

车槽 • 切断 • 铣槽 • 插削 • 仿形铣削 • 钻孔 • 铰削



硬材料加工 金刚石和CBN

Ultra Hard Cutting Materials Diamond and Cubic Boron Nitride

2020



GROOVING • PARTING OFF • GROOVE MILLING • BROACHING • PROFILE MILLING • DRILLING • REAMING



HORN 全新样本 – 以高效作为标杆

我们的刀具为您提供,快速,经济高质量的解决方案. 从系列产品到单个零件,从标准到非标的应用.

- 槽加工
- Supermini 和 Mini 内孔加工
- 模块化系统
- 硬材料加工
- 铣削系统
- 钻孔/铰削
- 整体硬质合金立铣刀
- Boehlerit 铣削
- Boehlerit 车削

在每一个目录里,根据不同切削工艺区分,让您能快速的找到产品描述.
当您选定了特定的切削参数时,您会发现许多经验的数值表格.

Lothar Horn
首席执行官
Paul Horn GmbH

Markus Horn
首席执行官
Paul Horn GmbH

New catalogues from HORN - benchmarks for productivity

Our tools provide you with fast, economical, high quality solutions, from single part to series production, for standard or special applications.

Our complete range of standard tools is summarised in the new catalogues

- Grooving
- Supermini & Mini Internal Machining
- Modular Holder Systems
- Ultra Hard Cutting Materials
- Milling Systems
- Drilling / Reaming
- Solid Carbide Mills
- Milling Catalogue Boehlerit
- Turning Catalogue Boehlerit

In each catalogue, the breakdown into the type of cutting process makes it easier for you to quickly find the products described. When choosing the individual cutting parameters, you will find numerous tables with proven empirical values.

Lothar Horn, CEO
Paul Horn GmbH

Markus Horn, GmbH
Paul Horn GmbH

A 多晶金刚石
Polycrystalline Diamond**刀具系列 ISO**
System ISO**刀具系列 Supermini®**
System Supermini®**刀具系列 Mini**
System Mini**刀具系列 DTM**
System DTM**刀具系列 DA32**
System DA32**刀具系列 DS**
System DS**B 单晶金刚石**
Monocrystalline Diamond**高抛光车削**
High polish turning**高抛光铣削**
High polish milling**C 立方氮化硼**
Cubic boron nitride**刀具系列 Supermini®**
System Supermini®**刀具系列 Mini**
System Mini**刀具系列 229**
System 229**刀具系列 315**
System 315**D 技术说明,附加设备**
Technical Instructions, Additional equipment

A

B

C

D

超硬材料被定义为硬度超过硬质合金,金属陶瓷,切削陶瓷.根据这个定义,材料可以被分为以下两种不同的种类:

金刚石
立方氮化硼

金刚石切削材料可以被分成两个大类,单晶金刚石和多晶金刚石,而多晶金刚石可进一步分为两个子类别.

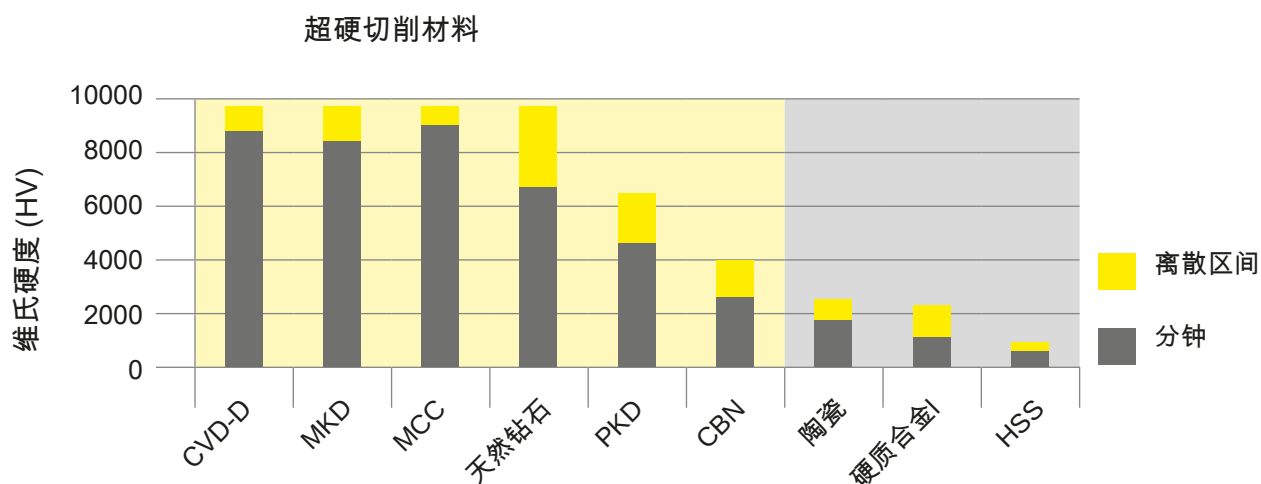
单晶金刚石,被用于精加工和超级精加工工序中.针对工件达到最佳的表面质量和最大化精准的槽型.高质量的切屑是成功的次要因素.

多晶金刚石切削材料,PCD和CVD-D两种主要的分类,不同于制造工艺及基体结构.

PCD 金刚石颗粒烧结于金属材料中的一种切削材料.每一个小颗粒为单晶金刚石.不同性能被制造由于不同的颗粒

CVD-D (化学气相沉积) 是气相沉淀. 后缀D表示层的厚度,被用于区别于普通的金刚石涂层. 层厚(0.3-1mm)一般取决于切削材料,结合于硬质合金刀具上.

PCBN(多晶立方氮化硼) 基体有着不同的性能由于不同的成分. 用于不同的特殊场合.



The term **ultra hard cutting materials** describes all cutting materials that are classified above carbides, cermet and cutting ceramics on the hardness scale. Within this definition, it is possible to differentiate between two groups:

Diamond cutting materials PCBN substrates

Diamond cutting materials can be split into two main groups, monocrystalline and polycrystalline, whereby polycrystalline is then split into a further two subgroups.

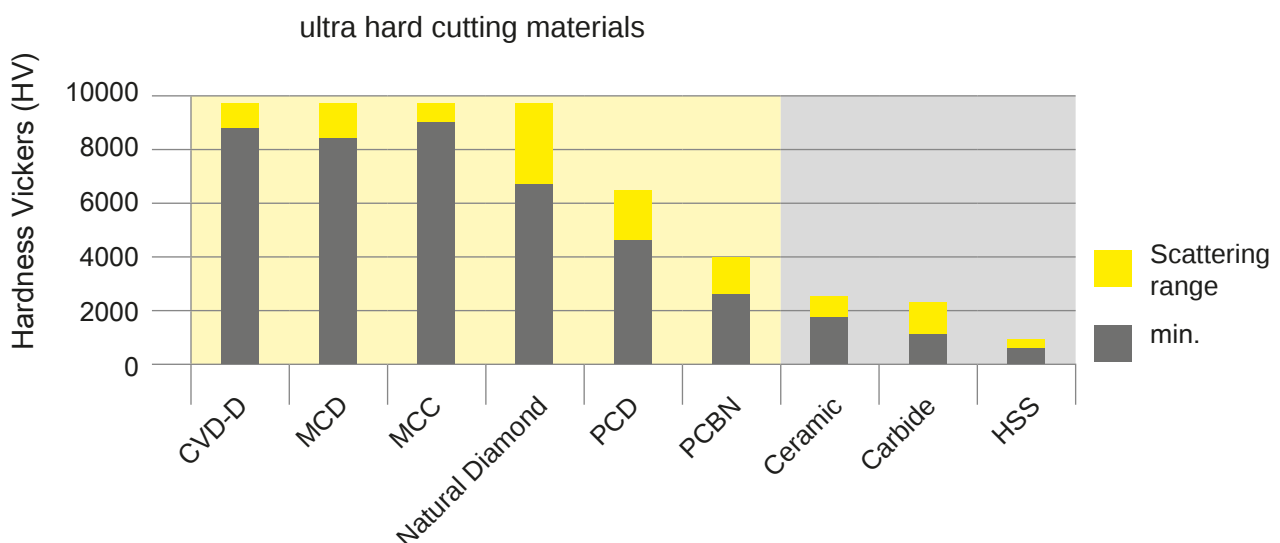
Monocrystalline diamonds are used in finishing and superfinishing processes. Optimum surfaces and maximum geometric accuracies for the components are the focus here. High chip volume is secondary to these criteria.

Polycrystalline diamond cutting materials, PCD and CVD-D differ primarily in terms of how they are manufactured and their structure.

PCD describes a cutting material group in which the diamonds are sintered as grains in a metal matrix. Each individual grain is itself monocrystalline. Different properties are produced due to the variation of the grains.

CVD-D (chemical vapour deposition) is deposited from the gas phase. The suffix "D" stands for thick film and is used to differentiate it from conventional diamond coating. Thick film describes the thickness (0.3 - 1 mm) of the cutting material that is soldered to the carbide toolholder for further processing.

PCBN (polycrystalline cubic boron nitride) substrates have different properties due to their composition. These are configured specifically for the application



选择正确的应用是重要的,当切削中最大发挥PCBN及金刚石切削材料的最大潜力.

高级别的金刚石硬材料,它主要有PCD,MCD,CVD-D及天然金刚石. 在一些特殊要求的加工任务中,金刚石可以使用锋利的切削刃口从而代替普通的加工材料.

这类材料具有良好的抗热磨损同时保持高的硬度, 这个是仅次于金刚石,PCBN(多晶立方氮化硼)是理想的淬硬钢加工材料. 不同的PCBN基材在其组成以及由此产生的机械和化学性能方面有所不同.另外加工硬化钢(45-70 HRC),这种切削材料组也非常适合加工铸造材料和特殊合金--碳化物和切削陶瓷经常达到极限的一种应用.

各种超硬切削材料的组成结构可根据不同的任务进行优化.因此,选择合适的切割材料,结合合适的几何槽型是非常重要的.

推荐的切削参数是能够实现有效结果和断屑的关键数据.在每一种情况下,都需要使参数适应整体的加工情况.

为了达到尽可能好的效果,必须考虑整个加工环境,并使其达到尽可能高的稳定性.机床的结构、导轨、主轴以及工件和刀具的夹紧系统对加工效果起着至关重要的作用.

Choosing the right application is crucial when it comes to maximising the huge potential of PCBN and diamond cutting materials in manufacturing.

The high level of hardness of diamond in its various forms such as PCD, MCD, CVD-D or natural diamond and the resulting cutting edge sharpness may mean that a different approach to the one taken with conventional cutting materials may be required depending on the machining task in question.

Its high heat resistance combined with the high level of hardness, which is second only to diamond, makes PCBN (polycrystalline cubic boron nitride) the ideal cutting material for machining hardened steels. The different PCBN substrates vary in terms of their composition and the resulting mechanical and chemical properties. In addition to the machining of hardened steels (45-70 HRC), this cutting material group is also highly suited to the machining of cast materials and special alloys – an application where carbides and cutting ceramics often reach their limits.

The composition and/or structure of the various ultra-hard cutting materials are optimised for different tasks. Therefore, it is extremely important that the right type of cutting material in combination with the right cutting geometry is selected.

The recommended cutting parameters are the key data that enable an efficient result and/or chip break to be achieved. In each case, it is necessary to adapt the parameters to the machining situation as a whole.

In order to achieve the best results possible, the entire machine environment must be taken into account and brought to the highest level of stability possible. The structure of the machine, guides, spindles and the clamping systems for the workpiece and tools play a key role with respect to the result.

不是所有的PCD都一样

Not all PCD is the same



PCD是一种复合切削材料.金刚石颗粒, 每一个单晶的性质, 是烧结彼此在一个金属基体(一般为钴).在烧结过程中, 晶粒在晶体内生长, 单个晶粒在一定程度上共同生长,从而影响材料在使用过程中的磨损性能.

除了烧结工艺外, 所使用的晶粒尺寸和质量也是衡量耐磨性的一个指标.可以推导出以下理论原理:"颗粒越大, 耐磨性越好". 然而, 这损害了可以达到的尖端质量, 削片和锐度. 不考虑用于生产切削刃的制造技术. 金属结合相的体积分数百分比也会增加, 并产生负作用.

HORN高性能PCD是由复杂的混合不同的钻石颗粒大小.金刚石的体积分数增加, 有效硬度、韧性和切削质量增加.毫无疑问, 严格的质量标准得到了遵守和监控, 确保了最高的性能.

PCD is a compound cutting material. Diamond grains, each one of a monocrystalline nature, are sintered to each other in a metal matrix, generally cobalt. During the sintering process, the grains grow within the crystals and the individual grains grow together to a limited extent, thereby affecting the wear properties during subsequent use.

In addition to the sintering technology, the size and quality of the grains used are an indicator of wear resistance. It is possible to derive the following theoretical principle: "the larger the grain, the better the abrasion resistance". However, this compromises the cutting edge quality, chipping and sharpness that can be achieved, irrespective of the manufacturing technology used to produce the cutting edges. The percentage volume fraction of the metallic binding phase also increases and has a negative effect.

HORN high-performance PCD is comprised of a sophisticated mixture of different diamond grain sizes. The volume fraction of diamond increases, as do effective hardness, toughness and cutting quality. It goes without saying that strict quality standards are observed and monitored and ensure maximum performance.

CVD-D的耐磨性显著高于PCD. 其原因是, 它没有一个金属结合倒角, 而事实是, 它有一个结果钻石成分几乎百分之百. 单个的单晶金刚石颗粒从气体中沉积下来, 并一起生长, 因此它们不能被分离, 形成一个固体的聚合物金刚石层.

过程类似于金刚石涂层硬质合金工具, 但层厚度只有几 μm 厚, 因此相对较短的时间在使用后损坏

除了最大硬度, 金刚石的其他积极性能也有利于加工过程. 其特殊的导热性, 确保冷却切割. 摩擦系数低, 粘接倾向低, 可有效防止堆积物边缘形成. 即使使用关键的铝合金, 也可以在不使用冷却润滑剂的情况下进行可靠的加工.

激光技术是必不可少的, 当涉及到制造CVD-D切削刃. 如果没有这项技术, 就不可能实现高切削质量和切屑形状的槽型. 可达到的表面质量明显优于PCD生产的切削刃. 由于其物理性能的原因, 其断裂韧性较低, 在一定程度上限制了材料的使用.

可达到的刀具寿命是PCD刀具的两倍或几倍.

The wear resistance of CVD-D significantly exceeds that of PCD. The reason for this is that it does not have a metallic binding chamfer and the fact that it has a resulting diamond component of almost 100 per cent. Individual, monocrystalline diamond grains are deposited from gas and grow together so that they cannot be separated to form a solid, polymeric diamond layer.

The process is similar to the diamond coating of carbide tools but the layer thickness is just a few μm thick and is therefore worn away after a relatively short time in use.

In addition to maximum hardness, other positive properties of diamond also benefit the machining process. Its special heat conductivity ensures cool cutting. The low coefficient of friction and a low adhesive tendency reliably prevent build-up edges from forming. Reliable machining processes can be performed even with critical aluminium wrought alloys without using cooling lubricant.

Laser technology is indispensable when it comes to manufacturing CVD-D cutting edges. It would simply be impossible to achieve the high cutting quality and apply chip shape geometries without this technology. The surface qualities that can be achieved are significantly better than those of cutting edges produced from PCD. Only its lower fracture toughness, which is due to its physical properties, limits the use of the material to some extent.

The achievable tool life is double or several times that of tools manufactured from PCD.

HORN 3D-断屑器

HORN 3D chip breaker



规格	HORN 3D-断屑器		前角	性能
HF	普通	焊接刀尖	25 - 30°	针对孔加工的槽型 推荐,过孔直径50%大于刀具直径
HS	精加工		25 - 30°	精加工到中等加工,绝对锋利切削刃口,正前角,在加工多数脆性材料有低的切削力
HN	普通/ 粗加工		15 - 25°	各种用途的中型加工,强壮的切削刃口,大切深和高进给率.
G.HS	精加工	PCD沿整体硬质合金刀片的切削刃	25 - 30°	精加工到中等加工,绝对锋利切削刃口,正前角,在加工多数脆性材料有低的切削力
G.HN	普通/ 粗加工		15 - 25°	各种用途的中型加工,强壮的切削刃口,大切深和高进给率.
F.HS	精加工	全面的	25 - 30°	精加工到中等加工,绝对锋利切削刃口,正前角,在加工多数脆性材料有低的切削力
F.HN	普通/ 粗加工		15 - 25°	各种用途的中型加工,强壮的切削刃口,大切深和高进给率.
W.HS	精加工	修光刃槽型	25 - 30°	2 - 4 倍进给率,见D5
W.HN	普通/ 粗加工		15 - 25°	2 - 4 倍进给率,见D5

Specifica- tion	HORN 3D chip breaker		Chip angle	Properties
HF	normal	Edge tipped	25 - 30°	Geometry for machining of bors, Recommendation: Bore diameter 50% greater than tool diameter
HS	finishing		25 - 30°	Fine to medium machining, absolute sharp cutting edge, positive cut, lowest cutting force on most fragile components
HN	normal/ roughing		15 - 25°	Medium machining for all purpose, strongest cutting edge, for high depth of cut and feed rates
G.HS	finishing	PCD along the whole cutting edge of the solid carbide insert	25 - 30°	Fine to medium machining, absolute sharp cutting edge, positive cut, lowest cutting force on most fragile components
G.HN	normal/ roughing		15 - 25°	Medium machining for all purpose, strongest cutting edge, for high depth of cut and feed rates
F.HS	finishing	Full face	25 - 30°	Fine to medium machining, absolute sharp cutting edge, positive cut, lowest cutting force on most fragile components
F.HN	normal/ roughing		15 - 25°	Medium machining for all purpose, strongest cutting edge, for high depth of cut and feed rates
W.HS	finishing	Wiper Geome-tries	25 - 30°	2 - 4 times higher feed rate, see page D5
W.HN	normal/ roughing		15 - 25°	2 - 4 times higher feed rate, see page D5

使用带HORN 3D-断屑器刀片时，请注意以下事项:

- 找到切削深度和进给速度的正确组合,以获得完美的切屑控制.
- 内孔车削时，应只使用中置刀杆(径向角为0°的刀片). 特别是在使用HS槽型刀片时,由于槽型的设计，在某些情况下会导致切削刃的机械力过大.
- 对于退刀槽和底切时,当两个切削刃同时在切割时,不应使用HS. 究其原因,槽型为小切深而设计的断屑器.

When using inserts with HORN 3D chip breaker please observe the following:

- Find the right combination of depth of cut and feed rate in order to obtain perfect chip control.
- When turning internal, you should use only **neutral tool holder** (radial angle of the insert 0°). In particular with the chip breaker **HS** in some cases it can come to a mechanical overstress of the cutting edge because of the design of the chip breaker.
- For relief grooves and undercuts, where both of the cutting edges are in cut at the same time, you should **not** use **HS**. The reason is in the geometrical design of the chip breaker for lowest depth of cuts. Chips may build up, this can lead to mechanical overstress and breakage of the cutting edge.

切削材料结合切屑槽型,是成功的关键

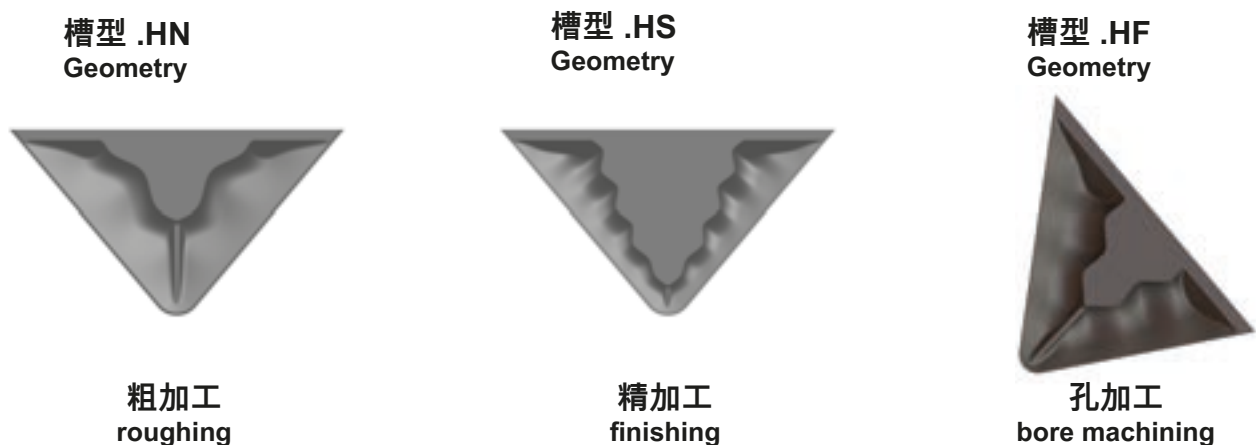
CVD-D和PCD是加工铝、镁合金、其他有色金属、各种塑料复合材料和硬质合金等特殊磨料的首选材料,包括预烧结材料和终烧结材料.

将金刚石切削刃的经济刀具寿命与HORN切屑槽型.HF, .HN 和.HS 相结合, 形成一套优化的切削系统

这一发展开辟了更多的应用领域,提高了加工铝合金的可靠性、速度和精度,从而大大提高了生产效率.即使毛刺的形成是更换刀具的主要标准, .HS槽型的锋利切削刃也能使刀具寿命延长2.5到4倍.

注意:

目录中规定的 l_1 长度为槽型的有效工作长度. 不同金刚石加工材料的描述见D6页,切削参数见A50-A51页..



Cutting material in conjunction with chip shape geometry, the key to success

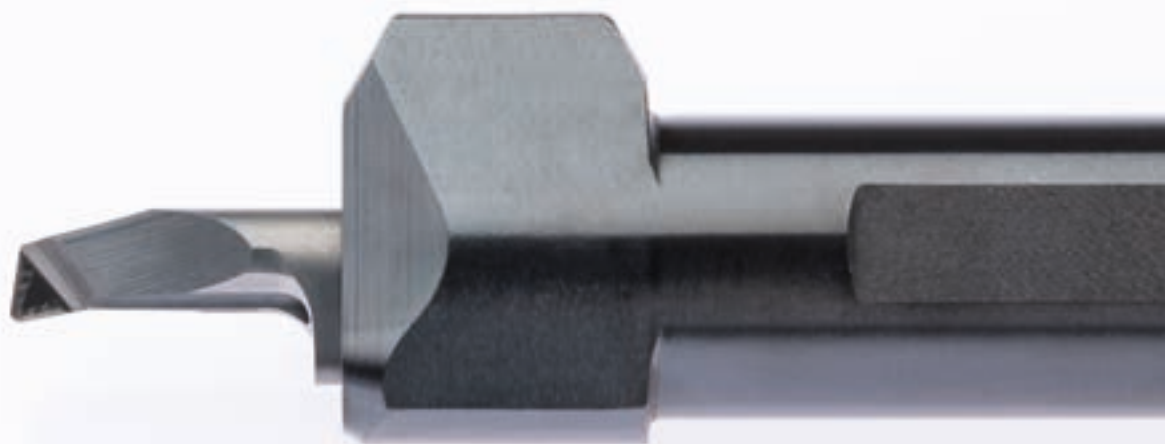
CVD-D and PCD are the materials of choice for machining aluminium and magnesium alloys, other non-ferrous metals, all plastic composite materials and abrasive special materials, such as carbides, both pre-sintered and final-sintered.

The economical tool lives of diamond cutting edges are combined with the .HF, .HN and .HS HORN chip shape geometries to form an optimum cutting system.

This development opens up additional areas of application and improves the machining of aluminium wrought alloys with respect to process reliability, speed and precision, thereby significantly increasing manufacturing efficiency. Even when burr formation is the main criteria for changing a tool, the sharp cutting edges of the .HS geometry enable the tool life to be increased by between 2.5 and 4 times.

Notes:

The length l_1 specified in the catalogue is the effective length of the chip shape geometry. The description of the different diamond cutting materials can be found on page D6 for cutting data please see pages A50-A51.



系列/System	页/Page
ISO	A2
Supermini®	A52
Mini	A62
DTM	A82
DA32	A88
DS	A96

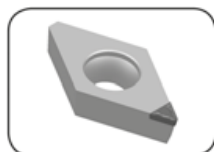
刀片

Insert

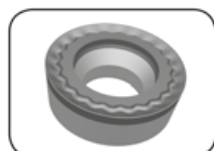
CCGT/CCGW/
CPGT/CPGW/
DCGT/DCGW/
RCGT/RCGW/
RPGT/RPGW/
SCGT/SCGW/
TCGT/TCGW/VBGT/
VBGW/VCGT/VCGW



页/Page
A6-A20



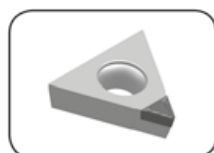
页/Page
A21-A26



页/Page
A27-A30



页/Page
A31-A36

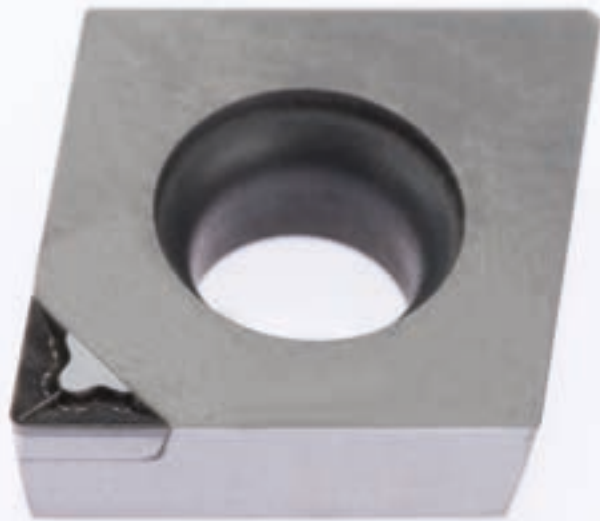


页/Page
A37-A44



页/Page
A45-A49

ISO



**CVD-D 与 PCD 镶片
配 HORN 3D-槽型**

刀杆详见 Boehlerit 样本

**CVD-D and PCD tipped
with HORN 3D geometries**

For Holders please see our
catalogue Boehlerit

ISO设计编码

ISO-Designation-Code

1

C

2

C

3

G

4

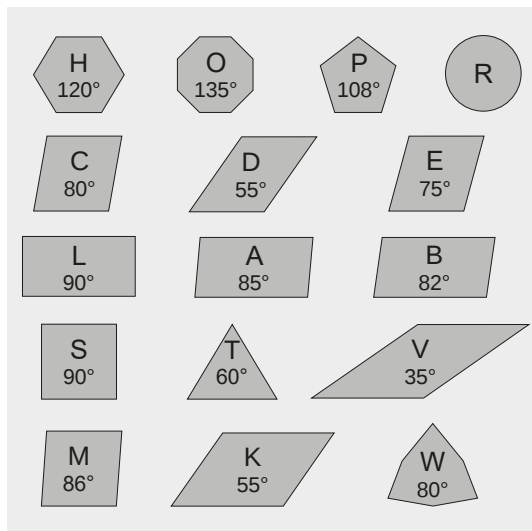
T

5

09

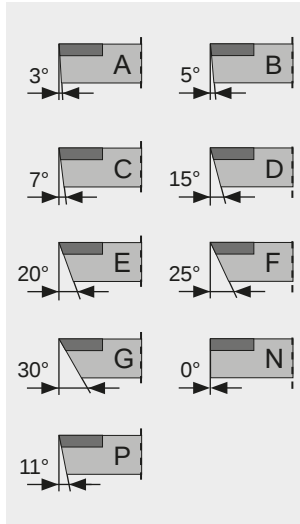
1 形状

Shape



2 后角

Clearance



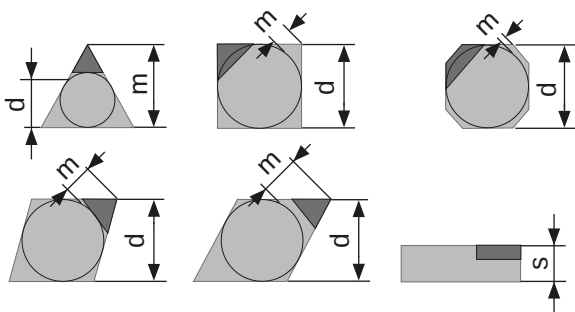
4 刀片类型

Insert type

A	
G	
M	
N	
P	
R	
T	
W	
X	特殊 Special

3 精度等级

Tolerance grade



	m	s	d*
A	±0,005	±0,025	±0,025
E	±0,025	±0,025	±0,025
F	±0,005	±0,025	±0,013
G	±0,025	±0,013	±0,025
H	±0,013	±0,025	±0,013
J	±0,005	±0,025	±0,05-0,15
K	±0,013	±0,025	±0,05-0,15
L	±0,025	±0,025	±0,05-0,15
M	±0,08-0,20	±0,05-0,13	±0,05-0,15
N	±0,08-0,20	±0,025	±0,05-0,15
U	±0,13-0,38	±0,13	±0,08-0,25

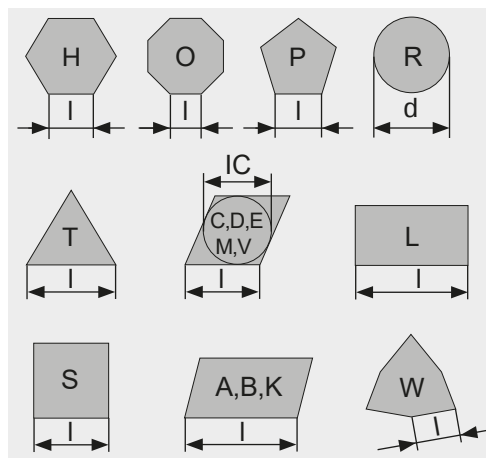
公差单位 mm
Tolerance in mm

* 确切公差由刀片尺寸决定

* Exact tolerance is determined by size of insert

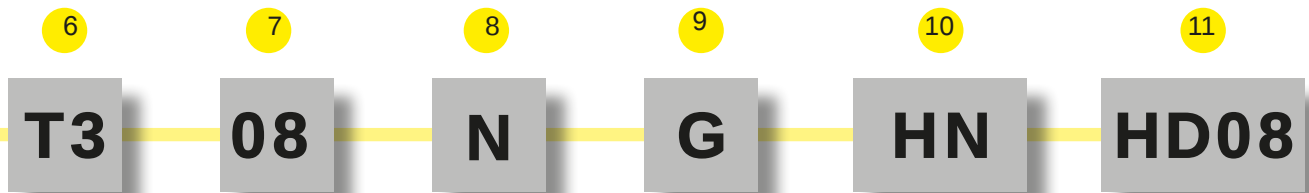
5 切削刃长度/刀片尺寸

Length of cutting edge/insert size



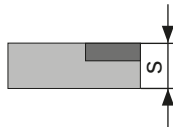
IC "d" 见订货描述
IC "d" see order description

如果小于10用0代替 (例如: 9,525 mm = 09)
If less than 10 use 0 in first place (Example: 9,525 mm = 09)



6 厚度 mm Thickness in mm

	S
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35



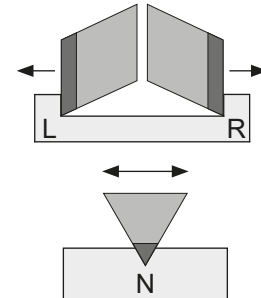
如果小于10用0代替
(例如: 3,18 mm = 03)
If less than 10 use 0 in first place
(Example: 3,18 mm = 03)

7 圆角 Corner configuration

圆弧 Radius	
00	锋利刀尖 Sharp corner
01	0,1 mm
02	0,2 mm
04	0,4 mm
08	0,8 mm
12	1,2 mm
16	1,6 mm
00	圆刀片 (英寸) Round insert (inch)
M0	圆刀片 (公制) Round insert (metr.)



8 进给方向 Feed direction



9 镶片类型 Tipping type

无 without	镶片 Edge tipped
F	整面 Full face
G	整个切削刃 Whole cutting edge
W	秀光刃 Wiper Geometries

10 断屑器 Chipbreaker

HN	HORN 3D-槽型, 中等至粗加工 HORN 3D Geometry, medium up to roughing
HS	HORN 3D-槽型, 精加工, 脆性材料用小切深 HORN 3D Geometry, finishing, low a_p for fragile parts
H0	0°前角 Version neutral 0° Chip angle
H6	6°前角 Version positive-neutral 6° Chip angle

详见 A50-A51 页
Details see page A50-A51

11 切削材料 Cutting materials

MD10	MCD / MCD
HD08	CVD-D / CVD-D
PD02	PCD / PCD
PD70	
PD75	

详见 D6 页
Details see page D6

通用螺钉孔设计 Universal screw counterbore

HORN ISO刀片可用于标准刀杆, 得益于特殊的螺钉孔设计。

HORN ISO Inserts can be clamped in all standard holder systems thanks to the special screw counterbore design.



刀片
Insert

CCGT

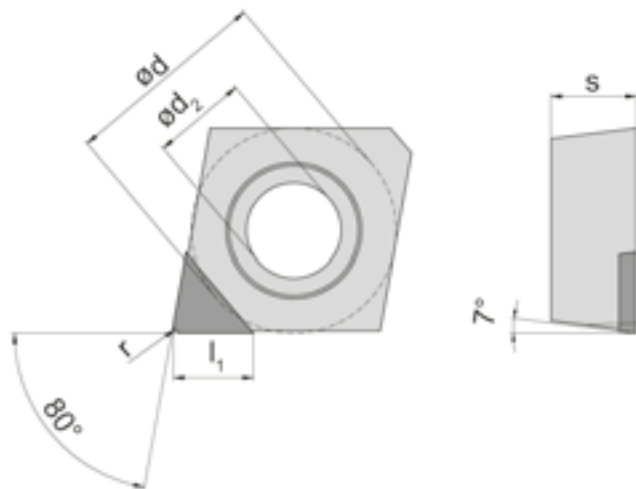
带HORN 3D断屑槽

Diamond tipped, with HORN 3D chip breaker



配ISO刀杆

for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r	HD08	PD70
CCGT060201N.HS	6.350	2.8	2.38	2.5 / 2.7	0.1	▲	▲
CCGT060202N.HN	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
CCGT060202N.HS	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
CCGT060204N.HN	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	▲
CCGT060204N.HS	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	▲
CCGT060208N.HN	6.350	2.8	2.38	2.5 / 3.0	0.8	▲	△
CCGT060208N.HS	6.350	2.8	2.38	2.5 / 3.0	0.8	▲	▲
CCGT09T301N.HS	9.525	4.4	3.97	4.0 / 3.5	0.1	▲	▲
CCGT09T302N.HN	9.525	4.4	3.97	4.0 / 3.5	0.2	▲	▲
CCGT09T302N.HS	9.525	4.4	3.97	4.0 / 3.5	0.2	▲	▲
CCGT09T304N.HN	9.525	4.4	3.97	4.0 / 3.5	0.4	▲	▲
CCGT09T304N.HS	9.525	4.4	3.97	4.0 / 3.5	0.4	▲	▲
CCGT09T308N.HN	9.525	4.4	3.97	4.0 / 3.5	0.8	▲	▲
CCGT09T308N.HS	9.525	4.4	3.97	4.0 / 3.5	0.8	▲	▲
CCGT120402N.HN	12.700	5.5	4.76	4.0 / 3.5	0.2	▲	▲
CCGT120402N.HS	12.700	5.5	4.76	4.0 / 3.5	0.2	▲	▲
CCGT120404N.HN	12.700	5.5	4.76	4.0 / 3.5	0.4	▲	▲
CCGT120404N.HS	12.700	5.5	4.76	4.0 / 3.5	0.4	▲	▲
CCGT120408N.HN	12.700	5.5	4.76	4.0 / 3.5	0.8	▲	▲
CCGT120408N.HS	12.700	5.5	4.76	4.0 / 3.5	0.8	▲	▲
CCGT120412N.HN	12.700	5.5	4.76	4.0 / -	1.2	△	▲
CCGT120412N.HS	12.700	5.5	4.76	4.0 / -	1.2	△	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

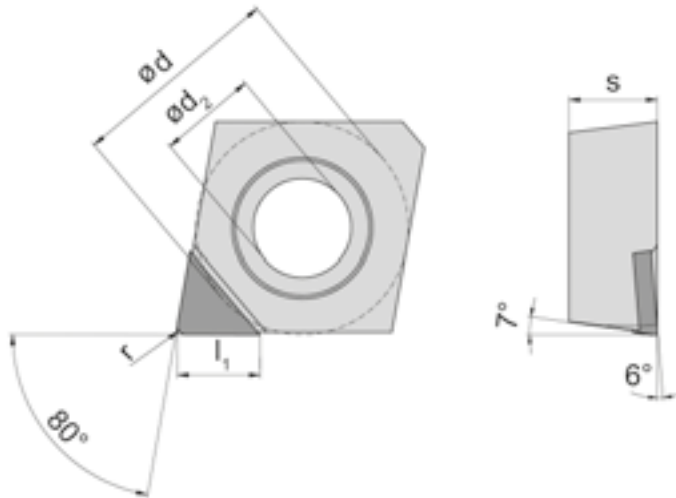
刀片
Insert

CCGT



“正-中性”型

Diamond tipped, Version „positive-neutral“



配ISO刀杆

for Toolholder ISO

类型

Boehlerit

Type

产品型号 Part number	d	d ₂	s	l ₁ HD08 / PD70	r	HD08	PD70
CCGT060201N.H6	6.350	2.8	2.38	3.0 / 3.2	0.1	▲	▲
CCGT060202N.H6	6.350	2.8	2.38	3.0 / 3.5	0.2	▲	▲
CCGT060204N.H6	6.350	2.8	2.38	3.0 / 3.5	0.4	▲	▲
CCGT060208N.H6	6.350	2.8	2.38	3.0 / 3.5	0.8	▲	▲
CCGT09T301N.H6	9.525	4.4	3.97	4.5 / -	0.1	▲	▲
CCGT09T302N.H6	9.525	4.4	3.97	4.5 / 4.0	0.2	▲	▲
CCGT09T304N.H6	9.525	4.4	3.97	4.5 / 4.0	0.4	▲	▲
CCGT09T308N.H6	9.525	4.4	3.97	4.5 / 4.0	0.8	▲	▲
CCGT09T312N.H6	9.525	4.4	3.97	4.5 / -	1.2	▲	▲
CCGT120402N.H6	12.700	5.5	4.76	4.5 / 4.0	0.2	▲	▲
CCGT120404N.H6	12.700	5.5	4.76	4.5 / 4.0	0.4	▲	▲
CCGT120408N.H6	12.700	5.5	4.76	4.5 / 4.0	0.8	▲	▲
CCGT120412N.H6	12.700	5.5	4.76	4.5 / -	1.2	Δ	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

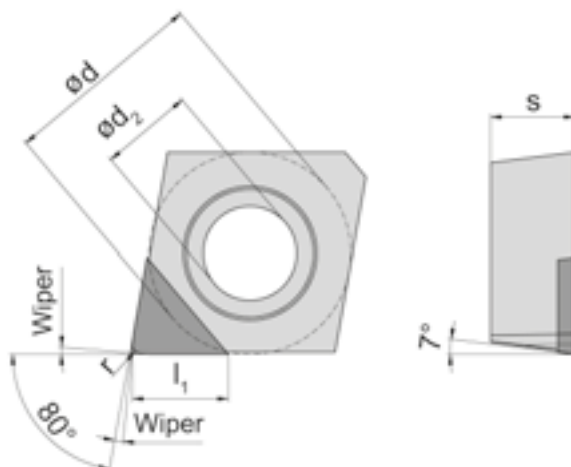
CCGT

带HORN 3D断屑槽的修光几何槽形
Diamond tipped, Wiper geometry with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r	HD08	PD70
CCGT060202N.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
CCGT060202N.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
CCGT060204N.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	△
CCGT060204N.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	▲
CCGT09T302N.W.HN	9.525	4.4	3.97	4.0 / 3.5	0.2	▲	▲
CCGT09T302N.W.HS	9.525	4.4	3.97	4.0 / 3.5	0.2	▲	▲
CCGT09T304N.W.HN	9.525	4.4	3.97	4.0 / 3.5	0.4	▲	▲
CCGT09T304N.W.HS	9.525	4.4	3.97	4.0 / 3.5	0.4	▲	▲
CCGT120402N.W.HN	12.700	5.5	4.76	4.0 / -	0.2	▲	
CCGT120402N.W.HS	12.700	5.5	4.76	4.0 / -	0.2	▲	
CCGT120404N.W.HN	12.700	5.5	4.76	4.0 / -	0.4	▲	
CCGT120404N.W.HS	12.700	5.5	4.76	4.0 / -	0.4	▲	

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片 Insert

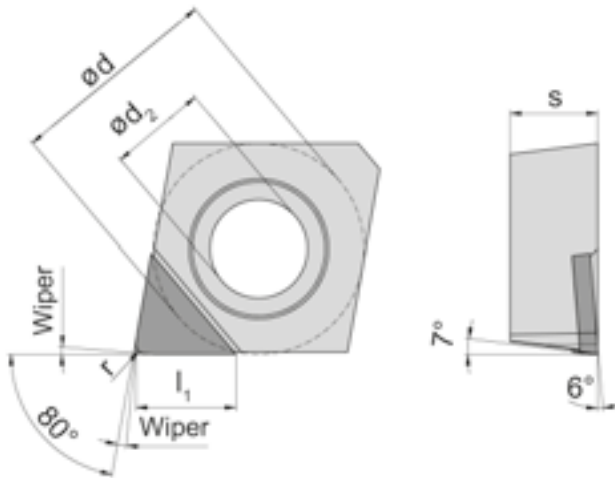
CCGT

金刚石镶片,修光刃,'正前角'型
Diamond tipped, Wiper geometry, Version „positive-neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CCGT060201N.W.H6	6.350	2.8	2.38	3.0	0.1	▲
CCGT060202N.W.H6	6.350	2.8	2.38	3.5	0.2	▲
CCGT060204N.W.H6	6.350	2.8	2.38	3.5	0.4	▲
CCGT09T301N.W.H6	9.525	4.4	3.97	3.7	0.1	▲
CCGT09T302N.W.H6	9.525	4.4	3.97	4.0	0.2	▲
CCGT09T304N.W.H6	9.525	4.4	3.97	4.0	0.4	▲
CCGT120402N.W.H6	12.700	5.5	4.76	4.0	0.2	△
CCGT120404N.W.H6	12.700	5.5	4.76	4.0	0.4	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

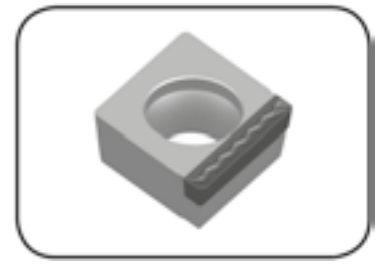
切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

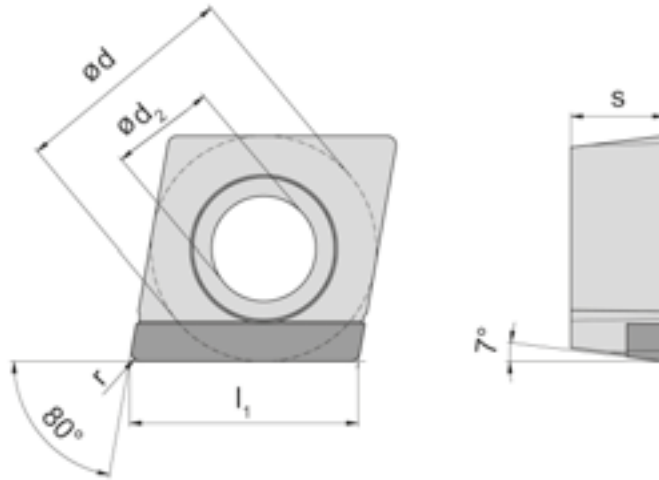
CCGT

整个切削刃都有HORN 3D断屑槽
Diamond tipped, complete edge with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	d	d ₂	s	l ₁	r		PD02	PD70
CCGT060204L.G.HN	6.350	2.8	2.38	6.4	0.4		▲	▲
CCGT060204R.G.HN	6.350	2.8	2.38	6.4	0.4		▲	▲
CCGT060208L.G.HN	6.350	2.8	2.38	6.3	0.8		▲	▲
CCGT060208R.G.HN	6.350	2.8	2.38	6.3	0.8		△	▲
CCGT09T304L.G.HN	9.525	4.4	3.97	9.6	0.4		△	▲
CCGT09T304R.G.HN	9.525	4.4	3.97	9.6	0.4			▲
CCGT09T308L.G.HN	9.525	4.4	3.97	9.5	0.8			▲
CCGT09T308R.G.HN	9.525	4.4	3.97	9.5	0.8		△	▲
CCGT120404L.G.HN	12.700	5.5	4.76	12.8	0.4		△	▲
CCGT120404R.G.HN	12.700	5.5	4.76	12.8	0.4		△	▲
CCGT120408L.G.HN	12.700	5.5	4.76	12.7	0.8		△	▲
CCGT120408R.G.HN	12.700	5.5	4.76	12.7	0.8		△	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

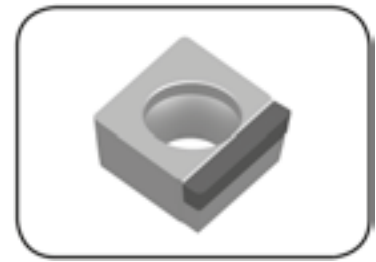
Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

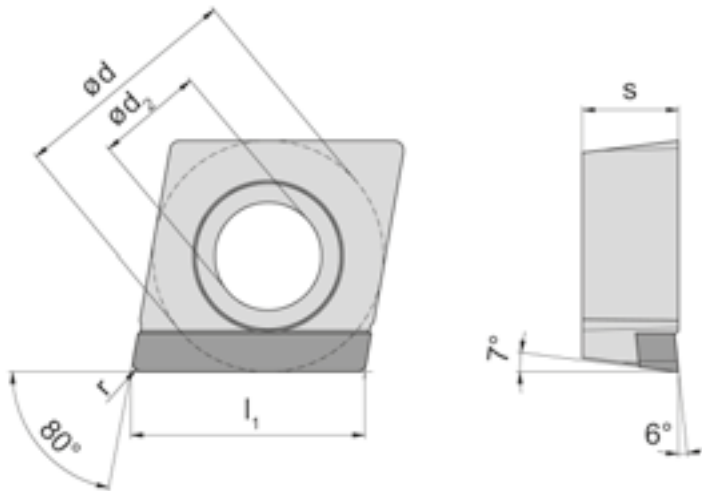
CCGT



金刚石镶片,完整切削刃,'正前角'型
Diamond tipped, complete edge, Version „positive“

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CCGT060204L.G.H6	6.350	2.8	2.38	6.4	0.4	▲
CCGT060204R.G.H6	6.350	2.8	2.38	6.4	0.4	▲
CCGT060208L.G.H6	6.350	2.8	2.38	6.3	0.8	Δ
CCGT060208R.G.H6	6.350	2.8	2.38	6.3	0.8	Δ
CCGT09T308L.G.H6	9.525	4.4	3.97	9.6	0.8	Δ
CCGT09T308R.G.H6	9.525	4.4	3.97	9.6	0.8	▲
CCGT09T312L.G.H6	9.525	4.4	3.97	9.6	1.2	Δ
CCGT09T312R.G.H6	9.525	4.4	3.97	9.6	1.2	▲
CCGT120412L.G.H6	12.700	5.5	4.76	12.6	1.2	▲
CCGT120412R.G.H6	12.700	5.5	4.76	12.6	1.2	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

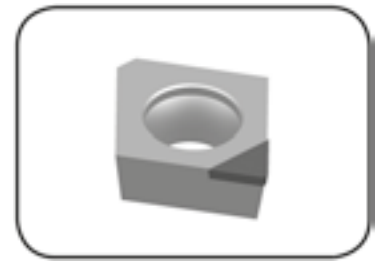
切削刃需光学测量 !

