

车槽 • 切断 • 铣槽 • 插削 • 仿形铣削 • 钻孔 • 铰削



铣削系统 Milling Systems

2020



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



HORN 全新样本 – 以高效作为标杆

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

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

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

Lothar Horn
首席执行官
Paul Horn GmbH

Markus Horn
首席执行官
Paul Horn GmbH

New catalogues from HORN - benchmarks for productivity

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

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

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

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

Lothar Horn, CEO
Paul Horn GmbH

Markus Horn, GmbH
Paul Horn GmbH

A	"DC"系列 槽铣削和螺纹铣削 System DC Groove Milling and Thread Milling Cutter	
B	槽铣削 Groove Milling	M306 / M308 / M311 / M116 M313 / M328 / M332 / M335
C	槽铣削 Groove Milling	M275
D	槽铣削 Groove Milling	380 / 381
E	槽铣削 Slot Milling	M101
F	槽铣削 Groove and Slot Milling	382 / 383 / M310
G	螺纹铣削 Thread Milling	M275 / M306 / M308 / M310 M311 / M313 / SM328 / 380
H	齿轮铣削 Gear Milling	
I	T型槽铣削 Milling of T-Slots	M311 / M313 / M328 M406 / M409
J	技术信息 槽铣削 (圆弧插补铣削) Technical Instructions Groove Milling (by Circular Interpolation)	
K	多边形铣削 Polygon Milling	M275 / 381
L	螺纹旋风铣, 模块化螺纹旋风铣, HORN TurboWhirling® 旋风铣 Thread Whirling, Modular Thread Whirling, HORN Turbowhirling®	
M	System DA / DAH 插铣和高进给铣削 System DA / DAH Plunge and High Feed Milling	

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，组建工作网络，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.

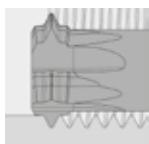
N 立装铣削
Tangential Milling

M406 / M409

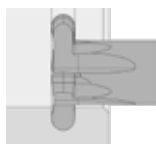
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O 附加设备
Additional Equipment

O



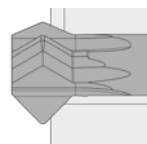
螺纹铣削
Thread milling



槽铣削 圆头
Groove milling Full radius



槽铣削
Groove milling



倒角铣削
Chamfer milling

**整体硬质合金
螺纹铣刀**
Thread milling cutter solid
carbide
DCG

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A3-A8

整体硬质合金槽铣刀
Groove milling cutter solid
carbide
DCR/DCN/DCX

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A9-A11

整体硬质合金倒角刀
Chamfering endmill solid
carbide
DCF

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技术信息
Technical instructions

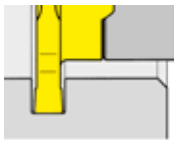
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A13-A19

槽铣削

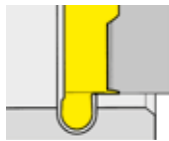
Groove Milling



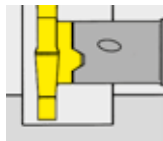
B



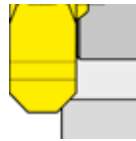
槽铣削
Groove milling



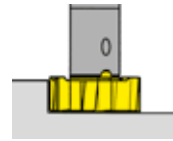
圆头
Full radius



孔铣削
Bore milling



孔铣削
和 倒角
Bore milling
and Chamfering



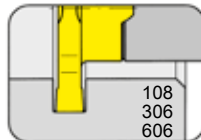
面铣削
Face milling



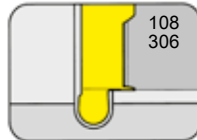
槽铣削
Slot milling

M306

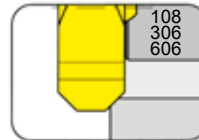
$D_s \geq \emptyset 9,4/9,6/11,7$ mm
铣刀杆 B4-B10
Milling shank



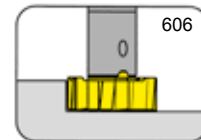
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B11-B13, B16-23, B26-27



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B14, B24



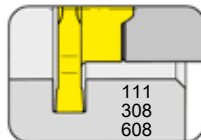
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B15, B25, B28-B30



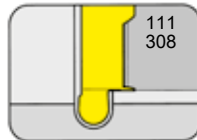
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B29

M308

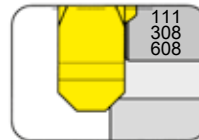
$D_s \geq \emptyset 13,4/15,7$ mm
铣刀杆 B34-B39
Milling shank



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B40-B42, B45-B48, B51



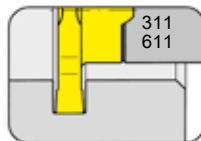
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B43, B49



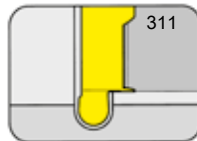
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B44, B50, B52

M311

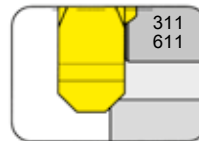
$D_s \geq \emptyset (15,0)/17,7$ mm
铣刀杆 B56-B65
Milling shank



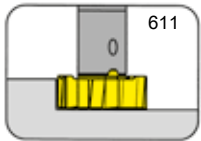
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B66-B69, B72-B73



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B70



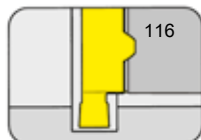
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B71, B75



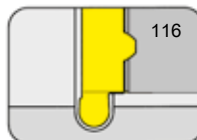
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B74

M116

$D_s \geq \emptyset 20,4$ mm
铣刀杆 B78
Milling shank



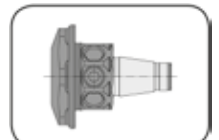
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B79-B80



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B81

WFB

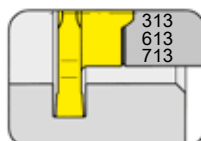
常规刀座 用于
Basic holder for
306,308,311,313,328,332



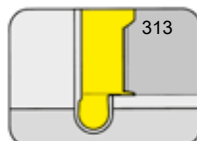
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B9, B38, B64, B91, B121, B140

M313

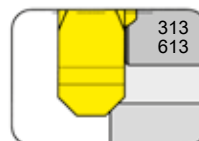
$D_s \geq \emptyset 21,7$ mm
铣刀杆 B84-B92
Milling shank



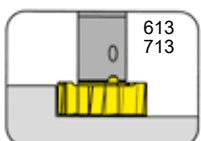
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B93-B101, B104-B105
B110



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B102



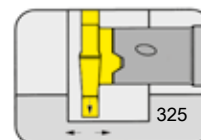
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B103, B108, B109



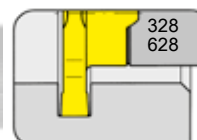
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B106-B107, B111

M328

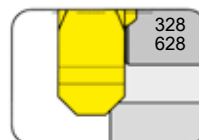
$D_s \geq \emptyset 24,8/27,7/28,0$ mm
铣刀杆 B114-B122
Milling shank



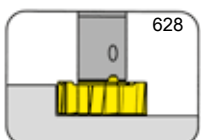
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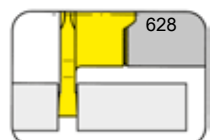
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B124-B127, B129-B130



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B128, B133



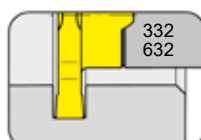
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B132



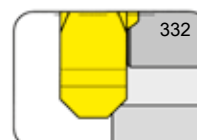
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B131

M332

$D_s \geq \emptyset 31,7/35,7$ mm
铣刀杆 B136-B141
Milling shank



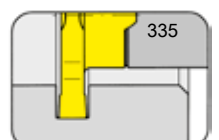
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B142-B143, B145-B149



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B144

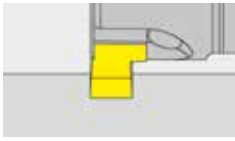
M335

$D_s \geq \emptyset 34,7$ mm
铣刀杆 B152
Milling shank

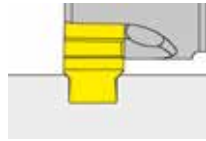


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B153

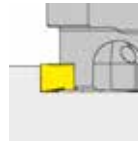
槽铣削 Groove Milling



槽铣削
Groove milling

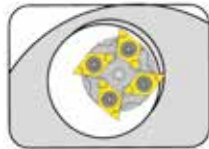


卡簧槽
Circlip grooves



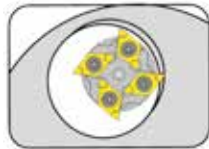
面铣削
Face milling

铣刀杆
Milling shank
M275



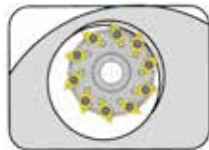
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C3

螺纹锁紧型铣刀
Screw-in cutter
M275



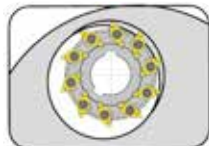
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C4

配合刀柄式铣刀
Arbor Mounted Cutter
M275



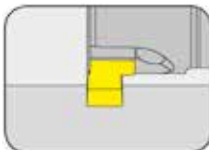
页/Page
C5

盘铣刀
Disc milling cutter
M275

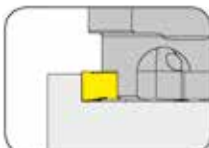


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C6

可转位刀片
Indexable insert
S275/RS275



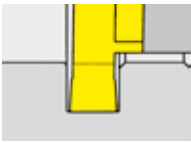
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C7-C9



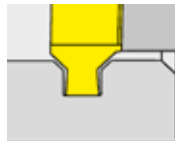
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C10

槽铣削

Groove Milling

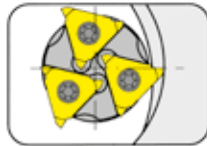


槽铣削
Groove milling



卡簧槽
Circlip grooves

铣刀杆
Milling shank
380



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D3

配合刀柄式铣刀
Arbor Mounted Cutter
380



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D4-D7

整体式铣刀
Mono Milling Cutter
HSK 380/ABS 380



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D8



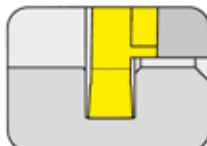
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D9

盘铣刀
Disc milling cutter
381

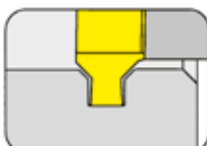


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D10

可转位刀片
Indexable insert
314

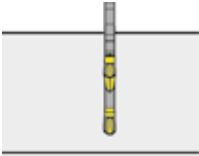


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D11,D13

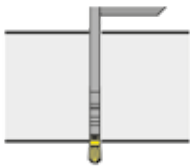


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D12

槽铣削
Slot Milling



槽铣削
Slot milling

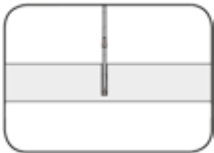


槽铣削
Slot milling

盘铣刀
Disc milling cutter
M101

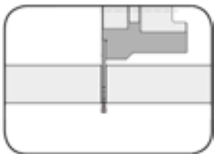


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E3



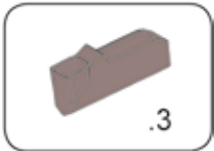
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E4-E5

配合刀柄式铣刀
Arbor Mounted Cutter
M101

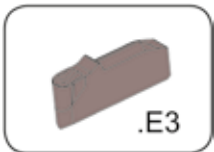


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E6-E7

刀片
Insert
S101



页/Page
E8



页/Page
E9--E10

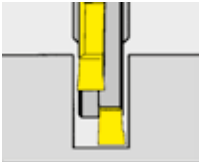
技术信息
Technical Instructions

页/Page
E11-E12

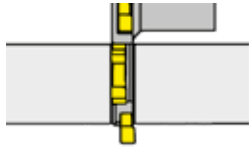
E

槽铣削

Groove Milling and Slot Milling

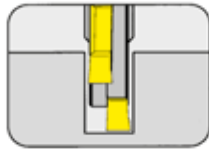


槽铣削
Groove milling



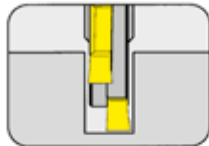
槽铣削
Slot milling

盘铣刀
Disc milling cutter
382



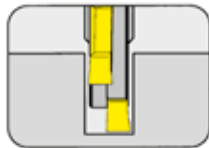
页/Page
F4-F5

配合刀柄式铣刀
Arbor Mounted Cutter
383

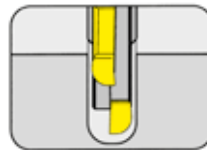


页/Page
F6-F7

可转位刀片
Indexable insert
314

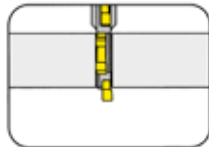


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F8



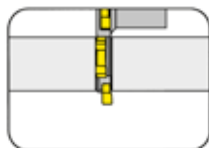
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F9

盘铣刀
Disc milling cutter
M310



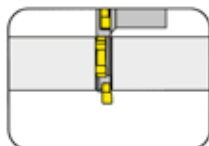
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F12-F13

螺纹锁紧型铣刀
Screw-in cutter
M310



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F14

配合刀柄式铣刀
Arbor Mounted Cutter
M310

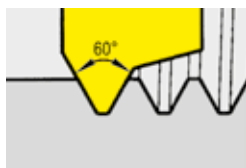


页/Page
F15-F16

可转位刀片
Indexable insert
S310



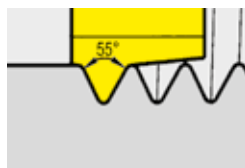
页/Page
F17



非全牙型
Partial profile



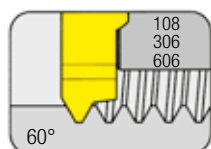
全牙型
Full profile



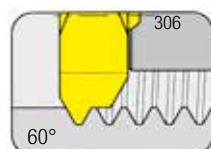
全牙型
Full profile

M306

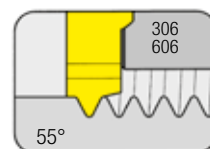
Ds Ø 9,6/9,7/11,7 mm
铣刀杆 G4
Milling shank



非全牙型/Partial profile
页 / Page G6-G7, G10



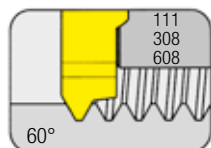
全牙型/Full profile
页 / Page G8



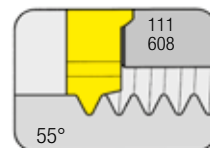
全牙型/Full profile
页 / Page G9, G11

M308

Ds Ø 13,4/15,7 mm
铣刀杆 G14
Milling shank



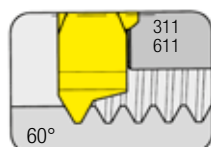
非全牙型/Partial profile
页 / Page G16, G18-G19



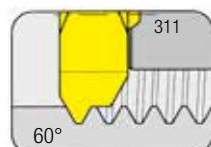
全牙型/Full profile
页 / Page G17, G20

M311

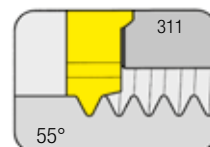
Ds Ø 17,7 mm
铣刀杆 G24
Milling shank



非全牙型/Partial profile
页 / Page G26, G29



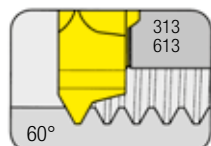
全牙型/Full profile
页 / Page G27



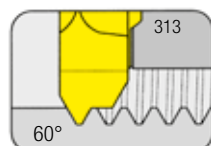
全牙型/Full profile
页 / Page G28

M313

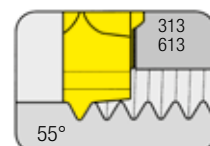
Ds Ø 21,7 mm
铣刀杆 G32-G33
Milling shank



非全牙型/Partial profile
页 / Page G35, G38



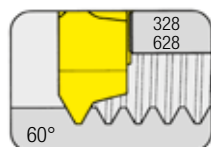
全牙型/Full profile
页 / Page G36



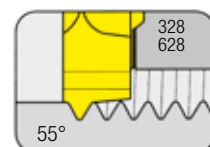
全牙型/Full profile
页 / Page G37, G39

M328/SM328

Ds Ø 27,7 mm
铣刀杆 G42-G44
Milling shank



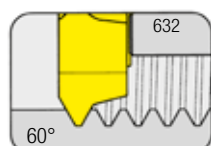
非全牙型/Partial profile
页 / Page G46, G48



全牙型/Full profile
页 / Page G47, G49

M332

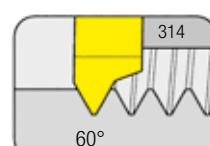
Ds Ø 31,7 mm
铣刀杆 G52
Milling shank



非全牙型/Partial profile
页 / Page G54

380

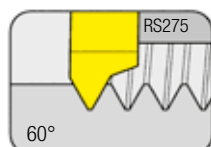
Ds Ø 44 mm
铣刀杆 G64
Milling shank



非全牙型/Partial profile
页 / Page G67

M275

Ds Ø 31/38/48/58 mm
铣刀杆 G58-G59
Milling shank



非全牙型/Partial profile
页 / Page G61

380

Ds Ø 63 mm
配合刀柄式铣刀 G65
Arbor Mounted Cutter





齿轮铣削
Gear milling



拉齿
Gear broaching



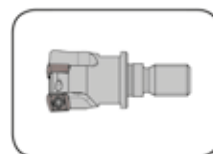
蜗轮
Worm shafts

刀片
Insert
613/628/632/635



页/Page
H6-H10

螺纹锁紧型铣刀
Screw-in cutter
DAH25



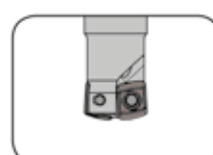
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H40

配合刀柄式铣刀
Arbor Mounted Cutter
M279



页/Page
H14

铣刀杆
Milling shank
DAH25



页/Page
H41-H42

刀片
Insert
RS279



页/Page
H15-H16

可转位刀片
Indexable insert
DAH25

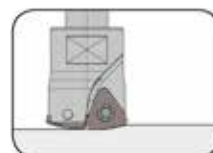


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立铣刀
End Mill
DSDS

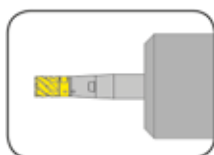
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H20

螺纹锁紧型铣刀
Screw-in cutter
DAH37



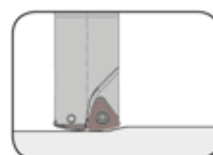
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H48

铣刀杆
Milling shank
MDG



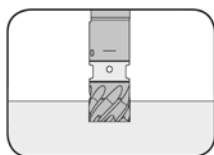
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H24-H27

铣刀杆
Milling shank
DAH37



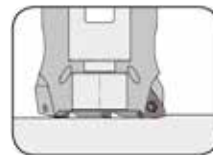
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H49

刀片
Cutter Head
DGF/DGR/DGFF/DGH/
DGK/DGM/DGRR/DGV



页/Page
H28-H35

配合刀柄式铣刀
Arbor Mounted Cutter
DAH37



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H50

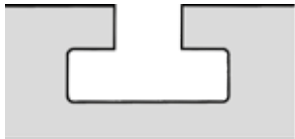
可转位刀片
Indexable insert
DAH37



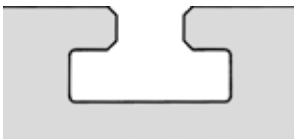
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T型槽铣削

Milling of T-Slots

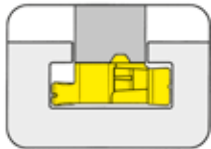


T型槽
T-Slot



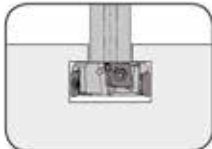
倒角
Chamfering

铣刀杆
Milling shank
M311



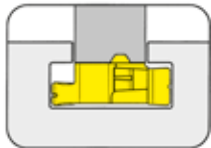
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I4

铣刀杆
Milling shank
M406



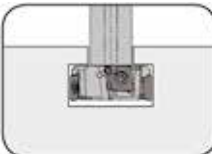
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I20

刀片
Insert
311



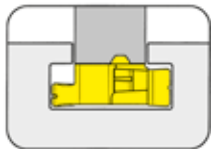
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I5-I6

铣刀杆
Milling Shank
M409



页/Page
I21

铣刀杆
Milling shank
M313



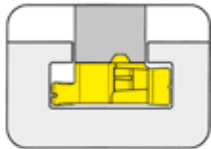
页/Page
I10

可转位刀片
Indexable insert
406/409



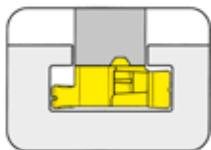
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刀片
Insert
313



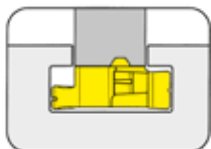
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铣刀杆
Milling shank
M328

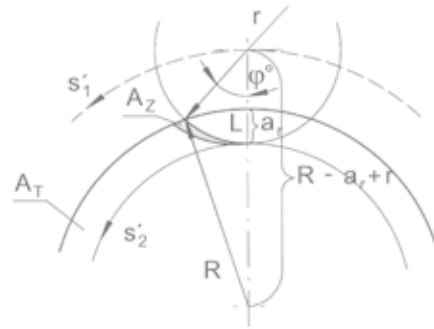


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I14

刀片
Insert
328



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I15



技术信息
Technical Information

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硬质合金牌号的选择
Choice of the carbide grades

页 /Page J8

计算公式
Formulas

页 /Page J9-J10

螺钉扭矩
Torque of screws

页 /Page J11-J12

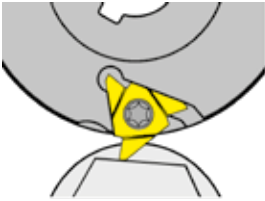
可选择的铣刀杆
Available milling shanks

页 /Page J13-J15

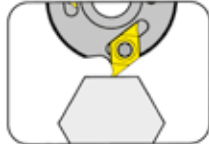
切削参数
Cutting data

页 /Page J16-J17

多边形铣削 Polygon Milling

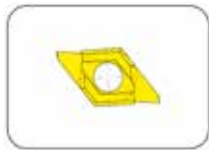


多边形铣刀
Cutter
M275



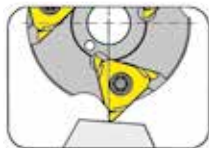
页/Page
K4-K5

可转位刀片
Indexable insert
S275

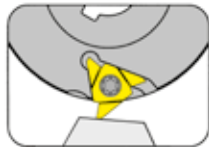


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多边形铣刀
Cutter
381



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K11, K13-K14, K20

可转位刀片
Indexable insert
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技术信息
Technical Information

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螺纹旋风铣, 模块化螺纹旋风铣, HORN TurboWhirling® 旋风铣



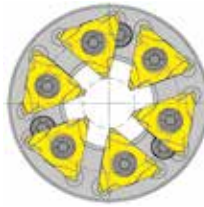
Thread Whirling, Modular Thread Whirling, HORN Turbowhirling®

螺纹旋风铣 Thread Whirling

旋风铣刀座
Whirling Head
Ds ≥ Ø 10 mm



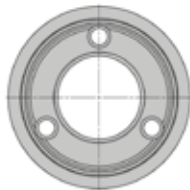
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页 / Page L6

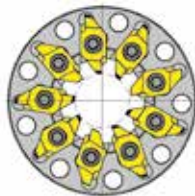
模块化螺纹旋风铣 Modular Thread Whirling

常规刀柄
Basic Holder



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环状刀夹
Ring Cassettes



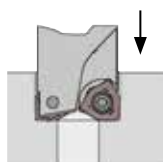
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HORN TurboWhirling® 旋风铣 HORN Turbowhirling®

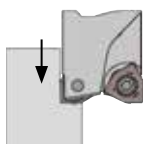
页 / Page L14-L17

插铣和高进给铣削 DA/DAH

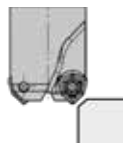
Plunge and High Feed Milling DA / DAH



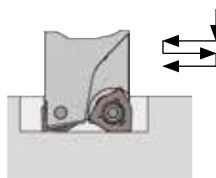
预钻
Pre-drilling



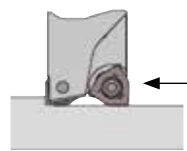
插铣削
Plunge milling



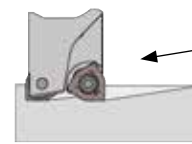
倒角铣削
Chamfer milling



型腔铣削
Pocket milling

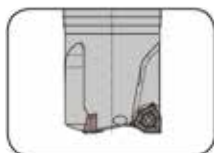


面铣削
Face milling



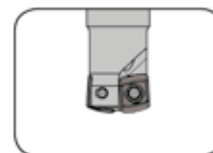
坡走铣
Ramping

铣刀杆
Milling shank
DAM31/DAM62



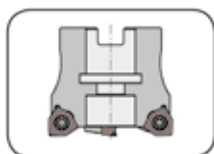
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M4-M8

铣刀杆
Milling shank
DAH25



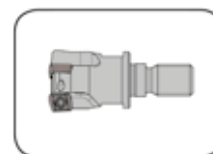
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M28-M29

配合刀柄式铣刀
Arbor Mounted Cutter
DAM32/DAM62



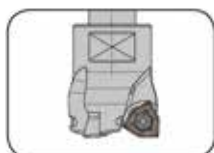
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螺纹锁紧型铣刀
Screw-in cutter
DAH25/DAH37



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M30, M35

螺纹锁紧型铣刀
Screw-in cutter
DAM31/DAM62



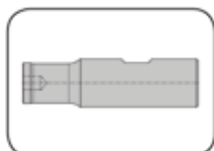
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M11-M13

可转位刀片
Indexable insert
DAH25/DAH62/
DAH37



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M31, M42

刀柄
Adaptor
MD

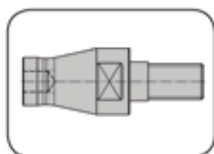


页/Page
M14-M15



页/Page
M37

变径
Reducer
MD

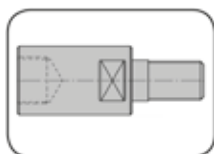


页/Page
M16



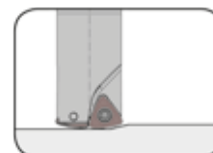
页/Page
M38

加长
Extension
MD



页/Page
M17

铣刀杆
Milling Shank
DAH37



页/Page
M34

可转位刀片
Indexable insert
DA31/DA32/DA62/
SDA62



页/Page
M18-M22

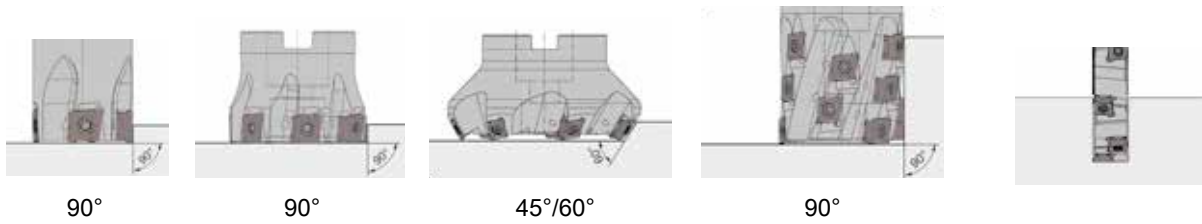
配合刀柄式铣刀
Arbor Mounted Cutter
DAH37/DAH62



页/Page
M36, M41

立装铣削

Tangential Milling



铣刀杆
Milling shank
M406



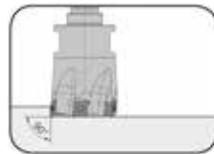
页/Page
N4-N6

盘铣刀
Disc milling cutter
M406



页/Page
N8

螺纹锁紧型铣刀
Screw-in cutter
M406



页/Page
N7

可转位刀片
Indexable insert
406



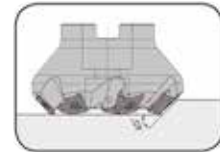
页/Page
N9

铣刀杆
Milling shank
M409

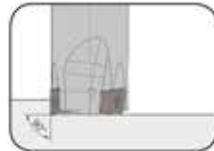


页/Page
N12, N14

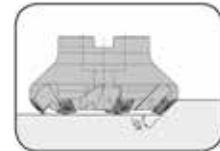
面铣
Face Mill
M409



页/Page
N19, N21

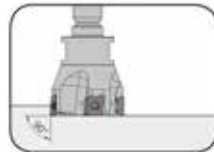


页/Page
N13, N15



页/Page
N20, N22

螺纹锁紧型铣刀
Screw-in cutter
M409



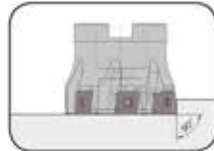
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N16

玉米铣
Shell End Mill
M409



页/Page
N23

方肩铣
Shoulder Mill
M409



页/Page
N17

盘铣刀
Disc milling cutter
M409



页/Page
N24

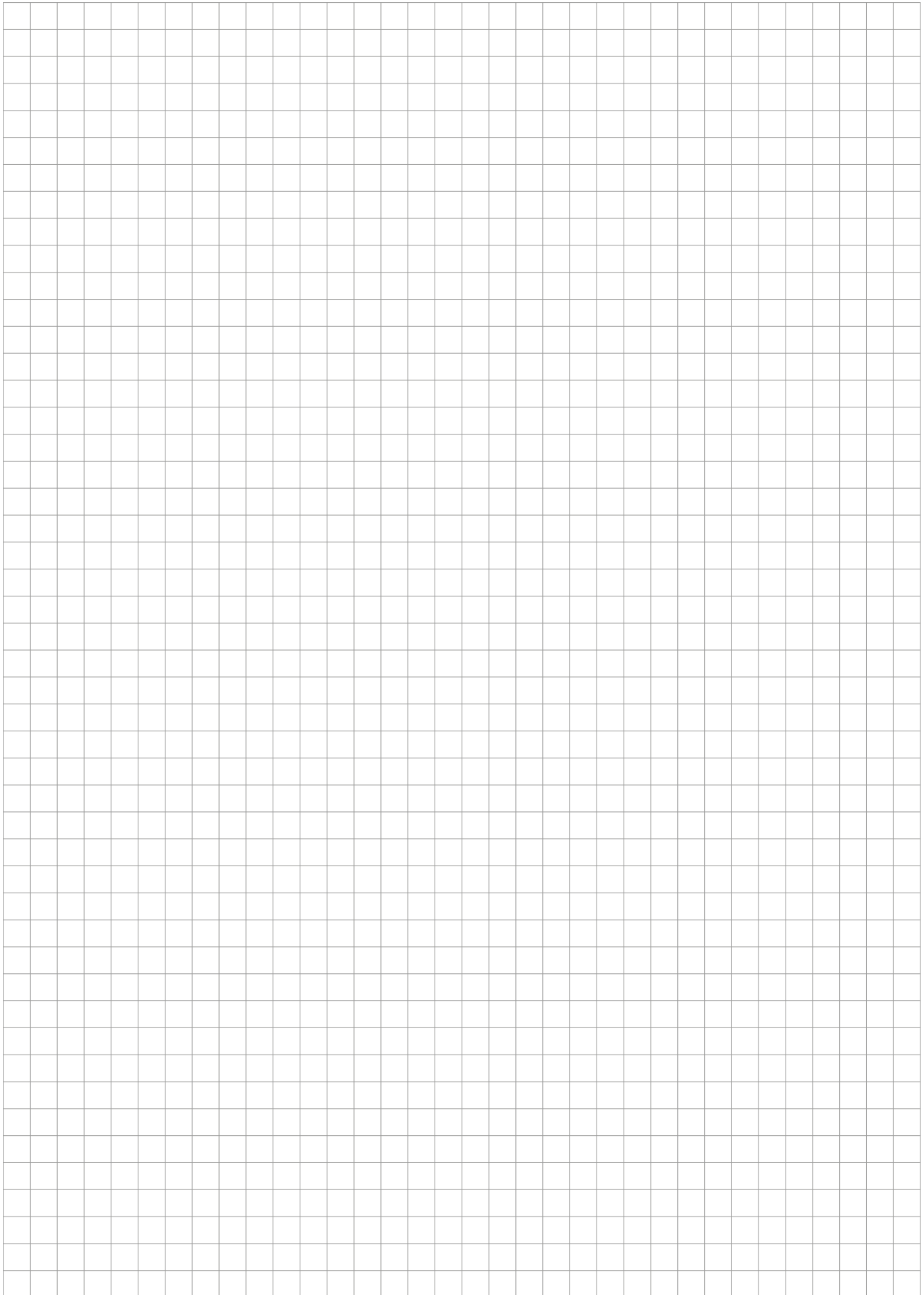


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N18

可转位刀片
Indexable insert
409



页/Page
N25



DC



整体硬质合金立铣刀 系统 DC

- 非全牙型螺纹铣削
- 全牙型螺纹铣削
- 槽铣削
- 倒角铣削

Solid Carbide End Mills System DC

- Thread milling partial profile
- Thread milling full profile
- Groove milling
- Chamfer milling

整体硬质合金螺纹铣刀

Thread milling cutter solid carbide

DCG

页/Page
A3-A8

整体硬质合金槽铣刀

Groove milling cutter solid carbide

DCR/DCN/DCX

页/Page
A9-A11

整体硬质合金倒角刀

Chamfering endmill solid carbide

DCF

页/Page
A12

ISO米制螺纹DIN13-20，非全牙型

Metric ISO-thread DIN13-20 Partial profile



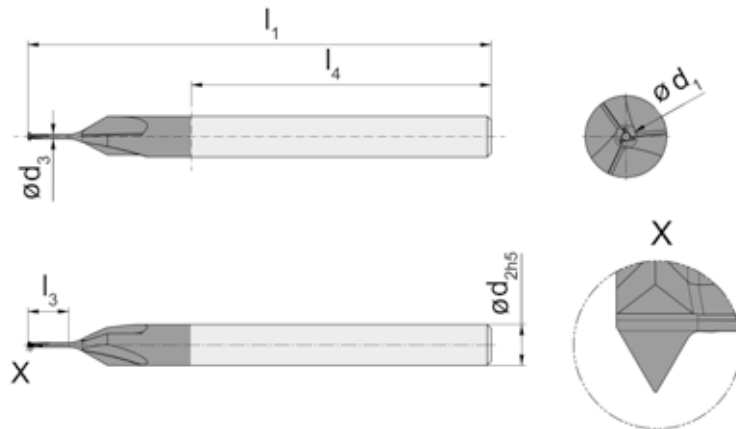
A

整体硬质合金螺纹铣刀

Thread milling cutter solid carbide

DCG

螺纹	Thread	M1-M2,5



适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	MC15
DCG.3.M1.025.2.1.03	M1	0.75	3	0.25	0.70	3	0.33	34	2.50	22	▲
DCG.3.M11.025.2.1.03	M1,1	0.80	3	0.25	0.75	3	0.40	34	2.75	22	▲
DCG.3.M12.025.2.1.03	M1,2	0.90	3	0.25	0.80	3	0.43	34	3.00	22	▲
DCG.3.M14.030.2.1.03	M1,4	1.10	3	0.30	1.00	3	0.43	34	3.50	22	▲
DCG.3.M16.035.2.1.03	M1,6	1.20	3	0.35	1.10	3	0.53	34	4.00	22	▲
DCG.3.M18.035.2.1.03	M1,8	1.50	3	0.35	1.30	3	0.73	34	4.00	22	▲
DCG.3.M2.040.2.1.03	M2	1.70	3	0.40	1.50	3	0.93	34	6.00	22	▲
DCG.3.M22.045.2.1.03	M2,2	1.90	3	0.45	1.70	3	1.13	34	6.00	22	▲
DCG.3.M25.045.2.1.03	M2,5	2.20	3	0.45	2.00	3	1.30	34	8.00	22	▲

▲ 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

整体硬质合金螺纹铣刀

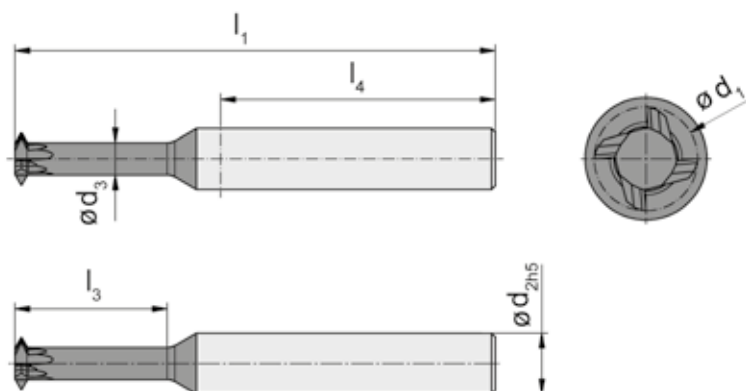
Thread milling cutter solid carbide

DCG

螺纹

Thread

M3-M12



适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	P _{max}	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AN25
DCG.3.M3.025.2.1.04	M3	2,4	3	0,25	0,25	2,0	4	1,45	39	8	22	▲
DCG.3.M3.035.2.1.04	M3	2,4	3	0,35	0,35	2,0	4	1,35	39	8	22	▲
DCG.3.M3.050.2.1.04	M3	2,4	3	0,50	0,50	2,0	4	1,20	39	8	22	▲
DCG.3.M3.050.2.1.04	M3,5	2,7	3	0,50	0,60	2,3	4	1,35	39	8	22	▲
DCG.3.M4.070.3.1.06	M4	3,3	3	0,70	0,75	2,8	6	1,70	50	10	36	▲
DCG.3.M5.050.3.1.06	M5	4,2	3	0,50	0,75	3,6	6	2,50	50	10	36	▲
DCG.3.M5.080.3.1.06	M5	4,2	3	0,80	1,00	3,6	6	2,20	50	10	36	▲
DCG.4.M6.100.3.1.06	M6	5,0	4	1,00	1,25	4,3	6	2,40	63	10	40	▲
DCG.4.M6.100.5.1.06	M6	5,0	4	1,00	1,25	4,3	6	2,40	63	16	40	▲
DCG.4.M8.075.5.1.08	M8-M10	6,5	4	0,75	1,00	5,5	8	3,85	63	16	40	▲
DCG.4.M8.075.6.1.08	M8-M10	6,5	4	0,75	1,00	5,5	8	3,85	63	20	36	▲
DCG.4.M8.075.7.1.08	M8-M10	6,5	4	0,75	1,00	5,5	8	3,85	77	25	40	▲
DCG.4.M8.125.6.1.08	M8-M10	6,5	4	1,25	1,50	5,5	8	3,40	63	20	36	▲
DCG.4.M8.125.8.1.08	M8-M10	6,5	4	1,25	1,50	5,5	8	3,40	77	30	40	▲
DCG.4.M10.150.6.1.08	M10-M12	8,0	4	1,50	1,75	6,8	8	4,10	63	20	36	▲
DCG.4.M10.150.8.1.08	M10-M12	8,0	4	1,50	1,75	6,8	8	4,10	77	30	40	▲

▲ 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

整体硬质合金螺纹铣刀

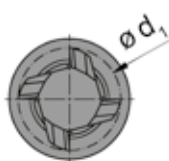
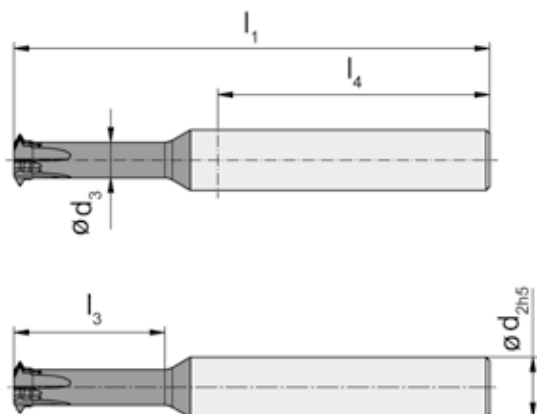
Thread milling cutter solid carbide

DCG

螺纹

Thread

M3-M12



适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AN25
DCG.3.M3.035.2.2.04	M3	2,4	3	0,35	2,0	4	1,40	39	8	22	▲
DCG.3.M3.050.2.2.04	M3	2,4	3	0,50	2,0	4	1,25	39	8	22	▲
DCG.3.M3.060.2.2.04	M3,5	2,7	3	0,60	2,3	4	1,80	39	9	22	▲
DCG.3.M4.050.3.2.06	M4	3,3	3	0,50	2,8	6	2,50	50	10	36	▲
DCG.3.M4.070.3.2.06	M4	3,3	3	0,70	2,8	6	1,90	50	10	36	▲
DCG.3.M5.050.3.2.06	M5	4,2	3	0,50	3,6	6	2,85	50	10	36	▲
DCG.3.M5.080.3.2.06	M5	4,2	3	0,80	3,6	6	2,50	50	10	36	▲
DCG.4.M6.075.5.2.06	M6	5,0	4	0,75	4,2	6	3,10	63	16	40	▲
DCG.4.M6.100.5.2.06	M6	5,0	4	1,00	4,2	6	2,80	63	16	40	▲
DCG.4.M8.075.5.2.08	M8	6,5	4	0,75	5,5	8	4,30	63	16	40	▲
DCG.4.M8.100.5.2.08	M8	6,5	4	1,00	5,5	8	4,00	63	16	40	▲
DCG.4.M8.125.5.2.08	M8	6,5	4	1,25	5,5	8	3,70	63	16	40	▲
DCG.4.M10.075.6.2.08	M10	8,0	4	0,75	6,8	8	5,60	63	20	36	▲
DCG.4.M10.100.6.2.08	M10	8,0	4	1,00	6,8	8	5,40	63	20	36	▲
DCG.4.M10.100.7.2.08	M10	8,0	4	1,00	6,8	8	5,40	77	25	40	▲
DCG.4.M10.150.3.2.08	M10	8,0	4	1,50	6,8	8	4,70	63	12	40	▲
DCG.4.M10.150.6.2.08	M10	8,0	4	1,50	6,8	8	4,70	63	20	36	▲
DCG.4.M12.100.6.2.10	M12	10,0	4	1,00	8,0	10	6,30	63	20	36	▲
DCG.4.M12.125.8.2.10	M12	10,0	4	1,25	8,0	10	6,10	77	30	40	▲
DCG.4.M12.175.6.2.10	M12	10,0	4	1,75	8,0	10	5,50	63	20	36	▲
DCG.4.M12.175.8.2.10	M12	10,0	4	1,75	8,0	10	5,50	77	30	40	▲

▲ 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

整体硬质合金螺纹铣刀

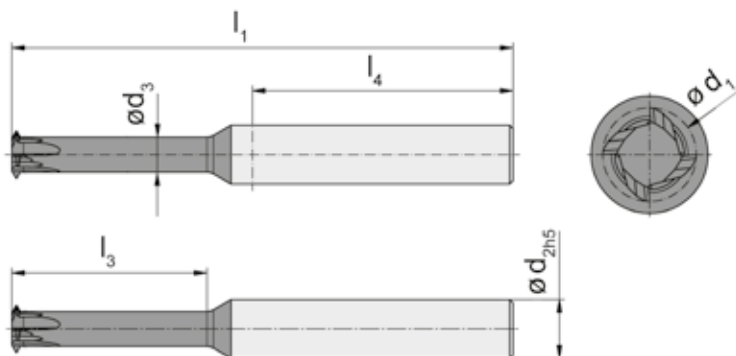
Thread milling cutter solid carbide

DCG

螺纹

Thread

1/2"-13 UNC



适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄		AN25
DCG.3.60.540.2.04	#5 - 40 UNC	2,4	3	0,635	2,0	4	1,1	39	8	22		▲
DCG.3.60.544.2.04	#5 - 44 UNF	2,5	3	0,577	2,0	4	-	39	8	22		▲
DCG.3.60.632.2.04	#6 - 32UNC #8 - 32UNC	2,6	3	0,794	2,2	4	-	39	8	22		▲
DCG.3.60.640.2.04	#6 - 40 UNF	2,8	3	0,635	2,3	4	-	39	8	22		▲
DCG.3.60.836.3.06	#8 - 36 UNF	3,4	3	0,706	2,5	6	-	50	10	36		▲
DCG.3.60.1024.3.06	#10 - 24UNC #12 - 24UNC	3,6	3	1,058	2,9	6	-	50	10	36		▲
DCG.4.60.1420.3.06	1/4" - 20 UNC	4,9	4	1,270	3,5	6	-	63	10	40		▲
DCG.4.60.1428.3.06	1/4" - 28 UNF	5,3	4	0,907	3,5	6	-	63	10	40		▲
DCG.4.60.51618.3.06	5/16" - 18 UNC	6,4	4	1,411	4,2	6	-	63	10	40		▲
DCG.4.60.3816.7.08	3/8" - 16 UNC	7,8	4	1,588	5,5	8	-	77	25	40		▲
DCG.4.60.71614.7.08	7/16" - 14 UNC	9,1	4	1,814	6,8	8	-	77	25	40		▲
DCG.4.60.71620.7.08	7/16" - 20 UNF	9,1	4	1,270	7,2	8	-	77	30	40		▲
DCG.4.60.1213.7.08	1/2" - 13 UNC	10,5	4	1,953	7,9	8	-	77	30	40		▲

▲ 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

惠氏螺纹“中等级” BSW/BSF

Whitworth thread "medium class" BSW/BSF



整体硬质合金螺纹铣刀

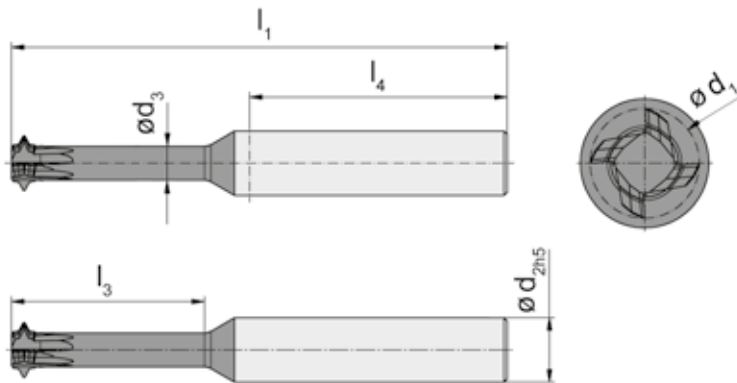
Thread milling cutter solid carbide

DCG

螺纹

Thread

1/8"-1/2"

适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AN25
DCG.3.55.1840.2.04	1/8" - 40 BSW	2,3	3	0,635	2,0	4	1,00	39	8	22	▲
DCG.3.55.53232.2.04	5/32" - 32 BSW	2,9	3	0,794	2,3	4	-	39	8	22	▲
DCG.3.55.31624.3.06	3/16" - 24 BSW	3,4	3	1,058	2,8	6	-	50	10	36	▲
DCG.3.55.31632.3.06	3/16" - 32 BSF	3,7	3	0,794	2,8	6	-	50	10	36	▲
DCG.3.55.73224.3.06	7/32" - 24 BSW	4,2	3	1,058	3,6	6	-	50	10	36	▲
DCG.3.55.73228.3.06	7/32" - 28 BSF	4,3	3	0,907	3,6	6	-	50	10	36	▲
DCG.3.55.1420.5.06	1/4" - 20 BSW	4,7	3	1,270	4,0	6	-	63	16	40	▲
DCG.3.55.1426.5.06	1/4" - 26 BSF	5,0	3	0,977	4,2	6	-	63	16	40	▲
DCG.4.55.93226.5.06	9/32" - 26 BSF	5,8	4	0,977	5,0	6	-	63	16	40	▲
DCG.4.55.51618.5.06	5/16" - 18 BSW	6,1	4	1,411	5,2	6	-	63	16	40	▲
DCG.4.55.51622.5.08	5/16" - 22 BSF	6,4	4	1,155	5,3	8	-	63	16	40	▲
DCG.4.55.3816.5.08	3/8" - 16 BSW	7,4	4	1,588	6,3	8	-	63	16	40	▲
DCG.4.55.3820.5.08	3/8" - 20 BSF	7,8	4	1,270	6,5	8	-	63	16	40	▲
DCG.4.55.71614.5.08	7/16" - 14 BSW	8,7	4	1,814	7,2	8	-	63	16	40	▲
DCG.4.55.71614.7.08	7/16" - 14 BSF	8,7	4	1,814	7,2	8	-	77	25	40	▲
DCG.4.55.71618.5.08	7/16" - 18 BSF	9,3	4	1,411	7,5	8	-	63	16	40	▲
DCG.4.55.71618.7.08	7/16" - 18 BSF	9,3	4	1,411	7,5	8	-	77	25	40	▲
DCG.4.55.1212.6.10	1/2" - 12 BSW	9,9	4	2,117	8,5	10	-	63	20	40	▲
DCG.4.55.1212.8.10	1/2" - 12 BSW	9,9	4	2,117	8,5	10	5,25	77	30	40	▲
DCG.4.55.1216.6.10	1/2" - 16 BSF	10,6	4	1,588	9,5	10	-	63	20	40	▲
DCG.4.55.1216.8.10	1/2" - 16 BSF	10,6	4	1,588	9,5	10	-	77	30	40	▲

▲ 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

整体硬质合金螺纹铣刀

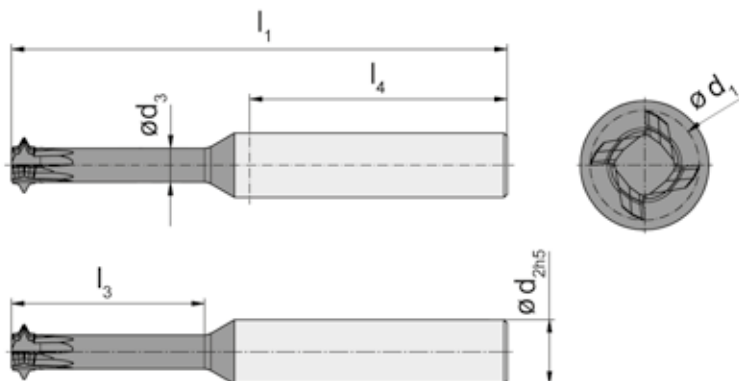
Thread milling cutter solid carbide

DCG

螺纹

Thread

1/16"-3/8"

适用于内螺纹
for internal thread

产品型号 Part number	螺纹 Thread	D _{min}	Z	P	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄		AN25
DCG.4.55.G116.5.06	G 1/16"	6,5	4	0,91	5,5	6	3,9	63	16	40		▲
DCG.4.55.G18.5.08	G 1/8"	8,5	4	0,91	6,6	8	3,9	63	16	40		▲
DCG.4.55.G14.6.10	G 1/4"	11,4	4	1,34	9,5	10	7,1	63	20	40		▲
DCG.4.55.G38.8.10	G 3/8"	14,9	4	1,34	9,8	10	9,4	77	30	40		▲
												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

硬质合金牌号

Carbide grades

槽铣削

Groove Milling Full radius



整体硬质合金槽铣刀

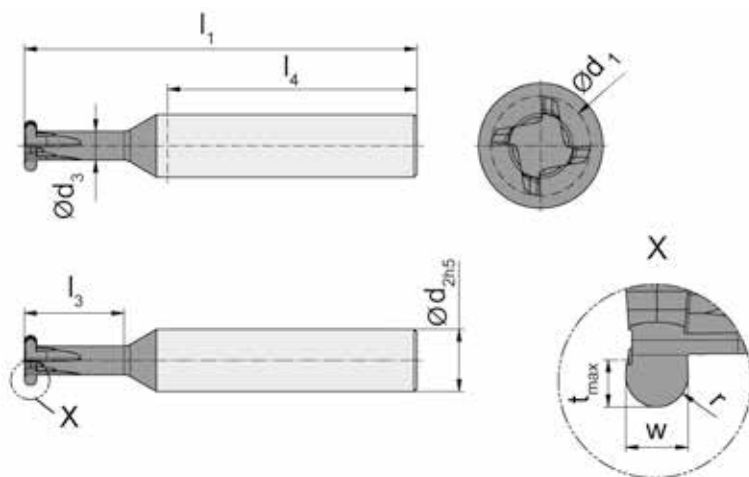
Groove milling cutter solid carbide

DCR

切削刃Ø
圆头
槽深

Cutting edge Ø
Full radius
Depth of groove

4-10 mm
0.5-1.5 mm
0.5-2 mm



产品型号 Part number	Z	w	t _{max}	r	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AN25
DCR.3.40.10.05.1.06	3	1.0	0.5	0.50	4	6	2.75	50	4	36	▲
DCR.3.60.10.05.1.06	3	1.0	1.0	0.50	6	6	3.70	50	4	36	▲
DCR.3.60.10.05.2.06	3	1.0	1.0	0.50	6	6	3.70	63	6	40	▲
DCR.3.60.15.75.2.06	3	1.5	1.0	0.75	6	6	3.70	63	6	40	▲
DCR.4.80.15.75.3.08	4	1.5	1.5	0.75	8	8	4.60	63	8	40	▲
DCR.4.80.15.75.5.08	4	1.5	1.5	0.75	8	8	4.60	63	16	40	▲
DCR.4.80.20.10.3.08	4	2.0	1.5	1.00	8	8	4.60	63	8	40	▲
DCR.4.80.20.10.5.08	4	2.0	1.5	1.00	8	8	4.60	63	16	40	▲
DCR.4.100.10.05.6.10	4	1.0	2.0	0.50	10	10	5.50	77	20	55	▲
DCR.4.100.15.75.6.10	4	1.5	2.0	0.75	10	10	5.50	77	20	55	▲
DCR.4.100.20.10.6.10	4	2.0	2.0	1.00	10	10	5.50	77	20	55	▲
DCR.4.100.25.12.6.10	4	2.5	2.0	1.25	10	10	5.50	77	20	55	▲
DCR.4.100.30.15.6.10	4	3.0	2.0	1.50	10	10	5.50	77	20	55	▲

▲ 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

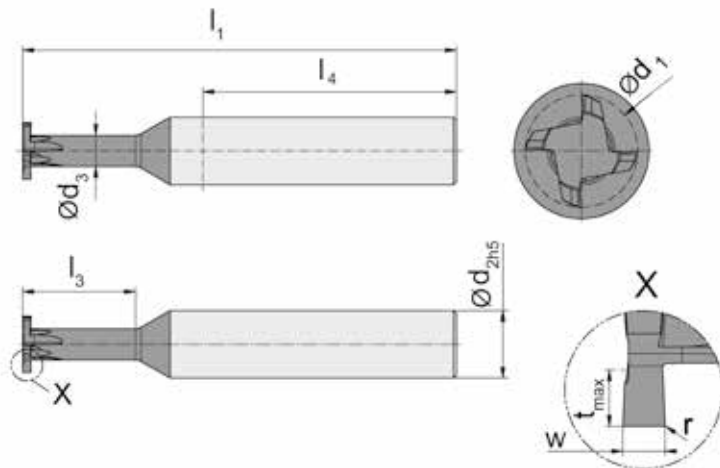
P	•
M	○
K	•
N	•
S	○
H	-

硬质合金牌号
Carbide grades

整体硬质合金槽铣刀

Groove milling cutter solid carbide

DCN

切削刃Ø
槽宽
槽深Cutting edge Ø
Width of groove
Depth of groove20-40 mm
1.5-3 mm
7-15 mm

产品型号 Part number	Z	w	t _{max}	r	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AN25
DCN.3.40.05.00.1.06	3	0,5	0,5	-	4	6	2,8	50	4	36	▲
DCN.3.40.10.00.1.06	3	1,0	0,5	-	4	6	2,8	50	4	36	▲
DCN.3.60.10.00.1.06	3	1,0	1,0	-	6	6	3,7	50	4	36	▲
DCN.3.60.10.00.2.06	3	1,0	1,0	-	6	6	3,7	63	6	40	▲
DCN.3.60.15.15.2.06	3	1,5	1,0	0,15	6	6	3,7	63	6	40	▲
DCN.4.80.15.15.3.08	4	1,5	1,5	0,15	8	8	4,6	63	8	40	▲
DCN.4.80.20.15.3.08	4	2,0	1,5	0,15	8	8	4,6	63	8	40	▲
DCN.4.80.15.15.5.08	4	1,5	1,5	0,15	8	8	4,6	63	16	40	▲
DCN.4.80.20.15.5.08	4	2,0	1,5	0,15	8	8	4,6	63	16	40	▲
DCN.4.100.10.00.6.10	4	1,0	2,0	-	10	10	5,5	77	20	50	▲
DCN.4.100.15.00.6.10	4	1,5	2,0	-	10	10	5,5	77	20	50	▲
DCN.4.100.20.15.6.10	4	2,0	2,0	0,15	10	10	5,5	77	20	50	▲
DCN.4.100.25.15.6.10	4	2,5	2,0	0,15	10	10	5,5	77	20	50	▲
DCN.4.100.30.15.6.10	4	3,0	2,0	0,15	10	10	5,5	77	20	50	▲

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

● 推荐 / recommended

○ 次推荐 / alternative recommendation

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■ 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

整体硬质合金槽铣刀

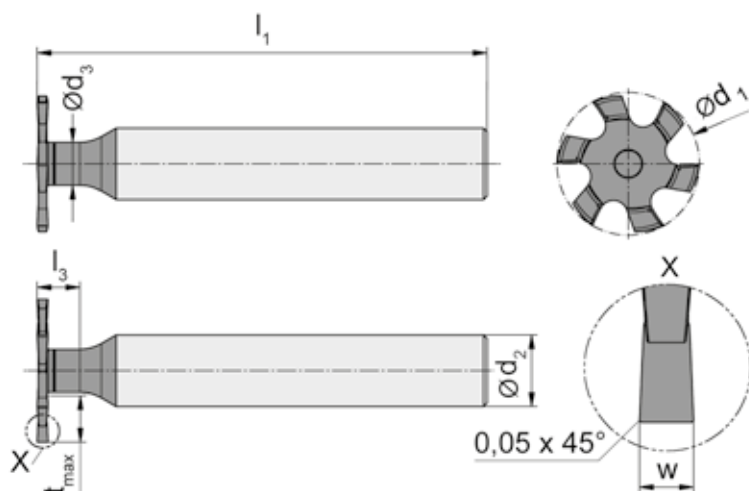
Groove milling cutter solid carbide

DCX

切削刃Ø
槽宽
槽深

Cutting edge Ø
Width of groove
Depth of groove

20-40 mm
1.5-3 mm
7-15 mm



产品型号 Part number	Z	w	t _{max}	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄	AS45
DCX.6.20.150.2.05.10	6	1.5	7	20	10	5	63	6	50	▲
DCX.6.20.200.2.05.10	6	2.0	7	20	10	5	63	6	50	▲
DCX.6.20.250.2.05.10	6	2.5	7	20	10	5	63	6	50	▲
DCX.6.25.150.2.06.10	6	1.5	9	25	10	6	63	6	51	▲
DCX.6.25.200.2.06.10	6	2.0	9	25	10	6	63	6	51	▲
DCX.6.25.250.2.06.10	6	2.5	9	25	10	6	63	6	51	▲
DCX.6.30.150.4.07.12	6	1.5	11	30	12	7	80	9	65	▲
DCX.6.30.200.4.07.12	6	2.0	11	30	12	7	80	9	65	▲
DCX.6.30.250.4.07.12	6	2.5	11	30	12	7	80	9	65	▲
DCX.6.30.300.4.07.12	6	3.0	11	30	12	7	80	9	65	▲
DCX.6.35.150.4.08.12	6	1.5	13	35	12	8	80	11	64	▲
DCX.6.35.200.4.08.12	6	2.0	13	35	12	8	80	11	64	▲
DCX.6.35.250.4.08.12	6	2.5	13	35	12	8	80	11	64	▲
DCX.6.35.300.4.08.12	6	3.0	13	35	12	8	80	11	64	▲
DCX.8.40.150.4.09.12	8	1.5	15	40	12	9	80	11	65	▲
DCX.8.40.200.4.09.12	8	2.0	15	40	12	9	80	11	65	▲
DCX.8.40.250.4.09.12	8	2.5	15	40	12	9	80	11	65	▲
DCX.8.40.300.4.09.12	8	3.0	15	40	12	9	80	11	65	▲

▲ 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	-

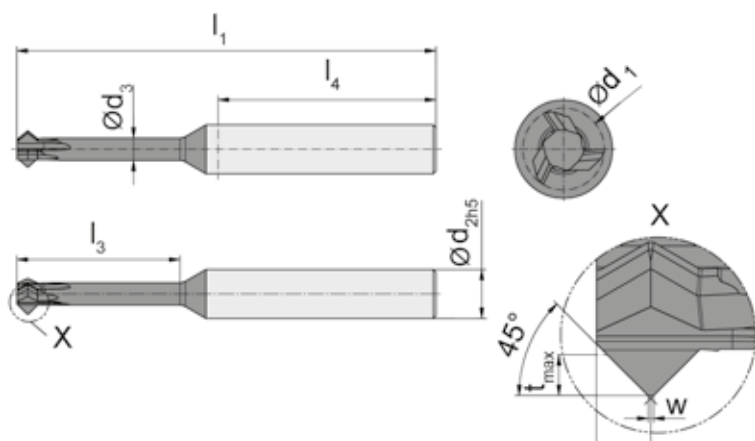
硬质合金牌号

Carbide grades

整体硬质合金倒角刀

Chamfering End Mill solid carbide

DCF

切削刃Ø
倒角尺寸Cutting edge Ø
Size of chamfer2-7.5 mm
0.3-1.5 mm

产品型号 Part number	Z	w	倒角 Chamfer	t _{max}	d ₁	d ₂	d ₃	l ₁	l ₃	l ₄		AN25
DCF.3.20.4545.1.04	3	0,2	45°	0,30	2,0	4	1,25	39	4	22		▲
DCF.3.30.4545.2.04	3	0,2	45°	0,30	3,0	4	2,10	39	6	22		▲
DCF.3.40.4545.3.06	3	0,2	45°	0,75	4,0	6	2,20	50	8	36		▲
DCF.3.50.4545.3.06	3	0,2	45°	1,00	5,0	6	2,70	50	10	36		▲
DCF.3.60.4545.5.06	3	0,2	45°	1,25	6,0	6	3,15	63	16	40		▲
DCF.3.60.4545.6.06	3	0,2	45°	1,25	6,0	6	3,15	63	20	40		▲
DCF.3.75.4545.6.08	3	0,2	45°	1,50	7,5	8	4,10	63	20	40		▲
DCF.3.75.4545.8.08	3	0,2	45°	1,50	7,5	8	4,10	77	30	40		▲
DCF.4.75.4545.8.08	4	0,2	45°	1,50	7,5	8	4,10	77	30	40		▲

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

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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

Cutting data



切削速度标准值 v_c 和进给/齿 f_z

Standard values for cutting speeds v_c and Feed/tooth f_z

材料 Material			硬度 Hardness Brinell (HB)	切削速度 v_c Cutting speed v_c	进给/齿 f_z Feed/tooth f_z
				AN25 / AS45	
P	碳钢 Carbon steel	0,2% C	140	180 - 250	0,01 - 0,03
		0,4% C	180	160 - 220	
		0,6% C	200	140 - 200	
	合金钢 Alloyed steel	退火 annealed	180	150 - 200	
		淬火 quenched	280		
		淬火 quenched	350		
	高合金钢 high alloyed steel (>5%)	退火 annealed	200	100 - 140	
		硬化 hardened	-		
	铸钢 Cast steel	非合金 unalloyed	180	130 - 170	
		合金 alloyed	220		
M	不锈钢 Stainless steel	马氏体，铁素体 martensitic, ferritic	200	90 -150	0,02
		奥氏体 austenitic	180		
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	190 - 230	0,01 - 0,03
		高拉伸强度 high tensile strength	250		
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160	160 - 220	
		珠光体 perlitic	250		
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125	160 - 220	
		珠光体 perlitic	225		
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	可达 max. up to max.	0,02 - 0,04
		热处理 heat treatable	80-120		
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	200 - 600	
		热处理 heat treatable	100		
	铜合金 Copper-alloys	非热处理 not heat treatable	90	200 - 400	
		热处理 heat treatable	100		
S	耐热合金 Heat resistant alloy (Fe)	退火 annealed	200	60 - 120	0,01 - 0,02
		硬化 hardened	275		
	耐热合金 Heat resistant alloy (Ni, Co)	退火 annealed	250	30 - 90	
		硬化 hardened	350		

进给率和时间的计算

使用HORN的HTC程序可以简单而方便的计算出所需要的速度和进给。推荐您使用该程序计算切削参数，可以得到最好的切削性能和结果。可以在下页查看其基本功能。



HCT
(HORN Circular Technology)

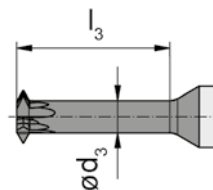
-安全快捷-
您需要的圆弧插补铣槽及直槽铣削的切削参数。
系统要求：Windows 95，可用于CD-ROM上。

常规推荐

铣刀悬伸

尽可能选择最短的夹持装置或铣刀柄，以控制刀具的跳动公差。

大宽度和大悬伸的加工需要特殊的加工方法，例如将槽宽分多次加工出来，以降低切削力，达到最好的加工效果。



铣刀直径

当使用大直径刀具时，刀的直径越接近于孔的直径，加工周期将由于较小的旋转中心和较高的进给率而缩短，通常情况下，刀具的直径由工件的参数和应用设置所决定。

螺纹铣削

使用HORN的螺纹铣刀时螺纹轮廓在满切情况下形成。这时螺纹锥度最小，尤其工件材质为高合金钢时。底孔为盲孔时推荐自底部至顶部的加工方法。否则可能会因为盲孔底部的切屑损坏刀具。

螺纹加工方法推荐：

铣刀直接不能超过螺纹小径的70%，否则会重复切削使整个螺纹尺寸超差。



Feed rates and time calculation

It is simple and easy to calculate your speed and feeds using HORN'S HCT programme. We recommend that you calculate the cutting data with this programme as it will provide you with the best cutting performance and results. Basic features of the calculations can be found on the following pages.



HCT (HORN Circular Technology)

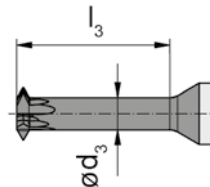
- safe and fast -

Your cutting data for groove milling by circular interpolation of internal and external grooves as well as groove milling of linear grooves. System requirements from Windows 95. Available on CD-ROM.

BASIC RECOMMENDATIONS:

Overhang of the milling cutter

Select the shortest possible clamping device and milling shank, to control the runout tolerance of the tools. Large cutting widths in combination with long overhangs require specific manufacturing methods such as dividing the cutting width to achieve the best possible cutting result due to reduced cutting forces.



Diameter of the milling cutter

When using a large diameter cutter, whose relationship is close to the bore diameter, manufacturing cycletime can be reduced, due to the smaller center of rotation and higher feed rates could be realized. Many times the rotation of the milling cutter center will be defined by the parameters of the workpiece and the whole application setup.

Thread milling

With HORN thread milling inserts the thread profile is generated in one full cut to the profile depth of the thread. This produces threads with minimal taper especially in high alloyed steels.

In blind holes it is recommended to mill from the bottom to the top. Otherwise there is the risk of damaging the tool because of milling into chips at the bottom of the blind hole.

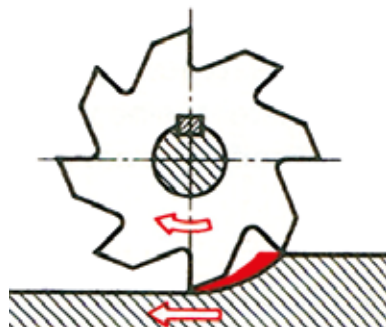
A general recommendation for thread milling:

The milling cutter diameter should not exceed 70% of the minor diameter of the thread. Otherwise recutting of the profile occurs which could bring the whole thread out of tolerance.



铣削方向

大多数HORN的铣刀是右手型，加工中推荐硬质合金刀具普遍采用的顺铣方式。

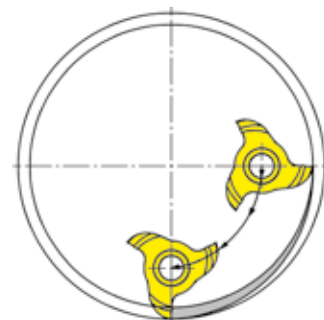


铣入工件

铣削时一个简单的径向切入会产生一个很大的接触角，这将导致振刀，并在之后的切削中一直存在，直到槽底。

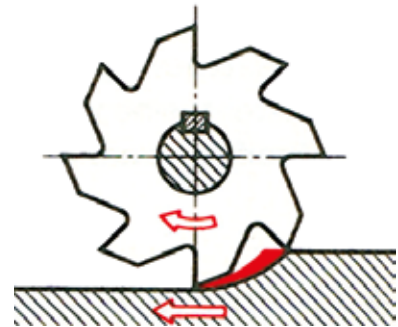
推荐切入槽时以切入角 45° 到 180° 至槽底。计算得出的切削参数为满切时，但也适用于其他切削情况。

倾斜角度 $> 45^\circ$



Milling direction

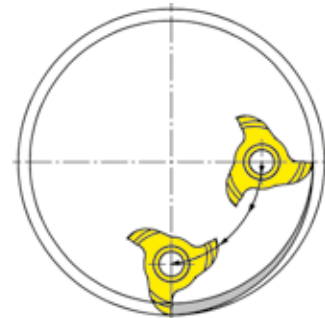
Most HORN milling tools are right handed , and it is recommended to use them with the climb milling process as this is generally recommend for carbide tools.



Milling entry into the workpiece

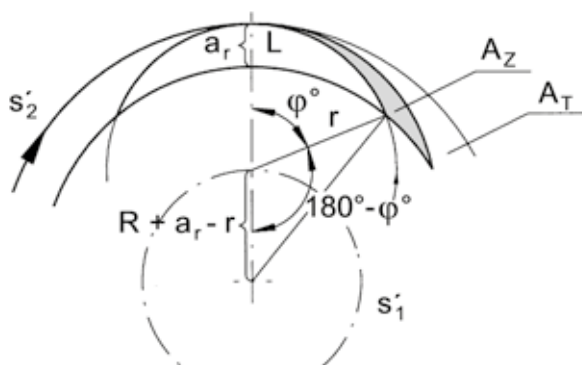
A simple radial entry of the milling cutter creates a very long contact angle which leads to vibrations which will not disappear for the rest of the milling operation and are visual on the bottom of the groove. It is recommended to enter the groove with a ramp angle of 45° up to 180° to the maximum depth of cut. The calculated cutting data refers to the milling condition when the insert is in the full cut but can be also used for the entry loop.

Ramp angle $> 45^\circ$



内槽铣削

Milling of an internal groove



$$\cos [180^\circ - \varphi^\circ] = \frac{r^2 + [R + a_r - r]^2 - R^2}{2r [R + a_r - r]} \longrightarrow 180^\circ - \varphi^\circ \longrightarrow \varphi^\circ$$

$L = \frac{\pi \cdot 2r \cdot \varphi^\circ}{360^\circ} \text{ mm}$	切削长度 Length of cut
$A_z = L \cdot h_m \text{ mm}^2$	切屑面积 Area of chip
$A_T = \pi [(R + a_r)^2 - R^2] \text{ mm}^2$	槽截面的面积 Area of groove section

$t = \frac{A_T}{n \cdot z \cdot A_z} \text{ min}$	加工时间 (用于 A_T) Time for cut (for A_T)
$s'_1 = \frac{\pi \cdot 2 (R - r + a_r)}{t} \text{ mm/min}$	刀具中心的进给 Feed rate of tool centre
$s'_2 = s'_1 \frac{R + a_r}{R - r + a_r} \text{ mm/min}$	刀尖进给 Feed rate of tool tip

规格

Specification

	规格 Specification	ISO 规格 Specification
进给率 Feed rate	s'	v_f
转速 Revolutions	n	n
齿数 Number of teeth	z	z
进给/齿 Feed/tooth	s_z	f_z
切屑中间厚度 medium thickness of chip	h_m	h_m
径向切削深度 radial depth of cut	a_r	a_e

	规格 Specification	ISO 规格 Specification
刀具半径 Radius of cutter	r	r
工件半径 Radius of workpiece	R	R
刀具中心的进给 Feed rate of tool centre	s'_1	v_{f3}
刀尖进给 Feed rate of tool tip	s'_2	v_{f2}

$Z =$ 齿数

Number of teeth

$d =$ 切削刃 $\varnothing$ [mm]

Cutting edge $\varnothing$ [mm]

$n =$ 转速

Revolutions

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

$v_c =$ 切削速度

Cutting speed

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

$f_z =$ 进给/齿

Feed/tooth

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

$f =$ 每转进给

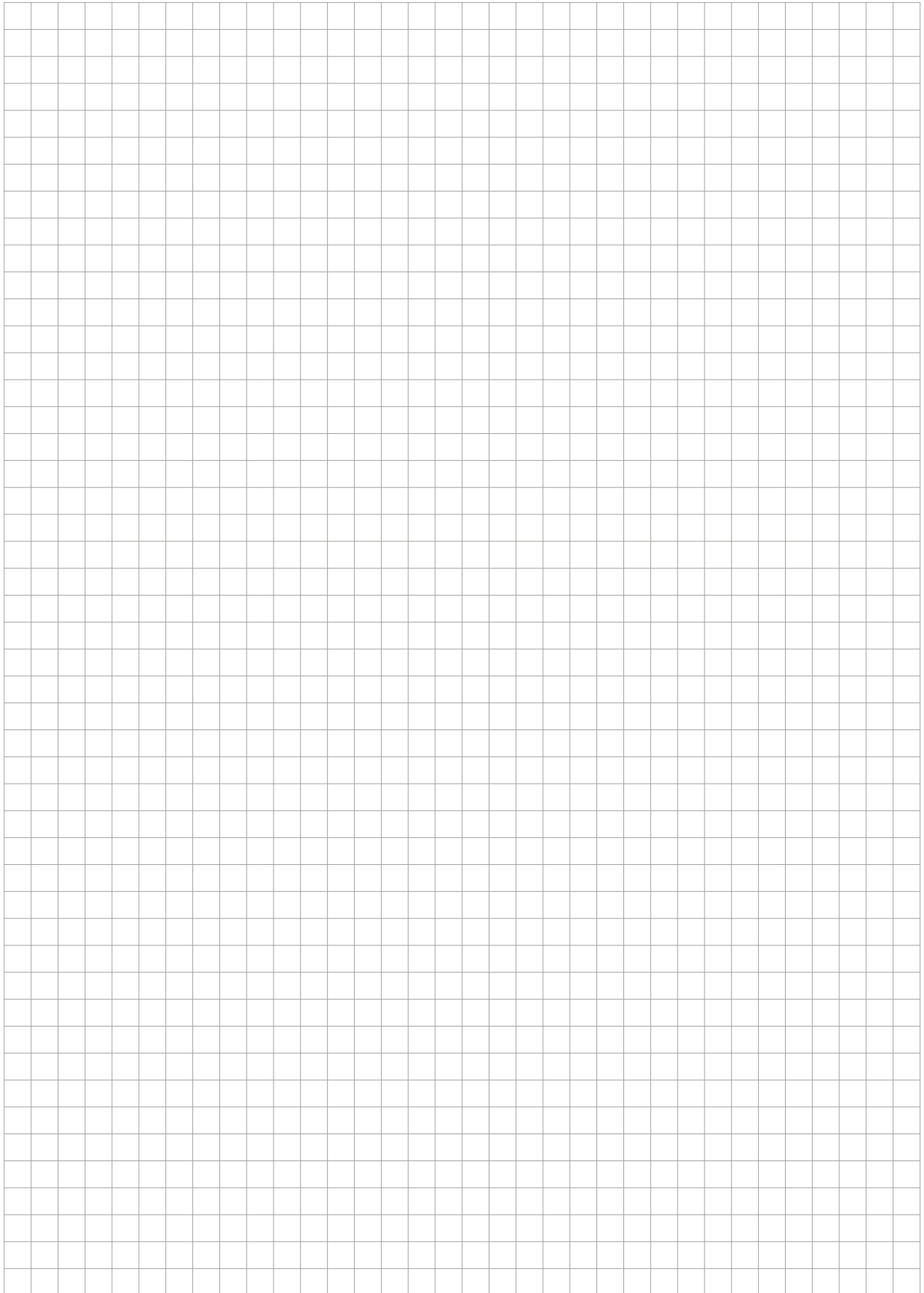
Feed per revolutions

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

$v_f =$ 进给率

Feed rate

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



槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B



系列/System

页/Page

M306

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M308

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M311

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M116

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M313

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M328

B112

M332

B134

M335

B150

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



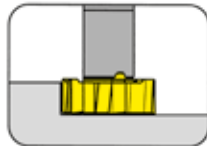
B

铣刀杆

Milling shank
M306/M306.ER/
M306.ST/M306.ST



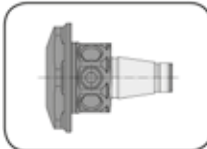
页/Page
B4-B5, B7-B8



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B6

常规刀柄

Basic Holder
WFB



页/Page
B9

螺纹锁紧铣刀

Screw-in cutter
M306.M.M



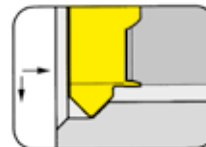
页/Page
B10

刀片

Insert
108/306/606



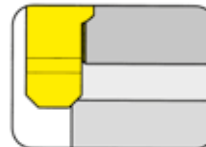
页/Page
B11, B16



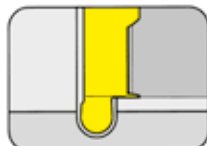
页/Page
B15, B28



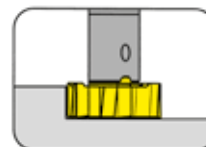
页/Page
B12-B13, B17-B23, B26-B27



页/Page
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页/Page
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页/Page
B29-B30

M306



可替换刀片的
铣刀

孔径Ø 自 10 mm

Milling Cutter with
exchangeable insert

from bore Ø 10 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

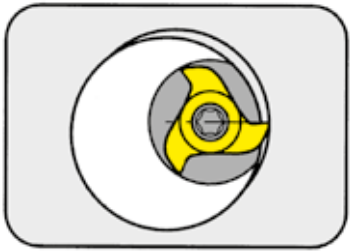


B

铣刀杆

Milling shank

M306
直接冷却液供应
with through coolant supply

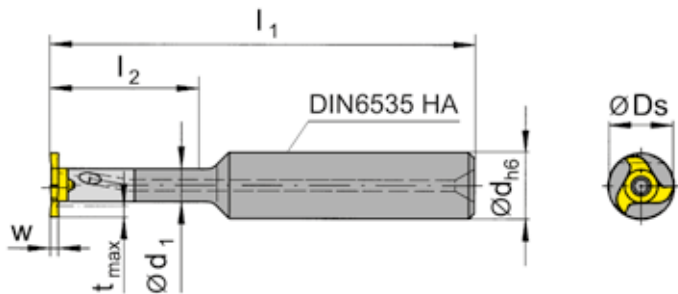


切削刃Ø	Cutting edge Ø	9,6/11,7 mm

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

配合刀片
for Insert

型号 108
Type 306
606



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M306.0012.01A	12	80	21	6.0	A
M306.0012.02A	12	90	30	6.0	A
M306.0012.03A	12	100	42	6.0	A
M306.0712.02A	12	90	30	7.3	A
M306.0716.01A	16	100	25	7.3	A
M306.0716.02A	16	110	35	7.3	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
所有刀杆都可以配合右手型或左手型108系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:
All milling cutter shanks can be used for **right** and **left** hand inserts type 108.
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306...	2.6.5T8EP	T8PL

槽铣削 (圆弧插补铣削)

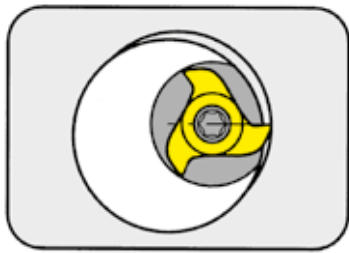
Groove Milling by circular interpolation



铣刀杆

Milling shank

M306
直接冷却液供应
with through coolant supply

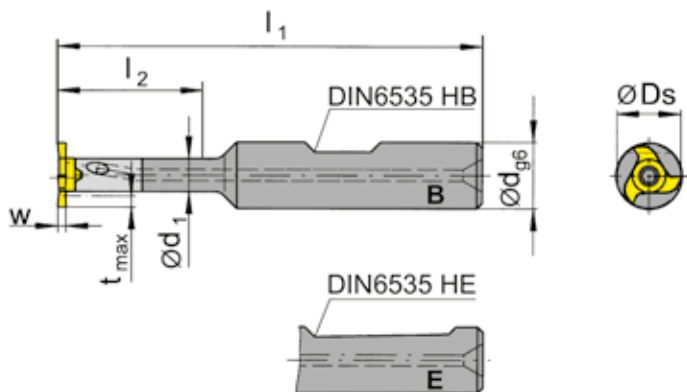


切削刃Ø	Cutting edge Ø	9,6/11,7 mm

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

配合刀片
for Insert

型号 108
Type 306
606



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M306.0012.01B	12	80	21	6.0	B
M306.0012.02B	12	90	30	6.0	B
M306.0012.03B	12	100	42	6.0	B
M306.0712.02B	12	90	30	7.3	B
M306.0716.01B	16	100	25	7.3	B
M306.0012.01E	12	80	21	6.0	E
M306.0012.02E	12	90	30	6.0	E
M306.0012.03E	12	100	42	6.0	E
M306.0712.02E	12	90	30	7.3	E
M306.0716.01E	16	100	25	7.3	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
所有刀杆都可以配合右手型或左手型108系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:
All milling cutter shanks can be used for **right** and **left** hand inserts type 108.
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306...	2.6.5T8EP	T8PL

槽铣削/面铣削
Groove Milling / Face Milling



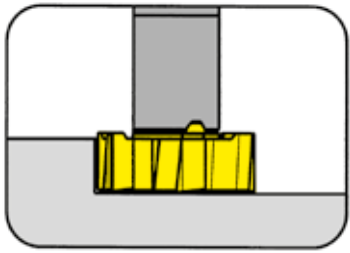
B

铣刀杆
Milling shank

M306

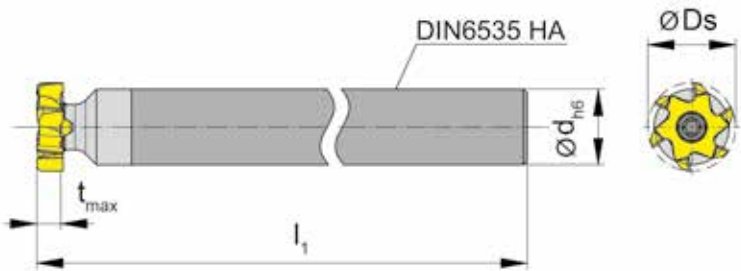
用于筒夹的硬质合金圆柱刀柄
Cylindrical carbide shank for collets

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



配合刀片
for Insert

型号 108
Type 306
606



产品型号 Part number	d	l ₁	形式 Form
M306.0707.03A	7.5	100	A
M306.1010.03A	10.0	120	A

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306...	2.6.5T8EP	T8PL

槽铣削 (圆弧插补铣削)

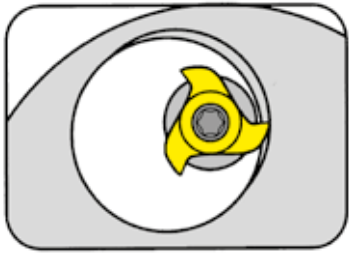
Groove Milling by circular interpolation



铣刀杆

Milling shank

M306.ER

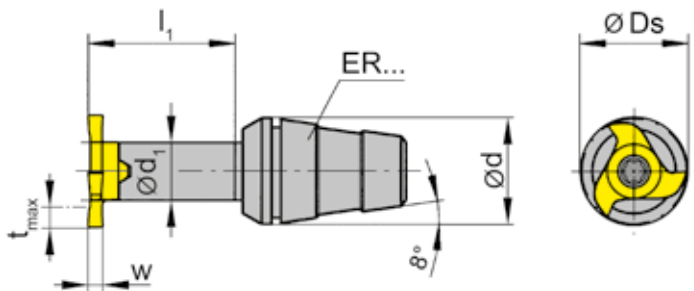


配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes

配合刀片
for Insert

型号 108
Type 306
606



产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M306.ER11.02	11	16	6	ER11.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :

铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

所有铣刀杆都适用于右手型和 左手型108系列刀片。

All milling cutter shanks can be used for **right** and **left** hand inserts type 108.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306.ER11.02	2.6.5T8EP	T8PL

槽铣削/面铣削

Groove Milling by circular interpolation

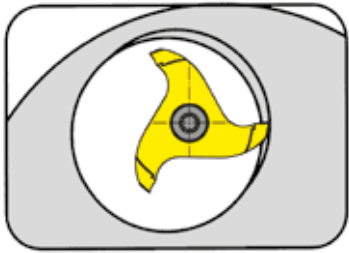


B

铣刀杆

Milling shank

M306.ST

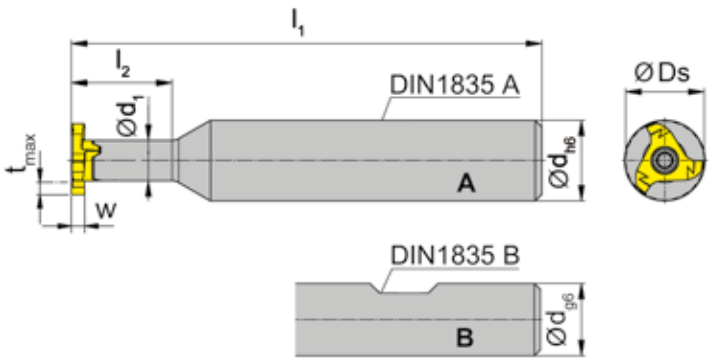


配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

配合刀片
for Insert

型号 108
Type 306
606



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M306.ST10.01A	10	60	15	6	A
M306.ST12.01A	12	70	15	6	A
M306.ST10.01B	10	60	15	6	B
M306.ST12.01B	12	70	15	6	B

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件 Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306...	2.6.5T8EP	T8PL

