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SEAYAC

BORING TOOLS DAMPING TOOLS



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小孔径微米镗刀
MICRON BORING TOOL



A

阻尼减振刀具
DAMPING TOOLS



B

自动伸缩式反刮刀
AUTOMATIC TELESCOPIC BACK BORING TOOL



C

综合样本新增内容
ADDED CONTENT



D

产品目录
CONTENT



Φ 0.001 mm/格
—— 调节精度 ——
ADJUSTABLE ACCURACY

前言:

具有超前加工意识的镗削技术

高效和精度一直是机械加工领域孜孜不倦的追求目标。近些年机械加工技术以日新月异的速度蓬勃发展着，各种新技术的开发，各种创新不断应运而生，并最终转化成新颖，节能，高效的加工技术。数十年来，我们一直致力于孔加工领域，并密切关注着这个领域的发展。在高速加工潮流的引导下，在微米级加工要求的指引下，我们坚定而快速的对未来的切削加工作出反应。典型的镗孔刀具 --- MBF 小孔微米级精镗刀，是我们团队在小孔加工领域坚持创新的必然结果。

PREFACE WITH ADVANCED BORING PROCESSING

High performance and accuracy are always the core objective in the machining area. In recent years, the technology keep moving rapidly, meanwhile the unique, powerfrugal, and higher performance processing technology was born with the new technology and creative things. We Sunder Tools are focusing on the hole-making processing and knew well about this area in decades. With the featured trend and micron accuracy request, we determined to research a unique micron hole making tool for it. Then the featured MBF micron boring tool was born which is the certain product for this area.

小孔径微米镗刀

MICRON BORING TOOL

产品特点: FEATURES:

- 调整精度: $\Phi 0.001\text{mm/格}$
- 镗孔范围: $\Phi 0.4 - \Phi 12\text{mm}$
- 最高转速可达: 24000r/min
- 刀体带有动平衡调整机构
- 刀具调整后无需锁紧
- 带内冷



- Adjustable accuracy: 0.001mm/dial
- Diameter range: $0.4 - 12\text{mm}$
- Max. speed: 24000r/min
- With dynamic balance adjustable mechanism
- No need to lock again after adjusting
- With coolant hole

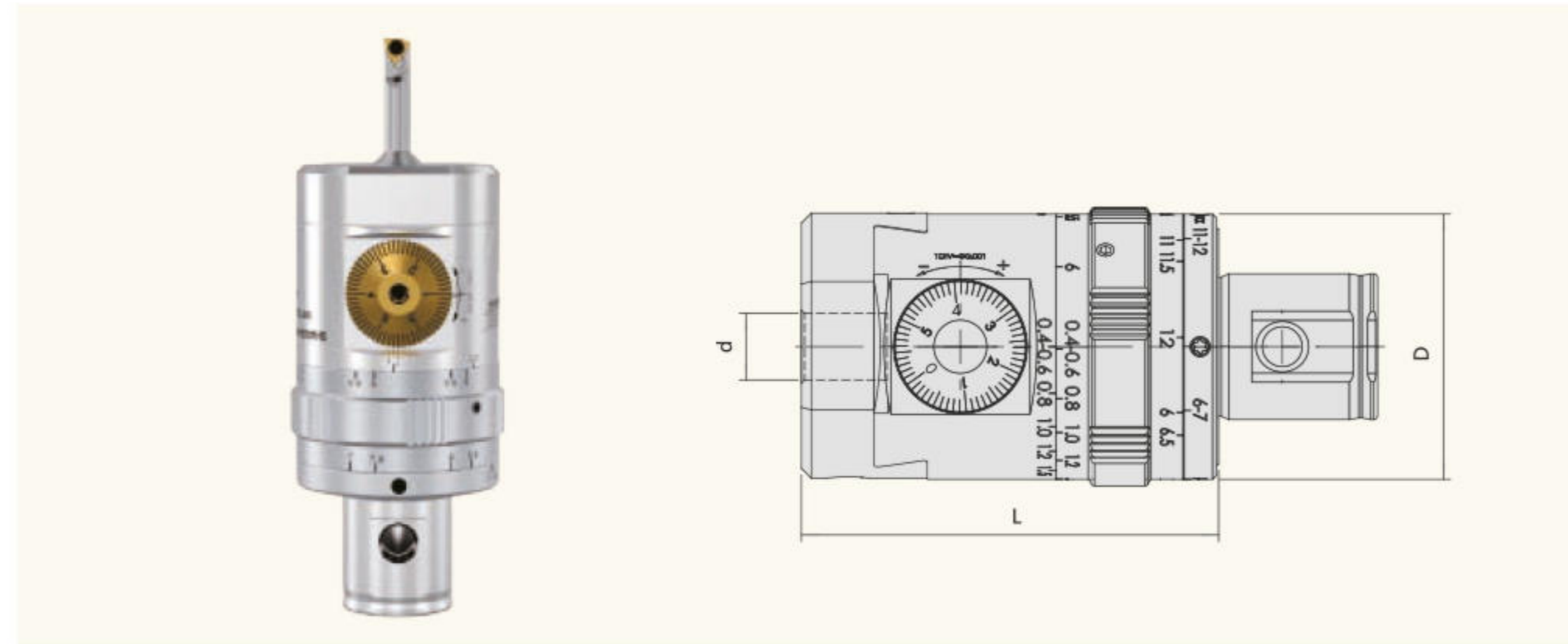
DAMPING TOOLS 小孔径微米镗刀

MBF 系列 K 接口小孔径微米镗刀

MBF Micron Boring Tool with Type K Connection

小孔径微米镗刀，微调精度每格直径 0.001mm，加工范围 $\phi 0.4\text{-}\phi 12$ ，圆柱模块式 K 接口，需配小孔精镗刀杆。

Micron boring tool has a highly precise adjustment mechanism, 1 DIV=0.001mm in diameter, and the diameter range is $\phi 0.4\text{-}\phi 12$. High rigidity thanks of cylindrical modular connection type K. Boring bars for the body.



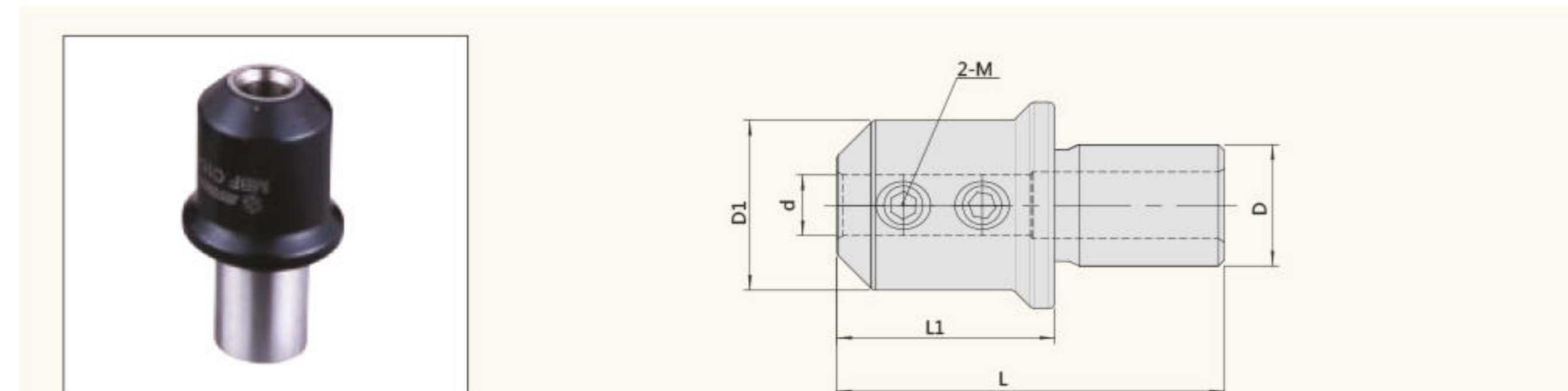
规格型号 Designation	Dc	L	D	d	Kg	适配刀杆 Boring bar	在庫 Stock
MBF D0.4-12.K40.Z1.63.C	0.4-12	63	40	10	0.58	MBF C10-3+HT03E... MBF C10-5+HT05E... HT10E...	●

- 适配小孔精镗刀杆需单独订购。请参照：(下一页)
- 订货示例：1件 MBF D0.4-12.K40.Z1.63.C
- The boring bar should be ordered separately, please see next page.
- Ordering sample: MBF D0.4-12.K40.Z1.63.C 1piece

小孔径精镗刀杆变径套 REDUCTION SLEEVE

适用于 HT03E.../HT05E... 小孔径镗刀杆

It is suitable for HT03E.../HT05E...mini precision boring bar



规格型号 Designation	d	D	D1	L1	L	M	在庫 Stock
MBF C10-3	3	10	14	20	34	M4	●
MBF C10-5	5	10	14	20	34	M4	●

- 订货示例：1件 MBF C10-5
- Ordering sample: MBF C10-5 1piece

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

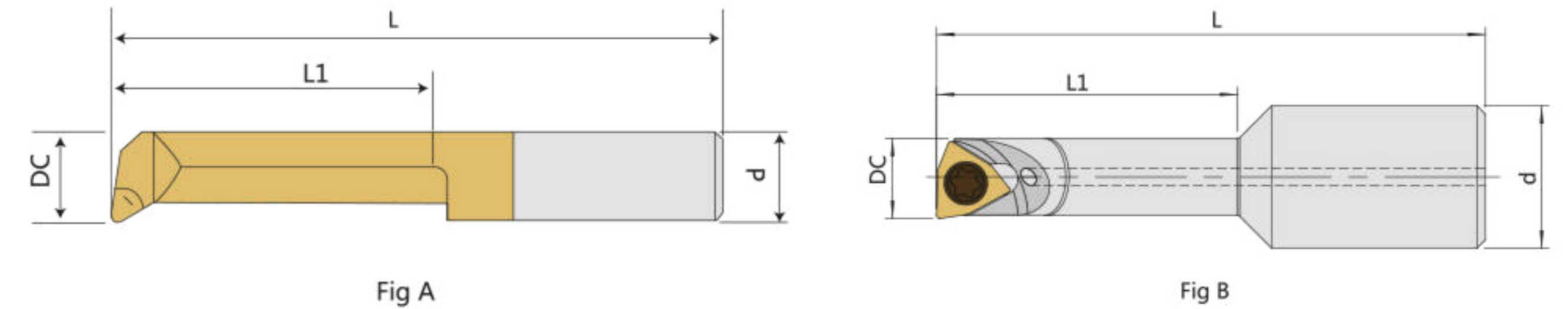
DAMPING TOOLS 小孔径微米镗刀

小孔径精镗刀杆

Mini Precision Boring Bar

适配于小孔径微米镗刀，硬质合金杆。

It is for the micron boring tool, made of solid carbide.



规格型号 Designation	Dc	d	L	L1	刀片 Insert	Fig	在庫 Stock
HT03E D0.4.2	0.4	3	38	2	-	A	●
HT03E D0.6.3	0.6	3	38	3	-	A	●
HT03E D0.8.3	0.8	3	38	3	-	A	●
HT03E D1.0.5	1.0	3	38	5	-	A	●
HT03E D1.2.5	1.2	3	38	5	-	A	●
HT03E D1.5.10	1.5	3	38	10	-	A	●
HT03E D02-03.10	2.0	3	38	10	-	A	●
HT05E D03-04.10	3.0	5	44	10	-	A	●
HT05E D04-05.13	4.0	5	46	13	-	A	●
HT05E D05-06.16	5.0	5	50	16	-	A	●
HT10E D06-07.WB0602.21.C	6.0	10	38	21	WB..0602..	B	●
HT10E D07-08.WB0602.24.C	7.0	10	42	24	WB..0602..	B	●
HT10E D08-09.WB0602.27.C	8.0	10	44	27	WB..0602..	B	●
HT10E D09-10.WB0602.30.C	9.0	10	46	30	WB..0602..	B	●
HT10E D10-11.WB0602.33.C	10.0	10	48	33	WB..0602..	B	●
HT10E D11-12.WB0602.36.C	11.0	10	50	36	WB..0602..	B	●

- D0.4 ~ 6的整体硬质合金镗刀杆最低订货量5支/次
- HT03E刀杆须用MBF C10-3变径套夹持
- HT05E刀杆须用MBF C10-5变径套夹持
- 刀片请根据不同材料单独订购
- 订货示例：5件 HT05E D04-05.13
- MOQ for D0.4-6 mini solid carbide boring bar is 5pcs
- HT03E boring bar should be clamped by C10-3 reduction sleeve
- HT05E boring bar should be clamped by C10-5 reduction sleeve
- Insert should be ordered separately
- Ordering sample: HT05E D04-05.13 5pcs

备件 Spare Parts

刀片 Insert	刀片螺钉 Clamping screw for insert	螺钉扳手 Allen key
WB...0602...	SR20 M2×3.5	KEY02 T6

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

DAMPING TOOLS 小孔径微米镗刀

小孔径微米镗刀操作说明书

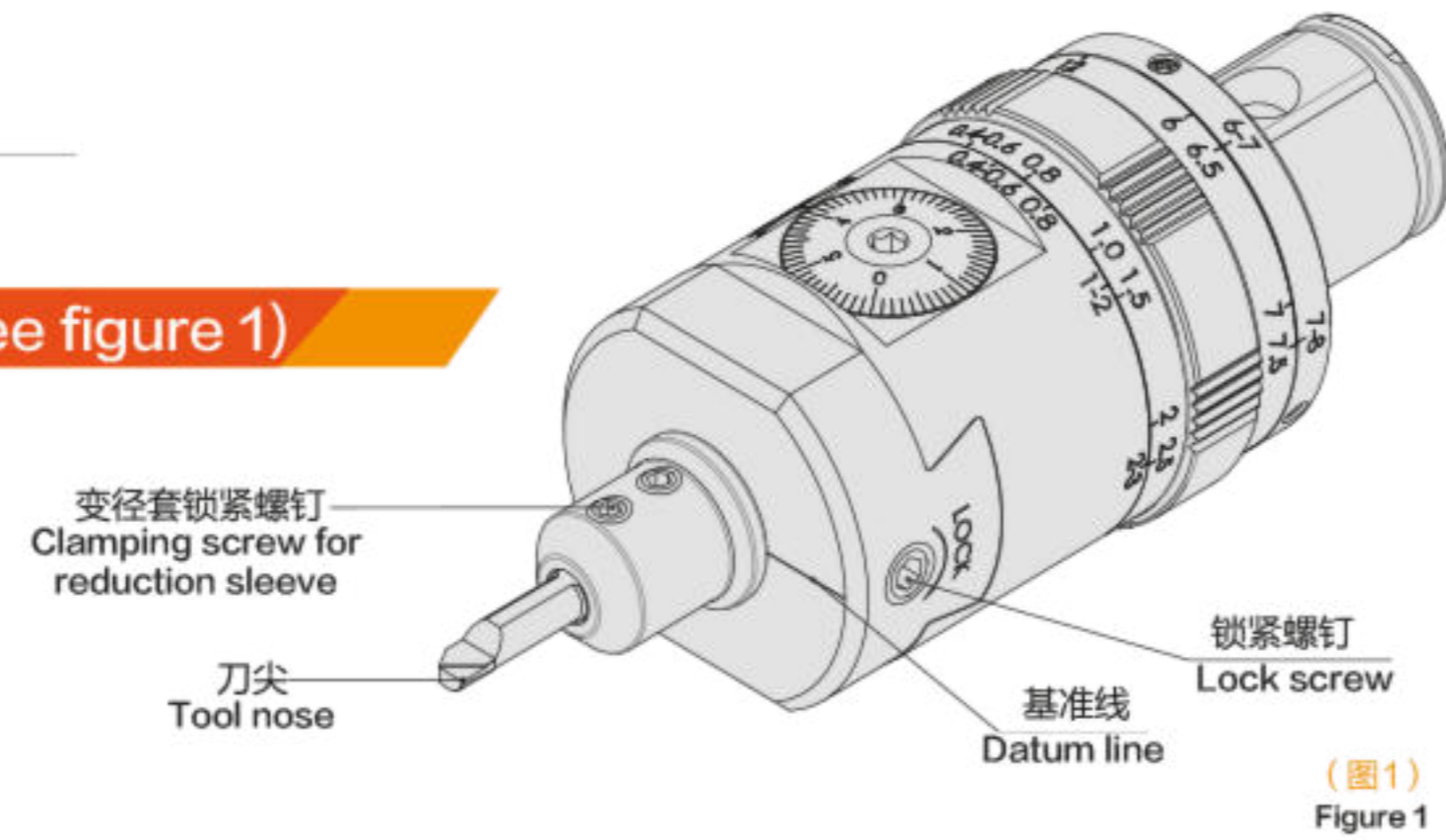
The Instruction Manual of Micron Boring Tool

小孔镗刀杆识别 Mini Precision Boring Bar

- 确认工件小孔工况并合理选择适配刀杆
- 连接刀杆，选择适配的变径套
- Select suitable boring bar for requested working condition
- Mount the boring bar then select the suitable reduction sleeve

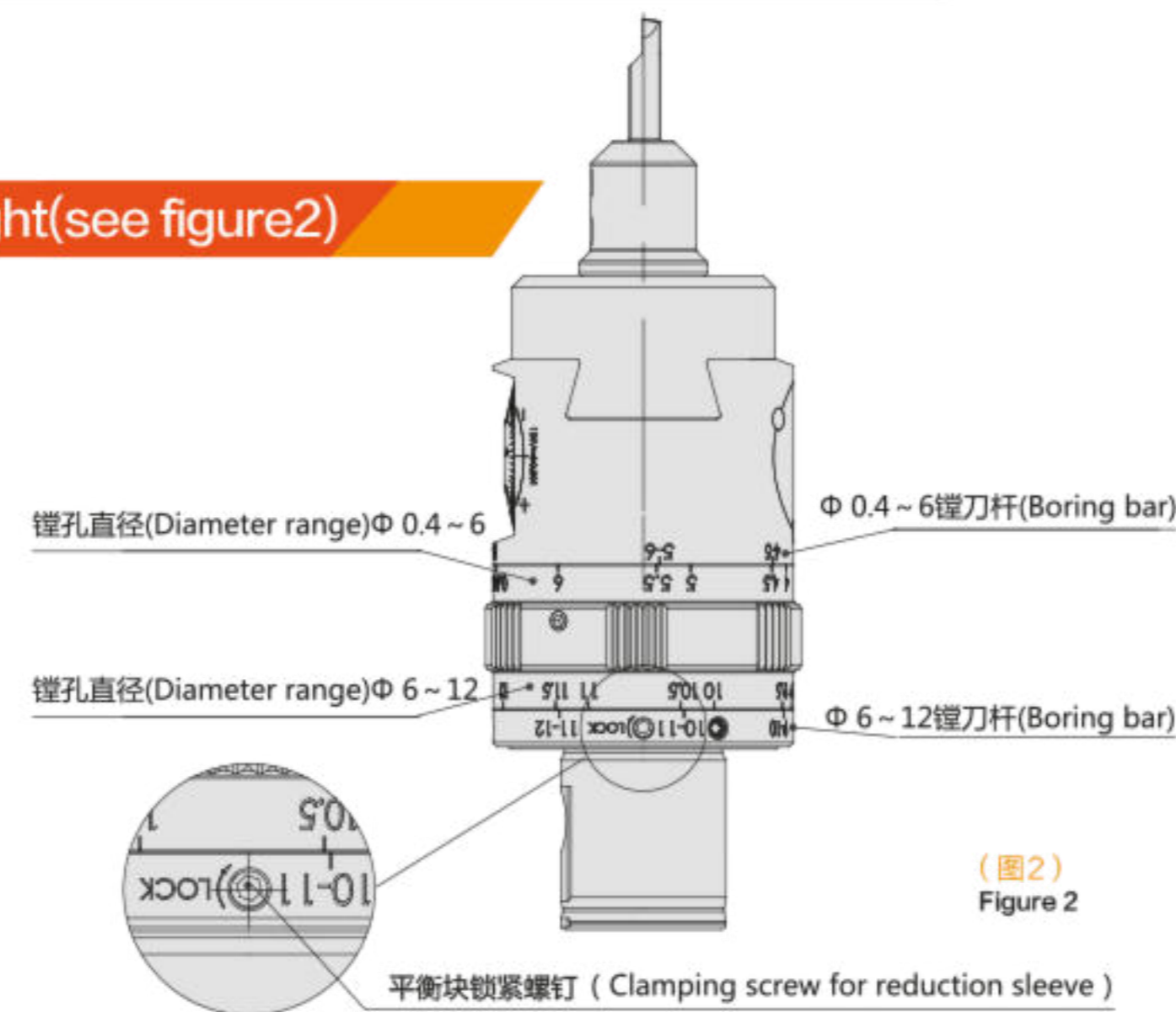
锁紧刀杆 (如图 1) Mounted Boring Tool Set (see figure 1)

- 锁紧小刀杆与变径套
- 转动刀杆，刀尖对准基准线
- LOCK螺钉锁紧
- Lock boring bar and reduction sleeve
- Make sure the tool nose aim at the datum line
- Lock the screw tightly



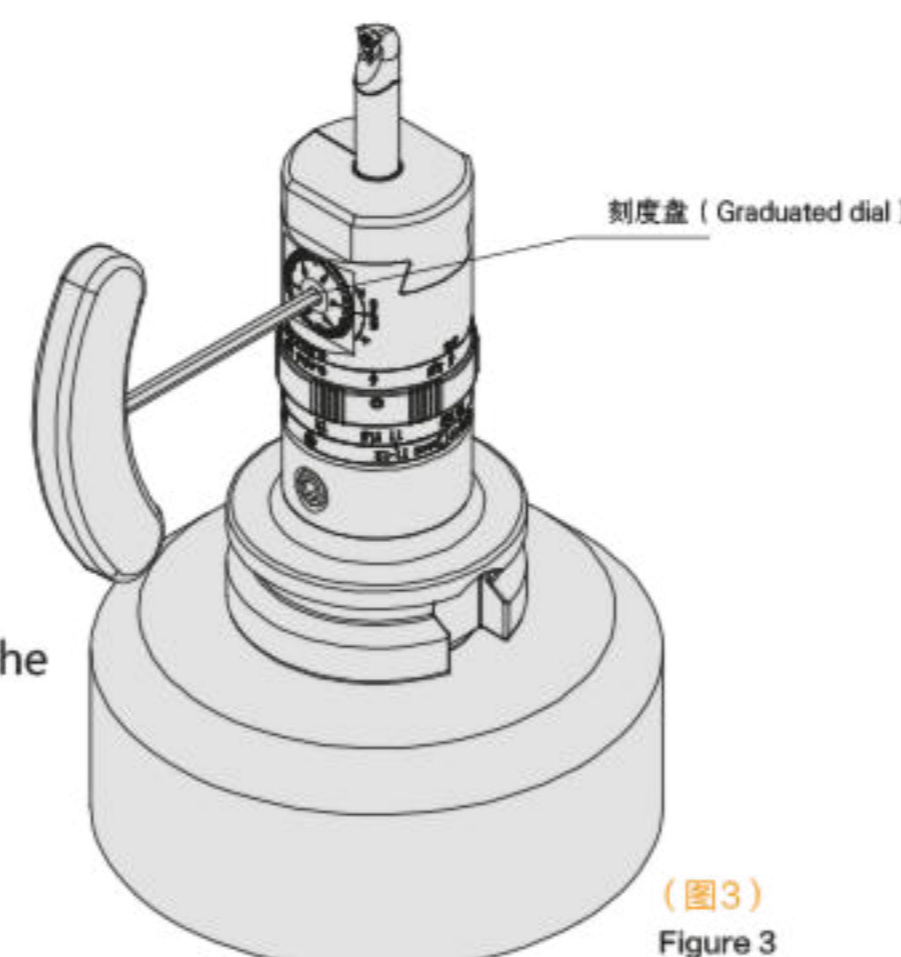
动平衡的调整 (如图 2) Adjustment of Balancing Weight(see figure2)

- 松开平衡块锁紧螺钉
- 转动活动套，将最终镗孔直径与对应的刀杆刻度对齐
- 锁紧平衡块锁紧螺钉，完成调整
- Loose the clamping screw for balance weight
- Aim the diameter range at the dial by turning the sleeve
- Lock the screw tightly then finish the adjustment



尺寸调整 (如图 3) Adjustment(see figure 3)

- 连接专用的动平衡刀柄，对准锁紧孔，并紧锁紧螺钉
- 借助对刀仪，按工艺调整刀具初始加工尺寸
- 试切、测量、调整微米镗刀刻度盘，补偿尺寸，达到工件图纸要求
- 微米镗刀刀体微调机构为自锁结构，不需松掉紧定螺钉就可以直接调整刻度盘，调整完毕后，也无需锁紧紧定螺钉
- Mount the suitable adaptor, then lock the clamping screw.
- Adjusting the beginning dimension by the tool presetter.
- Test, measure the dimension, adjust the graduated dial, compensate size, and finally meet the requirements in the workpiece diagram.
- There is a self-lock mechanism in the micron tool body part, then it can be adjusted directly without
- loosening any screw. It will be locked by itself after adjustment.



DAMPING TOOLS 小孔径微米镗刀

小孔径微米镗刀套装

MICRON BORING TOOL SET

小孔径微米镗刀套装(Φ0.4-Φ12), 精镗头调整精度Φ0.001mm / 每格
Micronboring tool set(Φ0.4-Φ12)
Adjustable accuracy: Φ0.001mm/dial

订购型号 Ordering model	直径范围 Diameter range	含刀柄 Include adaptor	含镗刀和附件 Include boring bar and spare parts	适用机床主轴 Adapted spindle
KIT BT30.MBF D0,4-12.A	Φ6~12	BT30 K40x50	A型	BT30
KIT BT40.MBF D0,4-12.A	Φ6~12	BT40 K40x50	A型	BT40
KIT BT50.MBF D0,4-12.A	Φ6~12	BT50 K40x70	A型	BT50
KIT DIN69871 30.MBF D0,4-12.A	Φ6~12	DIN69871 30 K40x50	A型	DIN69871 30
KIT DIN69871 40.MBF D0,4-12.A	Φ6~12	DIN69871 40 K40x50	A型	DIN69871 40
KIT DIN69871 50.MBF D0,4-12.A	Φ6~12	DIN69871 50 K40x70	A型	DIN69871 50
KIT BT30.MBF D0,4-12.B	Φ3~12	BT30 K40x50	B型	BT30
KIT BT40.MBF D0,4-12.B	Φ3~12	BT40 K40x50	B型	BT40
KIT BT50.MBF D0,4-12.B	Φ3~12	BT50 K40x70	B型	BT50
KIT DIN69871 30.MBF D0,4-12.B	Φ3~12	DIN69871 30 K40x50	B型	DIN69871 30
KIT DIN69871 40.MBF D0,4-12.B	Φ3~12	DIN69871 40 K40x50	B型	DIN69871 40
KIT DIN69871 50.MBF D0,4-12.B	Φ3~12	DIN69871 50 K40x70	B型	DIN69871 50
KIT BT30.MBF D0,4-12.C	Φ0.4~12	BT30 K40x50	C型	BT30
KIT BT40.MBF D0,4-12.C	Φ0.4~12	BT40 K40x50	C型	BT40
KIT BT50.MBF D0,4-12.C	Φ0.4~12	BT50 K40x70	C型	BT50
KIT DIN69871 30.MBF D0,4-12.C	Φ0.4~12	DIN69871 30 K40x50	C型	DIN69871 30
KIT DIN69871 40.MBF D0,4-12.C	Φ0.4~12	DIN69871 40 K40x50	C型	DIN69871 40
KIT DIN69871 50.MBF D0,4-12.C	Φ0.4~12	DIN69871 50 K40x70	C型	DIN69871 50

A 型 (Type A)

B 型 (Type B)

C 型 (Type C)



MBF D0,4-12.K40.Z1.63.C	MBF D0,4-12.K40.Z1.63.C	MBF D0,4-12.K40.Z1.63.C
HT10E D06-07.WB060102.21.C	MBF C10-5	HT03E D0,4.2
HT10E D07-08.WB060102.24.C	HT05E D03-04.10	HT03E D0,6.3
HT10E D08-09.WB060102.27.C	HT05E D04-05.13	HT03E D0,8.3
HT10E D09-10.WB060102.30.C	HT05E D05-06.16	MBF C10-3
HT10E D10-11.WB060102.33.C	HT10E D06-07.WB060102.21.C	MBF C10-5
HT10E D11-12.WB060102.36.C	HT10E D07-08.WB060102.24.C	HT03E D01-02.5
WBGT 060102	HT10E D08-09.WB060102.27.C	HT03E D02-03.10
	HT10E D09-10.WB060102.30.C	HT05E D03-04.10
	HT10E D10-11.WB060102.33.C	HT05E D04-05.13
	HT10E D11-12.WB060102.36.C	HT05E D05-06.16
	WBGT 060102	HT10E D06-07.WB060102.21.C
		HT10E D07-08.WB060102.24.C
		HT10E D08-09.WB060102.27.C
		HT10E D09-10.WB060102.30.C
		HT10E D10-11.WB060102.33.C
		HT10E D11-12.WB060102.36.C
		WBGT 060102

DAMPING TOOLS 阻尼减振刀具

阻尼减振刀具前言

Damping shock absorber



减振刀具是机械加工行业一颗璀璨的明星，有效解决了长悬伸刀具切削颤振问题，特别是在深孔加工中的减振镗刀应用最为广泛。但一直以来被国外刀具品牌所垄断，国内刀具制造业始终难以望其项背。松德刀具一直致力于打造民族镗刀第一品牌，而对于减振镗刀研发将是一个必须逾越的鸿沟。松德研发团队坚持不懈的致力于减振系统的研究，终于攻克了这一难题！

我们在研发过程中，充分研究了动力减振技术和阻尼减振技术，结合专业知识和经验，研究设计开发出了独特的有阻尼减振系统及其结构形式，有助于精确地将刀具振动的振幅快速减至最低；同时研究了切削颤振控制技术，便于准确地确定不同领域的振动类型，有效地控制这些振动。对于一般的刀杆，在长径比超过4倍时刀具本身将产生颤振，使得加工无法进行。随着悬伸越来越长，刀具刚性会越来越低，切削力会对切削刀具振动的振幅影响也会越来越大。

在刀具切削加工中，振动不可能完全被消除，但是，减振镗刀完全可将其降低至最低水平，使其对加工过程和结果不造成不良的影响。采用先进的模拟方法、测量设备及系统，通过优化刀具结构及各零部件参数，在正常的切削区域内，减振镗刀的减振系统完全可以消除切削力作用在刀具上产生的振动对切削过程的不利影响。

总而言之，松德阻尼减振刀具可以帮助您实现更低的单个零件成本。

Anti-Vibration tool is a future bright star in metal industry which bring an effective solution to the long overhang cutting tool chatter problem, especially in the deep hole processing applications widely. But there has been monopolized by foreign brands knives and domestic knives manufacturing has always been difficult to hold a candle. Sunder- tools has committed to build the first national brand of boring tool, and damping boring tool will be developed to be an insurmountable gap. Study Sunder-tools R & D team unswerving commitment damping system, and finally overcome this problem!

in the development of process, to fully investigate the dynamic vibration damping technology and technology, combined with expertise and experience in research and design has developed a unique damping system EC and its structure, the tool helps precisely to minimize the vibration amplitude fast; also studied cutting flutter control technology to facilitate accurate determination of different areas.

The type of vibration, for For general tools effectively control these vibrations in an aspect ratio of more than four times the tool itself will produce vibrations, so that can not be processed. With a growing overhang longer, the tool will become increasingly rigid low cutting forces will affect the amplitude of vibration of the cutting tool will be growing.

In the cutting tool, the vibration can not be completely eliminated, but the damping boring tool can be reduced to the lowest level so that the results of the process and does not cause adverse

Impact. Using advanced simulation methods, measuring equipment and systems, by optimizing the structure of the tool parameters and various parts in the normal cutting zone, boring tool vibration damping

The system can eliminate the adverse effects of vibration on the tool cutting forces generated by the cutting process.

All in all, Sunder-tools damping tool can help you achieve a lower cost of individual parts.