Cutting edges must be measured optically!

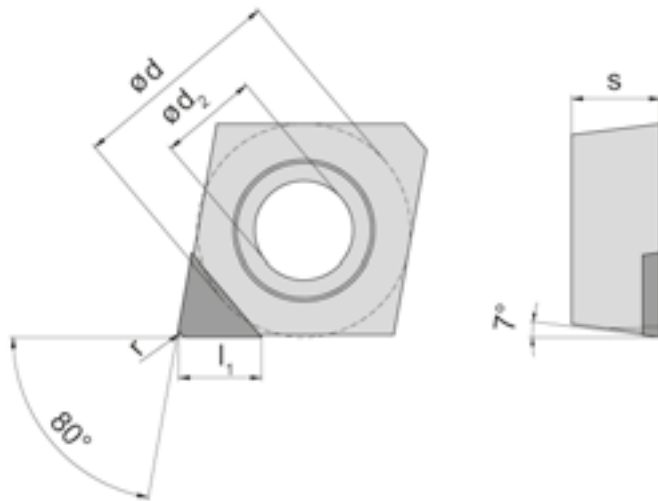
刀片

Insert

CCGW



“中性”型
Diamond tipped, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r		HD08	PD70
CCGW060201N.H0	6.350	2.8	2.38	3.0	0.1		△	▲
CCGW060202N.H0	6.350	2.8	2.38	3.0	0.2		▲	▲
CCGW060204N.H0	6.350	2.8	2.38	3.0	0.4		▲	▲
CCGW060208N.H0	6.350	2.8	2.38	3.0	0.8		▲	▲
CCGW09T301N.H0	9.525	4.4	3.97	4.5	0.1		△	▲
CCGW09T302N.H0	9.525	4.4	3.97	4.5	0.2		▲	▲
CCGW09T304N.H0	9.525	4.4	3.97	4.5	0.4		▲	▲
CCGW09T308N.H0	9.525	4.4	3.97	4.5	0.8		▲	▲
CCGW09T312N.H0	9.525	4.4	3.97	4.5	1.2		△	
CCGW120402N.H0	12.700	5.5	4.76	4.5	0.2		△	△
CCGW120404N.H0	12.700	5.5	4.76	4.5	0.4		▲	▲
CCGW120408N.H0	12.700	5.5	4.76	4.5	0.8		▲	▲
CCGW120412N.H0	12.700	5.5	4.76	4.5	1.2		▲	

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

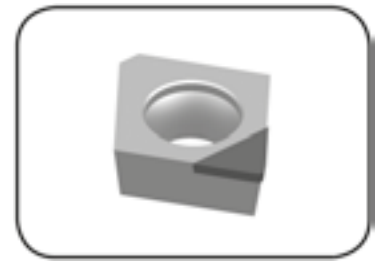
Dimensions in mm

切削刃需光学测量！

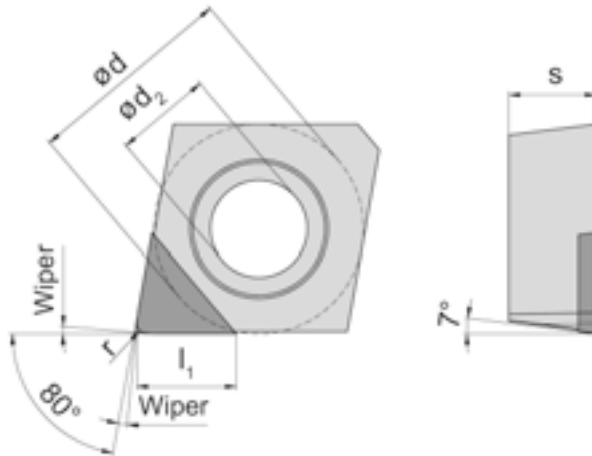
Cutting edges must be measured optically!

刀片 Insert

CCGW



金刚石镶片,修光刃,'中置'型
Diamond tipped, Wiper geometry, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CCGW060201N.W.H0	6.350	2.8	2.38	3.2	0.1	Δ
CCGW060202N.W.H0	6.350	2.8	2.38	3.5	0.2	▲
CCGW060204N.W.H0	6.350	2.8	2.38	3.5	0.4	▲
CCGW09T301N.W.H0	9.525	4.4	3.97	3.7	0.1	Δ
CCGW09T302N.W.H0	9.525	4.4	3.97	4.0	0.2	▲
CCGW09T304N.W.H0	9.525	4.4	3.97	4.0	0.4	▲
CCGW120402N.W.H0	12.700	5.5	4.76	4.0	0.2	Δ
CCGW120404N.W.H0	12.700	5.5	4.76	4.0	0.4	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

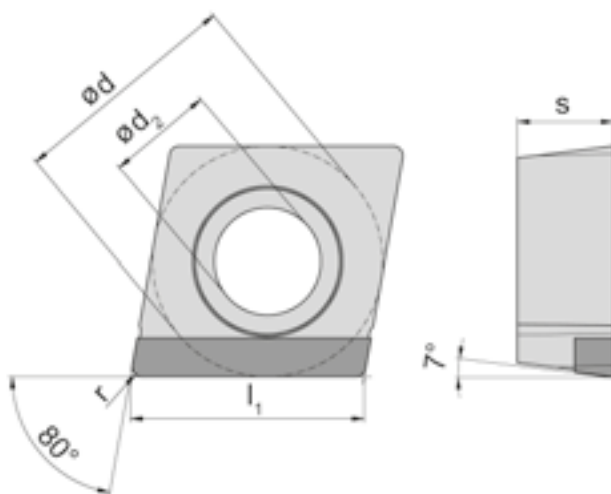
CCGW

金刚石镶片,完整切削刃
Diamond tipped, complete edge



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CCGW060204L.G.H0	6.350	2.8	2.38	6.4	0.4	▲
CCGW060204R.G.H0	6.350	2.8	2.38	6.4	0.4	△
CCGW060208L.G.H0	6.350	2.8	2.38	6.3	0.8	△
CCGW060208R.G.H0	6.350	2.8	2.38	6.3	0.8	△
CCGW09T304L.G.H0	9.525	4.4	3.97	9.6	0.4	▲
CCGW09T304R.G.H0	9.525	4.4	3.97	9.6	0.4	△
CCGW09T308L.G.H0	9.525	4.4	3.97	9.5	0.8	△
CCGW09T308R.G.H0	9.525	4.4	3.97	9.5	0.8	△
CCGW09T312L.G.H0	9.525	4.4	3.97	9.4	1.2	▲
CCGW09T312R.G.H0	9.525	4.4	3.97	9.4	1.2	▲
CCGW120404L.G.H0	12.700	5.5	4.76	12.8	0.4	▲
CCGW120404R.G.H0	12.700	5.5	4.76	12.8	0.4	△
CCGW120408L.G.H0	12.700	5.5	4.76	12.7	0.8	▲
CCGW120408R.G.H0	12.700	5.5	4.76	12.7	0.8	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位: mm

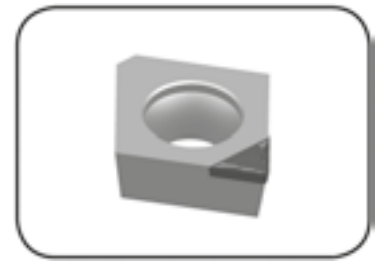
Dimensions in mm

切削刃需光学测量!

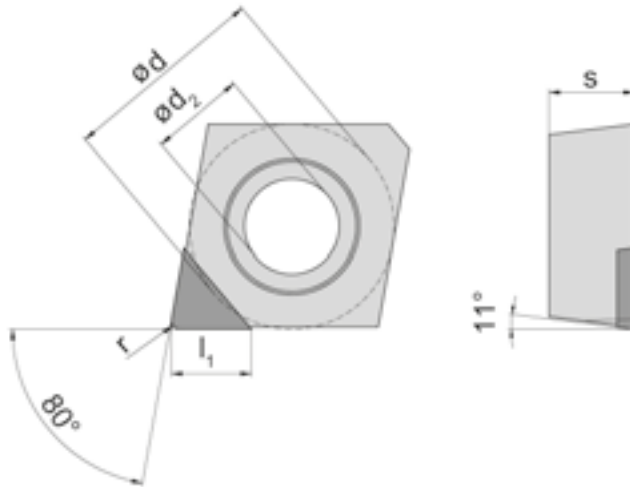
Cutting edges must be measured optically!

刀片 Insert

CPGT



带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r		HD08	PD70
CPGT060201N.HS	6.350	2.8	2.38	2.5	0.1		Δ	
CPGT060202N.HN	6.350	2.8	2.38	2.5	0.2		Δ	Δ
CPGT060202N.HS	6.350	2.8	2.38	2.5	0.2		▲	Δ
CPGT060204N.HN	6.350	2.8	2.38	2.5	0.4		Δ	Δ
CPGT060204N.HS	6.350	2.8	2.38	2.5	0.4		Δ	Δ
CPGT060208N.HN	6.350	2.8	2.38	2.5	0.8		▲	
CPGT09T301N.HS	9.525	4.4	3.97	4.0	0.1		Δ	
CPGT09T302N.HN	9.525	4.4	3.97	4.0	0.2		Δ	Δ
CPGT09T302N.HS	9.525	4.4	3.97	4.0	0.2		▲	Δ
CPGT09T304N.HN	9.525	4.4	3.97	4.0	0.4		Δ	▲
CPGT09T304N.HS	9.525	4.4	3.97	4.0	0.4		▲	Δ
CPGT09T308N.HN	9.525	4.4	3.97	4.0	0.8		Δ	▲
CPGT09T308N.HS	9.525	4.4	3.97	3.5	0.8			Δ
CPGT09T312N.HN	9.525	4.4	3.97	4.0	1.2		Δ	

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片

Insert

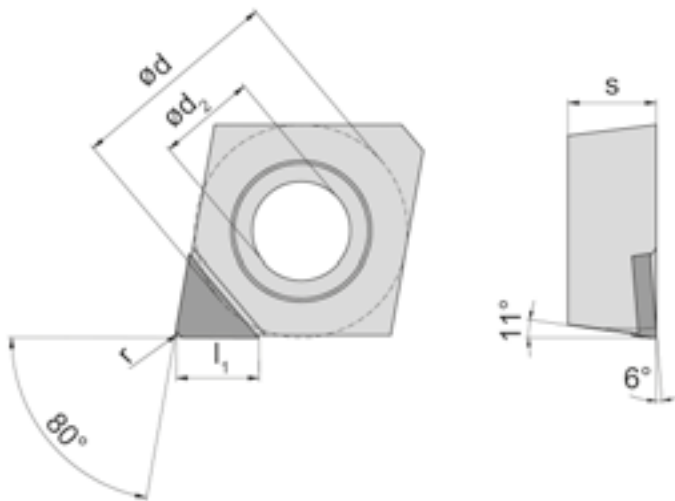
CPGT

金刚石镶片,完整切削刃, '正前角'型
Diamond tipped, complete edge, Version „positive-neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CPGT060202N.H6	6.35	2.8	2.38	3.5	0.2	▲
CPGT060204N.H6	6.35	2.8	2.38	3.5	0.4	▲
CPGT060208N.H6	6.35	2.8	2.38	3.5	0.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

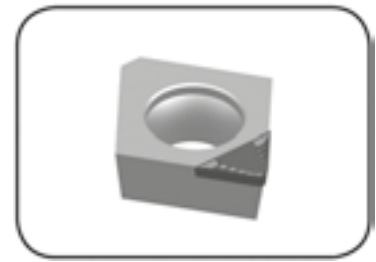
切削刃需光学测量 !

Cutting edges must be measured optically!

刀片
Insert

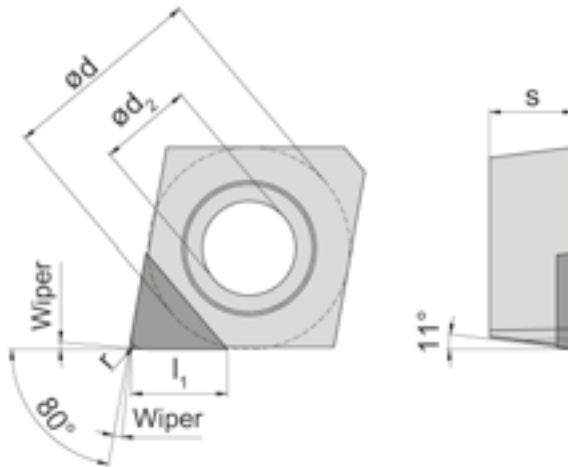
CPGT

带HORN 3D断屑槽的修光几何槽形
Diamond tipped, Wiper geometry with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CPGT060202N.W.HN	6.350	2.8	2.38	3.0	0.2	Δ
CPGT060202N.W.HS	6.350	2.8	2.38	3.0	0.2	▲
CPGT060204N.W.HN	6.350	2.8	2.38	3.0	0.4	Δ
CPGT060204N.W.HS	6.350	2.8	2.38	3.0	0.4	▲
CPGT09T302N.W.HN	9.525	4.4	3.97	3.5	0.2	Δ
CPGT09T302N.W.HS	9.525	4.4	3.97	3.5	0.2	Δ
CPGT09T304N.W.HN	9.525	4.4	3.97	3.5	0.4	▲
CPGT09T304N.W.HS	9.525	4.4	3.97	3.5	0.4	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

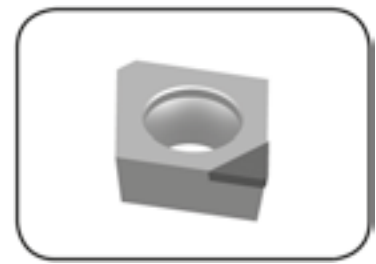
切削刃需光学测量！

Cutting edges must be measured optically!

刀片

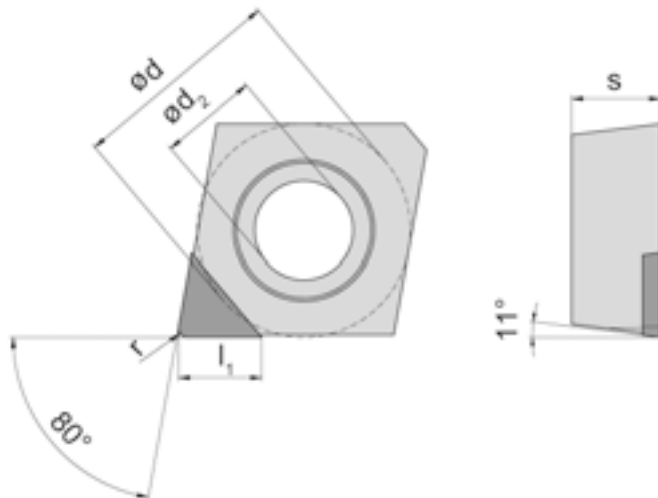
Insert

CPGW



“中性”型

Diamond tipped, Version „neutral“



配ISO刀杆

for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CPGW060202N.H0	6.350	2.8	2.38	3.5	0.2	▲
CPGW060204N.H0	6.350	2.8	2.38	3.5	0.4	▲
CPGW060208N.H0	6.350	2.8	2.38	3.5	0.8	x
CPGW09T302N.H0	9.525	4.4	3.97	4.0	0.2	Δ
CPGW09T304N.H0	9.525	4.4	3.97	4.0	0.4	Δ
CPGW09T308N.H0	9.525	4.4	3.97	4.0	0.8	Δ
CPGW120402N.H0	12.700	5.5	4.76	4.0	0.2	Δ
CPGW120404N.H0	12.700	5.5	4.76	4.0	0.4	Δ
CPGW120408N.H0	12.700	5.5	4.76	4.0	0.8	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

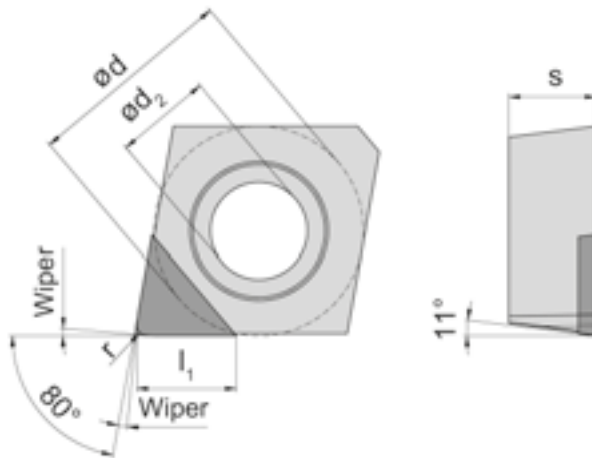
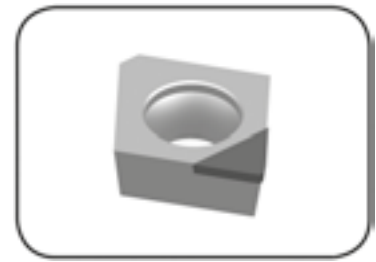
切削刃需光学测量！

Cutting edges must be measured optically!

刀片 Insert

CPGW

金刚石镶片,修光刃,'中置'型
Diamond tipped, Wiper geometry, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CPGW060202N.W.H0	6.350	2.8	2.38	3.5	0.2	▲
CPGW060204N.W.H0	6.350	2.8	2.38	3.5	0.4	▲
CPGW09T302N.W.H0	9.525	4.4	3.97	4.0	0.2	△
CPGW09T304N.W.H0	9.525	4.4	3.97	4.0	0.4	▲
CPGW120402N.W.H0	12.700	5.5	4.76	4.0	0.2	△
CPGW120404N.W.H0	12.700	5.5	4.76	4.0	0.4	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

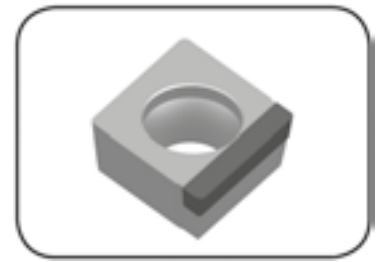
尺寸单位：mm
Dimensions in mm

切削刃需光学测量！
Cutting edges must be measured optically!

刀片
Insert

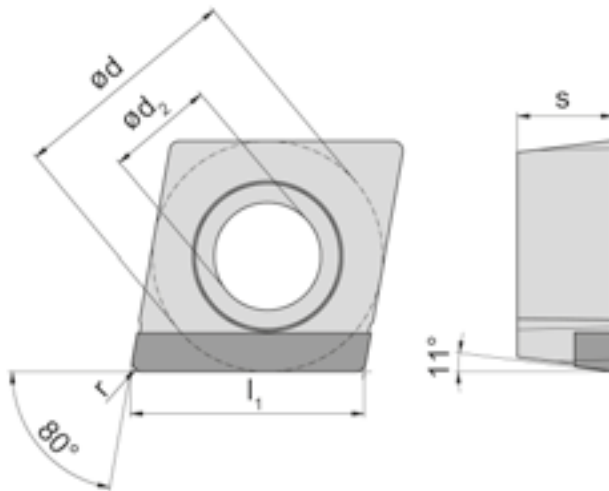
CPGW

金刚石镶片,完整切削刃
Diamond tipped, complete edge



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
CPGW060204L.G.H0	6.350	2.8	2.38	6.4	0.4	Δ
CPGW060204R.G.H0	6.350	2.8	2.38	6.4	0.4	Δ
CPGW060208L.G.H0	6.350	2.8	2.38	6.3	0.8	Δ
CPGW060208R.G.H0	6.350	2.8	2.38	6.3	0.8	Δ
CPGW09T308L.G.H0	9.525	4.4	3.97	9.5	0.8	▲
CPGW09T308R.G.H0	9.525	4.4	3.97	9.5	0.8	▲
CPGW120408L.G.H0	12.700	5.5	4.76	12.7	0.8	Δ
CPGW120408R.G.H0	12.700	5.5	4.76	12.7	0.8	▲
CPGW120412L.G.H0	12.700	5.5	4.76	12.6	1.2	▲
CPGW120412R.G.H0	12.700	5.5	4.76	12.6	1.2	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

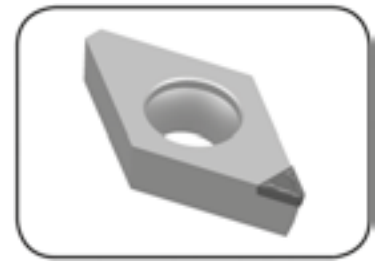
切削刃需光学测量 !

Cutting edges must be measured optically!

刀片 Insert

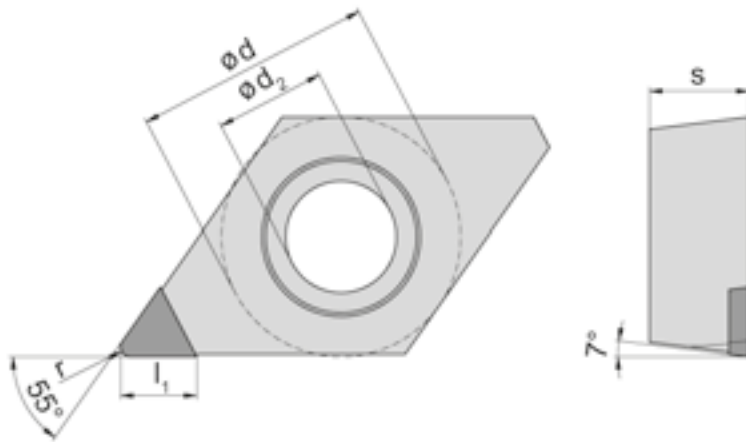
DCGT

带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r		HD08	PD70
DCGT070201N.HS	6.350	2.8	2.38	2.5	0.1	▲	▲	▲
DCGT070202N.HN	6.350	2.8	2.38	2.5	0.2	▲	▲	▲
DCGT070202N.HS	6.350	2.8	2.38	2.5	0.2	▲	▲	▲
DCGT070204N.HN	6.350	2.8	2.38	2.5	0.4	▲	▲	▲
DCGT070204N.HS	6.350	2.8	2.38	2.5	0.4	▲	▲	▲
DCGT070208N.HN	6.350	2.8	2.38	2.5	0.8	▲	▲	▲
DCGT070208N.HS	6.350	2.8	2.38	2.5	0.8	▲	▲	▲
DCGT11T301N.HS	9.525	4.4	3.97	3.5	0.1	▲	▲	▲
DCGT11T302N.HN	9.525	4.4	3.97	2.5	0.2	▲	▲	▲
DCGT11T302N.HS	9.525	4.4	3.97	2.5	0.2	▲	▲	▲
DCGT11T304N.HN	9.525	4.4	3.97	2.5	0.4	▲	▲	▲
DCGT11T304N.HS	9.525	4.4	3.97	2.5	0.4	▲	▲	▲
DCGT11T308N.HN	9.525	4.4	3.97	2.5	0.8	▲	▲	▲
DCGT11T308N.HS	9.525	4.4	3.97	2.5	0.8	▲	▲	▲
DCGT11T312N.HN	9.525	4.4	3.97	2.5	1.2	▲	▲	▲
DCGT11T312N.HS	9.525	4.4	3.97	2.5	1.2	▲	▲	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

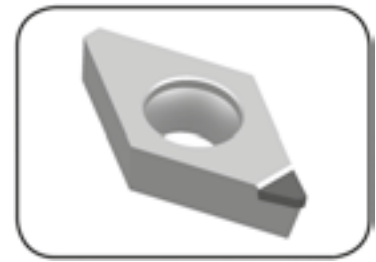
Cutting edges must be measured optically!

刀片
Insert

DCGT

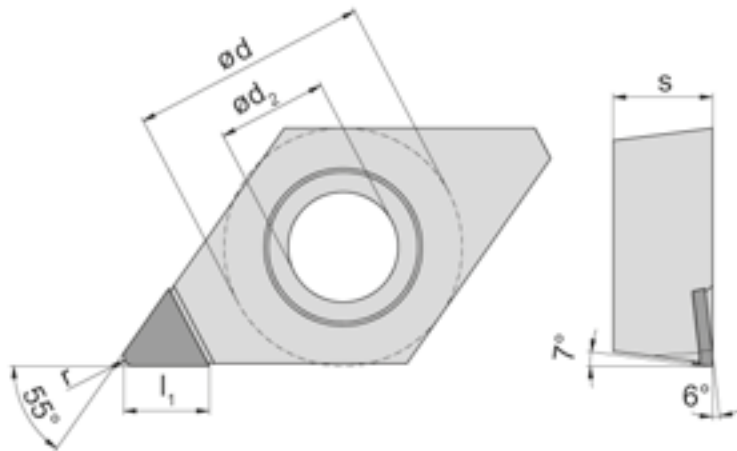
“正-中性”型

Diamond tipped, Version „positive-neutral”



配ISO刀杆

for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r		HD08	PD70
DCGT070201N.H6	6.350	2.8	2.38	3 / 3.5	0.1		▲	▲
DCGT070202N.H6	6.350	2.8	2.38	3 / 3.5	0.2		▲	▲
DCGT070204N.H6	6.350	2.8	2.38	3 / 3.5	0.4		▲	▲
DCGT070208N.H6	6.350	2.8	2.38	3 / 3.5	0.8		Δ	▲
DCGT11T301N.H6	9.525	4.4	3.97	3 / 4.0	0.1		▲	▲
DCGT11T302N.H6	9.525	4.4	3.97	3 / 4.0	0.2		▲	▲
DCGT11T304N.H6	9.525	4.4	3.97	3 / 4.0	0.4		▲	▲
DCGT11T308N.H6	9.525	4.4	3.97	3 / 4.0	0.8		▲	▲
DCGT11T312N.H6	9.525	4.4	3.97	3 / 4.0	1.2		▲	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

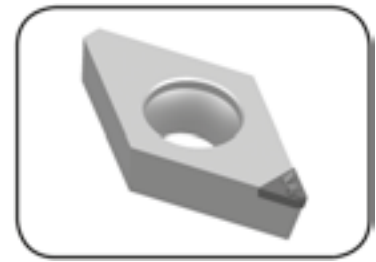
切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

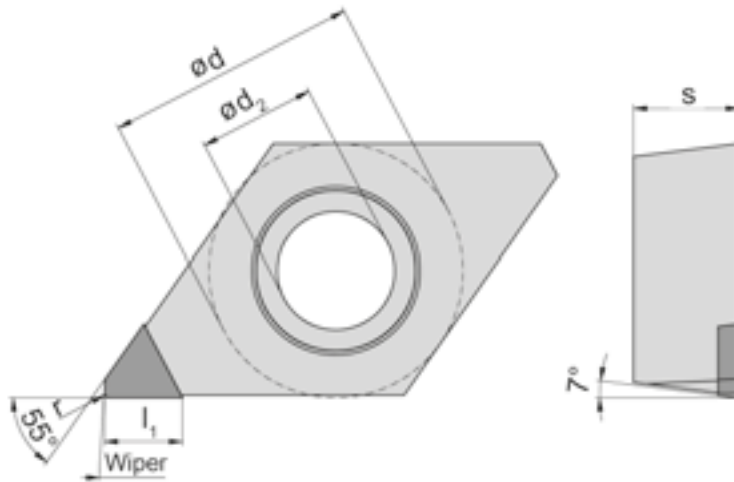
DCGT

带HORN 3D断屑槽的修光几何槽形
Diamond tipped, Wiper geometry with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

请注意接近角！见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₁	s	l_1 HD08 / PD70	r	HD08	PD70
DCGT070202L.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.2	△	△
DCGT070202L.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.2	△	▲
DCGT070202R.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
DCGT070202R.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.2	▲	▲
DCGT070204L.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.4	△	△
DCGT070204L.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	▲
DCGT070204R.W.HN	6.350	2.8	2.38	2.5 / 3.0	0.4	△	▲
DCGT070204R.W.HS	6.350	2.8	2.38	2.5 / 3.0	0.4	▲	▲
DCGT11T302L.W.HN	9.525	4.4	3.97	2.5 / 3.5	0.2	▲	△
DCGT11T302L.W.HS	9.525	4.4	3.97	2.5 / 3.5	0.2	▲	▲
DCGT11T302R.W.HN	9.525	4.4	3.97	2.5 / 3.5	0.2	▲	▲
DCGT11T302R.W.HS	9.525	4.4	3.97	2.5 / 3.5	0.2	▲	▲
DCGT11T304L.W.HN	9.525	4.4	3.97	2.5 / 3.5	0.4	▲	▲
DCGT11T304L.W.HS	9.525	4.4	3.97	2.5 / 3.5	0.4	▲	▲
DCGT11T304R.W.HN	9.525	4.4	3.97	2.5 / 3.5	0.4	▲	▲
DCGT11T304R.W.HS	9.525	4.4	3.97	2.5 / 3.5	0.4	▲	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

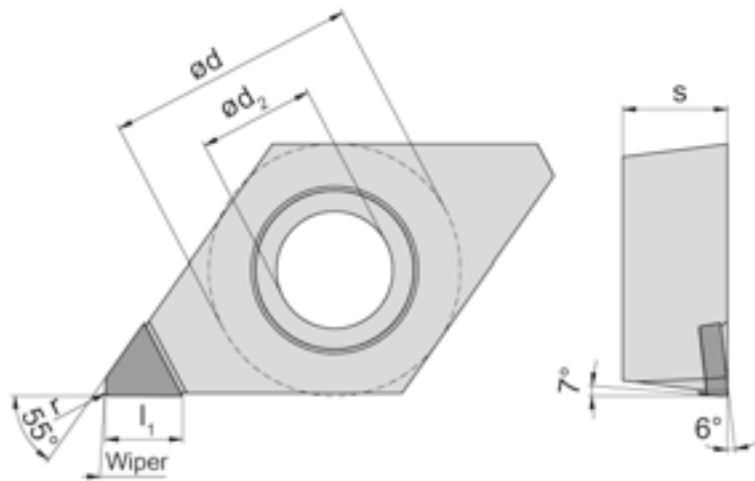
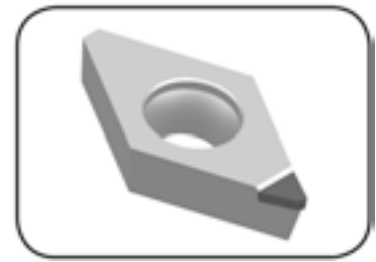
切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

DCGT

金刚石镶片, 修光刃, '正前角'型
Diamond tipped, Wiper geometry, Version „positive“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
DCGT070202L.W.H6	6.350	2.8	2.38	3.5	0.2	Δ
DCGT070202R.W.H6	6.350	2.8	2.38	3.5	0.2	Δ
DCGT070204L.W.H6	6.350	2.8	2.38	3.3	0.4	Δ
DCGT070204R.W.H6	6.350	2.8	2.38	3.3	0.4	Δ
DCGT11T302L.W.H6	9.525	4.4	3.97	4.0	0.2	▲
DCGT11T302R.W.H6	9.525	4.4	3.97	4.0	0.2	▲
DCGT11T304L.W.H6	9.525	4.4	3.97	3.8	0.4	▲
DCGT11T304R.W.H6	9.525	4.4	3.97	3.8	0.4	▲

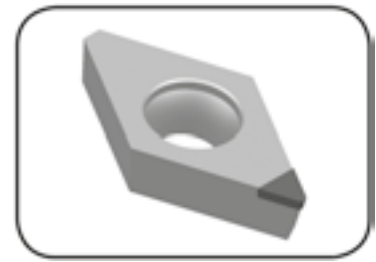
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

切削刃需光学测量！
Cutting edges must be measured optically!

刀片 Insert

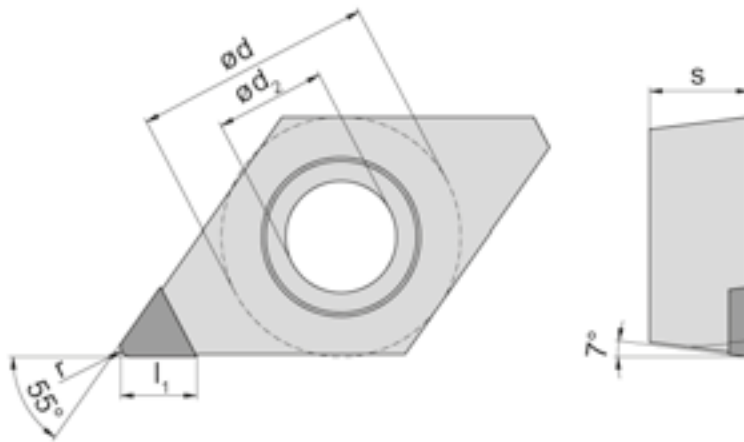
DCGW



“中性”型
Diamond tipped, Version „neutral“

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r	HD08	PD70
DCGW070201N.H0	6.350	2.8	2.38	3.0 / 3.5	0.1	Δ	▲
DCGW070202N.H0	6.350	2.8	2.38	3.0 / 3.5	0.2	▲	▲
DCGW070204N.H0	6.350	2.8	2.38	3.0 / 3.5	0.4	▲	▲
DCGW070208N.H0	6.350	2.8	2.38	3.0 / 3.5	0.8	▲	▲
DCGW11T301N.H0	9.525	4.4	3.97	3.0 / 4.0	0.1	Δ	▲
DCGW11T302N.H0	9.525	4.4	3.97	3.0 / 4.0	0.2	▲	▲
DCGW11T304N.H0	9.525	4.4	3.97	3.0 / 4.0	0.4	▲	▲
DCGW11T308N.H0	9.525	4.4	3.97	3.0 / 4.0	0.8	▲	▲
DCGW11T312N.H0	9.525	4.4	3.97	- / 4.0	1.2		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

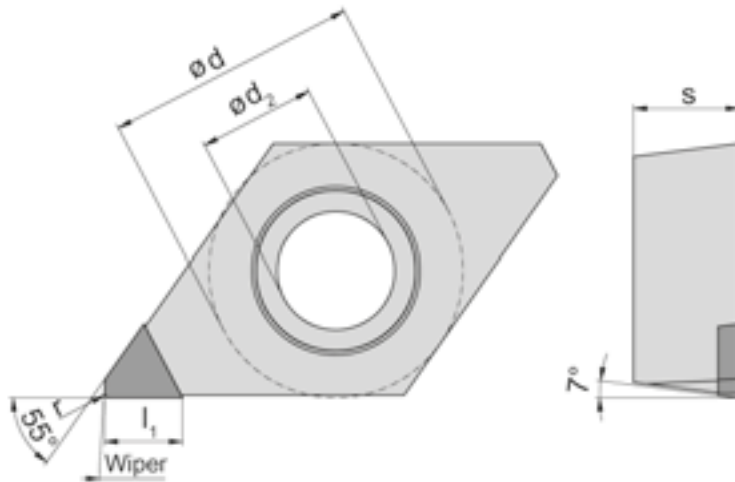
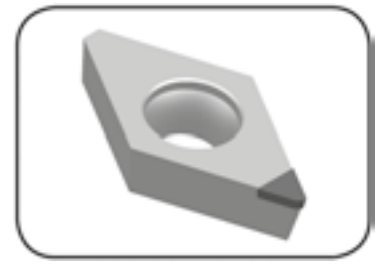
尺寸单位：mm
Dimensions in mm

切削刃需光学测量！
Cutting edges must be measured optically!

刀片
Insert

DCGW

金刚石镶片, 修光刃
Diamond tipped, Wiper geometry



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

请注意接近角！ 见D4页
Please note the approach angle! See page D4

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
DCGW070202L.W.H0	6.350	2.8	2.38	3.5	0.2	Δ
DCGW070202R.W.H0	6.350	2.8	2.38	3.5	0.2	Δ
DCGW070204L.W.H0	6.350	2.8	2.38	3.5	0.4	Δ
DCGW070204R.W.H0	6.350	2.8	2.38	3.5	0.4	▲
DCGW11T301L.W.H0	9.525	4.4	3.97	4.0	0.1	Δ
DCGW11T301R.W.H0	9.525	4.4	3.97	4.0	0.1	Δ
DCGW11T302L.W.H0	9.525	4.4	3.97	4.0	0.2	▲
DCGW11T302R.W.H0	9.525	4.4	3.97	4.0	0.2	▲
DCGW11T304L.W.H0	9.525	4.4	3.97	4.0	0.4	▲
DCGW11T304R.W.H0	9.525	4.4	3.97	4.0	0.4	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

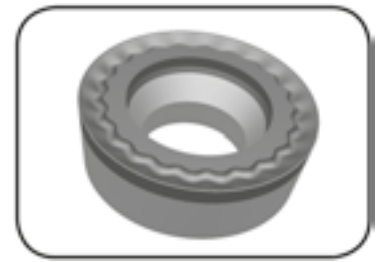
Dimensions in mm

切削刃需光学测量！

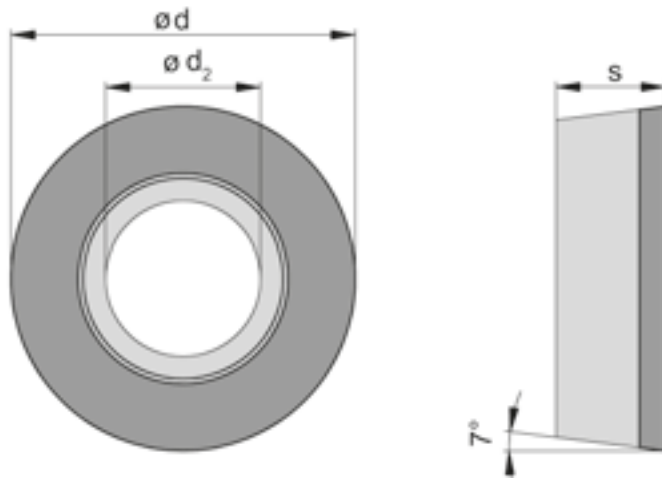
Cutting edges must be measured optically!

刀片
Insert

RCGT



金刚石镶片，整面并带HORN 3D断屑器
Diamond tipped, full face with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	PD70
RCGT0602M0.F.HN	6	2.8	2.38	▲
RCGT0602M0.F.HS	6	2.8	2.38	▲
RCGT0803M0.F.HN	8	3.4	3.18	▲
RCGT0803M0.F.HS	8	3.4	3.18	▲
RCGT1003M0.F.HN	10	4.4	3.18	▲
RCGT1003M0.F.HS	10	4.4	3.18	▲
RCGT10T3M0.F.HN	10	4.4	3.97	▲
RCGT10T3M0.F.HS	10	4.4	3.97	▲
RCGT1204M0.F.HN	12	4.4	4.76	▲
RCGT1204M0.F.HS	12	4.4	4.76	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

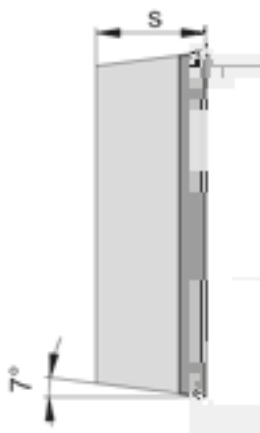
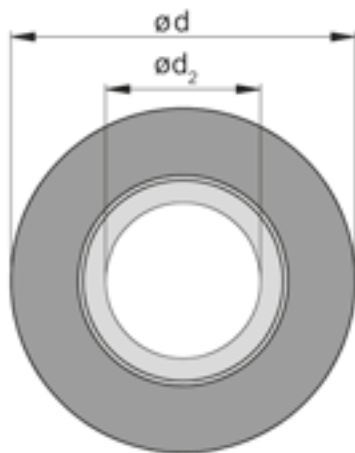
刀片

Insert

RCGW



金刚石镶片,整面
Diamond tipped, full face



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	PD70
RCGW0602M0.F.H0	6	2.8	2.38	▲
RCGW0803M0.F.H0	8	3.4	3.18	▲
RCGW1003M0.F.H0	10	4.4	3.18	▲
RCGW10T3M0.F.H0	10	4.4	3.97	△
RCGW1204M0.F.H0	12	4.4	4.76	▲

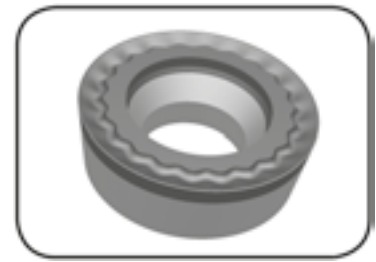
▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

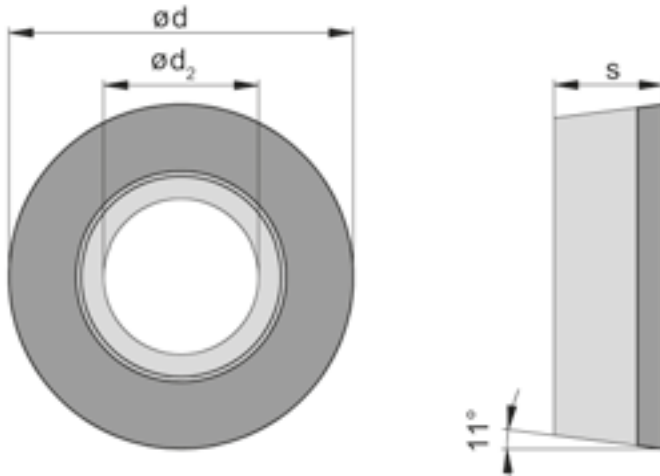
切削刃需光学测量 !
Cutting edges must be measured optically!

刀片
Insert

RPGT



金刚石镶片,整面带 HORN 3D 断屑器
Diamond tipped, full face with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	PD70
RPGT0802M0.F.HN	8.0	3.4	2.38	▲
RPGT0802M0.F.HS	8.0	3.4	2.38	▲
RPGT1003M0.F.HN	10.0	4.4	3.18	▲
RPGT1003M0.F.HS	10.0	4.4	3.18	△
RPGT120400.F.HN	12.7	5.5	4.76	△
RPGT120400.F.HS	12.7	5.5	4.76	△
RPGT1204M0.F.HN	12.0	4.4	4.76	▲
RPGT1204M0.F.HS	12.0	4.4	4.76	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

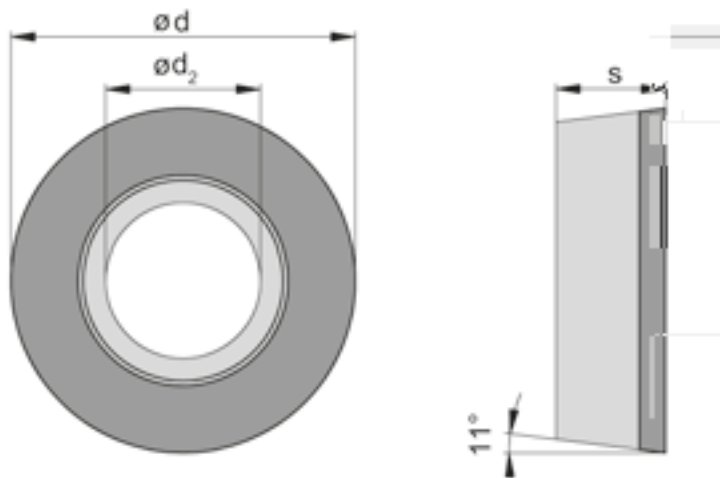
刀片

Insert

RPGW



金刚石镶片,整面
Diamond tipped, full face



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	PD70
RPGW0802M0.F.H0	8.0	3.4	2.38	▲
RPGW1003M0.F.H0	10.0	4.4	3.18	▲
RPGW120400.F.H0	12.7	5.5	4.76	△
RPGW1204M0.F.H0	12.0	4.4	4.76	▲

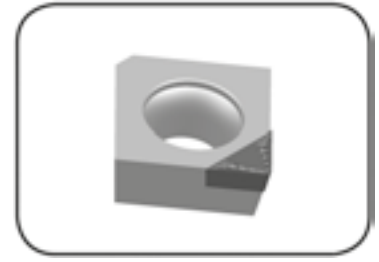
▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

切削刃需光学测量 !
Cutting edges must be measured optically!