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

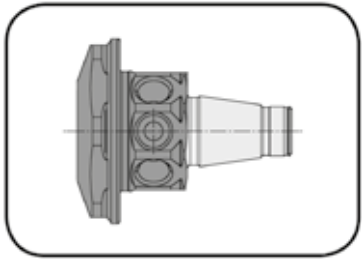


常规刀柄

Basic Holder

WFB

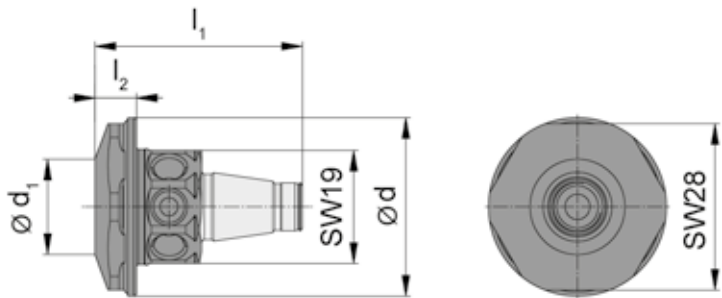
配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter



B

配合螺纹锁紧型铣刀
for Screw-in cutter

型号 M306.M081...
Type M308.M081...
M311.M081...
M313.M081...
M328.M081...
M332.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

尺寸单位 : mm
Dimensions in mm

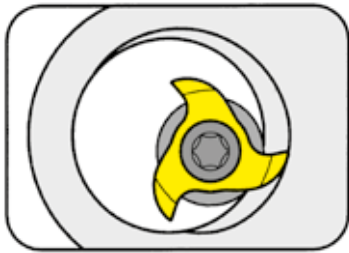
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



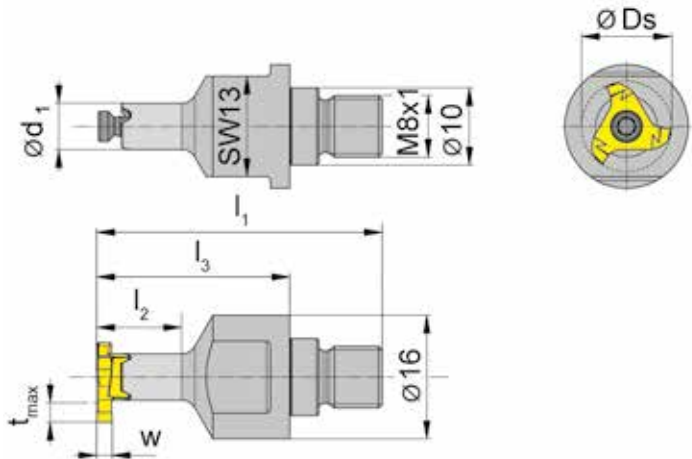
B

螺纹锁紧铣刀
Screw-in cutter

M306.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20



配合刀片
for Insert

型号 108
Type 306
606

产品型号 Part number	l_1	l_2	l_3	d_1	SW
M306.M081.01	37	11	25	6	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M306.M081.01	2.6.5T8EP	T8PL

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

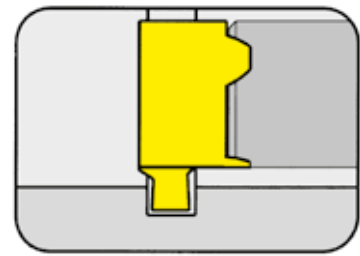
108

B

切槽深度可达
卡簧宽度Nw
切削刃Ø

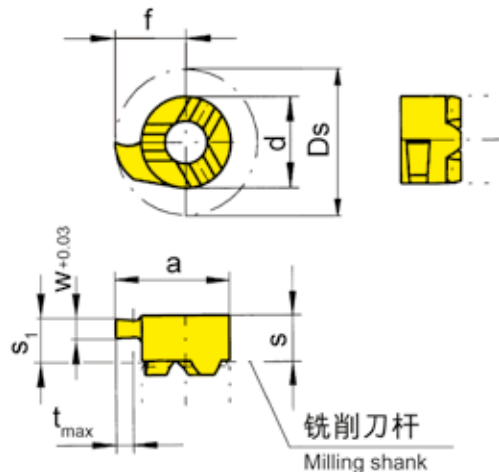
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

1 mm
0.7-0.9 mm
9.6 mm



卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



铣削刀杆
Milling shank

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

不能面切削， 有限的切削深度
limited depth of cut

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	Ds	w	Nw	s	s ₁	f	a	d	t _{max}	Z	EG55	TH35	TN35
R/L108.0070.00	9.6	0.74	0.7	3.6	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲
R/L108.0080.00	9.6	0.84	0.8	3.6	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲
R/L108.0090.00	9.6	0.94	0.9	3.6	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲
											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

注明R或L型

State R or L version

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

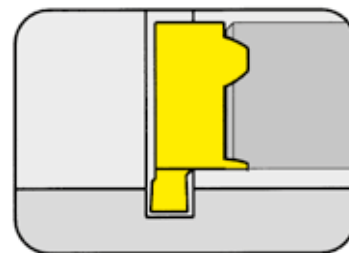
刀片
Insert

108

切槽深度可达
卡簧宽度Nw
切削刃Ø

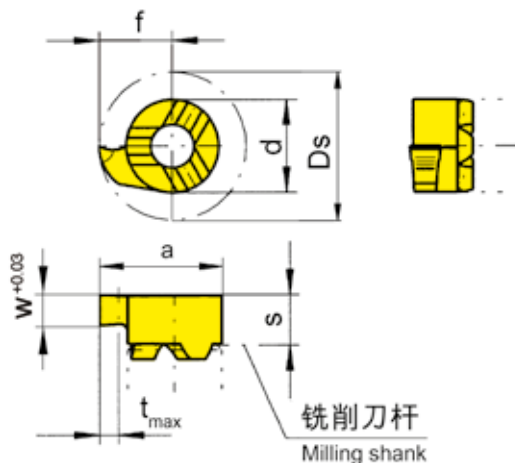
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

1 mm
1.1-1.6 mm
9.6 mm



卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

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	Ds	w	Nw	s	f	a	d	t _{max}	Z	MG12	EG55	TH35	TN35
R/L108.0110.00	9.6	1.19	1.1	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L108.0130.00	9.6	1.39	1.3	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L108.0160.00	9.6	1.69	1.6	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲	▲/▲
▲ 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	•	•	•
- 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

槽铣削 (圆弧插补铣削)

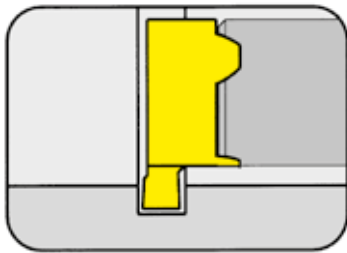
Groove Milling by circular interpolation



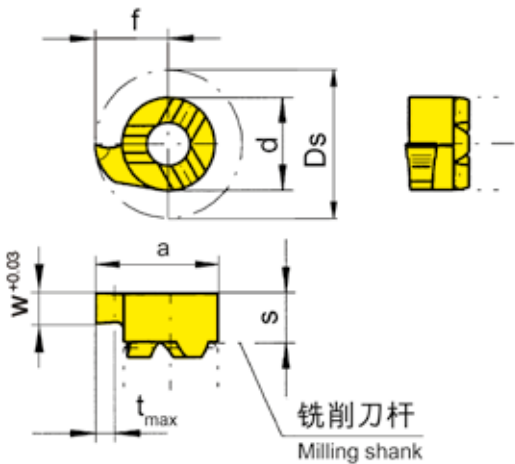
B

刀片
Insert

108



切槽深度可达	Depth of groove up to	1 mm
槽宽可达	Width of groove up to	1.5-2 mm
切削刃Ø	Cutting edge Ø	9.6 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

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	Ds	w	s	f	a	d	t _{max}	Z	MG12	EG55	TH35	TN35
R/L108.0150.00	9.6	1.5	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/Δ	▲/▲
R/L108.0200.00	9.6	2.0	3.2	4.8	7.8	6	1	1	▲/▲	▲/▲	▲/▲	▲/▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request									P	o	•	•
● 推荐 / recommended									M	•	•	o
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

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

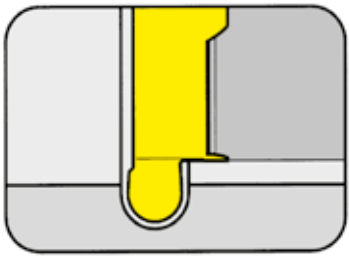
刀片
Insert

108

切槽深度可达
圆头
切削刃Ø

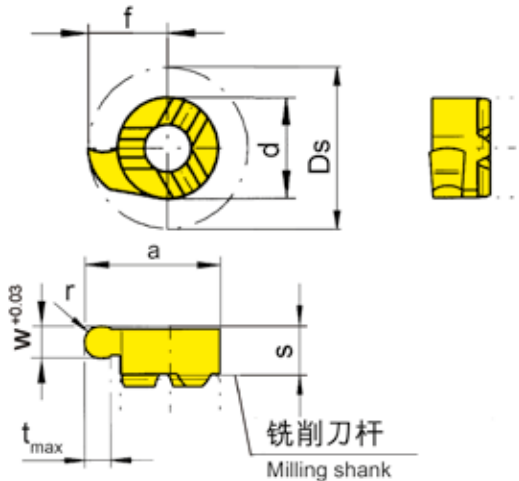
Depth of groove up to
Full radius
Cutting edge Ø

1 mm
0.4-0.9 mm
9.6 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

圆头
Full radius

产品型号 Part number	Ds	w	s	f	a	d	r	t _{max}	Z	MG12	EG55	TH35	TI25	TN35
R/L108.0004.08	9.6	0.8	3.2	4.8	7.8	6	0.4	1	1	▲/△	▲/▲	▲/▲	▲/▲	▲/▲
R/L108.0006.12	9.6	1.2	3.2	4.8	7.8	6	0.6	1	1	▲/▲	▲/▲	▲/▲	▲/▲	▲/▲
R/L108.0009.18	9.6	1.8	3.2	4.8	7.8	6	0.9	1	1	▲/△	▲/▲	▲/▲	▲/△	▲/▲
▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request											P	o	•	•
● 推荐 / recommended											M	•	•	o
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
按需提供更多尺寸
Further radii upon request

硬质合金牌号
Carbide grades

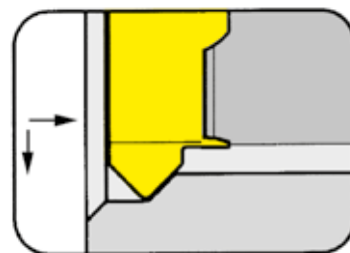
倒角 Chamfering



B

刀片 Insert

108



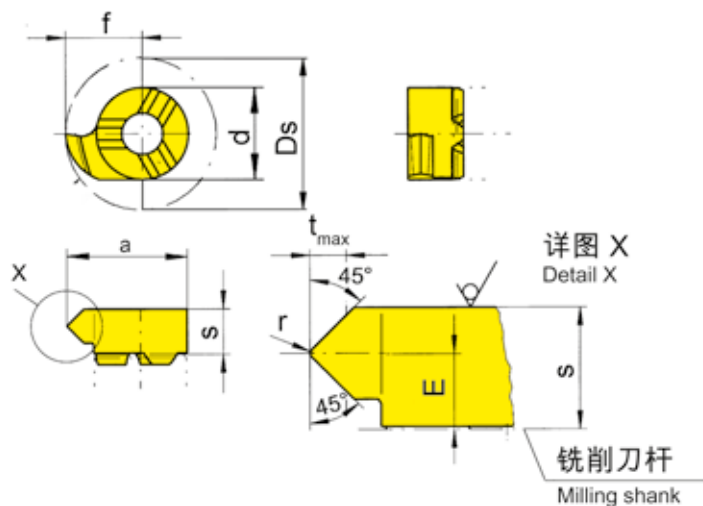
倒角规格尺寸
切削刃Ø

Size of chamfer up to
Cutting edge Ø

1.4 mm
9.3 mm

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



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	E	s	f	Ds	a	d	r	α	t_{max}	Z		EG55	TA45	TI25	TN35
R/L108.4545.02	1.8	3.6	4.65	9.3	7.65	6	0.2	45°	1.4	1		▲/▲	▲/▲	▲/▲	▲/▲
▲ 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
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

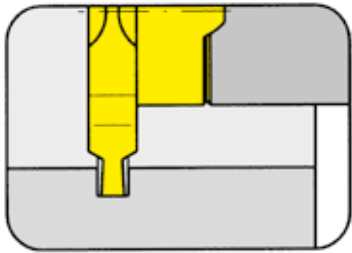
刀片
Insert

306

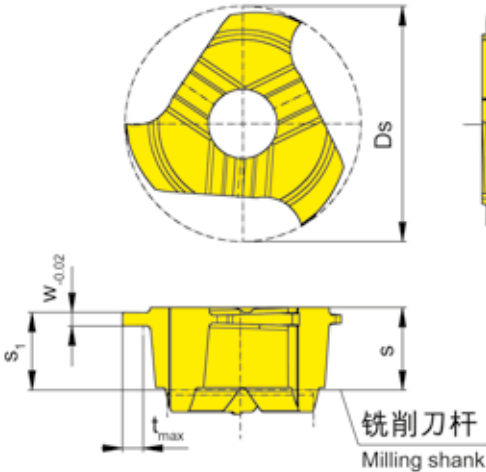
切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to
Width of circlip Nw
Cutting edge Ø

1.15 mm
0.5-0.7 mm
9.7 mm



卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

不能面切削， 有限的切削
深度
limited depth of cut

产品型号 Part number	Ds	w	Nw	s	s ₁	t _{max}	Z	TA45	
306.0050.10.00	9.7	0.57	0.5	3.4	3.2	0.85	3	▲	●
306.0070.10.00	9.7	0.77	0.7	3.4	3.2	1.15	3	▲	●

▲ 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

槽铣削 (圆弧插补铣削)

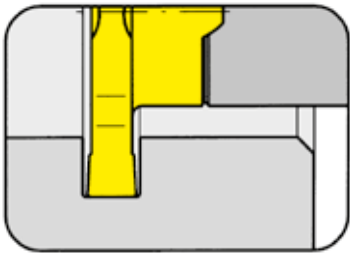
Groove Milling by circular interpolation



B

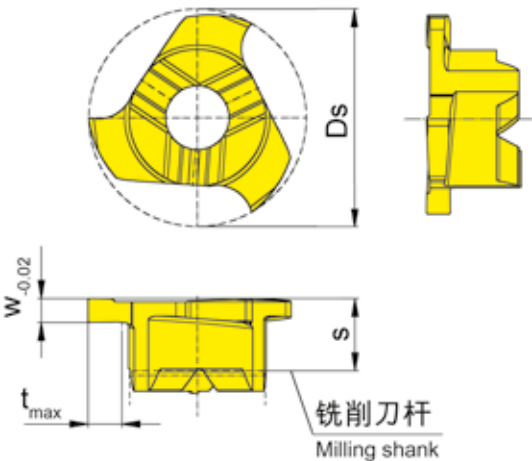
刀片
Insert

306



切槽深度可达	Depth of groove up to	1.5 mm
卡簧宽度Nw	Width of circlip Nw	0.8-1.6 mm
切削刃Ø	Cutting edge Ø	9.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z		
306.0080.10.00	9.7	0.87	0.8	3.2	1.5	3	AS45	TA45
306.0090.10.00	9.7	0.97	0.9	3.2	1.5	3		
306.0100.10.00	9.7	1.07	1.0	3.2	1.5	3		
306.0110.10.00	9.7	1.21	1.1	3.2	1.5	3		
306.0130.10.00	9.7	1.41	1.3	3.2	1.5	3		
306.0160.10.00	9.7	1.71	1.6	3.2	1.5	3		
							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

硬质合金牌号
 Carbide grades

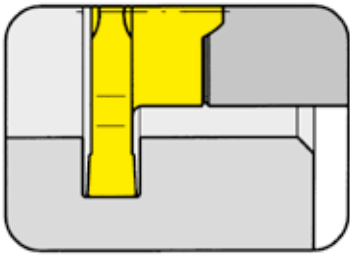
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

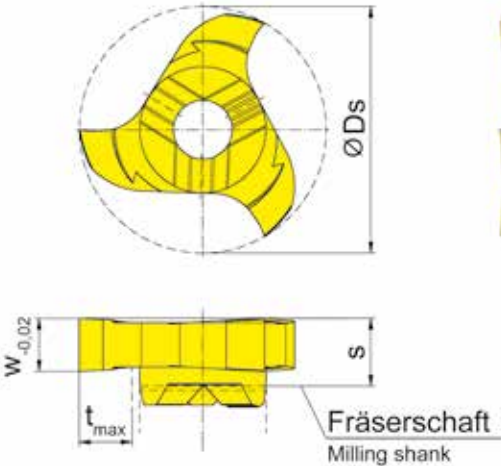
刀片
Insert

306



切槽深度可达	Depth of groove up to	2.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	11.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	MG12	TF45	TN35
306.0110.00	11.7	1.21	1.1	3.2	2.5	3	▲	▲	▲
306.0130.00	11.7	1.41	1.3	3.2	2.5	3	△	△	▲
306.0160.00	11.7	1.71	1.6	3.2	2.5	3	△	△	▲
▲ 库存 / on stock △ 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

硬质合金牌号
Carbide grades

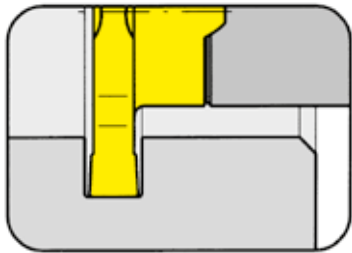
槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



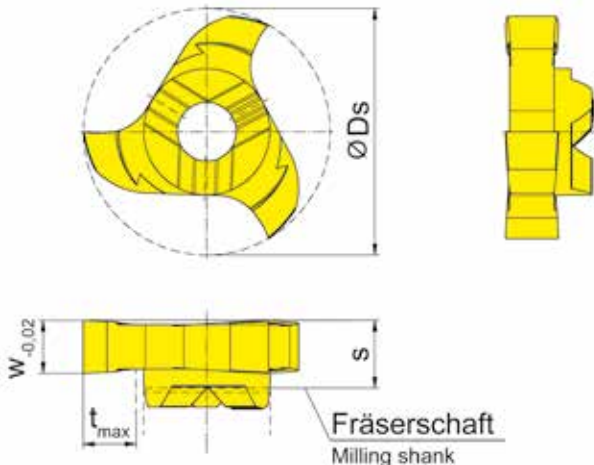
刀片
Insert

306
铝加工
machining of aluminium



切槽深度可达	Depth of groove up to	2.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	11.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	Ti25	
306.0110.40	11.7	1.21	1.1	3.2	2.5	3	▲	•
306.0130.40	11.7	1.41	1.3	3.2	2.5	3	△	•
306.0160.40	11.7	1.71	1.6	3.2	2.5	3	▲	•
							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

硬质合金牌号
Carbide grades

B

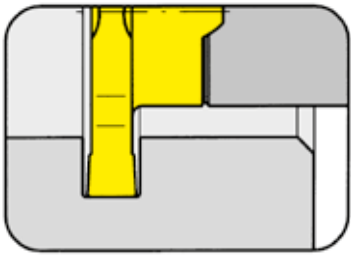
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

刀片
Insert

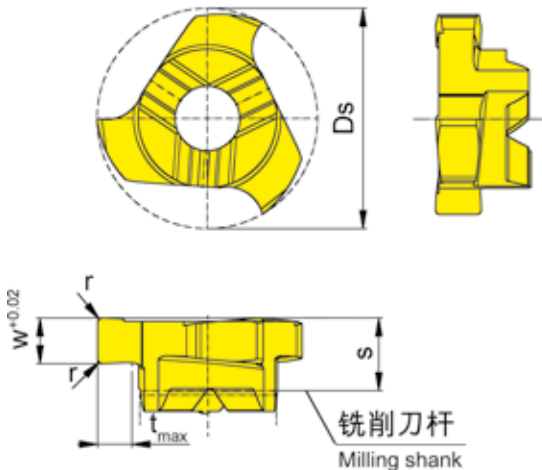
306



切槽深度可达	Depth of groove up to	1.5 mm
槽宽	Width of groove	1.5-2 mm
切削刃Ø	Cutting edge Ø	9.7 mm

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z		AS45	TA45
306.0150.10.00	9.7	1.5	3.2	-	1.5	3		▲	▲
306.0200.10.00	9.7	2.0	3.2	0.2	1.5	3		▲	▲
▲ 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							硬质合金牌号 Carbide grades		
尺寸单位 : mm Dimensions in mm									

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

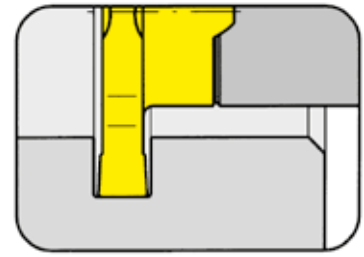
306

B

切槽深度可达
槽宽
切削刃Ø

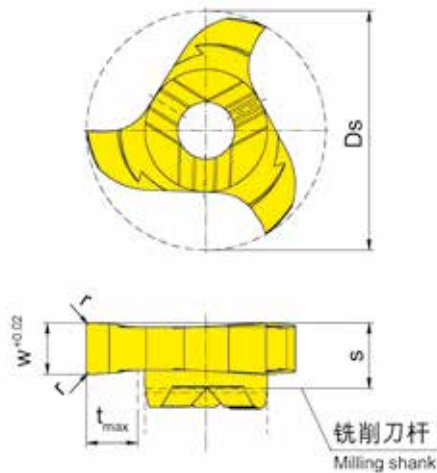
Depth of groove up to
Width of groove
Cutting edge Ø

2.5 mm
1.5-3 mm
11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TF45	TN35
306.0150.00	11.7	1.5	3.2	-	2.5	3	▲	▲	▲	▲
306.0200.00	11.7	2.0	3.2	0.2	2.5	3	▲	▲	▲	▲
306.0250.00	11.7	2.5	3.2	0.2	2.5	3	▲	▲	▲	▲
306.0300.00	11.7	3.0	3.2	0.2	2.5	3	▲	▲	▲	▲
▲ 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	•	•	•
- 不合适 / not suitable							N	•	o	•
■ 非涂层 / uncoated grades							S	•	•	•
■ 涂层 / coated grades							H	-	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet							硬质合金牌号 Carbide grades			

尺寸单位 : mm
Dimensions in mm

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation

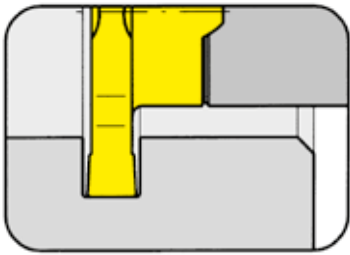


B

刀片
Insert

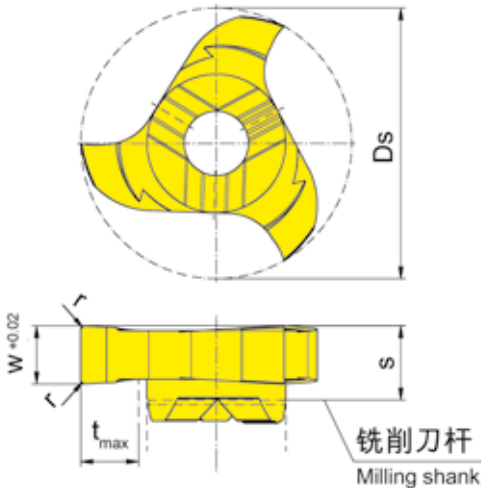
306
铝加工
machining of aluminium

切槽深度可达	Depth of groove up to	2.5 mm
槽宽	Width of groove	1.5-2.5 mm
切削刃Ø	Cutting edge Ø	11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	Ti25
306.0150.40	11.7	1.5	3.2	-	2.5	3	▲
306.0200.40	11.7	2.0	3.2	0.2	2.5	3	▲
306.0250.40	11.7	2.5	3.2	0.2	2.5	3	▲

- ▲ 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

槽铣削 (圆弧插补铣削)

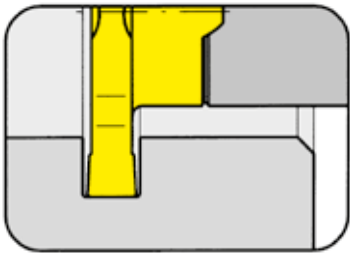
Groove Milling by circular interpolation



刀片
Insert

306

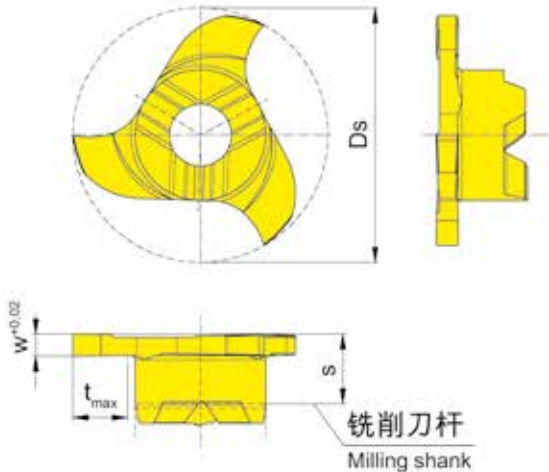
切槽深度可达	Depth of groove up to	2.5 mm
槽宽	Width of groove	1 mm
切削刃Ø	Cutting edge Ø	11.7 mm



B

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	t _{max}	Z	TN35	
306.0100.1.00	11.7	1	3.2	2.5	3	▲	
						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

硬质合金牌号
Carbide grades

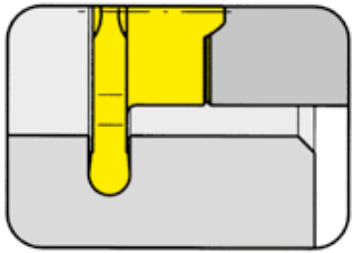
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

刀片
Insert

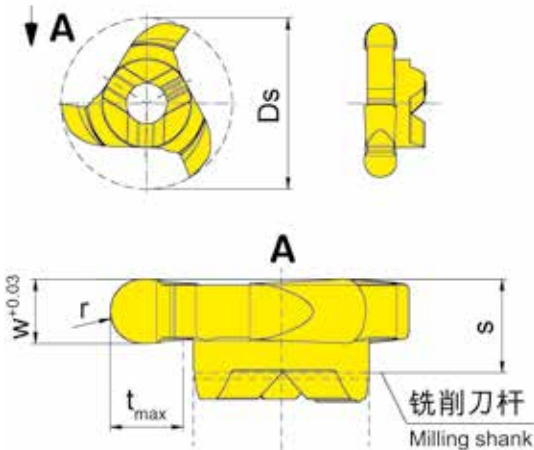
306



切槽深度可达
圆头
切削刃Ø

Depth of groove up to
Full radius
Cutting edge Ø

2.5 mm
1.1 mm
11.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

圆头
Full radius

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TF45	TI25	TN35
306.0011.22	11.7	2.2	3.2	1.1	2.5	3	Δ	▲	Δ	▲	▲
▲ 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

硬质合金牌号
Carbide grades

扩孔和倒角

Milling of bores and Chamfering



刀片

Insert

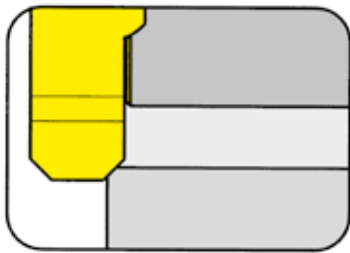
306

B

倒角规格尺寸
切削刃Ø

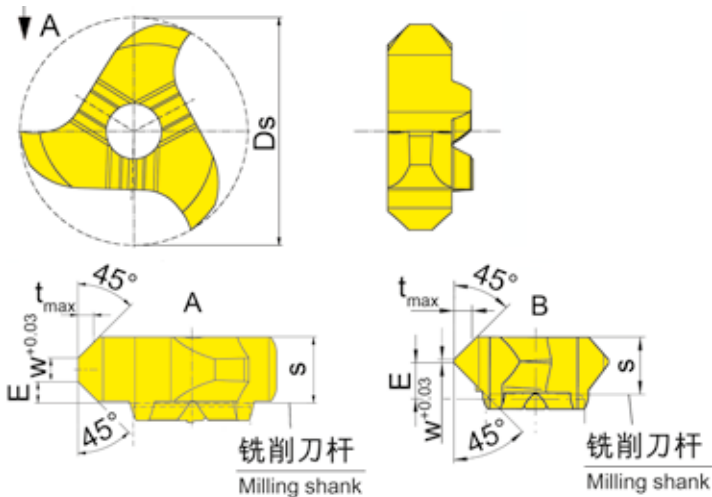
Size of chamfer up to
Cutting edge Ø

1.4 mm
9.3-11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	形式 形式	t _{max}	Z		MG12	TF45	TI25	TN35
306.4545.00	1.1	3.4	11.7	1.2	A	0.8	3		▲	▲	▲	▲
306.4593.20	1.6	3.4	9.3	0.2	B	1.4	3				▲	
▲ 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	•	•	•
- 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

硬质合金牌号
Carbide grades

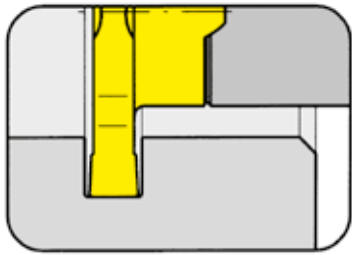
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

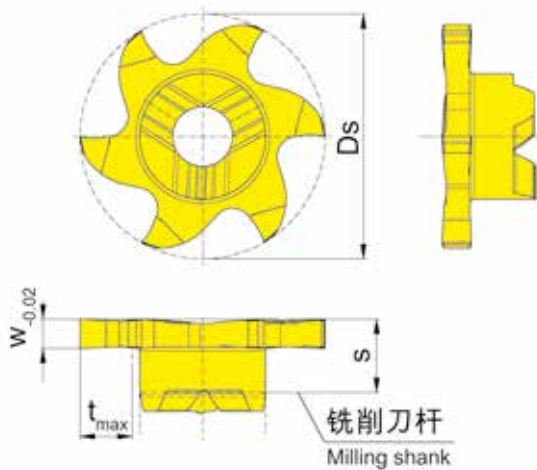
刀片
Insert

606



切槽深度可达	Depth of groove up to	2.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	11.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	AS45	TA45
606.0110.00	11.7	1.21	1.1	3.5	2.5	6		▲
606.0130.00	11.7	1.41	1.3	3.5	2.5	6		▲
606.0160.00	11.7	1.71	1.6	3.5	2.5	6	▲	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



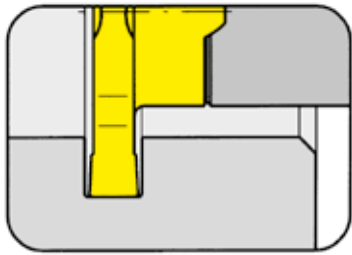
刀片
Insert

606

切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

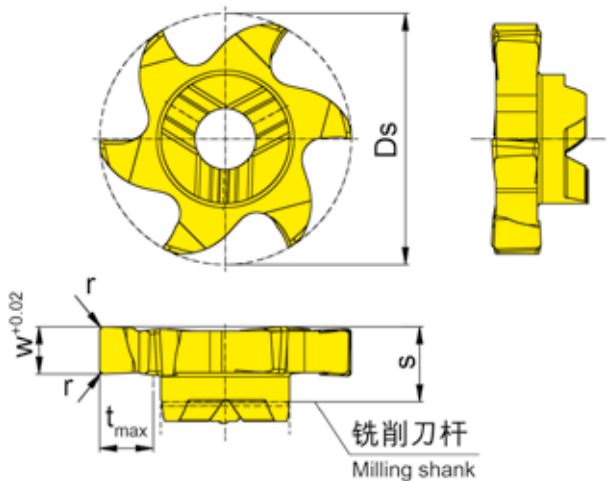
2.5 mm
1.5-2.5 mm
11.7 mm



B

用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TA45
606.0150.00	11.7	1.5	3.2	-	2.5	6	▲	▲
606.0200.00	11.7	2.0	3.5	0.2	2.5	6	▲	▲
606.0250.00	11.7	2.5	3.5	0.2	2.5	6	▲	▲

▲ 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

倒角 Chamfering



B

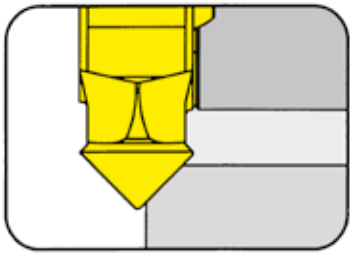
刀片 Insert

606

倒角宽度
切削刃Ø

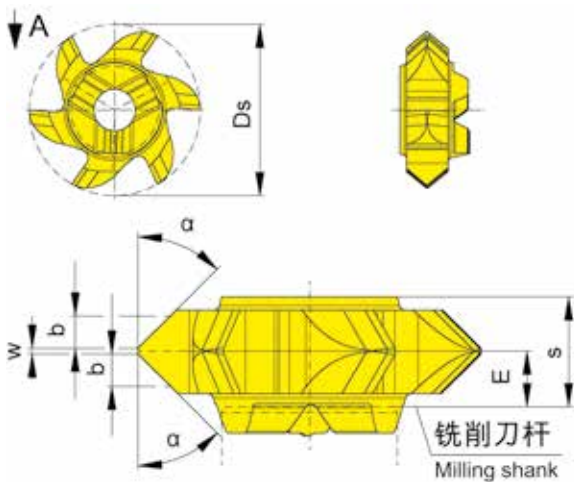
Width of chamfer
Cutting edge Ø

1.1-1.5 mm
11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	α	b	Z	TA45
606.1515.20	1.9	3.7	11.7	0.2	15°	1.5	6	Δ
606.2020.20	1.9	3.7	11.7	0.2	20°	1.5	6	▲
606.3030.20	1.9	3.7	11.7	0.2	30°	1.5	6	▲
606.4545.20	1.9	3.7	11.7	0.2	45°	1.1	6	▲

▲ 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

刀片

Insert

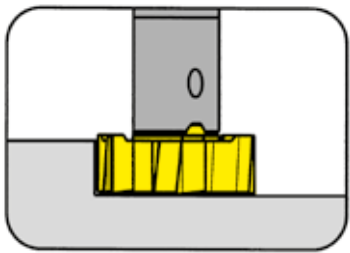
606

B

切深可达
切削刃Ø

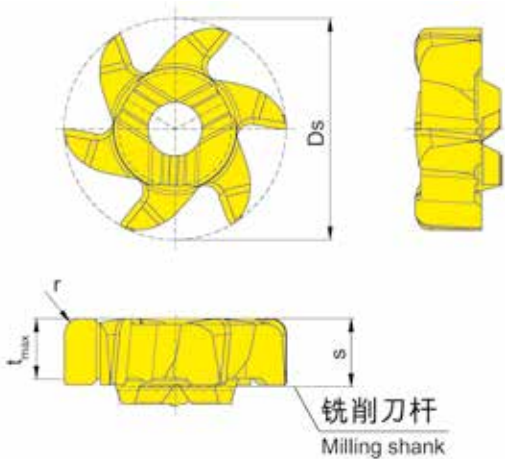
Depth of cut up to
Cutting edge Ø

3.2 mm
11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s		AS45	Ti25
606.PLT6.08	11.7	6	0.8	3.2	3.6		▲	▲
▲ 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

硬质合金牌号
Carbide grades

面铣削

Face Milling



B

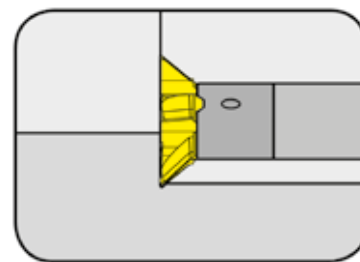
刀片
Insert

606

切深可达
切削刃Ø

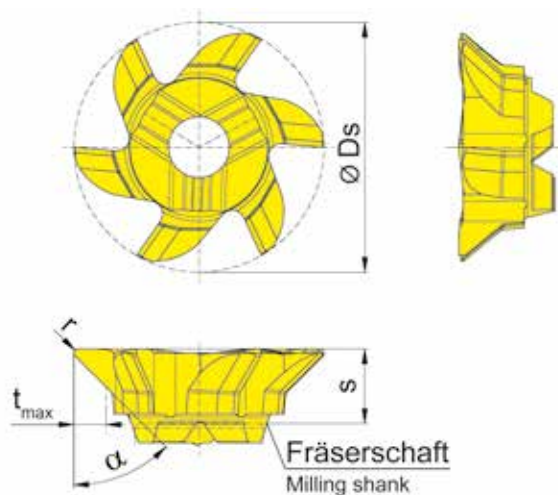
Depth of cut up to
Cutting edge Ø

1.5 mm
11.7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type M306.ER
M306.ST
M306.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	α	t _{max}	s	AS45
606.0015.22	11.7	6	0.2	15°	0.7	3.5	▲
606.0030.22	11.7	6	0.2	30°	1.4	3.5	▲
606.0045.22	11.7	6	0.2	45°	1.5	3.5	▲

▲ 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

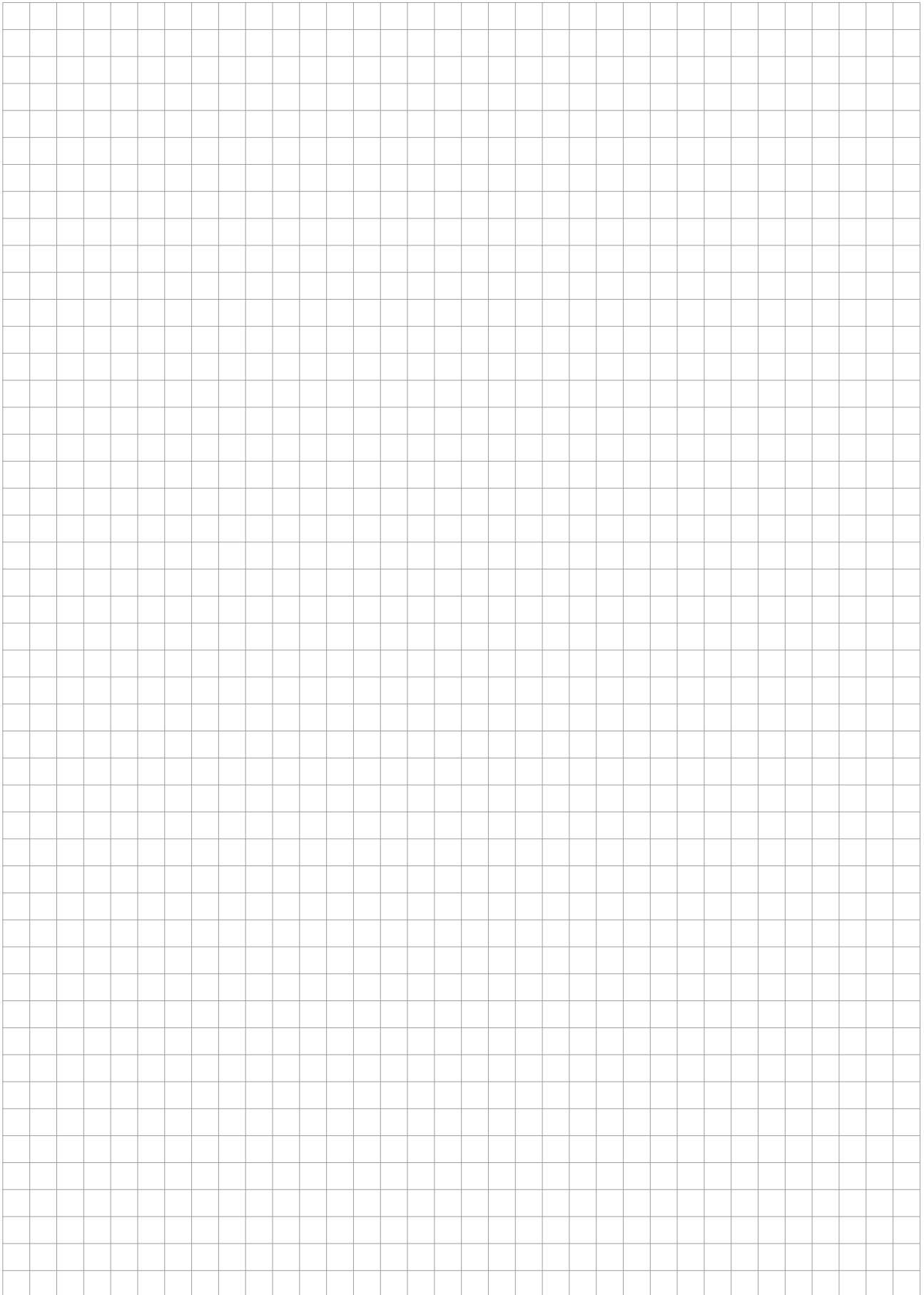
钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm

Dimensions in mm

P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades



槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

铣刀杆

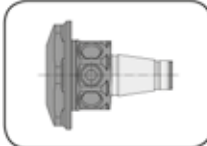
Milling shank
M308/M308.ST/
M308.ER



页/Page
B34-B37

基础刀柄

Basic Holder
WFB



页/Page
B38

螺纹锁紧铣刀

Screw-in cutter
M308.M.M



页/Page
B39

刀片

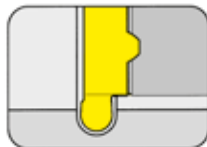
Insert
111/308/608



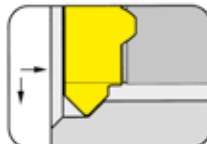
页/Page
B40



页/Page
B41-B42, B45-B48, B51



页/Page
B43, B49



页/Page
B44, B50, B52

M308



可替换刀片的
铣刀

孔径Ø 自 13,7 mm

Milling Cutter with
exchangeable insert

from bore Ø 13,7 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

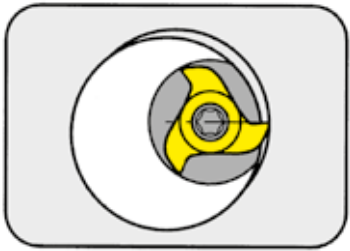


B

铣刀杆

Milling shank

M308
直接冷却液供应
with through coolant supply

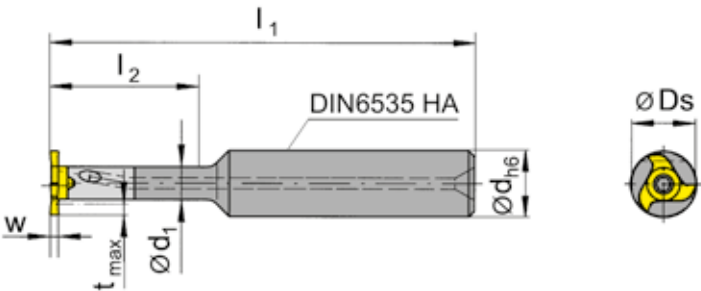


切削刃Ø Cutting edge Ø 13,4/15,7 mm

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

配合刀片
for Insert

型号 111
Type 308
 608



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M308.0012.01A	12	95	29	8.0	A
M308.0012.02A	12	110	42	8.0	A
M308.0012.03A	12	120	56	8.0	A
M308.0012.07 A	12	160	-	8.0	A
M308.1012.02A	12	110	42	9.5	A
M308.1016.01A	16	110	33	9.5	A
M308.1016.02A	16	110	45	9.5	A
M308.1016.03A	16	130	64	9.5	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
所有刀杆都可以配合右手型或左手型111系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:
All milling cutter shanks can be used for **right** and **left** hand inserts type 111.
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308...	3.5.12T10EP	T10PL

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



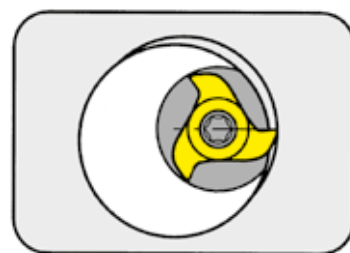
B

铣刀杆

Milling shank

M308

直接冷却液供应
with through coolant supply



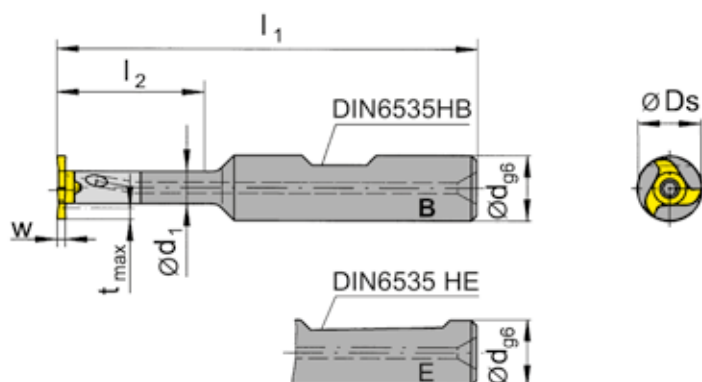
切削刃Ø Cutting edge Ø 13,4/15,7 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance

配合刀片
for Insert

型号 111
Type 308
 608



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M308.0012.01B	12	95	29	8.0	B
M308.0012.02B	12	110	42	8.0	B
M308.0012.03B	12	120	56	8.0	B
M308.1012.02B	12	110	42	9.5	B
M308.1016.01B	16	110	33	9.5	B
M308.1016.02B	16	110	45	9.5	B
M308.1016.03B	16	130	64	9.5	B
M308.0012.01E	12	95	29	8.0	E
M308.0012.02E	12	110	42	8.0	E
M308.0012.03E	12	120	56	8.0	E
M308.1012.02E	12	110	42	9.5	E
M308.1016.01E	16	110	33	9.5	E
M308.1016.02E	16	110	45	9.5	E
M308.1016.03E	16	130	64	9.5	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

所有刀杆都可以配合右手型或左手型111系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:

All milling cutter shanks can be used for **right** and **left** hand inserts type 111.

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308...	3.5.12T10EP	T10PL

槽铣削 (圆弧插补铣削)

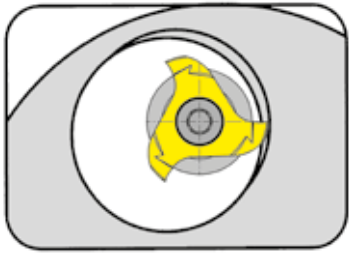
Groove Milling by circular interpolation



B

铣刀杆
Milling shank

M308.ST

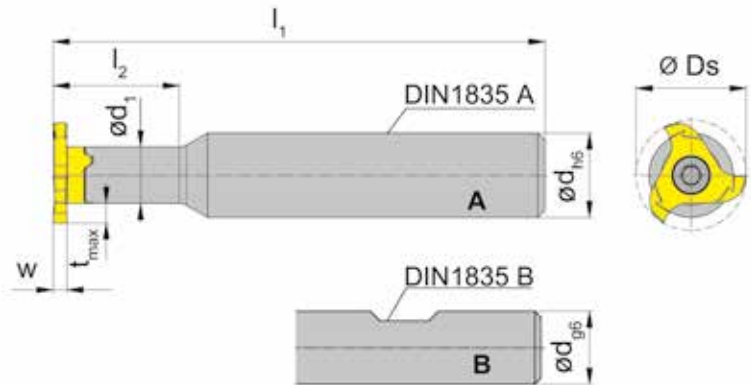


配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

配合刀片
for Insert

型号 111
Type 308
608



Bestellnummer Part number	d	l ₁	l ₂	d ₁	形式 Form
M308.ST10.01A	10	60	18	8	A
M308.ST12.01A	12	70	18	8	A
M308.ST13.01A	13	70	26	8	A
M308.ST10.01B	10	60	18	8	B
M308.ST12.01B	12	70	18	8	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :
所有刀杆都可以配合右手型或左手型111系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:
All milling cutter shanks can be used for **right** and **left** hand inserts type 111.
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308...	3.5.12T10EP	T10PL

槽铣削 (圆弧插补铣削)

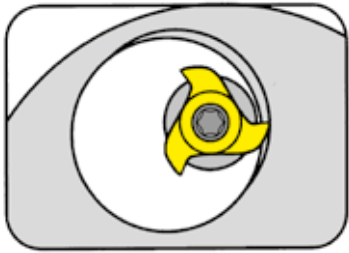
Groove Milling by circular interpolation



铣刀杆

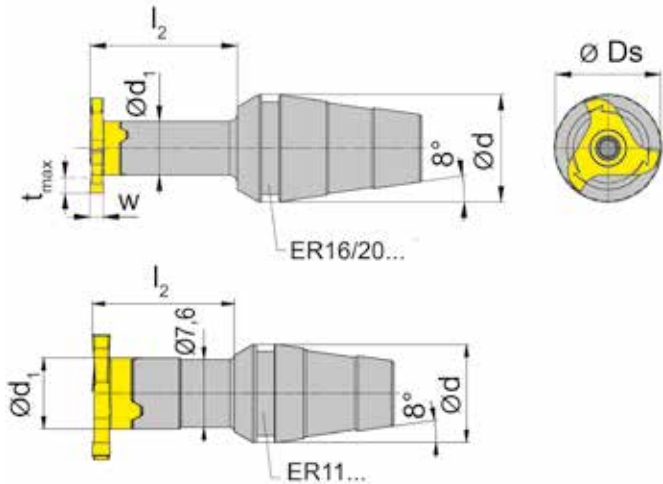
Milling shank

M308.ER



配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 111
Type 308
608

产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M308.ER11.02	11	16	8	ER11.6499
M308.ER16.02	16	22	8	ER16.6499/ERM16.6499
M308.ER20.02	20	22	8	ER20.6499/ERM20.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :

铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

所有铣刀杆都适用于右手型和左手型111系列刀片。

All milling cutter shanks can be used for **right** and **left** hand inserts type 111.

螺丝的扭矩规格, 详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308...	3.5.12T10EP	T10PL

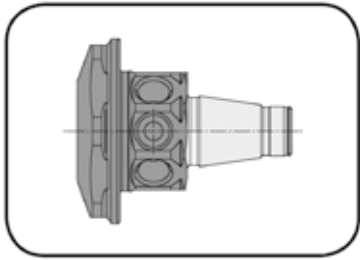
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

常规刀柄
Basic Holder

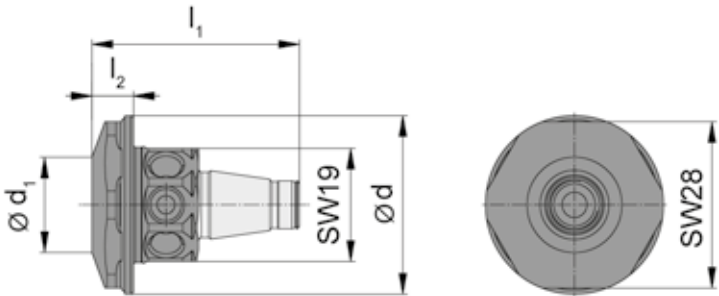
WFB



配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter

配合螺纹锁紧型铣刀
for Screw-in cutter

- 型号 M306.M081...
Type M308.M081...
 M313.M081...
 M328.M081...
 M332.M081...
 M311.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

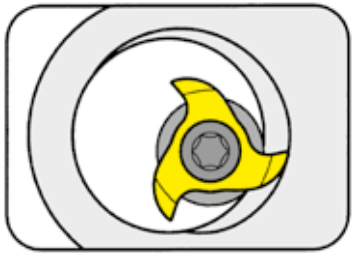
尺寸单位 : mm
Dimensions in mm

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



螺纹锁紧铣刀
Screw-in cutter

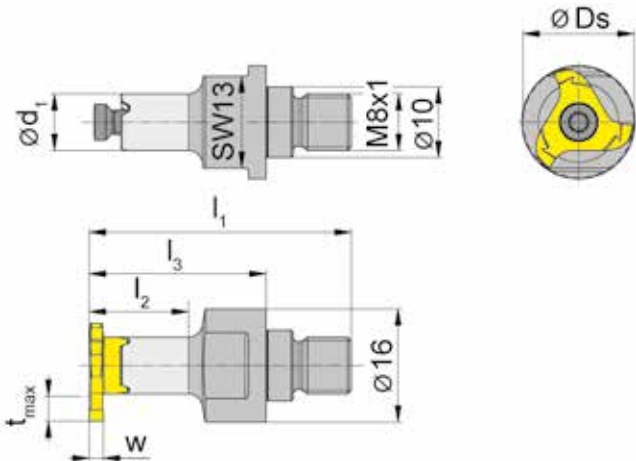
M308.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20

配合刀片
for Insert

型号 111
Type 308
608



产品型号 Part number	l_1	l_2	l_3	d_1	SW
M308.M081.01	37	14	25	8	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308.M081.01	3.5.12T10EP	T10PL

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

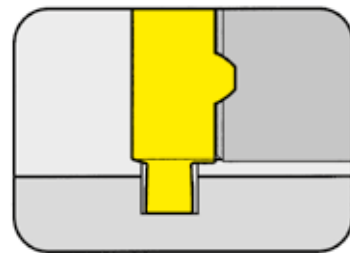
刀片
Insert

111

切槽深度可达
卡簧宽度Nw
切削刃Ø

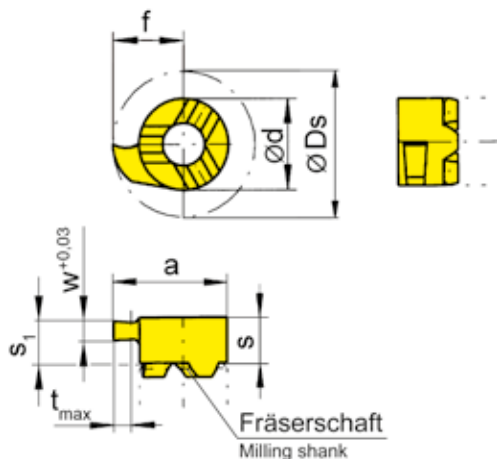
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

1.5 mm
0.7-0.9 mm
13.4 mm



卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

不能面切削， 有限的切削深度
limited depth of cut

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	Ds	w	Nw	s	s ₁	f	a	d	t _{max}	Z		MG12	EG55	TH35	TN35
R/L111.0070.00	13.4	0.74	0.7	4.15	3.95	6.7	10.7	8	1.2	1			▲/▲	▲/▲	▲/▲
R/L111.0080.00	13.4	0.84	0.8	4.15	3.95	6.7	10.7	8	1.3	1			▲/▲	▲/▲	▲/▲
R/L111.0090.00	13.4	0.94	0.9	4.15	3.95	6.7	10.7	8	1.5	1		▲/▲	▲/▲	▲/▲	▲/▲
▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

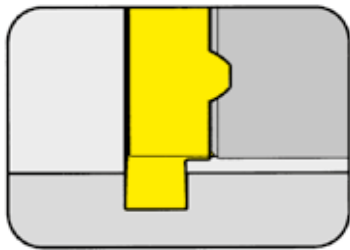
111

B

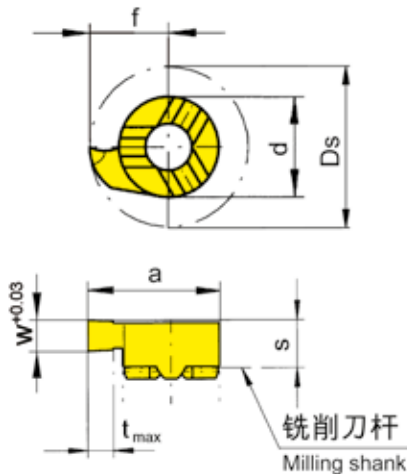
切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to
Width of circlip Nw
Cutting edge Ø

2.3 mm
1.1-1.6 mm
13.4 mm



卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

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	Ds	w	Nw	s	f	a	d	t _{max}	Z	MG12	EG55	TH35	TN35
R/L111.0110.00	13.4	1.19	1.1	3.95	6.7	10.7	8	2.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0130.00	13.4	1.39	1.3	3.95	6.7	10.7	8	2.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0160.00	13.4	1.69	1.6	3.95	6.7	10.7	8	2.3	1	▲/▲	▲/▲	▲/▲	▲/▲
▲ 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	•	•	•
- 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

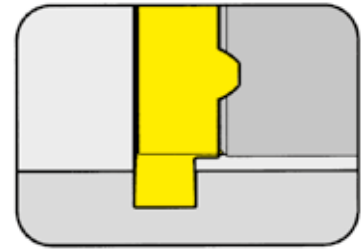
刀片
Insert

111

切槽深度可达
槽宽
切削刃Ø

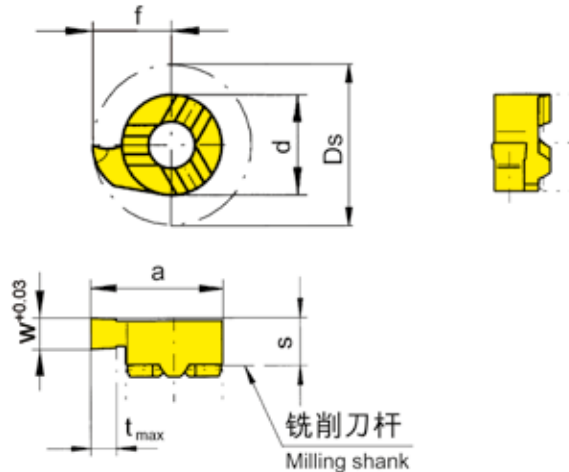
Depth of groove up to
Width of groove
Cutting edge Ø

2.3 mm
1.5-3 mm
13.4 mm



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M



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	Ds	w	s	f	a	d	t _{max}	Z		MG12	EG55	TH35	TN35
R/L111.0150.00	13.4	1.5	3.95	6.7	10.7	8	2.3	1		▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0200.00	13.4	2.0	3.95	6.7	10.7	8	2.3	1		▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0250.00	13.4	2.5	3.95	6.7	10.7	8	2.3	1		▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0300.00	13.4	3.0	3.95	6.7	10.7	8	2.3	1		▲/▲	▲/▲	▲/▲	▲/▲
▲ 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	•	•	•
- 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



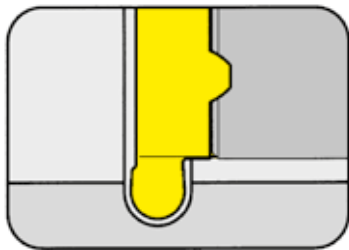
刀片
Insert

111

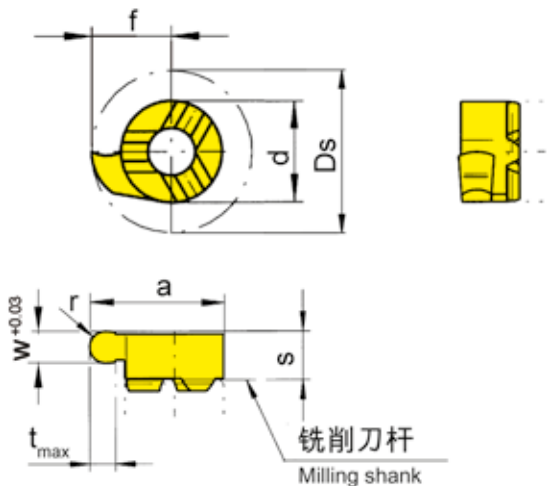
切槽深度可达
圆头
切削刃Ø

Depth of groove up to
Full radius
Cutting edge Ø

2.3 mm
0.4-1.5 mm
13.4 mm



B



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

圆头
Full radius

产品型号 Part number	Ds	w	s	f	a	d	r	t _{max}	Z		MG12	EG55	TH35	TN35
R/L111.0004.08	13.4	0.8	3.95	6.7	10.7	8	0.4	2.3	1			▲/▲	▲/▲	▲/▲
R/L111.0006.12	13.4	1.2	3.95	6.7	10.7	8	0.6	2.3	1		▲/Δ	▲/▲	▲/▲	▲/▲
R/L111.0009.18	13.4	1.8	3.95	6.7	10.7	8	0.9	2.3	1		▲/Δ	▲/▲	▲/▲	▲/▲
R/L111.0010.20	13.4	2.0	3.95	6.7	10.7	8	1.0	2.3	1		▲/▲	▲/▲	▲/▲	▲/▲
R/L111.0015.30	13.4	3.0	3.95	6.7	10.7	8	1.5	2.3	1		▲/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

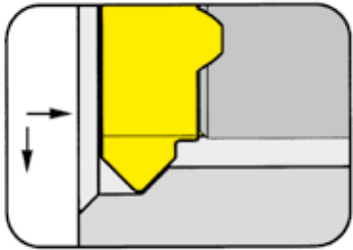
倒角
Chamfering



B

刀片
Insert

111



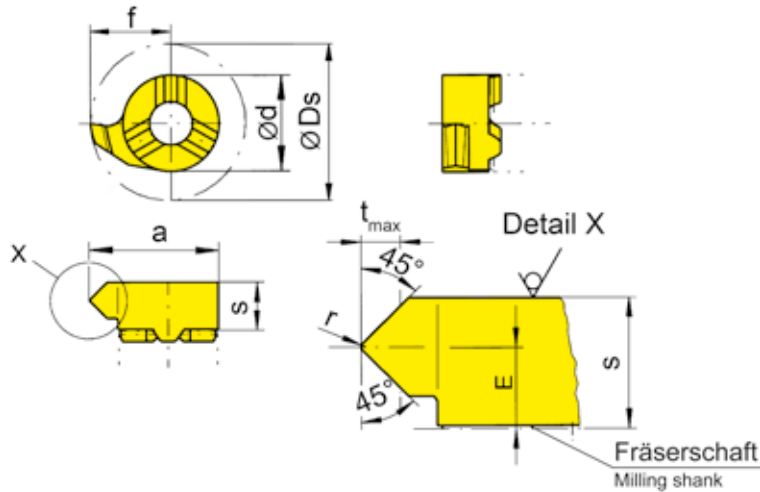
倒角规格尺寸
切削刃Ø

Size of chamfer up to
Cutting edge Ø

1.5 mm
13.4 mm

用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M



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	E	s	f	Ds	a	d	r	t _{max}	Z		EG55	TN35
R/L111.4545.02	2.4	4.15	6.7	13.4	10.7	8	0.2	1.5	1		▲/▲	▲/▲
▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

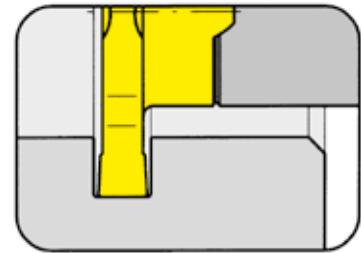
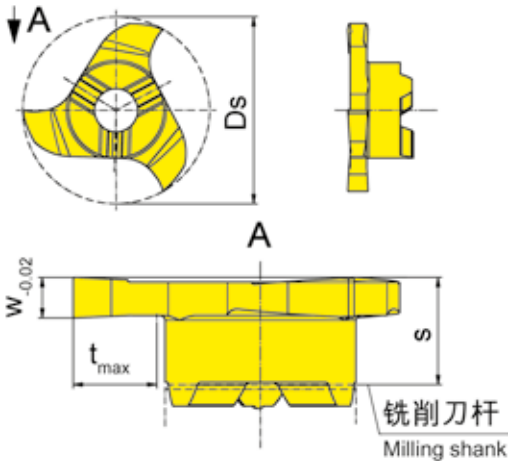


刀片
Insert

308

切槽深度可达	Depth of groove up to	3.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	15.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



B

用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	AS45	TF45	TN35
308.0110.00	15.7	1.21	1.1	4.5	3.5	3		▲	▲
308.0130.00	15.7	1.41	1.3	4.5	3.5	3	△	△	▲
308.0160.00	15.7	1.71	1.6	4.5	3.5	3	△	△	▲
▲ 库存 / on stock △ 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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



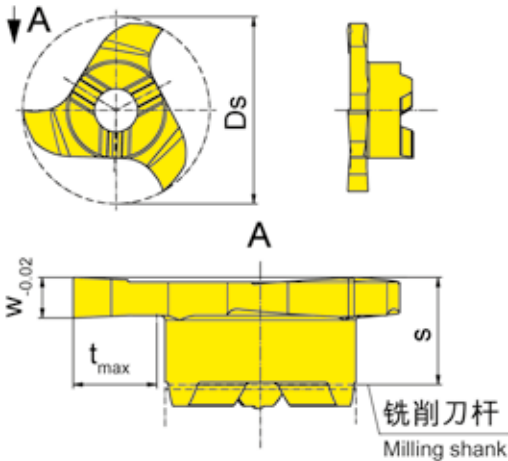
B

刀片
Insert

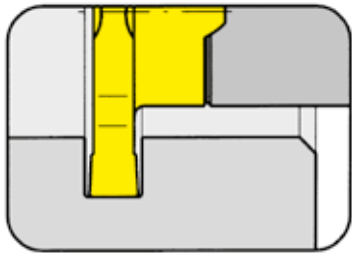
308
铝加工
machining of aluminium

切槽深度可达	Depth of groove up to	3.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	15.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



图示=右手型
Picture = right hand cutting version



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	Tl25
308.0110.40	15.7	1.21	1.1	4.5	3.5	3	▲
308.0130.40	15.7	1.41	1.3	4.5	3.5	3	▲
308.0160.40	15.7	1.71	1.6	4.5	3.5	3	▲

- ▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

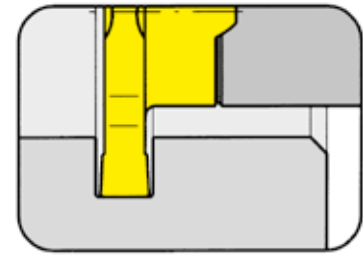
308

B

切槽深度可达
槽宽
切削刃Ø

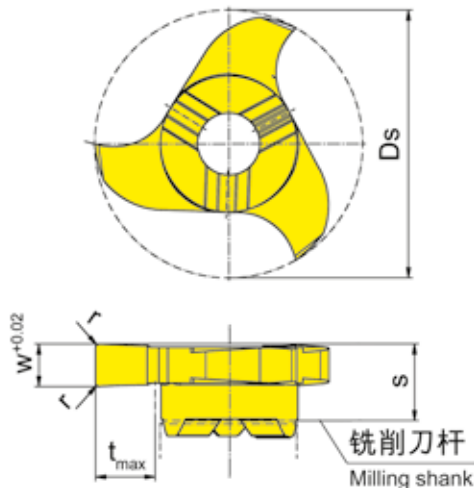
Depth of groove up to
Width of groove
Cutting edge Ø

3.5 mm
1.5-2.5 mm
15.7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TF45	TN35
308.0150.00	15.7	1.5	4.5	-	3.5	3	▲	▲	▲	▲
308.0200.00	15.7	2.0	4.5	0.2	3.5	3	△	▲	△	▲
308.0250.00	15.7	2.5	4.5	0.2	3.5	3	▲	▲	▲	▲
▲ 库存 / on stock △ 4周 / 4 weeks × 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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

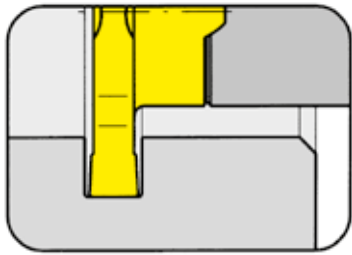


B

刀片
Insert

308

铝加工
machining of aluminium



切槽深度可达
槽宽
切削刃Ø

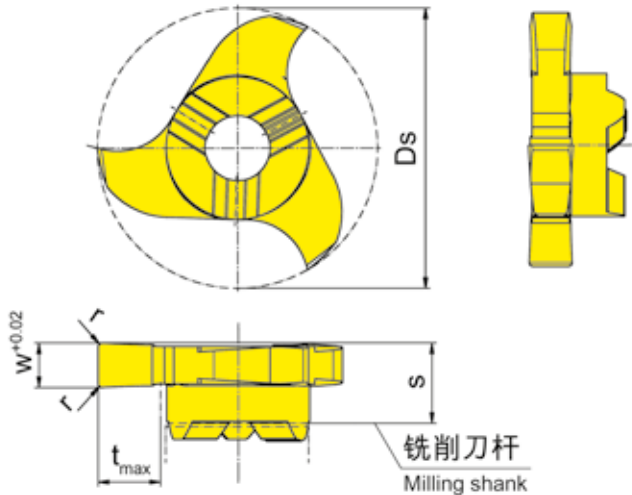
Depth of groove up to
Width of groove
Cutting edge Ø

3.5 mm
1.5-2.5 mm
15.7 mm

用于铣削刀柄
for Milling shank

型号
Type

M308
M308.ER
M308.ST
M308.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	Ti25
308.0150.40	15.7	1.5	4.5	-	3.5	3	▲
308.0200.40	15.7	2.0	4.5	0.2	3.5	3	▲
308.0250.40	15.7	2.5	4.5	0.2	3.5	3	▲
							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

注意事项 :
可以提供浅切深的槽宽0.5mm以下的刀片。

Note:
Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

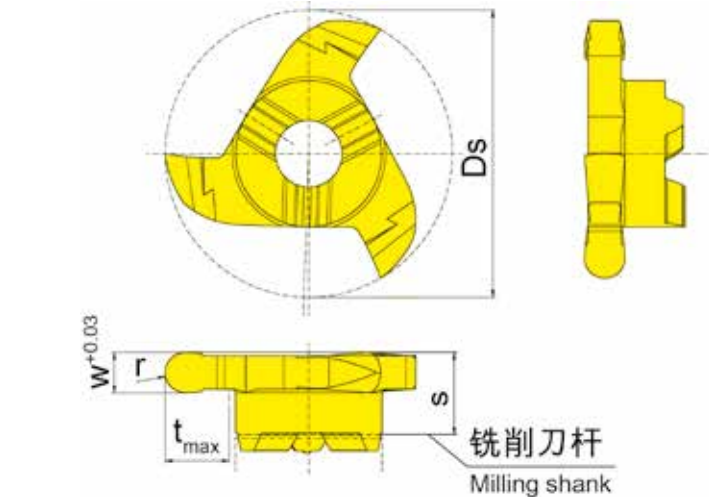
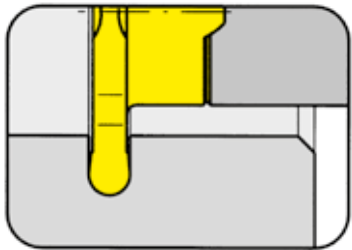
Groove Milling by circular interpolation



刀片
Insert

308

切槽深度可达	Depth of groove up to	3.5 mm
圆头	Full radius	1.1 mm
切削刃Ø	Cutting edge Ø	15.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

圆头
Full radius

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TF45	TI25	TN35
308.0011.22	15.7	2.2	4.5	1.1	3.5	3	Δ	▲	▲	Δ	▲
▲ 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

硬质合金牌号
Carbide grades

B

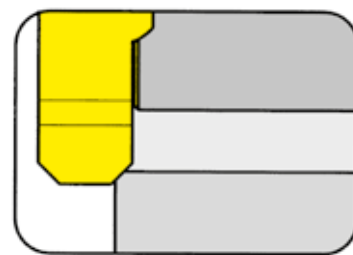
倒角 Chamfering



B

刀片
Insert

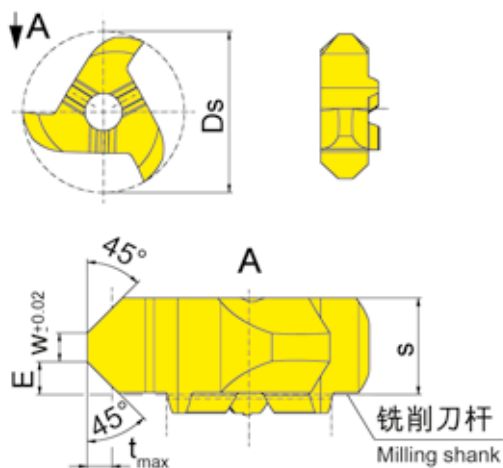
308



倒角规格尺寸
切削刃Ø

Size of chamfer up to
Cutting edge Ø

1.2 mm
15.7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	t _{max}	Z		MG12	TF45	TI25	TN35
308.4545.00	1.6	4.7	15.7	1.4	1.2	3		Δ	Δ	x	▲
▲ 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	•	•	•
- 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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

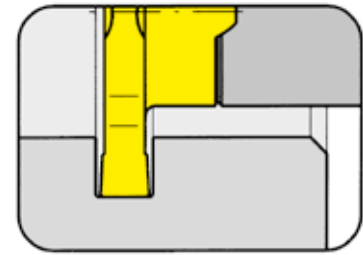
608

B

切槽深度可达
槽宽
切削刃Ø

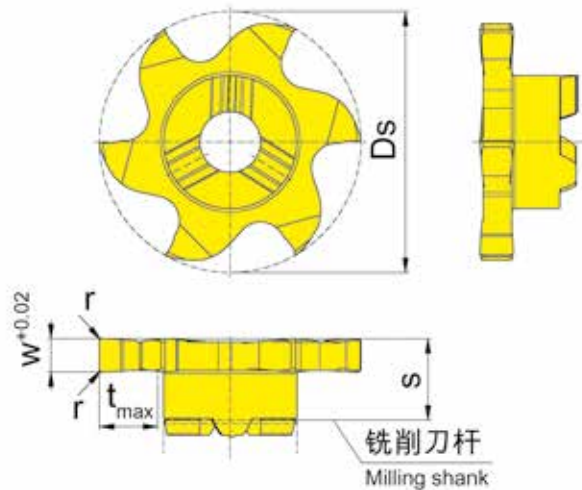
Depth of groove up to
Width of groove
Cutting edge Ø

3.5 mm
1.5-2.5 mm
15.7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
608.0150.00	15.7	1.5	4.9	-	3.5	6	▲	▲
608.0200.00	15.7	2.0	4.9	0.2	3.5	6	▲	▲
608.0250.00	15.7	2.5	4.9	0.2	3.5	6	▲	▲

▲ 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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

P	•	•
M	•	•
K	•	•
N	○	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

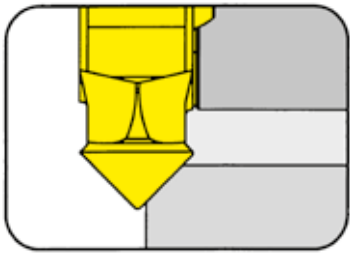
倒角
Chamfering



B

刀片
Insert

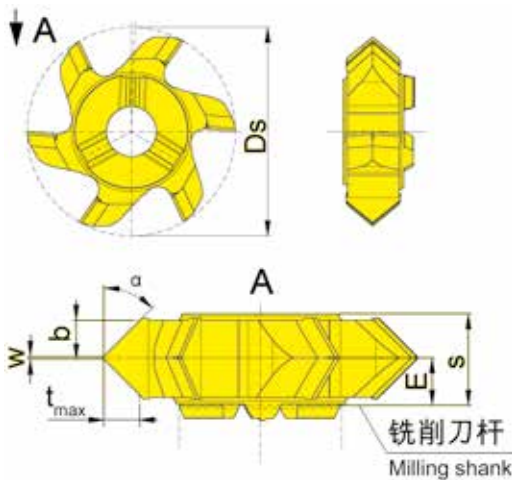
608



倒角尺寸
切削刃Ø

Size of chamfer
Cutting edge Ø

0.6-1.7 mm
15.7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type M308.ER
M308.ST
M308.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	α	b	t _{max}	Z		TA45	TI25
608.1515.20	2.6	5.1	15.7	0.2	15°	2.2	0.6	6		▲	
608.2020.20	2.6	5.1	15.7	0.2	20°	2.2	0.8	6		▲	
608.3030.20	2.6	5.1	15.7	0.2	30°	2.2	1.3	6		▲	
608.4545.20	2.6	5.1	15.7	0.2	45°	1.7	1.7	6			▲

▲ 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

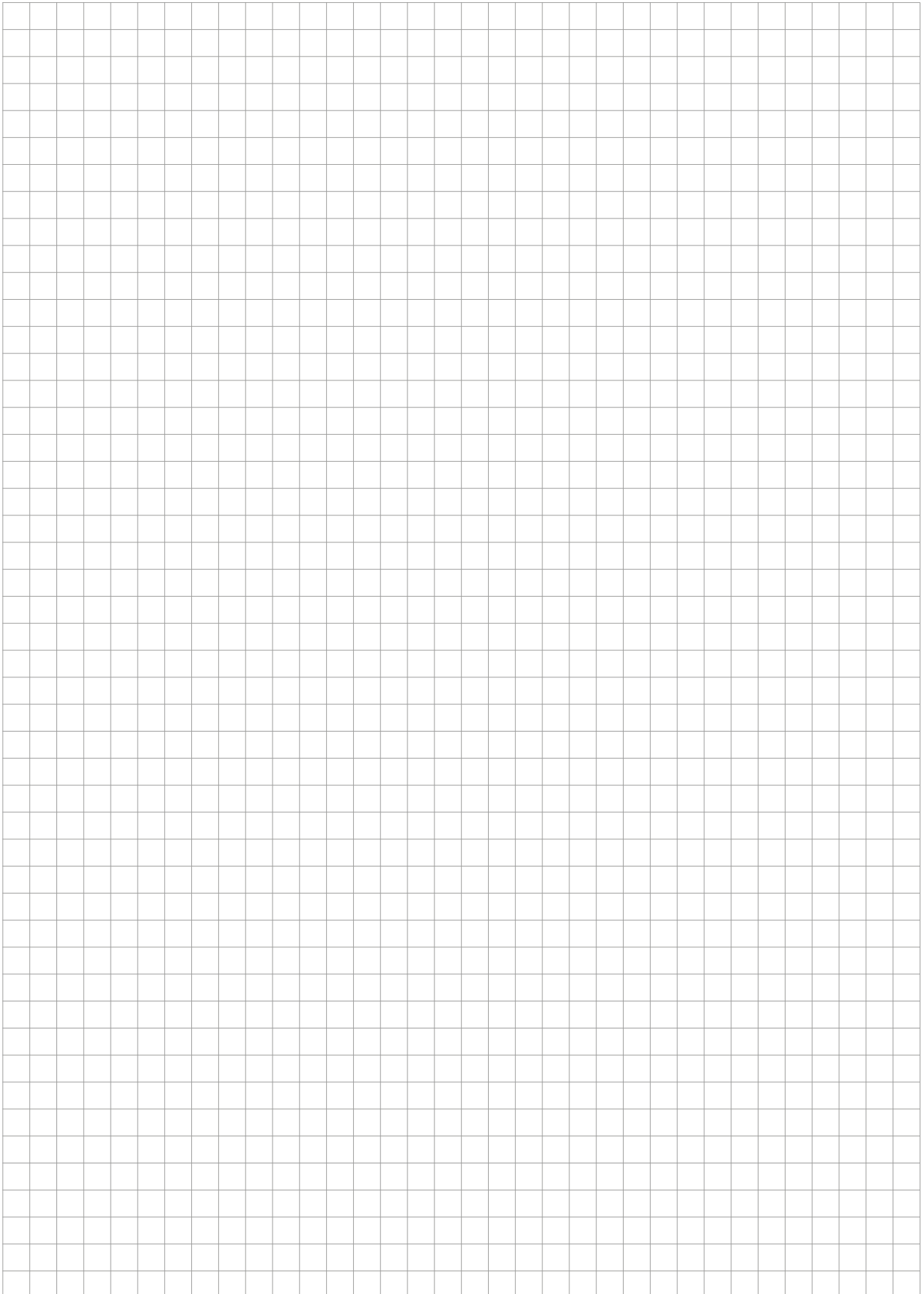
■ 涂层 / coated grades

■ 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



槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

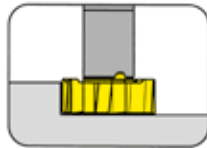


B

铣刀杆
Milling shank
M311/M311.ER

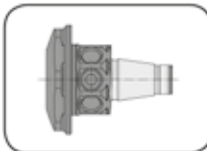


页/Page
B56-B61



页/Page
B62-B63

基础刀柄
Basic Holder
WFB



页/Page
B64

螺纹锁紧铣刀
Screw-in cutter
M311.M.M

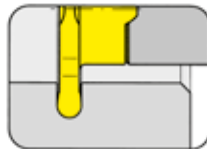


页/Page
B65

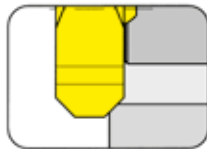
刀片
Insert
311/611



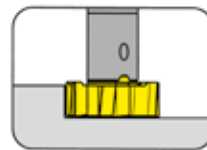
页/Page
B66-B69, B72-B73



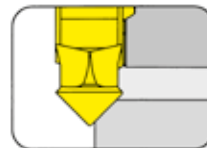
页/Page
B70



页/Page
B71



页/Page
B74



页/Page
B75

M311



可替换刀片的
铣刀

孔径Ø 自 18 mm

Milling Cutter with
exchangeable insert

from bore Ø 18 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



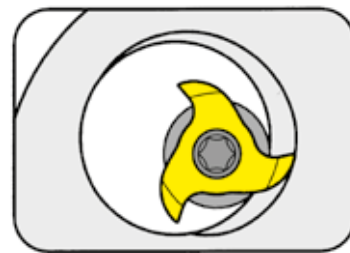
B

铣刀杆

Milling shank

M311

直接冷却液供应
with through coolant supply



切削刃Ø

Cutting edge Ø

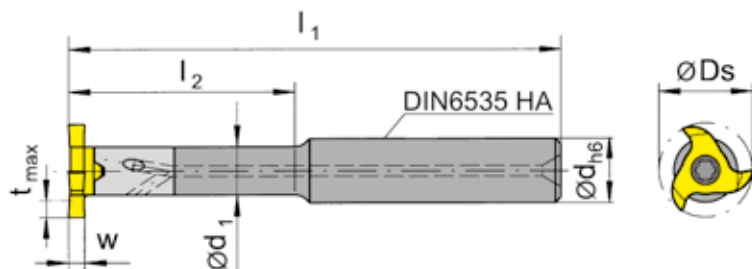
17,7 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance

配合刀片
for Insert

型号 311
Type 611



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.0012.01A	12	100	32	9	A
M311.0012.02A	12	100	45	9	A
M311.0012.03A	12	120	64	9	A
M311.0016.01A	16	100	32	9	A
M311.0016.02A	16	110	45	9	A
M311.0016.03A	16	130	64	9	A
M311.1316.01A	16	110	32	13	A
M311.1316.02A	16	130	45	13	A
M311.1316.03A	16	145	64	13	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

HORN可以返修损坏的铣刀杆基座座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

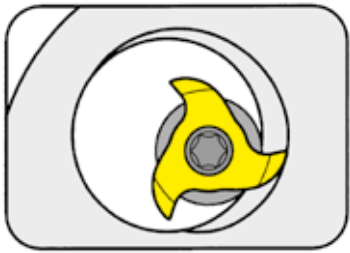
Groove Milling by circular interpolation



铣刀杆

Milling shank

M311
直接冷却液供应
with through coolant supply

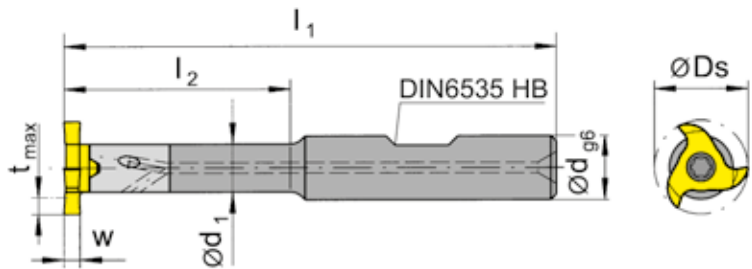


切削刃Ø	Cutting edge Ø	17,7 mm

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

配合刀片
for Insert

型号 311
Type 611



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.0012.01B	12	100	32	9	B
M311.0012.02B	12	100	45	9	B
M311.0012.03B	12	120	64	9	B
M311.0016.01B	16	100	32	9	B
M311.0016.02B	16	110	45	9	B
M311.0016.03B	16	130	64	9	B
M311.1316.01B	16	110	32	13	B
M311.1316.02B	16	130	45	13	B
M311.1316.03B	16	145	64	13	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



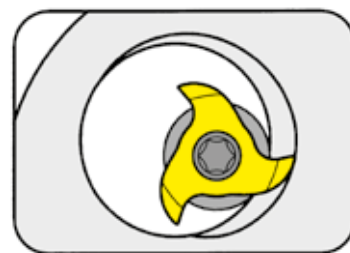
B

铣刀杆

Milling shank

M311

直接冷却液供应
with through coolant supply



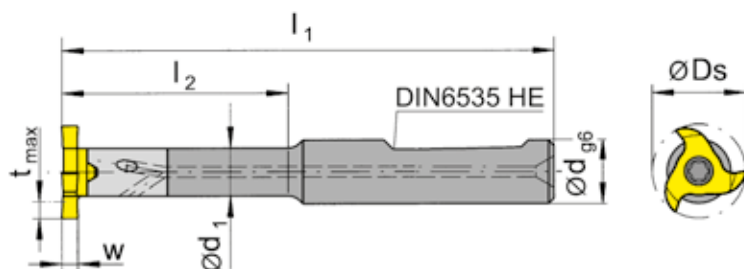
切削刃Ø Cutting edge Ø 17,7 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance

配合刀片
for Insert

型号 311
Type 611



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.0012.01E	12	100	32	9	E
M311.0012.02E	12	100	45	9	E
M311.0012.03E	12	120	64	9	E
M311.0016.01E	16	100	32	9	E
M311.0016.02E	16	110	45	9	E
M311.0016.03E	16	130	64	9	E
M311.1316.01E	16	110	32	13	E
M311.1316.02E	16	130	45	13	E
M311.1316.03E	16	145	64	13	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

HORN可以返修损坏的铣刀杆基座座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

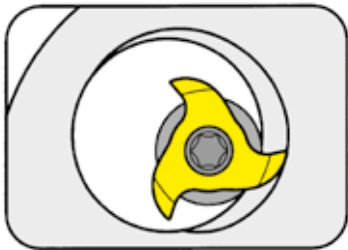
Groove Milling by circular interpolation



