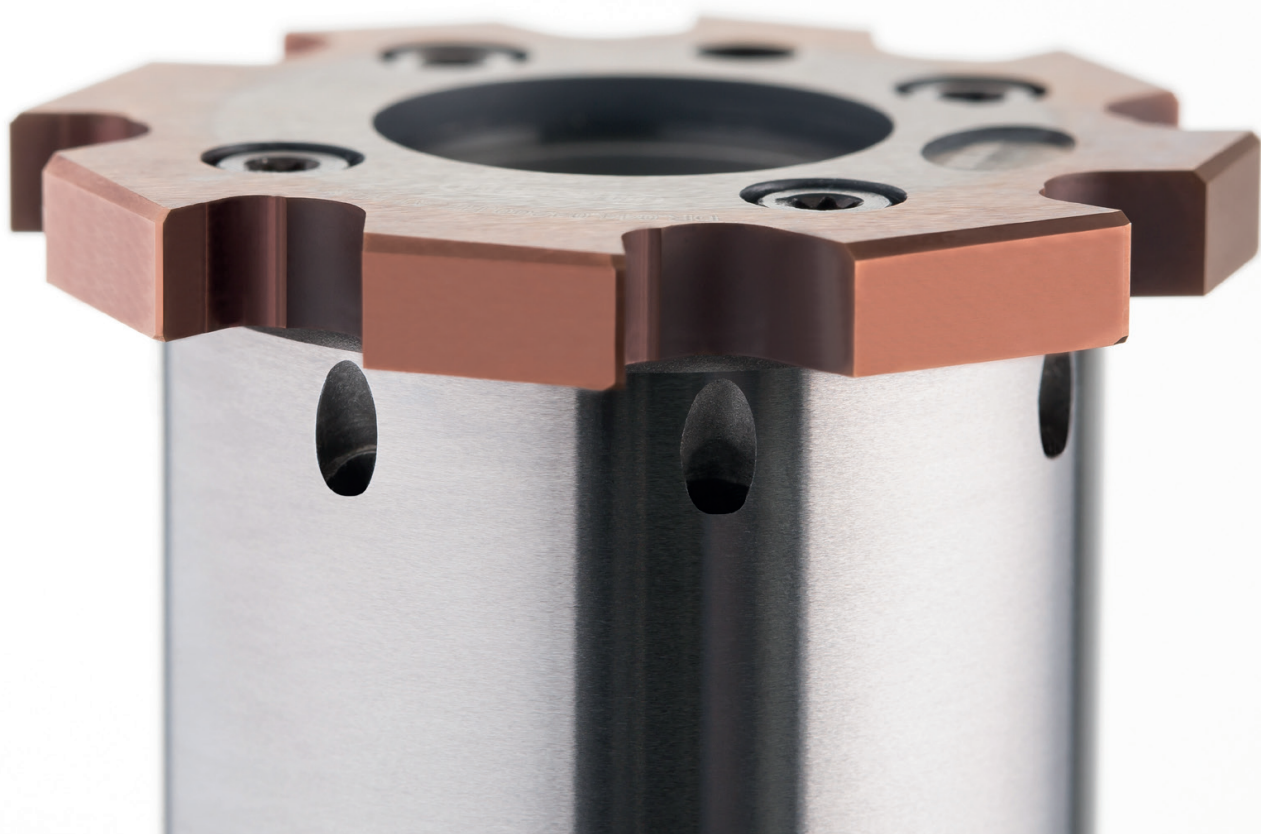




钻孔/铰削

Drilling and Reaming

2020





HORN 全新样本 – 以高效作为标杆

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

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

在每一个目录里,根据不同切削工艺区分,让您能快速的找到产品描述.

当您选定了特定的切削参数时,您会发现许多经验的数值表格.

Lothar Horn
首席执行官
Paul Horn GmbH

Markus Horn
首席执行官
Paul Horn GmbH

Matthias Rommel
首席执行官
Paul Horn GmbH

New catalogues from HORN - benchmarks for productivity

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

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

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

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

Lothar Horn, CEO
Paul Horn GmbH

Markus Horn
Paul Horn GmbH

Matthias Rommel
Paul Horn GmbH

A	整体硬质合金钻头 Solid Carbide Drills	DD
B	刀具系统 URMA Tooling System URMA	
C	高性能铰削 High-Performance Reaming	DR
D	刀柄 Clamping	
E	附加设备 Additional Equipment	

A

B

C

D

E

质量和环境承诺

我们的客户对我们的产品质量设定了标准，他们对产品的意见至关重要。

我们的员工是我们最重要的资产之一。他们首先具备优秀资格和社会能力，最重要的是他们不断的维护和提升综合能力。

我们的目标是在生产早期发现潜在的错误，并利用他们消除错误的根源，同时在将来持续改善与提升。我们的座右铭是“第一次就要做正确”

我们一直在努力提升管理体系的效率。我们识别潜在风险和机会并且找到方法改善他们。

我们参与所有环境方面的活动、产品和服务。并且评估他们可能导致的生态影响，然后制定目标和环境保护方案。

我们环境保护的行动是为了降低噪音、空气污染物、废物和废水，尽可能节约水资源和自然能源。

我们的环境管理体系持续监控和改善环境。法律章程是我们环境管理体系的一个重要组成部分，并且环境管理体系不断的发展和优化。

我们承诺施行能源政策，满足法律要求，自愿参与环境和生态保护的工业协会。我们也承诺不断回顾和改进与能源有关的领域和活动。

我们已经实施了能源管理体系，根据ISO 50001标准。实施能源政策，优化公司关于高效利用能源的流程。我们保证，在能源经理的带领下，所有员工全面、积极地参与相关活动。同时能源经理兼职协调员，组建工作网路，将所有信息与员工共享。

Quality and Environment Commitment

Our customers set the standard for our quality. Their opinion of our products is crucial.

Our employees are one of our most important assets. Excellent qualifications and social skills are a prerequisite and it is vital that they are constantly maintained and developed.

We aim to detect potential errors early on in the process and use them as an impetus to eliminate their causes and for further and continuous improvement. "Right first time!" is our motto.

We are constantly working to improve the effectiveness of our management system. We identify potential risks and opportunities and develop measures to improve them.

We identify the environmental aspects of all activities, products and services and assess the extent to which these can lead to significant ecological impacts, then derive objectives and an environmental programme.

Our environmental performance is designed to reduce noise, air pollutants, waste and waste water as much as possible and to conserve resources such as water and energy.

Our environmental management system continuously monitors and improves environmental protection. Legal compliance is an essential element of our environmental management system, which is continuously developed and optimised.

We are committed to an energy policy that is in line with both legal requirements and the voluntary commitments of industry associations and which meets ecological and economical requirements. We are also committed to continually reviewing and improving energy-related aspects and performance.

We have implemented an energy management system in accordance with ISO 50001 in order to implement our energy policy and optimise the processes in our company with regard to the efficient use of energy. We ensure the comprehensive, active involvement of all employees through an energy manager, who acts as a coordinator, and a network of employees who share information.



**针对钢件与不锈钢
钻孔应用**

**for steel and stainless steel
drilling applications**

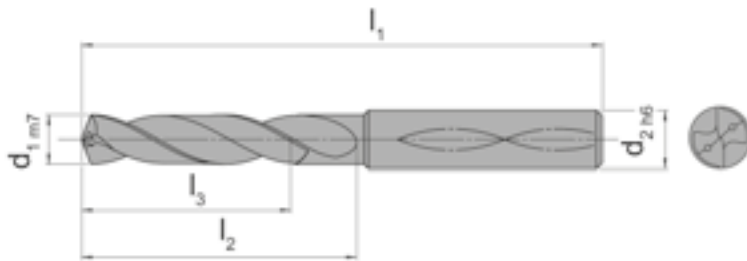
DDP 钢 / Steel

页/Page
A3-A22DDP.03.01...
DDP.05.01...
DDP.08.01...
DDP.05.01...3xD 直接冷却液供应 / with internal cooling
5xD 直接冷却液供应 / with internal cooling
8xD 直接冷却液供应 / with internal cooling
5xD 无内冷 / without internal coolingDDM
不锈钢 / stainless Steel页/Page
A23-A32DDM.03.01...
DDM.05.01...3xD 直接冷却液供应 / with internal cooling
5xD 直接冷却液供应 / with internal cooling切削参数
Cutting Data页/Page
A33-A34

整体硬质合金钻头
Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.03.01.04000	4.00	6	66	24	17	HA	▲
DDP.03.01.04100	4.10	6	66	24	17	HA	△
DDP.03.01.04200	4.20	6	66	24	17	HA	▲
DDP.03.01.04300	4.30	6	66	24	17	HA	▲
DDP.03.01.04400	4.40	6	66	24	17	HA	△
DDP.03.01.04500	4.50	6	66	24	17	HA	▲
DDP.03.01.04600	4.60	6	66	24	17	HA	△
DDP.03.01.04650	4.65	6	66	24	17	HA	△
DDP.03.01.04700	4.70	6	66	24	17	HA	△
DDP.03.01.04800	4.80	6	66	28	20	HA	▲
DDP.03.01.04900	4.90	6	66	28	20	HA	△
DDP.03.01.05000	5.00	6	66	28	20	HA	▲
DDP.03.01.05100	5.10	6	66	28	20	HA	▲
DDP.03.01.05200	5.20	6	66	28	20	HA	△
DDP.03.01.05300	5.30	6	66	28	20	HA	△
DDP.03.01.05400	5.40	6	66	28	20	HA	△
DDP.03.01.05500	5.50	6	66	28	20	HA	▲
DDP.03.01.05550	5.55	6	66	28	20	HA	△
DDP.03.01.05600	5.60	6	66	28	20	HA	△
DDP.03.01.05700	5.70	6	66	28	20	HA	△
DDP.03.01.05800	5.80	6	66	28	20	HA	▲
DDP.03.01.05900	5.90	6	66	28	20	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	-
S	○
H	-

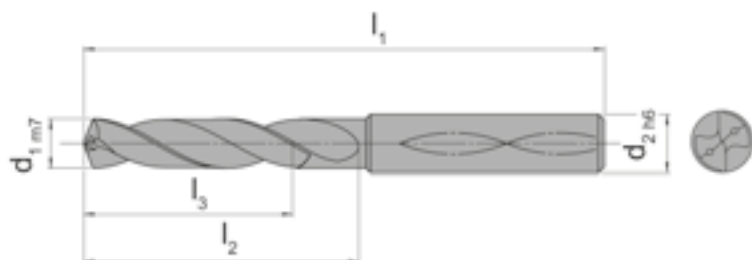
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.03.01.06000	6.0	6	66	28	20	HA	▲
DDP.03.01.06100	6.1	8	79	34	24	HA	△
DDP.03.01.06200	6.2	8	79	34	24	HA	△
DDP.03.01.06300	6.3	8	79	34	24	HA	△
DDP.03.01.06400	6.4	8	79	34	24	HA	△
DDP.03.01.06500	6.5	8	79	34	24	HA	▲
DDP.03.01.06600	6.6	8	79	34	24	HA	△
DDP.03.01.06700	6.7	8	79	34	24	HA	△
DDP.03.01.06800	6.8	8	79	34	24	HA	▲
DDP.03.01.06900	6.9	8	79	34	24	HA	△
DDP.03.01.07000	7.0	8	79	34	24	HA	▲
DDP.03.01.07100	7.1	8	79	41	29	HA	△
DDP.03.01.07200	7.2	8	79	41	29	HA	△
DDP.03.01.07300	7.3	8	79	41	29	HA	△
DDP.03.01.07400	7.4	8	79	41	29	HA	▲
DDP.03.01.07500	7.5	8	79	41	29	HA	▲
DDP.03.01.07600	7.6	8	79	41	29	HA	△
DDP.03.01.07700	7.7	8	79	41	29	HA	△
DDP.03.01.07800	7.8	8	79	41	29	HA	▲
DDP.03.01.07900	7.9	8	79	41	29	HA	△

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

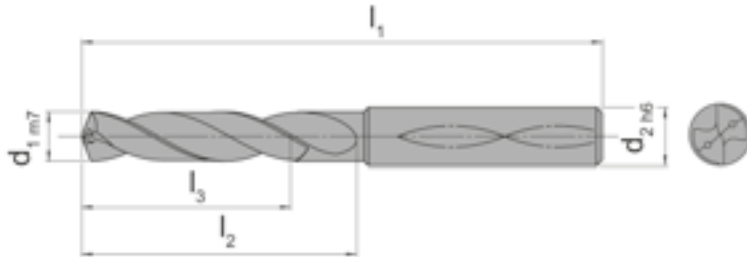
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M	○
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N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.03.01.08000	8.00	8	79	41	29	HA	▲
DDP.03.01.08100	8.10	10	89	47	35	HA	△
DDP.03.01.08200	8.20	10	89	47	35	HA	▲
DDP.03.01.08300	8.30	10	89	47	35	HA	△
DDP.03.01.08400	8.40	10	89	47	35	HA	△
DDP.03.01.08500	8.50	10	89	47	35	HA	▲
DDP.03.01.08600	8.60	10	89	47	35	HA	△
DDP.03.01.08700	8.70	10	89	47	35	HA	△
DDP.03.01.08800	8.80	10	89	47	35	HA	▲
DDP.03.01.08900	8.90	10	89	47	35	HA	△
DDP.03.01.09000	9.00	10	89	47	35	HA	▲
DDP.03.01.09100	9.10	10	89	47	35	HA	△
DDP.03.01.09200	9.20	10	89	47	35	HA	△
DDP.03.01.09250	9.25	10	89	47	35	HA	△
DDP.03.01.09300	9.30	10	89	47	35	HA	▲
DDP.03.01.09400	9.40	10	89	47	35	HA	△
DDP.03.01.09500	9.50	10	89	47	35	HA	▲
DDP.03.01.09600	9.60	10	89	47	35	HA	△
DDP.03.01.09700	9.70	10	89	47	35	HA	△
DDP.03.01.09800	9.80	10	89	47	35	HA	△
DDP.03.01.09900	9.90	10	89	47	35	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

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M	○
K	●
N	-
S	○
H	-

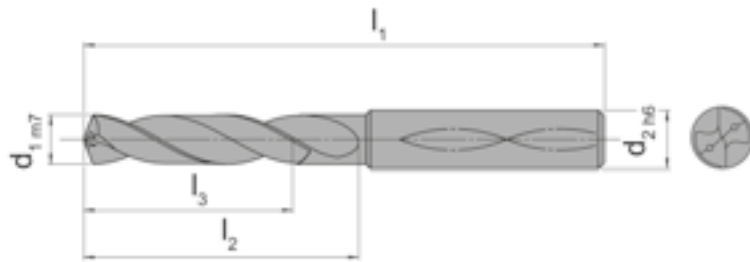
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.03.01.10000	10.0	10	89	47	35	HA	▲
DDP.03.01.10200	10.2	12	102	55	40	HA	▲
DDP.03.01.10500	10.5	12	102	55	40	HA	▲
DDP.03.01.10800	10.8	12	102	55	40	HA	△
DDP.03.01.11000	11.0	12	102	55	40	HA	▲
DDP.03.01.11500	11.5	12	102	55	40	HA	▲
DDP.03.01.11800	11.8	12	102	55	40	HA	△
DDP.03.01.12000	12.0	12	102	55	40	HA	▲
DDP.03.01.12500	12.5	14	107	60	43	HA	▲
DDP.03.01.12800	12.8	14	107	60	43	HA	△
DDP.03.01.13000	13.0	14	107	60	43	HA	▲
DDP.03.01.13500	13.5	14	107	60	43	HA	▲
DDP.03.01.13800	13.8	14	107	60	43	HA	△
DDP.03.01.14000	14.0	14	107	60	43	HA	▲
DDP.03.01.14500	14.5	16	115	65	45	HA	△
DDP.03.01.14800	14.8	16	115	65	45	HA	△
DDP.03.01.15000	15.0	16	115	65	45	HA	▲
DDP.03.01.15500	15.5	16	115	65	45	HA	△
DDP.03.01.15800	15.8	16	115	65	45	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

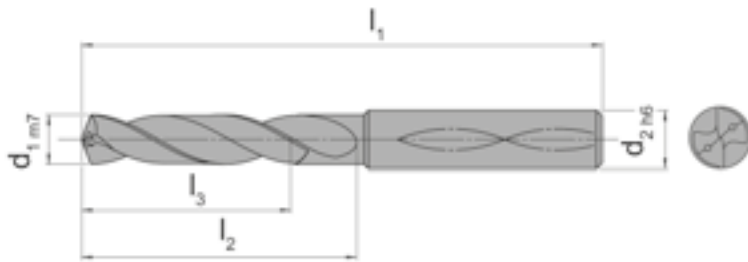
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M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.03.01.16000	16.0	16	115	65	45	HA	▲
DDP.03.01.16500	16.5	18	123	73	51	HA	▲
DDP.03.01.16800	16.8	18	123	73	51	HA	△
DDP.03.01.17000	17.0	18	123	73	51	HA	▲
DDP.03.01.17500	17.5	18	123	73	51	HA	▲
DDP.03.01.17800	17.8	18	123	73	51	HA	△
DDP.03.01.18000	18.0	18	123	73	51	HA	▲
DDP.03.01.18500	18.5	20	131	79	55	HA	△
DDP.03.01.18800	18.8	20	131	79	55	HA	△
DDP.03.01.19000	19.0	20	131	79	55	HA	△
DDP.03.01.19500	19.5	20	131	79	55	HA	△
DDP.03.01.19800	19.8	20	131	79	55	HA	△
DDP.03.01.20000	20.0	20	131	79	55	HA	△

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

● 推荐 / recommended

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涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

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M	○
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N	-
S	○
H	-

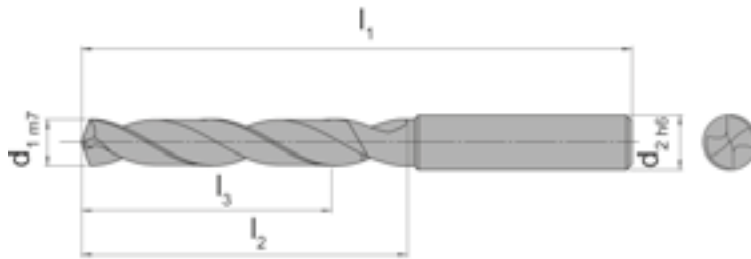
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
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用于钢件
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Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.01.04000	4.0	6	74	36	29	HA	▲
DDP.05.01.04100	4.1	6	74	36	29	HA	△
DDP.05.01.04200	4.2	6	74	36	29	HA	▲
DDP.05.01.04300	4.3	6	74	36	29	HA	▲
DDP.05.01.04400	4.4	6	74	36	29	HA	△
DDP.05.01.04500	4.5	6	74	36	29	HA	▲
DDP.05.01.04600	4.6	6	74	36	29	HA	▲
DDP.05.01.04700	4.7	6	74	36	29	HA	▲
DDP.05.01.04800	4.8	6	82	44	35	HA	▲
DDP.05.01.04900	4.9	6	82	44	35	HA	△
DDP.05.01.05000	5.0	6	82	44	35	HA	▲
DDP.05.01.05100	5.1	6	82	44	35	HA	▲
DDP.05.01.05200	5.2	6	82	44	35	HA	▲
DDP.05.01.05300	5.3	6	82	44	35	HA	△
DDP.05.01.05400	5.4	6	82	44	35	HA	△
DDP.05.01.05500	5.5	6	82	44	35	HA	▲
DDP.05.01.05600	5.6	6	82	44	35	HA	△
DDP.05.01.05700	5.7	6	82	44	35	HA	△
DDP.05.01.05800	5.8	6	82	44	35	HA	▲
DDP.05.01.05900	5.9	6	82	44	35	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

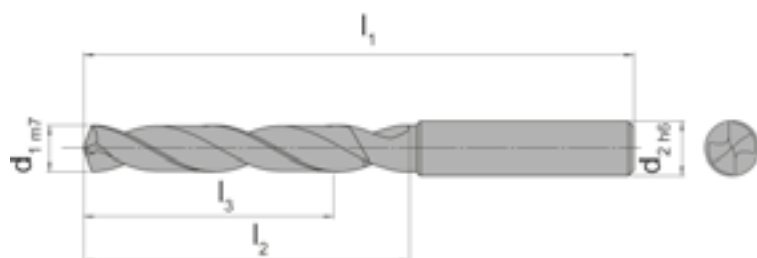
P	●
M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.01.06000	6.00	6	82	44	35	HA	▲
DDP.05.01.06100	6.10	8	91	53	43	HA	△
DDP.05.01.06200	6.20	8	91	53	43	HA	▲
DDP.05.01.06300	6.30	8	91	53	43	HA	△
DDP.05.01.06400	6.40	8	91	53	43	HA	△
DDP.05.01.06500	6.50	8	91	53	43	HA	▲
DDP.05.01.06600	6.60	8	91	53	43	HA	▲
DDP.05.01.06700	6.70	8	91	53	43	HA	△
DDP.05.01.06800	6.80	8	91	53	43	HA	▲
DDP.05.01.06850	6.85	8	91	53	43	HA	▲
DDP.05.01.06900	6.90	8	91	53	43	HA	▲
DDP.05.01.07000	7.00	8	91	53	43	HA	▲
DDP.05.01.07100	7.10	8	91	53	43	HA	△
DDP.05.01.07200	7.20	8	91	53	43	HA	△
DDP.05.01.07300	7.30	8	91	53	43	HA	△
DDP.05.01.07400	7.40	8	91	53	43	HA	▲
DDP.05.01.07500	7.50	8	91	53	43	HA	▲
DDP.05.01.07600	7.60	8	91	53	43	HA	△
DDP.05.01.07700	7.70	8	91	53	43	HA	△
DDP.05.01.07800	7.80	8	91	53	43	HA	▲
DDP.05.01.07850	7.85	8	91	53	43	HA	▲
DDP.05.01.07900	7.90	8	91	53	43	HA	▲

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	o
K	●
N	-
S	o
H	-

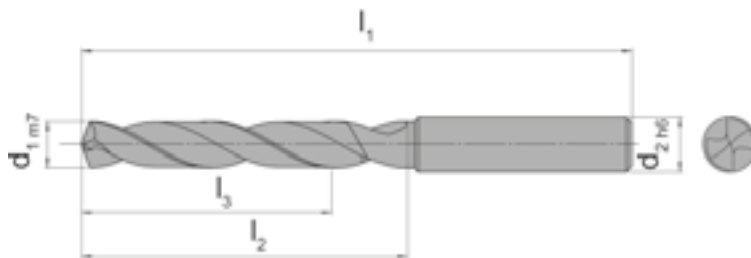
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 带内冷
Solid carbide drills 5xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.01.08000	8.00	8	91	53	43	HA	▲
DDP.05.01.08100	8.10	10	103	61	49	HA	△
DDP.05.01.08200	8.20	10	103	61	49	HA	▲
DDP.05.01.08300	8.30	10	103	61	49	HA	△
DDP.05.01.08400	8.40	10	103	61	49	HA	△
DDP.05.01.08500	8.50	10	103	61	49	HA	▲
DDP.05.01.08600	8.60	10	103	61	49	HA	△
DDP.05.01.08700	8.70	10	103	61	49	HA	△
DDP.05.01.08800	8.80	10	103	61	49	HA	▲
DDP.05.01.08850	8.85	10	103	61	49	HA	▲
DDP.05.01.08900	8.90	10	103	61	49	HA	▲
DDP.05.01.09000	9.00	10	103	61	49	HA	▲
DDP.05.01.09100	9.10	10	103	61	49	HA	△
DDP.05.01.09200	9.20	10	103	61	49	HA	△
DDP.05.01.09300	9.30	10	103	61	49	HA	▲
DDP.05.01.09400	9.40	10	103	61	49	HA	△
DDP.05.01.09500	9.50	10	103	61	49	HA	▲
DDP.05.01.09600	9.60	10	103	61	49	HA	△
DDP.05.01.09700	9.70	10	103	61	49	HA	△
DDP.05.01.09800	9.80	10	103	61	49	HA	▲
DDP.05.01.09850	9.85	10	103	61	49	HA	▲
DDP.05.01.09900	9.90	10	103	61	49	HA	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

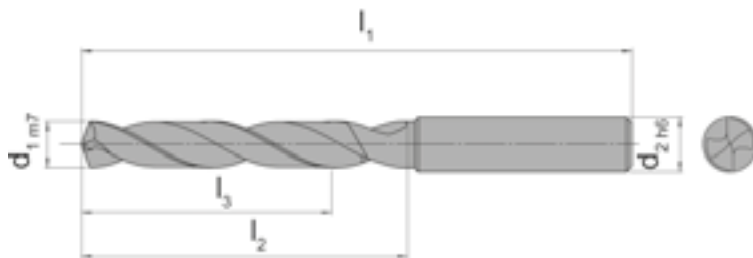
P	●
M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 带内冷
Solid carbide drills 5xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.01.10000	10.00	10	103	61	49	HA	▲
DDP.05.01.10200	10.20	12	118	71	56	HA	▲
DDP.05.01.10500	10.50	12	118	71	56	HA	▲
DDP.05.01.10800	10.80	12	118	71	56	HA	▲
DDP.05.01.10850	10.85	12	118	71	56	HA	▲
DDP.05.01.10900	10.90	12	118	71	56	HA	▲
DDP.05.01.11000	11.00	12	118	71	56	HA	▲
DDP.05.01.11200	11.20	12	118	71	56	HA	▲
DDP.05.01.11500	11.50	12	118	71	56	HA	▲
DDP.05.01.11800	11.80	12	118	71	56	HA	▲
DDP.05.01.11850	11.85	12	118	71	56	HA	▲
DDP.05.01.11900	11.90	12	118	71	56	HA	▲
DDP.05.01.12000	12.00	12	118	71	56	HA	▲
DDP.05.01.12500	12.50	14	124	77	60	HA	▲
DDP.05.01.12800	12.80	14	124	77	60	HA	▲
DDP.05.01.12850	12.85	14	124	77	60	HA	▲
DDP.05.01.12900	12.90	14	124	77	60	HA	▲
DDP.05.01.13000	13.00	14	124	77	60	HA	▲
DDP.05.01.13500	13.50	14	124	77	60	HA	▲
DDP.05.01.13800	13.80	14	124	77	60	HA	△
DDP.05.01.14000	14.00	14	124	77	60	HA	▲
DDP.05.01.14500	14.50	16	133	83	63	HA	△
DDP.05.01.14800	14.80	16	133	83	63	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

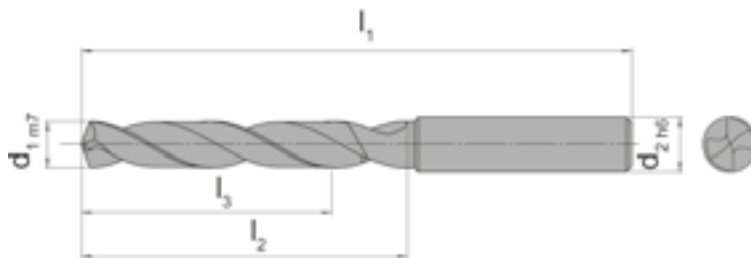
P	●
M	○
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H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 带内冷
Solid carbide drills 5xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.01.15000	15.0	16	133	83	63	HA	▲
DDP.05.01.15500	15.5	16	133	83	63	HA	△
DDP.05.01.15800	15.8	16	133	83	63	HA	△
DDP.05.01.16000	16.0	16	133	83	63	HA	▲
DDP.05.01.16500	16.5	18	143	93	71	HA	△
DDP.05.01.16800	16.8	18	143	93	71	HA	△
DDP.05.01.17000	17.0	18	143	93	71	HA	▲
DDP.05.01.17500	17.5	18	143	93	71	HA	▲
DDP.05.01.17800	17.8	18	143	93	71	HA	△
DDP.05.01.18000	18.0	18	143	93	71	HA	▲
DDP.05.01.18500	18.5	20	153	101	77	HA	△
DDP.05.01.18800	18.8	20	153	101	77	HA	△
DDP.05.01.19000	19.0	20	153	101	77	HA	△
DDP.05.01.19500	19.5	20	153	101	77	HA	△
DDP.05.01.19800	19.8	20	153	101	77	HA	△
DDP.05.01.20000	20.0	20	153	101	77	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

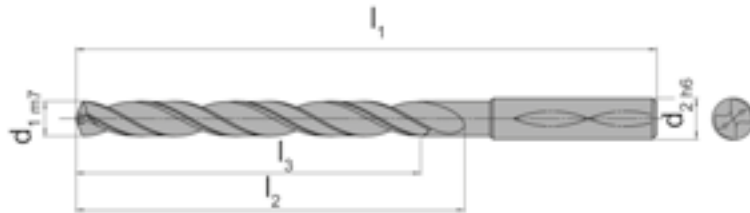
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M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 八倍径 带内冷
Solid carbide drills 8xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.08.01.04000	4.0	6	81	43	36	HA	▲
DDP.08.01.04100	4.1	6	81	43	36	HA	△
DDP.08.01.04200	4.2	6	81	43	36	HA	▲
DDP.08.01.04300	4.3	6	81	43	36	HA	▲
DDP.08.01.04400	4.4	6	81	43	36	HA	△
DDP.08.01.04500	4.5	6	81	43	36	HA	▲
DDP.08.01.04600	4.6	6	81	43	36	HA	△
DDP.08.01.04700	4.7	6	81	43	36	HA	△
DDP.08.01.04800	4.8	6	95	57	48	HA	▲
DDP.08.01.04900	4.9	6	95	57	48	HA	△
DDP.08.01.05000	5.0	6	95	57	48	HA	▲
DDP.08.01.05100	5.1	6	95	57	48	HA	▲
DDP.08.01.05200	5.2	6	95	57	48	HA	△
DDP.08.01.05300	5.3	6	95	57	48	HA	△
DDP.08.01.05400	5.4	6	95	57	48	HA	△
DDP.08.01.05500	5.5	6	95	57	48	HA	▲
DDP.08.01.05600	5.6	6	95	57	48	HA	△
DDP.08.01.05700	5.7	6	95	57	48	HA	△
DDP.08.01.05800	5.8	6	95	57	48	HA	▲
DDP.08.01.05900	5.9	6	95	57	48	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	-
S	○
H	-

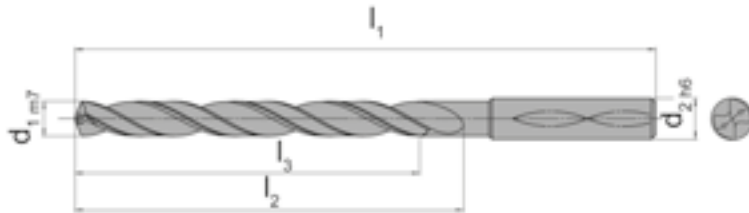
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 八倍径 带内冷
Solid carbide drills 8xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.08.01.06000	6.0	6	95	57	48	HA	▲
DDP.08.01.06100	6.1	8	114	76	64	HA	△
DDP.08.01.06200	6.2	8	114	76	64	HA	△
DDP.08.01.06300	6.3	8	114	76	64	HA	△
DDP.08.01.06400	6.4	8	114	76	64	HA	△
DDP.08.01.06500	6.5	8	114	76	64	HA	▲
DDP.08.01.06600	6.6	8	114	76	64	HA	△
DDP.08.01.06700	6.7	8	114	76	64	HA	△
DDP.08.01.06800	6.8	8	114	76	64	HA	▲
DDP.08.01.06900	6.9	8	114	76	64	HA	△
DDP.08.01.07000	7.0	8	114	76	64	HA	▲
DDP.08.01.07100	7.1	8	114	76	64	HA	△
DDP.08.01.07200	7.2	8	114	76	64	HA	△
DDP.08.01.07300	7.3	8	114	76	64	HA	△
DDP.08.01.07400	7.4	8	114	76	64	HA	▲
DDP.08.01.07500	7.5	8	114	76	64	HA	▲
DDP.08.01.07600	7.6	8	114	76	64	HA	△
DDP.08.01.07700	7.7	8	114	76	64	HA	△
DDP.08.01.07800	7.8	8	114	76	64	HA	▲
DDP.08.01.07900	7.9	8	114	76	64	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

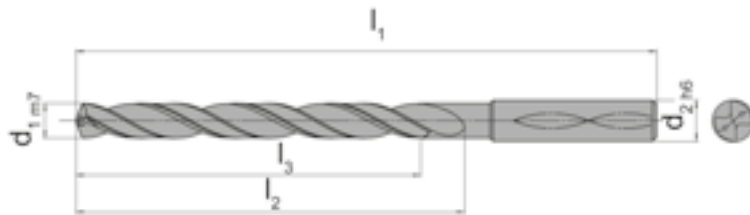
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M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 八倍径 带内冷
Solid carbide drills 8xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.08.01.08000	8.0	8	114	76	64	HA	▲
DDP.08.01.08100	8.1	10	142	95	80	HA	△
DDP.08.01.08200	8.2	10	142	95	80	HA	▲
DDP.08.01.08300	8.3	10	142	95	80	HA	△
DDP.08.01.08400	8.4	10	142	95	80	HA	△
DDP.08.01.08500	8.5	10	142	95	80	HA	▲
DDP.08.01.08600	8.6	10	142	95	80	HA	△
DDP.08.01.08700	8.7	10	142	95	80	HA	△
DDP.08.01.08800	8.8	10	142	95	80	HA	▲
DDP.08.01.08900	8.9	10	142	95	80	HA	△
DDP.08.01.09000	9.0	10	142	95	80	HA	▲
DDP.08.01.09100	9.1	10	142	95	80	HA	△
DDP.08.01.09200	9.2	10	142	95	80	HA	△
DDP.08.01.09300	9.3	10	142	95	80	HA	▲
DDP.08.01.09400	9.4	10	142	95	80	HA	△
DDP.08.01.09500	9.5	10	142	95	80	HA	▲
DDP.08.01.09600	9.6	10	142	95	80	HA	△
DDP.08.01.09700	9.7	10	142	95	80	HA	△
DDP.08.01.09800	9.8	10	142	95	80	HA	△
DDP.08.01.09900	9.9	10	142	95	80	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	-
S	○
H	-

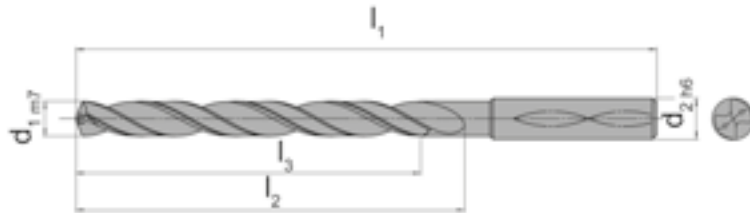
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 八倍径 带内冷
Solid carbide drills 8xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.08.01.10000	10.0	10	142	95	80	HA	▲
DDP.08.01.10200	10.2	12	162	114	96	HA	▲
DDP.08.01.10500	10.5	12	162	114	96	HA	▲
DDP.08.01.10800	10.8	12	162	114	96	HA	△
DDP.08.01.11000	11.0	12	162	114	96	HA	▲
DDP.08.01.11500	11.5	12	162	114	96	HA	▲
DDP.08.01.11800	11.8	12	162	114	96	HA	△
DDP.08.01.12000	12.0	12	162	114	96	HA	▲
DDP.08.01.12500	12.5	14	178	133	112	HA	▲
DDP.08.01.12800	12.8	14	178	133	112	HA	△
DDP.08.01.13000	13.0	14	178	133	112	HA	▲
DDP.08.01.13500	13.5	14	178	133	112	HA	▲
DDP.08.01.13800	13.8	14	178	133	112	HA	△
DDP.08.01.14000	14.0	14	178	133	112	HA	▲
DDP.08.01.14500	14.5	16	203	152	128	HA	△
DDP.08.01.14800	14.8	16	203	152	128	HA	△
DDP.08.01.15000	15.0	16	203	152	128	HA	▲
DDP.08.01.15500	15.5	16	203	152	128	HA	△
DDP.08.01.15800	15.8	16	203	152	128	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

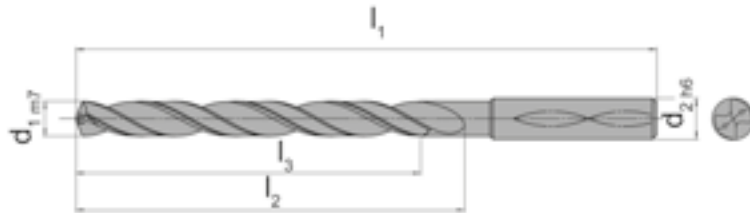
P	●
M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDP

整体硬质合金钻头 八倍径 带内冷
Solid carbide drills 8xD with internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.08.01.16000	16.0	16	203	152	128	HA	▲
DDP.08.01.16500	16.5	18	222	171	144	HA	△
DDP.08.01.16800	16.8	18	222	171	144	HA	△
DDP.08.01.17000	17.0	18	222	171	144	HA	▲
DDP.08.01.17500	17.5	18	222	171	144	HA	▲
DDP.08.01.17800	17.8	18	222	171	144	HA	△
DDP.08.01.18000	18.0	18	222	171	144	HA	▲
DDP.08.01.18500	18.5	20	243	190	160	HA	△
DDP.08.01.18800	18.8	20	243	190	160	HA	△
DDP.08.01.19000	19.0	20	243	190	160	HA	△
DDP.08.01.19500	19.5	20	243	190	160	HA	△
DDP.08.01.19800	19.8	20	243	190	160	HA	△
DDP.08.01.20000	20.0	20	243	190	160	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	-
S	○
H	-

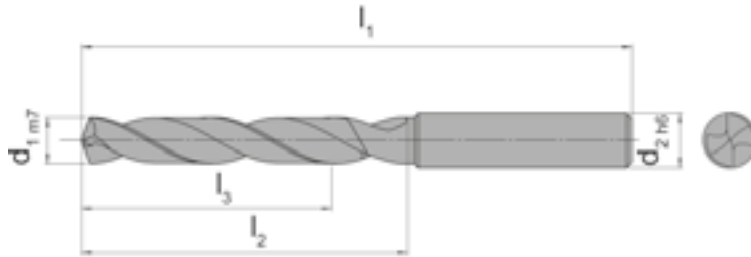
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD without internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.00.04000	4.0	6	74	36	29	HA	▲
DDP.05.00.04100	4.1	6	74	36	29	HA	△
DDP.05.00.04200	4.2	6	74	36	29	HA	▲
DDP.05.00.04300	4.3	6	74	36	29	HA	▲
DDP.05.00.04400	4.4	6	74	36	29	HA	△
DDP.05.00.04500	4.5	6	74	36	29	HA	▲
DDP.05.00.04600	4.6	6	74	36	29	HA	△
DDP.05.00.04700	4.7	6	74	36	29	HA	△
DDP.05.00.04800	4.8	6	82	44	35	HA	▲
DDP.05.00.04900	4.9	6	82	44	35	HA	△
DDP.05.00.05000	5.0	6	82	44	35	HA	▲
DDP.05.00.05100	5.1	6	82	44	35	HA	▲
DDP.05.00.05200	5.2	6	82	44	35	HA	△
DDP.05.00.05300	5.3	6	82	44	35	HA	△
DDP.05.00.05400	5.4	6	82	44	35	HA	△
DDP.05.00.05500	5.5	6	82	44	35	HA	▲
DDP.05.00.05600	5.6	6	82	44	35	HA	△
DDP.05.00.05700	5.7	6	82	44	35	HA	△
DDP.05.00.05800	5.8	6	82	44	35	HA	▲
DDP.05.00.05900	5.9	6	82	44	35	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

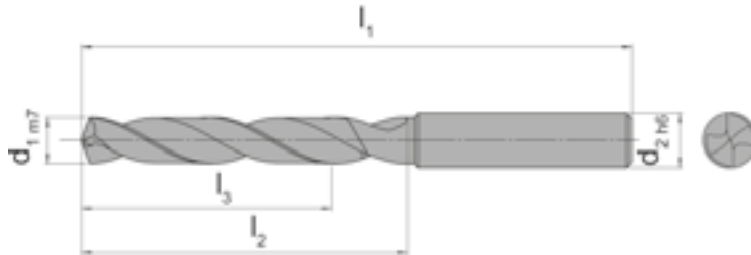
P	●
M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头
Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD without internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.00.06000	6.0	6	82	44	35	HA	▲
DDP.05.00.06100	6.1	8	91	53	43	HA	△
DDP.05.00.06200	6.2	8	91	53	43	HA	△
DDP.05.00.06300	6.3	8	91	53	43	HA	△
DDP.05.00.06400	6.4	8	91	53	43	HA	△
DDP.05.00.06500	6.5	8	91	53	43	HA	▲
DDP.05.00.06600	6.6	8	91	53	43	HA	△
DDP.05.00.06700	6.7	8	91	53	43	HA	△
DDP.05.00.06800	6.8	8	91	53	43	HA	▲
DDP.05.00.06900	6.9	8	91	53	43	HA	△
DDP.05.00.07000	7.0	8	91	53	43	HA	▲
DDP.05.00.07100	7.1	8	91	53	43	HA	△
DDP.05.00.07200	7.2	8	91	53	43	HA	△
DDP.05.00.07300	7.3	8	91	53	43	HA	△
DDP.05.00.07400	7.4	8	91	53	43	HA	▲
DDP.05.00.07500	7.5	8	91	53	43	HA	▲
DDP.05.00.07600	7.6	8	91	53	43	HA	△
DDP.05.00.07700	7.7	8	91	53	43	HA	△
DDP.05.00.07800	7.8	8	91	53	43	HA	▲
DDP.05.00.07900	7.9	8	91	53	43	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	•
M	○
K	•
N	-
S	○
H	-

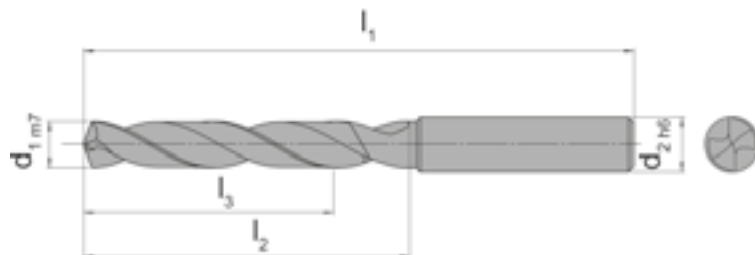
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD without internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.00.08000	8.0	8	91	53	43	HA	▲
DDP.05.00.08100	8.1	10	103	61	49	HA	△
DDP.05.00.08200	8.2	10	103	61	49	HA	▲
DDP.05.00.08300	8.3	10	103	61	49	HA	△
DDP.05.00.08400	8.4	10	103	61	49	HA	△
DDP.05.00.08500	8.5	10	103	61	49	HA	▲
DDP.05.00.08600	8.6	10	103	61	49	HA	△
DDP.05.00.08700	8.7	10	103	61	49	HA	△
DDP.05.00.08800	8.8	10	103	61	49	HA	▲
DDP.05.00.08900	8.9	10	103	61	49	HA	△
DDP.05.00.09000	9.0	10	103	61	49	HA	▲
DDP.05.00.09100	9.1	10	103	61	49	HA	△
DDP.05.00.09200	9.2	10	103	61	49	HA	△
DDP.05.00.09300	9.3	10	103	61	49	HA	▲
DDP.05.00.09400	9.4	10	103	61	49	HA	△
DDP.05.00.09500	9.5	10	103	61	49	HA	▲
DDP.05.00.09600	9.6	10	103	61	49	HA	△
DDP.05.00.09700	9.7	10	103	61	49	HA	△
DDP.05.00.09800	9.8	10	103	61	49	HA	△
DDP.05.00.09900	9.9	10	103	61	49	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

P	●
M	○
K	●
N	-
S	○
H	-

尺寸单位 : mm

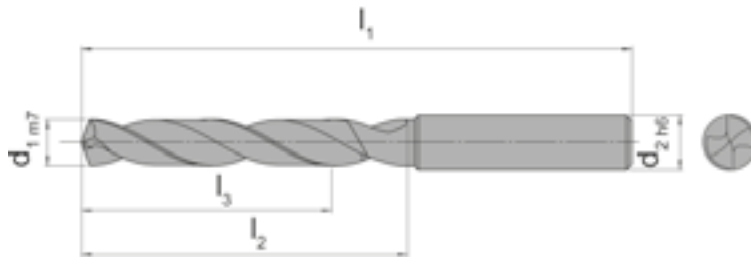
Dimensions in mm

硬质合金牌号
Carbide grades

整体硬质合金钻头
Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD without internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.00.10000	10.0	10	103	61	49	HA	▲
DDP.05.00.10200	10.2	12	118	71	56	HA	▲
DDP.05.00.10500	10.5	12	118	71	56	HA	▲
DDP.05.00.10800	10.8	12	118	71	56	HA	△
DDP.05.00.11000	11.0	12	118	71	56	HA	▲
DDP.05.00.11500	11.5	12	118	71	56	HA	▲
DDP.05.00.11800	11.8	12	118	71	56	HA	△
DDP.05.00.12000	12.0	12	118	71	56	HA	▲
DDP.05.00.12500	12.5	14	124	77	60	HA	▲
DDP.05.00.12800	12.8	14	124	77	60	HA	△
DDP.05.00.13000	13.0	14	124	77	60	HA	▲
DDP.05.00.13500	13.5	14	124	77	60	HA	▲
DDP.05.00.13800	13.8	14	124	77	60	HA	△
DDP.05.00.14000	14.0	14	124	77	60	HA	▲
DDP.05.00.14500	14.5	16	133	83	63	HA	△
DDP.05.00.14800	14.8	16	133	83	63	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	-
S	○
H	-