DAMPING TOOLS 阻尼减振刀具

阻尼减振刀具原理

Damping vibration cutting tool principle

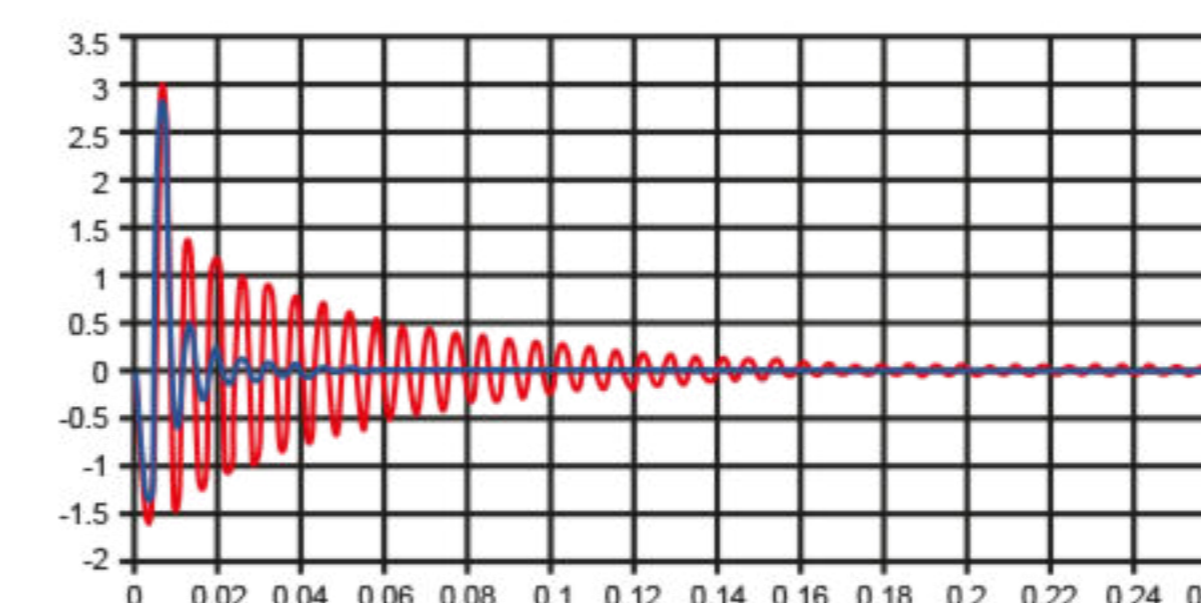
减振刀具内有一个预先调校好的减振系统，该系统由一个通过多个橡胶弹簧元件支撑的重金属介质组成。加油以增加减振效果。

Internal damping tool has a good pre-tuned damping system, which consists of a plurality of rubber spring elements supported by the heavy metal media components. Fill oil increase the damping effect.



图中所示为非减振与减振解决方案之间在减振效果方面的差异。对于长刀具悬伸和法兰，建议主轴与刀柄之间进行双面接触。

Non shown in FIG damping and vibration damping effect of the resolve differences between the programs. For the long tool overhangs and between the flanges, and recommended that the spindle shank two sided touch



两面接触 Two-sided touch		单面接触 Single-sided touch	
HSK		ISO/CAT	
BBT		MAS BT	
		CAT-V	

DAMPING TOOLS 阻尼减振刀具

选择正确的刀具

Choose the right tool

选择正确的刀具对于获得最佳的生产效率和加工结果至关重要。对每种长度/直径比的加工应用总能提供最佳的解决方案,减振系统在特定工况下仍有上佳表现。

每个减振刀具都有特定的悬伸范围,以实现最佳的刀具性能,确保每种刀具在正确的范围内使用是很重要的。如果短刀具使用加长杆就无法实现预期的加工效果。

提高切削刀具的静态刚度可以帮助提高切屑去除率和生产效率,而不会发生振动问题。选用标准刀具可以使你以最小的长度和最大的直径来装配刀具。两者的参数同等重要。

如果选用模块化刀具,安装时要确保靠近机床侧的直径最大。

工作范围说明

当刀具悬伸为3倍刀具直径及以上时,使用减振刀具可以提高生产效率。

对于刀具悬伸为4倍刀具直径的应用,使用减振刀具,通常可将切削参数提高至少50%;对于刀具悬伸为6倍刀具直径及以上的应用,要实现出色的生产效率、优异的孔质量以及表面质量,减振刀具是唯一的选择。

如果标准产品无法满足您的应用对于长度、直径、接口以及其他规格的要求,我们的定制刀具同样具有最佳性能。

Its essential to choosing the right tool for the best productivity and processing results . For each length / diameter ratio of processing applications always provide the best solution, the damping system is still a good performance in specific conditions. Each tool has a specific damping overhang range, to achieve the best performance tool to ensure that each use of the tool in the correct range is important

If the short tool to use an extension, then it will not be able to achieve the desired processing results.

Increase static stiffness of the cutting tool can help improve chip removal rate and productivity, and the vibration problem does not occur. can use standard tools

Make you a minimum length and maximum diameter of the tool assembly. Both parameters are equally important.

If you use modular tools, the installation should ensure maximum diameter colse to the machine

When the tool overhang is more than three times the diameter of the tool and use the tool vibration can improve production efficiency.

For tool overhang is 4 times the tool diameter applications, use vibration tools cutting parameters can generally be increased by at least 50%; the tool overhang is 6 times tool diameter above applications and to achieve excellent productivity and excellent hole quality and surface quality, vibration tool is the only option.

If the standard products do not meet your application for length, diameter, interfaces, and other specifications of requirements, our custom tool also has the best performance



DAMPING TOOLS 阻尼减振刀具

阻尼减振刀具范围

Damping vibration cutting tool range

产品特点

- 内部减振机构可适应机床的振动频率无需调整
- 高效率 (比普通刀杆效率至少提高2倍)
- 高稳定性 (消除加工时刀杆的振动, 使加工更加稳定)

Features

- Internal damping mechanism can be adapted to the machine's vibration frequency without adjustment
- High efficiency (at least 2-fold increase efficiency than ordinary tools)
- High stability (eliminate vibration, when processing so that the processing is maore stable)



- A、标准E接口
- B、吸振胶圈
- C、减振体
- D、水管
- E、扭力销
- F、精镗模块
- G、精镗刀头

- A.Type E connection
- B. Rubber absorber
- C.Damping
- D. Coolant hole
- E. Expanding pin
- F. Modular boring tool body
- G. Cartridge

减振刀具范围:

Damping Tools

产品类别 Type	加工孔径 Diameter Range	L/D	备注 Remarks
镗削系列 Boring Tools	Φ21-Φ300	6倍	加工孔径的6倍
车削系列 Turning Tools	Φ10, Φ12, Φ16, Φ20, Φ25, Φ32, Φ40, Φ50, Φ60, Φ80	7倍和10倍	杆径的7倍和10倍
铣削系列 Milling Cutters	/	10倍	杆径的10倍

阻尼减振镗刀

Damping Boring Tool



DAMPING TOOLS 阻尼减振刀具

阻尼减振镗刀 Damping Boring Tool



在机械加工中内孔加工是所占比例较大的一种重要的加工方法，约占整个加工工作量的1/4，而深孔加工又在内孔加工中占有很大的比例，所以阻尼减振镗刀解决了深孔加工问题，将会直接影响机器产品的生产进度和产品质量。特别是在重型机器制造业中，阻尼减振镗刀将会对生产有着决定性的影响，也影响到机器产品的质量和效率。

产品特点范围：

1. 阻尼减振镗刀悬伸长径比可达10:1（加工孔径的10倍），加工孔径范围 $\Phi 21$ -- $\Phi 300$ 。
2. 使用简单，无需在线调整。
3. 性能稳定，不同的切削环境均能达到有效减振防振的效果。
4. 加工效率高（比普通刀具效率提高2--10倍）。
5. 加工表面质量高，表面粗糙度可达到Ra0.4--0.8。
6. 提高刀片寿命。
7. 调整精度高，加工误差小。

Hole in the machining process is an important large proportion of processing methods. accounting for the entire processing station for the amount of 1/4, while the bore hole machining and processing account for a large proportion, so boring tool damping solution never the deep processing problems, it will directly affect the production schedule and product quality and machine products. Especially in heavy type machine manufacturing, damping boring tool will have a decisive impact on production, also affected the production machine. The quality and efficiency of the products.

Features range:

1. Damping boring tool overhang aspect ratio up to 10: 1 (10 times the processing aperture), processing aperture range $\Phi 21$ - $\Phi 300$.
2. Use simple, without line adjustment.
3. stable performance, cutting different environments can achieve an effective anti-vibration damping effect.
4. High processing efficiency (improve 2--10 times more than ordinary tools).
5. The processing of high surface quality, surface roughness can be achieved Ra0.4--0.8.
6. improve the insert life.
7. Adjust the high precision, small machining errors.

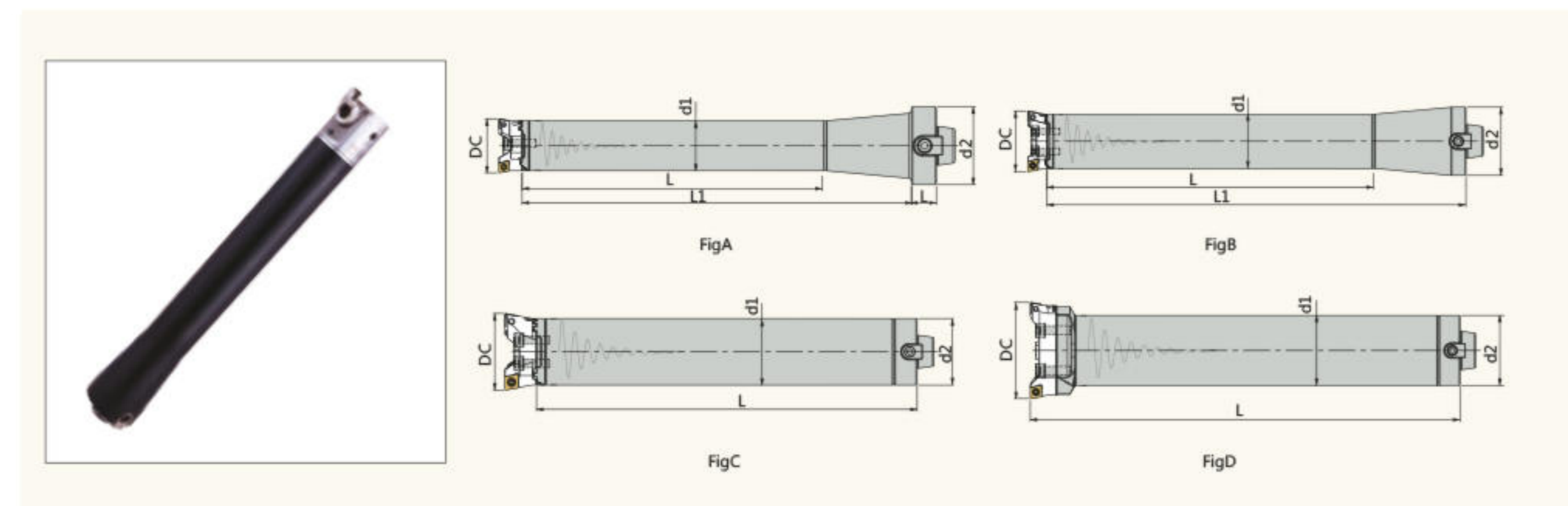
DAMPING TOOLS 阻尼减振刀具

VBR系列阻尼减振粗镗刀

VBR Damping Rough Boring Tool

双刃可调，镗孔加工范围Φ21-Φ153，短锥模块式E接口，矩形槽刀座接口。内置减振机构，可有效抑制深孔加工时所产生的振动。

Two teeth rough boring tool, diameter range is Φ21-Φ153. Hollow short taper modular type E connection, with rectangular guide slot cartridge. It can effectively control the vibration when for the deep hole working due to the damping mechanism.



规格型号 Designation	Dc	d1	d2	L	L1	l	Fig	Kg	适配刀座 Cartridge	在库 Stock
VBR D20.E50.125	21-24	20	50	125	165	16	A	0.9	C90A D020-024.CC06	●
	23-27								C90A D023-027.CC06	
	26-30								C90A D19.2630.CC06	
VBR D25.E50.150	26-35	25	50	150	200	16	A	1.2	C90A D026-035.CC06	●
	30-39								C90A D25.3342.CC06	
VBR D32.E50.195	33-41	32	50	195	252	16	A	2.1	C90A D033-041.CC06	●
	39-47								C90A D32.3947.CC06	
VBR D40.E50.240	41-55	40	50	240	315	/	B	3.8	C90A D041-055.CC09	●
	47-61								C90A D40.5367.CC09	
VBR D50.E63.300	55-70	50	63	300	390	/	B	6.1	C90A D055-070.CC09	●
	61-76								C90A D50.6883.CC09	
VBR D63.E63.360	70-90	63	63	360	/	/	C	8.5	C90A D070-090.CC12	●
	88-108								C90A D63.88108.CC12	
VBR D80.E80.460	90-110	80	80	460	/	/	C	17.1	C90A D090-110.CC12	●
	108-128								C90A D80.108128.CC12	
VBR D100.E80.480	110-133	80	80	460	/	/	D	17.2	C90A D110-133.CC12	●
	130-153								C90A D130-153.CC12	

- 当 $d1 \leq 50$ 时，刀杆镗孔深度是镗孔直径的六倍，当 $d1 \geq 63$ 时，刀杆镗孔深度是镗杆直径的六倍。
- 适配刀座需单独订购。
- 刀具有内冷出水孔。
- 若出现减振能力下降时，建议维修保养。
- 订货示例：1件VBR D20.E50.125

- Hole depth is 6D(hole diameter) when $d1 \leq 50$, and hole depth is 6D(tool body diameter) when $d1 \geq 63$.
- The cartridge should be ordered separately.
- With coolant hole.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VBR D20.E50.125

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

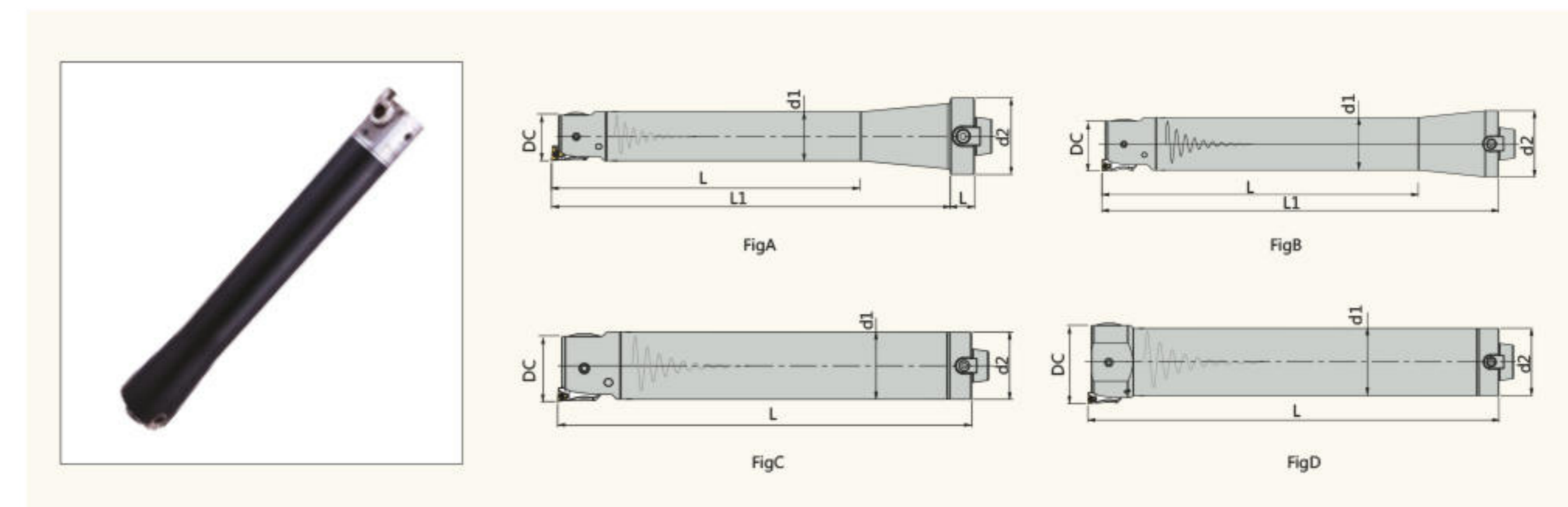
DAMPING TOOLS 阻尼减振刀具

VBF系列阻尼减振微调精镗刀

VBF Damping Mini Precision Boring Tool

单刃可微调，微调精度每格直径0.01mm，加工范围Φ21-Φ212，短锥模块式E接口，适配直压式精镗刀头，内置减振机构，可有效抑制深孔加工时所产生的振动。

It can be micro-adjusted with single tooth. 1 DIV=0.01mm in diameter. The diameter range is Φ21-Φ212. Hollow short taper modular type E connection. It can effectively control the vibration when for the deep hole working due to the damping mechanism.



规格型号 Designation	Dc	d1	d2	L	L1	l	Fig	Kg	精镗刀头 Cartridge	在库 Stock
VBF D20.E50.130	21-26	20	50	130	170	16	A	1.0	FRB 10A...	●
	25-31								FRB 10B...	
	30-36								FRB 10C...	
VBF D25.E50.155	26-34	25	50	155	205	16	A	1.2	FRB 12A...	●
	33-41								FRB 12B...	
	40-48								FRB 12C...	
VBF D32.E50.200	33-43	32	50	200	262	16	A	2.2	FRB 16A...	●
	42-52								FRB 16B...	
	51-61								FRB 16C...	
VBF D40.E50.245	42-54	40	50	245	325	/	B	3.8	FRB 20A...	●
	53-65								FRB 20B...	
	64-76								FRB 20C...	
VBF D50.E63.305	53-69	50	63	305	380	/	B	6.0	FRB 25A...	●
	68-84								FRB 25B...	
	83-99								FRB 25C...	
VBF D63.E63.385	68-100	63	63	385	/	/	C	8.9	FRB 30A...	●
	98-130								FRB 30B...	
	128-160								FRB 30C...	
VBF D80.E80.485	88-120	80	80	485	/	/	C	18.1	FRB 30A...	●
	118-150								FRB 30B...	
	148-180								FRB 30C...	
VBF D100.E80.485	100-152	100	80	485	/	/	D	18.4	FRB 30A...	●
	130-182								FRB 30B...	
	160-212								FRB 30C...	

- 当 $d1 \leq 50$ 时，刀杆镗孔深度是镗孔直径的六倍，当 $d1 \geq 63$ 时，刀杆镗孔深度是镗杆直径的六倍。
- 精镗刀头需单独订购。
- 刀具有内冷出水孔。
- 若出现减振能力下降时，建议维修保养。
- 订货示例：1件VBF D20.E50.130

- Hole depth is 6D(hole diameter) when $d1 \leq 50$, and hole depth is 6D(tool body diameter) when $d1 \geq 63$.
- The cartridge should be ordered separately.
- With coolant hole.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VBF D20.E50.130

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

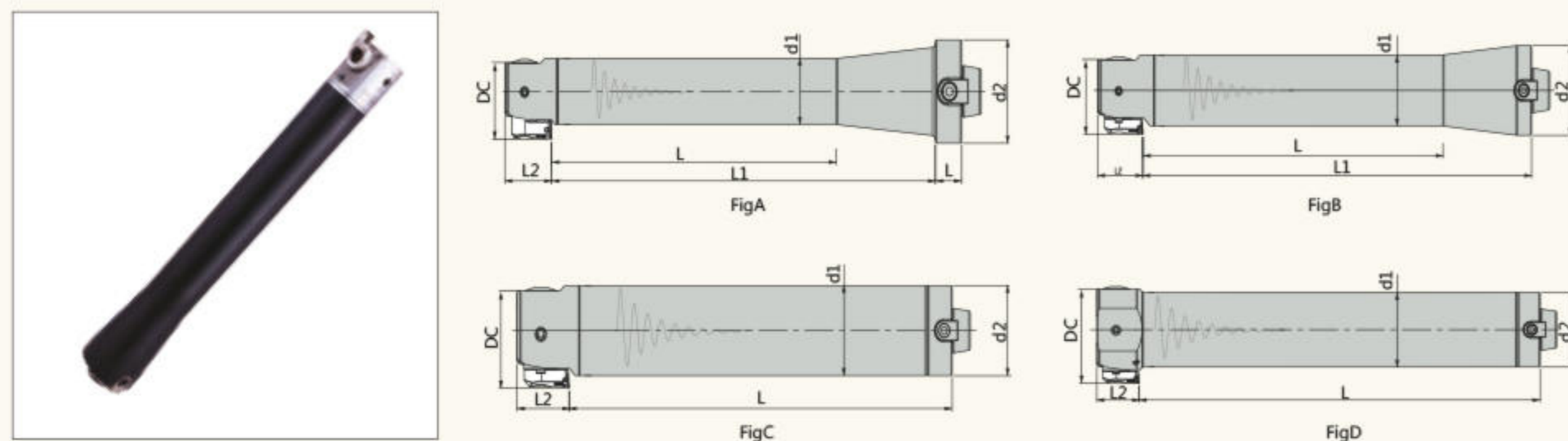
DAMPING TOOLS 阻尼减振刀具

VBF系列阻尼减振微调精镗刀 (反镗示意)

VBF Damping Precision Back Boring Tool

直压式精镗刀头反装,即可轻松实现反镗精加工,加工范围Φ30-Φ212,精度与正镗一致,但加工时刀具必须逆时针旋转,且过孔直径D满足“ $D \geq (D_c + D_1)/2 + 1$ ”要求。内置减振机构,可有效抑制深孔加工时所产生的振动。

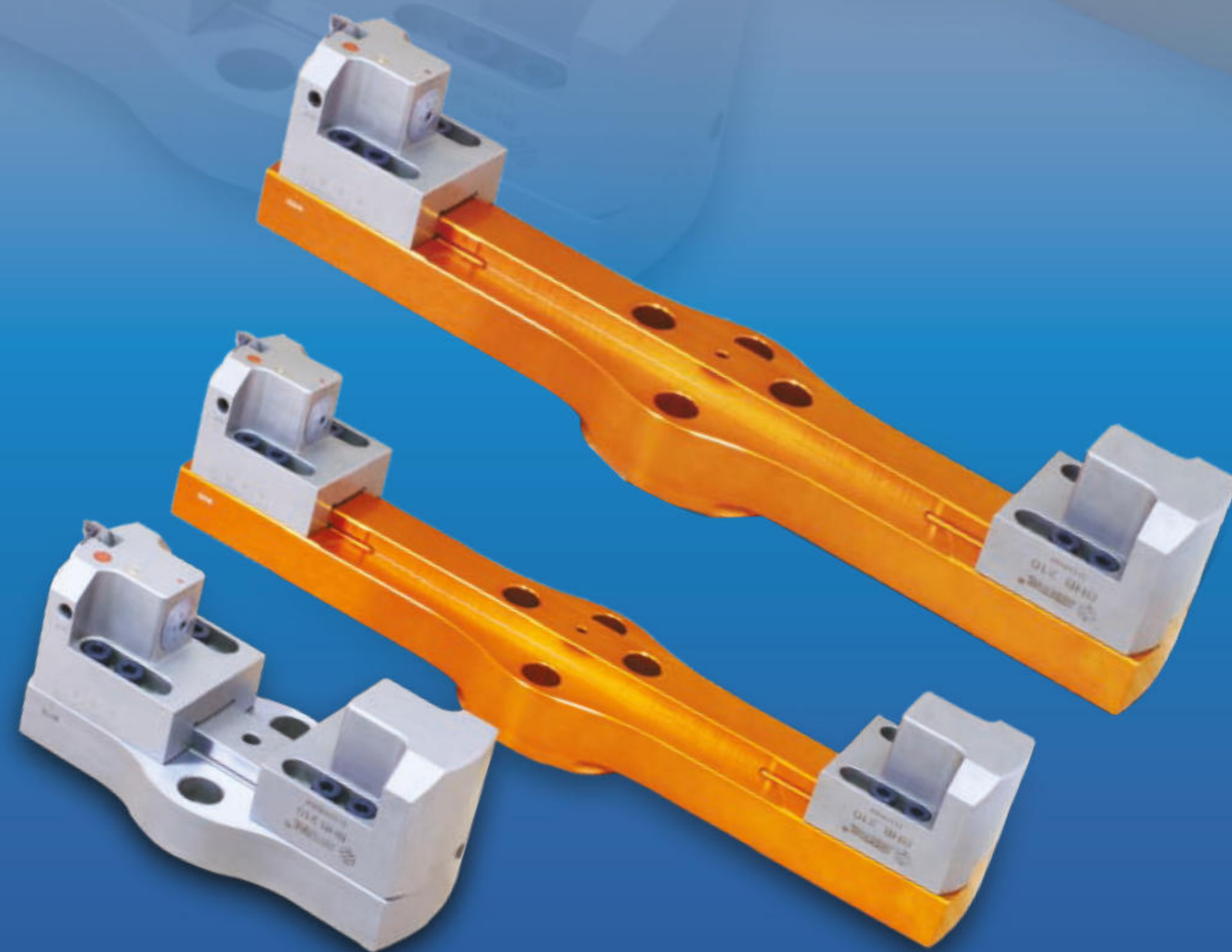
Please assemble the cartridge as its reverse direction, which is for back boring, and the back boring range is $\Phi 30 - \Phi 212$ and also with the same precision as the ordinary boring tool, but the tool should be rotated by the reverse direction when machining and the hole diameter D should meet the requirement of “ $D \geq (D_c + D_1)/2 + 1$ ”. It can effectively control the vibration when for the deep hole working due to the damping mechanism.



规格型号 Designation	Dc	d1	d2	L	L1	L2	l	Fig	Kg	精镗刀头 Cartridge
VBF D20.E50.130	30-36	20	50	107	147	21	16	A	1.0	FRB 10C...
VBF D25.E50.155	36-41 40-48	25	50	125	175	25	16	A	1.2	FRB 12B... FRB 12C...
VBF D32.E50.200	47-52 51-61	32	50	165	230	29	16	A	2.2	FRB 16B... FRB 16C...
VBF D40.E50.245	55-65 64-76	40	50	205	285	34	/	B	3.8	FRB 20B... FRB 20C...
VBF D50.E63.305	62-69 68-84 83-99	50	63	260	335	40	/	B	6.0	FRB 25A... FRB 25B... FRB 25C...
VBF D63.E63.385	80-100 98-130 128-160	63	63	335	/	46	/	C	8.9	FRB 30A... FRB 30B... FRB 30C...
VBF D80.E80.485	100-120 118-150 148-180	80	80	435	/	46	/	C	18.1	FRB 30A... FRB 30B... FRB 30C...
VBF D100.E80.485	112-152 130-182 160-212	100	80	435	/	46	/	D	18.4	FRB 30A... FRB 30B... FRB 30C...

- 精镗刀头需单独订购。
- 刀具具有内冷出水孔。
- 若出现减振能力下降时,建议维修保养。
- 订货示例: 1件VBF D20.E50.130
- The cartridge should be ordered separately.
- With coolant hole.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VBF D20.E50.130

阻尼减振桥式镗刀 Damping Rough Boring Tool with Bridge

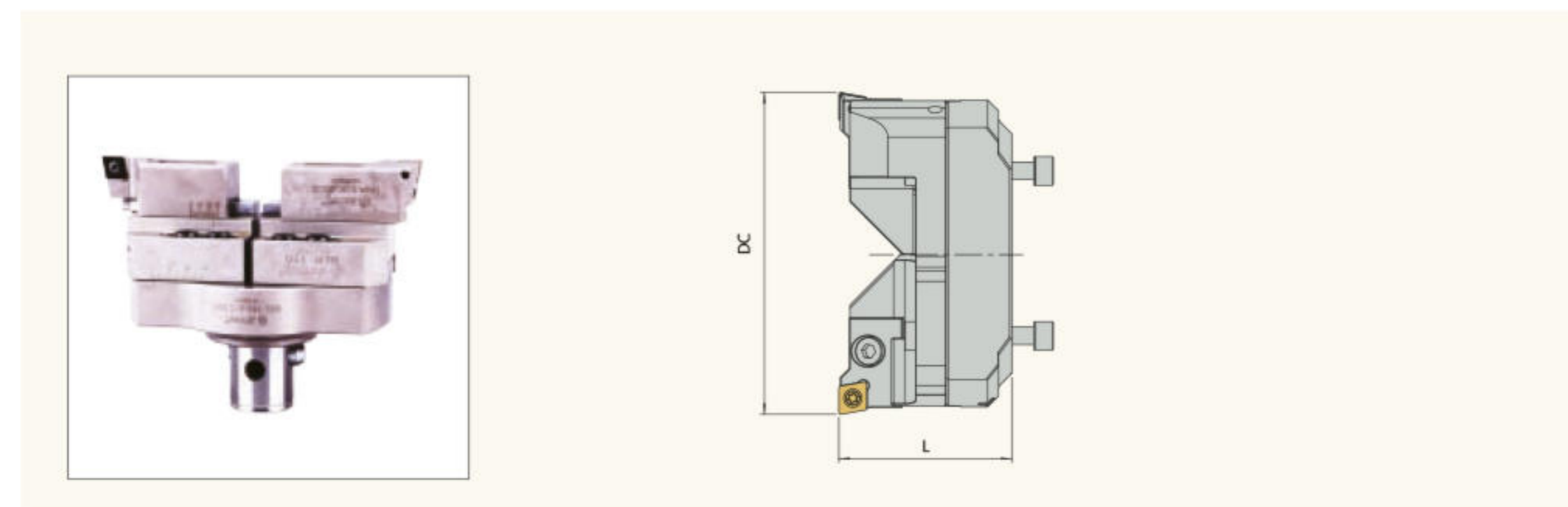


DAMPING TOOLS 阻尼减振刀具

VLR桥式阻尼减振粗镗刀

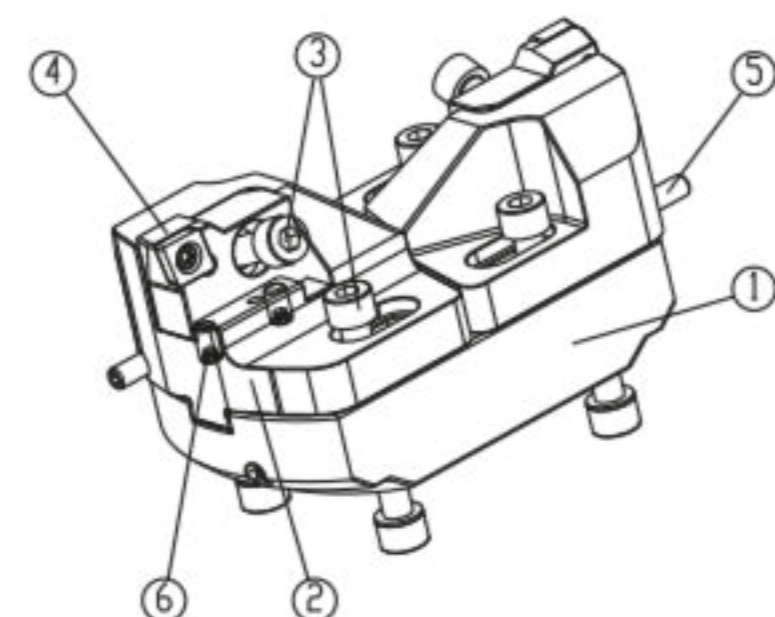
VLR Damping Rough Boring Tool with Bridge

适用于大孔加工的双刃桥式粗镗刀，加工范围Φ148-Φ300。
It is suitable for rough machining for large diameter hole, and the diameter range is Φ148-Φ300.