铣刀杆

Milling shank

M311



配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes



配合刀片
for Insert

型号 311
Type 611

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.ST10.01A	10	60	18	9	A
M311.ST12.01A	12	70	18	9	A
M311.ST13.01A	13	70	26	9	A
M311.ST16.01A	16	80	26	9	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

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

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

B

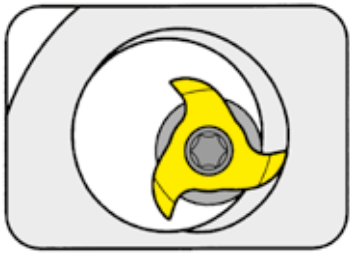
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

铣刀杆
Milling shank

M311



带夹紧平面的圆柱钢铣刀杆
Cylindrical steel milling shank with clamping flat

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

配合刀片
for Insert

型号 611
Type 311



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.ST10.01B	10	60	18	9	B
M311.ST12.01B	12	70	18	9	B

按需提供更多尺寸
Further sizes upon request

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

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

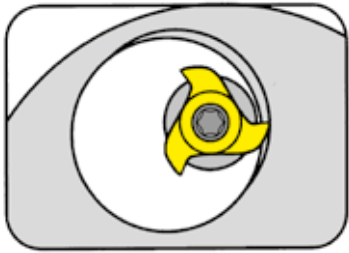
Groove Milling by circular interpolation



铣刀杆

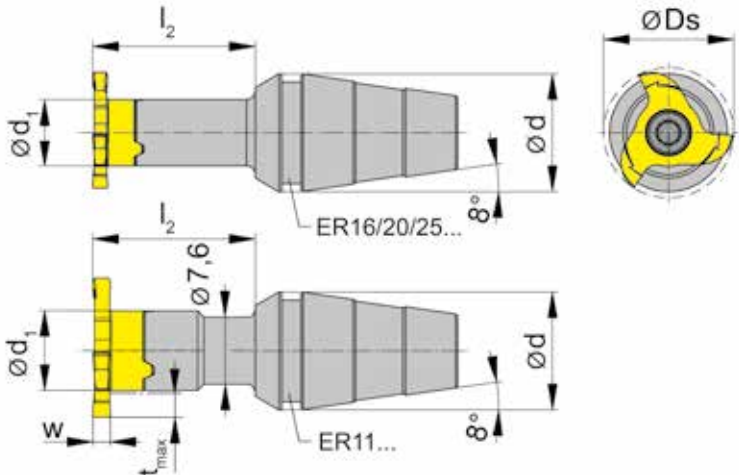
Milling shank

M311.ER



配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 311
Type 611

产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M311.ER11.02	11	22	9	ER11.6499
M311.ER25.02	25	22	9	ER25.6499
M311.ER16.02	16	22	9	ER16.6499/ERM16.6499
M311.ER20.02	20	22	9	ER20.6499/ERM20.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :

铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

螺丝的扭矩规格, 详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削/面铣削
Groove Milling / Face Milling



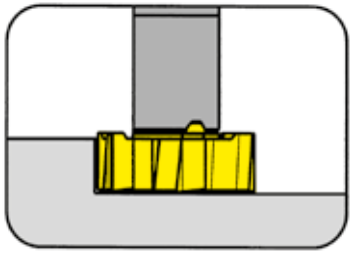
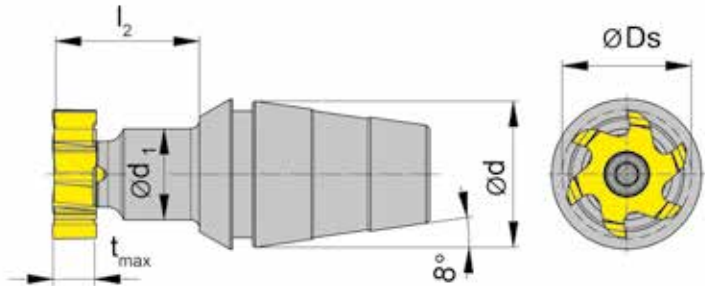
B

铣刀杆
Milling shank

M311.ER

配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 311
Type 611

产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M311.ER20.14.01	20	19.7	12.5	ER20.6499/ERM20.6499
M311.ER25.14.01	25	19.7	14.5	ER25.6499

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

铣刀杆不包含夹紧螺母-需要单独订购！

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

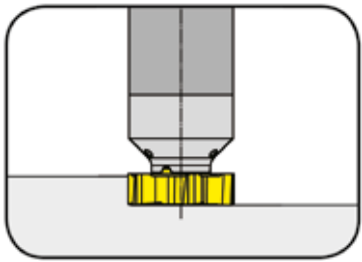
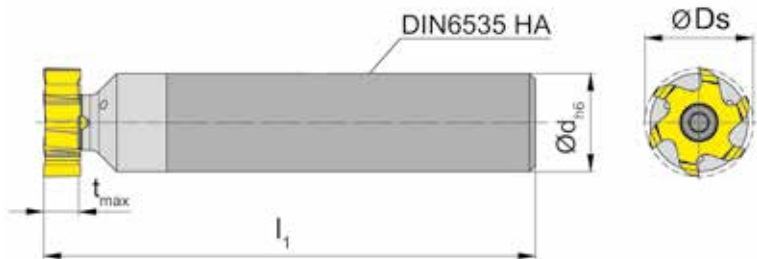
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311.ER20.14.01	4.14T15P	T15PQ
M311.ER25.14.01	4.14T15P	T15PL

铣刀杆
Milling shank

M311

用于筒夹的硬质合金圆柱刀柄
Cylindrical carbide shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes



配合刀片
for Insert

型号 311
Type 611

产品型号 Part number	d	l_1	形式 Form
M311.0012.D.00A	12	80	A
M311.0016.D.00A	16	80	A

按需提供更多尺寸
Further sizes upon request

t_{max} 和Ds见刀片
 t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

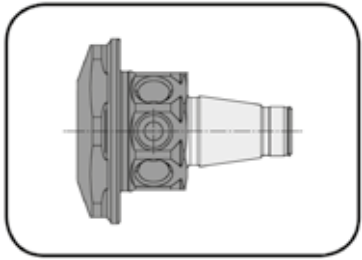
Groove Milling by circular interpolation



B

常规刀柄
Basic Holder

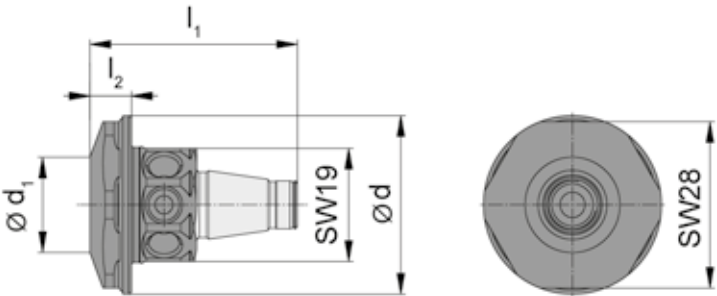
WFB



配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter

配合螺纹锁紧型铣刀
for Screw-in cutter

- 型号 M306.M081...
Type M308.M081...
 M311.M081...
 M313.M081...
 M328.M081...
 M332.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

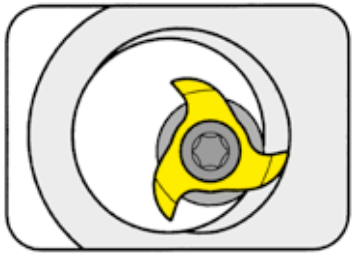
尺寸单位 : mm
Dimensions in mm

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



螺纹锁紧铣刀
Screw-in cutter

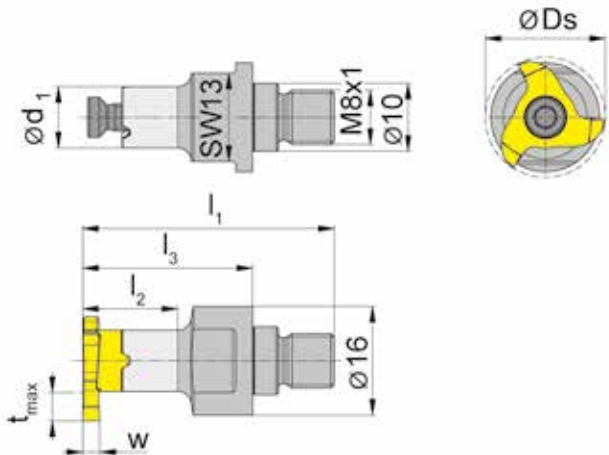
M311.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20

配合刀片
for Insert

型号 311
Type 611



产品型号 Part number	l_1	l_2	l_3	d_1	SW
M311.M081.01	37	14	25	9	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311.M081.01	4.14T15P	T15PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



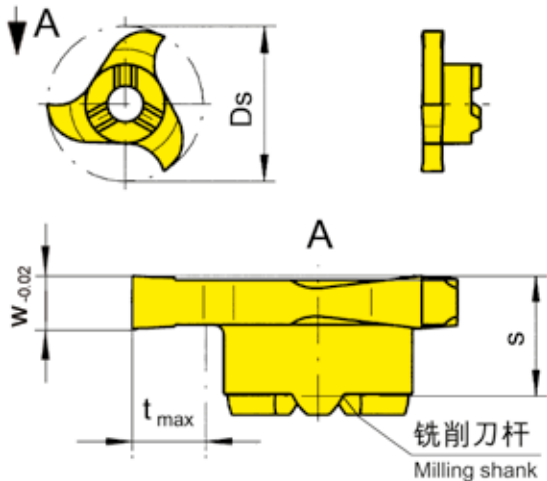
B

刀片
Insert

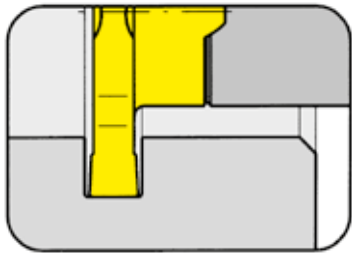
311

切槽深度可达	Depth of groove up to	3.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	17.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



图示=右手型
Picture = right hand cutting version



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	AS45	TN35
311.0110.00	17.7	1.21	1.1	5.75	3.5	3		▲
311.0130.00	17.7	1.41	1.3	5.75	3.5	3	△	▲
311.0160.00	17.7	1.71	1.6	5.75	3.5	3	△	▲

- ▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片

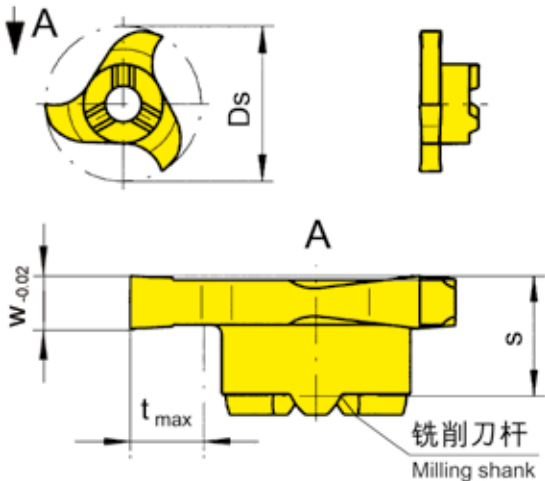
Insert

311

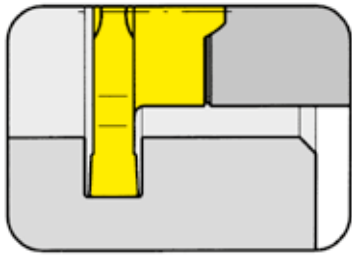
铝加工
machining of aluminium

切槽深度可达	Depth of groove up to	3.5 mm
卡簧宽度Nw	Width of circlip Nw	1.1-1.6 mm
切削刃Ø	Cutting edge Ø	17.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



图示=右手型
Picture = right hand cutting version



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	Tl25
311.0110.40	17.7	1.21	1.1	5.75	3.5	3	▲
311.0130.40	17.7	1.41	1.3	5.75	3.5	3	▲
311.0160.40	17.7	1.71	1.6	5.75	3.5	3	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

P	•
M	•
K	•
N	•
S	•
H	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

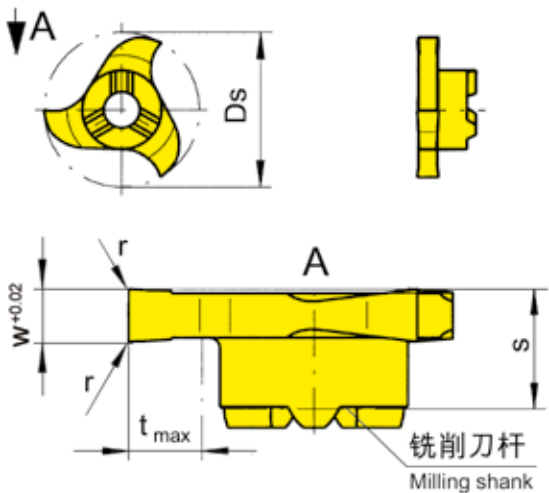
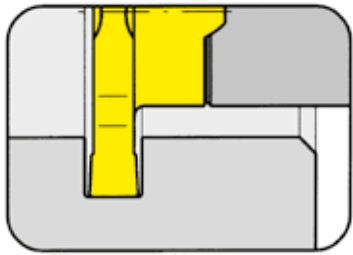
刀片
Insert

311

切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

3.5 mm
1.5-4 mm
17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z		MG12	AS45	TN35
311.0150.00	17.7	1.5	5.75	-	3.5	3		Δ	▲	▲
311.0200.00	17.7	2.0	5.75	0.2	3.5	3			▲	▲
311.0250.00	17.7	2.5	5.75	0.2	3.5	3			▲	▲
311.0300.00	17.7	3.0	5.75	0.2	3.5	3			▲	▲
311.0400.00	17.7	4.0	5.75	0.2	3.5	3			▲	
▲ 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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

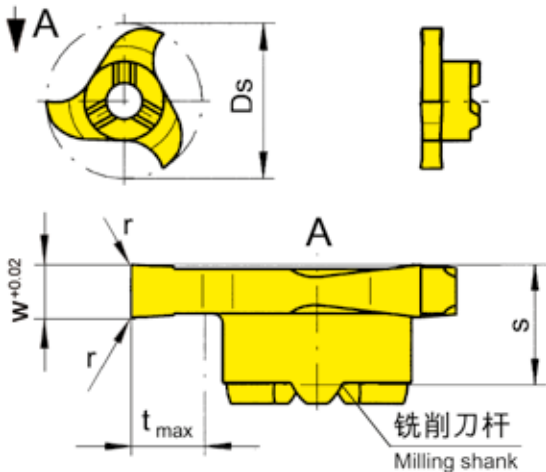
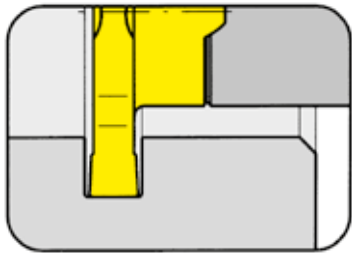


B

刀片
Insert

311
铝加工
machining of aluminium

切槽深度可达	Depth of groove up to	3.5 mm
槽宽	Width of groove	1.5-4 mm
切削刃Ø	Cutting edge Ø	17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	Tl25
311.0150.40	17.7	1.5	5.75	-	3.5	3	▲
311.0200.40	17.7	2.0	5.75	0.2	3.5	3	▲
311.0250.40	17.7	2.5	5.75	0.2	3.5	3	▲
311.0300.40	17.7	3.0	5.75	0.2	3.5	3	▲
311.0400.40	17.7	4.0	5.75	0.2	3.5	3	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

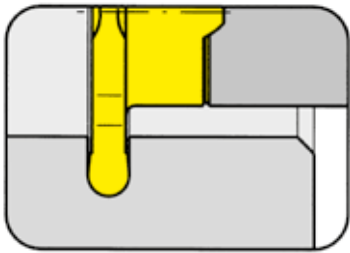
刀片
Insert

311

切槽深度可达
圆头
切削刃Ø

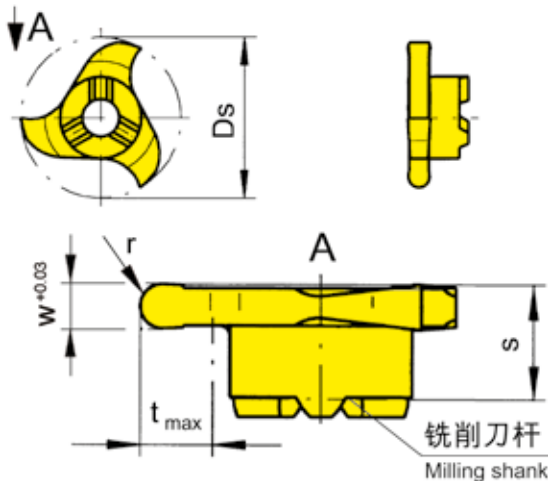
Depth of groove up to
Full radius
Cutting edge Ø

3.5 mm
1.1 mm
17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M



图示=右手型
Picture = right hand cutting version

圆头
Full radius

产品型号 Part number	Ds	w	s	r	t _{max}	Z		AS45	TN35
311.0011.22	17.7	2.2	5.75	1.1	3.5	3		▲	▲
▲ 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									

硬质合金牌号
Carbide grades

扩孔和倒角

Milling of bores and Chamfering

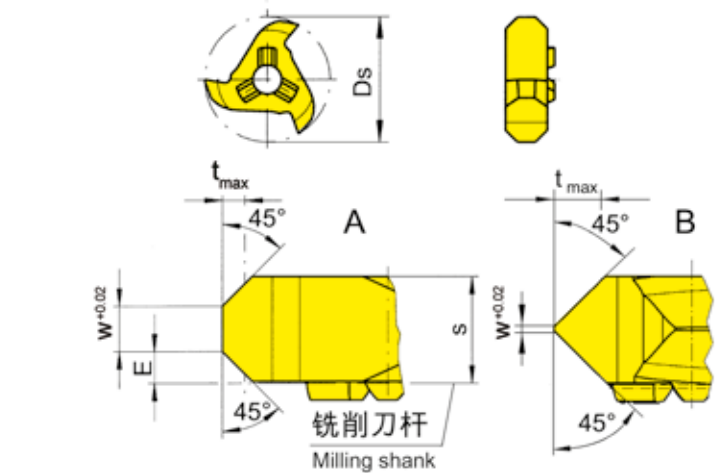
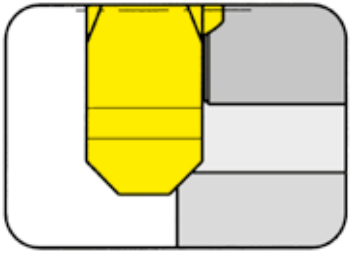


刀片

Insert

311

倒角尺寸 切削刃Ø	Size of chamfer Cutting edge Ø	1.4-2.5 mm 15-17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	形式 形式	t _{max}	Z		Tl25	TN35
311.4545.00	1.70	5.95	17.7	2.5	A	1.4	3		▲	▲
311.4545.20	2.95	5.95	15.0	0.2	B	2.5	3		▲	▲
▲ 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									硬质合金牌号 Carbide grades	

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

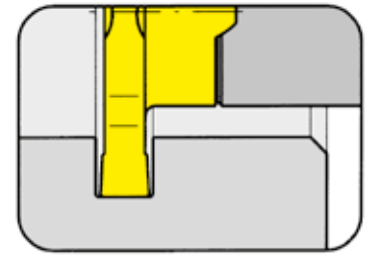
刀片
Insert

611

切槽深度可达
卡簧宽度Nw
切削刃Ø

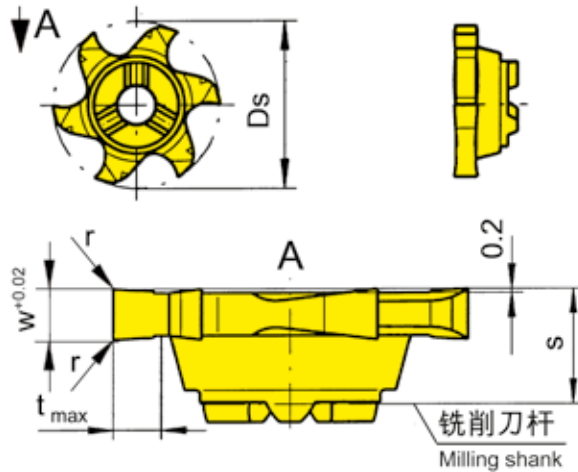
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

3.5 mm
1.1-1.6 mm
17.7 mm



卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	t _{max}	Z	AS45	Ti25
611.0110.00	17.7	1.21	1.1	6.1	3.5	6	▲	▲
611.0130.00	17.7	1.41	1.3	6.1	3.5	6	▲	▲
611.0160.00	17.7	1.71	1.6	6.1	3.5	6	▲	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

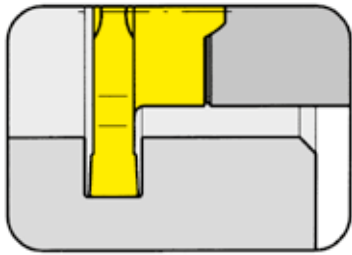


刀片
Insert

611

切槽深度可达	Depth of groove up to	3.5 mm
槽宽	Width of groove	1.5-4 mm
切削刃Ø	Cutting edge Ø	17.7 mm

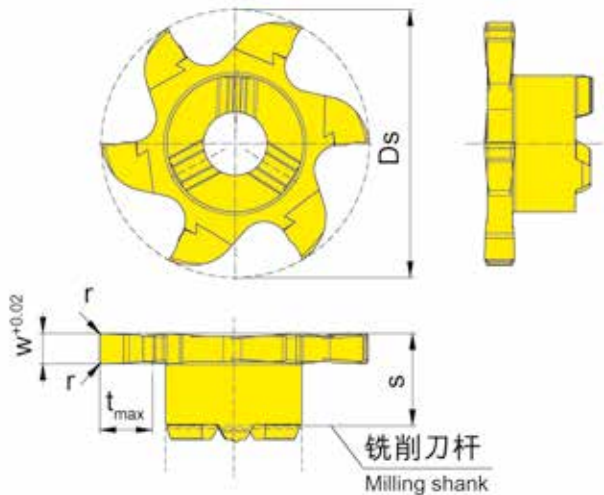
2.5mm槽宽以上的刀片是错齿的
from width of groove 2,5 mm toothing with cross-cut



B

用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
611.0150.00	17.7	1.5	6.1	-	3.5	6	▲	▲
611.0200.00	17.7	2.0	6.1	0.2	3.5	6	▲	▲
611.0250.00	17.7	2.5	6.1	0.2	3.5	6	▲	▲
611.0300.00	17.7	3.0	6.1	0.2	3.5	6	▲	▲
611.0400.00	17.7	4.0	6.1	0.2	3.5	6	▲	▲

▲ 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

面铣削

Face Milling



B

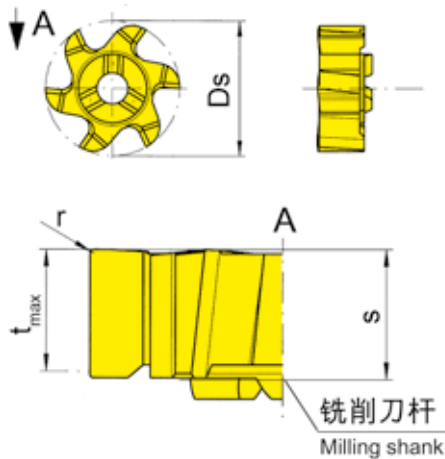
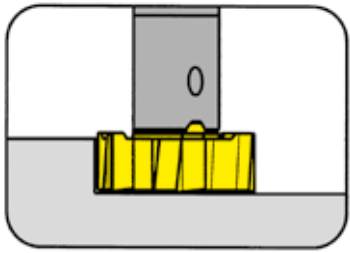
刀片
Insert

611

切深可达
切削刃Ø

Depth of cut up to
Cutting edge Ø

5.7 mm
17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s		AS45	TF45	Tl25
611.PL61.62	17.7	6	0.2	5.7	6.1		▲	▲	▲
▲ 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							P	•	•
							M	•	•
							K	•	•
							N	○	•
							S	•	•
							H	-	-
尺寸单位 : mm Dimensions in mm							硬质合金牌号 Carbide grades		

倒角 Chamfering



刀片 Insert

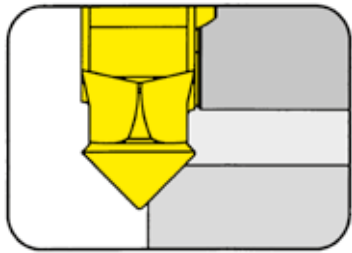
611

B

倒角尺寸
切削刃Ø

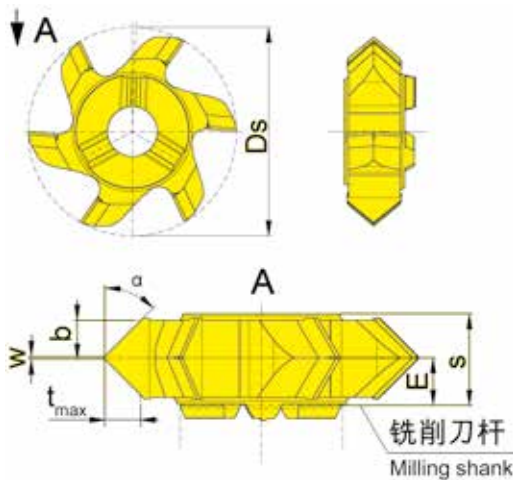
Size of chamfer
Cutting edge Ø

0.75-2.3 mm
17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type M311.ER
M311.ST
M311.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	α	b	t _{max}	Z	AS45	TA45	TI25	
611.1515.20	3.2	6.3	17.7	0.2	15°	2.8	0.75	6	▲	▲		
611.2020.20	3.2	6.3	17.7	0.2	20°	2.8	1.00	6	▲	▲		
611.3030.20	3.2	6.3	17.7	0.2	30°	2.8	1.60	6	▲	▲		
611.4545.20	3.2	6.3	17.7	0.2	45°	2.3	2.30	6	▲		▲	
▲ 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									硬质合金牌号 Carbide grades			
尺寸单位 : mm Dimensions in mm												

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

铣刀杆
Milling shank
M116

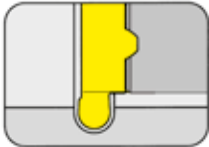


页/Page
B78

刀片
Insert
116



页/Page
B79-B80



页/Page
B81

M116



可替换刀片的 铣刀

孔径

非旋转 Ø 16 mm

旋转 Ø 20,4 mm

Milling shank with exchangeable insert

from bore

non rotating Ø 16 mm

rotating Ø 20,4 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



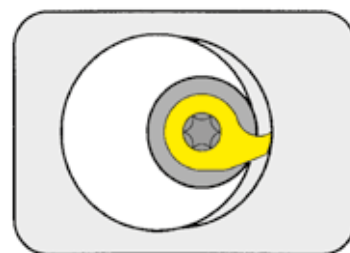
B

铣刀杆

Milling shank

M116

直接冷却液供应
with through coolant supply



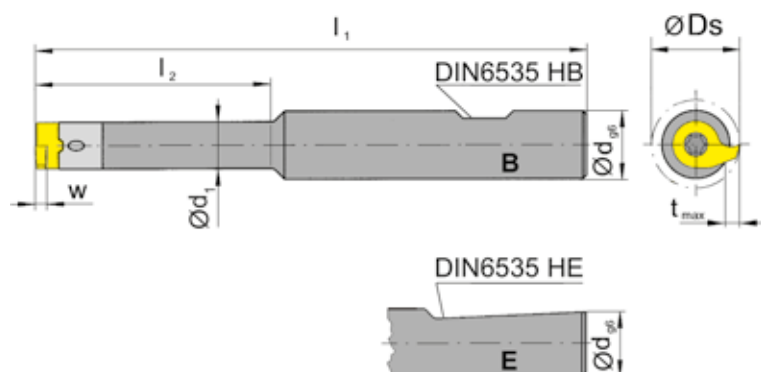
切削刃Ø Cutting edge Ø 20,4 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance

配合刀片
for Insert

型号 116
Type



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M116.0012.01B	12	130	40	11	B
M116.0012.02B	12	130	56	11	B
M116.0016.01B	16	130	40	11	B
M116.0016.02B	16	130	56	11	B
M116.0016.03B	16	150	80	11	B
M116.0016.01E	16	130	40	11	E
M116.0016.02E	16	130	56	11	E
M116.0016.03E	16	150	80	11	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

注意Ø16mm条件:

只有当主轴停止并偏心通过孔进行背铣时。

Note from Ø 16 mm:

Only back face milling with oriented spindlestop offset of centerline.

订货须知：

所有刀杆都可以配合右手型或左手型116系列的刀片。 HORN可以返修损坏的铣刀杆基座。

Ordering note:

All milling cutter shanks can be used for **right** and **left** hand inserts type 116.

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M116...	5.13T20EP	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



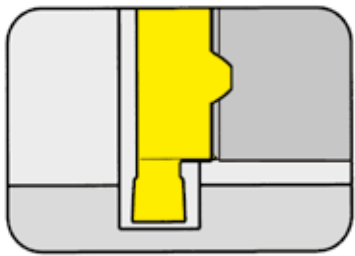
刀片
Insert

116

切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to
Width of circlip Nw
Cutting edge Ø

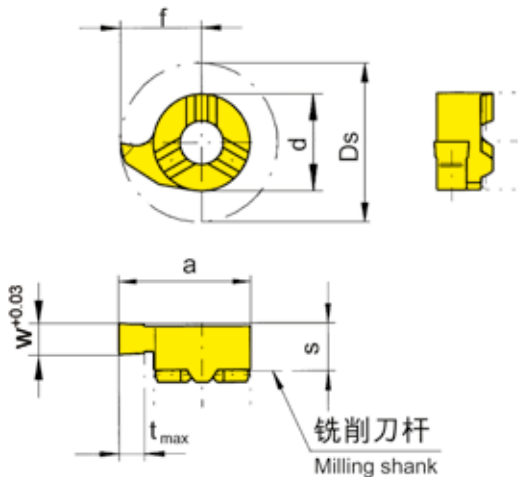
4.3 mm
1.1-1.6 mm
20.4 mm



卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472

用于铣削刀柄
for Milling shank

型号 M116
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	Ds	w	Nw	s	f	a	d	t _{max}	Z	MG12	EG55	TH35	TN35
R/L116.0110.00	20.4	1.19	1.1	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L116.0130.00	20.4	1.39	1.3	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L116.0160.00	20.4	1.69	1.6	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
										P	o	•	•
										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

槽铣削 (圆弧插补铣削)

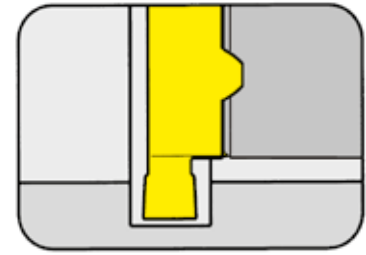
Groove Milling by circular interpolation



B

刀片
Insert

116



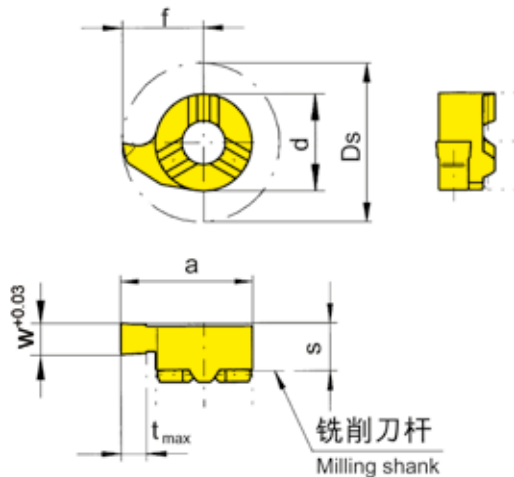
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

4.3 mm
2-4 mm
20.4 mm

用于铣削刀柄
for Milling shank

型号 M116
Type 145



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	Ds	w	s	f	a	d	t _{max}	Z	MG12	EG55	TH35	TN35
R/L116.0200.00	20.4	2.0	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L116.0250.00	20.4	2.5	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L116.0300.00	20.4	3.0	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲
R/L116.0350.00	20.4	3.5	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/x	▲/▲	▲/▲
R/L116.0400.00	20.4	4.0	5.3	10.2	15.7	11	4.3	1	▲/▲	▲/▲	▲/▲	▲/▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

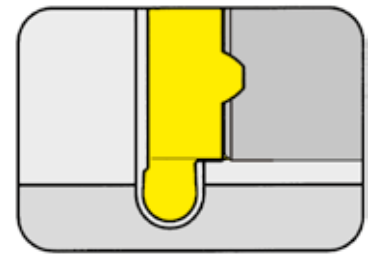
116

B

切槽深度可达
圆头
切削刃Ø

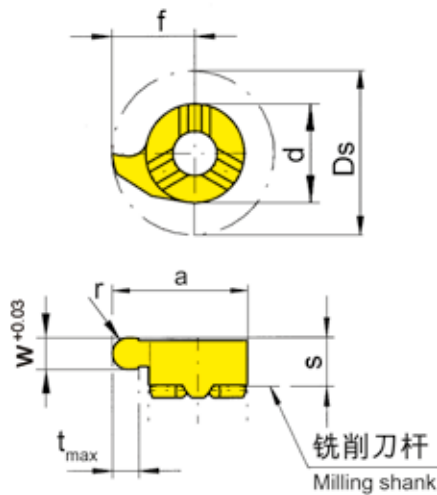
Depth of groove up to
Full radius
Cutting edge Ø

4.3 mm
0.9-2 mm
20.4 mm



用于铣削刀柄
for Milling shank

型号 M116
Type



铣削刀杆
Milling shank

R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

圆头
Full radius

产品型号 Part number	Ds	w	s	f	a	d	r	t _{max}	Z		MG12	EG55	TH35	TN35
R/L116.0009.18	20.4	1.8	5.3	10.2	15.7	11	0.9	4.3	1		▲/△	▲/▲	▲/▲	▲/▲
R/L116.0011.22	20.4	2.2	5.3	10.2	15.7	11	1.1	4.3	1		▲/△	▲/▲	▲/▲	▲/▲
R/L116.0015.30	20.4	3.0	5.3	10.2	15.7	11	1.5	4.3	1		▲/△	▲/▲	▲/▲	▲/▲
R/L116.0020.40	20.4	4.0	5.3	10.2	15.7	11	2.0	4.3	1		△/△	▲/▲	▲/▲	▲/▲
▲ 库存 / on stock △ 4周 / 4 weeks x 根据要求 / upon request											P	o	•	•
● 推荐 / recommended											M	•	•	•
o 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

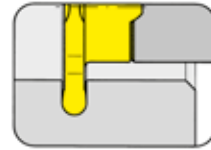


B

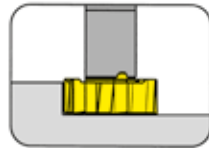
铣刀杆
Milling shank
M313/M313.ST/
M313.ER



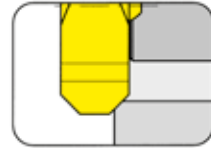
页/Page
B84-B86, B88



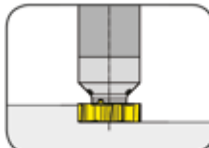
页/Page
B102



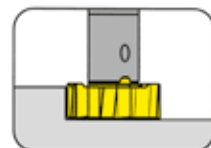
页/Page
B89



页/Page
B103

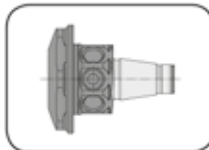


页/Page
B90

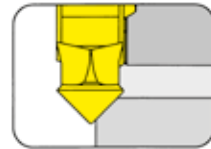


页/Page
B106-B108, B111

基础刀柄
Basic Holder
WFB



页/Page
B91



页/Page
B109

螺纹锁紧铣刀
Screw-in cutter
M313.M

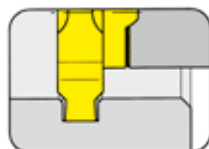


页/Page
B92

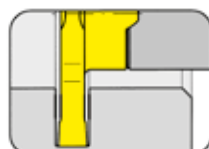
刀片
Insert
313/L313/613/713



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页/Page
B97



页/Page
B101, B105

M313



可替换刀片的
铣刀

孔径Ø 自 22 mm

Milling Cutter with
exchangeable insert

from bore Ø 22 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

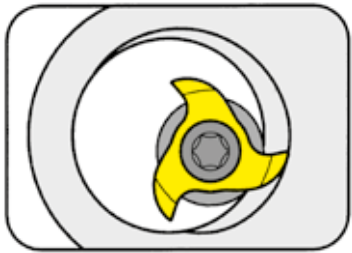


B

铣刀杆

Milling shank

M313
直接冷却液供应
with through coolant supply

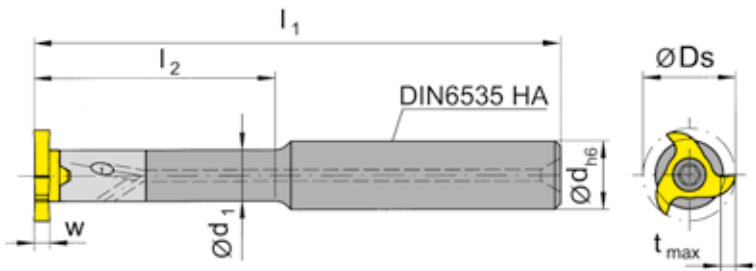


切削刃Ø Cutting edge Ø 21,7 mm

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

配合刀片
for Insert

型号 313
Type 613
 713



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.0012.01A	12	100	-	-	A
M313.0012.02A	12	130	-	-	A
M313.0016.01A	16	100	42	12	A
M313.0016.02A	16	130	60	12	A
M313.0016.03A	16	160	85	12	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

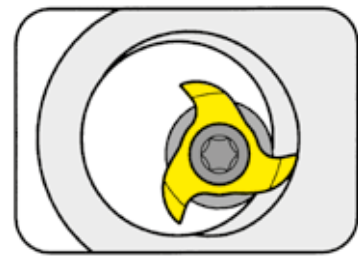


铣刀杆

Milling shank

M313

直接冷却液供应
with through coolant supply



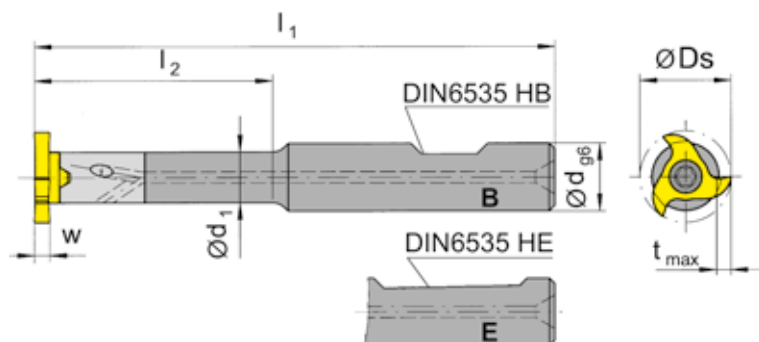
B

切削刃Ø Cutting edge Ø 21,7 mm

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

配合刀片
for Insert

型号 313
Type 613
713



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.0012.01B	12	100	-	-	B
M313.0012.02B	12	130	-	-	B
M313.0016.01B	16	100	42	12	B
M313.0016.02B	16	130	60	12	B
M313.0016.03B	16	160	85	12	B
M313.0012.01E	12	100	-	-	E
M313.0012.02E	12	130	-	-	E
M313.0016.01E	16	100	42	12	E
M313.0016.02E	16	130	60	12	E
M313.0016.03E	16	160	85	12	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

HORN可以返修损坏的铣刀杆基座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

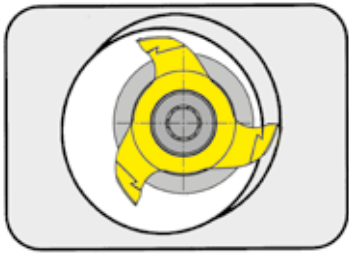
Groove Milling by circular interpolation



B

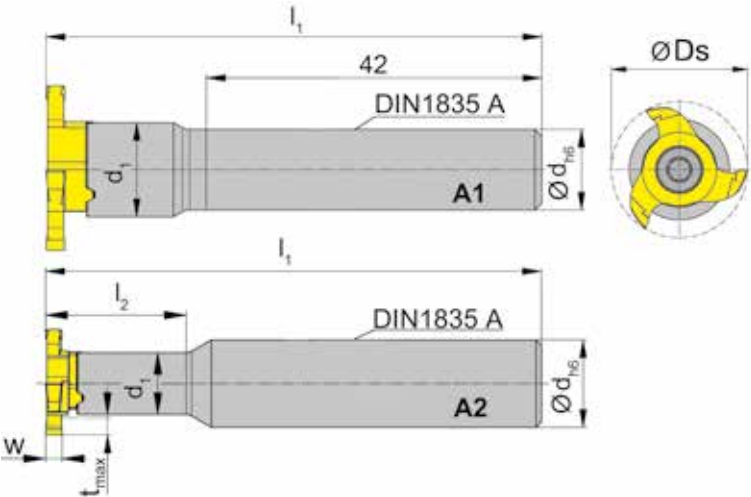
铣刀杆
Milling shank

M313.ST



配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes



配合刀片
for Insert

型号 313
Type 613
713

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.ST10.01A	10	60	-	11.3	A1
M313.ST12.01A	12	70	18	11.3	A2
M313.ST13.01A	13	70	26	11.3	A2
M313.ST16.01A	16	80	26	11.3	A2

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

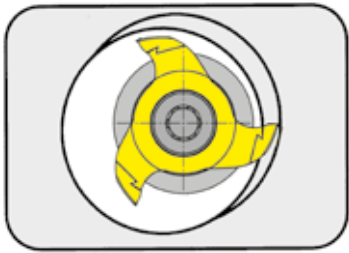
Groove Milling by circular interpolation



铣刀杆

Milling shank

M313.ST

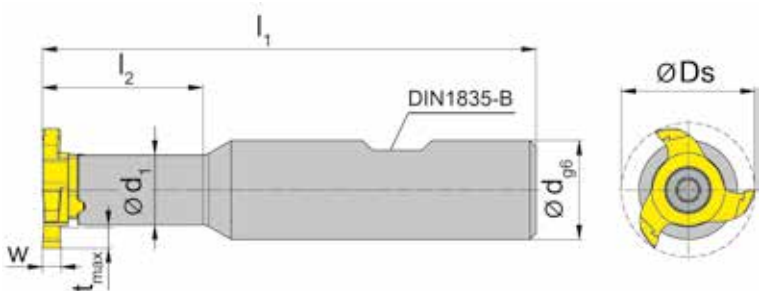


配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

配合刀片
for Insert

型号 313
Type 613
713



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.ST12.01B	12	70	18	11.3	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

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

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

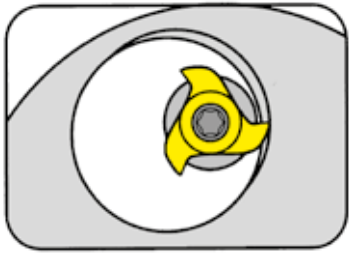
Groove Milling by circular interpolation



B

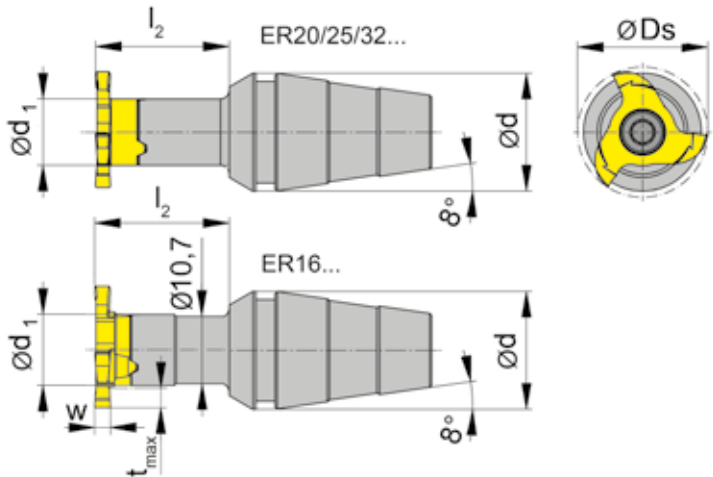
铣刀杆 Milling shank

M313.ER



配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 313
Type 613
713

产品型号 Part number	d	l_2	d_1	锁紧螺母 Clamping nut
M313.ER16.01	16	20	11.3	ER16.6499/ERM16.6499
M313.ER16.02	16	30	11.3	ER16.6499/ERM16.6499
M313.ER20.01	20	20	11.3	ER20.6499/ERM20.6499
M313.ER20.02	20	30	11.3	ER20.6499/ERM20.6499
M313.ER25.02	25	30	11.3	ER25.6499
M313.ER32.02	32	30	11.3	ER32.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, tmax见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :
铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:
Clamping nut is not combined with milling shank - separate order required!
螺丝的扭矩规格 , 详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件 Spare Parts

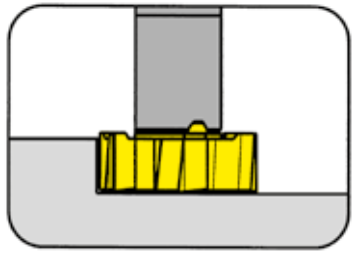
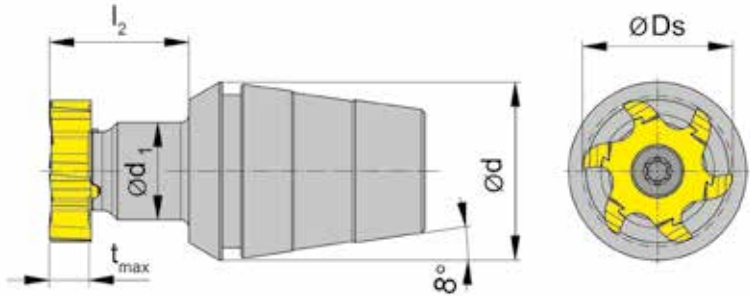
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

铣刀杆
Milling shank

M313.ER

配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



B

配合刀片
for Insert

型号 313
Type 613
713

产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M313.ER25.14.01	25	19.7	14	ER25.6499
M313.ER32.14.01	32	19.7	14	ER32.6499

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
铣刀杆不包含夹紧螺母-需要单独订购！

Ordering note:
Clamping nut is not combined with milling shank - separate order required!
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

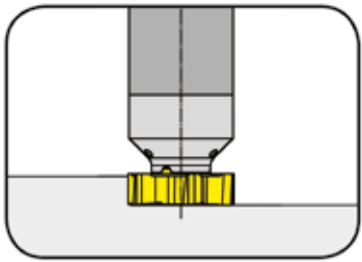
B

铣刀杆
Milling shank

M313

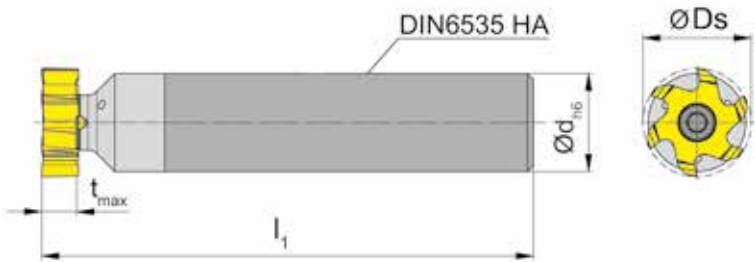
用于筒夹的硬质合金圆柱刀柄
Cylindrical carbide shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes



配合刀片
for Insert

型号 313
Type 613
713



产品型号 Part number	d	l ₁	形式 Form
M313.0016.D.00A	16	80	A
M313.0020.D.00A	20	80	A

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

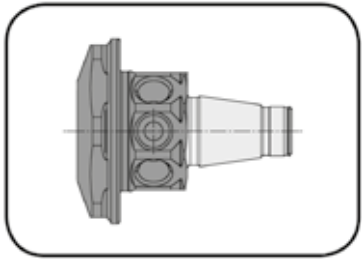
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



常规刀柄
Basic Holder

WFB

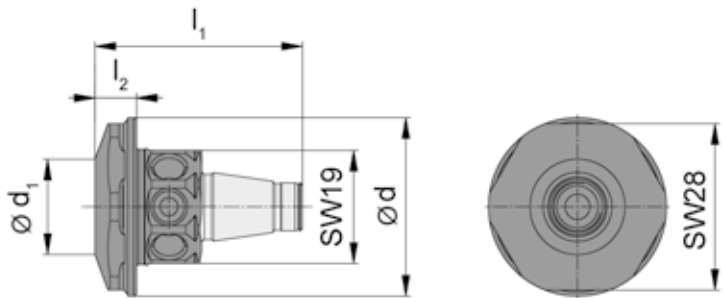
配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter



B

配合螺纹锁紧型铣刀
for Screw-in cutter

型号 M306.M081...
Type M308.M081...
M311.M081...
M313.M081...
M328.M081...
M332.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

尺寸单位 : mm
Dimensions in mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

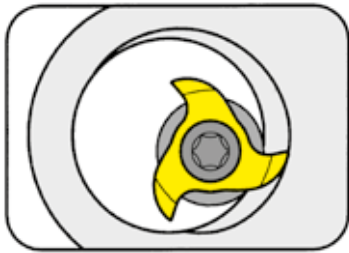


B

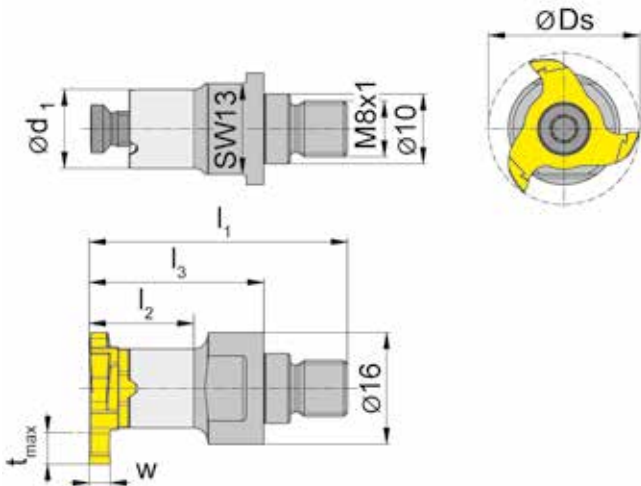
螺纹锁紧铣刀

Screw-in cutter

M313.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20



配合刀片
for Insert

型号 313
Type 613
713

产品型号 Part number	l_1	l_2	l_3	d_1	SW
M313.M081.01	37	15	25	11.3	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件

Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313.M081.01	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

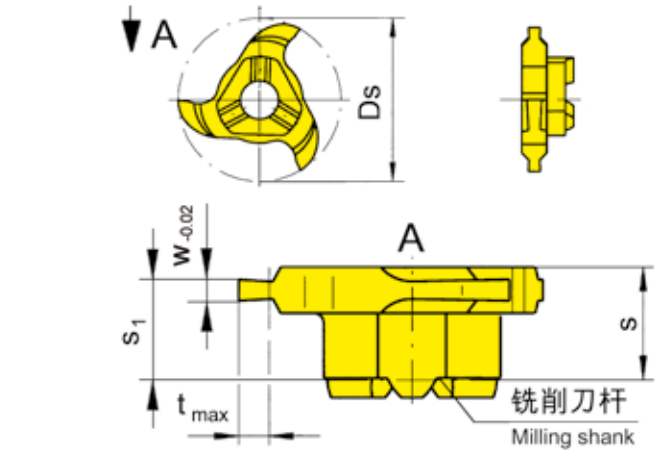
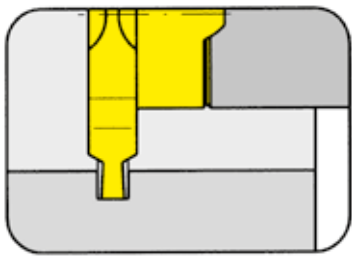


刀片
Insert

313

切槽深度可达	Depth of groove up to	2.5 mm
卡簧宽度Nw	Width of circlip Nw	0.7-1.1 mm
切削刃Ø	Cutting edge Ø	21.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ST
M313.M
M313.ER

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	s ₁	t _{max}	Z	MG12	TN35
313.0070.00	21.7	0.77	0.7	5.9	5.6	1.5	3		▲
313.0080.00	21.7	0.87	0.8	5.9	5.6	1.7	3		▲
313.0090.00	21.7	0.97	0.9	5.9	5.6	1.9	3	Δ	▲
313.0100.00	21.7	1.07	1.0	5.9	5.6	2.2	3		▲
313.0110.00	21.7	1.21	1.1	5.9	5.6	2.5	3		▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

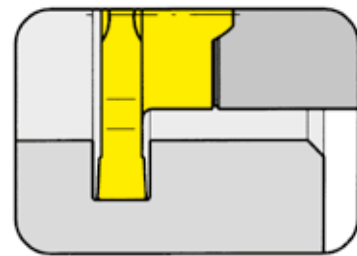
刀片
Insert

313

切槽深度可达
卡簧宽度Nw
切削刃Ø

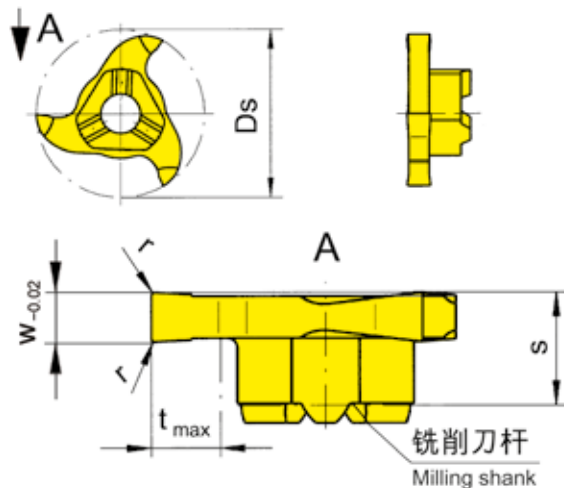
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

4.5 mm
1.3-5.15 mm
21.7 mm



卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	Nw	s	r	t _{max}	Z	MG12	AS45	TI25	TN35
313.0130.00	21.7	1.41	1.30	5.7	-	4.5	3	▲	▲		▲
313.0160.00	21.7	1.71	1.60	5.7	-	4.5	3	▲	▲		▲
313.0185.00	21.7	1.96	1.85	5.7	0.2	4.5	3	▲	▲		▲
313.0215.00	21.7	2.26	2.15	5.7	0.2	4.5	3	▲	▲	Δ	▲
313.0265.00	21.7	2.76	2.65	5.7	0.2	4.5	3	▲	▲		▲
313.0315.00	21.7	3.26	3.15	5.7	0.2	4.5	3	▲	▲		▲
313.0415.00	21.7	4.26	4.15	5.7	0.2	4.5	3	▲	▲		▲
313.0515.00	21.7	5.26	5.15	5.7	0.2	4.5	3	▲	▲		▲
▲ 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	-	•	•
- 不合适 / not suitable								N	-	o	•
■ 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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove tmax down to 0,5 mm can be delivered with reduced depth upon request.

刀片313.0415.00和313.0515.00

仅用于l2=max.42mm的刀杆

Inserts 313.0415.00 and 313.0515.00

only with toolholder dimension l2 = max. 42 mm

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片

Insert

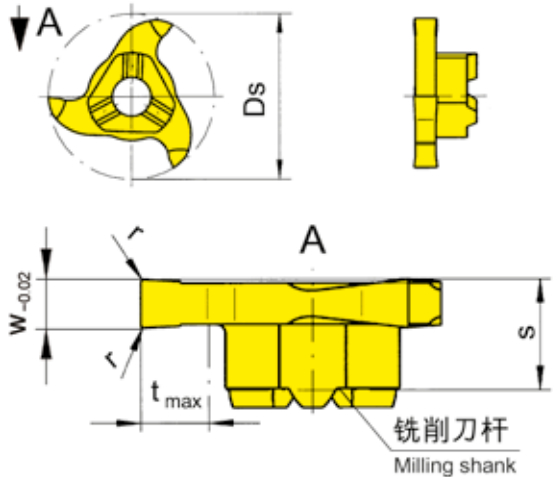
313

铝加工
machining of aluminium

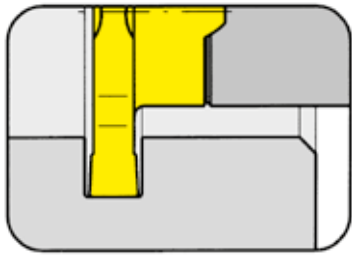
切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to 4.5 mm
Width of circlip Nw 1.3-5.15 mm
Cutting edge Ø 21.7 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



图示=右手型
Picture = right hand cutting version



B

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

产品型号 Part number	Ds	w	Nw	s	r	t _{max}	Z	MG12	Ti25
313.0130.40	21.7	1.41	1.30	5.7	-	4.5	3		▲
313.0160.40	21.7	1.71	1.60	5.7	-	4.5	3		▲
313.0185.40	21.7	1.96	1.85	5.7	0.2	4.5	3		▲
313.0215.40	21.7	2.26	2.15	5.7	0.2	4.5	3		▲
313.0265.40	21.7	2.76	2.65	5.7	0.2	4.5	3		▲
313.0315.40	21.7	3.26	3.15	5.7	0.2	4.5	3		▲
313.0415.40	21.7	4.26	4.15	5.7	0.2	4.5	3	Δ	▲
313.0515.40	21.7	5.26	5.15	5.7	0.2	4.5	3	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

刀片313.0415.40和313.0515.40

仅用于l2=max.42mm的刀杆

Inserts 313.0415.40 and 313.0515.40

only with toolholder dimension l2 = max. 42 mm

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

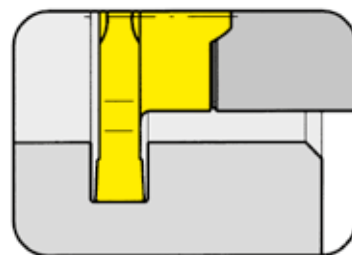
刀片
Insert

L313

切槽深度可达
卡簧宽度Nw
切削刃Ø

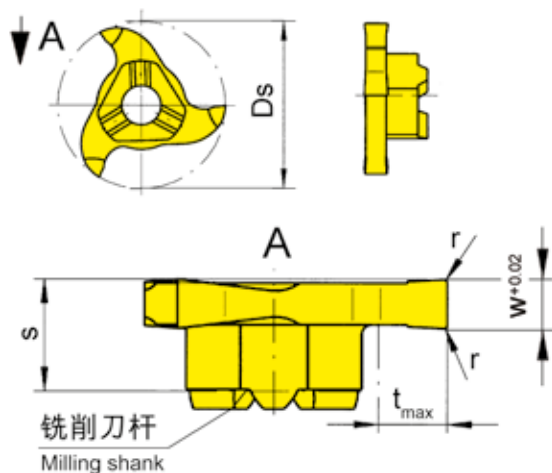
Depth of groove up to
Width of circlip Nw
Cutting edge Ø

4.5 mm
1.3-5.15 mm
21.7 mm



卡簧槽宽度DIN471/472-带倒角

Widths for circlip grooves DIN 471/472 with chamfer



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

图示=左手型切削

Picture = left hand cutting version

产品型号 Part number	Ds	w	Nw	s	r	t _{max}	Z	MG12	AS45	TI25	TN35
L313.0130.00	21.7	1.41	1.30	5.7	-	4.5	3	▲	▲		▲
L313.0160.00	21.7	1.71	1.60	5.7	-	4.5	3	▲	▲		▲
L313.0185.00	21.7	1.96	1.85	5.7	0.2	4.5	3	▲	▲		▲
L313.0215.00	21.7	2.25	2.15	5.7	0.2	4.5	3	▲	▲	Δ	▲
L313.0265.00	21.7	2.76	2.65	5.7	0.2	4.5	3	▲	▲		▲
L313.0315.00	21.7	3.26	3.15	5.7	0.2	4.5	3	▲	▲		▲
L313.0415.00	21.7	4.26	4.15	5.7	0.2	4.5	3	▲	▲		▲
L313.0515.00	21.7	5.26	5.15	5.7	0.2	4.5	3	▲	▲		▲

▲ 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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove tmax down to 0,5 mm can be delivered with reduced depth upon request.

刀片L313.0415.00和L313.0515.00

仅用于l2=max.42mm的刀杆

Inserts L313.0415.00 and L313.0515.00

only with toolholder dimension l2 = max. 42 mm

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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

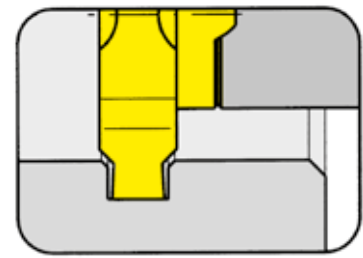
313

B

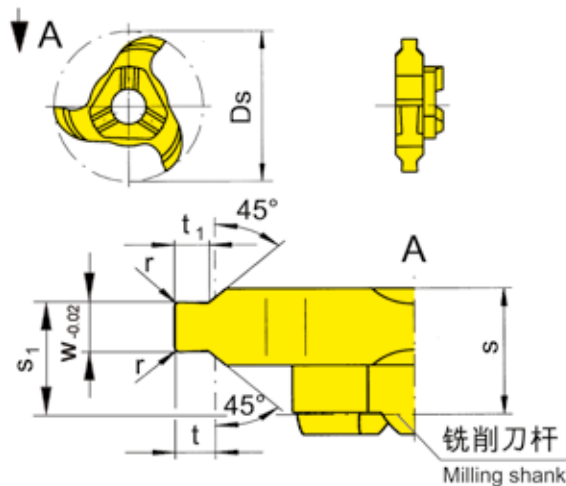
切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to
Width of circlip Nw
Cutting edge Ø

2.5 mm
1.1-4.15 mm
21.7 mm



卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

图示=右手型
Picture = right hand cutting version

带倒角
with chamfering

产品型号 Part number	Ds	w	Nw	t ₁	s	s ₁	r	t _{max}	Z	AS45	TA45	TN35
313.1105.30	21.7	1.21	1.10	0.47	5.9	5.07	-	0.50	3			▲
313.1307.30	21.7	1.41	1.30	0.65	5.9	5.17	-	0.70	3	△		▲
313.1308.30	21.7	1.41	1.30	0.81	5.9	5.17	-	0.85	3	△		▲
313.1609.35	21.7	1.71	1.60	0.81	5.9	5.07	-	0.85	3	△		▲
313.1610.35	21.7	1.71	1.60	0.95	5.9	5.07	-	1.00	3	▲		▲
313.1812.35	21.7	1.96	1.85	1.21	5.9	5.19	0.2	1.25	3	▲		▲
313.2115.35	21.7	2.26	2.15	1.45	5.9	5.34	0.2	1.50	3	△	△	▲
313.2616.45	21.7	2.76	2.65	1.45	5.9	5.09	0.2	1.50	3	▲		▲
313.2617.45	21.7	2.76	2.65	1.70	5.9	5.09	0.2	1.75	3	△		▲
313.3118.45	21.7	3.26	3.15	1.70	5.9	5.34	0.2	1.75	3	△		▲
313.4120.55	21.7	4.26	4.15	1.95	5.9	5.34	0.2	2.00	3	△		▲
313.4125.55	21.7	4.26	4.15	2.45	5.9	5.34	0.2	2.50	3	△		▲

▲ 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

刀片313.4120.55和313.4125.55

仅用于l2=max.42mm的刀杆

Inserts 313.4120.55 and 313.4125.55

only with toolholder dimension l2 = max. 42 mm

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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

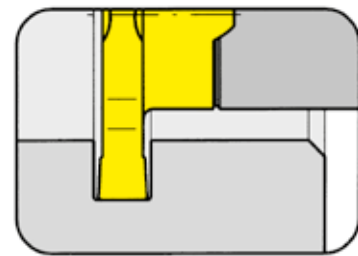
Groove Milling by circular interpolation



B

刀片
Insert

313



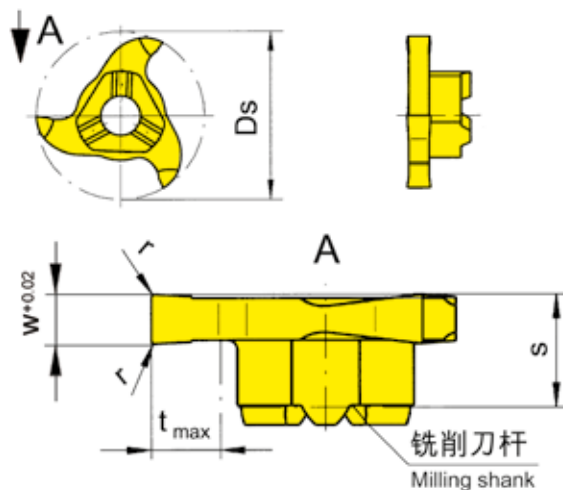
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

4.5 mm
1.5-6 mm
21.7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TI25	TN35
313.0150.00	21.7	1.5	5.7	-	4.5	3	▲	▲		▲
313.0150.01	21.7	1.5	5.7	0.1	4.5	3	▲	▲		
313.0200.00	21.7	2.0	5.7	0.2	4.5	3	▲	▲		▲
313.0250.00	21.7	2.5	5.7	0.2	4.5	3	△	▲	▲	▲
313.0300.00	21.7	3.0	5.7	0.2	4.5	3	▲	▲		▲
313.0350.00	21.7	3.5	5.7	0.2	4.5	3	△	▲	▲	
313.0400.00	21.7	4.0	5.7	0.2	4.5	3	▲	▲		▲
313.0500.00	21.7	5.0	5.7	0.2	4.5	3	▲	▲		▲
313.0600.00	21.7	6.0	6.9	0.2	4.5	3	△	▲		▲
							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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove tmax down to 0,5 mm can be delivered with reduced depth upon request.

订货须知 :

刀片313.0600.00带断屑

Ordering note:

Insert 313.0600.00 with chip divider!

硬质合金牌号

Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



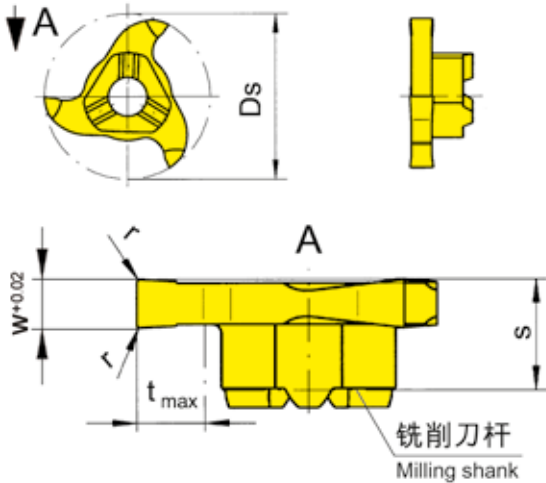
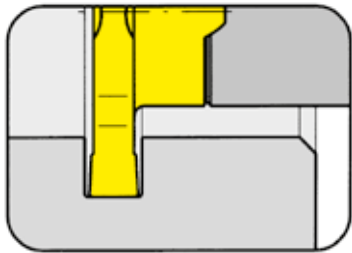
B

刀片
Insert

313

machining of aluminium

切槽深度可达	Depth of groove up to	4.5 mm
槽宽	Width of groove	1.5-4 mm
切削刃Ø	Cutting edge Ø	21.7 mm



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	Tl25
313.0150.40	21.7	1.5	5.7	-	4.5	3	▲
313.0200.40	21.7	2.0	5.7	0.2	4.5	3	▲
313.0250.40	21.7	2.5	5.7	0.2	4.5	3	▲
313.0300.40	21.7	3.0	5.7	0.2	4.5	3	▲
313.0400.40	21.7	4.0	5.7	0.2	4.5	3	▲

- ▲ 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

槽铣削 (圆弧插补铣削)

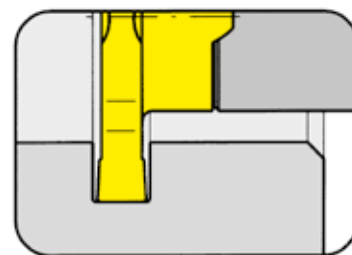
Groove Milling by circular interpolation



B

刀片
Insert

L313



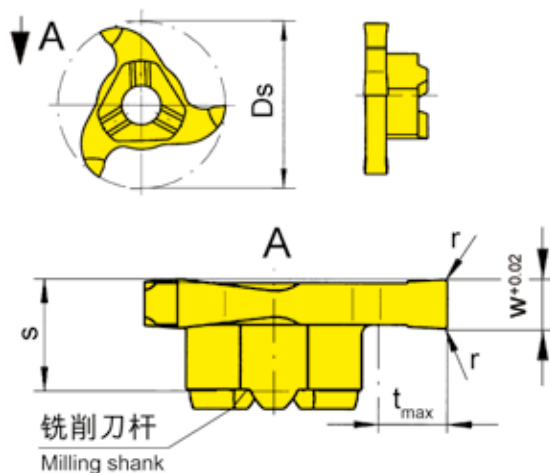
切槽深度可达
卡簧宽度Nw
切削刃Ø

Depth of groove up to
Width of circlip Nw
Cutting edge Ø

4,5 mm
1,5-6 mm
21,7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=左手型切削

Picture = left hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	MG12	AS45	TI25	TN35
L/313.0150.00	21.7	1.5	5.7	-	4.5	3	▲	△/▲		▲
L/313.0150.01	21.7	1.5	5.7	0.1	4.5	3		△/▲		
L/313.0200.00	21.7	2.0	5.7	0.2	4.5	3	▲	△/▲		▲
L/313.0250.00	21.7	2.5	5.7	0.2	4.5	3	△	△/▲	△/▲	▲
L/313.0300.00	21.7	3.0	5.7	0.2	4.5	3	▲	△/▲		▲
L/313.0350.00	21.7	3.5	5.7	0.2	4.5	3	△/△	△/▲	△/▲	
L/313.0400.00	21.7	4.0	5.7	0.2	4.5	3	▲	▲/▲		▲
L/313.0500.00	21.7	5.0	5.7	0.2	4.5	3		△/▲		▲
L/313.0600.00	21.7	6.0	6.9	0.2	4.5	3	△	△/▲		▲

▲ 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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove tmax down to 0,5 mm can be delivered with reduced depth upon request.

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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



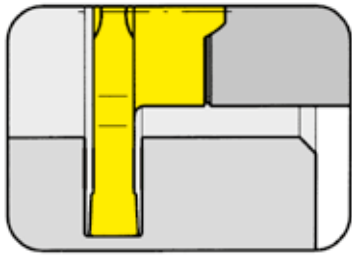
刀片
Insert

313

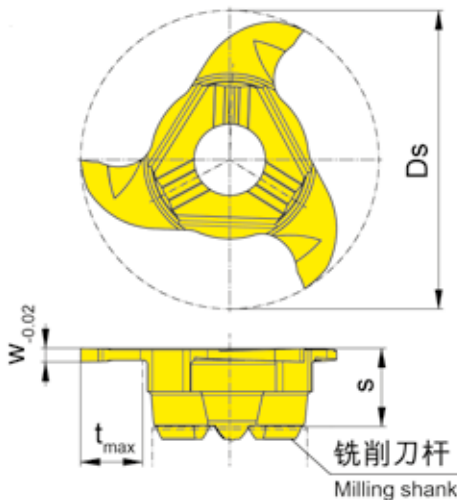
切槽深度可达
槽宽可达
切削刃Ø

Depth of groove up to
Width of groove up to
Cutting edge Ø

4.5 mm
1 mm
21.7 mm



B



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

铣削深度增加
increased milling depth

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	t _{max}	Z		Tl25	TN35
313.0100.1.00	21.7	1	5.7	4.5	3		▲	▲
▲ 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							P	•
							M	•
							K	•
							N	•
							S	•
							H	-
尺寸单位 : mm Dimensions in mm							硬质合金牌号 Carbide grades	

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

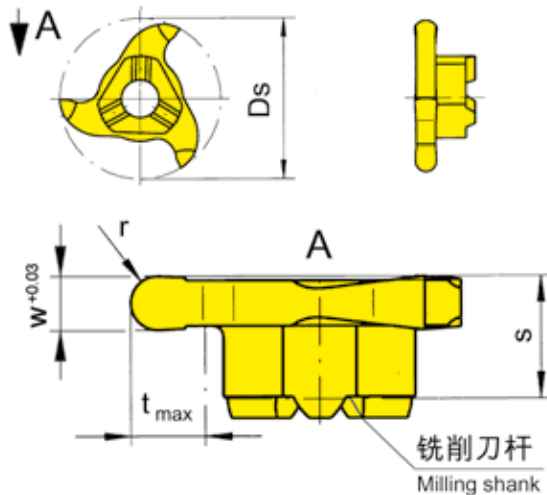
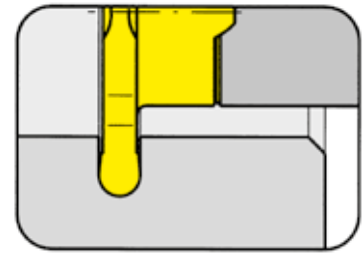
刀片
Insert

313

切槽深度可达
圆头
切削刃Ø

Depth of groove up to
Full radius
Cutting edge Ø

4.5 mm
0.5-2.5 mm
21.7 mm



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

圆头
Full radius

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z		
							AS45	TN35
313.0005.10	21.7	1.0	5.7	0.5	4.5	3	▲	▲
313.0010.20	21.7	2.0	5.7	1.0	4.5	3	▲	▲
313.0014.28	21.7	2.8	5.7	1.4	4.5	3	▲	▲
313.0015.30	21.7	3.0	5.7	1.5	4.5	3	▲	▲
313.0020.40	21.7	4.0	5.7	2.0	4.5	3	▲	▲
313.0025.50	21.7	5.0	5.7	2.5	4.5	3	▲	▲
							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

硬质合金牌号
 Carbide grades

扩孔和倒角

Milling of bores and Chamfering

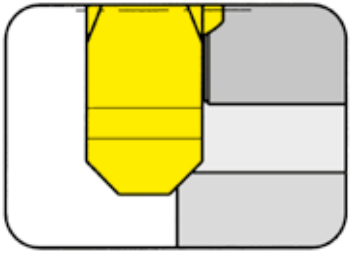


刀片

Insert

313

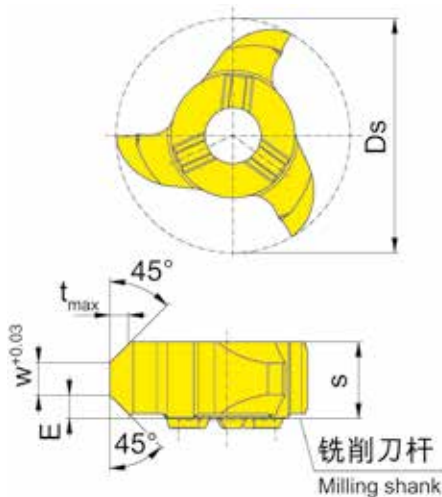
倒角尺寸 切削刃Ø	Size of chamfer Cutting edge Ø	1.7-3 mm 21.7 mm



B

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	t _{max}	Z	TA45	TN35
313.4545.00	2.15	7.1	21.7	3.0	1.7	3	▲	▲
313.4545.30.00	3.60	9.4	21.7	2.6	3.0	3	▲	▲
▲ 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							硬质合金牌号 Carbide grades	
尺寸单位 : mm Dimensions in mm								

槽铣削 (圆弧插补铣削)

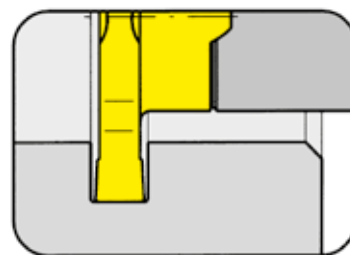
Groove Milling by circular interpolation



B

刀片
Insert

613



切槽深度可达
槽宽
切削刃Ø

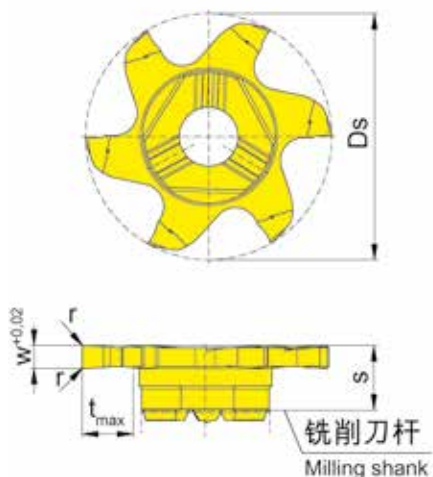
Depth of groove up to
Width of groove
Cutting edge Ø

4.5 mm
1.5-4 mm
21.7 mm

2.5mm槽宽以上的刀片是错齿的
from width of groove 2,5 mm toothing with cross-cut

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
613.0150.00	21.7	1.5	5.7	-	4.5	6	Δ	▲
613.0200.00	21.7	2.0	5.7	0.2	4.5	6	▲	▲
613.0250.00	21.7	2.5	5.7	0.2	4.5	6	▲	▲
613.0300.00	21.7	3.0	5.7	0.2	4.5	6	▲	▲
613.0400.00	21.7	4.0	5.7	0.2	4.5	6	▲	▲

▲ 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

刀片613.0400.00

仅用于l2=max.42mm的刀杆

Insert 613.0400.00

only with toolholder dimension l2 = max. 42 mm

P	•	•
M	•	•
K	•	•
N	○	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

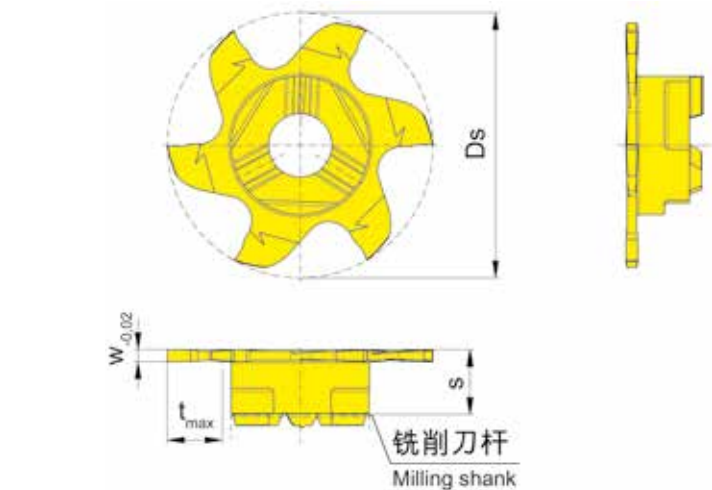
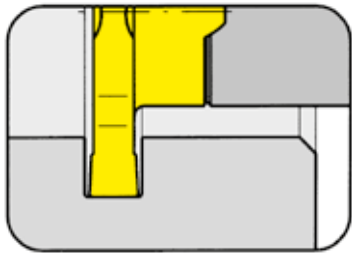
Groove Milling by circular interpolation



刀片
Insert

613

切槽深度可达	Depth of groove up to	4.5 mm
槽宽	Width of groove	1 mm
切削刃Ø	Cutting edge Ø	21.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	t _{max}	Z	Ti25	
613.0100.1.00	21.7	1	5.7	4.5	6	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

硬质合金牌号
Carbide grades

面铣削
Face Milling



B

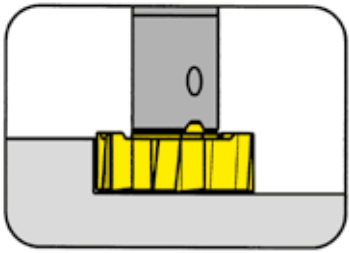
刀片
Insert

613

切深可达
切削刃Ø

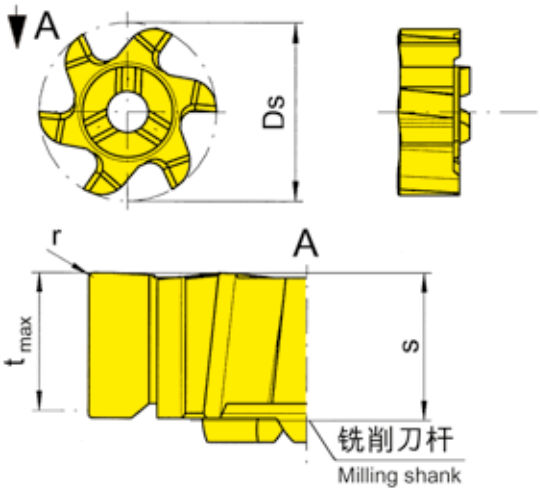
Depth of cut up to
Cutting edge Ø

5.7 mm
21.7 mm



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s	AS45	TF45	Ti25
613.PL61.62	21.7	6	0.2	5.7	6.1	▲	▲	▲
▲ 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								

硬质合金牌号
Carbide grades

刀片

Insert

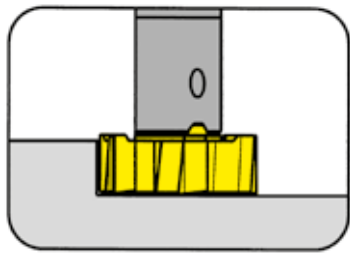
613

B

切深可达
切削刃Ø

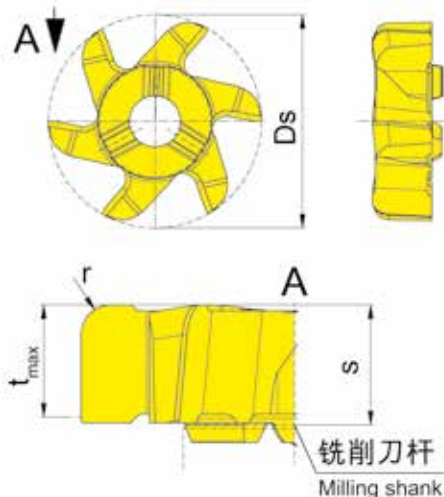
Depth of cut up to
Cutting edge Ø

5.7 mm
21.7 mm



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s	AS45	Ti25
613.PLT6.15	21.7	6	1.5	5.7	6.1	▲	Δ
▲ 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						硬质合金牌号	
Dimensions in mm						Carbide grades	

面铣削

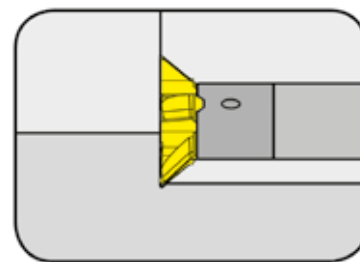
Face Milling



B

刀片
Insert

613



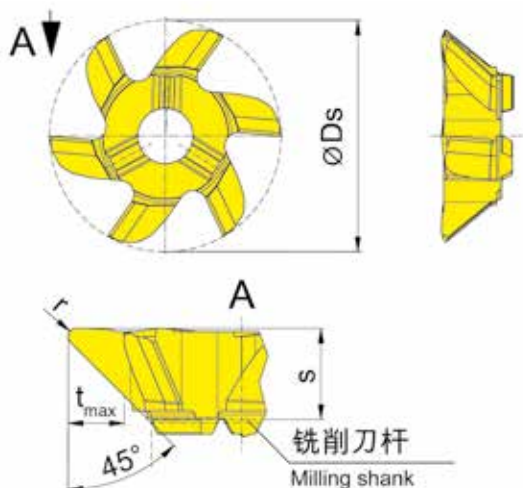
切深可达
切削刃Ø

Depth of cut up to
Cutting edge Ø

3.5 mm
21.7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	α	t _{max}	s	AS45
613.0015.25	21.7	6	0.5	15°	1.1	5.7	▲
613.0030.25	21.7	6	0.5	30°	2.3	5.7	▲
613.0045.25	21.7	6	0.5	45°	3.5	5.7	▲

▲ 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

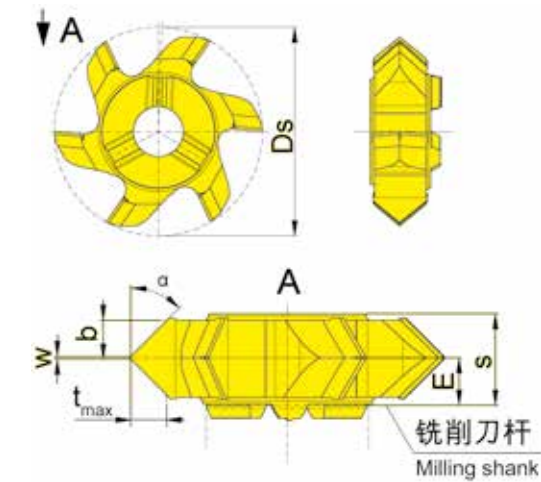
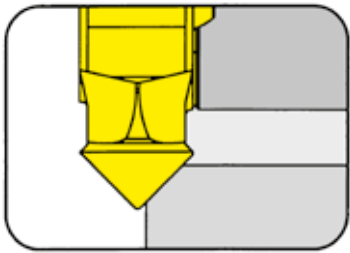
倒角
Chamfering



刀片
Insert

613

倒角宽度 切削刃Ø	Width of chamfer Cutting edge Ø	2.5-2.7 mm 21.7 mm



用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	α	b	t _{max}	Z	TA45	TI25
613.1515.20	3.3	6.3	21.7	0.2	15°	2.7	0.75	6	▲	
613.2020.20	3.3	6.3	21.7	0.2	20°	2.7	1.00	6	▲	
613.3030.20	3.3	6.3	21.7	0.2	30°	2.7	1.60	6	▲	
613.4545.20	3.3	6.3	21.7	0.2	45°	2.5	2.50	6		▲

▲ 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

P	•	•
M	•	•
K	•	•
N	•	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

尺寸单位：mm
Dimensions in mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

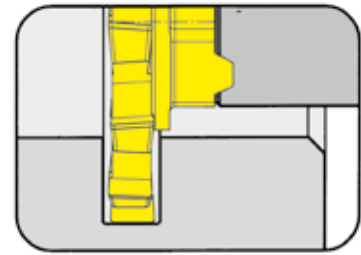
刀片
Insert

713

切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

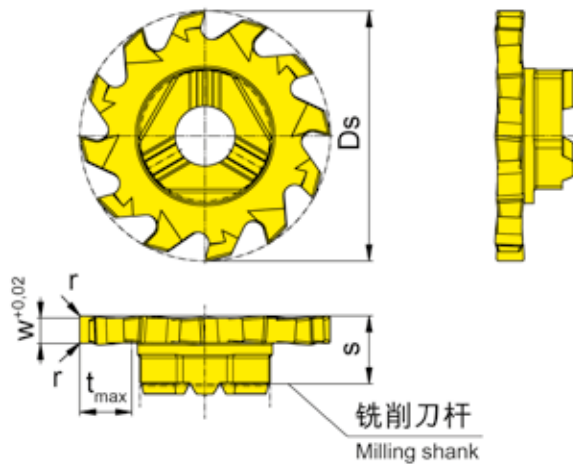
4.5 mm
0.4-3 mm
21.7 mm



2.0mm槽宽以上的刀片是错齿的
from width of groove 2,0 mm toothing with cross-cut

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	圆角 Corner radius	t _{max}	Z	AN25	T125
713.0040.00	21.7	0.4	5.9	-	2.3	12	Δ	
713.0050.00	21.7	0.5	5.9	-	2.8	12	Δ	
713.0080.00	21.7	0.8	5.9	-	4.5	12	Δ	
713.0100.00	21.7	1.0	5.9	-	4.5	12		▲
713.0150.00	21.7	1.5	5.9	-	4.5	12		▲
713.0200.00	21.7	2.0	5.9	0.2	4.5	12		▲
713.0250.00	21.7	2.5	5.9	0.2	4.5	12		▲
713.0300.00	21.7	3.0	5.9	0.2	4.5	12		▲

▲ 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

面铣削

Face Milling



刀片
Insert

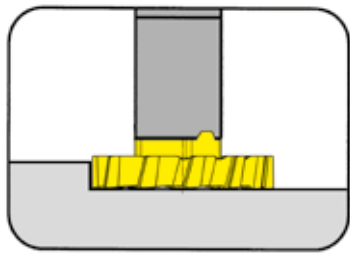
713

B

切深可达
切削刃Ø

Depth of cut up to
Cutting edge Ø

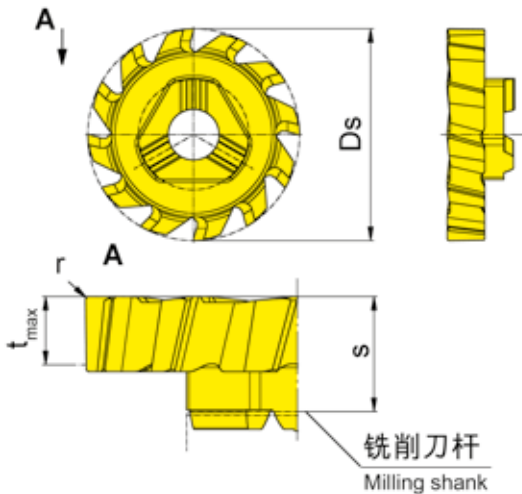
3.5 mm
21.7 mm



卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472

用于铣削刀柄
for Milling shank

型号 M313
Type M313.ER
M313.ST
M313.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s	T125
713.PL35.15.02	21.7	12	0.2	3.5	5.9	▲

- ▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

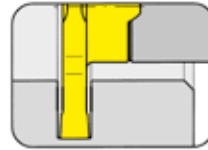


B

铣刀杆
Milling shank
M328/M328.ER



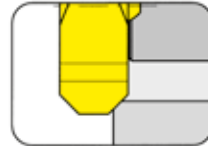
页/Page
B114-B115, B118



页/Page
B127



页/Page
B116



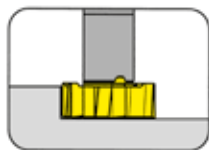
页/Page
B128



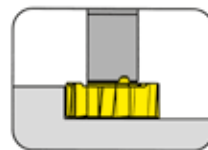
页/Page
B117, B120



页/Page
B131

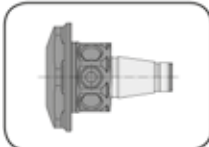


页/Page
B119

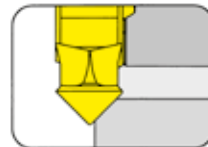


页/Page
B132

常规刀柄
Basic Holder
WFB



页/Page
B121



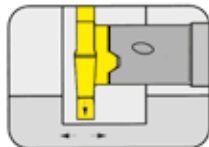
页/Page
B133

螺纹锁紧铣刀
Screw-in cutter
M328.M

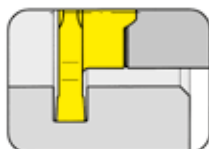


页/Page
B122

刀片
Insert
325/328/628



页/Page
B123



页/Page
B124-B126, B129-B130

M328



可替换刀片的
铣刀

孔径Ø 自 28 mm

Milling Cutter with
exchangeable insert

from bore Ø 28 mm

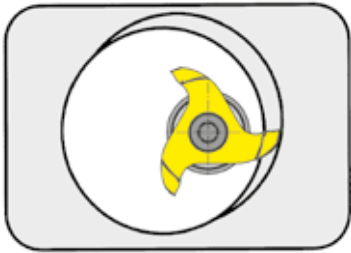
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

铣刀杆
Milling shank

M328
直接冷却液供应
with through coolant supply

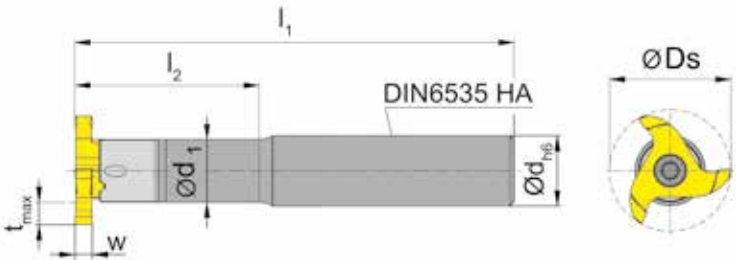


切削刃Ø Cutting edge Ø 24,8/27,7 mm

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

配合刀片
for Insert

型号 325
Type 328
 628



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M328.0016.01A	16	100	42	14.3	A
M328.0016.02A	16	130	60	14.3	A
M328.0016.03A	16	160	85	14.3	A
M328.0020.01A	20	100	42	14.3	A
M328.0020.02A	20	130	60	14.3	A
M328.0020.03A	20	160	85	14.3	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

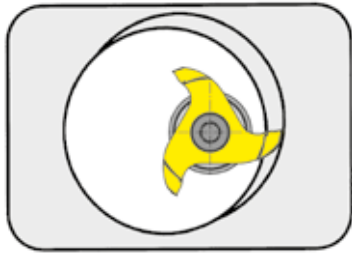
Groove Milling by circular interpolation



铣刀杆

Milling shank

M328
直接冷却液供应
with through coolant supply



切削刃Ø	Cutting edge Ø	24,8/27,7 mm

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

配合刀片
for Insert

型号 325
Type 328
628



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M328.0016.01B	16	100	42	14.3	B
M328.0016.02B	16	130	60	14.3	B
M328.0016.03B	16	160	85	14.3	B
M328.0020.01B	20	100	42	14.3	B
M328.0020.02B	20	130	60	14.3	B
M328.0020.03B	20	160	85	14.3	B
M328.0016.01E	16	100	42	14.3	E
M328.0016.02E	16	130	60	14.3	E
M328.0016.03E	16	160	85	14.3	E
M328.0020.01E	20	100	42	14.3	E
M328.0020.02E	20	130	60	14.3	E
M328.0020.03E	20	160	85	14.3	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

铣刀杆

Milling shank

M328

直接冷却液供应
with through coolant supply

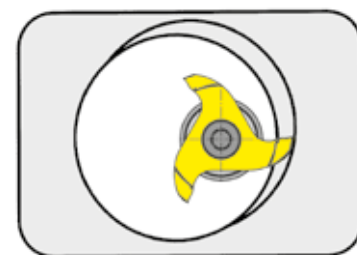
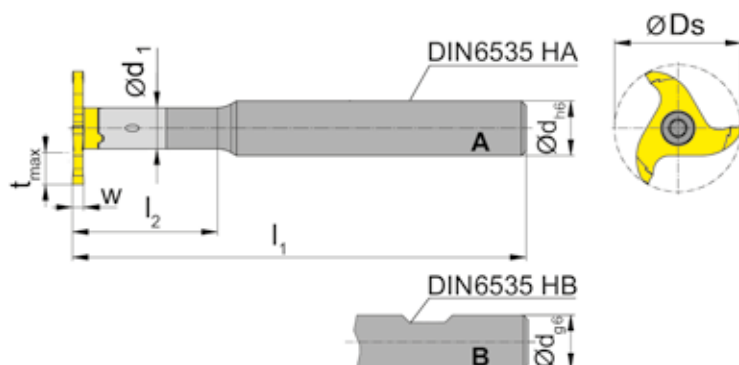
切削刃Ø

Cutting edge Ø

28 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance



配合刀片
for Insert

型号 328
Type 628

适用于增大切深的刀片
for inserts with increased
milling depth

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M328.0909.01A	9	120	-	9	A
M328.0912.01A	12	100	32	9	A
M328.0912.01B	12	100	32	9	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

*=无内冷!