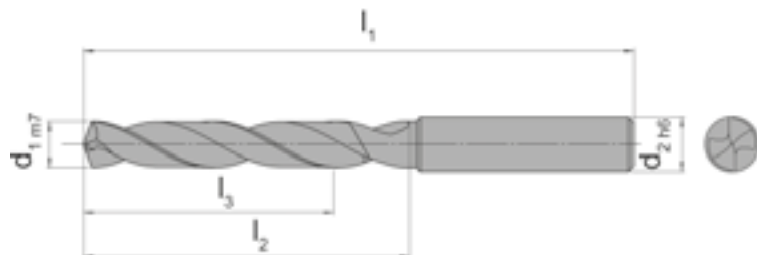
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDP

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD without internal cooling



用于钢件
for steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDP.05.00.15000	15.0	16	133	83	63	HA	▲
DDP.05.00.15500	15.5	16	133	83	63	HA	△
DDP.05.00.15800	15.8	16	133	83	63	HA	△
DDP.05.00.16000	16.0	16	133	83	63	HA	▲
DDP.05.00.16500	16.5	18	143	93	71	HA	△
DDP.05.00.16800	16.8	18	143	93	71	HA	△
DDP.05.00.17000	17.0	18	143	93	71	HA	▲
DDP.05.00.17500	17.5	18	143	93	71	HA	▲
DDP.05.00.17800	17.8	18	143	93	71	HA	△
DDP.05.00.18000	18.0	18	143	93	71	HA	▲
DDP.05.00.18500	18.5	20	153	101	77	HA	△
DDP.05.00.18800	18.8	20	153	101	77	HA	△
DDP.05.00.19000	19.0	20	153	101	77	HA	△
DDP.05.00.19500	19.5	20	153	101	77	HA	△
DDP.05.00.19800	19.8	20	153	101	77	HA	△
DDP.05.00.20000	20.0	20	153	101	77	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

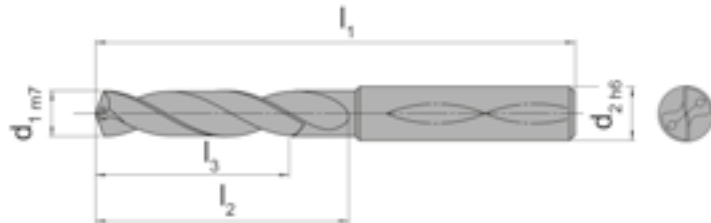
P	●
M	○
K	●
N	-
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头
Solid carbide drilling tools

DDM

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BP35
DDM.03.01.04000	4.00	6	66	24	17	HA	▲
DDM.03.01.04100	4.10	6	66	24	17	HA	△
DDM.03.01.04200	4.20	6	66	24	17	HA	▲
DDM.03.01.04300	4.30	6	66	24	17	HA	△
DDM.03.01.04400	4.40	6	66	24	17	HA	△
DDM.03.01.04500	4.50	6	66	24	17	HA	▲
DDM.03.01.04600	4.60	6	66	24	17	HA	△
DDM.03.01.04650	4.65	6	66	24	17	HA	△
DDM.03.01.04700	4.70	6	66	24	17	HA	△
DDM.03.01.04800	4.80	6	66	28	20	HA	▲
DDM.03.01.04900	4.90	6	66	28	20	HA	△
DDM.03.01.05000	5.00	6	66	28	20	HA	▲
DDM.03.01.05100	5.10	6	66	28	20	HA	△
DDM.03.01.05200	5.20	6	66	28	20	HA	△
DDM.03.01.05300	5.30	6	66	28	20	HA	△
DDM.03.01.05400	5.40	6	66	28	20	HA	△
DDM.03.01.05500	5.50	6	66	28	20	HA	▲
DDM.03.01.05550	5.55	6	66	28	20	HA	△
DDM.03.01.05600	5.60	6	66	28	20	HA	△
DDM.03.01.05700	5.70	6	66	28	20	HA	△
DDM.03.01.05800	5.80	6	66	28	20	HA	▲
DDM.03.01.05900	5.90	6	66	28	20	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	○
M	●
K	-
N	●
S	●
H	-

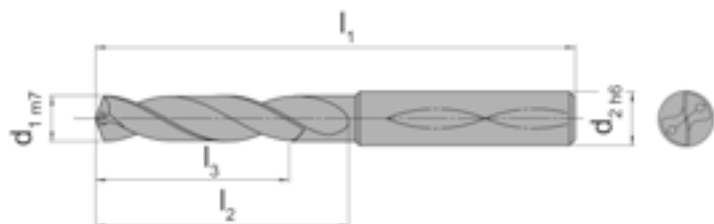
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.03.01.06000	6.0	6	66	28	20	HA	▲
DDM.03.01.06100	6.1	8	79	34	24	HA	△
DDM.03.01.06200	6.2	8	79	34	24	HA	△
DDM.03.01.06300	6.3	8	79	34	24	HA	△
DDM.03.01.06400	6.4	8	79	34	24	HA	△
DDM.03.01.06500	6.5	8	79	34	24	HA	▲
DDM.03.01.06600	6.6	8	79	34	24	HA	△
DDM.03.01.06700	6.7	8	79	34	24	HA	△
DDM.03.01.06800	6.8	8	79	34	24	HA	▲
DDM.03.01.06900	6.9	8	79	34	24	HA	△
DDM.03.01.07000	7.0	8	79	34	24	HA	▲
DDM.03.01.07100	7.1	8	79	41	29	HA	△
DDM.03.01.07200	7.2	8	79	41	29	HA	△
DDM.03.01.07300	7.3	8	79	41	29	HA	△
DDM.03.01.07400	7.4	8	79	41	29	HA	▲
DDM.03.01.07500	7.5	8	79	41	29	HA	▲
DDM.03.01.07600	7.6	8	79	41	29	HA	△
DDM.03.01.07700	7.7	8	79	41	29	HA	△
DDM.03.01.07800	7.8	8	79	41	29	HA	▲
DDM.03.01.07900	7.9	8	79	41	29	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

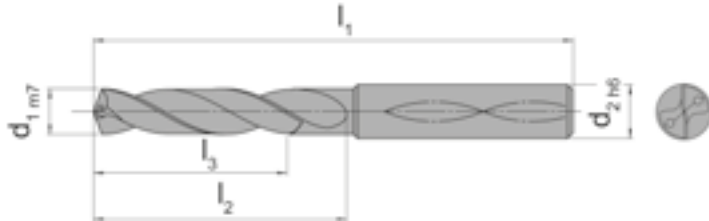
P	○
M	●
K	-
N	●
S	●
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头
Solid carbide drilling tools

DDM

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.03.01.08000	8.00	8	79	41	29	HA	▲
DDM.03.01.08100	8.10	10	89	47	35	HA	△
DDM.03.01.08200	8.20	10	89	47	35	HA	△
DDM.03.01.08300	8.30	10	89	47	35	HA	△
DDM.03.01.08400	8.40	10	89	47	35	HA	△
DDM.03.01.08500	8.50	10	89	47	35	HA	▲
DDM.03.01.08600	8.60	10	89	47	35	HA	△
DDM.03.01.08700	8.70	10	89	47	35	HA	△
DDM.03.01.08800	8.80	10	89	47	35	HA	△
DDM.03.01.08900	8.90	10	89	47	35	HA	△
DDM.03.01.09000	9.00	10	89	47	35	HA	▲
DDM.03.01.09100	9.10	10	89	47	35	HA	△
DDM.03.01.09200	9.20	10	89	47	35	HA	△
DDM.03.01.09250	9.25	10	89	47	35	HA	△
DDM.03.01.09300	9.30	10	89	47	35	HA	△
DDM.03.01.09400	9.40	10	89	47	35	HA	△
DDM.03.01.09500	9.50	10	89	47	35	HA	▲
DDM.03.01.09600	9.60	10	89	47	35	HA	△
DDM.03.01.09700	9.70	10	89	47	35	HA	△
DDM.03.01.09800	9.80	10	89	47	35	HA	△
DDM.03.01.09900	9.90	10	89	47	35	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	○
M	●
K	-
N	●
S	●
H	-

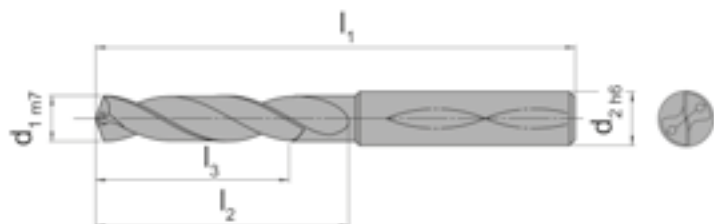
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.03.01.10000	10.0	10	89	47	35	HA	▲
DDM.03.01.10100	10.1	12	102	55	40	HA	△
DDM.03.01.10200	10.2	12	102	55	40	HA	▲
DDM.03.01.10300	10.3	12	102	55	40	HA	△
DDM.03.01.10400	10.4	12	102	55	40	HA	△
DDM.03.01.10500	10.5	12	102	55	40	HA	▲
DDM.03.01.10600	10.6	12	102	55	40	HA	△
DDM.03.01.10700	10.7	12	102	55	40	HA	△
DDM.03.01.10800	10.8	12	102	55	40	HA	△
DDM.03.01.10900	10.9	12	102	55	40	HA	△
DDM.03.01.11000	11.0	12	102	55	40	HA	▲
DDM.03.01.11100	11.1	12	102	55	40	HA	△
DDM.03.01.11200	11.2	12	102	55	40	HA	▲
DDM.03.01.11300	11.3	12	102	55	40	HA	△
DDM.03.01.11400	11.4	12	102	55	40	HA	△
DDM.03.01.11500	11.5	12	102	55	40	HA	▲
DDM.03.01.11600	11.6	12	102	55	40	HA	△
DDM.03.01.11700	11.7	12	102	55	40	HA	△
DDM.03.01.11800	11.8	12	102	55	40	HA	△
DDM.03.01.11900	11.9	12	102	55	40	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	○
M	●
K	-
N	●
S	●
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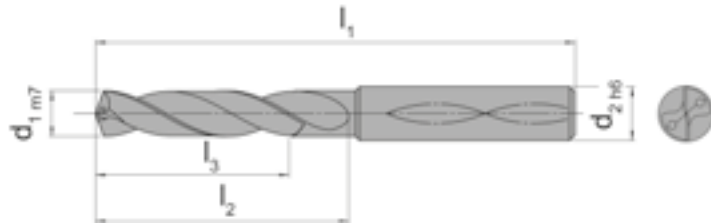
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 三倍径 带内冷
Solid carbide drills 3xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.03.01.12000	12.0	12	102	55	40	HA	▲
DDM.03.01.12500	12.5	14	107	60	43	HA	▲
DDM.03.01.12800	12.8	14	107	60	43	HA	△
DDM.03.01.13000	13.0	14	107	60	43	HA	▲
DDM.03.01.13500	13.5	14	107	60	43	HA	▲
DDM.03.01.13800	13.8	14	107	60	43	HA	△
DDM.03.01.14000	14.0	14	107	60	43	HA	▲
DDM.03.01.14500	14.5	16	115	65	45	HA	△
DDM.03.01.14800	14.8	16	115	65	45	HA	△
DDM.03.01.15000	15.0	16	115	65	45	HA	△
DDM.03.01.15500	15.5	16	115	65	45	HA	△
DDM.03.01.15800	15.8	16	115	65	45	HA	△
DDM.03.01.16000	16.0	16	115	65	45	HA	△
DDM.03.01.16500	16.5	18	123	73	51	HA	△
DDM.03.01.16800	16.8	18	123	73	51	HA	△
DDM.03.01.17000	17.0	18	123	73	51	HA	△
DDM.03.01.17500	17.5	18	123	73	51	HA	△
DDM.03.01.17800	17.8	18	123	73	51	HA	△
DDM.03.01.18000	18.0	18	123	73	51	HA	△
DDM.03.01.18500	18.5	20	131	79	55	HA	△
DDM.03.01.18800	18.8	20	131	79	55	HA	△
DDM.03.01.19000	19.0	20	131	79	55	HA	△
DDM.03.01.19500	19.5	20	131	79	55	HA	△
DDM.03.01.19800	19.8	20	131	79	55	HA	△
DDM.03.01.20000	20.0	20	131	79	55	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	○
M	●
K	-
N	●
S	●
H	-

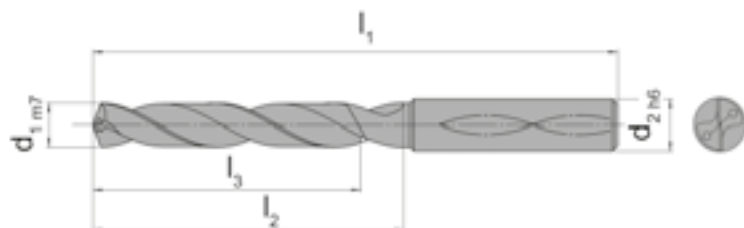
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.05.01.04000	4.0	6	74	36	29	HA	▲
DDM.05.01.04100	4.1	6	74	36	29	HA	△
DDM.05.01.04200	4.2	6	74	36	29	HA	▲
DDM.05.01.04300	4.3	6	74	36	29	HA	▲
DDM.05.01.04400	4.4	6	74	36	29	HA	△
DDM.05.01.04500	4.5	6	74	36	29	HA	▲
DDM.05.01.04600	4.6	6	74	36	29	HA	▲
DDM.05.01.04700	4.7	6	74	36	29	HA	▲
DDM.05.01.04800	4.8	6	82	44	35	HA	▲
DDM.05.01.04900	4.9	6	82	44	35	HA	△
DDM.05.01.05000	5.0	6	82	44	35	HA	▲
DDM.05.01.05100	5.1	6	82	44	35	HA	▲
DDM.05.01.05200	5.2	6	82	44	35	HA	▲
DDM.05.01.05300	5.3	6	82	44	35	HA	△
DDM.05.01.05400	5.4	6	82	44	35	HA	△
DDM.05.01.05500	5.5	6	82	44	35	HA	▲
DDM.05.01.05600	5.6	6	82	44	35	HA	△
+DM.05.01.05700	5.7	6	82	44	35	HA	△
DDM.05.01.05800	5.8	6	82	44	35	HA	▲
DDM.05.01.05900	5.9	6	82	44	35	HA	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

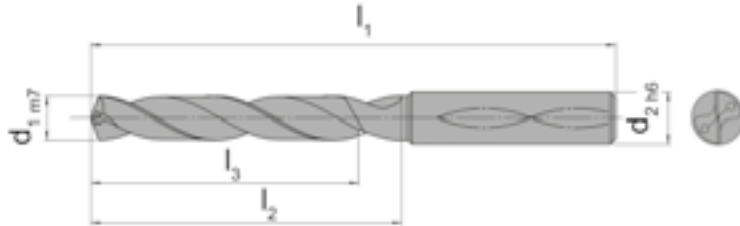
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N	●
S	●
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头
Solid carbide drilling tools

DDM

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准
Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.05.01.06000	6.0	6	82	44	35	HA	▲
DDM.05.01.06100	6.1	8	91	53	43	HA	△
DDM.05.01.06200	6.2	8	91	53	43	HA	▲
DDM.05.01.06300	6.3	8	91	53	43	HA	△
DDM.05.01.06400	6.4	8	91	53	43	HA	△
DDM.05.01.06500	6.5	8	91	53	43	HA	▲
DDM.05.01.06600	6.6	8	91	53	43	HA	▲
DDM.05.01.06700	6.7	8	91	53	43	HA	△
DDM.05.01.06800	6.8	8	91	53	43	HA	▲
DDM.05.01.06900	6.9	8	91	53	43	HA	▲
DDM.05.01.07000	7.0	8	91	53	43	HA	▲
DDM.05.01.07100	7.1	8	91	53	43	HA	△
DDM.05.01.07200	7.2	8	91	53	43	HA	△
DDM.05.01.07300	7.3	8	91	53	43	HA	△
DDM.05.01.07400	7.4	8	91	53	43	HA	▲
DDM.05.01.07500	7.5	8	91	53	43	HA	▲
DDM.05.01.07600	7.6	8	91	53	43	HA	△
DDM.05.01.07700	7.7	8	91	53	43	HA	△
DDM.05.01.07800	7.8	8	91	53	43	HA	▲
DDM.05.01.07900	7.9	8	91	53	43	HA	△

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

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涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

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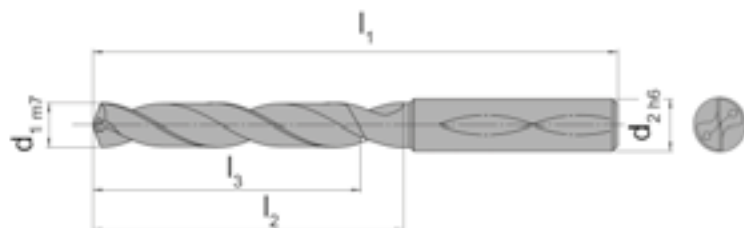
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.05.01.08000	8.0	8	91	53	43	HA	▲
DDM.05.01.08100	8.1	10	103	61	49	HA	△
DDM.05.01.08200	8.2	10	103	61	49	HA	▲
DDM.05.01.08300	8.3	10	103	61	49	HA	△
DDM.05.01.08400	8.4	10	103	61	49	HA	△
DDM.05.01.08500	8.5	10	103	61	49	HA	▲
DDM.05.01.08600	8.6	10	103	61	49	HA	△
DDM.05.01.08700	8.7	10	103	61	49	HA	△
DDM.05.01.08800	8.8	10	103	61	49	HA	▲
DDM.05.01.08900	8.9	10	103	61	49	HA	△
DDM.05.01.09000	9.0	10	103	61	49	HA	▲
DDM.05.01.09100	9.1	10	103	61	49	HA	△
DDM.05.01.09200	9.2	10	103	61	49	HA	△
DDM.05.01.09300	9.3	10	103	61	49	HA	▲
DDM.05.01.09400	9.4	10	103	61	49	HA	△
DDM.05.01.09500	9.5	10	103	61	49	HA	▲
DDM.05.01.09600	9.6	10	103	61	49	HA	△
DDM.05.01.09700	9.7	10	103	61	49	HA	△
DDM.05.01.09800	9.8	10	103	61	49	HA	▲
DDM.05.01.09900	9.9	10	103	61	49	HA	△

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

● 推荐 / recommended

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■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

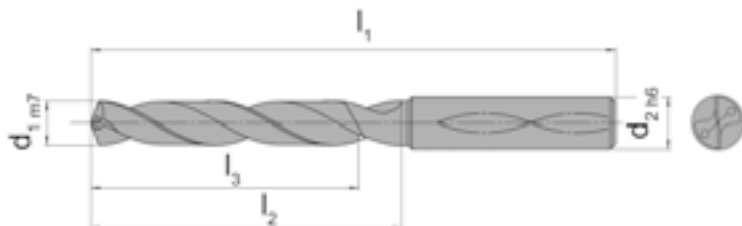
P	○
M	●
K	-
N	●
S	●
H	-

硬质合金牌号
Carbide grades

整体硬质合金钻头 Solid carbide drilling tools

DDM

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.05.01.10000	10.0	10	103	61	49	HA	▲
DDM.05.01.10100	10.1	12	118	71	56	HA	△
DDM.05.01.10200	10.2	12	118	71	56	HA	▲
DDM.05.01.10300	10.3	12	118	71	56	HA	△
DDM.05.01.10400	10.4	12	118	71	56	HA	△
DDM.05.01.10500	10.5	12	118	71	56	HA	▲
DDM.05.01.10600	10.6	12	118	71	56	HA	△
DDM.05.01.10700	10.7	12	118	71	56	HA	△
DDM.05.01.10800	10.8	12	118	71	56	HA	△
DDM.05.01.10900	10.9	12	118	71	56	HA	△
DDM.05.01.11000	11.0	12	118	71	56	HA	▲
DDM.05.01.11100	11.1	12	118	71	56	HA	△
DDM.05.01.11200	11.2	12	118	71	56	HA	▲
DDM.05.01.11300	11.3	12	118	71	56	HA	△
DDM.05.01.11400	11.4	12	118	71	56	HA	△
DDM.05.01.11500	11.5	12	118	71	56	HA	▲
DDM.05.01.11600	11.6	12	118	71	56	HA	△
DDM.05.01.11700	11.7	12	118	71	56	HA	△
DDM.05.01.11800	11.8	12	118	71	56	HA	△
DDM.05.01.11900	11.9	12	118	71	56	HA	△
DDM.05.01.12000	12.0	12	118	71	56	HA	▲
DDM.05.01.12500	12.5	14	124	77	60	HA	▲
DDM.05.01.12800	12.8	14	124	77	60	HA	△

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钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

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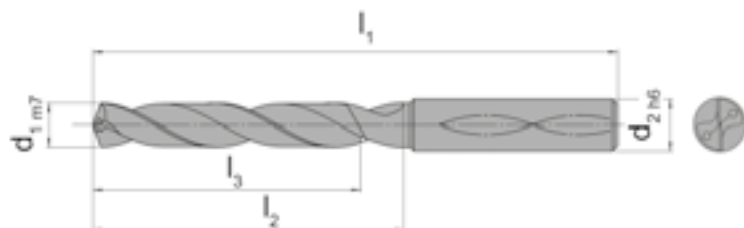
硬质合金牌号
Carbide grades

整体硬质合金钻头

Solid carbide drilling tools

DDM

整体硬质合金钻头 五倍径 不带内冷
Solid carbide drills 5xD with internal cooling



用于不锈钢
for stainless steel

DIN6535-HE 的柄部标准

Optionally available in shank form DIN 6535-HE / Whistle Notch

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	l ₃	形式 Form	BM35
DDM.05.01.13000	13.0	14	124	77	60	HA	▲
DDM.05.01.13500	13.5	14	124	77	60	HA	▲
DDM.05.01.13800	13.8	14	124	77	60	HA	△
DDM.05.01.14000	14.0	14	124	77	60	HA	▲
DDM.05.01.14500	14.5	16	133	83	63	HA	△
DDM.05.01.14800	14.8	16	133	83	63	HA	△
DDM.05.01.15000	15.0	16	133	83	63	HA	△
DDM.05.01.15500	15.5	16	133	83	63	HA	△
DDM.05.01.15800	15.8	16	133	83	63	HA	△
DDM.05.01.16000	16.0	16	133	83	63	HA	△
DDM.05.01.16500	16.5	18	143	93	71	HA	△
DDM.05.01.16800	16.8	18	143	93	71	HA	△
DDM.05.01.17000	17.0	18	143	93	71	HA	△
DDM.05.01.17500	17.5	18	143	93	71	HA	△
DDM.05.01.17800	17.8	18	143	93	71	HA	△
DDM.05.01.18000	18.0	18	143	93	71	HA	△
DDM.05.01.18500	18.5	20	153	101	77	HA	△
DDM.05.01.18800	18.8	20	153	101	77	HA	△
DDM.05.01.19000	19.0	20	153	101	77	HA	△
DDM.05.01.19500	19.5	20	153	101	77	HA	△
DDM.05.01.19800	19.8	20	153	101	77	HA	△
DDM.05.01.20000	20.0	20	153	101	77	HA	△

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

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○ 次推荐 / alternative recommendation

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■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	○
M	●
K	●
N	●
S	●
H	-

硬质合金牌号
Carbide grades

切削参数 DDP

Cutting Data DDP



A

材料 Material			切削速度 Cutting speed v_c [m/min]	进给率 Feed rate f [mm/U]					
				Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
P	非合金钢.铸钢 Non-alloy stells. cast steels	< 600 N/mm ²	100 - 120	0.15	0.2	0.25	0.3	0.36	0.4
		< 700 N/mm ²	90 - 110	0.15	0.2	0.25	0.3	0.36	0.4
		> 700 N/mm ²	80 - 100	0.15	0.2	0.25	0.3	0.36	0.4
	合金钢 Alloyed steel	< 900 N/mm ²	80 - 95	0.15	0.2	0.25	0.3	0.36	0.4
		< 1000 N/mm ²	65 - 80	0.14	0.18	0.22	0.26	0.3	0.35
		> 1000 N/mm ²	45 - 65	0.12	0.16	0.2	0.24	0.3	0.35
M	不锈钢 Stainless steel	马氏体, 铁素体 martensitic. ferritic	40 - 50	0.12	0.16	0.20	0.24	0.30	0.40
		奥氏体 austenitic	20 - 30	0.10	0.12	0.14	0.16	0.20	0.28
K	灰铸铁 Grey cast iron	< 200 HB	100 - 130	0.22	0.28	0.34	0.38	0.44	0.5
		< 250 HB	90 - 120	0.2	0.25	0.3	0.35	0.4	0.45
		> 250 HB	80 - 100	0.2	0.25	0.3	0.35	0.4	0.45
	球墨铸铁 Spheroidal graphite cast iron. CGI	< 600 N/mm ²	90 - 120	0.2	0.25	0.3	0.35	0.4	0.45
		> 600 N/mm ²	70 - 90	0.18	0.22	0.25	0.3	0.35	0.4
N	铝合金 Al-alloys								
	铸铝合金 Al-cast-alloy	(Si < 10%)							
		(Si > 10%)							
S	钛合金 Titanium alloys								
	镍合金 Nickel alloys		20 - 30	0.06	0.08	0.10	0.12	0.16	0.20

材料 Material			切削速度 Cutting speed v_c [m/min]	进给率 Feed rate f [mm/U]					
				Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
P	非合金钢. 铸钢 Non-alloy steels. cast steels	< 600 N/mm ²	80 - 100	0.15	0.2	0.25	0.3	0.36	0.4
		< 700 N/mm ²	70 - 90	0.15	0.2	0.25	0.3	0.36	0.4
		> 700 N/mm ²	60 - 85	0.15	0.2	0.25	0.3	0.36	0.4
	合金钢 Alloyed steel	< 900 N/mm ²	70 - 90	0.15	0.2	0.25	0.3	0.36	0.4
		< 1000 N/mm ²	65 - 80	0.14	0.18	0.22	0.26	0.3	0.35
		> 1000 N/mm ²	45 - 65	0.12	0.16	0.2	0.24	0.3	0.35
M	不锈钢 Stainless steel	马氏体, 铁素体 martensitic. ferritic	60 - 80	0.12	0.16	0.20	0.24	0.30	0.40
		奥氏体 austenitic	30 - 60	0.10	0.12	0.14	0.16	0.20	0.28
K	灰铸铁 Grey cast iron	< 200 HB							
		< 250 HB							
		> 250 HB							
	球墨铸铁 Spheroidal graphite cast iron. CGI	< 600 N/mm ²							
		> 600 N/mm ²							
N	铝合金 Al-alloys		180 - 250	0.18	0.24	0.30	0.35	0.40	0.50
	铸铝合金 Al-cast-alloy	(Si < 10%)	180 - 250	0.18	0.24	0.3	0.35	0.4	0.5
		(Si > 10%)	160 - 220	0.18	0.24	0.3	0.35	0.4	0.5
S	铜合金 Copper-alloys		120 - 200	0.18	0.24	0.30	0.35	0.40	0.50
S	钛合金 Titanium alloys		20 - 50	0.06	0.08	0.10	0.12	0.16	0.20
	镍合金 Nickel alloys		20 - 45	0.06	0.08	0.10	0.12	0.16	0.20



系列/System

页/Page

URMA 精镗头

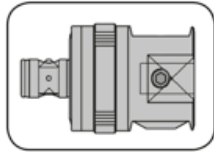
B2

URMA Fine Boring Head

URMA IntraMax

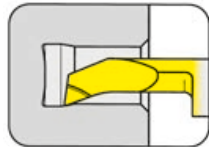
B22

精镗头
Fine Boring Head



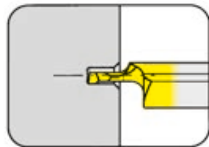
页/Page
B7

刀杆
Toolholder
B105/B110

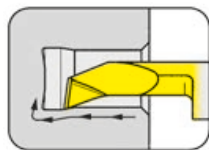


页/Page
B8-B10

刀片
Insert
105/110



页/Page
B11-B13



页/Page
B14-B21

URMA



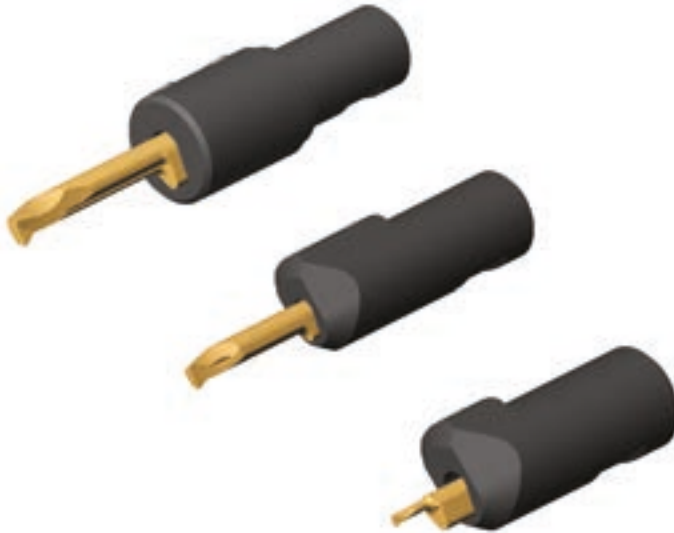
使用URMA05精镗头镗孔

Boring with
URMA Fine Boring Head

B

使用URMA05精镗头镗孔

Boring with fine Boring head URMA 05



自 Ø 0.2 mm
带刀片 型号 105
或者
自 Ø 6.0 mm
带刀片 型号 110

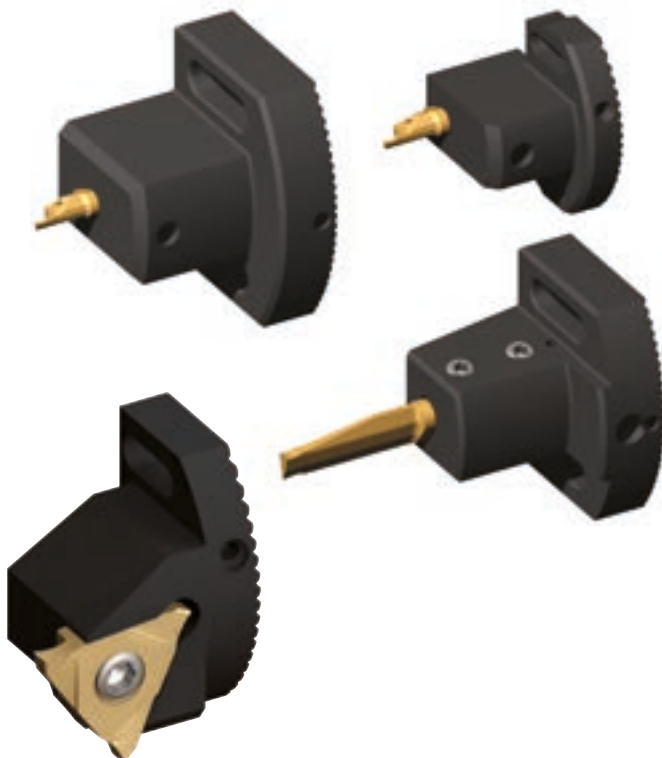
from Ø 0,2 mm
with insert type 105
or
from Ø 6,0 mm
with insert type 110

CBN(自Ø 3 mm) 或 PCD (自Ø 4 mm)刀片可用于镗削加工铸铁和淬硬材料。

CBN (from Ø 3 mm) or PKD (from Ø 4 mm) tipped inserts are also available for Boring operations in cast iron or hardened materials.

URMA-IntraMax端面切槽系列

Face grooving with URMA-IntraMax



t_{max} 可达 5.0 mm
带刀片 型号 105

t_{max} 可达 30 mm
带刀片 型号 A110

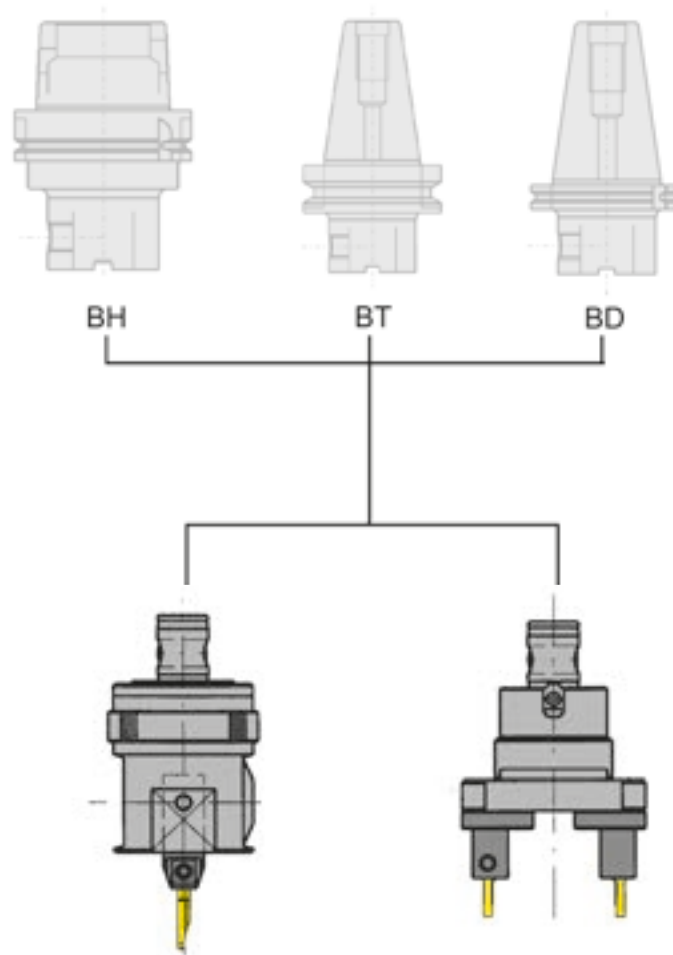
t_{max} 可达 3.0 mm
带刀片 型号 315

t_{max} up to 5,0 mm
with insert type 105

t_{max} up to 30 mm
with insert type A110

t_{max} up to 3,0 mm
with insert type 315

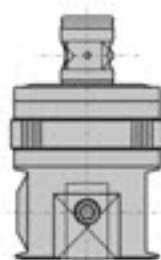
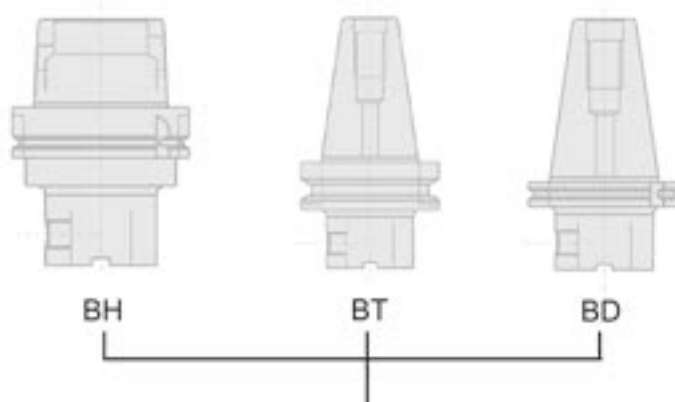
Beta模块接头 40/63 (见章D)
Adaptor with Beta module 40/63 (see Chapter D)



精镗头 05
Fine Boring head 05

IntraMax 49-88
或者 / or
IntraMax 87-207

Beta模块接头 40/63 (见章 D)
Adaptor with Beta module 40/63 (see Chapter D)



精镗头 05
Fine Boring head 05

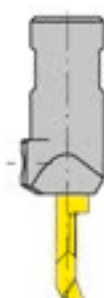
刀杆
Toolholder



B110

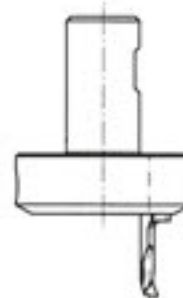


B105



B105

非标方案
Special solutions



精镗头

Fine Boring Head

B105

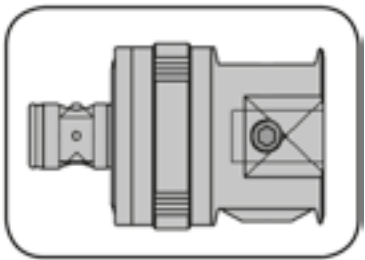
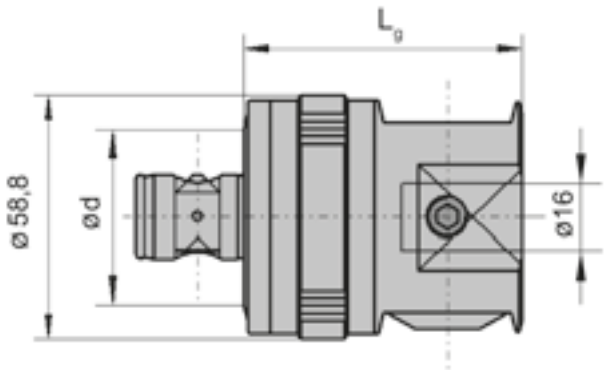
Beta模块40
Beta Module 40

孔径Ø 自
转速
调节范围

Bore Ø from
Number of revolutions
Adjustable range

0,2 mm
20.000 1/min
3,0 mm

直接冷却液供应
with through coolant supply



产品型号 Part number	Lg	d	Beta模块 Beta Module	重量 Weight
B05.40.30.067	67	42	40	1.300
B05.40.30.067-D	67	42	40	1.300

标度标志

模拟: B05.40.30.067 = 0,01 mm

数字: B05.40.30.067-D = 0,001 mm

Scale marking

Analog: B05.40.30.067 = 0,01 mm

Digital: B05.40.30.067-D = 0,001 mm

尺寸单位: mm
Dimensions in mm

用于B05...-D的附加设备

数显单元显示了调节范围

Additional equipment for B05...-D

Digital display unit to show the adjusting range

产品型号 Part number	l	b	h	重量 Weight
92.00.25-D	120	80	25	0.18 kg

尺寸单位: mm
Dimensions in mm



配件

Spare Parts

精镗头 Fine Boring Head	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
B105.0016.U1.01	6.075T15P	T15PQ

镗孔系列05

Boring System 05



B

刀杆

Toolholder

B105

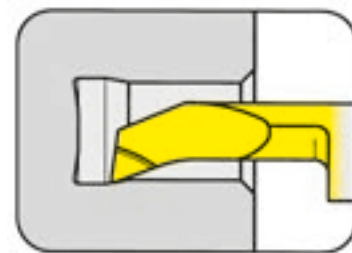
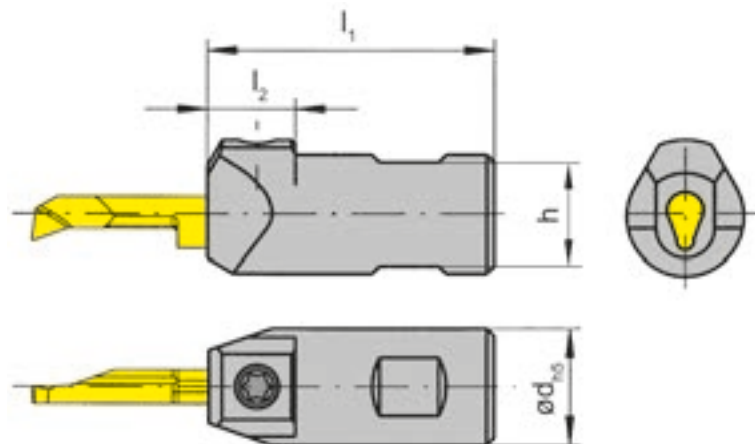
直接冷却液供应
with through coolant supply

孔径Ø 自

Bore Ø from

0,2 mm

夹持长度12mm
Clamping length 12 mm



配合刀片
for Insert

型号 105
Type

配合05系列的镗头
for use with boring head type
05

产品型号 Part number	l_1	l_2	d	h
B105.0016.U1.01	39	12	16	14

尺寸单位：mm
Dimensions in mm

注意事项：

双夹持面的刀杆可以在镗头中旋转180°，使刀片可过中心，可以镗Ø0.7mm以下的孔。

Note:

The double sided clamping surface allows to rotate the toolholder in the boring head of 180°. With this option it is possible to set the insert behind centre which is necessary for diameters less than Ø 0,7 mm.

刀杆可以安装左，右手刀片

Toolholders can be used with right and left hand inserts.

螺钉6.075T25P的扭矩规格=5Nm。

Torque specification of the screw 6.075T25P = 5 Nm.

配件

Spare Parts

刀杆 Toolholder	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
B105.0016.U1.01	6.075T15P	T15PQ

刀杆 Toolholder

B105

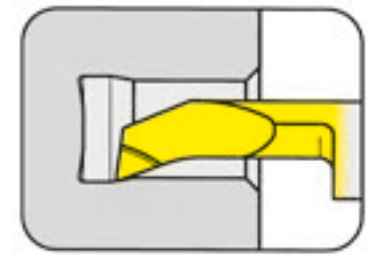
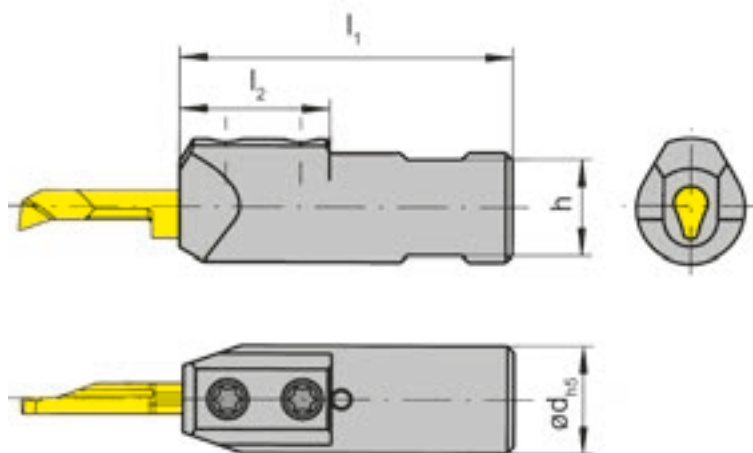
直接冷却液供应
with through coolant supply

孔径Ø 自

Bore Ø from

5,0 mm

夹持长度22mm
Clamping length 22 mm



配合刀片
for Insert

型号 105
Type

配合05系列的镗头
for use with boring head type
05

产品型号 Part number	l_1	l_2	d	h
B105.0016.U1.02	49	22	16	14

尺寸单位：mm
Dimensions in mm

注意事项：

刀杆可以安装左，右手刀片

Note:

Toolholders can be used with right and left hand inserts.

螺钉6.075T25P的扭矩规格=5Nm。

Torque specification of the screw 6.075T25P = 5 Nm.