规格型号 Designation	Dc	L	手柄接口 Connection	Kg	适配刀座 Cartridge	在库 Stock
VLR D148-200	148-200	79	VNL32	2.99	V90A D148..	●
VLR D198-250	198-250	79	VNL32	3.25	V90A D148..	●
VLR D248-300	248-300	79	VNL32	3.51	V90A D148..	●

- 适配刀座需单独订购。
- 刀具有内冷出水孔。
- 订货示例：1件VLR D148-200
- The cartridge should be ordered separately.
- With coolant hole.
- Ordering sample: 1 PC VLR D148-200



备件 Spare Parts

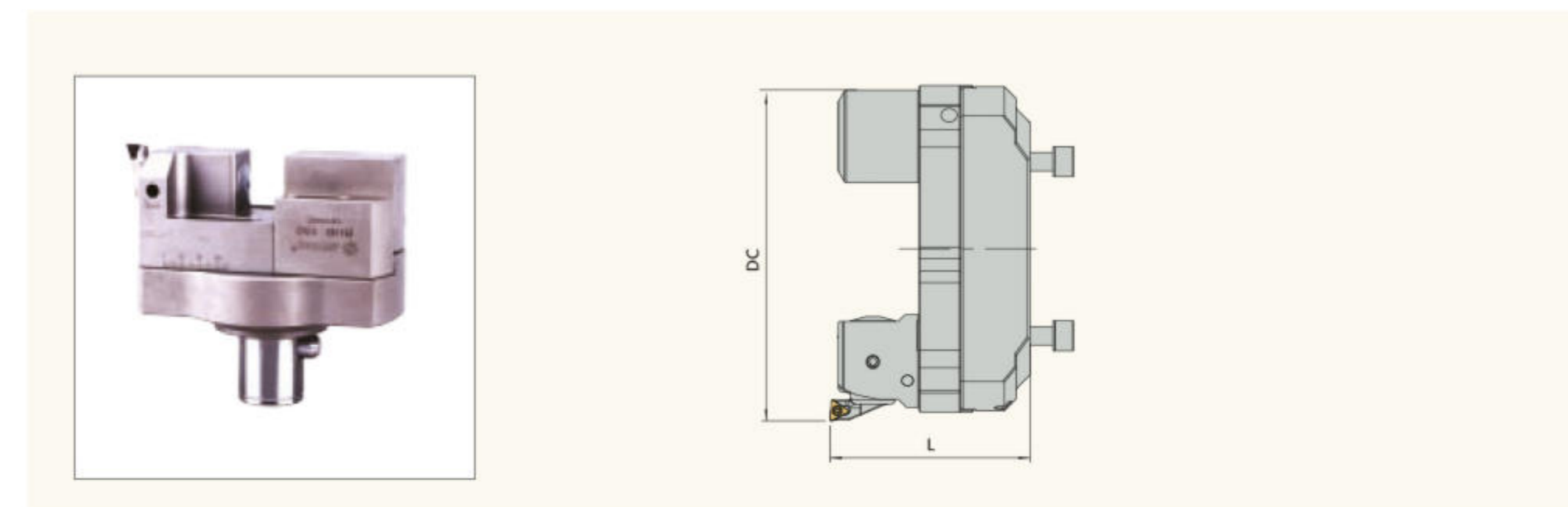
DC	①刀桥 Bridge	②滑块 Cartridge holder	③滑块锁紧螺钉 Clamping screw for cartridge holder	④刀座 Cartridge	⑤滑块调整螺钉 Adjusting screw for cartridge holder	⑥刀座调整螺钉 Adjusting screw for cartridge	滑块锁紧扳手 Allen key	刀座调整扳手 Allen key
148-200	VNL 148-200.AL	VLR 148 2件	SR55 M8x25 6件	V90A D148.CC12 2件	SR50 M6x20 2件	SR50 M6x10 4件	KEY01 M6	KEY01 M3
198-250	VNL 198-250.AL	VLR 148 2件	SR55 M8x25 6件	V90A D148.CC12 2件	SR50 M6x20 2件	SR50 M6x10 4件	KEY01 M6	KEY01 M3
248-300	VNL 248-300.AL	VLR 148 2件	SR55 M8x25 6件	V90A D148.CC12 2件	SR50 M6x20 2件	SR50 M6x10 4件	KEY01 M6	KEY01 M3

DAMPING TOOLS 阻尼减振刀具

VLF桥式阻尼减振微调精镗刀

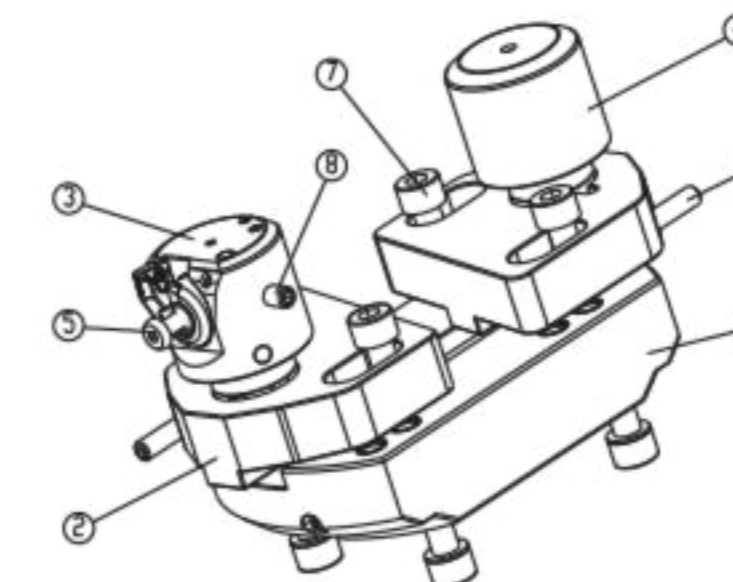
VLF Damping Precision Boring Tool with Bridge

适用于大孔加工的单刃桥式微调精镗刀，调整精度高，每格直径0.01mm，加工范围Φ148-Φ312。
It is suitable for the finish machining for large diameter hole, with high accuracy 0.01mm/dial. Diameter range is Φ148-Φ312.



规格型号 Designation	Dc	L	手柄接口 Connection	Kg	适配刀座 Cartridge	在库 Stock
VLF D148-212.AL	148-212	86.5	VNL32	2.02	FRB 20B..	●
VLF D198-262.AL	198-262	86.5	VNL32	2.28	FRB 20B..	●
VLF D248-312.AL	248-312	86.5	VNL32	2.54	FRB 20B..	●

- 适配刀座需单独订购。
- 刀具有内冷出水孔。
- 订货示例：1件VLF D148-212
- The cartridge should be ordered separately.
- With coolant hole.
- Ordering sample: 1 PC VLF D148-221.AL



备件 Spare Parts

DC	①刀桥 Bridge	②滑块 Cartridge holder	③精镗模块 Precision boring head	④配重模块 Balance block	⑤刀头锁紧螺钉 Clamping screw for cartridge	⑥滑块调整螺钉 Adjusting screw for cartridge holder	⑦滑块锁紧螺钉 Clamping screw for cartridge holder	⑧ LOCK 螺钉 LOCK screw
148-212	VNL 148-200.AL	VLF 148.AL 2件	VLF D40.CD25.35 1件	VHB 40 1件	SR56 M5x12 1件	SR50 M6x20 2件	SR55 M8x25 4件	SR54 M6x10 1件
198-262	VNL 198-250.AL	VLF 148.AL 2件	VLF D40.CD25.35 1件	VHB 40 1件	SR56 M5x12 1件	SR50 M6x20 2件	SR55 M8x25 4件	SR54 M6x10 1件
248-312	VNL 248-300.AL	VLF 148.AL 2件	VLF D40.CD25.35 1件	VHB 40 1件	SR56 M5x12 1件	SR50 M6x20 2件	SR55 M8x25 4件	SR54 M6x10 1件

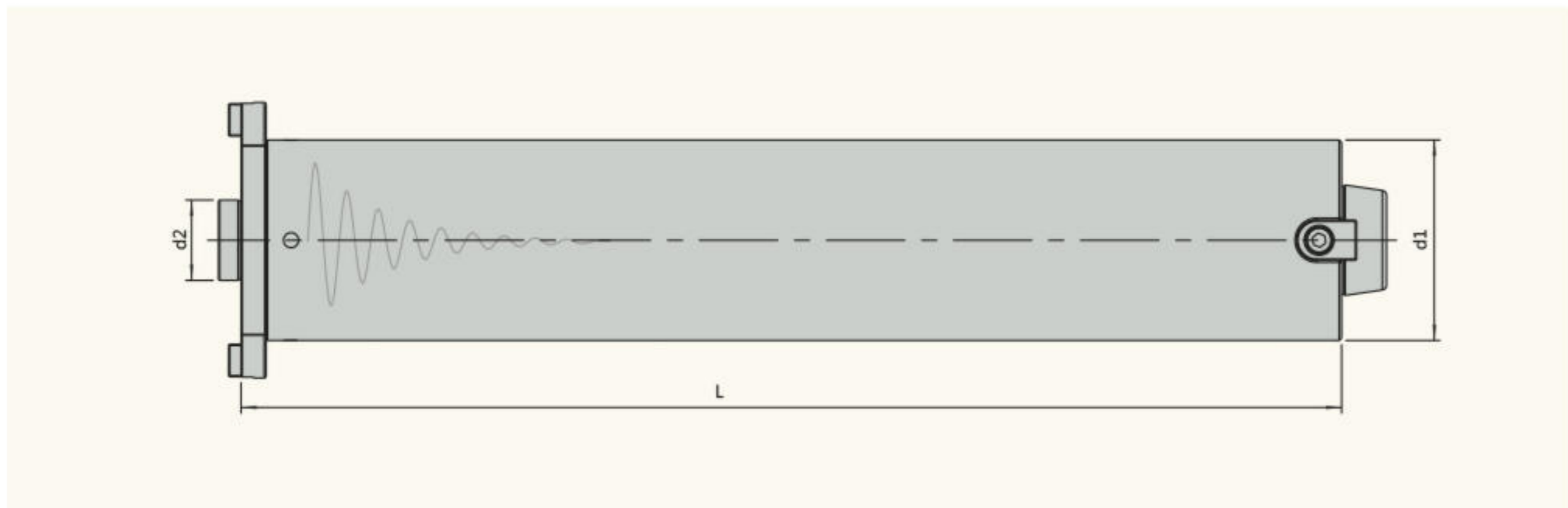
备件 Spare parts	螺钉扳手 Allen key
SR56 M5x12	KEY01 M3
SR54 M6x10	KEY01 M3
SR50 M6x20	KEY01 M3
SR55 M8x25	KEY01 M6

DAMPING TOOLS 阻尼减振刀具

VNL桥式阻尼减振镗刀接杆

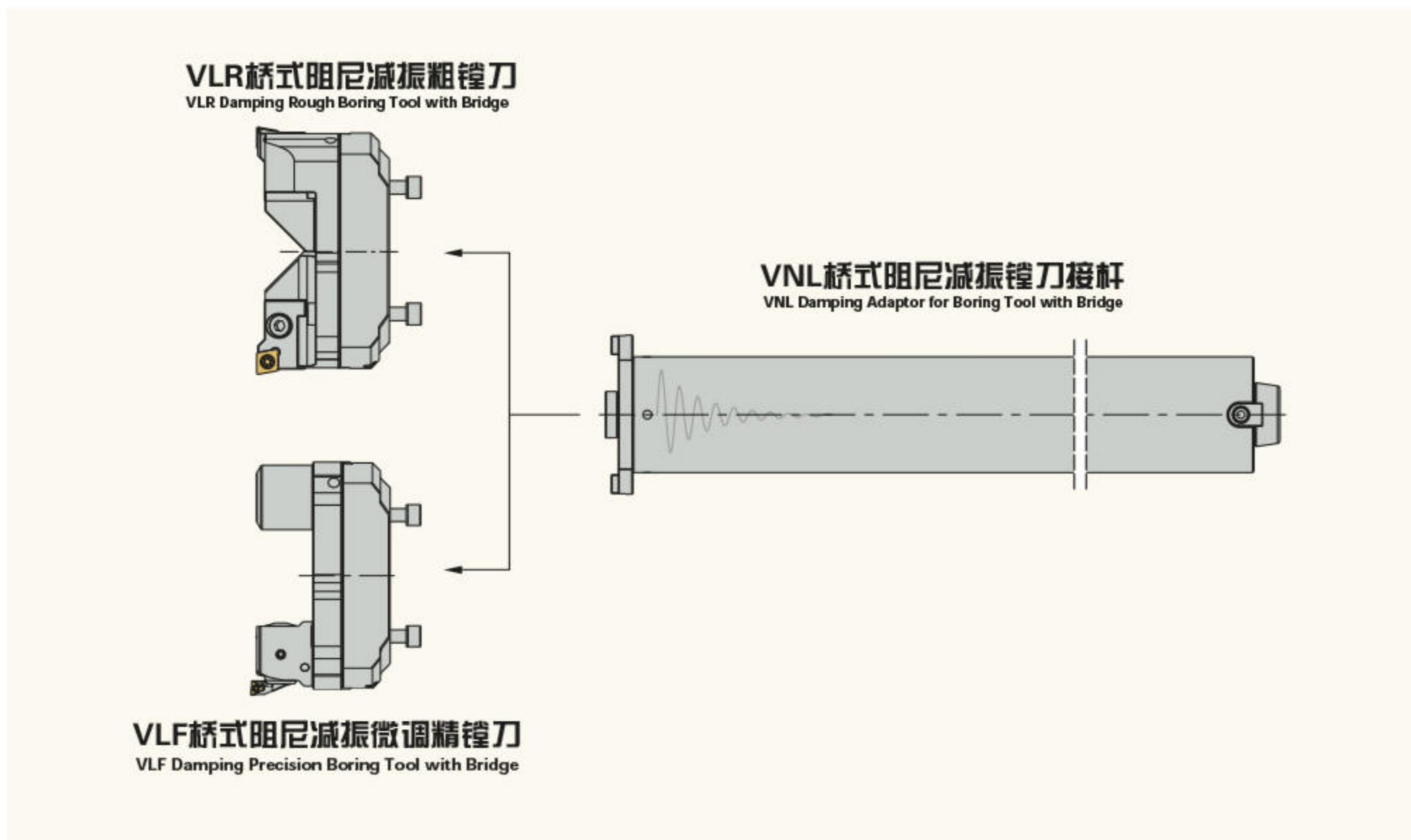
VNL Damping Adaptor for Boring Tool with Bridge

桥式减振镗刀专用接杆，内置减振机构，可有效抑制深孔加工时所产生的振动。
It can effectively control the vibration when for the deep hole working due to the damping mechanism.



规格型号 Designation	d1	d2	L	Kg	平键 Flat key	在库 Stock
VNL32 D80.E80.440	80	32	440	16.05	PL04 12X10	●

- 刀杆有内冷出水孔。
- 订货示例：1件VNL32 D80.E80.440
- With coolant hole.
- Ordering sample: 1 PC VNL32 D80.E80.440.



阻尼减振车刀杆 Damping Turning Tool Holder





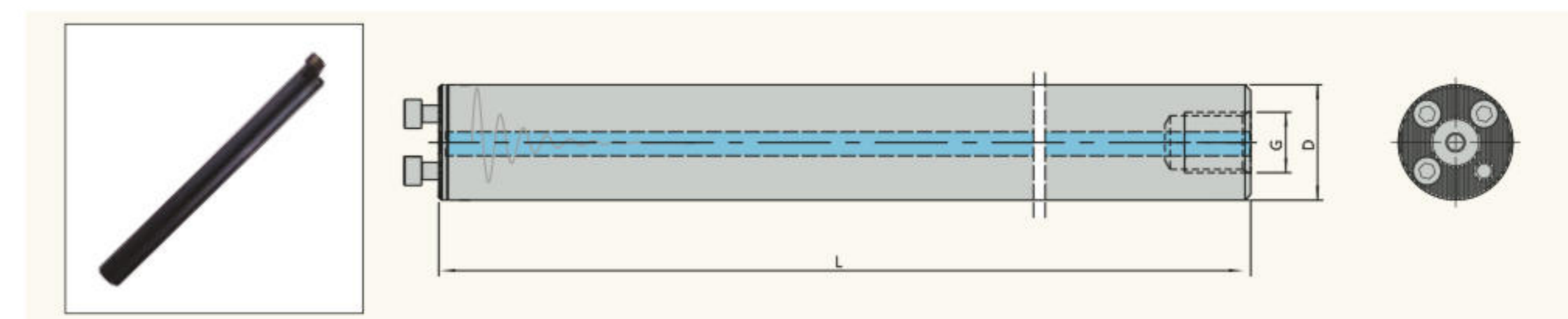
DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀杆

Damping Turning Tool Holder

阻尼减振车刀

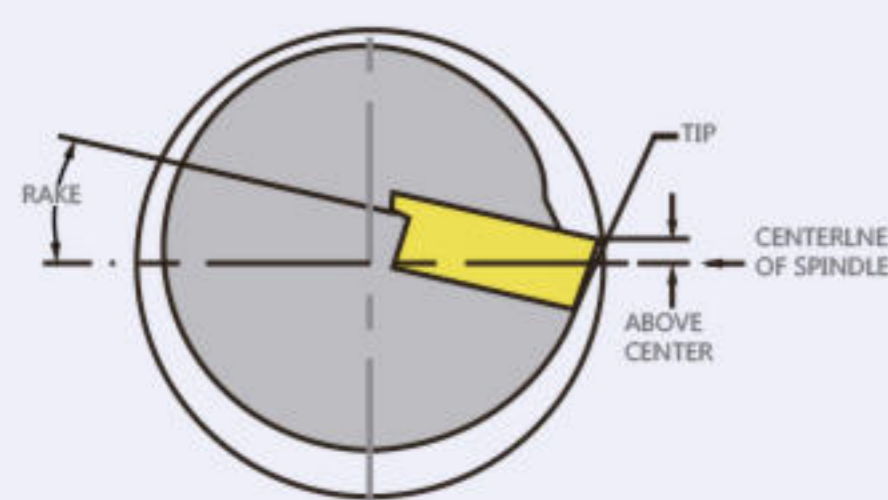
Damping Turning Tool



规格型号 Designation	D	L	G	Kg	适配缩径头 Reducing head	适配刀头 Cartridge	在库 Stock
VT16 C16x156V	16	156	G1/8"	0.2	/	VT16..	•
VT16 C16x204VE	16	204	/	0.5	/	VT16..	•
VT20 C20x200V	20	200	G1/4"	0.4	/	VT20..	•
VT20 C20x260VE	20	260	/	0.8	/	VT20..	•
VT25 C25x255V	25	255	G1/4"	1.0	/	VT25..	•
VT25 C25x330V	25	330	G1/4"	1.3	/	VT25..	•
VT32 C32x320V	32	320	G3/8"	2.1	/	VT32..	•
VT32 C32x416V	32	416	G3/8"	2.8	/	VT32..	•
VT40 C40x408V	40	408	G1/2"	4.6	/	VT40..	•
VT40 C40x528V	40	528	G1/2"	5.3	/	VT40..	•
VT50 C50x518V	50	518	G1/2"	7.2	RE VT50-VT32	VT32..	•
VT50 C50x668V	50	668	G1/2"	9.3	RE VT50-VT40	VT40..	•
VT60 C60x628V	60	628	G3/4"	12.5		VT40..	•
VT60 C60x808V	60	808	G3/4"	16.3	RE VT60-VT40	VT40..	•

- 推荐最小夹紧长度为4xD.
- 刀杆有内冷出水孔.
- 适配刀头需单独订购.
- 适配缩径头需单独订购.
- 若出现减振性能下降时, 建议维修保养.
- 订货示例: 1件VT16 C16x156V.
- Suggested min. length is 4XD.
- With coolant hole.
- The cartridge should be ordered separately.
- The reducing head should be ordered separately.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VT16 C16x156V.

刀尖设置 Tool Nose Set



由于切削过程中刀片受力, 刀杆会出现向下偏斜, 可使用DEVI中心线设置数值表调整刀片 (刀杆) 中心高度, 以补偿切削中因受力产生的偏斜

Since the process of cutting insert by force, there will be downward deflection Arbor, DEVI can be used to adjust the insert centerline table of values (Arbor) Center height to compensate for cutting forces generated due to deflection

为获得最佳刀杆切削性能和加工质量

- 1.采用所允许的最大直径刀杆。
- 2.正确设置刀杆悬伸比。
- 3.保证使用开槽抱紧方式夹持刀杆。
- 4.使用正前角、后角刀片。
- 5.使用刀尖半径小且带有断屑结构的刀片。
- 6.正确设置刀片高度。
- 7.使切削厚度低于标准切削厚度的20%到50%。
- 8.使进给速度高于标准进给速度的10%到50%。
- 9.使主轴转速高于标准主轴转速的10%到30%。
- 10.通过综合调整主轴转速、切削厚度、进给速度、刀片形状和断屑结构, 以使产生较小的切屑。
- 11.如果不能及时排出切屑, 则可能破坏已加工表面质量、刀片切削刃和刀杆。
- 12.使用高压切削液、气以便及时排出切屑。
- 13.刀杆减振性能下降时, 建议维修保养。

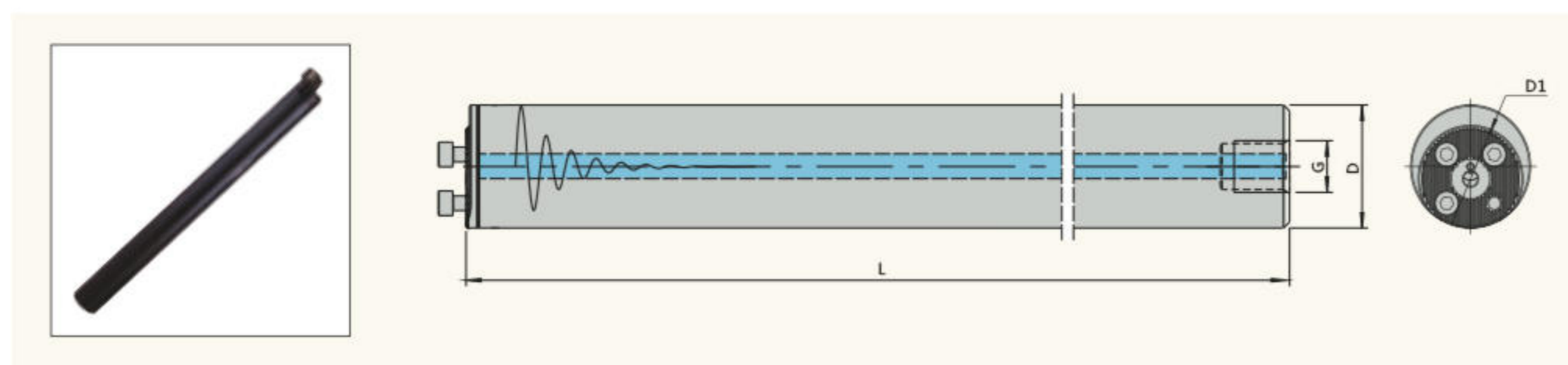
For optimum processing quality and performance

1. Using the maximum diameter shank.
2. The correct settings of overhang ratio.
3. To ensure use the way of "slotting surrounded" clamping holder.
4. Use positive rake angle, back angle insert.
5. Use the small nose radius insert and with chip breaking structure.
6. Set the correct height.
7. The cutting thickness is lower 20% to 50% of the standard thickness.
8. the feed rate higher than the standard feed rate of 10% to 50%.
9. The spindle rate is higher 10% to 30% of the standard
10. The comprehensive adjustment spindle, cutting depth, feed rate, Insert shape and structure, so as to produce smaller chips.
11. If the chip can not be discharged, it may damage the machined Surface quality, cutting edge and holders.
12. The use of high pressure coolant to break chips.
13. when the anti-vibration performance is not good, re-tuning Arbor.

DAMPING TOOLS 阻尼减振刀具

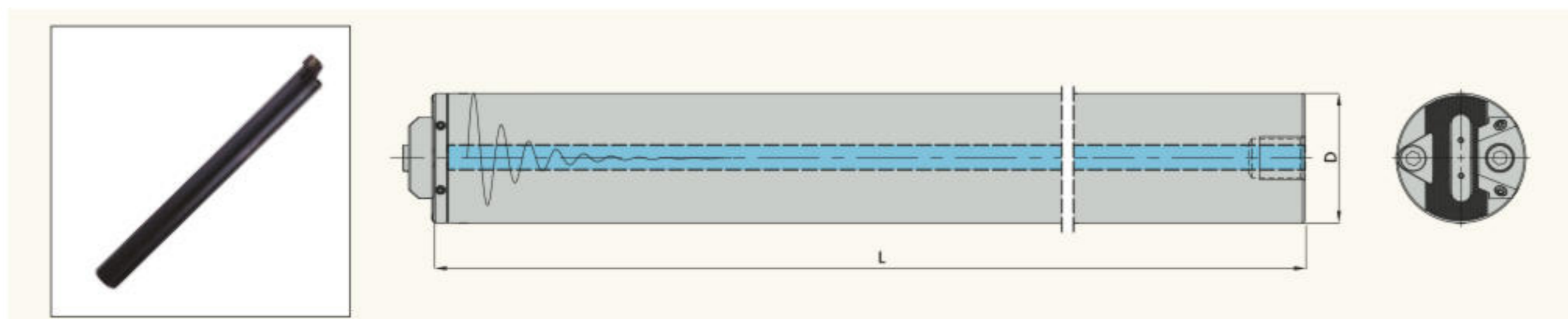
阻尼减振车刀杆

Damping Turning Tool Holder



规格型号 Designation	D	D1	L	G	Kg	适配刀头 Cartridge	在庫 Stock
VT40 C50x518V	50	40	518	G1/2"	7.2	VT40..	●
VT40 C50x668V	50	40	668	G1/2"	9.3	VT40..	●
VT40 C60x628V	60	40	628	G3/4"	12.5	VT40..	●
VT40 C60x808V	60	40	808	G3/4"	16.3	VT40..	●

- 推荐最小夹紧长度为4xD。
- 刀杆有内冷出水孔。
- 适配刀头需单独订购。
- 若出现减振性能下降时，建议维修保养。
- 订货示例：1件VT40 C50x518V。
- Suggested min. length is 4xD.
- With coolant hole.
- The cartridge should be ordered separately.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VT40 C50x518V.



规格型号 Designation	D	L	G	Kg	适配刀头 Cartridge	在庫 Stock
VH80 C80x880V	80	880	G3/4"	31.8	VH80..	●
VH80 C80x1200V	80	1200	G3/4"	52.3	VH80..	●

- 推荐最小夹紧长度为4xD。
- 刀杆有内冷出水孔。
- 适配刀头需单独订购。
- 若出现减振性能下降时，建议维修保养。
- 订货示例：1件VT40 C50x518V。
- Ordering sample: 1 PC VH800 C80x880V.
- Suggested min. length is 4xD.
- With coolant hole.
- The cartridge should be ordered separately.
- Suggest to do the maintenance when damping capacity is weaker than before.
- Ordering sample: 1 PC VH800 C80x880V.

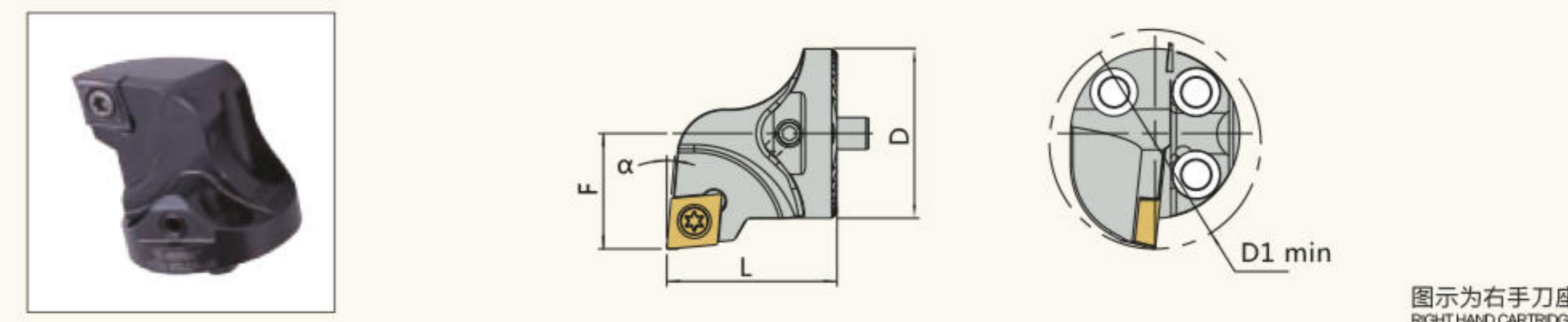
● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

正型95°正镗 Positive type 95° boring

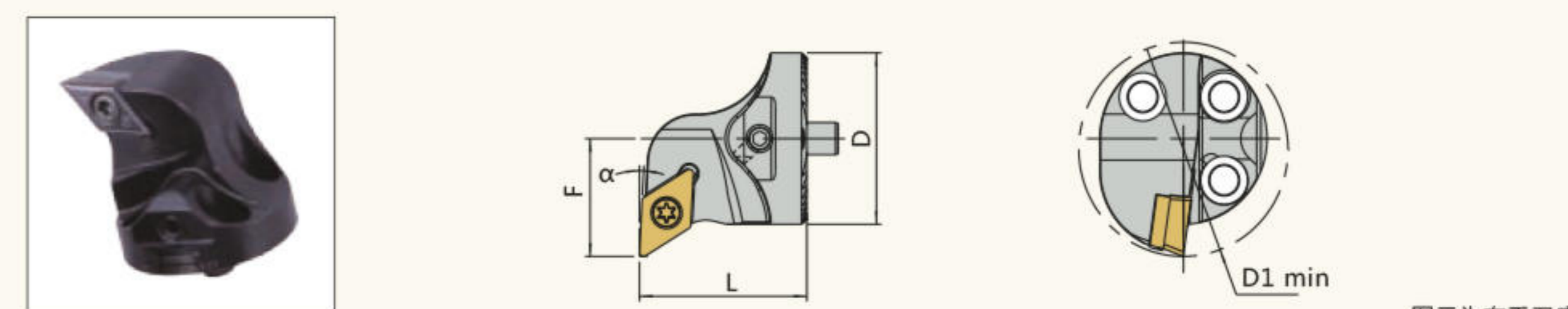


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VT16 SCLCR-06	16	20	11	20	5°	0.02	CC..0602..	●
VT20 SCLCR-09	20	25	13	20	5°	0.03	CC..09T3..	●
VT25 SCLCR-09	25	32	17	22	5°	0.04	CC..09T3..	●
VT32 SCLCR-09	30	40	22	32	5°	0.1	CC..09T3..	●
VT40 SCLCR-12T	40	50	27	38	5°	0.2	CC..1204..	●
VT16 SCLCL-06	16	20	11	20	5°	0.02	CC..0602..	●
VT20 SCLCL-09	20	25	13	20	5°	0.03	CC..09T3..	●
VT25 SCLCL-09	25	32	17	22	5°	0.04	CC..09T3..	●
VT32 SCLCL-09	30	40	22	32	5°	0.1	CC..09T3..	●
VT40 SCLCL-12T	40	50	27	38	5°	0.2	CC..1204..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT16 SCLCR-06。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT16 SCLCR-06.

正型93°正镗 Positive type 93° boring



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VT16 SDUCR-07	16	20	11	20	3°	0.02	DC..0702..	●
VT20 SDUCR-11	20	25	13	20	3°	0.03	DC..11T3..	●
VT25 SDUCR-11	25	32	17	22	3°	0.04	DC..11T3..	●
VT32 SDUCR-11T	30	40	22	32	3°	0.1	DC..11T3..	●
VT40 SDUCR-11T	40	50	27	38	3°	0.2	DC..11T3..	●
VT16 SDUCL-07	16	20	11	20	3°	0.02	DC..0702..	●
VT20 SDUCL-11	20	25	13	20	3°	0.03	DC..11T3..	●
VT25 SDUCL-11	25	32	17	22	3°	0.04	DC..11T3..	●
VT32 SDUCL-11T	30	40	22	32	3°	0.1	DC..11T3..	●
VT40 SDUCL-11T	40	50	27	38	3°	0.2	DC..11T3..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT16 SDUCR-07。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT16 SDUCR-07.

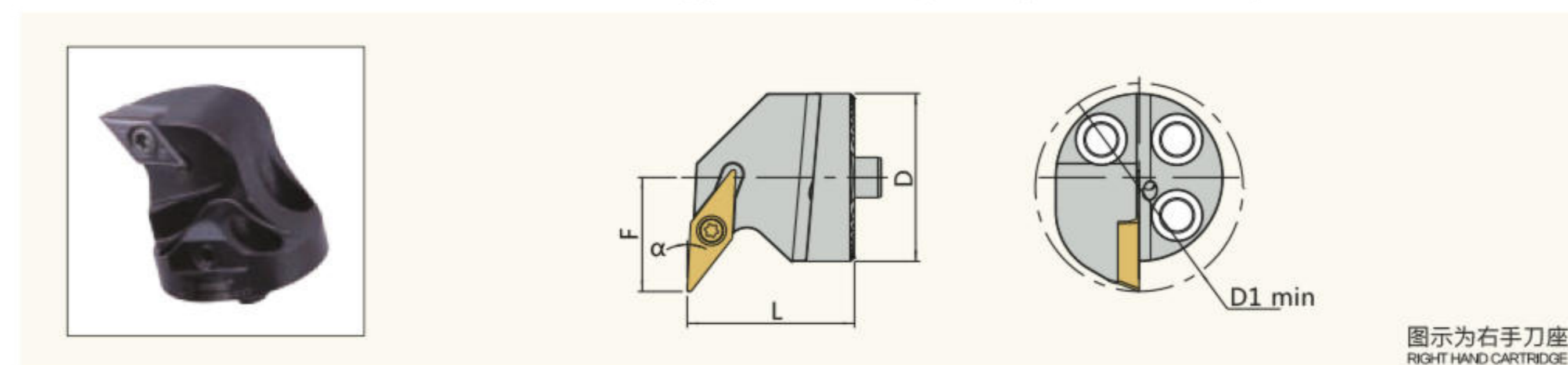
● 标准库存 Item in stock
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DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

正型93°正镗及仿形车 Positive type 93° boring and profile-turning

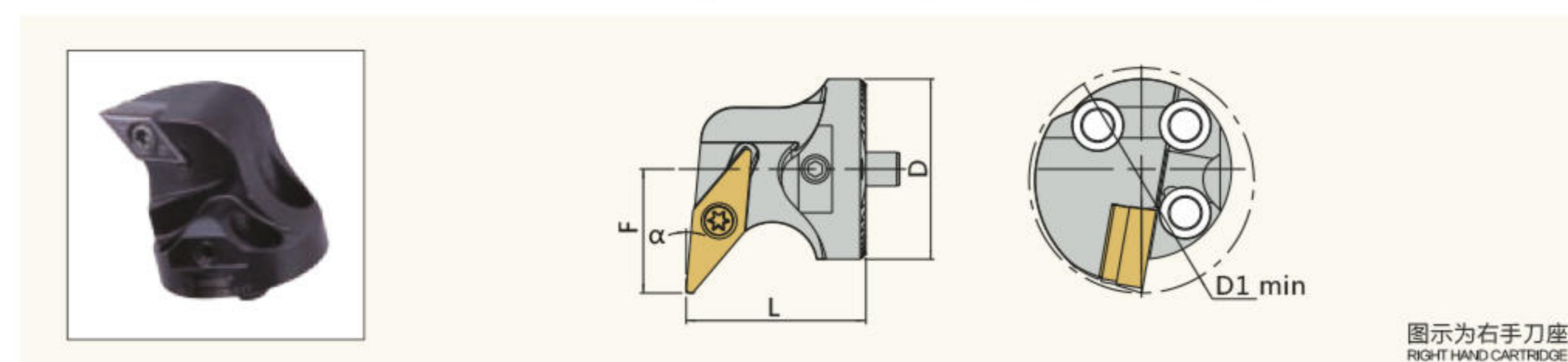


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在库 Stock
VT20 SVUCR-11	20	27	16	20	3°	0.02	VC.. 1103..	●
VT25 SVUCR-11	25	31	17	25	3°	0.04	VC.. 1103..	●
VT20 SVUCL-11	20	27	16	20	3°	0.02	VC.. 1103..	●
VT25 SVUCL-11	25	31	17	25	3°	0.04	VC.. 1103..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT20 SVUCR-11。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT20 SVUCR-11.