* = no through coolant supply!

订货须知：

HORN可以返修损坏的铣刀杆基座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削/面铣削

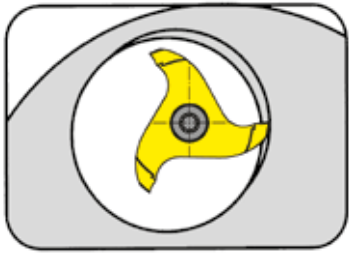
Groove Milling / Face Milling



铣刀杆

Milling shank

M328

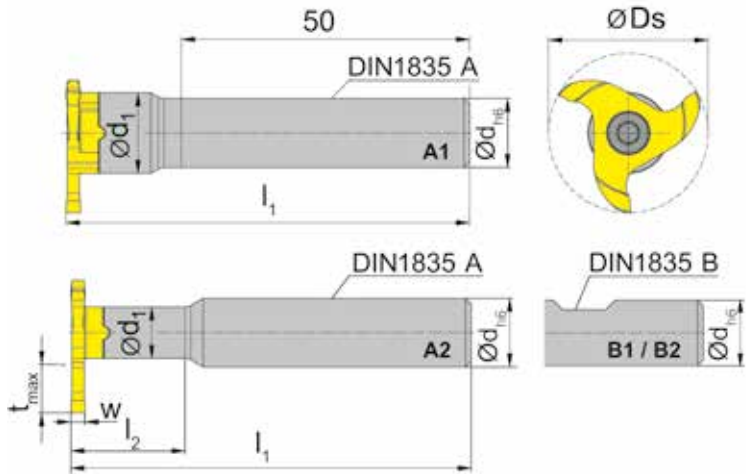


配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

配合刀片
for Insert

型号 325
Type 328
628



产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M328.ST12.01A	12	70	-	14	A1
M328.ST13.01A	13	70	-	14	A1
M328.ST12.2.01A	12	70	20	9	A2
M328.ST16.01A	16	90	36	14	A2
M328.ST20.01A	20	100	36	14	A2
M328.ST12.01B	12	70	-	14	B1
M328.ST12.2.01B	12	70	20	9	B2

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

注意事项：
铣刀杆M328.ST12.2.01A和M328.ST.13.2.01A用于安装增大切深的刀片！

Note:
Milling shanks M328.ST12.2.01A and M328.ST13.2.01A are usable for inserts with increased milling depth!
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

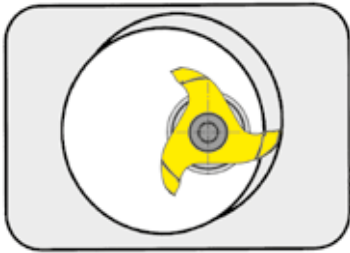
Groove Milling by circular interpolation



B

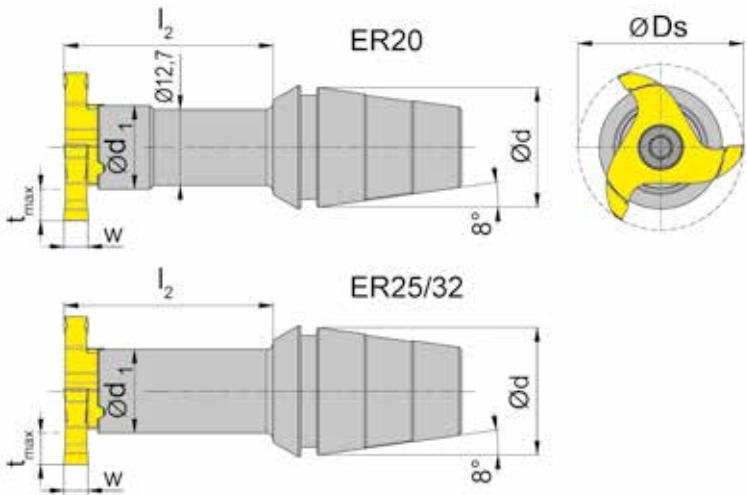
铣刀杆
Milling shank

M328.ER



配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 325
Type 328
628

产品型号 Part number	d	l ₂	d ₁	锁紧螺母 Clamping nut
M328.ER20.02	20	35	14	ER20.6499/ERM20.6499
M328.ER25.02	25	35	14	ER25.6499
M328.ER32.02	32	35	14	ER32.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :

铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

螺丝的扭矩规格 , 详见技术说明。

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

配件

Spare Parts

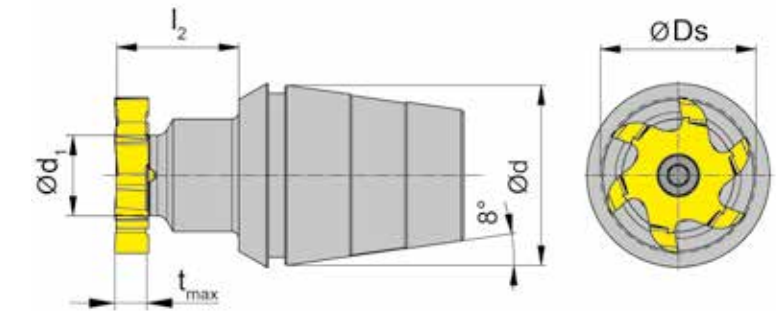
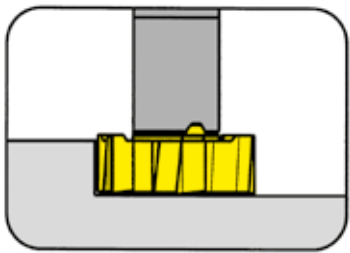
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

铣刀杆
Milling shank

M328.ER

配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes



配合刀片
for Insert

型号 325
Type 328
628

产品型号 Part number	d	l_2	d_1	锁紧螺母 Clamping nut
M328.ER25.16.01	25	21.7	15	ER25.6499
M328.ER32.16.01	32	21.7	20	ER32.6499

按需提供更多尺寸
Further sizes upon request

t_{max} 和Ds见刀片
 t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

铣刀杆不包含夹紧螺母-需要单独订购！

Ordering note:

Clamping nut is not combined with milling shank - separate order required!

螺丝的扭矩规格，详见技术说明。

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

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削/面铣削
Groove Milling / Face Milling



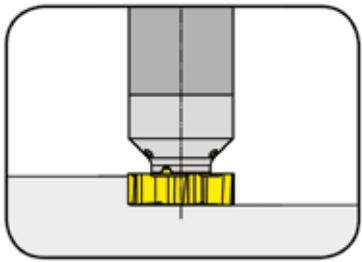
B

铣刀杆
Milling shank

M328

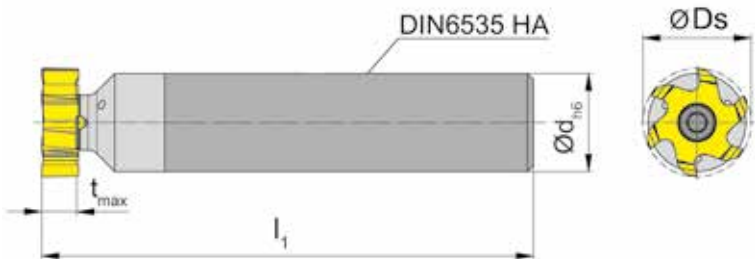
用于筒夹的硬质合金圆柱刀柄
Cylindrical carbide shank for collets

用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes



配合刀片
for Insert

型号 325
Type 328
628



产品型号 Part number	d	l ₁	形式 Form
M328.0016.D.00A	16	80	A
M328.0020.D.00A	20	80	A

按需提供更多尺寸
Further sizes upon request

t_{max}和Ds见刀片
t_{max} and Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.14T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

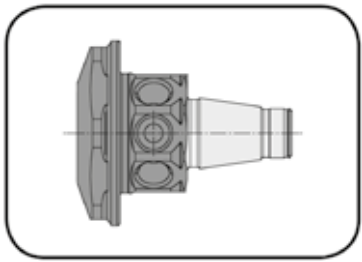


常规刀柄

Basic Holder

WFB

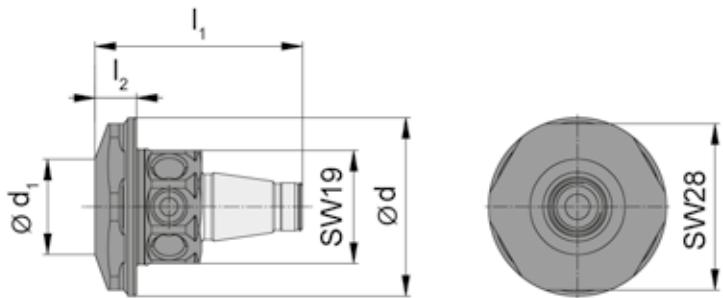
配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter



B

配合螺纹锁紧型铣刀
for Screw-in cutter

型号 M306.M081...
Type M308.M081...
M311.M081...
M313.M081...
M328.M081...
M332.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

尺寸单位 : mm
Dimensions in mm

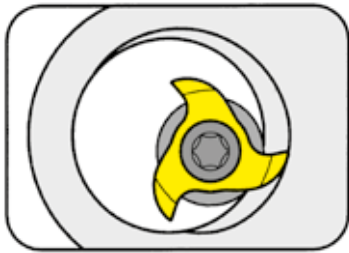
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

螺纹锁紧铣刀
Screw-in cutter

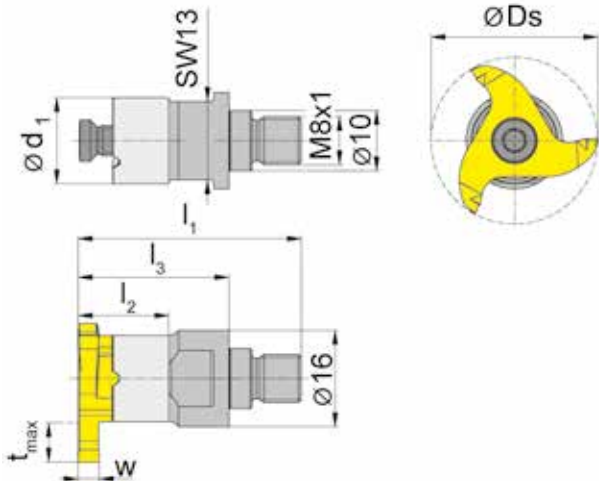
M328.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20

配合刀片
for Insert

型号 325
Type 328
628



产品型号 Part number	l_1	l_2	l_3	d_1	SW
M328.M081.01	37	15	25	14.3	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328.M081.01	5.14T20P	T20PQ

孔铣削

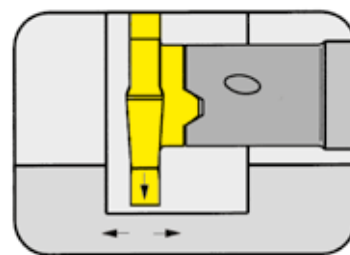
Milling of bores



B

刀片
Insert

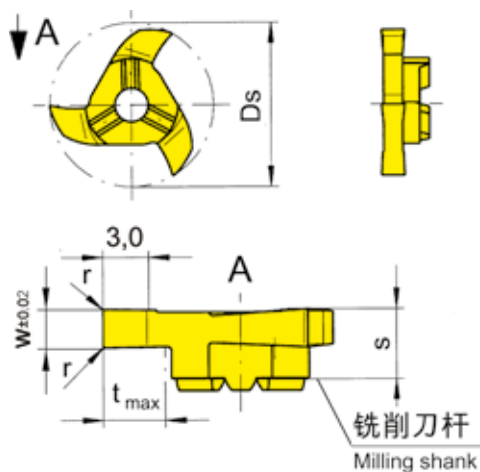
325



切槽深度可达
切削刃Ø

Depth of groove up to
Cutting edge Ø

5 mm
24.8 mm



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TN35
325.0350.52	24.8	3.5	5.7	0.2	5	3	▲	▲
▲ 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
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

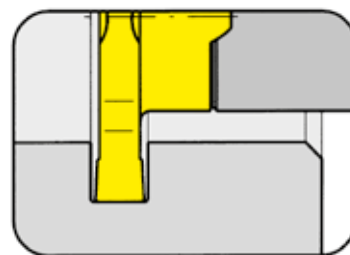
刀片
Insert

328

切槽深度可达
槽宽
切削刃Ø

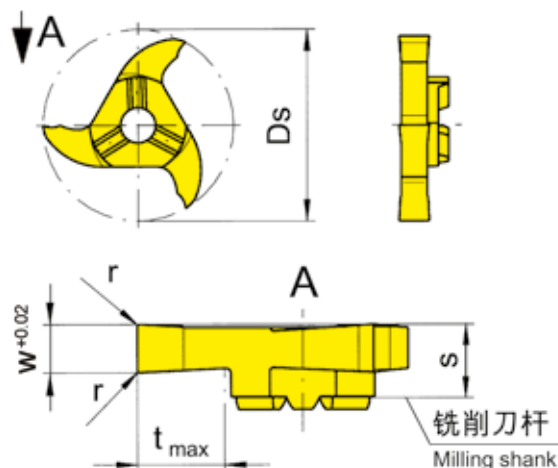
Depth of groove up to
Width of groove
Cutting edge Ø

6.5 mm
2-10 mm
27.7 mm



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TN35
328.0200.00	27.7	2.0	5.7	0.2	6.5	3	▲	▲
328.0250.00	27.7	2.5	5.7	0.2	6.5	3	▲	▲
328.0300.00	27.7	3.0	5.7	0.2	6.5	3	▲	▲
328.0350.00	27.7	3.5	5.7	0.2	6.5	3	▲	▲
328.0400.00	27.7	4.0	5.7	0.2	6.5	3	▲	▲
328.0500.00	27.7	5.0	5.7	0.2	6.5	3	▲	▲
328.0600.00	27.7	6.0	7.0	0.2	6.5	3	▲	▲
328.1000.00	27.7	10.0	10.0	0.2	6.5	3	▲	▲

▲ 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

按需提供更多尺寸

Further sizes upon request

注意事项:

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

刀片328.1000.00是错齿的 (有效齿数 Z=1), 刀片328.0600.00带有断屑器 (有效齿数Z=3) !

刀片328.1000.00 必须使用加长螺钉 5.13T20P。

Insert 328.1000.00 with staggered tooth (Z=1) and insert 328.0600.00 with chip divider (Z=3)!

For the insert 328.1000.00 please use only the longer screw 5.13T20P.

P	•	•
M	•	•
K	•	•
N	○	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片 Insert

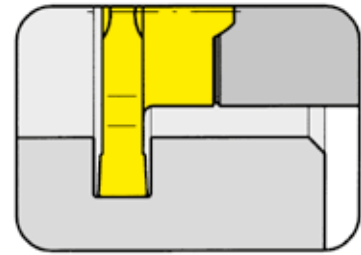
328

machining of aluminium

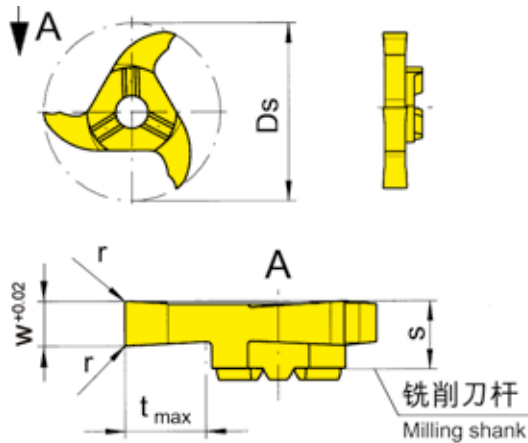
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

6.5 mm
2.5-4 mm
27.7 mm



B



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	Ti25
328.0250.40	27.7	2.5	5.7	0.2	6.5	3	▲
328.0300.40	27.7	3.0	5.7	0.2	6.5	3	▲
328.0350.40	27.7	3.5	5.7	0.2	6.5	3	▲
328.0400.40	27.7	4.0	5.7	0.2	6.5	3	▲

▲ 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

按需提供更多尺寸

Further sizes upon request

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

P	•
M	•
K	•
N	•
S	•
H	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

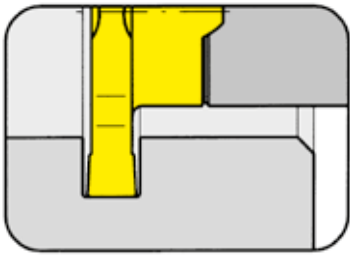
刀片
Insert

328

切槽深度可达
槽宽
切削刃Ø

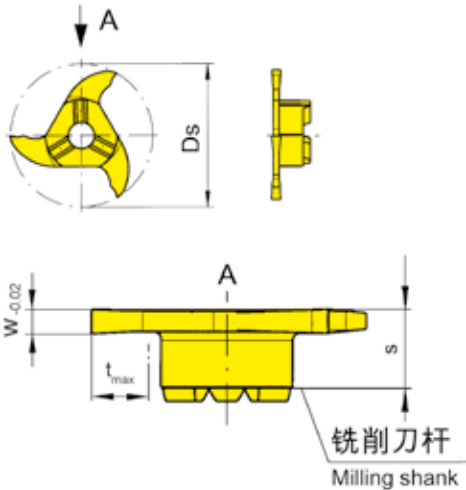
Depth of groove up to
Width of groove
Cutting edge Ø

5 mm
0.82 mm
27.7 mm



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	t _{max}	Z		Tl25	TN35
328.0082.1.00	27.7	0.82	5.7	5	3		▲	▲
▲ 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								

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

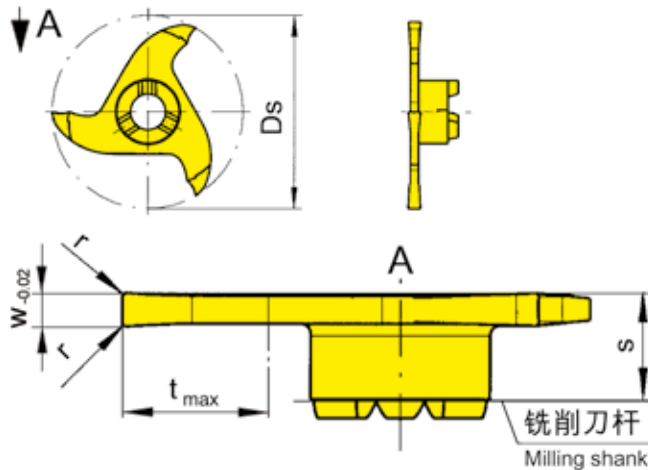
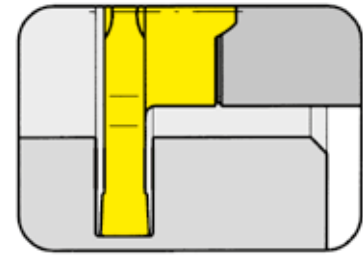
328

B

切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

9.3 mm
1.1-2.5 mm
28 mm



用于铣削刀柄
for Milling shank

型号 M328.0909.01A
Type M328.0912.01A
M328.0912.01B
M328.ST12.2.01A
M328.ST12.2.01B

图示=右手型
Picture = right hand cutting version

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TI25	TN35
328.0110.2.00	28	1.10	5.7	0.20	9.3	3		▲	▲
328.0120.2.00	28	1.20	5.7	0.20	9.3	3		▲	▲
328.0132.2.00	28	1.32	5.7	0.15	9.3	3		▲	▲
328.0150.2.00	28	1.50	5.7	0.20	9.3	3	▲	▲	▲
328.0160.2.00	28	1.60	5.7	0.20	9.3	3	▲	▲	▲
328.0200.2.00	28	2.00	5.7	0.20	9.3	3	▲	▲	▲
328.0250.2.00	28	2.50	5.7	0.20	9.3	3	▲	▲	▲
▲ 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							硬质合金牌号 Carbide grades		

尺寸单位 : mm
Dimensions in mm

扩孔和倒角

Milling of bores and Chamfering



B

刀片

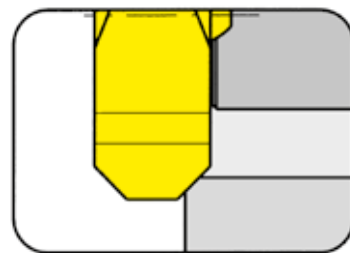
Insert

328

倒角规格尺寸
切削刃

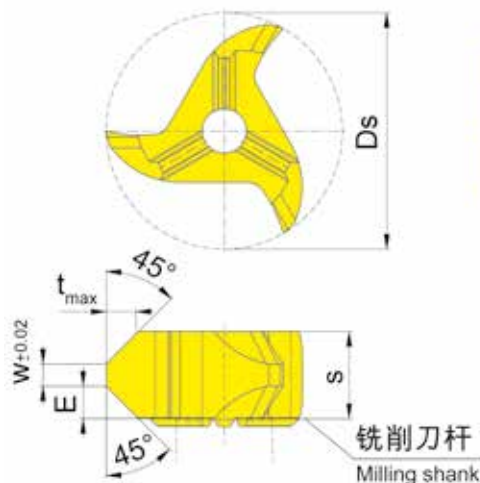
Size of chamfer up to
Cutting edge Ø

3.5 mm
27.7 mm



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M



图示=右手型

Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	t _{max}	Z	TA45
328.4545.35.00	3.8	10.2	27.7	2.6	3.5	3	▲
▲ 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

刀片328.4545.35.00 必须使用加长螺钉 5.13T20P.

For insert 328.4545.35.00 please use only the longer screw 5.13T20P.

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

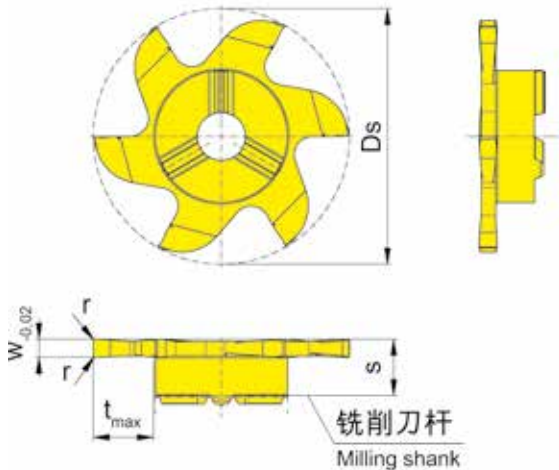


刀片
Insert

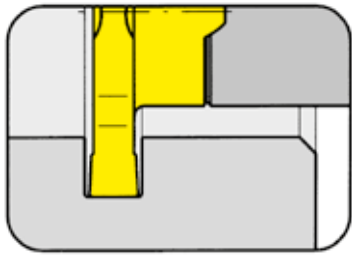
628

切槽深度可达	Depth of groove up to	6.5 mm
卡簧宽度Nw	Width of circlip Nw	1.3-2.65 mm
切削刃Ø	Cutting edge Ø	27.7 mm

卡簧槽宽度满足标准DIN471/472，槽宽大于2.65mm的刀片是错齿的
Widths for circlip grooves DIN 471/472, from width of groove 2,65 mm toothing with cross-cut



图示=右手型
Picture = right hand cutting version



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M

产品型号 Part number	Ds	w	Nw	s	r	t _{max}	Z	AS45	Ti25
628.0130.00	27.7	1.41	1.30	6.1	-	6.5	6	▲	▲
628.0160.00	27.7	1.71	1.60	6.1	-	6.5	6	▲	▲
628.0185.00	27.7	1.96	1.85	6.1	0.2	6.5	6	▲	▲
628.0215.00	27.7	2.26	2.15	6.1	0.2	6.5	6	▲	▲
628.0265.00	27.7	2.76	2.65	6.1	0.2	6.5	6	▲	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

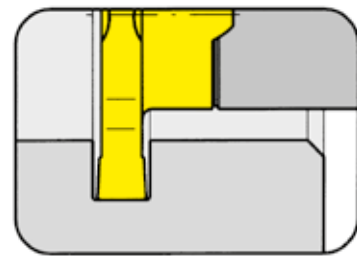
刀片
Insert

628

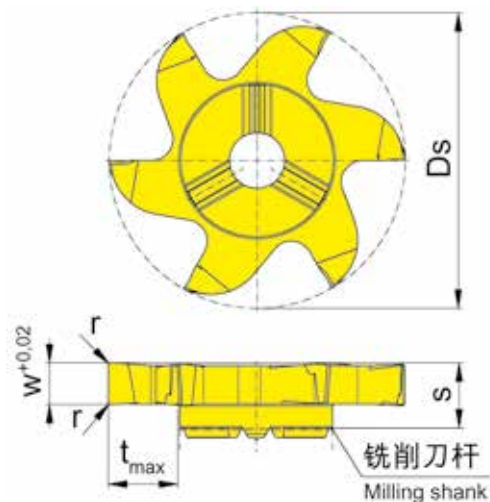
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

6.5 mm
2.5-4 mm
27.7 mm



2.5mm槽宽以上的刀片是错齿的
from width of groove 2,5 mm toothing with cross-cut



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TH35	TI25
628.0250.00	27.7	2.5	6.1	0.2	6.5	6	▲		▲
628.0300.00	27.7	3.0	6.1	0.2	6.5	6	▲		▲
628.0350.00	27.7	3.5	6.1	0.2	6.5	6	▲		▲
628.0400.00	27.7	4.0	6.1	0.2	6.5	6	▲	▲	▲
							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

注意事项 :

可以提供浅切深的槽宽0.5mm以下的刀片。

Note:

Inserts for widths of groove t_{max} down to 0,5 mm can be delivered with reduced depth upon request.

刀片628.0400.00

仅用于l2=max.42mm的刀杆

Insert 628.0400.00

only with toolholder dimension l2 = max. 42 mm

硬质合金牌号
Carbide grades

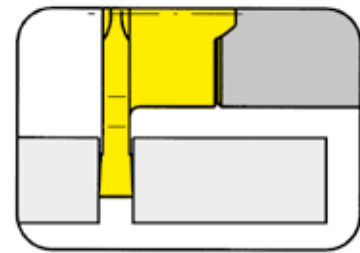
槽铣削 Slot Milling



B

刀片
Insert

628

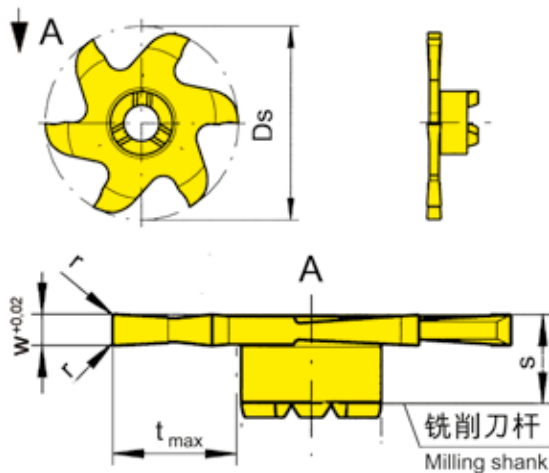


切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

9.3 mm
1-2.5 mm
28 mm

2.4mm槽宽以上的刀片是错齿的
from width of groove 2,4 mm toothing with cross-cut



用于铣削刀柄
for Milling shank

型号 M328.0909.01A
Type M328.0912.01A
M328.0912.01B
M328.ST12.2.01A
M328.ST12.2.01B

图示=右手型
Picture = right hand cutting version

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TI25
628.0100.2.00	28.0	1.0	6.1	-	9.3	6		▲
628.0120.2.00	28.0	1.2	6.1	0.2	9.3	6		▲
628.0150.2.00	28.0	1.5	6.1	0.2	9.3	6	▲	▲
628.0160.2.00	28.0	1.6	6.1	0.2	9.3	6	▲	▲
628.0200.2.00	28.0	2.0	6.1	0.2	9.3	6	▲	▲
628.0240.2.00	28.0	2.4	6.1	0.2	9.3	6	△	▲
628.0250.2.00	27.7	2.5	6.1	0.2	9.3	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

	P	M	K	N	S	H
AS45	•	•	•	•	•	-
TI25	•	•	•	○	•	-

硬质合金牌号
Carbide grades

面铣削

Face Milling



B

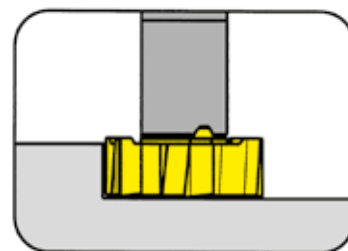
刀片
Insert

628

切深可达
切削刃Ø

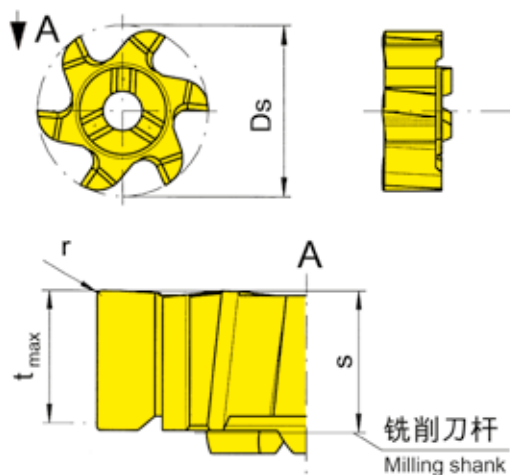
Depth of cut up to
Cutting edge Ø

5.7 mm
27.7 mm



用于CNC车床的圆刀杆
with cylindrical shank for CNC-lathes

用于铣削刀柄
for Milling shank



型号 M328
Type M328.ER
M328.ST
M328.M
M332.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	r	t _{max}	s			
						AS45	TF45	Tl25
628.PL61.62	27.7	6	0.2	5.7	6.1	▲	▲	▲
▲ 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						硬质合金牌号 Carbide grades		

倒角 Chamfering



刀片 Insert

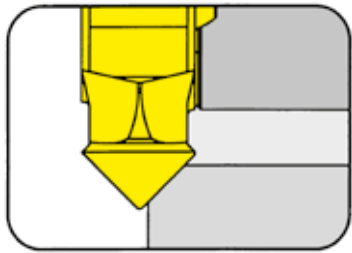
628

B

倒角宽度
切削刃Ø

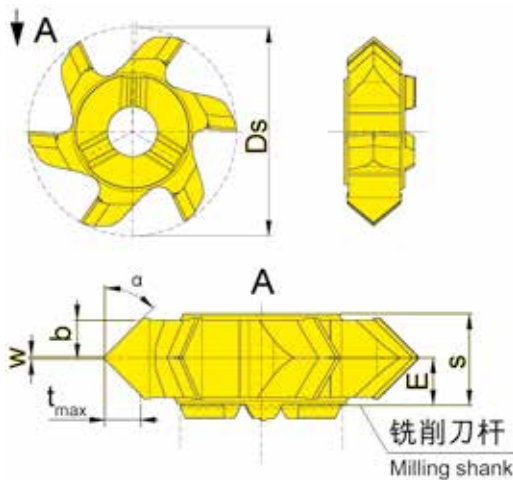
Width of chamfer
Cutting edge Ø

2.8 mm
27.7 mm



用于铣削刀柄
for Milling shank

型号 M328
Type M328.ER
M328.ST
M328.M
M332.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	α	b	t _{max}	Z	AS45	TA45
628.1515.20	3.2	6.3	27.7	0.2	15°	2.8	0.75	6	▲	
628.2020.20	3.2	6.3	27.7	0.2	20°	2.8	1.00	6	▲	
628.3030.20	3.2	6.3	27.7	0.2	30°	2.8	1.60	6	▲	▲
628.4545.20	3.2	6.3	27.7	0.2	45°	2.8	2.80	6	▲	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

铣刀杆
Milling shank
M332/M332.ER

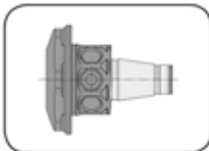


页/Page
B136, B138-B139



页/Page
B137

常规刀柄
Basic Holder
WFB



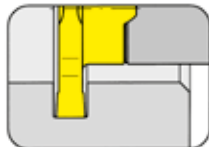
页/Page
B140

螺纹锁紧铣刀
Screw-in cutter
M332.M



页/Page
B141

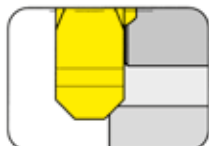
刀片
Insert
332/632/636/932



页/Page
B142, B145, B147, B149



页/Page
B143, B146, B148



页/Page
B144

M332



可替换刀片的
铣刀

孔径Ø 自 32 mm

Milling Cutter with
exchangeable insert

from bore Ø 32 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



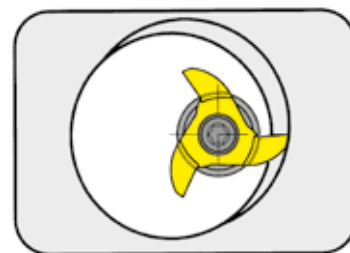
B

铣刀杆

Milling shank

M332

直接冷却液供应
with through coolant supply



切削刃Ø

Cutting edge Ø

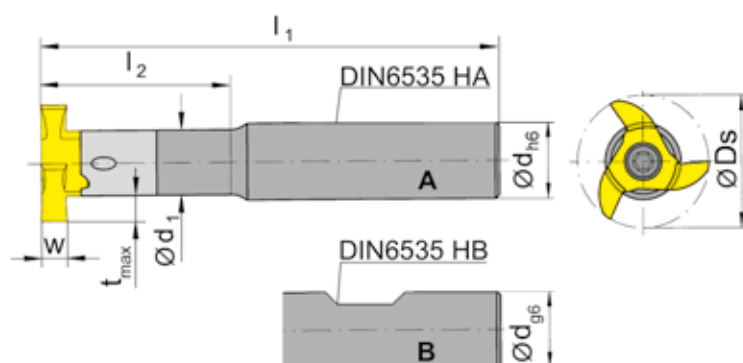
31,7 mm

刀杆材质：整体硬质合金 - 良好的抗振性能

Material of shank: Carbide - Giving a good vibration resistance

配合刀片
for Insert

型号 332
Type 632
636
932



图示=右手型

Picture = right hand cutting version

产品型号 Part number	d	l_1	l_2	d_1	形式 Form
M332.0016.01A	16	100	42	14.3	A
M332.0016.02A	16	130	60	14.3	A
M332.0016.03A	16	160	85	14.3	A
M332.0020.01A	20	100	42	14.3	A
M332.0020.02A	20	130	60	14.3	A
M332.0020.03A	20	160	85	14.3	A
M332.0016.01B	16	100	42	14.3	B
M332.0016.02B	16	130	60	14.3	B
M332.0016.03B	16	160	85	14.3	B
M332.0020.01B	20	100	42	14.3	B
M332.0020.02B	20	130	60	14.3	B
M332.0020.03B	20	160	85	14.3	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max} 见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

HORN可以返修损坏的铣刀杆基座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332...	5.17T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



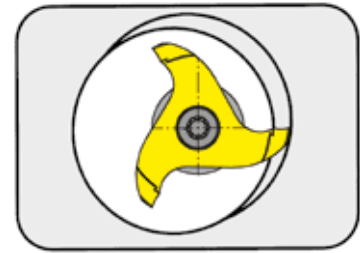
B

铣刀杆

Milling shank

M332

直接冷却液供应
with through coolant supply



切削刃Ø Cutting edge Ø 31,7 mm

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



配合刀片
for Insert

型号 332
Type 632
636
932

适用于增大切深的刀片
for inserts with increased
milling depth

图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M332.0012.2.01A	12	100	32	11	A
M332.0016.2.01A	16	100	32	11	A

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：

HORN可以返修损坏的铣刀杆基座座。

Ordering note:

Milling cutter shanks with damaged seating can be repaired by HORN.

螺丝的扭矩规格，详见技术说明。

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

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332...	5.17T20P	T20PQ

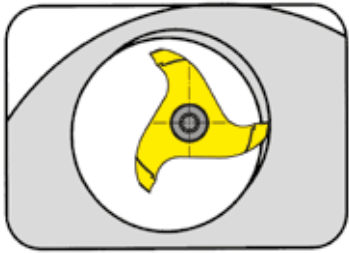
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

铣刀杆
Milling shank

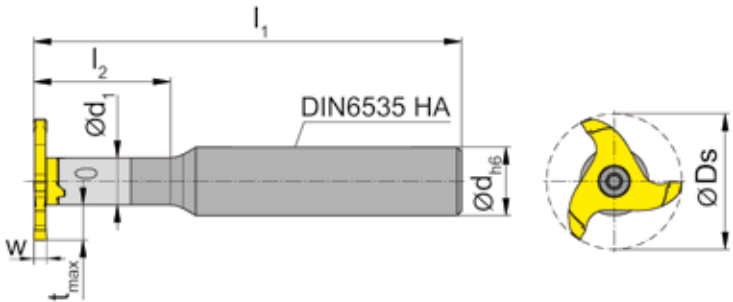
M332



配合筒夹的圆柱钢铣刀杆
Cylindrical steel milling shank for collets

配合刀片
for Insert

型号 332
Type 632
636
932



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M332.ST12.2.01A	12	70	25	11.0	A
M332.ST13.2.01A	13	70	25	11.0	A
M332.ST16.01A	16	90	36	14.3	A
M332.ST20.01A	20	100	36	14.3	A
M332.ST12.2.01B	12	70	25	11.0	B

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

注意事项 :
铣刀杆 M332.ST12.2.01A和 M332.ST13.2.01A适用于增加铣削深度的刀片 !

Note:
Milling shanks M332.ST12.2.01A, M332.ST12.2.01B and M332.ST13.2.01A are usable for inserts with increased milling depth!
螺丝的扭矩规格, 详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332...	5.17T20P	T20PQ

槽铣削 (圆弧插补铣削)

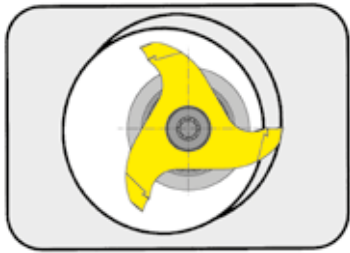
Groove Milling by circular interpolation



铣刀杆

Milling shank

M332.ER

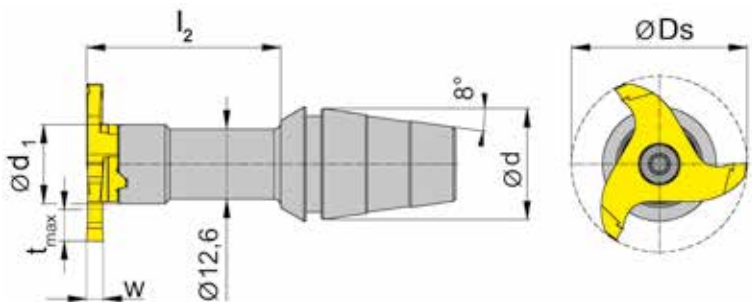


配合筒夹DIN ISO 15488 的铣刀杆
Milling shanks for collet chucks DIN ISO 15488

用于CNC车床的ER锥柄
with ER taper for CNC-lathes

配合刀片
for Insert

型号 332
Type 632
636
932



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l_2	d_1	锁紧螺母 Clamping nut
M332.ER20.02	20	35	14.3	ER20.6499/ERM20.6499

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

订货须知 :
铣刀杆不包含夹紧螺母-需要单独订购 !

Ordering note:
Clamping nut is not combined with milling shank - separate order required!
螺丝的扭矩规格, 详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332.ER20.02	5.17T20P	T20PQ

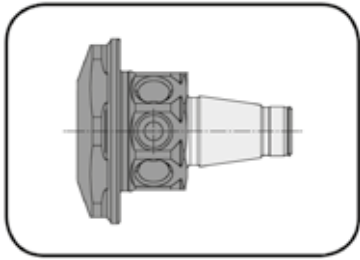
槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



B

常规刀柄
Basic Holder

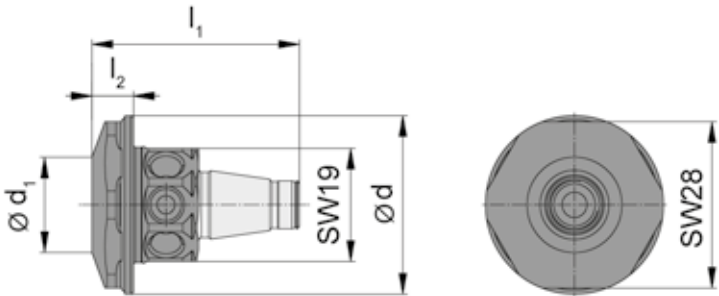
WFB



配合螺纹锁紧铣刀的WFB.20常规刀柄
Basic holder WFB.20 for screw-in cutter

配合螺纹锁紧型铣刀
for Screw-in cutter

- 型号 M306.M081...
Type M308.M081...
 M313.M081...
 M328.M081...
 M332.M081...
 M311.M081...



产品型号 Part number	l_1	l_2	d_1	d
WFB.2012.M081.01	35	7	16	30

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

槽铣削 (圆弧插补铣削)

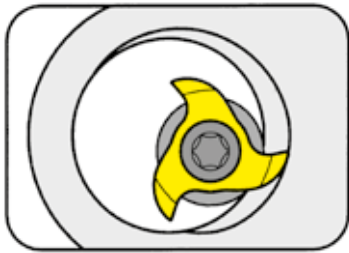
Groove Milling by circular interpolation



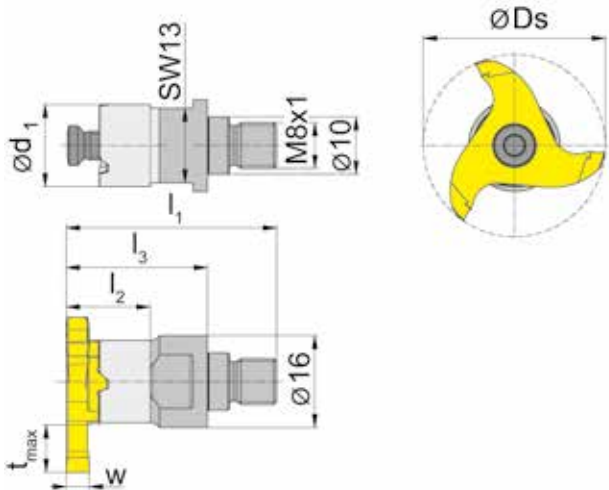
螺纹锁紧铣刀

Screw-in cutter

M332.M



配合WFB.20刀柄的螺纹锁紧铣刀
Screw-in Cutter for basic holder type WFB.20



配合刀片
for Insert

型号	628
Type	332
	632
	932

产品型号 Part number	l_1	l_2	l_3	d_1	SW
M332.M081.01	37	15	25	14.3	13

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件

Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332.M081.01	5.17T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

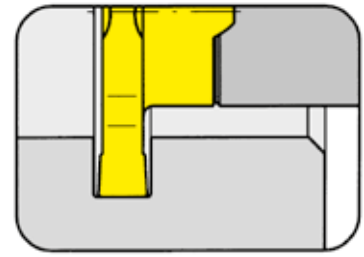
刀片
Insert

332

切槽深度可达
槽宽
切削刃Ø

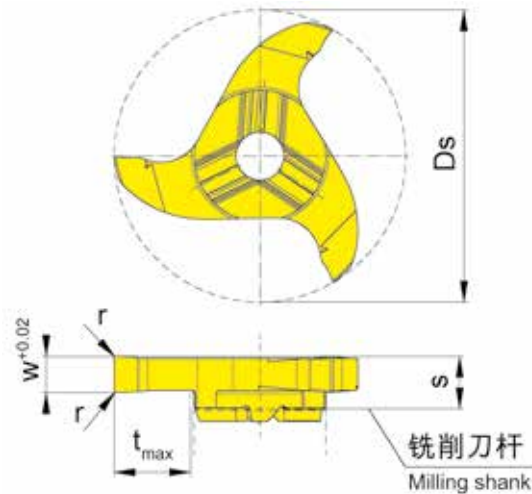
Depth of groove up to
Width of groove
Cutting edge Ø

8.3 mm
2-4 mm
31.7 mm



用于铣削刀柄
for Milling shank

型号 M332.M
Type M332
M332.ST
M332.ER



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
332.0200.00	31.7	2.0	5.7	0.2	8.3	3	Δ	▲
332.0250.00	31.7	2.5	5.7	0.2	8.3	3	Δ	▲
332.0300.00	31.7	3.0	5.7	0.2	8.3	3	▲	▲
332.0350.00	31.7	3.5	5.7	0.2	8.3	3	▲	▲
332.0400.00	31.7	4.0	5.7	0.2	8.3	3	▲	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



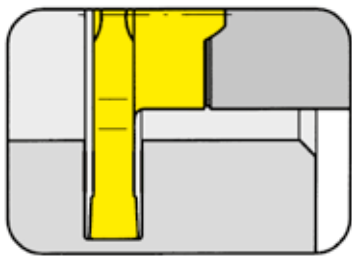
刀片
Insert

332

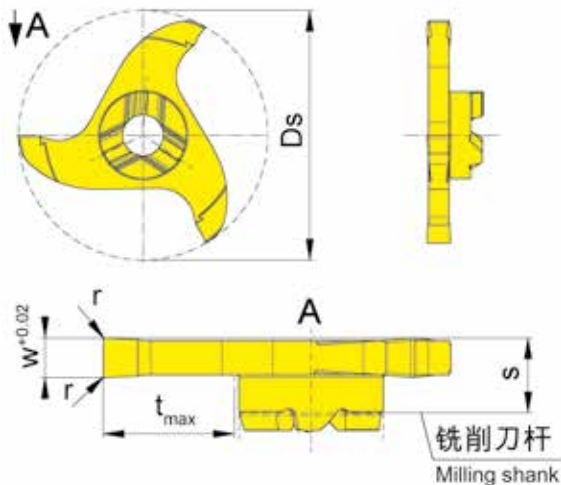
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

10 mm
1.5-3 mm
31.7 mm



B



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M332.0012.2.01A
Type M332.0016.2.01A
M332.ST12.2.01A
M332.ST12.2.01B

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
332.0150.2.00	31.7	1.5	5.7	0.2	10	3	Δ	▲
332.0160.2.00	31.7	1.6	5.7	0.2	10	3	Δ	▲
332.0200.2.00	31.7	2.0	5.7	0.2	10	3	▲	▲
332.0250.2.00	31.7	2.5	5.7	0.2	10	3	▲	▲
332.0300.2.00	31.7	3.0	5.7	0.2	10	3	▲	▲

▲ 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
AS45	•	•	•	○	•	-
Ti25	•	•	•	•	•	-

硬质合金牌号
Carbide grades

扩孔和倒角

Milling of bores and Chamfering



B

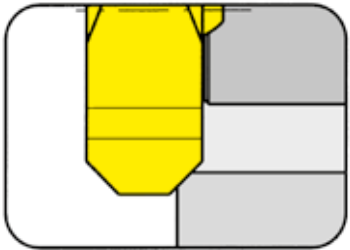
刀片
Insert

332

倒角规格尺寸
切削刃Ø

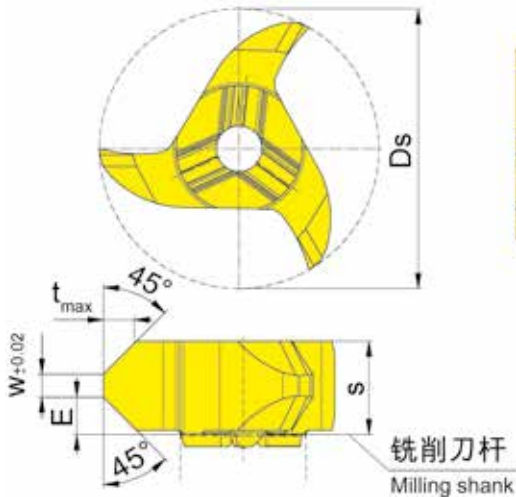
Size of chamfer up to
Cutting edge Ø

3.5 mm
31.7 mm



用于铣削刀柄
for Milling shank

型号 M332
Type M332.ER
M332.ST
M332.M



图示=右手型
Picture = right hand cutting version

产品型号 Part number	E	s	Ds	w	t _{max}	Z	TA45
332.4545.35.00	4.25	10.6	31.7	2.6	3.5	3	▲
							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

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

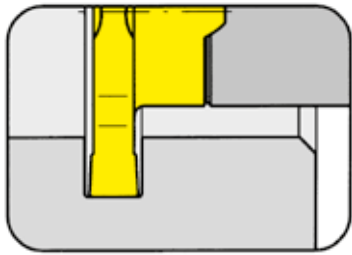
Groove Milling by circular interpolation



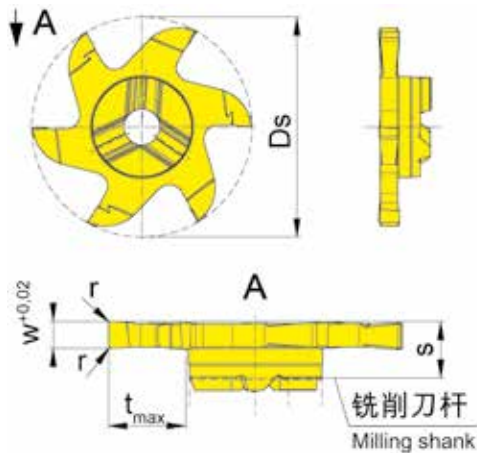
刀片
Insert

632

切槽深度可达	Depth of groove up to	8.3 mm
槽宽	Width of groove	2-4 mm
切削刃Ø	Cutting edge Ø	31.7 mm



ab Schneidbreite 2,5 mm Kreuzverzahnung
from width of groove 2,5 mm toothing with cross-cut



用于铣削刀柄
for Milling shank

型号 M332
Type M332.ER
M332.ST
M332.M

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TA45
632.0200.00	31.7	2.0	6.1	0.2	8.3	6	▲	▲
632.0250.00	31.7	2.5	6.1	0.2	8.3	6	△	▲
632.0300.00	31.7	3.0	6.1	0.2	8.3	6	▲	▲
632.0400.00	31.7	4.0	6.1	0.2	8.3	6	▲	▲
▲ 库存 / on stock △ 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							硬质合金牌号 Carbide grades	

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

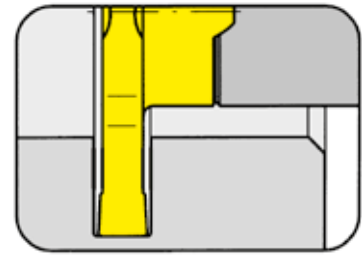
刀片
Insert

632

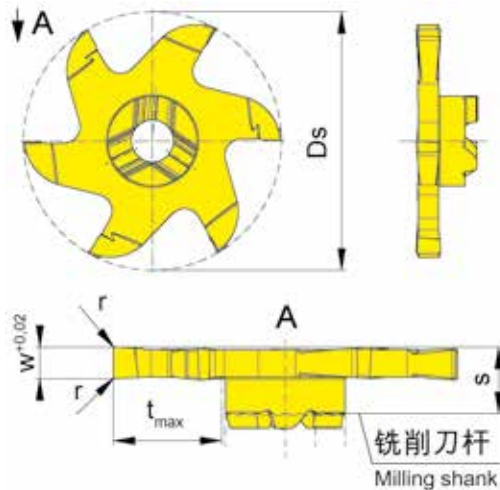
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

10 mm
1-3 mm
31.7 mm



ab Schneidbreite 2,5 mm Kreuzverzahnung
from width of groove 2,5 mm toothing with cross-cut



用于铣削刀柄
for Milling shank

型号 M332.0012.2.01A
Type M332.0016.2.01A
M332.ST12.2.01A
M332.ST12.2.01B

图示=右手型
Picture = right hand cutting version

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TA45
632.0100.2.00	31.7	1.0	6.1	-	10	6	Δ	
632.0120.2.00	31.7	1.2	6.1	0.1	10	6	Δ	
632.0150.2.00	31.7	1.5	6.1	0.2	10	6	Δ	▲
632.0160.2.00	31.7	1.6	6.1	0.2	10	6	▲	▲
632.0200.2.00	31.7	2.0	6.1	0.2	10	6	Δ	▲
632.0250.2.00	31.7	2.5	6.1	0.2	10	6	Δ	▲
632.0300.2.00	31.7	3.0	6.1	0.2	10	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
AS45	•	•	•	o	•	-
TA45	•	•	•	•	•	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

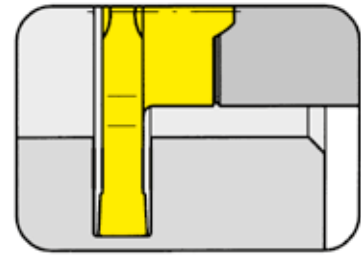


刀片
Insert

636

B

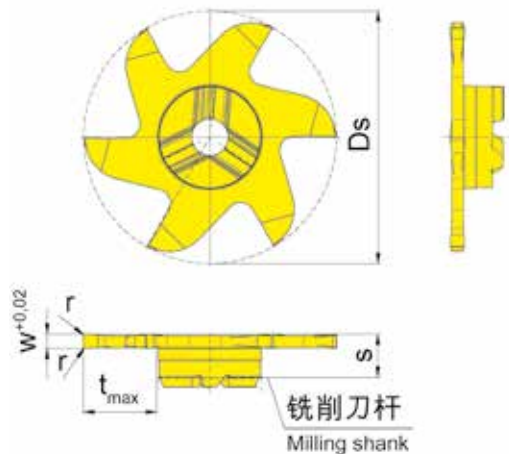
切槽深度可达	Depth of groove up to	10.2 mm
槽宽	Width of groove	1.5-3 mm
切削刃Ø	Cutting edge Ø	35.7 mm



ab Schneidbreite 2,5 mm Kreuzverzahnung
from width of groove 2,5 mm toothing with cross-cut

用于铣削刀柄
for Milling shank

型号 M332
Type M332.ST
M332.M
M332.ER



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TA45
636.0150.00	35.7	1.5	6.1	0.1	10.2	6	▲	▲
636.0200.00	35.7	2.0	6.1	0.2	10.2	6	▲	▲
636.0250.00	35.7	2.5	6.1	0.2	10.2	6	▲	▲
636.0300.00	35.7	3.0	6.1	0.2	10.2	6	▲	▲

▲ 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

注意事项 :

请考虑刀杆定位面直径Ø d₁

Note:

Please consider pocket seat Ø d₁ of the milling shank!

P	•	•
M	•	•
K	•	•
N	○	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



B

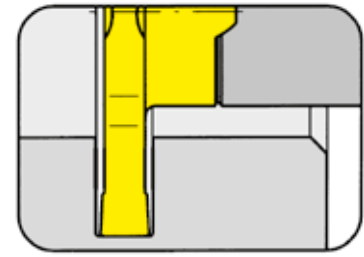
刀片
Insert

636

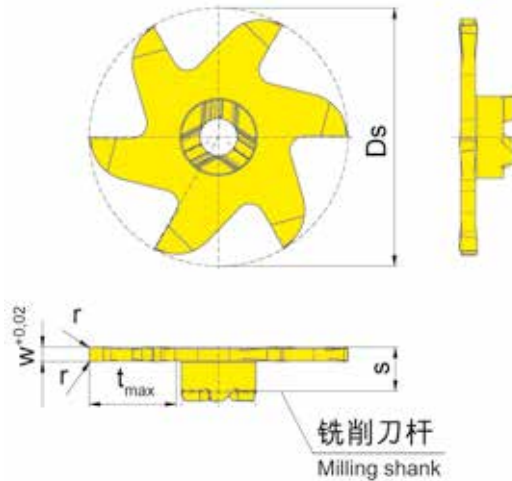
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

12 mm
1.1-2.5 mm
35.7 mm



ab Schneidbreite 2,5 mm Kreuzverzahnung
from width of groove 2,5 mm toothing with cross-cut



用于铣削刀柄
for Milling shank

型号 M332.0012.2.01A
Type M332.0016.2.01A
M332.ST12.2.01A
M332.ST12.2.01B

图示=右手型
Picture = right hand cutting version

铣削深度增加
increased milling depth

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	TA45
636.0110.2.00	35.7	1.1	6.1	0.1	12	6	Δ	
636.0130.2.00	35.7	1.3	6.1	0.1	12	6	Δ	
636.0150.2.00	35.7	1.5	6.1	0.1	12	6	▲	▲
636.0200.2.00	35.7	2.0	6.1	0.2	12	6	▲	▲
636.0250.2.00	35.7	2.5	6.1	0.2	12	6	▲	▲

▲ 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

注意事项 :

请考虑刀杆定位面直径Ø d₁

Note:

Please consider pocket seat Ø d₁ of the milling shank!

	P	M	K	N	S	H
AS45	•	•	•	○	•	-
TA45	•	•	•	•	•	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

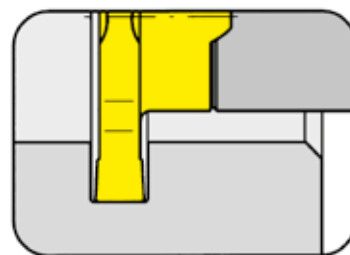
Groove Milling by circular interpolation



B

刀片
Insert

932



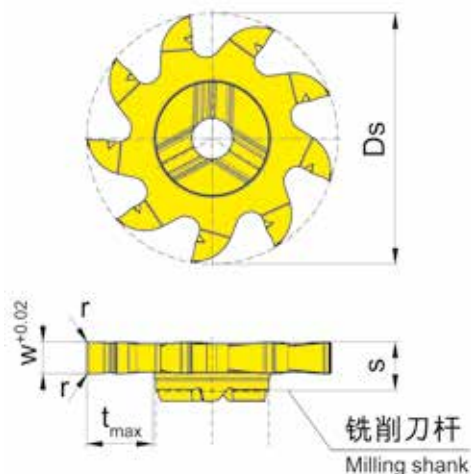
切槽深度可达
槽宽
切削刃Ø

Depth of groove up to
Width of groove
Cutting edge Ø

8.3 mm
2-4 mm
31.7 mm

用于铣削刀柄
for Milling shank

型号 M332
Type M332.ST
M332.M
M332.ER



铣削刀杆
Milling shank

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45
932.0200.00	31.7	2.0	6.1	0.2	8.3	9	▲
932.0250.00	31.7	2.5	6.1	0.2	8.3	9	▲
932.0300.00	31.7	3.0	6.1	0.2	8.3	9	▲
932.0400.00	31.7	4.0	6.1	0.2	8.3	9	▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



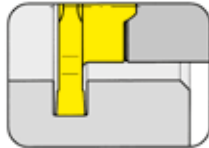
B

铣刀杆
Milling shank
M335



页/Page
B152

刀片
Insert
335



页/Page
B153

M335



可替换刀片的
铣刀

孔径Ø 自 35 mm

Milling Cutter with
exchangeable insert

from bore Ø 35 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

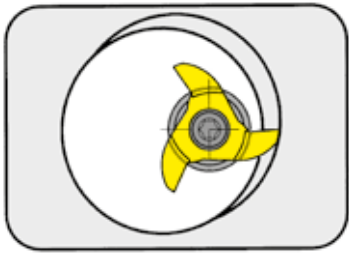


B

铣刀杆

Milling shank

M335
直接冷却液供应
with through coolant supply



切削刃Ø Cutting edge Ø Ds 34,7 mm

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

配合刀片
for Insert

型号 335
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M335.0020.01A	20	100	40	17.5	A
M335.0020.02A	20	130	60	17.5	A
M335.0020.03A	20	150	80	17.5	A
M335.0020.01B	20	100	40	17.5	B
M335.0020.02B	20	130	60	17.5	B
M335.0020.02E	20	130	60	17.5	E

按需提供更多尺寸
Further sizes upon request

w, Ds, t_{max}见刀片
w, Ds, t_{max} see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。
Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M335...	6.17T25P	T25PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



刀片
Insert

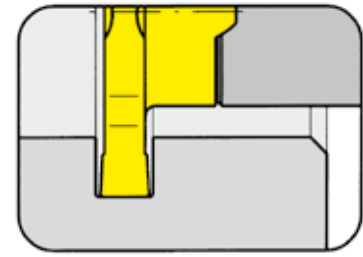
335

B

切槽深度可达
槽宽
切削刃Ø

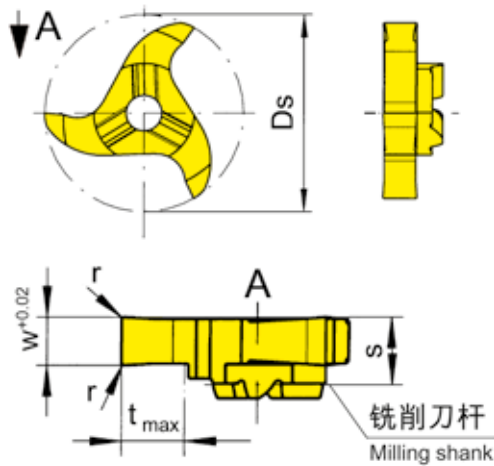
Depth of groove up to
Width of groove
Cutting edge Ø

8 mm
2-6 mm
34.7 mm



用于铣削刀柄
for Milling shank

型号 M335
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	w	s	r	t _{max}	Z	AS45	Ti25
335.0200.00	34.7	2	8.7	0.2	8	3	▲	▲
335.0300.00	34.7	3	8.7	0.2	8	3	▲	▲
335.0400.00	34.7	4	8.7	0.2	8	3	▲	▲
335.0500.00	34.7	5	8.7	0.2	8	3	▲	▲
335.0600.00	34.7	6	8.7	0.2	8	3	▲	▲

▲ 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

根据要求 :

8.0-15.0mm宽度刀片仅用于特殊轮廓刀片, 而且要取决于被加工工件的材质。

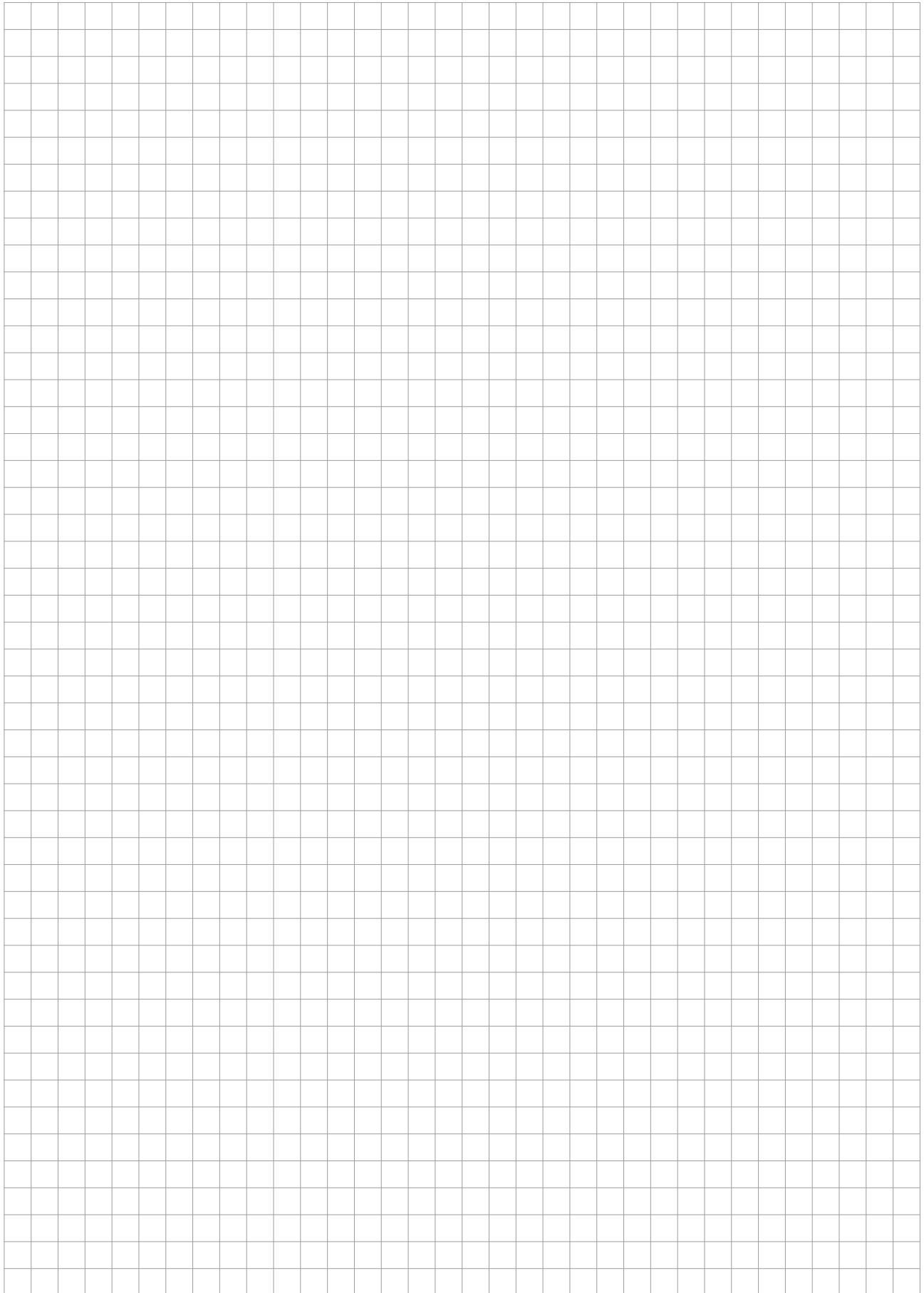
Upon request:

Insert widths of 8,0 - 15,0 mm are only available as special profiled inserts. Use of these widths depend from the workpiece material to be machined.