刀片
Insert

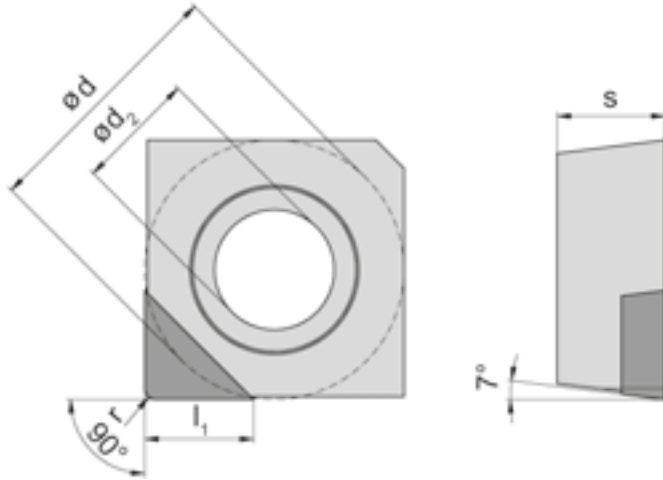
SCGT



带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGT09T304N.HN	9.525	4.4	3.97	3.5	0.4	Δ
SCGT09T304N.HS	9.525	4.4	3.97	3.5	0.4	▲
SCGT09T308N.HN	9.525	4.4	3.97	3.5	0.8	Δ
SCGT09T308N.HS	9.525	4.4	3.97	3.5	0.8	Δ
SCGT120404N.HN	12.700	5.5	4.76	3.5	0.4	Δ
SCGT120404N.HS	12.700	5.5	4.76	3.5	0.4	Δ
SCGT120408N.HN	12.700	5.5	4.76	3.5	0.8	Δ
SCGT120408N.HS	12.700	5.5	4.76	3.5	0.8	▲
SCGT120412N.HN	12.700	5.5	4.76	3.5	1.2	Δ
SCGT120412N.HS	12.700	5.5	4.76	3.5	1.2	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

刀片

Insert

SCGT

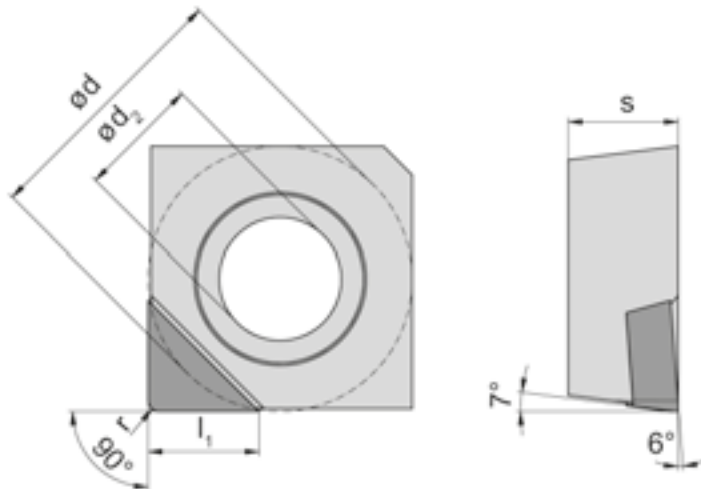
“正-中性”型

Diamond tipped, Version „positive-neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGT09T304N.H6	9.525	4.4	3.97	4	0.4	Δ
SCGT09T308N.H6	9.525	4.4	3.97	4	0.8	Δ
SCGT09T312N.H6	9.525	4.4	3.97	4	1.2	Δ
SCGT120408N.H6	12.700	5.5	4.76	4	0.8	▲
SCGT120412N.H6	12.700	5.5	4.76	4	1.2	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

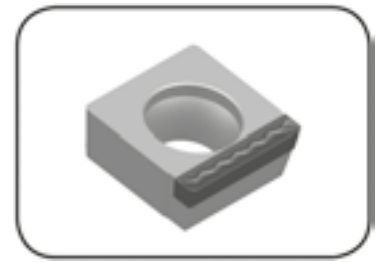
Dimensions in mm

切削刃需光学测量！

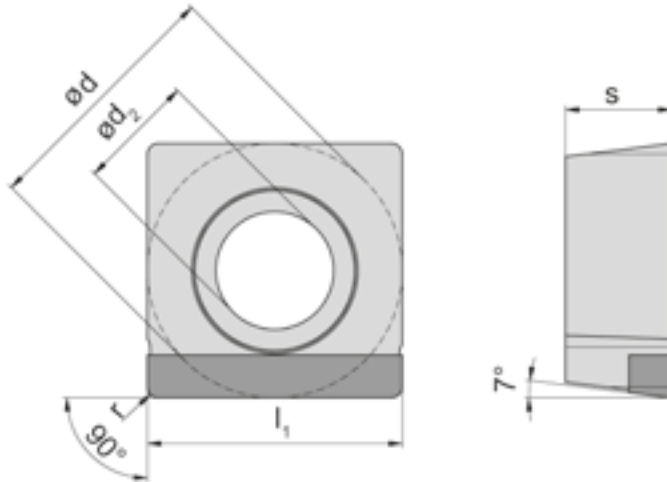
Cutting edges must be measured optically!

刀片 Insert

SCGT



整个切削刃都有HORN 3D断屑槽
Diamond tipped, complete edge with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGT09T304N.G.HN	9.525	4.4	3.97	9.525	0.4	Δ
SCGT09T308N.G.HN	9.525	4.4	3.97	9.525	0.8	Δ
SCGT09T312N.G.HN	9.525	4.4	3.97	9.525	1.2	▲
SCGT120404N.G.HN	12.700	5.5	4.76	12.700	0.4	▲
SCGT120408N.G.HN	12.700	5.5	4.76	12.700	0.8	▲
SCGT120412N.G.HN	12.700	5.5	4.76	12.700	1.2	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

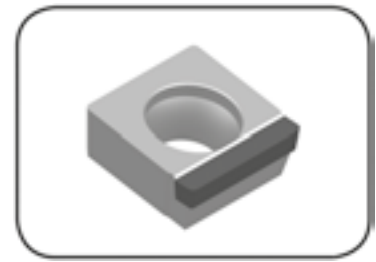
尺寸单位 : mm
Dimensions in mm

切削刃需光学测量 !
Cutting edges must be measured optically!

刀片

Insert

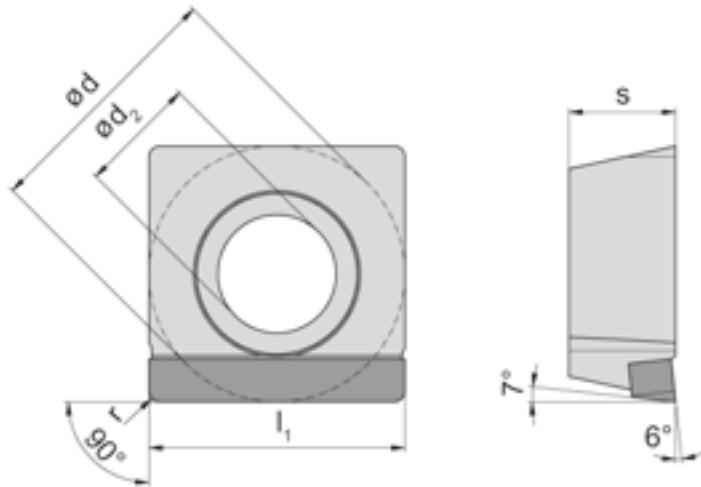
SCGT



金刚石镶片,完整切削刃, '正前角'型
Diamond tipped, complete edge, Version „positive-neutral“

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGT09T308N.G.H6	9.525	4.4	3.97	9.525	0.8	▲
SCGT09T312N.G.H6	9.525	4.4	3.97	9.525	1.2	▲
SCGT120408N.G.H6	12.700	5.5	4.76	12.700	0.8	△
SCGT120412N.G.H6	12.700	5.5	4.76	12.700	1.2	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

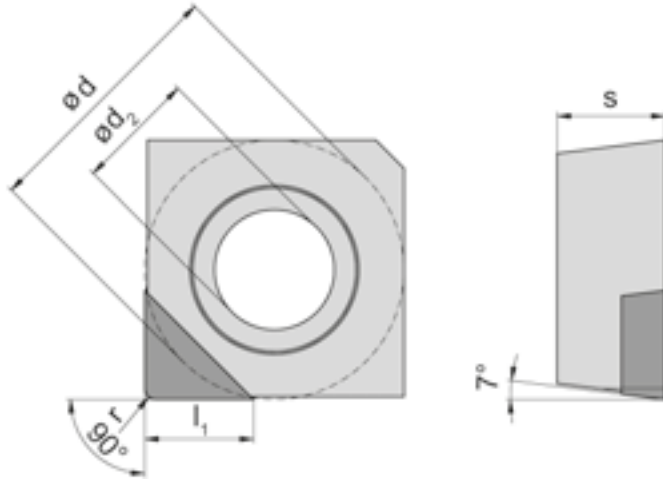
切削刃需光学测量 !
Cutting edges must be measured optically!

刀片
Insert

SCGW



“中性”型
Diamond tipped, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGW09T304N.H0	9.525	4.4	3.97	4	0.4	▲
SCGW09T308N.H0	9.525	4.4	3.97	4	0.8	▲
SCGW09T312N.H0	9.525	4.4	3.97	4	1.2	▲
SCGW120404N.H0	12.700	5.5	4.76	4	0.4	△
SCGW120408N.H0	12.700	5.5	4.76	4	0.8	△
SCGW120412N.H0	12.700	5.5	4.76	4	1.2	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

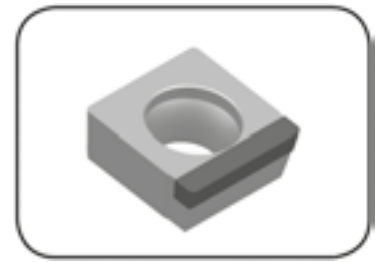
尺寸单位：mm
Dimensions in mm

切削刃需光学测量！
Cutting edges must be measured optically!

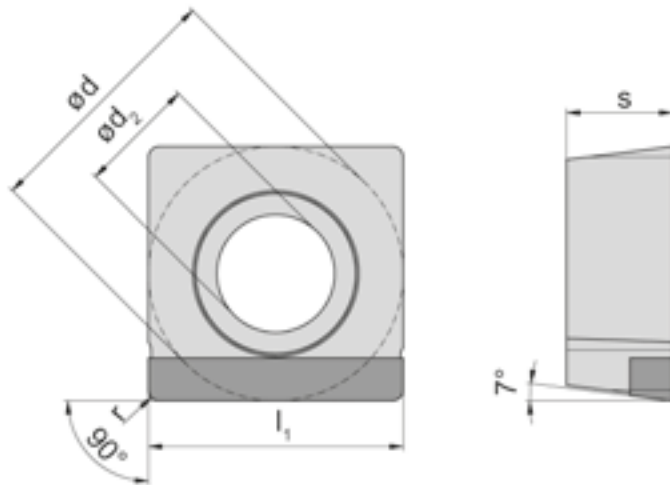
刀片

Insert

SCGW



金刚石镶片,完整切削刃, '中置' 型
Diamond tipped, complete edge, Version "neutral"



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
SCGW09T304N.G.H0	9.525	4.4	3.97	9.525	0.4	Δ
SCGW09T308N.G.H0	9.525	4.4	3.97	9.525	0.8	Δ
SCGW09T312N.G.H0	9.525	4.4	3.97	9.525	1.2	Δ
SCGW120404N.G.H0	12.700	5.5	4.76	12.700	0.4	▲
SCGW120408N.G.H0	12.700	5.5	4.76	12.700	0.8	Δ
SCGW120412N.G.H0	12.700	5.5	4.76	12.700	1.2	▲

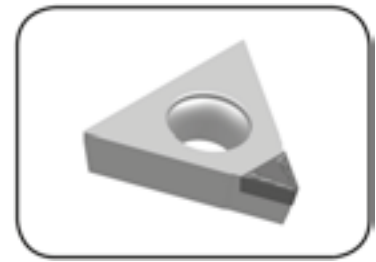
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

切削刃需光学测量 !
Cutting edges must be measured optically!

刀片
Insert

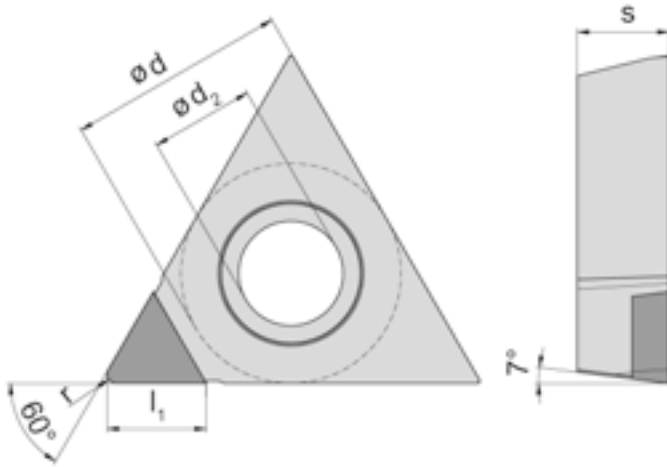
TCGT



带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGT090202N.HN	5.560	2.5	2.38	3.0	0.2	▲
TCGT090202N.HS	5.560	2.5	2.38	3.0	0.2	▲
TCGT090204N.HN	5.560	2.5	2.38	3.0	0.4	▲
TCGT090204N.HS	5.560	2.5	2.38	3.0	0.4	▲
TCGT090208N.HN	5.560	2.5	2.38	3.0	0.8	△
TCGT090208N.HS	5.560	2.5	2.38	3.0	0.8	△
TCGT110202N.HN	6.350	2.8	2.38	3.5	0.2	▲
TCGT110202N.HS	6.350	2.8	2.38	3.5	0.2	▲
TCGT110204N.HN	6.350	2.8	2.38	3.5	0.4	▲
TCGT110204N.HS	6.350	2.8	2.38	3.5	0.4	▲
TCGT110208N.HN	6.350	2.8	2.38	3.5	0.8	△
TCGT110208N.HS	6.350	2.8	2.38	3.5	0.8	▲
TCGT16T304N.HN	9.525	4.4	3.97	3.5	0.4	▲
TCGT16T304N.HS	9.525	4.4	3.97	3.5	0.4	▲
TCGT16T308N.HN	9.525	4.4	3.97	3.5	0.8	▲
TCGT16T308N.HS	9.525	4.4	3.97	3.5	0.8	△
TCGT16T312N.HN	9.525	4.4	3.97	3.5	1.2	△
TCGT16T312N.HS	9.525	4.4	3.97	3.5	1.2	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

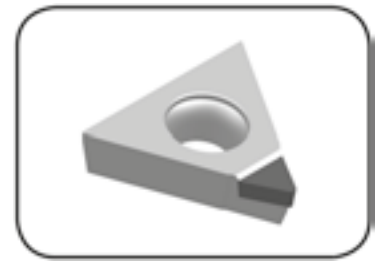
Cutting edges must be measured optically!

刀片
Insert

TCGT

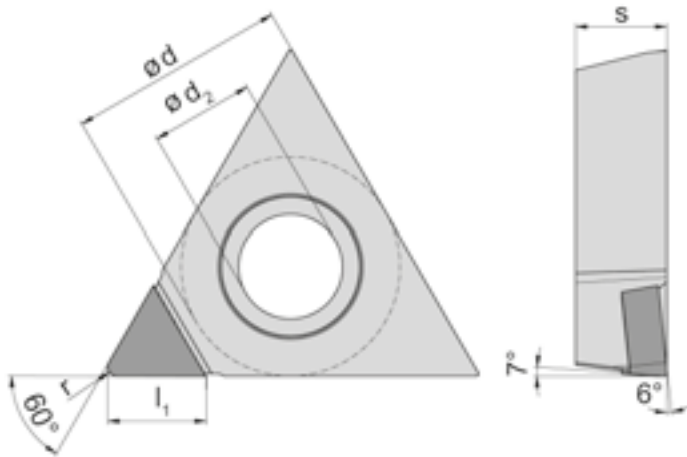
“正-中性”型

Diamond tipped, Version „positive-neutral”



配ISO刀杆

for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGT090202N.H6	5.560	2.5	2.38	3.5	0.2	▲
TCGT090204N.H6	5.560	2.5	2.38	3.5	0.4	▲
TCGT090208N.H6	5.560	2.5	2.38	3.5	0.8	△
TCGT110202N.H6	6.350	2.8	2.38	4.0	0.2	▲
TCGT110204N.H6	6.350	2.8	2.38	4.0	0.4	▲
TCGT110208N.H6	6.350	2.8	2.38	4.0	0.8	△
TCGT16T304N.H6	9.525	4.4	3.97	4.0	0.4	▲
TCGT16T308N.H6	9.525	4.4	3.97	4.0	0.8	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

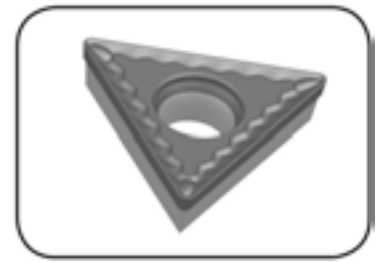
Dimensions in mm

切削刃需光学测量！

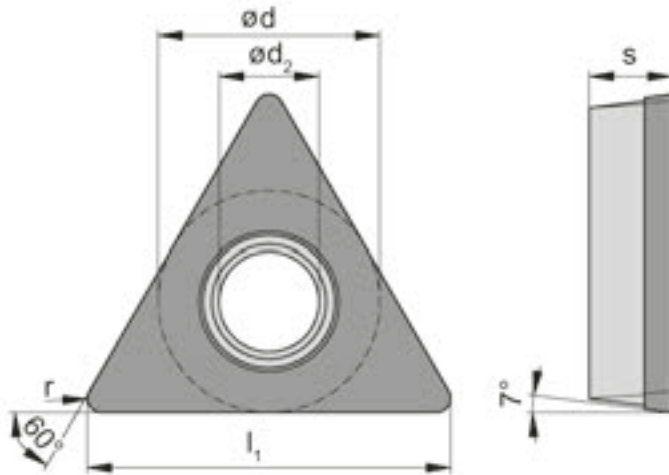
Cutting edges must be measured optically!

刀片
Insert

TCGT



金刚石镶片,整面 mit HORN 3D-Spanleitstufe
Diamond tipped, full face with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGT110202N.F.HN	6.35	2.8	2.38	10.71	0.2	Δ
TCGT110202N.F.HS	6.35	2.8	2.38	10.71	0.2	Δ
TCGT110204N.F.HN	6.35	2.8	2.38	10.41	0.4	Δ
TCGT110204N.F.HS	6.35	2.8	2.38	10.41	0.4	Δ
TCGT110208N.F.HN	6.35	2.8	2.38	9.83	0.8	Δ
TCGT110208N.F.HS	6.35	2.8	2.38	9.83	0.8	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

切削刃需光学测量 !
Cutting edges must be measured optically!

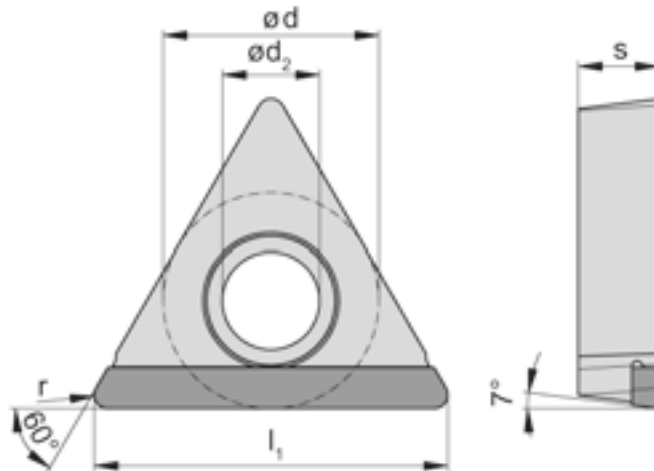
刀片

Insert

TCGT



整个切削刃都有HORN 3D断屑槽
Diamond tipped, complete edge with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	l ₁	r	PD70
TCGT090204N.G.HN	5.560	2.5	9.0	0.4	Δ
TCGT090208N.G.HN	5.560	2.5	8.4	0.8	▲
TCGT110204N.G.HN	6.350	2.8	10.4	0.4	▲
TCGT110208N.G.HN	6.350	2.8	9.8	0.8	Δ
TCGT110212N.G.HN	6.350	2.8	9.2	1.2	Δ
TCGT16T304N.G.HN	9.525	4.4	15.9	0.4	▲
TCGT16T308N.G.HN	9.525	4.4	15.3	0.8	Δ
TCGT16T312N.G.HN	9.525	4.4	14.7	1.2	▲

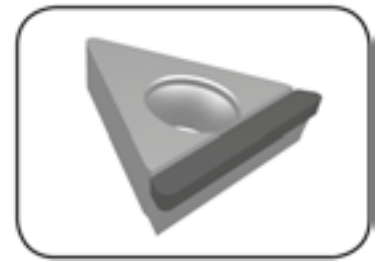
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

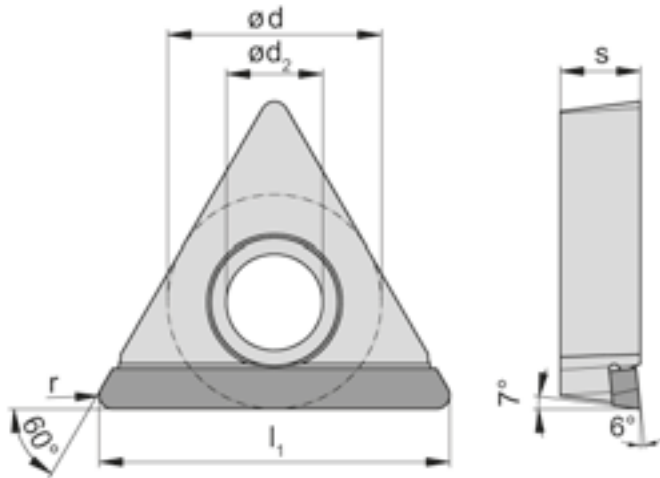
切削刃需光学测量！
Cutting edges must be measured optically!

刀片 Insert

TCGT



金刚石镶片,完整切削刃, '正前角'型
Diamond tipped, complete edge, Version „positive-neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGT090204N.G.H6	5.560	2.5	2.38	9.0	0.4	▲
TCGT090208N.G.H6	5.560	2.5	2.38	8.4	0.8	Δ
TCGT110204N.G.H6	6.350	2.8	2.38	10.4	0.4	▲
TCGT110208N.G.H6	6.350	2.8	2.38	9.8	0.8	▲
TCGT110212N.G.H6	6.350	2.8	2.38	9.2	1.2	Δ
TCGT16T304N.G.H6	9.525	4.4	3.97	15.9	0.4	▲
TCGT16T308N.G.H6	9.525	4.4	3.97	15.3	0.8	▲
TCGT16T312N.G.H6	9.525	4.4	3.97	14.7	1.2	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

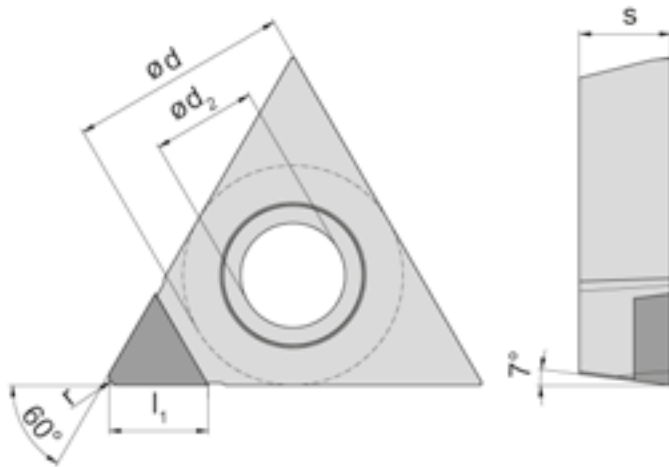
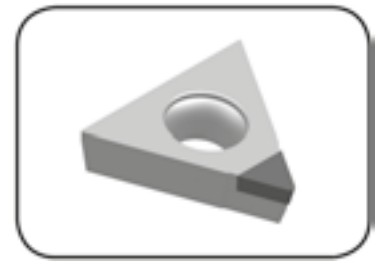
刀片

Insert

TCGW

“中性”型

Diamond tipped, Version „neutral“



配ISO刀杆

for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGW090202N.H0	5.560	2.5	2.38	3.5	0.2	▲
TCGW090204N.H0	5.560	2.5	2.38	3.5	0.4	△
TCGW090208N.H0	5.560	2.5	2.38	3.5	0.8	△
TCGW110202N.H0	6.350	2.8	2.38	4.0	0.2	△
TCGW110204N.H0	6.350	2.8	2.38	4.0	0.4	▲
TCGW110208N.H0	6.350	2.8	2.38	4.0	0.8	▲
TCGW16T304N.H0	9.525	4.4	3.97	4.0	0.4	△
TCGW16T308N.H0	9.525	4.4	3.97	4.0	0.8	△
TCGW16T312N.H0	9.525	4.4	3.97	4.0	1.2	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

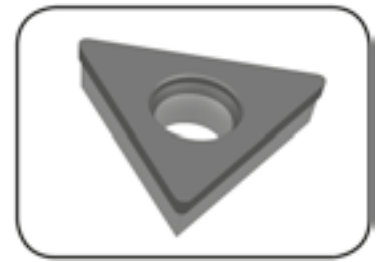
Dimensions in mm

切削刃需光学测量！

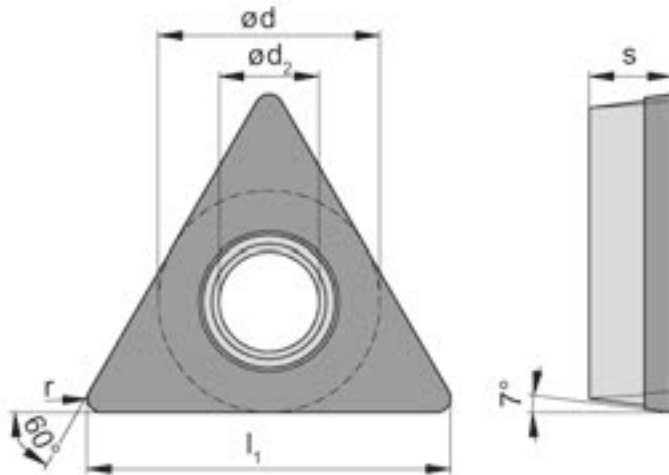
Cutting edges must be measured optically!

刀片
Insert

TCGW



金刚石镶片,整面,'中置'型
Diamond tipped, full face, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGW110202N.F.H0	6.35	2.8	2.38	10.71	0.2	Δ
TCGW110204N.F.H0	6.35	2.8	2.38	10.41	0.4	Δ
TCGW110208N.F.H0	6.35	2.8	2.38	9.83	0.8	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

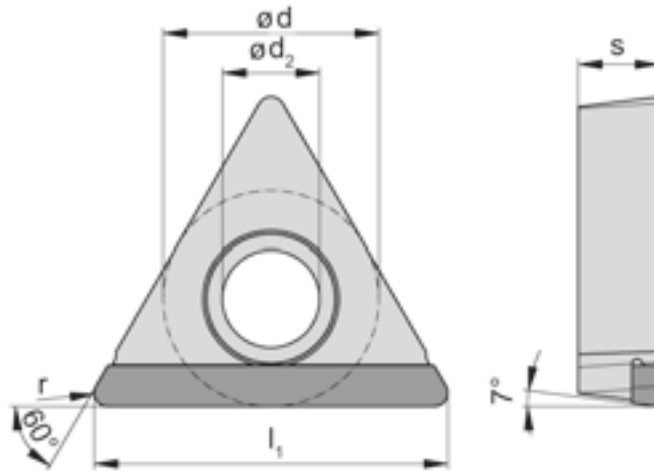
刀片

Insert

TCGW



金刚石镶片,完整切削刃, '中置' 型
Diamond tipped, complete edge, Version "neutral"



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
TCGW090204N.G.H0	5.560	2.5	2.38	9.0	0.4	▲
TCGW090208N.G.H0	5.560	2.5	2.38	8.4	0.8	Δ
TCGW110204N.G.H0	6.350	2.8	2.38	10.4	0.4	▲
TCGW110208N.G.H0	6.350	2.8	2.38	9.8	0.8	▲
TCGW110212N.G.H0	6.350	2.8	2.38	9.2	1.2	Δ
TCGW16T304N.G.H0	9.525	4.4	3.97	15.9	0.4	▲
TCGW16T308N.G.H0	9.525	4.4	3.97	15.3	0.8	▲
TCGW16T312N.G.H0	9.525	4.4	3.97	14.7	1.2	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位: mm

Dimensions in mm

切削刃需光学测量!

Cutting edges must be measured optically!

刀片
Insert

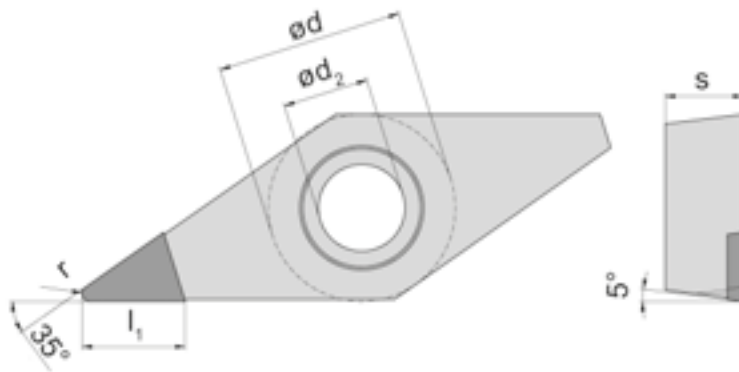
VBGT



带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁	r	PD70
VBGT110202N.HN	6.350	2.8	2.38	3.2	0.2	Δ
VBGT110202N.HS	6.350	2.8	2.38	3.2	0.2	Δ
VBGT110204N.HN	6.350	2.8	2.38	3.2	0.4	Δ
VBGT110204N.HS	6.350	2.8	2.38	3.2	0.4	Δ
VBGT110208N.HN	6.350	2.8	2.38	3.2	0.8	Δ
VBGT110208N.HS	6.350	2.8	2.38	3.2	0.8	Δ
VBGT160402N.HN	9.525	4.4	4.76	4.0	0.2	Δ
VBGT160402N.HS	9.525	4.4	4.76	4.0	0.2	Δ
VBGT160404N.HN	9.525	4.4	4.76	4.0	0.4	Δ
VBGT160404N.HS	9.525	4.4	4.76	4.0	0.4	Δ
VBGT160408N.HN	9.525	4.4	4.76	4.0	0.8	Δ
VBGT160408N.HS	9.525	4.4	4.76	4.0	0.8	Δ
VBGT160412N.HN	9.525	4.4	4.76	4.0	1.2	Δ
VBGT160412N.HS	9.525	4.4	4.76	4.0	1.2	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

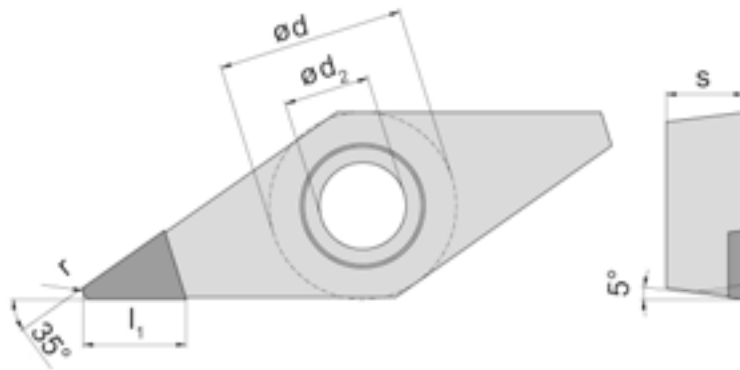
Cutting edges must be measured optically!

刀片

Insert

VBGW

“中性”型
Diamond tipped, Version „neutral“



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type

产品型号 Part number	d	d ₂	s	l ₁	r	PD70
VBGW110202N.H0	6.350	2.8	2.38	3.7	0.2	Δ
VBGW110204N.H0	6.350	2.8	2.38	3.7	0.4	Δ
VBGW110208N.H0	6.350	2.8	2.38	3.7	0.8	Δ
VBGW160402N.H0	9.525	4.4	4.76	4.5	0.2	Δ
VBGW160404N.H0	9.525	4.4	4.76	4.5	0.4	Δ
VBGW160408N.H0	9.525	4.4	4.76	4.5	0.8	Δ
VBGW160412N.H0	9.525	4.4	4.76	4.5	1.2	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks × 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

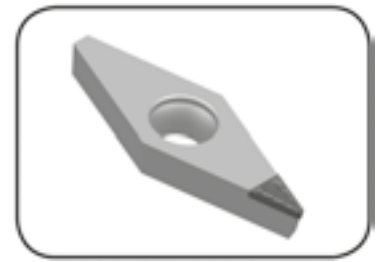
切削刃需光学测量！

Cutting edges must be measured optically!

刀片
Insert

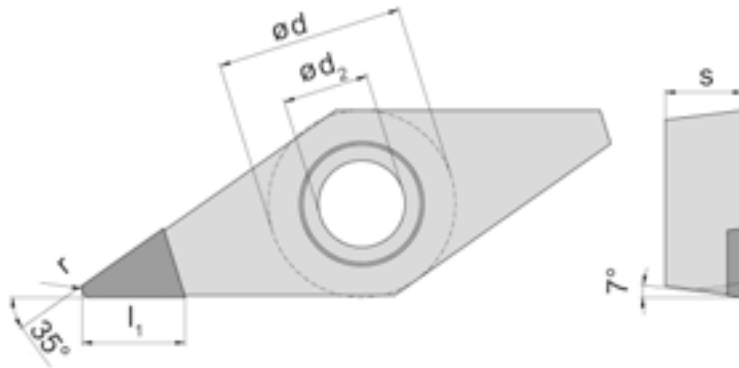
VCGT

带HORN 3D断屑槽
Diamond tipped, with HORN 3D chip breaker



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l ₁ HD08 / PD70	r	HD08	PD70
VCGT070201N.HS	3.970	2.25	2.38	2.5	0.1	▲	▲
VCGT070202N.HN	3.970	2.25	2.38	2.5	0.2	▲	▲
VCGT070202N.HS	3.970	2.25	2.38	2.5	0.2	▲	▲
VCGT070204N.HN	3.970	2.25	2.38	2.5	0.4	△	▲
VCGT070204N.HS	3.970	2.25	2.38	2.5	0.4	▲	▲
VCGT070208N.HN	3.970	2.25	2.38	2.5	0.8	△	
VCGT070208N.HS	3.970	2.25	2.38	2.5	0.8	△	
VCGT110301N.HS	6.350	2.80	3.18	2.5	0.1	▲	▲
VCGT110302N.HN	6.350	2.80	3.18	2.5	0.2	▲	▲
VCGT110302N.HS	6.350	2.80	3.18	2.5	0.2	▲	▲
VCGT110304N.HN	6.350	2.80	3.18	2.5	0.4	▲	▲
VCGT110304N.HS	6.350	2.80	3.18	2.5	0.4	▲	▲
VCGT110308N.HN	6.350	2.80	3.18	2.5	0.8	▲	△
VCGT110308N.HS	6.350	2.80	3.18	2.5	0.8	▲	▲
VCGT130301N.HS	7.938	3.40	3.18	4.0	0.1		▲
VCGT130302N.HN	7.938	3.40	3.18	4.0	0.2		△
VCGT130302N.HS	7.938	3.40	3.18	4.0	0.2		▲
VCGT130304N.HN	7.938	3.40	3.18	4.0	0.4		▲
VCGT130304N.HS	7.938	3.40	3.18	4.0	0.4		△
VCGT130308N.HN	7.938	3.40	3.18	4.0	0.8		△
VCGT130308N.HS	7.938	3.40	3.18	4.0	0.8		▲
VCGT160401N.HS	9.525	4.40	4.76	2.5	0.1	▲	▲
VCGT160402N.HN	9.525	4.40	4.76	2.5	0.2	▲	▲
VCGT160402N.HS	9.525	4.40	4.76	2.5	0.2	▲	▲
VCGT160404N.HN	9.525	4.40	4.76	2.5	0.4	▲	▲
VCGT160404N.HS	9.525	4.40	4.76	2.5	0.4	▲	▲
VCGT160408N.HN	9.525	4.40	4.76	2.5	0.8	▲	▲
VCGT160408N.HS	9.525	4.40	4.76	2.5	0.8	▲	▲
VCGT160412N.HN	9.525	4.40	4.76	2.5	1.2	△	▲
VCGT160412N.HS	9.525	4.40	4.76	2.5	1.2	▲	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位: mm

Dimensions in mm

切削刃需光学测量!

Cutting edges must be measured optically!

刀片

Insert

VCGT

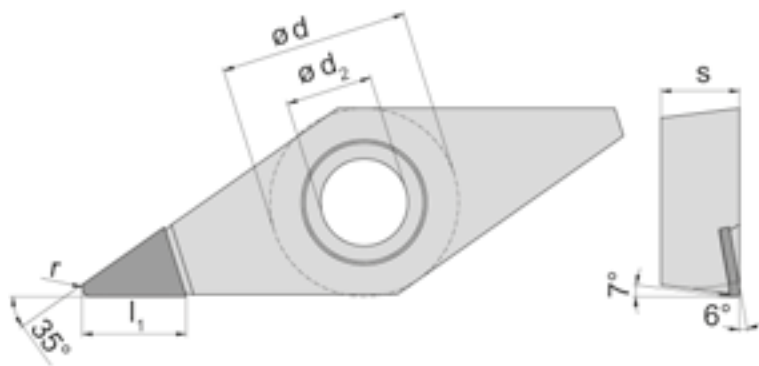
“正-中性”型

Diamond tipped, Version „positive-neutral”



配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r		HD08	PD70
VCGT070201N.H6	3.970	2.25	2.38	- / 3.7	0.1			▲
VCGT070202N.H6	3.970	2.25	2.38	- / 3.7	0.2			▲
VCGT070204N.H6	3.970	2.25	2.38	- / 3.7	0.4			▲
VCGT110301N.H6	6.350	2.80	3.18	3.0 / 3.7	0.1	▲	▲	▲
VCGT110302N.H6	6.350	2.80	3.18	3.0 / 3.7	0.2	▲	▲	▲
VCGT110304N.H6	6.350	2.80	3.18	3.0 / 3.7	0.4	▲	▲	▲
VCGT110308N.H6	6.350	2.80	3.18	3.0 / 3.7	0.8	▲	▲	▲
VCGT130301N.H6	7.938	3.40	3.18	- / 4.7	0.1			Δ
VCGT130302N.H6	7.938	3.40	3.18	- / 4.7	0.2			▲
VCGT130304N.H6	7.938	3.40	3.18	- / 4.7	0.4			▲
VCGT130308N.H6	7.938	3.40	3.18	- / 4.7	0.8			▲
VCGT160401N.H6	9.525	4.40	4.76	3.0 / 4.5	0.1	Δ	▲	▲
VCGT160402N.H6	9.525	4.40	4.76	3.0 / 4.5	0.2	▲	▲	▲
VCGT160404N.H6	9.525	4.40	4.76	3.0 / 4.5	0.4	▲	▲	▲
VCGT160408N.H6	9.525	4.40	4.76	3.0 / 4.5	0.8	▲	▲	▲
VCGT160412N.H6	9.525	4.40	4.76	3.0 / 4.5	1.2	▲	▲	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

刀片 Insert

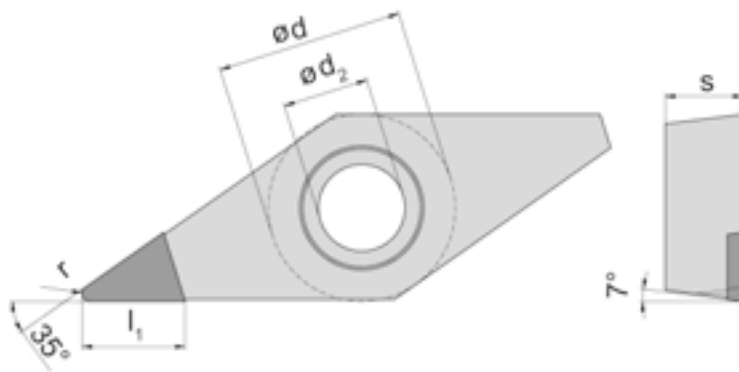
VCGW



“中性”型
Diamond tipped, Version „neutral“

配ISO刀杆
for Toolholder ISO

类型 Boehlerit
Type



产品型号 Part number	d	d ₂	s	l_1 HD08 / PD70	r		HD08	PD70
VCGW070201N.H0	3.970	2.25	2.38	- / 3.7	0.1			▲
VCGW070202N.H0	3.970	2.25	2.38	- / 3.7	0.2			▲
VCGW070204N.H0	3.970	2.25	2.38	- / 3.7	0.4			▲
VCGW110301N.H0	6.350	2.80	3.18	3.0 / 3.7	0.1	Δ	▲	▲
VCGW110302N.H0	6.350	2.80	3.18	3.0 / 3.7	0.2	▲	▲	▲
VCGW110304N.H0	6.350	2.80	3.18	3.0 / 3.7	0.4	▲	▲	▲
VCGW110308N.H0	6.350	2.80	3.18	3.0 / 3.7	0.8	▲	▲	▲
VCGW130301N.H0	7.938	3.40	3.18	- / 4.5	0.1			▲
VCGW130302N.H0	7.938	3.40	3.18	- / 4.5	0.2			Δ
VCGW130304N.H0	7.938	3.40	3.18	- / 4.5	0.4			Δ
VCGW130308N.H0	7.938	3.40	3.18	- / 4.5	0.8			Δ
VCGW160401N.H0	9.525	4.40	4.76	3.0 / 4.5	0.1	Δ	▲	▲
VCGW160402N.H0	9.525	4.40	4.76	3.0 / 4.5	0.2	▲	▲	▲
VCGW160404N.H0	9.525	4.40	4.76	3.0 / 4.5	0.4	▲	▲	▲
VCGW160408N.H0	9.525	4.40	4.76	3.0 / 4.5	0.8	▲	▲	▲
VCGW160412N.H0	9.525	4.40	4.76	3.0 / 4.5	1.2	Δ	▲	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

切削刃需光学测量！

Cutting edges must be measured optically!

材料 Material	槽型 Version	切削速度 v_c Cutting speed v_c		推荐 冷却 Recommended Coolant
		min	max	
锻造铝合金 Al-wrought alloys	.HS. / .HN	150	4500	冷却液 Emulsion
铝合金 硅含量不大于12% Aluminium alloys up to 12% Si content	.HS. / .HN	100	3500	冷却液 Emulsion
铝合金硅含量12-20% Aluminium alloys with 12-20% Si content	.HN / .H0	80	1500	冷却液 Emulsion
镁 Magnesium	.HS. / .HN	100	4000	冷却液 Emulsion
铜,青铜,不含铅黄铜 Copper, Bronze, Brass without lead	.HF / .HS	90	1600	油 Oil
OFHC铜,钨铜 OFHC Copper, Tungsten copper	.H6 / .HS	50	800	油 Oil
锌,黄铜 (MS58) Zinc, Brass (MS58)	.H0 / .HS	100	1800	油 Oil
镍银,铜镍合金 Nickel silver, Copper-nickel-alloys	.H6 / .HS	80	450	冷却液 Emulsion
钛, 钼, 铂, 铱 Titanium, Molybdenum, Platin, Iridium	.H6 / .HS	40	250	冷却液 Emulsion
石墨 Graphite	.H0	50	1000	吹气 Air
硬质合金和陶瓷, 烧结材料 Carbide and ceramik, sintered	.H0	25	80	吹气 Air
硬质合金和陶瓷, 预烧结材料 Carbide and ceramik, presintered	.H0	40	100	吹气 Air
人工合成材料,增强塑料 Synthetics, Reinforced plastics	.H6	120	1700	吹气 Air
GFRP GFRP	.H6 / .H0	100	500	吹气 Air
CFRP CFRP	.H6 / .H0	80	300	吹气 Air

槽型 .HS
Geometry



精加工
finishing

槽型 .HN
Geometry



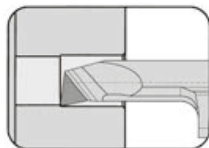
粗加工
roughing

材料 Material	刀尖圆角 Corner radius [mm]	HORN 3D-断屑器 HORN 3D chip breaker .HS				HORN 3D-断屑器 HORN 3D chip breaker .HN			
		切深 Depth of cut a_p [mm]		进给 Feed rate f [mm/U] [mm/rev]		切深 Depth of cut a_p [mm]		进给 Feed rate f [mm/U] [mm/rev]	
		min	max	min	max	min	max	min	max
锻造铝合金 Aluminium, Wrought alloys	0,1	0,07	0,4	0,01	0,05	-	-	-	-
	0,2	0,08	0,9	0,02	0,1	0,2	2,2	0,05	0,15
	0,4	0,12	1,4	0,04	0,2	0,4	2,7	0,1	0,3
	0,8	0,18	1,9	0,08	0,4	0,7	3,2	0,2	0,6
	1,2	0,25	2,4	0,12	0,6	0,9	3,7	0,25	0,9

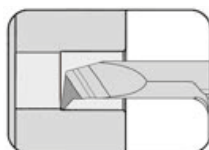
请考虑切深 a_p 这与刀具主偏角有关系. $HS / HN = l_1$ 根据槽型的有效长度!

Please consider the a_p in relation to the approach angle of the toolholder.
 $HS / HN = l_1$ is according to the effective length of the geometry!