正型95°正镗及仿形车 Positive type 95° boring and profile-turning



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在库 Stock
VT32 SVLCR-16T	32	40	22	32	5°	0.1	VC.. 1604..	●
VT40 SVLCR-16T	40	50	27	32	5°	0.15	VC.. 1604..	●
VT32 SVLCL-16T	32	40	22	32	5°	0.1	VC.. 1604..	●
VT40 SVLCL-16T	40	50	27	32	5°	0.15	VC.. 1604..	●

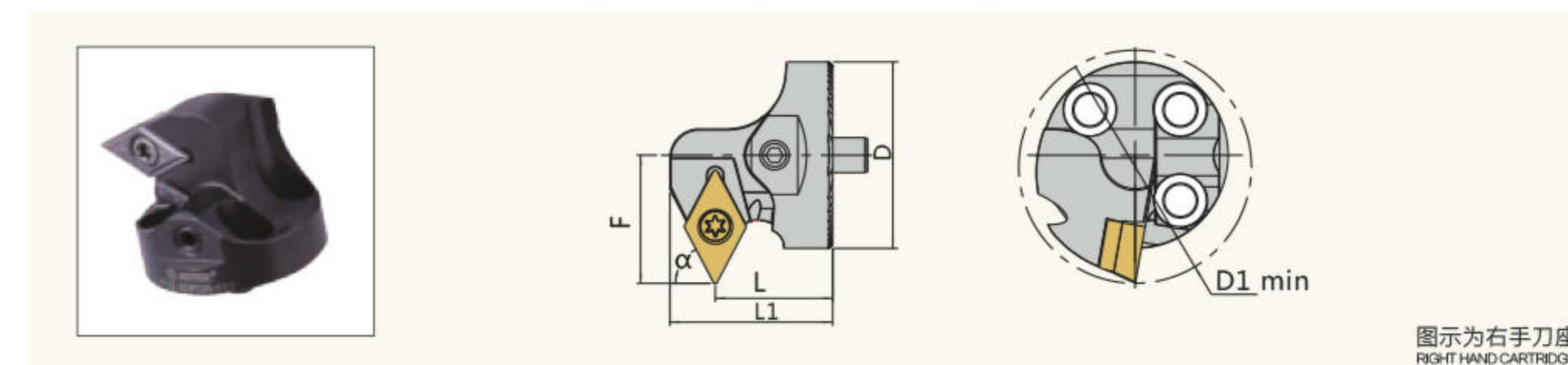
- 刀片请根据不同材料单独订购。
- 订货示例：1件VT32 SVLCR-16T。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT32 SVLCR-16T.

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

正型62.5°仿形车 Positive type 62.5° profile-turning

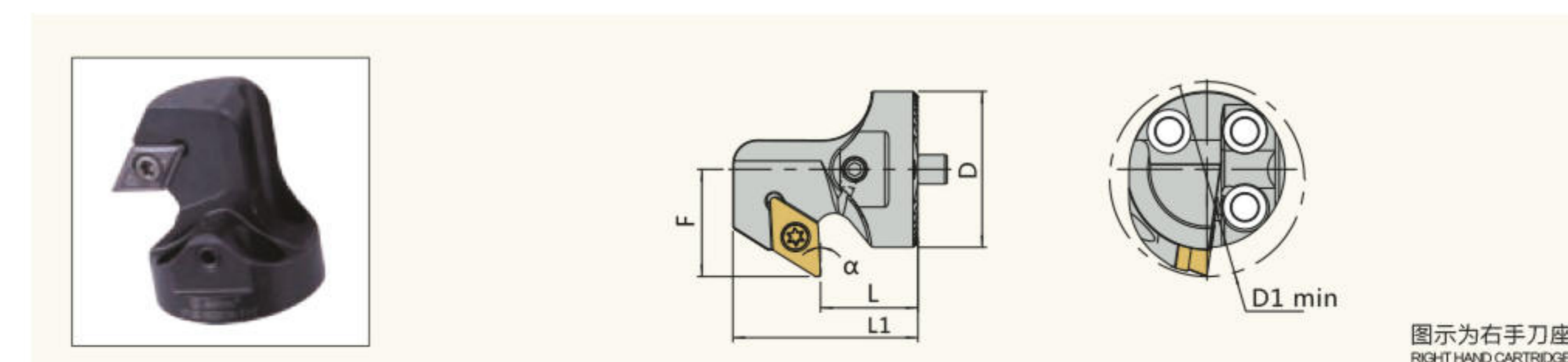


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在库 Stock
VT16 SDPCR-07	16	22	13	15	19	62.5°	0.01	DC.. 0702..	●
VT20 SDPCR-07	20	27	15	15	19	62.5°	0.02	DC.. 0702..	●
VT25 SDPCR-07	25	33	18	15	19	62.5°	0.03	DC.. 0702..	●
VT32 SDPCR-11T	32	40	22	20	28	62.5°	0.09	DC.. 11T3..	●
VT40 SDPCR-11T	40	50	27	20	28	62.5°	0.14	DC.. 11T3..	●
VT16 SDPCL-07	16	22	13	15	19	62.5°	0.01	DC.. 0702..	●
VT20 SDPCL-07	20	27	15	15	19	62.5°	0.02	DC.. 0702..	●
VT25 SDPCL-07	25	33	18	15	19	62.5°	0.03	DC.. 0702..	●
VT32 SDPCL-11T	32	40	22	20	28	62.5°	0.09	DC.. 11T3..	●
VT40 SDPCL-11T	40	50	27	20	28	62.5°	0.14	DC.. 11T3..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT16 SDPCR-07。
- Ordering sample: 1 PC VT16 SDZCR-07.
- The insert should be ordered separately.

正型93°反镗 Positive type 93° back boring and profile-turning



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在库 Stock
VT16 SDZCR-07	16	22	13	15	27	3°	0.03	DC.. 0702..	●
VT20 SDZCR-07	20	27	15	15	27	3°	0.05	DC.. 0702..	●
VT25 SDZCR-07	25	33	18	15	27	3°	0.12	DC.. 0702..	●
VT32 SDZCR-11T	30	40	22	20	38	3°	0.14	DC.. 11T3..	●
VT40 SDZCR-11T	40	50	27	20	38	3°	0.19	DC.. 11T3..	●
VT16 SDZCL-07	16	22	13	15	27	3°	0.03	DC.. 0702..	●
VT20 SDZCL-07	20	27	15	15	27	3°	0.05	DC.. 0702..	●
VT25 SDZCL-07	25	33	18	15	27	3°	0.12	DC.. 0702..	●
VT32 SDZCL-11T	30	40	22	20	38	3°	0.14	DC.. 11T3..	●
VT40 SDZCL-11T	40	50	27	20	38	3°	0.19	DC.. 11T3..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT16 SDZCR-07。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT16 SDZCR-07.

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

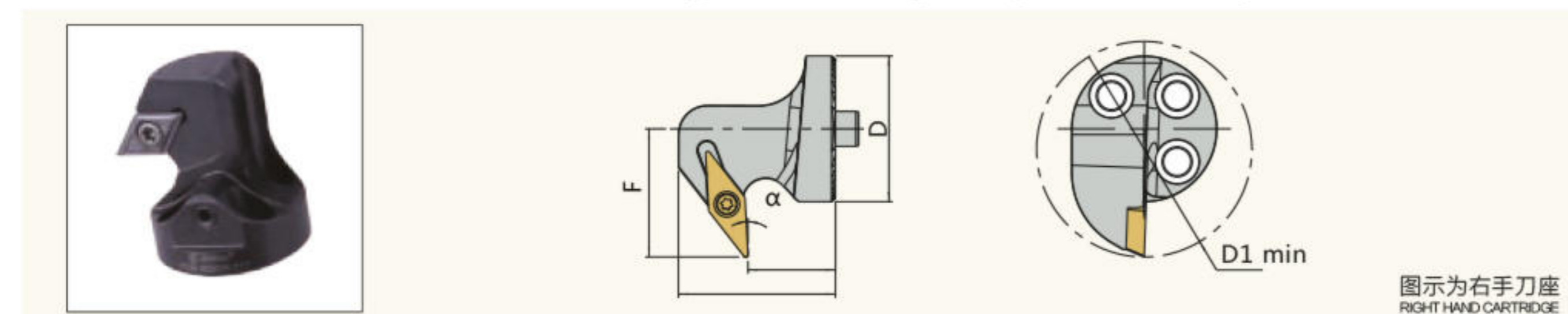
● 标准库存 Item in stock
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DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

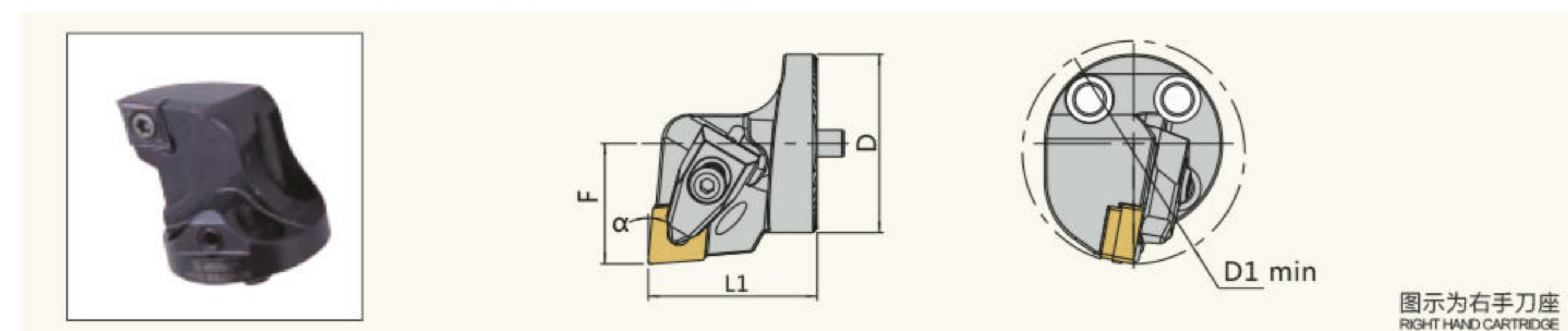
正型93°反镗及仿形车 Positive type 93° boring and profile-turning



规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在庫 Stock
VT20 SVZCR-11	20	32	20	15	27	3°	0.03	VC.. 1103..	●
VT25 SVZCR-11	25	37	22	15	27	3°	0.05	VC.. 1103..	●
VT20 SVZCL-11	20	32	20	15	27	3°	0.03	VC.. 1103..	●
VT25 SVZCL-11	25	37	22	15	27	3°	0.05	VC.. 1103..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT20 SVZCR-11。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT20 SVZCR-11.

负型95°正镗 Negative type 95° boring



规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VT32 DCLNR-12T	32	40	22	38	5°	0.12	CN.. 1204..	●
VT40 DCLNR-12T	40	50	27	38	5°	0.21	CN.. 1204..	●
VT32 DCLNL-12T	32	40	22	38	5°	0.12	CN.. 1204..	●
VT40 DCLNL-12T	40	50	27	38	5°	0.21	CN.. 1204..	●

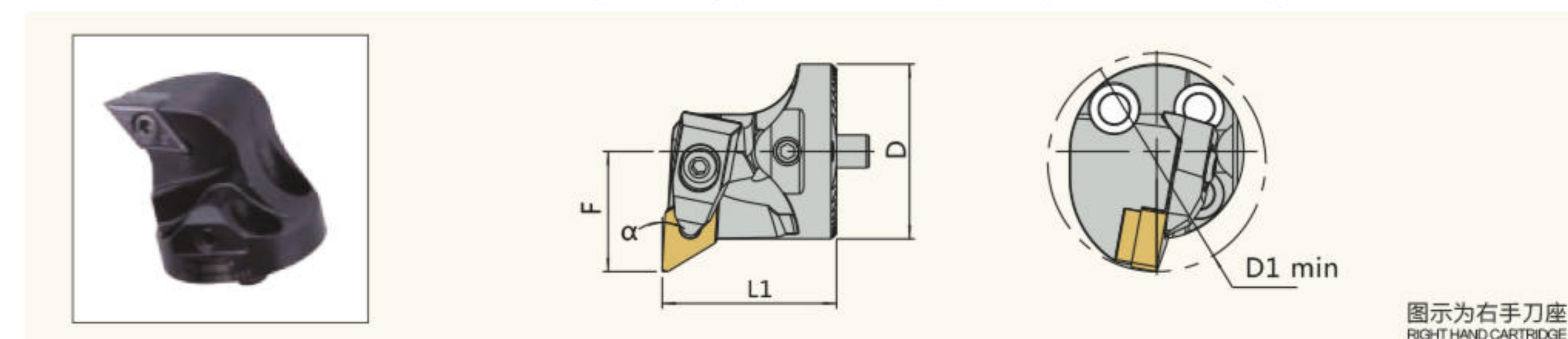
- 刀片请根据不同材料单独订购。
- 订货示例：1件VT32 DCLNR-12T。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT20 SVZCR-11.

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

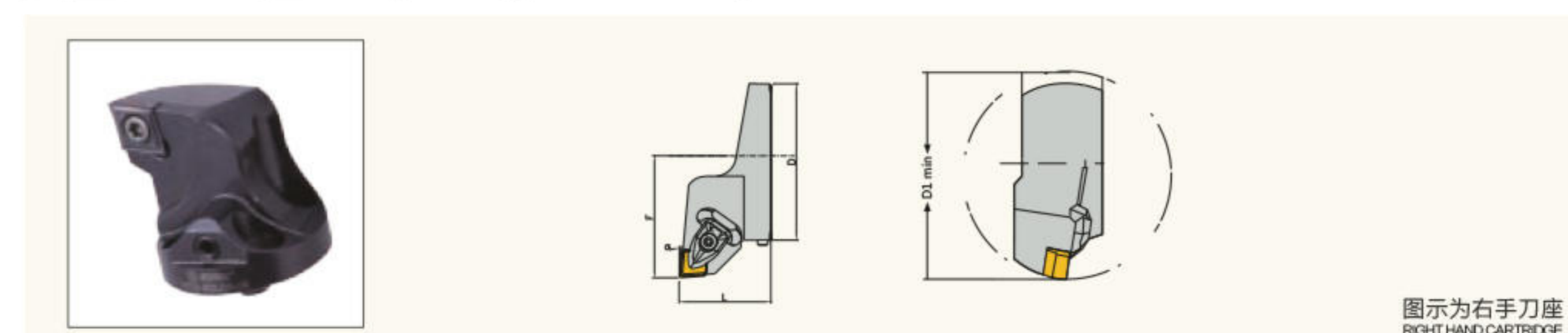
负型93°正镗及仿形车 Negative type 93° boring and profile-turning



规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VT32 DDUNL-11T	32	40	22	32	3°	0.11	DN.. 1104..	●
VT40 DDUNL-15T	40	50	27	32	3°	0.18	DN.. 1506..	●
VT32 DDUNR-11T	32	40	22	32	3°	0.11	DN.. 1104..	●
VT40 DDUNR-15T	40	50	27	32	3°	0.18	DN.. 1506..	●
VT40 DVUNR-16T	40	52	30	36	3°	0.2	VN.. 1604..	●
VT40 DVUNL-16T	40	52	30	36	3°	0.2	VN.. 1604..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VT32 DDUNR-11T。
- The insert should be ordered separately.
- Ordering sample: 1 PC VT32 DDUNR-11T.

负型95°正镗 Negative type 95° boring



规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 DCLNR-12T	80	100	57	45	5°	0.49	CN.. 1204..	●
VH80 DCLNL-12T	80	100	57	45	5°	0.49	CN.. 1204..	●

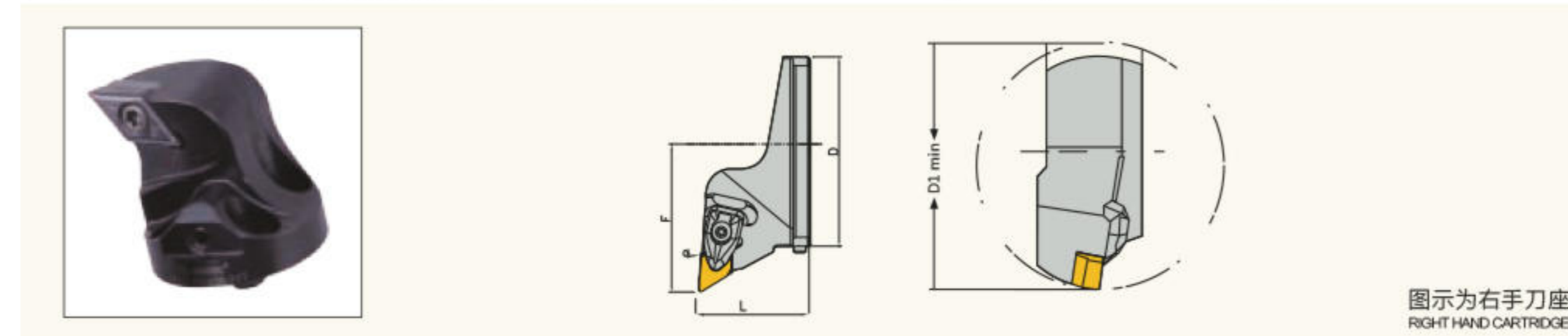
- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 DCLNR-12T。
- The insert should be ordered separately.
- Ordering sample: 1 PC VH80 DCLNR-12T.

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

负型93°正镗及仿形车 Negative type 93° boring and profile-turning

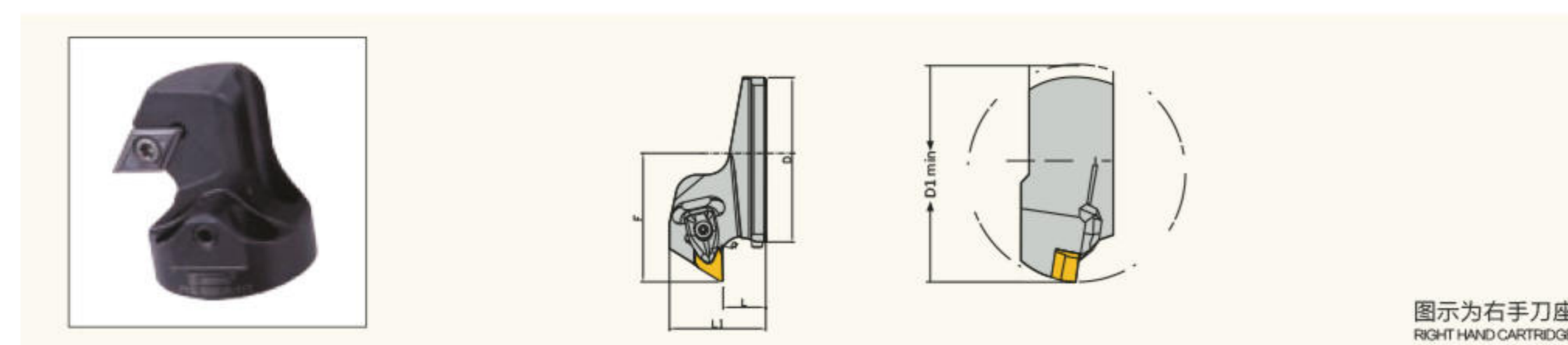


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 DDUNL-15T	80	100	57	45	3°	0.5	DN.. 1506..	●
VH80 DDUNR-15T	80	100	57	45	3°	0.5	DN.. 1506..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 DDUNR-15T
- The insert should be ordered separately.
- Ordering sample: 1 PC VH80 DDUNR-15T.

负型93°反镗及仿形车 Negative type 93°back boring and profile-turning



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 DDZNR-15T	80	100	57	20	45	3°	0.55	DN.. 1506..	●
VH80 DDZNL-15T	80	100	57	20	45	3°	0.55	DN.. 1506..	●

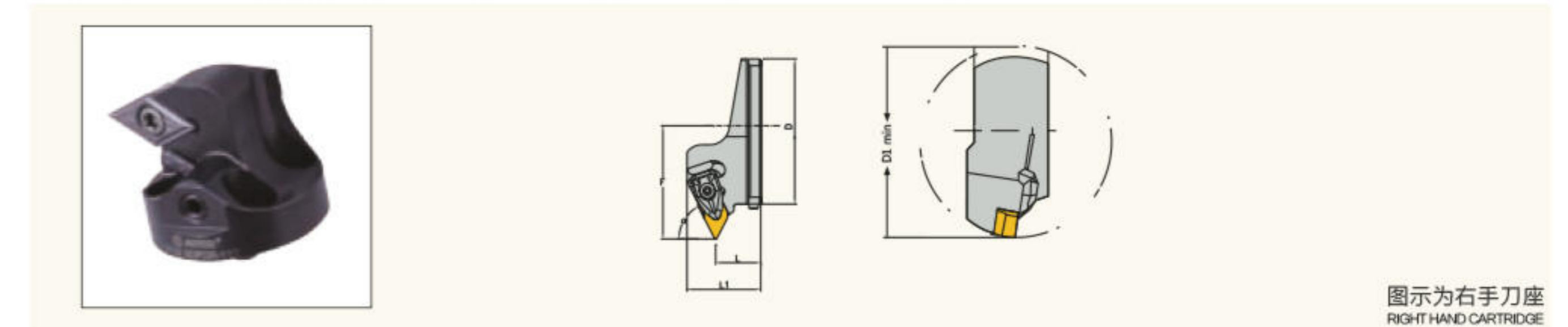
- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 DDZNR-15T
- Ordering sample: 1 PC VH80 DDZNR-15T.
- The insert should be ordered separately.

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

负型62.5°仿形车 Negative type 93° profile-turning

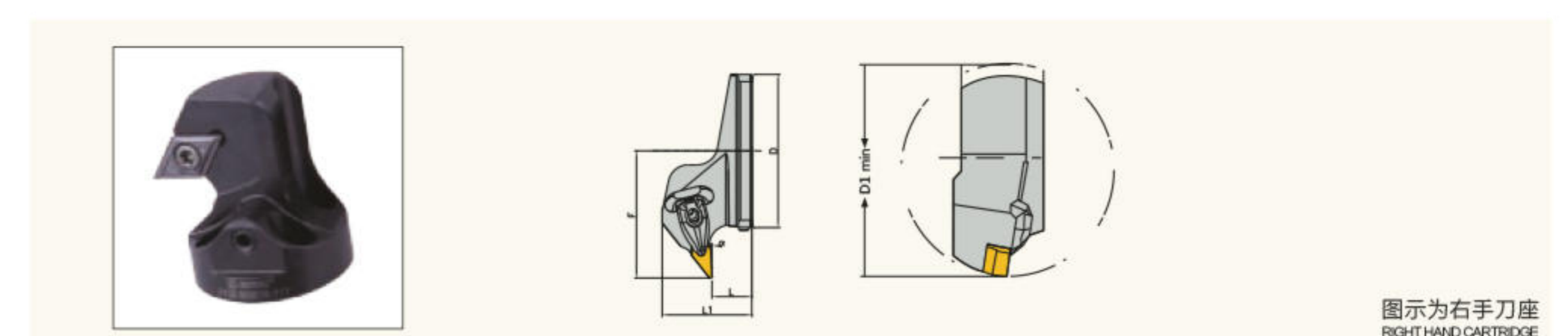


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 DDPNR-15T	80	100	57	25	40.3	62.5°	0.49	DN.. 1506..	●
VH80 DDPNL-15T	80	100	57	25	40.3	62.5°	0.49	DN.. 1506..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 DDPNR-15T.
- The insert should be ordered separately.
- Ordering sample: 1 PC VH80 DDPNR-15T.

负型93°反镗及仿形车 Negative type 93°back boring and profile-turning



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	L1	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 DVZNR-16T	80	100	64	20	45	3°	0.49	VN.. 1604..	●
VH80 DVZNL-16T	80	100	64	20	45	3°	0.49	VN.. 1604..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 DVZNR-16T
- Ordering sample: 1 PC VH80 DVZNR-15T.
- The insert should be ordered separately.

● 标准库存 Item in stock
● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

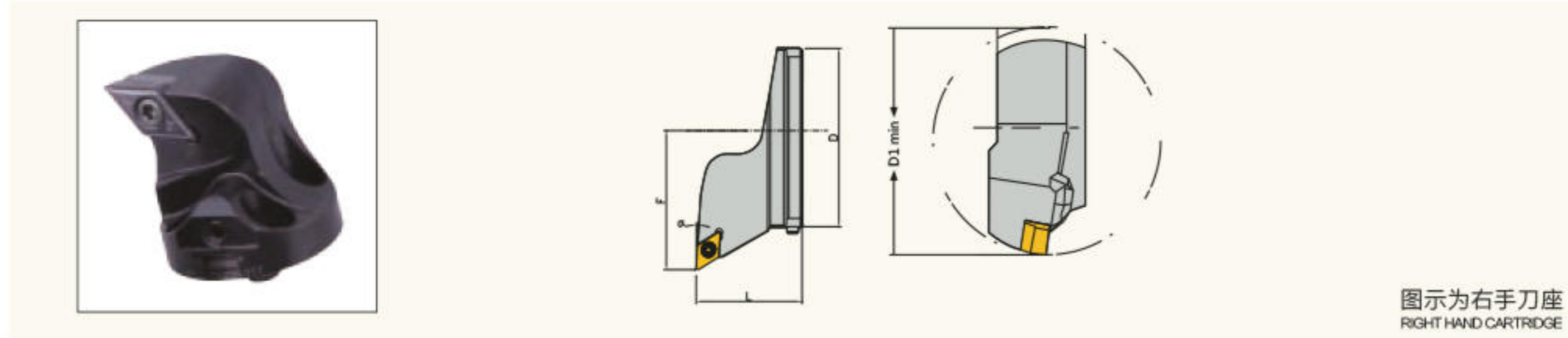
● 标准库存 Item in stock
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○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

DAMPING TOOLS 阻尼减振刀具

阻尼减振车刀刀头

Cartridge for Damping Turning Tool Holder

正型93°正镗及仿形车 Positive type 93° boring and profile-turning

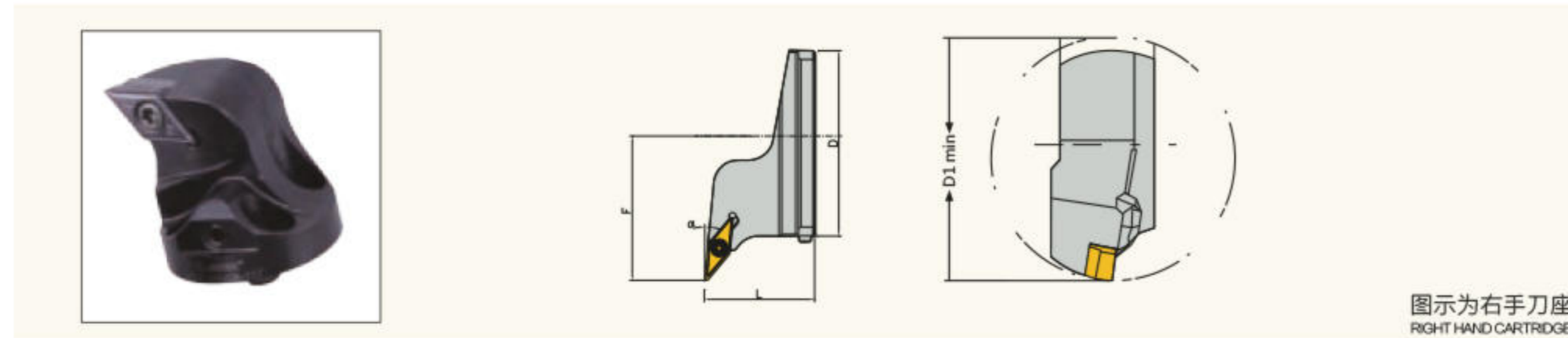


图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 SDUCR-11T	80	100	57	45.7	3°	0.5	DC.. 11T3..	●
VH80 SDUCL-11T	80	100	57	45.7	3°	0.5	DC.. 11T3..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 SDUCR-11T。
- The insert should be ordered separately.
- Ordering sample: 1 PC VH80 SDUCR-11T.

正型95°正镗及仿形车 Positive type 95° boring and profile-turning



图示为右手刀座
RIGHT HAND CARTRIDGE

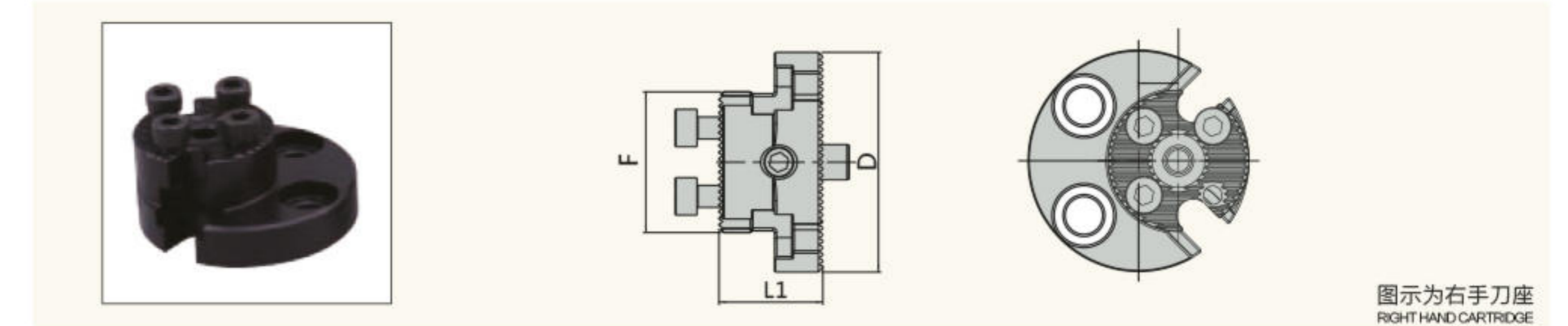
规格型号 Designation	D	D1 min	F	L	α	Kg	适配刀头 Cartridge	在庫 Stock
VH80 SVLCR-16T	80	100	57	45.7	5°	0.44	VC.. 1604..	●
VH80 SVLCL-16T	80	100	57	45.7	5°	0.44	VC.. 1604..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件VH80 SVLCR-16T
- The insert should be ordered separately.
- Ordering sample: 1 PC VH80 SCVCR-16T.

DAMPING TOOLS 阻尼减振刀具

缩径头

Reducing Head



图示为右手刀座
RIGHT HAND CARTRIDGE

规格型号 Designation	D1	D2	L	A	Kg	在庫 Stock
RE VT50-VT32	50	32	23	9	0.18	●
RE VT50-VT40	50	40	23	10	0.22	●
RE VT60-VT40	60	40	23	10	0.3	●

- 订货示例：1件RE VT50-VT32。
- Ordering sample: 1 PC RE VT50-VT32.

标准刀杆修改尺寸表 Tool holder diameter

刀杆直径 Tool holder diameter	L	
	4-7倍径 4-7XD	7-10倍径 7-10XD
D		
16	100	155
20	125	200
25	155	255
32	190	320
40	240	410
50	305	520
60	380	630
80	630	630

- 推荐最小夹紧长度为4xD。
- 保证刀杆最小和最大悬伸，超出范围将无法保证减振功能。
- Suggested min. length is 4XD.
- Make sure the min. and max. overhanging, otherwise it cannot realize the damping capacity.