配件

Spare Parts

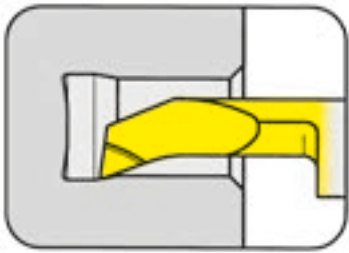
刀杆 Toolholder	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
B105.0016.U1.02	6.075T15P	T15PQ

B

刀杆
Toolholder

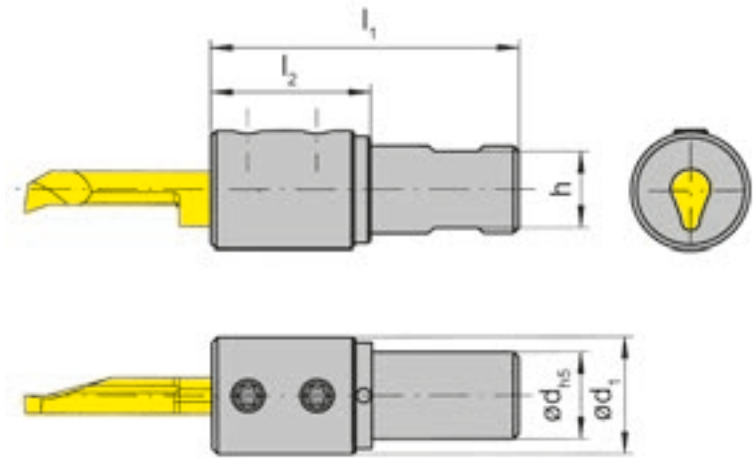
B110
直接冷却液供应
with through coolant supply

孔径Ø 自 Bore Ø from 6,0 mm



配合刀片
for Insert

型号 110
Type



配合05系列的镗头
for use with boring head type
05

产品型号 Part number	l_1	l_2	d	d_1	h
B110.0016.U1.02	56	29	16	21.5	14

尺寸单位：mm
Dimensions in mm

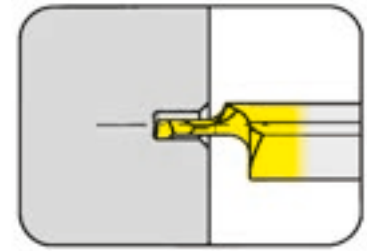
注意事项：
刀杆可以安装左，右手刀片
Note:
Toolholders can be used with right and left hand inserts.
螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

配件
Spare Parts

刀杆 Toolholder	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
B110.0016.U1.02	6.075T15P	T15PQ

刀片 Insert

105



孔径Ø 自

Bore Ø from

0.2 mm

夹持长度12mm

Clamping length 12 mm

配合刀杆

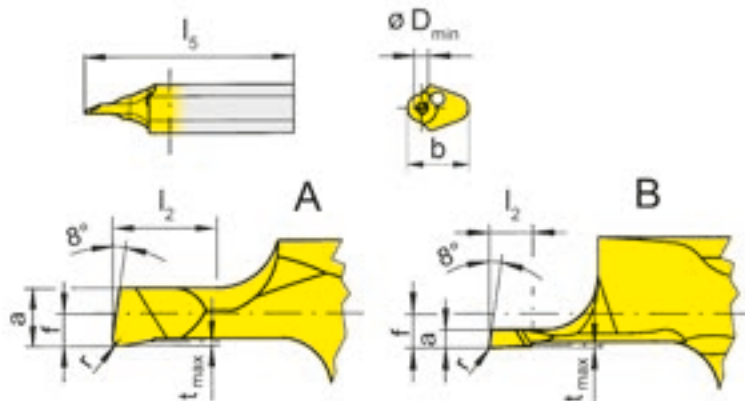
for Toolholder

型号

B105

Type

BKT



R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	b	l_2	l_3	t_{max}	D_{min}	形式 Form	MG12	EG35
R/L105.1802.0.03	0.02	1.0	0.25	5.9	1	23	0.02	0.3	B	▲/Δ	Δ/Δ
R/L105.1802.0.05	0.05	1.0	0.40	5.9	2	23	0.05	0.5	B	▲/▲	Δ/Δ
R/L105.1803.0.07	0.05	0.3	0.60	5.9	2	23	0.05	0.7	A	▲/▲	▲/Δ
R/L105.1802.0.02	0.02	1.0	0.17	5.9	1	23	0.02	0.2	B	▲/Δ	Δ/Δ

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

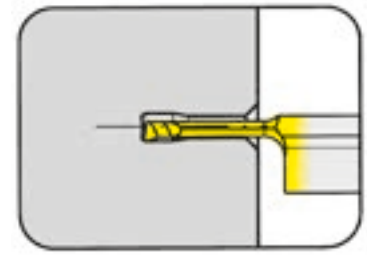
State R or L version

P	●	●
M	●	●
K	●	●
N	●	-
S	●	-
H	-	-

硬质合金牌号
Carbide grades

刀片 Insert

105



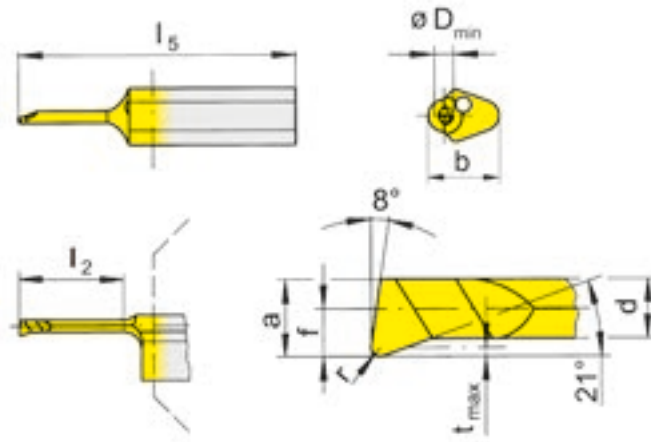
孔径Ø 自

Bore Ø from

1 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号 B105

Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

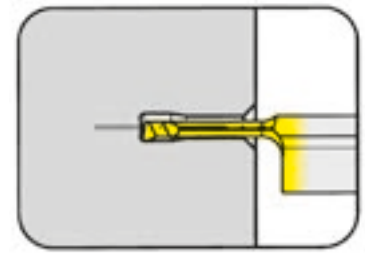
产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.1805.005.0.1	0.05	0.5	0.9	0.65	5.9	4	25	0.10	1.0		▲/Δ	▲/▲			
R/L105.1805.005.1.1	0.05	0.5	0.9	0.65	5.9	6	25	0.10	1.0		Δ/Δ	▲/▲			
R/L105.1805.005.2.1	0.05	0.5	0.9	0.65	5.9	8	25	0.10	1.0		Δ/Δ	▲/▲	Δ/x		
R/L105.1805.0.1	0.10	0.5	0.9	0.65	5.9	4	25	0.10	1.0	▲/Δ	▲/▲	Δ/x		▲/▲	▲/▲
R/L105.1805.1.1	0.10	0.5	0.9	0.65	5.9	6	25	0.10	1.0	Δ/x	▲/▲			▲/▲	▲/▲
R/L105.1805.2.1	0.10	0.5	0.9	0.65	5.9	8	25	0.10	1.0		▲/Δ			▲/Δ	▲/▲
R/L105.1813.005.0.15	0.05	1.3	1.4	1.10	5.9	6	25	0.15	1.5		▲/Δ	▲/▲	Δ/Δ		
R/L105.1813.005.1.15	0.05	1.3	1.4	1.10	5.9	9	25	0.15	1.5		▲/Δ	▲/▲	Δ/x		
R/L105.1813.005.2.15	0.05	1.3	1.4	1.10	5.9	12	30	0.15	1.5		▲/Δ	▲/Δ	Δ/x		
R/L105.1813.01.0.15	0.10	1.3	1.4	1.10	5.9	6	25	0.15	1.5		▲/Δ		▲/▲	▲/▲	
R/L105.1813.01.1.15	0.10	1.3	1.4	1.10	5.9	9	25	0.15	1.5		Δ/Δ		▲/▲	▲/▲	
R/L105.1813.01.2.15	0.10	1.3	1.4	1.10	5.9	12	30	0.15	1.5		Δ/Δ		▲/▲	▲/▲	
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request															
● 推荐 / recommended															
○ 次推荐 / alternative recommendation															
- 不合适 / not suitable															
非涂层 / uncoated grades															
涂层 / coated grades															
钎焊/金属陶瓷 / brazed/Cermet															
尺寸单位 : mm															
Dimensions in mm															
注明R或L型															
State R or L version															

硬质合金牌号
Carbide grades

刀片

Insert

105



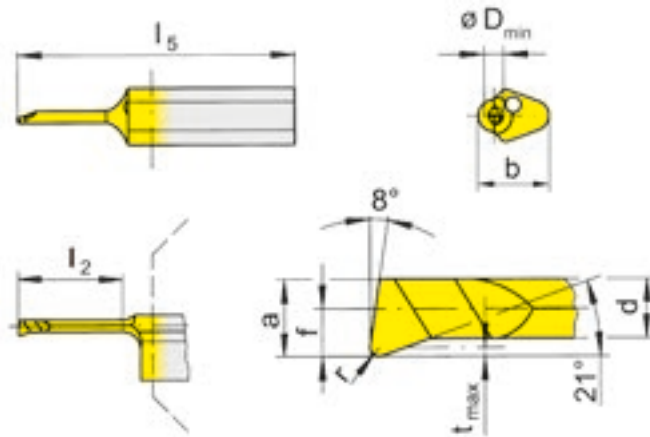
孔径Ø 自

Bore Ø from

2 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号 B105

Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.1809.005.0.2	0.05	1.0	1.9	1.60	5.9	6	25	0.15	2.0	Δ/x	Δ/Δ	▲/▲	Δ/Δ	Δ/x	Δ/x
R/L105.1809.005.1.2	0.05	1.0	1.9	1.60	5.9	9	25	0.15	2.0	Δ/x	Δ/Δ	▲/▲	x/Δ		Δ/x
R/L105.1809.005.2.2	0.05	1.0	1.9	1.60	5.9	12	30	0.15	2.0		Δ/Δ	▲/▲	Δ/x	Δ/x	Δ/x
R/L105.1809.01.0.2	0.10	1.0	1.9	1.60	5.9	6	25	0.15	2.0		Δ/Δ		▲/▲	▲/▲	
R/L105.1809.01.1.2	0.10	1.0	1.9	1.60	5.9	9	25	0.15	2.0		Δ/Δ	Δ/x	▲/▲	▲/Δ	
R/L105.1809.01.2.2	0.10	1.0	1.9	1.60	5.9	12	30	0.15	2.0		Δ/Δ		▲/▲	▲/▲	
R/L105.1809.0.2	0.15	1.0	1.9	1.60	5.9	6	25	0.15	2.0	▲/Δ	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1809.1.2	0.15	1.0	1.9	1.60	5.9	9	25	0.15	2.0	▲/Δ	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1809.2.2	0.15	1.0	1.9	1.60	5.9	12	30	0.15	2.0	▲/Δ	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1813.005.0.25	0.05	1.3	2.3	1.95	5.9	6	25	0.15	2.5		▲/Δ	Δ/x	▲/▲		
R/L105.1813.005.1.25	0.05	1.3	2.3	1.95	5.9	9	25	0.15	2.5		Δ/Δ	▲/▲	Δ/x		
R/L105.1813.005.2.25	0.05	1.3	2.3	1.95	5.9	12	30	0.15	2.5		Δ/Δ	▲/▲	▲/▲		
R/L105.1813.005.3.25	0.05	1.3	2.3	1.95	5.9	16	35	0.15	2.5		▲/Δ	▲/▲	Δ/Δ		
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request										P	o	•	•	•	•
● 推荐 / recommended										M	•	•	•	•	•
o 次推荐 / alternative recommendation										K	•	o	•	•	•
- 不合适 / not suitable										N	•	-	•	•	•
非涂层 / uncoated grades										S	•	-	•	•	•
涂层 / coated grades										H	-	-	-	-	-
钎焊/金属陶瓷 / brazed/Cermet															

尺寸单位 : mm

Dimensions in mm

注明R或L型

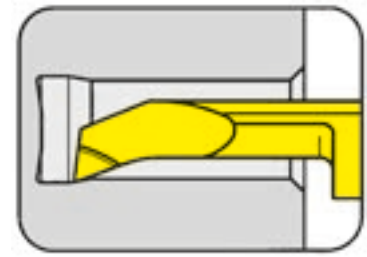
State R or L version

硬质合金牌号

Carbide grades

刀片 Insert

105



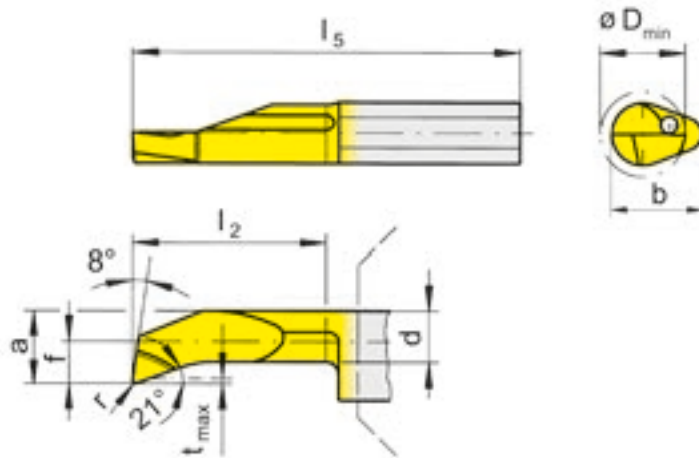
孔径Ø 自

Bore Ø from

3 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号 B105

Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l ₂	l ₅	t _{max}	D _{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.1813.005.1.3	0.05	1.3	2.6	2.3	5.9	10	25	0.15	3		▲/Δ	▲/▲	Δ/x	Δ/x	x/x
R/L105.1813.005.2.3	0.05	1.3	2.6	2.3	5.9	15	30	0.15	3		Δ/Δ	▲/▲		x/x	Δ/x
R/L105.1813.005.3.3	0.05	1.3	2.6	2.3	5.9	20	35	0.15	3		Δ/Δ	▲/▲		Δ/x	x/x
R/L105.1813.01.1.3	0.10	1.3	2.6	2.3	5.9	10	25	0.15	3		▲/Δ		▲/▲	▲/▲	
R/L105.1813.01.2.3	0.10	1.3	2.6	2.3	5.9	15	30	0.15	3		Δ/Δ		▲/▲	▲/▲	
R/L105.1813.01.3.3	0.10	1.3	2.6	2.3	5.9	20	35	0.15	3		Δ/Δ		▲/▲	▲/▲	
R/L105.1813.1.3	0.20	1.3	2.6	2.3	5.9	10	25	0.15	3	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1813.2.3	0.20	1.3	2.6	2.3	5.9	15	30	0.15	3	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1813.3.3	0.20	1.3	2.6	2.3	5.9	20	35	0.15	3	▲/Δ	▲/▲	x/x	▲/▲	▲/▲	▲/▲
R/L105.1819.005.1.4	0.05	1.9	3.7	2.9	6.4	10	25	0.30	4		▲/Δ	▲/▲	Δ/Δ	Δ/x	x/x
R/L105.1819.005.2.4	0.05	1.9	3.7	2.9	6.4	15	30	0.30	4		▲/Δ	▲/▲		x/x	x/x
R/L105.1819.005.3.4	0.05	1.9	3.7	2.9	6.4	20	35	0.30	4		▲/Δ	▲/▲	Δ/Δ		x/x
R/L105.1819.1.4	0.20	1.9	3.7	2.9	6.4	10	25	0.30	4	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1819.2.4	0.20	1.9	3.7	2.9	6.4	15	30	0.30	4	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1819.3.4	0.20	1.9	3.7	2.9	6.4	20	35	0.30	4	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	●	●	●	●	●	●
M	●	●	●	●	●	●
K	●	●	●	●	●	●
N	●	-	●	●	●	●
S	●	-	●	●	●	●
H	-	-	-	-	-	-

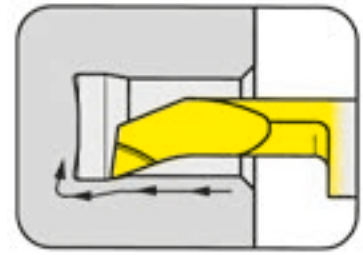
硬质合金牌号

Carbide grades

刀片

Insert

105



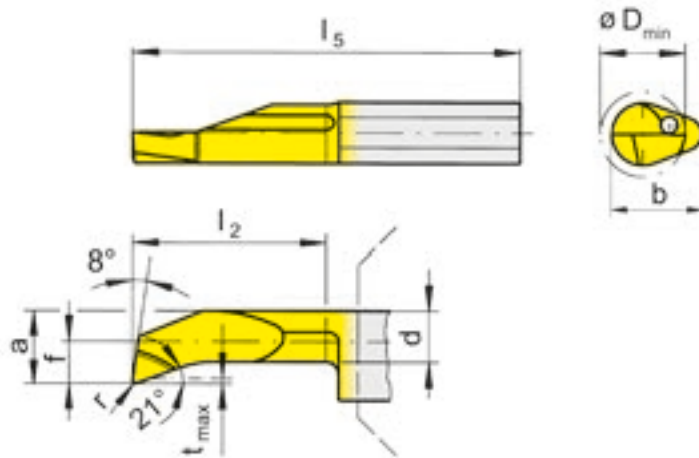
孔径Ø 自

Bore Ø from

5 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号 B105

Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.1823.1.5	0.20	2.3	4.7	4	7	10	25	0.5	5	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1823.2.5	0.20	2.3	4.7	4	7	15	30	0.5	5	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1823.3.5	0.20	2.3	4.7	4	7	20	35	0.5	5	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1823.4.5	0.20	2.3	4.7	4	7	25	40	0.5	5	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1823.5.5	0.20	2.3	4.7	4	7	30	45	0.5	5	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1823.005.1.5	0.05	2.3	4.7	4	7	10	25	0.5	5		Δ/Δ	▲/▲	x/x		x/x
R/L105.1823.005.2.5	0.05	2.3	4.7	4	7	15	30	0.5	5		▲/Δ	▲/▲	Δ/x		Δ/x
R/L105.1823.005.3.5	0.05	2.3	4.7	4	7	20	35	0.5	5		Δ/Δ	▲/▲	Δ/x	x/x	Δ/x
R/L105.1823.005.4.5	0.05	2.3	4.7	4	7	25	40	0.5	5		Δ/▲	▲/▲			Δ/x
R/L105.1823.005.5.5	0.05	2.3	4.7	4	7	30	45	0.5	5		Δ/Δ	▲/▲	Δ/x		x/x

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

	P	M	K	N	S	H
MG12	○	●	●	●	●	●
EG35	●	●	●	●	●	●
TF45	●	○	●	●	●	●
TH35	●	●	●	●	●	●
TI25	●	●	●	●	●	●
TN35	●	●	●	●	●	●

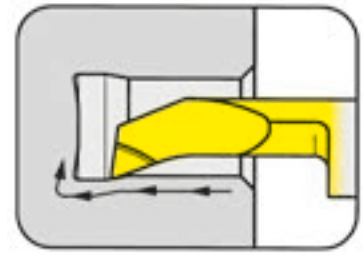
硬质合金牌号

Carbide grades

B

刀片
Insert

105



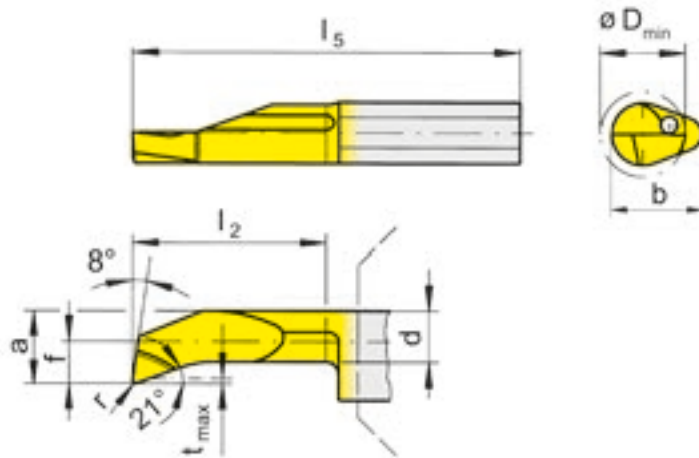
孔径Ø 自

Bore Ø from

6 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号 B105

Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.1833.005.2.6	0.05	3.3	5.7	4.7	7	15	30	0.5	6.0		Δ/Δ	▲/▲	x/Δ		x/x
R/L105.1833.005.3.6	0.05	3.3	5.7	4.7	7	20	35	0.5	6.0		Δ/Δ	▲/▲			x/x
R/L105.1833.005.4.6	0.05	3.3	5.7	4.7	7	25	40	0.5	6.0		Δ/Δ	▲/Δ			x/x
R/L105.1833.005.5.6	0.05	3.3	5.7	4.7	7	30	45	0.5	6.0		Δ/Δ	▲/Δ			Δ/x
R/L105.1833.2.6	0.20	3.3	5.7	4.7	7	15	30	0.5	6.0	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1833.3.6	0.20	3.3	5.7	4.7	7	20	35	0.5	6.0	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1833.4.6	0.20	3.3	5.7	4.7	7	25	40	0.5	6.0	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1833.5.6	0.20	3.3	5.7	4.7	7	30	45	0.5	6.0	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲
R/L105.1840.005.3.7	0.05	4.0	6.4	5.2	7	20	35	0.5	6.8		Δ/Δ	▲/▲			
R/L105.1840.005.4.7	0.05	4.0	6.4	5.2	7	25	40	0.5	6.8		Δ/Δ	▲/▲		x/x	
R/L105.1840.005.5.7	0.05	4.0	6.4	5.2	7	30	45	0.5	6.8		Δ/Δ	▲/▲		x/x	
R/L105.1840.3.7	0.20	4.0	6.4	5.2	7	20	35	0.5	6.8	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1840.4.7	0.20	4.0	6.4	5.2	7	25	40	0.5	6.8	▲/▲	▲/▲	Δ/x	▲/▲	▲/▲	▲/▲
R/L105.1840.5.7	0.20	4.0	6.4	5.2	7	30	45	0.5	6.8	▲/▲	▲/▲		▲/▲	▲/▲	▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

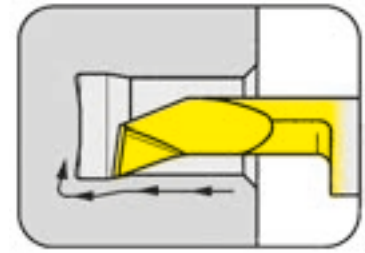
P	○	●	●	●	●	●
M	●	●	●	●	●	●
K	●	○	●	●	●	●
N	●	-	●	●	●	●
S	●	-	●	●	●	●
H	-	-	-	-	-	-

硬质合金牌号

Carbide grades

刀片 Insert

105



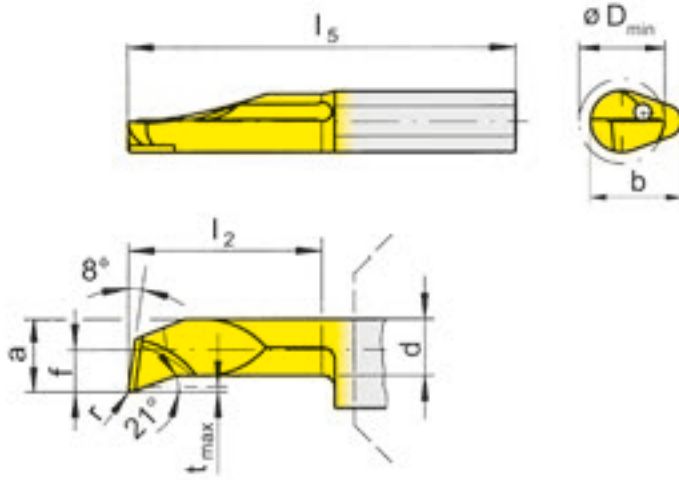
孔径Ø 自

Bore Ø from

4 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号

B105

Type

BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

带断屑槽 (槽型H)
with chip breaker
(geometry H)

产品型号 Part number	r	f	a	d	b	l ₂	l ₅	t _{max}	D _{min}	EG35	TF45	TH35
R/L105.1819.1.H.4	0.2	1.9	3.7	2.9	7	10	25	0.3	4.0	▲/▲	▲/▲	▲/▲
R/L105.1819.2.H.4	0.2	1.9	3.7	2.9	7	15	30	0.3	4.0	▲/▲	▲/▲	▲/▲
R/L105.1819.3.H.4	0.2	1.9	3.7	2.9	7	20	35	0.3	4.0	▲/▲	▲/▲	▲/▲
R/L105.1823.1.H.5	0.2	2.3	4.7	4.0	7	10	25	0.5	5.0	▲/▲	▲/▲	▲/▲
R/L105.1823.2.H.5	0.2	2.3	4.7	4.0	7	15	30	0.5	5.0	▲/▲	▲/▲	▲/▲
R/L105.1823.3.H.5	0.2	2.3	4.7	4.0	7	20	35	0.5	5.0	▲/▲	▲/▲	▲/▲
R/L105.1823.4.H.5	0.2	2.3	4.7	4.0	7	25	40	0.5	5.0	▲/▲	▲/▲	▲/▲
R/L105.1823.5.H.5	0.2	2.3	4.7	4.0	7	30	45	0.5	5.0	▲/▲	▲/▲	▲/▲
R/L105.1833.2.H.6	0.2	3.3	5.7	4.7	7	15	30	0.5	6.0	▲/▲	▲/▲	▲/▲
R/L105.1833.3.H.6	0.2	3.3	5.7	4.7	7	20	35	0.5	6.0	▲/▲	▲/▲	▲/▲
R/L105.1833.4.H.6	0.2	3.3	5.7	4.7	7	25	40	0.5	6.0	▲/▲	▲/▲	▲/▲
R/L105.1833.5.H.6	0.2	3.3	5.7	4.7	7	30	45	0.5	6.0	▲/▲	▲/▲	▲/▲
R/L105.1840.3.H.7	0.2	4.0	6.4	5.2	7	20	35	0.5	6.8	▲/▲	▲/▲	▲/▲
R/L105.1840.4.H.7	0.2	4.0	6.4	5.2	7	25	40	0.5	6.8	▲/▲	▲/▲	▲/▲
R/L105.1840.5.H.7	0.2	4.0	6.4	5.2	7	30	45	0.5	6.8	▲/▲	▲/▲	▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	•	•	•
M	•	•	•
K	•	•	•
N	-	•	•
S	-	•	•
H	-	-	-

硬质合金牌号
Carbide grades

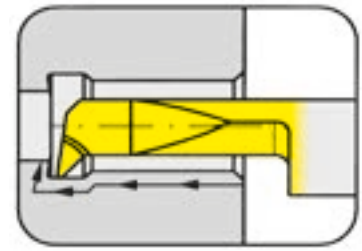
镗削 Boring



B

刀片 Insert

105



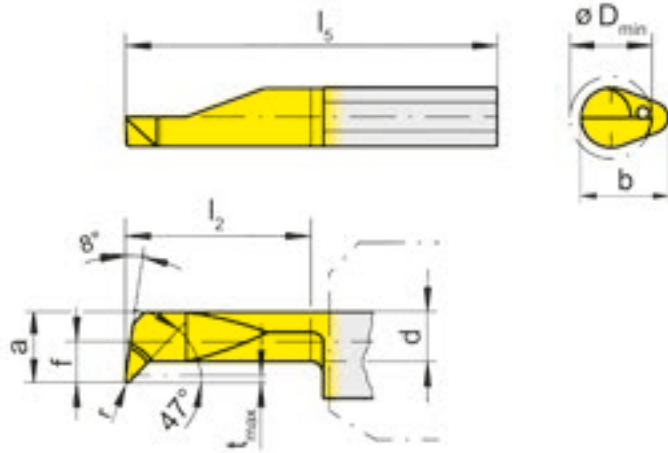
孔径Ø 自

Bore Ø from

4 mm

夹持长度12mm

Clamping length 12 mm



配合刀杆

for Toolholder

型号

B105

Type

BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	MG12	EG35	TF45	TH35	TI25	TN35
R/L105.4719.1.4	0.15	1.9	3.7	2.9	6.4	10	25	0.6	4	▲/▲	▲/▲	▲/▲	▲/▲	▲/▲	▲/▲
R/L105.4719.3.4	0.15	1.9	3.7	2.9	6.4	20	35	0.6	4	Δ/x	▲/▲	x/x	▲/▲	▲/▲	▲/▲
R/L105.4723.2.5	0.15	2.3	4.7	3.7	7.0	15	30	0.8	5	▲/Δ	▲/Δ	▲/▲	▲/▲	▲/▲	Δ/x
R/L105.4723.4.5	0.15	2.3	4.7	3.7	7.0	25	40	0.8	5	▲/▲	▲/▲	▲/▲	▲/▲	▲/▲	▲/▲
R/L105.4733.3.6	0.15	3.3	5.7	3.7	7.0	20	35	1.8	6	▲/Δ	▲/Δ	▲/▲	▲/▲	▲/▲	▲/▲
R/L105.4733.5.6	0.15	3.3	5.7	3.7	7.0	30	45	1.8	6	Δ/x	▲/▲	▲/▲	▲/▲	Δ/Δ	▲/▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request										P	o	•	•	•	•
● 推荐 / recommended										M	•	•	•	•	•
o 次推荐 / alternative recommendation										K	•	o	•	•	•
- 不合适 / not suitable										N	•	-	•	•	•
■ 非涂层 / uncoated grades										S	•	-	•	•	•
■ 涂层 / coated grades										H	-	-	-	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet															

尺寸单位 : mm

Dimensions in mm

注明R或L型

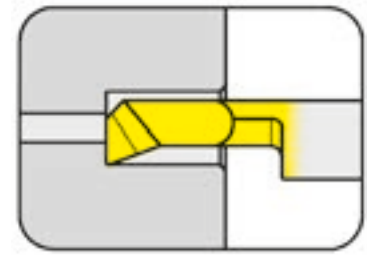
State R or L version

硬质合金牌号

Carbide grades

刀片 Insert

105



孔径Ø 自

Bore Ø from

3 mm

夹持长度12mm

Clamping length 12 mm

配合刀杆

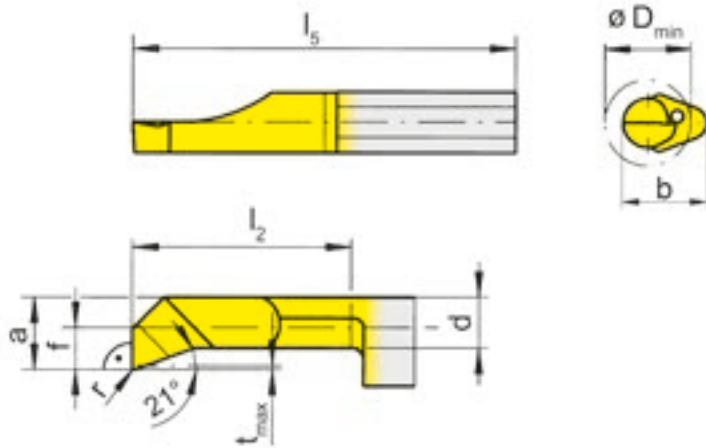
for Toolholder

型号

B105

Type

BKT



R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l ₂	l ₅	t _{max}	D _{min}		EG35	TH35	TI25	TN35
R/L105.9013.01.1.3	0.1	1.3	2.6	2.3	5.9	10	25	0.15	3		Δ/Δ	▲/▲		
R/L105.9013.01.2.3	0.1	1.3	2.6	2.3	5.9	15	30	0.15	3		Δ/Δ	▲/Δ		
R/L105.9013.1.3	0.2	1.3	2.6	2.3	5.9	10	25	0.15	3		▲/▲			▲/▲
R/L105.9013.2.3	0.2	1.3	2.6	2.3	5.9	15	30	0.15	3		▲/▲			▲/▲
R/L105.9019.01.1.4	0.1	1.9	3.7	2.9	6.4	10	25	0.30	4		Δ/Δ	▲/Δ		
R/L105.9019.01.2.4	0.1	1.9	3.7	2.9	6.4	15	30	0.30	4		Δ/Δ	▲/Δ		
R/L105.9019.01.3.4	0.1	1.9	3.7	2.9	6.4	20	35	0.30	4		Δ/Δ	▲/Δ		
R/L105.9019.1.4	0.2	1.9	3.7	2.9	6.4	10	25	0.30	4		▲/▲			▲/▲
R/L105.9019.2.4	0.2	1.9	3.7	2.9	6.4	15	30	0.30	4		▲/▲		Δ/x	▲/▲
R/L105.9023.01.1.5	0.1	2.3	4.7	4.0	7.0	10	25	0.50	5		Δ/Δ	▲/Δ		
R/L105.9023.01.2.5	0.1	2.3	4.7	4.0	7.0	15	30	0.50	5		▲/Δ	▲/▲		
R/L105.9023.01.3.5	0.1	2.3	4.7	4.0	7.0	20	35	0.50	5		Δ/Δ	▲/▲		
R/L105.9023.01.4.5	0.1	2.3	4.7	4.0	7.0	25	40	0.50	5		Δ/Δ	▲/Δ		
R/L105.9023.1.5	0.2	2.3	4.7	4.0	7.0	10	25	0.50	5		▲/▲	▲/x		▲/▲
R/L105.9023.2.5	0.2	2.3	4.7	4.0	7.0	15	30	0.50	5		▲/▲	▲/x		▲/▲
R/L105.9023.3.5	0.2	2.3	4.7	4.0	7.0	20	35	0.50	5		▲/▲			▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	●	●	●	●
M	●	●	●	●
K	○	●	●	●
N	-	●	●	●
S	-	●	●	●
H	-	-	-	-

硬质合金牌号

Carbide grades

镗削 Boring

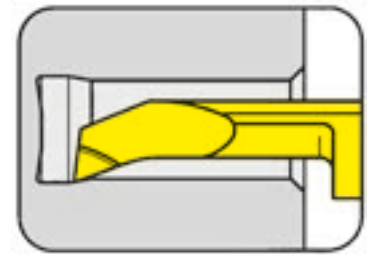


B

刀片 Insert

105

夹持长度增长
with extended clamping length



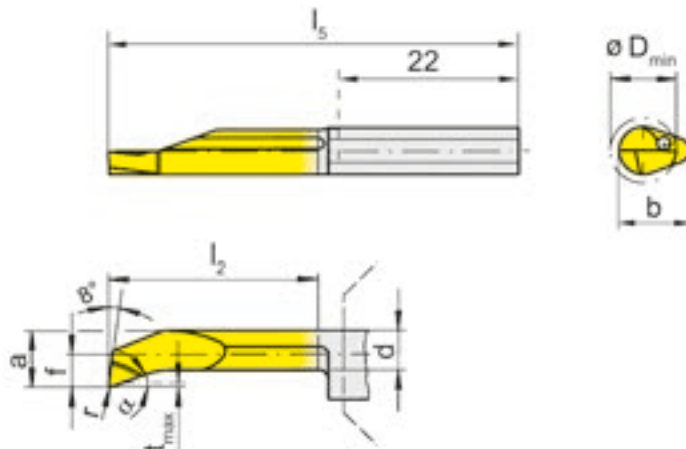
孔径Ø 自

Bore Ø from

5 mm

夹持长度22mm

Clamping length 22 mm



配合刀杆
for Toolholder

型号 B105
Type BKT

R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version

产品型号 Part number	r	f	a	d	b	l_2	l_5	t_{max}	D_{min}	α	EG35	TF45	TH35	TI25	TN35
R/L105.1823.4.5.2	0.1	2.3	4.7	4.2	7	25	50	0.3	5.0	20°	Δ/Δ		▲/▲	▲/▲	
R/L105.1823.5.5.2	0.1	2.3	4.7	4.2	7	30	55	0.3	5.0	20°	Δ/Δ		▲/▲	▲/Δ	
R/L105.1833.4.6.2	0.1	3.3	5.7	4.9	7	25	50	0.3	6.0	20°	Δ/Δ	x/x	▲/Δ	▲/Δ	
R/L105.1833.5.6.2	0.1	3.3	5.7	4.9	7	30	55	0.3	6.0	20°	Δ/Δ		▲/▲	▲/Δ	
R/L105.1840.4.7.2	0.1	4.0	6.4	5.4	7	25	50	0.3	6.8	20°	Δ/Δ		▲/▲	▲/▲	
R/L105.1840.5.7.2	0.1	4.0	6.4	5.4	7	30	55	0.3	6.8	20°	Δ/Δ		▲/Δ	▲/▲	Δ/x
R/L105.1840.7.7.2	0.1	4.0	6.4	5.4	7	40	65	0.3	6.8	20°	Δ/Δ			▲/Δ	
R/L105.4733.5.6.2	0.1	3.3	5.7	3.7	7	30	55	1.8	6.0	47°	Δ/Δ		▲/Δ	▲/Δ	
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request											P	•	•	•	•
● 推荐 / recommended											M	•	•	•	•
o 次推荐 / alternative recommendation											K	o	•	•	•
- 不合适 / not suitable											N	-	•	•	•
■ 非涂层 / uncoated grades											S	-	•	•	•
■ 涂层 / coated grades											H	-	-	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet															

尺寸单位 : mm

Dimensions in mm

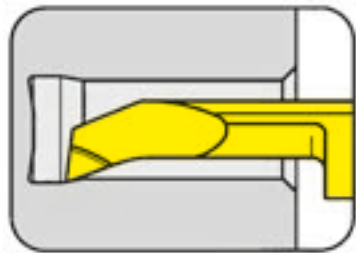
注明R或L型

State R or L version

硬质合金牌号
Carbide grades

刀片
Insert

110

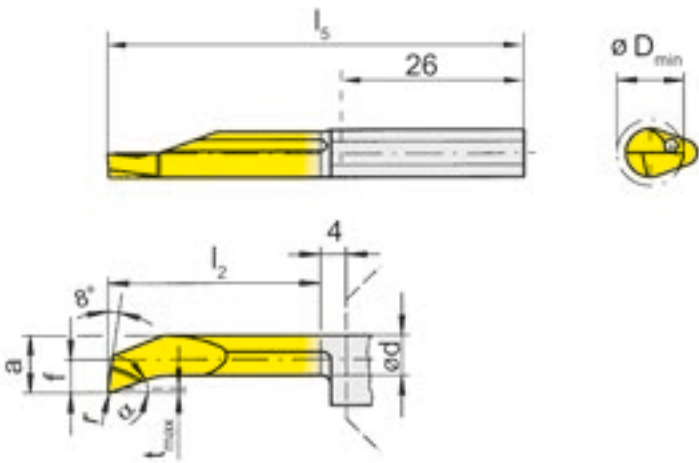


孔径Ø 自

Bore Ø from

6 mm

夹持长度26mm
Clamping length 26 mm



配合刀杆
for Toolholder

型号 B110
Type

R=右手型-如图
R = right hand version shown

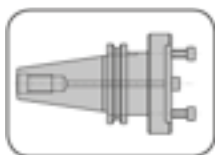
L=左手型
L = left hand version

产品型号 Part number	r	f	a	d	l_2	l_5	t_{max}	D_{min}	α	EG35	TH35	TI25
R/L110.1829.9.6	0.2	2.9	5.7	4.8	50	80	0.5	6	20°	▲/▲	▲/▲	▲/▲
R/L110.1829.9.8	0.2	4.0	7.4	6.0	50	80	0.5	8	20°	▲/▲	▲/▲	▲/▲
R/L110.1829.7.6	0.2	2.9	5.7	4.8	40	70	0.5	6	20°	▲/▲	▲/▲	▲/▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request											P	•
● 推荐 / recommended											M	•
○ 次推荐 / alternative recommendation											K	•
- 不合适 / not suitable											N	•
■ 非涂层 / uncoated grades											S	•
■ 涂层 / coated grades											H	•
■ 钎焊/金属陶瓷 / brazed/Cermet												

尺寸单位 : mm
Dimensions in mm
注明R或L型
State R or L version

硬质合金牌号
Carbide grades

URMA常规刀柄
Basic Holder Urma
C11/BKT/D11/B216/
23T11

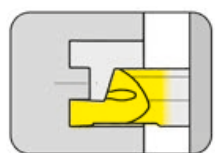


页/Page
B25, B30

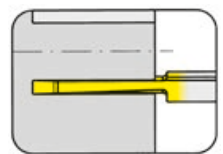
中间接头
Intermediate adaptors
直径扩展
Diameter extender

页/Page
B26, B31

可调刀杆
Adjustable holder
BKT

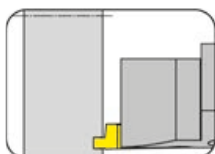


页/Page
B27, B33



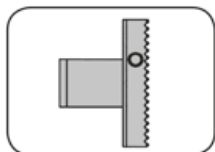
页/Page
B32

刀夹
Cartridge
BKT



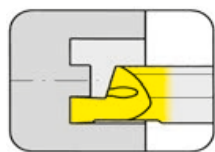
页/Page
B28, B32, B34

平衡块
Balancing weight
23

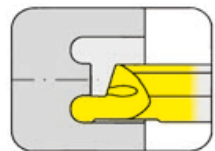


页/Page
B29, B35

刀片
Insert
105/A110

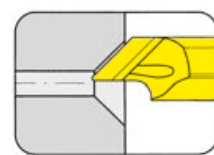


页/Page
B36-B39, B42

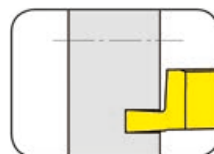


页/Page
B40

可转位刀片
Indexable inserts
A315



页/Page
B41

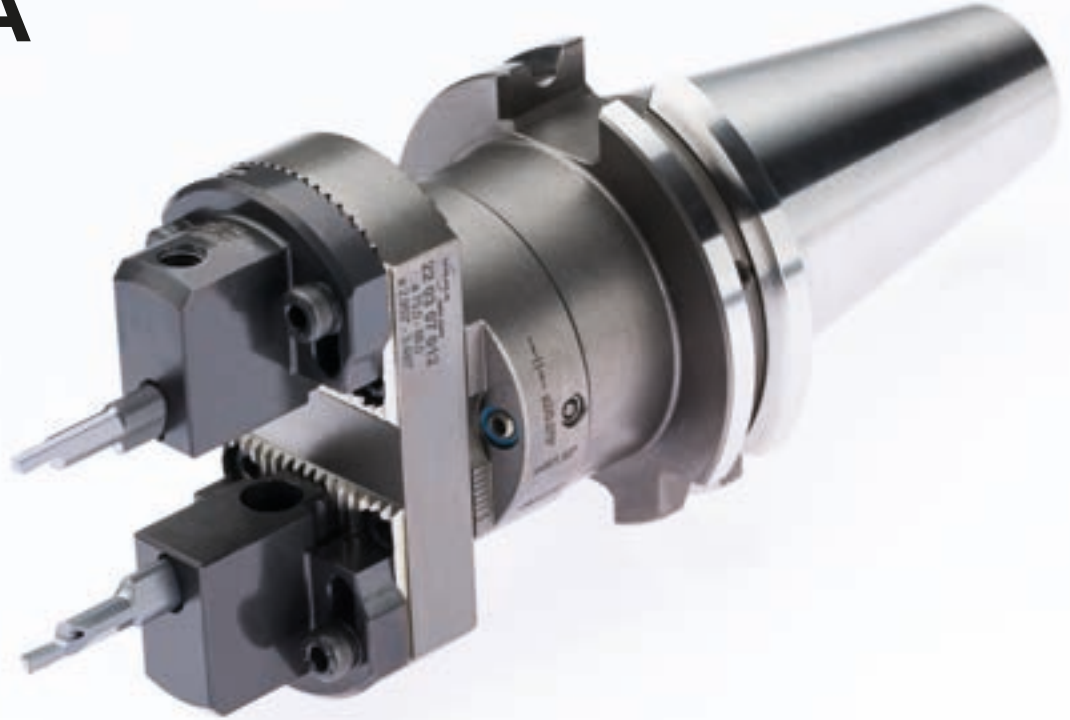


页/Page
B43

技术信息
Technical Informations

页/Page
B46-B47

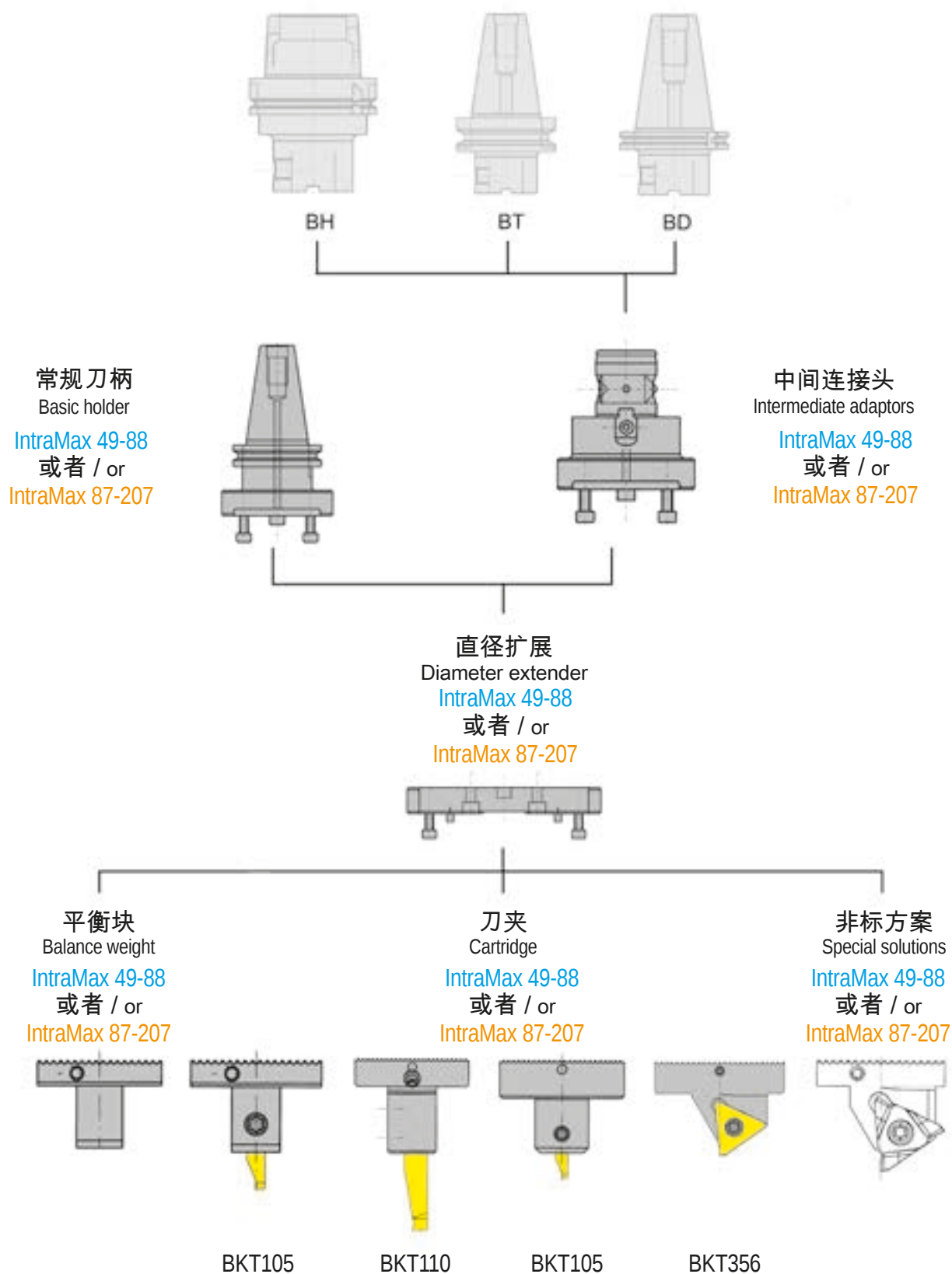
URMA



URMA-IntraMax端面切槽系列

Face Grooving with
URMA IntraMax

Beta模块接头 40/63 (见章 D)
Adaptor with Beta module 40/63 (see Chapter D)



URMA常规刀柄
Basic Holder Urma

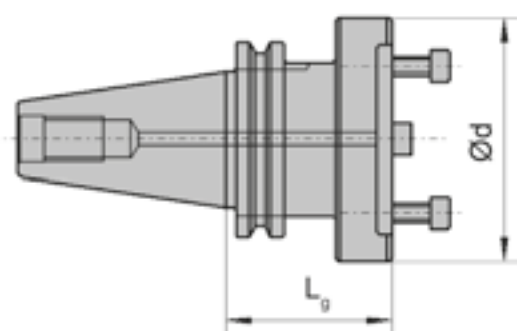
C11



B

- 直接安装于刀夹BKT105.U90K.01 和 BKT356.U90K.05
- 平衡块 020.U00K.040
- 直径可扩展型 22 03...