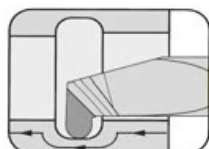
刀片
Insert
105



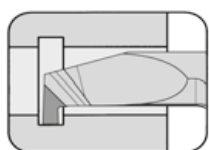
页/Page
A54-A56



页/Page
A57



页/Page
A58-A59



页/Page
A60-A61

Supermini®



CVD-D与 PKD 镶片
配合 HORN 3D-槽型

刀杆详见 Supermini® & Mini 样本, 章节A

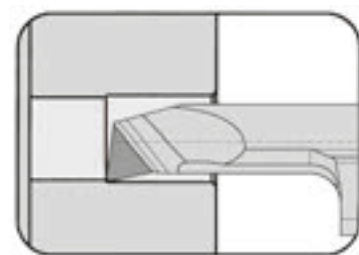
CVD-D and PCD tipped
with HORN 3D geometries

For holder please see our catalog
Supermini® & Mini, Chapter A

刀片

Insert

105



孔径Ø 自

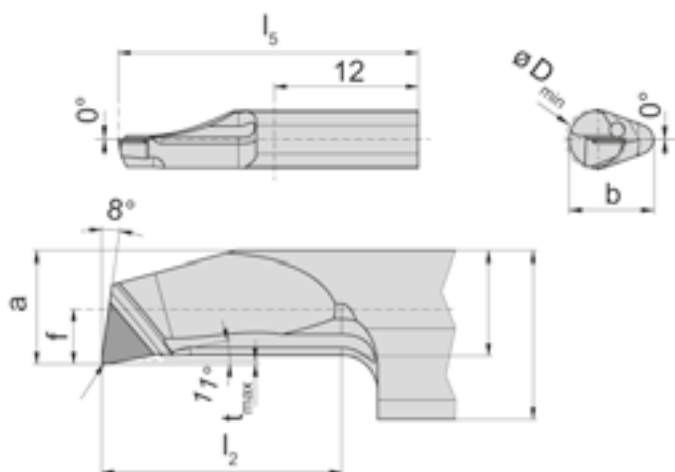
Bore Ø from

1.5 mm

CVD-D刀片
CVD tipped

配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI



R=右手型-如图
R = right hand version shown

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	HD03
R105.1001.0.15.H0.C	0.10	1.5	1.3	1.05	5.9	6	25	0.15	1.5	▲
R105.1001.2.15.H0.C	0.10	1.5	1.3	1.05	5.9	12	30	0.15	1.5	▲
R105.1001.0.2.H0.C	0.15	1.4	1.8	1.55	5.9	6	25	0.15	2.0	▲
R105.1001.2.2.H0.C	0.15	1.4	1.8	1.55	5.9	12	30	0.15	2.0	▲
R105.1002.1.3.H0.C	0.20	1.4	2.7	2.45	5.9	10	25	0.15	3.0	▲
R105.1002.3.3.H0.C	0.20	1.4	2.7	2.45	5.9	20	35	0.15	3.0	▲
R105.1002.1.4.H0.C	0.20	1.9	3.7	3.35	6.4	10	25	0.15	4.0	▲
R105.1002.3.4.H0.C	0.20	1.9	3.7	3.35	6.4	20	35	0.15	4.0	▲
R105.1002.1.5.H0.C	0.20	2.3	4.7	4.35	7.0	10	25	0.15	5.0	▲
R105.1004.1.5.H0.C	0.40	2.3	4.7	4.35	7.0	10	25	0.15	5.0	▲
R105.1002.4.5.H0.C	0.20	2.3	4.7	4.35	7.0	25	40	0.15	5.0	▲
R105.1004.4.5.H0.C	0.40	2.3	4.7	4.35	7.0	25	40	0.15	5.0	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

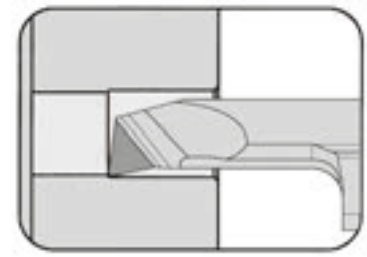
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

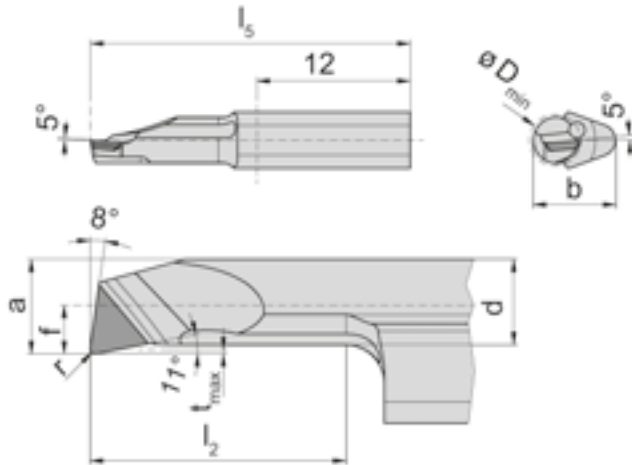
105



孔径Ø 自

Bore Ø from

3 mm



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI

R=右手型-如图
R = right hand version shown

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	PD75
R105.1002.1.3.H5.P	0.2	1.4	2.7	2.45	5.9	10	25	0.15	3	▲
R105.1002.3.3.H5.P	0.2	1.4	2.7	2.45	5.9	20	35	0.15	3	▲
R105.1002.1.4.H5.P	0.2	1.9	3.7	3.35	6.4	10	25	0.15	4	▲
R105.1002.3.4.H5.P	0.2	1.9	3.7	3.35	6.4	20	35	0.15	4	▲
R105.1002.1.5.H5.P	0.2	2.3	4.7	4.35	7.0	10	25	0.15	5	▲
R105.1004.1.5.H5.P	0.4	2.3	4.7	4.35	7.0	10	25	0.15	5	▲
R105.1002.4.5.H5.P	0.2	2.3	4.7	4.35	7.0	25	40	0.15	5	▲
R105.1004.4.5.H5.P	0.4	2.3	4.7	4.35	7.0	25	40	0.15	5	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

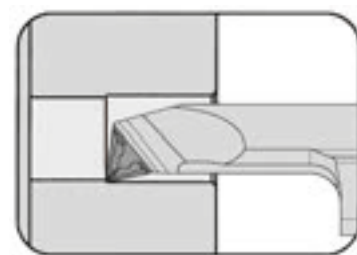
105

带断屑槽
with chip breaker

孔径Ø 自

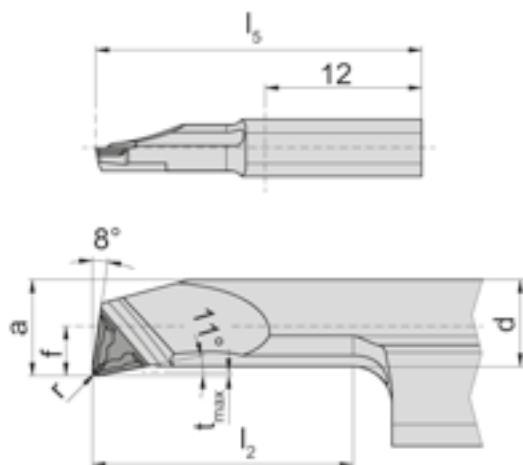
Bore Ø from

4 mm



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI



R=右手型-如图

R = right hand version shown

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	PD75
R105.1002.1.4.HF.P	0.2	1.9	3.7	3.35	6.4	10	25	0.15	4	▲
R105.1002.3.4.HF.P	0.2	1.9	3.7	3.35	6.4	20	35	0.15	4	▲
R105.1002.1.5.HF.P	0.2	2.3	4.7	4.35	7.0	10	25	0.15	5	▲
R105.1004.1.5.HF.P	0.4	2.3	4.7	4.35	7.0	10	25	0.15	5	▲
R105.1002.4.5.HF.P	0.2	2.3	4.7	4.35	7.0	25	40	0.15	5	▲
R105.1004.4.5.HF.P	0.4	2.3	4.7	4.35	7.0	25	40	0.15	5	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

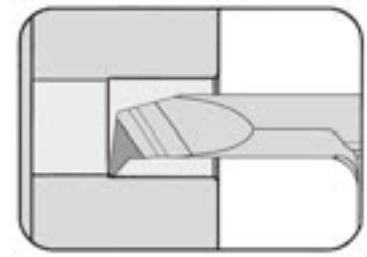
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

105



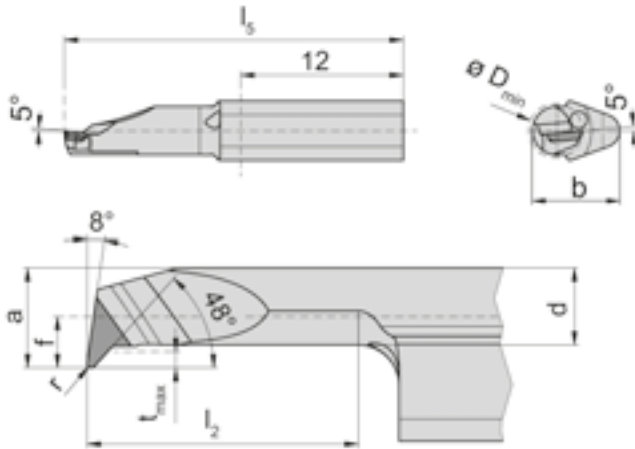
孔径Ø 自

Bore Ø from

4 mm

配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI



R=右手型-如图
R = right hand version shown

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}		PD75
R105.4701.1.4.H5.P	0.15	1.9	3.7	2.85	6.4	10	25	0.6	4		▲
R105.4701.3.4.H5.P	0.15	1.9	3.7	2.85	6.4	20	35	0.6	4		▲
R105.4701.3.6.H5.P	0.15	3.3	5.7	4.85	7.0	20	35	0.6	6		▲
R105.4701.5.6.H5.P	0.15	3.3	5.7	4.85	7.0	30	45	0.6	6		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

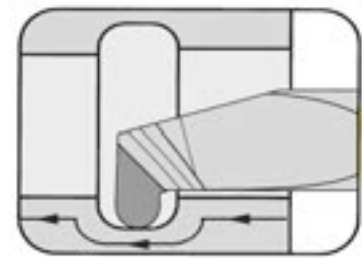
105

孔径Ø 自
圆头

Bore Ø from
Full radius

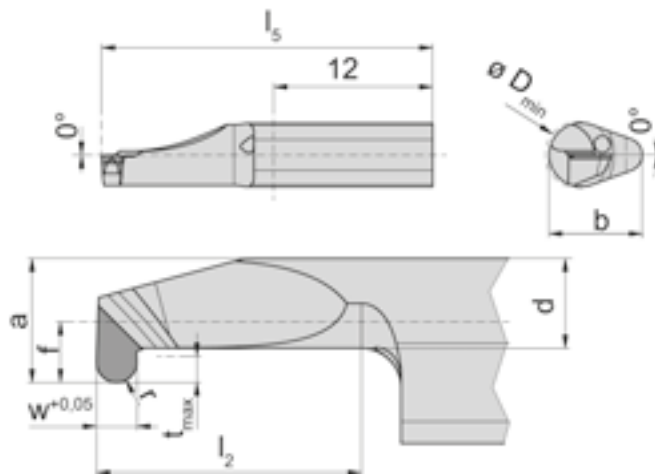
5 mm
0.75 mm

CVD-D刀片
CVD tipped



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI



R=右手型-如图
R = right hand version shown

圆头
Full radius

产品型号 Part number	w	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}		HD03
R105.VR07.1.5.H0.C.	1.5	0.75	2.3	4.7	3.4	7	10	25	1	5		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

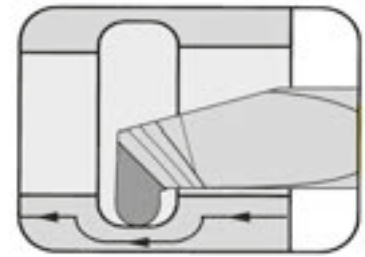
105

孔径Ø 自
圆头

Bore Ø from
Full radius

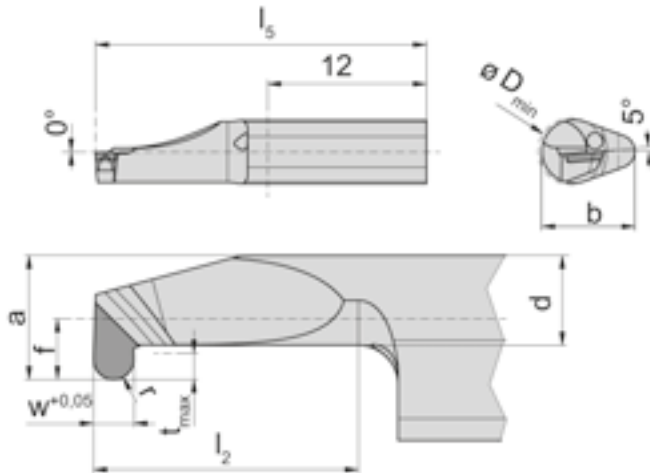
5 mm
0.75 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI



R=右手型-如图
R = right hand version shown

圆头
Full radius

产品型号 Part number	w	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}		PD75
R105.VR07.1.5.H5.P	1.5	0.75	2.3	4.7	3.4	7	10	25	1	5		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

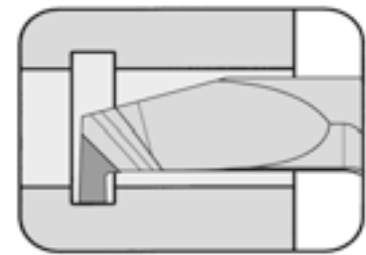
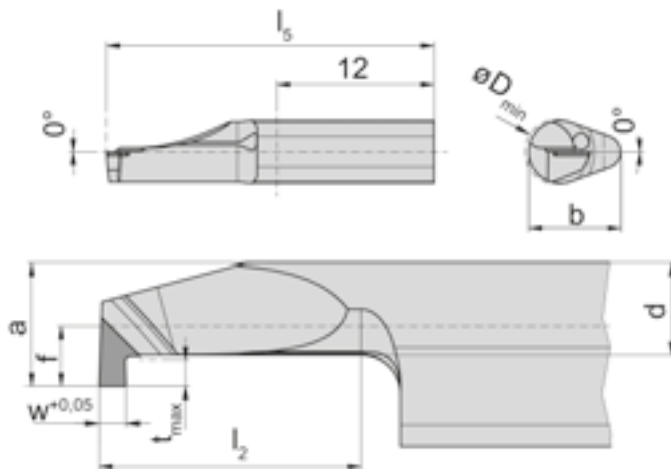
105

孔径 $\varnothing$ 自
槽宽可达

Bore $\varnothing$ from
Width of groove up to

5 mm
1 mm

CVD-D刀片
CVD tipped



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI

R=右手型-如图
R = right hand version shown

产品型号 Part number	w	f	a	d	b	l_2	l_5	$t_{\max}$	$D_{\min}$		HD03
R105.0100.1.5.H0.C	1	2.3	4.7	3.5	7	10	25	1	5		▲
R105.0100.3.5.H0.C	1	2.3	4.7	3.5	7	20	35	1	5		▲
R105.0100.5.5.H0.C	1	2.3	4.7	3.5	7	30	45	1	5		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

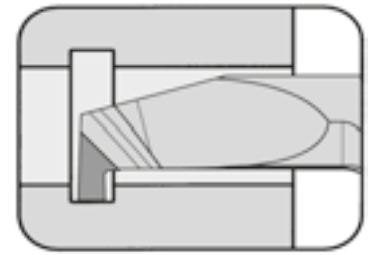
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

105

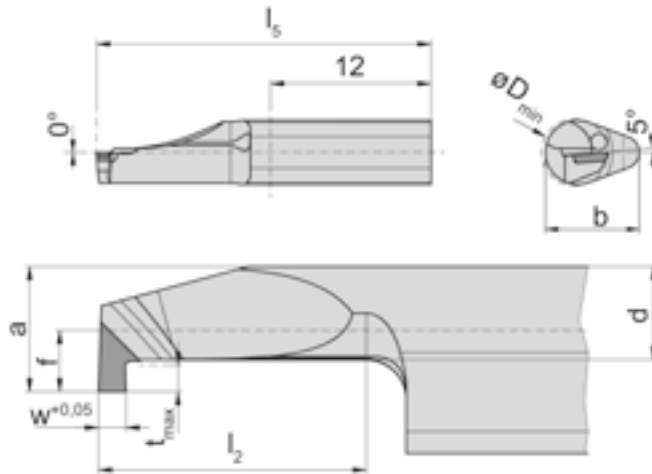


孔径Ø 自
槽深可达

Bore Ø from
Depth of groove up to

5 mm
1 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 B105
Type BKT105
H105
HC105
VDI

R=右手型-如图
R = right hand version shown

产品型号 Part number	w	f	a	d	b	l_2	l_5	t_{max}	D_{min}	PD75
R105.0100.1.5.H5.P	1	2.3	4.7	3.5	7	10	25	1	5	▲
R105.0100.3.5.H5.P	1	2.3	4.7	3.5	7	20	35	1	5	▲
R105.0100.5.5.H5.P	1	2.3	4.7	3.5	7	30	45	1	5	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

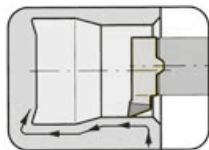
尺寸单位 : mm

Dimensions in mm

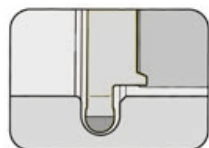
按需提供更多尺寸

Further sizes upon request

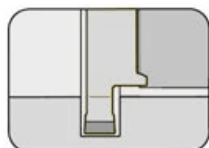
刀片
Insert
107/108/111/114



页/Page
A64-A75



页/Page
A76



页/Page
A78-A79

Mini



CVD-D 和 PCD 刀片

配 HORN 3D-槽型

刀杆详见 Supermini® & Mini 样本,
章节B

**CVD-D and PCD tipped
with HORN 3D geometries**

For holder please see our catalog
Supermini® & Mini, Chapter B

刀片

Insert

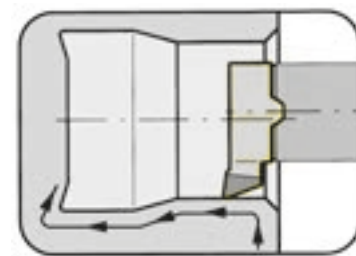
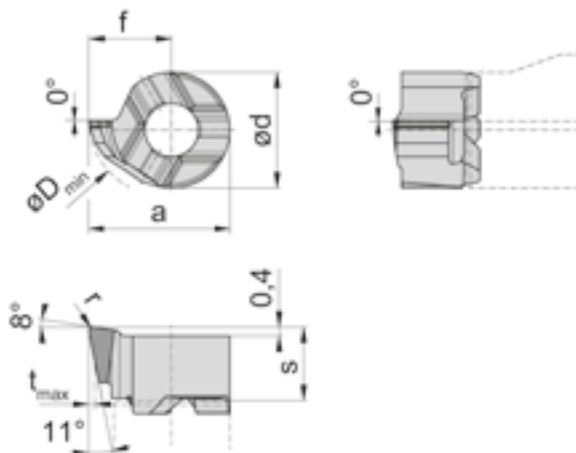
107

孔径Ø 自

Bore Ø from

6.8 mm

CVD-D刀片
CVD tipped



配合刀杆
for Toolholder

型号 B107
Type

R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}		HD03
R107.1002.1.H0.C	3.3	3.7	6.3	0.2	5.2	0.3	6.8		▲
R107.1004.1.H0.C	3.3	3.7	6.3	0.4	5.2	0.3	6.8		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

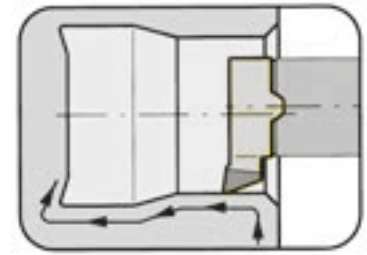
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

107



孔径Ø 自

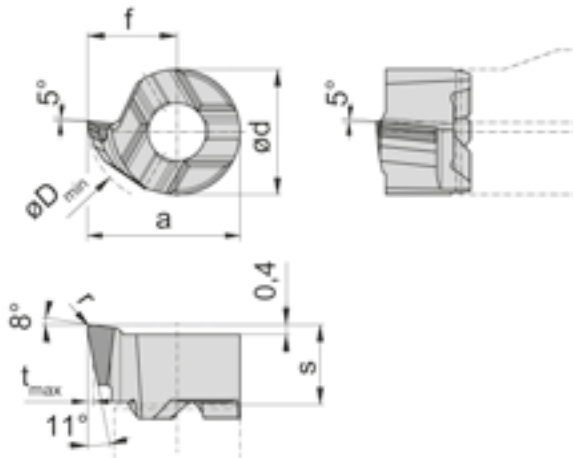
Bore Ø from

6.8 mm

PCD 刀片
PCD tipped

配合刀杆
for Toolholder

型号 B107
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R107.1002.1.H5.P	3.3	3.7	6.3	0.2	5.2	0.3	6.8	▲
R107.1004.1.H5.P	3.3	3.7	6.3	0.4	5.2	0.3	6.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

107

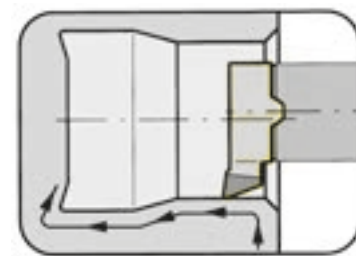
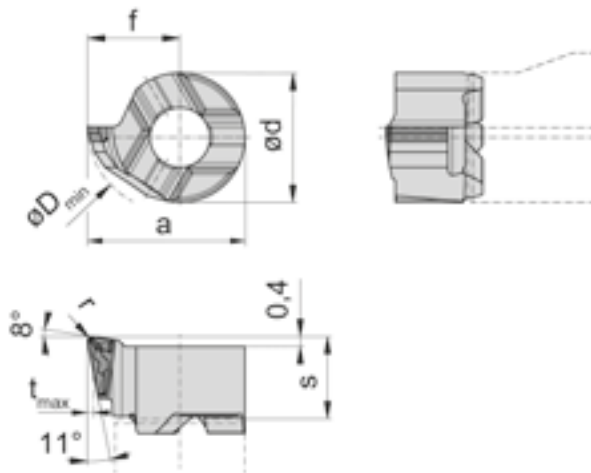
带断屑槽
with chip breaker

孔径Ø 自

Bore Ø from

6.8 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 B107
Type

R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R107.1002.1.HF.P	3.3	3.7	6.3	0.2	5.2	0.3	6.8	▲
R107.1004.1.HF.P	3.3	3.7	6.3	0.4	5.2	0.3	6.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

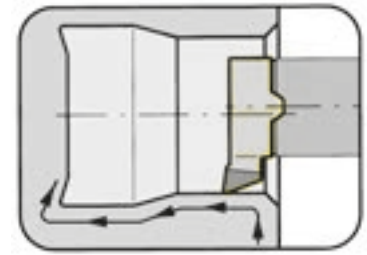
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

108



孔径Ø 自

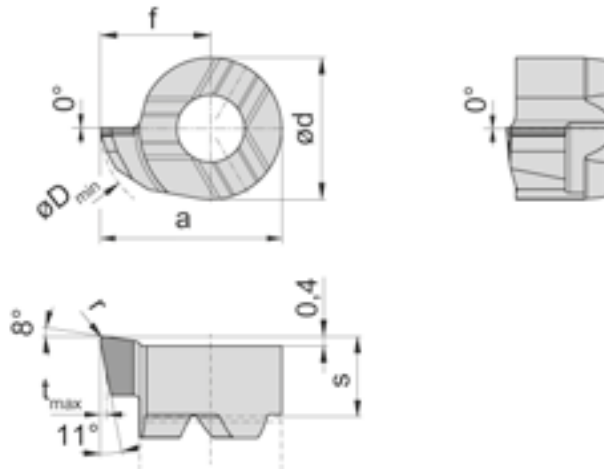
Bore Ø from

7.8 mm

CVD-D刀片
CVD tipped

配合刀杆
for Toolholder

型号 B107
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	HD03
R108.1002.H0.C	3.4	4.65	7.65	0.2	6	0.3	7.8	▲
R108.1004.H0.C	3.4	4.65	7.65	0.4	6	0.3	7.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

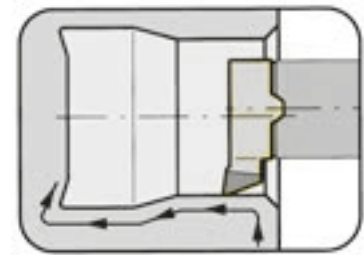
108

孔径Ø 自

Bore Ø from

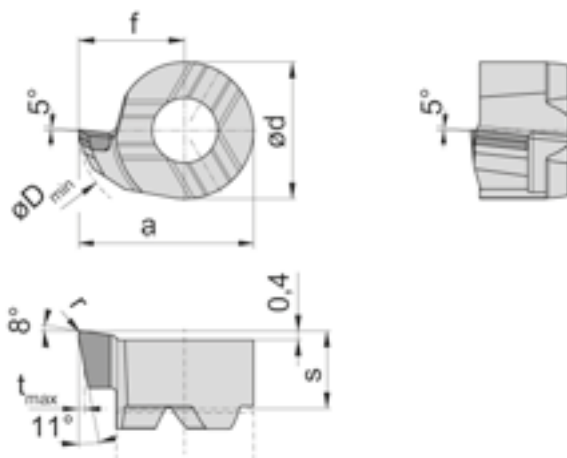
7.8 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 B108
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R108.1002.H5.P	3.4	4.65	7.65	0.2	6	0.3	7.8	▲
R108.1004.H5.P	3.4	4.65	7.65	0.4	6	0.3	7.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

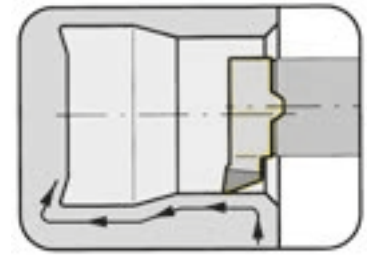
108

带断屑槽
with chip breaker

孔径Ø 自

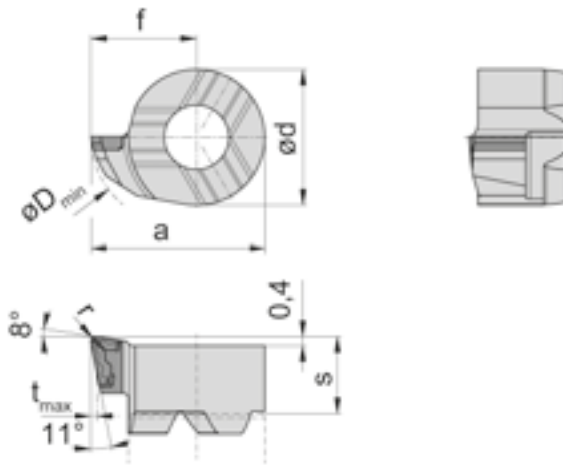
Bore Ø from

7.8 mm



配合刀杆
for Toolholder

型号 B108
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R108.1002.HF.P	3.4	4.65	7.65	0.2	6	0.3	7.8	▲
R108.1004.HF.P	3.4	4.65	7.65	0.4	6	0.3	7.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

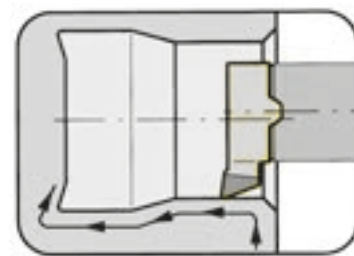
111

孔径Ø 自

Bore Ø from

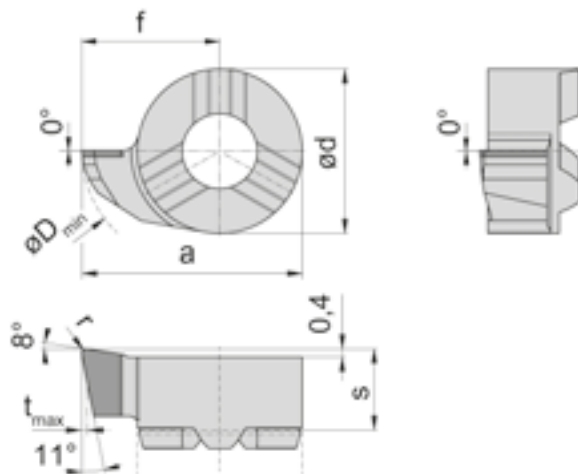
11 mm

CVD-D刀片
CVD tipped



配合刀杆
for Toolholder

型号 125
Type B111



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	HD03
R111.1002.H0.C	3.95	6.7	10.7	0.2	8	0.4	11	▲
R111.1004.H0.C	3.95	6.7	10.7	0.4	8	0.4	11	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

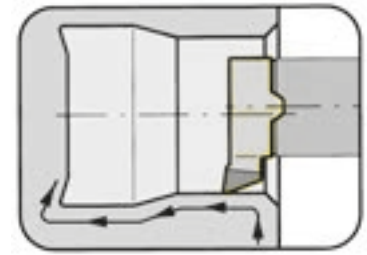
111

孔径Ø 自

Bore Ø from

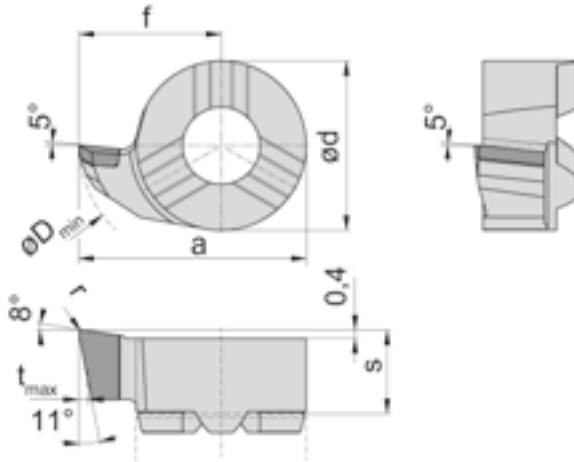
11 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 125
Type B111



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R111.1002.H5.P	3.95	6.7	10.7	0.2	8	0.4	11	▲
R111.1004.H5.P	3.95	6.7	10.7	0.4	8	0.4	11	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

111

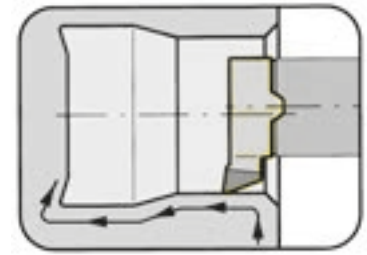
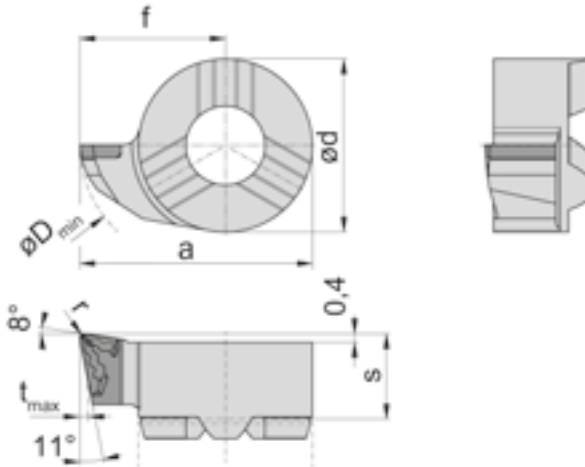
带断屑槽
with chip breaker

孔径Ø 自

Bore Ø from

11 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 125
Type B111

R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R111.1002.HF.P	3.95	6.7	10.7	0.2	8	0.4	11	▲
R111.1004.HF.P	3.95	6.7	10.7	0.4	8	0.4	11	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

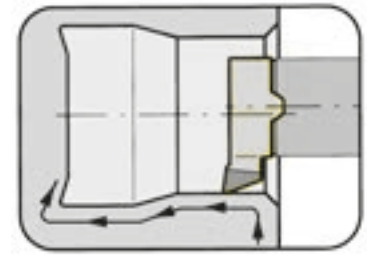
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片 Insert

114



孔径Ø 自

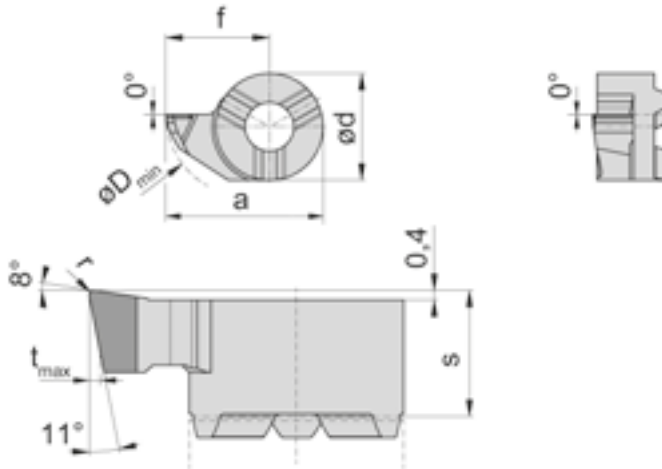
Bore Ø from

13.8 mm

CVD-D刀片
CVD tipped

配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	HD03
R114.1002.H0.C	5.3	8.7	13.2	0.2	9	0.4	13.8	▲
R114.1004.H0.C	5.3	8.7	13.2	0.4	9	0.4	13.8	▲
R114.1008.H0.C	5.3	8.7	13.2	0.8	9	0.4	13.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片

Insert

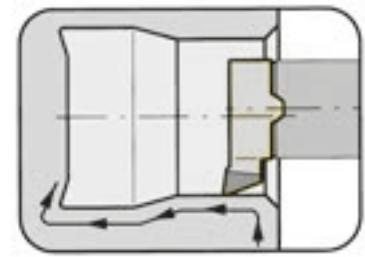
114

孔径Ø 自

Bore Ø from

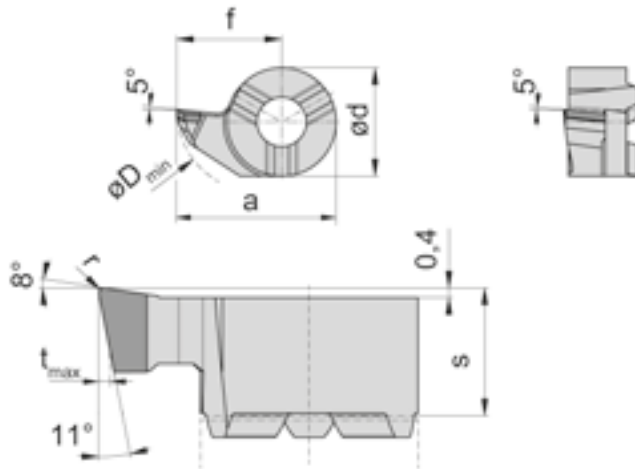
13.8 mm

PCD 刀片
PCD tipped



配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R114.1002.H5.P	5.3	8.7	13.2	0.2	9	0.4	13.8	▲
R114.1004.H5.P	5.3	8.7	13.2	0.4	9	0.4	13.8	▲
R114.1008.H5.P	5.3	8.7	13.2	0.8	9	0.4	13.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

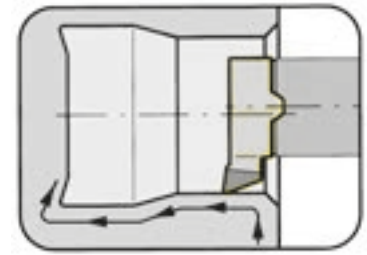
按需提供更多尺寸

Further sizes upon request

刀片 Insert

114

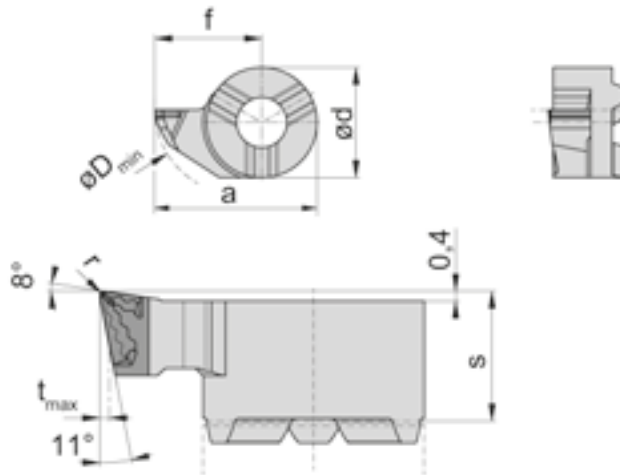
带断屑槽
with chip breaker



孔径Ø 自

Bore Ø from

13.8 mm



配合刀杆
for Toolholder

型号 B114
Type HC114

R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	t _{max}	D _{min}	PD75
R114.1002.HF.P	5.3	8.7	13.2	0.2	9	0.4	13.8	▲
R114.1004.HF.P	5.3	8.7	13.2	0.4	9	0.4	13.8	▲
R114.1008.HF.P	5.3	8.7	13.2	0.8	9	0.4	13.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

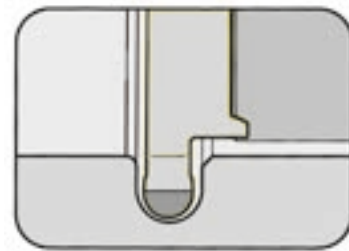
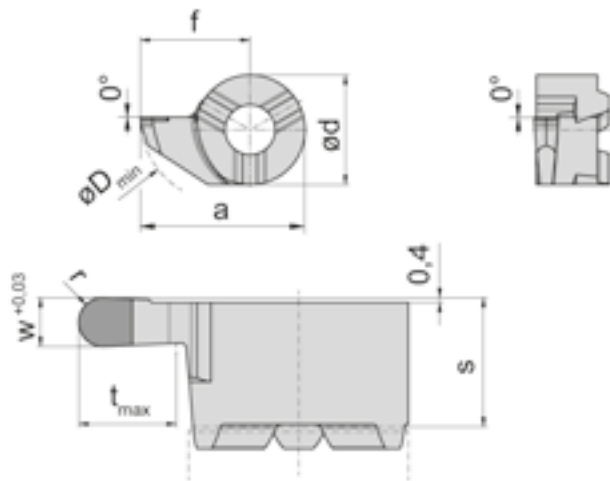
切槽 (内圆)

Grooving (internal)

刀片

Insert

114

孔径Ø 自
圆头Bore Ø from
Full radius14 mm
1-1.5 mmCVD-D刀片
CVD tipped配合刀杆
for Toolholder型号 B114
Type HC114R=右手型-如图
R = right hand version shown圆头
Full radius

产品型号 Part number	w	s	f	a	r	d	t _{max}	D _{min}		HD03
R114.VR20.H0.C	2	5.3	9	13.5	1.0	9	4	14		▲
R114.VR30.H0.C	3	5.3	9	13.5	1.5	9	4	14		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

切槽 (内圆)

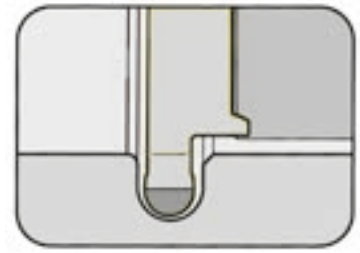
Grooving (internal)



A

刀片
Insert

114



孔径Ø 自
圆头

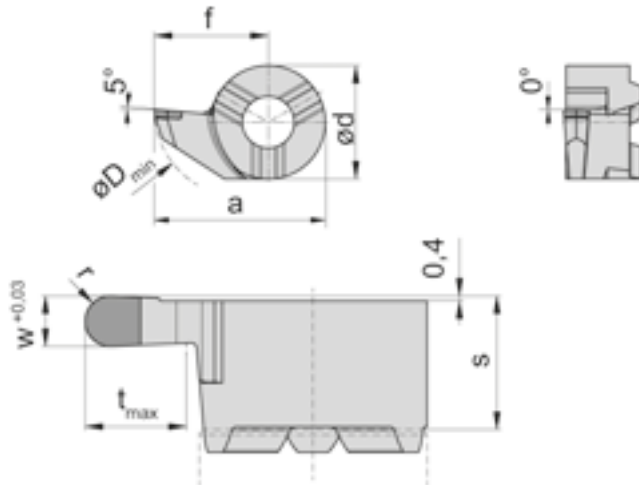
Bore Ø from
Full radius

14 mm
1-1.5 mm

PCD 刀片
PCD tipped

配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

圆头
Full radius

产品型号 Part number	w	s	f	a	r	d	t _{max}	D _{min}	PD75
R114.VR20.H5.P	2	5.3	9	13.5	1.0	9	4	14	▲
R114.VR30.H5.P	3	5.3	9	13.5	1.5	9	4	14	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

切槽 (内圆)

Grooving (internal)

刀片

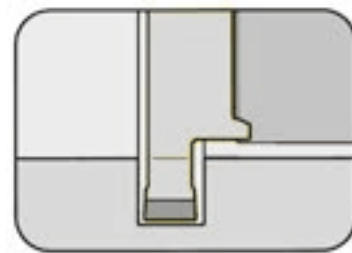
Insert

114

孔径Ø 自
槽深
槽宽

Bore Ø from
Depth of groove
Width of groove

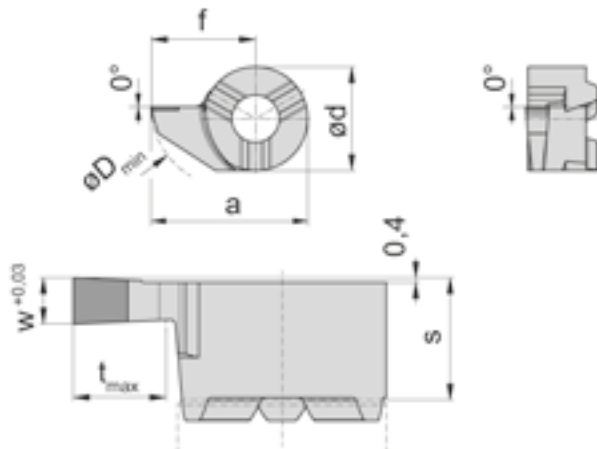
14 mm
4 mm
1-3 mm



CVD-D刀片
CVD tipped

配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

产品型号 Part number	w	s	f	a	d	t _{max}	D _{min}	HD03
R114.0100.H0.C	1	5.3	9	13.5	9	4	14	▲
R114.0200.H0.C	2	5.3	9	13.5	9	4	14	▲
R114.0300.H0.C	3	5.3	9	13.5	9	4	14	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

切槽 (内圆)

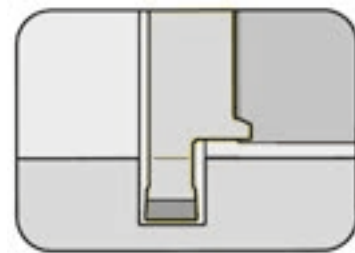
Grooving (internal)



A

刀片
Insert

114



孔径Ø 自
槽深
槽宽

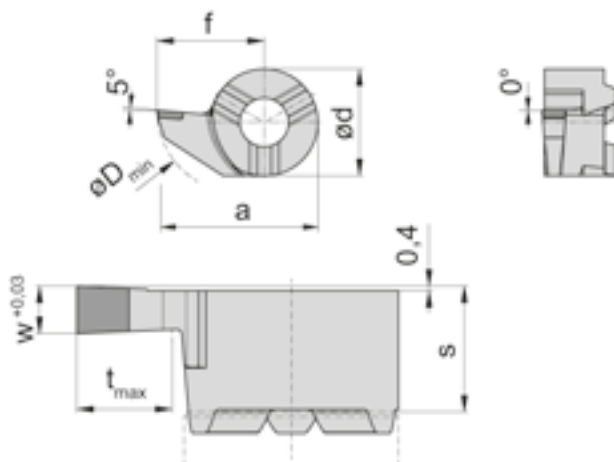
Bore Ø from
Depth of groove
Width of groove

14 mm
4 mm
1-3 mm

PCD 刀片
PCD tipped

配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

产品型号 Part number	w	s	f	a	d	t _{max}	D _{min}	PD75
R114.0100.H5.P	1	5.3	9	13.5	9	4	14	▲
R114.0200.H5.P	2	5.3	9	13.5	9	4	14	▲
R114.0300.H5.P	3	5.3	9	13.5	9	4	14	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

材料 Material	槽型 Version	切削速度 v_c Cutting speed v_c		推荐 冷却 Recommended Coolant
		min	max	
锻造铝合金 Al-wrought alloys	.HF	150	4500	切削液 Emulsion
铝合金 硅含量不大于12% Aluminium alloys up to 12% Si content	.HF	100	3500	切削液 Emulsion
铝合金硅含量12-20% Aluminium alloys with 12-20% Si content	.HF	80	1500	切削液 Emulsion
Magnesium Magnesium	.H5 / .HF	100	4000	切削液 Emulsion
铜, 青铜, 不含铅黄铜 Copper, Bronze, Brass without lead	.H5 / .HF	90	1600	油 Oil
OFHC铜, 钨铜 OFHC Copper, Tungsten copper	.H5	50	800	油 Oil
锌, 黄铜 (MS58) Zinc, Brass (MS58)	.H5 / .HF	100	1800	油 Oil
镍银, 铜镍合金 Nickel silver, Copper-nickel-alloys	.H5	80	450	切削液 Emulsion
钛, 钼, 铂, 铱 Titanium, Molybdenum, Platin, Iridium	.H5	40	250	切削液 Emulsion
石墨 Graphite	.H0	50	1000	吹气 Air
硬质合金和陶瓷, 烧结材料 Carbide and ceramik, sintered	.H0	25	80	吹气 Air
硬质合金和陶瓷, 预烧结材料 Carbide and ceramik, presintered	.H0	40	100	吹气 Air
人工合成材料, 增强塑料 Synthetics, Reinforced plastics	.H5	120	1700	吹气 Air
GFRP GFRP	.H5 / .H0	100	500	吹气 Air
GFRP CFRP	.H5 / .H0	80	300	吹气 Air

槽型 .HF
Geometry



镗孔
bore machining

材料 Material	刀尖圆角 Corner radius [mm]	HORN 3D-断屑器 HORN 3D chip breaker .HF			
		切深 a_p [mm] Depth of cut a_p [mm]		进给 f [mm/U] Feed rate f [mm/rev]	
		min	max	min	max
锻造铝合金	0,2	0,05	1,1	0,05	0,10
Aluminium, Wrought alloys	0,4	0,07	1,2	0,06	0,15
无铅黄铜	0,2	0,05	1,0	0,05	0,10
Brass without lead	0,4	0,1	1,2	0,08	0,15

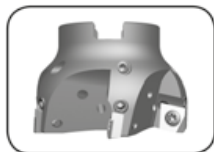
请根据主偏角考虑切深 a_p

Please consider the a_p in relation to the approach angle of the toolholder.

指定的 D_{min} 值可能会受到材料属性的影响

The specified D_{min} value may be affected by material properties.