● 标准库存 Item in stock
○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

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DAMPING TOOLS 阻尼减振刀具

阻尼减振铣刀柄

Damping Milling Cutter

主要考虑因素

使用旋转刀具加工不同于车削,在车削时,镗杆夹持在刚性的刀座上,但是车铣加工中减振杆工作的原理在很大程度上相通的:

- 刚性夹紧
- 尽可能短的刀具长度
- 尽可能大的总成直径
- 铣刀体的重量尽量轻,使抵抗切削力的阻尼系统充分工作

Major Consideration

Rotating tools are different from the turning tools, and the boring bar is clamped by the rigidity cartridge when turning machining. But the anti-vibration principle is almost same when turning and milling machining. Please see below points:

- Rigid clamping
- The shortest effective length
- The largest total diameter
- Lighter weight to be sure damping system works smoothly

降低振动

工件安装和机床稳定性是将振动减至最低需要仔细考虑的两项重要因素。

工件

- 以最佳的方式固定工件,让工装来承受加工过程中产生的切削力。
- 通过铣削刀具设计和主偏角选择能够使得切削力主要作用在工件夹持最稳定的方向上。
- 优化加工策略和方向,以尽可能实现最稳定的切削工况。

机床

- 机床状况会对切削振动产生巨大的影响。主轴轴承或进给装置的过度磨损会导致不良的加工特性。

Lower Down the Vibration

The mounted workpiece and stability of machine tool are the main important facts which can lower down much vibration.

Workpiece

- Mount the workpiece in the best way, then it will take some cutting force when machining.
- It will make sure that the cutting force will work for the most stable direction by two ways which are milling cutter design and selection of approach angle.
- To optimize the processing strategy and direction, then to meet the most stable cutting condition.

Machine Tools

- The condition of machine tool will affect the vibration situation greatly. The excessive wear of spindle bearing and work feeder can result in the poor processing characters.



DAMPING TOOLS 阻尼减振刀具

阻尼减振铣刀柄

Damping Milling Cutter

影响振动的因素

有4种基本因素会对振动产生主要影响:

- 刀具的主偏角会影响切削力作用的方向
- 与径向切深有关的刀具直径
- 刀片槽形
- 刀具齿距

主偏角

主偏角决定了切削力的方向,因此非常重要。主偏角(α)越大,径向切削力就越大。根据工艺和应用场合选择合适刀具。

当径向切削力增加时,可以看出减振刀具与非减振刀具之间在功能方面的差异。

在主偏角较小且悬伸较短的情况下,可在出现振动之前调整刀具的切深甚至可以达到刀片所允许的最大切深。

The Influence Facts of Vibration

There are 4 facts will affect the vibration condition mainly, please see below:

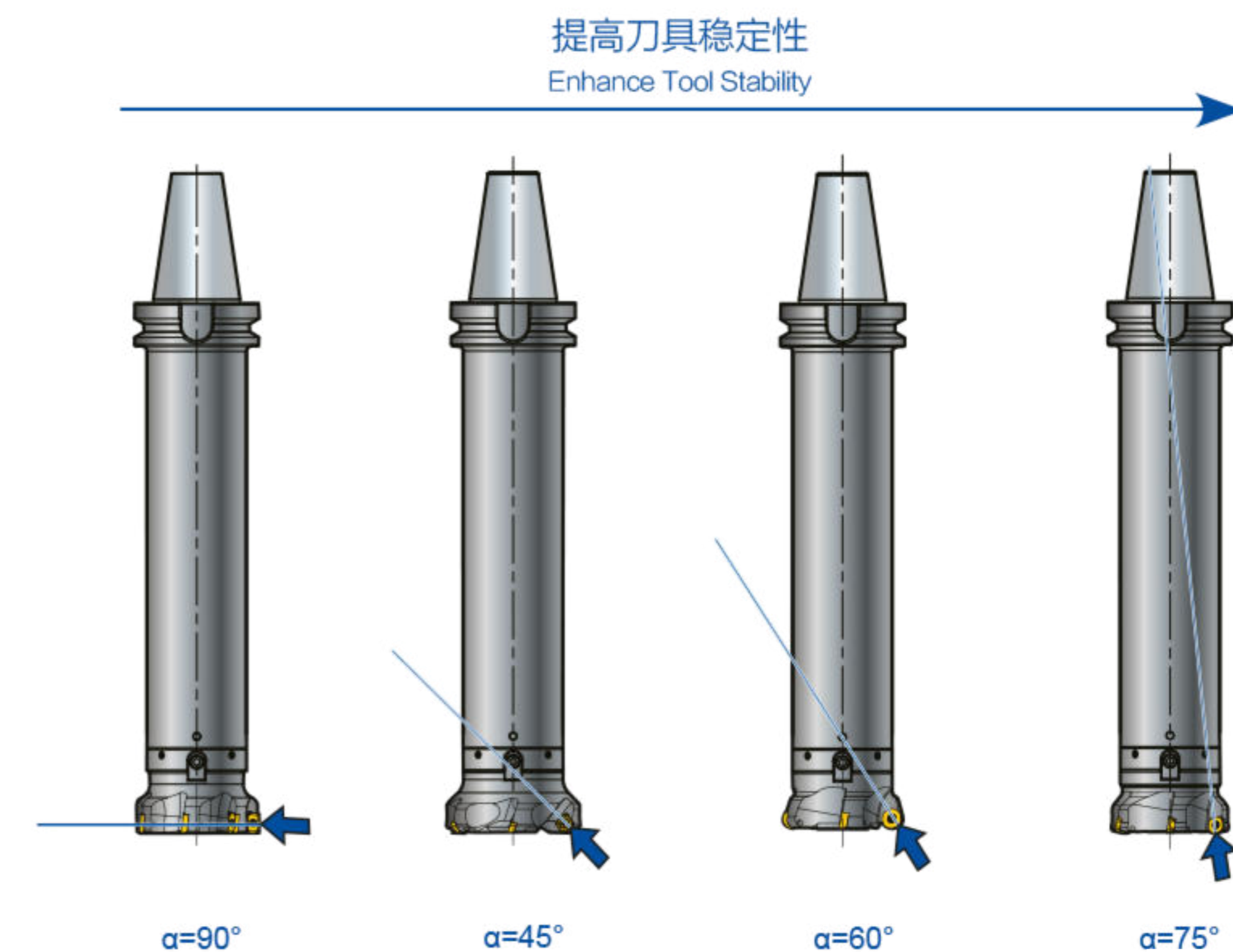
- The approach angle will affect the working direction of the cutting force
- Tool diameter which is relative to the radial cutting depth
- Insert groove
- Pitch

Approach Angle

The approach angle decides the direction of cutting force, so it is very important. The approach angle (α) is larger and the radial cutting force is larger. Select the tools according to the technology and working condition.

It will see the differences between damping tools and common tools clearly when the axial cutting force increases.

Under the condition of smaller approach angle and also shorter overhang, we can adjust the cutting depth which will probably meet the deepest depth precedes the vibration situation.



自动伸缩式反刮刀

Telescopic back boring tool



AUTOMATIC TELESCOPIC BACK BORING TOOL 自动伸缩式反刮刀

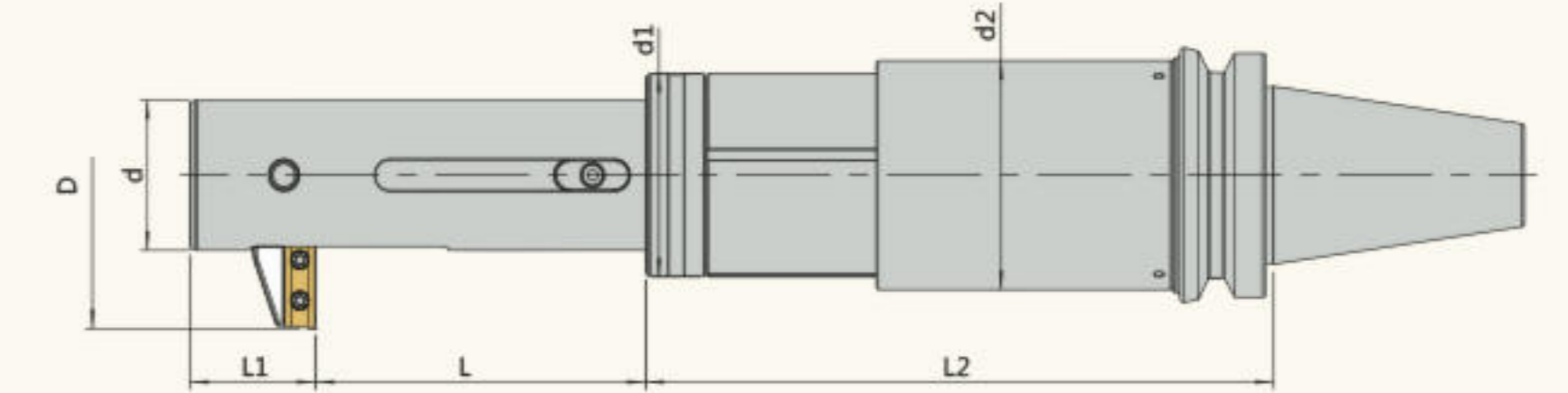
自动伸缩式反刮刀

Telescopic back boring tool

适用于要求反刮面直径大，但过孔直径小，反刮面直径不大于过孔直径的2倍时均可使用；全自动刀体的进出机构，无需定位装置；可根据客户需求订制。

It is suitable for the requirements of large diameter of back boring place but smaller diameter of through hole, which dia. of back boring place is no larger than 2 times dia. of through hole.

There is no need to do the position due to the automatic turnover structure of the tool body.



规格型号 Designation	D	d	d1	d2	L	L1	L2	Kg	适配刀头 Cartridge	在库 Stock
BT50 ABR D070-d035x330	70	34.5	80	90	75	60	255	10.6	ABR D071-D034.AC21	●
BT50 ABR D080-d040x330	80	39.5	80	90	75	55	255	11.1	ABR D081-D039.AC27	●
BT50 ABR D090-d045x330	90	44.5	80	90	75	55	255	11.6	ABR D091-D044.AC27	●
BT50 ABR D100-d050x330	100	49.5	80	90	75	51	255	12.0	ABR D101-D049.AC27	●
BT50 ABR D110-d055x330	110	54.5	80	90	75	51	255	12.7	ABR D111-D054.AC32	●
BT50 ABR D120-d060x330	120	59.5	80	90	75	51	255	13.4	ABR D121-D059.AC37	●
BT50 ABR D130-d065x330	130	64.5	80	90	75	51	255	14.2	ABR D131-D064.AC37	●
BT50 ABR D140-d070x330	140	69.5	80	90	75	51	255	15.3	ABR D141-D069.AC37	●
DIN69871 50 ABR D070-d035x350	70	34.5	80	90	75	60	275	10.4	ABR D071-D034.AC21	○
DIN69871 50 ABR D080-d040x350	80	39.5	80	90	75	55	275	10.9	ABR D081-D039.AC27	○
DIN69871 50 ABR D090-d045x350	90	44.5	80	90	75	55	275	11.4	ABR D091-D044.AC27	○
DIN69871 50 ABR D100-d050x350	100	49.5	80	90	75	51	275	11.8	ABR D101-D049.AC27	○
DIN69871 50 ABR D110-d055x350	110	54.5	80	90	75	51	275	12.5	ABR D111-D054.AC32	○
DIN69871 50 ABR D120-d060x350	120	59.5	80	90	75	51	275	13.2	ABR D121-D059.AC37	○
DIN69871 50 ABR D130-d065x350	130	64.5	80	90	75	51	275	14.1	ABR D131-D064.AC37	○
DIN69871 50 ABR D140-d070x350	140	69.5	80	90	75	51	275	15.1	ABR D141-D069.AC37	○

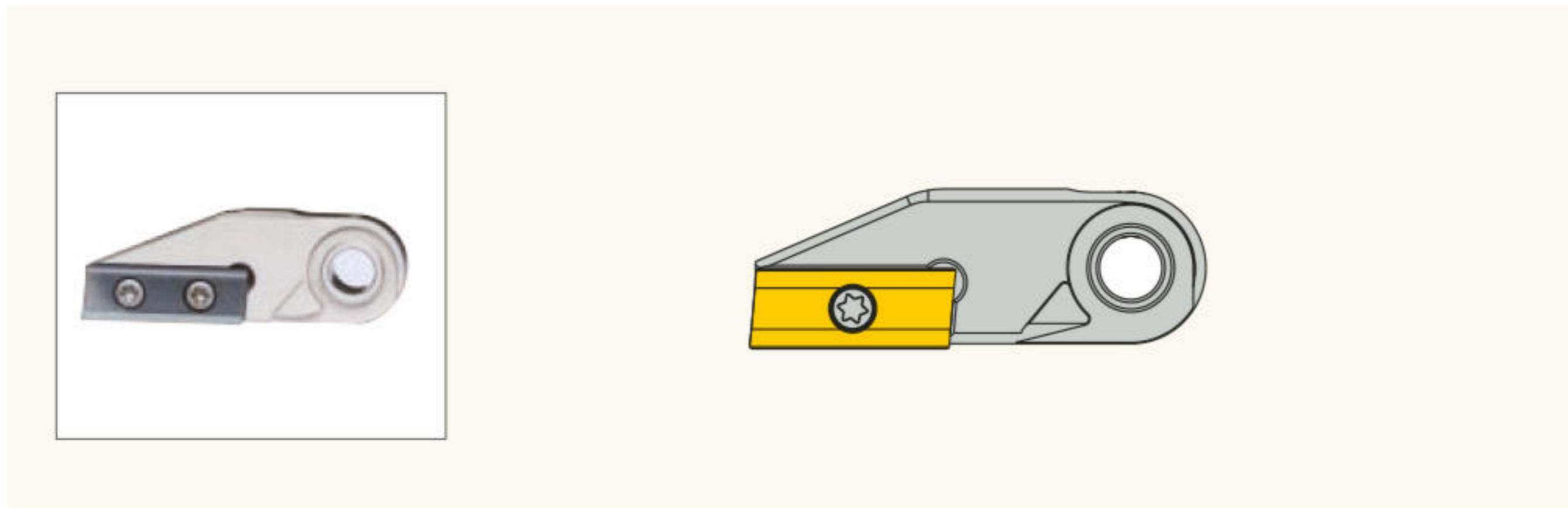
- 订货示例：1件BT50 ABR D070-d035x330
- 根据反刮直径不同可更换不同的刀头
- 刀头需单独订购
- Ordering sample: 1 PC BT50 ABR D070-d035x330.
- Select suitable cartridges as customer's requirements.
- The cartridge should be ordered separately.

● 标准库存 Item in stock
 ○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

AUTOMATIC TELESCOPIC BACK BORING TOOL 自动伸缩式反刮刀

反刮刀刀头

Cartridge

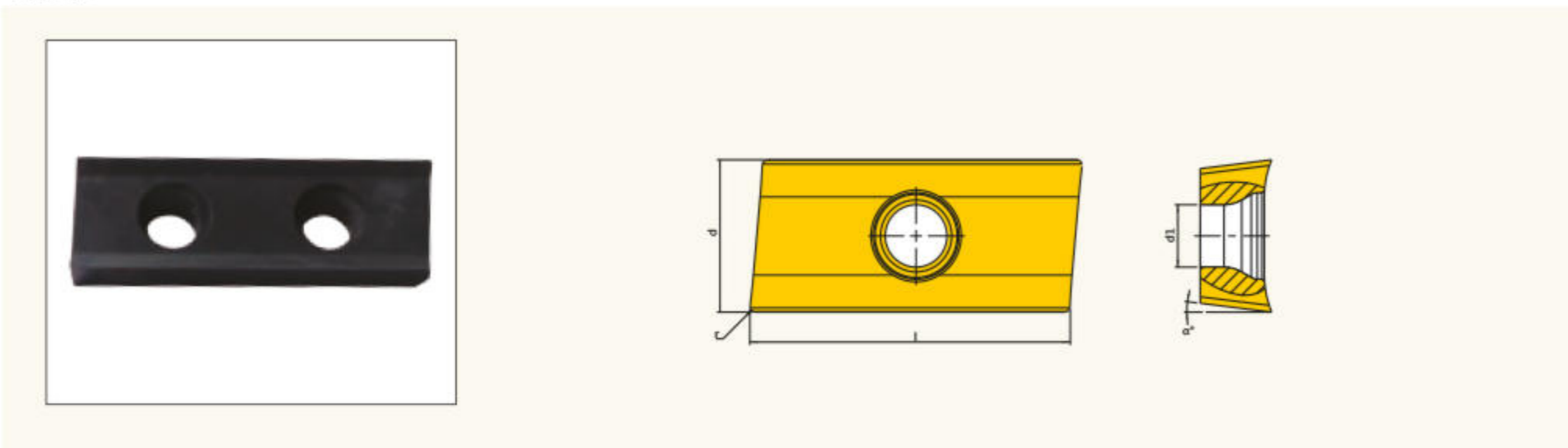


规格型号 Designation	适配刀片 Insert	刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw	刀座锁紧螺钉 Clamping screw for cartridge	锁紧螺钉扳手 Allen key for clamping screw	在库 Stock
ABR D071-D034.AC21	ACMX 2104-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D081-D039.AC27	ACMX 2706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D091-D044.AC27	ACMX 2706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D101-D049.AC27	ACMX 2706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D111-D054.AC32	ACMX 3206-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D121-D059.AC37	ACMX 3706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D131-D064.AC37	ACMX 3706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●
ABR D141-D069.AC37	ACMX 3706-DL	SR21 M5x12.8	KEY02 T20	SR54 M4x6	KEY01 M2	●

- ACMX 3706-DL刀片为两个锁紧螺钉。
- 订货示例：1件ABR D071-D034.AC21。
- Two clamping screws need for ACMX 3706-DL insert.
- Ordering sample: 1 PC ABR D071-D034.AC21.

反刮刀刀片

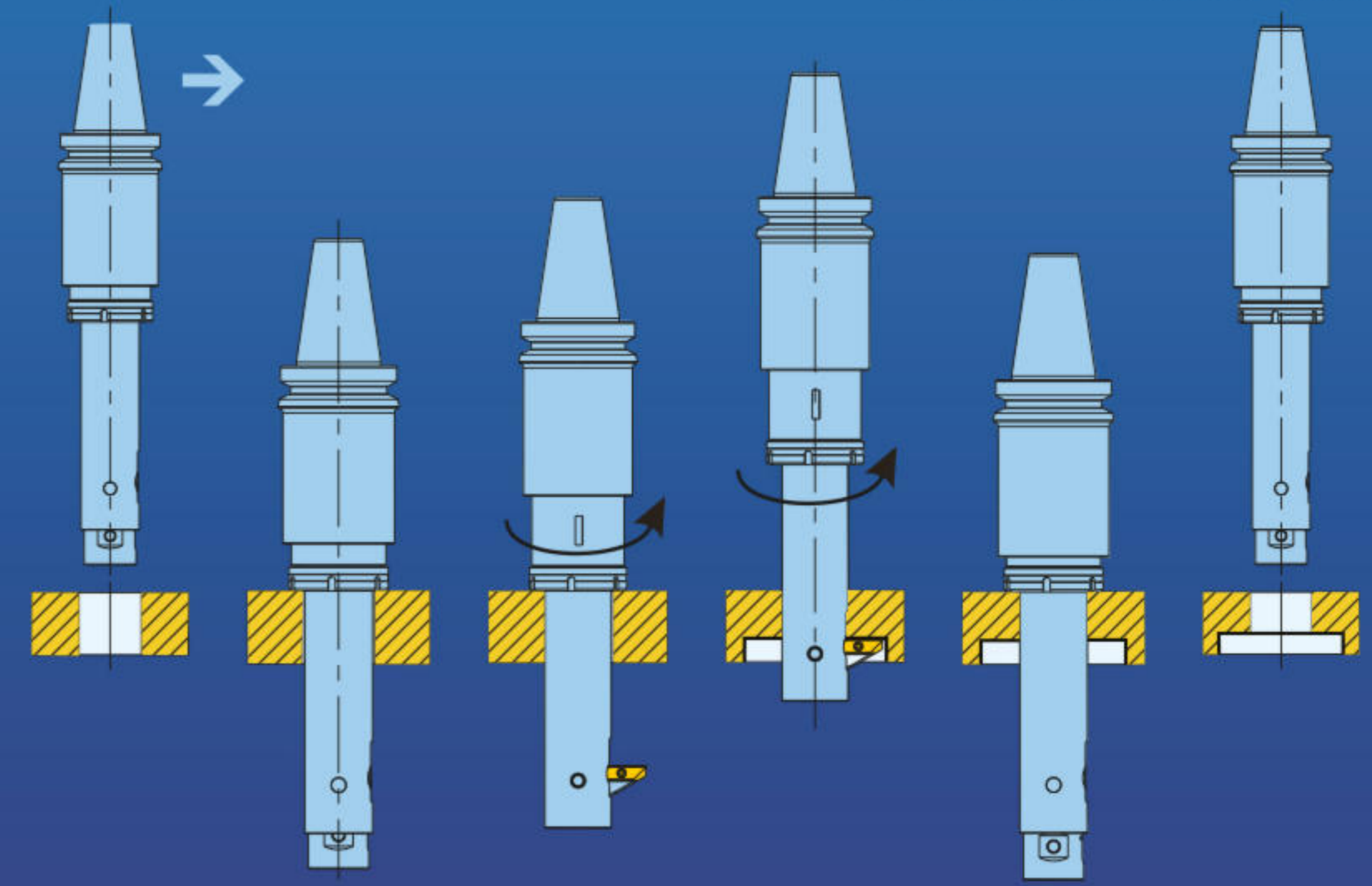
Insert



规格型号 Designation	l	d	d1	r	α	材质 Grade
ACMX 2104-DL	21	12.7	5.2	0.5	7	SH1005
ACMX 2706-DL	27	12.7	5.2	0.5	7	●
ACMX 3206-DL	32	12.7	5.2	0.5	7	●
ACMX 3706-DL	37	12.7	5.2	0.5	7	●

- ACMX 3706-DL刀片为两个锁紧孔
- 刀片材质为粉末HSS+涂层
- Two clamping screws need for ACMX 3706-DL insert.
- Grade is powder HSS with coating.

加工示意图 Processing Schematic



特点 Features

- 适用于要求反刮面直径大，但过孔直径小的位置；
- 反刮面直径不大于过孔直径的2倍时均可使用此刀具；
- 全自动刀体的进出机构，不需要定位装置；
- 反刮效率高；
- 安全系数高；
- 一把刀具可对应不同规格的反刮面；
- 刀具根据客户需求非标订做。
- It is suitable for the requirements of large diameter of back boring place but smaller diameter of the through hole.
- Using this tool when the diameter of back boring place is no larger than 2 times diameter of through hole.
- There is no need to do the positioning device due to the automatic turnover structure of the tool body.
- Higher performance.
- Higher coefficient of safety.
- One tool can meet several back boring diameters.
- It can be designed by customers' requirements.

● 标准库存 Item in stock
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综合样本新增产品

Composite samples of new products

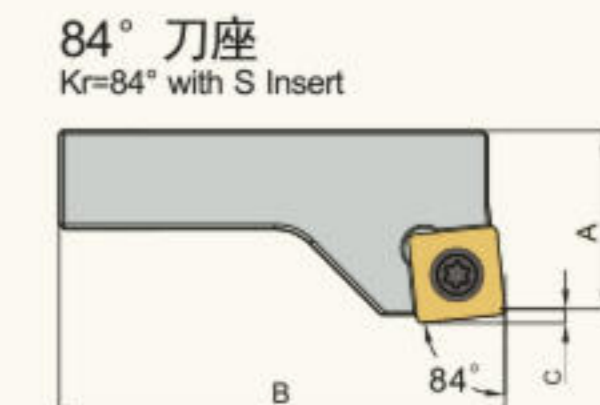
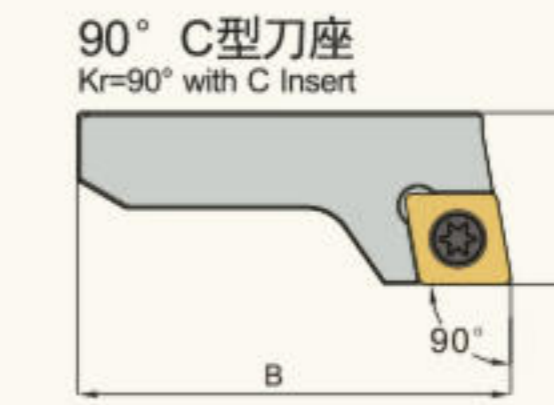


ADDED CONTENT 综合样本新增内容

矩形槽粗镗刀座

Cartridge with Rectangular Slot Guide for Rough Boring Tool

适配于BR,CBR系列双刃粗镗刀, 矩形槽刀座接口, 调整方便
 加工范围: 90° C型刀座Φ20-Φ153; 90° T型刀座Φ33-Φ153; 45° 刀座Φ23-Φ153; 84° 刀座Φ20-Φ153
 It is suitable for the BR rough boring tools with twin cutters, and also it can be adjusted freely due to the connection.
 The boring range: 90° C style is Φ20-Φ153; 90° T style is Φ33-Φ153; 45° style is Φ23-Φ153; 84° style is Φ20-Φ153.



90° C型刀座

Kr=90° with C Insert

规格型号 Designation	镗削范围 Diameter range	A	B	适用刀片 Insert	Kg	刀座调整螺钉 Adjusting screw for insert	刀座调整扳手 Allen key for adjusting screw	刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw	在庫 Stock
S90A D034-042.CC09	34-42	18	26	CC..09T3..	0.02	SR50 M3.0x8	KEY01 M1.5	SR21 M4x9.5	KEY02 T15	●
S90A D047-059.CC12	47-59	22	35	CC..1204..	0.05	SR50 M3.0x10	KEY01 M1.5	SR21 M5x12.8	KEY02 T20	●
S90A D058-073.CC12	58-73	22	47	CC..1204..	0.06	SR50 M4.0x10	KEY01 M2	SR21 M5x12.8	KEY02 T20	●

- 刀片请根据不同材料单独订购
- 订货示例: 1件S90A D034-042.CC09
- The insert should be ordered separately.
- Ordering sample: 1 PC S84A D034-042.CC09.

84° SC刀座

Kr=84° with C Insert

规格型号 Designation	镗削范围 Diameter range	A	B	C	适用刀片 Insert	Kg	刀片锁紧螺钉 Clamping screw for insert	刀座调整扳手 Allen key for adjusting screw	刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw	在庫 Stock
S84A D033-041.SC09	33-41	16.5	26	1.3		0.02	SR50 M3x8	KEY01 M1.5			●
S84A D041-055.SC09	41-55	18	32	1.3	SC..09T3..	0.04	SR50 M3x8	KEY01 M1.5	SR21 M4x9.5	KEY02 T15	●
S84A D055-070.SC09	55-70	18	45	1.3		0.05	SR50 M4x10	KEY01 M2			●
S84A D047-059.SC12	47-59	20	36	2		0.04	SR50 M3x10	KEY01 M1.5			●
S84A D058-073.SC12	58-73	20	47	2		0.05	SR50 M4x10	KEY01 M2			●
S84A D070-090.SC12	70-90	30	59	2		0.15	SR50 M5x12	KEY01 M2.5	SR21 M5x12.8	KEY02 T20	●
S84A D090-110.SC12	90-110	30	74	2	SC..1204..	0.22	SR50 M5x16	KEY01 M2.5			●
S84A D110-133.SC12	110-133	30	85	2		0.26	SR50 M5x16	KEY01 M2.5			●
S84A D130-153.SC12	130-153	30	96	2		0.31	SR50 M5x16	KEY01 M2.5			●

- 适用刀片请根据不同的材料单独订购。
- 订货示例: 1件S84A D033-041.SC09
- The insert should be ordered separately.
- Ordering sample: 1 PC S84A D033-041.SC09.

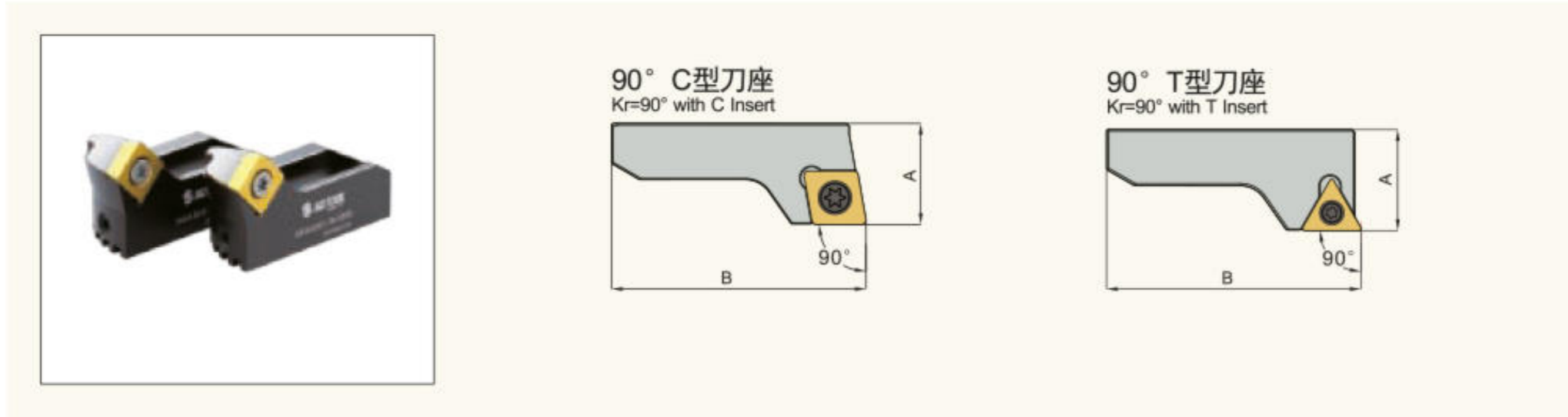
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ADDED CONTENT 综合样本新增内容

矩形槽粗镗刀座

Cartridge with Rectangular Slot Guide for Rough Boring Tool

适配于BR系列双刃粗镗刀，矩形槽刀座接口，调整方便
加工范围：90° C型刀座Φ20-Φ153；90° T型刀座Φ33-Φ153；45° 刀座Φ23-Φ153；84° 刀座Φ20-Φ153
It is suitable for the BR rough boring tools with twin cutters, and also it can be adjusted freely due to the connection.
The boring range: 90° C style is Φ20-Φ153; 90° T style is Φ33-Φ153; 45° style is Φ23-Φ153; 84° style is Φ20-Φ153.



90° C型刀座 Kr=90° with C Insert

规格型号 Designation	镗削范围 Diameter range	A	B	适用刀片 Insert	Kg	刀座调整螺钉 Adjusting screw for insert	刀座调整扳手 Allen key for adjusting screw	刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw	在库 Stock
C90A D19.2630.CC06	26-30	13.6	19	CC..0602..	0.01	SR50 M2.5x5	KEY01 M1.3	SR20 M2.5x6	KEY02 T8	●
C90A D25.3342.CC06	33-42	13.6	24	CC..0602..	0.01	SR50 M2.5x6	KEY01 M1.3	SR20 M2.5x6	KEY02 T8	●
C90A D32.3947.CC09	39-47	15	29	CC..09T3..	0.02	SR50 M3.0x8	KEY01 M1.5	SR21 M4x9.5	KEY02 T15	●
C90A D40.5367.CC09	53-67	18	38	CC..09T3..	0.05	SR50 M3.0x10	KEY01 M1.5	SR21 M4x9.5	KEY02 T15	●
C90A D50.6883.CC12	68-83	20	52	CC..1204..	0.07	SR50 M4.0x10	KEY01 M2	SR21 M5x12.8	KEY02 T20	●
C90A D63.88108.CC12	88-108	30	68	CC..1204..	0.19	SR50 M5.0x12	KEY01 M2.5	SR21 M5x12.8	KEY02 T20	●
C90A D80.108128.CC12	108-128	30	83	CC..1204..	0.26	SR50 M5.0x16	KEY01 M2.5	SR21 M5x12.8	KEY02 T20	●

- 刀片请根据不同材料单独订购
- 订货示例：1件C90A D19.2630.CC06
- The insert should be ordered separately.
- Ordering sample: 1 PC C90A D19.2630.CC06

90° T型刀座 Kr=90° with T Insert

规格型号 Designation	镗削范围 Diameter range	A	B	适用刀片 Insert	Kg	刀座调整螺钉 Adjusting screw for insert	刀座调整扳手 Allen key for adjusting screw	刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw	在库 Stock
C90A D25.3342.TC11	33-42	13.6	24	TC..1102..	0.01	SR50 M2.5x6	KEY01 M1.3	SR20 M2.5x6	KEY02 T8	●
C90A D32.3947.TC11	39-47	15	29	TC..1102..	0.02	SR50 M3.0x8	KEY01 M1.5	SR20 M2.5x6	KEY02 T8	●
C90A D40.5367.TC11	53-67	18	38	TC..1102..	0.05	SR50 M3.0x10	KEY01 M1.5	SR20 M2.5x6	KEY02 T8	●
C90A D50.6883.TC16	68-83	20	52	TC..16T3..	0.07	SR50 M4.0x10	KEY01 M2	SR21 M4x9.5	KEY02 T15	●
C90A D63.88108.TC16	88-108	30	68	TC..16T3..	0.19	SR50 M5.0x12	KEY01 M2.5	SR21 M4x9.5	KEY02 T15	●
C90A D80.108128.TC16	108-128	30	83	TC..16T3..	0.26	SR50 M5.0x16	KEY01 M2.5	SR21 M4x9.5	KEY02 T15	●

- 刀片请根据不同材料单独订购
- 订货示例：1件C90A D25.3342.TC11
- The insert should be ordered separately.
- Ordering sample: 1 PC C90A D25.3342.TC11

● 标准库存 Item in stock ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it) ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

直压式精镗刀头

Axial Combination Precision Cartridge

适配于NBF、CBF系列的微调精镗刀，定位锁紧稳固，更换简便，可方便进行正反镗加工的变换，配有不同规格的刀片。
It is suitable for the NBF & CBF series micro fine boring head, and has the features of locked firmly, easy to be changed and convenient for the general and back boring machining, and also could be suitable for inserts with different specifications.