- Direct mounting for cartridge type BKT105.U90K.01 and BKT356.U90K.05
- for balance weight type 020.U00K.040
- for diameter bracked type 22 03...



产品型号 Part number	Lg	d	重量 Weight	系列 System
C11 41 03 052	52	46	1.2	CAT40
D11 41 03 052	52	46	1.2	SK40/A
H11 43 03 052	52	46	1.2	SK40/B
HSKA 11 63 03	60	46	1.3	HSKA-63
T11 41 03 052	52	46	1.3	MAS-BT40

尺寸单位：mm
Dimensions in mm

配件
Spare parts

Urma常规刀杆 Basic Holder Urma	螺钉 Screw	垫圈 Washer	圆柱销 Cylindrical Pin
C11../D11../H11../HSKA11../T11..	C002205	K000201	C001208

B

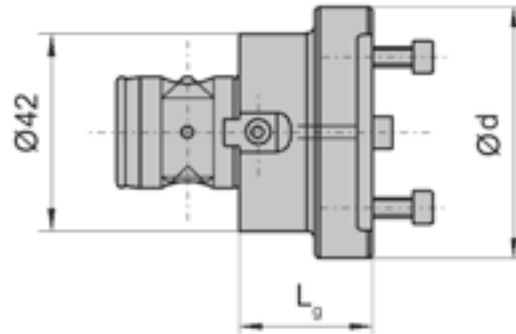
可调刀杆

Intermediate adaptors URMA

BKT

- 直接安装刀夹 BKT105.U90K.01和 BKT356.U90K.05
- 平衡块 020.U00K.040
- 直径可扩展型 22 03...
- Beta模块

- direct mounting for cartridge type BKT105.U90K.01 and BKT356.U90K.05
- for balance weight type 020.U00K.040
- for diameter extender type 22 03...
- coupling Beta module



产品型号 Part number	Beta模块 Beta module	d	L _g	重量 Weight	直径范围 用于 Diameter range for 型号/ type 105 / 315
B21 40 46 036	40	46	36	0.5 kg	5-18 / 47-61

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

间连接头 Intermediate adaptors	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90K.01	6.075T15P	SW1,5 DIN 911	T15PQ

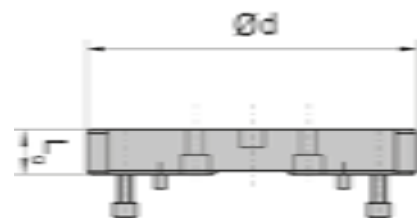
直径扩展 URMA

Diameter extender URMA

BKT

- 直接安装于刀夹BKT105.U90K.01 和 BKT356.U90K.05

- Direct mounting for cartridge type BKT105.U90K.01 and BKT356.U90K.05



产品型号 Part number	d	L _g	重量 Weight	直径范围 用于 Diameter range for 型号/ type 105 / 315
22 03 06 012	59	12	0.2 kg	18-31 / 60-74
22 03 07 012	72	12	0.3 kg	31-45 / 73-87

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

直径扩展 URMA Diameter extender URMA	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90K.01	6.075T15P	SW1,5 DIN 911	T15PQ

可调刀杆
Adjustable holder

BKT

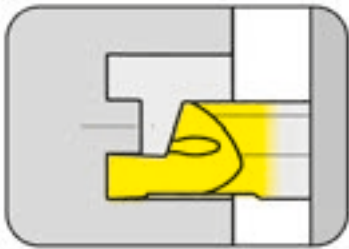
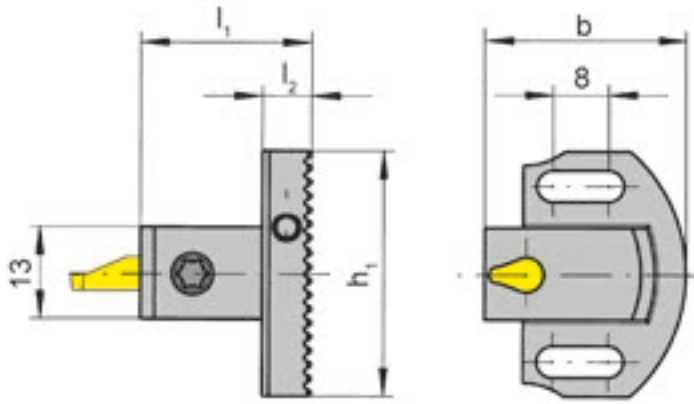
配合URMA IntraMax 49-88
for URMA IntraMax System 49-88

端面槽起始外径
切槽深度可达

from outer groove Ø
Depth of groove up to

5 mm
6,0 mm

夹持长度12mm
Clamping length 12 mm



für Insert
for Insert

型号 105
Type

产品型号 Part number	l_1	h_1	b	l_2
BKT105.U90K.01	24.5	35	28.5	7

尺寸单位：mm
Dimensions in mm

直径Damin=2x(6 mm + flinsert)以上时可以使用两个刀夹
2 Cartridges are suitable from Damin = 2x (6 mm + flinsert)
螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

配件
Spare Parts

可调刀杆 Adjustable holder	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90K.01	6.075T15P	SW1,5 DIN 911	T15PQ

B

刀夹
Cartridge

BKT

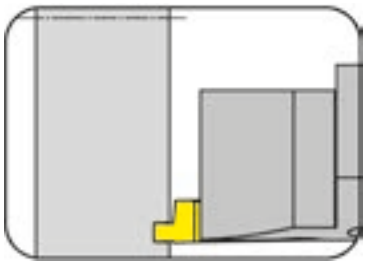
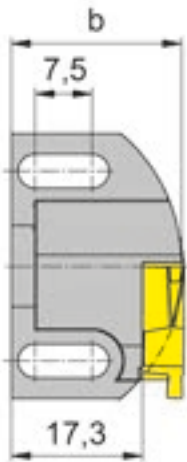
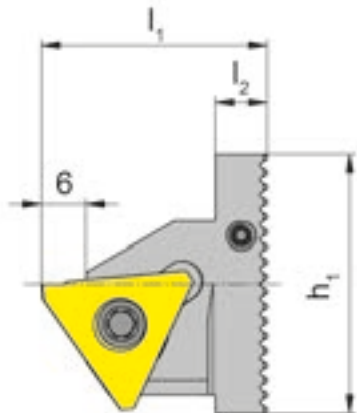
配合URMA IntraMax 49-88
for URMA IntraMax System 49-88

端面槽起始外径
切槽深度可达

from outer groove Ø
Depth of groove up to

47 mm
5,0 mm

夹持长度12mm
Clamping length 12 mm



配合可转位刀片
for Indexable Insert

型号 315
Type

需配合平衡块
only usable with Balancing weight
020.U00K.2040

产品型号 Part number	l_1	h_1	b	l_2	尺寸规格 Size
BKT356.U90K.05	30.5	35	22.8	7	05

尺寸单位：mm
Dimensions in mm

2 刀夹适用于Ø47-87mm
2 Cartridges are suitable from Ø 47 - 87 mm
螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

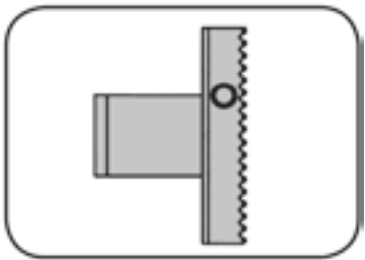
配件
Spare Parts

刀夹 Cartridge	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
BKT356.U90K.05	5.12T20P	T20PQ

平衡块
Balancing weight

BKT

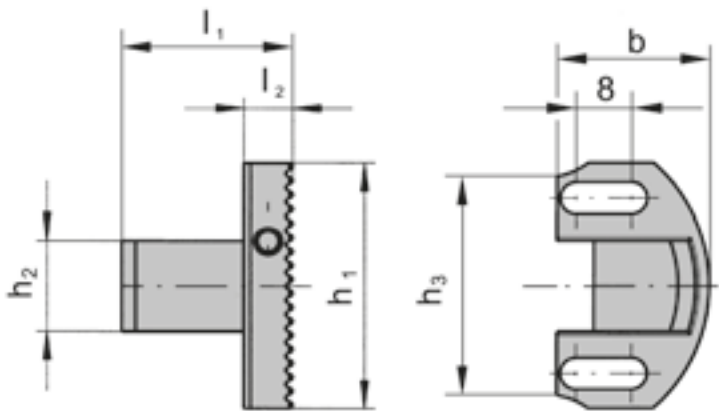
配合URMA IntraMax 49-88
for URMA IntraMax System 49-88



B

配合刀夹
for Cartridge

型号 BKT356.U90K.05
Type



产品型号 Part number	l_1	h_2	h_1	h_3	b	l_2
020.U00K.2040	24.5	13	35	31	22	7

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

平衡块 Balancing weight	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
BKT356.U90K.05	5.12T20P	T20PQ

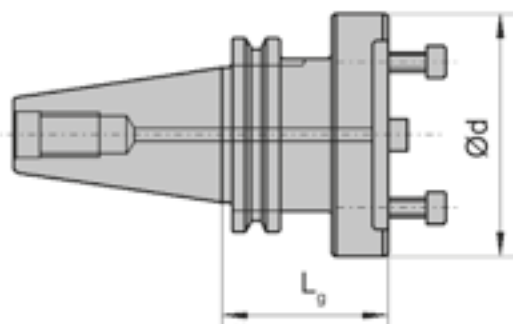
B

URMA常规刀柄
Basic Holder Urma

D11



- 直接安装于刀夹BKT105.U90G.01, BKT110.U17G.02 和 BKT356.U90K.05
- 平衡块 B21 40 46 036
- 直径可扩展型 22 01...
- Direct mounting for cartridge type BKT105.U90G.01, BKT110.U17G.02 and BKT356.U90K.05
- for balance weight type B21 40 46 036
- for diameter bracked type 22 01...



产品型号 Part number	Lg	d	重量 Weight	系列 System
C11 41 03 052	52	46	1.2	CAT40
D11 41 03 052	52	46	1.2	SK40/A
H11 43 03 052	52	46	1.2	SK40/B
HSKA 11 63 03	60	46	1.3	HSKA-63
T11 41 03 052	52	46	1.3	MAS-BT40

尺寸单位：mm
Dimensions in mm

配件
Spare parts

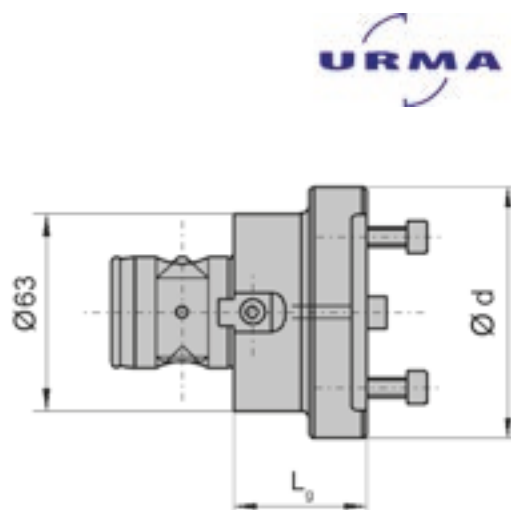
Urma常规刀杆 Basic Holder Urma	螺钉 Screw	垫圈 Washer	圆柱销 Cylindrical Pin	螺钉 Screw
D11../H11../HSKA11../T11..	C002202	K000201	C001208	Z002120

URMA中间连接头 Intermediate adaptors URMA

B216

- 直接安装刀夹 BKT105.U90G.01, BKT110.U17G.02 和BKT356.U90G.05
- 平衡块 230110036
- 直径可扩展型 22 01...
- Beta结构模块

- Direct mounting for cartridge type BKT105.U90G.01, BKT110.U17G.02 and BKT356.U90G.05
- for balance weight type 230110036
- for diameter extender type 22 01...
- coupling Beta module



产品型号 Part number	Beta模块 Beta module	d	L _g	重量 Weight	直径范围 用于 Diameter range for 型号/ type 105 / 315
B21 63 80 042	63	80	42	0,8	31-61 / 81-110

尺寸单位：mm
Dimensions in mm

配件 Spare Parts

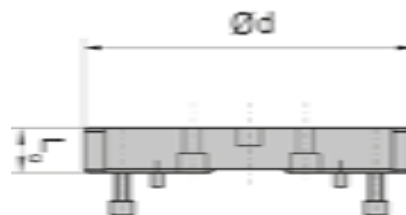
可调刀杆 Adjustable holder	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90K.01	6.075T15P	SW1,5 DIN 911	T15PQ

直径扩展 URMA Diameter extender URMA

BKT

- 直接安装于刀夹BKT105.U90G.01 和 BKT110.U17G.02 和 BKT356.U90G.05

- Direct mounting for cartridge type BKT105.U90G.01 BKT110.U17G.02 and BKT356.U90G.05



产品型号 Part number	d	L _g	重量 Weight	直径范围 用于 Diameter range for 型号/ type 105 / 315
22 01 11 018	110	18	0.8 kg	61-91 / 111-140.5
22 01 14 018	140	18	1.0 kg	91-122 / 140.5-170.5
22 01 17 018	170	18	1.2 kg	122-152 / 170.5-200

尺寸单位：mm
Dimensions in mm

配件 Spare Parts

直径扩展 URMA Diameter extender URMA	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90K.01	6.075T15P	SW1,5 DIN 911	T15PQ

B

刀夹
Cartridge

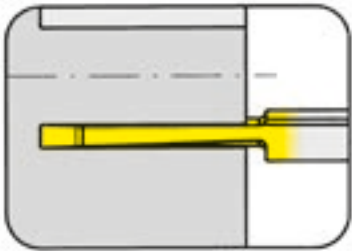
BKT

配合URMA IntraMax 87-207
for URMA IntraMax System 87-207

端面槽起始外径
切槽深度可达

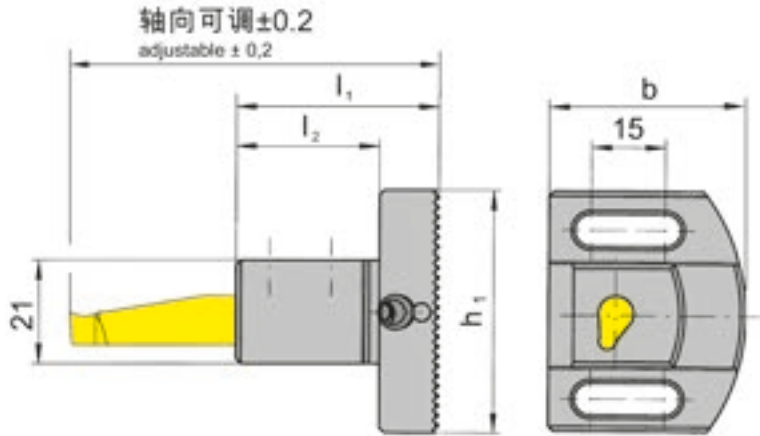
from outer groove Ø
Depth of groove up to

31 mm
30 mm



配合刀片
for Insert

型号 A110
Type



产品型号 Part number	l_1	l_2	h_1	b
BKT110.U17G.02	41	26	49	39.5

尺寸单位：mm
Dimensions in mm

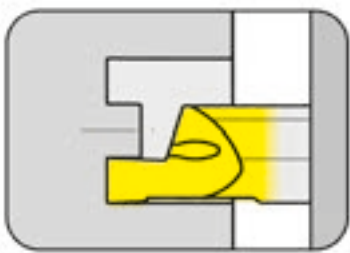
直径Damin = 2x (13,5 mm+flnser)以上时可以使用两个刀夹
2 Cartridges are suitable from Damin = 2x (13,5 mm + flnser)
螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

配件
Spare Parts

刀夹 Cartridge	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT110.U17G.02	6.075T15P	SW2,0 DIN911	T15PQ

可调刀杆
Adjustable holder

BKT
配合URMA IntraMax 87-207
for URMA IntraMax System 87-207

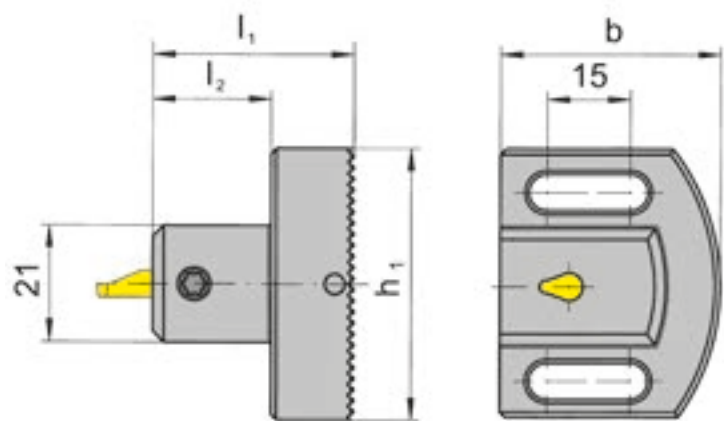


端面槽起始外径
切槽深度可达

from outer groove Ø
Depth of groove up to

31 mm
6 mm

夹持长度12mm
Clamping length 12 mm



配合刀片
for Insert

型号 105
Type

产品型号 Part number	l_1	l_2	h_1	b
BKT105.U90G.01	36.4	24.4	49	39.5

尺寸单位：mm
Dimensions in mm

螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

配件
Spare Parts

可调刀杆 Adjustable holder	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
BKT105.U90G.01	6.075T15P	SW2,0 DIN911	T15PQ

IntraMax系列49-88
System IntraMax 49-88



B

刀夹
Cartridge

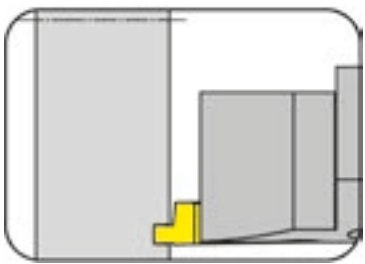
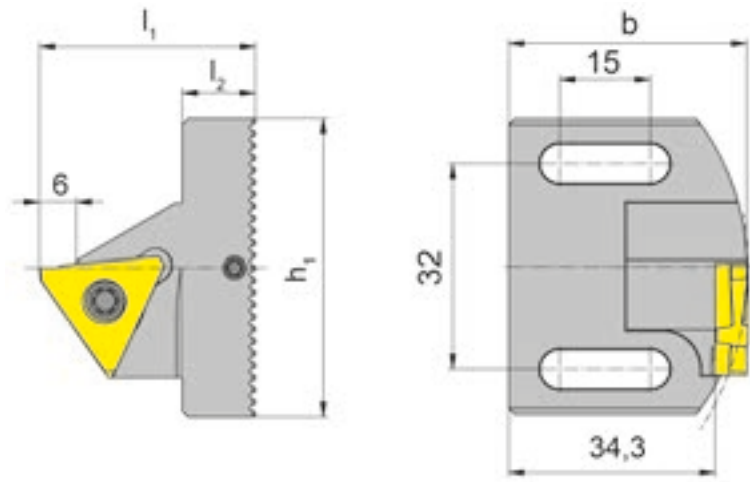
BKT
配合URMA IntraMax 87-207
for URMA IntraMax System 87-207

端面槽起始外径
切槽深度可达

from outer groove Ø
Depth of groove up to

81 mm
5 mm

夹持长度12mm
Clamping length 12 mm



配合刀片
for Indexable Insert

型号 315
Type

需配合平衡块
only usable with Balancing weight
23 01 10 036

产品型号 Part number	l_1	h_1	b	l_2
BKT356.U90G.05	42.4	49	39.8	12

尺寸单位：mm
Dimensions in mm

2 刀夹适用于Ø81-200 mm
2 Cartridges are suitable from Ø 81 - 200 mm
螺钉6.075T25P的扭矩规格=5Nm。
Torque specification of the screw 6.075T25P = 5 Nm.

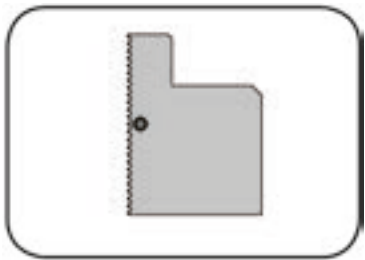
配件
Spare Parts

刀夹 Cartridge	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
BKT356.U90G.05	5.12T20P	T20PQ

平衡块
Balancing weight

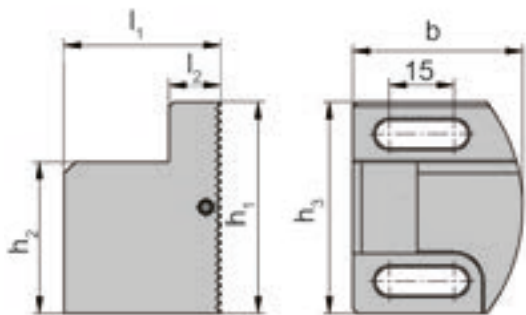
23

配合URMA IntraMax 87-207
for URMA IntraMax System 87-207



配合刀夹
for Cartridge

型号 BKT356.U90G.05
Type



产品型号 Part number	l_1	h_2	h_1	h_3	b	l_2	重量 Weight
23 01 10 036	36.4	34.8	49	49	39.5	12.5	0.3

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

平衡块 Balancing weight	螺钉 Screw	垫圈 Washer
23 01 10 036	C00 22 02	K00 02 20

端面切槽

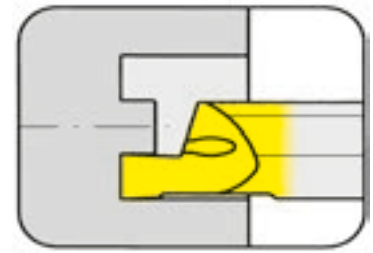
Face Grooving



B

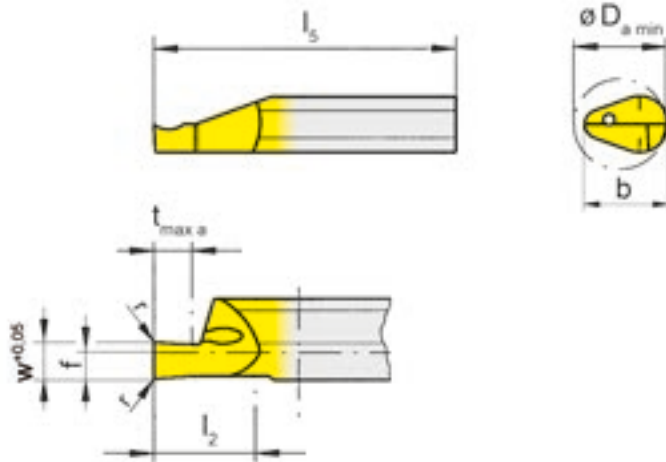
刀片
Insert

105



端面槽起始外径	from outer groove $\varnothing$	5 mm
槽深	Depth of groove	5 mm
槽宽可达	Width of groove up to	2 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号
Type

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	f	b	l_2	l_5	$t_{max a}$	$D_{a min}$		MG12	EG35	TI25
R/L105.0510.1.8	1.0	0.05	2	7	10	25	2	5		▲/▲	▲/▲	▲/▲
R/L105.0515.1.8	1.5	0.05	2	7	10	25	3	5		▲/▲	▲/▲	▲/▲
R/L105.0520.1.8	2.0	0.05	2	7	10	25	5	5		▲/Δ	▲/▲	▲/▲
R/L105.0510.2.8	1.0	0.05	2	7	15	35	2	5		Δ/Δ	▲/Δ	▲/▲
R/L105.0515.2.8	1.5	0.05	2	7	15	35	3	5		Δ/Δ	▲/▲	▲/▲
R/L105.0520.2.8	2.0	0.05	2	7	15	35	5	5		Δ/Δ	▲/▲	▲/▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request										P	o	•
● 推荐 / recommended										M	-	•
o 次推荐 / alternative recommendation										K	-	o
- 不合适 / not suitable										N	-	•
■ 非涂层 / uncoated grades										S	-	•
■ 涂层 / coated grades										H	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet												

尺寸单位 : mm
Dimensions in mm
注明R或L型
State R or L version

硬质合金牌号
Carbide grades

端面切槽

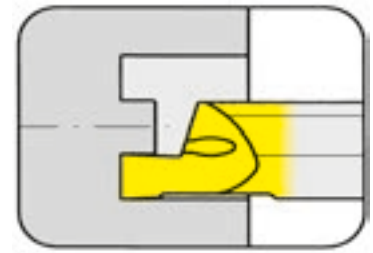
Face Grooving



B

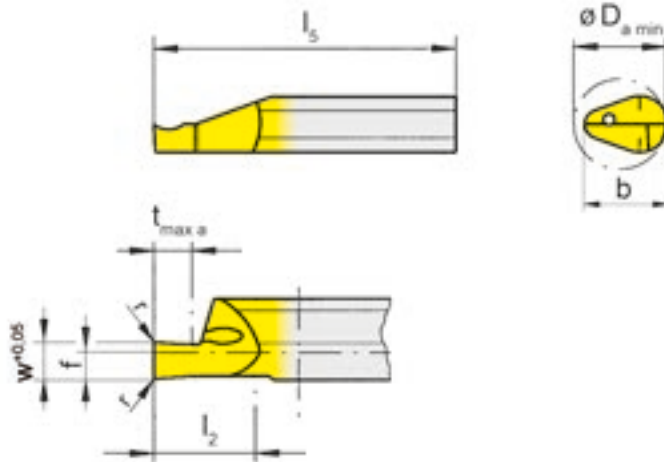
刀片
Insert

105



端面槽起始外径	from outer groove $\varnothing$	6 mm
槽深	Depth of groove	5 mm
槽宽可达	Width of groove up to	2 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号
Type

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	f	b	l_2	l_5	$t_{max a}$	$D_{a min}$		MG12	EG35	TI25
R/L105.0610.1.8	1.0	0.05	2	7	10	25	2	6		▲/△	▲/▲	▲/▲
R/L105.0615.1.8	1.5	0.05	2	7	10	25	3	6		▲/△	▲/▲	▲/▲
R/L105.0620.1.8	2.0	0.05	2	7	10	25	5	6		▲/△	▲/▲	▲/▲
R/L105.0610.2.8	1.0	0.05	2	7	15	35	2	6		▲/△	▲/△	▲/▲
R/L105.0615.2.8	1.5	0.05	2	7	15	35	3	6		▲/△	▲/△	▲/▲
R/L105.0620.2.8	2.0	0.05	2	7	15	35	5	6		▲/△	▲/▲	▲/▲
										P	○	●
										M	-	●
										K	-	○
										N	-	-
										S	-	-
										H	-	-

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

硬质合金牌号
Carbide grades

端面切槽

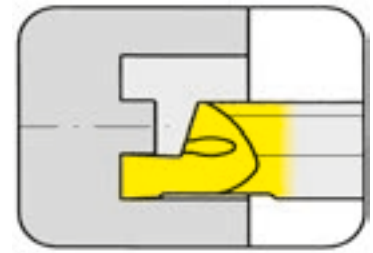
Face Grooving



B

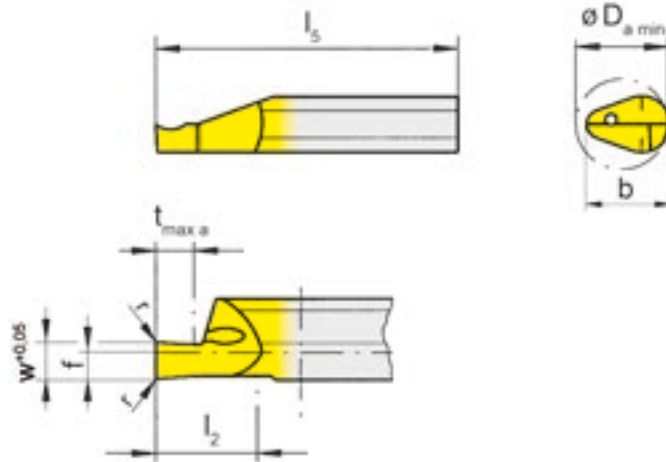
刀片
Insert

105



端面槽起始外径	from outer groove $\varnothing$	8 mm
槽深	Depth of groove	6 mm
槽宽可达	Width of groove up to	3 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号 B105
Type BKT

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	f	b	l_2	l_5	$t_{max a}$	$D_{a min}$	EG35	T125
R/L105.0810.1.8	1.0	0.15	2	7	10	25	2	8	▲/▲	▲/▲
R/L105.0815.1.8	1.5	0.15	2	7	10	25	3	8	▲/▲	▲/▲
R/L105.0820.1.8	2.0	0.15	2	7	10	25	4	8	▲/▲	▲/▲
R/L105.0825.1.8	2.5	0.15	2	7	10	25	5	8	▲/▲	▲/▲
R/L105.0830.1.8	3.0	0.15	2	7	10	25	6	8	▲/▲	▲/▲
R/L105.0810.2.8	1.0	0.15	2	7	15	35	2	8	▲/▲	▲/▲
R/L105.0815.2.8	1.5	0.15	2	7	15	35	3	8	▲/▲	▲/▲
R/L105.0820.2.8	2.0	0.15	2	7	15	35	4	8	▲/▲	▲/▲
R/L105.0825.2.8	2.5	0.15	2	7	15	35	5	8	▲/▲	▲/▲
R/L105.0830.2.8	3.0	0.15	2	7	15	35	6	8	▲/▲	▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	•	•
M	•	•
K	•	•
N	-	•
S	-	•
H	-	-

硬质合金牌号
Carbide grades

端面切槽

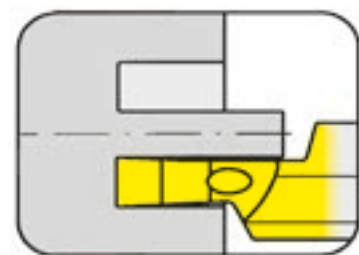
Face Grooving



B

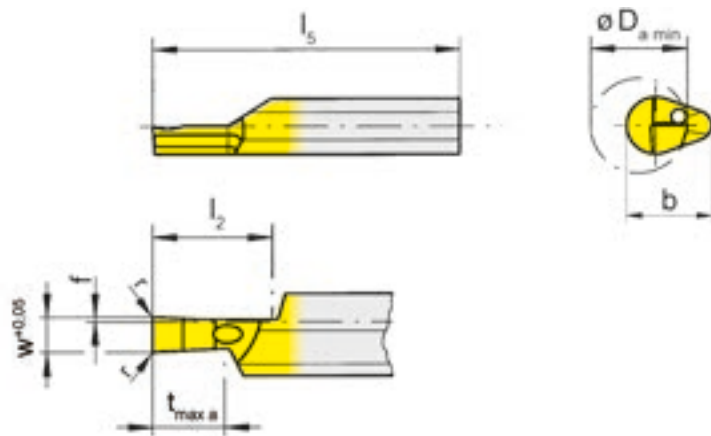
刀片
Insert

105



端面槽起始外径	from outer groove $\varnothing$	8 mm
槽深	Depth of groove	6 mm
槽宽可达	Width of groove up to	3 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号 B105
Type BKT

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	f	b	l_2	l_5	$t_{max a}$	$D_{a min}$	EG35	TI25
R/L105.0810.1.9	1.0	0.15	0.4	7	10	25	2	8	▲/▲	▲/▲
R/L105.0815.1.9	1.5	0.15	0.4	7	10	25	3	8	▲/▲	▲/▲
R/L105.0820.1.9	2.0	0.15	0.4	7	10	25	4	8	▲/▲	▲/▲
R/L105.0825.1.9	2.5	0.15	0.4	7	10	25	5	8	▲/▲	▲/▲
R/L105.0830.1.9	3.0	0.15	0.4	7	10	25	6	8	▲/▲	▲/▲

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	•	•
M	•	•
K	o	•
N	-	•
S	-	•
H	-	-

硬质合金牌号
Carbide grades

端面切槽

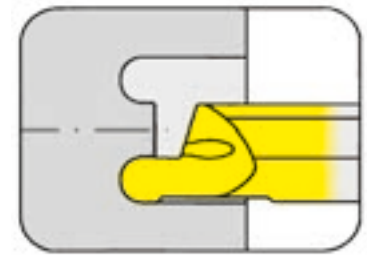
Face Grooving



B

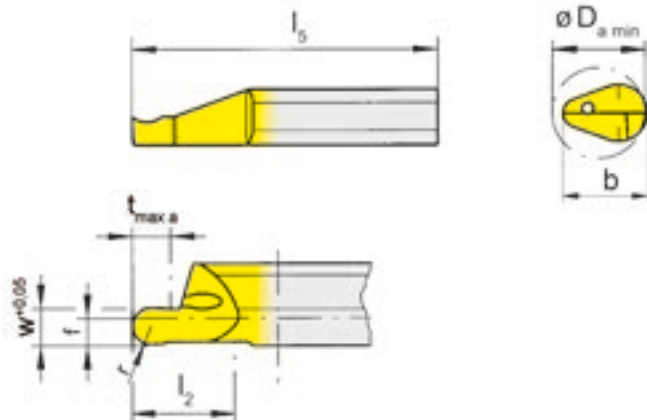
刀片
Insert

105



端面槽起始外径	from outer groove $\varnothing$	8 mm
槽深	Depth of groove	6 mm
槽宽可达	Width of groove up to	3 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号 B105
Type BKT

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

产品型号 Part number	w	r	f	b	l_2	l_5	$t_{\max a}$	$D_{a \min}$	EG35	T125
R/L105.8V10.1.8	1.0	0.50	2	7	10	25	2	8	▲/▲	▲/▲
R/L105.8V16.1.8	1.6	0.80	2	7	10	25	3	8	▲/▲	▲/▲
R/L105.8V20.1.8	2.0	1.00	2	7	10	25	4	8	▲/▲	▲/▲
R/L105.8V25.1.8	2.5	1.25	2	7	10	25	5	8	▲/Δ	▲/▲
R/L105.8V30.1.8	3.0	1.50	2	7	10	25	6	8	▲/▲	▲/▲
R/L105.8V10.2.8	1.0	0.50	2	7	15	35	2	8	▲/▲	▲/▲
R/L105.8V16.2.8	1.6	0.80	2	7	15	35	3	8	▲/Δ	▲/▲
R/L105.8V20.2.8	2.0	1.00	2	7	15	35	4	8	▲/▲	▲/▲
R/L105.8V25.2.8	2.5	1.25	2	7	15	35	5	8	▲/Δ	▲/Δ
R/L105.8V30.2.8	3.0	1.50	2	7	15	35	6	8	▲/Δ	▲/▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	•	•
M	•	•
K	•	•
N	-	•
S	-	•
H	-	-

硬质合金牌号
Carbide grades

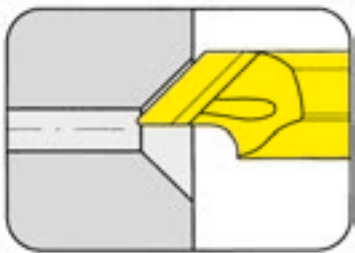
倒角 Chamfering



B

刀片
Insert

105

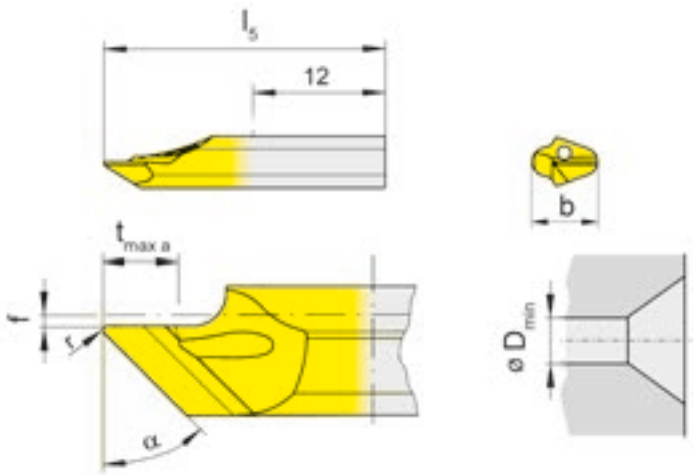


倒角角度
倒角宽度可达

Angle of chamfer
Width of chamfer up to

45°/6°
4 mm

夹持长度12mm
Clamping length 12 mm



配合刀杆
for Toolholder

型号 B105
Type BKT

R=右手型-如图
R = right hand version shown

产品型号 Part number	r	f	b	l_5	$t_{\max a}$	$D_{\min}$	α		EG35	TF45	TI25
R/L105.0045.1.1	0.2	0.5	5.9	25	3.5	1	45°		▲/▲	▲/▲	▲/▲
R/L105.0060.1.1	0.2	0.5	5.9	25	4.0	1	60°		▲/▲	▲/▲	▲/▲
									P	•	•
									M	•	•
									K	•	•
									N	-	•
									S	-	•
									H	-	-

▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request
 ● 推荐 / recommended
 o 次推荐 / alternative recommendation
 - 不合适 / not suitable
 ■ 非涂层 / uncoated grades
 ■ 涂层 / coated grades
 ■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm
Dimensions in mm
注明R或L型
State R or L version

硬质合金牌号
Carbide grades

端面切槽

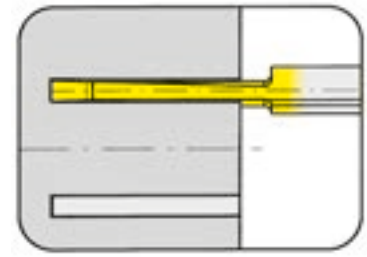
Face Grooving



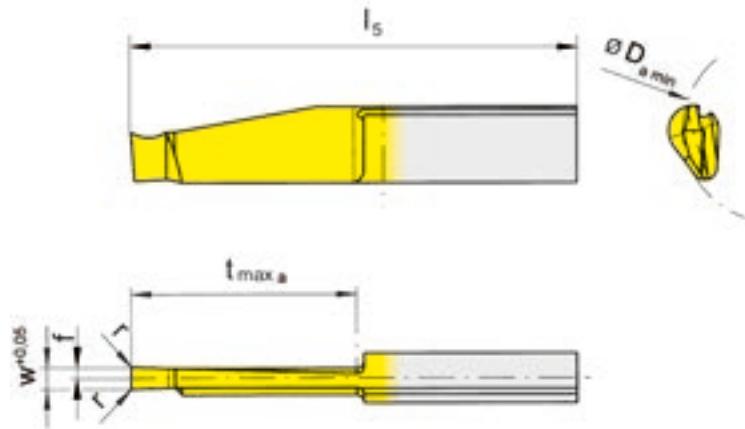
B

刀片
Insert

A110



端面槽起始外径	from outer groove $\varnothing$	20 mm
槽深	Depth of groove	30 mm
槽宽	Width of groove	3 mm



配合刀杆
for Toolholder

型号 B110
Type

L=左手型-如图
L = left hand version shown

R=右手型
R = right hand version

产品型号 Part number	w	r	f	l_5	$t_{max a}$	$D_{a min}$	EG35	TH35	TI25	TN35
R/LA110.2030.3.0	3	0.2	1.5	50	20	20	▲/▲	▲/▲	▲/▲	▲/▲
R/LA110.2030.5.0	3	0.2	1.5	60	30	20	▲/▲	▲/▲	▲/▲	▲/▲
R/LA110.5030.3.0	3	0.2	1.5	50	20	50	▲/▲		▲/▲	
R/LA110.5030.5.0	3	0.2	1.5	60	30	50	▲/▲		▲/▲	
							P	•	•	•
							M	•	•	•
							K	•	•	•
							N	-	•	•
							S	-	•	•
							H	-	-	-

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

Dmin在20和50mm之间时，端面切槽可达满切下的最大切深。

Face grooving with full width of the full depth only possible between D_{amin} 20 - 50 mm.

注意:

刀片 RA110 配刀杆 RB110...16.2 及 刀片 LA110 配刀杆 LB110...16.2 .

Note:

Use insert RA110 in toolholder RB110...16.2 and insert LA110 in toolholder LB110...16.2.

硬质合金牌号
Carbide grades

端面切槽

Face Grooving

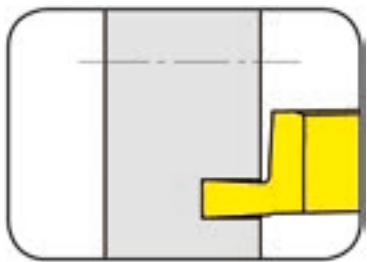


B

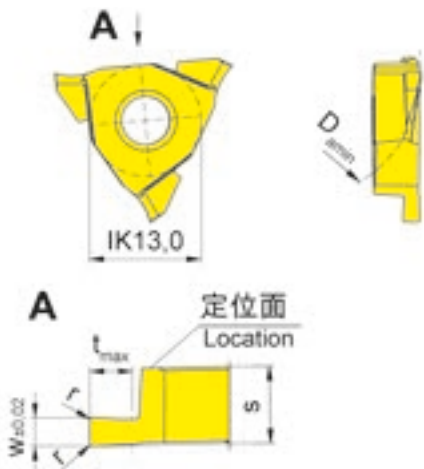
可转位刀片

Wendeschneidplatte

A315



端面槽起始外径	from outer groove Ø	20 mm
槽深可达	Depth of groove up to	3 mm
槽宽	Width of groove	1.5-3 mm



配合刀杆
for Toolholder

型号 BKT356
Type

R=右手型-如图
R = right hand version shown

刀片长度重复定位精度
±0.02 mm
Indexability length ± 0,02 mm

产品型号 Part number	w	r	t _{max}	D _{a min}	s	尺寸规格 尺寸规格	TH35	TN35
R/LA315.2015.02R	1.5	0.2	2	20	5.4	05	Δ/▲	
R/LA315.3020.02R	2.0	0.2	3	30	5.4	05	▲/▲	x/Δ
R/LA315.3030.02R	3.0	0.2	3	30	5.4	05	Δ/▲	
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request ● 推荐 / recommended o 次推荐 / alternative recommendation - 不合适 / not suitable ■ 非涂层 / uncoated grades ■ 涂层 / coated grades ■ 钎焊/金属陶瓷 / brazed/Cermet							P	•
尺寸单位 : mm Dimensions in mm							M	•
							K	•
							N	•
							S	•
							H	-
							硬质合金牌号 Carbide grades	

B

无涂层牌号

MG12 - 一种具有良好耐磨性的牌号，用于中低速加工钢件，铸铁和非铁材料。

涂层牌号

TN35 - 一种非常受欢迎的涂层TiN,用于中低速切削，推荐用于加工不锈钢和特种合金。

TI25 - TiCN涂层具有很高的耐磨性，推荐用于中速加工钢和有色金属材料

TF45 - 一种TiAlN涂层，具有非常好的热稳定性和高硬度，应用于特殊加工。
TA45

TH35 - 新的标准牌号-出色的热稳定性和高硬度，并且有非常低的摩擦系数。

EG35 - AlTiN和TiN涂层牌号. 这种涂层推荐使用用于钢件和铸钢.也是奥氏体不锈钢,铁素体
EG55 不锈钢,铸钢,铸铁(灰铁,铸铁,可锻铸铁)

UNCOATED GRADES

MG12 - a universal grade with good wear resistance. Used at low or medium cutting speeds for machining steel, cast iron and non ferrous materials

COATED GRADES

TN35 - a very popular grade TiN coated used to low or medium cutting speeds. Also recommended for machining stainless steel or exotic alloyed materials

TI25 - a TiCN coated grade with high abrasion resistance. Recommended for machining steel and non ferrous materials at medium cutting speeds

TF45 - a TiAlN coated grade. This coating has a very high temperature stability and high hardness and is only used for special applications.
TA45

TH35 - a TiAlN coated grade. This coating has an extreme Oxidation resistance with high hardness and very good coefficient of friction.