芯轴刀柄式铣刀
Arbor Mounted Cutter
DTM



页/Page
A84

刀片
Insert
DTS



页/Page
A85

DTM



PCD / CVD

面铣刀具

系统 DTM

面铣 μ 级可调为优化表面设计

PCD / CVD

Face milling tool

System DTM

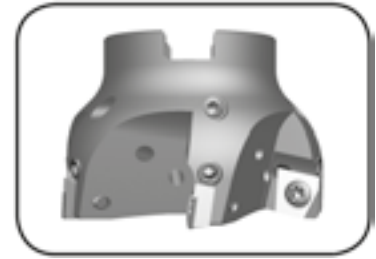
Face milling with μ -precise
adjustment for optimum
surface

芯轴刀柄式铣刀

Arbor Mounted Cutter

DTM

直接冷却液供应
with through coolant supply



切削刃Ø

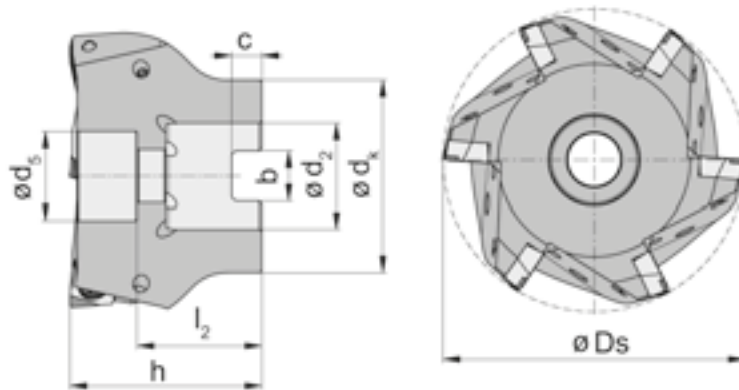
Cutting edge Ø

40-125 mm

芯轴连接刀盘 DIN 8030
Arbor mounted cutter as per DIN 8030

配合刀片
for Insert

型号 DTS
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	h	d ₅	d _k	d ₂	l ₂	b	C	n _{max}
DTM.CX09.040.A16.04	4	40	40	13.5	32	16	31	8.4	5.6	26000
DTM.CX09.050.A22.05	5	50	40	18.5	40	22	26	10.4	6.3	24000
DTM.CX09.063.A22.06	6	63	40	18.5	40	22	26	10.4	6.3	20000
DTM.CX09.080.A27.06	6	80	50	22.0	48	27	33	12.4	7.0	18000
DTM.CX09.100.A32.07	7	100	63	33.0	58	32	48	14.4	8.0	15000
DTM.CX09.125.A40.08	8	125	63	39.0	70	40	46	16.4	9.0	12000

尺寸单位：mm
Dimensions in mm

螺钉扭矩说明, 详见A87页
For torque specifications of the screw, please see page A87.

配件

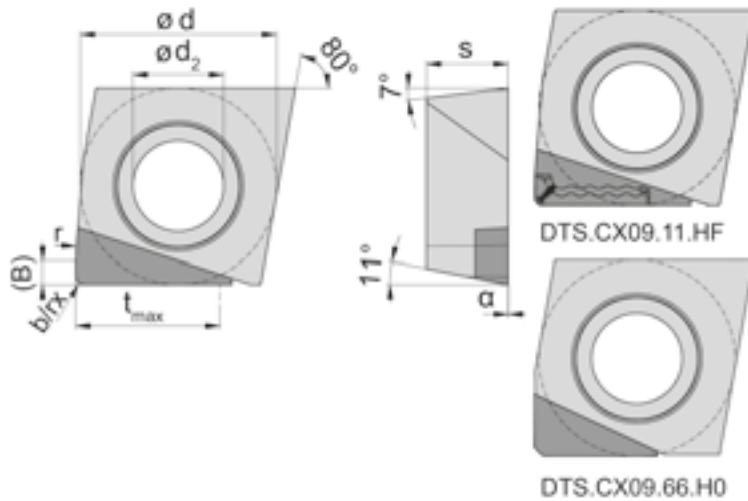
Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	扳手 Allen Wrench	TORX 扳手 Torx PLUS® Wrench	螺钉 Screw
DTM.CX09.040.../080...	SW2,0 DIN911	T15PQ	10.25.912
DTM.CX09.050.../063...	SW2,0 DIN911	T15PQ	
DTM.CX09.100..	SW12,0 DIN 911	T15PQ	
DTM.CX09.125...	SW14,0 DIN 911	T15PQ	

刀片 Insert

DTS

金刚石镶片
Diamond tipped



配芯轴连接刀柄
for Arbor mounted cutter

型号 DTM
Type

产品型号 Part number	d	d ₂	α	s	t _{max}	r Wiper	(B)	r _x	b x 45°		HD08	PD70	PD75
DTS.CX09.11.H0	9.525	4.4	0°	3.97	7.0	12.5	0.9	0.4	-			▲	▲
DTS.CX09.11.H5	9.525	4.4	5°	3.97	7.0	12.5	0.9	0.4	-			▲	▲
DTS.CX09.11.HF	9.525	4.4	-	3.97	7.0	12.5	0.9	0.4	-				▲
DTS.CX09.33.H0	9.525	4.4	0°	3.97	7.0	12.5	0.9	0.4	-		▲		
DTS.CX09.33.H5	9.525	4.4	5°	3.97	7.0	12.5	0.9	0.4	-		▲		
DTS.CX09.66.H0	9.525	4.4	0°	3.97	5.5	100.0	1.7	-	0.45		▲		

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

切削参数 System DTM
Cutting data System DTM



材料 Material	槽型 Geometry	Schneidstoff Cutting material	切削速度 Cutting speed V_c [m/min]		进给 Feed rate f_z		max. 切深 Depth of cut a_p		推荐 冷却 Recommended Coolant
铝合金 Al alloys	Si <12%	H5	粗加工 roughing	精加工 finishing	粗加工 roughing	精加工 finishing	粗加工 roughing	精加工 finishing	油, 切削液, 微量润滑 Oil, Emulsion, MQS
			250 - 3500	250 - 5000	0,05 - 0,25	0,02 - 0,10	3,50	0,50	
			200 - 3000	200 - 4000	0,05 - 0,25	0,02 - 0,10	5,50	0,50	
		H5	PD70						
	Si >12%	H5	PD75		0,05 - 0,25	0,02 - 0,10	5,50	0,50	
			PD75		0,10 - 0,50	0,02 - 0,10	5,00	0,50	
		HF	PD75		0,03 - 0,20	0,02 - 0,10	2,50	0,30	
		H0	HD08		0,03 - 0,20	0,02 - 0,10	3,50	0,30	
		H5	PD70		0,03 - 0,20	0,02 - 0,10	3,50	0,30	
		H5	PD75		0,03 - 0,20	0,02 - 0,10	3,50	0,30	
铜合金 Copper alloys	CuSn	H0	200 - 1500	200 - 2000	0,03 - 0,20	0,02 - 0,10	3,50	0,50	油, 切削液, 微量润滑 Oil, Emulsion, MQS
			150 - 1350	150 - 1800	0,03 - 0,20	0,02 - 0,10	5,50	0,50	
		H5	PD70		0,03 - 0,20	0,02 - 0,10	5,50	0,50	
		H5	PD75		0,03 - 0,20	0,02 - 0,10	5,50	0,50	
	CuZn	HF	150 - 1200	150 - 1750	0,05 - 0,30	0,02 - 0,10	4,50	0,50	
			PD75		0,05 - 0,25	0,02 - 0,10	2,50	0,30	
		H0	HD08		0,05 - 0,25	0,02 - 0,10	3,50	0,30	
		H5	PD70		0,05 - 0,25	0,02 - 0,10	3,50	0,30	
	Cu	H5	150 - 1350	150 - 1850	0,05 - 0,30	0,02 - 0,10	3,50	0,30	
			PD75		0,03 - 0,16	0,02 - 0,10	4,50	0,30	
铜 Copper	H0	HF	200 - 1800	200 - 2200	0,03 - 0,16	0,01 - 0,08	2,50	0,30	压缩空气, (干) Air pressure (dry)
			HD08		0,03 - 0,16	0,01 - 0,08	3,50	0,30	
		H5	PD70		0,03 - 0,16	0,01 - 0,08	3,50	0,30	
		H5	PD75		0,03 - 0,25	0,01 - 0,08	3,50	0,30	
	H5	HF	150 - 1350	150 - 2000	0,07 - 0,30	0,01 - 0,08	4,00	0,30	
			PD75		0,07 - 0,30	0,01 - 0,08	4,00	0,30	
		H0	HD08		0,07 - 0,30	0,05 - 0,2	6,50	1,00	
		H5 / H0	PD70		0,07 - 0,30	0,05 - 0,2	6,50	1,00	
	碳纤维 Carbon fiber	GFRP	100 - 400	100 - 600	0,05 - 0,25	0,03 - 0,12	6,50	1,00	
			HD08		0,05 - 0,25	0,03 - 0,12	6,50	1,00	

精密磨削端面刃口

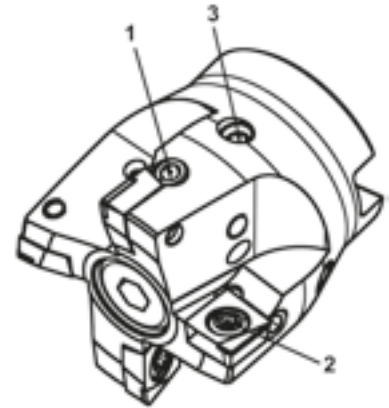
(调整范围 max. +/- 0,05)

- 去除调整键(位置.1)至最初位置
→ 标记槽大约在11点钟方向
- 安装刀片DTS... 至刀片座,使用 Torx-Plus 扳手 T15 (位置.2)
→ 将调节销(位置1)前后转动,并以最小扭矩同步插入刀片座同时压住刀片. 那么就可以找到最大的调整范围。
→ 使用Torx-Plus 扳手 T15PQ (位置.2) 夹紧扭矩 3,0 Nm
- 检查并调整所有切削刃的轴向跳动
→ 确定最高切削刃. 顺时针旋转调节销(位置1)至0.02mm (这就是最高切削刃).
→ 调整其余切削刃直到满足轴向跳动.
→ 调整: $10^\circ = 0,01 \text{ mm}$
- 请不要回退调整键, 这意味着刀片离开了下方的夹具, 在这种情况下可能重复调整的步骤
- 检查所有切削刃的轴向跳动
- 如有必要, 使用M5螺丝对系统进行精密平衡 (位置.3)
→ 平头螺钉自锁

Precision machining face cutting edges

(Max. adjustment range +/- 0,05 mm)

- Move the adjusting pins (item 1) to the initial position
→ Marking groove at approx. „11 clock“
- Install the inserts DTS... in the insert seat using a Torx screw (item 2)
→ Turn the adjusting pin (item 1) to and fro and synchronous press the insert with minimal torque into the insert seat. So the maximum adjusting range will be found.
→ Tighten the Torx screw T15PQ with torque of 3 Nm
- Check and adjust the axial runout of all cutting edges
→ Determine the highest cutting edge. Turn the adjusting pin (item1) clockwise up to 0,02mm (so it is the highest cutting edge)
→ Adjust the remaining cutting edges until the required axial runout is achieved
→ Adjustment: $10^\circ = 0,01 \text{ mm}$
- **Don't turn back the adjusting pins**, it means the insert leave below the fixture, in the case maybe repeat the procedure of adjustment
- Check the axial runout of all cutting edges
- If necessary, fine balance the system using the M5 screw (item3)
→ Grub screw are self-locking



可转位刀片
Indexable Inserts
DA32



页/Page
A91

DA32



**CVD-D 和 PCD 刀片
配 HORN 3D-槽型**

铣刀盘详见铣削样本,章M

**CVD-D and PCD tipped
with HORN 3D geometries**

For milling cutter please see our
catalog Millingsystems, Chapter M

精钢石镶片的DA32刀片

DA32 insert with diamond tip



HORN的DA32铣削系统首次扩展了精钢石镶片刀片。当进行方肩铣，面铣，破走铣和仿形铣时，这特点使刀具能实得到出色的结果。

大正前角槽型刀片确保了特别平滑的切削。这使得施加在工件和刀具上的应力最小，因此，长刀具寿命和几乎无毛刺的加工是有保证的，特别是在长切削材料。底部大圆弧精加工修光刃创造了最好的表面质量标准，即使在高进给率下。冷却剂供应可靠地确保对准切削刃冷却，以及安全去除的切屑离开工作区域。

得益于对纤维增强塑料的特殊槽型，结合CVD厚贴片的金刚石刀具材质的硬度和耐磨性，取得了杰出的成绩。经过试验和测试的HORN金刚石基体，确保使用最先进的激光技术生产的切屑刃口

能够有效地工作吗??

所有这一切，结合淬火和回火高硬度钢的TiN涂层抗磨刀杆。各类TiN涂层的刀杆，是DA系统真正发挥作用的地方。DA32系统中的刀头、螺纹端铣刀和立铣刀的直径从20毫米到63毫米不等，并有2到6个切削刃。

HORN's proven DA32 Milling system is extended for the first time with diamond-tipped inserts. This feature allows the tools to achieve outstanding results during shoulder milling, face milling, plunge milling and circular milling.

The highly positive geometry of the inserts ensures a particularly smooth cut. This keeps the stress exerted on the workpiece and the tool to a minimum. As a result, a long tool life and virtually burr-free machining are guaranteed – particularly when it comes to long-chipping materials. The wide finishing radius creates the very best standards of surface quality, even at high feed rates. The coolant supply reliably ensures targeted cooling of the cutting edges as well as safe removal of the chips away from the working zone.

Thanks to the special geometry for fibre-reinforced plastics, combined with the hardness and wear resistance of the CVD thick-film diamond cutting material, outstanding levels of performance are achieved. Tried-and-tested HORN diamond substrates guarantee that the cutting edges – produced using state-of-the-art laser technology

– are able to work efficiently.

All this, combined with the exceptional rigidity of the quenched and tempered steel as well as the wear-resistant TiN coating of the various tool holders, is what really makes the benefits of the DA system come into their own. The cutter head, screwed end milling cutter and the end mill in the DA32 system are available in cutting edge diameters from 20 mm to 63 mm and with between two and six DA32 inserts.

可转位刀片
Indexable Inserts

DA32



切深可达

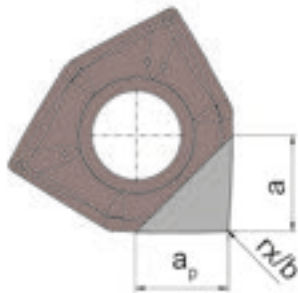
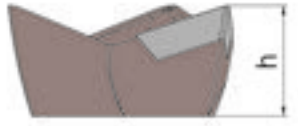
Depth of cut up to

3.8 mm

金刚石镶片
Diamond tipped

配合铣削刀杆
for Milling Cutter

型号 DAM32
Type



产品型号 Part number	Ds	a _p	a	h	r _x	b x 45°	HD05	PD75
DA32.020.25.02.C	20	3.8	3.5	4.7	0.2	-	▲	
DA32.020.25.02.P	20	3.8	3.5	4.7	0.2	-		▲
DA32.020.25.X2.C	20	3.8	3.5	4.7	-	0.2	▲	
DA32.025.25.02.C	25	3.8	3.5	4.7	0.2	-	▲	
DA32.025.25.02.P	25	3.8	3.5	4.7	0.2	-		▲
DA32.025.25.X2.C	25	3.8	3.5	4.7	-	0.2	▲	
DA32.032.25.02.C	32	3.8	3.5	4.7	0.2	-	▲	
DA32.032.25.02.P	32	3.8	3.5	4.7	0.2	-		▲
DA32.032.25.X2.C	32	3.8	3.5	4.7	-	0.2	▲	

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

按需提供更多尺寸

Further sizes upon request

尺寸单位 : mm

Dimensions in mm

注意事项 :

Note:

硬质合金牌号
Carbide grades

$Z =$ 齿数

Number of teeth

 $d =$ 直径-Ø

Cutting edge Ø

 $n =$ 转速

Revolutions

$$n = \frac{v_c \cdot 1000}{d \cdot \pi} \text{ [1/min]}$$

 $v_c =$ 切削速度

Cutting speed

$$v_c = \frac{d \cdot \pi \cdot n}{1000} \text{ [m/min]}$$

 $f_z =$ 进给/齿

Feed/tooth

$$f_z = \frac{v_f}{Z \cdot n} \text{ [mm]}$$

 $v_f =$ 进给率

Feed rate

$$v_f = f_z \cdot Z \cdot n \text{ [mm/min]}$$

 $Q =$ 金属去除率

Material removal rate

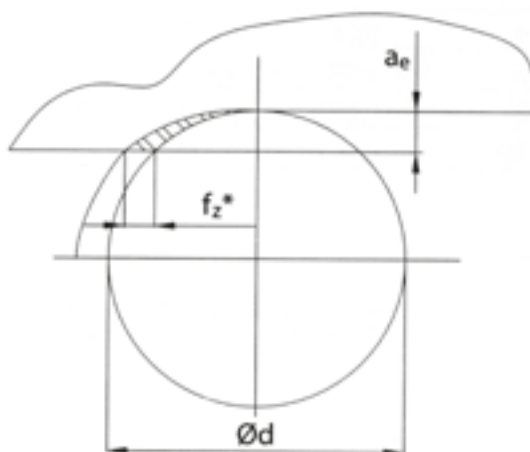
$$Q = \frac{a_e \cdot a_p \cdot v_f}{1000} \text{ (cm}^3\text{/min)}$$

小切削深度的肩铣需要根据以下公式对进刀速度 f'_z 进行补偿。
根据切削深度和刀具直径的不同，该值往往比常规进刀率高得多。

Shoulder Milling with a small depth of cut requires a compensation of the feedrate f'_z according to the following formula.
This value is often much higher than the regular feedrate depending on the depth of cut and the cutter diameter.

$f'_z =$ 有效 a_e 侧边铣 (至多 $0,25 \cdot d$):
effective for side Milling with small a_e (up to $0,25 \cdot d$):

$$f'_z = f_z \sqrt{\frac{d}{a_e}} \text{ [mm]}$$



切削参数 System DA32-DIA

Cutting Data System DA32-DIA



A

材料 Material	推荐刀片 recommended insert		V _{min}	V _{max}	f _z		a _p		推荐冷却 Recommended Coolant
	粗加工 roughing	精加工 finishing			粗加工 roughing	精加工 finishing	粗加工 roughing	精加工 finishing	
锻造铝合金 Al-wrought alloys	DA32.xx.25.02.C HD05	DA32.xx.25.02.C HD05	200	5000	0,05-0,35	0,02-0,15	a _p max	0,5	切削液
铝合金硅含量不大于12% Aluminium alloys up to 12% Si content	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	150	4500	0,05-0,30	0,02-0,12	a _p max	0,4	切削液
铝合金硅含量12-20% Aluminium alloys with >12% Si content	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	100	2000	0,05-0,25	0,02-0,10	a _p max	0,3	切削液
Magnesium Magnesium	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	150	4500	0,05-0,30	0,02-0,12	a _p max	0,4	切削液
铜,青铜,不含铅黄铜 Copper, Bronze, lead-free Brass	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	100	2000	0,05-0,20	0,02-0,12	max 3	0,2	油 / Oil
OFHC铜, 钨铜 Copper OFHC, Tungsten copper	DA32.xx.25.02.C HD05	DA32.xx.25.02.C HD05	70	1000	0,04-0,15	0,02-0,10	max 3	0,2	油 / Oil
Messing, Zink Brass, Zinc	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	120	2000	0,05-0,30	0,02-0,12	a _p max	0,3	油 / Oil
Neusilber, CuNi Nickel silver, CuNi	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	80	600	0,04-0,15	0,02-0,10	max 2,5	0,2	切削液
Titan, Platin, Iridium Titanium, Platin, Iridium	DA32.xx.25.02.P PD75	DA32.xx.25.02.C HD05	50	300	0,03-0,10	0,02-0,06	max 2	0,1	切削液
石墨 Graphite	DA32.xx.25.02.C HD05	DA32.xx.25.02.C HD05	80	1400	0,05-0,20	0,02-0,12	a _p max	0,3	气冷 / Air
硬质合金/陶瓷(预烧结) Carbide and Ceramik (presintered)	DA32.xx.25.X2.C HD05	DA32.xx.25.X2.C HD05	50	150	0,06-0,25	0,05-0,15	a _p max	0,4	气冷 / Air
人工合成材料,增强塑料 Synthetics, Reinforced plastics	DA32.xx.25.X2.C HD05	DA32.xx.25.X2.C HD05	150	2500	0,1-0,5	0,05-0,25	a _p max	0,5	气冷 / Air
GFRP GFRP	DA32.xx.25.X2.C HD05	DA32.xx.25.X2.C HD05	120	800	0,05-0,35	0,04-0,25	a _p max	0,2	气冷 / Air
GFRP CFRP	DA32.xx.25.X2.C HD05	DA32.xx.25.X2.C HD05	90	450	0,05-0,25	0,04-0,25	a _p max	0,2	气冷 / Air

xx = 刀杆直径

xx = place holder for cutting diameter

破走角及插削 90°刀盘

Ramp angle and plunging with a 90° Milling cutter

Ø (mm) 刀片尺寸 / Insert size	32 DA32	25 DA32	20 DA32
破走角 (°) Diving angle (°)	3,5°	3,5°	3,5°
满刀下切最大距离 (mm) vertical full diving max. (mm)	0,8	0,4	0,3
插削最大切宽 a_e (mm) vertical side diving a_e max. (mm)	3,8	3,8	3,8
预钻最小直径 D_b (mm) Predrilling D_b min. (mm)	22,8	15,8	10,8

破走角及插削 45°刀盘

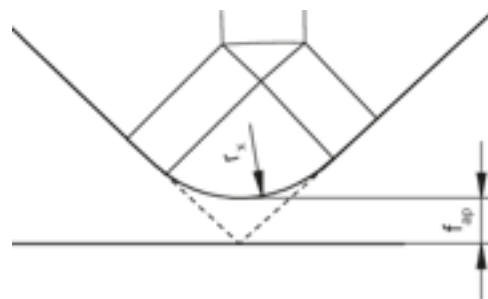
Ramp angle and plunging with a 45° Milling cutter

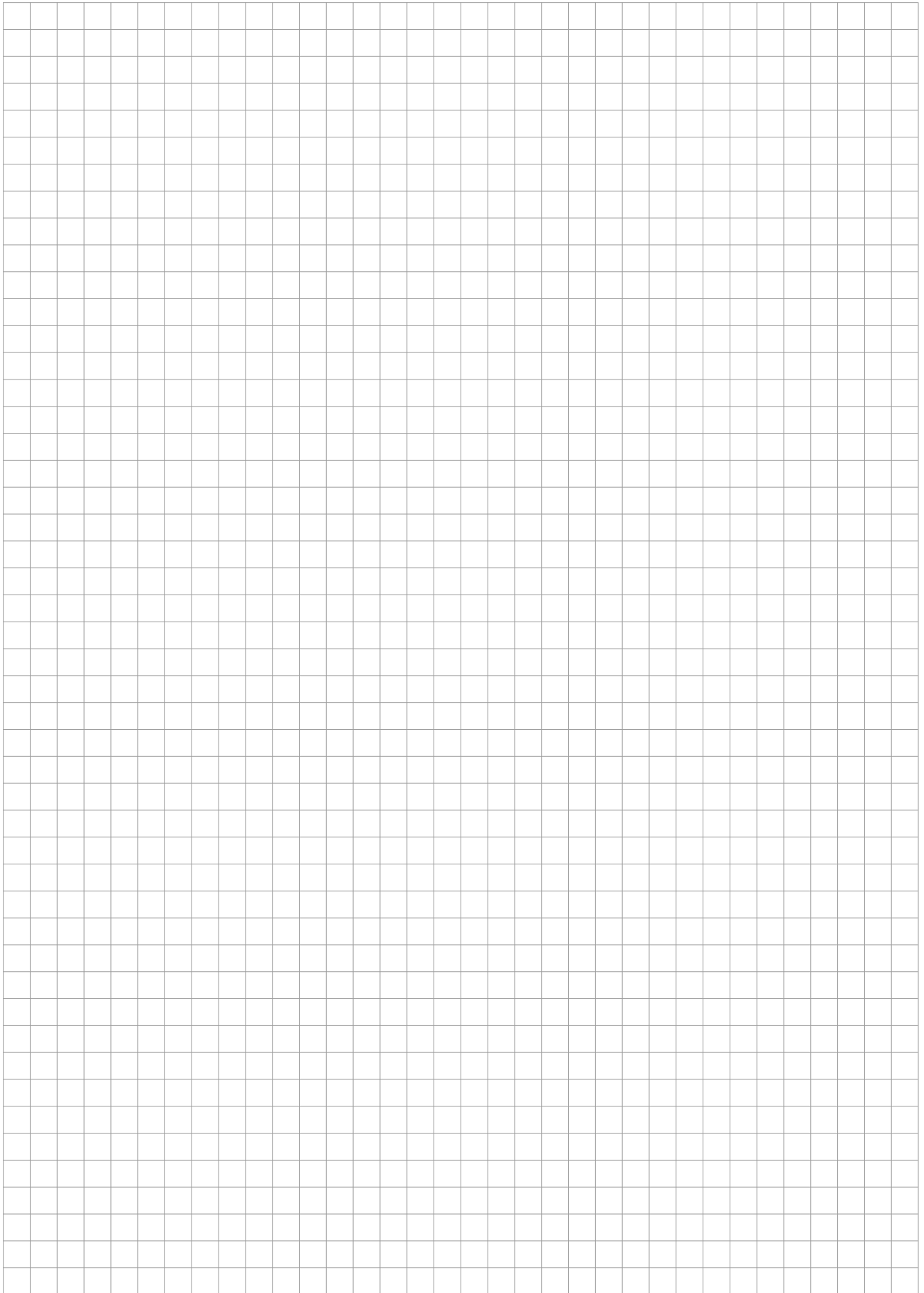
Ø (mm) 刀片尺寸 / Insert size	17 DA32
破走角 (°) Diving angle (°)	11°
满刀下切最大距离 (mm) vertical full diving max. (mm)	3,2

考虑到45°铣削刀尖半径切削深度降低的修正系数

Correction factor for reduced cutting depth in consideration to the corner radius when 45° Milling.

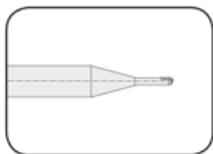
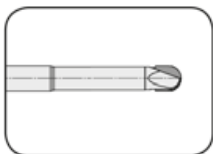
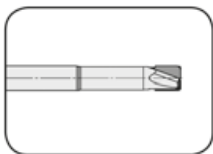
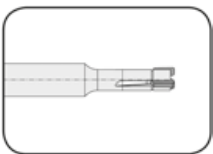
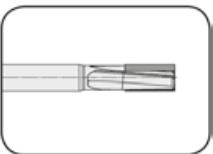
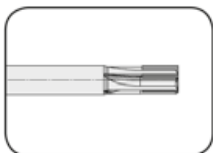
刀尖圆角 r_x (mm) Corner radius r_x (mm)	修正系数 f_{ap} (mm) Correction factor f_{ap} (mm)
0	0
0,2	0,078
0,4	0,17
0,8	0,33
1,0	0,41





立铣刀

End Mill

DSKM/DSK/DSTM/
DST/DSTV/DSUD/
DSFN/DSFU/DSFD页/Page
A98, A100页/Page
A99页/Page
A101-A103页/Page
A104页/Page
A105页/Page
A106-A109

DS



CVD-D 铣刀

直径 0,2 - 16,0 mm

刀杆详见

- 收缩刀柄系统
- 高速主轴

CVD-D Milling tool

Diameter 0,2 - 16,0 mm

For Holders please see

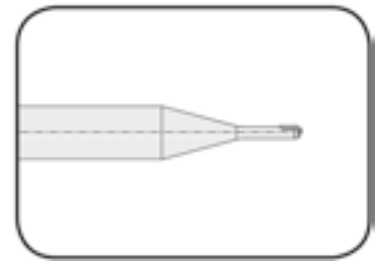
- Schunk clamping systems
- Toodle high speed spindle

模具行业

Die and mould industry

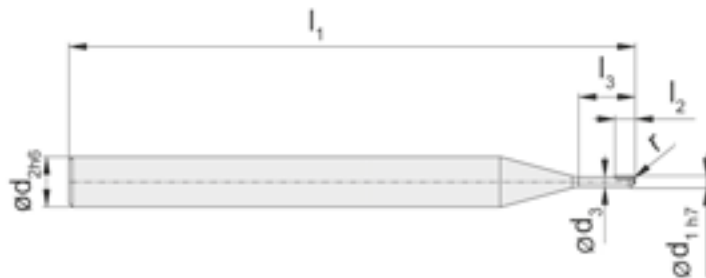
DSKM.HM

微铣球刀, 单齿, Ø 0,2 - 1,5 mm
Micro Ballnose End Mill, 1-fluted, Ø 0,2 - 1,5 mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD03
DSKM.HM.020.03.100	0.20	0.100	0.20	0.3	0.20	4	45	1	▲
DSKM.HM.025.04.125	0.25	0.125	0.35	0.4	0.25	4	45	1	▲
DSKM.HM.030.04.150	0.30	0.150	0.30	0.4	0.30	4	45	1	▲
DSKM.HM.050.06.250	0.50	0.250	0.50	0.6	0.50	4	45	1	▲
DSKM.HM.080.09.400	0.80	0.400	0.80	0.9	0.80	4	45	1	▲
DSKM.HM.100.25.500	1.00	0.500	1.50	2.5	0.80	4	45	1	▲
DSKM.HM.100.35.500	1.00	0.500	1.50	3.5	0.80	4	45	1	△
DSKM.HM.100.45.500	1.00	0.500	1.50	4.5	0.80	4	45	1	△
DSKM.HM.150.30.750	1.50	0.750	2.00	3.0	1.30	4	45	1	▲
DSKM.HM.150.40.750	1.50	0.750	2.00	4.0	1.30	4	45	1	△
DSKM.HM.150.50.750	1.50	0.750	2.00	5.0	1.30	4	45	1	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

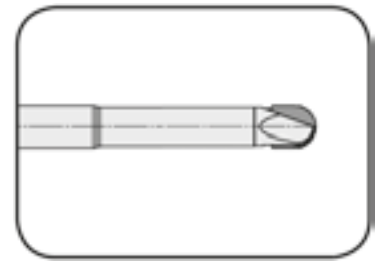
按需提供更多尺寸
Further sizes upon request

模具行业

Die and mould industry

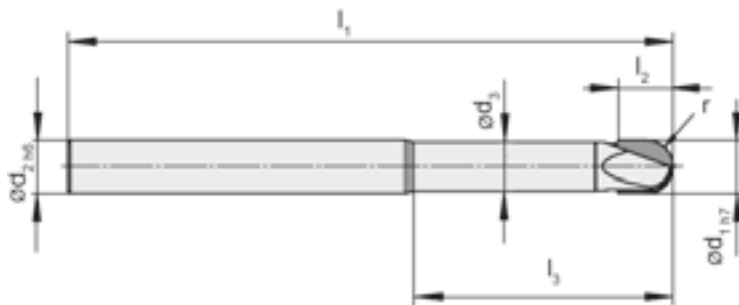
DSK

球头立铣刀，2刃，Ø2-12 mm
Ballnose End Mill, 2-fluted, Ø 2-12 mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD03	HD05	HD08
DSK.2.02.04.04.00	2	1.0	2.5	4	1.95	6	45	2	Δ		
DSK.2.02.08.04.00	2	1.0	2.5	8	1.95	6	45	2	▲		
DSK.2.03.09.06.00	3	1.5	3.0	9	2.85	6	55	2	▲		
DSK.2.03.12.06.00	3	1.5	3.0	12	2.85	6	55	2	▲		
DSK.2.04.10.06.00	4	2.0	4.0	10	3.90	6	60	2		▲	
DSK.2.04.15.06.00	4	2.0	4.0	15	3.90	6	60	2		▲	
DSK.2.04.20.06.00	4	2.0	4.0	20	3.90	6	60	2		▲	
DSK.2.06.20.06.00	6	3.0	6.0	20	5.60	6	70	2			▲
DSK.2.06.25.06.00	6	3.0	6.0	25	5.60	6	70	2			▲
DSK.2.06.30.06.00	6	3.0	6.0	30	5.60	6	70	2			Δ
DSK.2.08.25.08.00	8	4.0	7.0	25	7.50	8	65	2			▲
DSK.2.08.40.08.00	8	4.0	7.0	40	7.50	8	80	2			▲
DSK.2.10.30.10.00	10	5.0	8.0	30	9.30	10	70	2			▲
DSK.2.10.50.10.00	10	5.0	8.0	50	9.30	10	90	2			▲
DSK.2.12.30.12.00	12	6.0	9.0	30	11.30	12	75	2			▲
DSK.2.12.60.12.00	12	6.0	9.0	60	11.30	12	105	2			▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

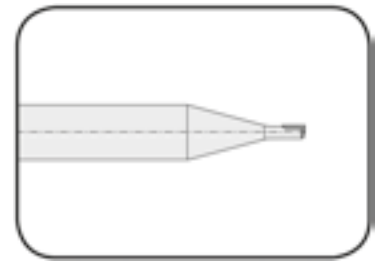
按需提供更多尺寸
Further sizes upon request

模具行业

Die and mould industry

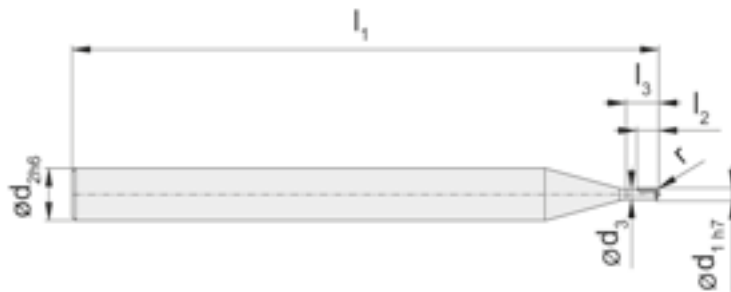
DSTM.HM

微铣立铣刀, 单齿刀尖圆角, Ø 1-1,5 mm
Microtorus End Mill, 1-fluted with corner radius, Ø 1-1,5 mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD03
DSTM.HM.100.25.005	1.0	0.05	1.5	2.5	0.8	4	45	1	▲
DSTM.HM.100.25.010	1.0	0.10	1.5	2.5	0.8	4	45	1	▲
DSTM.HM.100.35.005	1.0	0.05	1.5	3.5	0.8	4	45	1	△
DSTM.HM.100.35.010	1.0	0.10	1.5	3.5	0.8	4	45	1	△
DSTM.HM.100.45.005	1.0	0.05	1.5	4.5	0.8	4	45	1	△
DSTM.HM.100.45.010	1.0	0.10	1.5	4.5	0.8	4	45	1	△
DSTM.HM.150.30.005	1.5	0.05	2.0	3.0	1.3	4	45	1	▲
DSTM.HM.150.30.010	1.5	0.10	2.0	3.0	1.3	4	45	1	▲
DSTM.HM.150.40.005	1.5	0.05	2.0	4.0	1.3	4	45	1	△
DSTM.HM.150.40.010	1.5	0.10	2.0	4.0	1.3	4	45	1	△
DSTM.HM.150.50.005	1.5	0.05	2.0	5.0	1.3	4	45	1	△
DSTM.HM.150.50.010	1.5	0.10	2.0	5.0	1.3	4	45	1	△

▲ 库存 / on stock △ 4周 / 4 weeks × 根据要求 / upon request

尺寸单位 : mm

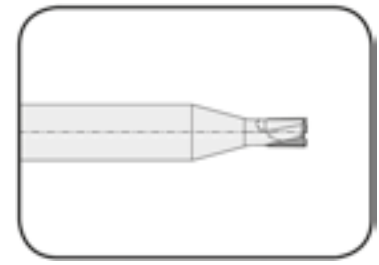
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

模具行业

Die and mould industry

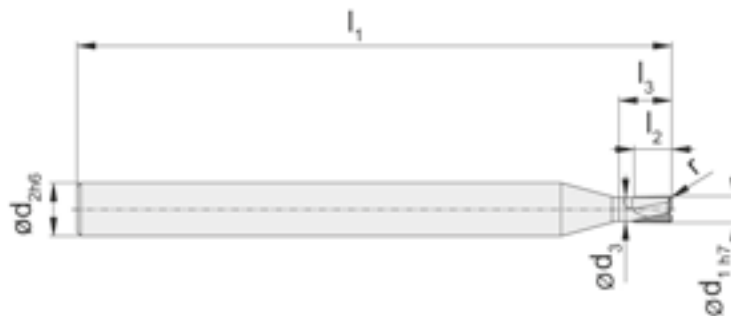
DST.HM



立铣刀，2刃，刀尖圆角，Ø2-6mm
Torus End Mill, 2-fluted with corner radius, Ø 2-6 mm

夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD03	HD05	HD08
DST.HM.02.040.020	2	0.2	2.5	4	1.95	4	45	2	▲		
DST.HM.03.090.020	3	0.2	2.5	9	2.85	6	55	2	▲		
DST.HM.03.090.030	3	0.3	2.5	9	2.85	6	55	2	▲		
DST.HM.04.100.020	4	0.2	2.5	10	3.90	6	60	2		▲	
DST.HM.04.100.030	4	0.3	2.5	10	3.90	6	60	2		▲	
DST.HM.05.150.030	5	0.3	3.0	15	4.70	6	65	2		▲	
DST.HM.05.150.050	5	0.5	3.0	15	4.70	6	65	2		▲	
DST.HM.06.200.020	6	0.2	6.0	20	5.60	6	65	2			▲
DST.HM.06.200.030	6	0.3	6.0	20	5.60	6	65	2			▲
DST.HM.06.200.050	6	0.5	6.0	20	5.60	6	65	2			▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

环面立铣刀

Torus End Mill

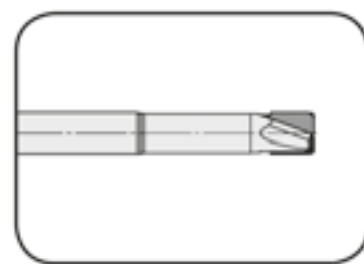


模具行业

Die and mould industry

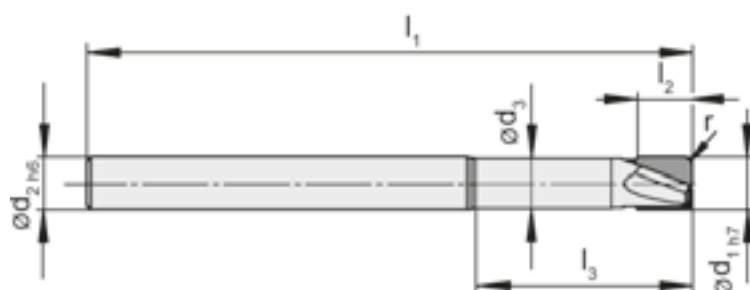
DST

立铣刀，2刃，刀尖圆角，Ø2-6mm
Torus End Mill, 2-fluted with corner radius, Ø 2-6 mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD03	HD05	HD08
DST.2.02.0425.02.04	2	0.2	2.5	4	1.95	4	45	2	▲		
DST.2.02.0625.02.04	2	0.2	2.5	6	1.95	4	45	2	▲		
DST.2.02.0825.02.04	2	0.2	2.5	8	1.95	4	45	2	▲		
DST.2.03.0925.03.06	3	0.3	2.5	9	2.85	6	55	2	▲		
DST.2.03.0925.05.06	3	0.5	2.5	9	2.85	6	55	2	▲		
DST.2.03.1225.03.06	3	0.3	2.5	12	2.85	6	55	2	▲		
DST.2.03.1225.05.06	3	0.5	2.5	12	2.85	6	55	2	△		
DST.2.03.1525.03.06	3	0.3	2.5	15	2.85	6	55	2	▲		
DST.2.03.1525.05.06	3	0.5	2.5	15	2.85	6	55	2	△		
DST.2.04.1025.03.06	4	0.3	2.5	10	3.90	6	60	2		▲	
DST.2.04.1025.05.06	4	0.5	2.5	10	3.90	6	60	2		▲	
DST.2.04.1525.03.06	4	0.3	2.5	15	3.90	6	60	2		▲	
DST.2.04.1525.05.06	4	0.5	2.5	15	3.90	6	60	2		▲	
DST.2.04.2025.03.06	4	0.3	2.5	20	3.90	6	60	2		▲	
DST.2.04.2025.05.06	4	0.5	2.5	20	3.90	6	60	2		▲	
DST.2.06.2060.03.06	6	0.3	6.0	20	5.60	6	70	2			▲
DST.2.06.2060.05.06	6	0.5	6.0	20	5.60	6	70	2			▲
DST.2.06.2060.10.06	6	1.0	6.0	20	5.60	6	70	2			▲
DST.2.06.2560.03.06	6	0.3	6.0	25	5.60	6	70	2			△
DST.2.06.2560.05.06	6	0.5	6.0	25	5.60	6	70	2			△
DST.2.06.2560.10.06	6	1.0	6.0	25	5.60	6	70	2			△
DST.2.06.3060.03.06	6	0.3	6.0	30	5.60	6	70	2			▲
DST.2.06.3060.05.06	6	0.5	6.0	30	5.60	6	70	2			▲
DST.2.06.3060.10.06	6	1.0	6.0	30	5.60	6	70	2			▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

按需提供更多尺寸
Further sizes upon request

环面立铣刀

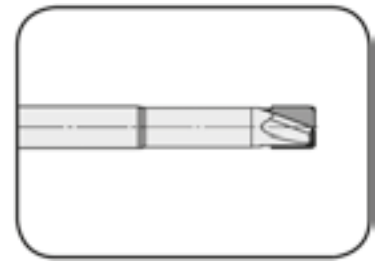
Torus End Mill



A

模具行业
Die and mould industry

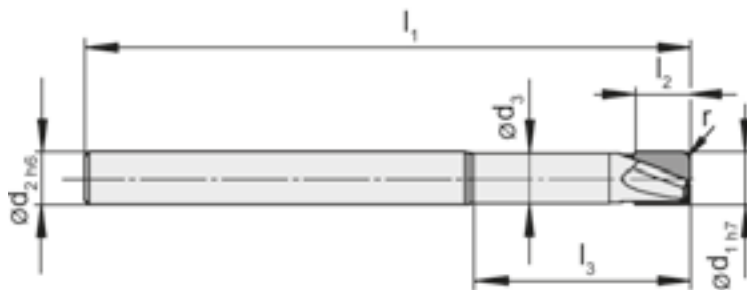
DST



立铣刀，2刃，刀尖圆角，Ø8-12mm
Torus End Mill, 2-fluted with corner radius, Ø 8-12 mm

夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD08
DST.2.08.2570.03.08	8	0.3	7	25	7.5	8	65	2	▲
DST.2.08.2570.05.08	8	0.5	7	25	7.5	8	65	2	▲
DST.2.08.2570.10.08	8	1.0	7	25	7.5	8	65	2	▲
DST.2.08.4070.03.08	8	0.3	7	40	7.5	8	80	2	▲
DST.2.08.4070.05.08	8	0.5	7	40	7.5	8	80	2	△
DST.2.08.4070.10.08	8	1.0	7	40	7.5	8	80	2	▲
DST.2.10.3080.05.10	10	0.5	8	30	9.3	10	70	2	▲
DST.2.10.3080.10.10	10	1.0	8	30	9.3	10	70	2	△
DST.2.10.5080.05.10	10	0.5	8	50	9.3	10	90	2	△
DST.2.10.5080.10.10	10	1.0	8	50	9.3	10	90	2	△
DST.2.12.3090.05.12	12	0.5	9	30	11.3	12	75	2	▲
DST.2.12.3090.10.12	12	1.0	9	30	11.3	12	75	2	△
DST.2.12.6090.05.12	12	0.5	9	60	11.3	12	105	2	▲
DST.2.12.6090.10.12	12	1.0	9	60	11.3	12	105	2	▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

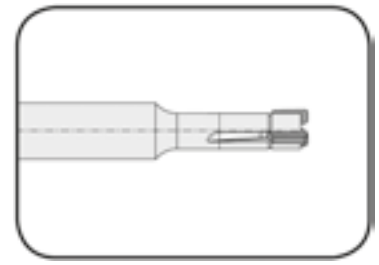
按需提供更多尺寸
Further sizes upon request

模具行业

Die and mould industry

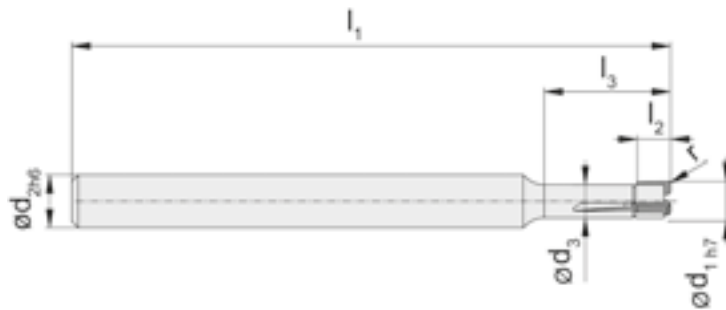
DSTV.HM

多刃刀尖圆角立铣刀, Ø 3-10 mm
Multiple Flute End Mill with corner radius, Ø 3-10mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	r	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05
DSTV.HM.03.09.02.03	3	0.2	2.0	9	2.5	4	45	3	▲
DSTV.HM.03.09.03.03	3	0.3	2.0	9	2.5	4	45	3	▲
DSTV.HM.04.10.02.05	4	0.2	2.0	10	3.5	4	45	5	▲
DSTV.HM.04.10.03.05	4	0.3	2.0	10	3.5	4	45	5	▲
DSTV.HM.05.13.03.06	5	0.3	3.0	13	4.4	6	55	6	▲
DSTV.HM.05.13.05.06	5	0.5	3.0	13	4.4	6	55	6	▲
DSTV.HM.06.15.02.07	6	0.2	3.5	15	5.0	6	55	7	▲
DSTV.HM.06.15.03.07	6	0.3	3.5	15	5.0	6	55	7	▲
DSTV.HM.06.15.05.07	6	0.5	3.5	15	5.0	6	55	7	▲
DSTV.HM.08.20.03.11	8	0.3	3.0	20	7.0	8	60	11	▲
DSTV.HM.08.20.05.11	8	0.5	3.0	20	7.0	8	60	11	▲
DSTV.HM.10.25.03.15	10	0.3	3.0	25	9.0	10	70	15	▲
DSTV.HM.10.25.05.15	10	0.5	3.0	25	9.0	10	70	15	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