A型
Type A



B型
Type B



C型
Type C

规格型号 Designation	适用刀片 Insert	刀片锁紧螺钉 Clamping screw for insert	在库 Stock
FRB 25A.TC11	TC..1102..	SR20 M2.5x6	●
FRB 25B.TC11	TC..1102..	SR20 M2.5x6	●
FRB 25C.TC11	TC..1102..	SR20 M2.5x6	●

- 刀片请根据不同材料单独订购
- 订货示例：1件FRB 25A.TC11
- The insert should be ordered separately.
- Ordering sample: 1 PC FRB 25A.TC11.

规格型号 Designation	适用刀片 Insert	刀片锁紧螺钉 Clamping screw for insert	在库 Stock
FRB 12A.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 12B.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 12C.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 16A.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 16B.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 16C.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 20A.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 20B.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 20C.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 25A.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 25B.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 25C.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 30A.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 30B.TC0903	TC..0903..	SR20 M2.5x6	●
FRB 30C.TC0903	TC..0903..	SR20 M2.5x6	●

- 刀片请根据不同材料单独订购
- 订货示例：1件FRB 12A.TC0903
- The insert should be ordered separately.
- Ordering sample: 1 PC FRB 12A.TC0903.

备件 Spare Parts

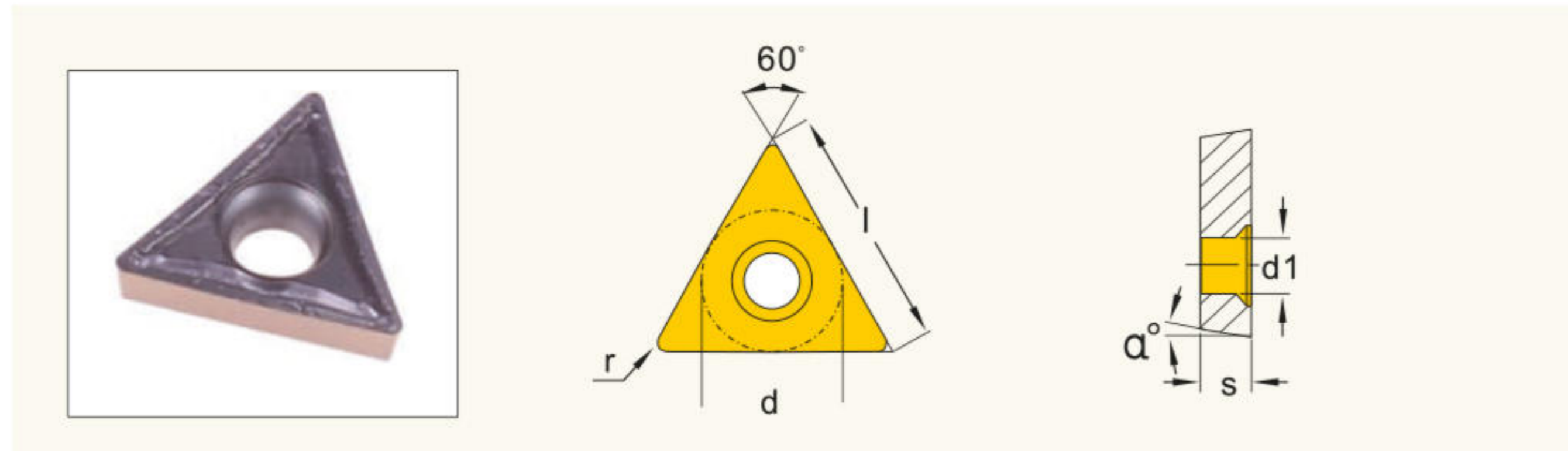
刀片锁紧螺钉 Clamping screw for insert	刀片锁紧扳手 Allen key for clamping screw
SR20 M2.5x6	KEY02 T8

● 标准库存 Item in stock ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it) ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

TC型刀片

TC...

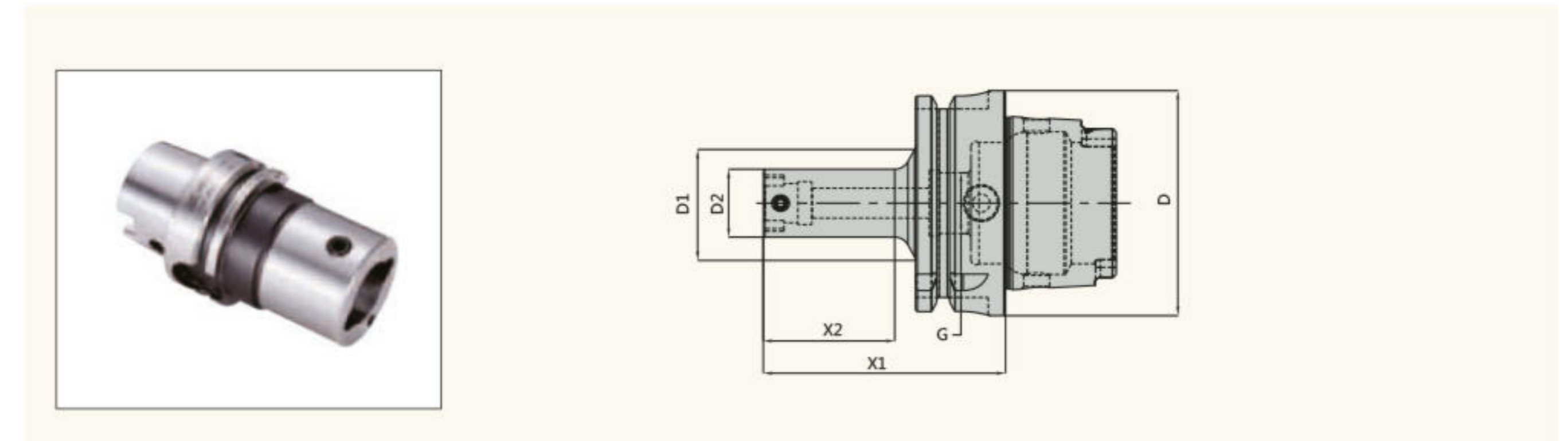


规格型号 Designation	I	r	α°	s	d	d1	材质 Grade
TCGT 090304L-TP	9	0.4	7	3.18	5.56	2.8	SC1220

ADDED CONTENT 综合样本新增内容

HSK K接口刀柄

HSK Adaptor with Type K Connection



规格型号 Designation	D	D1	D2	X1	X2	G	Kg	在库 Stock
HSK A63 K19x80	63	31	19	80	40	M18x1	0.9	●
HSK A63 K25x80	63	-	25	80	-	M18x1	1.0	●
HSK A63 K32x85	63	-	32	85	-	M18x1	1.1	●
HSK A63 K40x80	63	-	40	80	-	M18x1	1.2	●
HSK A63 K50x60	63	-	50	60	-	M18x1	1.3	●
HSK A63 K63x70	63	-	63	70	-	M18x1	1.5	●
HSK A100 K19x100	100	31	19	100	40	M24x1.5	2.4	●
HSK A100 K25x115	100	50	25	115	70	M24x1.5	2.6	●
HSK A100 K32x110	100	-	32	110	-	M24x1.5	2.8	●
HSK A100 K40x105	100	-	40	105	-	M24x1.5	3.0	●
HSK A100 K50x75	100	-	50	75	-	M24x1.5	3.3	●
HSK A100 K63x75	100	-	63	75	-	M24x1.5	3.4	●
HSK A100 K90x125	100	-	88	125	-	M24x1.5	5.8	●

- 订货示例：1件HSK A63 K19x80
- 内冷却管需单独订购
- Inner coolant tube should be ordered separately.
- Ordering sample: 1 PC HSK A63 K19x80.

备件 Spare Parts

D2	锁紧螺钉 Clamping screw	锁紧螺钉扳手 Allen key for clamping screw
D2=19	SR65 M4x5-X	KEY01 M2
D2=25	SR65 M5x6.5-X	KEY01 M2.5
D2=32	SR65 M6x9-X	KEY01 M3
D2=40	SR65 M8x11-X	KEY01 M4
D2=50	SR65 M10x14-X	KEY01 M5
D2=63	SR65 M12x18-X	KEY01 M6
D2=88	SR65 M20x28-X	KEY01 M10

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

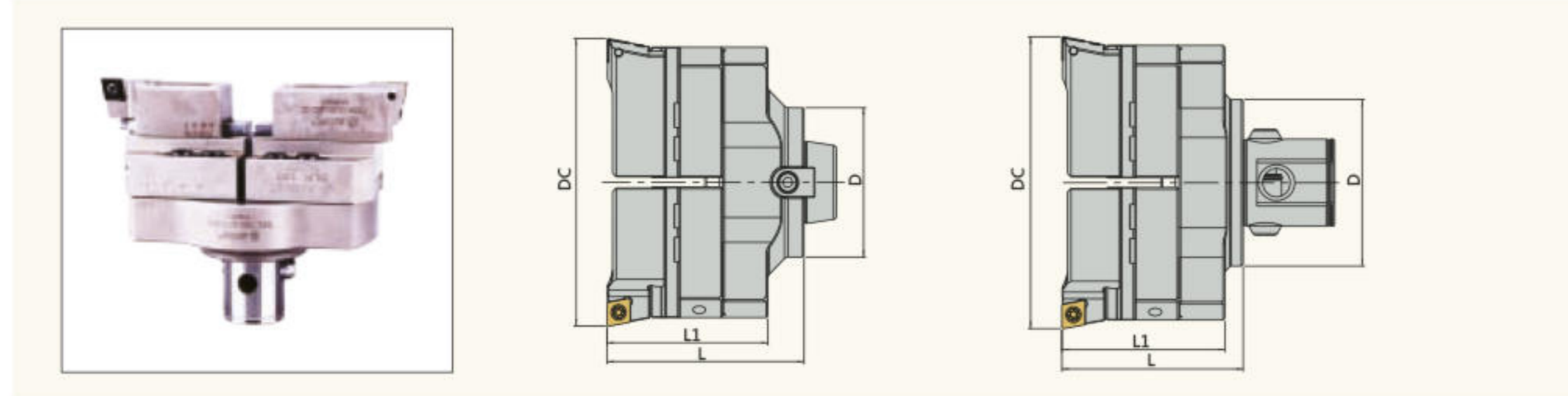
● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

NLR双刃桥式粗镗刀

NLR Two Flute Boring Tool With Bridge

适用于大孔加工的双刃桥式粗镗刀，全磨制导向槽，标准型加工范围Φ150-Φ210，适配大矩形槽双刃桥式粗镗刀座。
It is suitable for the finish machining for the large diameter, complete ground guide slot, the boring range is Φ150-Φ210. There is special cartridge for it.



规格型号 Designation	Dc	L1	L	D	手柄接口 Connection	Kg	适配刀座 Cartridge	在库 Stock
NLR 150-210.E80	150-210	89	109	80	E80	5.4	L.A D150..	●
NLR 150-210.E63		89	105	63	E63	5.0		●
NLR 150-210.K90		89	99	88	K90	5.4		●
NLR 150-210.K63		89	99	63	K63	5.1		●

- 适配刀座需单独订购
- 订货示例：1件NLR 150-210.E80
- The cartridge should be ordered separately.
- Ordering sample: 1 PC NLR 150-210.E80

备件 Spare Parts

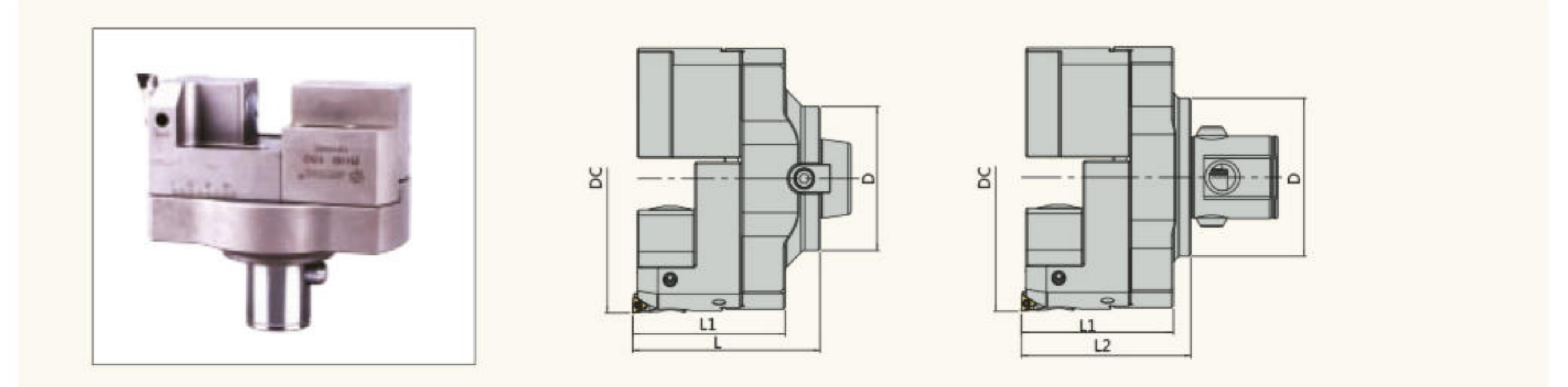
Dc	刀桥 Bridge	滑块 Cartridge holder	滑块锁紧螺钉 Clamping screw for cartridge holder	刀座调整螺钉 Adjusting screw for cartridge	锁紧扳手 Allen key
150-210	SNL 150-210.E80	BLR 150 2件	SR55 M8x35 8件	SR55 M8x30 4件	KEY01 M6
	SNL 150-210.E63	BLR 150 2件	SR55 M8x35 8件	SR55 M8x30 4件	KEY01 M6
	SNL 150-210.K90	BLR 150 2件	SR55 M8x35 8件	SR55 M8x30 4件	KEY01 M6
	SNL 150-210.K63	BLR 150 2件	SR55 M8x35 8件	SR55 M8x30 4件	KEY01 M6

ADDED CONTENT 综合样本新增内容

NLF单刃桥式微调精镗刀

NLF Precision Boring Tool with Bridge

适用于大孔加工的单刃桥式微调精镗刀，调整精度高，每格直径0.01mm，标准型加工范围Φ150-Φ210。
It is suitable for the finish machining for large diameter, with high accuracy 0.01mm/dial. The diameter range is Φ150-Φ210.



规格型号 Designation	Dc	L1	L	D	手柄接口 Connection	Kg	适配刀座 Cartridge	在库 Stock
NLF 150-210.E80	150-210	87	107	80	E80	5.8	FRB 25A..	●
NLF 150-210.E63		87	103	63	E63	5.3		●
NLF 150-210.K90		87	97	88	K90	5.8		●
NLF 150-210.K63		87	97	63	K63	5.5		●

- 适配刀座需单独订购
- 订货示例：1件NLF 150-210.E80
- The cartridge should be ordered separately.
- Ordering sample: 1 PC NLF 150-210.E80.

备件 Spare Parts

Dc	刀桥 Bridge	微调模块 Cartridge holder	配重模块 Balance block	滑块锁紧螺钉 Clamping screw for cartridge holder	刀座调整螺钉 Adjusting screw for cartridge	LOCK 螺钉 Lock screw
150-210	SNL 150-210.E80	NLF 150 1件	BHB 150 1件	SR55 M8x35 6件	SR56 M6x16 1件	SR54 M6x12 1件
	SNL 150-210.E63	NLF 150 1件	BHB 150 1件	SR55 M8x35 6件	SR56 M6x16 1件	SR54 M6x12 1件
	SNL 150-210.K90	NLF 150 1件	BHB 150 1件	SR55 M8x35 6件	SR56 M6x16 1件	SR54 M6x12 1件
	SNL 150-210.K63	NLF 150 1件	BHB 150 1件	SR55 M8x35 6件	SR56 M6x16 1件	SR54 M6x12 1件

备件 Spare parts	螺钉扳手 Allen key
SR55 M8x35	KEY01 M6
SR56 M6x16	KEY01 M4
SR54 M6x12	KEY01 M3

● 标准库存 Item in stock
 ○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

● 标准库存 Item in stock
 ○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

刀柄系统 Adaptors



ADDED CONTENT 综合样本新增内容

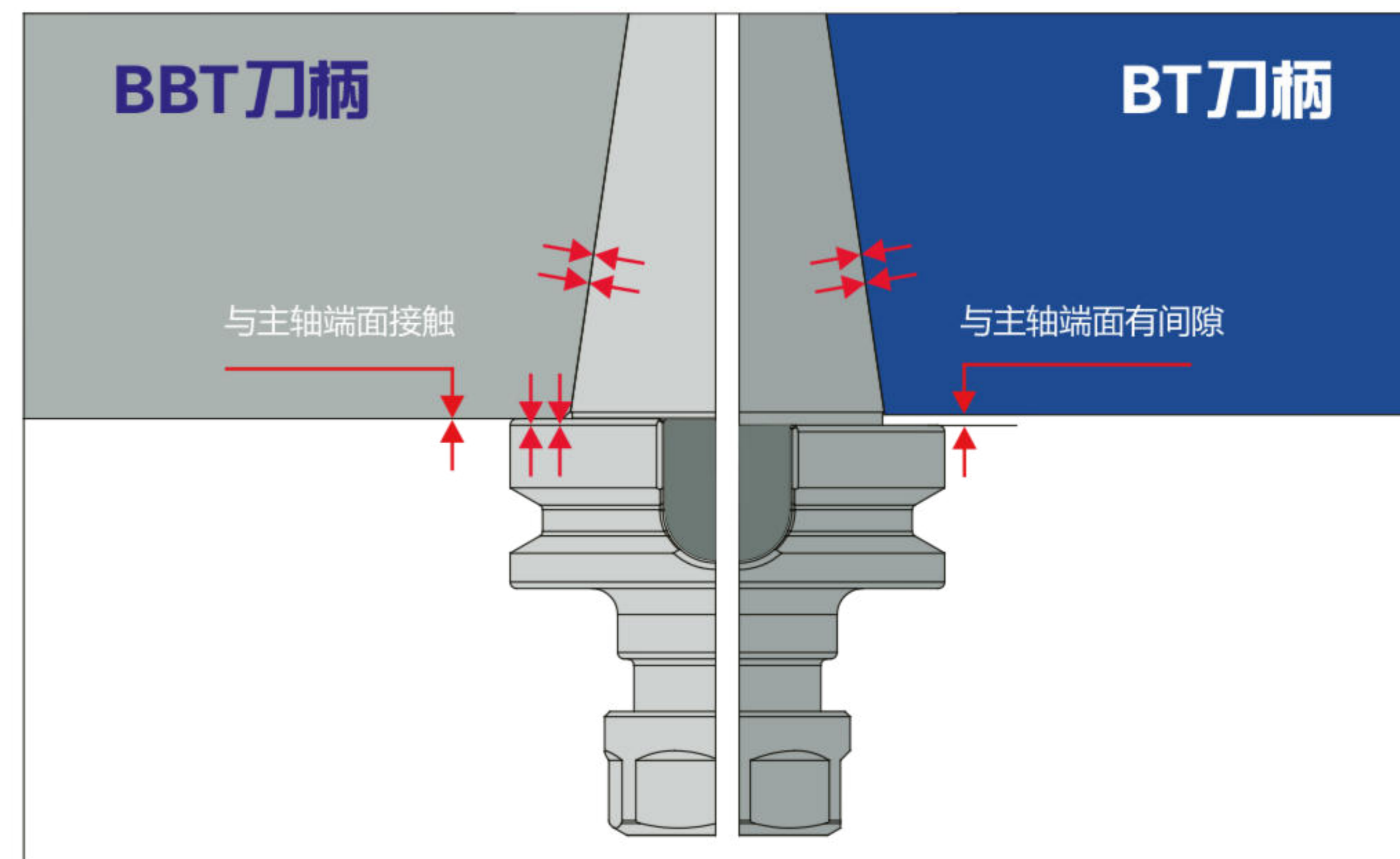
BBT刀柄

BBT Adaptor

双面接触刀柄，与普通BT刀柄可互换，刚性、定位精度大幅度提高，根据客户需求非标订制。
It is big plus, and can be replaced with BT adaptor. With higher rigidity, accuracy. Ordered as customer's design.

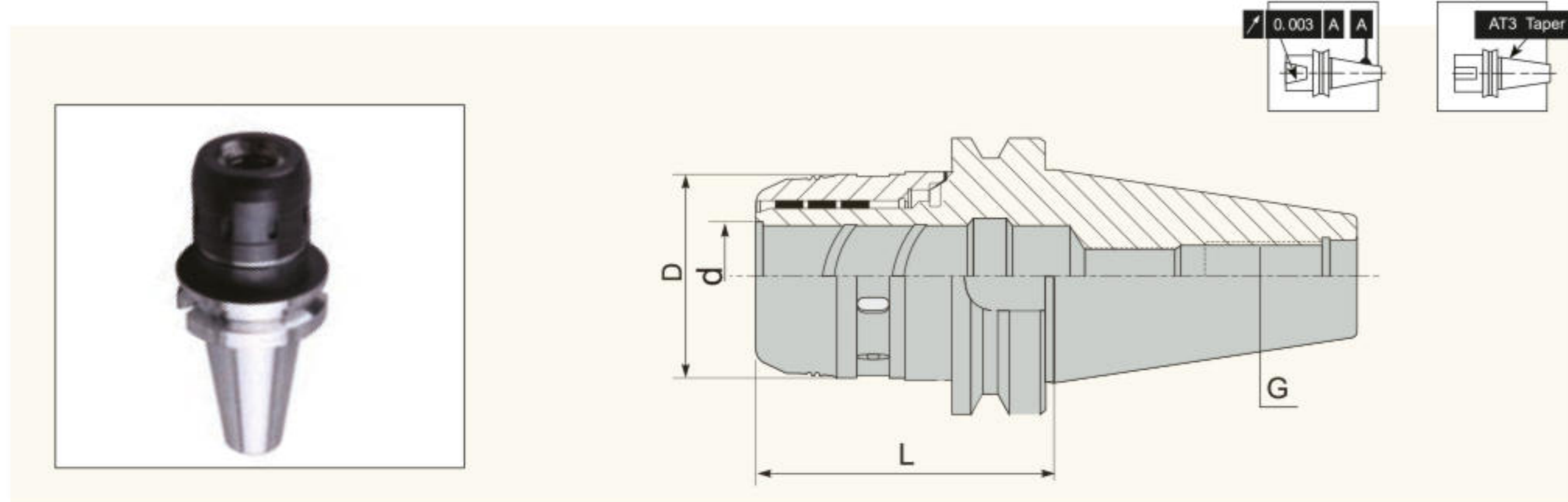
特点 Features

- | | |
|---------------------------------------|--|
| 1、增大定位基准，增强刚性。 | 2、提高加工尺寸稳定性。 |
| 3、提高轴向定位精度。 | 4、可有效控制刀具振动。 |
| 5、刀具寿命延长。 | 6、高速运转时更安全。 |
| 1、 Higher rigidity and location datum | 2、 Higher stability |
| 3、 Higher accuracy of axial direction | 4、 Reduce the vibration situation |
| 5、 Longer tool life | 6、 Much safer when with high speed condition |



ADDED CONTENT 综合样本新增内容

强力铣夹头刀柄 Power Chuck Adaptor



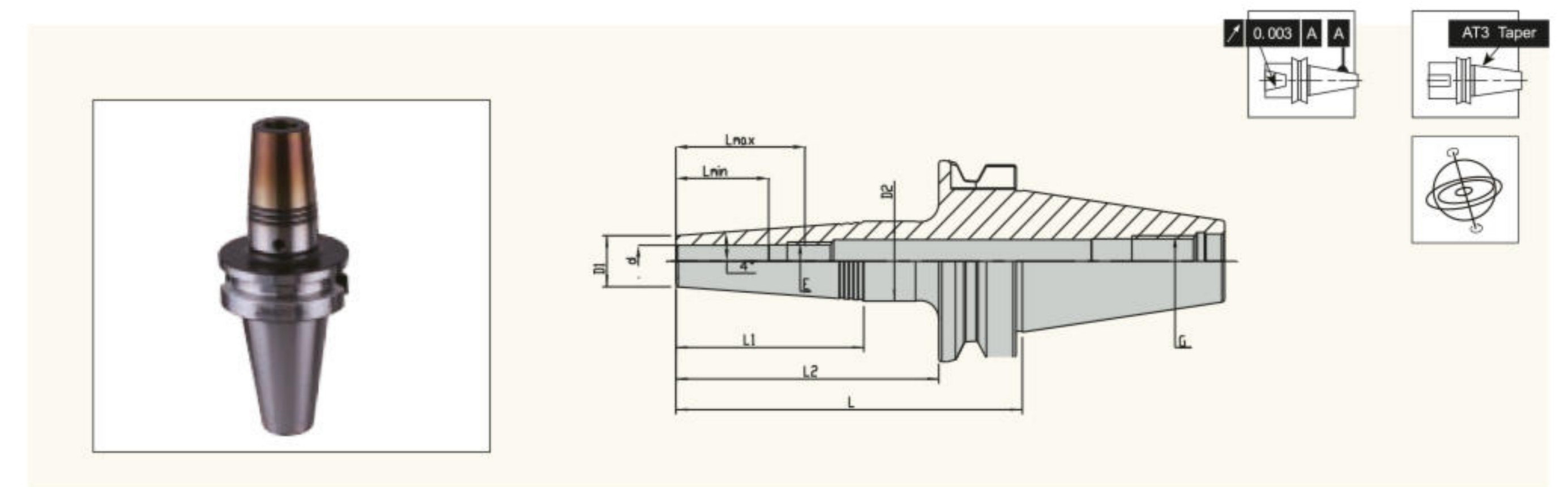
规格型号 Designation	L	D	筒夹 Collet	d	G	Kg	在库 Stock
BT40 DMG20X85	85	53	C20	6-20	M16	1.63	●
BT40 DMG32X110	110	76	C32	6-32	M16	2.97	●
BT50 DMG40X135	135	90	-	-	M24	6.94	●
BT50 DMG42X135	135	90	C42	6-42	M24	6.88	●

- 筒夹需单独订购
- 订货示例：1件BT40 DMG20X85
- The collet should be ordered separately.
- Ordering sample: 1 PC BT40 DMG20X85.

ADDED CONTENT 综合样本新增内容

热缩刀柄 Shrink Fit Adaptor

BT MAS403型热缩刀柄，仅用于夹持整体硬质合金刀具
It is only for clamping the solid carbide tools



规格型号 Designation	d	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在库 Stock
BT40 SRK3x77	3	10	15	35.55	50	77	10	16	M6	M16	1.0	●
BT40 SRK3x112	3	10	19	64.15	85	112	10	16	M6	M16	1.0	●
BT40 SRK4x77	4	10	15	35.55	50	77	12	18	M6	M16	1.0	●
BT40 SRK4x112	4	10	19	64.15	85	112	12	18	M6	M16	1.0	●
BT40 SRK5x77	5	10	15	35.55	50	77	15	21	M6	M16	1.0	●
BT40 SRK5x112	5	10	19	64.15	85	112	15	21	M6	M16	1.0	●
BT40 SRK6x77	6	11	16	35.55	50	77	18	24	M8	M16	1.0	●
BT40 SRK6x112	6	11	20	64.15	85	112	18	24	M8	M16	1.1	●
BT40 SRK8x77	8	14	20	42.50	50	77	25	31	M10	M16	1.0	●
BT40 SRK8x112	8	14	23	63.95	85	112	25	31	M10	M16	1.1	●
BT40 SRK10x77	10	16	22	42.40	50	77	30	36	M12	M16	1.0	●
BT40 SRK10x112	10	16	25	60.28	85	112	30	36	M12	M16	1.1	●
BT40 SRK12x77	12	20	26	42.30	50	77	32	42	M10	M16	1.1	●
BT40 SRK12x112	12	20	28	56.60	85	112	32	42	M10	M16	1.2	●

- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：1件BT40 SRK3x77
- The collet should be ordered separately.
- Ordering sample: 1 PC BT40 DMG20X85.

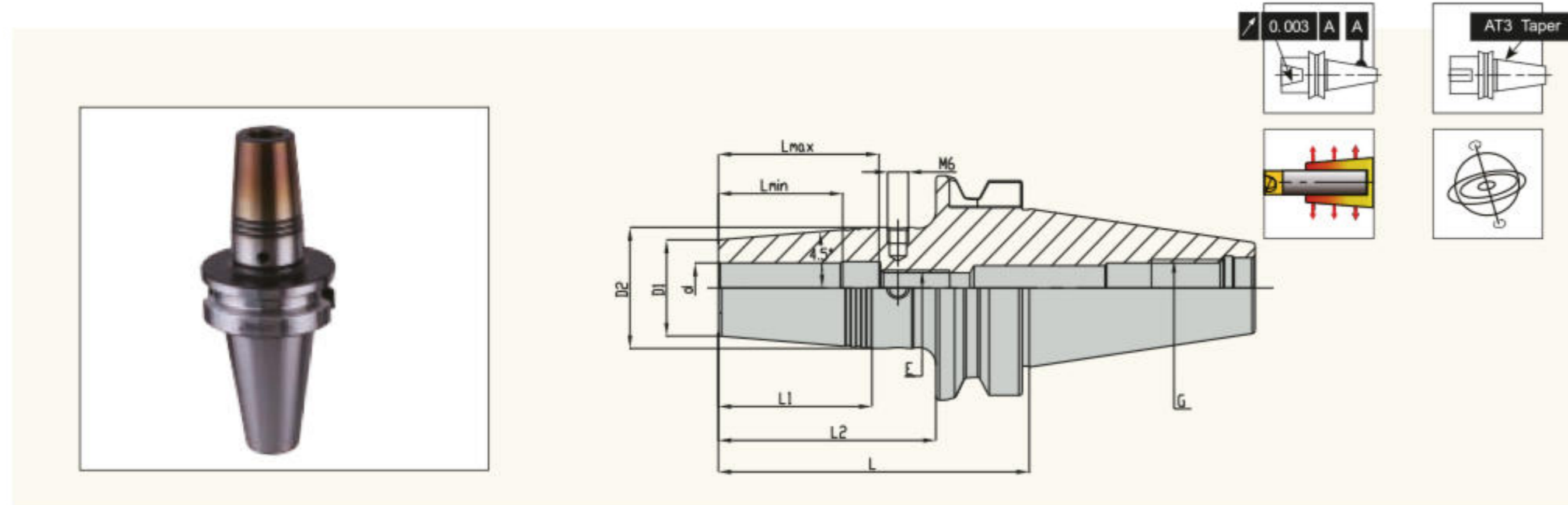
● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄 Shrink Fit Adaptor

BT MAS403型热缩刀柄，用于夹持整体硬质合金刀具或高速钢刀具
It is for clamping the solid carbide tools or HSS tools



规格型号 Designation	d	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
BT40 SRKIN6x90	6	21	27	38.0	63	90	25	36	M5	M16	1.1	●
BT40 SRKIN8x90	8	21	27	38.0	63	90	25	36	M6	M16	1.1	●
BT40 SRKIN10x90	10	24	32	50.5	63	90	31	42	M8	M16	1.2	●
BT40 SRKIN12x90	12	24	32	50.5	63	90	36	47	M10	M16	1.1	●
BT40 SRKIN14x90	14	27	34	44.5	63	90	36	47	M10	M16	1.3	●
BT40 SRKIN16x90	16	27	34	44.5	63	90	39	50	M12	M16	1.2	●
BT40 SRKIN18x90	18	33	42	57.0	63	90	39	50	M12	M16	1.4	●
BT40 SRKIN20x90	20	33	42	57.0	63	90	41	52	M16	M16	1.3	●
BT40 SRKIN25x110	25	44	53	57.0	83	110	47	58	M16	M16	1.8	●
BT50 SRKIN6x100	6	21	26	32.0	62	100	25	36	M5	M24	3.7	●
BT50 SRKIN8x100	8	21	27	38.0	62	100	25	36	M6	M24	3.8	●
BT50 SRKIN10x100	10	24	32	51.0	62	100	31	42	M8	M24	3.8	●
BT50 SRKIN12x100	12	24	32	51.0	62	100	36	47	M10	M24	3.7	●
BT50 SRKIN14x100	14	27	34	44.5	62	100	36	47	M10	M24	3.8	●
BT50 SRKIN16x100	16	27	34	44.5	62	100	39	50	M12	M24	3.8	●
BT50 SRKIN18x100	18	33	42	57.0	62	100	39	50	M12	M24	3.9	●
BT50 SRKIN20x100	20	33	42	57.0	62	100	41	52	M16	M24	3.8	●
BT50 SRKIN25x120	25	44	53	57.0	82	120	47	58	M16	M24	4.5	●
BT50 SRKIN32x120	32	44	53	57.0	82	120	47	58	M16	M24	4.3	●

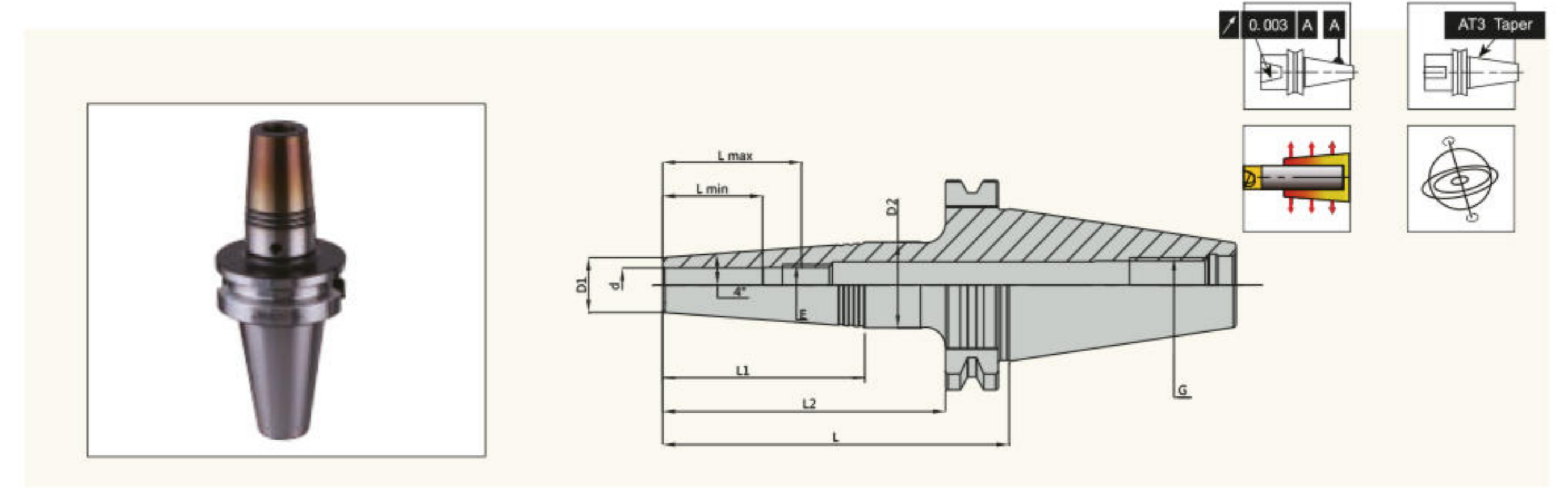
- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：1件BT40 SRKIN6x90
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC BT40 SRKIN6X90.

