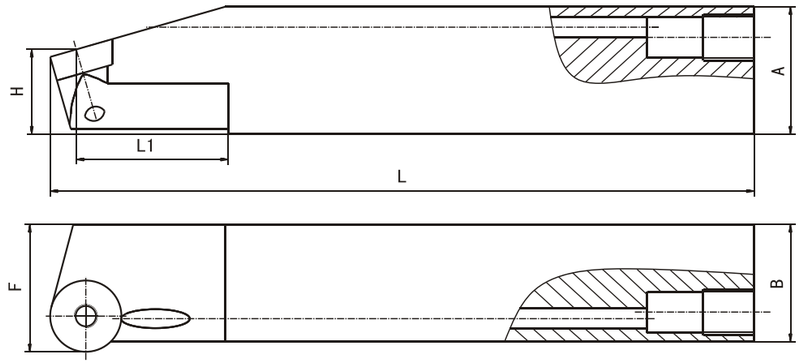


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
VG12R3028L150	21.9	42.5	28	30	150	25×12×8 25×12×7.5 120° V型	YB-VG12R3028L150	M6	5MM
VG15R3028L150	21.9	42.5	28	30	150	25×15×9 25×15×9.53 120° V型	YB-VG15R3028L150	M6	5MM
VG8R2520L160	20	31.8	20	25	160	20×8×8 20×7×7 90° V型	YB-VG8R2520L160	M6	5MM
VG20R3232L160	25	50	32	32	160	30×20×10 120° V型	YB-VG20R3232L160	M6	5MM

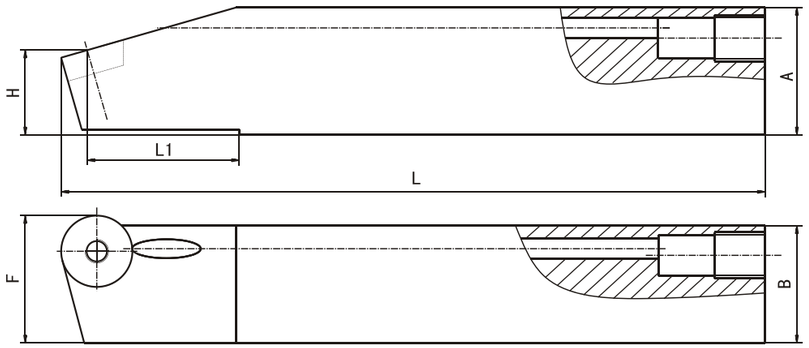


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
VG12J2525L160R	18	19	25	25	160	25×12×8 25×12×7.5 120° V型	YB-VG12J2525L160R	M6	5MM
VG8J2020L160R(90°)	15	16	20	20	160	20×8×8 20×7×7 90° V型	YB-VG8J2020L160R(90°)	M6	5MM
VG8J2020L160R(120°)	15	16	20	20	160	20×8×6 120° V型	YB-VG8J2020L160R(120°)	M6	5MM
VG20J3232L160	25	20	32	32	160	30×20×10 120° V型	YB-VG20J3232L160	M6	5MM
VG15J2525L160R	19.5	17.5	25	25	160	25×15×9 25×15×9.53 120° V型	YB-VG15J2525L160R	M6	5MM

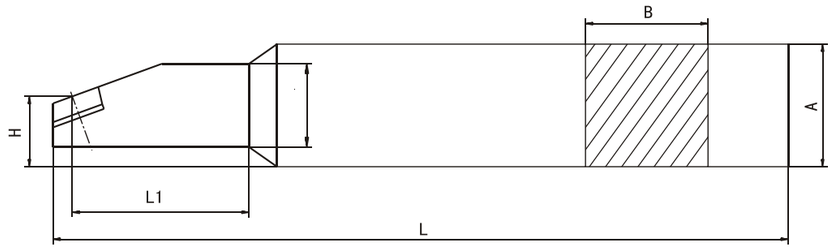
专用刀杆
Dedicated Tool Holder



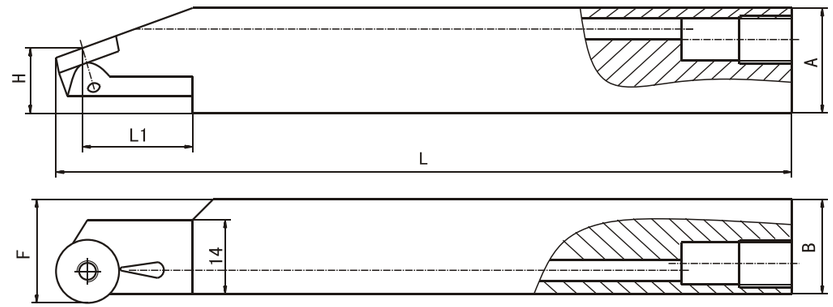
刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L1	L			
SRPGR2523K16	16.5	25	25	23	23	140	RPMT1604	M5	T20
SRCGR2523K16	16	24	25	23	30	140	RCMX1606	M5	T20



刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L1	L			
SRPGL2820K16	21	24.5	28	20	23	140	RPMT1604	M5	T20
SRCGL2523K16	16	24	25	23	30	140	RCMX1606	M5	T20

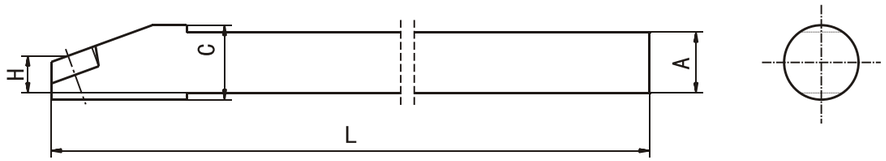


刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	C	A	B	L1	L			
S06K-SRLCR06	10	Φ7	20	20	13.6	125	RCMT0602M0	M2.5	T8
S08K-SRLCR08	10	Φ9	20	20	14.6	125	RCMT0803M0	M3	T8
S08M-SRLCR08M	10	Φ9	20	20	14.9	125	RCMX0803M0	M3	T8
S10K-SRLCR10	10	Φ11	20	20	14.6	125	RCMT1003M0	M3.5	T15
S12K-SRLCR12	10	Φ13	20	20	17.2	125	RCMT1204M0	M4	T15
S17K-SRCR12	12	Φ17	20	20	26	125	RCMT1204M0	M4	T15
S18M-SRLCR12	14.5	Φ18	25	25	36	150	RCMT1204M0	M4	T15

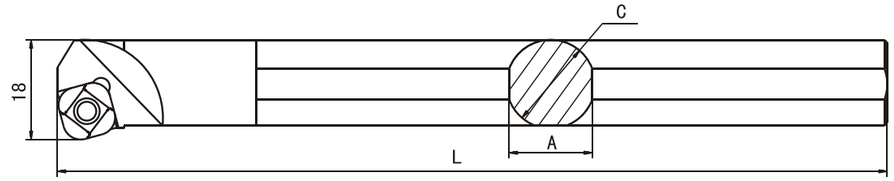


刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L1	L			
SRPGR2018K12	16.5	19.7	20	18	21	140	RPMT1203	M4	T15

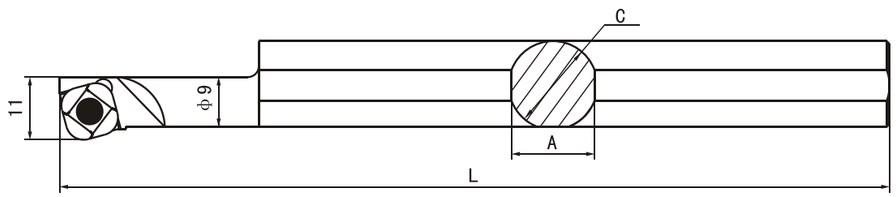
专用刀杆
Dedicated Tool Holder



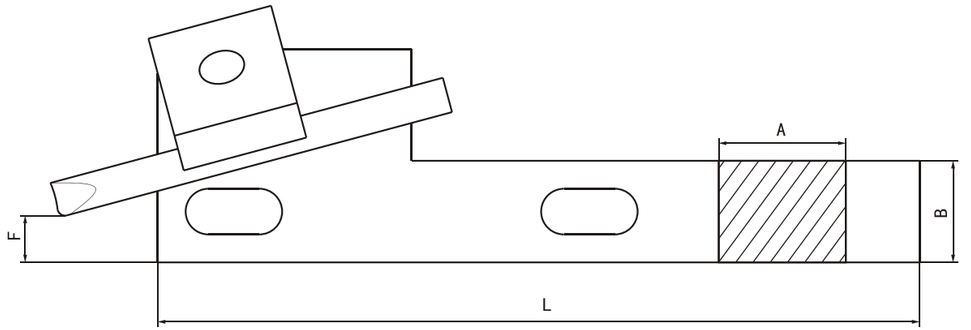
刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	C	A	B	L1	L			
S10M-SRLPR10F	5.5	Φ10	9			150	RCMT1003M0	M3.5	T15