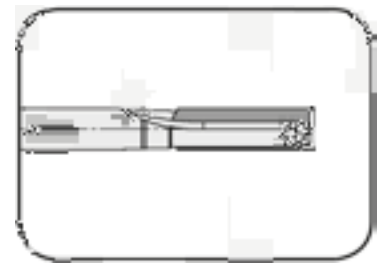
按需提供更多尺寸
Further sizes upon request

模具行业

Die and mould industry

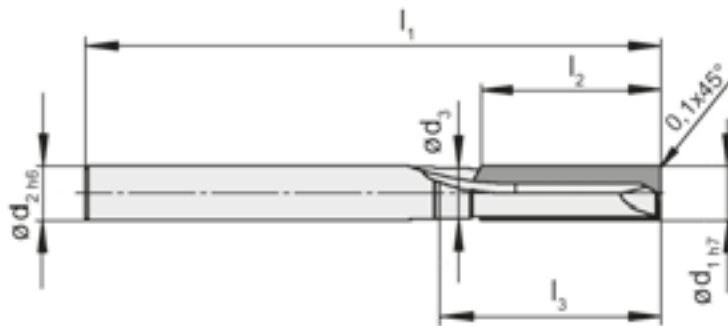
DST

立铣刀，2刃，刀尖倒角，Ø4.0-16.0mm
End mill, 2-fluted with corner chamfer, Ø 4,0 - 16,0 mm



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



产品型号 Part number	d ₁	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05	HD08
DST.2.04.1008.03.06	4	8	10	3.9	6	60	2	▲	
DST.2.04.2015.03.06	4	10	20	3.9	6	60	2	▲	
DST.2.06.1510.04.06	6	15	15	5.8	6	60	2		▲
DST.2.06.2015.04.06	6	15	20	5.8	6	60	2		▲
DST.2.06.2520.04.06	6	20	25	5.8	6	65	2		▲
DST.2.08.1510.06.08	8	10	15	7.8	8	60	2		▲
DST.2.08.2015.06.08	8	15	20	7.8	8	60	2		▲
DST.2.08.3020.06.08	8	20	30	7.8	8	70	2		Δ
DST.2.10.2010.08.10	10	10	20	9.8	10	70	2		▲
DST.2.10.2515.08.10	10	15	25	9.8	10	70	2		▲
DST.2.10.3020.08.10	10	20	30	9.8	10	80	2		Δ
DST.2.12.2010.10.12	12	10	20	11.7	12	70	2		▲
DST.2.12.2515.10.12	12	15	25	11.7	12	70	2		Δ
DST.2.12.3020.10.12	12	20	30	11.7	12	80	2		▲
DST.2.16.2510.20.16	16	10	25	15.6	16	80	2		Δ
DST.2.16.3015.20.16	16	15	30	15.6	16	80	2		Δ
DST.2.16.3520.20.16	16	20	35	15.6	16	90	2		Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

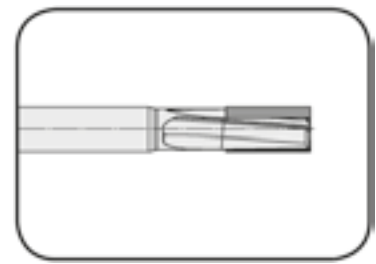
按需提供更多尺寸
Further sizes upon request

航空和汽车行业

Aerospace and Automotive industry

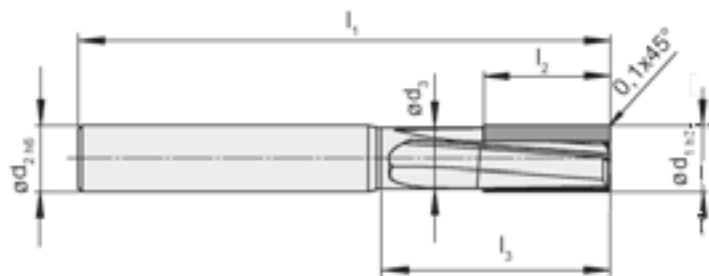
DSUD

左旋和右旋立铣刀，4刃
Up and down End Mill, 4-fluted



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



拉和推
pulling and pushing

产品型号 Part number	d ₁	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05
DSUD.4.08.15.44.08	8	15	30	7.5	8	70	4	▲
DSUD.4.08.20.33.08	8	20	35	7.5	8	75	4	△
DSUD.4.08.24.22.08	8	24	40	7.5	8	80	4	△
DSUD.4.10.15.44.10	10	15	30	9.3	10	75	4	△
DSUD.4.10.20.33.10	10	20	35	9.3	10	80	4	△
DSUD.4.10.24.22.10	10	24	40	9.3	10	85	4	△
DSUD.4.12.15.44.12	12	15	30	11.3	12	80	4	△
DSUD.4.12.20.44.12	12	20	35	11.3	12	85	4	△
DSUD.4.12.24.33.12	12	24	40	11.3	12	90	4	▲
DSUD.4.16.15.44.16	16	15	30	15.3	16	85	4	▲
DSUD.4.16.20.44.16	16	20	35	15.3	16	90	4	△
DSUD.4.16.24.44.16	16	24	40	15.3	16	95	4	▲

▲ 库存 / on stock △ 4周 / 4 weeks × 根据要求 / upon request

尺寸单位：mm

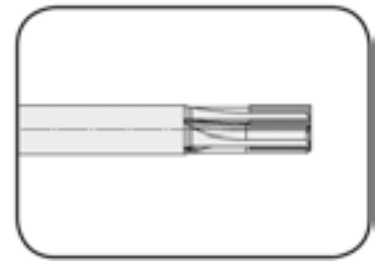
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

航空和汽车行业
Aerospace and Automotive industry

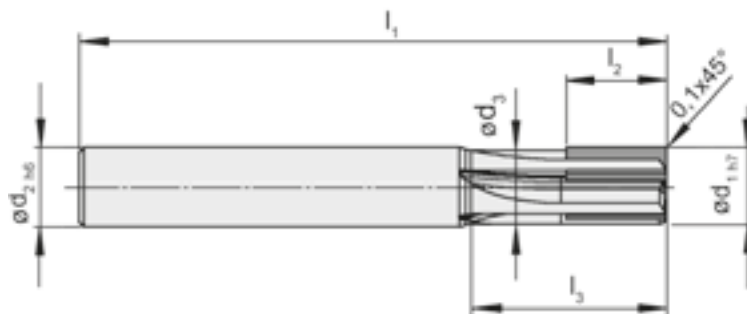
DSFN

多刃精加工铣刀，5-9刃
Multiple fluted Finishing End Mill, 5-9-fluted



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



中性
neutral

产品型号 Part number	d ₁	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05
DSFN.5.08.10.54.0.08	8	10	20	7.5	8	60	5	Δ
DSFN.5.08.20.64.0.08	8	20	30	7.5	8	70	5	▲
DSFN.5.10.12.60.0.10	10	12	20	9.3	10	65	5	Δ
DSFN.5.10.22.70.0.10	10	22	30	9.3	10	75	5	Δ
DSFN.7.12.15.68.0.12	12	15	25	11.3	12	75	7	Δ
DSFN.7.12.24.77.0.12	12	24	35	11.3	12	85	7	Δ
DSFN.7.16.24.80.0.16	16	24	35	15.3	16	85	7	Δ
DSFN.9.16.24.80.0.16	16	24	35	15.3	16	85	9	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

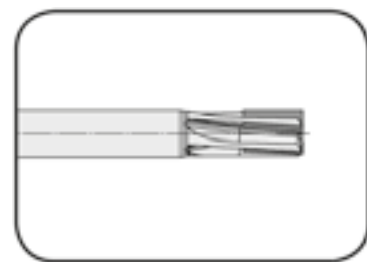
航空和汽车行业

Aerospace and Automotive industry

DSFU

多刃精加工铣刀，5-9刃

Multiple fluted Finishing End Mill, 5-9-fluted



夹紧系统

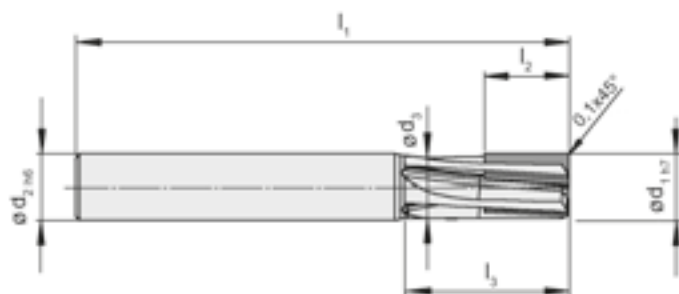
for Clamping Systems

型号

Schunk

Type

Toodle



拉
pulling

产品型号 Part number	d ₁	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05
DSFU.5.08.10.54.4.08	8	10	20	7.5	8	60	5	▲
DSFU.5.08.20.64.3.08	8	20	30	7.5	8	70	5	△
DSFU.5.10.12.60.4.10	10	12	20	9.3	10	65	5	△
DSFU.5.10.22.70.3.10	10	22	30	9.3	10	75	5	▲
DSFU.7.12.15.68.4.12	12	15	25	11.3	12	75	7	▲
DSFU.7.12.24.77.3.12	12	24	35	11.3	12	85	7	△
DSFU.7.16.24.80.4.16	16	24	35	15.3	16	85	7	△
DSFU.9.16.24.80.4.16	16	24	35	15.3	16	85	9	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

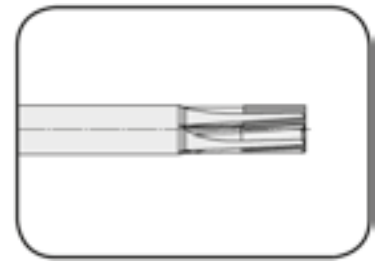
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

航空和汽车行业
Aerospace and Automotive industry

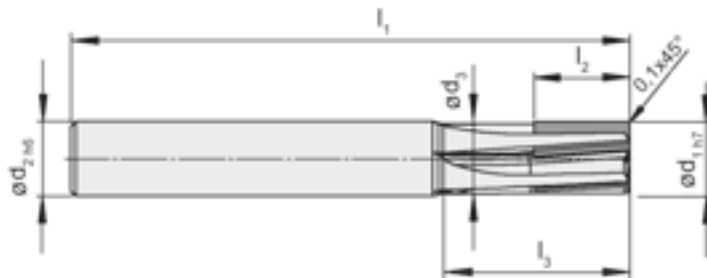
DSFD

多刃精加工铣刀，5-9刃
Multiple fluted Finishing End Mill, 5-9-fluted



夹紧系统
for Clamping Systems

型号 Schunk
Type Toodle



推
pushing

产品型号 Part number	d ₁	l ₂	l ₃	d ₃	d ₂	l ₁	Z	HD05
DSFD.5.08.10.54.4.08	8	10	20	7.5	8	60	5	▲
DSFD.5.08.20.64.3.08	8	20	30	7.5	8	70	5	△
DSFD.5.10.12.60.4.10	10	12	20	9.3	10	65	5	△
DSFD.5.10.22.70.3.10	10	22	30	9.3	10	75	5	△
DSFD.7.12.15.68.4.12	12	15	25	11.3	12	75	7	△
DSFD.7.12.24.77.3.12	12	24	35	11.3	12	85	7	△
DSFD.7.16.24.80.4.16	16	24	35	15.3	16	85	7	△
DSFD.9.16.24.80.4.16	16	24	35	15.3	16	85	9	△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm
Dimensions in mm

按需提供更多尺寸
Further sizes upon request

方肩铣

Shoulder Milling

材料 Material	v_c (m/min)	$a_p \times \varnothing$ (mm)	$a_e \times \varnothing$ (mm)	进给 / Feed rate f_z (mm)									进给 方向 Feed rate direction	推荐 冷却 recommended cooling
				$\varnothing 2$	$\varnothing 3$	$\varnothing 4$	$\varnothing 6$	$\varnothing 8$	$\varnothing 10$	$\varnothing 12$	$\varnothing 16$	$\varnothing 20$		
AlSi (< 6 %)	3000	0,65	0,40	0,02	0,02	0,03	0,05	0,10	0,10	0,12	0,15	0,20	顺铣 / Climbing	切削液 MMS Emulsion MMS
AlSi (>6 - 12 %)	1800	0,60	0,30	0,01	0,02	0,02	0,04	0,10	0,08	0,10	0,13	0,18	顺铣 / Climbing	
AlSi (>12 %)	800	0,50	0,25	0,01	0,01	0,02	0,03	0	0,06	0,08	0,10	0,15	顺铣 / Climbing	
PMMA (Acryl)	1100	0,50	0,50	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	顺铣 / Climbing	切削液 Emulsion
PA66 - CF/GF 30	700	0,50	0,30	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	逆铣 / Conventional	
PEEK - CF/GF30	700	0,50	0,25	0,007	0,008	0,01	0,02	0,03	0,05	0,07	0,08	0,10	逆铣 / Conventional	
POM - CF/GF30	800	0,50	0,50	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	逆铣 / Conventional	
PTFE - CF/GF30	700	0,50	0,30	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	逆铣 / Conventional	压缩空气(干) 去除铁屑 dry / Air pressure to remove chips
GFK	500	0,50	0,30	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	逆铣 / Conventional	
CFK	250	0,40	0,25	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	逆铣 / Conventional	
SFK/AFK (Armid)	300	0,45	0,30	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,14	逆铣 / Conventional	
Zirkonium	150	0,50	0,40	0,01	0,02	0,02	0,04	0,10	0,08	0,10	0,13	0,18	顺铣 / Climbing	

仿形铣

Copy Milling

材料 Material	v_c (m/min)	$a_p \times \varnothing$ (mm)	$a_e \times \varnothing$ (mm)	进给 / Feed rate f_z (mm)									进给 Richtung Feed rate direction	推荐 冷却 recom-mended cooling
				$\varnothing 2$	$\varnothing 3$	$\varnothing 4$	$\varnothing 6$	$\varnothing 8$	$\varnothing 10$	$\varnothing 12$	$\varnothing 16$	$\varnothing 20$		
AlSi (< 6 %)	3000	0,25	0,15	0,02	0,02	0,03	0,05	0,10	0,10	0,12	0,10	0,20	Gleichlauf / Climbing	切削液 MMS Emulsion MMS
AlSi (>6 - 12 %)	1800	0,20	0,10	0,001	0,002	0,002	0,004	0,10	0,08	0,10	0,13	0,18	Gleichlauf / Climbing	
AlSi (>12 %)	1100	0,15	0,10	0,01	0,01	0,02	0,03	0	0,06	0,08	0,10	0,15	Gleichlauf / Climbing	
PMMA (Acryl)	1100	0,15	0,15	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	Gleichlauf / Climbing	切削液 Emulsion
PA66 - CF/GF 30	700	0,15	0,10	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	Gegenlauf / Conventional	
PEEK - CF/GF30	700	0,15	0,10	0,007	0,008	0,01	0,02	0,03	0,05	0,07	0,08	0,10	Gegenlauf / Conventional	
POM - CF/GF30	800	0,15	0,015	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	Gegenlauf / Conventional	
PTFE - CF/GF30	700	0,15	0,10	0,001	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	Gegenlauf / Conventional	压缩空气(干) 去除铁屑 dry / Air pressure to remove chips
GFK	500	0,15	0,10	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,15	Gegenlauf / Conventional	
CFK	250	0,15	0,10	0,008	0,01	0,015	0,025	0,04	0,06	0,08	0,10	0,12	Gegenlauf / Conventional	
SFK/AFK (Armid)	300	0,15	0,10	0,01	0,015	0,02	0,03	0,05	0,07	0,09	0,12	0,14	Gegenlauf / Conventional	
Zirkonium	300	0,15	0,15	0,01	0,02	0,02	0,04	0,10	0,08	0,10	0,13	0,18	Gleichlauf / Climbing	

圆角立铣刀
Torus End Mill

DSTM / DST

材料 Material		硬度(HV) Hardness	材料			进给 f_z Feed rate								进给 方向 Feed rate direction	推荐 冷却 recommended cooling				
WC %	Co %		μm	V_c	a_p	a_e	d 0,2-0,5	d 0,8	d 1-1,5	d 2	d 3	d 4	d 5			d 6	d 8	d 10	d 12
90	10	0,8	1825	25-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	顺铣 Climbing	气冷 air
90	10	2,5	1350	25-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		
88	12	2,5	1275	25-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		
85	15	5,3	1075	30-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		
80	20	2,5	1025	30-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		
15	25	2,5	88	45-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		
74	26	9,5	810	45-180	0,1-1mm	2/3 d1	1-5 μm	2-8 μm	2-10 μm	2-12 μm	2-12 μm	5-17 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm	5-25 μm		

Kugelfräser
Ballnose End Mill

DSKM / DSK

材料 Material			硬度(HV) Hardness	v _c			a _p	a _e	进给 f _z Feed rate								进给 方向 Feed rate direction	推荐 冷却 recommended cooling
WC %	Co %	μm		d 0,2-0,5	d 0,8	d 1-1,5			d 2	d 3	d 4	d 5	d 6	d 8	d 10	d 12		
90	10	0.8	1825	25-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm	顺铣 Climbing	气冷 air		
90	10	2.5	1350	25-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				
88	12	2.5	1275	25-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				
85	15	5.3	1075	30-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				
80	20	2.5	1025	30-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				
15	25	2.5	88	45-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				
74	26	9.5	810	45-180	0.1-1mm	2/3 d1	1-5μm	2-8μm	2-10μm	2-12μm	2-12μm	5-17μm	5-25μm	5-25μm				

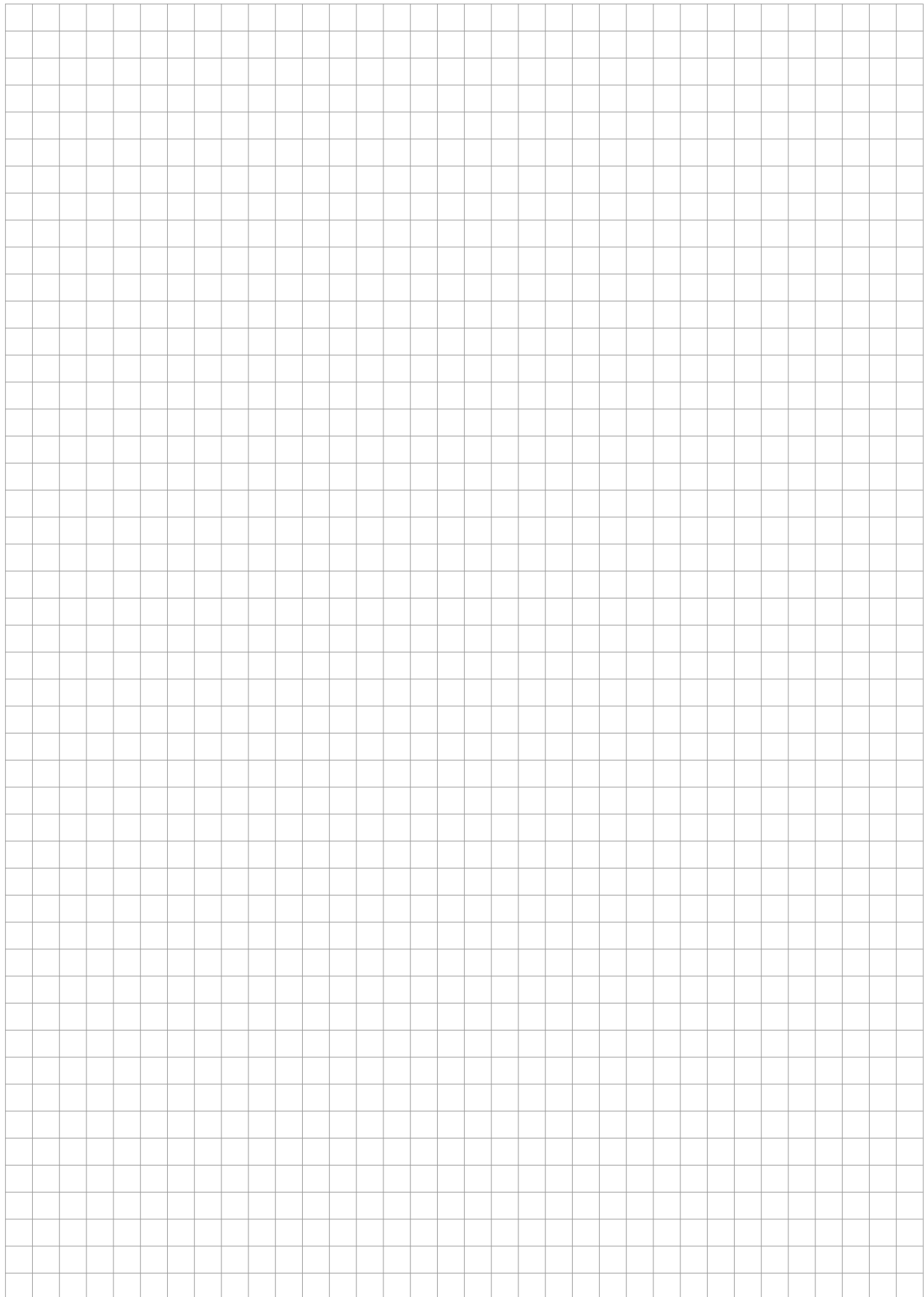
Vielzahnfräser
Multiple Flute End Mill

DSTV

材料 Material			硬度(HV) Hardness	v _c	a _p	a _e	进给 f _z Feed rate					进给 方向 Feed rate direction	推荐 冷却 recommended cooling
WC %	Co %	μm					d 3	d 4	d 5	d 6	d 8		
90	10	0.8	1825	25-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm	顺铣 Climbing	气冷 air
90	10	2.5	1350	25-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		
88	12	2.5	1275	25-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		
85	15	5.3	1075	30-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		
80	20	2.5	1025	30-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		
15	25	2.5	88	45-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		
74	26	9.5	810	45-180	0.1-1mm	2/3 d1	1-4μm	2-4μm	2-5μm	2-5μm	2-5μm		

镗孔切削参数根据要求.

Cutting data Boring upon request.





系列/System

页/ page

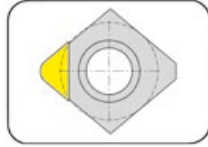
高抛光车削
High polish turning

B2

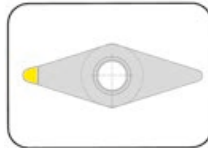
高抛光铣削
High polish milling

B16

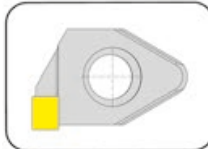
刀片
Insert
CCGW/VCGW/S117/
105



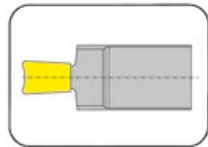
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B5



页/Page
B6

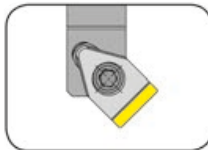


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B8

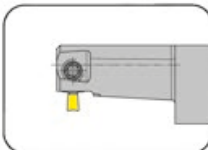


页/Page
B10, B13, B14

刀杆
Toolholder
H117.MD/HC105.
MD/B105.MD



页/Page
B7



页/Page
B9, B11

刀夹
Cassette
NH105



页/Page
B12

高抛光车削

High polish turning



高质量抛光车削
MCD

High polish turning
with MCD

一流的刀具刃口

除了单晶金刚石所表现出的高硬度外，非晶结构是几何决定切削刃的超精密和高精度加工的基本要求。极其锋利和完美的切削刃允许 $< R_z 0.02\mu\text{m}$ 的表面质量。切削刃的质量完美地反映了所能达到的表面质量。

当谈到制造工具时，特别注意的是单晶金刚石的晶体系统的基体及方向相的硬度值。这是确保实现最大刀具寿命的唯一方法。对切削刃的几何设计进行了优化，以适应加工材料的要求。MCD工具适用于有色金属及其合金、贵金属(如金和铂)或透明塑料(如PMMA和PC)的精加工。

黑色金属和纤维增强塑料一般不适合用单晶金刚石加工。

大量标准范围的库存MCD刀具,用于车削和铣削。

Top-class tool cutting edges

In addition to the high level of hardness demonstrated by monocrystalline diamonds, the amorphous structure in particular is a basic requirement for ultra-precision and high-precision machining with geometrically determined cutting edges. The extremely sharp and flawless cutting edges allow for surface accuracies of $< R_z 0.02\mu\text{m}$. The quality of the cutting edge perfectly reflects the surface quality that can be achieved.

When it comes to manufacturing tools, particular attention is paid to the crystal-system-based, direction-dependent hardness values of monocrystalline diamonds. This is the only way of ensuring that the maximum tool life is achieved. The geometric design of the cutting edge is optimised for the materials to be machined.

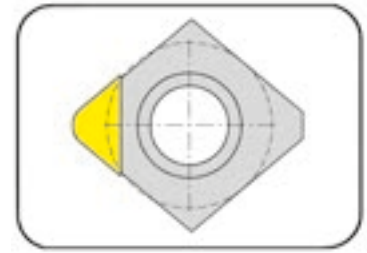
MCD tools are ideally suited to finishing processes for non-ferrous metals and their alloys, precious metals such as gold and platinum or transparent plastics such as PMMA and PC.

Ferrous metals and fibre-reinforced plastics are generally not suitable for machining with monocrystalline diamond.

An extensive standard range of MCD tools for turning and milling are available from stock.

刀片 Insert

CCGW

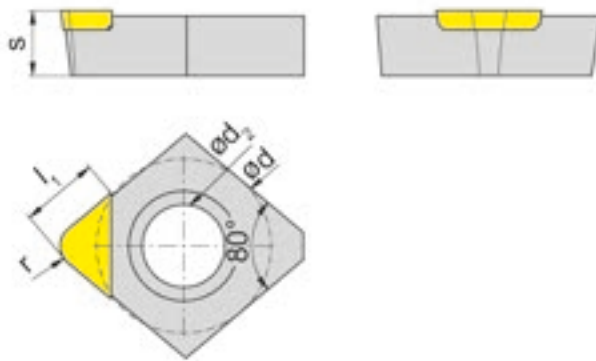


车削/仿形
Side turning / Profiling

配ISO刀柄
for Toolholder ISO

型号
Type

Boehlerit



产品型号 Part number	r	d	d ₂	s	l ₁	槽型配 / Geometries for			MD10
						长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
CCGW060202.MD.A0	0,2	6,35	2,8	2,38	2	J			▲
CCGW060202.MD.K0	0,2	6,35	2,8	2,38	2			J	▲
CCGW060202.MD.M0	0,2	6,35	2,8	2,38	2		J		▲
CCGW060208.MD.A0	0,8	6,35	2,8	2,38	2	J			▲
CCGW060208.MD.K0	0,8	6,35	2,8	2,38	2			J	▲
CCGW060208.MD.M0	0,8	6,35	2,8	2,38	2		J		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃 !

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

MCD - Regrind upon request

可根据要求订制更多尺寸和形式

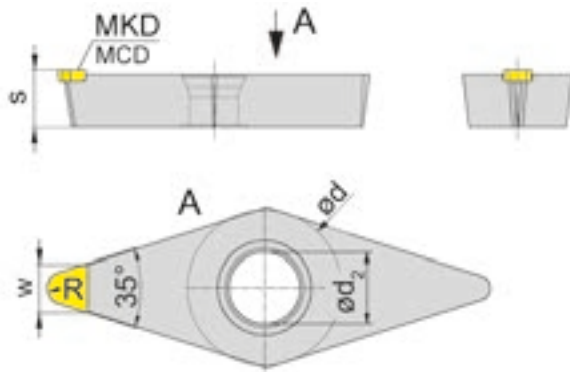
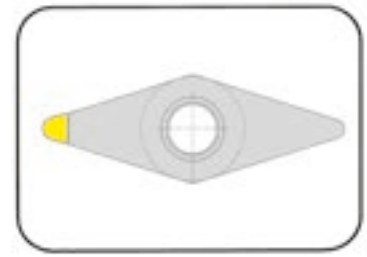
Further sizes and versions upon request

B

刀片
Insert

VCGW

车削/仿形
Side turning / Profiling



配ISO刀柄
for Toolholder ISO

型号
Type

Boehlerit

产品型号 Part number	R	w	d	d ₂	s	槽型配 / Geometries for			MD10
						长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
VCGW160410.MD.A0	1	2,5	9,525	4,4	4,76	J			▲
VCGW160410.MD.K0	1	2,5	9,525	4,4	4,76			J	▲
VCGW160410.MD.M0	1	2,5	9,525	4,4	4,76		J		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃 !

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

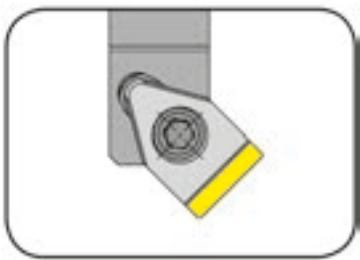
MCD - Regrind upon request

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

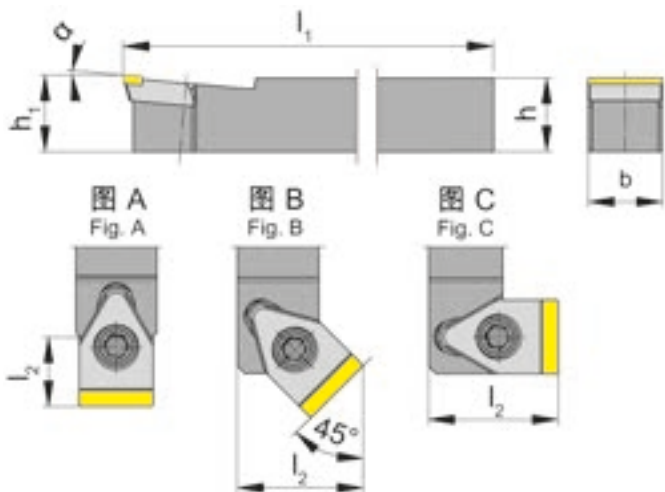
刀杆
Toolholder

H117.MD



配合刀片
for Insert

型号 S117...10
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	h	b	a	l_1	h_1	图	l_2
H117.MD10.00.5.10	10	10	5°	100	10,4	A	-
R/LH117.MD10.45.5.10	10	11	5°	100	10,4	C	17,0
R/LH117.MD10.90.5.10	10	10	5°	100	10,4	D	17,5

注明R或L型

State R or L version

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

螺丝的扭矩规格，详见技术说明。

For torque specification of the screw, please see Technical Instructions.

标准刀杆,详见切槽样本B章

For standard holder please see our catalog Grooving, chapter B

尺寸单位：mm
Dimensions in mm

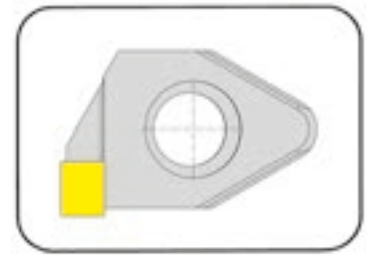
配件
Spare Parts

刀杆 Toolholder	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
H117....	4.09T15P	T15PQ

B

刀片
Insert

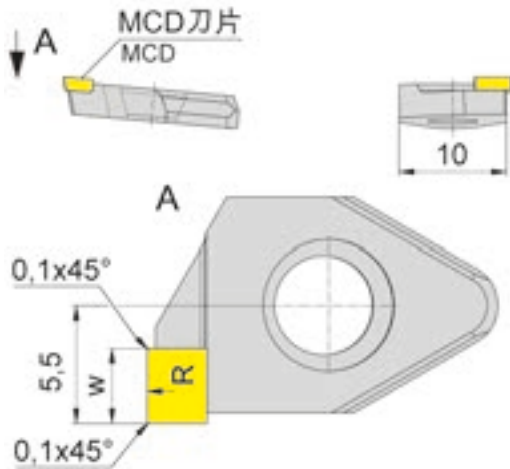
S117



车削/仿形
Side turning / Profiling

配合刀杆
for Toolholder

型号 H117
Type SH117



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	R	W	槽型配 / Geometries for			MD10
			长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
R/LS117.300.00.A0.10	300	3,5	J			▲/△
R/LS117.300.00.K0.10	300	3,5			J	▲/△
R/LS117.300.00.M0.10	300	3,5		J		▲/△

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

调整中心高到正确位置。 测量切削刃 !

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

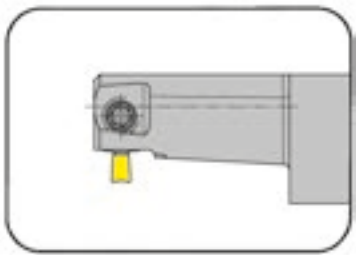
MCD - Regrind upon request

可根据要求订制更多尺寸和形式

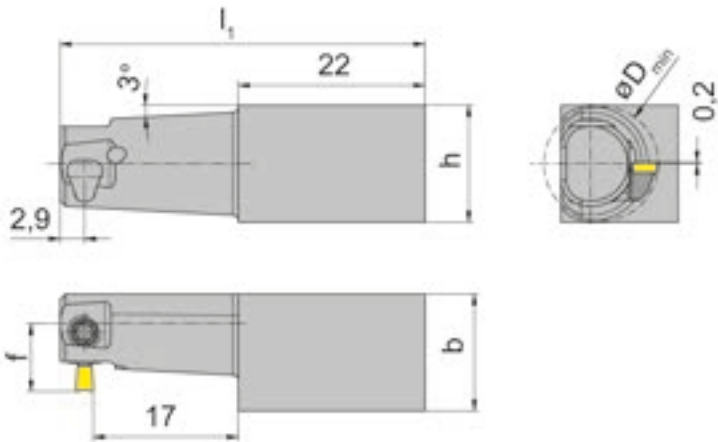
Further sizes and versions upon request

刀杆
Toolholder

HC105.MD



孔径Ø 自 Bore Ø from 13.5 mm



配合刀片
for Insert

型号 105.2020.MD10
Type 特殊/special

产品型号 Part number	h	b	l_1	f	D_{min}
RHC105.MD1414.2.10	13.8	13.8	42	8	13.5

按需提供更多尺寸
Further sizes upon request

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

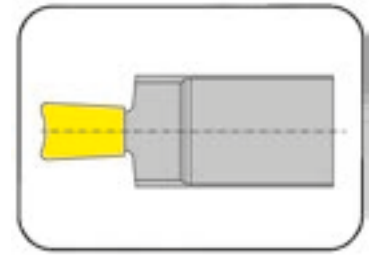
刀杆 Toolholder	扳手 Allen Wrench
RHC105.MD1414.2.10	SW2,0 DIN911

B

刀片
Insert

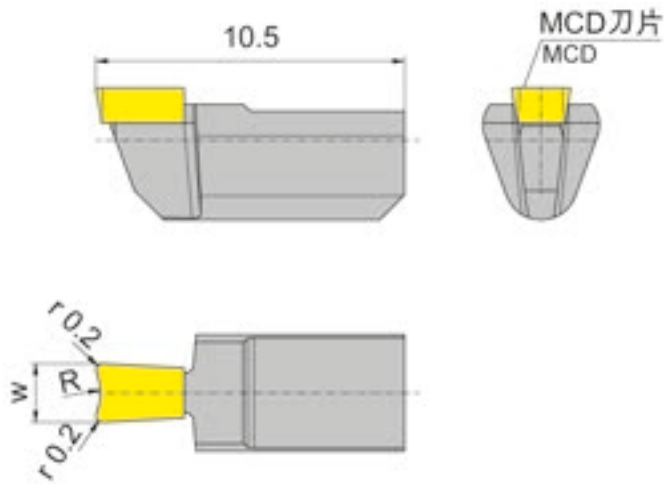
105

侧面车削
Side Turning



配合刀杆
for Toolholder

型号 RHC105.MD1414.2.10
Type



产品型号 Part number	R	W	槽型配 / Geometries for			MD10
			长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
105.2020.MD.10	2	2		√		▲

▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃！

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

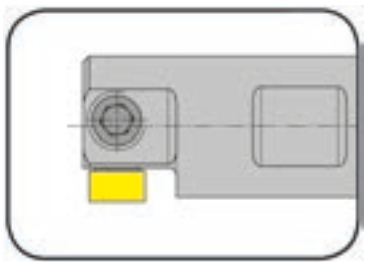
MCD - Regrind upon request

可根据要求订制更多尺寸和形式

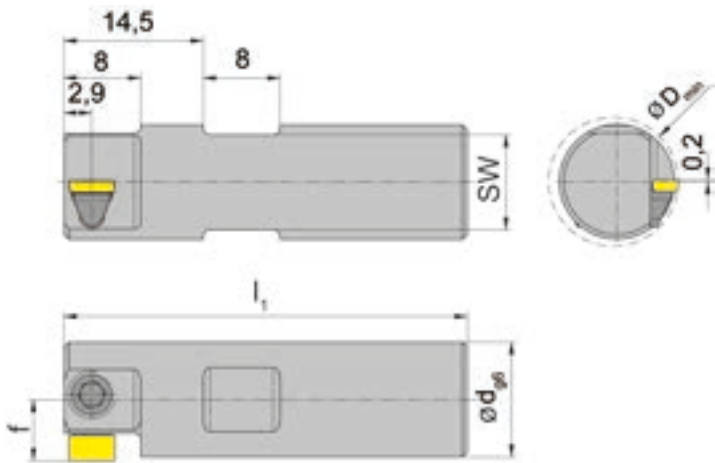
Further sizes and versions upon request

刀杆
Toolholder

B105.MD



孔径Ø 自	Bore Ø from	13.5 mm
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配合刀片
for Insert

型号 105...MD...
Type 特殊/special

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	d	l ₁	f	D _{min}	SW
R/LB105.MD12.2.13	12	42	6.4	13.5	10
R/LB105.MD12.4.13	12	72	6.4	13.5	10
R/LB105.MD12.6.13	12	90	6.4	13.5	10
R/LB105.MD12.8.13	12	125	6.4	13.5	10

注明R或L型

State R or L version

按需提供更多尺寸

Further sizes upon request

螺丝的扭矩规格，详见技术说明。

For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm

Dimensions in mm

配件
Spare Parts

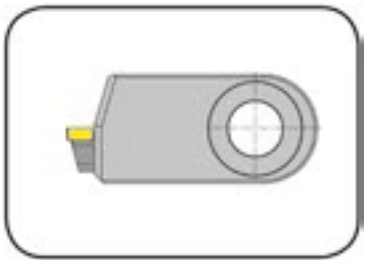
刀杆 Toolholder	扳手 Allen Wrench
R/LB105...	SW2,5 DIN911

B

刀夹
Cassette

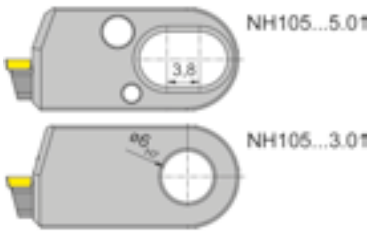
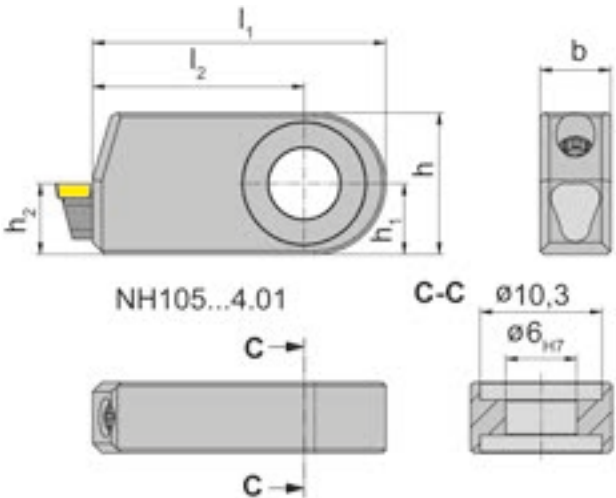
NH105

配普通刀杆用
for universal use



配合刀片
for Insert

型号 105...D.06
Type



产品型号 Part number	b	h	h ₂	l ₂	h ₁	l ₁
NH105.MD06.3.01	6	12	6	17.9	6	23.9
NH105.MD06.4.01	6	12	6	17.9	6	24.8
NH105.MD06.5.01	6	12	6	19.4	6	23.9

按需提供更多尺寸
Further sizes upon request

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

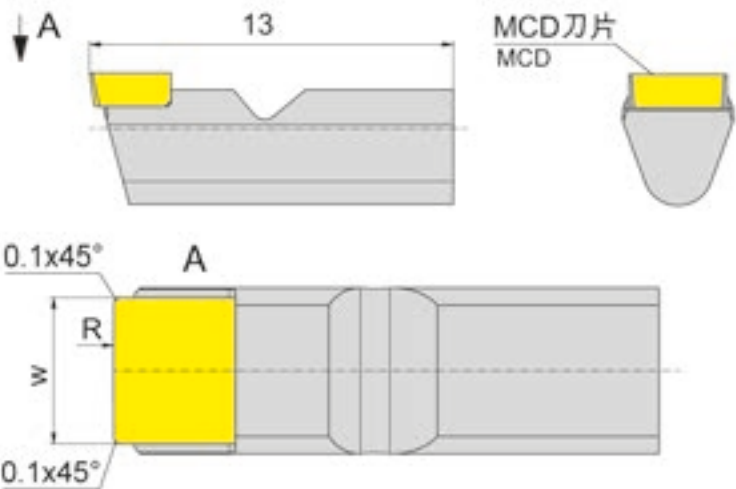
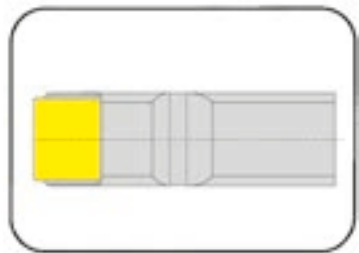
刀夹 Cassette	扳手 Allen Wrench
NH105...	SW2,0 DIN911

刀片

Insert

105

侧面车削
Side Turning



配合刀夹
for Cassette

型号 NH105.MD...
Type

产品型号 Part number	R	W	槽型配 / Geometries for			MD10
			长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
105.300.AD.06	300	3,5	✓			▲
105.300.KD.06	300	3,5			✓	▲
105.300.MD.06	300	3,5		✓		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm
Dimensions in mm

调整中心高到正确位置。 测量切削刃 !