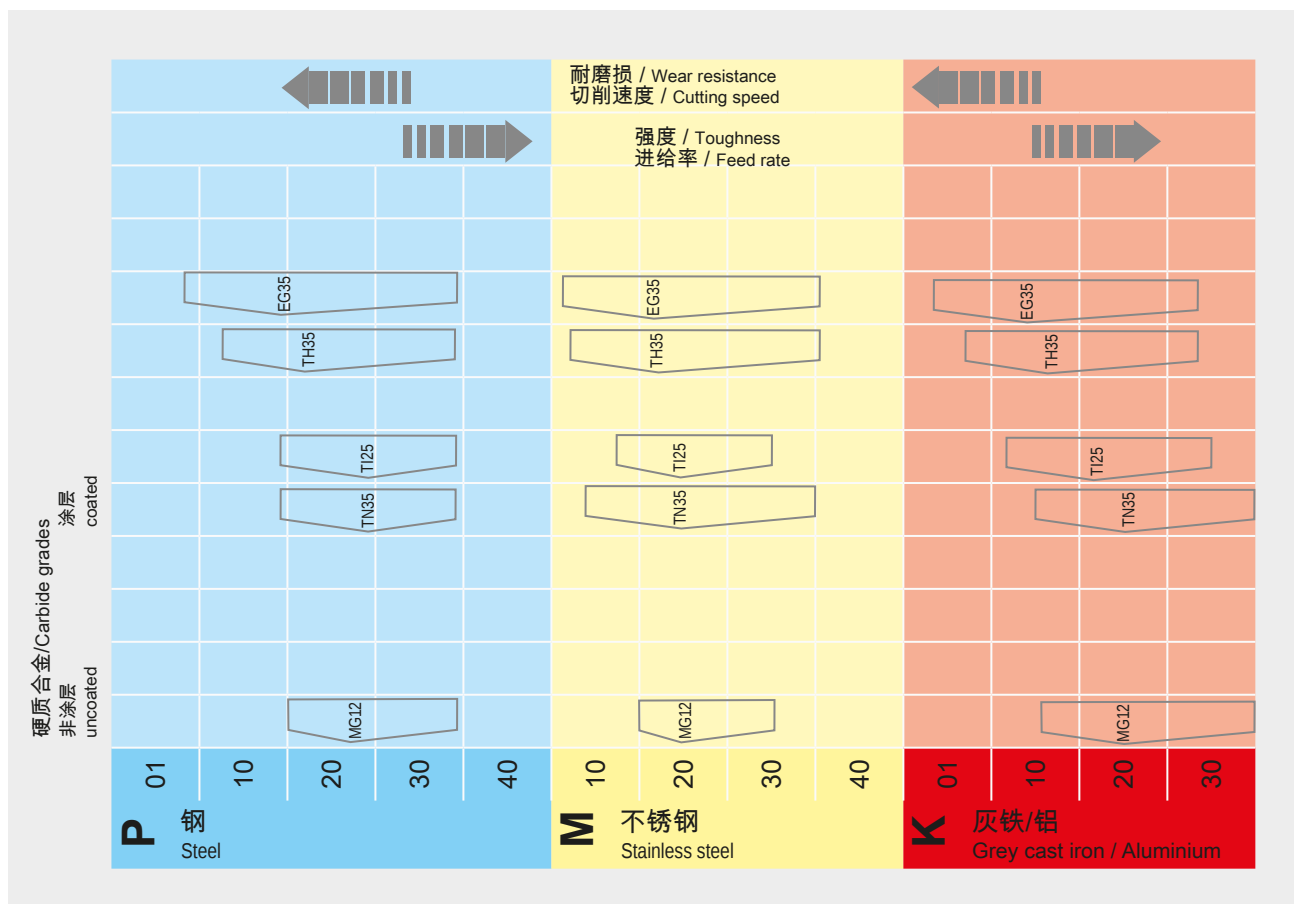
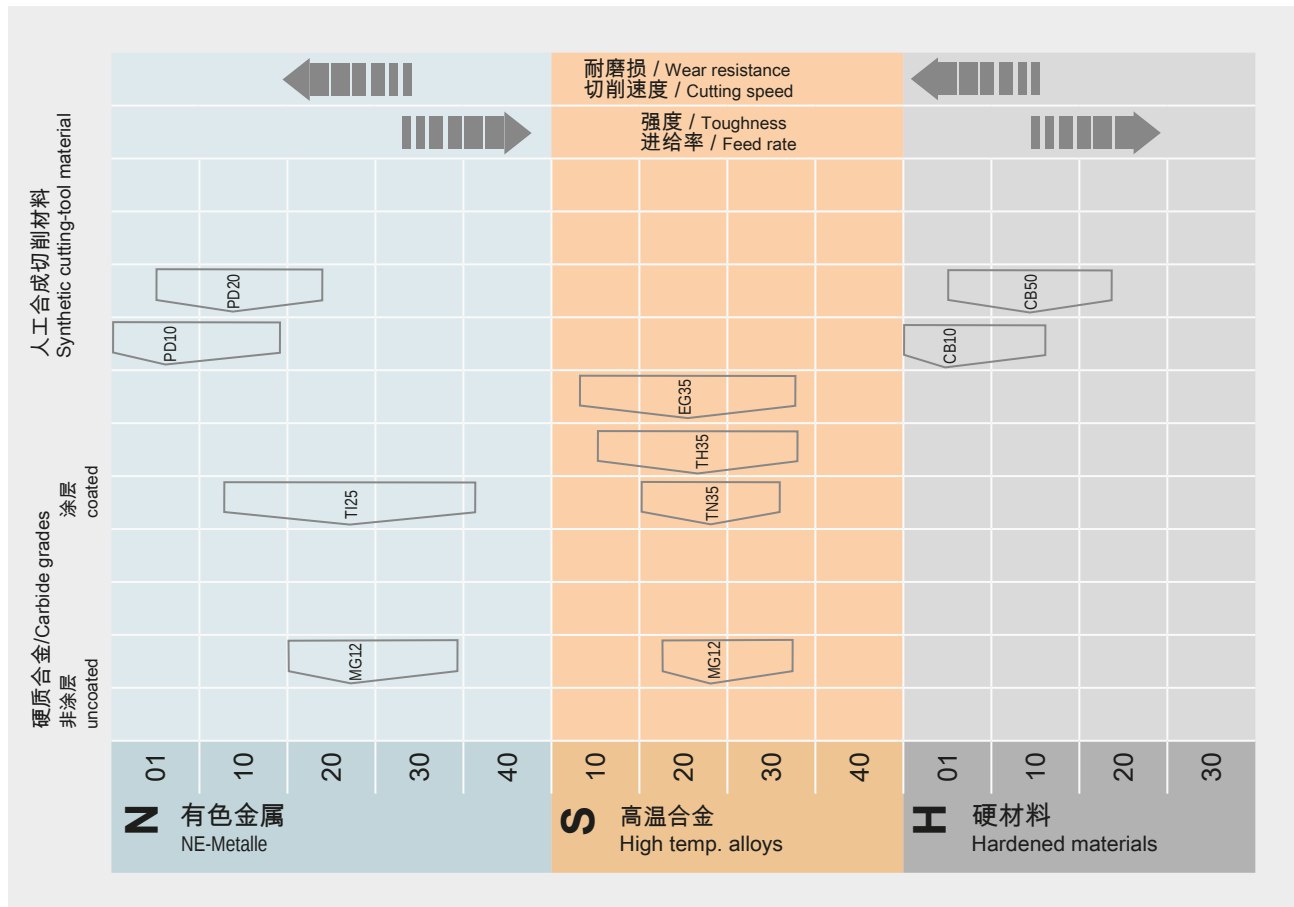
EG35 - a TiAlN and TiN coated grade. This coating is recommended for all types of steel and cast steel, with the exception of stainless steel with an austenitic structure often also referred to as Gamma iron, which is only stable at room temperature when alloyed with nickel, manganese or nitrogen.
EG55

硬质合金牌号的选择

Choice of Carbide Grades



B



HORN各种刀具材质的推荐切削速度

Nominal cutting speeds with HORN grades

			进给率 f (mm/U) / Feed rate f (mm/rev)					
			硬度 Brinell Hardness Brinell	Supermini®		Mini		切削速度 / Cutting speed *v _c m/min
					0,01 - 0,02		0,01 - 0,03	
					0,02 - 0,05		0,03 - 0,10	
					0,02 - 0,05		0,01 - 0,08	
ISO	材料 Material		HB	MG12	TN35	TI25	TH35	EG35 EG55
P	碳钢 Carbon steel	C < 0,4%	125	14-110	14-180	14-180	14-180	14-200
		C > 0,4% < 0,6 %	150					
		C > 0,4% < 0,6 %	200					
	低合金钢 low alloyed steel	退火 annealed	180	16-90	16-150	16-150	16-180	16-200
		调质 quenched	275					
		调质 quenched	300					
	高合金钢 high alloyed steel	退火 annealed	200		19-90	19-90	19-120	19-140
		调质 quenched	325					
	铸钢 Cast steel	非合金 unalloyed	180	19-110	19-180	19-180	19-180	19-200
		低合金 low alloyed	220					
		高合金 high alloyed	225					
M	不锈钢 Stainless steel	马氏体，铁素体 martensitic, ferritic	200		19-90	19-90	19-90	19-90
		奥氏体 austenitic	180		16-80		16-80	16-80
K	灰铸铁 Grey cast iron		180-260	16-90	16-150	16-150	16-150	16-160
	球墨铸铁 Spheroidal graphite cast iron		180-260	16-90	16-130	16-130	16-150	16-160
	可锻铸铁 Malleable cast iron		130-230		16-130	16-130	16-150	16-160
S	耐热合金 Heat resistant alloy	NiFe				18-75	18-75	
		NiCo				18-40	18-40	
N	铝合金 Al-alloys			14-220	16-600	16-600	16-600	
	铜和黄铜合金类 Copper and brass alloys			14-220	14-700	14-700	14-700	
H	硬化材料 hardened material	> 54 HRC						

v_c 决定于刀具直径和机床的最大转速。

v_c is depending on the tool diameter and therefore of the maximum numbers of revolutions of the machine.

切削参数

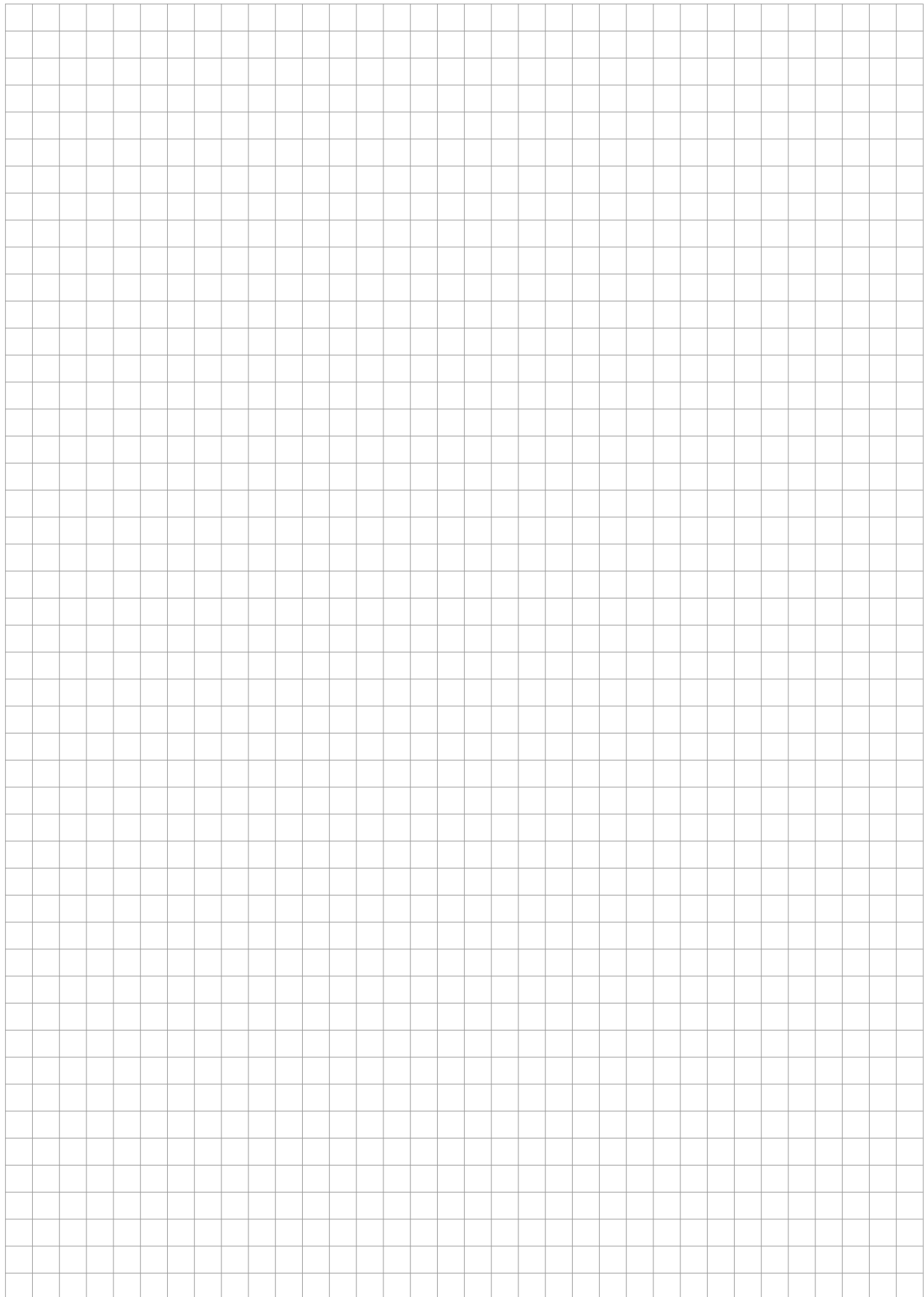
Cutting Data Grooving



B

材料 Material			硬度 Hardness Brinell (HB)	转位刀片 315 / Indexable Insert Type 315								进给率 / Feed rate f mm/U
				切削速度 / Cutting speed v _c (m/min)								
				K10	MG12	P20	Tl22 TN32	Tl25 TN35	TF45 TH35	TF46	AS62	
P	碳钢 Carbon steel	0,2% C	140			180-120	200-160	180-130	100-80	280-180	250-180	0,03 - 0,15
		0,4% C	180			160-110	180-150	170-120	90-60	250-140	230-170	
		0,6% C	200			140-90	180-140	150-100		230-120	220-160	
	低合金钢 Alloyed steel	退火 annealed	180			140-100	180-140	160-110	90-60	230-100	200-150	
		调质 quenched	280			110-90	160-110	130-90		190-90	160-110	
		调质 quenched	350			80	140-90	100-70		170-80	130-100	
	高合金钢 high alloyed steel (>5%)	退火 annealed	200			120-80	120-90			200-140	180-120	
		调质 hardened	-									
	铸钢 Cast steel	非合金 unalloyed	180				130-100				200-150	
		合金 alloyed	220				110-80				160-100	
M	不锈钢 Stainless steel	马氏体，铁素体 martensitic, ferritic	200		90-70		130-100	120-60		180-120	170-120	0,03 - 0,10
		奥氏体 austenitic	180		90-60			100-70		140-110		
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	90-60	80-60				130-90	180-120	180-120	0,03 - 0,20
		高拉伸强度 high tensile strength	250	90-60	80-60				90-70	140-100	140-100	
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160				90-70	90-70	120-80	170-90	170-90	0,03 - 0,15
		珠光体 perlitic	250				70-60	70-60	110-80	180-80	150-80	
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125		100-80		140-120	100-70		120-100	190-140	
		珠光体 perlitic	225		70-50		100-80	80-60		90-80	140-100	
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	1000-600	800-400			1000-600				0,03 - 0,15
		热处理 heat treatable	80-120	400-220	300-200			400-220				
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	1000-600	800-400			1000-600				
		热处理 heat treatable	100	600-300	400-250			600-300				
	铜合金 Copper-alloys	非热处理 not heat treatable	90	200-120			200-150	210-130		200-150		
		热处理 heat treatable	100	150-90			150-60	160-90		150-110		
S	耐热合金(铁基) Heat resistant alloy (Fe)	退火 annealed	200		50-30			50-30				0,03 - 0,08
		硬化 hardened	275		40-20			40-20				
	耐热合金 (镍基, 钴基) Heat resistant alloy (Ni, Co)	退火 annealed	250		30-20			30-20				
		硬化 hardened	350		20-10			20-10				

B





系列/System

DR small

DR

页/Page

C2

C16

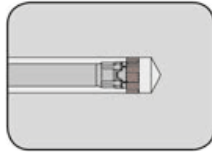
C

刀片
Insert
DR small



页/Page
C6-C7

铰刀刀杆
Reaming insert holder
MDR small/DR

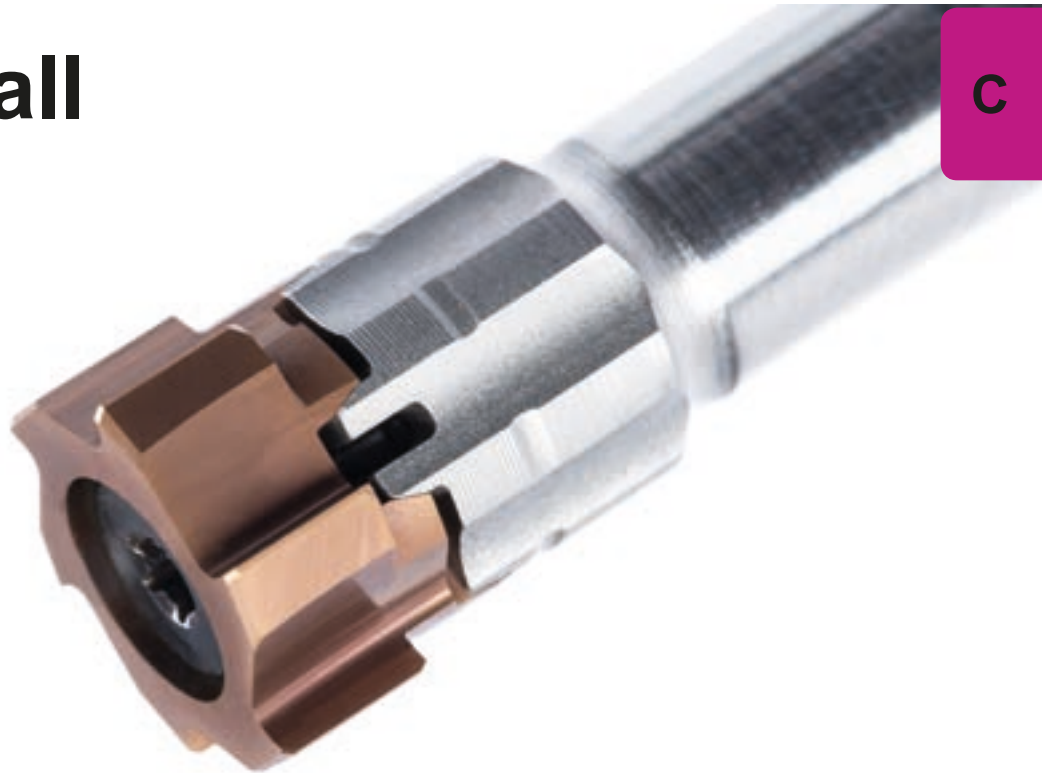


页/Page
C8-C9

技术信息
Technical Instructions

页/Page
C10-C15

DR small



C

模块化铰刀系统

Ø 7.6 - 13.1 mm

Modular Reaming System

Ø 7.6 - 13.1 mm

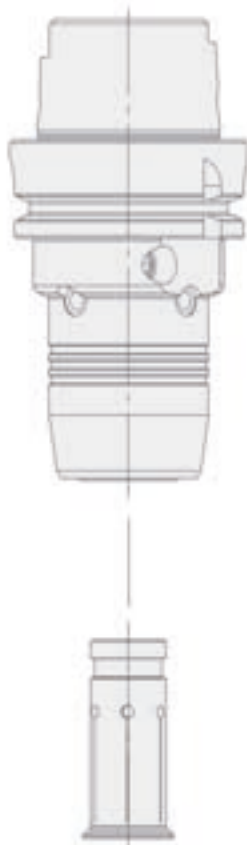
C

刀具旋转用
for rotating use

车削用
for use on lathes

HDR

可调液压刀柄
adjustable hydraulic
expansion toolholder



见章 D
see chapter D

HDZB

变径套筒
Intermediate sleeves

PZ

带平面刀柄
Floating holder



ER

筒夹
Collet



垫片
Seal



夹紧螺帽
Chucking nut



MDR small

铰刀杆
Reaming insert holder



DR small

刀片
Insert



螺钉
Screw



ISO公差订货示例

Ordering example with ISO tolerance

DR.13.12000.H7.A1 HL3H

DR

DR small 系列设计

DR small system designation

13

刀片座尺寸

Seating size

12,000

直径 mm

Diameter in mm

H7

公差

Tolerance

A1

切削刃槽型

Cutting geometry

HL3H

硬质合金材质

Carbide grade

非标尺寸订货示例

Ordering example with target size (Q insert)

DR.13.12005.Q3.A1 HL3H

DR

DR small 系列设计

DR small system designation

13

刀片座尺寸

Seating size

12,005

非标直径 mm

Target size diameter in mm

Q

非标尺寸代码

Code for target size insert

3

制造公差 +/- μm

Manufacturing tolerance +/- μm

A1

切削刃槽型

Cutting geometry

HL3H

硬质合金材质

Carbide grade

订货示例解释

对于有孔公差规格的订单，其直径按Horn标准确定。根据公差范围的不同，最终的直径将在其标准品的总公差65%到80%之间。

标准品刀片设计示例:

DR.13.12000.H7.A1 HL3H

刀片精磨尺寸 $\varnothing 12,014 \pm 0.003 \text{ mm}$

一款非标刀片对应其规格尺寸设计.与标准刀片不同,刀片尺寸公差会根据孔的公差而定. 非标刀片会标明要求直径. 非标刀片根据非标应用推荐,而非标准品公差.

标准品刀片设计示例:

DR.13.12000.Q3.A1 HL3H

刀片精磨尺寸 $\varnothing 12,005 \pm 0.003 \text{ mm}$

Explanation of insert size order example

For orders with specifications of the bore tolerance, the diameter is defined by HORN standard. Depending on tolerance range, the final diameter will be within 65% to 80% of the total tolerance.

Examples standard insert designation:

DR.13.12000.H7.A1 HL3H

insert ground to $\varnothing 12,014 \pm 0.003 \text{ mm}$

A Q-insert designation is selected for a specific insert dimension. In contrary to standard inserts where all tolerances refer to the bore tolerance, Q-inserts indicates the required insert diameter (target size). Q-inserts are recommended for special applications where standard tolerance ranges are not applicable.

Example Q-insert designation:

DR.13.12000.Q3.A1 HL3H

insert ground to $\varnothing 12,005 \pm 0.003 \text{ mm}$

刀片 Insert

DR small

直槽
straight fluted



切削刃Ø

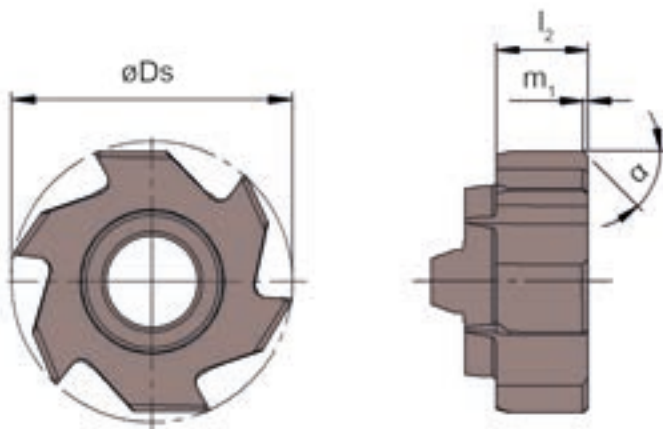
Cutting edge Ø

7.6-13.1 mm

盲孔和部分通孔(阶梯)用
for blind holes and partly for through holes

配合铰刀刀杆
for use with Reaming insert holder

型号 MDR small
type



图示=右手型

Picture = right hand cutting version

订货码为型号和材质

The order number is assembled of **Fitting** and **Grade**!

型号 Fitting	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	.A1 HL3H	.A7 DT2H	.A7 HL3H
DR.08.08000.H7	8,0	H7	7,600	8,1	08	0,25	45°	4,5	4	▲	▲	▲
DR.10.08500.H7	8,5	H7	8,101	9,6	10	0,25	45°	4,5	6	△	△	△
DR.10.09000.H7	9,0	H7	8,101	9,6	10	0,25	45°	4,5	6	▲	▲	▲
DR.10.09500.H7	9,5	H7	8,101	9,6	10	0,25	45°	4,5	6	△	△	△
DR.11.10000.H7	10,0	H7	9,601	11,1	11	0,25	45°	4,5	6	▲	▲	▲
DR.11.10500.H7	10,5	H7	9,601	11,1	11	0,25	45°	4,5	6	△	△	△
DR.11.11000.H7	11,0	H7	9,601	11,1	11	0,25	45°	4,5	6	▲	▲	▲
DR.13.11500.H7	11,5	H7	11,101	13,1	13	0,25	45°	4,5	6	△	△	△
DR.13.12000.H7	12,0	H7	11,101	13,1	13	0,25	45°	4,5	6	▲	▲	▲
DR.13.12500.H7	12,5	H7	11,101	13,1	13	0,25	45°	4,5	6	△	△	△
DR.13.13000.H7	13,0	H7	11,101	13,1	13	0,25	45°	4,5	6	▲	▲	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

Further sizes upon request

P	●	○
M	○	●
K	●	
N	●	
S		
H		

硬质合金牌号
Carbide grades

刀片 Insert

DR small

左旋
left helical fluted

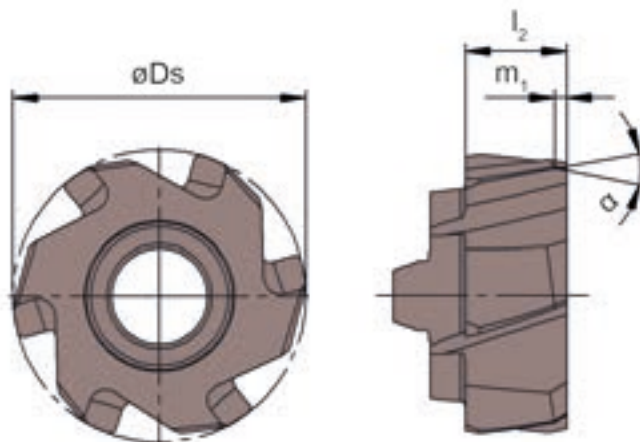


切削刃Ø	Cutting edge Ø	7.6-13.1 mm
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通孔用
for through holes

配合铰刀刀杆
for use with Reaming insert holder

型号 MDR small
type



图示=右手型
Picture = right hand cutting version

订货码为型号和材质
Picture = right hand cutting version

型号 Fitting	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	.A1 HL3H	.A7 DT2H	.A7 HL3H
DR.08.08000.H7	8,0	H7	7,600	8,1	08	0,54	25°	4,5	4	▲	▲	▲
DR.10.08500.H7	8,5	H7	8,101	9,6	10	0,54	25°	4,5	6	△	△	△
DR.10.09000.H7	9,0	H7	8,101	9,6	10	0,54	25°	4,5	6	▲	▲	▲
DR.10.09500.H7	9,5	H7	8,101	9,6	10	0,54	25°	4,5	6	△	△	△
DR.11.10000.H7	10,0	H7	9,601	11,1	11	0,54	25°	4,5	6	▲	▲	▲
DR.11.10500.H7	10,5	H7	9,601	11,1	11	0,54	25°	4,5	6	△	△	△
DR.11.11000.H7	11,0	H7	9,601	11,1	11	0,54	25°	4,5	6	▲	▲	▲
DR.13.11500.H7	11,5	H7	11,101	13,1	13	0,54	25°	4,5	6	△	△	△
DR.13.12000.H7	12,0	H7	11,101	13,1	13	0,54	25°	4,5	6	▲	▲	▲
DR.13.12500.H7	12,5	H7	11,101	13,1	13	0,54	25°	4,5	6	△	△	△
DR.13.13000.H7	13,0	H7	11,101	13,1	13	0,54	25°	4,5	6	▲	▲	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

按需提供更多尺寸

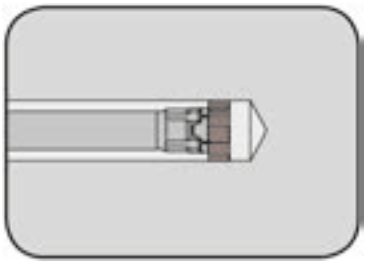
Further sizes upon request

P	●	○	○
M	○	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	●	●	●

硬质合金牌号
Carbide grades

铰刀刀杆
Reaming insert holder

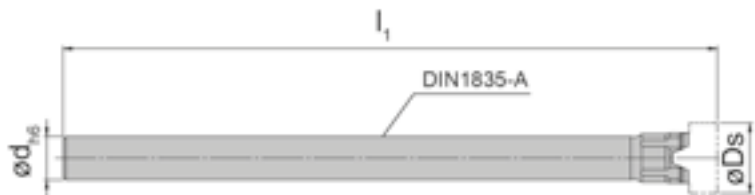
MDR small



切削刃Ø Cutting edge Ø 7.6-13.1 mm

配合刀片
for Insert

型号 DR
Type small



内冷
internal coolant

S = 盲孔 中心
= Blind hole, central
L = 盲孔 侧面
= Blind hole, lateral

产品型号 Part number	DS _{min}	DS _{max}	l ₁	d	尺寸规格 Size	形式 Form
MDR.08.ST06.086.A.S	7.600	8.1	86	6	08	L
MDR.08.HM06.102.A.S	7.600	8.1	102	6	08	L
MDR.10.ST06.096.A.S	8.101	9.6	96	6	10	L
MDR.10.HM06.116.A.S	8.101	9.6	116	6	10	L
MDR.11.ST08.106.A.S	9.601	11.1	106	8	11	S
MDR.11.HM08.126.A.S	9.601	11.1	126	8	11	S
MDR.13.ST08.120.A.S	11.101	13.1	120	8	13	S
MDR.13.HM08.150.A.S	11.101	13.1	150	8	13	S

尺寸单位：mm
Dimensions in mm

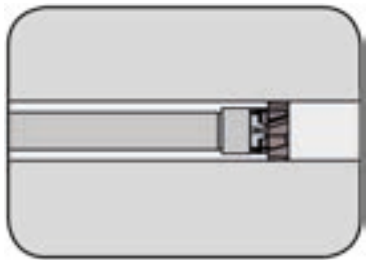
配件
Spare parts

铰刀刀杆 Reaming insert holder	锁紧螺钉 Screw	TORX 扳手 Screw
MDR.08...	C009051	T6W
MDR.10...	C009052	T7L
MDR.11...	C009053B	T9L
MDR.13...	C009054B	T10L

铰刀刀杆
Reaming insert holder

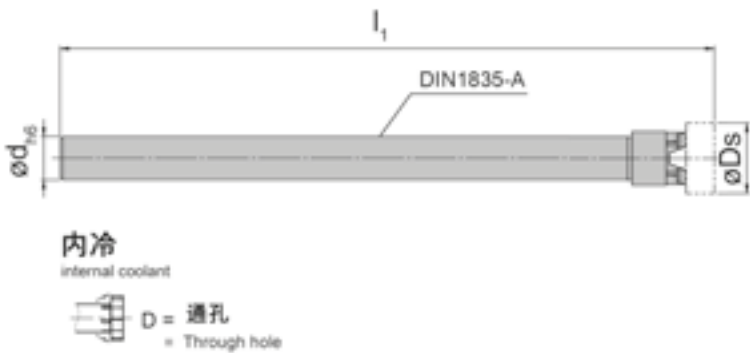
MDR small

切削刃Ø	Cutting edge Ø	7.6-13.1 mm
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配合刀片
for Insert

型号 DR
Type small



产品型号 Part number	Ds _{min}	Ds _{max}	l ₁	d	尺寸规格 Size	形式 Form
MDR.08.ST06.086.A.D	7.600	8.1	86	6	08	d
MDR.08.HM06.102.A.D	7.600	8.1	102	6	08	d
MDR.10.ST06.096.A.D	8.101	9.6	96	6	10	d
MDR.10.HM06.116.A.D	8.101	9.6	116	6	10	d
MDR.11.ST08.106.A.D	9.601	11.1	106	8	11	d
MDR.11.HM08.126.A.D	9.601	11.1	126	8	11	d
MDR.13.ST08.120.A.D	11.101	13.1	120	8	13	d
MDR.13.HM08.150.A.D	11.101	13.1	150	8	13	d

尺寸单位：mm
Dimensions in mm

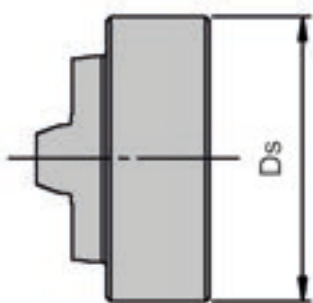
配件
Spare parts

铰刀刀杆 Reaming insert holder	锁紧螺钉 Screw	TORX 扳手 Screw
MDR.08...	C009051	T6W
MDR.10...	C009052	T7L
MDR.11...	C009053	T9L
MDR.13...	C009054	T10L

跳动测量环
Run-out Control Disc

DR

配合铰刀刀杆 MDR08 / MDR10 / MDR13
for use with reaming insert holder MDR08 / MDR10 / MDR13



产品型号 Part number	直径范围 Diameter Range	尺寸规格 Size
DR.08.ROCD	7.600-8.100	08
DR.10.ROCD	8.101-9.600	10
DR.11.ROCD	9.601-11.100	11
DR.13.ROCD	11.101-13.100	13

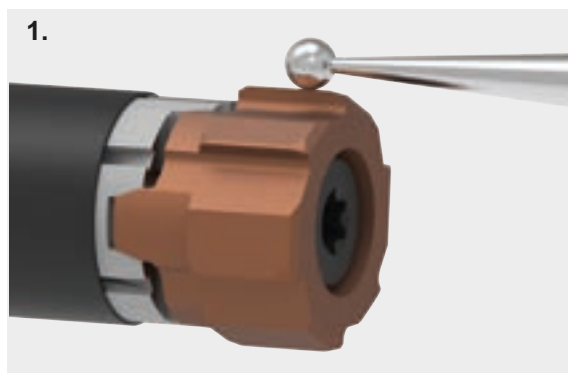
尺寸单位：mm
Dimensions in mm

跳动调节

为了达到刀具最好效果,需要零跳动. 为了抵消来自于刀杆及主轴的跳动误差, 我们推荐使用补偿刀柄及浮动刀柄. 刀片跳动可以有不同的方法检测:

Run-out adjustment

To achieve the best reaming results a tool with zero run-out is desirable. In order to compensate for any errors due to run-out from the toolholders or the machine spindle, we recommend a compensation holder or floating chuck. The run-out of HORN DR small reamers can be measured with different methods:

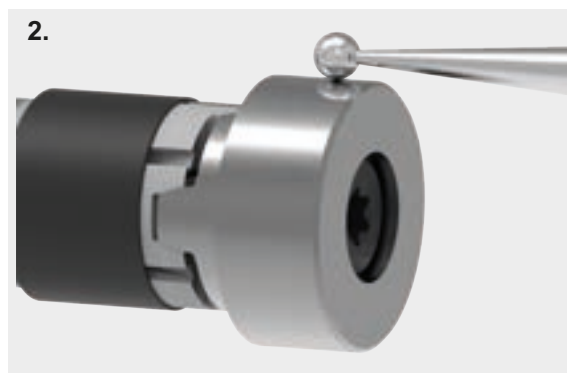


1. 使用现有刀片

HORN DR small 刀具是精确制造. 跳动测量及调整可以轻松通过刀片外侧直径.

1. On the external diameter of the insert

HORN DR small tools are manufactured very accurately. Run-out measuring/adjustment can be done easily through the outside diameter of the insert.



2. 通过跳动测量环

使用跳动测量环也可以轻松调整跳动.

2. Through run-out indicating insert

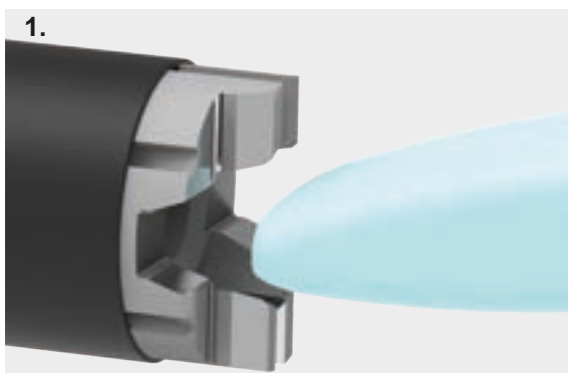
With the run-out indicating insert it's even easier to adjust the run-out.

更换刀片

为达到最佳性能,适当清理接口处及使用扭矩扳手是必要的.

Insert change

For optimal performance proper cleaning of the interface and using the defined tightening torque is imperative.

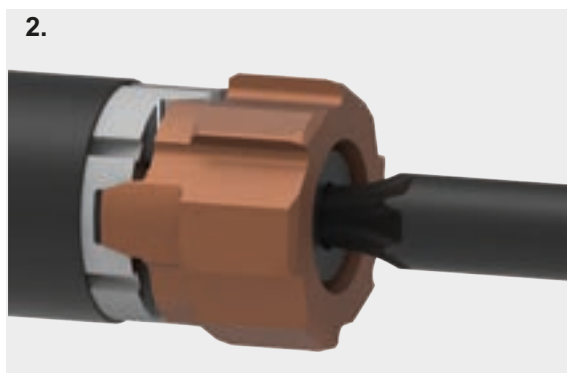


1. 清洁接口

使用包装中所含的造型粘土可以最有效地清洁界面。

1. Cleaning of the interface

The interface can be cleaned most effectively with the contained modelling clay in the insert packaging.



2. 更换刀片

刀片被放置在先前清洗过的接口上, 并通过所需的拧紧扭矩进行拧紧。

2. Insert change

The insert is placed on the previously cleaned interface and tightened through the required tightening torque.

扭矩设定 Torque for Setting

系统 System	扭矩设定 (Nm) Torque for setting (Nm)	Torx	扳手 Blade	扭矩扳手 Torque wrench
DR08	0,6	T6	DT6K	D041VL
DR10	0,9	T7	DT7K	
DR11	1,4	T9	DT9K	D15VL
DR13	2,0	T10	DT10K	

刀具材质 Cutting Material

HORN- 牌号 Grades	ISO513	性能 Properties	推荐应用 Recommended applications
硬质合金 / Carbide			
HL3H	HC	ALCrN- 涂层 Coating	加工钢和铸铁的首选。良好的热硬性和抗氧化能力。出色的润滑性能可防止积屑瘤的产生。使用冷却液冷却或喷雾冷却。铜色 First choice for Steel and cast iron. Extremely high hot hardness and high resistance against oxidation. High lubricity with resistance to build up edge. For high cutting speed and with coolant or mist coolant. Copper colour.
AN2H AN4H	HC	ALCrN- 涂层 Coating	与HL3H类似的结构和应用范围，灰色 Similar coating structure and application range to HL3H. Grey colour.
MG10	HF	无涂层 (微粒) uncoated (micro grain)	通用系列适合大多数材质的低速切削。 Universal grade for most materials at low cutting speed. For Variopoint only.
DT2H	HC	PVD-DLC- 涂层 Coating	“类金刚石”。良好的润滑性防止积屑瘤的产生。出色的化学稳定性及高硬度。特别适合中速切削含Si12%的铝材。 "Diamond-Like-Carbon". Very good lubricity properties resistant to build up edge. Excellent chemical stability as well as very high hardness. Particularly suitable for Aluminum with less than 12 % Si at medium cutting speed.