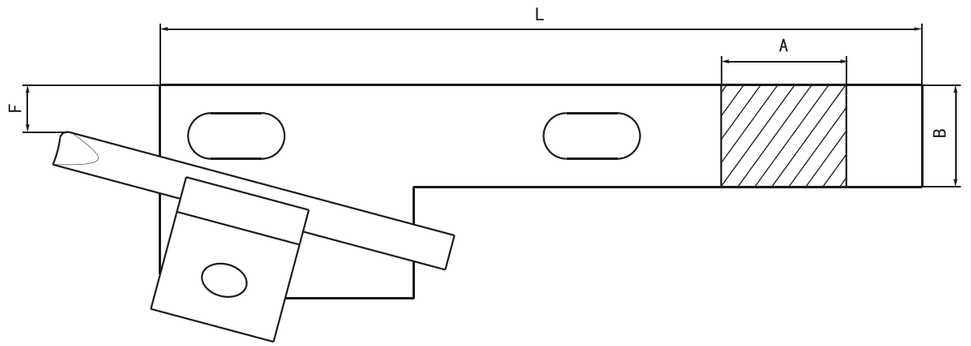
刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	C	A	B	L1	L			
SP2032	7.5	Φ16	15			150	SPMH090332	M4	T15



刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	C	A	B	L1	L			
SP2032-F	7.5	Φ16	15			150	SPMH090332	M4	T15

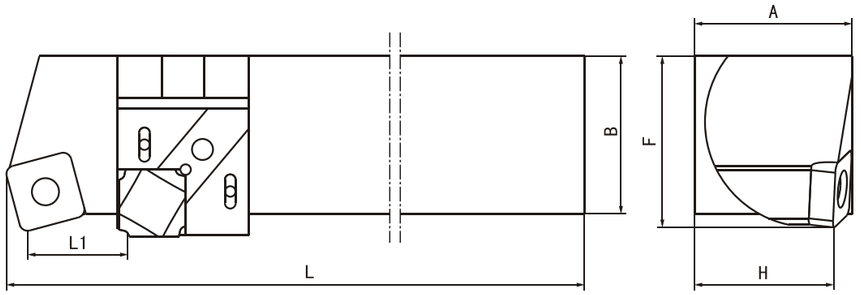


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TN758L150R	26.5	14	25	20	150	7×5.5×80 5×5×80	YB-TN758L150R	M8	6MM

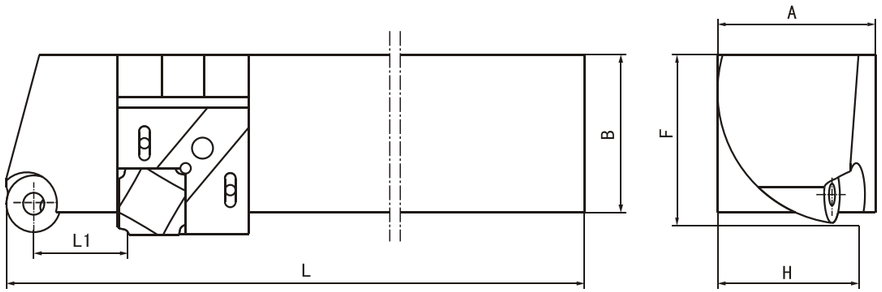


刀杆型号 Tool Holder Order No.	尺寸 Dimension					刀片基体 Insert Blank	压板 Clamp	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L				
TN758L150L	26.5	14	25	20	150	7×5.5×80 5×5×80	YB-TN758L150L	M8	6MM

专用刀杆
Dedicated Tool Holder



刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L1	L			
SSCX13Y7L160R	26.3	33.2	30	30	22	160	SNMG12404/08/16 SNGN120408	M4	T15



刀杆型号 Tool Holder Order No.	尺寸 Dimension						刀片基体 Insert Blank	螺钉 Screw	扳手 Wrench
	Hmax	Fmax	A	B	L1	L			
RSCX16Y7L160R	26.5	28	30	25	24	160	RCMX1204 SNGN120408	M4	T15

附录
Appendix

切削参数
Cutting Parameter

沟道刀具
Raceway Cutting Tool
V=80-100m/min, f=0.04-0.06mm/r

密封槽刀具
Seal Groove Cutting Tool
V=80-100m/min, f=0.02-0.05mm/r

倒角刀具
Radius Cutting Tool
V=80-100m/min, f=0.06-0.08mm/r