P	•	•
M	•	•
K	•	•
N	○	•
S	•	•
H	-	-

硬质合金牌号
Carbide grades

B



M275



槽铣刀

切削刃 Ø 自 31 mm

Groove milling cutter

from cutting edge Ø 31 mm

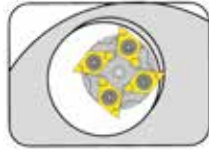
槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



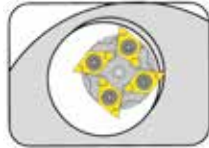
C

铣刀杆
Milling shank
M275



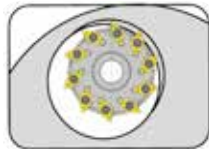
页/Page
C3

螺纹锁紧铣刀
Screw-in cutter
M275



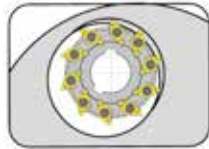
页/Page
C4

配合刀柄式铣刀
Arbor Mounted Cutter
M275



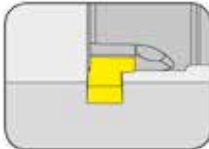
页/Page
C5

盘铣刀
Disc Milling Cutter
M275

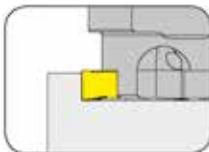


页/Page
C6

可转位刀片
Indexable insert
S275/RS275



页/Page
C7-C9



页/Page
C10

槽铣削 (圆弧插补铣削)

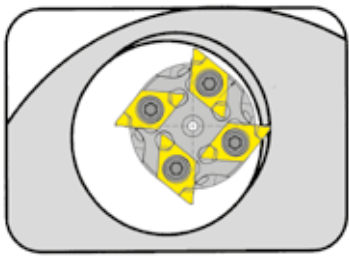
Groove Milling by circular interpolation



铣刀杆

Milling shank

M275
直接冷却液供应
with through coolant supply

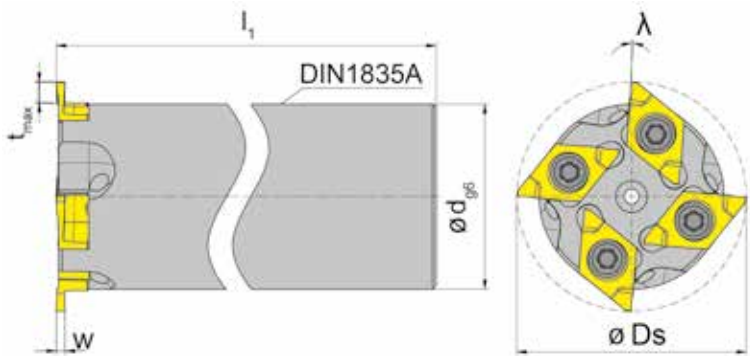


切削刃Ø Cutting edge Ø 31 mm

刀杆材料：钢 (不推荐使用热缩方式夹持)
Material of shank: Steel (not recommended for shrink fitting)

配合可转位刀片
for Indexable insert

型号 S275
Type RS275



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	d	l ₁	λ
M275.031.D25.3.04A	4	31	25	125	4°

按需提供更多尺寸
Further sizes upon request

w和t_{max}见刀片
w and t_{max} see inserts

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

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M275.031.D25.3.04A	3.510T10P	T10PL

槽铣削 (圆弧插补铣削)

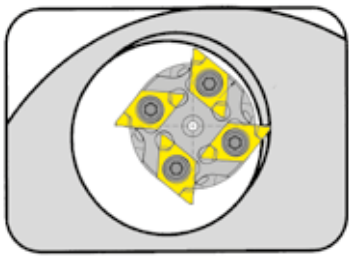
Groove Milling by circular interpolation



螺纹锁紧铣刀

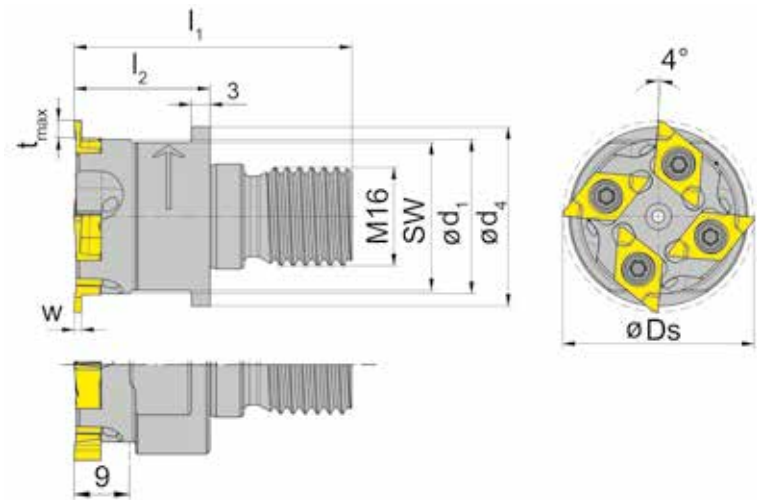
Screw-in cutter

M275
直接冷却液供应
with through coolant supply



切削刃Ø Cutting edge Ø 31/36 mm

刀杆材料：钢
Material of shank: Steel



配合可转位刀片
for Indexable insert

型号 S275
Type RS275

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	l ₁	l ₂	d ₁	d ₄	SW
M275.031.M16.1.04	4	31	45	22	25	29	24
M275.036.M16.1.04	4	36	45	22	30	29	27

按需提供更多尺寸
Further sizes upon request

w和t_{max}见刀片
w and t_{max} see inserts

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

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M275...	3.510T10P	T10PL

槽铣削 (圆弧插补铣削)

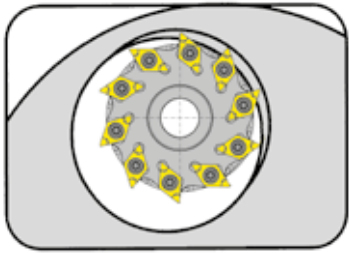
Groove Milling by circular interpolation



配合刀柄式铣刀

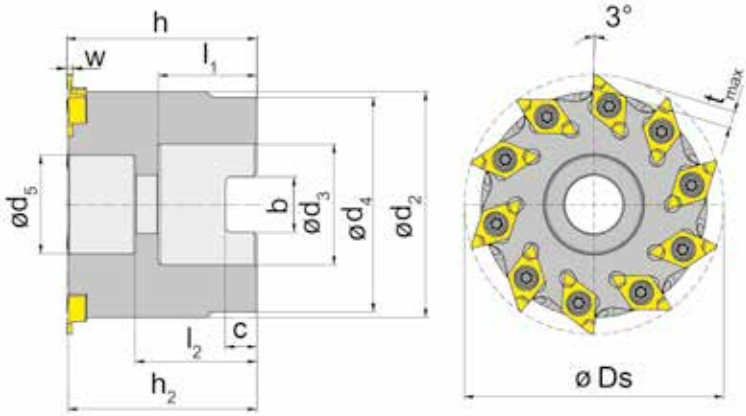
Arbor Mounted Cutter

M275
直接冷却液供应
with through coolant supply



切削刃Ø Cutting edge Ø 38/48/58/78 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138



配合可转位刀片
for Indexable insert

型号 S275
Type RS275

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	h ₂	h	d ₅	d ₄	d ₃	l ₁	l ₂	b	C	d ₂
M275.0038.A16.05	5	38	32.7	33.0	13.5	32.0	16	18	22.7	8.4	5.6	32.0
M275.0048.A22.08	8	48	36.7	37.0	18.5	40.5	22	20	24.7	10.4	6.3	40.5
M275.0058.A27.10	10	58	42.2	42.5	22.0	48.0	27	22	27.2	12.4	7.0	50.0
M275.0078.A32.14	14	78	49.7	50.0	33.0	58.0	32	25	36.7	14.4	8.0	70.5

按需提供更多尺寸
Further sizes upon request

w和t_{max}见刀片
w and t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

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

配件

Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	垫圈 Washer	螺钉 Screw
M275.0038.A16.05	3.510T10P	T10PL	020.0813.3438	
M275.0048.A22.08	3.510T10P	T10PL	10.5.433	10.25.912
M275.0058.A27.10	3.510T10P	T10PL		12.30.912
M275.0078.A32.14	3.510T10P	T10PL		

槽铣削 (圆弧插补铣削)

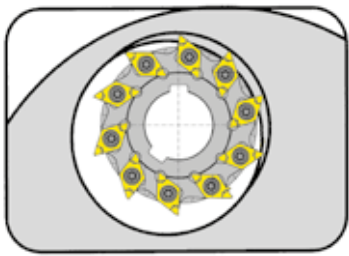
Groove Milling by circular interpolation



盘铣刀

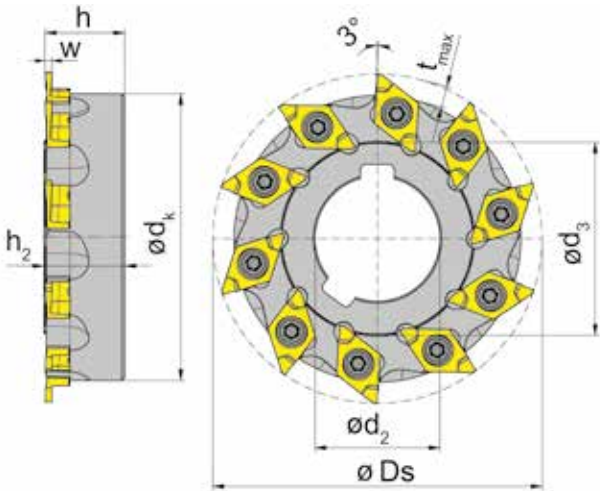
Disc Milling Cutter

M275



切削刃Ø Cutting edge Ø 58/78/98 mm

孔(d2)带纵向DIN138标准键槽
Bore (d2) with longitudinal keyway to DIN 138



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

L=左手型
L = left hand cutting version

配合可转位刀片
for Indexable insert

型号 S275
Type

产品型号 Part number	Z	Ds	d ₂	d ₃	d _k	h ₂	h
R/LM275.0058.S22.10	10	58	22	34	50.5	14.2	14
R/LM275.0078.S27.14	14	78	27	43	70.5	16.2	16
R/LM275.0098.S32.16	16	98	32	48	90.5	20.2	20

按需提供更多尺寸
Further sizes upon request

w和tmax见刀片
w and t_{max} see inserts

尺寸单位 : mm
Dimensions in mm

注明R或L型
State R or L version
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
R/LM275...	3.510T10P	T10PL

槽铣削 (圆弧插补铣削)

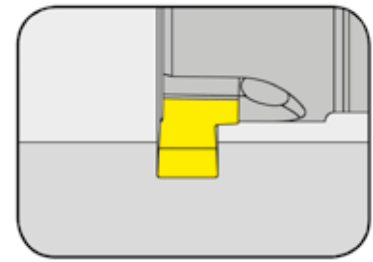
Groove Milling by circular interpolation



可转位刀片

Indexable insert

S275



C

切槽深度可达
卡簧宽度Nw

Depth of groove up to
Width of circlip Nw

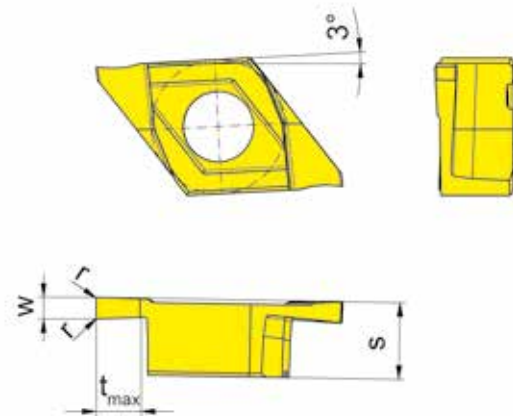
2.5 mm
1.1-3.15 mm

卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472

配合铣削刀杆
for Milling tool

型号 M275
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	Nw	s	r	t _{max}	AS45
R/LS275.0110.00	1.20	1.10	4.3	0.10	2.5	Δ/▲
R/LS275.0130.00	1.40	1.30	4.3	0.10	2.5	▲/Δ
R/LS275.0160.00	1.70	1.60	4.3	0.10	2.5	▲/Δ
R/LS275.0185.00	1.95	1.85	4.3	0.15	2.5	▲/Δ
R/LS275.0215.00	2.25	2.15	4.3	0.15	2.5	▲/Δ
R/LS275.0265.00	2.75	2.65	4.3	0.15	2.5	▲/▲
R/LS275.0315.00	3.25	3.15	4.3	0.15	2.5	▲/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

尺寸单位 : mm

Dimensions in mm

注明R或L型

State R or L version

P	•
M	•
K	•
N	o
S	•
H	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

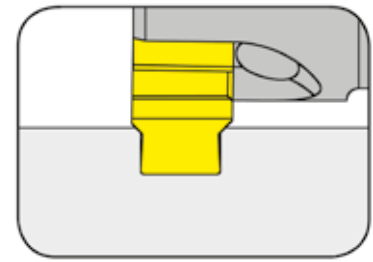
Groove Milling by circular interpolation



可转位刀片

Indexable insert

S275



切槽深度可达
卡簧宽度Nw

Depth of groove up to
Width of circlip Nw

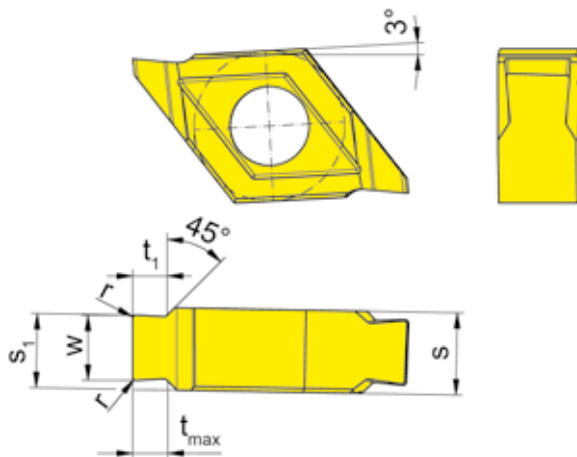
1.75 mm
1.1-3.15 mm

卡簧槽宽度DIN471/472-带倒角

Widths for circlip grooves DIN 471/472 with chamfer

配合铣削刀杆
for Milling tool

型号 M275
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	Nw	t ₁	s	s ₁	r	t _{max}	AS45
R/LS275.1105.41	1.20	1.10	0.47	4.1	3.17	0.10	0.50	▲/▲
R/LS275.1308.41	1.40	1.30	0.81	4.1	3.27	0.10	0.85	▲/▲
R/LS275.1610.41	1.70	1.60	0.95	4.1	3.17	0.10	1.00	▲/▲
R/LS275.1812.41	1.95	1.85	1.21	4.1	3.29	0.15	1.25	▲/▲
R/LS275.2115.41	2.25	2.15	1.45	4.1	3.44	0.15	1.50	▲/▲
R/LS275.2617.41	2.75	2.65	1.70	4.1	3.39	0.15	1.75	▲/▲
R/LS275.3118.41	3.25	3.15	1.70	4.1	3.70	0.15	1.75	▲/▲

▲ 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	•
N	o
S	•
H	-

硬质合金牌号
Carbide grades

槽铣削 (圆弧插补铣削)

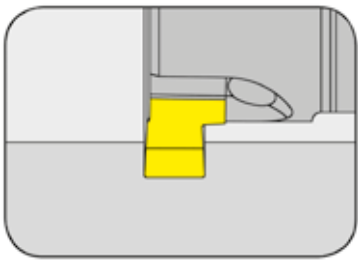
Groove Milling by circular interpolation



可转位刀片

Indexable insert

S275
铝加工
machining of aluminium

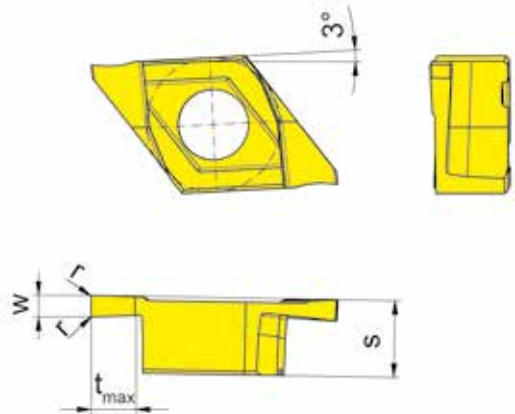


切槽深度可达
卡簧宽度Nw

Depth of groove up to
Width of circlip Nw

2.5 mm
1.1-3.15 mm

卡簧槽宽度DIN471/472
Widths for circlip grooves DIN 471/472



配合铣削刀杆
for Milling tool

型号 M275
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	Nw	s	r	t _{max}	TA45
R/LS275.0110.40	1.20	1.10	4.3	0.10	2.5	Δ/Δ
R/LS275.0130.40	1.40	1.30	4.3	0.10	2.5	▲/Δ
R/LS275.0160.40	1.70	1.60	4.3	0.10	2.5	▲/Δ
R/LS275.0185.40	1.95	1.85	4.3	0.15	2.5	▲/Δ
R/LS275.0215.40	2.25	2.15	4.3	0.15	2.5	Δ/Δ
R/LS275.0265.40	2.75	2.65	4.3	0.15	2.5	Δ/Δ
R/LS275.0315.40	3.25	3.15	4.3	0.15	2.5	Δ/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

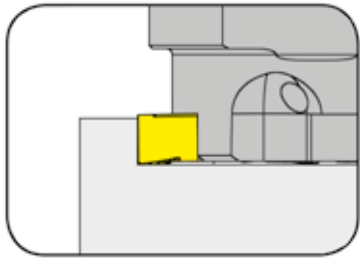
尺寸单位 : mm
Dimensions in mm
注明R或L型
State R or L version

P	•
M	•
K	•
N	•
S	•
H	-

硬质合金牌号
Carbide grades

可转位刀片
Indexable insert

RS275



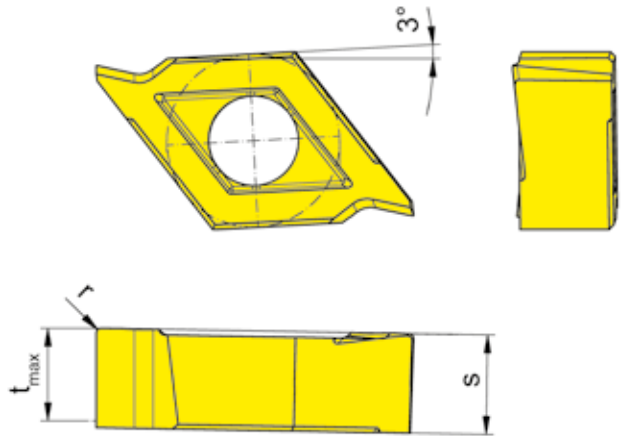
切深可达

Depth of cut up to

4 mm

配合铣削刀杆
for Milling tool

型号 M275
Type



R=右手型-如图
R = right hand version shown

产品型号 Part number	r	t _{max}	s	AS45
RS275.PL43.52	0.2	4	4.3	▲
▲ 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

硬质合金牌号
Carbide grades

380/381



铣刀杆
配合刀柄式铣刀
整体式铣刀
盘铣刀
孔径Ø 自 45 mm

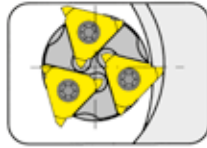
Milling Shank
Arbor Mounted Cutter
Mono Milling Cutter
Disc Milling Cutter
from bore Ø 45 mm

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



铣刀杆
Milling shank
380



页/Page
D3

配合刀柄式铣刀
Arbor Mounted Cutter
380



页/Page
D4-D7

整体式铣刀
Mono Milling Cutter
HSK380/ABS 380

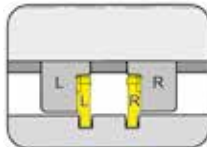


页/Page
D8



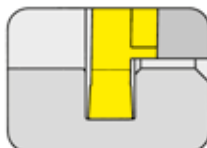
页/Page
D9

盘铣刀
Disc Milling Cutter
381

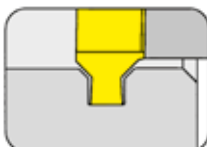


页/Page
D10

可转位刀片
Indexable insert
314



页/Page
D11,D13



图示=右手型

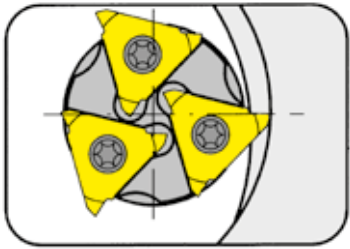
槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

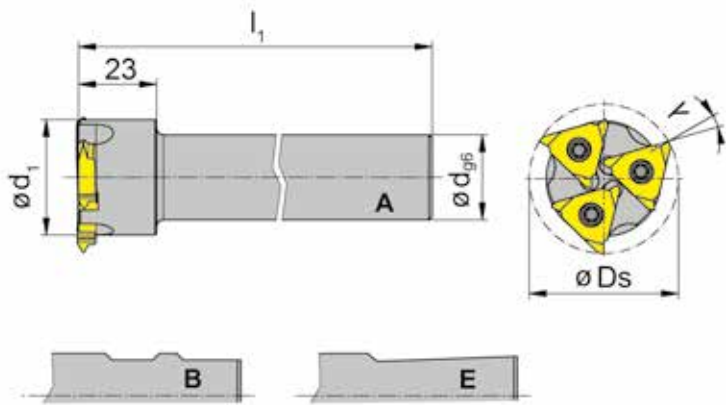


铣刀杆
Milling shank

380



切槽深度可达	Depth of groove up to	4 mm
槽宽可达	Width of groove up to	6 mm
切削刃Ø	Cutting edge Ø	44 mm



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	d	l ₁	d ₁	t _{max}	λ	形式 Form
380.0044.03A	3	44	25	125	34	4	14°	A
380.0044.03B	3	44	25	125	34	4	14°	B
380.0044.03E	3	44	25	125	34	4	14°	E

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

配件
Spare Parts

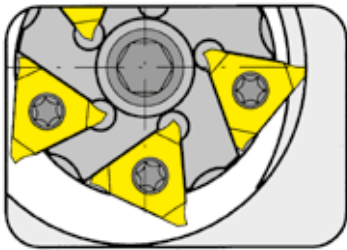
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
380...	5.12T20P	T20PQ

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



配合刀柄式铣刀
Arbor Mounted Cutter

380

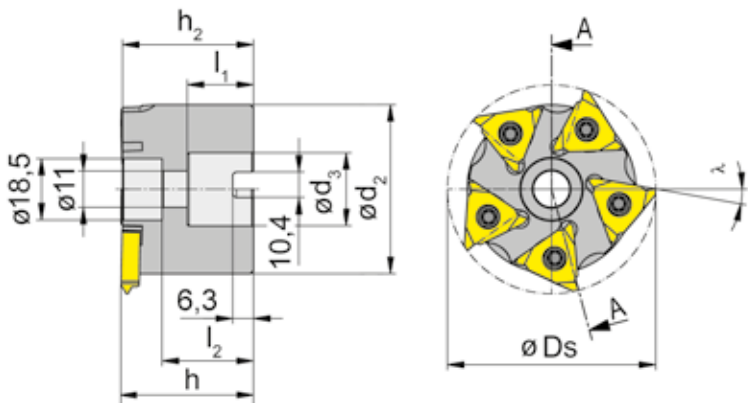


切槽深度可达	Depth of groove up to	5 mm
槽宽可达	Width of groove up to	6 mm
切削刃Ø	Cutting edge Ø	63 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138

配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h ₂	h	d ₃	l ₁	l ₂	λ	d ₂
380.0063.05	5	63	5	39.6	40	22	20	27.6	10°	51

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

配件
Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	螺钉 Screw	TORX PLUS®扳手 TORX PLUS® Wrench	垫圈 Washer
380.0063.05	5.12T20P	10.25.912	T20PQ	10.5.433

Groove Milling by circular interpolation



直接冷却液供应
with through coolant supply



5 mm
6 mm
63 mm

D



D

D

D

D

D

D

D

D

槽铣削 (圆弧插补铣削)

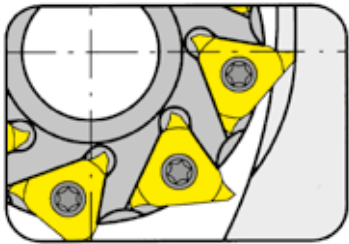
Groove Milling by circular interpolation



配合刀柄式铣刀

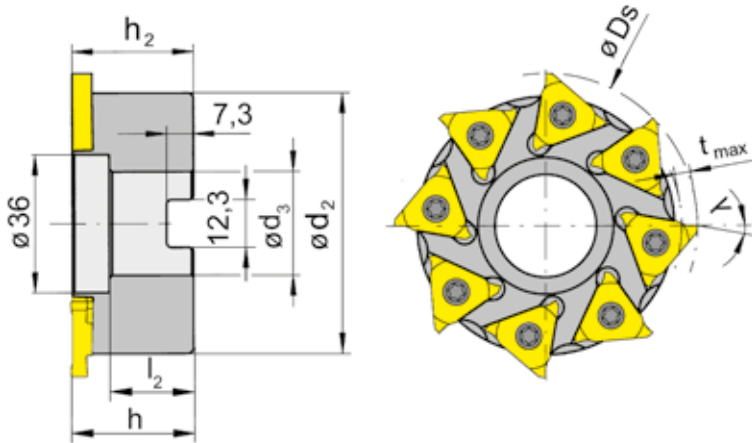
Arbor Mounted Cutter

380



切槽深度可达	Depth of groove up to	5 mm
槽宽可达	Width of groove up to	6 mm
切削刃Ø	Cutting edge Ø	80 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h ₂	h	d ₃	l ₂	λ	d ₂
380.0080.08	8	80	5	31.6	32	27	21.6	10°	68

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
380.0080.08	5.12T20P	T20PQ

槽铣削 (圆弧插补铣削)

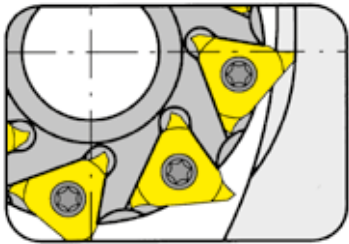
Groove Milling by circular interpolation



配合刀柄式铣刀

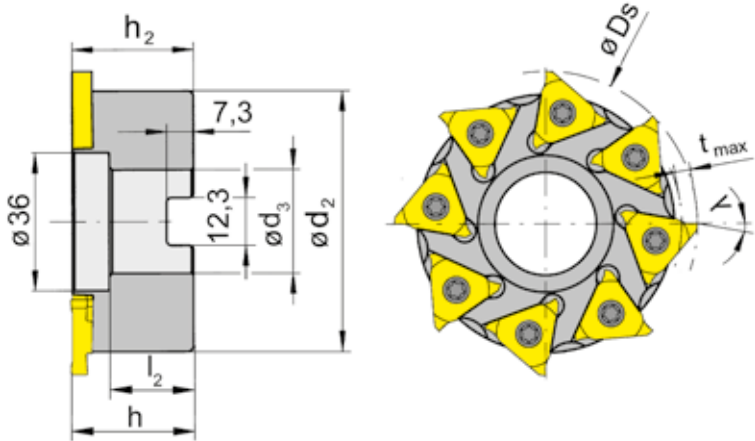
Arbor Mounted Cutter

380
直接冷却液供应
with through coolant supply



切槽深度可达	Depth of groove up to	5 mm
槽宽可达	Width of groove up to	6 mm
切削刃Ø	Cutting edge Ø	80 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h ₂	h	d ₃	l ₂	λ	d ₂
380.0080.08IK	8	80	5	39.8	40	27	21.6	10°	68

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

订货须知：
螺钉**030.0012.0726**不包含在铣刀中-需单独订购！
Ordering note:

Bolt screw **030.0012.0726** is combined with the milling cutter.

配件

Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	扳手 Allen Wrench	TORX PLUS®扳手 TORX PLUS® Wrench
380.0080.08IK	5.12T20P	SW10,0 DIN 911	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation

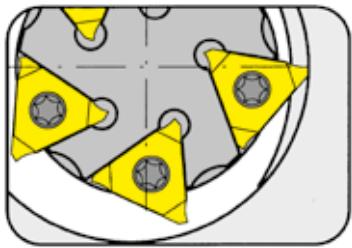


整体式铣刀

Mono Milling Cutter

HSK380

直接冷却液供应
with through coolant supply



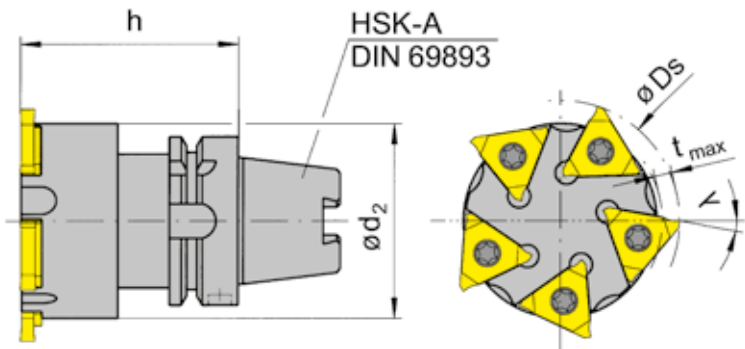
切槽深度可达
槽宽可达
切削刃直径 $\varnothing$ 自

Depth of groove up to
Width of groove up to
Cutting edge $\varnothing$ Ds from

5 mm
6 mm
44 mm

配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

HSK-接口系列
HSK-coupling system

产品型号 Part number	Ds	Z	t _{max}	h	d ₂	λ
HSK32-380.0044.03	44	3	4.0	55	34	14°
HSK40-380.0050.04	50	4	4.5	55	40	14°
HSK40-380.0063.05	63	5	5.0	55	51	10°
HSK50-380.0063.05	63	5	5.0	65	51	10°
HSK50-380.0080.08	80	8	5.0	65	68	10°
HSK63-380.0080.08	80	8	5.0	70	68	10°

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

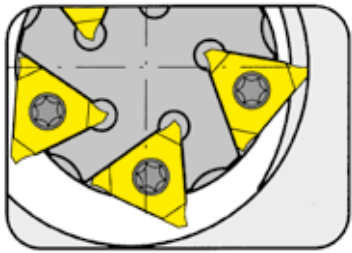
整体式铣刀 Mono Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
HSK32-380...	5.12T20P	T20PQ

槽铣削 (圆弧插补铣削)
Groove Milling by circular interpolation



整体式铣刀
Mono Milling Cutter

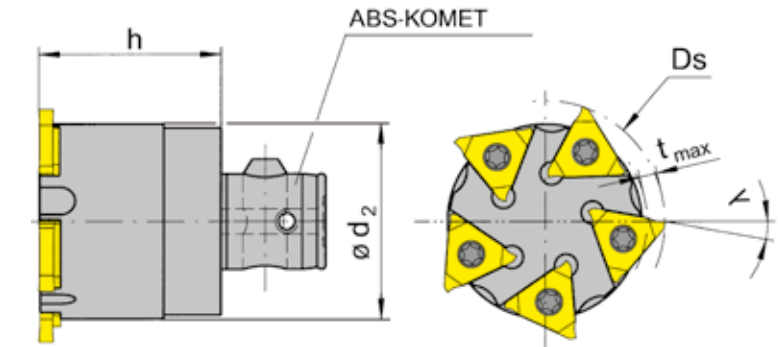
ABS 380
直接冷却液供应
with through coolant supply



切槽深度可达	Depth of groove up to	5 mm
槽宽可达	Width of groove up to	6 mm
切削刃直径 $\varnothing$ 自	Cutting edge $\varnothing$ Ds from	44 mm

配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

ABS-接口系列 KOMET许
可证
ABS-coupling system
Licence KOMET

产品型号 Part number	Z	Ds	t _{max}	h	λ	d ₂
ABS32.380.0044.03	3	44	4.0	35	14°	34
ABS40.380.0050.04	4	50	4.5	40	14°	40
ABS40.380.0063.05	5	63	5.0	40	10°	51
ABS50.380.0063.05	5	63	5.0	50	10°	51
ABS50.380.0080.08	8	80	5.0	50	10°	68
ABS63.380.0080.08	8	80	5.0	63	10°	68

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

整体式铣刀 Mono Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
ABS32...	5.12T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



盘铣刀

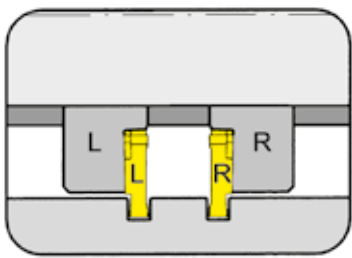
Disc Milling Cutter

381

切槽深度可达
槽宽可达
切削刃直径 $\varnothing$ 自

Depth of groove up to
Width of groove up to
Cutting edge $\varnothing$ Ds from

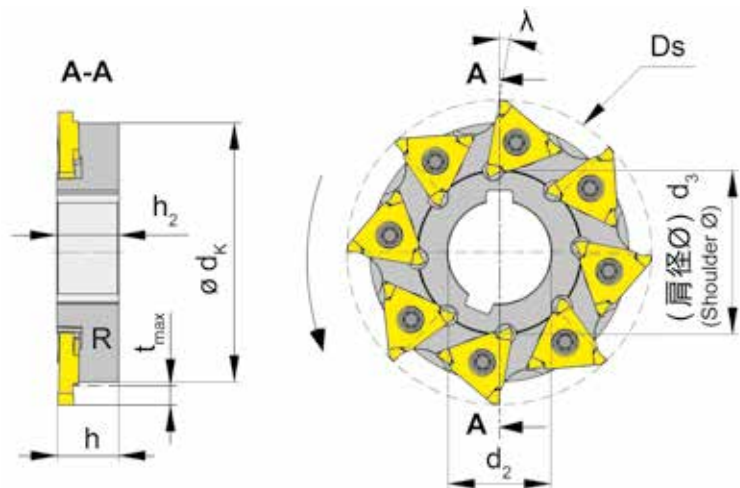
5 mm
6 mm
63 mm



孔(d2)带纵向DIN138标准键槽
Bore (d2) with longitudinal keyway to DIN 138

配合可转位刀片
for Indexable insert

型号 314
Type



R=右手切削-左侧安装
R = right hand cutting - left side mounted

L=左手型切削-右侧安装
L = left hand cutting - right side mounted

产品型号 Part number	Z	Ds	t _{max}	d ₂	h ₂	h	d _k	λ	d ₃
R/L381.0063.05	5	63	5	22	14.2	14	51	14°	34
R/L381.0080.08	8	80	5	27	16.2	16	68	10°	43
R/L381.0100.10	10	100	5	32	20.2	20	88	10°	48

注明R或L型

State R or L version

按需提供更多尺寸

Further sizes upon request

螺丝的扭矩规格，详见技术说明。

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

尺寸单位：mm

Dimensions in mm

配件

Spare Parts

盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
R/L381...	5.12T20P	T20PQ

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



可转位刀片

Indexable insert

314

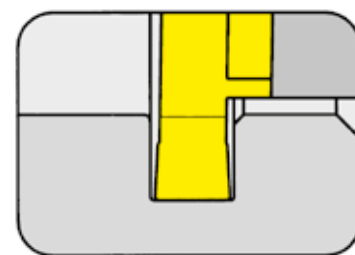
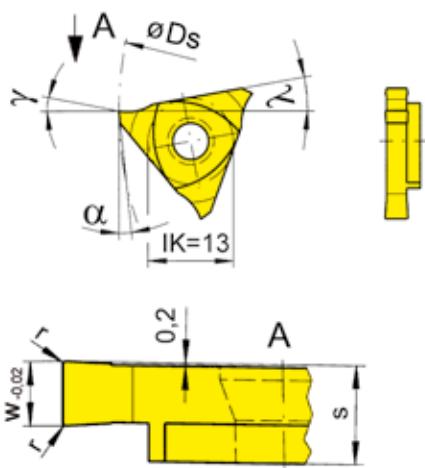
切槽深度可达
卡簧宽度Nw

Depth of groove up to
Width of circlip Nw

5 mm
1.3-5.15 mm

卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472



配合铣削刀杆
for Milling tool

型号 380
Type 380...IK
HSK 380
HSK 380
381

槽型决定于安装角度λ

Geometries depending on
angle of seating λ

λ	γ	α
10°	15°	6°
14°	11°	10°

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	Nw	w	r	s	MG12	AS45	TI25	TN35
R/L314.0130.00	1.30	1.41	0.10	5.4		▲/Δ		▲/▲
R/L314.0160.00	1.60	1.71	0.10	5.4		▲/Δ		▲/▲
R/L314.0185.00	1.85	1.96	0.15	5.4		▲/▲		▲/Δ
R/L314.0215.00	2.15	2.26	0.15	5.4	▲/Δ	▲/▲		▲/Δ
R/L314.0265.00	2.65	2.76	0.15	5.4	▲/Δ	▲/Δ	▲/x	▲/▲
R/L314.0315.00	3.15	3.26	0.15	5.4	▲/Δ	▲/▲	▲/x	▲/▲
R/L314.0415.00	4.15	4.26	0.15	5.4	▲/Δ	▲/Δ	▲/x	▲/▲
R/L314.0515.00	5.15	5.26	0.15	5.4	▲/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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



可转位刀片

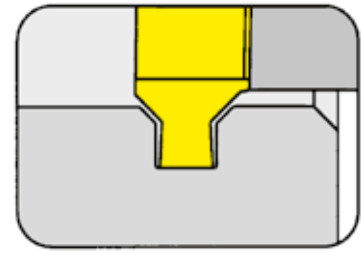
Indexable insert

314

切槽深度可达
卡簧宽度Nw

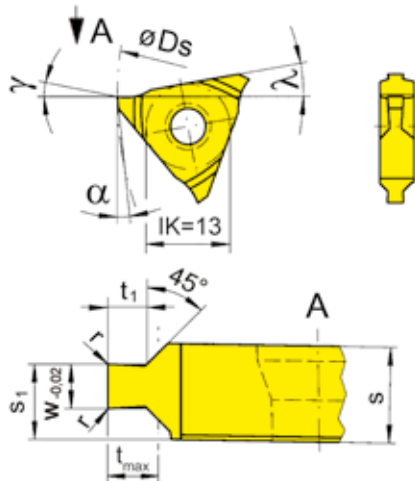
Depth of groove up to
Width of circlip Nw

3 mm
1.1-5.15 mm



卡簧槽宽度DIN471/472-带倒角

Widths for circlip grooves DIN 471/472 with chamfer



配合铣削刀杆
for Milling tool

型号 380
Type 380...IK
HSK 380
HSK 380
381

槽型决定于安装角度λ

Geometries depending on
angle of seating λ.

λ	γ	α
10°	15°	6°
14°	11°	10°

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	Nw	w	r	s ₁	s	t _{max}	t ₁	AS45	TN35
R/L314.1105.54	1.10	1.21	0.10	4.52	5.45	0.50	0.49	Δ/Δ	Δ/Δ
R/L314.1307.54	1.30	1.41	0.10	4.62	5.45	0.75	0.67	Δ/Δ	Δ/Δ
R/L314.1308.54	1.30	1.41	0.10	4.62	5.45	0.85	0.83	Δ/Δ	Δ/Δ
R/L314.1609.54	1.60	1.71	0.10	4.52	5.45	0.85	0.83	▲/▲	▲/▲
R/L314.1610.54	1.60	1.71	0.10	4.52	5.45	1.00	0.97	▲/▲	▲/▲
R/L314.1812.54	1.85	1.96	0.15	4.64	5.45	1.25	1.23	▲/▲	▲/▲
R/L314.2115.54	2.15	2.26	0.15	4.79	5.45	1.50	1.47	▲/▲	▲/▲
R/L314.2616.54	2.65	2.76	0.15	4.54	5.54	1.50	1.47	▲/▲	▲/▲
R/L314.2617.54	2.65	2.76	0.15	4.54	5.54	1.75	1.72	▲/▲	▲/▲
R/L314.3118.54	3.15	3.26	0.15	4.54	5.54	1.75	1.72	▲/▲	▲/▲
R/L314.4120.54	4.15	4.26	0.15	4.99	5.45	2.00	1.97	▲/▲	▲/▲
R/L314.4125.54	4.15	4.26	0.15	4.99	5.45	2.50	2.47	▲/▲	▲/▲
R/L314.5130.61	5.15	5.26	0.15	5.85	6.10	3.00	2.97	▲/▲	▲/▲

▲ 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

槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



可转位刀片

Indexable insert

314

铝加工
machining of aluminium

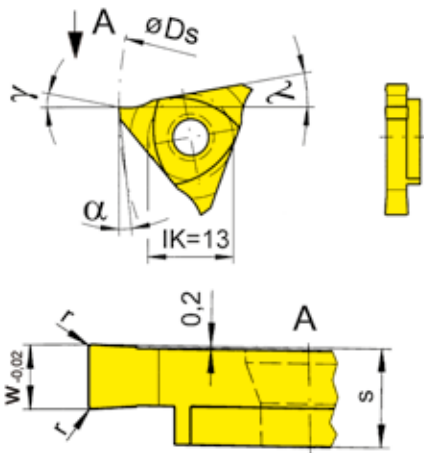
切槽深度可达
卡簧宽度Nw

Depth of groove up to
Width of circlip Nw

5 mm
1.3-5.15 mm

卡簧槽宽度DIN471/472

Widths for circlip grooves DIN 471/472

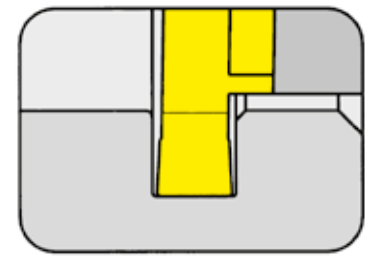


R=右手型-如图

R = right hand version shown

L=左手型

L = left hand version



配合铣削刀杆
for Milling tool

型号 380
Type 380...IK
HSK 380
HSK 380
381

槽型决定于安装角度λ

Geometries depending on
angle of seating λ.

λ	γ	α
10°	15°	6°
14°	11°	10°

产品型号 Part number	Nw	w	r	s	MG12	T125	TN35
R/L314.0130.40	1.30	1.41	0.10	5.4	Δ/Δ	Δ/Δ	Δ/Δ
R/L314.0160.40	1.60	1.71	0.10	5.4	Δ/Δ	Δ/Δ	Δ/Δ
R/L314.0185.40	1.85	1.96	0.15	5.4	Δ/Δ	Δ/Δ	Δ/Δ
R/L314.0215.40	2.15	2.26	0.15	5.4	Δ/Δ	Δ/Δ	Δ/Δ
R/L314.0265.40	2.65	2.76	0.15	5.4	Δ/Δ	Δ/Δ	▲/Δ
R/L314.0315.40	3.15	3.26	0.15	5.4	Δ/Δ	Δ/Δ	▲/Δ
R/L314.0415.40	4.15	4.26	0.15	5.4	Δ/Δ	Δ/Δ	▲/Δ
R/L314.0515.40	5.15	5.26	0.15	5.4	Δ/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

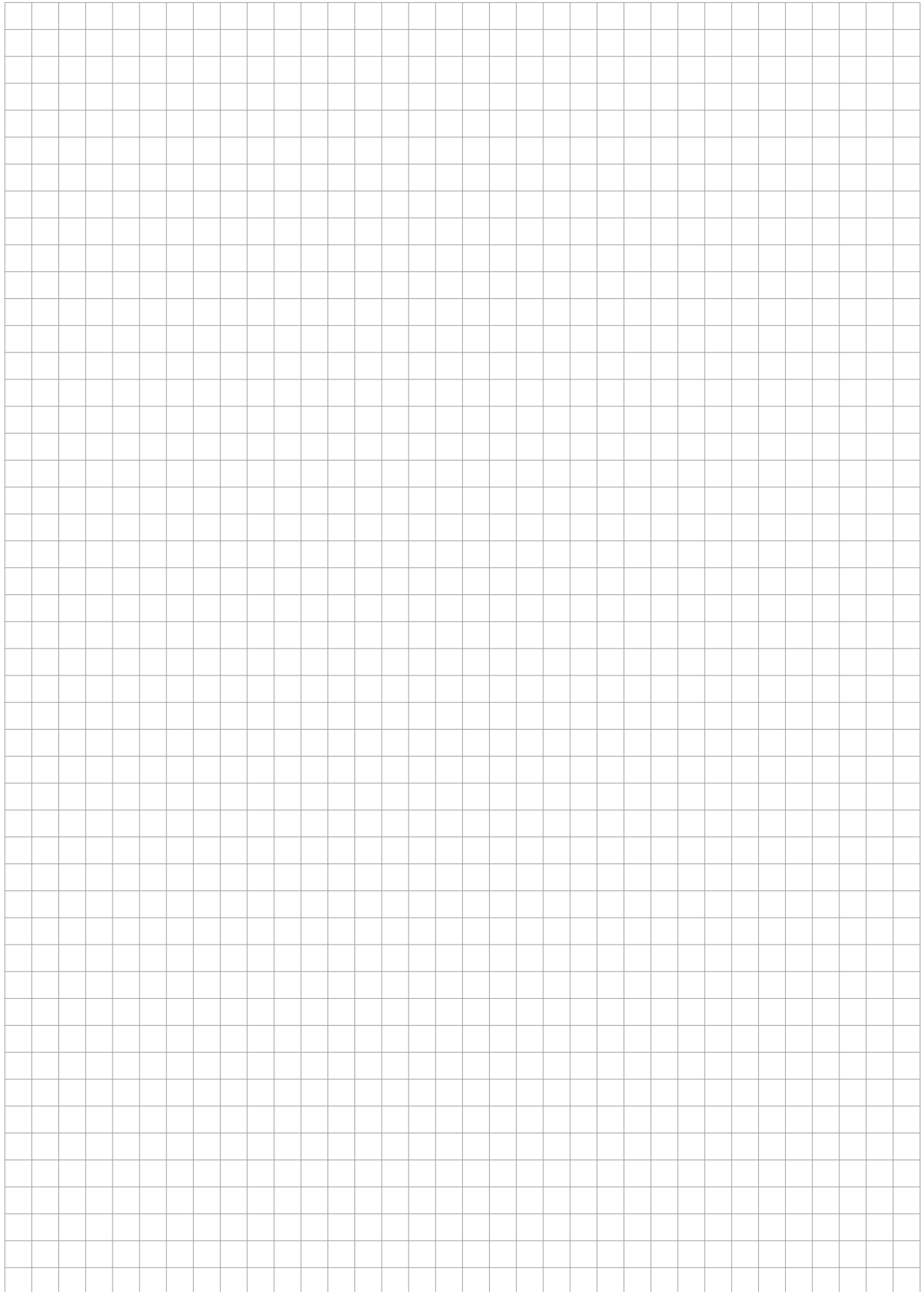
注明R或L型

State R or L version

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

硬质合金牌号
Carbide grades

D



M101



E

盘铣刀

切削刃 Ø 自 63 mm

槽宽 1,2 - 4,6 mm

Slotting cutter

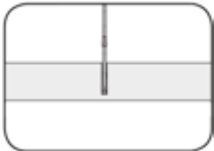
from cutting edge Ø 63 mm

Width of groove 1,2 - 4,6 mm

盘铣刀
Disc Milling Cutter
M101

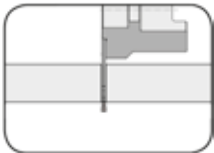


页/Page
E3



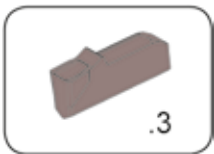
页/Page
E4-E5

配合刀柄式铣刀
Arbor Mounted Cutter
M101

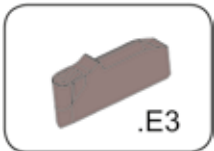


页/Page
E6-E7

刀片
Insert
S101



页/Page
E8



页/Page
E9--E10

技术信息
Technical Instructions

页/Page
E11-E12

槽铣削

Slot Milling

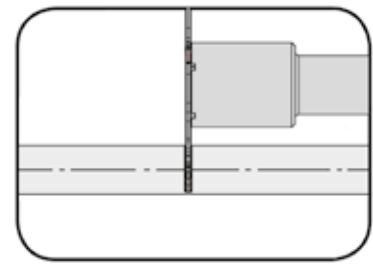


盘铣刀

Disc Milling Cutter

M101

直接冷却液供应
with through coolant supply



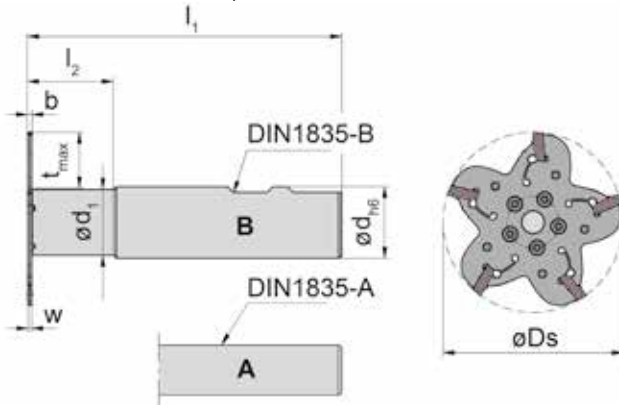
铣削深度可达
槽宽
切削刃Ø

Depth of milling up to
Width of groove
Cutting edge Ø

19.5 mm
1,2 - 2,3 mm
63 mm

刀柄尺寸符合DIN1835-A/DIN1835-B标准

Arbor mounted cutter with shank as per DIN1835-A / DIN1835-B



配合刀片
for Insert

型号 S101
Type

带集成内冷
with integrated through
coolant supply

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Z	Ds	d	l ₁	l ₂	d ₁	b	t _{max}	形式 Form	尺寸规格 Size	槽宽 Width of groove	n _{max}
M101.063.D16.23.2.16A	5	63	16	110.00	30.0	23	1.30	19.5	A	16	1.6-1.8	7500
M101.063.D16.23.2.20A	5	63	16	110.35	30.4	23	1.30	19.5	A	20	2.0-2.3	7500
M101.063.D20.23.2.16B	5	63	20	110.00	30.0	23	1.60	19.5	B	16	1.6-1.8	7500
M101.063.D20.23.2.20B	5	63	20	110.35	30.4	23	1.60	19.5	B	20	2.0-2.3	7500
M101.063.D16.23.2.12A	5	63	16	110.00	30.0	23	0.95	19.5	A	12	1.2-1.2	7500
M101.063.D20.23.2.12B	5	63	20	110.00	30.0	23	0.95	19.5	B	12	1.2-1.2	7500
M101.063.D25.23.2.12B	5	63	25	110.00	30.0	23	0.95	19.5	B	12	1.2-1.2	7500
M101.063.D16.23.2.14A	5	63	16	110.00	30.0	23	1.15	19.5	A	14	1.4-1.4	7500
M101.063.D20.23.2.14B	5	63	20	110.00	30.0	23	1.15	19.5	B	14	1.4-1.4	7500
M101.063.D25.23.2.14B	5	63	25	110.00	30.0	23	1.15	19.5	B	14	1.4-1.4	7500
M101.063.D25.23.2.16B	5	63	25	110.00	30.0	23	1.30	19.5	B	16	1.6-1.8	7500
M101.063.D25.23.2.20B	5	63	25	110.00	30.0	23	1.60	19.5	B	20	2.0-2.3	7500

按需提供更多尺寸
Further sizes upon request

w见刀片
w see inserts

尺寸单位：mm
Dimensions in mm

注意事项：

P101.01扳手不包括在铣刀中-需另行订购！

Note:

Wrench P101.01 is not combined with slotting cutter - separate order required!

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

配件

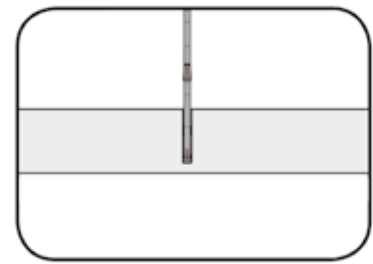
Spare parts

盘铣刀 Disc milling cutter	刀柄 Shank	刀板 Blade	TORX PLUS®扳手 TORX PLUS® Wrench	锁紧螺钉 Screw
M101.063.D16.23.2.16A	020.D16.23.2.16A	M101.0063.28.23.16	T8PL	030.3543.T8P
M101.063.D16.23.2.20A	020.D16.23.2.16A	M101.0063.28.23.20	T8PL	030.3543.T8P
M101.063.D20.23.2.16B	020.D20.23.2.16B	M101.0063.28.23.16	T8PL	030.3543.T8P
M101.063.D20.23.2.20B	020.D20.23.2.16B	M101.0063.28.23.20	T8PL	030.3543.T8P
M101.063.D16.23.2.12A	020.D16.23.2.12 A	M101.0063.28.23.12	T8PL	030.3543.T8P
M101.063.D20.23.2.12B	020.D20.23.2.12 B	M101.0063.28.23.12	T8PL	030.3543.T8P
M101.063.D25.23.2.12B	020.D25.23.2.12B	M101.0063.28.23.12	T8PL	030.3543.T8P
M101.063.D16.23.2.14A	020.D16.23.2.12 A	M101.0063.28.23.14	T8PL	030.3543.T8P
M101.063.D20.23.2.14B	020.D20.23.2.12 B	M101.0063.28.23.14	T8PL	030.3543.T8P
M101.063.D25.23.2.14B	020.D25.23.2.12B	M101.0063.28.23.14	T8PL	030.3543.T8P
M101.063.D25.23.2.16B	020.D25.23.2.16B	M101.0063.28.23.16	T8PL	030.3543.T8P
M101.063.D25.23.2.20B	020.D25.23.2.20B	M101.0063.28.23.20	T8PL	030.3543.T8P

盘铣刀

Disc Milling Cutter

M101

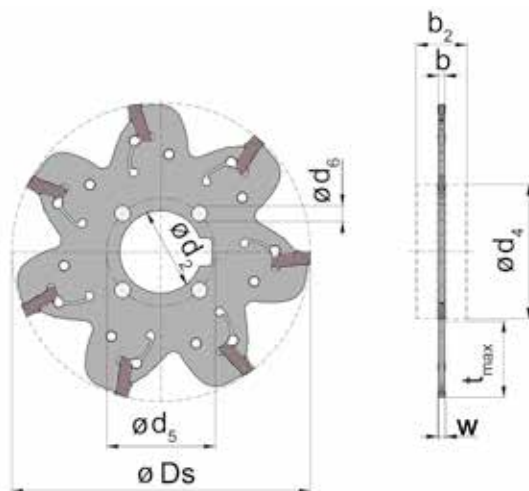


铣削深度可达	Depth of milling up to	33 mm
槽宽	Width of groove	1,6 - 2,3 mm
切削刃Ø	Cutting edge Ø	80-125 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138

配合刀片
for Insert

型号 S101
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	b	d ₂	b ₂	d ₄	d ₆	d ₅	n _{max}	尺寸规格 Size	槽宽 Width of groove
M101.0080.22.12	7	80	20	0.95	22	13.0	36	4.25	29	6000	12	1.2-1.2
M101.0080.22.14	7	80	20	1.15	22	13.1	36	4.25	29	6000	14	1.4-1.4
M101.0080.22.16	7	80	20	1.30	22	13.3	36	4.25	29	6000	16	1.6-1.8
M101.0100.22.16	9	100	30	1.30	22	13.3	36	4.25	29	5000	16	1.6-1.8
M101.0125.32.16	11	125	33	1.30	32	21.3	55	6.25	45	4000	16	1.6-1.8
M101.0080.22.20	7	80	20	1.60	22	13.6	36	4.25	29	6000	20	2.0-2.3
M101.0100.22.20	9	100	30	1.60	22	13.6	36	4.25	29	5000	20	2.0-2.3
M101.0125.32.20	11	125	33	1.60	32	21.6	55	6.25	45	4000	20	2.0-2.3

按需提供更多尺寸
Further sizes upon request

w见刀片
w see inserts

尺寸单位：mm
Dimensions in mm

注意事项：
扳手P101.01和传动垫圈组不包括在铣刀内-需另行订购！

Note:
Wrench P101.01 and the driving collar sets are not combined with slotting cutter - separate order required!

配件

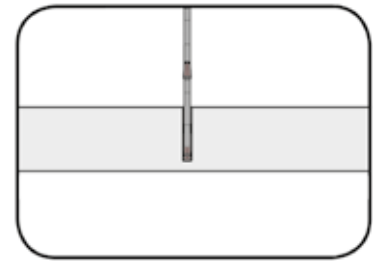
Spare Parts

盘铣刀 Disc Milling Cutter	传动垫圈组 Driving hole ringset	刀板 Blade
M101.0080.22.12	020.22.06.36	020.0980.4887
M101.0080.22.14	020.22.06.36	020.1180.4888
M101.0080.22.16	020.22.06.36	020.1380.3777
M101.0100.22.16	020.22.06.36	020.1310.3784
M101.0125.32.16	020.32.10.55	020.1312.3786
M101.0080.22.20	020.22.06.36	020.1680.3778
M101.0100.22.20	020.22.06.36	020.1610.3785
M101.0125.32.20	020.32.10.55	020.1612.3787

盘铣刀

Disc Milling Cutter

M101

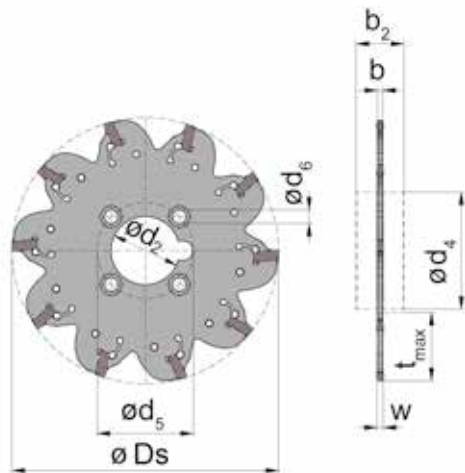


铣削深度可达	Depth of milling up to	59 mm
槽宽	Width of groove	2,8 - 4,6 mm
切削刃Ø	Cutting edge Ø	80-200 mm

Center hole and keyway as per DIN 138
Cutterhole and cross keyway as per DIN 138

配合刀片
for Insert

型号 S101
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	b	d ₂	b ₂	d ₄	d ₆	d ₅	n _{max}	尺寸规格 Size	槽宽 Width of groove
M101.0080.22.30	6	80	20	2.4	22	14.4	36	4.25	29	6000	30	2.8-3.4
M101.0100.22.30	8	100	26	2.4	22	22.4	46	5.25	32	5000	30	2.8-3.4
M101.0125.32.30	10	125	34	2.4	32	22.4	55	6.25	45	4000	30	2.8-3.4
M101.0160.40.30	12	160	39	2.4	40	26.4	80	11.25	63	3000	30	2.8-3.4
M101.0080.22.40	6	80	20	3.2	22	15.2	36	4.25	29	6000	40	3.8-4.6
M101.0100.22.40	8	100	26	3.2	22	23.2	46	5.25	32	5000	40	3.8-4.6
M101.0125.32.40	10	125	34	3.2	32	23.2	55	6.25	45	4000	40	3.8-4.6
M101.0160.40.40	12	160	39	3.2	40	27.2	80	11.25	63	3000	40	3.8-4.6
M101.0200.40.40	16	200	59	3.2	40	27.2	80	11.25	63	2500	40	3.8-4.6

按需提供更多尺寸
 Further sizes upon request

w见刀片
w see inserts

尺寸單位：mm
Dimensions in mm

注意事项：
扳手P101.02和传动垫圈组不包括在铣刀内-需另行订购！

Note:
Wrench **P101.02** and the **driving collar sets** are not combined with slotting cutter - separate order required!

配件
Spare Parts

盘铣刀 Disc Milling Cutter	传动垫圈组 Driving hole ringset	刀板 Blade
M101.0080.22.30	020.2480.4466	020.2480.4466
M101.0100.22.30	020.2410.4468	020.2410.4468
M101.0125.32.30	020.2412.4471	020.2412.4471
M101.0160.40.30	020.2416.4473	020.2416.4473
M101.0080.22.40	020.3280.4467	020.3280.4467
M101.0100.22.40	020.3210.4470	020.3210.4470
M101.0125.32.40	020.3212.4472	020.3212.4472
M101.0160.40.40	020.3216.4474	020.3216.4474
M101.0200.40.40	020.3220.4475	020.3220.4475

槽铣削

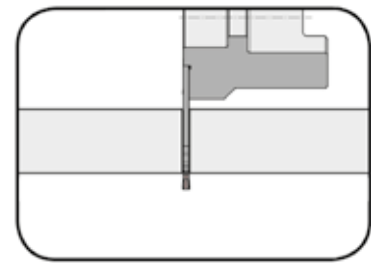
Slot Milling



配合刀柄式铣刀

Arbor Mounted Cutter

M101



铣削深度可达
槽宽
切削刃Ø

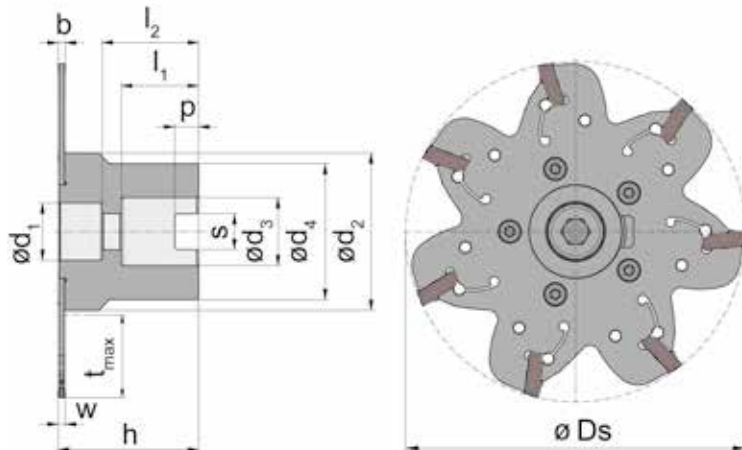
Depth of milling up to
Width of groove
Cutting edge Ø

34 mm
1,6 - 2,3 mm
80-125 mm

配合刀柄式铣刀，符合DIN8030-A 标准
Arbor mounted cutter as per DIN 8030-A

配合刀片
for Insert

型号 S101
Type



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h	b	d ₁	d ₄	l ₁	l ₂	s	P	d ₂	d ₃	n _{max}	尺寸规格 Size	槽宽 Width of groove
M101.0080.A16.12	7	80	20	33,0	0,95	13,5	32,0	18	22,7	8,4	5,6	37,0	16	6000	12	1,2-1,2
M101.0080.A16.14	7	80	20	33,2	1,15	13,5	32,0	18	22,7	8,4	5,6	37,0	16	6000	14	1,4-1,4
M101.0080.A16.16	7	80	20	33,0	1,30	13,5	32,0	18	22,7	8,4	5,6	37,0	16	6000	16	1,6-1,8
M101.0100.A22.16	9	100	28	37,0	1,30	18,5	40,5	20	24,7	10,4	6,3	40,5	22	5000	16	1,6-1,8
M101.0125.A32.16	11	125	34	50,0	1,30	28,5	45,0	25	36,7	14,4	8,0	55,0	32	4000	16	1,6-1,8
M101.0080.A16.20	7	80	20	33,0	1,60	13,5	32,0	18	22,7	8,4	5,6	37,0	16	6000	20	2,0-2,3
M101.0100.A22.20	9	100	28	37,0	1,60	18,5	40,5	20	24,7	10,4	6,3	40,5	22	5000	20	2,0-2,3
M101.0125.A32.20	11	125	34	50,0	1,60	28,5	45,0	25	36,7	14,4	8,0	55,0	32	4000	20	2,0-2,3

按需提供更多尺寸
Further sizes upon request

w见刀片
w see inserts

尺寸单位：mm
Dimensions in mm

注意事项：

P101.01扳手不包括在铣刀中-需另行订购！

Note:

Wrench **P101.01** is not combined with slotting cutter - separate order required!

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

配件

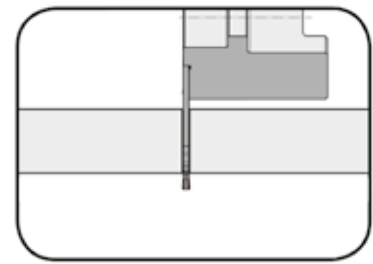
Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	法兰 Flange	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	刀板 Blade	TORX PLUS®扳手 TORX PLUS® Wrench	垫圈 Washer
M101.0080.A16.12	020.0016.32.09	SW6,0 DIN911	030.3543.T8P	M101.0080.28.12	T8PL	020.0813.3438
M101.0080.A16.14	020.0016.32.09	SW6,0 DIN911	030.3543.T8P	M101.0080.28.14	T8PL	020.0813.3438
M101.0080.A16.16	020.0016.32.13	SW6,0 DIN911	030.3543.T8P	M101.0080.28.16	T8PL	020.0813.3438
M101.0100.A22.16	020.0022.40.13	SW8,0 DIN 911	030.3543.T8P	M101.0100.28.16	T8PL	10.5.433
M101.0125.A32.16	020.0032.55.13	SW12,0 DIN 911	030.3543.T8P	M101.0125.28.16	T8PL	
M101.0080.A16.20	020.0016.32.16	SW6,0 DIN911	030.3543.T8P	M101.0080.28.20	T8PL	020.0813.3438
M101.0100.A22.20	020.0022.40.16	SW8,0 DIN 911	030.3543.T8P	M101.0100.28.20	T8PL	10.5.433
M101.0125.A32.20	020.0032.55.16	SW12,0 DIN 911	030.3543.T8P	M101.0125.28.20	T8PL	

配合刀柄式铣刀

Arbor Mounted Cutter

M101

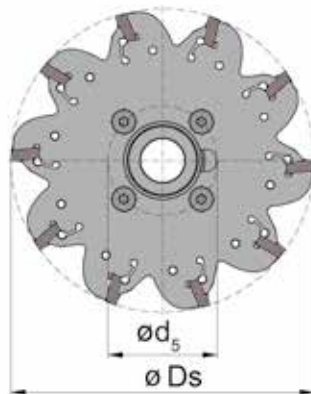
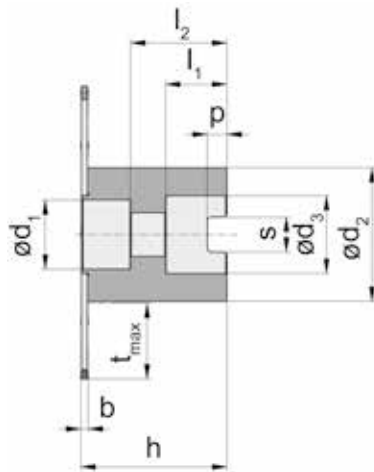


铣削深度可达
槽宽
切削刃Ø

Depth of milling up to
Width of groove
Cutting edge Ø

59 mm
2,8 - 4,6 mm
80-200 mm

配合刀柄式铣刀，符合DIN8030-A 标准
Arbor mounted cutter as per DIN 8030-A



配合刀片
for Insert

型号 S101
Type

图示=右手型
Picture = right hand cutting version

Bestellnummer Part number	Z	Ds	t _{max}	h	b	d ₁	l ₁	l ₂	s	P	d ₂	d ₃	n _{max}	Größe Size	Schneidbreite Width of groove
M101.0080.A22.30	6	80	19	37,0	2,4	18,5	20	24,7	10,4	6,3	22	22	5000	30	2,8-3,4
M101.0100.A22.30	8	100	29	37,0	2,4	18,5	20	24,7	10,4	6,3	40	22	5000	30	2,8-3,4
M101.0125.A32.30	10	125	34	50,0	2,4	28,5	25	36,7	14,4	8,0	55	32	4000	30	2,8-3,4
M101.0160.A40.30	12	160	39	50,0	2,4	34,5	28	35,0	16,4	9,0	80	40	3000	30	2,8-3,4
M101.0080.A22.40	6	80	19	37,9	3,2	18,5	20	24,7	10,4	6,3	22	22	5000	40	3,8-4,6
M101.0100.A22.40	8	100	29	37,9	3,2	18,5	20	24,7	10,4	6,3	40	22	5000	40	3,8-4,6
M101.0125.A32.40	10	125	34	50,9	3,2	28,5	25	36,7	14,4	8,0	55	32	4000	40	3,8-4,6
M101.0160.A40.40	12	160	39	50,9	3,2	34,5	28	35,0	16,4	9,0	80	40	3000	40	3,8-4,6
M101.0200.A40.40	16	200	59	50,9	3,2	34,5	28	35,0	16,4	9,0	80	40	2500	40	3,8-4,6

按需提供更多尺寸
Further sizes upon request

w见刀片
w see inserts

尺寸单位：mm
Dimensions in mm

注意事项：

P101.01扳手不包括在铣刀中-需另行订购！

Note:

Wrench **P101.01** is not combined with slotting cutter - separate order required!

螺丝的扭矩规格，详见技术说明。

For torque specification of the screw, please see
Technical Instructions

配件

Spare Parts

配合刀柄式铣刀 Arbor Mounted Cutter	刀板 Blade	法兰 Flange	锁紧螺钉 Screw	垫圈 Washer	扳手 Allen Wrench	TORX PLUS® 扳手 TORX PLUS® Wrench	锁紧螺钉 Screw
M101.0080.A22.30	M101.0080.28.30	020.0022.40.3.30	DIN912-M10x25	DIN433-10.5-St	SW8,0 DIN 911	T15PQ	030.0520.0912
M101.0100.A22.30	M101.0100.22.30	020.0022.40.30	DIN912-M10x25	DIN433-10.5-St	SW8,0 DIN 911	T15PQ	030.0520.0912
M101.0125.A32.30	M101.0125.32.30	020.0032.55.30	DIN7984-M16x35	DIN433-17-St	SW12,0 DIN 911	T20PQ	030.0620.0913
M101.0160.A40.30	M101.0160.40.30	020.0040.80.30	DIN7984-M16x35	DIN433-21-St	SW14,0 DIN 911	T20PQ	030.1030.0911
M101.0080.A22.40	M101.0080.28.40	020.0022.40.3.30	DIN912-M10x25	DIN433-10.5-St	SW8,0 DIN 911	T15PQ	030.0520.0912
M101.0100.A22.40	M101.0100.22.40	020.0022.40.30	DIN912-M10x25	DIN433-10.5-St	SW8,0 DIN 911	T15PQ	030.0520.0912
M101.0125.A32.40	M101.0125.32.40	020.0032.55.30	DIN7984-M16x35	DIN433-21-St	SW14,0 DIN 911	T20PQ	030.0620.0913
M101.0160.A40.40	M101.0160.40.40	020.0040.80.30	DIN7984-M16x35	DIN433-21-St	SW14,0 DIN 911	T20PQ	030.1030.0911
M101.0200.A40.40	M101.0200.40.40	020.0040.80.30	DIN7984-M16x35	DIN433-21-St	SW14,0 DIN 911	T20PQ	030.1030.0911

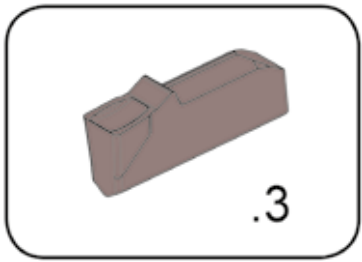
槽铣削
Groove milling



刀片
Insert

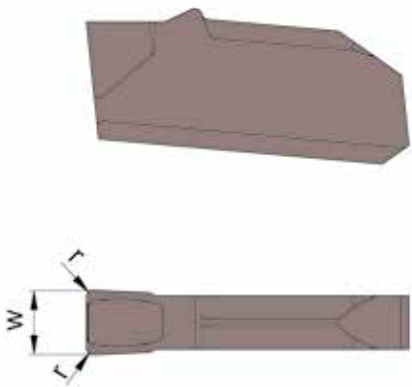
S101
带卷屑器
with chip forming

铣削宽度	Width of milling	1.2-2 mm



盘铣刀
Disc Milling Cutter

型号 M101
Type



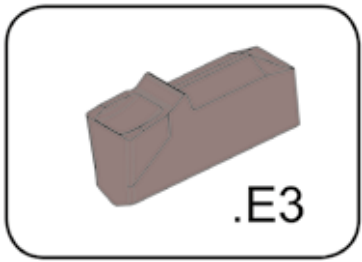
产品型号 Part number	w	r	尺寸规格 Size		AS45	IG35
S101.0120.315	1.2	0.15	12		▲	▲
S101.0140.315	1.4	0.15	14		▲	
S101.0160.315	1.6	0.15	16		▲	▲
S101.0200.320	2.0	0.20	20		▲	
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request				P	●	-
● 推荐 / recommended				M	●	●
○ 次推荐 / alternative recommendation				K	●	-
- 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				硬质合金牌号 Carbide grades		

槽铣削
Groove milling



刀片
Insert

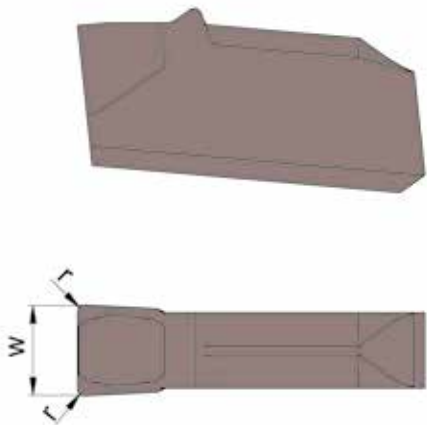
S101
带卷屑器
with chip forming



铣削宽度	Width of milling	3-4 mm

盘铣刀
Disc Milling Cutter

型号 M101
Type

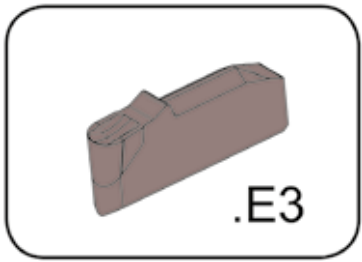


产品型号 Part number	w	r	尺寸规格 Size	AS45	
S101.0300.E32	3	0.2	30	▲	
S101.0400.E33	4	0.3	40	▲	
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request ● 推荐 / recommended ○ 次推荐 / alternative recommendation - 不合适 / not suitable ■ 非涂层 / uncoated grades ■ 涂层 / coated grades ■ 钎焊/金属陶瓷 / brazed/Cermet 尺寸单位 : mm Dimensions in mm				P	•
				M	•
				K	•
				N	○
				S	•
				H	-
				硬质合金牌号 Carbide grades	

E

刀片
Insert

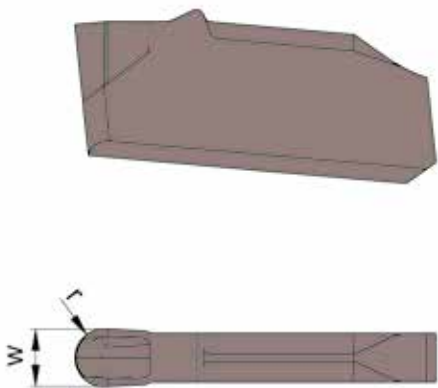
S101
带卷屑器
with chip forming



圆头	Full radius	0.8-1.5 mm

盘铣刀
Disc Milling Cutter

型号 M101
Type



圆头
Full radius

产品型号 Part number	w	r	尺寸规格 Size	AS45	
S101.0160.E3.R08	1.6	0.8	16	▲	●
S101.0200.E3.R10	2.0	1.0	20	▲	●
S101.0300.E3.R15	3.0	1.5	30	▲	●
				P	●
				M	●
				K	●
				N	○
				S	●
				H	-

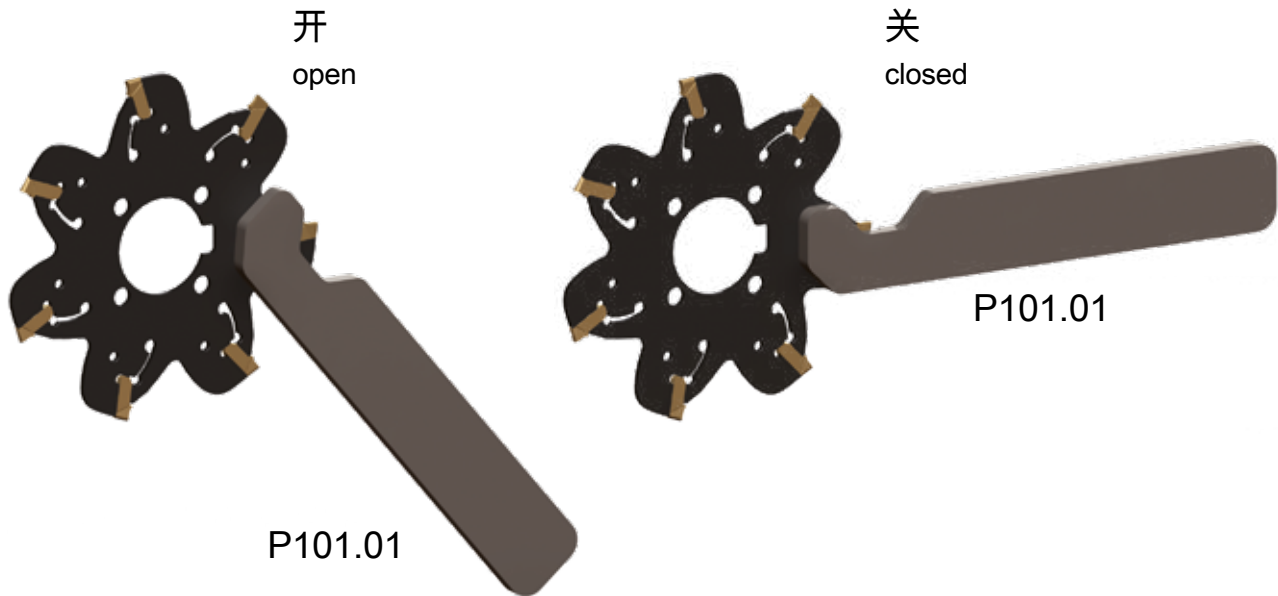
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request
● 推荐 / recommended
○ 次推荐 / alternative recommendation
- 不合适 / not suitable
■ 非涂层 / uncoated grades
■ 涂层 / coated grades
■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm
Dimensions in mm

硬质合金牌号
Carbide grades

定位夹紧扳手 P101.01

Setting position clamping wrench P101.01



请注意最大转速！

Please note the max. revolutions!

Ø 盘铣刀 Ø Disc milling cutter	最大转速 $n_{\max}$ max. Revolutions $n_{\max}$
Ø 63 mm	7.500 min ⁻¹
Ø 80 mm	6.000 min ⁻¹
Ø 100 mm	5.000 min ⁻¹
Ø 125 mm	4.000 min ⁻¹
Ø 160 mm	3.000 min ⁻¹
Ø 200 mm	2.500 min ⁻¹

- 只能使用常规铣削，避免切屑阻塞
- 更换刀片后，初始接触需降低进给率50%
- Use only conventional milling to avoid chip jamming
- After changing inserts reduce the feed rate by 50% for initial contact

使用HTC计算进给率所需的切削速 v_c 和中间厚度 h_m 的标准值

Standard values for cutting speeds v_c and medium thickness h_m for calculating feed rates by calculating cutting program »HCT«.

材料 Material			硬度 Hardness Brinell (HB)	v_c (m/min)	h_m (mm)
				AS45	
P	碳钢 Carbon steel	0.2% C	140	200	0.02 - 0.05
		0.4% C	180	170	
		0.6% C	200	130	
	合金钢 Alloyed steel	退火 annealed	180	130	0.02 - 0.03
		淬火 quenched	280	100	
			350	80	
	高合金钢 high alloyed steel (>5%)	退火 annealed	200	80	0.02 - 0.03
	铸钢 Cast steel	非合金 unalloyed	180	160	0.02 - 0.03
		合金 alloyed	220	100	
M	不锈钢 Stainless steel	马氏体，铁素体 martensitic, ferritic	200	120	0.02 - 0.03
		奥氏体 austenitic	180	100	
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	90	0.01 - 0.03
		高拉伸强度 high tensile strength	250	80	
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160	90	
		珠光体 perlritic	250	50	
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125	90	
		珠光体 perlitic	225	100	
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	200	0.01 - 0.08
		热处理 heat treatable	80-120	200	
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	200	
		热处理 heat treatable	100	170	
	铜合金 Copper-alloys	非热处理 not heat treatable	90	100	
		热处理 heat treatable	100	90	
S	耐热合金 Heat resistant alloy (Fe)	退火 annealed	200	70	0.01 - 0.02
		硬化 hardened	275	-	
	耐热合金 Heat resistant alloy (Ni. Co)	退火 annealed	250	30	
		硬化 hardened	350	-	



F

系列/System

382/383

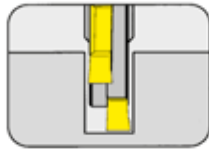
M310

页/Page

F2

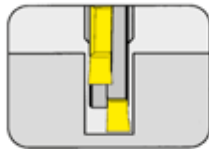
F10

盘铣刀
Disc Milling Cutter
382



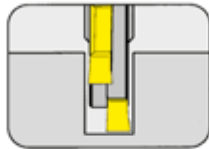
页/Page
F4-F5

芯轴刀柄式铣刀
Arbor Mounted Cutter
383

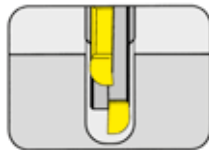


页/Page
F6-F7

可转位刀片
Indexable insert
314



页/Page
F8



页/Page
F9

382/383



F

盘铣刀

芯轴刀柄式铣刀

槽宽 6 - 10 mm

切削刃 Ø 80 - 200 mm

Disc Milling Cutter

Arbor Mounted Cutter

Width of groove 6 - 10 mm

Cutting edge Ø 80 - 200 mm

槽铣削

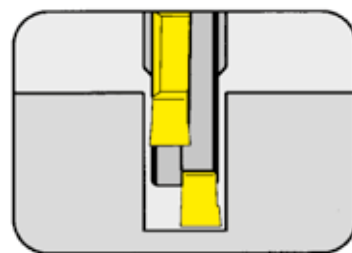
Groove milling



盘铣刀

Disc Milling Cutter

382



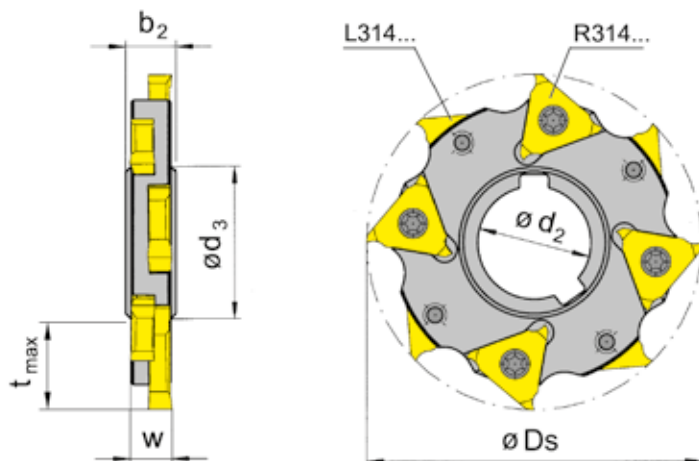
槽深
槽宽
切削刃Ø

Depth of groove
Width of groove
Cutting edge Ø

21-50 mm
6-12 mm
80-160 mm

孔(d2)带纵向DIN138标准键槽

Bore (d2) with longitudinal keyway to DIN 138



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	d ₂	b ₂	d ₃	w	右手型刀片 right hand insert	左手型刀片 left hand insert
382.0080.27.06	8	80	21,0	27	10	36	6	4x R314....	4x L314...
382.0080.27.08	8	80	21,0	27	12	36	8	4x R314....	4x L314...
382.0080.27.10	8	80	21,0	27	12	36	10	4x R314....	4x L314...
382.0100.32.06	10	100	25,5	32	10	47	6	5x R314...	5x L314...
382.0100.32.08	10	100	25,5	32	12	47	8	5x R314...	5x L314...
382.0100.32.10	10	100	25,5	32	12	47	10	5x R314...	5x L314...
382.0125.40.06	12	125	32,5	40	10	58	6	6x R314...	6x L314...
382.0125.40.08	12	125	32,5	40	12	58	8	6x R314...	6x L314...
382.0125.40.10	12	125	32,5	40	14	58	10	6x R314...	6x L314...
382.0125.40.12	12	125	32,5	40	14	58	12	2x4 R314...	4x L314...
382.0160.40.06	16	160	50,0	40	10	58	6	8x R314...	8x L314...
382.0160.40.08	16	160	50,0	40	12	58	8	8x R314...	8x L314...
382.0160.40.10	16	160	50,0	40	14	58	10	8x R314...	8x L314...
382.0160.40.12	15	160	50,0	40	14	58	12	2x5 R314...	5x L314...

按需提供更多尺寸

Further sizes upon request

螺丝的扭矩规格，详见技术说明。

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

尺寸单位：mm

Dimensions in mm

配件

Spare Parts

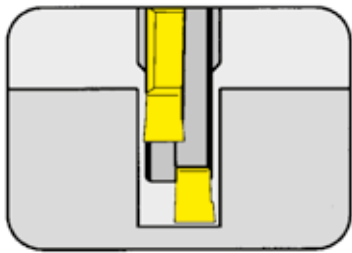
盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
382...06	5F.06T15P	T15PQ
382...08	5F.08T20P	T20PQ
382....10/12	5.10T20P	T20PQ

槽铣削
Groove milling



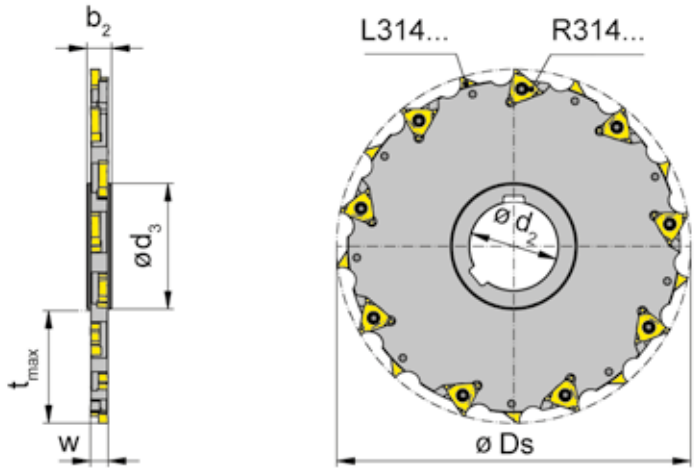
盘铣刀
Disc Milling Cutter

382



槽深	Depth of groove	63.5 mm
槽宽	Width of groove	6-14 mm
切削刃Ø	Cutting edge Ø	200 mm

孔(d2)带纵向DIN138标准键槽
Bore (d2) with longitudinal keyway to DIN 138



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	d ₂	b ₂	d ₃	w	右手型刀片 right hand insert	左手型刀片 left hand insert
382.0200.50.06	18	200	63,5	50	10	71	6	9x R314...	9x L314...
382.0200.50.08	18	200	63,5	50	12	71	8	9x R314...	9x L314...
382.0200.50.10	18	200	63,5	50	14	71	10	9x R314...	9x L314...
382.0200.50.12	18	200	63,5	50	14	71	12	2x6 R314...	6x L314...
382.0200.50.14	18	200	63,5	50	16	71	14	2x6 R314...	6x L314...

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

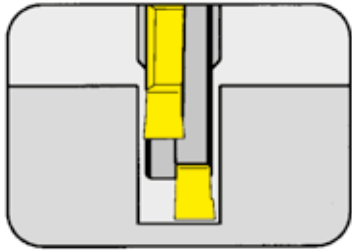
配件
Spare Parts

盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
382.0200.50.06	5F.06T15P	T15PQ
382.0200.50.08	5F.08T20P	T20PQ
382.0200.50....	5.10T20P	T20PQ

F

芯轴刀柄式铣刀
Arbor Mounted Cutter

383

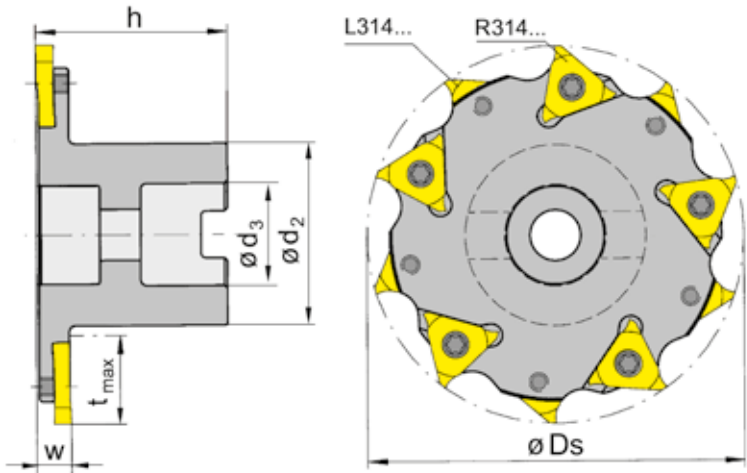


切槽深度可达	Depth of groove up to	25 mm
槽宽	Width of groove	6-10 mm
切削刃Ø	Cutting edge Ø	100 mm

孔(d3)带DIN138标准双键槽
Bore (d3) with cross keyway to DIN 138

配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h	w	d ₂	d ₃	右手型刀片 right hand insert	左手型刀片 left hand insert
383.0100.27.06	10	100	25	50	6	48	27	5x R314...	5x L314...
383.0100.27.08	10	100	25	50	8	48	27	5x R314...	5x L314...
383.0100.27.10	10	100	25	50	10	48	27	5x R314...	5x L314...

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

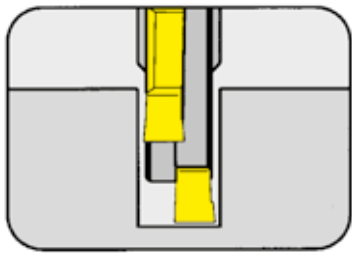
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	螺钉 Screw	TORX PLUS®扳手 TORX PLUS® Wrench
383.0100.27.06	5F.06T15P	12.30.912	T15PQ
383.0100.27.08	5F.08T20P	12.30.912	T20PQ
383.0100.27.10	5.10T20P	12.30.912	T20PQ

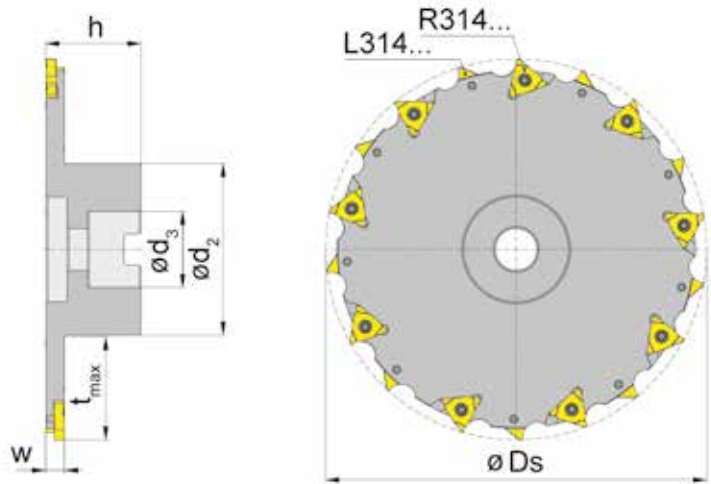
芯轴刀柄式铣刀
Arbor Mounted Cutter

383



切槽深度可达	Depth of groove up to	54 mm
槽宽	Width of groove	6-12 mm
切削刃Ø	Cutting edge Ø	200 mm

孔(d3)带DIN138标准双键槽
Bore (d3) with cross keyway to DIN 138



配合可转位刀片
for Indexable insert

型号 314
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h	w	d ₂	d ₃	右手型刀片 right hand insert	左手型刀片 left hand insert
383.0200.40.06	18	200	54	50	6	90	40	9x R314...	9x L314...
383.0200.40.08	18	200	54	50	8	90	40	9x R314...	9x L314...
383.0200.40.10	18	200	54	50	10	90	40	9x R314...	9x L314...
383.0200.40.12	18	200	54	50	12	90	40	2x6 R314...	6x L314...

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

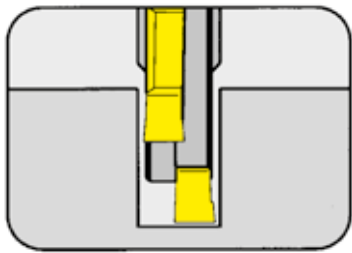
芯轴刀柄式铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
383.0200.40.06	5F.06T15P	T15PQ
383.0200.40.08	5F.08T20P	T20PQ
383.0200.40....	5.10T20P	T20PQ

槽铣削
Groove milling



可转位刀片
Indexable insert

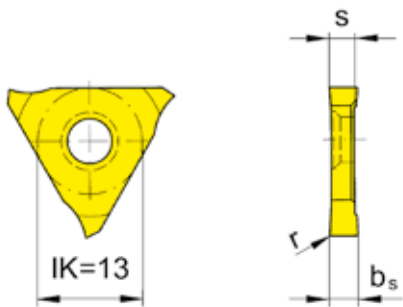
314



槽宽	Width of groove	6-14 mm

盘铣刀
Disc Milling Cutter

型号 382
Type 383



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	b _s	r	s	AS45	Ti25	TN35
R/L314.6032.00	6	3.2	0.2	2.7	▲/▲	▲/▲	▲/▲
R/L314.8043.00	8	4.3	0.2	4.1	▲/▲	▲/▲	▲/▲
R/L314.0054.00	14	5.4	0.2	5.2	▲/▲	▲/▲	▲/▲
N314.0056.00	-	5.6	0.2	5.2	▲		▲
▲ 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，L或N型
State R, L or N version

注意事项：
标准刀片N314.0056.00用于非标刀盘。

Note:
Standard insert N314.0056.00 for use with special cutters.