ISO	Code	材料	Material	R _m N/mm ²	HB HRC
P	1	非合金碳钢 普通结构钢	Unalloyed carbon steel General structural steel	< 500	< 160
	2	低合金碳钢， 结构钢，铸钢，淬硬钢， 工具钢，低合金钢	Low-alloy carbon steel, Structural-, Cast-hardened-, Tool-, Low-alloy steel	500 - 900	140 - 325
	3	合金工具钢 渗氮钢	Alloyed tool steel Nitride steel	800 - 1200	250 - 350
	3.1	高合金钢	High alloyed steel	< 1000	
	3.2	高合金钢	High alloyed steel	< 1600	
	3.3	高速钢	High speed steel		
M	5	不锈钢, 马氏体	Stainless steel, martensitic	500 - 1000	
	5.1	不锈钢, 奥氏体	Stainless steel, austenitic		
	5.2	不锈钢， 耐热钢	Stainless heat resisting steel		
K	6	灰铸铁 合金灰铸铁	Grey cast iron Alloyed grey cast iron		< 250
	6.1	球墨铸铁 (GGG40)	Spheroidal graphite cast iron (GGG40)		
	6.2	球墨铸铁, 铁素体/珠光体 可锻铸铁	Spheroidal graphite cast iron, ferritic/perlitic Malleable cast iron	> 550	
N	7	铝 < 10 % Si, 铝-锻造合金	Aluminium < 10 % Si, Al-wrought alloys		
	7.1	铝合金	Al-alloys		
	7.2	非铁金属, 铜合金类, 黄铜, 青铜	Non ferrous metals, Copper alloys, Brass, Bronze		
	7.3	钛	Titanium		
	7.4	镍基合金	Nickelbased alloys		
S	8	热塑性塑料, 热固性塑料	Thermo-plastics, Duroplast		
	8.1	纤维增强塑料	Fibre reinforced plastics		

切削方向
Direction of cutting

ISO	Code	刀片形式 Insert form	孔径 Bore		左旋 left helical fluted	直槽 straight fluted	推荐径向切削深度 recom. radial cutting depth a_p			
			DL	SL	25° B	45° A	DR08 Ø 7.6-8.1 mm	DR10 Ø 8.101-9.6 mm	DR11 Ø 9.601-11.1 mm	DR13 Ø 11.101-13.1 mm
P	1	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.10	0.05 - 0.10
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.10	0.05 - 0.10
	2	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.10	0.05 - 0.10
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.10	0.05 - 0.10
	3	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
	3.1	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
	3.2	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
	3.3	L	●		●		0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
		G	○	●		●	0.04 - 0.07	0.05 - 0.08	0.05 - 0.08	0.05 - 0.08
M	5	L	●		●		0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.05 - 0.10
		G	○	●		●	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.05 - 0.10
	5.1	L	●		●		0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08
		G	○	●		●	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08
	5.2	L	●		●		0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08
		G	○	●		●	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08
K	6	L	●		●		0.05 - 0.10	0.05 - 0.10	0.05 - 0.15	0.05 - 0.15
		G	●	●		●	0.05 - 0.10	0.05 - 0.10	0.05 - 0.15	0.05 - 0.15
	6.1	L	●		●		0.05 - 0.10	0.05 - 0.10	0.05 - 0.15	0.05 - 0.15
		G	●	●		●	0.05 - 0.10	0.05 - 0.10	0.05 - 0.15	0.05 - 0.15
	6.2	L	●		●		0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
		G	●	●		●	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
N	7	L	●		●		0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
		G	○	●		●	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
	7.1	L	●		●		0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
		G	○	●		●	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
	7.2	L	○		○		0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
		G	○	●		○	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10	0.05 - 0.10
S	8	L	●		○		0.03 - 0.05	0.03 - 0.06	0.04 - 0.08	0.05 - 0.10
		G	○	●		○	0.03 - 0.05	0.03 - 0.06	0.04 - 0.08	0.05 - 0.10
	8.1	L	●		○		0.03 - 0.05	0.03 - 0.06	0.04 - 0.08	0.05 - 0.10
		G	○	●		○	0.03 - 0.05	0.03 - 0.06	0.04 - 0.08	0.05 - 0.10

L = 左旋
left helical fluted
G = 直槽
straight fluted

DL = 通孔
Through hole
SL = 盲孔
Blind hole

● = 标准
Main recommendation
○ = 选项
Alternative recommendation



推荐切削参数对应切削材料和槽型 Recommended cutting materials and geometries with cutting data						
切削材料/Cutting material HL3H 槽型/Geometry A1/B1		切削材料/Cutting material HL3H 槽型/Geometry A7/B7		切削材料/Cutting material DT2H 槽型/Geometry A7/B7		
vc (m/min)	f _z (mm)	vc (m/min)	f _z (mm)	vc (m/min)	f _z (mm)	
	140 - 200	0.12 - 0.22	140 - 200	0.12 - 0.22		
	140 - 200	0.10 - 0.18	140 - 200	0.10 - 0.18		
	120 - 180	0.12 - 0.22	120 - 180	0.10 - 0.20		
	120 - 180	0.10 - 0.18	120 - 180	0.10 - 0.20		
	100 - 160	0.10 - 0.18				
	100 - 160	0.08 - 0.14				
	60 - 120	0.10 - 0.18				
	60 - 120	0.08 - 0.14				
	15 - 60	0.06 - 0.14				
	15 - 60	0.05 - 0.12				
	10 - 30	0.04 - 0.10				
	10 - 30	0.04 - 0.08				
			30 - 90	0.08 - 0.18		
			30 - 90	0.07 - 0.14		
			15 - 60	0.08 - 0.18		
			15 - 60	0.07 - 0.14		
			10 - 40	0.07 - 0.14		
			10 - 40	0.06 - 0.12		
	110 - 170	0.1 - 0.25				
	110 - 170	0.08 - 0.20				
	100 - 160	0.1 - 0.22				
	100 - 160	0.08 - 0.18				
	70 - 140	0.08 - 0.20				
	70 - 140	0.07 - 0.18				
					150 - 280	0.12 - 0.30
					150 - 280	0.10 - 0.25
					120 - 250	0.10 - 0.25
					120 - 250	0.08 - 0.22
	100 - 250	0.12 - 0.30	100 - 250	0.12 - 0.30	100 - 180	0.12 - 0.30
	100 - 250	0.10 - 0.30	100 - 250	0.10 - 0.30	100 - 180	0.10 - 0.30
			10 - 25	0.05 - 0.14		
			10 - 25	0.04 - 0.12		
			10 - 25	0.05 - 0.14		
			10 - 25	0.04 - 0.12		

切削材质的说明，C12页
Description of cutting materials see page C12

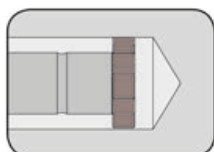
C

刀片
Insert
DR

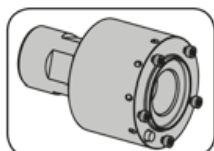


页/Page
C21-C28

铰刀刀杆
Reaming insert holder
MDR/VDR/DR

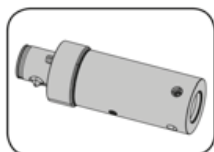


页/Page
C29-C31



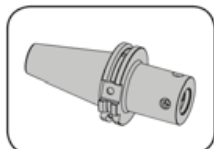
页/Page
C32

刀杆
Shank
VDR



页/Page
C33-C34

直接安装于系统
Direct mounting
VDR



页/Page
C35-C37

技术信息
Technical Instructions

页/Page
C38-C50

DR



C

模块化铰刀系统

Ø 7.6 - 13.1 mm

Modular Reaming System

Ø 7.6 - 13.1 mm

刀片尺寸 DR016 - DR036

System Size DR016 - DR036



配圆柱柄刀杆 Ø 11,900 - 35,600 mm
with cylindrical shank for Ø 11,900 - 35,600 mm

C

HDR

跳动
可调液压刀柄

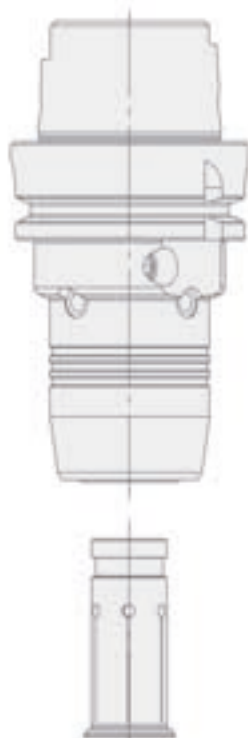
run out
adjustable hydraulic
expansion toolholder

HDZB

变径套

Intermediate sleeves

旋转刀具用
for rotating use



见章 D
see chapter D

车床用
for use on lathes

PZ

浮动刀柄
Floating holder

ER

筒夹
Collet

垫片
Seal

夹紧套筒
Chucking nut



MDR

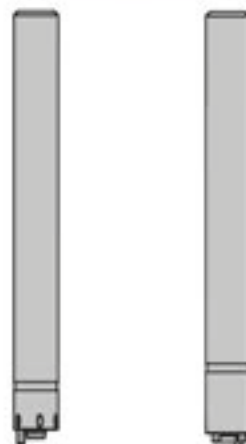
铰刀刀杆带标准接口

Reaming insert holder
with standard interface

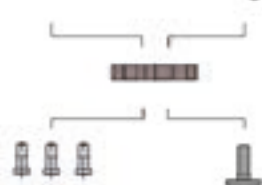
MDR...Z

铰刀刀杆带加强接口

Reaming insert holder
with reinforced interface



螺钉
Screw



DR
刀片
Insert

刀片尺寸 DR044 - DR141

System Size DR044 - DR141



模块化系统 Ø 35,601 - 140,600 mm

Modular System for Ø 35,601 - 140,600 mm

系统接杆 / System adapter Beta-Modul
见章 D / see chapter D

BD



BH



BT



平衡刀杆 / Balancing shank

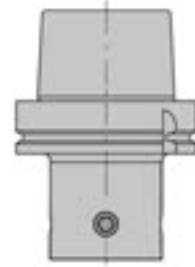
VDR

圆柱杆
cylindrical



VDR

直接
direct



B13

接柄
Extension
Beta-Modul



见章 D
see chapter D

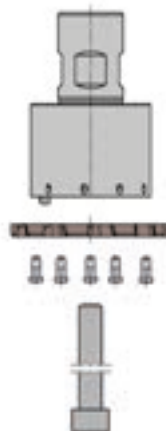
VDR

平衡刀杆
Balancing shank
Beta-Modul



MDR

铰刀刀杆
Reaming insert holder



DR

刀片
Insert

螺钉
Screw

螺钉
Screw

C

ISO公差订货示例

Ordering example with ISO tolerance

DR.019.01800.H7.A1 HL3H

DR

DR 系列设计

DR System designation

019

刀片座尺寸

Seating size

18,00

直径 mm

Diameter in mm

H7

公差

Tolerance

A1

切削刃槽型

Cutting geometry

HL3H

硬质合金材质

Carbide grade

订货示例解释

对于有孔公差规格的订单，其直径按Horn标准确定。根据公差范围的不同，最终的直径将在其标准品的总公差65%到80%之间。

标准品刀片设计示例:

DR.019.01800.H7.A1 HL3H

刀片精磨尺寸 $\varnothing 18,014 \pm 0.003$ mm

一款非标刀片对应其规格尺寸设计.与标准刀片不同,刀片尺寸公差会根据孔的公差而定. 非标刀片会标明要求直径. 非标刀片根据非标应用推荐,而非标准品公差.

一张'DRS'图纸必须创建Q切削刃.此处不能使用相对应的标准指定号.一片DRS铰刀刀片对应的图纸必须选择有效名义尺寸(小数点后3位或不同于ISO的公差)

Explanation of insert size order example

For orders with specifications of the bore tolerance, the diameter is defined by HORN standard. Depending on tolerance range, the final diameter will be within 65% to 80% of the total tolerance.

Examples standard insert designation:

DR.019.01800.H7.A1 HL3H

insert ground to $\varnothing 18,014 \pm 0.003$ mm

A Q-insert designation is selected for a specific insert dimension. In contrary to standard inserts where all tolerances refer to the bore tolerance, Q-inserts indicates the required insert diameter (target size). Q-inserts are recommended for special applications where standard tolerance ranges are not applicable.

A "DRS" drawing must be created for Q cutting edges. The corresponding standard designation number cannot be used here. A DRS reaming insert with a corresponding drawing must also be selected for nominal diameters with 3 decimal places or tolerances which do not comply with the ISO code.

高性能铰削

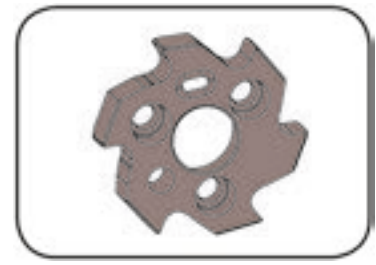
High-Performance Reaming



刀片
Insert

DR

直槽
straight fluted



C

切削刃Ø

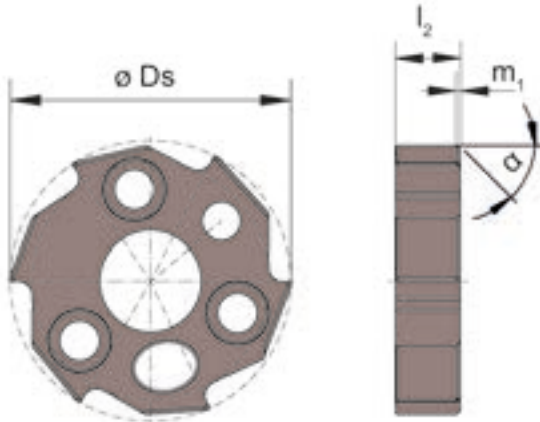
Cutting edge Ø

11.9-23.6 mm

盲孔和部分通孔(阶梯)用
for blind holes and partly for through holes

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.016.01200.H7.A1	12	H7	11.900	15.6	16	0.25	45°	4.3	6	▲
DR.016.01300.H7.A1	13	H7	11.900	15.6	16	0.25	45°	4.3	6	▲
DR.016.01400.H7.A1	14	H7	11.900	15.6	16	0.25	45°	4.3	6	▲
DR.016.01500.H7.A1	15	H7	11.900	15.6	16	0.25	45°	4.3	6	▲
DR.019.01600.H7.A1	16	H7	15.601	18.6	19	0.25	45°	4.3	6	▲
DR.019.01700.H7.A1	17	H7	15.601	18.6	19	0.25	45°	4.3	6	▲
DR.019.01800.H7.A1	18	H7	15.601	18.6	19	0.25	45°	4.3	6	▲
DR.024.01900.H7.A1	19	H7	18.601	23.6	24	0.25	45°	4.3	6	▲
DR.024.02000.H7.A1	20	H7	18.601	23.6	24	0.25	45°	4.3	6	▲
DR.024.02100.H7.A1	21	H7	18.601	23.6	24	0.25	45°	4.3	6	▲
DR.024.02200.H7.A1	22	H7	18.601	23.6	24	0.25	45°	4.3	6	▲
DR.024.02300.H7.A1	23	H7	18.601	23.6	24	0.25	45°	4.3	6	▲

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming



刀片

Insert

DR

直槽
straight fluted



切削刃Ø

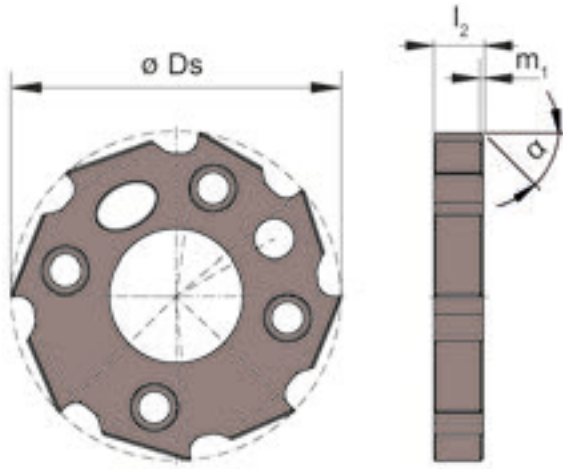
Cutting edge Ø

23.601-35.6 mm

盲孔和部分通孔(阶梯)用
for blind holes and partly for through holes

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.029.02400.H7.A1	24	H7	23.601	28.6	29	0.3	45°	4.3	8	▲
DR.029.02500.H7.A1	25	H7	23.601	28.6	29	0.3	45°	4.3	8	▲
DR.029.02600.H7.A1	26	H7	23.601	28.6	29	0.3	45°	4.3	8	▲
DR.029.02700.H7.A1	27	H7	23.601	28.6	29	0.3	45°	4.3	8	▲
DR.029.02800.H7.A1	28	H7	23.601	28.6	29	0.3	45°	4.3	8	▲
DR.036.02900.H7.A1	29	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03000.H7.A1	30	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03100.H7.A1	31	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03200.H7.A1	32	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03300.H7.A1	33	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03400.H7.A1	34	H7	28.601	35.6	36	0.3	45°	4.3	8	▲
DR.036.03500.H7.A1	35	H7	28.601	35.6	36	0.3	45°	4.3	8	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming



刀片

Insert

DR

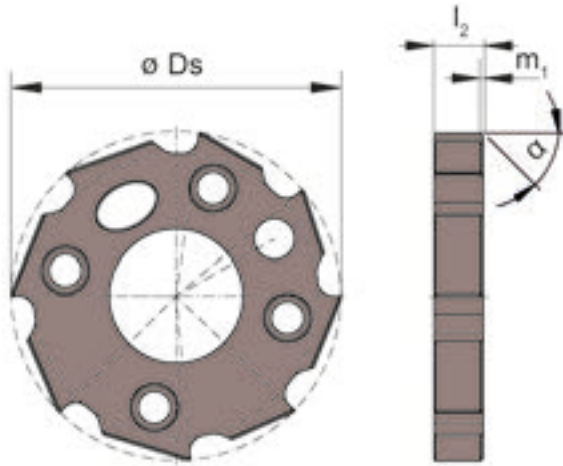
直槽
straight fluted



C

切削刃Ø Cutting edge Ø 35.601-51.6 mm

盲孔和部分通孔(阶梯)用
for blind holes and partly for through holes



配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.044.03600.H7.A1	36	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.03700.H7.A1	37	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.03800.H7.A1	38	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.03900.H7.A1	39	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.04000.H7.A1	40	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.04100.H7.A1	41	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.04200.H7.A1	42	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.044.04300.H7.A1	43	H7	35.601	43.601	44	0.35	45°	4.3	8	▲
DR.052.04400.H7.A1	44	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.04500.H7.A1	45	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.04600.H7.A1	46	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.04700.H7.A1	47	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.04800.H7.A1	48	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.04900.H7.A1	49	H7	43.601	51.600	52	0.35	45°	4.3	10	▲
DR.052.05000.H7.A1	50	H7	43.601	51.600	52	0.35	45°	4.3	10	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming



刀片
Insert

DR

直槽
straight fluted



切削刃Ø

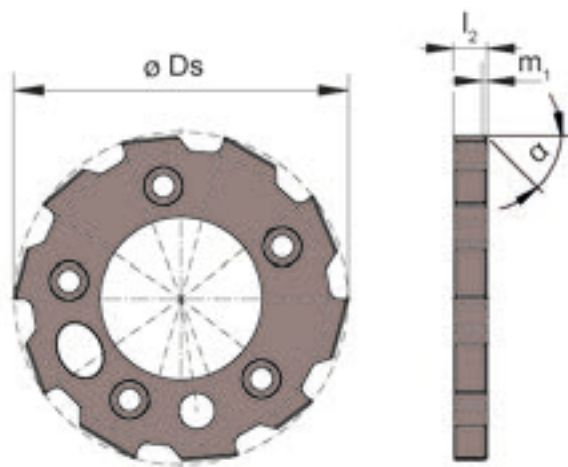
Cutting edge Ø

51.601-140.6 mm

盲孔和部分通孔(阶梯)用
for blind holes and partly for through holes

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.061.05200.H7.A1	52	H7	51.601	60.6	61	0.35	45°	4.3	10	▲
DR.061.05500.H7.A1	55	H7	51.601	60.6	61	0.35	45°	4.3	10	▲
DR.061.06000.H7.A1	60	H7	51.601	60.6	61	0.35	45°	4.3	10	▲
DR.081.06500.H7.A1	65	H7	60.601	80.6	81	0.40	45°	4.3	12	▲
DR.081.06800.H7.A1	68	H7	60.601	80.6	81	0.40	45°	4.3	12	▲
DR.081.07000.H7.A1	70	H7	60.601	80.6	81	0.40	45°	4.3	12	▲
DR.081.07500.H7.A1	75	H7	60.601	80.6	81	0.40	45°	4.3	12	△
DR.081.08000.H7.A1	80	H7	60.601	80.6	81	0.40	45°	4.3	12	▲
DR.101.08500.H7.A1	85	H7	80.601	100.6	101	0.45	45°	4.3	12	▲
DR.101.09000.H7.A1	90	H7	80.601	100.6	101	0.45	45°	4.3	12	▲
DR.101.09500.H7.A1	95	H7	80.601	100.6	101	0.45	45°	4.3	12	▲
DR.101.10000.H7.A1	100	H7	80.601	100.6	101	0.45	45°	4.3	12	▲
DR.121.11000.H7.A1	110	H7	100.601	120.6	121	0.60	45°	5.3	12	△
DR.121.12000.H7.A1	120	H7	100.601	120.6	121	0.60	45°	5.3	12	△
DR.141.13000.H7.A1	130	H7	120.601	140.6	141	0.60	45°	5.3	12	△
DR.141.14000.H7.A1	140	H7	120.601	140.6	141	0.60	45°	5.3	12	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming



刀片
Insert

DR

左旋
left helical fluted

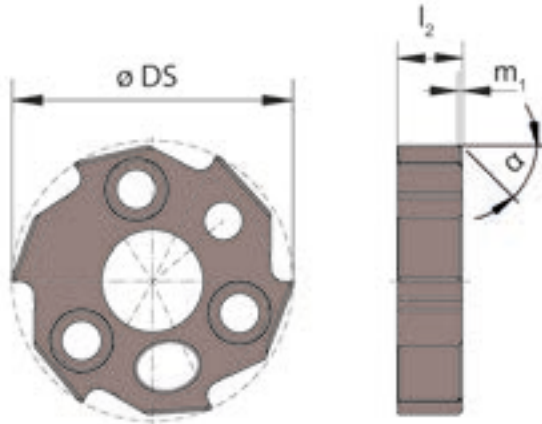


切削刃Ø	Cutting edge Ø	11.9-23.6 mm
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通孔用
for through hole

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.016.01200.H7.B1	12	H7	11.900	15.6	16	0.54	25°	4.3	6	▲
DR.016.01300.H7.B1	13	H7	11.900	15.6	16	0.54	25°	4.3	6	▲
DR.016.01400.H7.B1	14	H7	11.900	15.6	16	0.54	25°	4.3	6	▲
DR.016.01500.H7.B1	15	H7	11.900	15.6	16	0.54	25°	4.3	6	▲
DR.019.01600.H7.B1	16	H7	15.601	18.6	19	0.54	25°	4.3	6	▲
DR.019.01700.H7.B1	17	H7	15.601	18.6	19	0.54	25°	4.3	6	▲
DR.019.01800.H7.B1	18	H7	15.601	18.6	19	0.54	25°	4.3	6	▲
DR.024.01900.H7.B1	19	H7	18.601	23.6	24	0.54	25°	4.3	6	▲
DR.024.02000.H7.B1	20	H7	18.601	23.6	24	0.54	25°	4.3	6	▲
DR.024.02100.H7.B1	21	H7	18.601	23.6	24	0.54	25°	4.3	6	▲
DR.024.02200.H7.B1	22	H7	18.601	23.6	24	0.54	25°	4.3	6	▲
DR.024.02300.H7.B1	23	H7	18.601	23.6	24	0.54	25°	4.3	6	▲

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

● 推荐 / recommended

o 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming



刀片

Insert

DR

左旋
left helical fluted



切削刃Ø

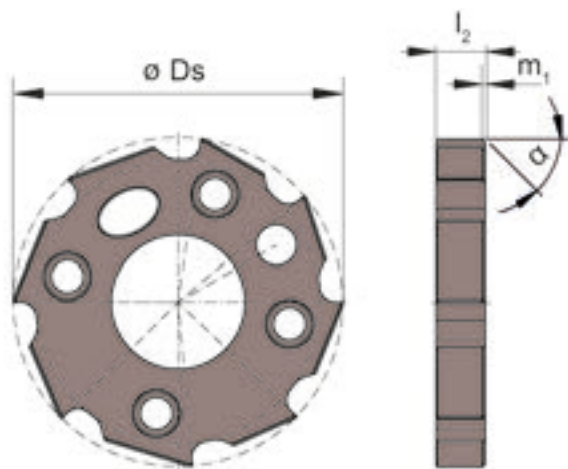
Cutting edge Ø

23.601-35.6 mm

通孔用
for through hole

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.029.02400.H7.B1	24	H7	23.601	28.6	29	0.64	25°	4.3	8	▲
DR.029.02500.H7.B1	25	H7	23.601	28.6	29	0.64	25°	4.3	8	▲
DR.029.02600.H7.B1	26	H7	23.601	28.6	29	0.64	25°	4.3	8	▲
DR.029.02700.H7.B1	27	H7	23.601	28.6	29	0.64	25°	4.3	8	▲
DR.029.02800.H7.B1	28	H7	23.601	28.6	29	0.64	25°	4.3	8	▲
DR.036.02900.H7.B1	29	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03000.H7.B1	30	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03100.H7.B1	31	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03200.H7.B1	32	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03300.H7.B1	33	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03400.H7.B1	34	H7	28.601	35.6	36	0.64	25°	4.3	8	▲
DR.036.03500.H7.B1	35	H7	28.601	35.6	36	0.64	25°	4.3	8	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

非涂层 / uncoated grades

涂层 / coated grades

钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

高性能铰削

High-Performance Reaming

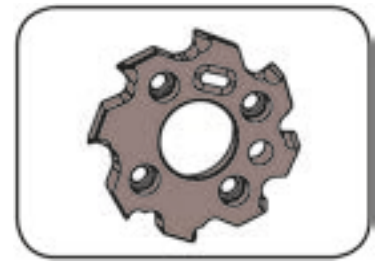


刀片

Insert

DR

左旋
left helical fluted



C

切削刃Ø

Cutting edge Ø

35.601-51.6 mm

通孔用

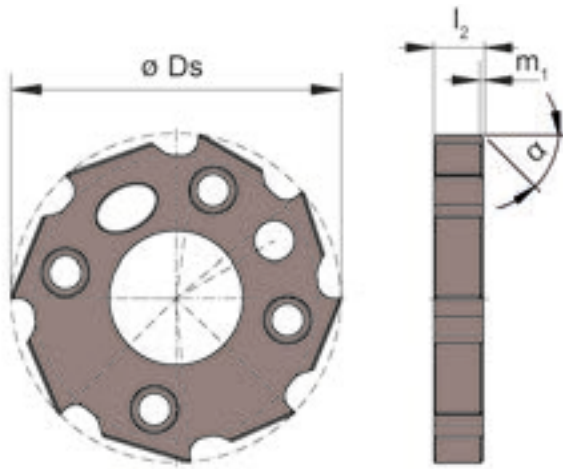
for through hole

配合铰刀刀杆

for Reaming insert holder

型号 MDR

Type



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.044.03600.H7.B1	36	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.03700.H7.B1	37	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.03800.H7.B1	38	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.03900.H7.B1	39	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.04000.H7.B1	40	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.04100.H7.B1	41	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.04200.H7.B1	42	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.044.04300.H7.B1	43	H7	35.601	43.601	44	0.75	25°	4.3	8	▲
DR.052.04400.H7.B1	44	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.04500.H7.B1	45	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.04600.H7.B1	46	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.04700.H7.B1	47	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.04800.H7.B1	48	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.04900.H7.B1	49	H7	43.601	51.600	52	0.75	25°	4.3	10	▲
DR.052.05000.H7.B1	50	H7	43.601	51.600	52	0.75	25°	4.3	10	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号

Carbide grades

高性能铰削

High-Performance Reaming



刀片
Insert

DR

左旋
left helical fluted



切削刃Ø

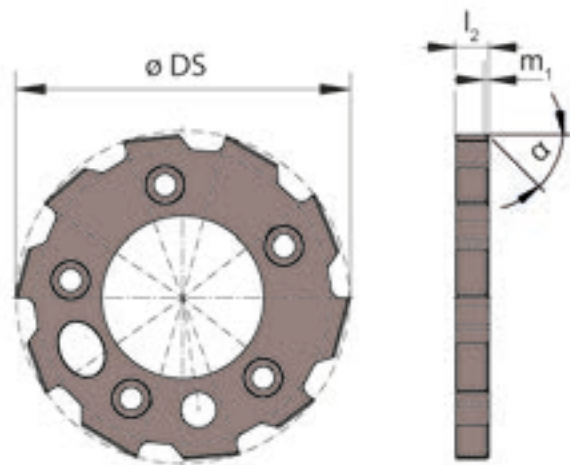
Cutting edge Ø

51.601-140.6 mm

通孔用
for through hole

配合铰刀刀杆
for Reaming insert holder

型号 MDR
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	公差 Tolerance	Ds _{min}	Ds _{max}	尺寸规格 Size	m ₁	α	l ₂	Z	HL3H
DR.061.05200.H7.B1	52	H7	51.601	60.6	61	0.75	25°	4.3	10	▲
DR.061.05500.H7.B1	55	H7	51.601	60.6	61	0.75	25°	4.3	10	▲
DR.061.06000.H7.B1	60	H7	51.601	60.6	61	0.75	25°	4.3	10	▲
DR.081.06500.H7.B1	65	H7	60.601	80.6	81	0.86	25°	4.3	12	▲
DR.081.06800.H7.B1	68	H7	60.601	80.6	81	0.86	25°	4.3	12	▲
DR.081.07000.H7.B1	70	H7	60.601	80.6	81	0.86	25°	4.3	12	▲
DR.081.07500.H7.B1	75	H7	60.601	80.6	81	0.86	25°	4.3	12	▲
DR.081.08000.H7.B1	80	H7	60.601	80.6	81	0.86	25°	4.3	12	▲
DR.101.08500.H7.B1	85	H7	80.601	100.6	101	0.97	25°	4.3	12	▲
DR.101.09000.H7.B1	90	H7	80.601	100.6	101	0.97	25°	4.3	12	▲
DR.101.09500.H7.B1	95	H7	80.601	100.6	101	0.97	25°	4.3	12	▲
DR.101.10000.H7.B1	100	H7	80.601	100.6	101	0.97	25°	4.3	12	▲
DR.121.11000.H7.B1	110	H7	100.601	120.6	121	1.29	25°	5.3	12	△
DR.121.12000.H7.B1	120	H7	100.601	120.6	121	1.29	25°	5.3	12	△
DR.141.13000.H7.B1	130	H7	120.601	140.6	141	1.29	25°	5.3	12	△
DR.141.14000.H7.B1	140	H7	120.601	140.6	141	1.29	25°	5.3	12	△

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

- 不合适 / not suitable

■ 非涂层 / uncoated grades

■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

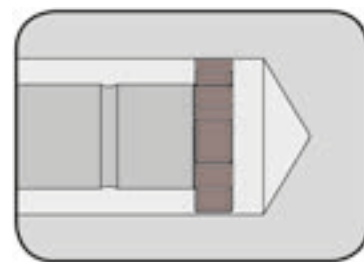
P	●
M	○
K	●
N	○
S	-
H	-

硬质合金牌号
Carbide grades

铰刀刀杆

Reaming insert holder

MDR



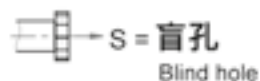
切削刃Ø	Cutting edge Ø	11.9-35.6 mm
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刀杆材质：HM = 硬质合金 ST = 钢
Material of shank: HM = Carbide ST = Steel



内冷

Through coolant



配合刀片
for Insert

型号 DR
Type

圆柱刀杆DIN1835-A
Cylindrical shank DIN 1835-A

产品型号 Part number	Ds _{min}	Ds _{max}	L ₁	d	尺寸规格 Size	冷却形式 Coolant
MDR.016.ST10.100.A.S	11.900	15.6	100	10	16	S
MDR.016.HM10.160.A.S	11.900	15.6	160	10	16	S
MDR.016.ST10.160.A.S	11.900	15.6	160	10	16	S
MDR.019.ST12.115.A.S	15.601	18.6	115	12	19	S
MDR.019.HM12.185.A.S	15.601	18.6	185	12	19	S
MDR.019.ST12.185.A.S	15.601	18.6	185	12	19	S
MDR.024.ST16.128.A.S	18.601	23.6	128	16	24	S
MDR.024.HM16.208.A.S	18.601	23.6	208	16	24	S
MDR.024.ST16.208.A.S	18.601	23.6	208	16	24	S
MDR.029.ST20.145.A.S	23.601	28.6	145	20	29	S
MDR.029.HM20.240.A.S	23.601	28.6	240	20	29	S
MDR.029.ST20.240.A.S	23.601	28.6	240	20	29	S
MDR.036.ST25.170.A.S	28.601	35.6	170	25	36	S
MDR.036.HM25.274.A.S	28.601	35.6	274	25	36	S
MDR.036.ST25.274.A.S	28.601	35.6	274	25	36	S

1组螺钉，1个Torx扳手-无需单独订购！
1 Set of screws, 1 Torx wrench - no separate order required!

尺寸单位：mm
Dimensions in mm

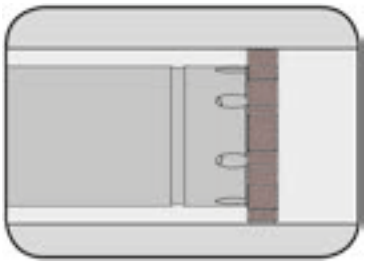
配件

Spare Parts

铰刀刀杆 Reaming insert holder	螺钉 Screw
MDR.0...	C009000
MDR....	C009001

铰刀刀杆
Reaming insert holder

MDR



切削刃Ø Cutting edge Ø 11.9-35.6 mm

刀杆材质：HM = 硬质合金 ST = 钢
Material of shank: HM = Carbide ST = Steel

配合刀片
for Insert

型号 DR
Type



内冷
Through coolant

D = 通孔
Through hole

圆柱刀杆DIN1835-A
Cylindrical shank DIN 1835-A

产品型号 Part number	Ds _{min}	Ds _{max}	l ₁	d	尺寸规格 尺寸规格	
MDR.016.ST10.100.A.D	11.900	15.6	100	10	16	d
MDR.016.HM10.160.A.D	11.900	15.6	160	10	16	d
MDR.016.ST10.160.A.D	11.900	15.6	160	10	16	d
MDR.019.ST12.115.A.D	15.601	18.6	115	12	19	d
MDR.019.HM12.185.A.D	15.601	18.6	185	12	19	d
MDR.019.ST12.185.A.D	15.601	18.6	185	12	19	d
MDR.024.ST16.128.A.D	18.601	23.6	128	16	24	d
MDR.024.HM16.208.A.D	18.601	23.6	208	16	24	d
MDR.024.ST16.208.A.D	18.601	23.6	208	16	24	d
MDR.029.ST20.145.A.D	23.601	28.6	145	20	29	d
MDR.029.HM20.240.A.D	23.601	28.6	240	20	29	d
MDR.029.ST20.240.A.D	23.601	28.6	240	20	29	d
MDR.036.ST25.170.A.D	28.601	35.6	170	25	36	d
MDR.036.HM25.274.A.D	28.601	35.6	274	25	36	d
MDR.036.ST25.274.A.D	28.601	35.6	274	25	36	d

1组螺钉，1个Torx扳手-无需单独订购！
1 Set of screws, 1 Torx wrench - no separate order required!

尺寸单位：mm
Dimensions in mm

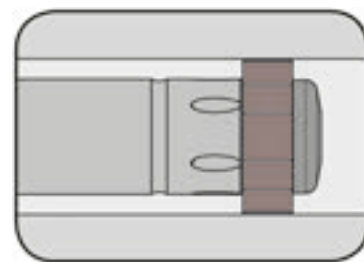
配件
Spare Parts

铰刀刀杆 Reaming insert holder	螺钉 Screw
MDR.0...	C009000
MDR....	C009001

铰刀刀杆

Reaming insert holder

MDR



切削刃Ø	Cutting edge Ø	11.9-35.6 mm
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刀杆材质：HM = 硬质合金 ST = 钢
Material of shank: HM = Carbide ST = Steel

配合刀片
for Insert

型号 DR
Type



内冷
Through coolant

D = 通孔
Through hole

圆柱刀杆DIN1835-A
Cylindrical shank DIN 1835-A

产品型号 Part number	Ds _{min}	Ds _{max}	l ₂	l ₁	d	d ₂	尺寸规格 尺寸规格	
MDR.016.ST10.100.A.D.Z	11.900	15.6	2.5	100	10	9.8	16	d
MDR.016.HM10.160.A.D.Z	11.900	15.6	2.5	160	10	9.8	16	d
MDR.016.ST10.160.A.D.Z	11.900	15.6	2.5	160	10	9.8	16	d
MDR.019.ST12.115.A.D.Z	15.601	18.6	3.0	115	12	11.8	19	d
MDR.019.HM12.185.A.D.Z	15.601	18.6	3.0	185	12	11.8	19	d
MDR.019.ST12.185.A.D.Z	15.601	18.6	3.0	185	12	11.8	19	d
MDR.024.ST16.128.A.D.Z	18.601	23.6	4.0	128	16	15.8	24	d
MDR.024.HM16.208.A.D.Z	18.601	23.6	4.0	208	16	15.8	24	d
MDR.024.ST16.208.A.D.Z	18.601	23.6	4.0	208	16	15.8	24	d
MDR.029.ST20.145.A.D.Z	23.601	28.6	4.0	145	20	24.5	29	d
MDR.029.HM20.240.A.D.Z	23.601	28.6	4.0	240	20	24.5	29	d
MDR.029.ST20.240.A.D.Z	23.601	28.6	4.0	240	20	24.5	29	d
MDR.036.ST25.170.A.D.Z	28.601	35.6	4.0	170	25	24.5	36	d
MDR.036.HM25.274.A.D.Z	28.601	35.6	4.0	274	25	24.5	36	d
MDR.036.ST25.274.A.D.Z	28.601	35.6	4.0	274	25	24.5	36	d

1组螺钉，1个Torx扳手-无需单独订购！
1 Set of screws, 1 Torx wrench - no separate order required!

尺寸单位：mm
Dimensions in mm

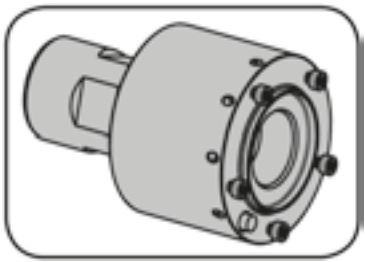
配件

Spare Parts

铰刀刀杆 Reaming insert holder	螺钉 Screw	TORX 扳手 Torx Wrench
MDR.016...Z	C009022	T15Q
MDR.019...Z	C009023	T20Q
MDR.024...Z	C009024	T30Q
MDR.029-036...Z	C009025	T30Q

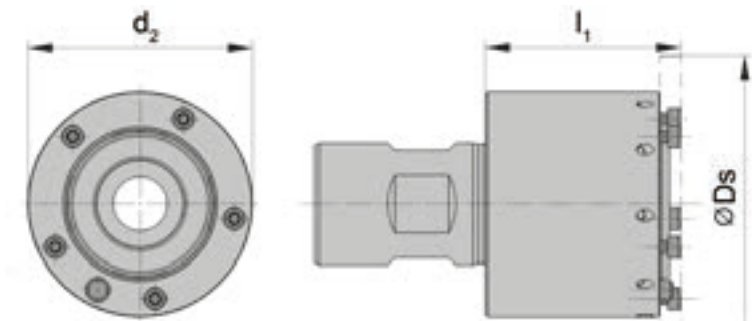
铰刀刀杆
Reaming insert holder

MDR

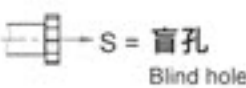
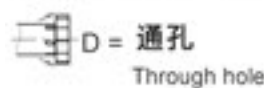


切削刃Ø Cutting edge Ø 35.601-140.6 mm

配合VDR刀杆使用,允许跳动调整
for use with shank type VDR, allowing for „0“ runout adjustment



内冷
Through coolant supply



配合刀片
for Insert

型号 DR
Type

产品型号 Part number	Ds _{min}	Ds _{max}	l ₁	d ₂	尺寸规格 尺寸规格	
MDR.044.32.30.V.D	35.601	43.6	30	32	44	d
MDR.044.32.30.V.S	35.601	43.6	30	32	44	S
MDR.052.39.35.V.D	43.601	51.6	35	39	52	d
MDR.052.39.35.V.S	43.601	51.6	35	39	52	S
MDR.061.46.40.V.D	51.601	60.6	40	46	61	d
MDR.061.46.40.V.S	51.601	60.6	40	46	61	S
MDR.081.56.50.V.D	60.601	80.6	50	56	81	d
MDR.081.56.50.V.S	60.601	80.6	50	56	81	S
MDR.101.76.60.V.D	80.601	100.6	60	76	101	d
MDR.101.76.60.V.S	80.601	100.6	60	76	101	S
MDR.121.76.60.V.D	100.601	120.6	60	76	121	d
MDR.121.76.60.V.S	100.601	120.6	60	76	121	S
MDR.141.76.60.V.D	120.601	140.6	60	76	141	d
MDR.141.76.60.V.S	120.601	140.6	60	76	141	S

1组螺钉，1个Torx扳手-无需单独订购！
1 Set of screws, 1 Torx wrench - no separate order required!

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

铰刀刀杆 Reaming insert holder	螺钉 Screw
MDR.044-061...	C009002
MDR...081-141	C009004

高性能铰削

High-Performance Reaming

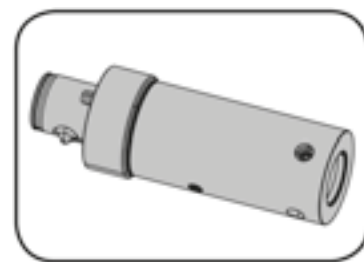


刀柄

Shank

VDR

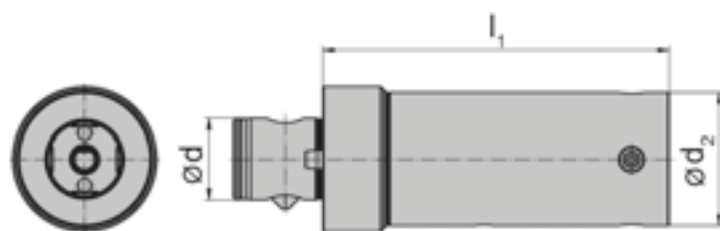
采用综合补偿机制
with integrated compensation mechanism



切削刃Ø

Cutting edge Ø

35.601-60.6 mm



配合刀片
for Insert

型号 MDR
Type

Form

A = 圆柱柄 DIN 1835-A

Cylindrical shank

B = 侧固柄 DIN 1835-B

Weldon shank DIN

E = 侧固柄 DIN 1835-E

BM = URMA Beta Modul 接口 (ABS)

产品型号 Part number	Ds _{min}	Ds _{max}	l ₁	d	d ₂	尺寸规格 Size	形式 Form
VDR.044.32.55.20.A	35.601	43.6	55	20	32	44	A
VDR.044.32.55.20.B	35.601	43.6	55	20	32	44	B
VDR.044.32.55.20.E	35.601	43.6	55	20	32	44	E
VDR.044.32.55.32.BM	35.601	43.6	55	32	32	44	
VDR.044.32.80.20.A	35.601	43.6	80	20	32	44	A
VDR.044.32.80.20.B	35.601	43.6	80	20	32	44	B
VDR.044.32.80.20.E	35.601	43.6	80	20	32	44	E
VDR.044.32.80.32.BM	35.601	43.6	80	32	32	44	
VDR.052.39.60.25.A	43.601	51.6	60	25	39	52	A
VDR.052.39.60.25.B	43.601	51.6	60	25	39	52	B
VDR.052.39.60.25.E	43.601	51.6	60	25	39	52	E
VDR.052.39.60.40.BM	43.601	51.6	60	40	39	52	
VDR.052.39.100.25.A	43.601	51.6	100	25	39	52	A
VDR.052.39.100.25.B	43.601	51.6	100	25	39	52	B
VDR.052.39.100.25.E	43.601	51.6	100	25	39	52	E
VDR.052.39.100.40.BM	43.601	51.6	100	40	39	52	
VDR.061.46.70.32.A	51.601	60.6	70	32	46	61	A
VDR.061.46.70.32.B	51.601	60.6	70	32	46	61	B
VDR.061.46.70.32.E	51.601	60.6	70	32	46	61	E
VDR.061.46.70.50.BM	51.601	60.6	70	50	46	61	
VDR.061.46.120.32.A	51.601	60.6	120	32	46	61	A
VDR.061.46.120.32.B	51.601	60.6	120	32	46	61	B
VDR.061.46.120.32.E	51.601	60.6	120	32	46	61	E
VDR.061.46.120.50.BM	51.601	60.6	120	50	46	61	

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

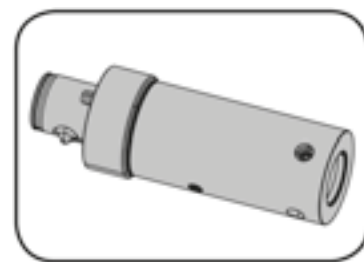
刀杆 Shank	摆销 Pendulum pin	限位销 Positioning Pin	螺钉 Screw
VDR.044.32...	Z003221	Z003223	C009008
VDR.052.39...	Z004021	Z004023	C009010
VDR.061.46...	Z005021	Z005023	C009010

刀柄

Shank

VDR

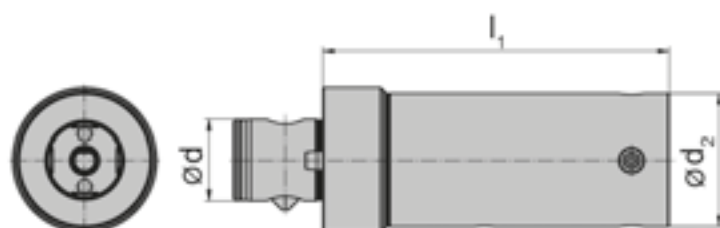
采用综合补偿机制
with integrated compensation mechanism



切削刃Ø Cutting edge Ø 60.601-80.601 mm

配合刀片
for Insert

型号 MDR



Form

A = 圆柱柄 DIN 1835-A

Cylindrical shank

B = 侧固柄 DIN 1835-B

Weldon shank DIN

E = 侧固柄 DIN 1835-E

BM = URMA Beta Modul 接口 (ABS)

产品型号 Part number	Ds _{min}	Ds _{max}	l ₁	d	d ₂	尺寸规格 Size	形式 Form
VDR.081.56.80.40.A	60.601	80.6	80	40	56	81	A
VDR.081.56.80.40.B	60.601	80.6	80	40	56	81	B
VDR.081.56.80.40.E	60.601	80.6	80	40	56	81	E
VDR.081.56.80.50.BM	60.601	80.6	80	50	56	81	
VDR.081.56.140.40.A	60.601	80.6	140	40	56	81	A
VDR.081.56.140.40.B	60.601	80.6	140	40	56	81	B
VDR.081.56.140.40.E	60.601	80.6	140	40	56	81	E
VDR.081.56.140.50.BM	60.601	80.6	140	50	56	81	
VDR.101.76.100.40.A	80.601	140.6	100	40	76	101	A
VDR.101.76.100.40.B	80.601	140.6	100	40	76	101	B
VDR.101.76.100.40.E	80.601	140.6	100	40	76	101	E
VDR.101.76.100.63.BM	80.601	140.6	100	63	76	101	
VDR.101.76.160.40.A	80.601	140.6	160	40	76	101	A
VDR.101.76.160.40.B	80.601	140.6	160	40	76	101	B
VDR.101.76.160.40.E	80.601	140.6	160	40	76	101	E
VDR.101.76.160.63.BM	80.601	140.6	160	63	76	101	

尺寸单位 : mm
Dimensions in mm

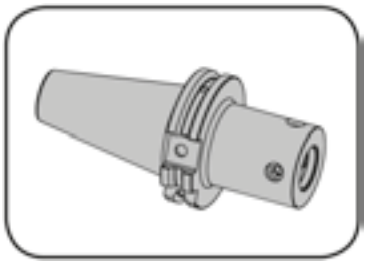
配件

Spare Parts

刀杆 Shank	限位销 Positioning Pin	螺钉 Screw	摆销 Pendulum pin
VDR.081.56.140.40.A	Z002523	C009012	Z005021
VDR.081.56.140.40.B	Z005023	C009012	
VDR.081.56...A/B/BM/E	Z005023	C009012	Z002521
VDR.101.76...A/B/BM/E	Z006323	C009016	Z006321

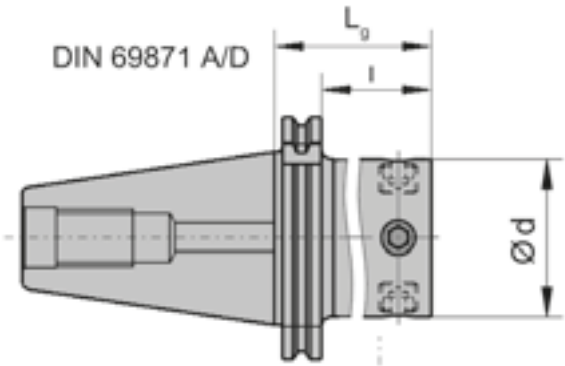
直接安装于系统
Direct mounting

VDR
采用综合补偿机制
with integrated compensation mechanism



C

切削刃Ø	Cutting edge Ø	35.61-140.6 mm
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配合刀片
for Insert