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

MCD - Regrind upon request

可根据要求订制更多尺寸和形式

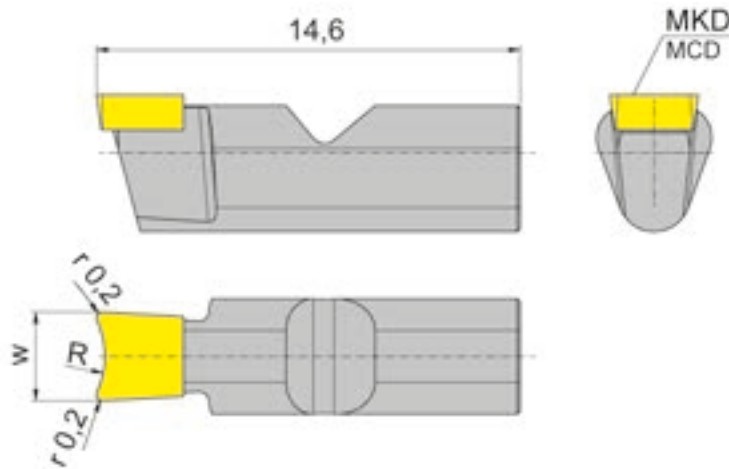
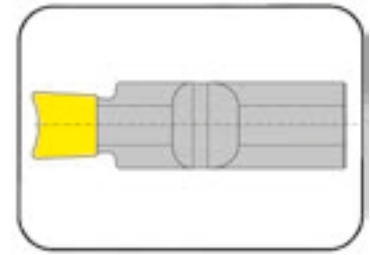
Further sizes and versions upon request

B

刀片
Insert

105

侧面车削
Side Turning



配合刀夹
for Cassette

型号 NH105.MD...
Type

产品型号 Part number	R	W	槽型配 / Geometries for			MD10
			长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
105.3030.MD06	3	3,05	✓	✓	✓	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃！

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

MCD - Regrind upon request

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

抛光车削加工参数

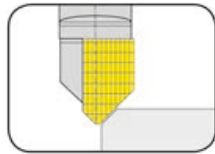
Cutting Data High Polish Turning



B

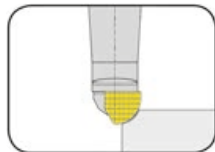
材料 Material	v_c		f_n / f_z (mm/U) (mm/rev)	a_p (mm)	槽型 Geometry	推荐冷却方式 Recommended Coolant
	min	max				
Ag	50	300	0,010 - 0,06	0,005 - 0,05	M	油 Oil
Al / Mg	100	2.500	0,005 - 0,15	0,005 - 0,05	A	乳化液
Au	50	300	0,005 - 0,06	0,005 - 0,05	M	油 Oil
Cu	50	500	0,005 - 0,08	0,005 - 0,04	A	油 Oil
CuNi	40	250	0,010 - 0,06	0,005 - 0,04	M / A	乳化液 Emulsion
CuSn	50	300	0,005 - 0,08	0,005 - 0,04	A	油 Oil
CuW	40	250	0,010 - 0,07	0,005 - 0,04	A	油 Oil
CuZn	50	450	0,005 - 0,10	0,005 - 0,05	M	油 Oil
CuZn 低铅/无铅 lead-free/low-lead	50	350	0,005 - 0,10	0,005 - 0,05	A	油 Oil
Ir / Pd / Pt	30	100	0,005 - 0,05	0,005 - 0,03	A	乳化液 Emulsion
Mo	35	120	0,010 - 0,05	0,005 - 0,03	A	乳化液 Emulsion
Ni	40	200	0,010 - 0,06	0,005 - 0,03	M / A	乳化液 Emulsion
Ti	40	200	0,010 - 0,06	0,005 - 0,03	K	乳化液 Emulsion
Zn	80	350	0,005 - 0,12	0,005 - 0,05	A	乳化液 Emulsion
PA	60	220	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PC	50	200	0,005 - 0,20	0,010 - 0,10	K	乳化液/吹气 Emulsion / Air
PE	80	350	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PEEK	60	250	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PMMA	80	300	0,005 - 0,20	0,010 - 0,10	K	乳化液/吹气 Emulsion / Air
POM	80	350	0,010 - 0,25	0,010 - 0,10	K	乳化液 Emulsion
PTFE	70	300	0,01 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PVC	60	250	0,01 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion

铣削倒角刀
Chamfer Milling Cutter
DSFF.MD



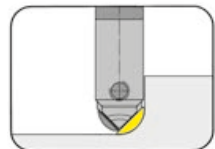
页/Page
B18

小型球头立铣刀
Micro End Mill Ballnose
DSK.MD

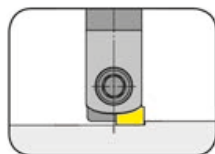


页/Page
B19

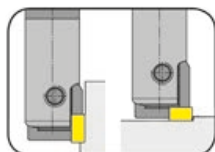
铣刀杆
Milling shank
M117K/M117P/
M117U/M117



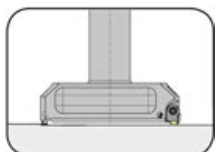
页/Page
B20



页/Page
B22

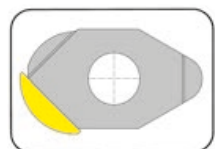


页/Page
B23-B24

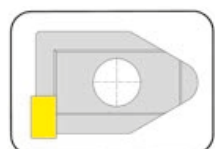


页/Page
B27

刀片
Insert
S117/105

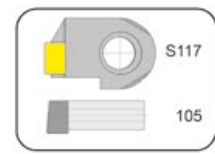


页/Page
B21

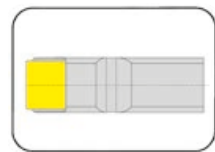


页/Page
B25-B26

刀夹
Cassette
NH105



页/Page
B28



页/Page
B30



页/Page
B29

高抛光车削 High polish milling



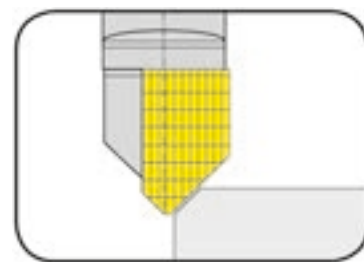
抛光铣刀
MCD

High polish milling
with MCD

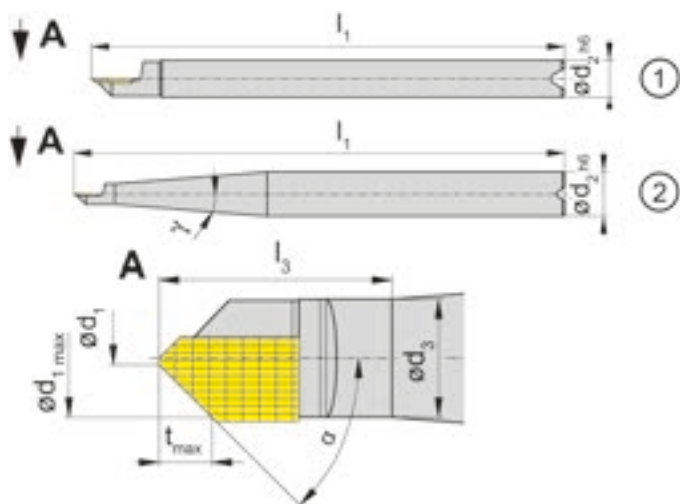
铣削倒角刀

Chamfer Milling Cutter

DSFF.MD



单刃，MKD镶片
single fluted, MCD tipped



产品型号 Part number	d ₁	Ds	α	l ₃	d ₃	d ₂	t _{max}	l ₁	γ	类型 Type	MD10
DSFF.MD.30.38.3	0.3	2.0	30°	5.5	2.8	3	1.50	38	-	1	Δ
DSFF.MD.30.66.6	0.3	2.0	30°	5.5	2.8	6	1.50	66	4°	2	Δ
DSFF.MD.45.38.3	0.3	2.8	45°	5.5	2.8	3	1.25	38	-	1	Δ
DSFF.MD.45.66.6	0.3	2.8	45°	5.5	2.8	6	1.25	66	4°	2	Δ
DSFF.MD.60.38.3	0.3	2.8	60°	5.5	2.8	3	0.72	38	-	1	Δ
DSFF.MD.60.66.6	0.3	2.8	60°	5.5	2.8	6	0.72	66	4°	2	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

可根据要求订制更多尺寸和形式

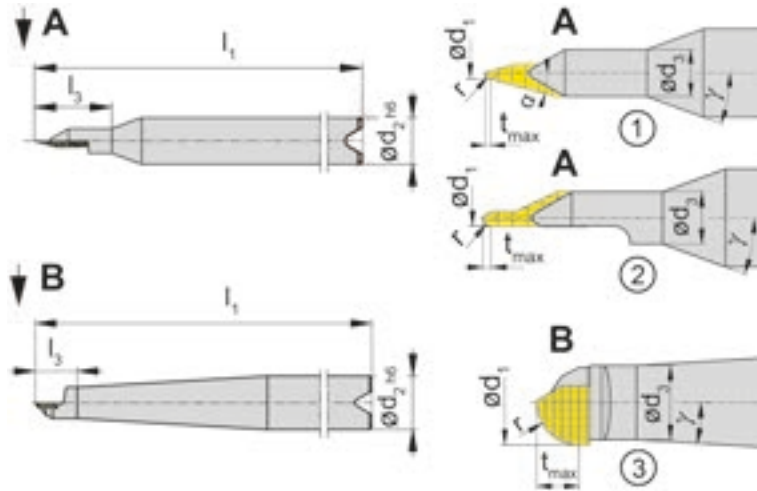
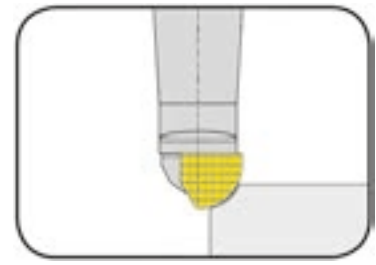
Further sizes and versions upon request

小型球头立铣刀

Micro End Mill Ballnose

DSK.MD

单刃，MKD镶片
single fluted, MKD tipped



产品型号 Part number	d ₁	r	α	l ₃	d ₃	d ₂	t _{max}	l ₁	γ	类型 Type	MD10
DSK.MD.020.38.3	0.2	0.10	20°	5.5	1.6	3	0.10	38	20.0°	1	▲
DSK.MD.030.38.3	0.3	0.15	20°	5.5	1.6	3	0.15	38	20.0°	1	▲
DSK.MD.040.38.3	0.4	0.20	15°	5.5	1.6	3	0.20	38	20.0°	1	▲
DSK.MD.050.38.3	0.5	0.25	-	5.5	1.6	3	0.25	38	20.0°	2	▲
DSK.MD.080.38.3	0.8	0.40	-	5.5	1.6	3	0.40	38	20.0°	2	▲
DSK.MD.100.38.3	1.0	0.50	-	5.5	1.6	3	0.50	38	20.0°	2	▲
DSK.MD.150.38.3	1.5	0.75	-	5.5	1.6	3	0.75	38	20.0°	2	▲
DSK.MD.200.38.3	2.0	1.00	-	5.5	1.6	3	1.00	38	20.0°	3	▲
DSK.MD.200.66.6	2.0	1.00	-	5.5	1.6	6	1.00	66	6.0°	3	▲
DSK.MD.300.66.6	3.0	1.50	-	-	2.6	6	1.50	66	4.5°	3	▲
DSK.MD.400.66.6	4.0	2.00	-	-	3.5	6	2.00	66	3.5°	3	▲
DSK.MD.500.66.6	5.0	2.50	-	-	4.5	6	2.50	66	2.0°	3	▲
DSK.MD.600.66.6	6.0	3.00	-	-	4.5	6	3.00	66	2.0°	3	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

球头铣刀

Ballnose Milling



B

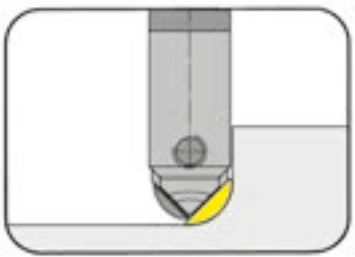
铣刀杆

Milling shank

M117K

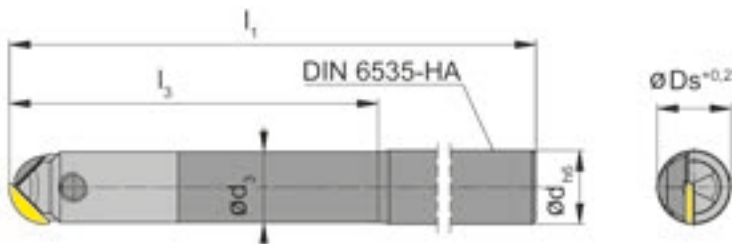
圆柱形硬质合金刀柄-热缩夹紧
Cylindrical carbide shank - shrink fit

刀杆材质：整体硬质合金 - 良好的抗振性能
Material of shank: Carbide - Giving a good vibration resistance



配合刀片
for Insert

型号 S117.MD...K.X0
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	d	l_1	l_3	d_3	尺寸规格 Size
M117K.MD06.06.5.05	6	6	63	25	5,6	05
M117K.MD08.08.5.07	8	8	77	35	7,6	07
M117K.MD10.10.5.09	10	10	100	50	9,6	09

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M117K.MD06.06.5.05	030.265P.0821	T8PL
M117K.MD08.08.5.07	030.265P.0819	T8PL
M117K.MD10.10.5.09	030.400P.0227	T15PQ

球头铣刀

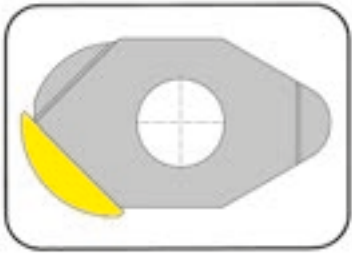
Ballnose Milling



B

刀片
Insert

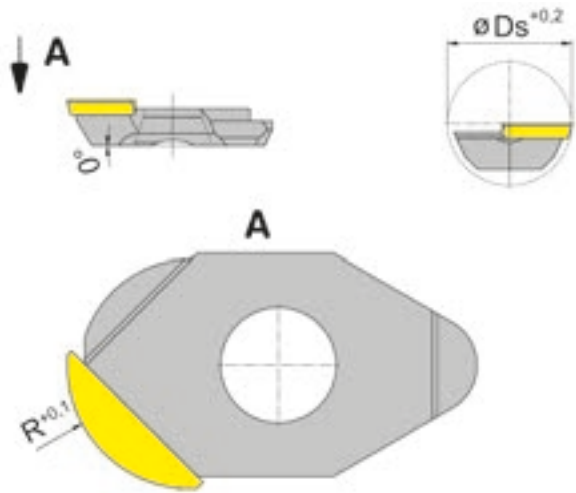
S117



高抛光铣削
High polish milling

用于铣削刀柄
for Milling shank

型号 M117K
Type



产品型号 Part number	Ds	R	尺寸规格 Size	槽型配 / Geometries for			MD10
				长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
S117.MD06.05K.X0	6	3	05	✓	✓	✓	▲
S117.MD08.07K.X0	8	4	07	✓	✓	✓	▲
S117.MD10.09K.X0	10	5	09	✓	✓	✓	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

面铣削

Face Milling



B

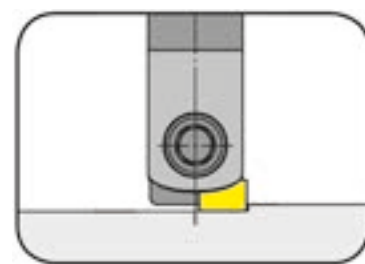
铣刀杆

Milling shank

M117P

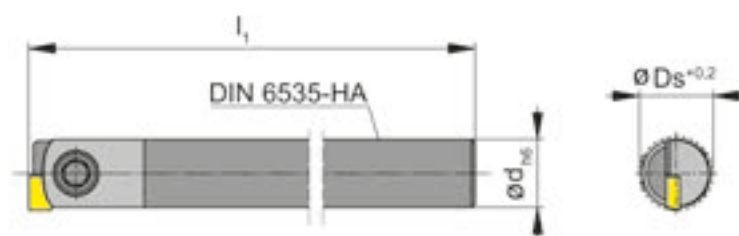
圆柱形硬质合金刀柄-热缩夹紧
Cylindrical carbide shank - shrink fit

刀杆材质：整体硬质合金 - 良好的抗振性能
Material of shank: Carbide - Giving a good vibration resistance



配合刀片
for Insert

型号 S117.MD08.05.P...
Type S117.MD10.07.P...
页/page B25



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	d	l ₁	尺寸规格 Size
M117P.MD06.08.5.05	8	6	63	05
M117P.MD08.10.5.07	10	8	77	07

按需提供更多尺寸
Further sizes upon request

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M117P.MD06.08.5.05	030.265P.0818	T8PL
M117P.MD08.10.5.07	2.6.5T8EP	T8PL

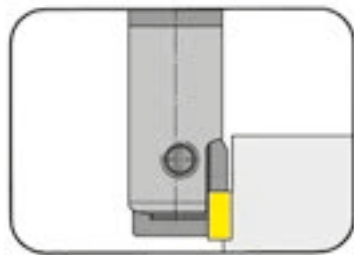
铣刀杆

Milling shank

M117U

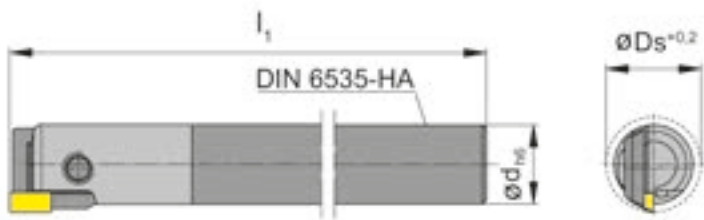
圆柱形硬质合金刀柄-热缩夹紧
Cylindrical carbide shank - shrink fit

刀杆材质：整体硬质合金 - 良好的抗振性能
Material of shank: Carbide - Giving a good vibration resistance



配合刀片
for Insert

型号 S117.MD08.4.05U...
Type S117.MD10.5.07U...
页/page B26



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	d	l ₁	尺寸规格 Size
M117U.MD06.08.5.05	8	6	63	05
M117U.MD08.10.5.07	10	8	77	07

按需提供更多尺寸
Further sizes upon request

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M117U.MD06.08.5.05	030.265P.0818	T8PL
M117U.MD08.10.5.07	2.6.5T8EP	T8PL

圆周铣削和面铣削

Peripheral and Face Milling



B

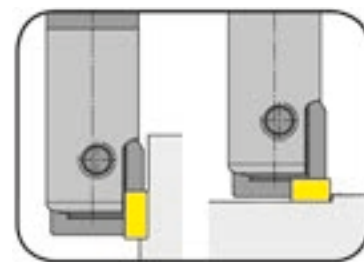
铣刀杆

Milling shank

M117
直接冷却液供应
with through coolant supply

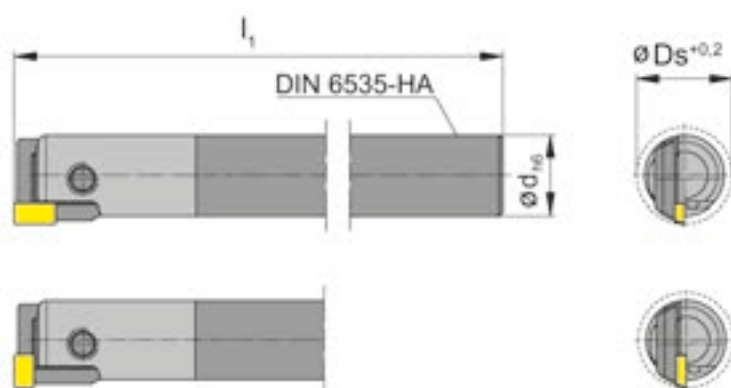
圆柱形硬质合金刀柄-热缩夹紧
Cylindrical carbide shank - shrink fit

刀杆材质：整体硬质合金 - 良好的抗振性能
Material of shank: Carbide - Giving a good vibration resistance



配合刀片
for Insert

型号 S117.MD12.09P...
Type 页/page B25
S117.MD12.5.09U...
页/page B26



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	d	l ₁	尺寸规格 Size
M117.MD10.12.5.09	12	10	100	09

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

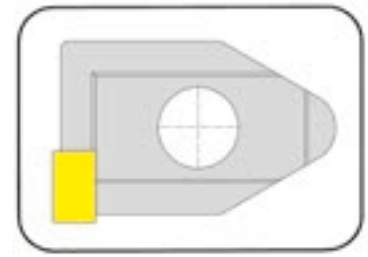
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M117.MD10.12.5.09	030.400P.0227	T15PQ

刀片 Insert

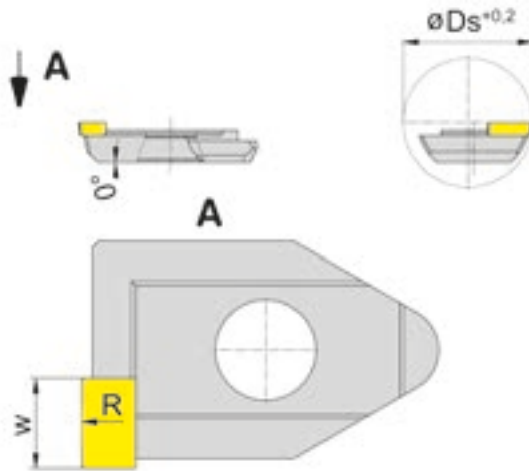
S117

高抛光铣削
High polish milling



用于铣削刀柄
for Milling shank

型号 M117
Type



产品型号 Part number	Ds	R	w	尺寸规格 Size	槽型配 / Geometries for			MD10
					长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
S117.MD08.05P.M0	8	50	3,2	05		J		▲
S117.MD08.05P.X0	8	50	3,2	05	J		J	▲
S117.MD10.07P.M0	10	100	3,7	07		J		▲
S117.MD10.07P.X0	10	100	3,7	07	J		J	▲
S117.MD12.09P.M0	12	100	4,0	09		J		▲
S117.MD12.09P.X0	12	100	4,0	09	J		J	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

圆周铣削

Peripheral Milling

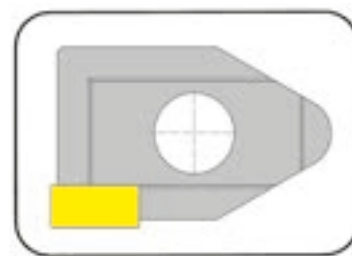


B

刀片
Insert

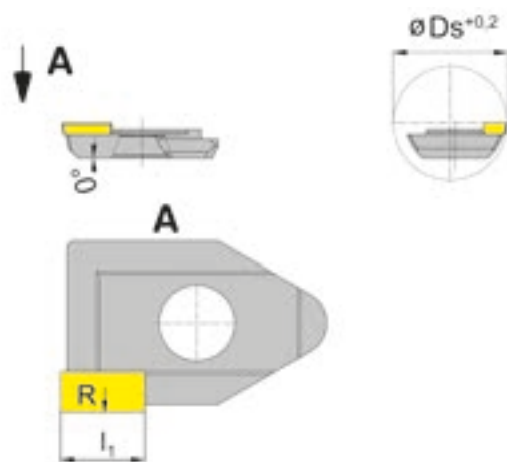
S117

高抛光铣削
High polish milling



用于铣削刀柄
for Milling shank

型号 M117U...
Type M117.MD10.12.5.09



产品型号 Part number	Ds	R	l ₁	尺寸规格 Size	槽型配 / Geometries for			MD10
					长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
S117.MD08.4.05U.M0	8	100	4,2	05		J		Δ
S117.MD08.4.05U.X0	8	100	4,2	05	J		J	Δ
S117.MD10.5.07U.M0	10	150	5,2	07		J		Δ
S117.MD10.5.07U.X0	10	150	5,2	07	J		J	Δ
S117.MD12.5.09U.M0	12	150	5,2	09		J		Δ
S117.MD12.5.09U.X0	12	150	5,2	09	J		J	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

切削刃需光学测量 !

Cutting edges must be measured optically!

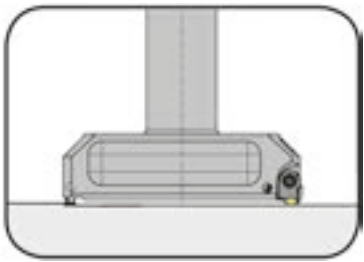
可根据要求订制更多尺寸和形式

Further sizes and versions upon request

铣刀杆
Milling shank

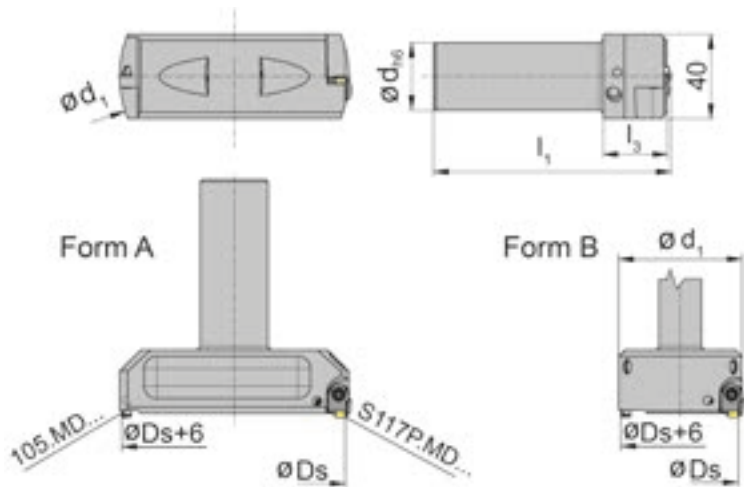
M117P
直接冷却液供应
with through coolant supply

铣刀杆已装配刀片及完成调整动平衡
Milling shank is fully assembled with insert and balanced



配合刀片
for Insert

型号 S117P.MD10...
Type 105.MDV05.03



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	d	l ₁	l ₃	d ₁	形式 Form
M117P.MD050.D20.M0	50	20	102	30	58	B
M117P.MD050.D20.X0	50	20	102	30	58	B
M117P.MD100.D32.M0	100	32	112	30	108	A
M117P.MD100.D32.X0	100	32	112	30	108	A
M117P.MD150.D32.M0	150	32	112	30	158	A
M117P.MD150.D32.X0	150	32	112	30	158	A
M117P.MD200.D32.M0	200	32	112	30	208	A
M117P.MD200.D32.X0	200	32	112	30	208	A

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

Fräser beinhaltet Schneidplatten, montiert, eingestellt, gewuchtet
Milling shank contains inserts, mounted, balanced, adjusted.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
M117P...	SW2,0 DIN911	T15PQ

面铣削

Face Milling

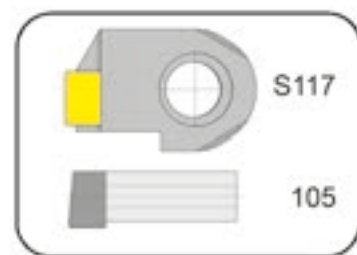


B

刀片
Insert

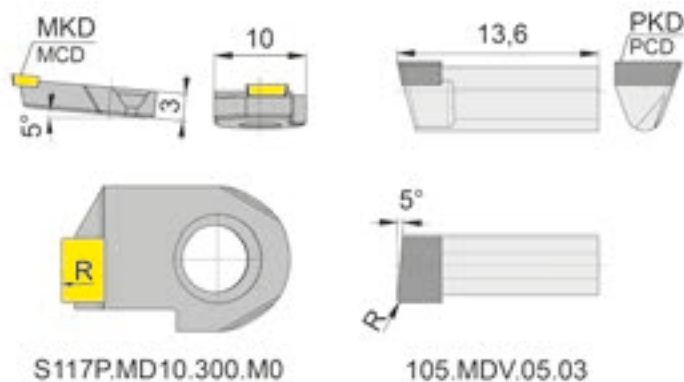
105/117

高抛光铣削
High polish milling



用于铣削刀柄
for Milling shank

型号 M117P.MD...
Type



产品型号 Part number	R	槽型配 / Geometries for			MD10	PD75
		长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics		
105.MDV05.03	0,3	✓	✓	✓	▲	▲
S117P.MD10.300.M0	300,0		✓		▲	
S117P.MD10.300.X0	300,0	✓		✓	▲	

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃！

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

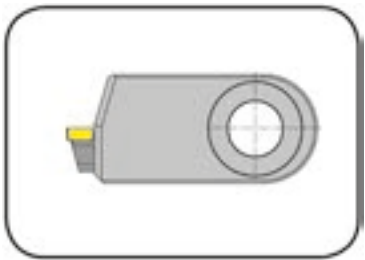
MCD - Regrind upon request

可根据要求订制更多尺寸和形式

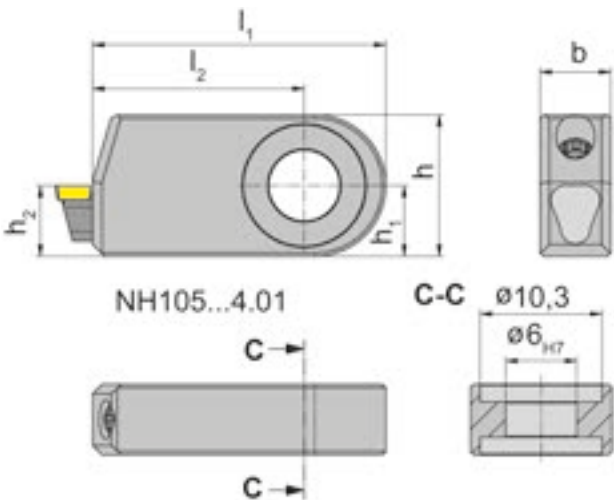
Further sizes and versions upon request

刀夹
Cassette

NH105

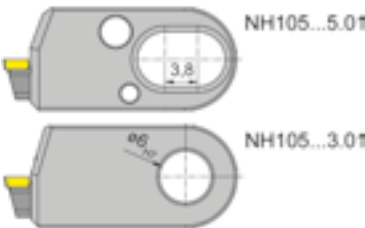


配普通刀杆用
for universal use



配合刀片
for Insert

型号 105...D.06
Type



产品型号 Part number	b	h	h ₂	l ₂	h ₁	l ₁
NH105.MD06.3.01	6	12	6	17.9	6	23.9
NH105.MD06.4.01	6	12	6	17.9	6	24.8
NH105.MD06.5.01	6	12	6	19.4	6	23.9

按需提供更多尺寸
Further sizes upon request

螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

刀夹 Cassette	扳手 Allen Wrench
NH105...	SW2,0 DIN911

高抛光铣削

High polish milling

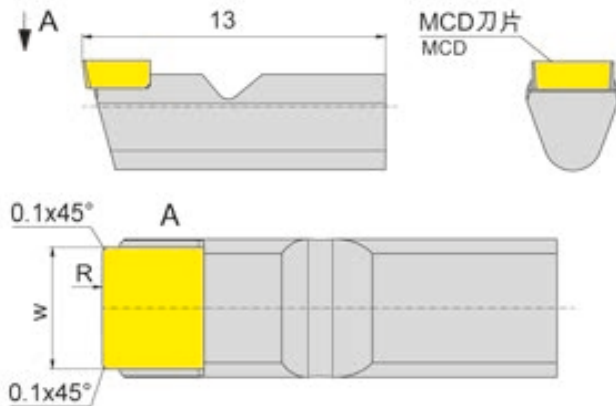
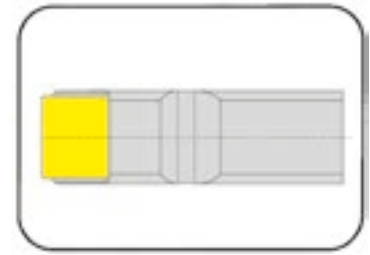


B

刀片
Insert

105

高抛光铣削
High polish milling



配合刀夹
for Cassette

型号 NH105
Type

产品型号 Part number	R	W	槽型配 / Geometries for			MD10
			长屑材料 long chipping metals	短屑材料 short chipping metals	透明的人工合成物 transparent synthetics	
105.300.AF.06	300	3,5	J			▲
105.300.KF.06	300	3,5			J	▲
105.300.MF.06	300	3,5		J		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位：mm

Dimensions in mm

调整中心高到正确位置。 测量切削刃！

Centre height must be measured and adjusted to the correct position. Cutting edges must be measured optically!

MCD-根据要求重磨

MCD - Regrind upon request

可根据要求订制更多尺寸和形式

Further sizes and versions upon request

抛光铣削加工参数

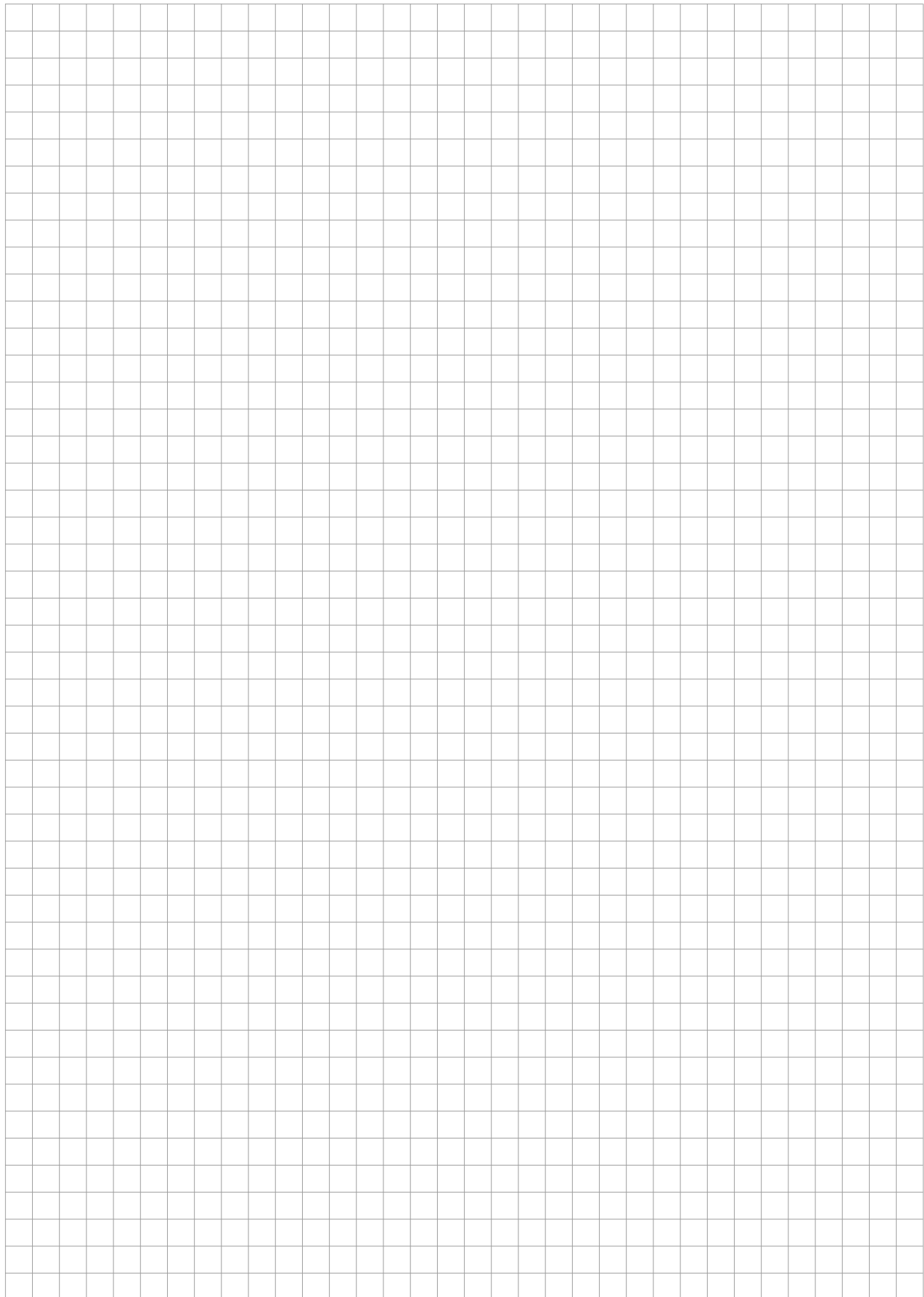
Cutting Data High polish milling



B

材料 Material	v_c		f_n / f_z (mm/U) (mm/rev)	a_p (mm)	槽型 Geometry	推荐冷却方式 Recommended Coolant
	min	max				
Ag	50	300	0,010 - 0,06	0,005 - 0,05	M	油 Oil
Al / Mg	100	2.500	0,005 - 0,15	0,005 - 0,05	A	Emulsion
Au	50	300	0,005 - 0,06	0,005 - 0,05	M	油 Oil
Cu	50	500	0,005 - 0,08	0,005 - 0,04	A	油 Oil
CuNi	40	250	0,010 - 0,06	0,005 - 0,04	M / A	乳化液 Emulsion
CuSn	50	300	0,005 - 0,08	0,005 - 0,04	A	油 Oil
CuW	40	250	0,010 - 0,07	0,005 - 0,04	A	油 Oil
CuZn	50	450	0,005 - 0,10	0,005 - 0,05	M	油 Oil
CuZn 低铅/无铅 lead-free/low-lead	50	350	0,005 - 0,10	0,005 - 0,05	A	油 Oil
Ir / Pd / Pt	30	100	0,005 - 0,05	0,005 - 0,03	A	乳化液 Emulsion
Mo	35	120	0,010 - 0,05	0,005 - 0,03	A	乳化液 Emulsion
Ni	40	200	0,010 - 0,06	0,005 - 0,03	M / A	乳化液 Emulsion
Ti	40	200	0,010 - 0,06	0,005 - 0,03	K	乳化液 Emulsion
Zn	80	350	0,005 - 0,12	0,005 - 0,05	A	乳化液 Emulsion
PA	60	220	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PC	50	200	0,005 - 0,20	0,010 - 0,10	K	乳化液/吹气 Emulsion / Air
PE	80	350	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PEEK	60	250	0,010 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PMMA	80	300	0,005 - 0,20	0,010 - 0,10	K	乳化液/吹气 Emulsion / Air
POM	80	350	0,010 - 0,25	0,010 - 0,10	K	乳化液 Emulsion
PTFE	70	300	0,01 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion
PVC	60	250	0,01 - 0,25	0,010 - 0,10	特殊 Special	乳化液 Emulsion

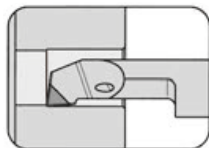
B





系列/System	页/Page
Supermini®	C2
Mini	C6
229	C14
315	C18

刀片
Insert
105



页/Page
C5

C

Supermini®



硬镗削

使用CBN

刀杆详见Supermini® & Mini 样本

Hard Boring
with PCBN

For toolholder please see our
catalog Supermini® & Mini

聚晶立方氮化硼是仅次于金刚石的第二硬材料，其物理、机械和化学性质的独特结合是其特点。刀片的高耐热性和硬度能达到最大效率，特别是当加工淬硬钢时并配合具有槽型的切削刃。然而加工中,工件与刀具中的金刚石或碳化硅产生化学反应,让刀具受到钝化的影响。这一特性使得除淬火钢外的各种材料也可以加工。因此，PCBN被认为是一种经济的切削材料，可以成功地用于加工铸铁、白铁和烧结材料以及精密加工高温合金。

PCBN基材被用于切削复合体系的材料。不同的体积分数、晶粒尺寸和结合剂,体系中导致了非常不同的性能，这些性能可以根据不同的应用而得到很大的利用。通常根据其体积分数来区分PCBN基材。这是最重要的指标，也可以在ISO标准513中找到。PCBN基材的相互作用、切削刃的槽型设计、优化切削值和稳定的刀具系统使得材料去除率、精度和高表面质量优于磨削技术。在极少数的情况下，需要专用的机床。

CB07 CB10	稳定和轻断续工况下,加工(45-70HRC)淬硬钢
	Hard machining of steel (45-70 HRC) with a smooth and lightly interrupted cut
CB50	重断续工况下,加工(45-70HRC)淬硬钢
	Hard machining of steel (45-70 HRC) with a heavily interrupted cut
	铸铁加工
	Cast iron machining
	烧结材料,高温合金精加工.
	Sintered materials, precision machining of superalloys

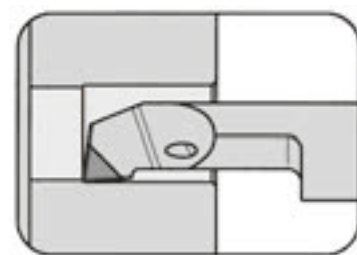
Polycrystalline cubic boron nitride, the second hardest material after diamond, is characterised by a unique combination of physical, mechanical and chemical properties. Its high thermal resistance and hardness in particular enable maximum efficiency when machining hardened steel with geometrically determined cutting edges. Yet its chemical interaction with metals is also influenced by passivity, which is in contrast to diamond or silicon carbide. This property allows a wide range of materials other than hardened steel to also be machined. As a result, PCBN is regarded as an economical cutting material that can successfully be used in machining cast iron, white iron and sintered materials and in precision machining superalloys.

PCBN substrates are used as cutting material composite systems. The variation in their volume fraction, grain size and binder system results in very different properties, which can be used to great advantage depending on the application in question. PCBN substrates are generally differentiated based on their volume fraction. This is the most important index and can also be found in ISO standard 513. The interaction of PCBN substrate, geometric design of the cutting edge, optimum cutting values and a stable tool system allow material removal rates, accuracies and high surface qualities to be achieved that are superior to grinding technology. In very rare cases, special machines will be required.

刀片

Insert

105



C

孔径Ø 自

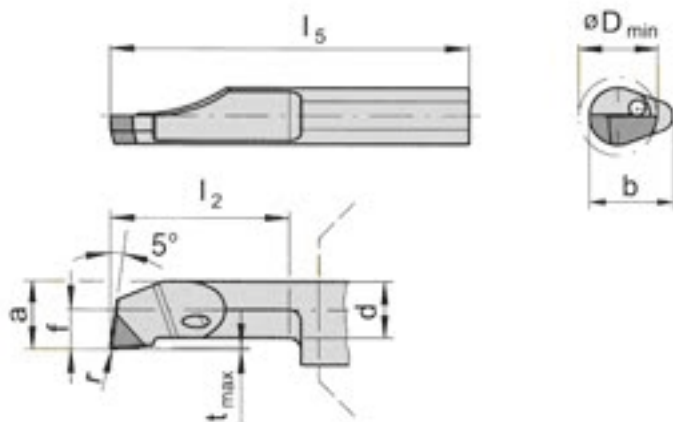
Bore Ø from

3 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 H105
Type HC105
B105
VDI
B105C
B105TS
IR105
962
AIH
963
N



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	CB10
R105.0513.0.3.B	0.15	1.3	2.7	2.5	5.9	7	25	0.10	3.0	▲
R105.0519.1.4.B	0.20	1.5	3.7	3.4	6.4	10	25	0.10	4.0	▲
R105.0523.2.5.B	0.20	2.3	4.7	4.4	7.0	15	30	0.10	5.0	▲
R105.0533.2.6.B	0.20	3.3	5.7	5.3	7.0	15	30	0.15	6.0	▲
R/L105.0533.3.6.B	0.20	3.3	5.7	5.3	7.0	20	35	0.15	6.0	▲/▲
R105.0540.2.7.B	0.20	4.0	6.4	6.0	7.0	15	30	0.15	6.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

注明R或L型

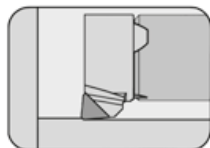
State R or L version

按需提供更多尺寸

Further sizes upon request

C

刀片
Insert
107/108/111/114/116



页/Page
C8-C12

Mini



C

硬材料镗孔

使用 **CBN**

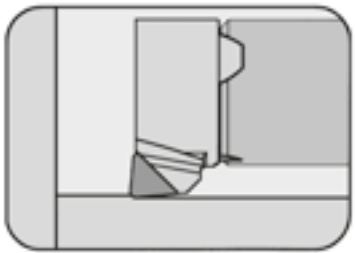
刀杆详见Supermini® & Mini 样本

**Hard Boring
with PCBN**

For toolholder please see our
catalog Supermini® & Mini

刀片
Insert

107



孔径Ø 自

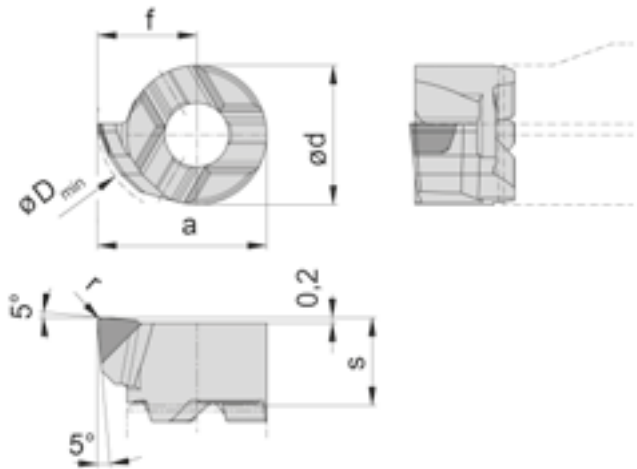
Bore Ø from

6.8 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 B107
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	D _{min}	CB10
R107.0537.02.B	3.3	3.7	6.3	0.2	5.2	6.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

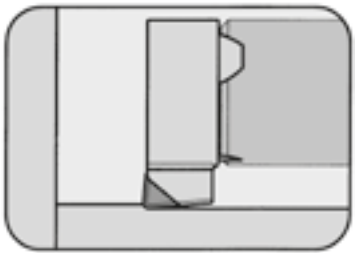
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片
Insert

108



C

孔径Ø 自

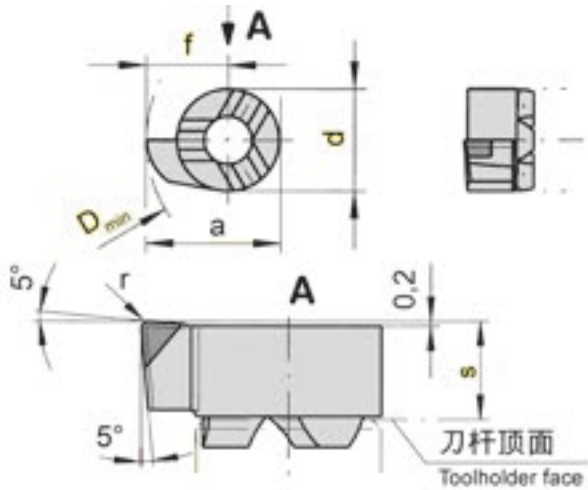
Bore Ø from

7.8 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 B108
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	D _{min}	CB10
R108.0547.03.B	3.5	4.65	7.65	0.3	6	7.8	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

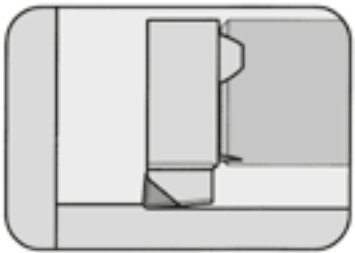
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片
Insert

111



孔径Ø 自

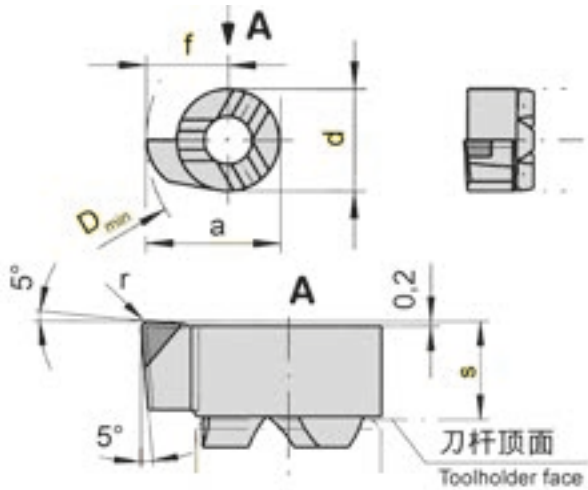
Bore Ø from

10 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 B111
Type 125



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	D _{min}	CB10
R111.0557.03.B	3.95	5.7	9.7	0.3	8	10	▲
R111.0567.03.B	3.95	6.7	10.7	0.3	8	11	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

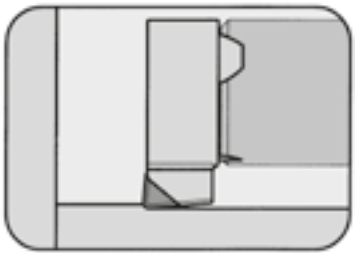
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片
Insert

114



C

孔径Ø 自

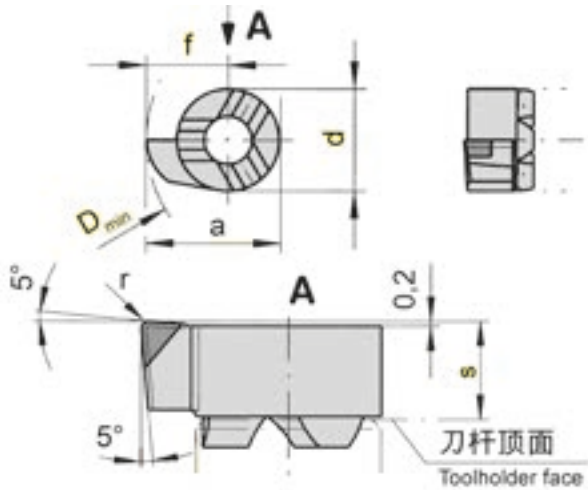
Bore Ø from

12.5 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 B114
Type HC114



R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	D _{min}	CB10
R114.0572.04.B	5.3	7.25	11.75	0.4	9	12.5	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