● 标准库存 Item in stock
 ● 半标准库存 (订货时，请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时，请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄 Shrink Fit Adaptor

DIN69871-A型热缩刀柄，仅用于夹持整体硬质合金刀具
It is only for clamping the solid carbide tools



规格型号 Designation	d	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
DIN69871 40 SRK3x69	3	10	15.0	35.55	50	69.1	10	16	M6	M16	0.8	●
DIN69871 40 SRK3x104	3	10	19.0	64.15	85	104.1	10	16	M6	M16	1.0	●
DIN69871 40 SRK4x69	4	10	15.0	35.55	50	69.1	12	18	M6	M16	0.8	●
DIN69871 40 SRK4x104	4	10	19.0	64.15	85	104.1	12	18	M6	M16	0.9	●
DIN69871 40 SRK5x69	5	10	15.0	35.55	50	69.1	15	21	M6	M16	0.8	●
DIN69871 40 SRK5x104	5	10	19.0	64.15	85	104.1	15	21	M6	M16	1.0	●
DIN69871 40 SRK6x69	6	11	16.0	35.55	50	69.1	18	24	M8	M16	0.8	●
DIN69871 40 SRK6x104	6	11	20.0	64.15	85	104.1	18	24	M8	M16	0.8	●
DIN69871 40 SRK8x69	8	14	20.0	42.50	50	69.1	25	31	M10	M16	0.8	●
DIN69871 40 SRK8x104	8	14	23.0	63.95	85	104.1	25	31	M10	M16	0.9	●
DIN69871 40 SRK10x69	10	16	22.0	42.40	50	69.1	30	36	M12	M16	0.9	●
DIN69871 40 SRK10x104	10	16	24.5	60.28	85	104.1	30	36	M12	M16	0.9	●
DIN69871 40 SRK12x69	12	20	26.0	42.30	50	69.1	32	42	M10	M16	0.9	●
DIN69871 40 SRK12x104	12	20	28.0	56.60	85	104.1	32	42	M10	M16	1.1	●

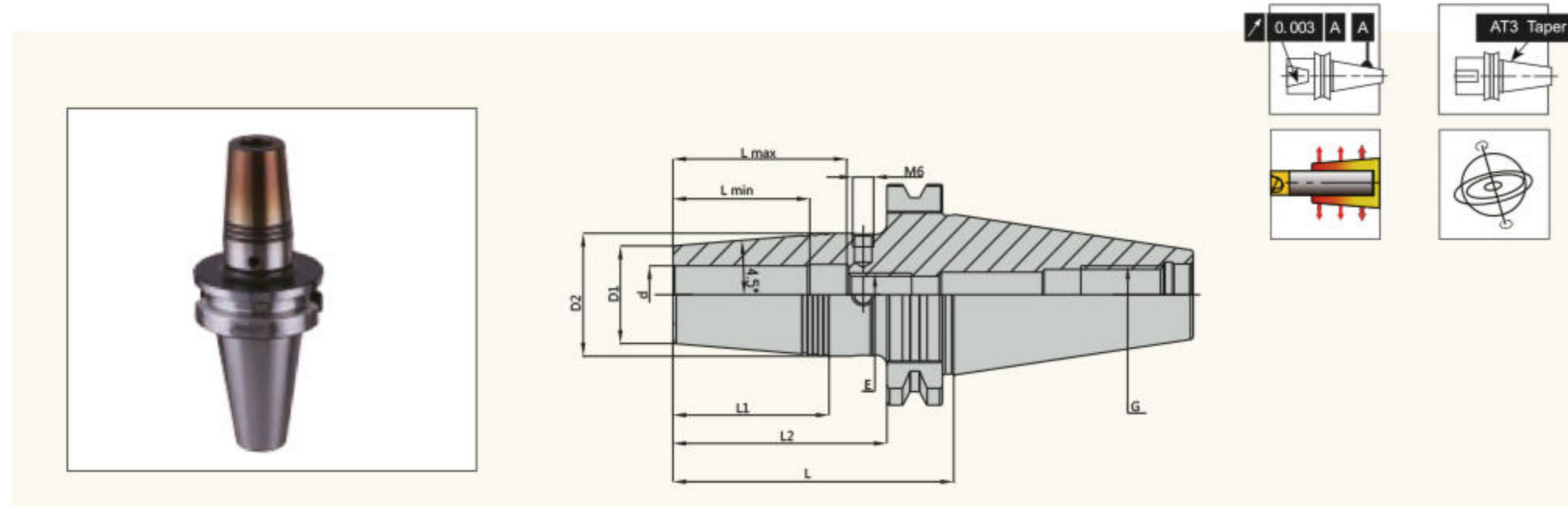
- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：DIN69871 40 SRK3x69
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC DIN69871 40 SRK3X69.

● 标准库存 Item in stock
 ● 半标准库存 (订货时，请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时，请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄 Shrink Fit Adaptor

DIN69871-A型热缩刀柄，用于夹持整体硬质合金刀具或高速钢刀具
It is only for clamping the solid carbide tools or HSS tools



规格型号 Designation	d	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
DIN69871 40 SRKIN6x80	6	21	27	38.0	60.9	80	25	36	M5	M16	1.0	●
DIN69871 40 SRKIN8x80	8	21	27	38.0	60.9	80	25	36	M6	M16	1.1	●
DIN69871 40 SRKIN10x80	10	24	32	50.5	60.9	80	31	42	M8	M16	1.0	●
DIN69871 40 SRKIN12x80	12	24	32	50.5	60.9	80	36	47	M10	M16	1.4	●
DIN69871 40 SRKIN14x80	14	27	34	44.5	60.9	80	36	47	M10	M16	1.1	●
DIN69871 40 SRKIN16x80	16	27	34	44.5	60.9	80	39	50	M12	M16	1.1	●
DIN69871 40 SRKIN18x80	18	33	42	57.0	60.9	80	39	50	M12	M16	1.2	●
DIN69871 40 SRKIN20x80	20	33	42	57.0	60.9	80	41	52	M16	M16	1.2	●
DIN69871 40 SRKIN25x100	25	44	53	57.0	80.9	100	47	58	M16	M16	1.7	●
DIN69871 50 SRKIN6x80	6	21	26	32.0	60.9	80	25	36	M5	M24	2.8	●
DIN69871 50 SRKIN8x80	8	21	27	38.0	60.9	80	25	36	M6	M24	2.8	●
DIN69871 50 SRKIN10x80	10	24	32	51.0	60.9	80	31	42	M8	M24	2.8	●
DIN69871 50 SRKIN12x80	12	24	32	51.0	60.9	80	36	47	M10	M24	2.8	●
DIN69871 50 SRKIN14x80	14	27	34	44.5	60.9	80	36	47	M10	M24	2.8	●
DIN69871 50 SRKIN16x80	16	27	34	44.5	60.9	80	39	50	M12	M24	2.8	●
DIN69871 50 SRKIN18x80	18	33	42	57.0	60.9	80	39	50	M12	M24	2.9	●
DIN69871 50 SRKIN20x80	20	33	42	57.0	60.9	80	41	52	M16	M24	2.9	●
DIN69871 50 SRKIN25x100	25	44	53	57.0	80.9	100	47	58	M16	M24	3.5	●
DIN69871 50 SRKIN32x100	32	44	53	57.0	80.9	100	47	58	M16	M24	3.4	●

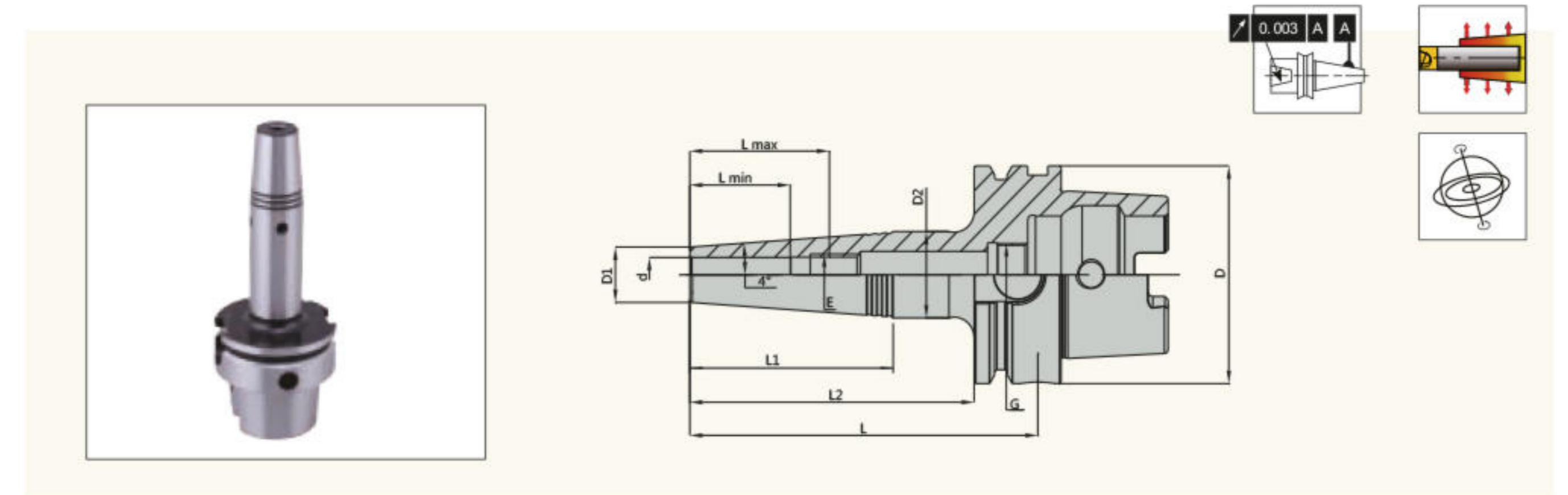
- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：1件DIN69871 40 SRKIN6x80
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC DIN69871 40 SRKIN6X80.

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄 Shrink Fit Adaptor

DIN 69893 HSK-A型热缩刀柄，仅用于夹持硬质合金刀具
It is for clamping the solid carbide tools or HSS tools



规格型号 Designation	d	D	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
HSK A63 SRK3x76	3	63	10	17.0	-	50	76	10	16	M6	M18x1	0.7	●
HSK A63 SRK3x111	3	63	10	21.0	79.00	85	111	10	16	M6	M18x1	0.8	●
HSK A63 SRK4x76	4	63	10	17.0	-	50	76	12	18	M6	M18x1	0.7	●
HSK A63 SRK4x111	4	63	10	21.0	79.00	85	111	12	18	M6	M18x1	0.7	●
HSK A63 SRK5x76	5	63	10	17.0	-	50	76	15	21	M6	M18x1	0.7	●
HSK A63 SRK5x111	5	63	10	21.0	79.00	85	111	15	21	M6	M18x1	0.8	●
HSK A63 SRK6x76	6	63	11	18.0	-	50	76	18	24	M8	M18x1	0.7	●
HSK A63 SRK6x111	6	63	11	22.0	79.00	85	111	18	24	M8	M18x1	0.8	●
HSK A63 SRK8x76	8	63	14	20.0	43.00	50	76	25	36	M6	M18x1	0.7	●
HSK A63 SRK8x111	8	63	14	23.0	64.00	85	111	25	36	M6	M18x1	0.8	●
HSK A63 SRK10x76	10	63	16	23.0	-	50	76	30	41	M8	M18x1	0.7	●
HSK A63 SRK10x111	10	63	16	26.0	72.00	85	111	30	41	M8	M18x1	0.8	●
HSK A63 SRK12x76	12	63	20	27.0	-	50	76	32	43	M8	M18x1	0.8	●
HSK A63 SRK12x111	12	63	20	30.0	72.00	85	111	32	43	M8	M18x1	0.9	●

- 内冷却管需单独订购
- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：HSK A63 SRK3x76
- Inner coolant tube should be ordered separately.
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC DIN69871 40 SRKIN6X80.

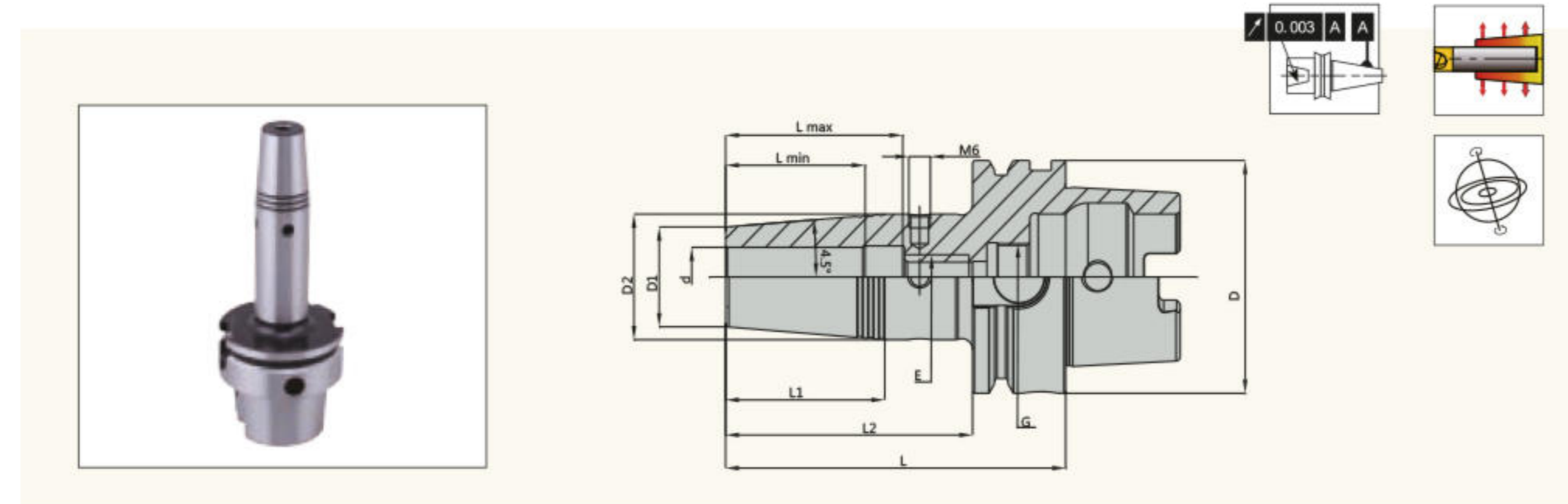
● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄

Shrink Fit Adaptor

DIN 69893 HSK A型热缩刀柄，夹持整体硬质合金刀具或高速钢刀具
It is for clamping the solid carbide tools or HSS tools



规格型号 Designation	d	D	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
HSK A63 SRKIN6x80	6	63	21	27.0	38.0	54	80	25	36	M5	M18x1	0.8	●
HSK A63 SRKIN6x120	6	63	21	27.0	38.0	94	120	25	36	M5	M18x1	1.0	●
HSK A63 SRKIN6x160	6	63	21	27.0	38.0	134	160	25	36	M5	M18x1	1.2	●
HSK A63 SRKIN8x80	8	63	21	27.0	38.0	54	80	25	36	M6	M18x1	0.9	●
HSK A63 SRKIN8x120	8	63	21	27.0	38.0	94	120	25	36	M6	M18x1	1.0	●
HSK A63 SRKIN8x160	8	63	21	27.0	38.0	134	160	25	36	M6	M18x1	1.2	●
HSK A63 SRKIN10x85	10	63	24	32.0	51.0	59	85	31	42	M8	M18x1	0.9	●
HSK A63 SRKIN10x120	10	63	24	32.0	51.0	94	120	31	42	M8	M18x1	1.1	●
HSK A63 SRKIN10x160	10	63	24	32.0	51.0	134	160	31	42	M8	M18x1	1.4	●
HSK A63 SRKIN12x90	12	63	24	32.0	51.0	64	90	36	42	M8	M18x1	0.9	●
HSK A63 SRKIN12x120	12	63	24	32.0	51.0	94	120	36	47	M10	M18x1	1.0	●
HSK A63 SRKIN12x160	12	63	24	32.0	51.0	134	160	36	47	M10	M18x1	1.3	●
HSK A63 SRKIN14x90	14	63	27	34.0	45.0	64	90	36	47	M10	M18x1	0.9	●
HSK A63 SRKIN14x120	14	63	27	34.0	45.0	94	120	36	47	M10	M18x1	1.2	●
HSK A63 SRKIN14x160	14	63	27	34.0	45.0	134	160	36	47	M10	M18x1	1.4	●
HSK A63 SRKIN16x75	16	63	27	34.0	-	49	75	39	50	-	M18x1	0.9	●
HSK A63 SRKIN16x95	16	63	27	34.0	44.0	69	95	39	50	M12	M18x1	1.0	●
HSK A63 SRKIN16x120	16	63	27	34.0	44.0	94	120	39	50	M12	M18x1	1.1	●
HSK A63 SRKIN16x160	16	63	27	34.0	44.0	134	160	39	50	M12	M18x1	1.4	●
HSK A63 SRKIN18x95	18	63	33	42.0	57.0	69	95	39	50	M12	M18x1	1.1	●
HSK A63 SRKIN18x120	18	63	33	42.0	57.0	94	120	39	50	M12	M18x1	1.4	●
HSK A63 SRKIN18x160	18	63	33	42.0	57.0	134	160	39	50	M12	M18x1	1.8	●
HSK A63 SRKIN20x75	20	63	33	41.0	-	49	75	41	50	-	M18x1	0.9	●
HSK A63 SRKIN20x100	20	63	33	42.0	57.0	74	100	41	52	M16	M18x1	1.1	●
HSK A63 SRKIN20x120	20	63	33	42.0	57.0	94	120	41	52	M16	M18x1	1.4	●
HSK A63 SRKIN20x160	20	63	33	42.0	57.0	134	160	41	52	M16	M18x1	1.8	●
HSK A63 SRKIN25x85	25	63	44	53.0	-	59	85	47	58	-	M18x1	1.3	●
HSK A63 SRKIN25x115	25	63	44	53.0	55.0	89	115	47	58	M16	M18x1	1.7	●
HSK A63 SRKIN32x85	32	63	44	53.0	-	59	85	47	58	-	M18x1	1.1	●
HSK A63 SRKIN32x120	32	63	44	53.0	55.0	94	120	47	58	M16	M18x1	1.7	●

- 内冷却管需单独订购
- 当工作转速N=25,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：HSK A63 SRK3x76
- Inner coolant tube should be ordered separately.
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC HSK A63 SRK3X76.

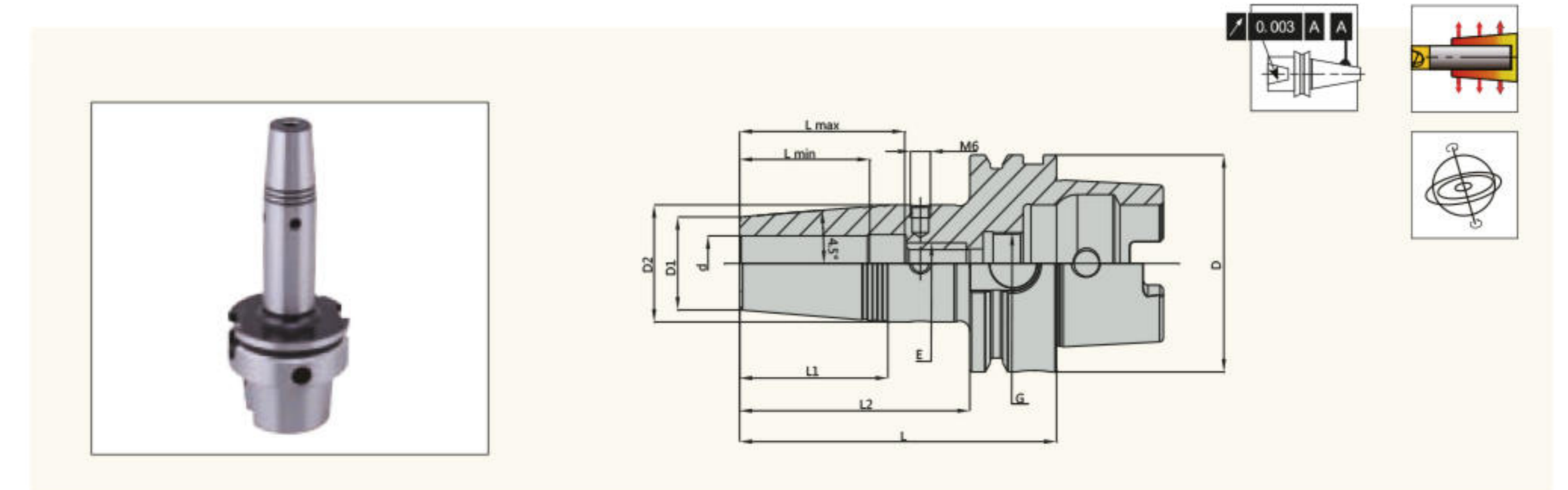
● 标准库存 Item in stock
● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

热缩刀柄

Shrink Fit Adaptor

DIN 69893 HSK A型热缩刀柄，夹持整体硬质合金刀具或高速钢刀具
It is for clamping the solid carbide tools or HSS tools



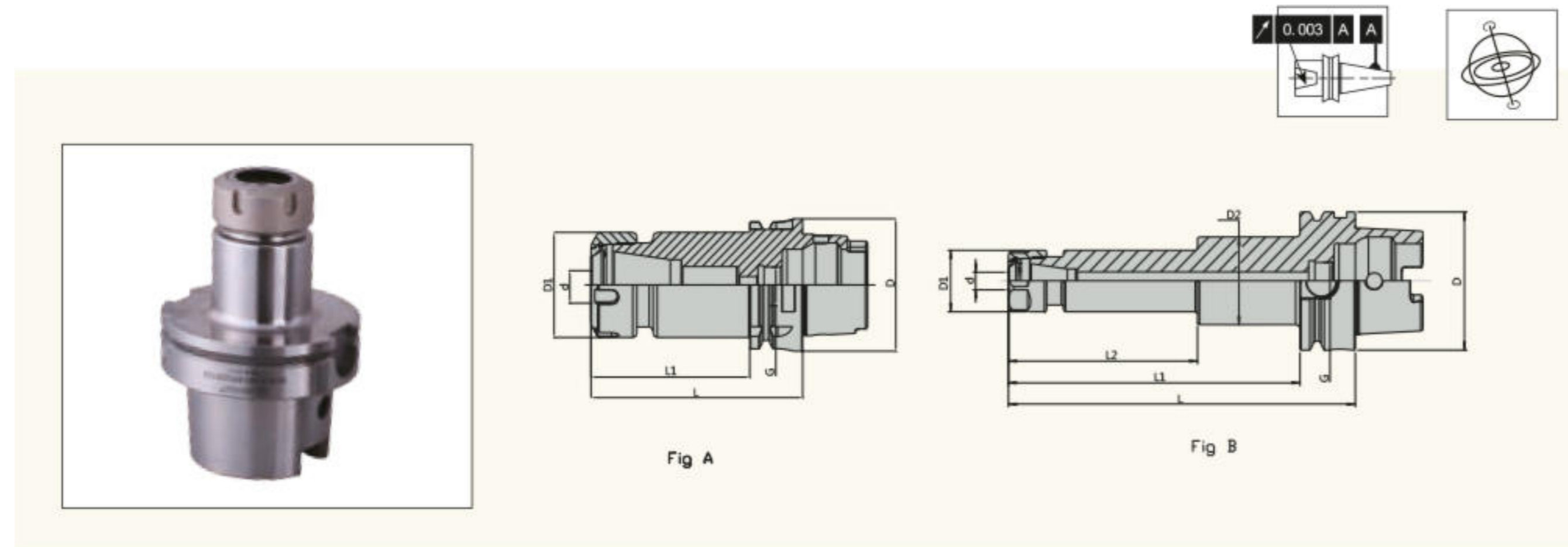
规格型号 Designation	d	D	D1	D2	L1	L2	L	Lmin	Lmax	E	G	Kg	在庫 Stock
HSK A100 SRKIN6x85	6	100	21	27.0	38.0	56	85	25	36	M5	M24x1.5	2.2	●
HSK A100 SRKIN6x120	6	100	21	27.0	38.0	91	120	25	36	M5	M24x1.5	2.3	●
HSK A100 SRKIN6x160	6	100	21	27.0	38.0	131	160	25	36	M5	M24x1.5	2.5	●
HSK A100 SRKIN8x85	8	100	21	27.0	38.0	56	85	25	36	M6	M24x1.5	2.2	●
HSK A100 SRKIN8x120	8	100	21	27.0	38.0	91	120	25	36	M6	M24x1.5	2.4	●
HSK A100 SRKIN8x160	8	100	21	27.0	38.0	131	160	25	36	M6	M24x1.5	2.6	●
HSK A100 SRKIN10x90	10	100	24	32.0	51.0	61	90	31	42	M8	M24x1.5	2.2	●
HSK A100 SRKIN10x120	10	100	24	32.0	51.0	91	120	31	42	M8	M24x1.5	2.5	●
HSK A100 SRKIN10x160	10	100	24	32.0	51.0	131	160	31	42	M8	M24x1.5	2.7	●
HSK A100 SRKIN12x95	12	100	24	32.0	51.0	66	95	36	42	M10	M24x1.5	2.3	●
HSK A100 SRKIN12x120	12	100	24	32.0	51.0	91	120	36	47	M10	M24x1.5	2.5	●
HSK A100 SRKIN12x160	12	100	24	32.0	51.0	131	160	36	47	M10	M24x1.5	2.7	●
HSK A100 SRKIN14x95	14	100	27	34.0	45.0	66	95	36	47	M10	M24x1.5	2.3	●
HSK A100 SRKIN14x120	14	100	27	34.0	45.0	91	120	36	47	M10	M24x1.5	2.5	●
HSK A100 SRKIN14x160	14	100	27	34.0	45.0	131	160	36	47	M10	M24x1.5	2.8	●
HSK A100 SRKIN16x100	16	100	27	34.0	45.0	71	100	39	50	M12	M24x1.5	2.4	●
HSK A100 SRKIN16x120	16	100	27	34.0	45.0	91	120	39	50	M12	M24x1.5	2.5	●
HSK A100 SRKIN16x160	16	100	27	34.0	45.0	131	160	39	50	M12	M24x1.5	2.7	●
HSK A100 SRKIN18x100	18	100	33	42.0	57.0	71	100	39	50	M12	M24x1.5	2.5	●
HSK A100 SRKIN18x160	18	100	33	42.0	57.0	131	160	39	50	M12	M24x1.5	3.1	●
HSK A100 SRKIN20x105	20	100	33	42.0	57.0	76	105	41	52	M16	M24x1.5	2.5	●
HSK A100 SRKIN20x160	20	100	33	42.0	57.0	131	160	41	52	M16	M24x1.5	3.0	●
HSK A100 SRKIN25x115	25	100	44	53.0	57.0	86	115	47	58	M16	M24x1.5	3.0	●
HSK A100 SRKIN32x120	32	100	44	53.0	57.0	91	120	47	58	M16	M24x1.5	3.0	●

- 内冷却管需单独订购
- 当工作转速N=20,000RPM时，刀柄的平衡等级为G2.5
- 订货示例：HSK A100 SRKIN6x85
- Inner coolant tube should be ordered separately.
- It is with G2.5/25,000 RPM.
- Ordering sample: 1 PC HSK A100 SRKIN6X85.