型号 MDR

产品型号 Part number	Ds _{min}	Ds _{max}	l	Lg	d	尺寸规格 Size	系列 System	重量 Weight
VDR.044.065.40AD	35.601	43.6	46	65	32	44	SK 40	1.1
VDR.052.065.40AD	43.601	51.6	46	65	39	52	SK 40	1.2
VDR.061.075.40AD	51.601	60.6	56	75	46	61	SK 40	1.4
VDR.081.080.40AD	60.601	80.6	61	80	56	81	SK 40	1.6
VDR.101.095.40AD	80.601	140.6	76	95	76	101	SK 40	2.2
VDR.044.065.50AD	35.601	43.6	46	65	32	44	SK 50	2.9
VDR.052.065.50AD	43.601	51.6	46	65	39	52	SK 50	3.0
VDR.061.075.50AD	51.601	60.6	56	75	46	61	SK 50	3.2
VDR.081.085.50AD	60.601	80.6	66	85	56	81	SK 50	3.6
VDR.101.095.50AD	80.601	140.6	76	95	76	101	SK 50	4.6

按需提供更多尺寸
Further sizes upon request

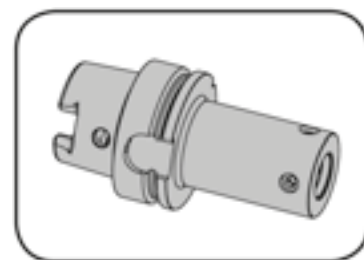
尺寸单位：mm
Dimensions in mm

直接安装于系统

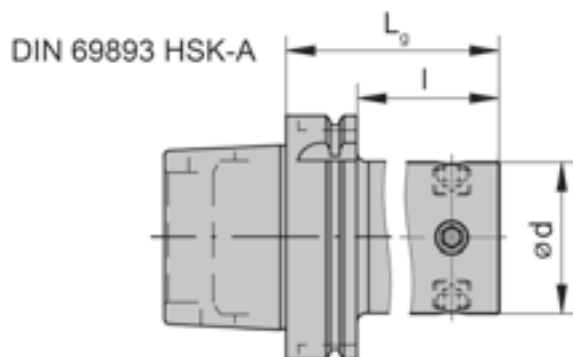
Direct mounting

VDR

采用综合补偿机制
with integrated compensation mechanism



切削刃Ø Cutting edge Ø 35,61-140,6



配合刀片
for Insert

型号 MDR

产品型号 Part number	Ds _{min}	Ds _{max}	l	Lg	d	尺寸规格 Size	系列 System	重量 Weight
VDR.044.090.A100	35.601	43.6	61	90	32	44	HSK100	2.3
VDR.052.095.A100	43.601	51.6	66	95	39	52	HSK100	2.6
VDR.061.100.A100	51.601	60.6	71	100	46	61	HSK100	2.8
VDR.081.120.A100	60.601	80.6	91	120	56	81	HSK100	3.5
VDR.101.130.A100	80.601	140.6	101	130	76	101	HSK100	5.0
VDR.044.085.A063	35.601	43.6	59	85	32	44	HSK63	1.0
VDR.052.090.A063	43.601	51.6	64	90	39	52	HSK63	1.2
VDR.061.100.A063	51.601	60.6	74	100	46	61	HSK63	1.5
VDR.081.105.A063	60.601	80.6	79	105	56	81	HSK63	1.8
VDR.101.120.A063	80.601	140.6	94	120	76	101	HSK63	2.4

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

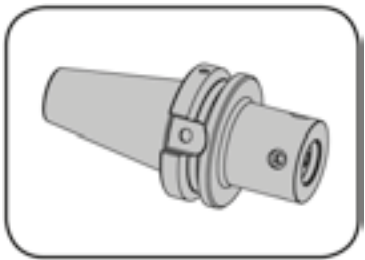
Ersatzteile

Spare Parts

直接安装于系统 Direct mounting	内冷管 Coolant pipe
VDR...A063	020.6318.1308
VDR...A100	020.0024.1310

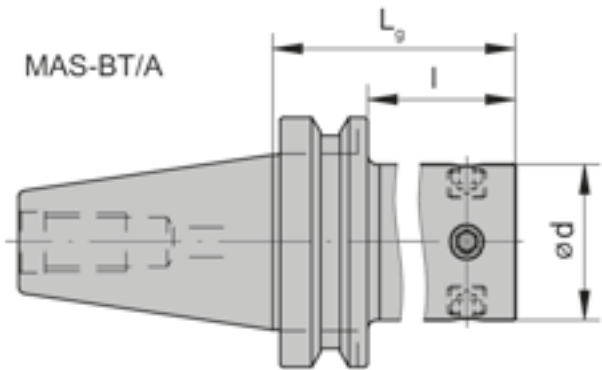
直接安装于系统
Direct mounting URMA

VDR
采用综合补偿机制
with integrated compensation mechanism



C

切削刃Ø	Cutting edge Ø	35,61-140,6
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配合刀片
for Insert

型号 MDR

产品型号 Part number	Ds _{min}	Ds _{max}	l	Lg	d	尺寸规格 Size	系列 System	重量 Weight
VDR.044.060.40BT	35.601	43.6	33	60	32	44	JIS-BT 40	1.1
VDR.052.065.40BT	43.601	51.6	38	65	39	52	JIS-BT 40	1.3
VDR.061.070.40BT	51.601	60.6	43	70	46	61	JIS-BT 40	1.4
VDR.081.080.40BT	60.601	80.6	53	80	56	81	JIS-BT 40	1.7
VDR.101.095.40BT	80.601	140.6	-	95	76	101	JIS-BT 40	2.5
VDR.044.065.50BT	35.601	43.6	27	65	32	44	JIS-BT 50	3.7
VDR.052.065.50BT	43.601	51.6	27	65	39	52	JIS-BT 50	3.8
VDR.061.075.50BT	51.601	60.6	37	75	46	61	JIS-BT 50	4.0
VDR.081.085.50BT	60.601	80.6	47	85	56	81	JIS-BT 50	4.3
VDR.101.095.50BT	80.601	140.6	57	95	76	101	JIS-BT 50	5.1

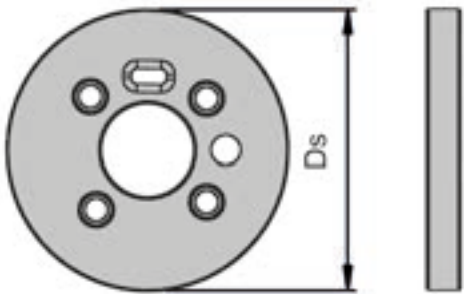
按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

跳动控制环
Run-out Control Disc

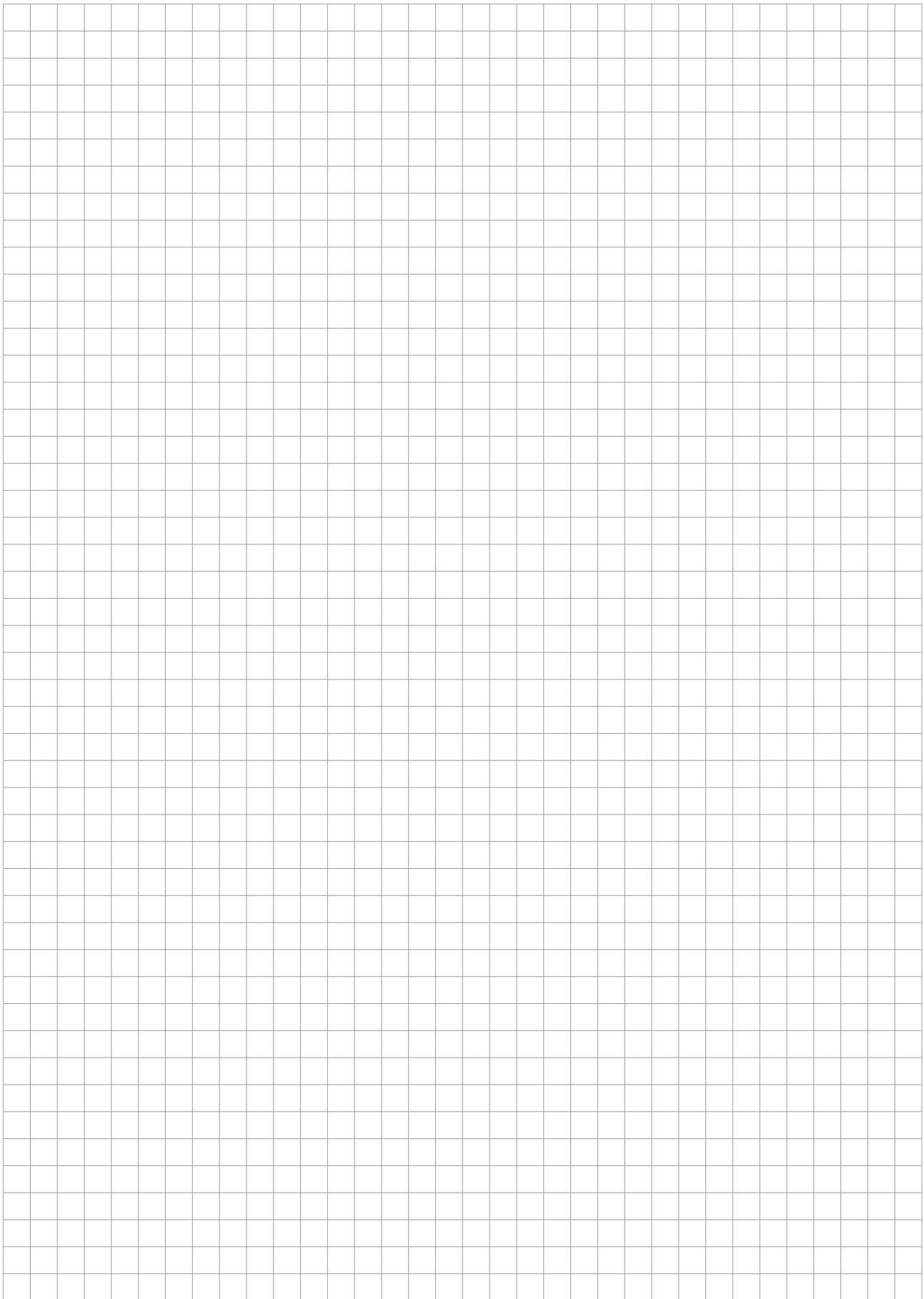
DR

für Reibschäfte MDR016 - MDR36
for use with reaming insert holder MDR016 - MDR36



产品型号 Part number	直径范围 Diameter Range	尺寸规格 Size
DR.016.ROCD	11.900-15.600	16
DR.019.ROCD	15.601-18.600	19
DR.024.ROCD	18.601-23.600	24
DR.029.ROCD	23.601-28.600	29
DR.036.ROCD	28.601-35.600	36

尺寸单位：mm
Dimensions in mm



下面的信息解释了如何正确处理和设置铰孔工具。

The information below explains the proper handling and set up for reaming tools.

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刀具调整应直接在机床/主轴上进行，以达到最高的精度。

Tool adjustments should be performed directly in the machine/spindle to achieve highest precision.



将铰刀安装到液压刀柄或套筒,直至底部最低点.

Insert the reamer shaft into the Hydraulic Expansion Toolholder or reducer sleeve until it bottoms out.



用六角扳手拧紧液压刀柄的夹紧螺钉。

Tighten the clamping screw of the Hydraulic Expansion Toolholder with a hex wrench.



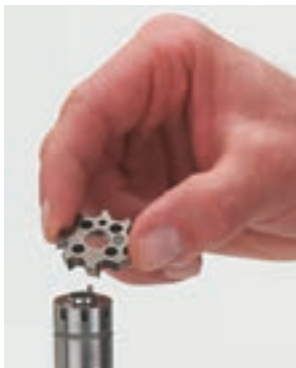
使用TORX-PLUS®扳手T15PQ调整四个螺丝直到接触,并用手旋转工具检查芯轴的 μm 指示器对中性。

Turn the four adjusting screws with the TORX-PLUS® wrench T15PQ until contact, and check the concentricity with a μm indicator inside the arbor by hand rotating the tool.



通过转动轴线上的调节螺丝来调节同心度。

Adjust the concentricity by turning the adjustment screws on their axis.



将刀片放在轴上,定位孔盖在销上,轻轻拧紧螺丝。

Lay insert on shaft with positioning hole over the pin and tighten the screws lightly.



用扭矩调节扳手以十字形起子拧紧螺丝。

Tighten the screws with a torque setter screw driver in a crisscross pattern.

调整

为了达到最好的铰孔效果，工具零跳动是可取的。为了补偿由于刀具支架或机床主轴跳动引起的任何误差，建议使用以下刀柄：补偿刀柄、液压刀柄或热胀刀柄。DR reamers可以用不同的方法测量：

Adjusting

To achieve the best reaming results a tool with zero run-out is desirable. In order to compensate for any errors due to run-out from the tool holders or the machine spindle, the following holders are recommendend: compensation holders, hydraulic chucks, or shrink fit holders. DR reamers can be measured with different methods:

通过刀杆短锥

拆卸铰刀片后直接测量插入支架上的短锥度。精度高，操作简单。这是最精确和首选的方法。

Through insert holder short taper

With the reamer disassembled measure directly on the insert holders short taper. High accuracy, simple handling. This is the most accurate and preferred method.

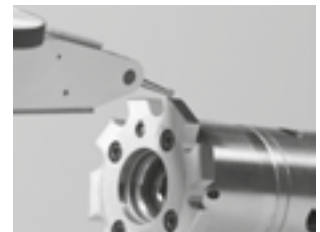


通过圆形刀片

直接测量刀片主切削刃后的外径。消除所有接口错误。这是小直径刀片的首选方法。

Through circular land

Measuring directly behind chamfer angle on external insert diameter. All interface errors are eliminated. This is the preferred method for small diameter inserts.



通过现有刀杆外径

DR刀杆在所有直径上都制造得非常精确。一种易于操作的方法，提供合理的测量结果。

On the external diameter of the insert holder

DR tool holders are manufactured very accurately on all diameters. A method easy to handle that offers reasonable measuring results.



带补偿装置的刀杆

这些带整体接杆刀杆必须用于铰孔
直径大于35毫米

Shanks with integrated compensation device

These shanks with integrated comp. must be used for reaming diameters bigger than 35 mm



操作

安全锁紧中心螺钉(见值1)。测量跳动，并将刀片的切削刃设置到最高点。用调整螺丝补偿总跳动的一半。检查跳动，必要时重复调整。根据表中的值2锁定中心螺钉。

Handling

Secure central locking screw (see value no 1). Measure run-out and set the cutting edge of the insert to the highest point. Compensate half of the total run-out by using the adjustment screws. Check run-out and repeat the adjustment if necessary. Secure central locking screw according to value 2 in chart below.



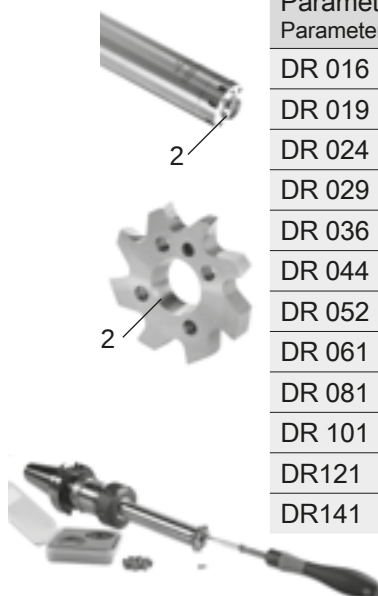
Systemgröße Md Parameter Md	1 Nm	2 Nm
DR 044	35	-
DR 052	35	-
DR 061	55	-
DR 081	60	85
DR 101	60	120
DR 121	60	120
DR 141	60	120

更换刀片

1. 不要将刀杆松开。松开夹紧螺丝及使用过的刀片
2. 仔细清洁刀片定位面,检查可能受损.
3. 安装新的刀片(注意定位销),旋紧夹紧螺丝
4. 如果可能,使用扭矩扳手(扭矩见表)

Changing inserts

1. Don't take the shank out of the taper holder. Remove clamping screws and used insert.
2. Clean short taper of the shank carefully and check for possible damages.
3. Set new insert on position (pay attention to the positioning pin) and slightly tighten the clamping screws.
4. If available, use the torxtorque screw driver to tighten the screws crosswise (see torque chart)



Parameter Md Parameter Md	Nm	Torx
DR 016	0.75	6
DR 019	0.75	6
DR 024	1.5	8
DR 029	1.5	8
DR 036	1.5	8
DR 044	1.5	8
DR 052	1.5	8
DR 061	1.5	8
DR 081	3.5	15
DR 101	3.5	15
DR121	3.5	15
DR141	3.5	15

测量刀片直径

DR刀片是不等齿距的。测量直径线上的两个标记的切削刃。直接测量倒角，因为刀片是有倒角的。

Measuring of insert diameter

DR inserts have an unequally spaced pitch. To measure the diameter line up the two marked cutting edges. Measure directly on the chamfered angle because the inserts are ground with taper.



HORN- 材质 Grades	ISO513	性能 Properties	推荐应用 Recommended applications
硬质合金 / Carbide			
HL3H	HC	ALCrN- 涂层 Coating	钢和铸铁的首选。极高的热硬度和抗氧化能力。高润滑性减少积屑瘤。适用于高速切削和带冷却剂或雾状冷却剂。铜的颜色。 First choice for Steel and cast iron. Extremely high hot hardness and high resistance against oxidation. High lubricity with resistance to build up edge. For high cutting speed and with coolant or mist coolant. Copper colour.
AN2H AN4H	HC	ALCrN- 涂层 Coating	类似涂层结构及用于槽型HL3H. 灰色。 Similar coating structure and application range to HL3H. Grey colour.
MG10	HF	非涂层 (紧密磨削) uncoated (micro grain)	通用材质，用于绝大对数材料在低切削速度下。 Universal grade for most materials at low cutting speed. For Variopoint only.
DT2H	HC	PVD-DLC- 涂层 Coating	“金刚石涂层”。具有很好的润滑性，抗积屑瘤。优良的化学稳定性和极高的硬度。特别适用于中等切削速度下硅含量低于12%的铝。 "Diamond-Like-Carbon". Very good lubricity properties resistant to build up edge. Excellent chemical stability as well as very high hardness. Particularly suitable for Aluminum with less than 12 % Si at medium cutting speed.
金属陶瓷			
H20	HT	非涂层 uncoated	高切削速度下，强度可达1200 N/mm2的碳素钢和低合金钢和球墨铸铁的铰孔。 Reaming of carbon and low alloyed steel of up to 1200 N/mm ² tensile strength and nodular cast iron at high cutting speed.
AN28 AN48 HL38 DT28	HC	涂层 coated	涂层类似于碳化物涂层，具有增强边缘的耐磨性。应用特殊组合的基材，几何形状和涂层，以提高刀具寿命。 Coatings similar to those for carbide with resistance to build up edge. Application specific combination of substrate, geometry and coatings for improved tool life.

材料对照表

Material Comparison Table



ISO	组	材料	Material	R _m N/mm ²	HB HRC
P	1	非合金碳钢 通用结构钢	Unalloyed carbon steel General structural steel	< 500	< 160
	2	低合金碳钢 低合金，结构钢，铸钢，工具钢	Low-alloy carbon steel, Structural-, Cast-hardened-, Tool-, Low-alloy steel	500 - 900	140 - 325
	3	合金工具钢	Alloyed tool steel Nitride steel	800 - 1200	250 - 350
	3.1	高合金钢	High alloyed steel	< 1000	
	3.2	高合金钢	High alloyed steel	< 1600	
	3.3	高速钢	High speed steel		
M	5	马氏体不锈钢	Stainless steel, martensitic	500 - 1000	
	5.1	奥氏体不锈钢	Stainless steel, austenitic		
	5.2	耐高温不锈钢	Stainless heat resisting steel		
K	6	灰铁	Grey cast iron Alloyed grey cast iron		< 250
	6.1	球铁	Spheroidal graphite cast iron (GGG40)		
	6.2	蠕墨铸铁	Spheroidal graphite cast iron, ferritic/perlitic Malleable cast iron	> 550	
N	7	锻造铝合金	Al-wrought alloys		
	7.1	铸造铝合金	Al-cast alloy < 10 % Si		
	7.2	非铁金属，铜合金，黄铜，青铜	Non ferrous metals, Copper alloys, Brass, Bronze		
S	8	钛合金	Titanium alloys		
	8.1	镍合金	Nickel alloys		

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ISO	Code	刀片形式 Insert form	铰孔 Bore		左旋 left helical fluted 25° B	直槽 straight fluted 45° A	推荐切深 (单边) recom. radial cutting depth a_p			
			DL	SL			$\varnothing < 20$ mm	$\varnothing < 20-35$ mm	$\varnothing > 35$ mm	
P	1	L	●		●		0,05 - 0,12	0,08 - 0,15	0,10 - 0,18	
		G	○	●		●	0,05 - 0,12	0,08 - 0,15	0,10 - 0,18	
	2	L	●		●		0,05 - 0,12	0,08 - 0,15	0,10 - 0,18	
		G	○	●		●	0,05 - 0,12	0,08 - 0,15	0,10 - 0,18	
	3	L	●		●		0,05 - 0,10	0,08 - 0,15	0,10 - 0,18	
		G	○	●		●	0,05 - 0,10	0,08 - 0,15	0,10 - 0,18	
	3.1	L	●		●		0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
		G	○	●		●	0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
	3.2	L	●		●		0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
		G	○	●		●	0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
	3.3	L	●		●		0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
		G	●	●		●	0,05 - 0,10	0,08 - 0,15	0,10 - 0,15	
M	5	L	●		●		0,05 - 0,10	0,08 - 0,12	0,08 - 0,15	
		G	○	●		●	0,05 - 0,10	0,08 - 0,12	0,08 - 0,15	
	5.1	L	●		●		0,05 - 0,10	0,08 - 0,12	0,08 - 0,15	
		G	○	●		●	0,05 - 0,10	0,08 - 0,12	0,08 - 0,15	
	5.2	L	●		●		0,04 - 0,10	0,06 - 0,10	0,08 - 0,12	
		G	●	●		●	0,04 - 0,10	0,06 - 0,10	0,08 - 0,12	
K	6	L	●		●		0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
		G	○	●		●	0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
	6.1	L	●		●		0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
		G	○	●		●	0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
	6.2	L	●		●		0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
		G	○	●		●	0,10 - 0,18	0,10 - 0,20	0,10 - 0,25	
N	7	L	●		●		0,05 - 0,12	0,08 - 0,15	0,10 - 0,25	
		G	○	●		●	0,05 - 0,12	0,08 - 0,15	0,10 - 0,25	
	7.1	L	●		●		0,05 - 0,12	0,08 - 0,15	0,08 - 0,18	
		G	○	●		●	0,05 - 0,12	0,08 - 0,15	0,08 - 0,18	
	7.2	L	●		●		0,08 - 0,15	0,08 - 0,15	0,08 - 0,18	
		G	○	●		●	0,08 - 0,15	0,08 - 0,15	0,08 - 0,18	
S	8	L	●		●		0,05 - 0,10	0,05 - 0,12	0,08 - 0,15	
		G	○	●		●	0,05 - 0,10	0,05 - 0,12	0,08 - 0,15	
	8.1	L	●		●		0,05 - 0,10	0,05 - 0,12	0,08 - 0,15	
		G	●	●		●	0,05 - 0,10	0,05 - 0,12	0,08 - 0,15	

L = 左旋
left helical fluted
G = 直槽
straight fluted

DL = 通孔
Through hole
SL = 盲孔
Blind hole

● = 推荐
Main recommendation
○ = 次选方案
Alternative recommendation

切削速度

Cutting Data



C

	非涂层 uncoated				涂层 coated			
	MG10		H20		HL3H		DT2H	
	vc (m/min)	f _z (mm)	vc (m/min)	f _z (mm)	vc (m/min)	f _z (mm)	vc (m/min)	f _z (mm)
	15 - 40	0,08 - 0,15	120 - 250	0,12 - 0,35	120 - 220	0,12 - 0,35		
	15 - 40	0,06 - 0,12	120 - 250	0,10 - 0,25	120 - 220	0,10 - 0,25		
	10 - 30	0,07 - 0,13	100 - 220	0,12 - 0,35	100 - 220	0,12 - 0,35		
	10 - 30	0,06 - 0,12	100 - 220	0,10 - 0,25	100 - 220	0,10 - 0,25		
	8 - 25	0,06 - 0,12	70 - 200	0,10 - 0,25	60 - 180	0,10 - 0,25		
	8 - 25	0,05 - 0,10	70 - 200	0,08 - 0,20	60 - 180	0,08 - 0,20		
	6 - 10	0,05 - 0,10			60 - 140	0,1 - 0,25		
	6 - 10	0,04 - 0,08			60 - 140	0,08 - 0,20		
	4 - 7	0,04 - 0,08			15 - 60	0,06 - 0,18		
	4 - 7	0,03 - 0,06			15 - 60	0,04 - 0,15		
	4 - 7	0,04 - 0,08			10 - 30	0,04 - 0,15		
	4 - 7	0,03 - 0,06			10 - 30	0,04 - 0,12		
					20 - 80	0,08 - 0,22		
					20 - 80	0,06 - 0,20		
					15 - 60	0,06 - 0,15		
					15 - 60	0,04 - 0,13		
					15 - 40	0,06 - 0,15		
					15 - 40	0,04 - 0,13		
	15 - 40	0,08 - 0,16			100 - 200	0,15 - 0,35		
	15 - 40	0,06 - 0,12			100 - 200	0,12 - 0,30		
	12 - 30	0,07 - 0,14	90 - 180	0,15 - 0,35	90 - 180	0,15 - 0,35		
	12 - 30	0,06 - 0,12	90 - 180	0,12 - 0,30	90 - 180	0,12 - 0,30		
	8 - 25	0,06 - 0,12			70 - 160	0,12 - 0,30		
	8 - 25	0,05 - 0,10			70 - 160	0,10 - 0,25		
	10 - 25	0,12 - 0,35					100 - 350	0,12 - 0,35
	10 - 25	0,10 - 0,30					100 - 350	0,10 - 0,30
	10 - 40	0,12 - 0,35					100 - 250	0,12 - 0,35
	10 - 40	0,10 - 0,30					100 - 250	0,10 - 0,30
	10 - 40	0,12 - 0,35	100 - 250	0,12 - 0,35	100 - 250	0,12 - 0,35	100 - 180	0,12 - 0,35
	10 - 40	0,10 - 0,30	100 - 250	0,10 - 0,30	100 - 250	0,10 - 0,30	100 - 180	0,10 - 0,30
					10 - 25	0,06 - 0,18		
					10 - 25	0,04 - 0,15		
					10 - 25	0,06 - 0,18		
					10 - 25	0,04 - 0,15		

刀片材质描述见 C44
Description of cutting materials see page C44

故障 Fault

补救 Remedy

孔过大
Hole too large



1. 减少跳动及使用补偿刀柄
2. 减小切削速度
3. 增大进给率，增大冷却液浓度
4. 减小切深
5. 检查刀具磨损（积屑瘤）
6. 控制铰刀片直径

1. Reduce run-out error and use compensation holder
2. Reduce cutting speed
3. Increase feed rate, increase coolant mix
4. Reduce depth of cut
5. Check tool wear (especiall build-up edges)
6. Control reamer- $\varnothing$

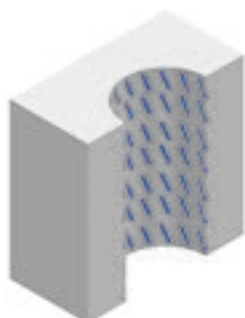
锥孔
Tapered hole



1. 减少跳动及使用补偿刀柄
2. 降低切削速度及进给，检查冷却液浓度
3. 改进前序加工
4. 改进工件装夹
5. 测量夹紧及非夹紧状态
6. 检查铁屑

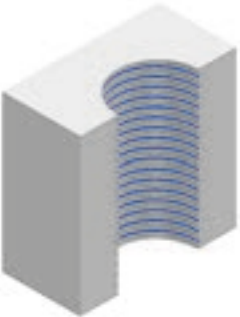
1. Reduce run-out error and use compensation holder
2. Reduce cutting speed and feed, check coolant mix
3. Improve pre-machining
4. Improve workpiece clamping
5. Measure bore in clamped and unclamped condition
6. Check chip flow

震纹
Hole shows chatter marks



1. 减小刀具跳动及使用补偿刀柄
2. 改变倒角角度
3. 改进工件装夹
4. 减小切削速度
5. 增加进给率

1. Reduce run-out error and use compensation holder
2. Change chamfer angle
3. Improve workpiece clamping
4. Reduce cutting speed
5. Increase feed rate

故障 Fault	补救 Remedy
表面质量差 Surface quality unsatisfactory 	1. 检查刀片磨损 2. 减少跳动，使用补偿刀柄，检查切削参数 3. 使用内冷 4. 增加冷却液浓度 1. Check insert wear 2. Reduce run-out error and use compensation holder, check cutting data 3. Use tool with internal coolant supply 4. Increase coolant mix
孔内印记 Retention marks in hole 	1. 降低跳动误差使用补偿刀柄 2. 检查刀具磨损(积屑瘤) 3. 降低切深 4. 使用锋利的槽型 5. 降低拔出进给 1. Reduce run-out error and use compensation holder 2. Check insert wear (build-up edges) 3. Reduce depth of cut 4. Use a sharper geometry 5. Reduce pull back feed
啸叫 Reamer jams 	1. 降低冷却液浓度 2. 增大切深 3. 检查刀片磨损 4. 改变倒角角度 1. Reduce coolant mix 2. Increase depth of cut 3. Check insert wear 4. Change chamfer angle
孔过小 Hole too small 	1. 更换刀片 2. 减小冷却液浓度 3. 增大切深 4. 增大切削速度 5. 降低进给率 1. Change insert 2. Reduce coolant mix 3. Increase depth of cut 4. Increase cutting speed 5. Reduce feed rate

C

Z = 齿数

Number of teeth

d = 刀具直径-Ø [mm]

Cutting edge Ø [mm]

L = 铰孔深度[mm]

Length of bore [mm]

SL =安全余量 [mm]

Clearance distance [mm]

n = 转速

Revolutions

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

v_c = 切削速度

Cutting speed

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

f_z = 进给/每齿

Feed/tooth

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

f = 每转进给

Feed per revolutions

$$f = f_z \cdot Z \text{ [mm/U] [mm/rev]}$$

v_f = 进给率

Feed rate

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

T_c = 加工时间

Process time

$$T_c = \frac{L + SL}{v_f} \text{ [min]}$$

备注 / Notes



System

页/page

URMA 接柄

D2

System Adaptors URMA

HD 液压刀柄

D10

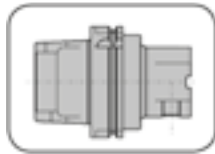
Expansion Toolholder HD

PZ 浮动刀柄

D24

Floating Holder PZ

接柄
URMA
System Holder URMA
BH/BD/BT



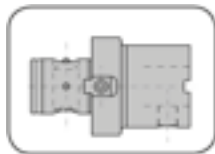
页/Page
D4-D6

延长杆
Extension
B13



页/Page
D7

缩径杆
Reducer
B12



页/Page
D8

D

URMA



D

URMA 接柄
模块
BETA MODUL

System Adaptors URMA
Modular Components
BETA MODUL

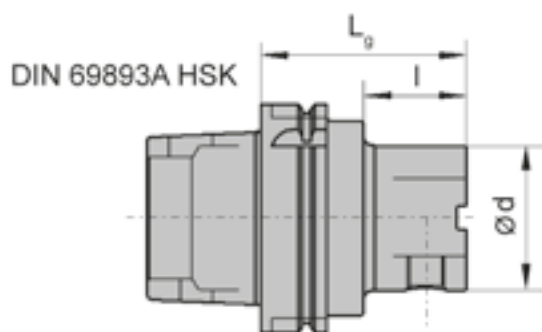
URMA 接柄

System Holder URMA

BH



Betamodul 25/32/40/50/63/80/100
Beta Module 25/32/40/50/63/80/100



产品型号 Part number	Lg	l	d	Betamodul	重量 Weight	主轴型号 System
BH10 63A 25 055	55	29	25	25	0,9	HSK-A 63
BH10 63A 32 060	60	34	32	32	1,0	HSK-A 63
BH10 63A 40 065	65	23	42	40	1,1	HSK-A 63
BH10 63A 50 070	70	28	50	50	1,5	HSK-A 63
BH10 63A 63 080	80	-	63	63	1,5	HSK-A 63
BH10 100A 32 060	60	31	32	32	2,3	HSK-A 100
BH10 100A 40 080	80	35	42	40	3,1	HSK-A 100
BH10 100A 50 080	80	35	50	50	3,2	HSK-A 100
BH10 100A 63 080	80	35	63	63	3,3	HSK-A 100
BH10 100A 80 090	90	45	80	80	4,0	HSK-A 100
BH10 100A 100 100	100	-	100	100	5,0	HSK-A 100

单位尺寸: mm
Dimensions in mm

订货须知:
内冷却管不包含-请分开采购

Ordering note:
Coolant tube is not included - separate order required!

附件

Spare parts

URMA 刀柄 System Holder URMA	螺钉 Threaded Pin	内冷管 Coolant tube
BH10 63A 250 55	Z002524	020.6318.1308
BH10 63A 320 60	Z003224	020.6318.1308
BH10 63A 400 65	Z004024	020.6318.1308
BH10 63A 500 70	Z005024	020.6318.1308
BH10 63A 630 80	Z006324	020.6318.1308
BH10 100A 32 060	Z003224	020.0024.1310
BH10 100A 40 080	Z004024	020.0024.1310
BH10 100A 50 080	Z005024	020.0024.1310
BH10 100A 63 080	Z006324	020.0024.1310
BH10 100A 80 090	Z008024	020.0024.1310
BH10 100A 100 100	Z0010024	020.0024.1310

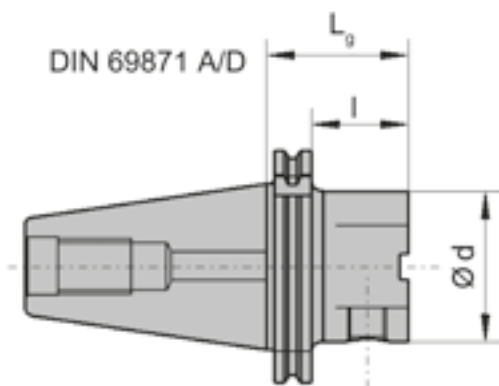
URMA 接柄

System Holder URMA

BD



Betamodul 25/32/40/50/63/80/100
Beta Module 25/32/40/50/63/80/100



D

产品型号 Part number	Lg	l	d	Betamodul	重量 Weight	主轴型号 System
BD10 40A 25 050	50	31	25	25	0,8	SK 40
BD10 40A 32 050	50	31	35	32	0,9	SK 40
BD10 40A 40 035	35	16	42	40	0,9	SK 40
BD10 40A 40 050	50	31	42	40	1,1	SK 40
BD10 40A 50 050	50	31	50	50	1,2	SK 40
BD10 40A 63 065	65	46	63	63	1,5	SK 40
BD10 40A 63 090	90	70	63	63	2,0	SK 40
BD10 50A 25 060	60	41	25	25	2,8	SK 50
BD10 50A 32 060	60	41	32	32	2,9	SK 50
BD10 50A 40 060	60	41	42	40	3,0	SK 50
BD10 50A 50 060	60	41	50	50	3,2	SK 50
BD10 50A 63 060	60	41	63	63	3,3	SK 50
BD10 50A 80 070	70	51	50	80	4,0	SK 50
BD10 50A 100 115	115	96	50	100	6,9	SK 50

单位尺寸: mm
Dimensions in mm

配件

Spare parts

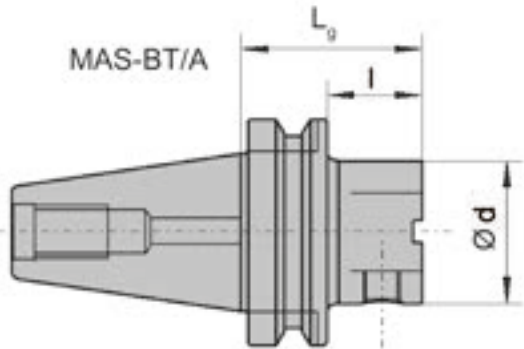
URMA 接柄 System Holder URMA	螺钉 Threaded Pin
BD10...A25...	Z002524
BD10...A32...	Z003224
BD10...A40...	Z004024
BD10...A50...	Z005024
BD10...A63...	Z006324
BD10 50A 100 115	Z0010024
BD10 50A 80 070	Z008024

URMA 接柄
System Holder URMA

BT



Betamodul 25/32/40/50/63/80/100
Beta Module 25/32/40/50/63/80/100



产品型号 Part number	Lg	l	d	Betamodul	重量 Weight	主轴型号 System
BT10 40A 25 060	60	33	25	25	0,8	JIS-BT 40
BT10 40A 32 060	60	33	32	32	0,9	JIS-BT 40
BT10 40A 40 028	28	1	42	40	0,9	JIS-BT 40
BT10 40A 40 060	60	33	42	40	1,2	JIS-BT 40
BT10 40A 50 060	60	33	50	50	1,3	JIS-BT 40
BT10 40A 63 055	55	28	63	63	1,4	JIS-BT 40
BT10 40A 63 070	70	43	63	63	1,7	JIS-BT 40
BT10 50A 32 070	70	32	32	32	3,7	JIS-BT 50
BT10 50A 40 070	70	32	42	40	3,9	JIS-BT 50
BT10 50A 50 070	70	32	50	50	4,1	JIS-BT 50
BT10 50A 63 080	80	42	63	63	4,3	JIS-BT 50
BT10 50A 80 100	100	62	80	80	5,5	JIS-BT 50
BT10 50A 100 100	110	72	100	100	7,0	JIS-BT 50

单位尺寸: mm
Dimensions in mm

附件
Spare parts

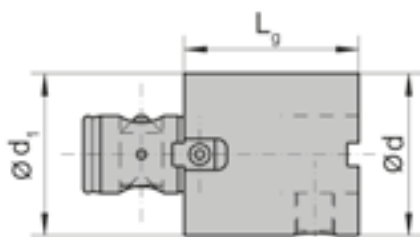
URMA 接柄 System Holder URMA	螺钉 Threaded Pin
BT10 40A 25 060	Z002524
BT10...A32...	Z003224
BT10...A40...	Z004024
BT10...A50...	Z005024
BT10...A63...	Z006324
BT10 50A 100 100	Z0010024
BT10 50A 80 100	Z008024

延长杆
Extension

B13



配 Beta-Module
for beta-modules



产品型号 Part number	Lg	d	d ₁	前端接口尺寸 Interface machine end	终端接口尺寸 Interface cutting edge end	重量 Weight
B13 2525 045	45	25	25	25	25	0,2
B13 2525 070	70	25	25	25	25	0,3
B13 3232 035	35	32	32	32	32	0,2
B13 3232 070	70	32	32	32	32	0,4
B13 4040 045	45	42	42	40	40	0,4
B13 4040 070	70	42	42	40	40	0,7
B13 5050 065	65	50	50	50	50	1,0
B13 5050 100	100	50	50	50	50	1,5
B13 6363 060	60	63	63	63	63	1,3
B13 6363 125	125	63	63	63	63	2,9

单位尺寸: mm
Dimensions in mm

配件
Spare parts

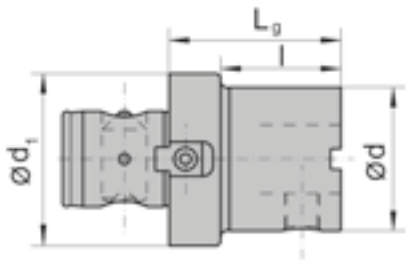
延长杆 Extension	定位键 Locating pin	螺钉 Screw	螺栓 Bolt	螺钉 Threaded pin	键槽螺母 Slot nut
B13 2525 045/...070	Z002523		Z002521	Z002524	
B13 3232 035/...070	Z003223		Z003221	Z003224	
B13 4040 045/...070	Z004023	C002258	Z004021	Z004024	Z004025
B13 5050 065/...100	Z005023	C002260	Z005021	Z005024	Z005025
B13 6363 060/...125	Z006323	C002205	Z006321	Z006324	Z006325

缩径杆
Reducer

B12



配 Beta-Module
for beta-modules

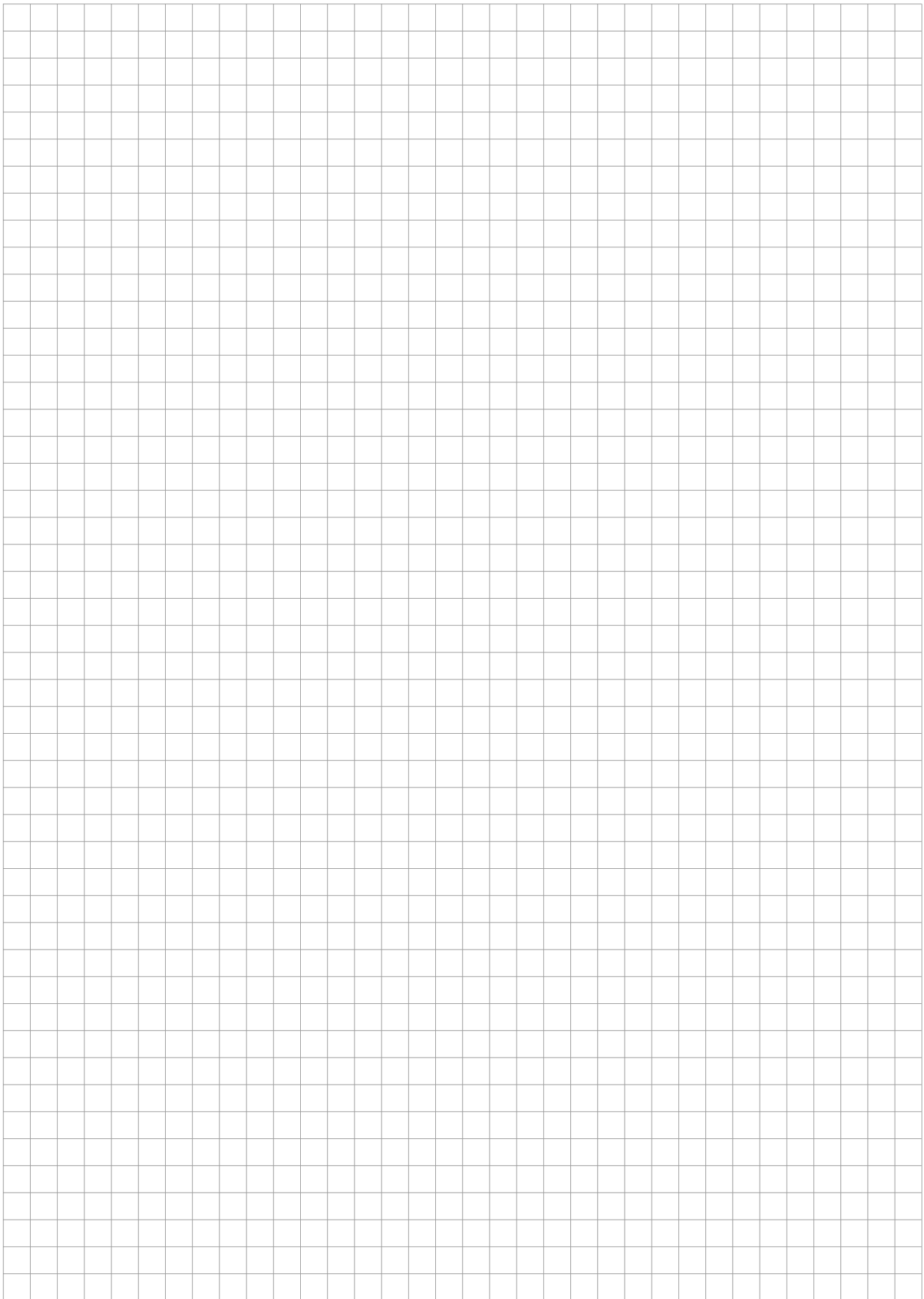


产品型号 Part number	Lg	l	d	d ₁	始端接口尺寸 Interface machine end	终端接口尺寸 Interface cutting edge end	重量 Weight
B12 3225 040	40	25	25	32	32	25	0,2
B12 4025 040	40	25	25	42	40	25	0,3
B12 4032 045	45	30	32	42	40	32	0,3
B12 5040 050	50	35	42	50	50	40	0,5
B12 6325 045	45	25	25	63	63	25	0,7
B12 6332 050	50	30	32	63	63	32	0,9
B12 6340 055	55	35	42	63	63	40	1,1

单位尺寸: mm
Dimensions in mm

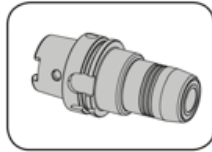
配件
Spare parts

缩径杆 Reducer	定位键 Locating pin	螺钉 Screw	螺栓 Bolt	螺钉 Threaded pin	键槽螺母 Slot nut
B12 3225 040	Z003223		Z003221	Z003224	
B12 4025 040	Z002523	C002258	Z002521	Z004024	Z004025
B12 4032 045	Z003223	C002258	Z004021	Z004024	Z004025
B12 5040 050	Z004023	C002258	Z004021	Z004024	Z004025
B12 6325 045	Z006323	C002205	Z006321	Z006324	Z006325
B12 6332 050	Z006323	C002205	Z006321	Z003224	Z006325
B12 6340 055	Z004023	C002205	Z004021	Z004024	Z004025



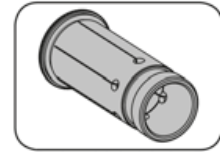
D

刀柄系统
System Holder
HDC/HDE/HDR



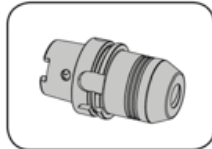
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D13-D14

中间夹套
Intermediate Sleeve
HDZB

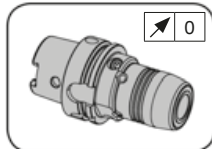


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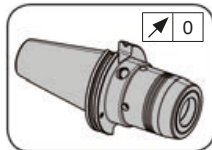
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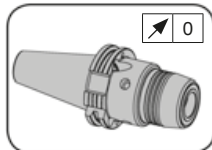
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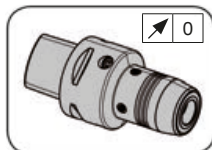
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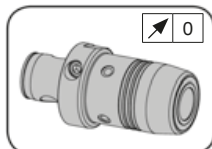
页/Page
D18



页/Page
D19



页/Page
D20



页/Page
D21

HD



液压刀柄

版本:

- 经典
- 紧凑
- 跳动可调

Expansion Toolholder

Version:

- Classic
- Compact
- Run-out adjustable



HDC

根据DIN标, '原始'修长设计
多功能-铣削, 铰孔, 镗孔, 倒角, 螺纹铣, 高进给。

- 可提供多用途应用
- 跳动及重复精度 < 0.003mm
- 优秀的减震
- 利用夹套扩大夹持范围
- 轴向长度可预调
- 优秀的动平衡

"The original" in slim design according DIN.