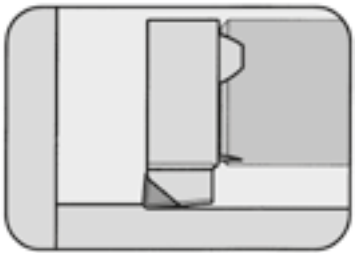
Dimensions in mm

按需提供更多尺寸

Further sizes upon request

刀片
Insert

116



孔径Ø 自

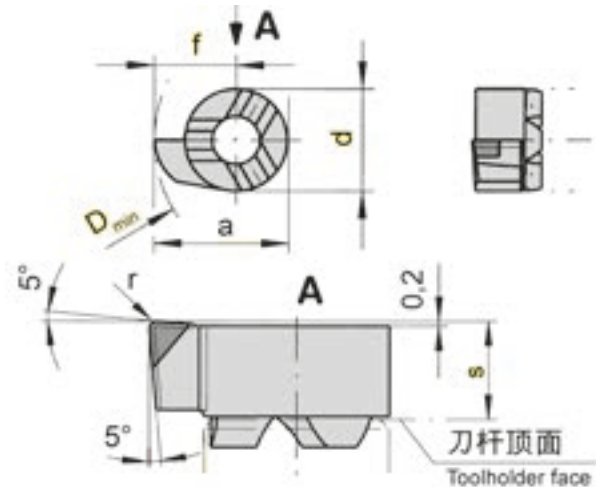
Bore Ø from

14 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

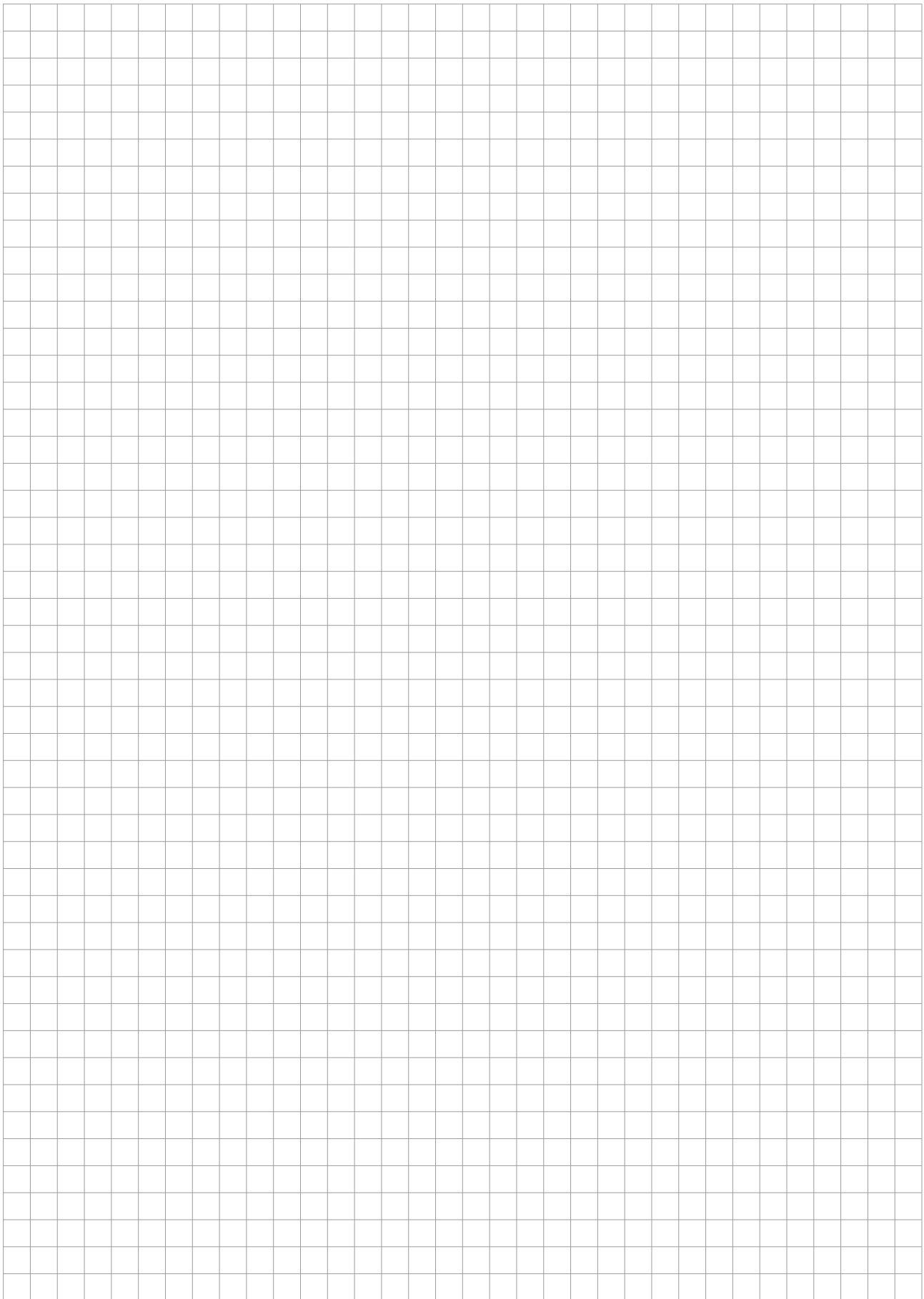
型号 B116
Type 145



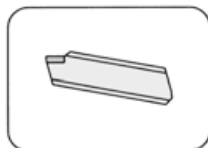
R=右手型-如图
R = right hand version shown

产品型号 Part number	s	f	a	r	d	D _{min}	CB10
R116.0582.04.B	5.3	8.2	13.7	0.4	11	14	▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request
尺寸单位 : mm
Dimensions in mm
按需提供更多尺寸
Further sizes upon request



刀片
Insert
229



页/Page
C16

C

229



硬车 使用 CBN

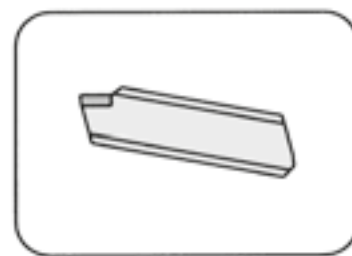
刀杆详见'切槽'样本

Hard Turning with PCBN

For holder please see our
catalog Grooving

刀片 Insert

229



槽深可达
槽宽

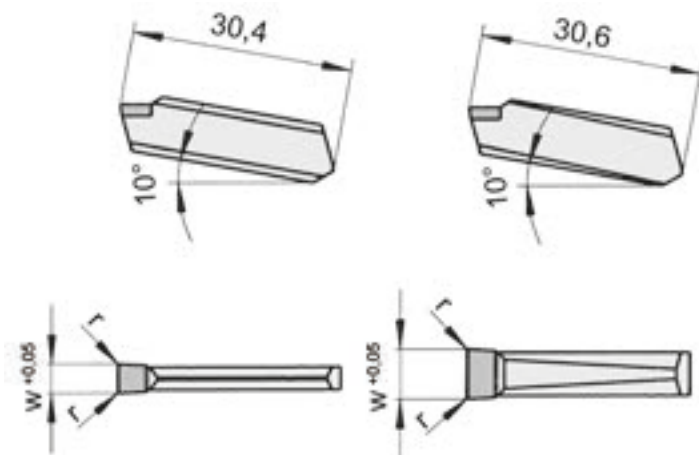
Depth of groove up to
Width of groove

18,0 mm
3-6 mm

CBN刀片
PCBN tipped

配合刀杆
for Toolholder

型号 210
Type 218
226
H224
219
213
214
849
LA210
RA210
LA226
RA226
225
257



宽度 3 - 5 mm
Width 3 - 5 mm

宽度 6 mm
Width 6 mm

产品型号 Part number	w	r	尺寸规格 Size	CB10	CB20	CB50
229.0300.22.B	3	0.2	03	▲	Δ	▲
229.0300.24.B	3	0.4	03	▲	Δ	▲
229.0400.22.B	4	0.2	04	▲	Δ	Δ
229.0400.24.B	4	0.4	04	▲		▲
229.0500.22.B	5	0.2	04	Δ		Δ
229.0500.24.B	5	0.4	04	▲		▲
229.0600.24.B	6	0.4	05	Δ	Δ	Δ
229.0600.26.B	6	0.6	05	Δ		▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

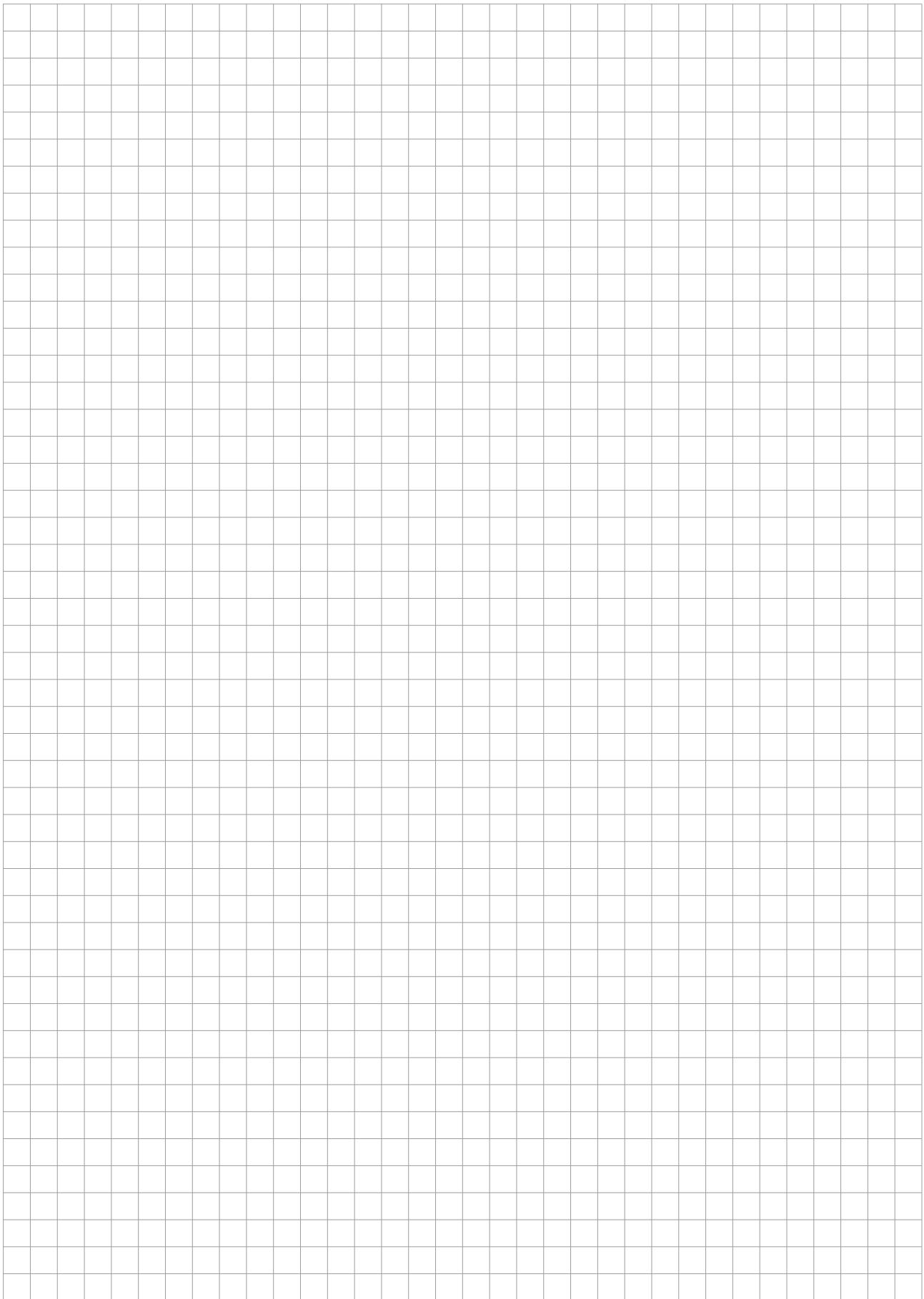
Dimensions in mm

此可转位刀片可用于右手和左手型刀杆

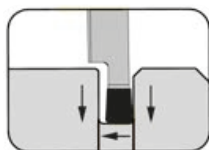
Indexable inserts can be used in **right and left** hand toolholders.

按需提供更多尺寸

Further sizes upon request



刀片
Insert
315



页/Page
C20

315



硬车 使用 CBN

刀杆详见'切槽'样本

Hard Turning with PCBN

For holder please see our
catalog Grooving

刀片
Insert

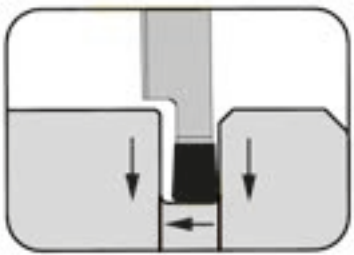
315

槽深可达
槽宽

Depth of groove up to
Width of groove

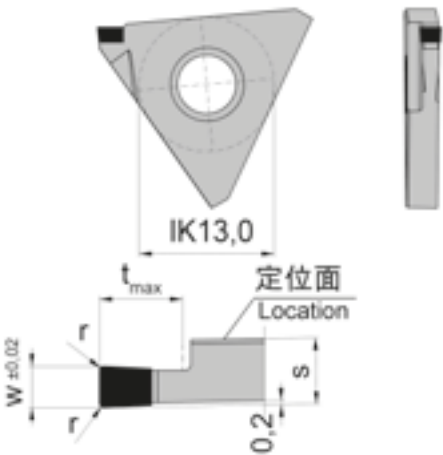
18,0 mm
3-6 mm

CBN刀片
PCBN tipped



配合刀杆
for Toolholder

型号 356
Type 333



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	t _{max}	s	尺寸规格 尺寸规格	CB35
R/L315.1032.01.B	1.0	0.10	2	3.2	03	▲/▲
R/L315.1532.01.B	1.5	0.15	3	3.2	03	▲/▲
R/L315.2032.02.B	2.0	0.20	4	3.2	03	▲/▲
R/L315.2532.02.B	2.5	0.20	5	3.2	03	▲/▲
R/L315.3032.02.B	3.0	0.20	5	3.2	03	▲/▲

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

按需提供更多尺寸
Further sizes upon request

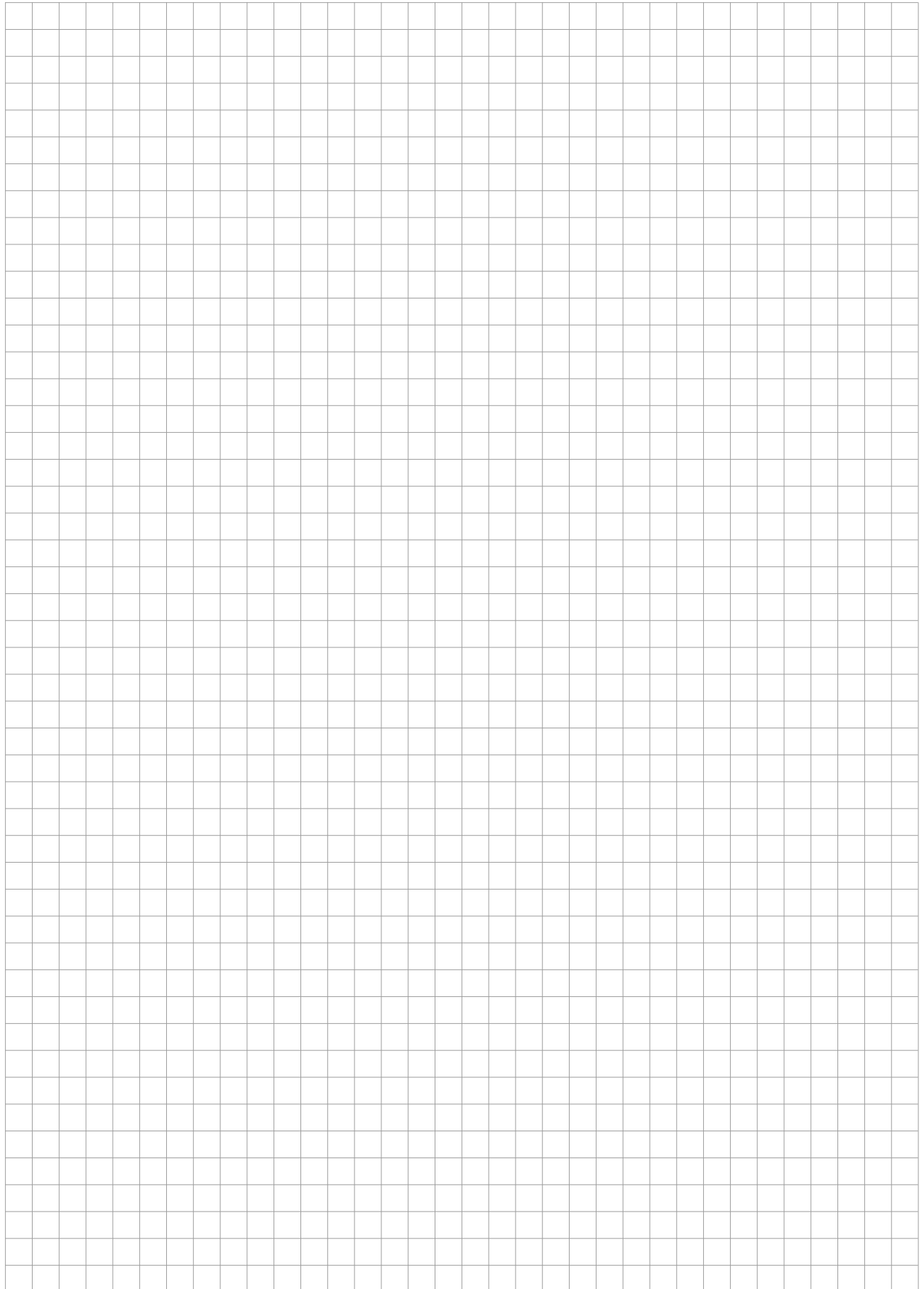
切槽 刀片类型 229 和 315 / Grooving System 229 and 315

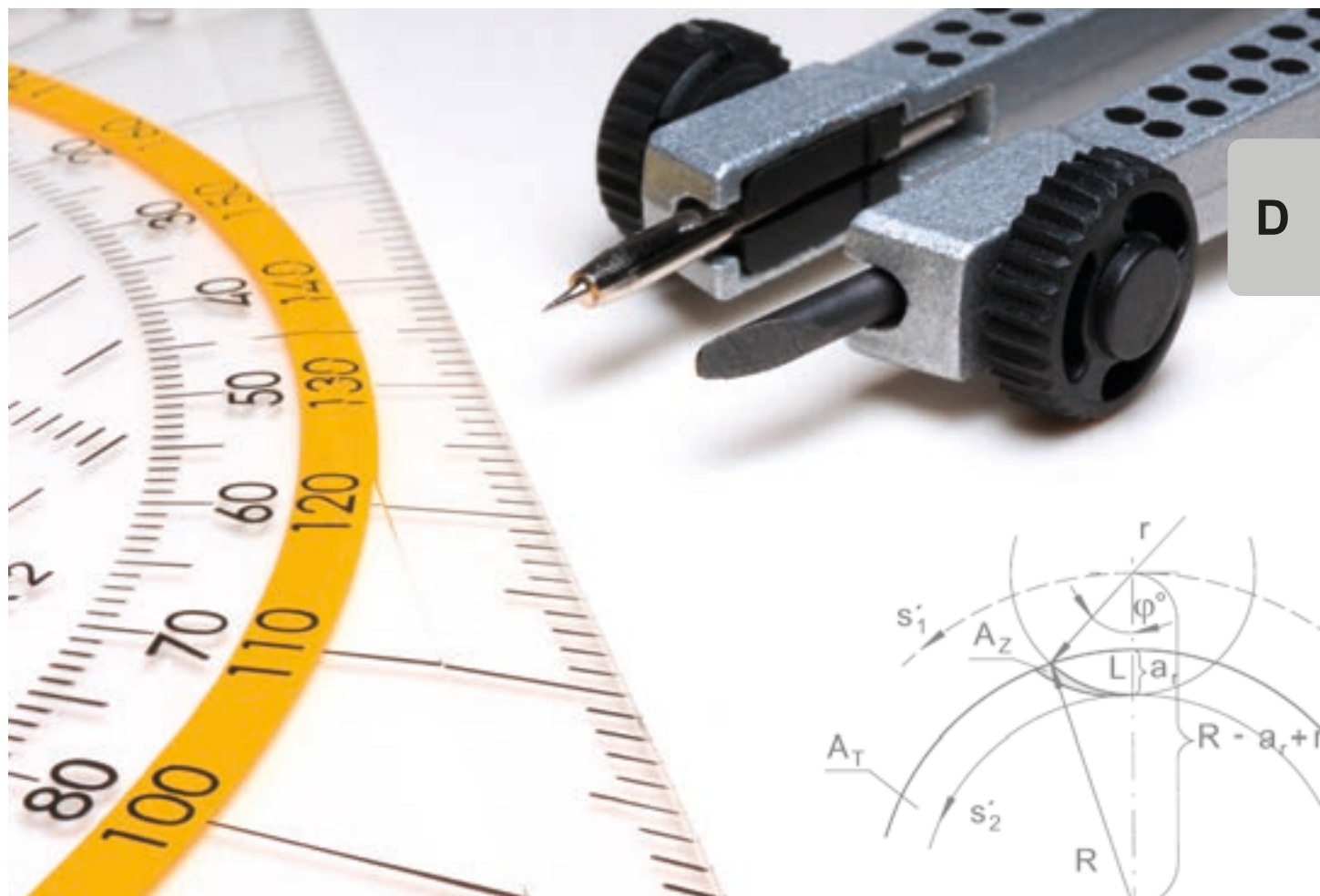
材料 Material	材质 Substrate	应用 Application	v_c m/min	f_n (mm/trs) (mm/giro)	a_p (mm)	冷却 Coolant
淬硬钢 45-65 HRC Hardened Steel 45-65 HRC	CB10	切槽用于所有材料 Grooving in full material	90-140	0,03-0,06	-	切削液/吹气 Emulsion/Air
连续切削 non interrupted cut	CB10	局部切削, 侧面加工 Partial cut, Flanc machining	90-150	0,04-0,08	0,10-0,25	切削液/吹气 Emulsion/Air
淬硬钢 45-65 HRC Hardened Steel 45-65 HRC	CB35 CB50	切槽用于所有材料 Grooving in full material	90-140	0,03-0,06	-	切削液/吹气 Emulsion/Air
断续切削 with interrupted cut	CB35 CB50	局部切削, 侧面加工 Partial cut, Flanc machining	90-150	0,04-0,08	0,10-0,25	吹气 Air
灰铁 (GJL) Grey Cast Iron	CB35 CB50	切槽用于所有材料 Grooving in full material	500-1050	0,10-0,25	-	切削液/吹气 Emulsion/Air
灰铁 (GJL) Grey Cast Iron	CB35 CB50	局部切削, 侧面加工 Partial cut, Flanc machining	500-1250	0,05-0,40	0,10-1,00	切削液/吹气 Emulsion/Air
球铁 (GJS) Spheroidal graphite cast iron	CB35 CB50	切槽用于所有材料 Grooving in full material	200-550	0,07-0,15	-	切削液/吹气 Emulsion/Air
球铁 (GJS) Spheroidal graphite cast iron	CB35 CB50	局部切削, 侧面加工 Partial cut, Flanc machining	200-650	0,05-0,10	0,10-0,70	吹气 Air
烧结,非硬化材料 Sintered Steel, non hardened	CB35 CB50	切槽用于所有材料 Grooving in full material	120-400	0,07-0,20	-	切削液/吹气 Emulsion/Air
断续/非断续切削 interrupted/non interrupted cut	CB35 CB50	局部切削, 侧面加工 Partial cut, Flanc machining	140-450	0,05-0,10	0,10-0,70	吹气 Air

镗孔及仿形加工 Supermini® und Mini / Boring and Profiling System Supermini® and Mini

材料 Material	材质 Substrate	应用 Application	v_c m/min	f_n (mm/trs) (mm/giro)	a_p (mm)	冷却 Coolant
淬硬钢 45-65 HRC Hardened Steel 45-65 HRC	CB10	连续切削 non interrupted cut	70-125	0,01-0,05	0,02-0,08	切削液/吹气 Emulsion/Air
	CB10	轻断续切削 light interrupted cut	70-130	0,01-0,05	0,02-0,08	吹气 Air
	CB35 CB50	重断续切削 heavy interrupted cut	75-120	0,01-0,05	0,02-0,08	吹气 Air
灰铁 Grey Cast Iron	CB35 CB50	断续/非断续切削 interrupted/non interrupted cut	200-950	0,10-0,25	0,03-0,50	吹气 Air
球铁 Spheroidal graphite cast iron	CB35 CB50	断续/非断续切削 interrupted/non interrupted cut	100-350	0,02-0,15	0,03-0,25	切削液/吹气 Emulsion/Air
烧结,非硬化材料 Sintered Steel, non hardened	CB35 CB50	连续切削 non interrupted cut	100-300	0,07-0,2	0,03-0,25	切削液/吹气 Emulsion/Air
烧结,非硬化材料 Sintered Steel, non hardened	CB35 CB50	轻断续切削 light interrupted cut	110-350	0,05-0,10	0,03-0,25	吹气 Air

C





D

摘要/Summary

页/Page

扭矩说明

D2

Torque Specification

表面质量

D3

Surface quality

修光刃

D4

Wiper Geometries

平衡

D5

Balancing

金刚石切削材料

D6-D7

Diamond cutting materials

附加设备

D8-D11

Additional Equipment

螺钉扭矩

Torque of Screws



以下是允许使用的螺钉的扭矩,不建议使用额外的润滑剂,如铜膏或其他的.关于扭矩扳手,见章节辅助装置

Following torques are allowed for screws of inserts. We recommend to use no additional gliding means (such as copper paste) for screws. For torque screw drivers please see chapter additional equipment.

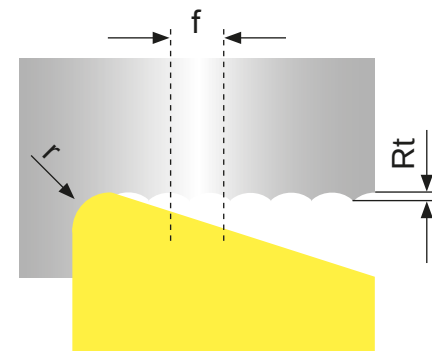
型号 type	螺钉 Screw	M _d Nm	夹紧扳手 Clamping wrench	刀板 Blade
B105.MD...	DIN913-M5x5	1.0	SW2.5DIN911	DSW25K
H117.1...	4.09T15P	5.0	T15PQ	DT15PK
H117.MD...	030.400P.0227	5.0	T15PQ	DT15PK
HC105.MD	DIN913-M5x5	1.0	SW2.0DIN911	DSW20K
M117K...05	030.265P.0821	1.2	T8PL	DT8PK
M117K...07	030.265P.0819	1.2	T8PL	DT8PK
M117K...09	030.400P.0227	4.3	T15PQ	DT15PK
M117.MD10...	030.400P.0227	4.3	T15PQ	DT15PK
M117.MD...M0/...X0	4.09T15P	5.0	T15PQ	DT15PK
M117P...05	030.265P.0818	1.2	T8PL	DT8PK
M117P...07	2.6.5T8EP	1.2	T8PL	DT8PK
M117U...05	030.265P.0818	1.2	T8PL	DT8PK
M117U...07	2.6.5T8EP	1.2	T8PL	DT8PK
NH105.MD...	DIN913-M4x5	1.0	SW2.0DIN911	DSW20K

表面质量与刀尖半径和进给速度有关。
选择系统稳定性、工件形状和切屑控制允许的最大刀尖半径。

Surface quality

Surface quality in relation between edge radius and feed rate.

Choose the maximal edge radius of which system stability, workpiece shape and chip controll allows.



单位 μm
Data's in μm

$$Rt = \frac{f_2}{8 \times r} \quad r = \frac{f_2}{8 \times Rt} \quad f = \sqrt{8 \times r \times Rt}$$

D

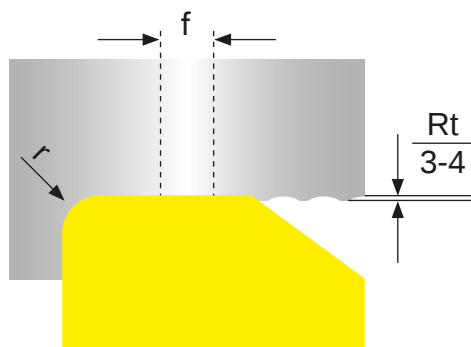
理论表面质量

theoretical surface quality

Ra (μm)	0.4 - 0.8	0.8 - 1.6	1.6 - 3.2	3.2 - 6.3	6.3 - 12.5	12.5 - 25
Rt (μm)	1.6	4	10	16	28	40
Radius	fn (mm/U) fn(mm/rev)					
Radius						
0.1	0.04	0.05	0.07	0.10	0.12	0.18
0.2	0.05	0.07	0.10	0.14	0.18	0.45
0.4	0.07	0.09	0.15	0.22	0.25	0.35
0.8	0.10	0.17	0.22	0.27	0.35	0.50
1.2	0.12	0.20	0.25	0.34	0.43	0.60

使用修光刃的表面质量

Surface quality with Wiper-Geometry



为了满足车削和铣削加工中要求的更佳表面质量，我们开发了很多种带有修光几何槽型的刀片。该类槽型在刀尖圆角和横向切削刃之间有一个后缘，其类似于切削角0°的切削刃。即使在2-4倍大的进给率下也能得到同样的表面质量。通过降低循环周期，更高进给率下最佳的切削控制和刀具寿命的增加，您能逐步提高产能同时降低成本。

使用修光槽型时请注意：

接近角 需要准确应用,以便得到最好的修光效果,使表面质量最佳.

$$\text{CCGW} / T = 95^\circ \quad \text{DCGW} / T = 93^\circ$$

注意切削方向。修光槽型被设计作用于切削刃之后，以得到良好的切屑流和表面质量。端面加工方向应从大径到小径。

由于后缘，失真可能出现在圆角，倒角和锥形面上。

修光槽型的优点:

- 同样的切削参数下更佳表面质量
- 更高的进给率-可使用同一刀片进行粗加工和精加工
- 通过更高进给实现更佳的切屑控制
- 更高的进给率降低了每个工件的切削时间，并提高了耐磨性和刀具寿命。

For the purpose of high performance cutting in the fields turning and milling, we developed a large number of inserts with WIPER geometry. Those geometries are designed with a trailing edge between edge radius and lateral cutting edge, which works like a cutting edge with 0° approach angle. Even with 2 - 4 times higher feed rates you can achieve the same surface qualities. Through reduction of cycle time, the optimal chip control with higher feed rates and the increase of tool life, you can escalate your productivity while reducing costs at the same time.

Please keep in mind when using Wiper Geometries:

The **approach angle** needs to be applied accurately, in order to achieve the desired wiper effect to get best surface qualities:

$$\text{CCGW} / T = 95^\circ \quad \text{DCGW} / T = 93^\circ$$

Be aware of the cutting direction. Wiper geometries are designed to trail behind the cutting edge for proper chip flow and surface quality.

Facing operations should always be performed from the larger to smaller diameter.

Because of the trailing edge, **distortion** can occur on radii, chamfers and tapers.

Advantages of Wiper Geometries:

- Better surface qualities at the same cutting parameters
- Higher feed rates - Roughing and finishing with one insert is possible
- Better chip control through higher feed rates
- Higher feed rates reduces the cutting time per workpiece and therefore the wear characteristic and this leads to significantly longer tool life

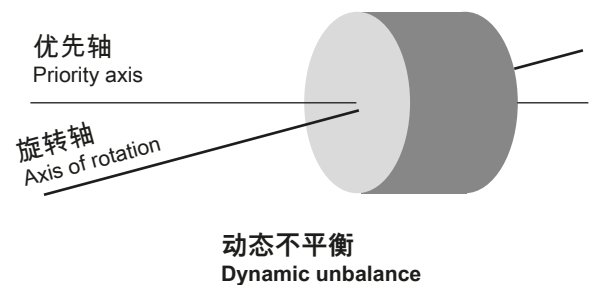
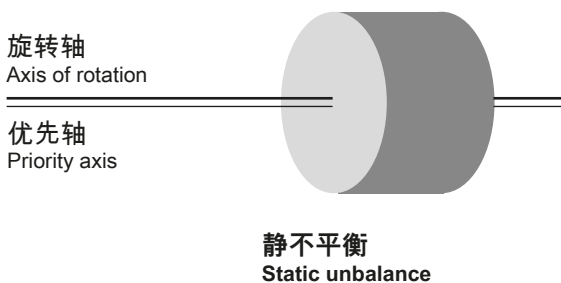
旋转不平衡是质量沿旋转轴的不均匀分布.当质量中心(惯性轴)与旋转中心(几何轴)不对齐时,就会引起不平衡。
来源: <http://de.wikipedia.org/wiki/Unwucht>

与先进的工具主轴相关联的高速意味着所使用的工具需要与它们的支持相平衡.如果做不到这一点,就会对表面质量产生影响,这不仅会影响工具的使用寿命,对达到完美的效果也是至关重要的.特别是在抛光和精加工方面.对于较大的质量或较大的直径,即使在相对较低的速度下工作,也必须考虑任何不平衡的影响.

静态不平衡和动态不平衡是有区别的.当转子的重心在旋转轴外时,就会发生静力不平衡.

对于短工具,高扭矩值不能发展,这意味着在一个平面上平衡通常是足够的(静态).

我们的工具在CAD阶段被设计成平衡的.在实践中,这意味着在理论设计阶段要考虑质量比及其偏移量.这是一个展示我们的质量的特性,并且是一种无需额外工作就能达到所需平衡的方法.然而,这项措施并没有取代平衡整个系统的需要.



Rotating Unbalance is the uneven distribution of mass around an axis of rotation. Unbalance is caused when the centre of mass (inertia axis) is out of alignment with the centre of rotation (geometric axis)....

source: <http://de.wikipedia.org/wiki/Unwucht>

The high speeds associated with state-of-the-art tool spindles mean that the tools used need to be balanced with their supports. Failure to do this has an impact on the surface qualities that can be achieved as well as on tool life - this can be crucial when it comes to achieving a perfect result, particularly with respect to polishing and brilliant finish machining. With large masses and/or large diameters, the effects of any unbalance must be taken into account even when working at relatively low speeds.

A distinction is drawn between static unbalance and dynamic unbalance. Static unbalance occurs when the rotor's centre of gravity is outside the rotary axis.

With short tools, high torque values cannot develop meaning that balancing in one plane is often sufficient here (static).

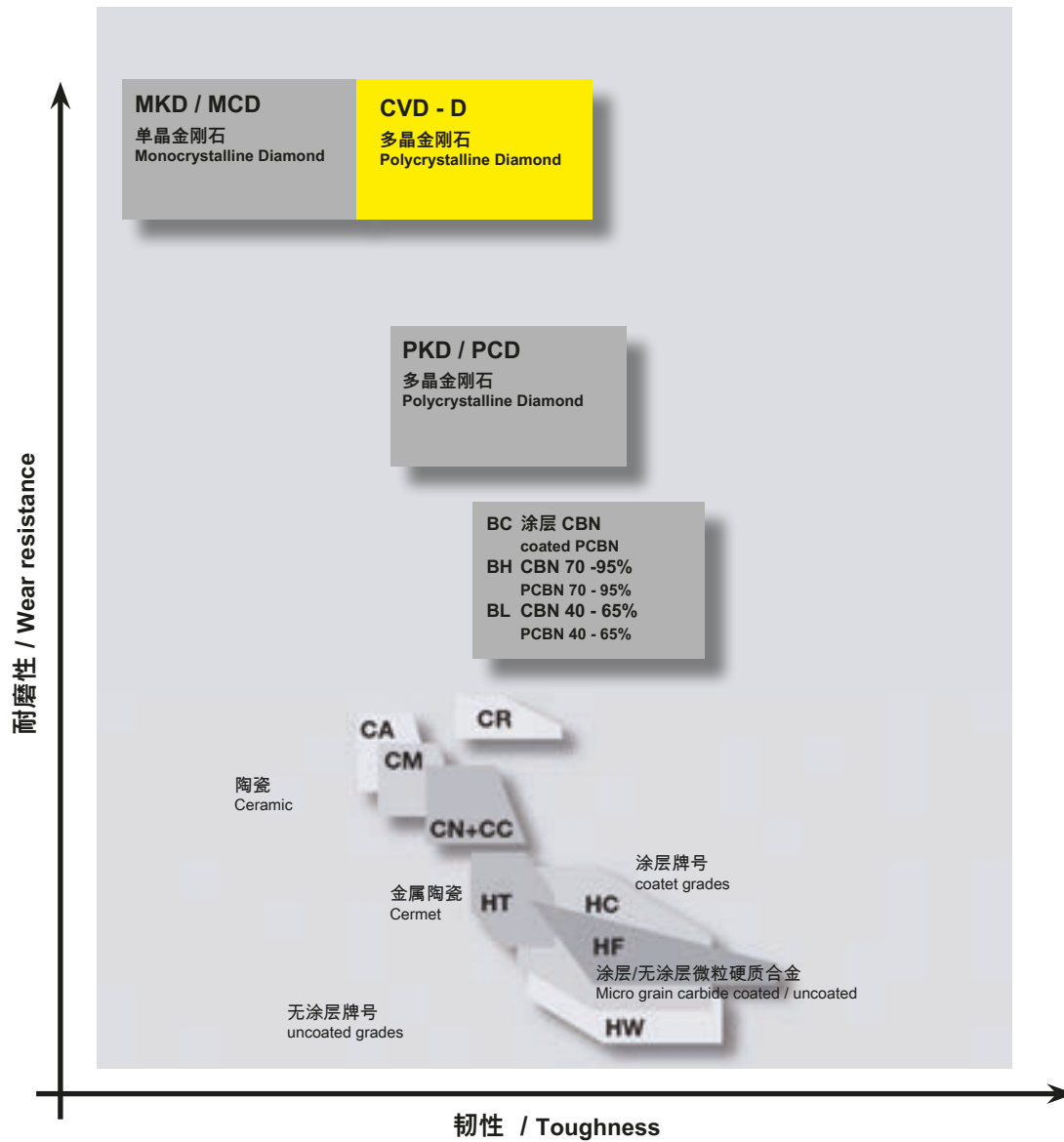
Our tools are designed to be balanced at the CAD stage. In practice, this means that the mass ratios and their offsets are considered during the theoretical design phase. This is a feature that demonstrates our quality and is a way of achieving the required balance without the need for additional work. Nevertheless, this measure does not replace the need to balance the system as a whole.

HORN-材质	切削材料	性	能推荐应用
MD10	MKD	固体单晶金刚石 无粒状组织，极高硬度，无微型裂口的极其锋利的切削刃，低韧性。	所有有色金属、无磨料增强塑料、贵金属和贵重合金的抛光和高抛光加工
HD03 HD05 HD08	CVD-D	CVD金刚石 (多晶金刚石基材) 无整体硬质合金材质并无金属粘结剂。99.9%金刚石，非常高的硬度和耐磨性，无微型裂口使切削刃更锋利，韧性也得到提高。	加工所有有色金属、铝合金、耐磨增强塑料、贵重合金、硬质合金、陶瓷绿色零件
PD02	PKD	多晶金刚石，平均晶粒尺寸 最大韧性，耐磨性好	加工所有有色金属，最适合用于困难工况
PD70	PKD	多晶金刚石，混合晶粒 整体硬质合金强化，粒度细，切削刃锋利度好， 最高的耐磨性和韧性	适用于所有有色金属和塑料的研磨增强材料，从精加工到粗加工
PD75	PKD	多晶金刚石，微晶粒 整体硬质合金强化，粒度细，切削刃锋利性好，提高耐磨性和韧性	适用于所有有色金属和塑料的耐磨增强材料，超细精加工和从精加工到粗加工

HORN-Grades	Cutting material	Properties	Recommended applications
MD10	MCD	Solid Monocrystalline Diamond without grain structure, highest hardness, absolutely sharp cutting edge without micro fractures, low toughness	Polish and high polish machining of all nonferrous metals, plastics without abrasive reinforcements, precious metals and precious alloys
HD03 HD05 HD08	CVD-D	CVD Diamond (Polycrystalline Diamond substrate) without solid carbide material and without metallic binder. 99.5% Diamond, Highest hardness and wear resistance, sharp cutting edge without micro fractures, improved toughness	Machining of all nonferrous metals, Aluminium alloys, Plastics with abrasive reinforcements, precious alloys, Solid Carbide, Ceramic green parts
PD02	PKD	Polycrystalline Diamond, average grain size maximum toughness with good wear resistance	Machining of all nonferrous metals, preferably used for difficult operations
PD70	PCD	Polycrystalline Diamond, mixed grain solid carbide reinforced, fine grit size, good cutting edge sharpness, highest wear resistance and toughness	All purpose for all nonferrous metals and plastics with abrasive reinforcements, from finishing to roughing
PD75	PCD	Polycrystalline Diamond, micro grain solid carbide reinforced, fine grit size, very good cutting edge sharpness, improved wear resistance and toughness	All purpose for all nonferrous metals and plastics with abrasive reinforcements, ultra fine finishing and from finishing to roughing

根据DIN ISO 513 (2001)的切削材质说明

Description of cutting materials according DIN ISO 513 (2001)



D



D 041 VL
0,4-1 Nm

带刻度的扭矩扳手
-扭矩可调
-屏幕显示调整扭矩
扭矩无极调节，符合人体工程学的多组件手柄，轻而紧凑的设计，当达到设定扭矩时单击信号按钮。
(标准: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
(精度: $\pm 6\%$)



D 15 VL
1-5 Nm

Torque screw driver with scale
- variable torque setting
- adjusted torque is shown on display
The Torque can be adjusted with a special torque setter (included).
Ergonomical form gives perfect handling abilities. Audible signal when set torque is reached.
(Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)
(Precision: $\pm 6\%$)



D 28 VL
2-7 Nm



ED 28 VL
配 / for
D041VL / D15VL / D28VL

设定扭矩的设备
柄部：醋酸纤维材质，表面为细微结构
刃部：八角形，硬化处理，镀锌

Device for setting the required torque.
Handle: Celluloseacetat with micro structured surface
Blade: Octogonal (8 flats) blade, hardened galvanized

DT6PK
DT7PK
DT8PK
DT9PK
DT10PK
DT15PK
DT20PK
DT25PK
DT27PK

配 / for
D041VL / D15VL / D28VL



Plus

刀头-Torx螺钉

刀头： 高品质铬钒钢，硬化处理，镀铬
Wiha镀铬刀头保证了最好的精密度。
颜色代码为绿色

用途： 拧紧螺钉到指定扭矩，和Wiha扭矩扳手刀柄组合。

Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.
Wiha Chrome Blade guarantees maximum precision.
Colored code dark green

Utilization: Controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

T6PW
T7PW
T8PW
T9PW
T10PW
T15PW
T20PW

配 / for
D041VL / D15VL / D28VL



Plus

刀头-TORX PLUS®螺钉

用途： 适合所有的TORX PLUS®螺钉. 注意:不能用于Torx螺钉

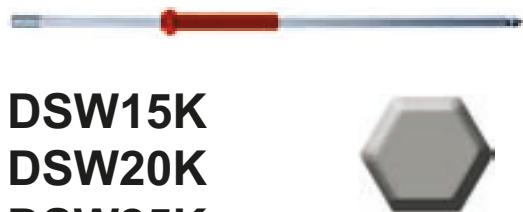
Wrench for TORX PLUS® Screws

Utilization: For all kind of using TORX PLUS® Screws

Attention: TORX PLUS®-Wrench does NOT fit for Torx-Screws

DSW15K
DSW20K
DSW25K
DSW30K
DSW40K

配 / for
D041VL / D15VL / D28VL



扳手刀头-内六角螺钉

刀头： 高品质的铬钒钢，硬化处理，镀铬。
Wiha镀铬刀片保证了最好的精密度。
使用红色代码

应用： 使用给定的扭紧扭矩，结合一个Wiha扭矩手。

Blade for allen screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.
Wiha Chrome Blade guarantees maximum precision.
Colored code red

Utilization: Controlled screw setting with definite torque in combination with Wiha torque screw driver handle



D14ZBK

配 / for
D041VL / D15VL / D28VL

通用钻套

适用于所有的C6.3和E6.3(1/4")钻头

刀头：高品质铬钒钢，经硬化处理，镀铬

刀颈：不锈钢

应用：可与扭矩螺丝刀手柄组合使用，具有一定扭矩，可控制螺杆设定。

Universal Bitholder for C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Collar: Stainless steel

Utilization: For controlled screw setting with definite torque in combination with torque screw driver handle.



D515QL

5-15 Nm

带刻度的扭矩扳手

-扭矩可调

-屏幕显示调整扭矩

扭矩无极调节，符合人体工程学的多组件手柄，轻而紧凑的设计，当达到设定扭矩时单击信号按钮。

(标准: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)

(精度: $\pm 6\%$)

Torque screw driver with scale

- variable torque setting

- adjusted torque is shown on display

The Torque can be adjusted with a special torque setter (included).

Ergonomical form gives perfect handling abilities. Audible signal when set torque is reached.

(Standard: EN ISO 6798, BS EN 26789, ASME B 107.14.M.)

(Precision: $\pm 6\%$)



ED515QL

配 / for
D515QL

扭矩调整扳手

柄部：纤维素乙酸酯微观结构表面

刃部：8角形状,经过硬化处理，镀铬

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface

Blade: Octogonal (8 flats) blade, hardened galvanized



DT15PQ
DT20PQ
DT25PQ
DT27PQ
DT30PQ

配 / for
D515QL



Plus

刀头-TORX PLUS® 螺钉

刀头： 高品质铬钒钢，硬化处理，镀铬
Wiha镀铬刀头保证了最好的精密度。

颜色代码为绿色

用途： 拧紧螺钉到指定扭矩，和Wiha扭矩扳手刀柄组合。

Blade for TORX-Plus® screws

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Wiha Chrome Blade guarantees maximum precision.

Colored code dark green

Utilization: Controlled screw setting with definite torque in combination with Wiha torque screw driver handle.

D



D14ZBQ

配 / for
D515QL

通用钻套

也用于所有的C6.3和E6.3(1/4")钻头

刀头： 高品质铬钒钢，经过硬化处理，镀铬。

刀颈： 不锈钢

应用： 用于固定扭矩，扭矩标与柄部。

Universal Bitholder

for C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Collar: Stainless steel

Utilization: For controlled screw setting with definite torque in combination with torque screw driver handle.



14ZQK

通用T型刀柄的钻套

用于所有的C6.3和E6.3(1/4")钻头

刀头： 高品质铬钒钢，经硬化处理，镀铬

刀颈： 不锈钢

应用： 开关控制

Universal Bitholder with T-handle

for C6,3 and E6,3 (1/4") Bits

Blade: High quality Chrome-Vanadium steel, through hardened, chrome plated.

Collar: Stainless steel

Utilization: For controlled opening

加工材料组 nach DIN ISO 513

Cutting Material Groups per DIN ISO 513

组别 Main group	标志	子组别 Subgroups
硬质合金 Carbide	HW	非涂层硬质合金, WC基体 uncoated carbides based upon WC
	HT	非涂层硬质合金, TiC/TiN-基体 (金属陶瓷) uncoated carbides based upon TiC/TiN (Cermets)
	HF	细微颗粒硬质合金 micro grane carbides
	HC	涂层硬质合金/金属陶瓷 coated carbides / cermets
陶瓷 Ceramic cutting material	CA	氧化物陶瓷, Al ₂ O ₃ -基体 Oxide ceramics based upon Al ₂ O ₃
	CM	混合陶瓷, Al ₂ O ₃ + 金属碳化物-基体 Mixed ceramics based upon Al ₂ O ₃ + metal carbide
	CN	氮化物陶瓷, Si ₃ N ₄ -基体 Nitride ceramics based upon Si ₃ N ₄
	CC	涂层陶瓷 Coated ceramics
金刚石 Diamond	DM	单晶金刚石 (MCD) Monocrystalline diamond (MCD)
	DP	立方金刚石 (PCD) Polycrystalline diamond (PCD)
氮化硼 Boron nitride	BN	立方氮化硼 (CBN) Polycrystalline, cubic boron nitride (PCBN)

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