硬质合金牌号
Carbide grades

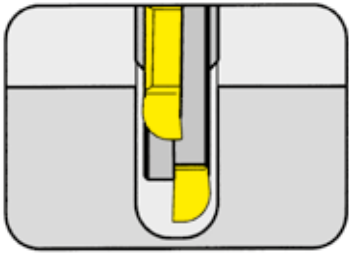
槽铣削
Groove milling



可转位刀片
Indexable insert

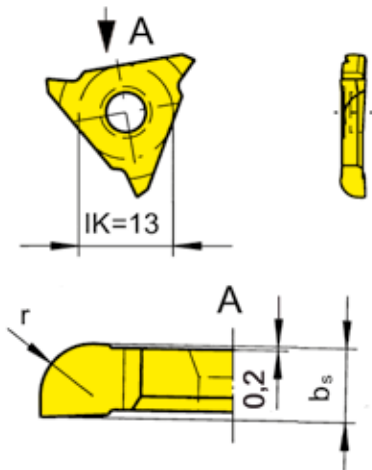
314

槽宽	Width of groove	6-10 mm



盘铣刀
Disc Milling Cutter

型号 382
Type 383



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	b _s	r	AS45	T125
R/L314.0320.20	6	3.20	2.0	▲/▲	▲/▲
R/L314.0430.20	8	4.30	2.0	▲/▲	▲/▲
R/L314.0430.25	8	4.30	2.5	▲/▲	▲/▲
R/L314.0540.20	10	5.43	2.0	▲/▲	▲/▲
R/L314.0540.25	10	5.44	2.5	▲/▲	▲/▲
R/L314.0540.40	10	5.47	4.0	▲/▲	▲/▲
▲ 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

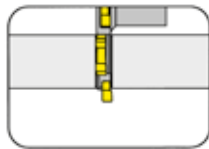
F

盘铣刀
Disc Milling Cutter
M310



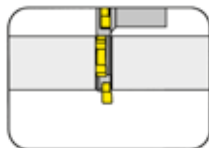
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螺纹锁紧铣刀
Screw-in cutter
M310



页/Page
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芯轴刀柄式铣刀
Arbor Mounted Cutter
M310



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可转位刀片
Indexable insert
S310



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F

M310



盘铣刀

螺纹锁紧铣刀

芯轴刀柄式铣刀

槽宽 3 - 5 mm

切削刃 Ø 50 - 200 mm

Disc Milling Cutter

Screw-in Cutter

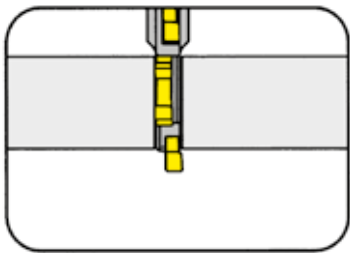
Arbor Mounted Cutter

Width of slot 3 - 5 mm

Cutting edge Ø 50 - 200 mm

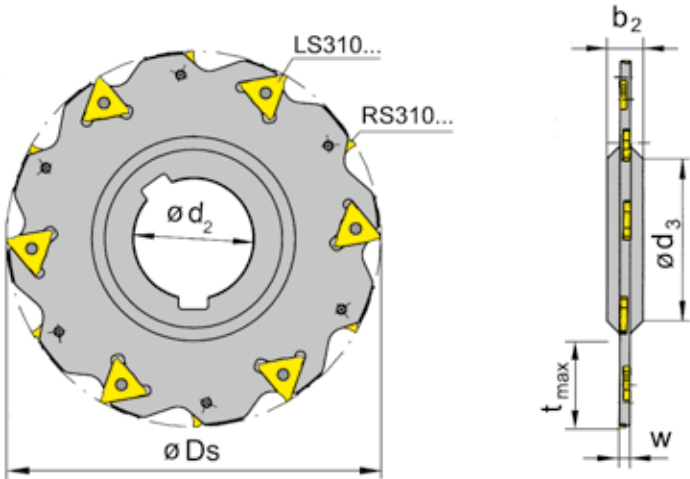
盘铣刀
Disc Milling Cutter

M310



铣削深度可达	Depth of milling up to	50 mm
槽宽	Width of slot	3 mm
切削刃Ø	Cutting edge Ø	80-160 mm

孔(d2)带纵向DIN138标准键槽
Bore (d2) with longitudinal keyway to DIN 138



配合可转位刀片
for Indexable insert

型号 S310
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	d ₂	b ₂	d ₃	w	右手型刀片 right hand insert	左手型刀片 left hand insert
M310.0080.27.03	8	80	18	27	8	40	3	4x RS310.3017.00	4x LS310.3017.00
M310.0100.32.03	10	100	25	32	8	46	3	5x RS310.3017.00	5x LS310.3017.00
M310.0125.40.03	12	125	32	40	10	54	3	6x RS310.3017.00	6x LS310.3017.00
M310.0160.40.03	16	160	50	40	10	54	3	8x RS310.3017.00	8x LS310.3017.00

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M310...	030.0324.T7P	T7PL

槽铣削

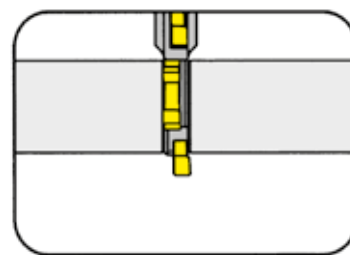
Slot Milling



盘铣刀

Disc Milling Cutter

M310



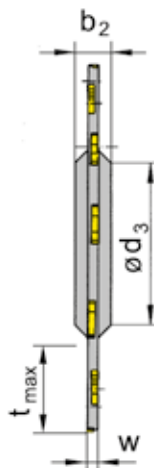
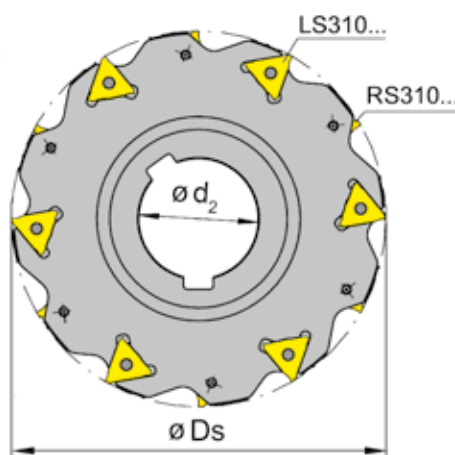
铣削深度可达
槽宽
切削刃Ø

Depth of milling up to
Width of slot
Cutting edge Ø

70 mm
4-5 mm
80-200 mm

孔(d2)带纵向DIN138标准键槽

Bore (d2) with longitudinal keyway to DIN 138



配合可转位刀片
for Indexable insert

型号 S310
Type

图示=右手型

Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	d ₂	b ₂	d ₃	w	右手型刀片 right hand insert	左手型刀片 left hand insert
M310.0080.27.04	8	80	18	27	8	40	4	4x RS310.4023.00	4x LS310.4023.00
M310.0100.32.04	10	100	25	32	8	46	4	5x RS310.4023.00	5x LS310.4023.00
M310.0125.40.04	12	125	32	40	10	54	4	6x RS310.4023.00	6x LS310.4023.00
M310.0160.40.04	16	160	50	40	10	54	4	8x RS310.4023.00	8x LS310.4023.00
M310.0200.40.04	20	200	70	40	10	54	4	10x RS310.4023.00	10x LS310.4023.00
M310.0080.27.05	8	80	18	27	8	40	5	4x RS310.5028.00	4x LS310.5028.00
M310.0100.32.05	10	100	25	32	8	46	5	5x RS310.5028.00	5x LS310.5028.00
M310.0125.40.05	12	125	32	40	10	54	5	6x RS310.5028.00	6x LS310.5028.00
M310.0160.40.05	16	160	50	40	10	54	5	8x RS310.5028.00	8x LS310.5028.00
M310.0200.40.05	20	200	70	40	10	54	5	10x RS310.5028.00	10x LS310.5028.00

按需提供更多尺寸

Further sizes upon request

螺丝的扭矩规格，详见技术说明。

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

尺寸单位：mm

Dimensions in mm

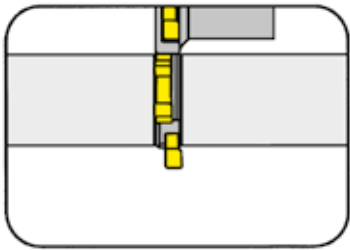
配件

Spare Parts

盘铣刀 Disc Milling Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M310...04	030.3535.T8P	T8PL
M310...05	030.3543.T8P	T8PL

螺纹锁紧铣刀
Screw-in cutter

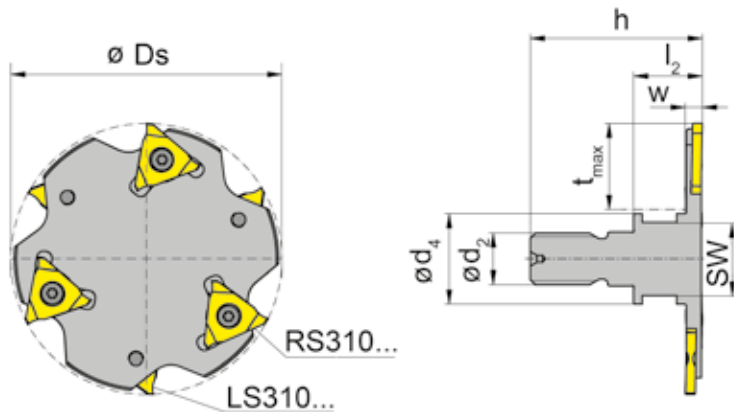
M310



铣削深度可达	Depth of milling up to	20 mm
槽宽	Width of slot	3-5 mm
切削刃Ø	Cutting edge Ø	50-63 mm

配合可转位刀片
for Indexable insert

型号 S310
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	h	l ₂	d ₂	d ₄	SW	w	t _{max}	右手型刀片 right hand insert	左手型刀片 left hand insert
M310.0050.M10.03	6	50	33	13	M10	18	15	3	15	3x RS310.3017.00	3x LS310.3017.00
M310.0063.M12.03	6	63	39	15	M12	21	17	3	20	3x RS310.3017.00	3x LS310.3017.00
M310.0050.M10.04	6	50	34	14	M10	18	15	4	15	3x RS310.4023.00	3x LS310.4023.00
M310.0063.M12.04	6	63	40	16	M12	21	17	4	20	3x RS310.4023.00	3x LS310.4023.00
M310.0050.M10.05	6	50	35	15	M10	18	15	5	15	3x RS310.5028.00	3x LS310.5028.00
M310.0063.M12.05	6	63	41	17	M12	21	17	5	20	3x RS310.5028.00	3x LS310.5028.00

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

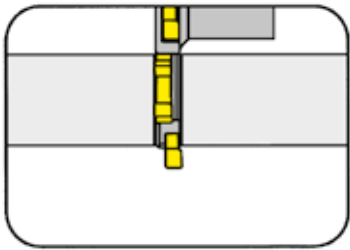
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M310...03	030.0324.T7P	T7PL
M310...04	030.3535.T8P	T8PL
M310...05	030.3543.T8P	T8PL

芯轴刀柄式铣刀
Arbor Mounted Cutter

M310

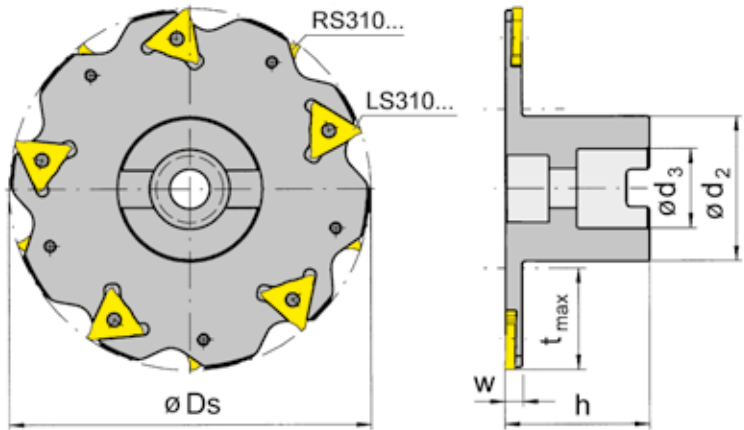


铣削深度可达	Depth of milling up to	44 mm
槽宽	Width of slot	3 mm
切削刃Ø	Cutting edge Ø	80-160 mm

孔(d3)带DIN138标准双键槽
Bore (d3) with cross keyway to DIN 138

配合可转位刀片
for Indexable insert

型号 S310
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h	d ₂	d ₃	w	右手型刀片 right hand insert	左手型刀片 left hand insert
M310.0080.22.03	8	80	23,0	40	33	27	3	4x RS310.3017.00	4x LS310.3017.00
M310.1100.27.03	10	100	25,0	50	48	27	3	5x RS310.3017.00	5x LS310.3017.00
M310.1125.27.03	12	125	35,7	50	48	27	3	6x RS310.3017.00	6x LS310.3017.00
M310.1125.32.03	12	125	32,5	50	58	32	3	6x RS310.3017.00	6x LS310.3017.00
M310.1125.40.03	12	125	26,5	50	70	40	3	6x RS310.3017.00	6x LS310.3017.00
M310.1160.40.03	16	160	44,0	50	70	40	3	8x RS310.3017.00	8x LS310.3017.00

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

配件
Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M310.0080.22.03	SW8,0 DIN 911	030.0324.T7P	T7PL
M310.1100.27.03	SW10,0 DIN 911	030.0324.T7P	T7PL
M310.1...		030.0324.T7P	T7PL

槽铣削

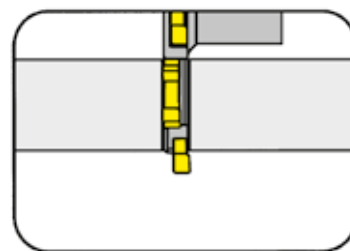
Slot Milling



芯轴刀柄式铣刀

Arbor Mounted Cutter

M310



铣削深度可达
槽宽
切削刃Ø

Depth of milling up to
Width of slot
Cutting edge Ø

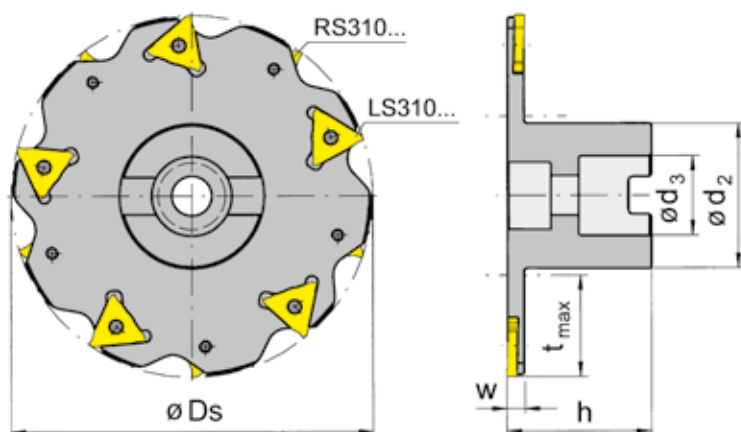
64 mm
4-5 mm
80-200 mm

孔(d3)带DIN138标准双键槽

Bore (d3) with cross keyway to DIN 138

配合可转位刀片
for Indexable insert

型号 S310
Type



图示=右手型

Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h	w	d ₂	d ₃	右手型刀片 right hand insert	左手型刀片 left hand insert
M310.0080.22.04	8	80	23,0	40	4	33	22	4x RS310.4023.00	4x LS310.4023.00
M310.1100.27.04	10	100	25,0	50	4	48	27	5x RS310.4023.00	5x LS310.4023.00
M310.1125.27.04	12	125	37,5	50	4	48	27	6x RS310.4023.00	6x LS310.4023.00
M310.1125.32.04	12	125	32,5	50	4	58	32	6x RS310.4023.00	6x LS310.4023.00
M310.1125.40.04	12	125	26,5	50	4	70	40	6x RS310.4023.00	6x LS310.4023.00
M310.1160.40.04	16	160	44,0	50	4	70	40	8x RS310.4023.00	8x LS310.4023.00
M310.1200.40.04	20	200	64,0	50	4	70	40	10x RS310.4023.00	10x LS310.4023.00
M310.0080.22.05	8	80	23,0	40	5	33	22	4x RS310.5028.00	4x LS310.5028.00
M310.1100.27.05	10	100	25,0	50	5	48	27	5x RS310.5028.00	5x LS310.5028.00
M310.1125.27.05	12	125	37,5	50	5	48	27	6x RS310.5028.00	6x LS310.5028.00
M310.1125.32.05	12	125	32,5	50	5	56	32	6x RS310.5028.00	6x LS310.5028.00
M310.1125.40.05	12	125	26,5	50	5	70	40	6x RS310.5028.00	6x LS310.5028.00
M310.1160.40.05	16	160	44,0	50	5	70	40	8x RS310.5028.00	8x LS310.5028.00
M310.1200.40.05	20	200	64,0	50	5	70	40	10x RS310.5028.00	10x LS310.5028.00

按需提供更多尺寸

Further sizes upon request

尺寸单位：mm

Dimensions in mm

螺丝的扭矩规格，详见技术说明。

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

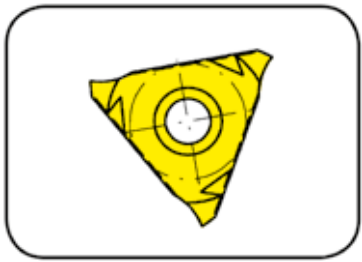
配件

Spare Parts

芯轴刀柄式铣刀 Arbor Mounted Cutter	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M310.0080.22.04	SW8,0 DIN 911	030.3535.T8P	T8PL
M310....04	-	030.3535.T8P	T8PL
M310.0080.22.05	SW8,0 DIN 911	030.3543.T8P	T8PL
M310...27.05	SW10,0 DIN 911	030.3543.T8P	T8PL
M310...32.05/...40.05	-	030.3543.T8P	T8PL

可转位刀片
Indexable insert

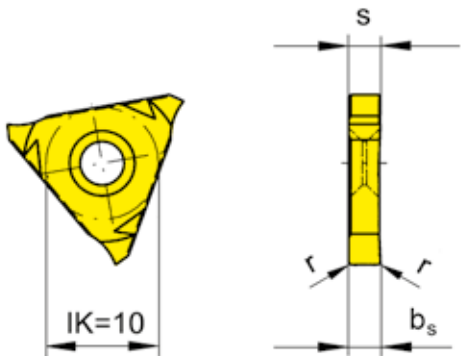
S310



槽宽	Width of groove	3-5 mm

槽铣刀
Slotting cutter

型号 M310
Type



R=右手型-如图
R = right hand version shown

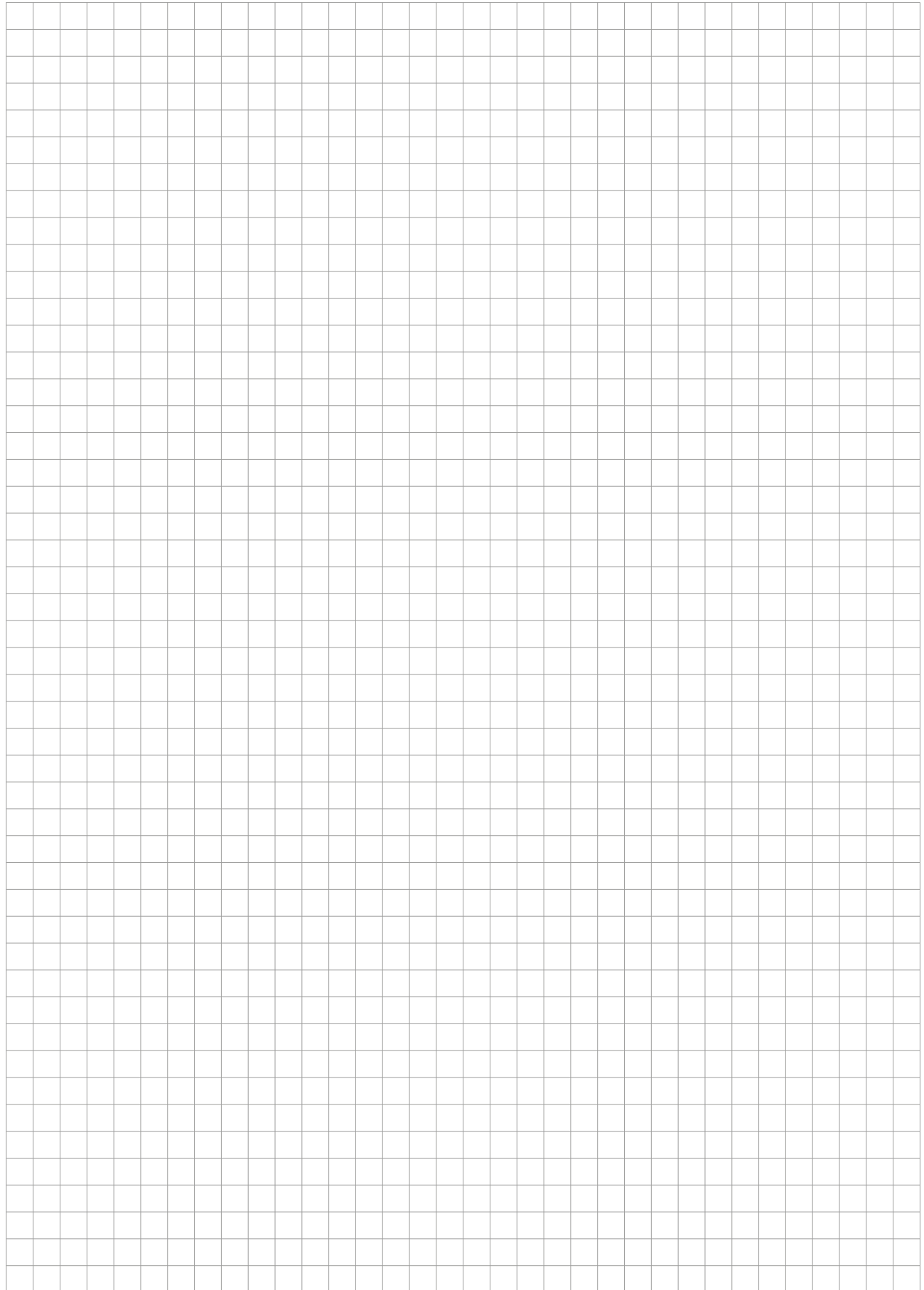
L=左手型
L = left hand version

产品型号 Part number	w	r	b _s	s	AS45	TF45	TN35
R/LS310.3017.00	3.000	0.15	1.7	1.6	▲/▲		
R/LS310.3118.00	3.175	0.15	1.8	1.6	▲/▲		
R/LS310.4023.00	4.000	0.20	2.3	2.2	▲/▲	▲/▲	▲/▲
R/LS310.5028.00	5.000	0.20	2.8	2.7	▲/▲	▲/▲	▲/▲
▲ 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

F





系列/System

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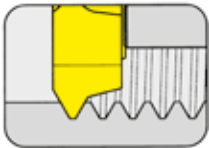
G62

螺纹铣削 (内圆)

Thread Milling (internal)

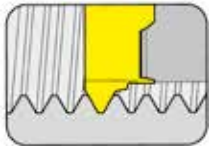


铣刀杆
Milling shank
M306

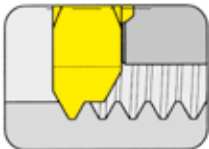


页/Page
G4

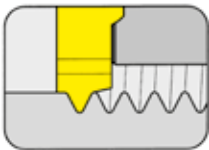
刀片
Insert
107/306/606



页/Page
G6-G7, G10



页/Page
G8



页/Page
G9, G11

M306



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自 9,6 mm

Thread Milling Cutter
(by circular interpolation)

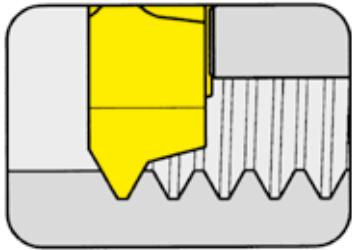
from Cutting edge Ø 9,6 mm

螺纹铣削 (内圆)
Thread Milling (internal)



铣刀杆
Milling shank

M306
直接冷却液供应
with through coolant supply

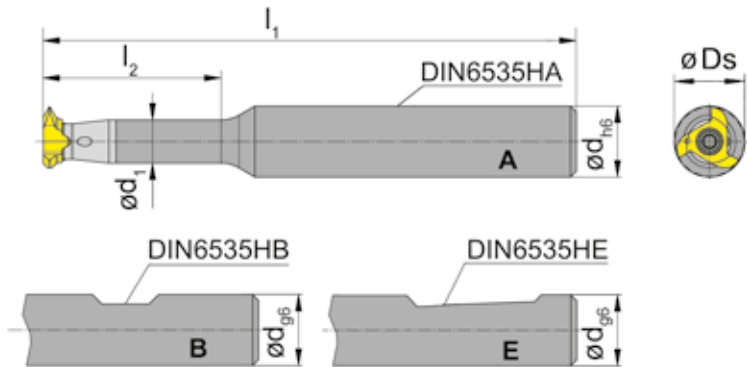


切削刃直径Ø自 Cutting edge Ø Ds from 9,6/9,7/11,7 mm

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

配合刀片
for Insert

型号 108
Type 306
 606



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M306.0712.02A	12	90	30	7.3	A
M306.0716.01A	16	100	25	7.3	A
M306.0716.02A	16	110	35	7.3	A
M306.0712.02B	12	90	30	7.3	B
M306.0716.01B	16	100	25	7.3	B
M306.0716.02B	16	110	35	7.3	B
M306.0712.02E	12	90	30	7.3	E
M306.0716.01E	16	100	25	7.3	E
M306.0716.02E	16	110	35	7.3	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS® TORX PLUS® Wrench
M306...	2.6.5T8EP	T8PL

螺纹刀片的选择

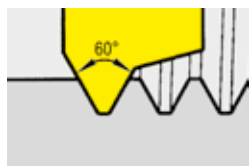
Selection for thread inserts

型号 108, 306, 606

type

非全牙型，米制 型号 108, 306, 606

Partial profile, metric type 108, 306, 606



螺距 / Pitch P	0.5	(0.75)	1.0	(1.25)	1.5	(1.75)	2.0	2.5	3.0
公称直径 / Nominal diameter									
型号 / type 108 / Ds 9.6									
R/L 108.0205.01	≥ 12	≥ 12							
R/L 108.0510.01			≥ 14	≥ 14					
R/L 108.0815.01					≥ 16	≥ 16			
型号 / type 306 / Ds 10.0									
306.0515.01	≥ 12	≥ 12	≥ 13	≥ 13	≥ 14				
306.1020.01							≥ 16		
型号 / type 306 / Ds 11.7									
306.0815.01					≥ 18				
306.0720.01			≥ 16	≥ 16	≥ 16	≥ 16	≥ 16		
306.2530.01								≥ 20	≥ 20
型号 / type 606 / Ds 10.0									
606.0515.01	≥ 12	≥ 12	≥ 13	≥ 13	≥ 14				
型号 / type 606 / Ds 11.7									
606.0720.01			≥ 16	≥ 16	≥ 16	≥ 16	≥ 16		

全牙型，米制螺纹 型号 306

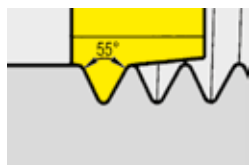
Full profile, metric type 306



螺距 / Pitch P	1.5	2.0	2.5	3.0	3.5
公称直径 / Nominal diameter					
型号 / type 306 / Ds 11.7					
306.0815.02	≥ 22				
型号 / type 306 / Ds 10.0					
306.1020.02		≥ 24			

全牙型，惠氏螺纹 型号 306, 606

Full profile, Whitworth type 306, 606



每英寸齿数 / tpi	19	14	11
螺纹 / Thread			
型号 / type 306 / Ds 9.7			
306.5519.10.02	G $\frac{1}{4}$ "		
型号 / type 306 / Ds 11.7			
306.5519.02	G $\frac{3}{8}$ "		
306.5514.02		G $\frac{1}{2}$ "	
306.5511.02			G1"
型号 / type 606 / Ds 9.7			
606.5519.10.02	G $\frac{1}{4}$ "		
型号 / type 606 / Ds 11.7			
606.5519.02	G $\frac{3}{8}$ "		
606.5514.02		G $\frac{1}{2}$ "	

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

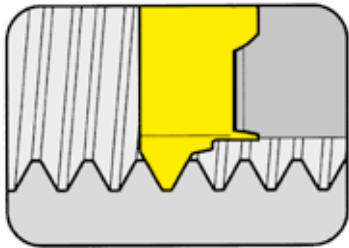
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

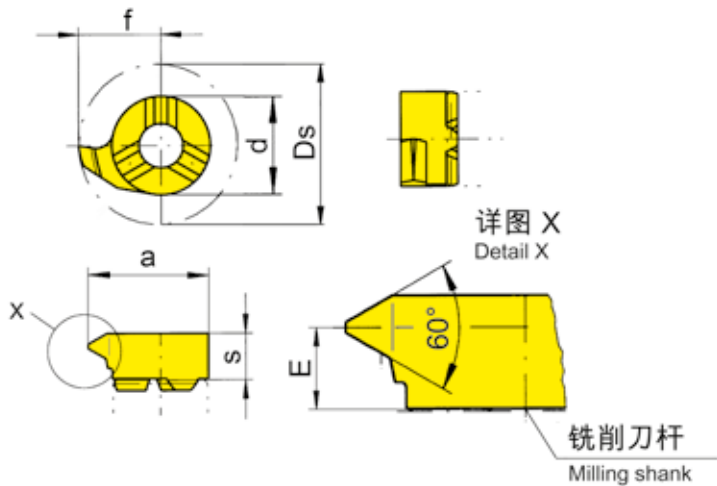
108



螺距
切削刃 $\varnothing$

Pitch
Cutting edge $\varnothing$

0.5-1.75 mm
9.6 mm



用于铣削刀柄
for Milling shank

型号 M306
Type

ISO米制螺纹
Metric ISO thread

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	P	P _{max}	E	f	a	d	Ds	MG12	EG55	TH35	TI25	TN35
R/L108.0205.01	0.5	0.75	2.8	4.8	7.8	6	9.6	▲/△	▲/▲	▲/▲		▲/▲
R/L108.0815.01	1.5	1.75	2.6	4.8	7.8	6	9.6	▲/△	▲/▲	▲/▲		▲/▲
R/L108.0510.01	1.0	1.25	2.8	4.8	7.8	6	9.6	▲/△	▲/▲	▲/▲	▲/▲	▲/▲
▲ 库存 / on stock △ 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

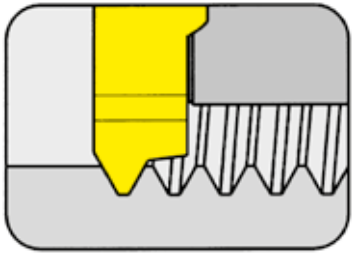
硬质合金牌号
Carbide grades

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

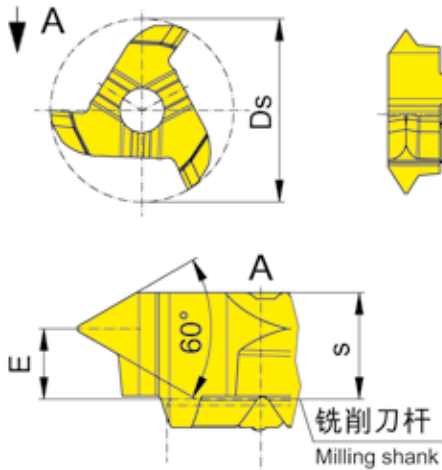
306



螺距 切削刃Ø	Pitch Cutting edge Ø	0.5-3 mm 10-11.7 mm

用于铣削刀柄
for Milling shank

型号 M306
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds	AS45	TA45	TF45	TI25	TN35
306.0515.01	0.5	1.5	2.30	3.4	10.0	▲	▲			Δ
306.1020.01	2.0	2.0	2.20	3.4	10.0	▲			▲	
306.0720.01	1.0	2.0	1.95	3.4	11.7	▲		▲	▲	▲
306.0815.01	1.5	1.5	2.25	3.4	11.7	▲		Δ	▲	▲
306.2530.01	2.5	3.0	1.70	3.4	11.7	▲		▲	▲	▲
▲ 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						硬质合金牌号 Carbide grades				

尺寸单位 : mm
Dimensions in mm

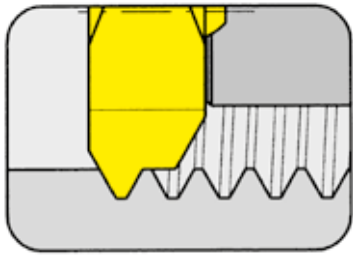
G

螺纹铣削 (内圆) ，全牙型
Thread Milling (internal) Full profile



刀片
Insert

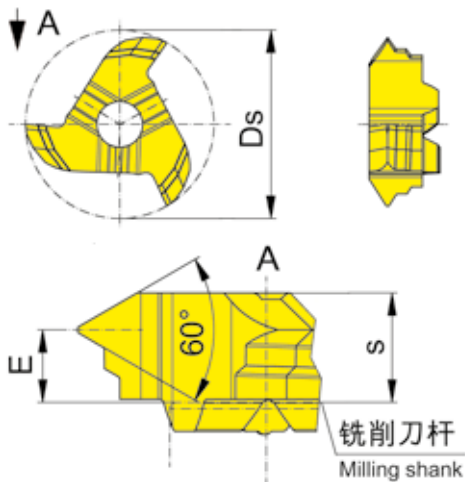
306



螺距 切削刃Ø	Pitch Cutting edge Ø	1.5-2 mm 10,0/11,7 mm

用于铣削刀柄
for Milling shank

型号 M306
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

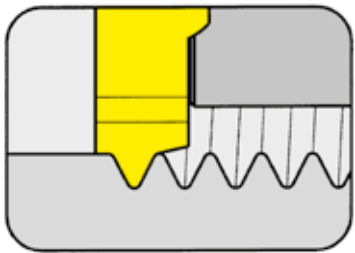
产品型号 Part number	P	E	s	Ds		AS45	TA45
306.1020.02	2.0	2.20	3.4	10.0		▲	▲
306.0815.02	1.5	2.25	3.4	11.7		▲	▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request					P	•	•
● 推荐 / recommended					M	•	•
○ 次推荐 / alternative recommendation					K	•	•
- 不合适 / not suitable					N	•	○
■ 非涂层 / uncoated grades					S	•	•
■ 涂层 / coated grades					H	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet					硬质合金牌号 Carbide grades		
尺寸单位 : mm Dimensions in mm							

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile

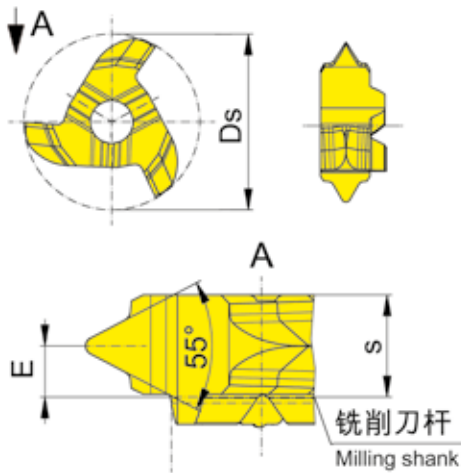


刀片
Insert

306



每英寸牙数 切削刃Ø	Threads per inch Cutting edge Ø	TPI 9,7/11,7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type

图示=右手型
Picture = right hand cutting version

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45	TA45	TF45	TI25	TN35
306.5519.10.02	19	2.2	3.4	9.7	▲	▲			
306.5511.02	11	1.7	3.4	11.7	▲	▲		△	x
306.5514.02	14	2.0	3.4	11.7	▲	▲	x	△	△
306.5519.02	19	2.2	3.4	11.7	▲	▲			
▲ 库存 / on stock △ 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					硬质合金牌号 Carbide grades				

尺寸单位 : mm
Dimensions in mm

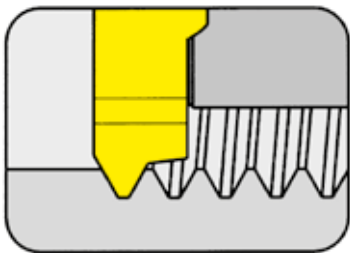
G

螺纹铣削 (内圆) ，非全牙型 Thread Milling (internal) Partial profile

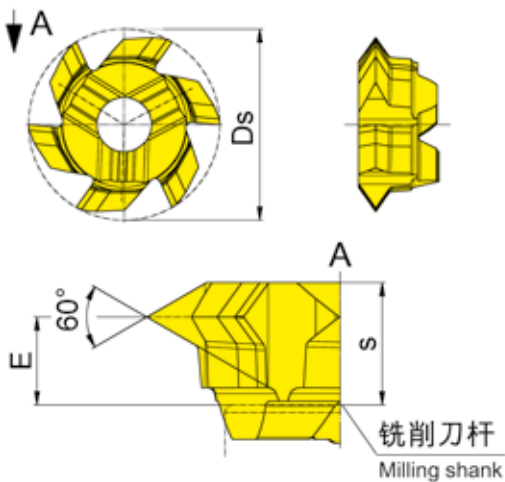


刀片
Insert

606



螺距 切削刃Ø	Pitch Cutting edge Ø	0.5-2 mm 10,0/11,7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type

ISO米制螺纹
Metric ISO thread

图示=右手型
Picture = right hand cutting version

产品型号 Part number	P	P _{max}	E	s	Ds		AS45	TA45
606.0515.01	0.5	1.5	2.30	3.15	10.0		▲	▲
606.0720.01	1.0	2.0	1.95	3.15	11.7		▲	▲
▲ 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						硬质合金牌号 Carbide grades		

尺寸单位 : mm
Dimensions in mm

螺纹铣削 (内圆) , 全牙型

Thread Milling (internal) Full profile



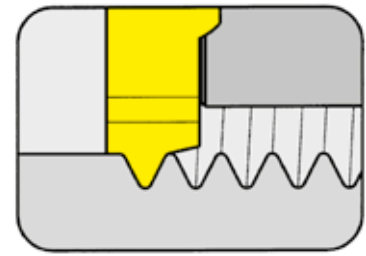
刀片
Insert

606

每英寸牙数
切削刃Ø

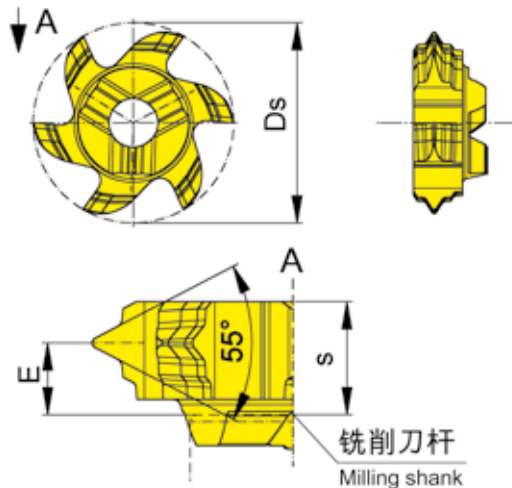
Threads per inch
Cutting edge Ø

14-19
9,7/11,7 mm



用于铣削刀柄
for Milling shank

型号 M306
Type



图示=右手型
Picture = right hand cutting version

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45	TA45	TI25
606.5519.10.02	19	2.1	3.3	9.7	▲	▲	△
606.5514.02	14	2.0	3.3	11.7	▲	▲	△
606.5519.02	19	2.1	3.3	11.7	▲	▲	△
▲ 库存 / on stock △ 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					硬质合金牌号 Carbide grades		

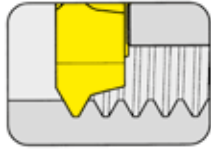
G

螺纹铣削 (内圆)

Thread Milling (internal)

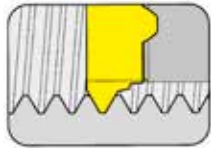


铣刀杆
Milling shank
M308

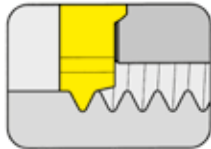


页/Page
G14

刀片
Insert
111/308/608



页/Page
G16, G18-G19



页/Page
G17, G20

G

M308



G

**螺纹铣刀
(圆弧插补铣削)**

切削刃 Ø 自 13,4 mm

**Thread Milling Cutter
(by circular interpolation)**

from cutting edge Ø 13,4 mm

螺纹铣削 (内圆)

Thread Milling (internal)

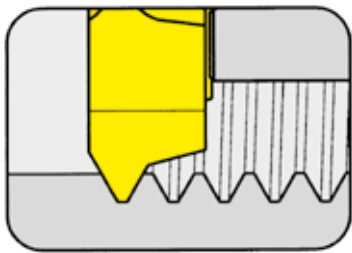


铣刀杆

Milling shank

M308

直接冷却液供应
with through coolant supply

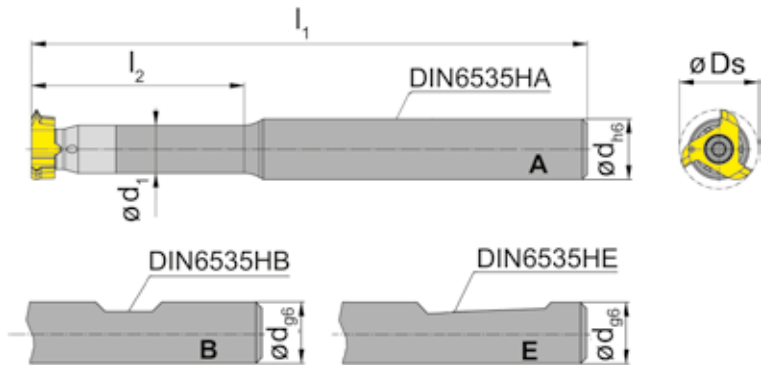


切削刃Ø	Cutting edge Ø	13,4/15,7

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

配合刀片
for Insert

型号 111
Type 308
608



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M308.0012.07 A	12	160	-	8.0	A
M308.1012.02A	12	110	42	9.5	A
M308.1016.01A	16	110	33	9.5	A
M308.1016.02A	16	110	45	9.5	A
M308.1016.03A	16	130	64	9.5	A
M308.1012.02B	12	110	42	9.5	B
M308.1016.01B	16	110	33	9.5	B
M308.1016.02B	16	110	45	9.5	B
M308.1016.03B	16	130	64	9.5	B
M308.1012.02E	12	110	42	9.5	E
M308.1016.01E	16	110	33	9.5	E
M308.1016.02E	16	110	45	9.5	E
M308.1016.03E	16	130	64	9.5	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M308...	3.5.12T10EP	T10PL

螺纹刀片的选择

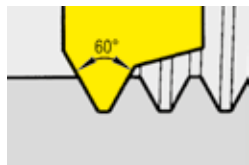
Selection for thread inserts

型号 111, 308, 608

type

非全牙型，米制 型号 111, 308

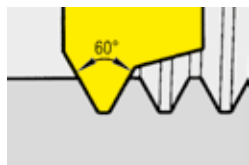
Partial profile, metric type 111, 308



螺距 / Pitch P	0.5	(0.75)	1.0	(1.25)	1.5	(1.75)	2.0	2.5	3.0
公称直径 / Nominal diameter									
型号 / type 111 / Ds 13.4									
R/L111.0205.01	≥ 18	≥16							
R/L111.0510.01			≥18	≥18					
R/L111.0815.01					≥ 20	≥ 20			
R/L111.1020.01							≥ 22		
R/L111.1325.01								≥ 24	
型号 / type 308 / Ds 13.2									
308.1325.01								≥ 18	
型号 / type 308 / Ds 15.7									
308.0815.01					≥ 22				
308.0720.01			≥ 20	≥ 20	≥ 20	≥ 20	≥ 20		
308.2530.01								≥ 24	≥24

非全牙型，米制 型号 608

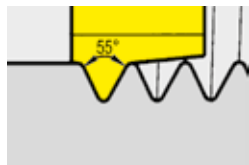
Partial profile, metric type 608



螺距 / Pitch P	0.5	(0.75)	1.0	(1.25)	1.5	(1.75)	2.0	2.5	3.0
公称直径 / Nominal diameter									
型号 / type 608 / Ds 13.2									
608.1325.01								≥ 18	
型号 / type 608 / Ds 15.7									
608.0720.01			≥ 20	≥ 20	≥ 20	≥ 20	≥ 20		
608.2530.01								≥ 24	≥24

全牙型，惠氏螺纹 型号 111, 608

Full profile, Whitworth type 111, 608



每英寸齿数 / tpi	19	14
公称直径 / Nominal diameter		
型号 / type 111 / Ds 13.4		
111.5519.02	≥ 18	
111.5514.02		≥ 21
型号 / type 608 / Ds 13.5		
螺纹 / Thread		
608.5514.02		G½"/G¾"

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

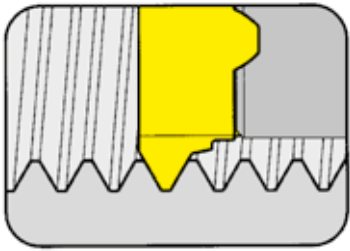
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

111



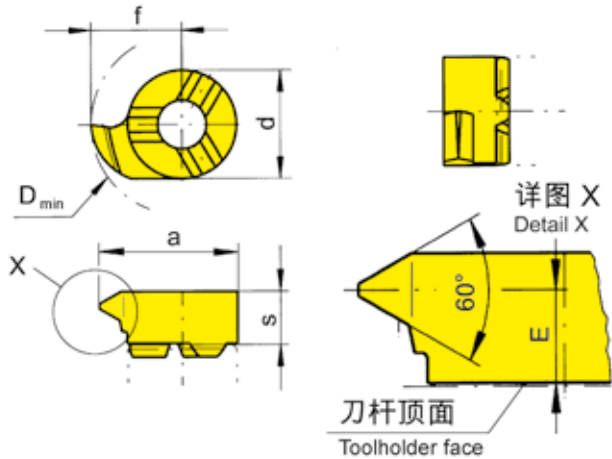
螺距
切削刃Ø

Pitch
Cutting edge Ø

0.5-2.5
!kein Ausgabotyp!

用于铣削刀柄
for Milling shank

型号 M308
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	f	a	d	D _{min}		MG12	EG55	TH35	TN35
R/L111.0205.01	0.5	0.75	3.5	4.15	6.7	10.7	8	11			▲/Δ	▲/Δ	▲/▲
R/L111.0510.01	1.0	1.25	3.3	4.15	6.7	10.7	8	11			▲/▲	▲/Δ	▲/▲
R/L111.0815.01	1.5	1.75	3.3	4.15	6.7	10.7	8	11			▲/▲	▲/Δ	▲/▲
R/L111.1020.01	2.0	2.0	3.0	4.15	6.7	10.7	8	11			▲/Δ	▲/Δ	▲/▲
R/L111.1325.01	2.5	2.5	2.8	4.15	6.7	10.7	8	11		Δ/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	-	-	-	-

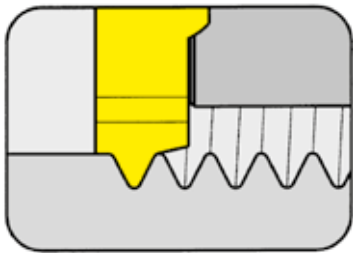
硬质合金牌号
Carbide grades

螺纹铣削 (内圆) , 全牙型 Thread Milling (internal) Full profile



刀片
Insert

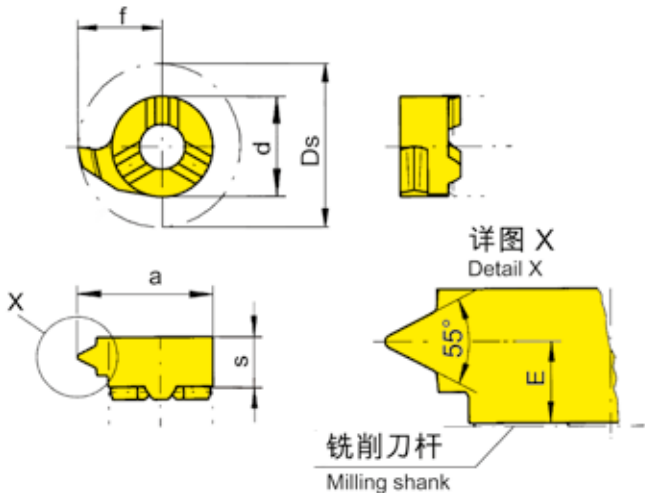
111



每英寸牙数 切削刃Ø	Threads per inch Cutting edge Ø	14-19 13.4 mm

用于铣削刀柄
for Milling shank

型号 M308
Type



R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	f	a	d	Ds	EG55	TA45	TN35
R/L111.5514.02	14	2.5	4.15	6.7	10.7	8	13.4	▲/Δ		▲/▲
R/L111.5519.02	19	2.9	4.15	6.7	10.7	8	13.4	▲/▲	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								P	•	•
尺寸单位 : mm Dimensions in mm 注明R或L型 State R or L version								M	•	○
								K	•	○
								N	•	-
								S	•	-
								H	-	-
								硬质合金牌号 Carbide grades		

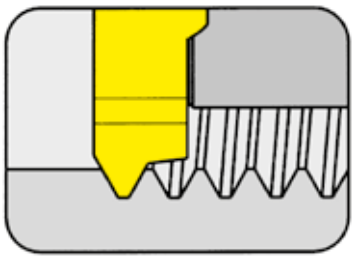


螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

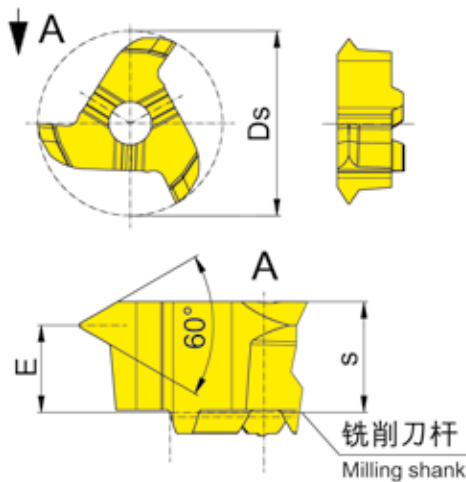
308



螺距
切削刃Ø

Pitch
Cutting edge Ø

1-3 mm
13,2/15,7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type

ISO米制螺纹
Metric ISO thread

图示=右手型
Picture = right hand cutting version

产品型号 Part number	P	P _{max}	E	s	Ds	AS45	TA45	TF45	TI25	TN35
308.1325.01	2.5	2.5	3.3	4.7	13.2	▲	▲			
308.0720.01	1.0	2.0	3.3	4.7	15.7	▲			Δ	▲
308.0815.01	1.5	1.5	3.7	4.7	15.7	▲				▲
308.2530.01	2.5	3.0	2.7	4.7	15.7	▲		Δ	Δ	▲
▲ 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						硬质合金牌号 Carbide grades				

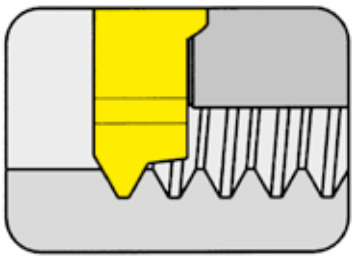
尺寸单位 : mm
Dimensions in mm

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile

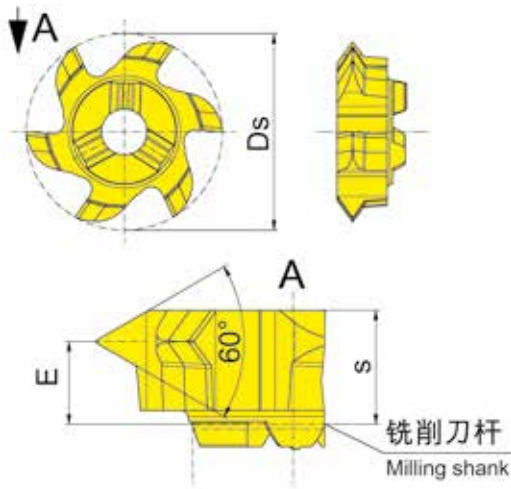


刀片
Insert

608



螺距 切削刃Ø	Pitch Cutting edge Ø	1-3 mm 13,2/15,7 mm



用于铣削刀柄
for Milling shank

型号 M308
Type

图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds		AS45	TA45	TI25
608.1325.01	2.5	2.5	3.3	4.55	13.2		▲	▲	
608.0720.01	1.0	2.0	3.3	4.55	15.7		▲		▲
608.2530.01	2.5	3.0	2.9	4.55	15.7		▲		▲
▲ 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						P	●	●	●
						M	●	●	●
						K	●	●	●
						N	●	○	●
						S	●	●	●
						H	-	-	-

硬质合金牌号
Carbide grades

G

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile



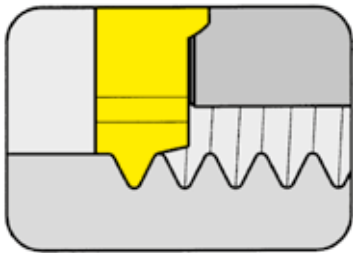
刀片
Insert

608

每英寸牙数
切削刃Ø

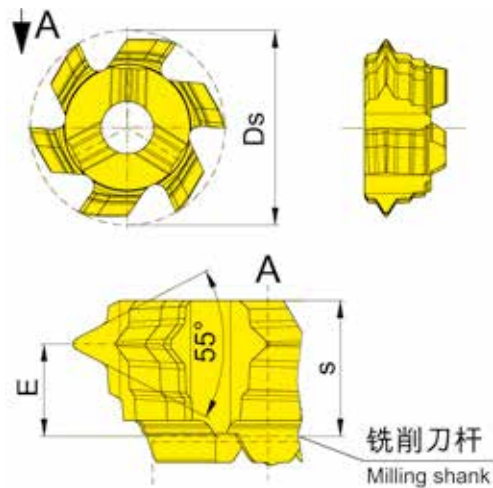
Threads per inch
Cutting edge Ø

14
13,2/15,7 mm



用于铣削刀柄
for Milling shank

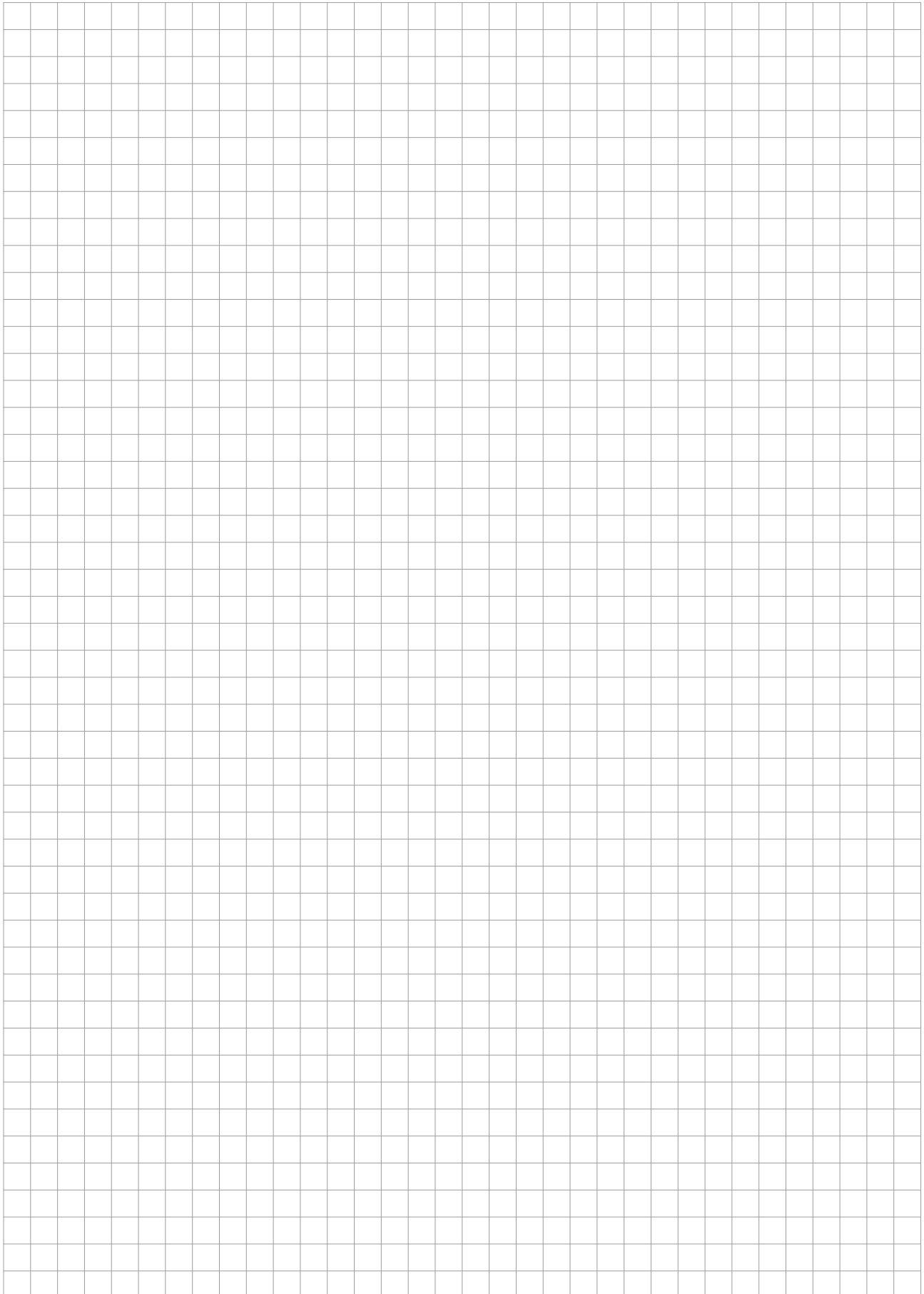
型号 M308
Type



图示=右手型
Picture = right hand cutting version

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45	TA45	TI25
608.5514.02	14	3.2	4.7	13.5	▲	▲	▲
▲ 库存 / on stock ▲ 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					硬质合金牌号 Carbide grades		

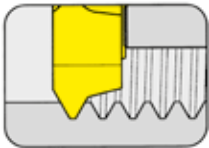


螺纹铣削 (内圆)

Thread Milling (internal)

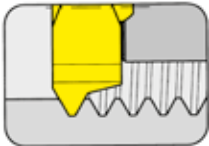


铣刀杆
Milling shank
M311

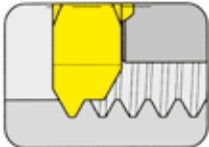


页/Page
G24

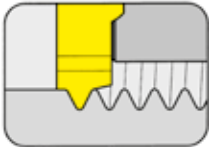
刀片
Insert
311/611



页/Page
G26, G29



页/Page
G27



页/Page
G28

M311



G

**螺纹铣刀
(圆弧插补铣削)**

切削刃 Ø 自 17,7 mm

**Thread Milling Cutter
(by circular interpolation)**

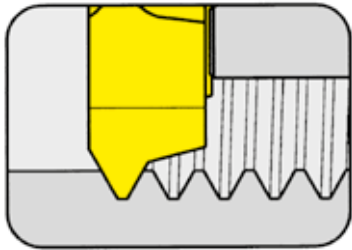
from cutting edge Ø 17,7 mm

螺纹铣削 (内圆)
Thread Milling (internal)



铣刀杆
Milling shank

M311
直接冷却液供应
with through coolant supply

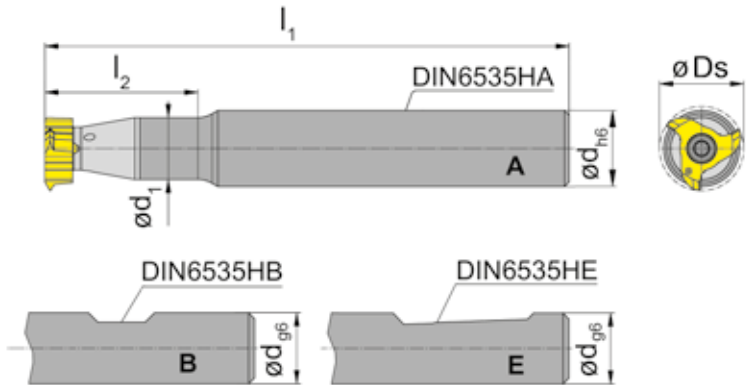


切削刃Ø	Cutting edge Ø	17,7 mm

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

配合刀片
for Insert

型号 311
Type 611



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M311.0012.05A	12	130	20	9	A
M311.1316.01A	16	110	32	13	A
M311.1316.02A	16	130	45	13	A
M311.1316.03A	16	145	64	13	A
M311.1316.01B	16	110	32	13	B
M311.1316.02B	16	130	45	13	B
M311.1316.03B	16	145	64	13	B
M311.1316.01E	16	110	32	13	E
M311.1316.02E	16	130	45	13	E
M311.1316.03E	16	145	64	13	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.14T15P	T15PQ

螺纹刀片的选择

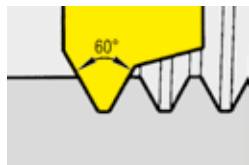
Selection for thread inserts

型号 311, 611

type

非全牙型，米制 型号 311, 611

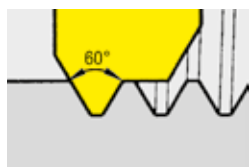
Partial profile, metric type 311, 611



螺距 / Pitch P	0.5	(0.75)	1.0	(1.25)	1.5	(1.75)	2.0	2.5	3.0	3.5
公称直径 / Nominal diameter										
型号 / type 311 / Ds 17.7										
311.0515.01	≥ 20	≥ 20	≥ 20	≥ 20	≥ 22					
311.0510.01			≥ 22							
311.0720.01			≥ 22	≥ 22	≥ 22	≥ 22	≥ 22			
311.0815.01					≥ 24					
311.1020.01							≥ 28			
311.1325.01								≥ 34		
311.1630.01									≥ 34	
311.1835.01										≥ 34
311.2535.01								≥ 28	≥ 24	≥ 26
型号 / type 611 / Ds 17.7										
611.0515.01	≥ 20	≥ 20	≥ 20	≥ 20	≥ 22					
611.0720.01			≥ 22	≥ 22	≥ 22	≥ 22	≥ 22			
611.2535.01								≥ 28	≥ 24	≥ 26

全牙型，米制螺纹 型号 311

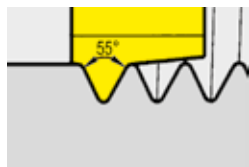
Full profile, metric type 311



螺距 / Pitch P	1.5	(1.75)	2.0	2.5	3.0	3.5
公称直径 / Nominal diameter						
型号 / type 311 / Ds 17.7						
311.0815.02	≥ 23					
311.0917.02		≥ 24.5				
311.1020.02			≥ 25.5			
311.1325.02				≥ 28.5		
311.1630.02					≥ 32	
311.1835.02						≥ 35

全牙型，惠氏螺纹 型号 311

Full profile, Whitworth type 311



每英寸齿数 / tpi	14	11
公称直径 / Nominal diameter		
型号 / type 311 / Ds 17.7		
311.5514.02	G $\frac{3}{4}$ "	
311.5511.02		G1"

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

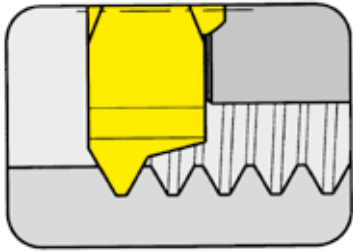
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

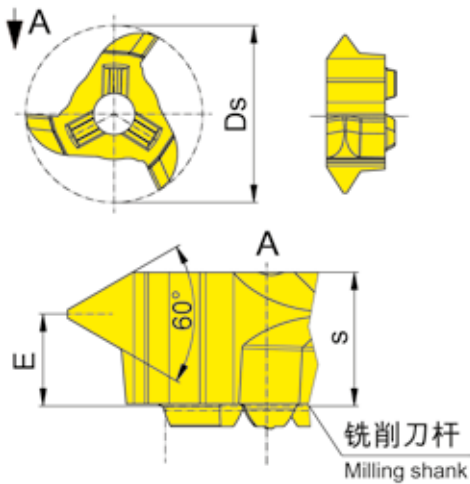
311



螺距 切削刃Ø	Pitch Cutting edge Ø	0.5-3.5 mm 17.7 mm

用于铣削刀柄
for Milling shank

型号 M311
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds	AS45	TA45	TN35
311.0515.01	0.5	1.5	4.8	5.95	17.7	▲	▲	▲
311.0510.01	1.0	1.0	5.0	5.95	17.7	▲	▲	▲
311.0720.01	1.0	2.0	4.6	5.95	17.7	▲	▲	▲
311.0815.01	1.5	1.5	4.8	5.95	17.7	▲	▲	▲
311.1020.01	2.0	2.0	4.6	5.95	17.7	▲	▲	▲
311.1325.01	2.5	2.5	4.4	5.95	17.7	▲	▲	▲
311.2535.01	2.5	3.5	3.7	5.95	17.7	▲	▲	▲
311.1630.01	3.0	3.0	4.3	5.95	17.7	▲	▲	▲
311.1835.01	3.5	3.5	4.1	5.95	17.7	▲	▲	▲

▲ 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	-	-	-

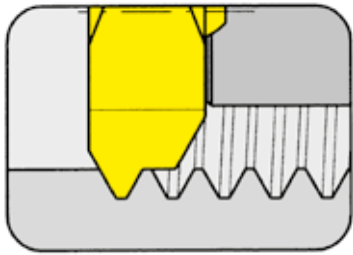
硬质合金牌号
Carbide grades

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile

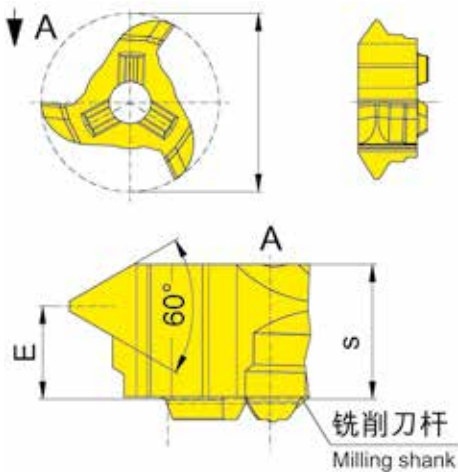


刀片
Insert

311



螺距 切削刃Ø	Pitch Cutting edge Ø	1.5-3.5 mm 17.7 mm



用于铣削刀柄
for Milling shank

型号 M311
Type

图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	E	s	Ds	AS45	TN35
311.0815.02	1.5	4.8	5.95	17.7	▲	▲
311.1020.02	2.0	4.6	5.95	17.7	▲	▲
311.1325.02	2.5	4.4	5.95	17.7	▲	△
311.1630.02	3.0	4.3	5.95	17.7	▲	▲
311.1835.02	3.5	4.1	5.95	17.7	▲	▲

▲ 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

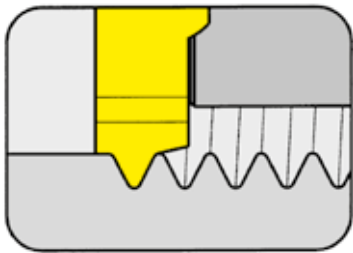
G

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile

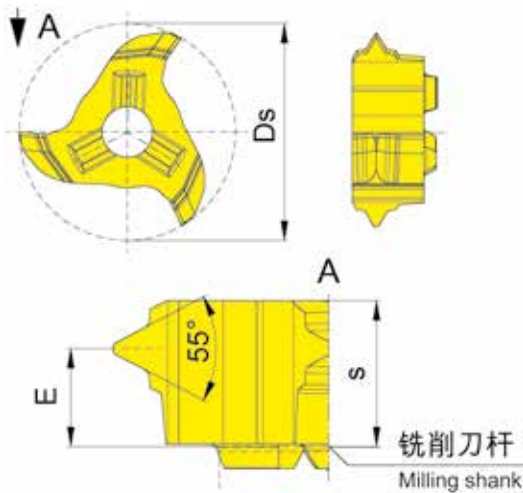


刀片
Insert

311



每英寸牙数 切削刃Ø	Threads per inch Cutting edge Ø	11-14 17.7 mm



用于铣削刀柄
for Milling shank

型号 M311.M
Type M311
M311.ST

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

图示=右手型
Picture = right hand cutting version

产品型号 Part number	TPI	E	s	Ds	AS45	TA45	TI25	TN35
311.5511.02	11	4.00	5.95	17.7	▲	△	△	▲
311.5514.02	14	4.35	5.95	17.7	▲	△	▲	▲
▲ 库存 / on stock △ 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

硬质合金牌号
Carbide grades

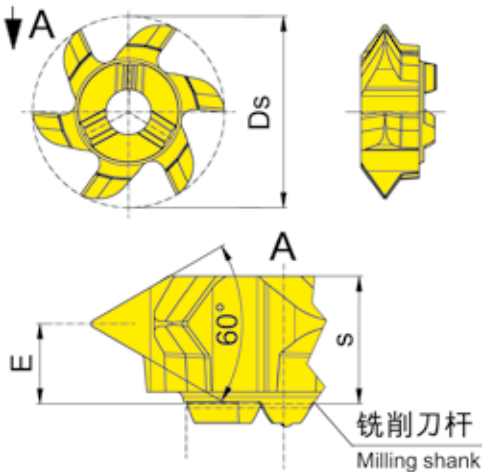
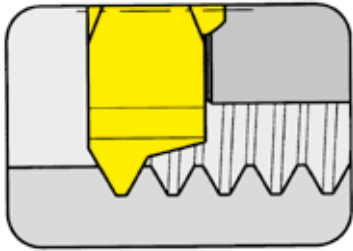
螺纹铣削 (内圆) ，非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

611

螺距 切削刃Ø	Pitch Cutting edge Ø	0.5-3.5 mm 17.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M311.M
Type M311
M311.ST

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds	AS45	TA45	TI25
611.0515.01	0.5	1.5	4.8	5.75	17.7	▲	▲	▲
611.0720.01	1.0	2.0	4.6	5.75	17.7	▲	▲	▲
611.2535.01	2.5	3.5	3.7	5.75	17.7	▲	▲	▲
						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

硬质合金牌号
Carbide grades

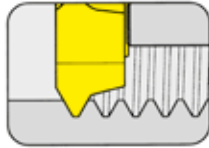


螺纹铣削 (内圆)

Thread Milling (internal)

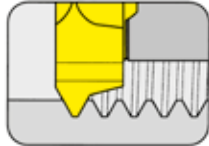


铣刀杆
Milling shank
M313

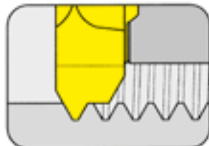


页/Page
G32-G33

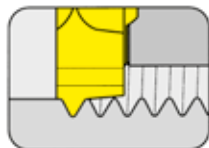
刀片
Insert
313/613



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G35, G38



页/Page
G36



页/Page
G37, G39

G

M313



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自 21,7 mm

Thread Milling Cutter
(by circular interpolation)

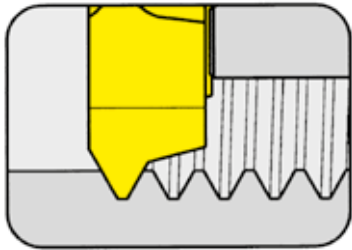
from cutting edge Ø 21,7 mm

螺纹铣削 (内圆)
Thread Milling (internal)



铣刀杆
Milling shank

M313
直接冷却液供应
with through coolant supply

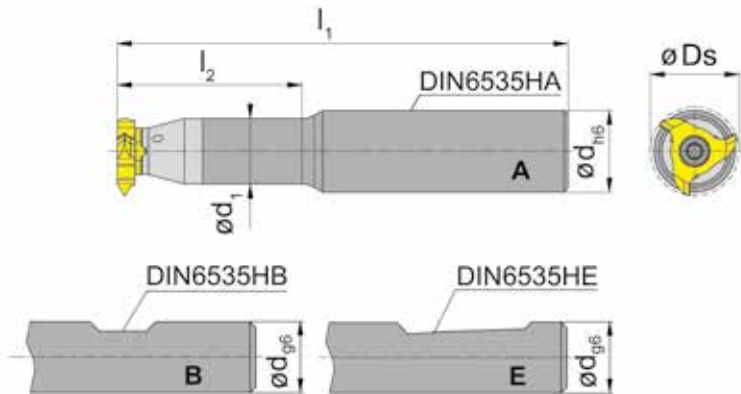


切削刃Ø	Cutting edge Ø	21,7 mm

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

配合刀片
for Insert

型号 313
Type 613



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.1620.01A	20	110	45	16	A
M313.1620.02A	20	130	65	16	A
M313.1620.03A	20	160	85	16	A
M313.1620.01B	20	110	45	16	B
M313.1620.02B	20	130	65	16	B
M313.1620.03B	20	160	85	16	B
M313.1620.01E	20	110	45	16	E
M313.1620.02E	20	130	65	16	E
M313.1620.03E	20	160	85	16	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

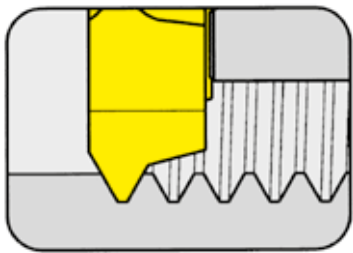
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.14T20P	T20PQ

螺纹铣削 (内圆)
Thread Milling (internal)



铣刀杆
Milling shank

M313
直接冷却液供应
with through coolant supply

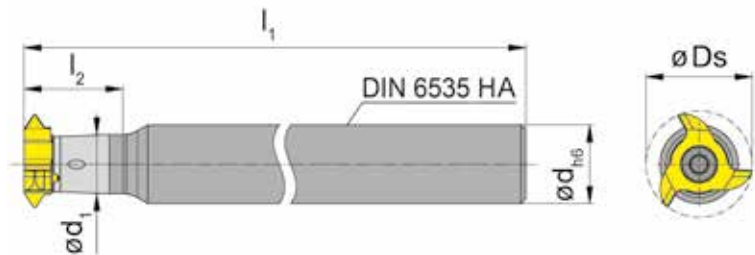


切削刃Ø	Cutting edge Ø	21,7 mm

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

配合刀片
for Insert

型号 313
Type 613



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M313.0016.07A	16	160	20	12	A

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。
Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313.0016.07A	5.14T20P	T20PQ



螺纹刀片的选择

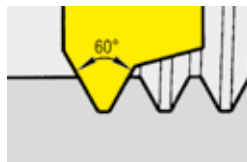
Selection for thread inserts

型号 313, 613

type

非全牙型，米制 型号 313, 613

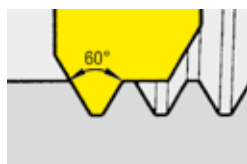
Partial profile, metric type 313, 613



螺距 / Pitch P	1.0	(1.25)	1.5	(1.75)	2.0	2.5	3.0	3.5	4.0	4.5
公称直径 / Nominal diameter										
型号 / type 313 / Ds 21.7										
313.0720.01	≥ 27	≥ 26	≥ 26	≥ 26	≥ 26					
313.0815.01			≥ 30							
313.1020.01					≥ 32					
313.1630.01							≥ 36			
313.1835.01								≥ 36		
313.2140.01									≥ 36	
313.2445.01										≥ 38
313.2545.01						≥ 33	≥ 32	≥ 30	≥ 30	≥ 30
型号 / type 613 / Ds 21.7										
613.0720.01	≥ 27	≥ 26	≥ 26	≥ 26	≥ 26					
613.2545.01						≥ 33	≥ 32	≥ 30	≥ 30	≥ 30

全牙型，米制螺纹 型号 313

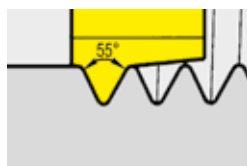
Full profile, metric type 313



螺距 / Pitch P	1.5	2.0	3.0	3.5	4.0	4.5
公称直径 / Nominal diameter						
型号 / type 313 / Ds 21.7						
313.0815.02	≥ 27					
313.1020.02		≥ 30				
313.1630.02			≥ 37			
313.1835.02				≥ 40		
313.2140.02					≥ 44	
313.2445.02						≥ 48

全牙型，惠氏螺纹 型号 313, 613

Full profile, Whitworth type 313, 613



每英寸齿数 / tpi	11	8	6
公称直径 / Nominal diameter			
型号 / type 313 / Ds 21.7			
313.5508.02		≥ 40	
313.5506.02			≥ 48
螺纹 / Thread			
型号 / type 313 / Ds 21.7			
313.5511.02	G1"		
型号 / type 613 / Ds 21.7			
613.5511.02	G1"		

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

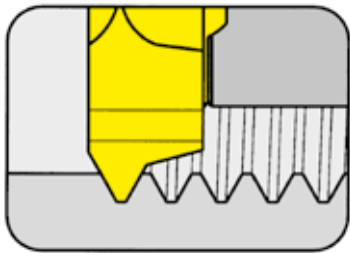
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

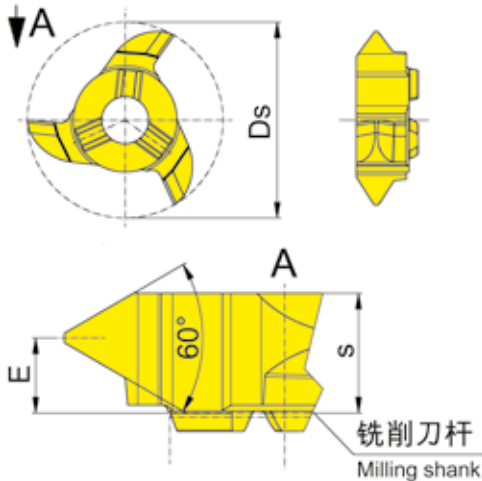
313



螺距 切削刃Ø	Pitch Cutting edge Ø	1-4.5 mm 21.7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds	Z	AS45	TF45	TN35
313.0720.01	1.0	2.0	4.6	5.9	21.7	3	▲		▲
313.0815.01	1.5	1.5	4.8	5.9	21.7	3	▲		▲
313.1020.01	2.0	2.0	4.6	5.9	21.7	3	▲		▲
313.1630.01	3.0	3.0	4.3	5.9	21.7	3	▲		▲
313.1835.01	3.5	3.5	4.1	5.9	21.7	3	▲		▲
313.2140.01	4.0	4.0	3.9	5.9	21.7	3	▲	Δ	▲
313.2445.01	4.5	4.5	3.7	5.9	21.7	3	▲		▲
313.2545.01	2.5	4.5	3.7	5.9	21.7	3	▲		▲
▲ 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							硬质合金牌号 Carbide grades		

尺寸单位 : mm
Dimensions in mm

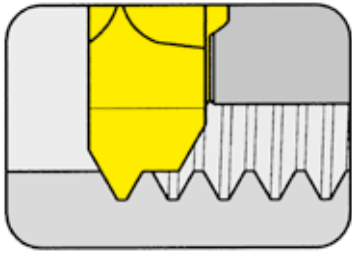
G

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile



刀片
Insert

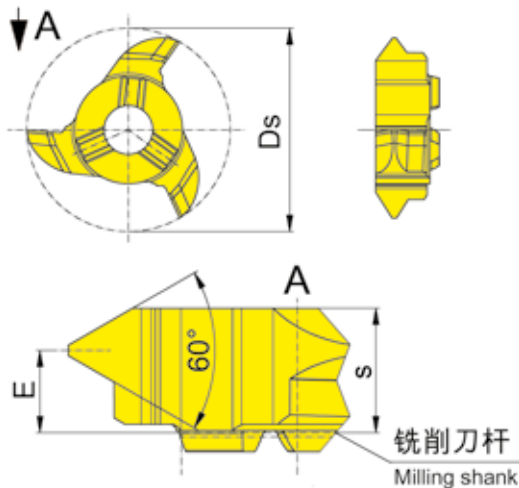
313



螺距 切削刃Ø	Pitch Cutting edge Ø	1.5-4.5 mm 21.7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	E	s	Ds	AS45	TN35
313.0815.02	1.5	4.8	5.9	21.7	▲	▲
313.1020.02	2.0	4.6	5.9	21.7	▲	▲
313.1630.02	3.0	4.3	5.9	21.7	▲	▲
313.1835.02	3.5	4.1	5.9	21.7	▲	▲
313.2140.02	4.0	3.9	5.9	21.7	▲	▲
313.2445.02	4.5	3.8	5.9	21.7	▲	▲

▲ 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	-	-

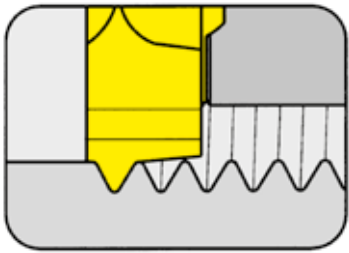
硬质合金牌号
Carbide grades

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile



刀片
Insert

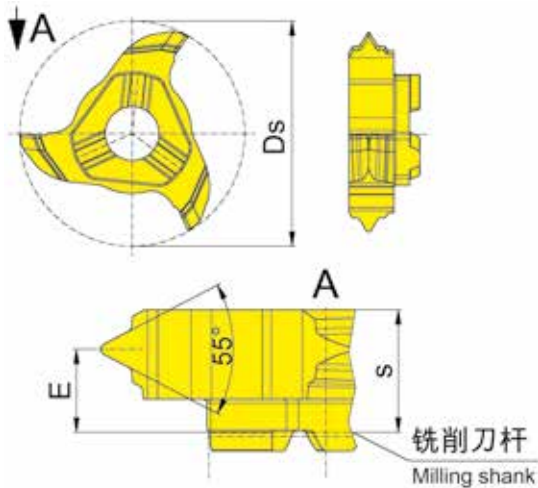
313



每英寸牙数
切削刃Ø

Threads per inch
Cutting edge Ø

6/8/11
21.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M313
Type

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45	TN35
313.5506.02	6	3.0	5.9	21.7	▲	△
313.5508.02	8	3.6	5.9	21.7	▲	▲
313.5511.02	11	4.0	5.9	21.7	▲	▲

▲ 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

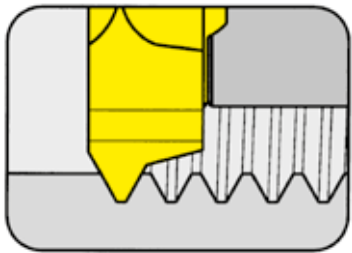
G

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

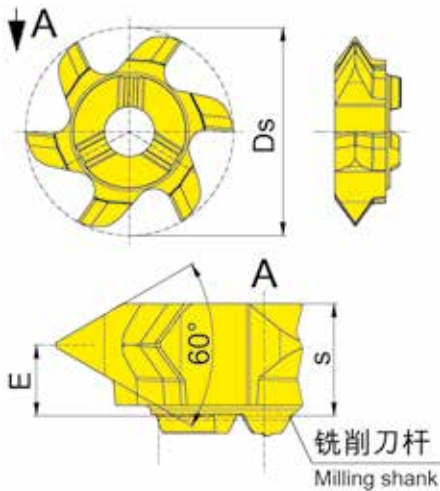
613



螺距 切削刃Ø	Pitch Cutting edge Ø	1-4.5 mm 21.7 mm

用于铣削刀柄
for Milling shank

型号 M313
Type



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds		AS45	T125
613.0720.01	1.0	2.0	4.6	5.60	21.7		▲	▲
613.2545.01	2.5	4.5	3.7	5.75	21.7		▲	▲
						P	•	•
						M	•	•
						K	•	•
						N	•	o
						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

硬质合金牌号
Carbide grades

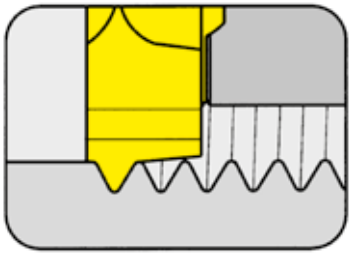
螺纹铣削 (内圆) , 全牙型 Thread Milling (internal) Full profile



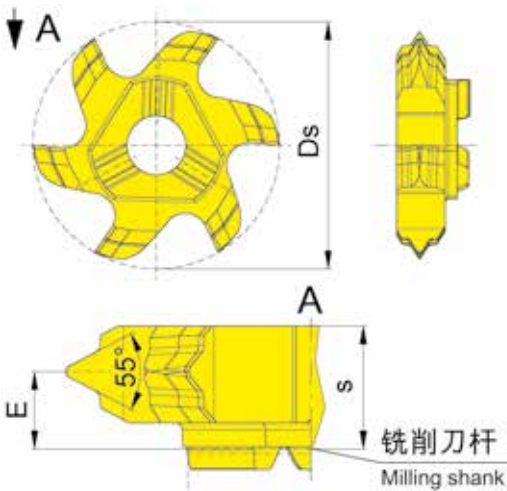
刀片

Insert

613



每英寸牙数 切削刃Ø	Threads per inch Cutting edge Ø	11 21.7 mm



图示=右手型

Picture = right hand cutting version

用于铣削刀柄

for Milling shank

型号 M313

Type

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds			
					AS45	TA45	TI25
613.5511.02	11	3.4	5.4	21.7	▲	▲	▲
▲ 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		

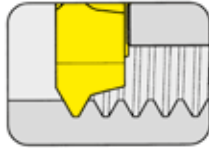


螺纹铣削 (内圆)

Thread Milling (internal)

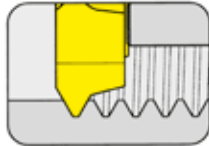


铣刀杆
Milling shank
M328/SM328

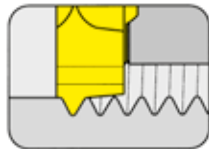


页/Page
G42-G44

刀片
Insert
328/628



页/Page
G46, G48



页/Page
G47, G49

G

M328



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自27,7 mm

Thread Milling Cutter
(by circular interpolation)

from cutting edge Ø 27,7 mm

螺纹铣削 (内圆)

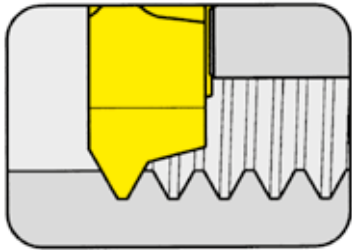
Thread Milling (internal)



铣刀杆

Milling shank

M328
直接冷却液供应
with through coolant supply



切削刃Ø	Cutting edge Ø	27,7 mm

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

配合刀片
for Insert

型号 328
Type 628



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	L ₁	形式 Form
M328.0020.D.05A	20	145	A
M328.0020.D.06A	20	160	A
M328.0020.D.07A	20	180	A
M328.0020.D.05B	20	145	B
M328.0020.D.06B	20	160	B
M328.0020.D.07B	20	180	B
M328.0020.D.05E	20	145	E
M328.0020.D.06E	20	160	E
M328.0020.D.07E	20	180	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.17T20P	T20PQ

螺纹铣削 (内圆)

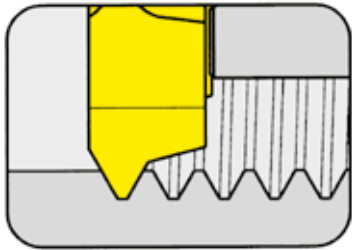
Thread Milling (internal)



铣刀杆

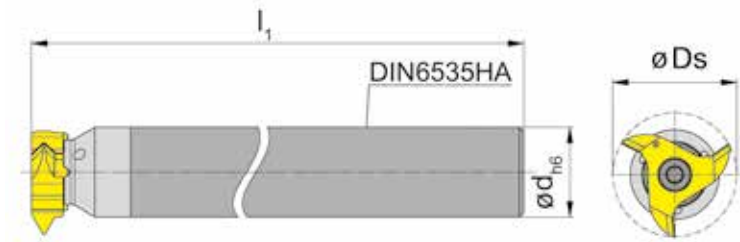
Milling shank

M328
直接冷却液供应
with through coolant supply



切削刃Ø Cutting edge Ø 27,7 mm

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



配合刀片
for Insert

型号 328
Type 628

图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	L ₁	形式 Form
M328.0020.10A	20	250	A

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328.0020.10A	5.14T20P	T20PQ

螺纹铣削 (内圆)

Thread Milling (internal)

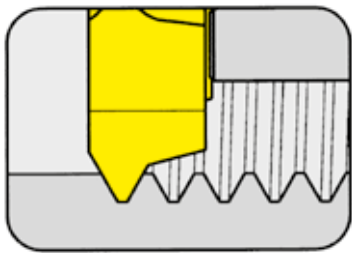


铣刀杆

Milling shank

SM328

直接冷却液供应
with through coolant supply



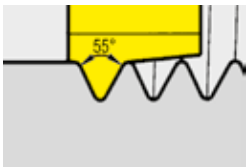
切削刃Ø	Cutting edge Ø	27,7 mm

刀杆材质：钨基合金 - 良好的抗振性能
Material of shank: tungsten alloy (giving good vibration resistance)



配合刀片
for Insert

型号 328
Type 628



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
SM328.0020.05B	20	130	25	15	B
SM328.0020.06B	20	145	-	20	B
SM328.0020.07B	20	160	25	15	B
SM328.0020.08B	20	200	-	20	B
SM328.0020.05E	20	130	25	15	E
SM328.0020.06E	20	145	-	20	E
SM328.0020.07E	20	160	25	15	E
SM328.0020.08E	20	200	-	20	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
SM328...	5.17T20P	T20PQ