Versatile use - whether milling, reaming, boring, chamfering, thread milling, or high-speed machining.

- Offering exceptional versatility for a wide range of applications
- Run-out and repeat accuracy < 0.003 mm
- Excellent vibration damping
- Versatile clamping range due to intermediate sleeves
- Exact axial length pre-adjustment
- Standard fine-balanced



HDE

粗壮设计

多功能-铣削, 铰孔, 镗孔, 倒角, 螺纹铣, 高进给。

- 高扭矩, 在直径小于20mm干式冷却下, 最高可夹紧力900Nm, 在油(液)式冷却下可以达到520Nm.
- 高性价比
- 跳动及重复精度 < 0,003 mm

In robust and short design, for universal use in volume machining, milling, boring, reaming, and thread-milling

- Highest torques, now up to 900 Nm on Ø 20 mm under dry clamping conditions, 520 Nm on oily tool shanks
- Excellent price/performance ratio
- Constant run-out and repeat accuracy < 0.003 mm



HDR

微米精确! 跳动可调液压刀柄HDR型是专业级刀杆, 用于紧公差 of 的镗孔、铰孔或任何需要完美跳动精度的地方。这使得即使最小的同心度误差与工具, 主轴安装, 主轴都可以单独补偿。

- 恒定跳动精度可以调整到0.000毫米, 以获得最佳的形状和位置公差
- 完美减振
- 易于操作, 可精确设置高质量的精密工具

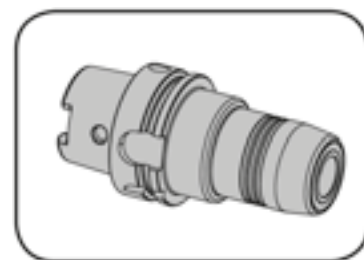
Micron precise! The run-out adjustable hydraulic expansion tool holder Type HDR is the professional tool holder for tight tolerances for boring, reaming or wherever perfect run-out accuracy is a must. This enables even minimal concentricity errors with tools, spindle mounts, and the spindles to be individually compensated.

- Constant run-out accuracy can be adjusted to 0.000 mm for optimal shape and positional tolerances
- Perfect vibration damping
- Easy handling for precise setting of high-quality precision tools

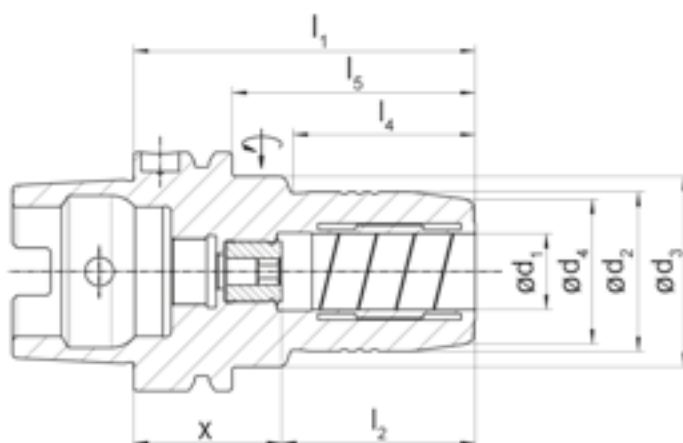
刀柄

System Holder

HDC



轴向长度调整
with axial length adjustment



HSK-A DIN69882-7
HSK-A DIN69882-7

D

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	Mmin	主轴型号 System
HDC.HSKA050.06.070	6	26	40	22	70	37	28	33	44	0,7	16	HSK-A 50
HDC.HSKA050.08.070	8	28	40	24	70	37	28	33	44	0,7	23	HSK-A 50
HDC.HSKA050.10.075	10	30	40	26	75	41	34	34	49	0,7	45	HSK-A 50
HDC.HSKA050.12.085	12	32	40	28	85	46	44	39	49	0,8	90	HSK-A 50
HDC.HSKA050.16.090	16	38	53	34	90	49	30	41	64	1,1	185	HSK-A 50
HDC.HSKA050.20.090	20	42	60	38	90	51	29	39	64	1,1	330	HSK-A 50
HDC.HSKA063.06.070	6	26	50	22	70	37	24	33	44	1,0	16	HSK-A 63
HDC.HSKA063.08.070	8	28	50	24	70	37	25	33	44	1,0	23	HSK-A 63
HDC.HSKA063.10.080	10	30	50	26	80	41	35	39	54	1,1	45	HSK-A 63
HDC.HSKA063.12.085	12	32	50	28	85	46	40	39	59	1,1	90	HSK-A 63
HDC.HSKA063.16.090	16	38	50	34	90	49	46	41	64	1,2	185	HSK-A 63
HDC.HSKA063.20.090	20	42	50	38	90	51	48	39	64	1,3	330	HSK-A 63
HDC.HSKA100.06.075	6	26	50	22	75	37	26	38	46	2,5	16	HSK-A 100
HDC.HSKA100.08.075	8	28	50	24	75	37	26	38	46	2,5	23	HSK-A 100
HDC.HSKA100.10.090	10	30	50	26	90	41	42	49	61	2,5	45	HSK-A 100
HDC.HSKA100.12.095	12	32	50	28	95	46	47	49	66	2,6	90	HSK-A 100
HDC.HSKA100.16.100	16	38	50	34	100	49	53	51	71	2,7	185	HSK-A 100
HDC.HSKA100.20.105	20	42	50	38	105	51	59	54	76	2,8	330	HSK-A 100

进一步的尺寸和版本根据要求

Further sizes and versions upon request

订货须知:

不包含冷却管--请分开订购

Ordering note:

Coolant tube is not included - separate order required!

单位尺寸: mm

Dimensions in mm

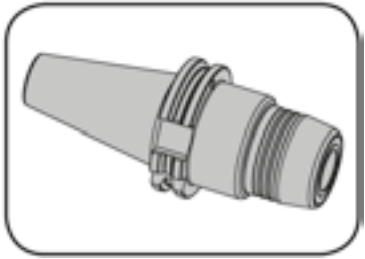
附件

Spare Parts

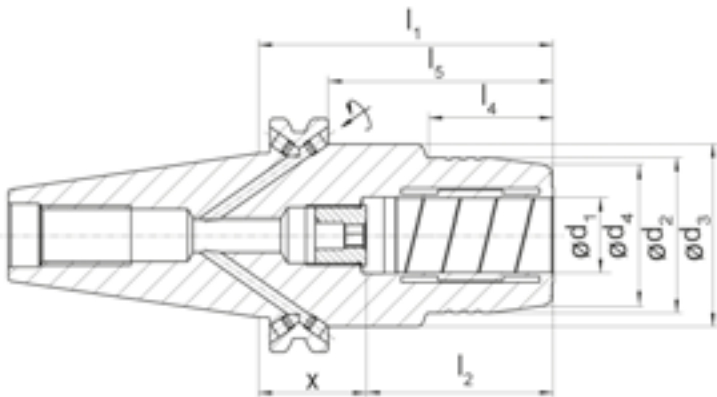
刀柄系统 System Holder	内冷管 Coolant pipe
HDC.HSKA050...	020.5016.1307
HDC.HSKA063...	020.6318.1308
HDC.HSKA100...	020.0024.1310

刀柄
 System Holder

HDC



轴向长度调整
 with axial length adjustment



SK DIN69871 AD/B
 SK DIN69871 AD/B

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	Mmin	主轴型号 System
HDC.SK40.06.080	6	26	49,5	22	80,5	37	29,5	43,5	61,5	1,4	16	SK 40
HDC.SK40.08.080	8	28	49,5	24	80,5	37	30,0	43,5	61,5	1,4	23	SK 40
HDC.SK40.10.080	10	30	49,5	26	80,5	41	31,0	39,5	61,5	1,4	45	SK 40
HDC.SK40.12.080	12	32	49,5	28	80,5	46	31,5	34,5	61,5	1,4	90	SK 40
HDC.SK40.16.080	16	38	49,5	34	80,5	49	33,0	31,5	61,5	1,4	185	SK 40
HDC.SK40.20.080	20	42	49,5	38	80,5	51	34,0	29,5	61,5	1,4	330	SK 40
HDC.SK50.20.080	20	42	49,5	38	80,5	51	34,0	29,5	61,5	3,3	330	SK 50

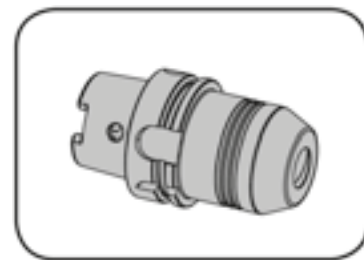
进一步的尺寸和版本根据要求
 Further sizes and versions upon request

单位尺寸: mm
 Dimensions in mm

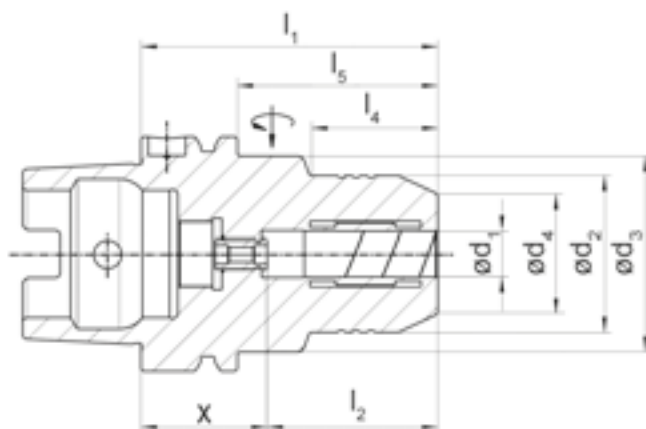
刀柄

System Holder

HDE



轴向长度调整
with axial length adjustment



HSK-A ISO 12164-1
HSK-A ISO 12164-1

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	Mmin	主轴型号 System
HDE.HSKA063.12.080	12	42,0	52,5	32,0	80	46	34	34	54,00	1,25	110	HSK-A 63
HDE.HSKA063.16.080	16	53,0	-	38,0	80	51	-	29	54,00	1,30	350	HSK-A 63
HDE.HSKA063.20.080	20	52,5	-	38,0	80	51	-	29	54,00	1,32	520	HSK-A 63
HDE.HSKA100.20.090	20	52,5	-	38,0	90	51	-	29	54,00	2,80	520	HSK-A 100
HDE.HSKA100.32.100	32	72,0	-	58,5	100	61	-	39	71,05	3,80	900	HSK-A 100

进一步的尺寸和版本根据要求

Further sizes and versions upon request

订货须知:

不包含冷却管--请分开订购

Ordering note:

Coolant tube is not included - separate order required!

单位尺寸: mm

Dimensions in mm

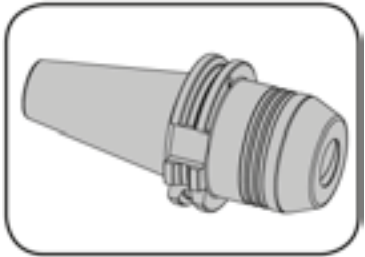
附件

Spare Parts

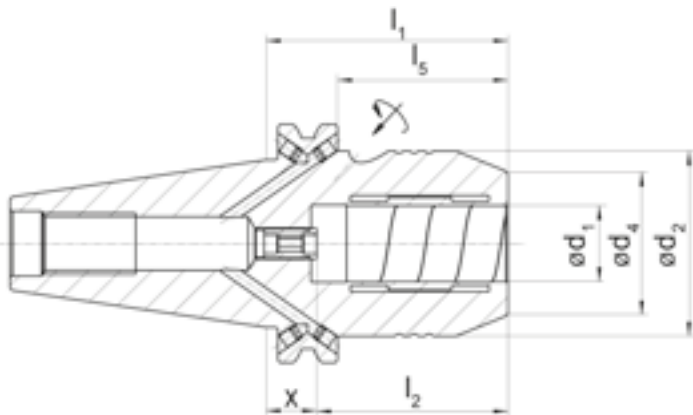
刀柄系统 System Holder	冷却管 Coolant pipe
HDE.HSKA063...	020.6318.1308
HDE.HSKA100...	020.0024.1310

刀柄
 System Holder

HDE



轴向长度调整
 with axial length adjustment



SK DIN69871 AD/B
 SK DIN69871 AD/B

产品型号 Part number	d ₁	d ₂	d ₄	l ₁	l ₂	X	l ₅	重量 Weight	Mmin	主轴型号 System
HDE.SK40.12.050	12	42,00	32,0	50,0	46	4,0	31,00	1,1	110	SK 40
HDE.SK40.16.064	16	49,25	38,0	64,5	51	13,5	45,45	1,2	350	SK 40
HDE.SK40.20.064	20	49,25	38,0	64,5	51	13,5	45,50	1,3	520	SK 40
HDE.SK50.12.050	12	42,00	32,0	50,0	46	4,0	31,00	2,8	110	SK 50
HDE.SK50.20.064	20	49,25	38,0	64,5	51	13,5	45,50	3,1	520	SK 50
HDE.SK50.32.081	32	72,00	58,5	81,0	61	20,0	62,00	4,1	900	SK 50

进一步的尺寸和版本根据要求
 Further sizes and versions upon request

单位尺寸: mm
 Dimensions in mm

可调液压刀柄

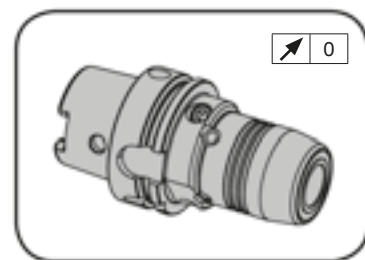
Adjustable Hydraulic Expansion Toolholder



刀柄

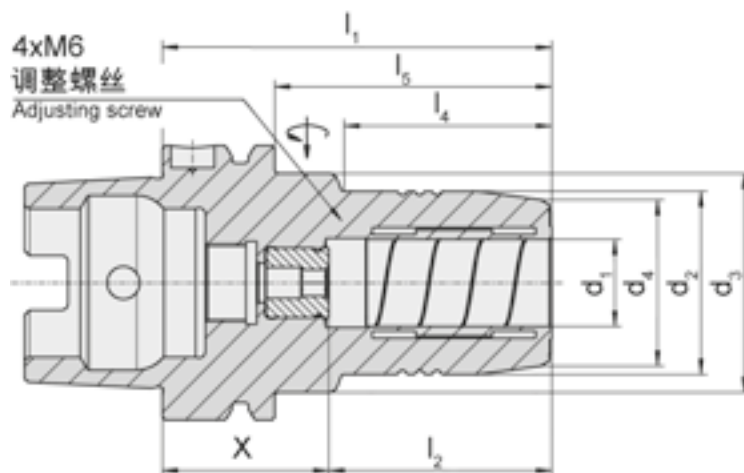
System Holder

HDR



调整跳动,轴向调整,可自动换刀

Adjustable run-out, with axial length adjustment, for automatic tool change



HSK-A DIN69882-7
HSK-A DIN69882-7

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	主轴型号 System
HDR.HSKA040.12.080	12	32	33,5	28	80	46	48	34	60	0,5	HSK-A 40
HDR.HSKA040.20.100	20	42	53,0	38	100	51	47	49	-	1,0	HSK-A 40
HDR.HSKA050.12.085	12	32	40,0	28	85	46	44	39	59	0,8	HSK-A 50
HDR.HSKA063.12.085	12	32	50,0	28	85	46	40	39	59	1,1	HSK-A 63
HDR.HSKA063.20.090	20	42	50,0	38	90	51	48	39	64	1,3	HSK-A 63
HDR.HSKA063.32.125	32	64	75,0	60	125	61	63	64	99	2,7	HSK-A 63
HDR.HSKA100.12.095	12	32	50,0	28	95	46	47	49	66	2,6	HSK-A 100
HDR.HSKA100.20.105	20	42	50,0	38	105	51	59	54	76	2,8	HSK-A 100
HDR.HSKA100.32.110	32	64	75,0	60	110	61	62	49	81	3,8	HSK-A 100

进一步的尺寸和版本根据要求

Further sizes and versions upon request

订货须知:

不包含冷却管--请分开订购

Ordering note:

Coolant tube is not included - separate order required!

单位尺寸: mm

Dimensions in mm

配件

Spare Parts

刀柄系统 System Holder	螺钉 Screw	冷却管 Coolant pipe	TORX PLUS®-扳手 TORX PLUS® Wrench
HDR.HSKA040...	6.075T15P	020.4012.1306	T15PQ
HDR.HSKA050...	6.075T15P	020.5016.1307	T15PQ
HDR.HSKA063...	6.075T15P	020.6318.1308	T15PQ
HDR.HSKA100...	6.075T15P	020.0024.1310	T15PQ

可调液压刀柄

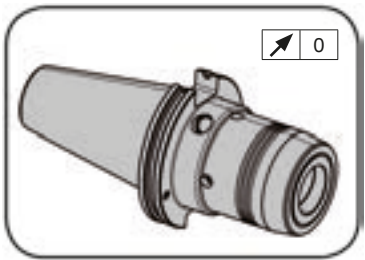
Adjustable Hydraulic Expansion Toolholder



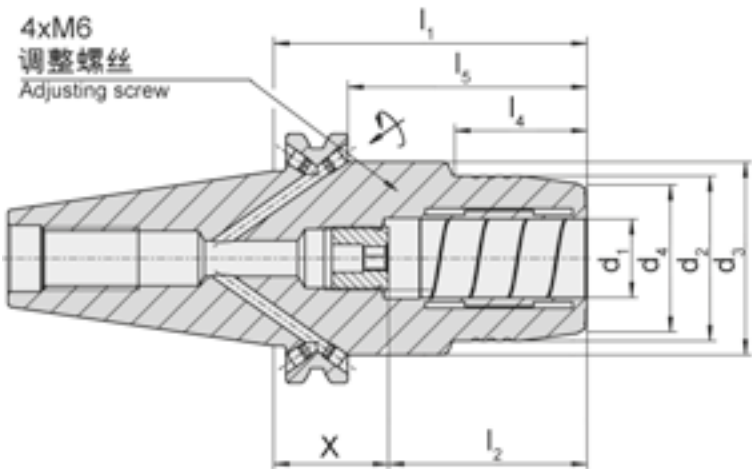
刀柄

System Holder

HDR



调整跳动,轴向调整,可自动换刀
Adjustable run-out, with axial length adjustment, for automatic tool change



SK DIN69871 AD/B
SK DIN69871 AD/B

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	主轴型号 System
HDR.SK40.12.081	12	32	49,5	28,0	80,5	46	31,5	34,5	61,5	1,4	SK 40
HDR.SK40.20.081	20	42	49,5	38,0	80,5	51	34,0	29,5	61,5	1,4	SK 40
HDR.SK40.32.081	32	63	80,0	60,0	80,5	61	25,5	19,5	61,5	2,0	SK 40
HDR.SK50.12.081	12	32	49,5	27,5	80,5	46	40,0	34,5	61,5	-	SK 50
HDR.SK50.20.081	20	42	49,5	38,0	80,5	51	34,0	29,5	61,5	3,3	SK 50
HDR.SK50.32.103	32	64	70,0	60,0	103,2	-	61,0	42,0	81,0	-	SK 50

进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

配件

Spare Parts

刀柄系统 System Holder	螺钉 Screw	TORX PLUS®-扳手 TORX PLUS® Wrench
HDR.SK...	6.075T15P	T15PQ

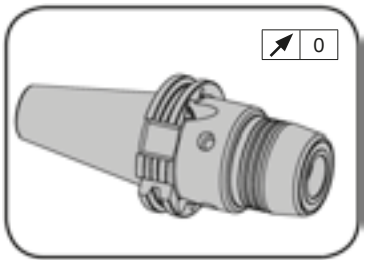
可调液压刀柄

Adjustable Hydraulic Expansion Toolholder

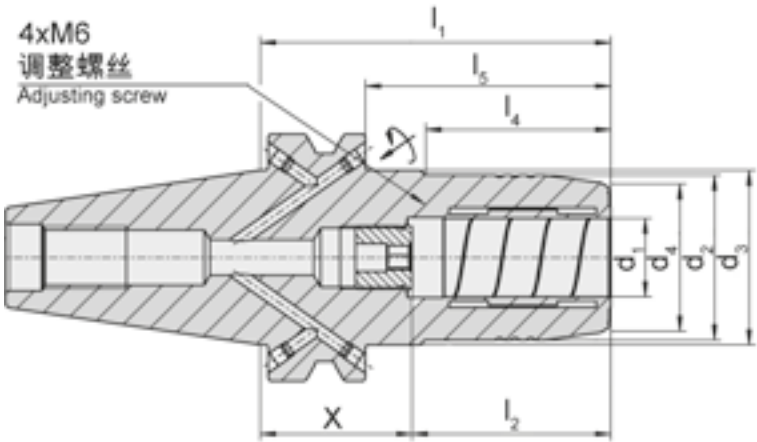


刀柄
System Holder

HDR



调整跳动,轴向调整,可自动换刀
Adjustable run-out, with axial length adjustment, for automatic tool change



JIS-BT JIS B 6339
JIS-BT JIS B 6339

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	l ₅	重量 Weight	主轴型号 System
HDR.BT30.20.090	20	42	44,5	37,5	90	51	47,5	39,0	67	-	JIS-BT 30
HDR.BT40.12.090	12	32	44,5	28,0	90	46	44,5	44,0	63	1,4	JIS-BT 40
HDR.BT40.20.090	20	42	44,5	38,0	90	51	47,5	39,0	63	1,5	JIS-BT 40
HDR.BT50.12.090	12	32	44,5	28,0	90	46	34,0	44,0	52	4,0	JIS-BT 50
HDR.BT50.20.090	20	42	44,5	38,0	90	51	34,0	39,0	52	4,0	JIS-BT 50
HDR.BT50.32.120	32	64	70,5	60,0	120	61	62,5	57,5	82	-	JIS-BT 50

进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

配件
Spare Parts

刀柄系统 System Holder	螺钉 Screw	TORX PLUS®-扳手 TORX PLUS® Wrench
HDR.BT...	6.075T15P	T15PQ

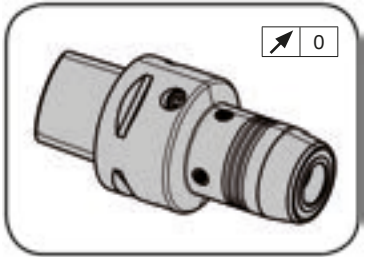
可调液压刀柄

Adjustable Hydraulic Expansion Toolholder

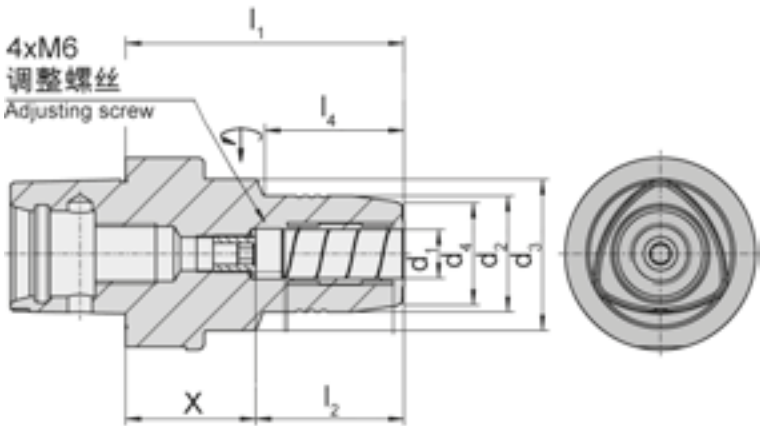


刀柄
System Holder

HDR



调整跳动,轴向调整,可自动换刀
Adjustable run-out, with axial length adjustment, for automatic tool change



HORN-Polygonschaft
根据 ISO 26623
HORN Polygon shank
according to ISO 26623

产品型号 Part number	d ₁	d ₂	d ₃	d ₄	l ₁	l ₂	l ₄	X	主轴型号 System
HDR.C4.12.081	12	32,0	32,0	28	81	46,0	47,0	35,0	C4
HDR.C4.20.095	20	40,0	-	35	95	54,5	-	43,5	C4
HDR.C5.12.085	12	32,0	32,0	28	85	46,0	44,0	39,0	C5
HDR.C5.20.090	20	42,0	42,0	38	90	51,0	52,0	39,0	C5
HDR.C5.32.110	32	62,5	63,0	59	110	61,0	62,5	49,0	C5
HDR.C6.12.087	12	32,0	50,0	28	87	46,0	39,0	41,0	C6
HDR.C6.20.097	20	42,0	42,0	38	97	51,0	55,0	46,0	C6
HDR.C6.32.110	32	62,5	62,5	59	110	61,0	62,0	49,0	C6

进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

配件
Spare Parts

刀柄系统 System Holder	螺钉 Screw	TORX PLUS®-扳手 TORX PLUS® Wrench
HDR.C..	6.075T15P	T15PQ

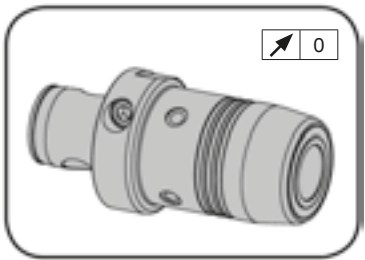
可调液压刀柄

Adjustable Hydraulic Expansion Toolholder

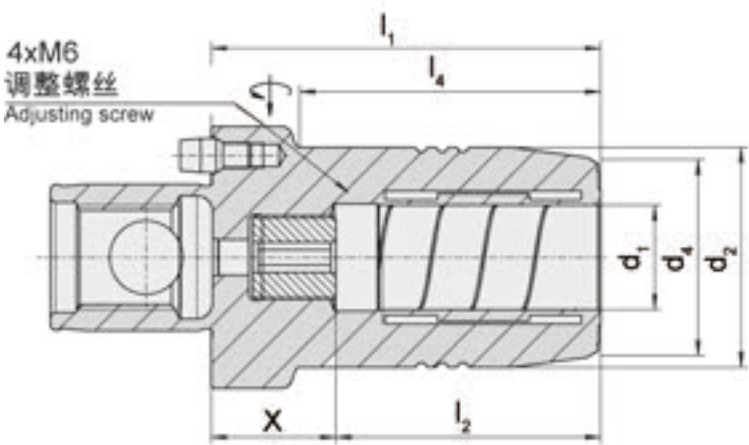


刀柄
System Holder

HDR



调整跳动,轴向调整,可自动换刀
Adjustable run-out, with axial length adjustment, for automatic tool change



ABS H
Beta Modul 匹配
ABS H
Beta Modul compatible

产品型号 Part number	d ₁	d ₂	d ₄	l ₁	l ₂	l ₄	X	重量 Weight	主轴型号 System
HDR.ABS50.12.065	12	32	28	65	46	45,5	19	0,7	ABS-H 50
HDR.ABS50.20.075	20	42	38	75	51	58,0	24	0,9	ABS-H 50

进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

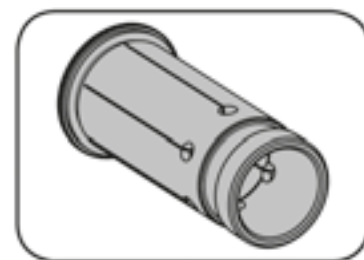
配件
Spare Parts

刀柄系统 System Holder	螺钉 Screw	TORX PLUS®-扳手 TORX PLUS® Wrench
HDR.ABS...	6.075T15P	T15PQ

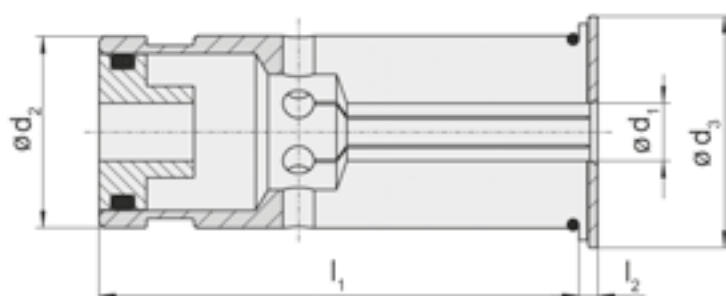
夹套

Intermediate Sleeve

HDZB



内冷夹套
for internal coolant supply



产品型号 Part number	d ₁	d ₂	l ₁	l ₂	d ₃	重量 Weight
HDZB.1203.KD	3	12	45,0	2	16,5	0,1
HDZB.1204.KD	4	12	45,0	2	16,5	0,1
HDZB.1205.KD	5	12	45,0	2	16,5	0,1
HDZB.1206.KD	6	12	45,0	2	16,5	0,1
HDZB.1208.KD	8	12	45,0	2	16,5	0,1
HDZB.2003.KD	3	20	50,5	2	24,0	0,1
HDZB.2004.KD	4	20	50,5	2	24,0	0,1
HDZB.2005.KD	5	20	50,5	2	24,0	0,1
HDZB.2006.KD	6	20	50,5	2	24,0	0,1
HDZB.2007.KD	7	20	50,5	2	24,0	0,1
HDZB.2008.KD	8	20	50,5	2	24,0	0,1
HDZB.2009.KD	9	20	50,5	2	24,0	0,1
HDZB.2010.KD	10	20	50,5	2	24,0	0,1
HDZB.2011.KD	11	20	50,5	2	24,0	0,1
HDZB.2012.KD	12	20	50,5	2	24,0	0,1
HDZB.2013.KD	13	20	50,5	2	24,0	0,1
HDZB.2014.KD	14	20	50,5	2	24,0	0,1
HDZB.2015.KD	15	20	50,5	2	24,0	0,1
HDZB.2016.KD	16	20	50,5	2	24,0	0,1
HDZB.3206.KD	6	32	60,5	3	35,5	0,3
HDZB.3208.KD	8	32	60,5	3	35,5	0,3
HDZB.3210.KD	10	32	60,5	3	35,5	0,3
HDZB.3212.KD	12	32	60,5	3	35,5	0,3
HDZB.3214.KD	14	32	60,5	3	35,5	0,3
HDZB.3216.KD	16	32	60,5	3	35,5	0,3
HDZB.3218.KD	18	32	60,5	3	35,5	0,3
HDZB.3220.KD	20	32	60,5	3	35,5	0,3
HDZB.3225.KD	25	32	60,5	3	35,5	0,3

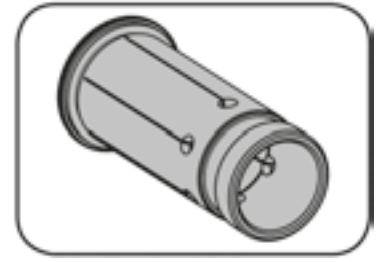
进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

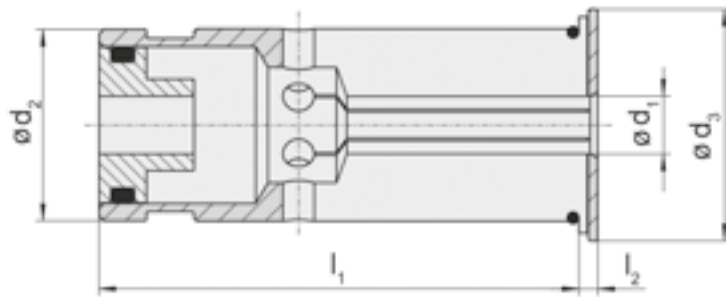
夹套

Intermediate Sleeve

HDZB



外围冷却环--开槽
with peripheral cooling - collar slotted



D

产品型号 Part number	d ₁	d ₂	l ₁	l ₂	d ₃	重量 Weight
HDZB.1203.PK	3	12	45,0	2	16,5	0,1
HDZB.1204.PK	4	12	45,0	2	16,5	0,1
HDZB.1205.PK	5	12	45,0	2	16,5	0,1
HDZB.1206.PK	6	12	45,0	2	16,5	0,1
HDZB.1208.PK	8	12	45,0	2	16,5	0,1
HDZB.2003.PK	3	20	50,5	2	24,0	0,1
HDZB.2004.PK	4	20	50,5	2	24,0	0,1
HDZB.2005.PK	5	20	50,5	2	24,0	0,1
HDZB.2006.PK	6	20	50,5	2	24,0	0,1
HDZB.2007.PK	7	20	50,5	2	24,0	0,1
HDZB.2008.PK	8	20	50,5	2	24,0	0,1
HDZB.2009.PK	9	20	50,5	2	24,0	0,1
HDZB.2010.PK	10	20	50,5	2	24,0	0,1
HDZB.2011.PK	11	20	50,5	2	24,0	0,1
HDZB.2012.PK	12	20	50,5	2	24,0	0,1
HDZB.2013.PK	13	20	50,5	2	24,0	0,1
HDZB.2014.PK	14	20	50,5	2	24,0	0,1
HDZB.2015.PK	15	20	50,5	2	24,0	0,1
HDZB.2016.PK	16	20	50,5	2	24,0	0,1
HDZB.3206.PK	6	32	60,5	3	35,5	0,3
HDZB.3208.PK	8	32	60,5	3	35,5	0,3
HDZB.3210.PK	10	32	60,5	3	35,5	0,3
HDZB.3212.PK	12	32	60,5	3	35,5	0,3
HDZB.3214.PK	14	32	60,5	3	35,5	0,3
HDZB.3216.PK	16	32	60,5	3	35,5	0,3
HDZB.3218.PK	18	32	60,5	3	35,5	0,3
HDZB.3220.PK	20	32	60,5	3	35,5	0,3
HDZB.3225.PK	25	32	60,5	3	35,5	0,3

进一步的尺寸和版本根据要求
Further sizes and versions upon request

单位尺寸: mm
Dimensions in mm

浮动刀柄

Floating holder



浮动刀柄
Floating holder
PZ



页/Page
D26

弹簧夹头
Collet chuck
垫圈
Seal

页/Page
D27

D

PZ



ER筒夹的
浮动刀杆

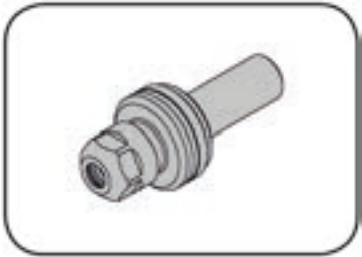
Floating Holder with
Collet Chuck ER

浮动刀柄
Floating holder



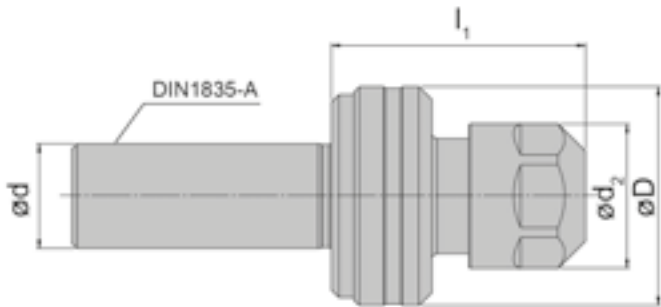
刀柄
Holder

PZ



夹套直径1-10mm
Colleet Diameter 1-10 mm

D

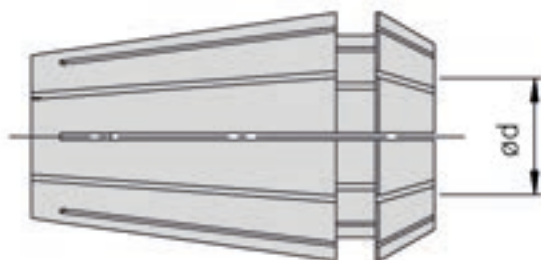


夹持范围 ±1
Oscillation ±1

产品型号 Part number	l_1	d	D	d_2	尺寸 Size
PZ60.16.16.044	44	16	42	28	16
PZ60.16.20.044	44	20	42	28	16

单位尺寸: mm
Dimensions in mm

弹簧夹套
Collet chuck

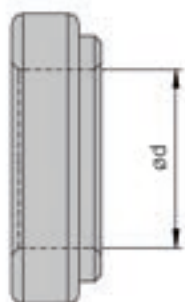


D

产品型号 Part number	d	尺寸 Size
62 16 06	6	16
62 16 08	8	16
62 16 10	10	16

单位尺寸: mm
Dimensions in mm

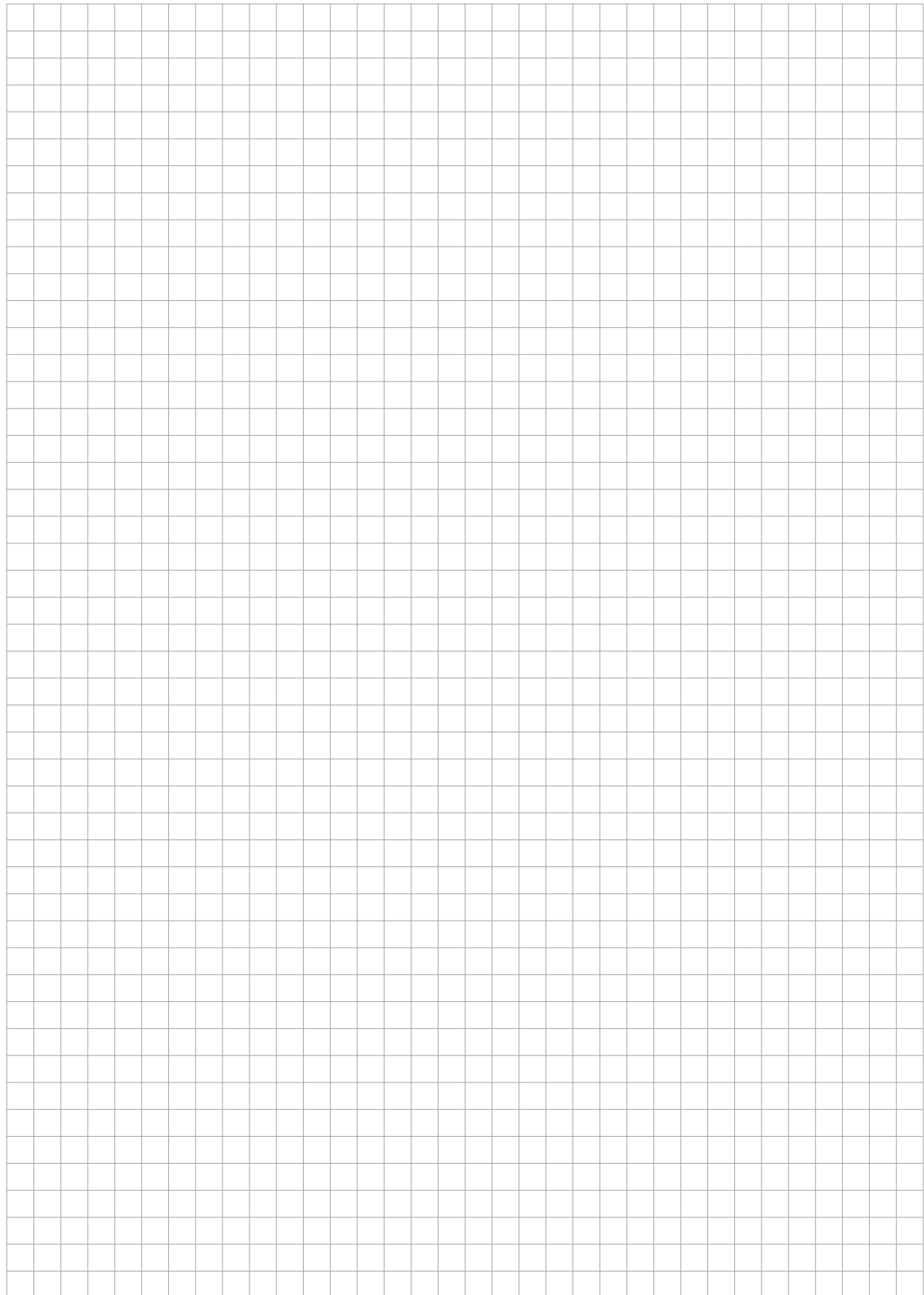
垫片
Sealing disc



产品型号 Part number	d	尺寸 Size
20 10721 060	6	16
20 10721 080	8	16
20 10721 100	10	16

单位尺寸: mm
Dimensions in mm

D





E

摘要/Summary

页/Page

附加设备
Additional Equipment

E2



D 041 VL

0,4-1 Nm



D 15 VL

1-5 Nm



D 28 VL

2-7 Nm

带刻度的扭矩扳手

- 扭矩可调

- 屏幕显示调整扭矩

扭矩无极调节，符合人体工程学的多组件手柄，轻而紧凑的设计，

当达到设定扭矩时单击信号按钮。

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

(精度: $\pm 6\%$)

Torque screw driver with scale

- variable torque setting

- adjusted torque is shown on display

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

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

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

(Precision: $\pm 6\%$)



ED 28 VL

配/ for
D041VL / D15VL / D28VL

设定扭矩的设备

柄部： 醋酸纤维材质，表面为细微结构

刃部： 八角形，硬化处理，镀锌

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface

Blade: Octogonal (8 flats) blade, hardened galvanized



DT6K

DT7K

DT8K

DT9K

DT10K

DT15K

für / for
D041VL / D15VL / D28VL



刀头-Torx螺钉

刀头： 高品质铬钒钢，硬化处理，镀铬

Wiha镀铬刀头保证了最好的精密度。

颜色代码为绿色

用途： 拧紧螺钉到指定扭矩，和Wiha扭矩扳手刀柄组合。

Blade for Torx screws

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

Wiha Chrome Blade guarantees maximum precision.

Colored code dark green

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



D515QL
5-15 Nm

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

Torque screw driver with scale

- variable torque setting

- adjusted torque is shown on display

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

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

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

(Precision: $\pm 6\%$)



ED515QL

配 / for
D515QL

扭矩调整扳手

柄部: 纤维素乙酸酯微观结构表面

刃部: 8角形状, 经过硬化处理, 镀铬.

Device for setting the required torque.

Handle: Celluloseacetat with micro structured surface

Blade: Octogonal (8 flats) blade, hardened galvanized



DT15Q
DT20Q
DT30Q

配 / for
D515QL

扳手刀头配 TORX PLUS® 螺钉

刀头: 高品质铬钒钢, 经过硬化处理, 镀铬。

Wiha镀铬刀片保证了最好的精密度。

使用深绿色代码

应用: 使用给定的扭紧扭矩, 结合一个Wiha扭矩扳手。

Blade for TORX screws

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

Wiha Chrome Blade guarantees maximum precision.

Colored code dark green

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



筒夹取出器
取出中间筒夹的分离工具
外径尺寸d₁从 Ø12 mm 至 Ø32 mm
(HDZB.12... bis HDZB.32...)

Sleeve Remover
Disassembly tool for intermediate sleeves
outer diameter d₁ from Ø12 mm to Ø32 mm
(HDZB.12... to HDZB.32...)

HDZBZ

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