● 标准库存 Item in stock
● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

普通ER筒夹刀柄 ER Collet Chuck Adaptor



规格型号 Designation	L	L1	L2	D	D1	D2	d	Fig	G	Kg	在库 Stock
HSK A63 ER16x100 ⁽¹⁾	100	74	-	63	28	-	0.5-10	A	M18x1	0.8	●
HSK A63 ER16x120 ⁽¹⁾	120	94	-	63	28	-	0.5-10	A	M18x1	1.0	●
HSK A63 ER16x160 ⁽¹⁾	160	134	85.6	63	28	40	0.5-10	B	M18x1	1.4	●
HSK A63 ER20x100 ⁽¹⁾	100	74	-	63	34	-	1-13	A	M18x1	0.9	●
HSK A63 ER20x120 ⁽¹⁾	120	94	-	63	34	-	1-13	A	M18x1	1.1	●
HSK A63 ER20x160 ⁽¹⁾	160	134	85	63	34	45	1-13	B	M18x1	1.6	●
HSK A63 ER25x80 ⁽¹⁾	80	54	-	63	42	-	1-16	A	M18x1	0.9	●
HSK A63 ER25x100 ⁽¹⁾	100	74	-	63	42	-	1-16	A	M18x1	1.1	●
HSK A63 ER25x120 ⁽¹⁾	120	94	-	63	42	-	1-16	A	M18x1	1.3	●
HSK A63 ER25x160 ⁽¹⁾	160	134	-	63	42	-	1-16	A	M18x1	1.7	●
HSK A63 ER32x80 ⁽¹⁾	80	54	31	63	50	40	2-20	B	M18x1	0.8	●
HSK A63 ER32x100 ⁽¹⁾	100	74	-	63	50	-	2-20	A	M18x1	1.2	●
HSK A63 ER32x120 ⁽¹⁾	120	94	-	63	50	-	2-20	A	M18x1	1.5	●
HSK A63 ER32x160 ⁽¹⁾	160	134	-	63	50	-	2-20	A	M18x1	2.0	●
HSK A63 ER40x80 ⁽¹⁾	80	54	34	63	63	50.4	3-26	B	M18x1	0.9	●
HSK A63 ER40x100 ⁽¹⁾	100	74	34	63	63	50.4	3-26	B	M18x1	1.2	●
HSK A63 ER40x120 ⁽¹⁾	120	94	34	63	63	50.4	3-26	B	M18x1	1.4	●
HSK A100 ER16x100 ⁽²⁾	100	74	-	100	28	-	0.5-10	A	M24x1.5	2.2	●
HSK A100 ER16x160 ⁽²⁾	160	134	85	100	28	40	0.5-10	B	M24x1.5	2.7	●
HSK A100 ER20x100 ⁽²⁾	100	74	-	100	34	-	1-13	A	M24x1.5	2.3	●
HSK A100 ER20x160 ⁽²⁾	120	134	85	100	34	50	1-13	B	M24x1.5	3.1	●
HSK A100 ER25x100 ⁽²⁾	100	74	-	100	42	-	1-16	A	M24x1.5	2.5	●
HSK A100 ER25x120 ⁽²⁾	120	94	-	100	42	-	1-16	A	M24x1.5	2.7	●
HSK A100 ER25x160 ⁽²⁾	160	134	-	100	42	-	1-16	A	M24x1.5	3.1	●
HSK A100 ER32x100 ⁽²⁾	100	74	-	100	50	-	2-20	A	M24x1.5	2.5	●
HSK A100 ER32x120 ⁽²⁾	120	94	-	100	50	-	2-20	A	M24x1.5	2.8	●
HSK A100 ER32x160 ⁽²⁾	160	134	-	100	50	-	2-20	A	M24x1.5	3.3	●
HSK A100 ER40x100 ⁽²⁾	100	74	-	100	63	-	3-26	A	M24x1.5	2.8	●
HSK A100 ER40x120 ⁽²⁾	120	94	-	100	63	-	3-26	A	M24x1.5	3.2	●
HSK A100 ER40x160 ⁽²⁾	160	134	-	100	63	-	3-26	A	M24x1.5	4.1	●

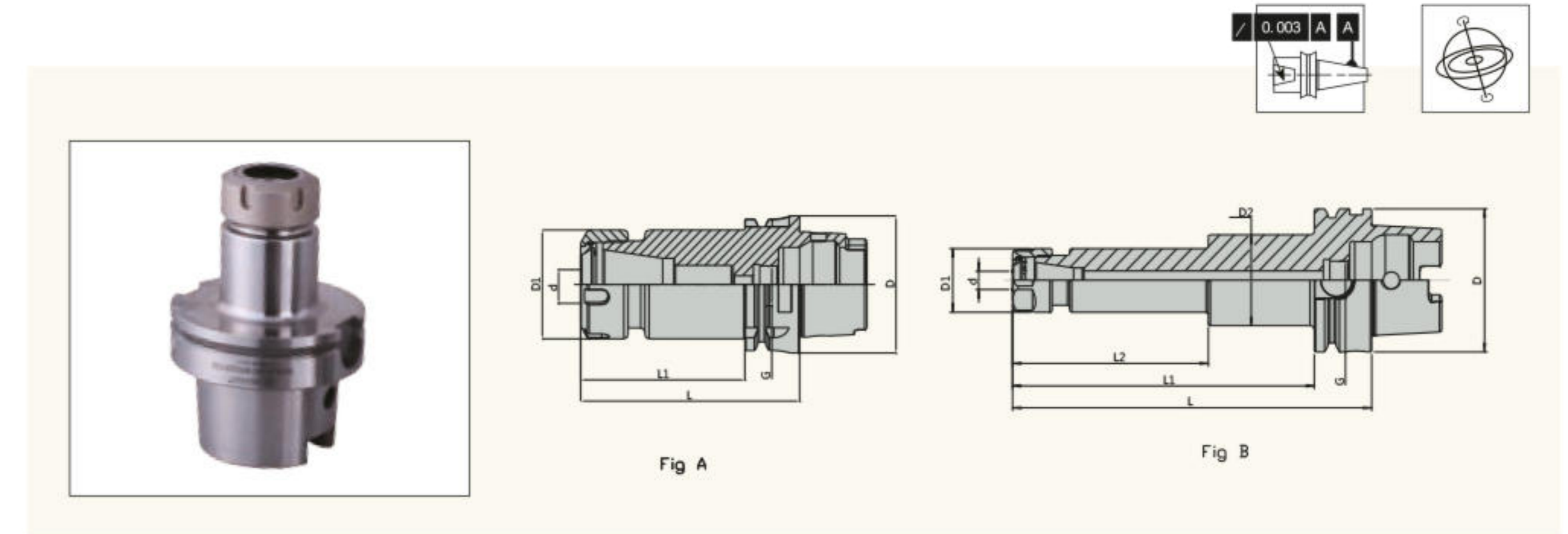
- 内冷却管需单独订购
- ⁽¹⁾当工作转速N=20000RPM时, 刀柄的平衡等级为G2.5, ⁽²⁾当工作转速N = 12000RPM时, 刀柄的平衡等级为G6.3
- 订货示例: 一件HSK A63 ER32x100

- Inner coolant tube should be ordered separately.
- It is with G2.5/25,000 RPM, and G6.3/12,000 RPM.
- Ordering sample: 1 PC HSK A63 ER32X100.

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

高精度ER筒夹刀柄 High Precision ER Collet Chuck Adaptor



规格型号 Designation	L	L1	L2	D	D1	D2	d	Fig	G	Kg	在库 Stock
HSK A63 ER16x100.TOP ⁽¹⁾	100	74	-	63	28	-	0.5-10	A	M18x1	0.8	●
HSK A63 ER16x120.TOP ⁽¹⁾	120	94	-	63	28	-	0.5-10	A	M18x1	1.0	●
HSK A63 ER16x160.TOP ⁽¹⁾	160	134	85.6	63	28	40	0.5-10	B	M18x1	1.4	●
HSK A63 ER20x100.TOP ⁽¹⁾	100	74	-	63	34	-	1-13	A	M18x1	0.9	●
HSK A63 ER20x120.TOP ⁽¹⁾	120	94	-	63	34	-	1-13	A	M18x1	1.1	●
HSK A63 ER20x160.TOP ⁽¹⁾	160	134	85	63	34	45	1-13	B	M18x1	1.6	●
HSK A63 ER25x80.TOP ⁽¹⁾	80	54	-	63	42	-	1-16	A	M18x1	0.9	●
HSK A63 ER25x100.TOP ⁽¹⁾	100	74	-	63	42	-	1-16	A	M18x1	1.1	●
HSK A63 ER25x120.TOP ⁽¹⁾	120	94	-	63	42	-	1-16	A	M18x1	1.3	●
HSK A63 ER25x160.TOP ⁽¹⁾	160	134	-	63	42	-	1-16	A	M18x1	1.7	●
HSK A63 ER32x80.TOP ⁽¹⁾	80	54	31	63	50	40	2-20	B	M18x1	0.8	●
HSK A63 ER32x100.TOP ⁽¹⁾	100	74	-	63	50	-	2-20	A	M18x1	1.2	●
HSK A63 ER32x120.TOP ⁽¹⁾	120	94	-	63	50	-	2-20	A	M18x1	1.5	●
HSK A63 ER32x160.TOP ⁽¹⁾	160	134	-	63	50	-	2-20	A	M18x1	2.0	●
HSK A63 ER40x80.TOP ⁽¹⁾	80	54	34	63	63	50.4	3-26	B	M18x1	0.9	●
HSK A63 ER40x100.TOP ⁽¹⁾	100	74	34	63	63	50.4	3-26	B	M18x1	1.2	●
HSK A63 ER40x120.TOP ⁽¹⁾	120	94	34	63	63	50.4	3-26	B	M18x1	1.4	●
HSK A100 ER16x100.TOP ⁽²⁾	100	74	-	100	28	-	0.5-10	A	M24x1.5	2.2	●
HSK A100 ER16x160.TOP ⁽²⁾	160	134	85	100	28	40	0.5-10	B	M24x1.5	2.7	●
HSK A100 ER20x100.TOP ⁽²⁾	100	74	-	100	34	-	1-13	A	M24x1.5	2.3	●
HSK A100 ER20x160.TOP ⁽²⁾	120	134	85	100	34	50	1-13	B	M24x1.5	3.1	●
HSK A100 ER25x100.TOP ⁽²⁾	100	74	-	100	42	-	1-16	A	M24x1.5	2.5	●
HSK A100 ER25x120.TOP ⁽²⁾	120	94	-	100	42	-	1-16	A	M24x1.5	2.7	●
HSK A100 ER25x160.TOP ⁽²⁾	160	134	-	100	42	-	1-16	A	M24x1.5	3.1	●
HSK A100 ER32x100.TOP ⁽²⁾	100	74	-	100	50	-	2-20	A	M24x1.5	2.5	●
HSK A100 ER32x120.TOP ⁽²⁾	120	94	-	100	50	-	2-20	A	M24x1.5	2.8	●
HSK A100 ER32x160.TOP ⁽²⁾	160	134	-	100	50	-	2-20	A	M24x1.5	3.3	●
HSK A100 ER40x100.TOP ⁽²⁾	100	74	-	100	63	-	3-26	A	M24x1.5	2.8	●
HSK A100 ER40x120.TOP ⁽²⁾	120	94	-	100	63	-	3-26	A	M24x1.5	3.2	●
HSK A100 ER40x160.TOP ⁽²⁾	160	134	-	100	63	-	3-26	A	M24x1.5	4.1	●

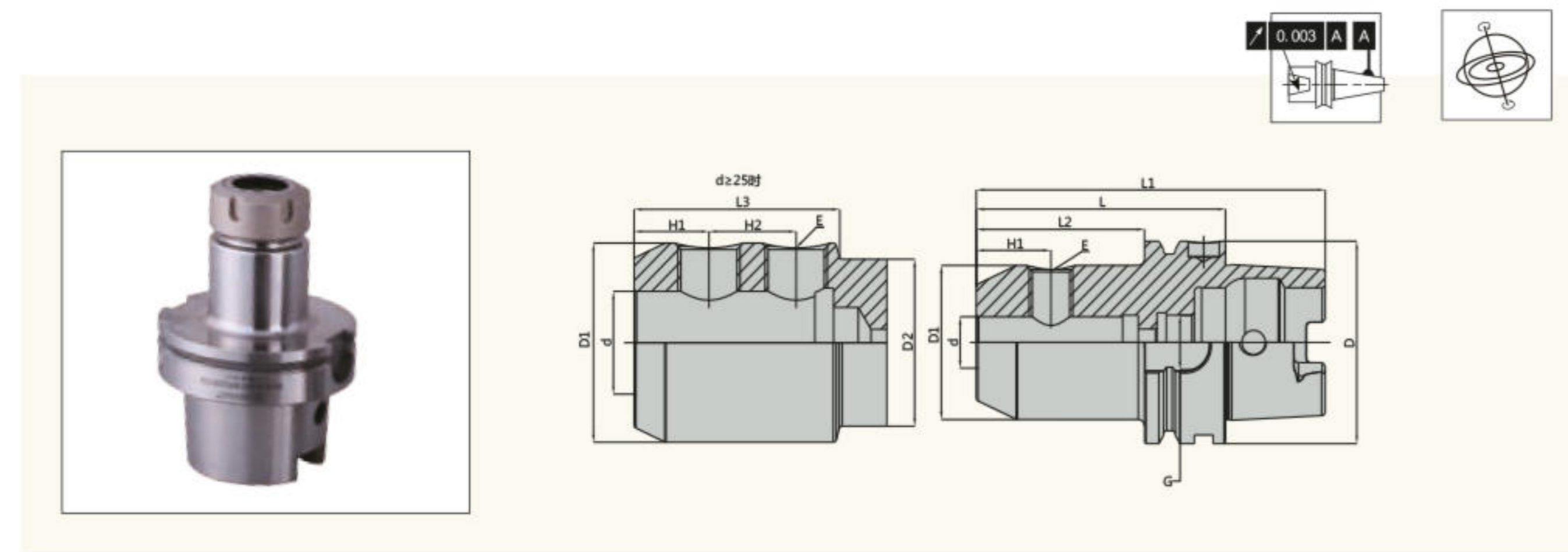
- 内冷却管需单独订购
- ⁽¹⁾当工作转速N=20000RPM时, 刀柄的平衡等级为G2.5, ⁽²⁾当工作转速N = 12000RPM时, 刀柄的平衡等级为G6.3
- 订货示例: 一件HSK A63 ER32x100.TOP

- Inner coolant tube should be ordered separately.
- It is with G2.5/25,000 RPM, and G6.3/12,000 RPM.
- Ordering sample: 1 PC HSK A63 ER32X100.TOP.

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

侧固式刀柄 (DIN 1835-B) Weldon Adaptor



规格型号 Designation	d	D	D1	D2	L	L1	L2	L3	H1	H2	G	E	Kg	在庫 Stock
HSK A63 EM16x80	16	63	48	—	80	112	54	—	24	—	M18x1	M14	1.2	●
HSK A63 EM20x80	20	63	52	—	80	112	54	—	25	—	M18x1	M16	1.3	●
HSK A63 EM25x110	25	63	55	52	110	142	8	66	24	25	M18x1	M18x2	1.8	●
HSK A63 EM32x110	32	63	62	52	110	142	84	66	24	28	M18x1	M20x2	1.9	●
HSK A63 EM40x125	40	63	72	52	125	157	131	81	30	32	M18x1	M20x2	2.6	●
HSK A100 EM16x85	16	100	48	—	85	135	56	—	24	—	M24x1.5	M14	2.6	●
HSK A100 EM20x90	20	100	50	—	90	140	61	—	25	—	M24x1.5	M16	2.7	●
HSK A100 EM25x100	25	100	65	—	100	150	71	—	24	25	M24x1.5	M18x2	3.5	●
HSK A100 EM32x100	32	100	72	—	100	150	71	—	24	28	M24x1.5	M20x2	3.7	●
HSK A100 EM40x110	40	100	72	—	110	160	81	—	30	32	M24x1.5	M20x2	3.7	●
HSK A100 EM50x140	50	100	98	87	140	190	111	93	35	32	M24x1.5	M24x2	6.7	●

- 内冷却管需单独订购
- 订货示例：1件HSK A63 EM25x110
- Inner coolant tube should be ordered separately.
- Ordering sample: 1 PC HSK A63 EM25X100.

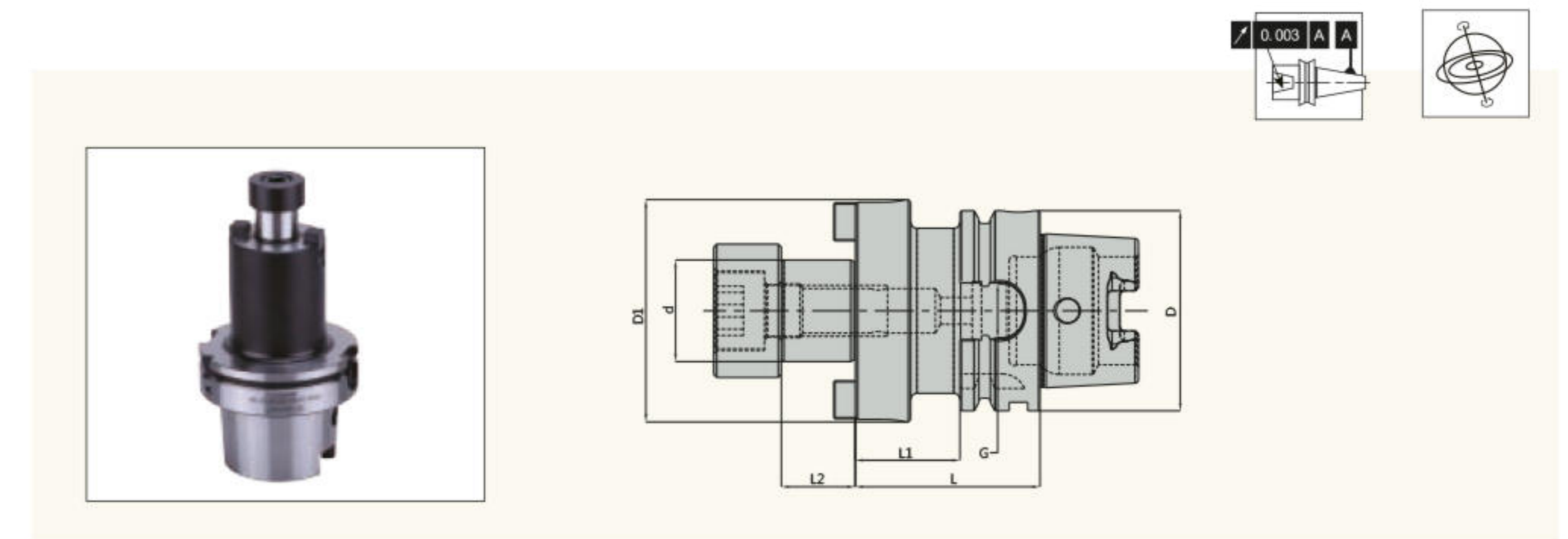
备件 Spare Parts

规格 Designation	锁紧螺钉 Lock screw	锁紧扳手 Allen key
EM16	SR54 M14x16	KEY01 M6
EM20	SR54 M16x16	KEY01 M8
EM25	SR54 M18x20-X	KEY01 M8
EM32	SR54 M20x20-X	KEY01 M10
EM40	SR54 M20x25-X	KEY01 M10
EM50	SR54 M24x25-X	KEY01 M12

● 标准库存 Item in stock
 ○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

面铣刀刀柄 Face Mill Adaptor



规格型号 Designation	D	D1	d	L	L1	L2	G	Kg	在庫 Stock
HSK A63 SEM16x60 ⁽¹⁾	63	38	16	60	34	17	M18x1	1.00	●
HSK A63 SEM22x60 ⁽¹⁾	63	48	22	60	34	19	M18x1	1.30	●
HSK A63 SEM27x60 ⁽¹⁾	63	60	27	60	34	21	M18x1	1.70	●
HSK A63 SEM32x60 ⁽¹⁾	63	70	32	60	34	24	M18x1	2.20	●
*HSK A63 SEM40x60 ⁽¹⁾	63	80	40	60	34	27	M18x1	2.66	●
HSK A100 SEM16x60 ⁽²⁾	100	38	16	60	31	17	M24x1.5	2.26	●
HSK A100 SEM22x60 ⁽²⁾	100	48	22	60	31	19	M24x1.5	2.62	●
HSK A100 SEM27x60 ⁽²⁾	100	60	27	60	31	21	M24x1.5	2.96	●
HSK A100 SEM32x60 ⁽²⁾	100	78	32	60	31	24	M24x1.5	3.46	●
*HSK A100 SEM40x60 ⁽²⁾	100	89	40	60	31	27	M24x1.5	4.03	●
HSK A100 SEM60x75 ⁽²⁾	100	128	60	75	46	30	M24x1.5	4.96	●

- 内冷却管需单独订购
- ** 此刀柄如法兰盘连接, 请单独订购螺钉 (SR55 M12x50)
- ⁽¹⁾ 当工作转速N=15000RPM时, 刀柄的平衡等级为G2.5 ⁽²⁾ 当工作转速N=12000RPM时, 刀柄的平衡等级为G6.3
- 订货示例：1件HSK A63 SEM22x60
- Inner coolant tube should be ordered separately.
- ** marked adaptor needs to be connected with flange. Then please order the screws(SR55 M12X50) separately.
- It is with G2.5/25,000 RPM, and G6.3/12,000 RPM.
- Ordering sample: 1 PC HSK A63 SEM22X60.

备件 Spare Parts

规格 Designation	平键 Flat key	平键锁紧螺钉 Clamping screw for flat key	垫环 Backing ring	压紧螺钉 Clamping screw
SEM16	PL10 8x6	SR55 M3x10	-	SR55 M8x25
SEM22	PL10 10x9	SR55 M5x12	FMA-22	SR55 M10x30
SEM27	PL10 12x10	SR55 M6x12	FMA-27	SR55 M12x35
SEM32	PL10 14x12	SR55 M6x16	FMA-32	SR55 M16x40
SEM40	PL10 16x12	SR55 M6x16	FMA-40	SR55 M20x45
SEM60	PL10 25x16	SR55 M10x16	-	SR55 M16x60

● 标准库存 Item in stock
 ○ 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

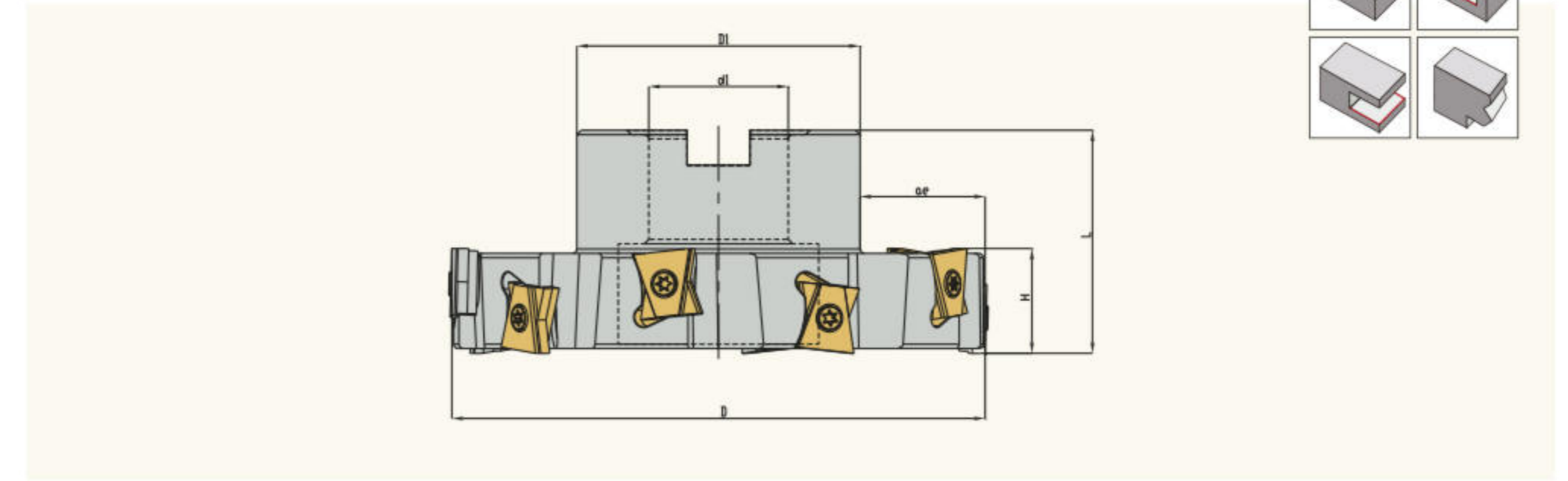
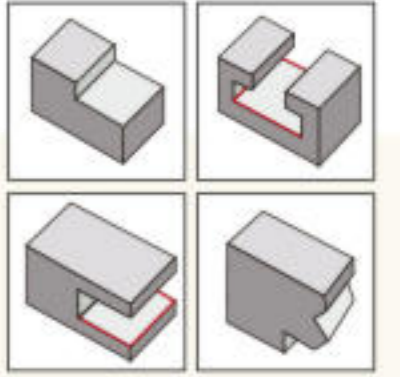
铣削刀具 Milling cutters



ADDED CONTENT 综合样本新增内容

LN15三面刃铣刀

LN15 Side and Face Milling Cutter



规格型号 Designation	D	D1	d1	H	L	ae	Z	Kg	刀片型号 Insert	在庫 Stock
MSSB D080.SEM22.H24.Z06.LN15	80	48	22	24	50	16	2X3	0.79	LN..1506..	●
MSSB D100.SEM22.H24.Z08.LN15	100	48	22	24	50	26	2X4	1.78	LN..1506..	●
MSSB D125.SEM27.H24.Z10.LN15	125	60	27	24	63	32	2X5	2.12	LN..1506..	●
MSSB D160.SEM32.H24.Z12.LN15	160	78	32	24	63	41	2X6	3.72	LN..1506..	●
MSSB D200.SEM40.H24.Z14.LN15	200	89	40	24	63	55	2X7	5.65	LN..1506..	●

- 刀片请根据不同材料单独订购。
- 订货示例：1件MSSB D080.SEM22.H24.Z06.LN15
- Insert should be ordered separately.
- Ordering sample: 1 PC MSSB D080.SEM22.H24.Z06.LN15.

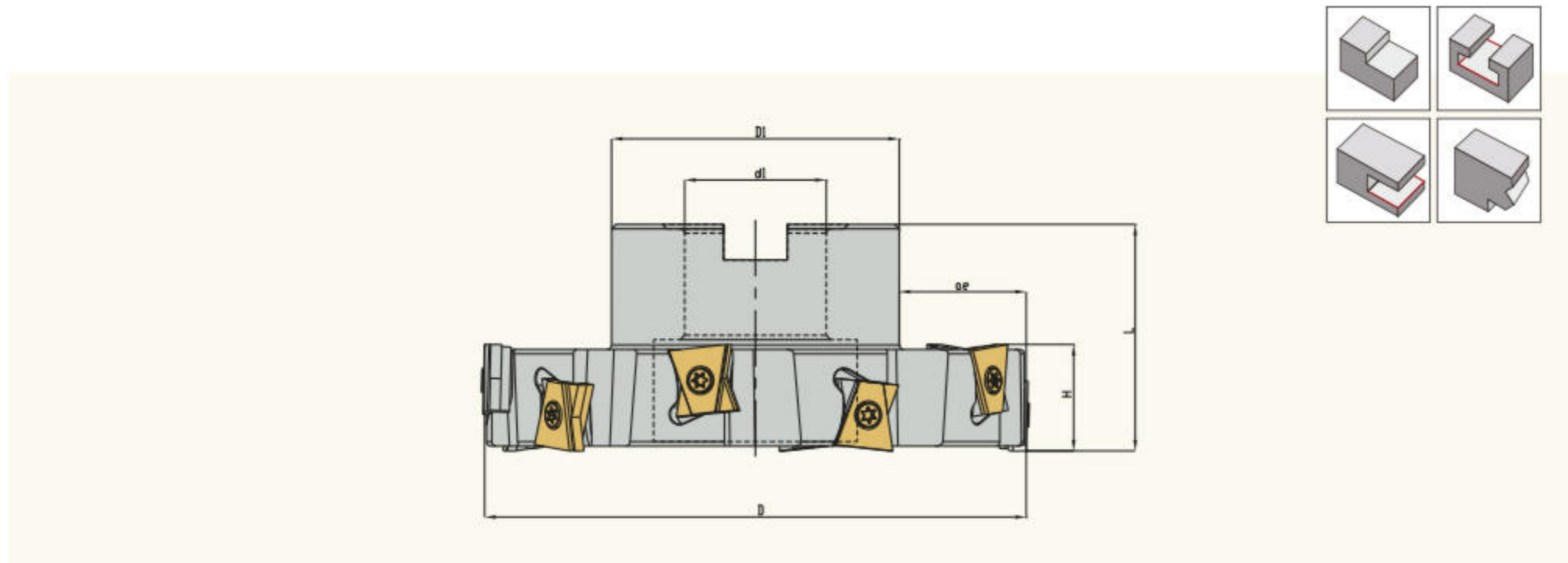
备件 Spare Parts

刀片型号 Insert	刀片锁紧螺钉 Clamping screw for insert	锁紧扳手 Allen key
LN..1506..	SR20 M4x11.5	KEY02 T15

● 标准库存 Item in stock
 ● 半标准库存 (订货时, 请确认交货期) Item of short delivery time (please confirm delivery time when ordering it)
 ○ 无库存 (订货时, 请确认交货期) Order on demand (Please confirm delivery time when ordering it)

ADDED CONTENT 综合样本新增内容

LN11三面刃铣刀 LN11 Side and Face Milling Cutter



规格型号 Designation	D	D1	d1	H	L	ae	Z	Kg	刀片型号 Insert	在庫 Stock
MSSB D080.SEM22.H24.Z06.LN11	80	48	22	16	50	16	2X3	0.89	LN..1106..	●
MSSB D100.SEM22.H24.Z08.LN11	100	48	22	16	50	26	2X4	1.88	LN..1106..	●
MSSB D125.SEM27.H24.Z10.LN11	125	60	27	16	63	32	2X5	2.22	LN..1106..	●
MSSB D160.SEM32.H24.Z12.LN11	160	78	32	16	63	41	2X6	3.82	LN..1106..	●
MSSB D200.SEM40.H24.Z14.LN11	200	89	40	16	63	55	2X7	5.83	LN..1106..	●

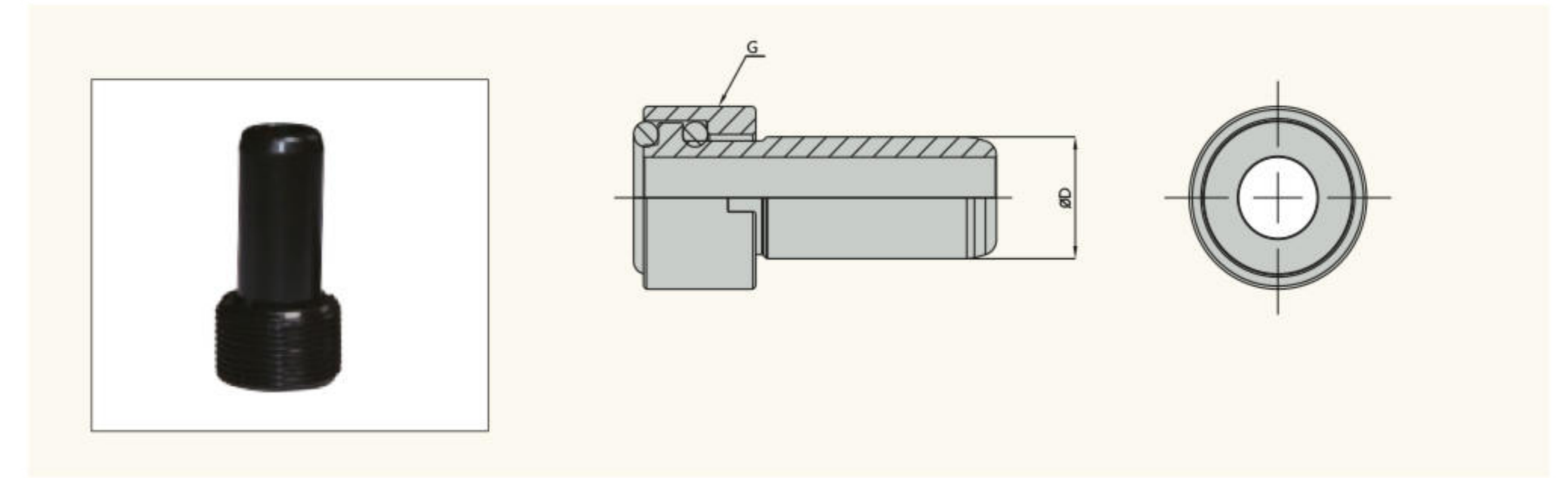
- 刀片请根据不同材料单独订购。
- 订货示例：1件MSSB D080.SEM22.H24.Z06.LN11
- Insert should be ordered separately.
- Ordering sample: 1 PC MSSB D080.SEM22.H24.Z06.LN11.

备件 Spare Parts

刀片型号 Insert	刀片锁紧螺钉 Clamping screw for insert	锁紧扳手 Allen key
LN..1506..	SR20 M3.5x11.5	KEY02 T10

ADDED CONTENT 综合样本新增内容

HSK-A型冷却管 HSK Type A Coolant Tube

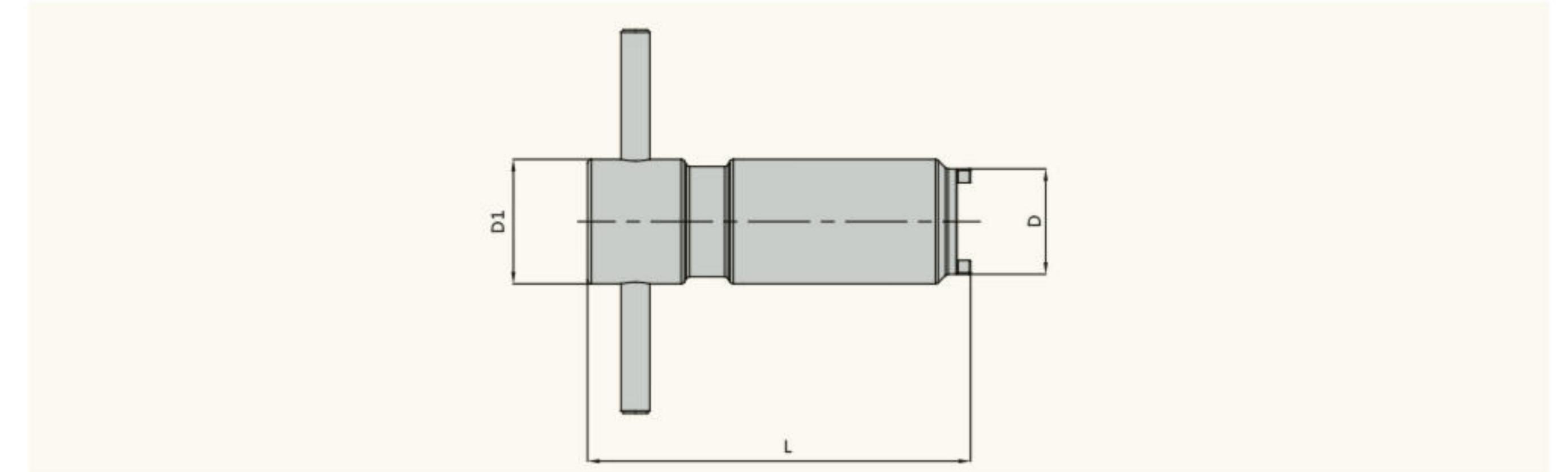


规格型号 Designation	D	G
LQG-HSK A63	12	M18x1
LQG-HSK A100	16	M24x1.5

- 订货示例：1件LQG-HSK A63
- Ordering sample: 1 PC LQG-HSK A63.

HSK-A型冷却管扳手

Allen Key for HSK Type A Coolant Tube



规格型号 Designation	D	D1	L
LQG-HSK A63-T	16.5	20	70
LQG-HSK A100-T	22	26	80

- 订货示例：1件LQG-HSK A63-T
- Ordering sample: 1 pc LQG-HSK A63-T