螺纹刀片的选择

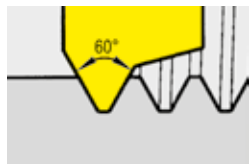
Selection for thread inserts

型号 328, 628

type

非全牙型，米制 型号 328, 628

Partial profile, metric type 328, 628

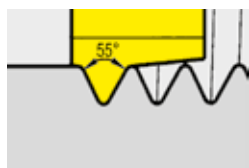


螺距 / Pitch P	1.0	(1.25)	1.5	(1.75)	2.0	2.5
公称直径 / Nominal diameter						
型号 / type 328 / Ds 27.7						
328.0720.01	≥ 32	≥ 32	≥ 32	≥ 32	≥ 32	
328.1525.01			≥ 34	≥ 34	≥ 34	≥ 34
型号 / type 628 / Ds 27.7						
628.1525.01			≥ 34	≥ 34	≥ 34	≥ 34

螺距 / Pitch P	3.0	3.5	4.0	4.5	5.0	5.5	6.0
公称直径 / Nominal diameter							
型号 / type 328 / Ds 27.7							
328.3050.01	≥ 40	≥ 38	≥ 38	≥ 38	≥ 38		
328.5060.01					≥ 48	≥ 46	≥ 44
型号 / type 628 / Ds 27.7							
628.3050.01	≥ 40	≥ 38	≥ 38	≥ 38			
628.5060.01					≥ 48	≥ 46	≥ 44

全牙型，惠氏螺纹 型号 328, 628

Full profile, Whitworth type 328, 628



英寸齿数 / tpi	11
公称直径 / Nominal diameter	
型号 / type 328 / Ds 27,7	
328.5511.02	G1½"
型号 / type 628 / Ds 27,7	
628.5511.02	G1½"

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

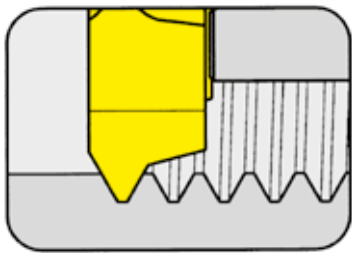
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) ，非全牙型
Thread Milling (internal) Partial profile



刀片
Insert

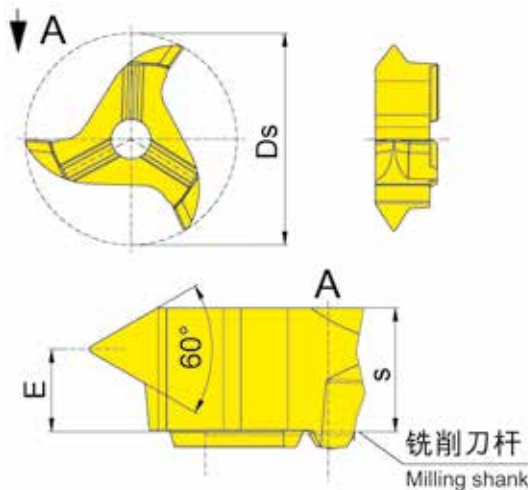
328



螺距 切削刃Ø	Pitch Cutting edge Ø	1-6 mm 27.7 mm

用于铣削刀柄
for Milling shank

型号 M328
Type SM328



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

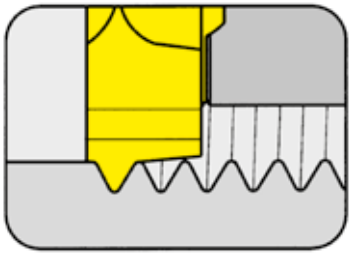
产品型号 Part number	P	P _{max}	E	s	Ds	AS45	Tl25	TN35
328.0720.01	1.0	2.0	4.6	5.95	27.7	▲		▲
328.1525.01	1.5	2.5	4.3	5.95	27.7	▲		▲
328.3050.01	3.0	5.0	4.8	7.20	27.7	▲	▲	▲
328.5060.01	5.0	6.0	4.4	7.20	27.7	▲		▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request						P	•	•
● 推荐 / recommended						M	•	•
○ 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						硬质合金牌号 Carbide grades		

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile



刀片
Insert

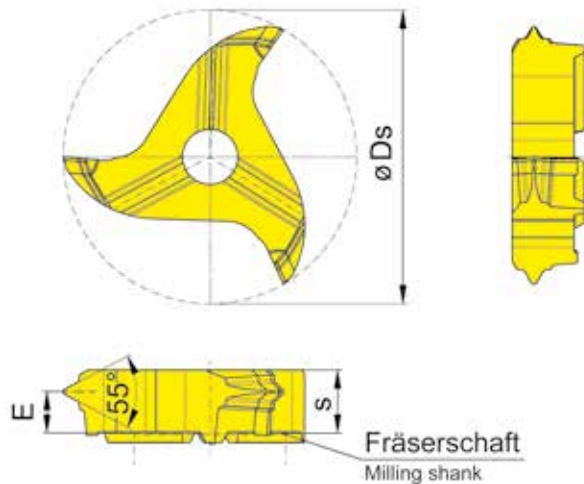
328



每英寸牙数
切削刃Ø

Threads per inch
Cutting edge Ø

11
27.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M328
Type SM328

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45
328.5511.02	11	3.9	5.95	27.7	▲

- ▲ 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

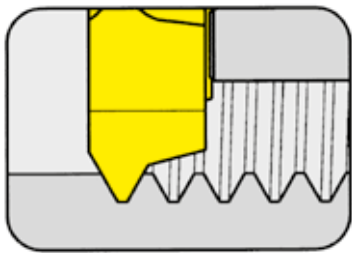
G

螺纹铣削 (内圆) , 非全牙型 Thread Milling (internal) Partial profile



刀片
Insert

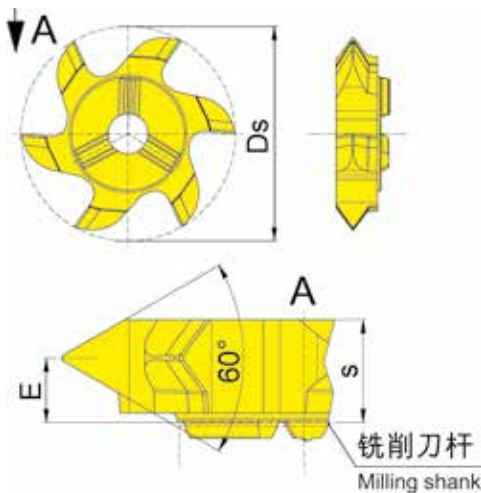
628



螺距 切削刃Ø	Pitch Cutting edge Ø	1.5-6 mm 27.7 mm

用于铣削刀柄
for Milling shank

型号 M328
Type SM328



图示=右手型
Picture = right hand cutting version

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds		AS45	TI25
628.1525.01	1.5	2.5	4.8	6.00	27.7		▲	▲
628.3050.01	3.0	5.0	3.7	5.75	27.7		▲	▲
628.5060.01	5.0	6.0	3.2	5.75	27.7		▲	▲
						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

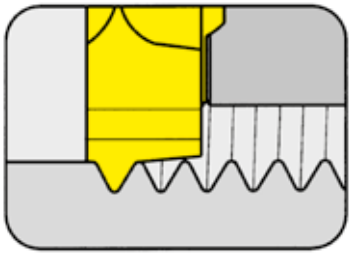
硬质合金牌号
Carbide grades

螺纹铣削 (内圆) , 全牙型
Thread Milling (internal) Full profile



刀片
Insert

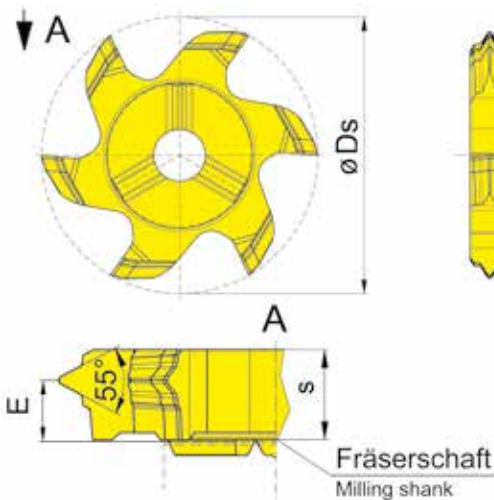
628



每英寸牙数
切削刃Ø

Threads per inch
Cutting edge Ø

11
27.7 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 M328
Type SM328

惠氏管螺纹DIN
ISO228;(259)和2999
Whitworth pipe thread as per
DIN ISO 228;(259) and 2999

产品型号 Part number	TPI	E	s	Ds	AS45
628.5511.02	11	3.9	5.85	27.7	▲

- ▲ 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

硬质合金牌号
Carbide grades

P	•
M	•
K	•
N	○
S	•
H	-

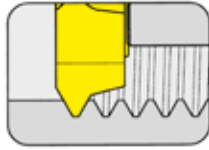
G

螺纹铣削 (内圆)

Thread Milling (internal)

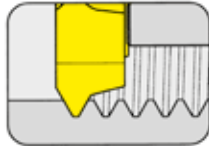


铣刀杆
Milling shank
M332



页/Page
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刀片
Insert
632



页/Page
G54

M332



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自 31,7 mm

Thread Milling Cutter
(by circular interpolation)

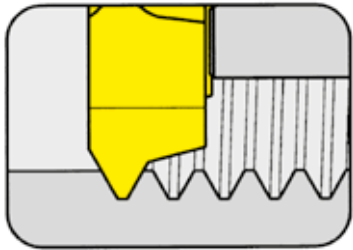
from cutting edge Ø 31,7 mm

螺纹铣削 (内圆)
Thread Milling (internal)



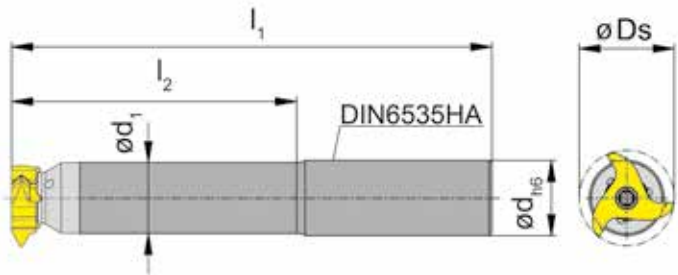
铣刀杆
Milling shank

M332
直接冷却液供应
with through coolant supply



切削刃Ø	Cutting edge Ø	31,7 mm

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



配合刀片
for Insert

型号 632
Type

G

图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 Form
M332.2325.06A	25	160	95	23.5	A
M332.2325.07A	25	180	115	23.5	A
M332.2325.08A	25	200	135	23.5	A
M332.2325.09A	25	250	185	23.5	A

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

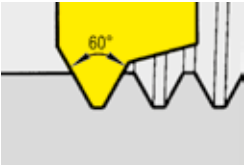
配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M332...	5.17T20P	T20PQ

螺纹刀片的选择
Selection for thread inserts

型号 632
type

非全牙型，米制 型号 632
Partial profile, metric type 632



螺距 / Pitch P	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
公称直径 / Nominal diameter								
Typ / type 632 / Ds 31,7								
632.2545.01	≥ 42	≥ 42	≥ 46	≥ 42	≥ 42			
632.4060.01				≥ 46	≥ 46	≥ 46	≥ 46	≥ 46

注意：
如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

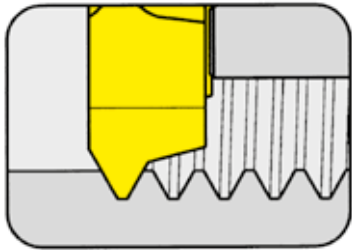
Attention:
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型 Thread Milling (internal) Partial profile

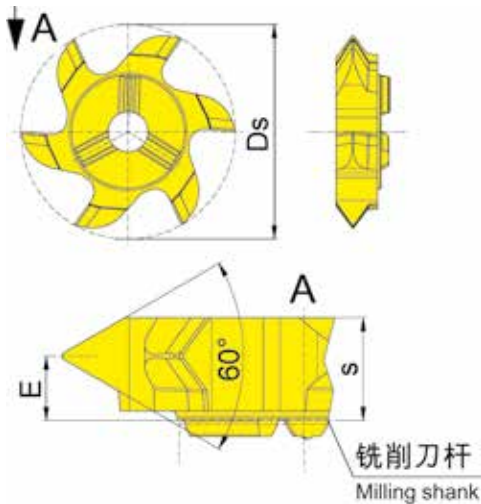


刀片
Insert

632



螺距 切削刃Ø	Pitch Cutting edge Ø	2.5-6 mm 31.7 mm



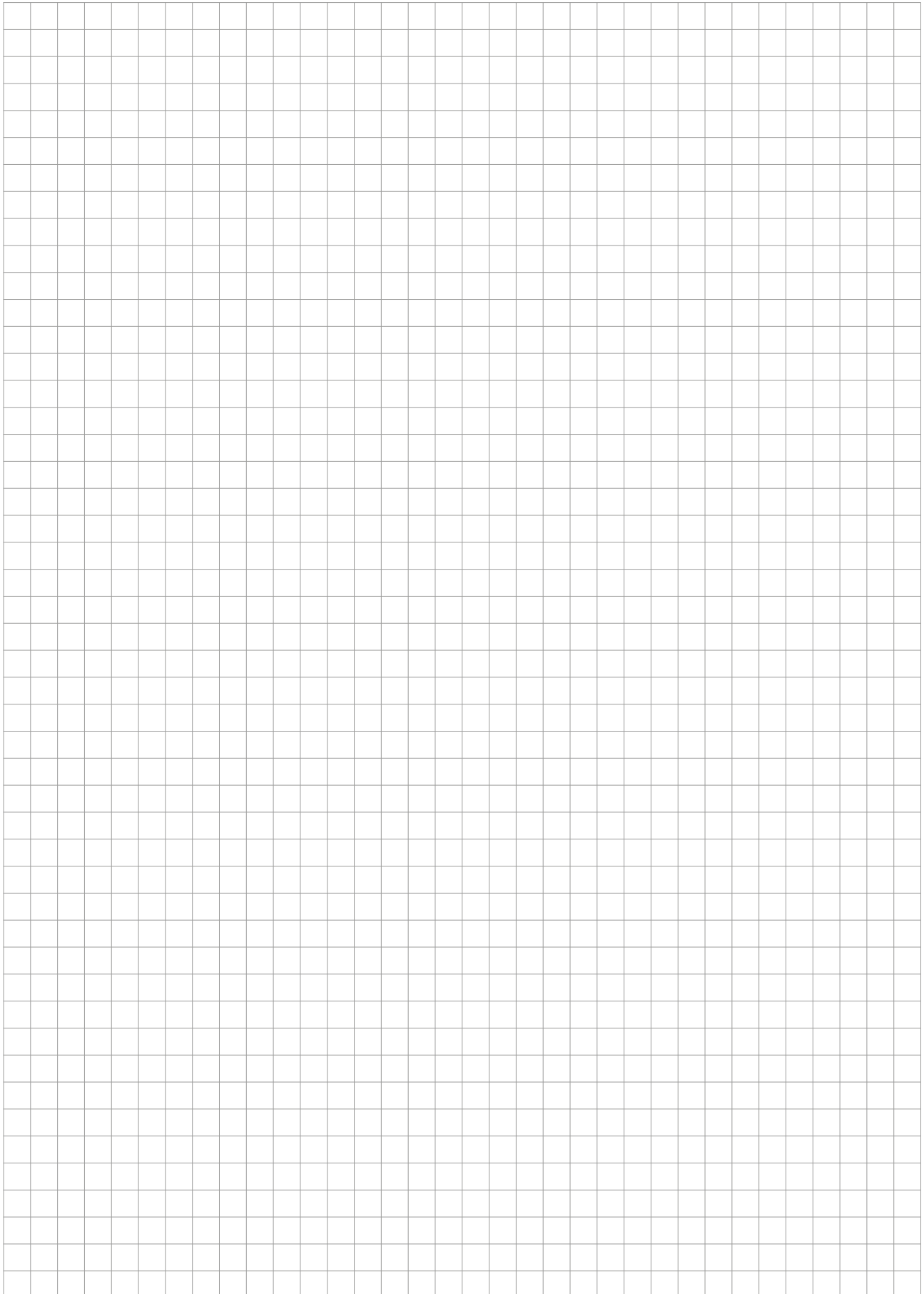
用于铣削刀柄
for Milling shank

型号 M332
Type

ISO米制螺纹
Metric ISO thread

图示=右手型
Picture = right hand cutting version

产品型号 Part number	P	P _{max}	E	s	Ds		
632.2545.01	2.5	4.5	3.7	5.8	31.7	AS45	Ti25
632.4060.01	4.0	6.0	3.2	5.8	31.7	AS45	Ti25
▲ 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						P	•
						M	•
						K	•
						N	•
						S	•
						H	-
尺寸单位 : mm Dimensions in mm						硬质合金牌号 Carbide grades	

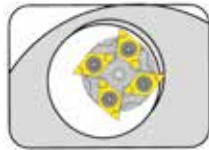


螺纹铣削 (内圆)

Thread Milling (internal)

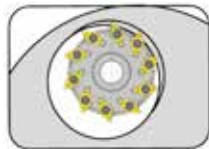


铣刀杆
Milling shank
M275



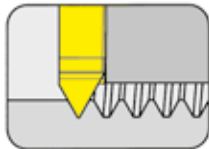
页/Page
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芯轴安装铣刀
Arbor Mounted Cutter
M275



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可转位刀片
Indexable insert
RS275



页/Page
G61

M275



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自 31 mm

Thread Milling Cutter
(by circular interpolation)

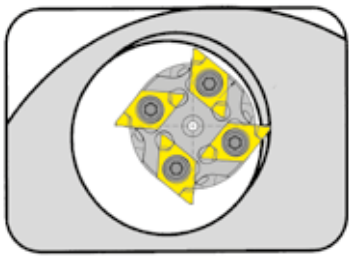
from cutting edge Ø 31 mm

螺纹铣削 (内圆)
Thread Milling (internal)



铣刀杆
Milling shank

M275
直接冷却液供应
with through coolant supply

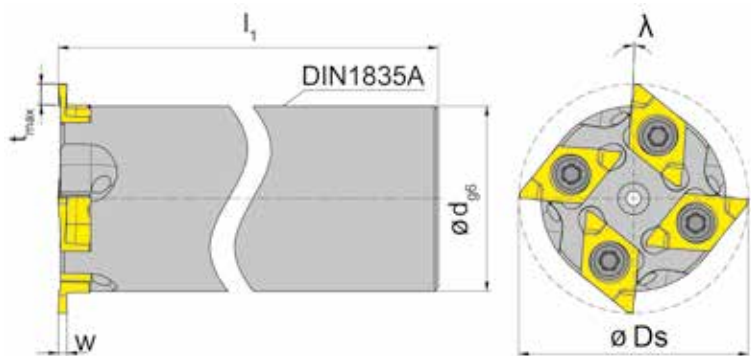


切削刃Ø	Cutting edge Ø	38 / 48 / 58 / 78 mm

刀杆材料：钢 (不推荐使用热缩方式夹持)
Material of shank: Steel (not recommended for shrink fitting)

配合可转位刀片
for Indexable insert

型号 S275
Type RS275



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	d	l ₁	λ
M275.031.D25.3.04A	4	31	25	125	4°

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

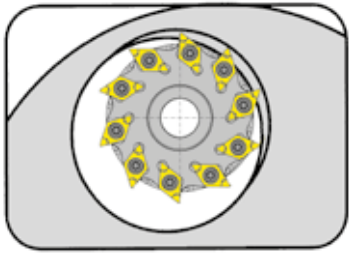
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M275.031.D25.3.04A	3.510T10P	T10PL

螺纹铣削 (内圆)
Thread Milling (internal)



芯轴安装铣刀
Arbor Mounted Cutter

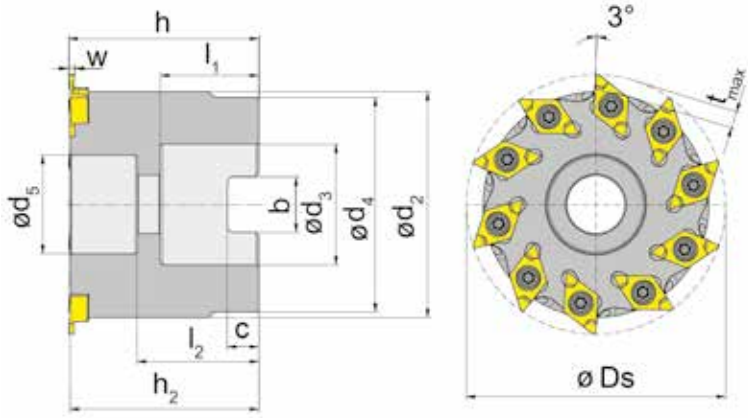
M275
直接冷却液供应
with through coolant supply



切削刃Ø	Cutting edge Ø	38 / 48 / 58 / 78 mm

配合可转位刀片
for Indexable insert

型号 S275
Type RS275



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	h_2	h	d_5	d_4	d_3	l_1	l_2	b	C	d_2
M275.0038.A16.05	5	38	32.7	33.0	13.5	32.0	16	18	22.7	8.4	5.6	32.0
M275.0048.A22.08	8	48	36.7	37.0	18.5	40.5	22	20	24.7	10.4	6.3	40.5
M275.0058.A27.10	10	58	42.2	42.5	22.0	48.0	27	22	27.2	12.4	7.0	50.0
M275.0078.A32.14	14	78	49.7	50.0	33.0	58.0	32	25	36.7	14.4	8.0	70.5

按需提供更多尺寸
Further sizes upon request

尺寸单位 : mm
Dimensions in mm

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

配件
Spare Parts

芯轴安装铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	垫圈 Washer	螺钉 Screw
M275.0038.A16.05	3.510T10P	T10PL	020.0813.3438	
M275.0048.A22.08	3.510T10P	T10PL	10.5.433	10.25.912
M275.0058.A27.10	3.510T10P	T10PL		12.30.912
M275.0078.A32.14	3.510T10P	T10PL		



螺纹刀片的选择

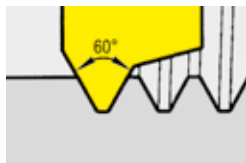
Selection for thread inserts

型号 S275

type

非全牙型，米制 型号 S275

Partial profile, metric type S275



螺距/Pitch P	1,5	2,0	2,5	3,0	3,5
公称直径 / Nominal diameter					
型号 / type S275 / Ds 31					
RS275.1535.01	≥ 45				
型号 / type S275 / Ds 38					
RS275.1535.01	≥ 54				
型号 / type S275 / Ds 48					
RS275.1535.01	≥ 70				
型号 / type S275 / Ds 58					
RS275.1535.01	≥ 83				

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

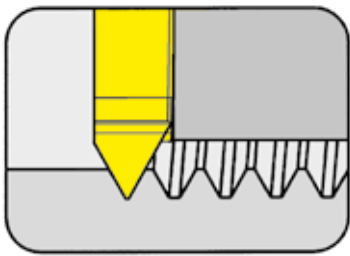
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) ，非全牙型
Thread Milling (internal) Partial profile



可转位刀片
Indexable insert

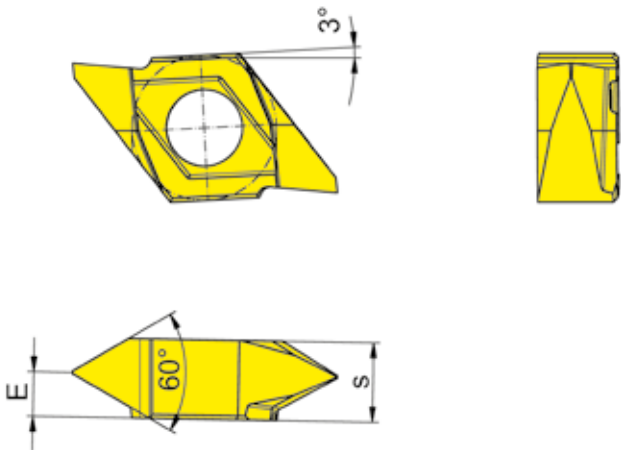
RS275



螺距	Pitch	1.5-3.5 mm

用于铣削刀柄
for Milling shank

型号 M275
Type



R=右手型-如图
R = right hand version shown

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s		TA45
RS275.1535.01	1.5	3.5	2.3	4.1		▲
▲ 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

硬质合金牌号
Carbide grades

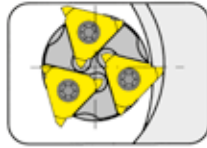
G

螺纹铣削 (内圆)

Thread Milling (internal)



铣刀杆
Milling shank
380



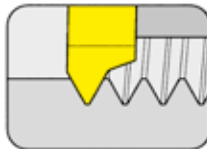
页/Page
G64

芯轴安装铣刀
Arbor Mounted Cutter
380



页/Page
G65

可转位刀片
Indexable insert
314



页/Page
G67

G

380



G

螺纹铣刀
(圆弧插补铣削)

切削刃 Ø 自 44 mm

Thread Milling Cutter
(by circular interpolation)

from cutting edge Ø 44 mm

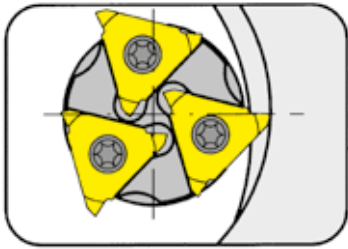
螺纹铣削 (内圆) Thread Milling (internal)



铣刀杆
Milling shank

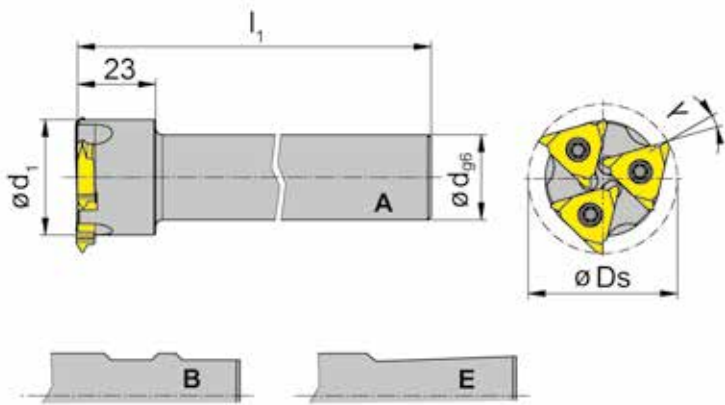
380

切削刃Ø	Cutting edge Ø	44 mm



配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	d	l ₁	d ₁	t _{max}	λ	形式 Form
380.0044.03A	3	44	25	125	34	4	14°	A
380.0044.03B	3	44	25	125	34	4	14°	B
380.0044.03E	3	44	25	125	34	4	14°	E

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm

配件
Spare Parts

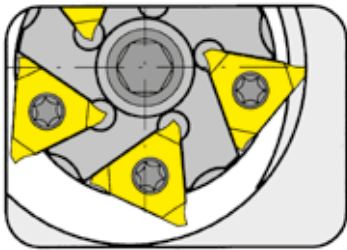
铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
380...	5.12T20P	T20PQ

螺纹铣削 (内圆)
Thread Milling (internal)



芯轴安装铣刀
Arbor Mounted Cutter

380

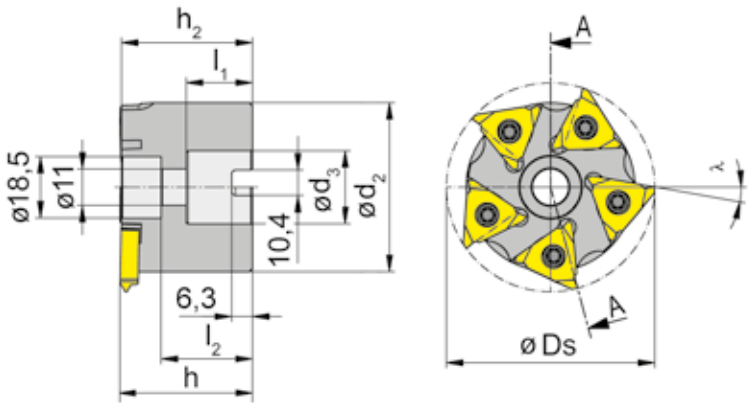


切削刃Ø Cutting edge Ø 63 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138

配合可转位刀片
for Indexable insert

型号 314
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	t _{max}	h ₂	h	d ₃	l ₁	l ₂	λ	d ₂
380.0063.05	5	63	5	39.6	40	22	20	27.6	10°	51

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

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

配件
Spare Parts

芯轴安装铣刀 Arbor Mounted Cutter	锁紧螺钉 Clamping Screw	螺钉 Screw	TORX PLUS®扳手 TORX PLUS® Wrench	垫圈 Washer
380.0063.05	5.12T20P	10.25.912	T20PQ	10.5.433



螺纹刀片的选择

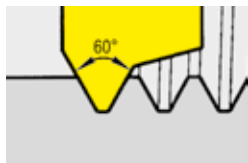
Selection for thread inserts

型号 314

type

非全牙型，米制 型号 Typ 314

Partial profile, metric type 314



螺距/Pitch P	1,5	2,0	2,5	3,0	4,0	5,0	5,5	6,0
公称直径 / Nominal diameter								
型号 / type 314 / Ds 44								
R314.1535.01	≥ 52	≥ 50	≥ 50	≥ 50				
R314.2140.01					≥ 72			
R314.3260.01								≥ 85
R314.4060.01					≥ 65		≥ 56	≥ 64
型号 / type 314 / Ds 63								
R314.1535.01	≥ 72	≥ 70	≥ 70	≥ 70				
R314.2140.01					≥ 95			
R314.3260.01								≥ 110
R314.4060.01					≥ 88			≥ 80

注意:

如果工件公称直径小于推荐的数值，铣削后轮廓形状将错误。

Attention:

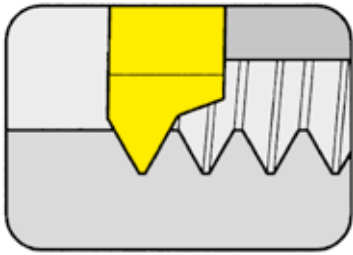
Recutting of the milling tool will create profile errors if the nominal diameter of the component will be smaller than recommended.

螺纹铣削 (内圆) , 非全牙型
Thread Milling (internal) Partial profile



可转位刀片
Indexable insert

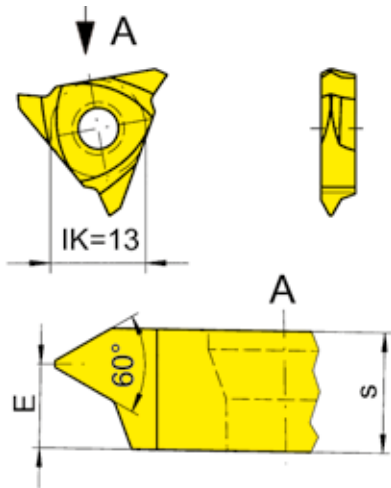
314



螺距
切削刃Ø

Pitch
Cutting edge Ø

1.5-6 mm
44 / 63 mm



图示=右手型
Picture = right hand cutting version

用于铣削刀柄
for Milling shank

型号 380
Type 380...IK

ISO米制螺纹
Metric ISO thread

产品型号 Part number	P	P _{max}	E	s	Ds	TN35
R314.1535.01	1.5	3.5	3.3	5.45	44	▲
R314.2140.01	4.0	4.0	3.0	5.45	44	▲
R314.4060.01	4.0	6.0	2.7	5.45	44	▲
R314.3260.01	6.0	6.0	2.7	5.45	63	▲

▲ 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

注意事项 :

R314.3260.01仅适用于380.0063.05铣刀

Note:

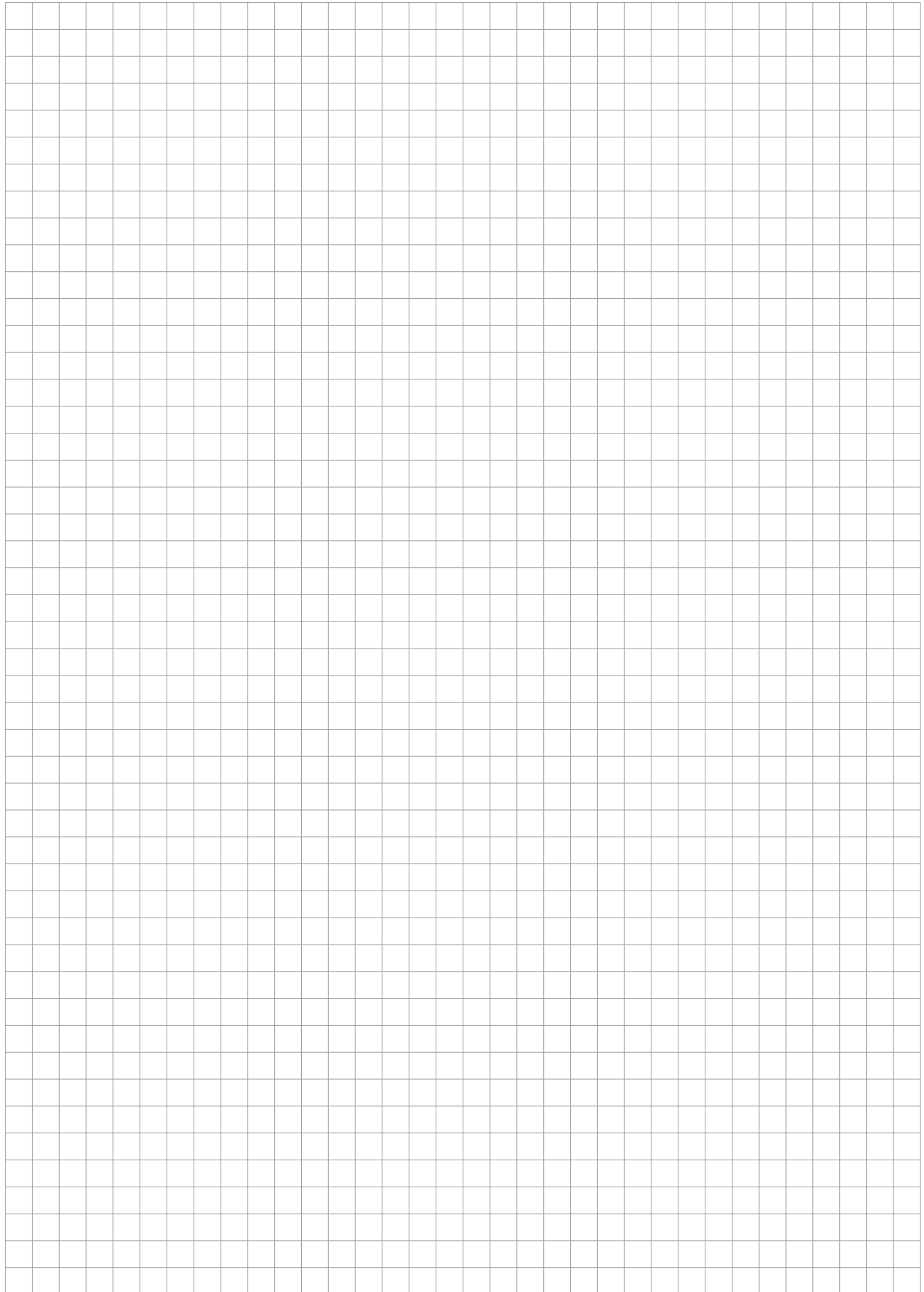
R314.3260.01 only for milling cutter 380.0063.05

P	•
M	•
K	•
N	•
S	•
H	-

硬质合金牌号
Carbide grades

G

G

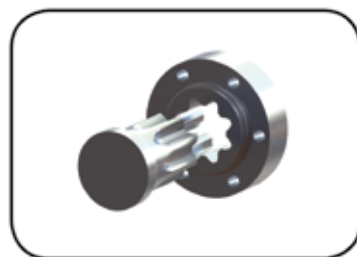
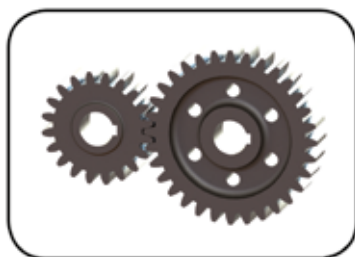




H

系列/System	页/Page
613/628/632/635	H4
M279	H12
DS	H18
DG	H22
DAH	H38
DAH37	H46

模数 [m _n] Module	刀具/使用 Tools / Use	刀具说明 Tools description	刀具系统 HORN Tooling system HORN
适合传统齿轮加工的现有刀具目录 Existing catalogue tools for conventional gear machining			
m _n 0,5 可达 / up to 3	带渐开线齿面的圆柱齿轮，用于精加工 Cylindrical gears with involuted flanks, for finishing	切槽铣削刀片完整外形 Groove milling insert full profile	613; 628; 632; 635
可达 / up to m _n 4	圆柱齿轮，齿轮轴，蜗杆轴，精加工 Cylindrical gears, gear shafts, worm shafts, finishing	心轴安装铣刀 > Ds ø80 Arbor mounted milling cutter	M279
可达 / up to m _n 6	齿轮，根据客户要求提供其他外形 Gears, further profiles upon customers request	心轴安装铣刀 Ds ø63; ø80 Arbor mounted milling cutter	M121
高进给铣削和仿形铣削 High feed milling and Copy milling			
ab / from m _n 7 - 20	Ds ø6 - ø16 推荐用于粗铣 / recommended for rough milling	立铣刀 Endmill	DSDS
m _n 20 - 30	Ds ø10; ø12; ø16; ø20 推荐用于粗铣 / recommended for rough milling	切削刀片 Cutting insert	DGH
根据模数 / depending on module	Ds ø10; ø12; ø16; ø20 齿根圆的精加工 / Finishing of root circle	切削刀片 Cutting insert	DGK
m _n 5 - 30	Ds ø10; ø12; ø16 去除齿面毛刺 / deburring of tooth flanks	切削刀片 Cutting insert	DGFF
m _n 20 - 30	Ds ø12 bis ø25 用于粗铣 / for rough milling	高进给铣刀 High feed milling cutter	DAHM.25
m _n 25 - 30	Ds ø20 bis ø63 用于粗铣 / for rough milling	高进给铣刀 High feed milling cutter	DAHM.37
m _n > 30	Ds ø10; ø12; ø16; ø20 齿面的精加工 / finishing of tooth flanks	切削刀片 Cutting insert	DGVZ
根据客户要求提供其他外形 Tooth shape machining with broaching process			
根据客户要求提供其他外形 further profiles upon customers request	外部和内部装齿，直形和螺旋形 External and internal toothing, straight and helical form	插削系统 H117 Broaching system H117	S117



用于正齿轮和齿轮轴的铣削刀片

Milling inserts for spur gears and gear shafts

圆柱齿轮/齿条 Cylindrical gears / Tooth bars 基本外形 1，符合 DIN3972 Basic profile 1 according to DIN 3972	齿轮轴/轴轮毂/ 锯齿 DIN 5480 / ANSI B92.1 Gear shafts / Shaft-hub / Serration DIN 5480 / ANSI B92.1	刀片 型号 Insert type	Ds [mm]
$m_n \leq 0,8$	$m_n \leq 1 / d_B \geq 40$	606	11.7
$m_n \leq 1$	$m_n \leq 1,5 / d_B \geq 40$	608	15.7
$m_n \leq 1,25$	$m_n \leq 2 / d_B \geq 40$	611	17.7
$m_n \leq 1,5$	$m_n \leq 3 / d_B \geq 22$	613	21.7
$m_n \leq 2$	$m_n \leq 2,5 / d_B \geq 40$	628	27.7
$m_n \leq 2,5 / \text{Nr. 5 - 8}$	$m_n \leq 2,5 / d_B \geq 30$	632	31.7
$m_n \leq 2,25 / \text{Nr. 2 - 8}$			
$m_n \leq 2 \text{ Nr. 1 - 8}$			
$m_n \leq 3$	$m_n \leq 3 / d_B \geq 50$	635	34.7
$m_n \leq 1,5$	$m_n \leq 2 / d_B \geq 60$	636	35.7

刀片
 Insert
 613/628/632/635



页/Page
 H6-H10

铣刀N° Milling cutter N°	*z (N°圆柱齿轮齿数) *z (N° of teeth cylindrical gear)
1	12 - 13
2	14 - 16
3	17 - 20
4	21 - 25
5	26 - 34
6	35 - 54
7	55 - 134
8	≥ 135... 齿条/Tooth bar

订购示意:
 Ordering example:



613.3972.100.8

铣刀N° / Milling cutter N°
 模数 1 / Module 1
 DIN 3972
 铣刀 型号 / Milling cutter type 613

613/628/632/635



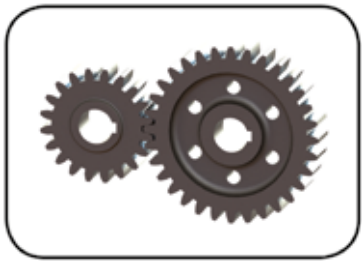
刀片
6个切削刃
模数 0,5 - 3,0

Inserts with
6 cutting edges
for Module 0,5 - 3,0

H

刀片
 Insert

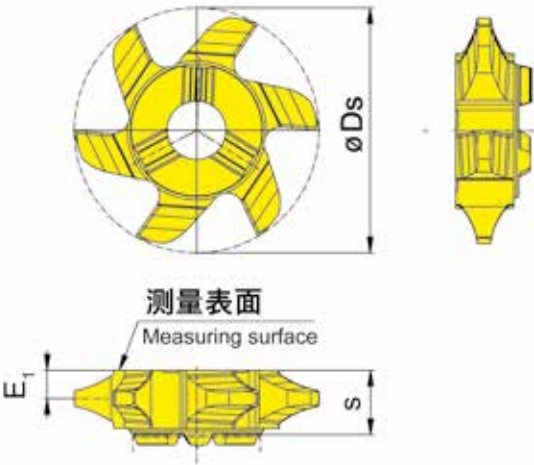
613



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
 Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing

用于铣削刀柄
 for Milling shank

型号 M313
 Type



压力角 20°
 Pressure angle 20°

产品型号 Part number	模数 Module	z_{min}	z_{max}	E_1	s	t_{max}	D_s	AS45
613.3972.050.1	0.5	12	13	1.1	5.7	1.1	21.7	Δ
613.3972.050.2	0.5	14	16	1.1	5.7	1.1	21.7	Δ
613.3972.050.3	0.5	17	20	1.1	5.7	1.1	21.7	Δ
613.3972.050.4	0.5	21	25	1.1	5.7	1.1	21.7	Δ
613.3972.050.5	0.5	26	34	1.1	5.7	1.1	21.7	Δ
613.3972.050.6	0.5	35	55	1.1	5.7	1.1	21.7	Δ
613.3972.050.7	0.5	55	134	1.1	5.7	1.1	21.7	Δ
613.3972.050.8	0.5	135	999	1.1	5.7	1.1	21.7	Δ
613.3972.100.1	1.0	12	13	2.5	5.7	2.2	21.7	Δ
613.3972.100.2	1.0	14	16	2.5	5.7	2.2	21.7	Δ
613.3972.100.3	1.0	17	20	2.5	5.7	2.2	21.7	Δ
613.3972.100.4	1.0	21	25	2.5	5.7	2.2	21.7	Δ
613.3972.100.5	1.0	26	34	2.5	5.7	2.2	21.7	Δ
613.3972.100.6	1.0	35	54	2.5	5.7	2.3	21.7	Δ
613.3972.100.7	1.0	55	134	2.5	5.7	2.3	21.7	Δ
613.3972.100.8	1.0	135	999	2.5	5.7	2.4	21.7	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

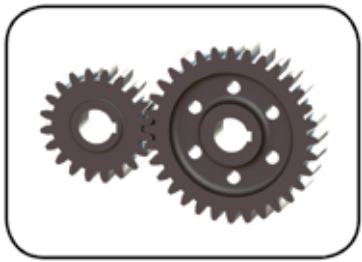
尺寸单位：mm
 Dimensions in mm

P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
 Carbide grades

刀片
Insert

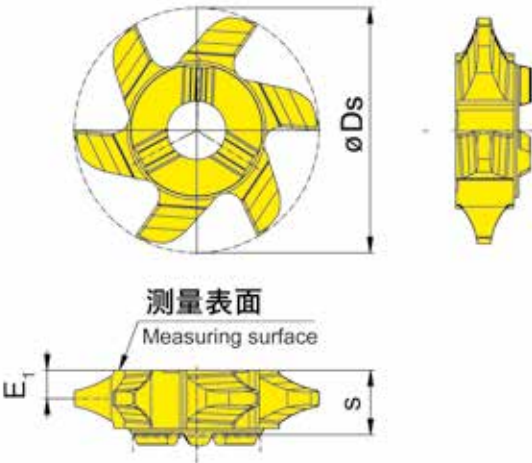
613



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing

用于铣削刀柄
for Milling shank

型号 M313
Type



压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	$z_{\min}$	$z_{\max}$	E_1	s	$t_{\max}$	D_s	AS45
613.3972.125.1	1.25	12	13	2.5	5.7	2.6	21.7	Δ
613.3972.125.2	1.25	14	16	2.5	5.7	2.7	21.7	Δ
613.3972.125.3	1.25	17	20	2.5	5.7	2.7	21.7	Δ
613.3972.125.4	1.25	21	25	2.5	5.7	2.7	21.7	Δ
613.3972.125.5	1.25	26	34	2.5	5.7	2.7	21.7	Δ
613.3972.125.6	1.25	35	54	2.5	5.7	2.7	21.7	Δ
613.3972.125.7	1.25	55	134	2.5	5.7	2.8	21.7	Δ
613.3972.125.8	1.25	135	999	2.5	5.7	2.8	21.7	Δ
613.3972.150.1	1.50	12	13	2.5	5.7	3.1	21.7	Δ
613.3972.150.2	1.50	14	16	2.5	5.7	3.2	21.7	Δ
613.3972.150.3	1.50	17	20	2.5	5.7	3.2	21.7	Δ
613.3972.150.4	1.50	21	25	2.5	5.7	3.3	21.7	Δ
613.3972.150.5	1.50	26	34	2.5	5.7	3.3	21.7	Δ
613.3972.150.6	1.50	35	54	2.5	5.7	3.3	21.7	Δ
613.3972.150.7	1.50	55	134	2.5	5.7	3.3	21.7	Δ
613.3972.150.8	1.50	135	999	2.5	5.7	3.3	21.7	Δ

▲ 库存 / on stock Δ 4周 / 4 weeks × 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

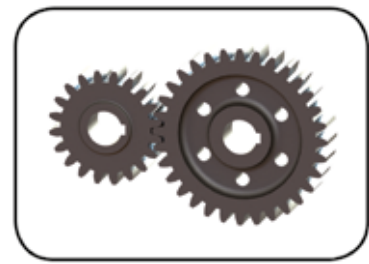
P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades

刀片

Insert

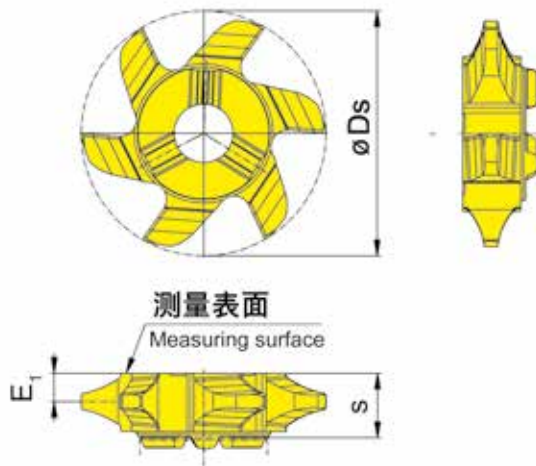
628



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing

用于铣削刀柄
for Milling shank

型号 M328
Type



压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	z_{min}	z_{max}	E_1	s	t_{max}	Ds	AS45
628.3972.175.1	1.75	12	13	3.4	7.45	3.8	27.7	Δ
628.3972.175.2	1.75	14	16	3.4	7.45	3.8	27.7	Δ
628.3972.175.3	1.75	17	20	3.4	7.45	3.8	27.7	Δ
628.3972.175.4	1.75	21	25	3.4	7.45	3.9	27.7	Δ
628.3972.175.5	1.75	26	34	3.4	7.45	3.9	27.7	Δ
628.3972.175.6	1.75	35	54	3.4	7.45	3.9	27.7	Δ
628.3972.175.7	1.75	55	134	3.4	7.45	3.9	27.7	Δ
628.3972.175.8	1.75	135	999	3.4	7.45	3.9	27.7	Δ
628.3972.200.1	2.00	12	13	3.4	7.45	4.2	27.7	Δ
628.3972.200.2	2.00	14	16	3.4	7.45	4.2	27.7	▲
628.3972.200.3	2.00	17	20	3.4	7.45	4.2	27.7	Δ
628.3972.200.4	2.00	21	25	3.4	7.45	4.3	27.7	▲
628.3972.200.5	2.00	26	34	3.4	7.45	4.4	27.7	▲
628.3972.200.6	2.00	35	54	3.4	7.45	4.4	27.7	Δ
628.3972.200.7	2.00	55	134	3.4	7.45	4.4	27.7	▲
628.3972.200.8	2.00	135	999	3.4	7.45	4.5	27.7	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

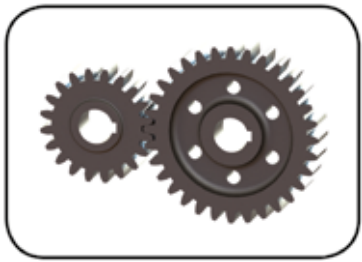
Dimensions in mm

P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades

刀片
Insert

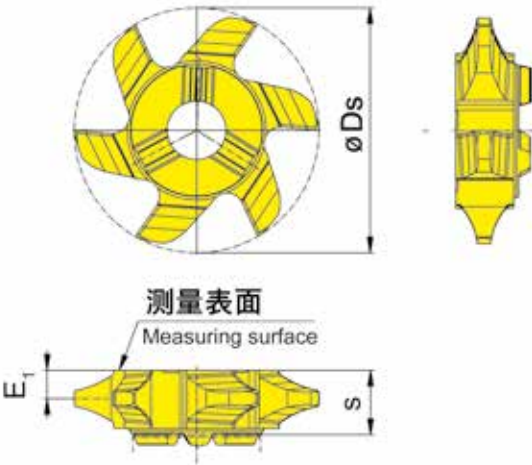
632



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing

用于铣削刀柄
for Milling shank

型号 M332
Type



压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	$z_{\min}$	$z_{\max}$	E_1	s	$t_{\max}$	D_s	AS45
632.3972.225.2	2.25	14	16	3.45	7.5	4.7	31.7	Δ
632.3972.225.3	2.25	17	20	3.45	7.5	4.8	31.7	Δ
632.3972.225.4	2.25	21	25	3.45	7.5	4.9	31.7	Δ
632.3972.225.5	2.25	26	34	3.45	7.5	4.9	31.7	Δ
632.3972.225.6	2.25	35	54	3.45	7.5	5.0	31.7	Δ
632.3972.225.7	2.25	55	134	3.45	7.5	5.0	31.7	Δ
632.3972.225.8	2.25	135	999	3.45	7.5	5.0	31.7	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

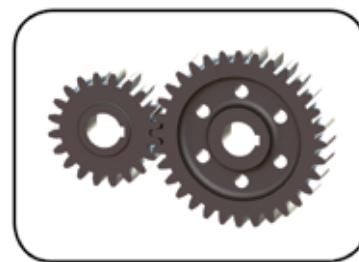
P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades

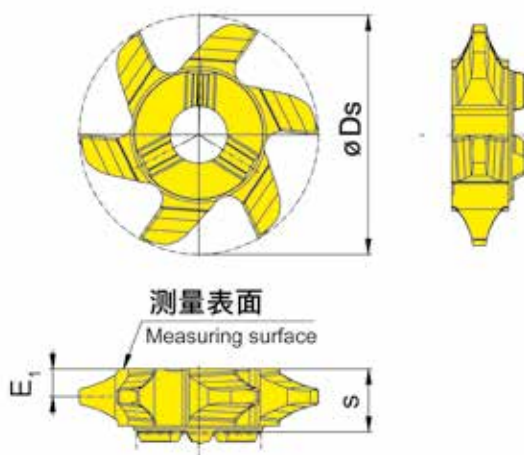
刀片

Insert

635



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing



用于铣削刀柄
for Milling shank

型号 M335
Type

压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	$z_{\min}$	$z_{\max}$	E_1	s	$t_{\max}$	D_s	AS45
635.3972.225.1	2.25	12	13	5.5	11.9	4.7	34.7	Δ
635.3972.250.1	2.50	12	13	5.5	11.9	5.4	34.7	Δ
635.3972.250.2	2.50	14	16	5.5	11.9	5.4	34.7	Δ
635.3972.250.3	2.50	17	20	5.5	11.9	5.4	34.7	Δ
635.3972.250.4	2.50	21	25	5.5	11.9	5.5	34.7	Δ
635.3972.250.5	2.50	26	34	5.5	11.9	5.5	34.7	Δ
635.3972.250.6	2.50	35	54	5.5	11.9	5.5	34.7	Δ
635.3972.250.7	2.50	55	134	5.5	11.9	5.7	34.7	Δ
635.3972.250.8	2.50	135	999	5.5	11.9	5.7	34.7	Δ
635.3972.275.1	2.75	12	13	5.5	11.9	5.7	34.7	Δ
635.3972.275.2	2.75	14	16	5.5	11.9	5.8	34.7	Δ
635.3972.275.3	2.75	17	20	5.5	11.9	5.8	34.7	Δ
635.3972.275.4	2.75	21	25	5.5	11.9	5.9	34.7	Δ
635.3972.275.5	2.75	26	34	5.5	11.9	5.9	34.7	Δ
635.3972.275.6	2.75	35	54	5.5	11.9	6.0	34.7	Δ
635.3972.275.7	2.75	55	134	5.5	11.9	6.1	34.7	Δ
635.3972.275.8	2.75	135	999	5.5	11.9	6.1	34.7	Δ
635.3972.300.1	3.00	12	13	5.5	11.9	6.2	34.7	Δ
635.3972.300.2	3.00	14	16	5.5	11.9	6.4	34.7	Δ
635.3972.300.3	3.00	17	20	5.5	11.9	6.4	34.7	Δ
635.3972.300.4	3.00	21	25	5.5	11.9	6.4	34.7	Δ
635.3972.300.5	3.00	26	34	5.5	11.9	6.5	34.7	Δ
635.3972.300.6	3.00	35	54	5.5	11.9	6.5	34.7	Δ
635.3972.300.7	3.00	55	134	5.5	11.9	6.6	34.7	Δ
635.3972.300.8	3.00	135	999	5.5	11.9	6.6	34.7	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

H10

P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades



芯轴安装铣刀
Arbor Mounted Cutter
M279



页/Page
H14

刀片
Insert
RS279



页/Page
H15-H16

M279



芯轴安装铣刀
安装可转位刀片

模数 3,25 - 4,0

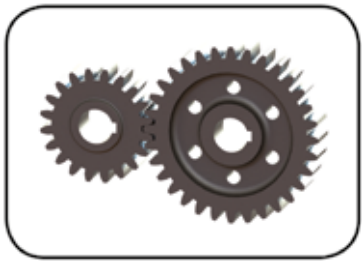
Arbor Mounted Cutter
with Inserts

for Module 3,25 - 4,0

H

芯轴安装铣刀
Arbor Mounted Cutter

M279
直接冷却液供应
with through coolant supply

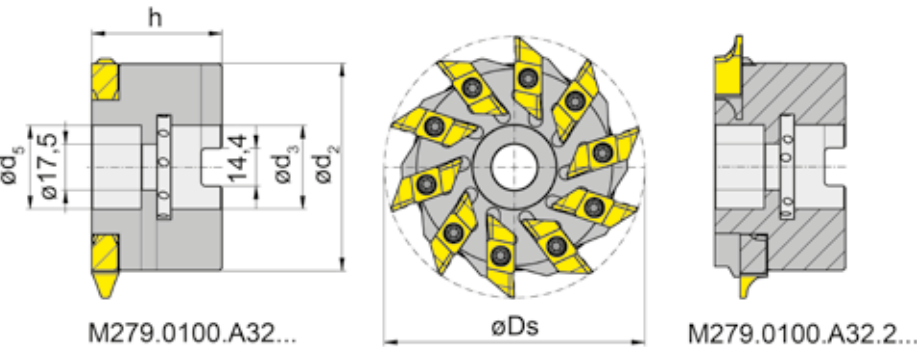


切削刃Ø	Cutting edge Ø	100 mm

中心孔和键槽均依据DIN138标准
Cutterhole and cross keyway as per DIN 138

配合刀片
for Insert

型号 RS279
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	h	d ₅	d ₂	d ₃
M279.0100.A32.10.10.IK	10	100	50	17.5	79	32
M279.0100.A32.2.10.05.IK	10	100	50	17.5	79	32

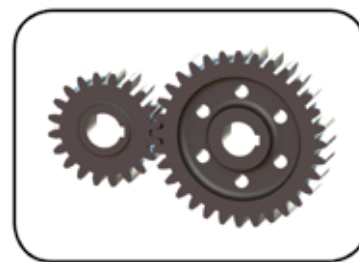
尺寸单位：mm
Dimensions in mm
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

芯轴安装铣刀 Arbor Mounted Cutter	扳手 Allen Wrench	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M279...	SW14,0 DIN 911	030.0516.T20P	T20PQ

刀片 Insert

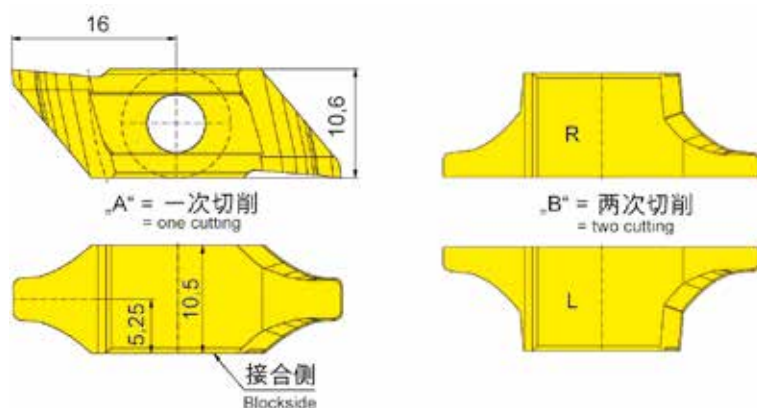
RS279



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，
符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involute flanks according to DIN 867
Basic profile 1 according to DIN 3972 for finishing

用于心轴安装刀盘
for Arbor mounted cutter

型号 M279
Type



压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	z_{min}	z_{max}	E_1	s	t_{max}	Z	形式 Form	AS45
RS279.3972.325.1	3.25	12	13	5.25	10.5	6.70	2	A	Δ
RS279.3972.325.2	3.25	14	16	5.25	10.5	6.80	2	A	Δ
RS279.3972.325.3	3.25	17	20	5.25	10.5	7.00	2	A	Δ
RS279.3972.325.4	3.25	21	25	5.25	10.5	7.00	2	A	Δ
RS279.3972.325.5	3.25	26	24	5.25	10.5	7.10	2	A	Δ
RS279.3972.325.6	3.25	35	54	5.25	10.5	7.20	2	A	Δ
RS279.3972.325.7	3.25	55	134	5.25	10.5	7.20	2	A	Δ
RS279.3972.325.8	3.25	135	999	5.25	10.5	7.20	2	A	Δ
RS279.3972.350.1L	3.50	12	13	5.25	10.5	7.35	2	B	Δ
RS279.3972.350.1R	3.50	12	13	5.25	10.5	7.35	2	B	Δ
RS279.3972.350.2L	3.50	14	16	5.25	10.5	7.45	2	B	Δ
RS279.3972.350.2R	3.50	14	16	5.25	10.5	7.45	2	B	Δ
RS279.3972.350.3	3.50	17	20	5.25	10.5	7.40	2	A	Δ
RS279.3972.350.4	3.50	21	25	5.25	10.5	7.50	2	A	Δ
RS279.3972.350.5	3.50	26	34	5.25	10.5	7.65	2	A	Δ
RS279.3972.350.6	3.50	35	54	5.25	10.5	7.70	2	A	Δ
RS279.3972.350.7	3.50	55	134	5.25	10.5	7.80	2	A	Δ
RS279.3972.350.8	3.50	135	999	5.25	10.5	7.80	2	A	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

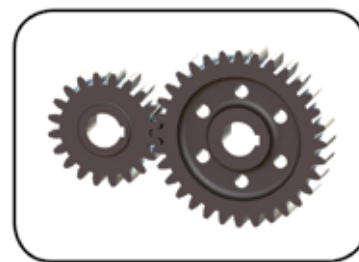
P	●
M	●
K	●
N	○
S	●
H	-

硬质合金牌号
Carbide grades

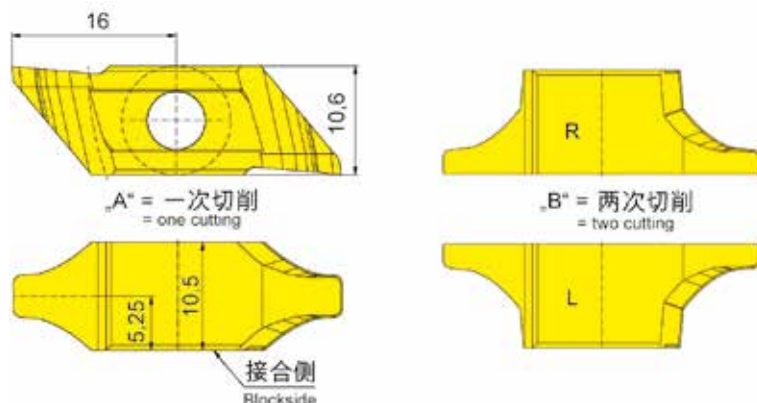
H

刀片 Insert

RS279



用于带渐开线齿面的圆柱齿轮的齿轮铣刀，符合 DIN 867 基本外形 1，符合 DIN 3972，用于精加工
Gear milling cutter for cylindrical gears with involuted flanks according to DIN 867 Basic profile 1 according to DIN 3972 for finishing



用于心轴安装刀盘
for Arbor mounted cutter

型号 M279
Type

压力角 20°
Pressure angle 20°

产品型号 Part number	模数 Module	z_{min}	z_{max}	E_1	s	t_{max}	Z	形式 Form	AS45
RS279.3972.375.1L	3.75	12	13	5.25	10.5	7.80	2	B	Δ
RS279.3972.375.1R	3.75	12	13	5.25	10.5	7.80	2	B	Δ
RS279.3972.375.2L	3.75	14	16	5.25	10.5	7.85	2	B	Δ
RS279.3972.375.2R	3.75	14	16	5.25	10.5	7.85	2	B	Δ
RS279.3972.375.3L	3.75	17	20	5.25	10.5	8.00	2	B	Δ
RS279.3972.375.3R	3.75	17	20	5.25	10.5	8.00	2	B	Δ
RS279.3972.375.4L	3.75	21	25	5.25	10.5	8.10	2	B	Δ
RS279.3972.375.4R	3.75	21	25	5.25	10.5	8.10	2	B	Δ
RS279.3972.375.5	3.75	26	34	5.25	10.5	8.10	2	A	Δ
RS279.3972.375.6	3.75	35	54	5.25	10.5	8.20	2	A	Δ
RS279.3972.375.7	3.75	55	134	5.25	10.5	8.30	2	A	Δ
RS279.3972.375.8	3.75	135	999	5.25	10.5	8.35	2	A	Δ
RS279.3972.400.1L	4.00	12	13	5.25	10.5	8.30	2	B	Δ
RS279.3972.400.1R	4.00	2	13	5.25	10.5	8.30	2	B	Δ
RS279.3972.400.2L	4.00	14	16	5.25	10.5	8.40	2	B	Δ
RS279.3972.400.2R	4.00	14	16	5.25	10.5	8.40	2	B	Δ
RS279.3972.400.3L	4.00	17	20	5.25	10.5	8.55	2	B	Δ
RS279.3972.400.3R	4.00	17	20	5.25	10.5	8.55	2	B	Δ
RS279.3972.400.4L	4.00	21	25	5.25	10.5	8.65	2	B	Δ
RS279.3972.400.4R	4.00	21	25	5.25	10.5	8.65	2	B	Δ
RS279.3972.400.5L	4.00	26	34	5.25	10.5	8.75	2	B	Δ
RS279.3972.400.5R	4.00	26	34	5.25	10.5	8.75	2	B	Δ
RS279.3972.400.6L	4.00	35	54	5.25	10.5	8.80	2	B	Δ
RS279.3972.400.6R	4.00	35	54	5.25	10.5	8.80	2	B	Δ
RS279.3972.400.7	4.00	55	134	5.25	10.5	8.80	2	A	Δ
RS279.3972.400.8	4.00	135	999	5.25	10.5	8.90	2	A	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

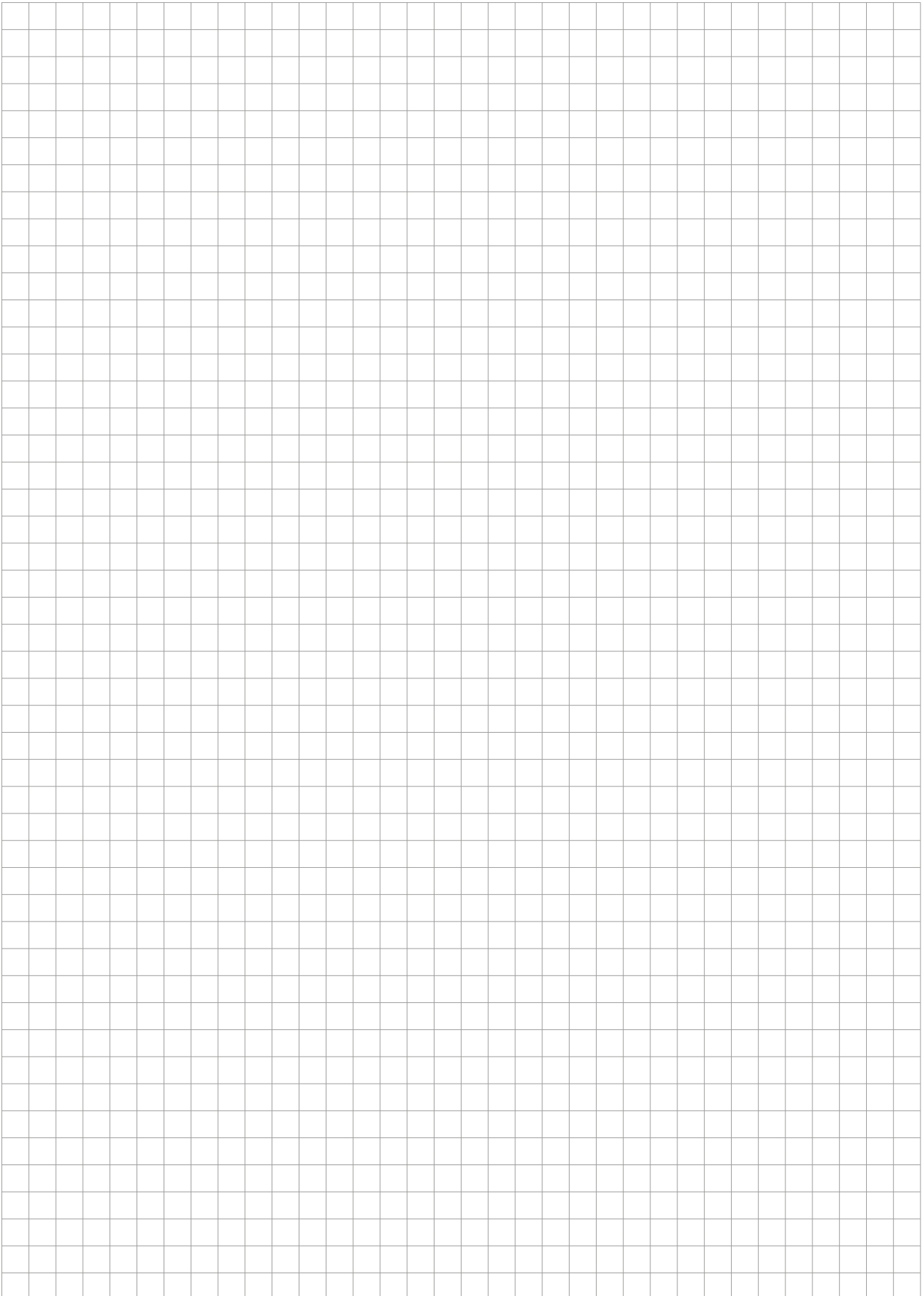
尺寸单位 : mm

Dimensions in mm

H16

P	•
M	•
K	•
N	○
S	•
H	-

硬质合金牌号
Carbide grades



立铣刀
End Mill
DSDS

页/Page
H20



DS



立铣刀DSDS

切削刃Ø 6 - 16 mm

End Mill DSDS

Cutting edge Ø 6 - 16 mm

H

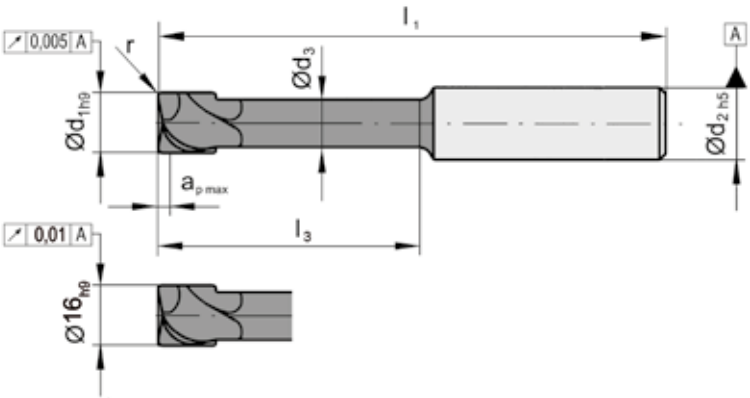
立铣刀 双半径
End Mill double radius



推荐加工III类材料 - 软铣
Recommended material group III - soft milling

DSDS

4刃
4-fluted



产品型号 Part number	d ₁	r _{theo}	l ₃	d ₃	d ₂	l ₁	Z	a _p	TS3K	
DSDS.4.06.63.06.08	6	0.8	15	5.4	6	63	4	0.4	Δ	•
DSDS.4.06.77.06.08	6	0.8	15	5.4	6	77	4	0.4	Δ	-
DSDS.4.08.63.08.10	8	1.4	20	7.2	8	63	4	0.5	Δ	-
DSDS.4.08.77.08.10	8	1.4	20	7.2	8	77	4	0.5	Δ	-
DSDS.4.10.77.10.15	10	2.0	25	9.0	10	77	4	0.7	Δ	-
DSDS.4.10.99.10.15	10	2.0	25	9.0	10	99	4	0.7	Δ	•
DSDS.4.12.77.12.15	12	2.1	30	10.8	12	77	4	0.8	Δ	-
DSDS.4.12.99.12.15	12	2.1	30	10.8	12	99	4	0.8	Δ	-
DSDS.4.16.77.16.20	16	2.8	40	14.4	16	77	4	1.0	Δ	-
DSDS.4.16.99.16.20	16	2.8	40	14.4	16	99	4	1.0	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

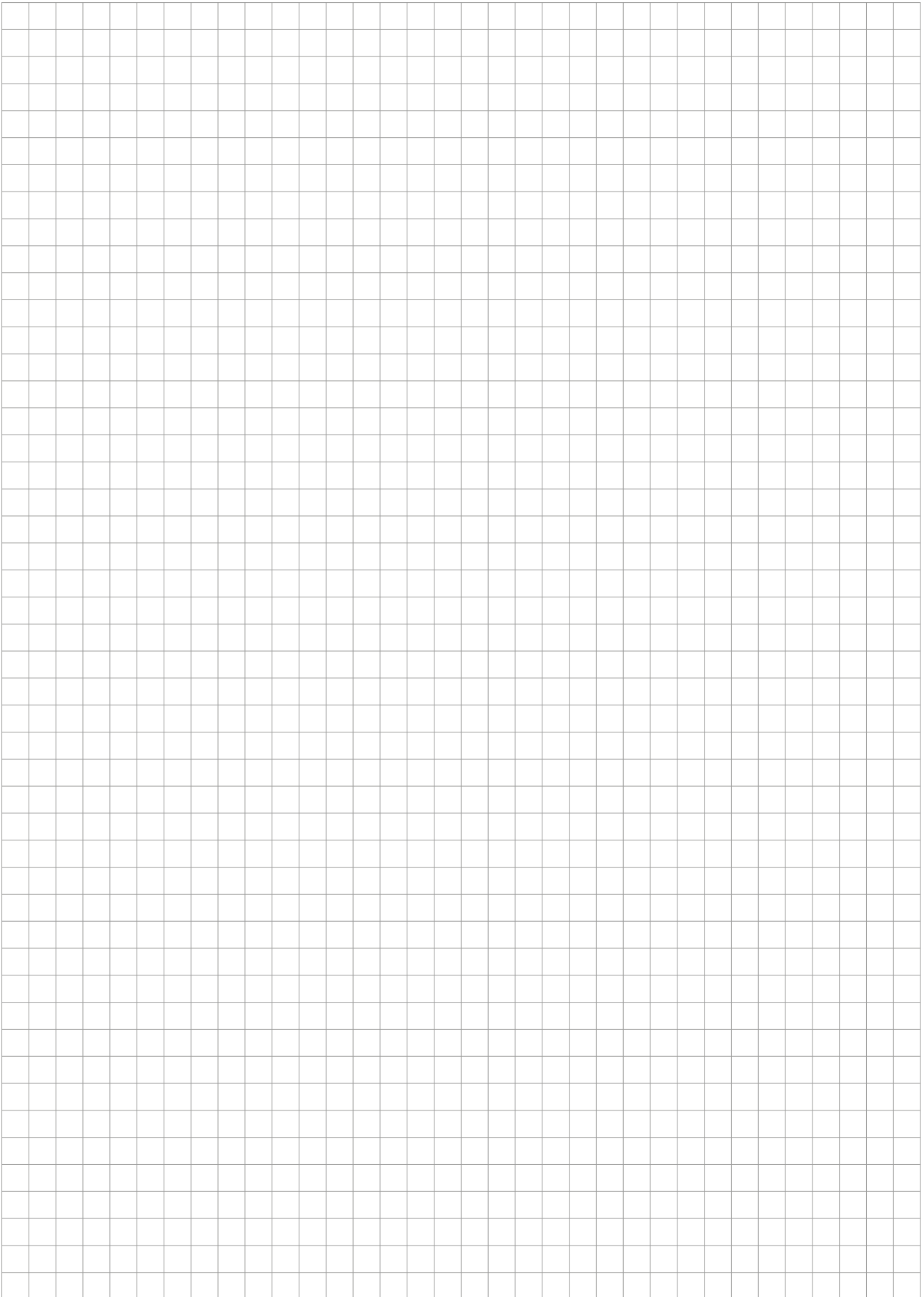
■ 涂层 / coated grades

■ 钎焊/金属陶瓷 / brazed/Cermet

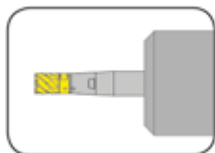
P	•
M	-
K	-
N	-
S	-
H	•

尺寸单位 : mm
Dimensions in mm
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

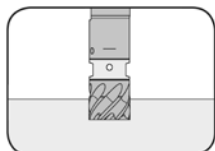


铣刀杆
Milling shank
MDG

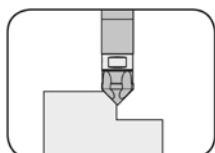


页/Page
H24-H27

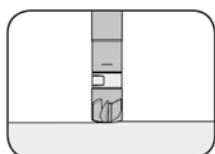
刀片
Cutter Head
DGF/DGR/DGFF/
DGH/DGK/DGM/
DGRR/DGV



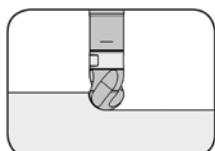
页/Page
H28, H33



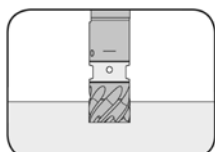
页/Page
H29



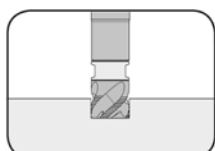
页/Page
H30



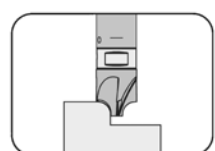
页/Page
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页/Page
H32



页/Page
H34



页/Page
H35

DG



铣削系统 DG

- 中心加工和槽铣削
- 倒角和定心加工
- 仿形铣削
- 大进给铣削

Milling system DG

- Centre cutting and groove milling
- Chamfering and centering
- Copy milling
- High feed milling

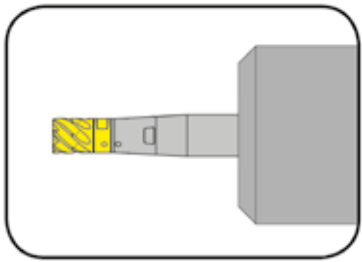
H

铣刀杆
Milling shank

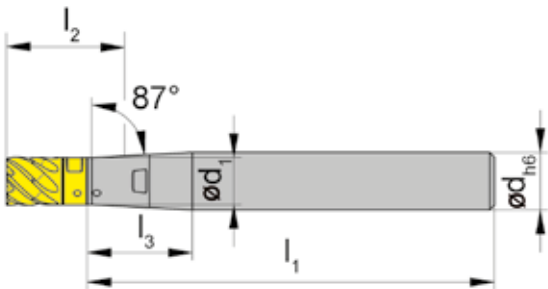
MDG
直接冷却液供应
with through coolant supply

87°刀杆，热缩夹持
Shank 87° - shrink fit

刀杆材质：硬质合金
Material of shank: Carbide



刀片
Cutter Head



型号	DGK
Type	DGM
	DGF
	DGR
	DGRR
	DGFF
	DGH
	DGV
	DGVZ

产品型号 Part number	d	l ₁	l ₂	d ₁	l ₃
MDG.10.0012.87.01.A	12	85	19.7	9.8	22
MDG.12.0016.87.01.A	16	100	23.1	11.7	42
MDG.16.0020.87.01.A	20	100	29.6	15.6	43

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

对于刀MDG10...请注意螺纹未分段。
For toolholders MDG10... Please note the threads are **NOT** segmented.

配件
扳手和附加设备不包含在铣削刀杆中，需另行订购！更多细节和扭矩规格详见技术参考页H37。

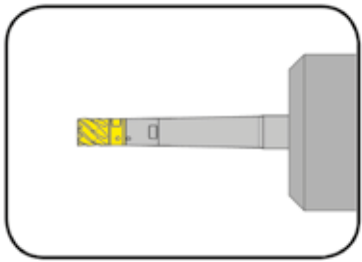
Spare Parts
Wrenches and additional equipment are not combined with the milling shank. Separate order required! For more details and torque specifications please see the technical data on page H37.
HORN可以返修损坏的铣刀杆基座座。
Milling cutter shanks with damaged seating can be repaired by HORN.

铣刀杆
Milling shank

MDG
直接冷却液供应
with through coolant supply

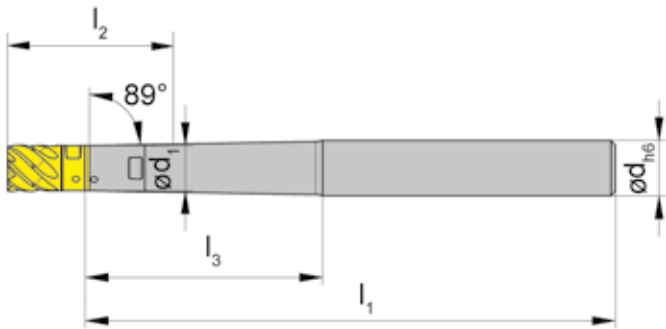
89°刀柄, 热缩夹持
Shank 89° - shrink fit

刀杆材质：硬质合金
Material of shank: Carbide



刀片
Cutter Head

- 型号
Type
- DGK
 - DGM
 - DGF
 - DGR
 - DGRR
 - DGFF
 - DGH
 - DGV
 - DGVZ



产品型号 Part number	d	l ₁	l ₂	d ₁	l ₃
MDG.10.0012.89.01.A	12	115	23.5	9.8	50
MDG.12.0016.89.01.A	16	140	28.8	11.7	75
MDG.16.0020.89.01.A	20	160	37.2	15.6	75

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

对于刀MDG10...请注意螺纹未分段。
For toolholders MDG10... Please note the threads are **NOT** segmented.

配件
扳手和附加设备不包含在铣削刀杆中，需另行订购！ 更多细节和扭矩规格详见技术参考页H37。

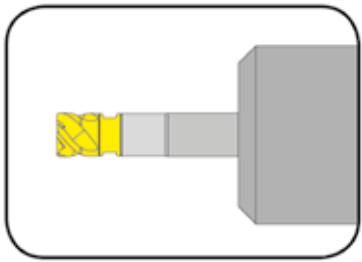
Spare Parts
Wrenches and additional equipment are not combined with the milling shank. Separate order required! For more details and torque specifications please see the technical data on page H37.
HORN可以返修损坏的铣刀杆基座座。
Milling cutter shanks with damaged seating can be repaired by HORN.

铣刀杆
Milling shank

MDG
直接冷却液供应
with through coolant supply

90°刀杆，热缩夹持
Shank 90° - shrink fit

刀杆材质：硬质合金
Material of shank: Carbide



刀片
Cutter Head



型号
Type

DGK
DGM
DGF
DGR
DGRR
DGFF
DGH
DGV
DGVZ

产品型号 Part number	d	l ₁	l ₂	d ₁	系列 System
MDG.10.0010.90.00.A	10	72.8	30.0	9.8	DG10
MDG.10.0010.90.01.A	10	101.8	56.8	9.8	DG10
MDG.12.0012.90.00.A	12	83.3	36.0	11.7	DG12
MDG.12.0012.90.01.A	12	114.3	59.3	11.7	DG12
MDG.16.0016.90.00.A	16	98.8	48.0	15.6	DG16
MDG.16.0016.90.01.A	16	129.8	64.8	15.6	DG16
MDG.20.0020.90.00.A	20	112.3	60.0	19.5	DG20
MDG.20.0020.90.01.A	20	150.3	70.3	19.5	DG20

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

对于刀MDG10...请注意螺纹未分段。
For toolholders MDG10... Please note the threads are **NOT** segmented.

配件
扳手和附加设备不包含在铣削刀杆中，需另行订购！ 更多细节和扭矩规格详见技术参考页H37。

Spare Parts
Wrenches and additional equipment are not combined with the milling shank. Separate order required! For more details and torque specifications please see the technical data on page H37.
HORN可以返修损坏的铣刀杆基座。
Milling cutter shanks with damaged seating can be repaired by HORN.

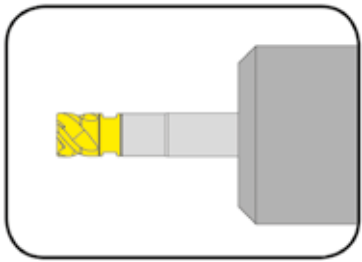
铣刀杆
Milling shank

MDG

无内冷
no coolant supply

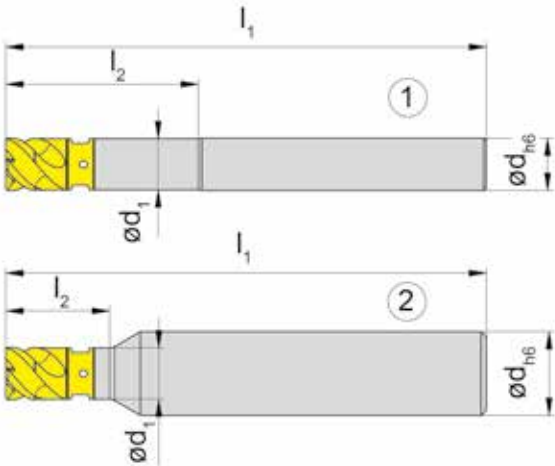
90°刀杆，不推荐热缩夹持
Shank 90° - not recommended for shrinking

刀杆材料：钢
Material of shank: Steel



刀片
Cutter Head

型号	DGK
Type	DGM
	DGF
	DGR
	DGRR
	DGFF
	DGH
	DGV
	DGVZ



产品型号 Part number	d	l_1	l_2	d_1	形式 Form
MDG.10.ST10.90.01.A	10	91.8	36.8	9.8	1
MDG.10.ST16.90.01.A	16	91.8	19.8	9.8	2
MDG.12.ST12.90.01.A	12	109.3	44.3	11.7	1
MDG.12.ST16.90.01.A	16	99.3	22.3	11.7	2
MDG.16.ST16.90.01.A	16	134.8	49.8	15.6	1
MDG.16.ST20.90.01.A	20	104.8	27.8	15.6	2
MDG.20.ST20.90.01.A	20	150.3	60.3	19.5	1
MDG.20.ST25.90.01.A	25	110.3	33.3	19.5	2

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

对于刀MDG10...请注意螺纹未分段。
For toolholders MDG10... Please note the threads are **NOT** segmented.

配件
扳手和附加设备不包含在铣削刀杆中，需另行订购！ 更多细节和扭矩规格详见技术参考页H37。

Spare Parts
Wrenches and additional equipment are not combined with the milling shank. Separate order required! For more details and torque specifications please see the technical data on page H37.

HORN可以返修损坏的铣刀杆基座。
Milling cutter shanks with damaged seating can be repaired by HORN.

角铣削和槽铣削

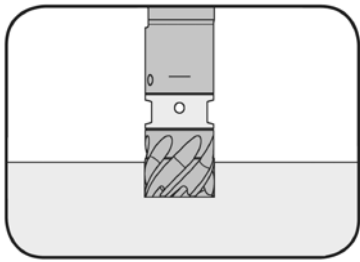
Corner and Groove Milling



刀片 Cutter Head

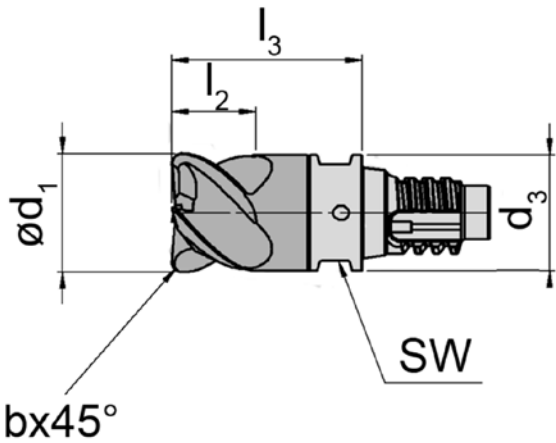
DGF

带刀尖倒角的刀片
Cutter head with corner chamfer



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃过中心
face cutting edge cutting
across centre

产品型号 Part number	系列 系列	SW	Z	d ₁	d ₃	l ₃	l ₂	b	AN2P
DGF.3.10.1000.02.00	DG10	8	3	10	9.8	16.8	5.5	0.20	▲
DGF.3.12.1200.02.00	DG12	10	3	12	11.7	19.3	6.5	0.20	▲
DGF.4.16.1600.02.00	DG16	13	4	16	15.6	24.8	8.5	0.20	▲
DGF.4.20.2000.03.00	DG20	17	4	20	19.5	30.3	12.0	0.25	▲

▲ 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	○

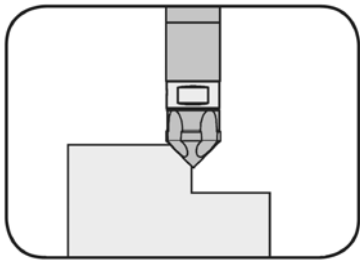
硬质合金牌号
Carbide grades

倒角
Chamfering



刀片
Cutter Head

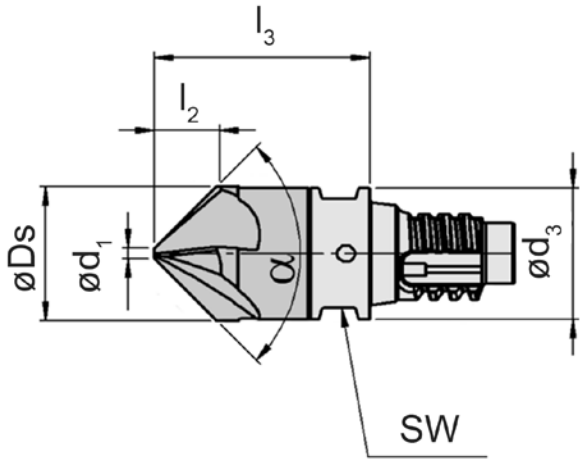
DGFF



倒角角度	Angle of chamfer	45 °

用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

不能用于面铣
not face cutting

产品型号 Part number	系列 System	SW	Z	Ds	d ₃	l ₃	l ₂	d ₁		AN2P
DGFF.3.10.45.00	DG10	8	3	10	9.8	16.8	4.0	2		▲
DGFF.3.12.45.00	DG12	10	3	12	11.7	19.3	5.0	2		▲
DGFF.3.16.45.00	DG16	13	3	16	15.6	24.8	7.0	2		▲
DGFF.4.10.45.00	DG10	8	4	10	9.8	16.8	4.5	1		▲
DGFF.4.12.45.00	DG12	10	4	12	11.7	19.3	5.5	1		▲
DGFF.6.16.45.00	DG16	13	6	16	15.6	24.8	7.5	1		▲
										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

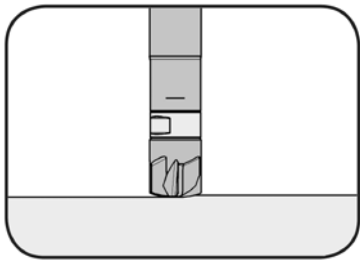
硬质合金牌号
Carbide grades

H

刀片
Cutter Head

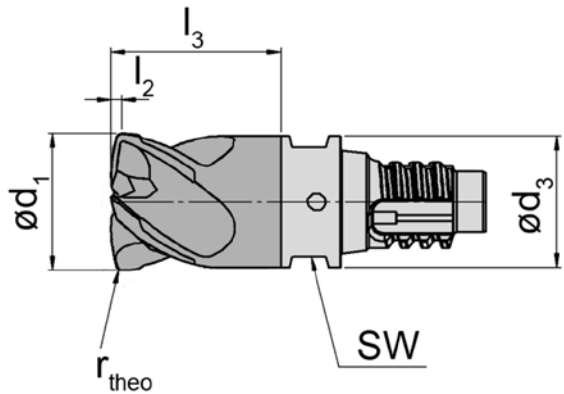
DGH

带刀尖圆角的刀片
Cutter head with corner radius



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃不过中心
face cutting edge not cutting
across centre

产品型号 Part number	系列 System	SW	Z	d ₁	d ₃	l ₃	l ₂	r _{theo}	AN2P
DGH.4.10.1000.00	DG10	8	4	10	9.8	16.8	0.7	1.07	▲
DGH.4.12.1200.00	DG12	10	4	12	11.7	19.3	0.8	1.18	▲
DGH.4.16.1600.00	DG16	13	4	16	15.6	24.8	1.0	1.38	▲
DGH.4.20.2000.00	DG20	17	4	20	19.5	30.3	1.2	1.96	▲

▲ 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	○

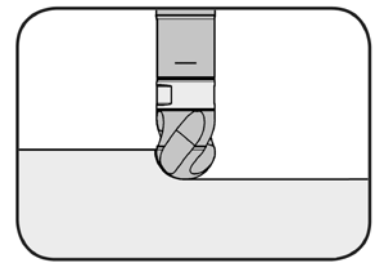
硬质合金牌号
Carbide grades

刀片

Cutter Head

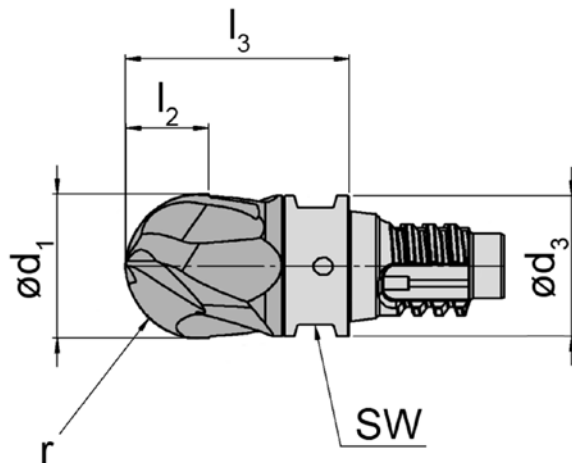
DGK

180°球头铣刀头
Ballnose milling head 180°



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃过中心
face cutting edge cutting
across centre

产品型号 Part number	系列 System	SW	Z	d ₁	d ₃	r	l ₃	l ₂	AN2P
DGK.2.10.1000.00	DG10	8	2	10	9.8	5	16.8	5.5	▲
DGK.2.12.1200.00	DG12	10	2	12	11.7	6	19.3	6.5	▲
DGK.2.16.1600.00	DG16	13	2	16	15.6	8	24.8	8.5	▲
DGK.2.20.2000.00	DG20	17	2	20	19.5	10	30.3	12.0	▲
DGK.4.10.1000.00	DG10	8	4	10	9.8	5	16.8	5.5	▲
DGK.4.12.1200.00	DG12	10	4	12	11.7	6	19.3	6.5	▲
DGK.4.16.1600.00	DG16	13	4	16	15.6	8	24.8	8.5	▲
DGK.4.20.2000.00	DG20	17	4	20	19.5	10	30.3	12.0	▲

▲ 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

H

角铣削和槽铣削

Corner and Groove Milling

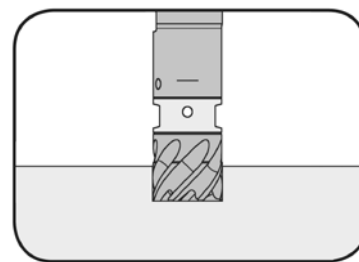


刀片

Cutter Head

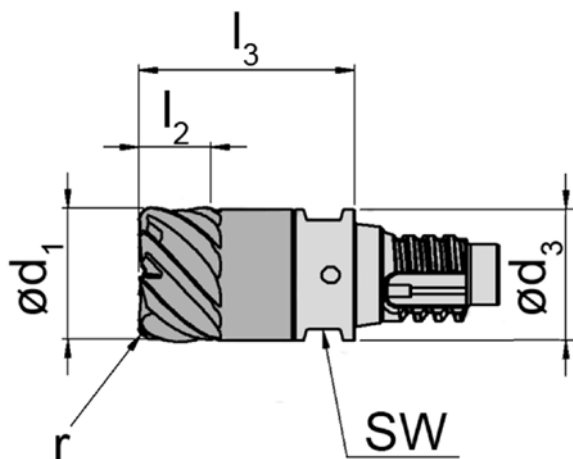
DGM

多刃
multiple fluted



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃不过中心
face cutting edge not cutting
across centre

产品型号 Part number	系列 System	SW	Z	d ₁	d ₃	r	l ₃	l ₂	AN2P
DGM.7.10.1000.02.0	DG10	8	7	10	9.8	0.2	16.8	5.5	▲
DGM.7.10.1000.10.0	DG10	8	7	10	9.8	1.0	16.8	5.5	▲
DGM.7.12.1200.02.0	DG12	10	7	12	11.7	0.2	19.3	6.5	▲
DGM.7.12.1200.10.0	DG12	10	7	12	11.7	1.0	19.3	6.5	▲
DGM.9.16.1600.02.0	DG16	13	9	16	15.6	0.2	24.8	9.0	▲
DGM.9.16.1600.10.0	DG16	13	9	16	15.6	1.0	24.8	9.0	▲
DGM.9.20.2000.02.0	DG20	17	9	20	19.5	0.2	30.3	11.0	▲
DGM.9.20.2000.10.0	DG20	17	9	20	19.5	1.0	30.3	11.0	▲

▲ 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

角铣削和槽铣削

Corner and Groove Milling

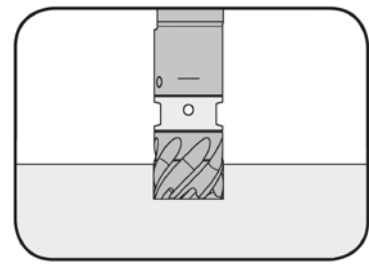


刀片

Cutter Head

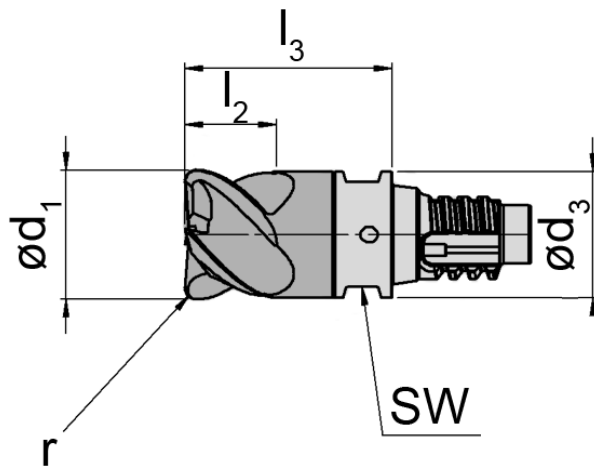
DGR

带刀尖圆角的刀片
Cutter head with corner radius



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃过中心
face cutting edge cutting across centre

产品型号 Part number	系列 系列	SW	Z	d ₁	d ₃	r	l ₃	l ₂	AN2P
DGR.3.10.1000.05.00	DG10	8	3	10	9.8	0.5	16.8	5.5	▲
DGR.3.10.1000.10.00	DG10	8	3	10	9.8	1.0	16.8	5.5	▲
DGR.3.12.1200.05.00	DG12	10	3	12	11.7	0.5	19.3	6.5	▲
DGR.4.10.1000.05.00	DG10	8	4	10	9.8	0.5	16.8	5.5	▲
DGR.4.10.1000.10.00	DG10	8	4	10	9.8	1.0	16.8	5.5	▲
DGR.4.12.1200.05.00	DG12	10	4	12	11.7	0.5	19.3	6.5	▲
DGR.4.12.1200.10.00	DG12	10	4	12	11.7	1.0	19.3	6.5	▲
DGR.5.16.1600.05.00	DG16	13	5	16	15.6	0.5	24.8	8.5	▲
DGR.5.16.1600.10.00	DG16	13	5	16	15.6	1.0	24.8	8.5	▲
DGR.5.16.1600.15.00	DG16	13	5	16	15.6	1.5	24.8	8.5	▲
DGR.5.16.1600.20.00	DG16	13	5	16	15.6	2.0	24.8	8.5	▲
DGR.5.20.2000.05.00	DG20	17	5	20	19.5	0.5	30.3	12.0	▲
DGR.5.20.2000.10.00	DG20	17	5	20	19.5	1.0	30.3	12.0	▲
DGR.5.20.2000.15.00	DG20	17	5	20	19.5	1.5	30.3	12.0	▲
DGR.5.20.2000.20.00	DG20	17	5	20	19.5	2.0	30.3	12.0	▲

▲ 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

H

粗加工立铣刀

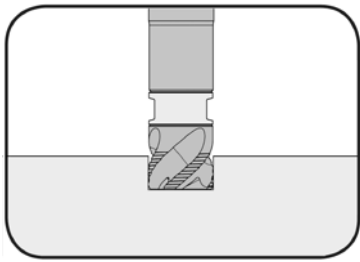
Roughing End Milling



刀片

Cutter Head

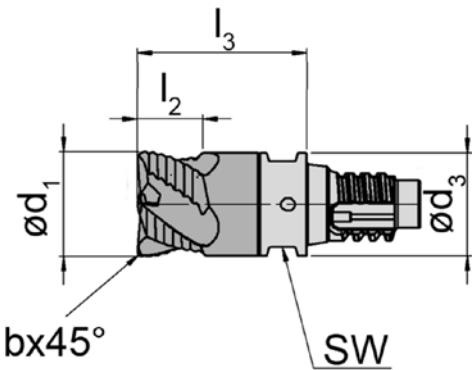
DGRR



带刀尖倒角的刀片
Cutter head with corner chamfer

用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

端面加工切削刃过中心
face cutting edge cutting
across centre

产品型号 Part number	系列 System	SW	Z	d ₁	d ₃	l ₃	l ₂	b	AN2P
DGRR.3.10.1000.00	DG10	8	3	10	9.8	16.8	5.5	0.3	▲
DGRR.3.12.1200.00	DG12	10	3	12	11.7	19.3	6.5	0.5	▲
DGRR.4.10.1000.00	DG10	8	4	10	9.8	16.8	5.5	0.3	▲
DGRR.4.12.1200.00	DG12	10	4	12	11.7	19.3	6.5	0.5	▲
DGRR.5.16.1600.00	DG16	13	5	16	15.6	24.8	8.5	0.5	▲
DGRR.5.20.2000.00	DG20	17	5	20	19.5	30.3	12.0	0.5	▲
									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

硬质合金牌号
Carbide grades

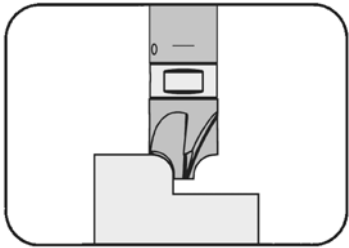
圆角
Corner Rounding



刀片
Cutter Head

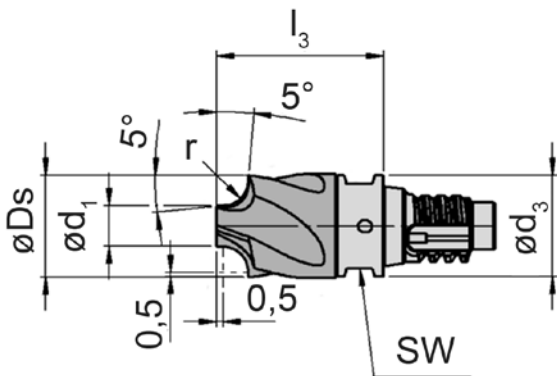
DGV

内凹圆角	Radius concave	0.2-3 mm



用于铣削刀柄
for Milling shank

型号 MDG
Type



图示=右手型
Picture = right hand cutting version

不能用于面铣
not face cutting

产品型号 Part number	系列 System	SW	Z	Ds	d ₃	r	l ₃	d ₁	AN2P
DGV.4.10.R020.00	DG10	8	4	10	9.8	0.20	16.8	8.6	▲
DGV.4.10.R050.00	DG10	8	4	10	9.8	0.50	16.8	8.0	▲
DGV.4.10.R100.00	DG10	8	4	10	9.8	1.00	16.8	7.0	▲
DGV.4.10.R125.00	DG10	8	4	10	9.8	1.25	16.8	6.5	▲
DGV.4.10.R150.00	DG10	8	4	10	9.8	1.50	16.8	6.0	▲
DGV.4.10.R200.00	DG10	8	4	10	9.8	2.00	16.8	5.0	▲
DGV.4.10.R250.00	DG10	8	4	10	9.8	2.50	16.8	4.0	▲
DGV.4.10.R300.00	DG10	8	4	10	9.8	3.00	16.8	3.0	▲

▲ 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

硬质合金牌号
Carbide grades

P	●
M	●
K	○
N	○
S	○
H	○



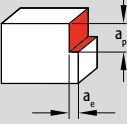
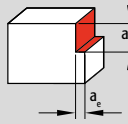
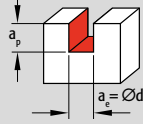
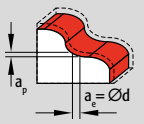
切削参数

Cutting Data



推荐切削速度

recommended cutting speeds

材料 Material			硬度 Hardness Brinell (HB)	肩铣削 Shoulder milling $a_p < 0.5 \times D_s$ $a_e < 0.3 \times D_s$ 	肩铣削 Shoulder milling $a_p < 0.5 \times D_s$ $a_e < 1.0 \times D_s$ 	槽铣削 Groove milling $a_p < 0.5 \times D_s$ 	仿形铣 Copy milling $a_p < 0.02 \times D_s$ 
				v_c (m/min)	v_c (m/min)	v_c (m/min)	v_c (m/min)
P	碳钢 Carbon steel	0.2% C	140	250	180	160	350
		0.4% C	180	220	160	140	320
		0.6% C	200	200	140	130	300
	合金钢 Alloyed steel	退火 annealed	180	200	150	130	280
		淬火 quenched	280				
	高合金钢 high alloyed steel (>5%)	退火 annealed	200	140	100	90	180
		硬化 hardened	-				
	铸钢 Cast steel	非合金 unalloyed	180	170	130	120	280
		合金 alloyed	220				
M	不锈钢 Stainless steel	马氏体, 铁素体 martensitic, ferritic	200	150	90	80	180
		奥氏体 austenitic	180				
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	230	190	170	280
		高拉伸强度 high tensile strength	250				
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160	220	160	140	300
		珠光体 perlitic	250				
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125	220	160	140	320
		珠光体 perlitic	225				
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	可达 max. up to max.	可达 max. up to max.	可达 max. up to max.	可达 max. up to max.
		热处理 heat treatable	80-120				
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	600	200	180	600
		热处理 heat treatable	100				
	铜合金 Copper-alloys	非热处理 not heat treatable	90	600	200	180	600
		热处理 heat treatable	100				
S	耐热合金 Heat resistant alloy (Fe)	退火 annealed	200	80	60	50	80
		硬化 hardened	275				
	耐热合金 Heat resistant alloy (Ni. Co)	退火 annealed	250	45	35	30	60
		硬化 hardened	350	25	25		

扭矩设定
Torque for setting

系列 System	扭矩设定 (Nm) Torque for setting (Nm)	扳手规格 Wrench size SW	扳手 Combination wrench	扭矩扳手 Torque wrench		
				应用 Application	有效范围 Effective range	用于小型系列 for small series
DG10	10	8	S.DG1012	D.DG1001	D0525VK 5 - 25 Nm	D1050VK 10 - 50 Nm
DG12	14	10		D.DG1201		
DG16	25	13	S.DG1620	D.DG1601	D20100VK 20 - 100 Nm	
DG20	35	17		D.DG2001		

安装说明

- 1.擦净铣刀杆和刀片接触面及密封面上的所有灰尘。
- 2.使用夹具夹紧铣刀柄
- 3.涂少量润滑油在刀片的螺纹，锥面和密封面上。
- 4.将刀片插到刀杆上，根据标记手动压紧刀片。**注意: 小心划伤!**
- 5.使用扭矩扳手将刀片拧紧到刀杆上，使用推荐扭矩

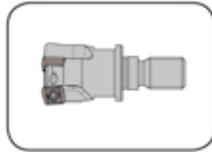
备注:
使用润滑剂可以减少刀片与刀体的摩擦。为了保证轴向与径向定位准确，定位面与接触面保持干净尤为重要。采用推荐的扭矩，可以保证刀片正确锁紧。

Assembly instruction

1. Remove any dirt from the interface and seating surface of the milling cutter shank and cutting insert.
2. Grip milling cutter shank in jig.
3. Apply lubricant sparingly to thread, taper and seat surface of cutting insert.
4. Insert cutting insert into shank and clamp it manually according to mark.
Attention: risk of injury!
5. Tighten cutting insert in milling cutter shank with a torque wrench, using the recommended torque.

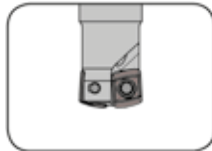
Note:
The use of lubricant reduces friction between cutting insert and tool holder. For optimum radial and axial run-out precision it is crucial that interfaces and seat surfaces are clean. Applying the recommended tightening torque for gripping cutting inserts guarantees the correct insert fit.

螺纹锁紧铣刀
Screw-in cutter
DAH25



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铣刀杆
Milling shank
DAH25



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可转位刀片
Indexable insert
DAH25



页/Page
H43

DAH



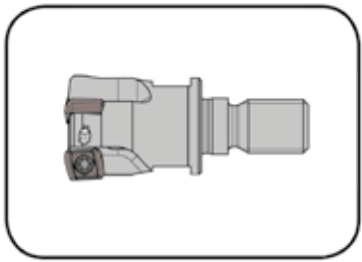
高进给铣削系列
DAH25

High feed milling
System DAH25

H

螺纹锁紧铣刀
Screw-in cutter

DAH25

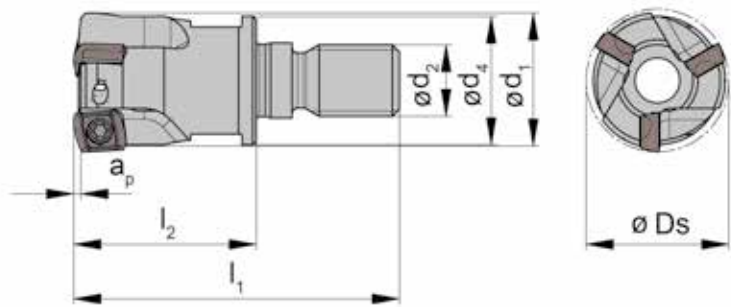


切削刃Ø Cutting edge Ø 12-25 mm

刀杆材料：钢
Material of shank: Steel

配合可转位刀片
for Indexable insert

型号 DAH25
Type



适用于MD系列刀柄
suitable for Shank Type MD

产品型号 Part number	Z	Ds	l ₁	l ₂	d ₁	a _p	d ₂	d ₄
DAH25.012.M062.02	2	12	26	13.5	11	1	M6	11.5
DAH25.016.M083.02	2	16	39	20.5	13	1	M8	15.4
DAH25.016.M083.03	3	16	39	20.5	13	1	M8	15.4
DAH25.020.M104.03	3	20	45	25.5	18	1	M10	19.0
DAH25.025.M125.04	4	25	50	28.0	21	1	M12	24.0

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

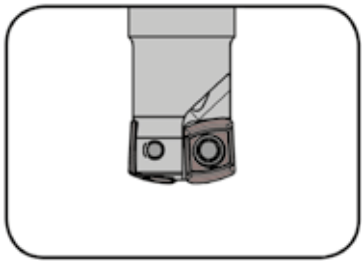
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DAH25.012.M062.02	030.2547.T8P	T8PL
DAH25....	030.2553.T8P	T8PL

铣刀杆
Milling shank

DAH25

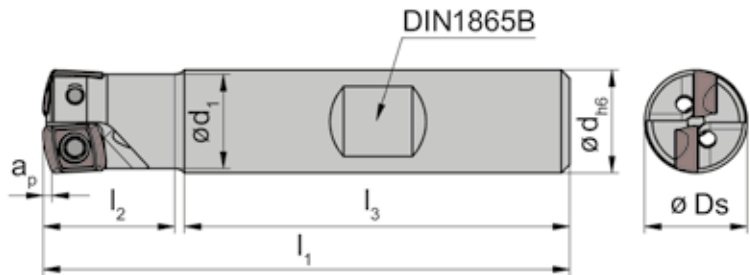


切削刃Ø	Cutting edge Ø	12-25 mm

刀杆材料：钢
Material of shank: Steel

配合可转位刀片
for Indexable insert

型号 DAH25
Type



产品型号 Part number	Z	Ds	d	l ₁	l ₂	d ₁	l ₃	a _p
DAH25.012.D122.02 B	2	12	12	61.5	15	11.0	45	1
DAH25.016.D163.03.B	3	16	16	69.5	20	14.5	48	1
DAH25.020.D204.03B	3	20	20	76.5	25	18.0	50	1
DAH25.025.D255.04.B	4	25	25	85.5	28	23.0	56	1

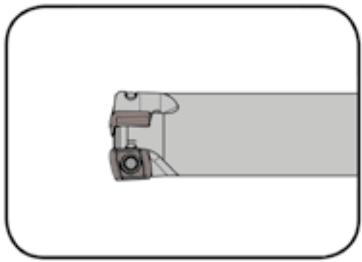
尺寸单位：mm
Dimensions in mm
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DAH25.012.D122.02 ...	030.2547.T8P	T8PL
DAH25...	030.2553.T8P	T8PL

铣刀杆
Milling shank

DAH25

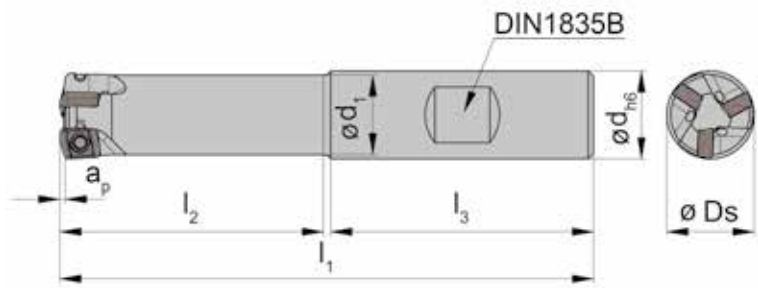


切削刃Ø	Cutting edge Ø	12-25 mm

刀杆材料：钢（不推荐使用热缩方式夹持）
Material of shank: Steel (not recommended for shrink fitting)

配合可转位刀片
for Indexable insert

型号 DAH25
Type



产品型号 Part number	Z	Ds	d	l ₁	l ₂	d ₁	l ₃	a _p
DAH25.012.D124.02B	2	12	12	82.5	36	11.5	45	1
DAH25.016.D165.02B	2	16	16	97.5	48	15.4	48	1
DAH25.016.D165.03B	3	16	16	97.5	48	15.4	48	1
DAH25.020.D206.03B	3	20	20	111.5	60	19.0	50	1
DAH25.025.D257.04B	4	25	25	132.5	75	24.0	56	1

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

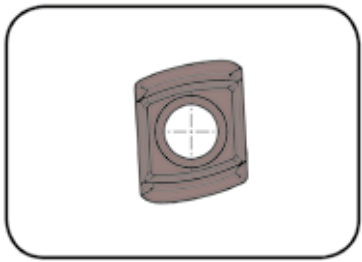
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DAH25.012.D124.02B	030.2547.T8P	T8PL
DAH25.016.D165.02B	030.2553.T8P	T8PL

可转位刀片
Indexable insert

DAH25



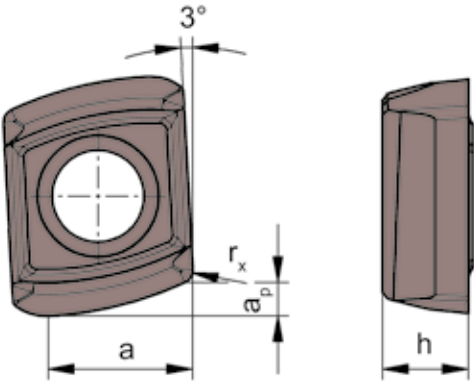
切深可达

Depth of cut up to

1 mm

用于铣削刀柄
for Milling shank

型号 DAHM25
Type



产品型号 Part number	a_p	a	h	r_x	SA4B
DAH.25.011.D.04	1	4.4	2.6	0.4	▲
▲ 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					

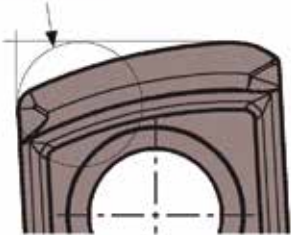
尺寸单位 : mm
Dimensions in mm

硬质合金牌号
Carbide grades

理论圆角半径 r_n = 编程半径。

根据要求提供实际外形

theoretical corner radius r_n = programming radius
actual outline upon request!



$Z =$ 齿数

Number of teeth

$d_{\text{eff}} =$ 有效切削刃Ø

effective cutting edge Ø

$n =$ 转速

Revolutions

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

$v_c =$ 切削速度

Cutting speed

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

$f_z =$ 进给/齿

Feed/tooth

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

$v_f =$ 进给率

Feed rate

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

$Q =$ 材料去除率

Material removal rate

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

H

计算有效切削直径 d_{eff} 以得到正确的RPM和切削进给。

使用以下的值和公式计算有效直径：

$a_p =$ 切深

$D_s =$ 刀具直径

$K_D =$ 修正值表

$d_{\text{eff}} = K_D + (D_s - 20)$

$d_{\text{eff}} = K_D + (D_s - 12)$

The effective cutting diameter d_{eff} must be calculated to obtain the correct RPM and the cutting feed.

The effective cutting diameter is calculated using the following values and formula.

$a_p =$ depth of cut

$D_s =$ cutter diameter

$K_D =$ from Correction value chart

$d_{\text{eff}} = K_D + (D_s - 12)$

修正数值
Correction value

a_p [mm]	K_D [mm]
0,1	5,3
0,2	6,5
0,3	7,4
0,4	8,1
0,5	8,8
0,6	9,4
0,7	10,0
0,8	10,5
0,9	11,0
1,0	12,0

ISO	材料 Material	硬度 HB Hardness HB	进给/齿 f_z (mm) Feed/tooth f_z (mm)	切削速度 Cutting speed v_c (m/min)
P	非合金钢 unalloyed steel	125	0,6 ~ 1,8	200 - 300
	非合金钢 unalloyed steel	190	0,6 ~ 1,8	200 - 300
	低合金钢 low alloyed steel	200	0,6 ~ 1,6	180 - 300
	低合金钢 low alloyed steel	300	0,6 ~ 1,6	160 - 280
	高合金钢 high alloyed steel	200	0,5 ~ 1,5	150 - 250
M	不锈钢 马氏体 Stainless steel martenitic	240	0,6 ~ 1,5	140 - 220
	不锈钢 奥氏体 Stainless steel austenitic	180	0,5 ~ 1,2	120 - 200
K	可锻铸铁 铁素体 Malleable cast iron ferritic	130	0,6 ~ 1,8	160 - 280
	可锻铸铁 珠光体 Malleable cast iron perlitic	230	0,6 ~ 1,5	150 - 250
	球墨铸铁 铁素体/珠光体 Spheroidal graphite cast iron ferritic/perlitic	180	0,6 ~ 1,5	150 - 250
	球墨铸铁 珠光体 Spheroidal graphite cast iron perlitic	260	0,6 ~ 1,5	140 - 240
	灰铸铁 Grey cast iron	160	0,6 ~ 2,2	180 - 320
N	铝合金 Al-alloys	90	0,8 ~ 2,5	1000 - 1500

H

切入角

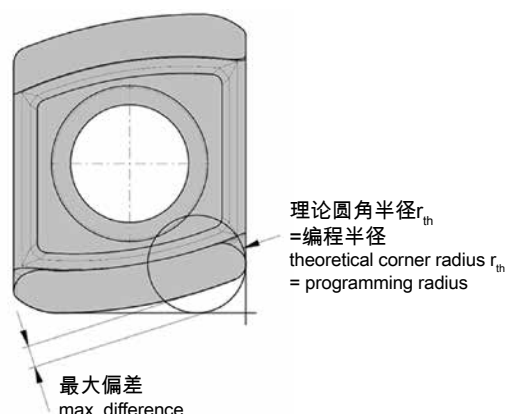
Diving angle

Ø (mm)	切入角 (°) Diving angle (°)
12	6,5
16	2,5
20	1,5
25	1,0

编程半径和偏差

Programming radius and difference

r_{th} (mm)	最大偏差 (mm) max. difference (mm)
1,4	0,61

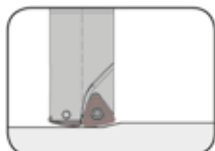


螺纹锁紧铣刀
Screw-in cutter
DAH37



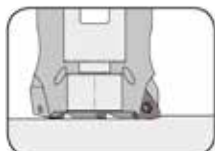
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铣刀杆
Milling shank
DAH25



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配合刀柄式铣刀
Arbor Mounted Cutter
DAH37



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可转位刀片
Indexable insert
DAH37

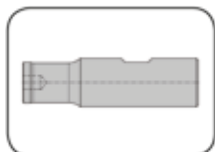


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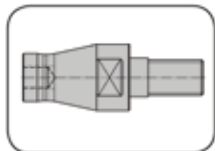
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接头
Adaptor
MD



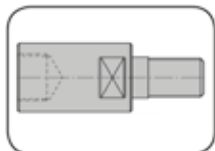
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异径
Reducer
MD



页/Page
H57

接长杆
Extension
MD



页/Page
H58

DAH37



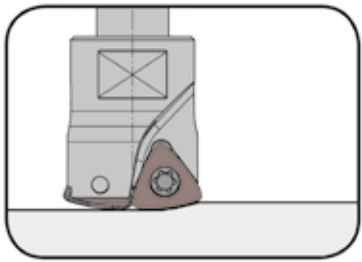
高进给铣削系列
DAH37

High feed milling
System DAH37

H

螺纹锁紧铣刀
Screw-in cutter

DAH37

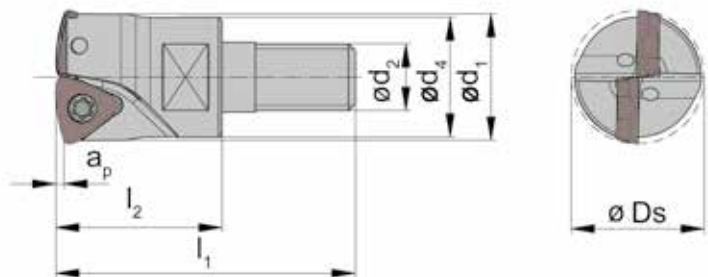


切削刃Ø Cutting edge Ø 20-40 mm

刀杆材料：钢
Material of shank: Steel

配合可转位刀片
for Indexable insert

型号 DAH37
Type



适用于MD系列刀柄
suitable for Shank Type MD

产品型号 Part number	Z	Ds	l_1	l_2	d_1	a_p	d_2	d_4	SW
DAH37.020.M104.02	2	20	45	25	19	1.2	M10	18	15
DAH37.025.M125.03	3	25	52	30	24	1.2	M12	21	17
DAH37.032.M166.04	4	32	58	35	31	1.2	M16	29	24
DAH37.040.M166.05	5	40	58	35	39	1.2	M16	29	24

尺寸单位：mm
Dimensions in mm

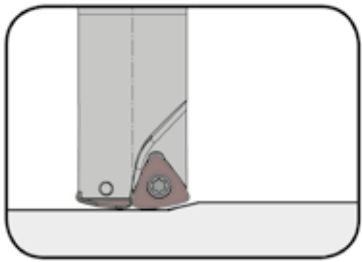
螺钉030.3070.T10P的扭矩规格=3.4Nm。
Torque specification of the screw 030.3070.T10P = 3,4 Nm.

配件
Spare Parts

螺纹锁紧铣刀 Screw-in cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DAH37...	030.3070.T10P	T10PL

铣刀杆
Milling shank

DAH25

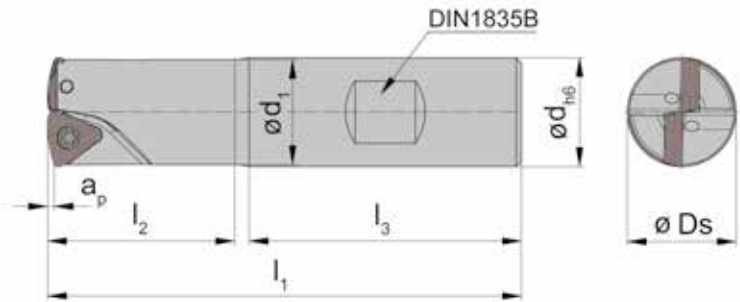


切削刃Ø	Cutting edge Ø	20-40 mm

刀杆材料：钢
Material of shank: Steel

配合可转位刀片
for Indexable insert

型号 DAH37
Type



产品型号 Part number	Z	Ds	d	l ₁	l ₂	d ₁	l ₃	a _p
DAH25.37.020.D204.02B	2	20	20	87	34	19	50	1.2
DAH25.37.025.D255.03B	3	25	25	101	41	24	56	1.2
DAH25.37.032.D326.04B	4	32	32	111	47	31	60	1.2
DAH25.37.040.D326.05B	5	40	32	111	47	39	60	1.2

螺钉030.3070.T10P的扭矩规格=3.4Nm。
Torque specification of the screw 030.3070.T10P = 3,4 Nm.

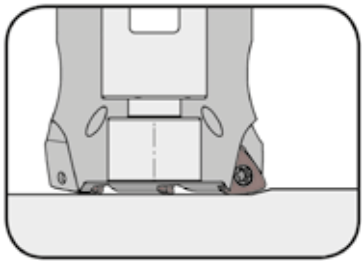
尺寸单位：mm
Dimensions in mm

配件
Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
DAH25...	030.3070.T10P	T10PL

配合刀柄式铣刀
Arbor Mounted Cutter

DAH37

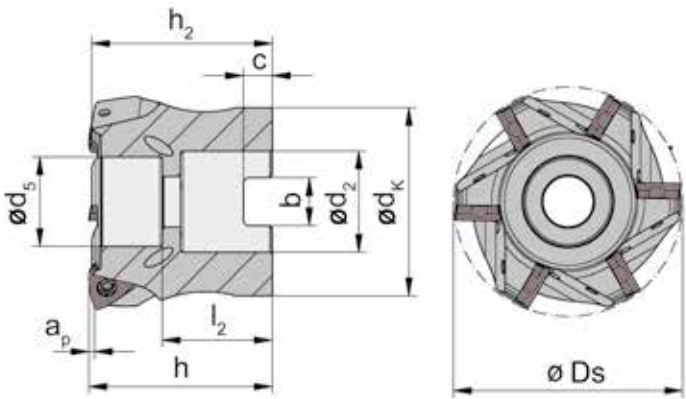


切削刃Ø Cutting edge Ø 40-80 mm

配合刀柄式铣刀，符合DIN8030-A 标准
Arbor mounted cutter as per DIN 8030-A

配合可转位刀片
for Indexable insert

型号 DAH37
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Ds	ap	h ₂	h	d ₅	d _k	l ₂	b	C	d ₂
DAH37.040.A1635.05	5	40	1.2	34.4	35	16.0	33	22	8.4	5.6	16
DAH37.050.A2235.06	6	50	1.2	39.4	40	19.5	41	24	10.4	6.3	22
DAH37.063.A2240.07	7	63	1.2	39.4	40	19.5	49	24	10.4	6.3	22
DAH37.063.A2740.07	7	63	1.2	44.4	45	21.5	49	27	12.4	7.0	27
DAH37.080.A3245.08	8	80	1.2	54.4	55	29.5	59	33	12.4	8.0	32

尺寸单位：mm
Dimensions in mm

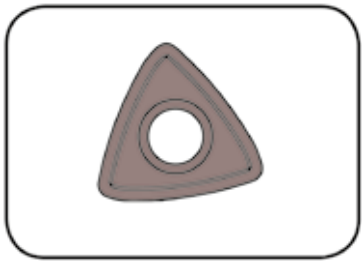
螺钉030.3070.T10P的扭矩规格=3.4Nm。
Torque specification of the screw 030.3070.T10P = 3,4 Nm.

配件
Spare parts

配合刀柄式铣刀 Arbor mounted Cutter	锁紧螺钉 Screw	TORX PLUS®扳手 TORX PLUS® Wrench	扳手 Wrench	螺钉 Screw	垫圈 Washer
DAH37....	030.3070.T10P	T10PL			
DAH37....	030.3070.T10P	T10PL	SW8,0 DIN 911	10.25.912	10.5.433
DAH37.063.A2740.0...	030.3070.T10P	T10PL	SW8,0 DIN 911	12.30.912	

可转位刀片
Indexable insert

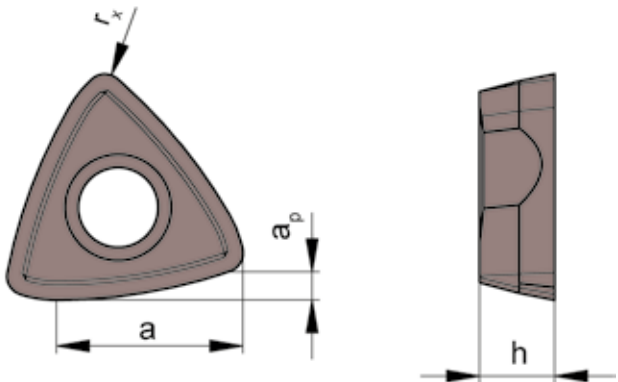
DAH37



切深可达

Depth of cut up to

1.2 mm



配合铣削刀杆
for Milling tool

型号 DAHM37
Type

正前角槽型
positive geometry

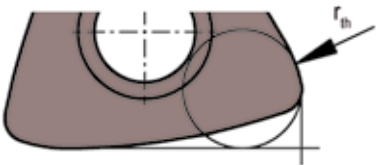
产品型号 Part number	a_p	a	h	r_x	SA4B	
DAH.37.022.S08	1.2	7.9	3.18	0.8	P	•
					M	•
					K	•
					N	•
					S	-
					H	-

▲ 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

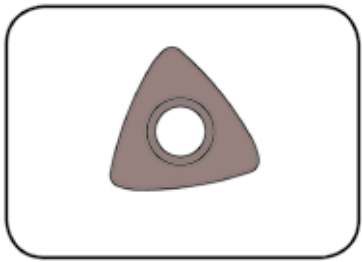
硬质合金牌号
Carbide grades

理论圆角半径 r_{th} = 编程半径。
根据要求提供实际外形
theoretical corner radius r_{th} = programming radius
actual outline upon request!



可转位刀片
Indexable insert

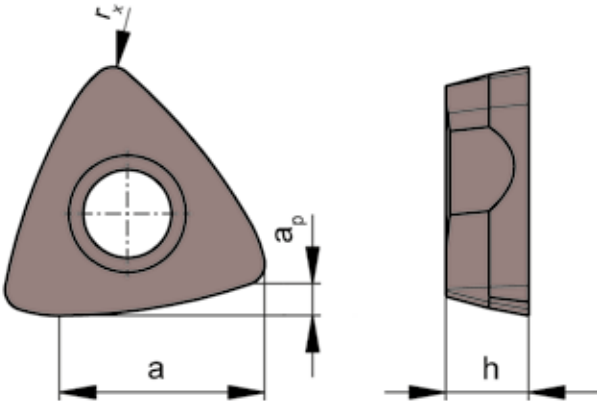
DAH37



切深可达

Depth of cut up to

1.2 mm



配合铣削刀杆
for Milling tool

型号 DAHM37
Type

中立（零度）前角槽型
neutral geometry

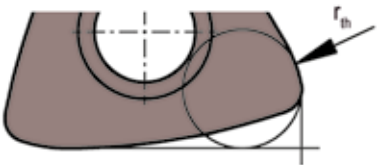
产品型号 Part number	a_p	a	h	r_x		SA4B	SC6A
DAH.37.022.N.08	1.2	7.9	3.18	0.8		▲	▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request					P	•	•
● 推荐 / recommended					M	•	•
○ 次推荐 / alternative recommendation					K	•	•
- 不合适 / not suitable					N	•	•
■ 非涂层 / uncoated grades					S	-	-
■ 涂层 / coated grades					H	-	-
■ 钎焊/金属陶瓷 / brazed/Cermet							
尺寸单位：mm Dimensions in mm							

硬质合金牌号
Carbide grades

理论圆角半径 r_{th} = 编程半径。

根据要求提供实际外形

theoretical corner radius r_x = programming radius
actual outline upon request!



$Z =$ 齿数
Number of teeth

$d_{\text{eff}} =$ 有效切削刃Ø
effective cutting edge Ø

$n =$ 转速
Revolutions

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

$v_c =$ 切削速度
Cutting speed

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

$f_z =$ 进给/齿
Feed/tooth

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

$v_f =$ 进给率
Feed rate

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

$Q =$ 材料去除率
Material removal rate

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

计算有效切削直径 d_{eff} 以得到正确的RPM和切削进给。

使用以下的值和公式计算有效直径：

$a_p =$ 切深
 $D_s =$ 刀具直径
 $K_D =$ 修正值表
 $d_{\text{eff}} = K_D + (D_s - 20)$

The effective cutting diameter d_{eff} must be calculated to obtain the correct RPM and the cutting feed.

The effective cutting diameter is calculated using the following values and formula.

$a_p =$ depth of cut
 $D_s =$ cutter diameter
 $K_D =$ from Correction value chart
 $d_{\text{eff}} = K_D + (D_s - 20)$

修正数值
Correction value

a_p [mm]	K_D [mm]
0,1	9,71
0,2	11,47
0,3	12,81
0,4	13,93
0,5	14,92
0,6	15,82
0,7	16,63
0,8	17,39
0,9	18,10
1,0	18,77
1,1	19,40
1,2	20,00

ISO	材料 Material	硬度 HB Hardness HB	进给/齿 f_z (mm) Feed/tooth f_z (mm)	切削速度 v_c (m/min) Cutting speed v_c (m/min)
P	非合金钢 unalloyed steel	125	0.8 - 2.2	200 - 300
	非合金钢 unalloyed steel	190	0.8 - 2.2	200 - 300
	低合金钢 low alloyed steel	200	0.8 - 2.0	180 - 300
	低合金钢 low alloyed steel	300	0.8 - 2.0	160 - 280
	高合金钢 high alloyed steel	200	0.6 - 1.6	150 - 250
M	不锈钢 马氏体 Stainless steel martensitic	240	0.8 - 2.0	140 - 220
	不锈钢 奥氏体 Stainless steel austenitic	180	0.6 - 1.6	120 - 200
K	可锻铸铁 铁素体 Malleable cast iron ferritic	130	0.8 - 2.2	160 - 280
	可锻铸铁 珠光体 Malleable cast iron perlitic	230	0.7 - 1.8	150 - 250
	球墨铸铁 铁素体/珠光体 Spheroidal graphite cast iron ferritic/perlitic	180	0.7 - 1.8	150 - 250
	球墨铸铁 珠光体 Spheroidal graphite cast iron perlitic	260	0.7 - 1.8	140 - 240
	灰铸铁 Grey cast iron	160	0.8 - 2.5	180 - 320
N	铝合金 Al-alloys	90	1.0 - 3.0	1000 - 1500

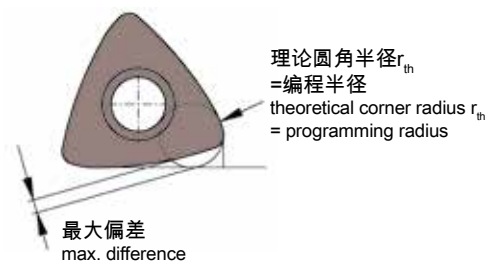
切入角

Diving angle

Ø (mm)	切入角 (°) Diving angle (°)
20	5.0
25	4.0
32	1.0
40	0.5
50	0.5
63	0.4
80	0.4

编程半径和偏差

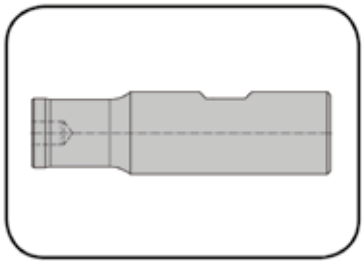
Programming radius and difference



r_{th} (mm)	最大偏差 (mm) max. difference (mm)
2	0.83

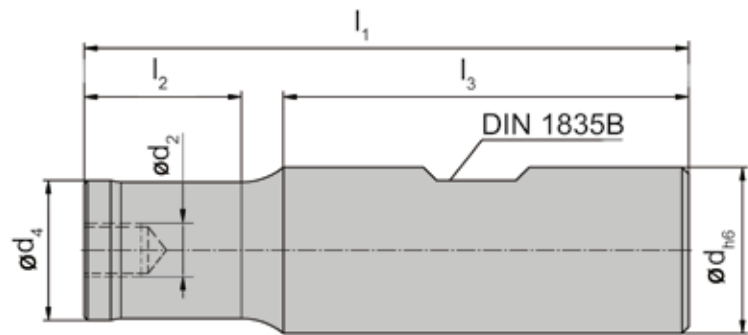
接头
Adaptor

MD



配合DAM...M铣刀头和MD...M变径杆
for screw-in cutter DAM/DAHM...M and reducer MD...M

刀杆材料：钢（不推荐使用热缩方式夹持）
Material of shank: Steel (not recommended for shrink fitting)



产品型号 Part number	l_1	l_2	l_3	d	d_4	d_2
MD13.02.00.D16B	73	14	53	16	13	M8
MD18.04.00.D20B	80	20	55	20	18	M10
MD21.06.00.D25B	91	23	61	25	21	M12
MD29.08.00.D32B	100	29	65	32	29	M16

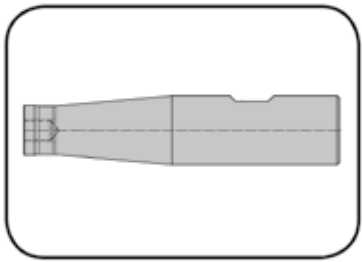
Ø25mm以上为2个夹持面
from Ø 25 mm 2 clamping flats

尺寸单位：mm
Dimensions in mm



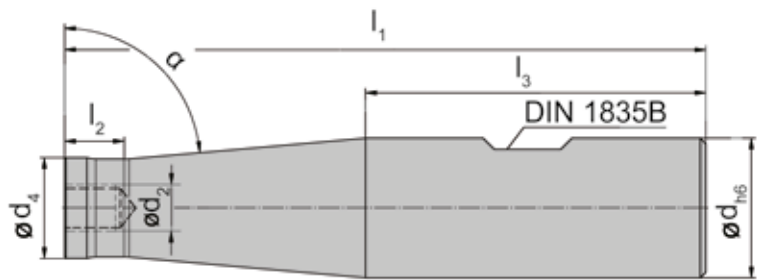
接头
Adaptor

MD



配合DAM...M铣刀头和MD...M变径杆
for screw-in cutter DAM/DAHM...M and reducer MD...M

刀杆材料：钢（不推荐使用热缩方式夹持）
Material of shank: Steel (not recommended for shrink fitting)



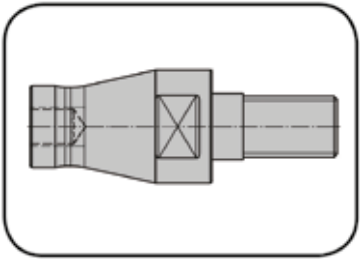
产品型号 Part number	l_1	l_2	l_3	d	d_4	d_2	α
MD13.02.85.D20B	105	7	55	20	13	M8	85°
MD18.04.85.D25B	115	10	61	25	18	M10	85°
MD21.06.85.D32B	140	8	65	32	21	M12	85°
MD29.08.85.D40B	150	8	75	40	29	M16	85°

Ø25mm以上为2个夹持面
from Ø 25 mm 2 clamping flats

尺寸单位：mm
Dimensions in mm

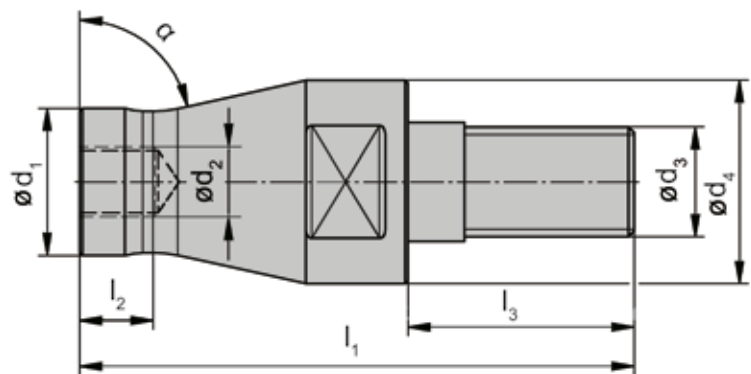
异径
Reducer

MD



配合DAM...M铣刀头的变径杆
Reducer for screw-in cutter DAM/DAHM...M

刀杆材料：钢
Material of shank: Steel



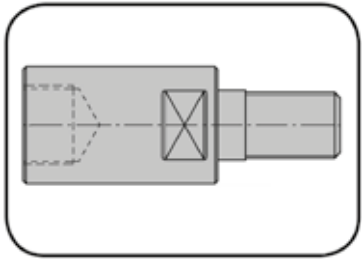
产品型号 Part number	l_1	l_2	l_3	d_1	d_2	d_3	d_4	SW	α
MD18.02.77.M10	49	6	20	13	M8	M10	18	15	77.5°
MD21.04.77.M12	56	10	22	18	M10	M12	21	17	77.5°
MD29.06.77.M16	52	6	23	21	M12	M16	29	24	77.5°

尺寸单位：mm
Dimensions in mm



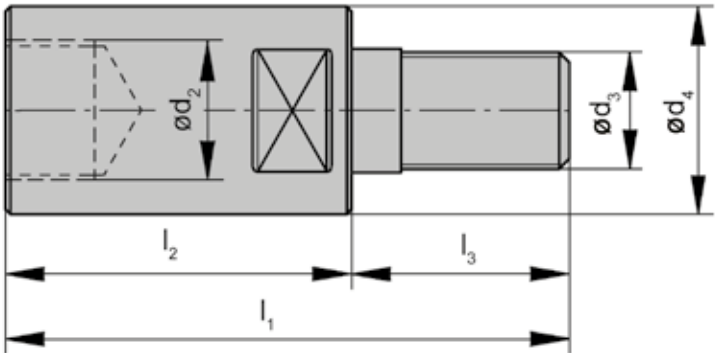
接长杆
Extension

MD



配合DAM/DAHM...M的加长杆
Extension for screw-in cutter DAM/DAHM...M

刀杆材料：钢
Material of shank: Steel



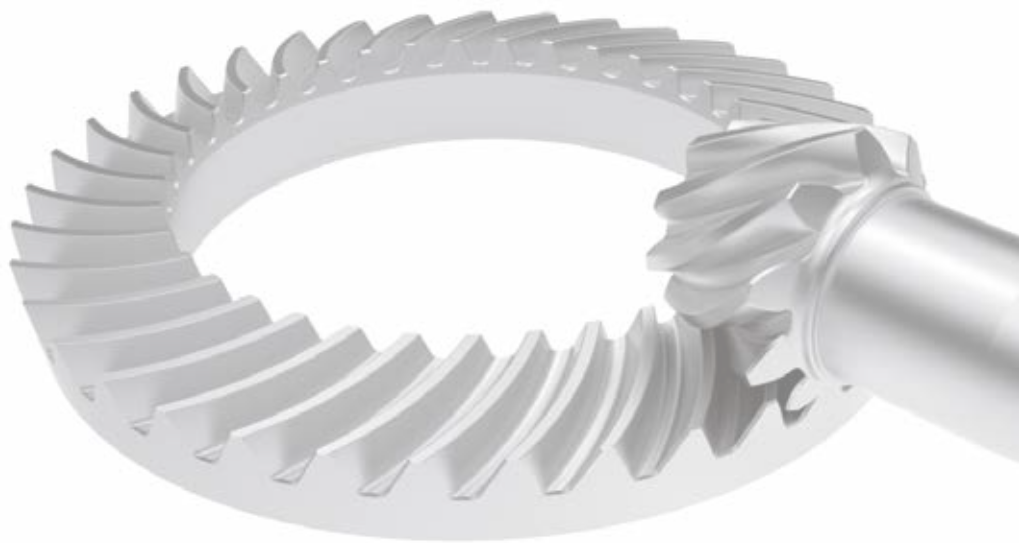
产品型号 Part number	l_1	l_2	l_3	d_2	d_3	d_4	SW
MD13.02.00.M08	48	30	18	M8	M8	13	10
MD18.04.00.M10	55	35	20	M10	M10	18	15
MD21.06.00.M12	57	35	22	M12	M12	21	17
MD29.08.00.M16	58	35	23	M16	M16	29	24

尺寸单位：mm
Dimensions in mm

加工实例

Examples for machining

- ▶ 人字齿轮
Herringbone gearing
- ▶ 正齿轮
Spur gearing
- ▶ 蜗轮
Worm gears
- ▶ 摆线-准渐开线齿形系统
Cycloid palloid tooth system
- ▶ 拉齿
Gear broaching



类似模数 10

similar Module 10

粗加工高进给铣削/精加工仿形铣削

Roughing high feed milling / Fishing copy milling



DAHM.25

H

材料 Material	工具 Tools	Ds [mm]	v_c [m/min]	v_f [mm/min]	加工中心 Machining centre
18CrNiMo7	DAHM.25	12	250	6600	5 轴 5-axis

模数 30 直槽, 可达 Ø 4000 mm
Module 30 straight fluted, up to Ø 4000 mm

粗加工高进给铣削/精加工高仿形铣削
Roughing high feed milling / Finishing high copy milling



材料 Material	工具 Tools	Ds [mm]	v _c [m/min]	Q [cm³/min]	加工中心 Machining centre
St52	DAHM.37	40	280	720	5 轴 5-axis
	DGH	20	280	410	

轴向模数 7,9 / Ø 420 mm

Axial module 7,9 / Ø 420 mm

常规粗加工/精加工仿形铣削

Roughing conventionally / Finishing copy milling



DPTP



DSK



DPTR

材料 Material	工具 Tools	Ds [mm]	v _c [m/min]	Q [cm³/min]	加工中心 Machining centre
CuSn12Ni	DPTP	8	200	145	5 轴 5-axis
	DSK	8	225	80	
	DPTR	6	225		

摆线-准渐开线齿形系统

Cycloid palloid tooth system



模数 13,56

Module 13,56

粗加工高进给铣削/精加工仿形铣削

Roughing high feed milling / Finishing copy milling



DGH



DSDS

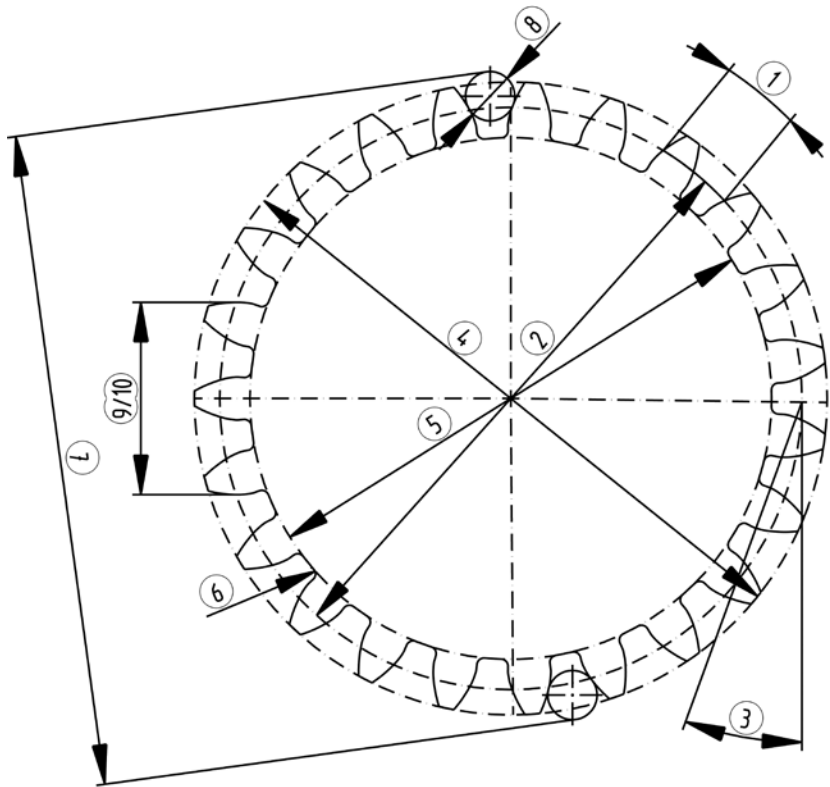


DSK



DSM

材料 Material	工具 Tools	Ds [mm]	v _c [m/min]	加工中心 Machining centre
C45	DGH	12 /16	300	5 轴 5-axis
	DSDS	8	200	
	DSK	10	190	
	DSM	12	260	



	需要的信息 (附公差) Information required (with tolerances)	
	齿数 Number of teeth	z
1	节距/模数 Flanck pitch/ Module	p / m_n
2	节圆直径 Pitch diameter	d
3	压力角 Pressure angle	α
	螺旋角 Helix angle	β
	螺旋方向 Helix direction	RH / LH
4	齿顶圆 Tip circle	d_a
5	齿根圆 Root circle	d_f
6	齿根半径 Root radius	ρ_f
	磨削余量 (粗加工) Grinding stock (roughing)	q
7	直径 2 辊尺寸/2 球尺寸 Diametral 2-roll dimension / 2-ball dimension	M_{dR} / M_{dK}
8	Ø 计量辊/Ø 测量球 Ø Metering roller / Ø Measuring ball	D_M
9	齿宽 Tooth width	W_k
10	测量齿 Measuring teeth	k

蜗杆轴					圆柱齿轮 (直)		带渐开线齿面的轴毂连接		
		DIN3975				特殊形状		轴	轮毂
		ZA	ZN	ZK	ZI				
齿面形状		x	x	x	x		法向模数		
轴向模数 或：法向模数和螺旋角 或：节距和参考圆		x	x	x	x		齿数	x	x
		x	x	x			法向压力角		
							齿顶圆	或：	
齿数		x	x	x	x		齿根圆	法向模数	x
啮合角		x	x	x	x		齿顶修正系数 或：直径 2 辊尺寸及球 Ø 或：直径 2 球尺寸及球 Ø 或：公法线长度及测量齿数	齿数	x
螺旋方向		x	x	x	x	x	齿顶/齿根半径和/或齿形修整	法向压力角	x
参考圆		x	x	x	x	x		齿顶圆	x
齿顶圆		x	x	x	x	x		齿根圆	x
齿根圆		x	x	x	x			齿顶修正系数 或：直径 2 辊尺寸及球 Ø 或：直径 2 球尺寸及球 Ø 或：公法线长度及测量齿数	x
轴向齿厚度 或：法向模数和螺旋角 或：节距和参考圆		x	x	x	x				x
螺旋 或导程角 或螺旋角						x		齿顶/齿根半径和/或齿形修整	x
外形（坐标或 DXF 文件等） 使用轴向、法向或横切面 或：铣刀外形（包括刃角和 Ds）						x			
发生圆直径				x					
齿顶/齿根半径和/或齿形修整		x	x	x	x				

x = 所需信息
x = information required

所需信息

Information required

Worm shafts					Cylindrical gears (straight)				Shaft-hub-connection with involuted flanks	
	ZA	ZN	ZK	ZI	Special shapes				Shaft	Hub
Flank shape	x	x	x	x		Normal module	x	complete description of norm (DIN5480, DIN5482 (...); NF E 22-141, ANSI B92.1 ...	x	x
Axial module or: Normal module and helix angle or: Pitch and reference circle	x	x	x	x		Number of teeth	x			
						Normal pressure angle	x			
Number of teeth	x	x	x	x		Tip circle	x	or:		
Generating angle	x	x	x	x		Root circle	x	Normal module	x	x
						Addendum modification coefficient: or: diametral 2-rollers-dimension with roller-Ø or: diametral 2-ball-dimension with ball-Ø or: base tangent length with number of measured teeth	x	Number of teeth	x	x
Thread direction	x	x	x	x	x	Tip-/root radii and/or relief	x	Normal pressure angle	x	x
Reference circle	x	x	x	x	x			Tip circle	x	x
Tip circle	x	x	x	x	x			Root circle	x	x
Root circle	x	x	x	x				Addendum modification coefficient: or: diametral 2-rollers-dimension with roller-Ø or: diametral 2-ball-dimension with ball-Ø or: base tangent length with number of measured teeth	x	x
Axial tooth thickness or: Normal module and helix angle or: Pitch and reference circle	x	x	x	x						
Lead or lead angle or helix angle					x			Tip-/root radii and/or relief	x	x
Profile shape (coordinates or DXF file, etc.) using axial, normal or transverse section or: Profile shape of the milling cutter (including blade angle and Ds)					x					
Generating diameter			x							
Tip-/root radii and/or relief	x	x	x	x						

x = erforderliche Angaben
x = information required



系列/System

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M311

I2

M313

I8

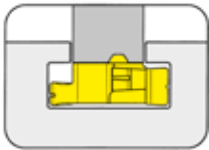
M328

I12

M406/M409

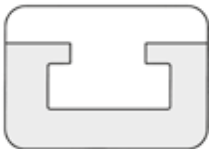
I18

铣刀杆
Milling shank
M311



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刀片
Insert
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I5



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I6

M311



T型槽铣刀
安装可换式刀片
切削刃 Ø 自 17 mm

T-Slot Cutter with
exchangeable inserts
from cutting edge Ø 17 mm

I

T型槽铣削

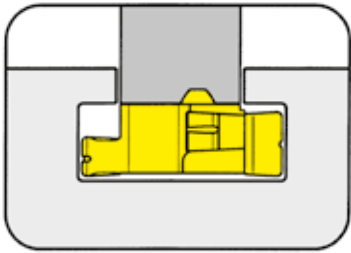
Milling of T-Slots



铣刀杆

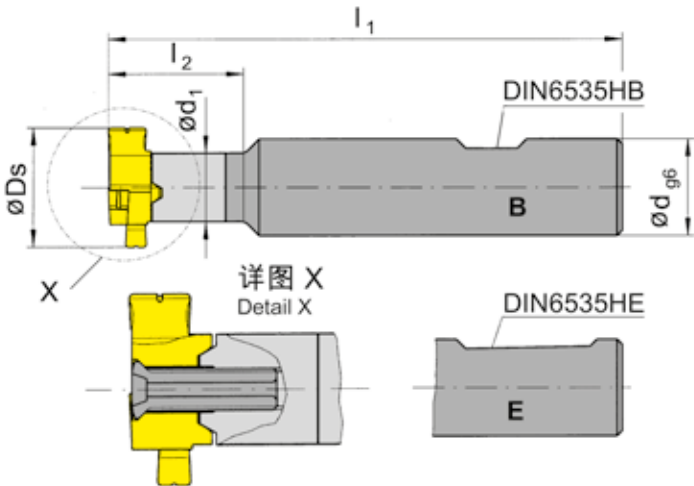
Milling shank

M311



切削刃Ø	Cutting edge Ø	17 mm

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



配合刀片
for Insert

型号 311
Type

图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 形式
M311.0016.00A	16	90	25	9	A
M311.0016.00B	16	90	25	9	B
M311.0016.00E	16	90	25	9	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M311...	4.16T15KP	T15PQ

T型槽铣削
Milling of T-Slots



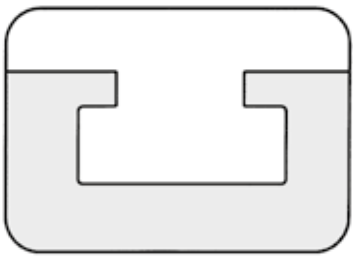
刀片
Insert

311

DIN650T型槽
切削刃Ø

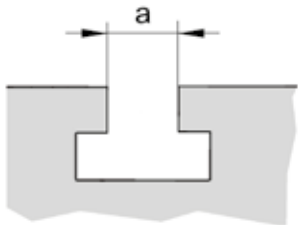
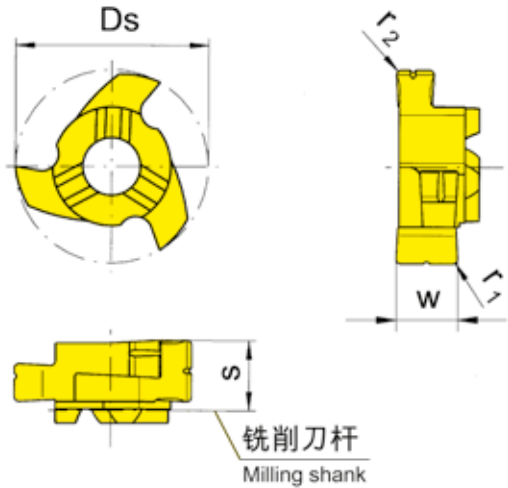
T-Slots DIN 650
Cutting edge Ø

10 mm
17 mm



用于铣削刀柄
for Milling shank

型号 M311.0016.00A
Type M311.0016.00B
M311.0016.00E



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	s	w	r ₁	r ₂	a	AS45	Ti25
311.1016.00	17	3	7.7	7.2	0.5	0.8	10	▲	▲
▲ 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
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades



T形槽倒角

Chamfering of T-Slots



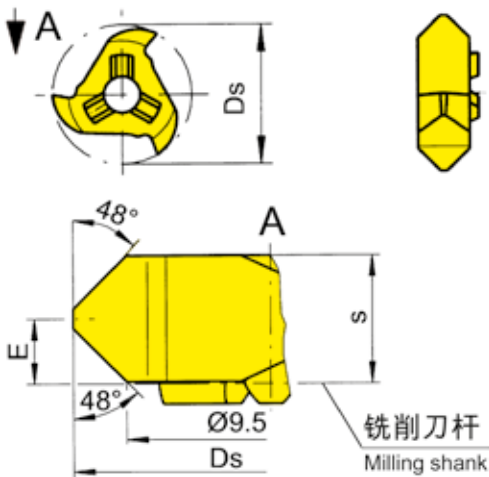
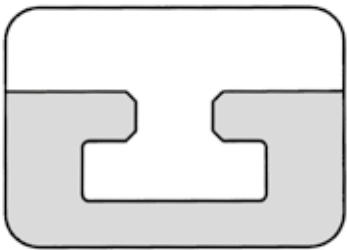
刀片
Insert

311

DIN650T型槽
切削刃Ø

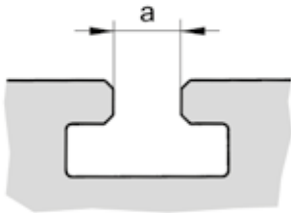
T-Slots DIN 650
Cutting edge Ø

10/12/14 mm
15.8 mm



用于铣削刀柄
for Milling shank

型号 M311.0016.00A
Type M311.0016.00B
M311.0016.00E



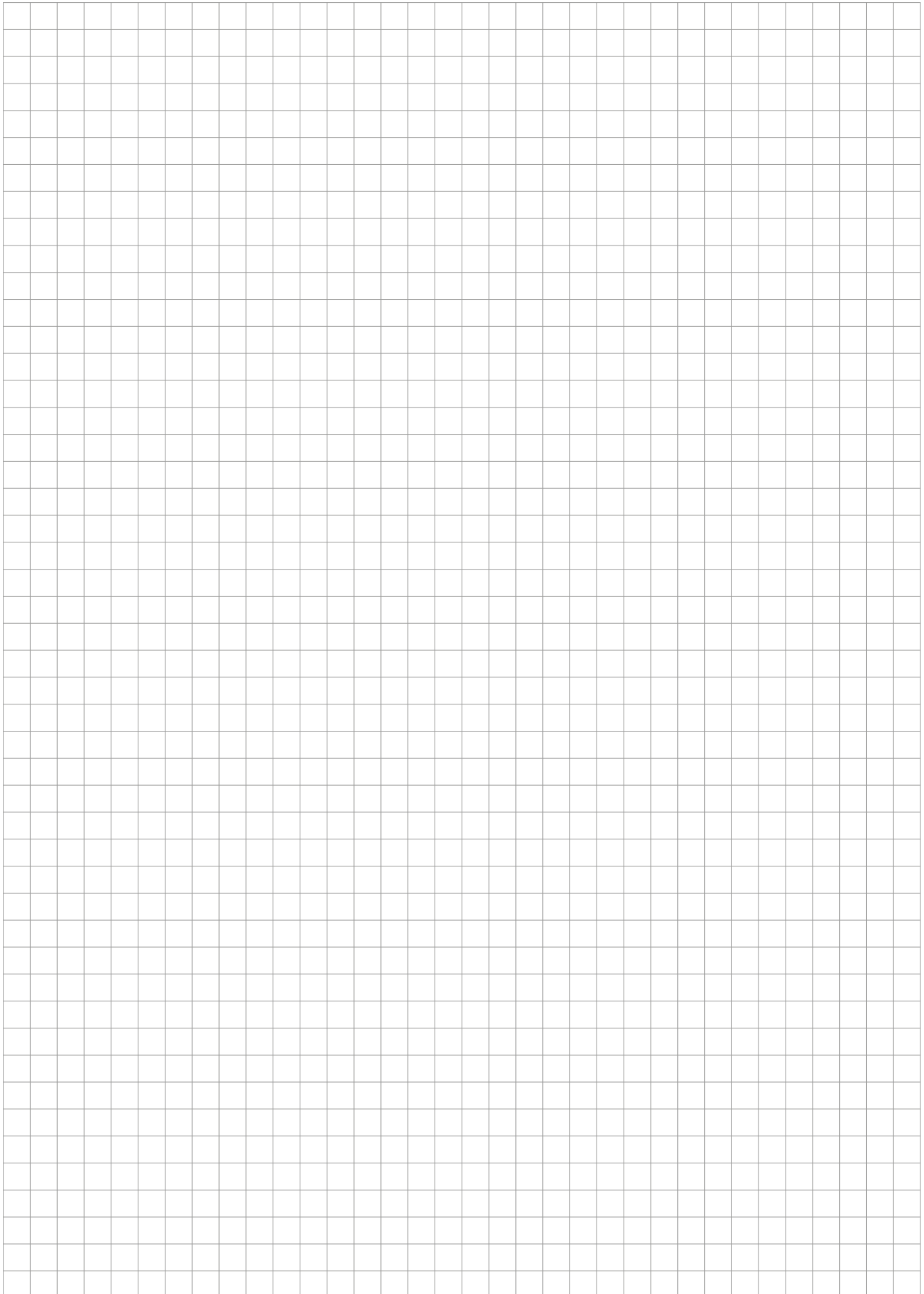
图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	E	s	a	Ti25
311.4216.00	15.8	3	3	5.95	10	▲
						P •
						M •
						K •
						N •
						S •
						H -

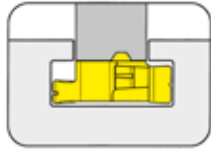
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request
● 推荐 / recommended
○ 次推荐 / alternative recommendation
- 不合适 / not suitable
■ 非涂层 / uncoated grades
■ 涂层 / coated grades
■ 钎焊/金属陶瓷 / brazed/Cermet

尺寸单位 : mm
Dimensions in mm
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

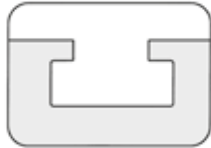


铣刀杆
Milling shank
M313



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刀片
Insert
313



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M313



T型槽铣刀
安装可换式刀片
切削刃 Ø 自 20 mm

T-Slot Cutter with
exchangeable inserts
from cutting edge Ø 20 mm

I

T型槽铣削

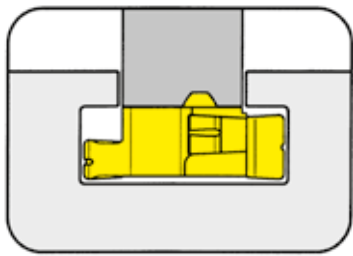
Milling of T-Slots



铣刀杆

Milling shank

M313

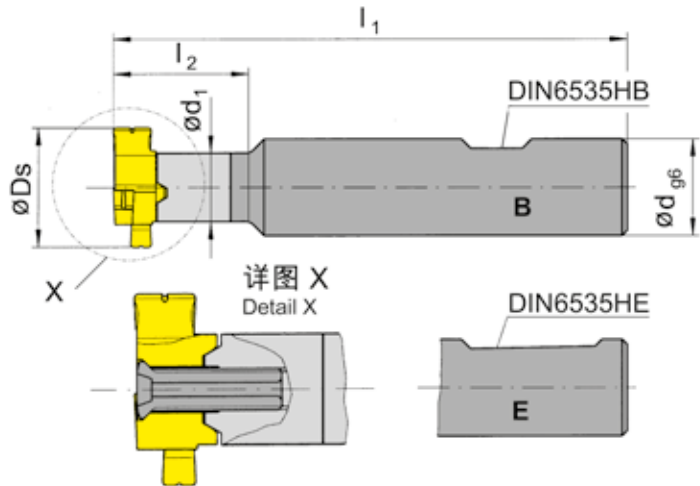


切削刃Ø	Cutting edge Ø	20 mm

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

配合刀片
for Insert

型号 313
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 形式
M313.0016.00A	16	93	30	11.5	A
M313.0016.00B	16	93	30	11.5	B
M313.0016.00E	16	93	30	11.5	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M313...	5.13T20KP	T20PQ

T型槽铣削

Milling of T-Slots



刀片

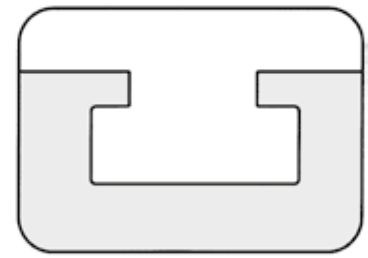
Insert

313

DIN650T型槽
切削刃Ø

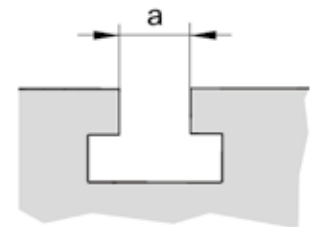
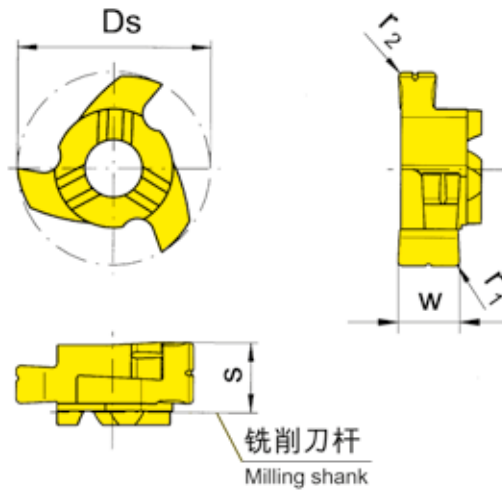
T-Slots DIN 650
Cutting edge Ø

12 mm
20 mm



用于铣削刀柄
for Milling shank

型号 M313.0016.00A
Type M313.0016.00B
M313.0016.00E



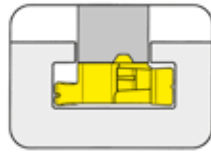
图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	s	w	r ₁	r ₂	a	AS45	TI25
313.1219.00	20	3	8.7	8.2	0.5	0.8	12	▲	▲
▲ 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
按需提供更多尺寸
Further sizes upon request

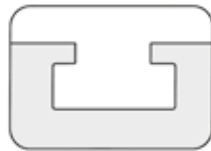
硬质合金牌号
Carbide grades

铣刀杆
Milling shank
M328



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刀片
Insert
328



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M328



T型槽铣刀
安装可换式刀片
切削刃 Ø 自 24 mm

T-Slot Cutter with
exchangeable inserts
from cutting edge Ø 24 mm

I

T型槽铣削

Milling of T-Slots



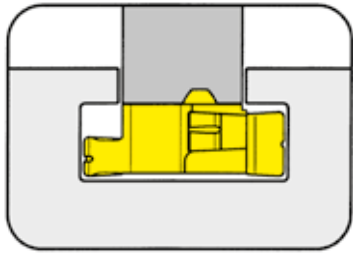
铣刀杆

Milling shank

M328

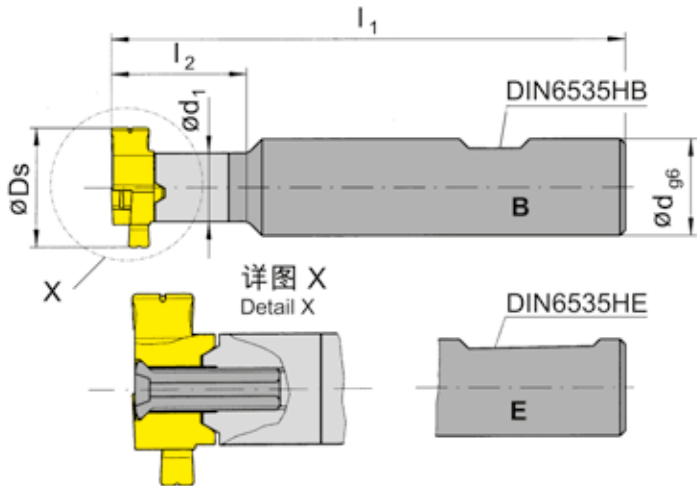
切削刃Ø	Cutting edge Ø	24 mm

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



配合刀片
for Insert

型号 328
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	d	l ₁	l ₂	d ₁	形式 形式
M328.0020.00A	20	104	35	13.5	A
M328.0020.00B	20	104	35	13.5	B
M328.0020.00E	20	104	35	13.5	E

按需提供更多尺寸
Further sizes upon request

Ds见刀片
Ds see inserts

尺寸单位：mm
Dimensions in mm

订货须知：
HORN可以返修损坏的铣刀杆基座座。

Ordering note:
Milling cutter shanks with damaged seating can be repaired by HORN.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M328...	5.13T20KP	T20PQ

T型槽铣削

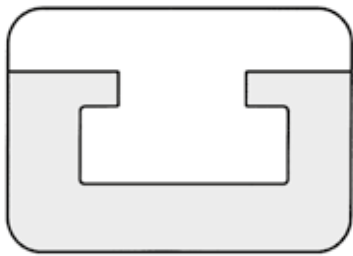
Milling of T-Slots



刀片
Insert

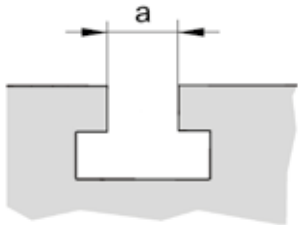
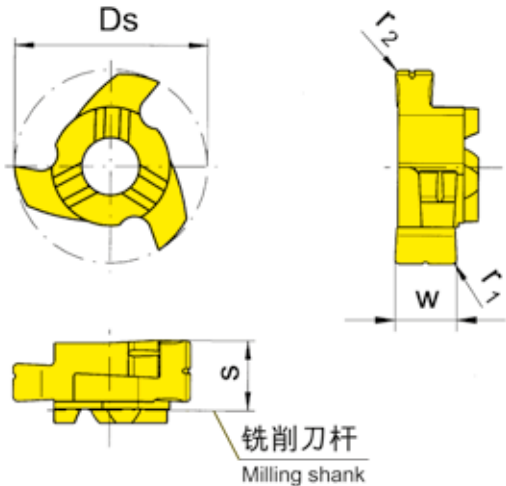
328

DIN650T型槽 切削刃Ø	T-Slots DIN 650 Cutting edge Ø	14 mm 24 mm



用于铣削刀柄
for Milling shank

型号 M328.0020.00A
Type M328.0020.00B
M328.0020.00E



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Ds	Z	s	w	r ₁	r ₂	a	AS45	Ti25
328.1423.00	24	3	9.8	9.2	0.5	1	14	▲	▲
▲ 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									

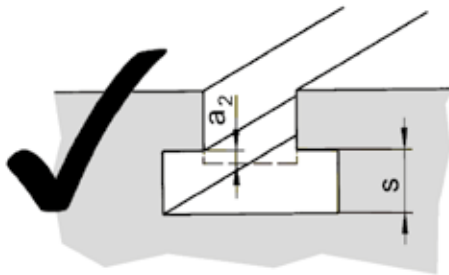
尺寸单位 : mm
Dimensions in mm
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

应用技术

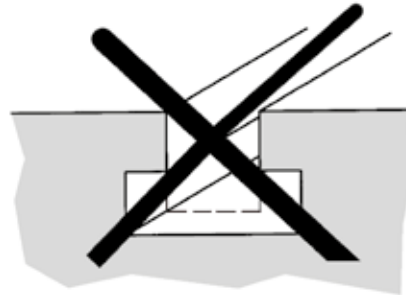
Application Technology

$$a_2 \approx 0,2 \times s$$



推荐

recommended



不推荐

not recommended

切削参数

Cutting data

T型槽铣削

Milling of T-slots

工件材质 Workpiece material	刀具材质 Cutting material	v_c (m/min)	f_z (mm), Z=1 Ds 17 mm	f_z (mm), Z=1 Ds 20-24 mm
碳钢 Carbon steel	TI25 / AS45	200 - 300	0,03 - 0,06	0,05 - 0,08
合金钢 Alloyed steel	TI25 / AS45	140 - 220	0,02 - 0,04	0,03 - 0,05
灰铸铁 Grey cast iron	TI25 / AS45	100 - 160	0,03 - 0,06	0,05 - 0,10

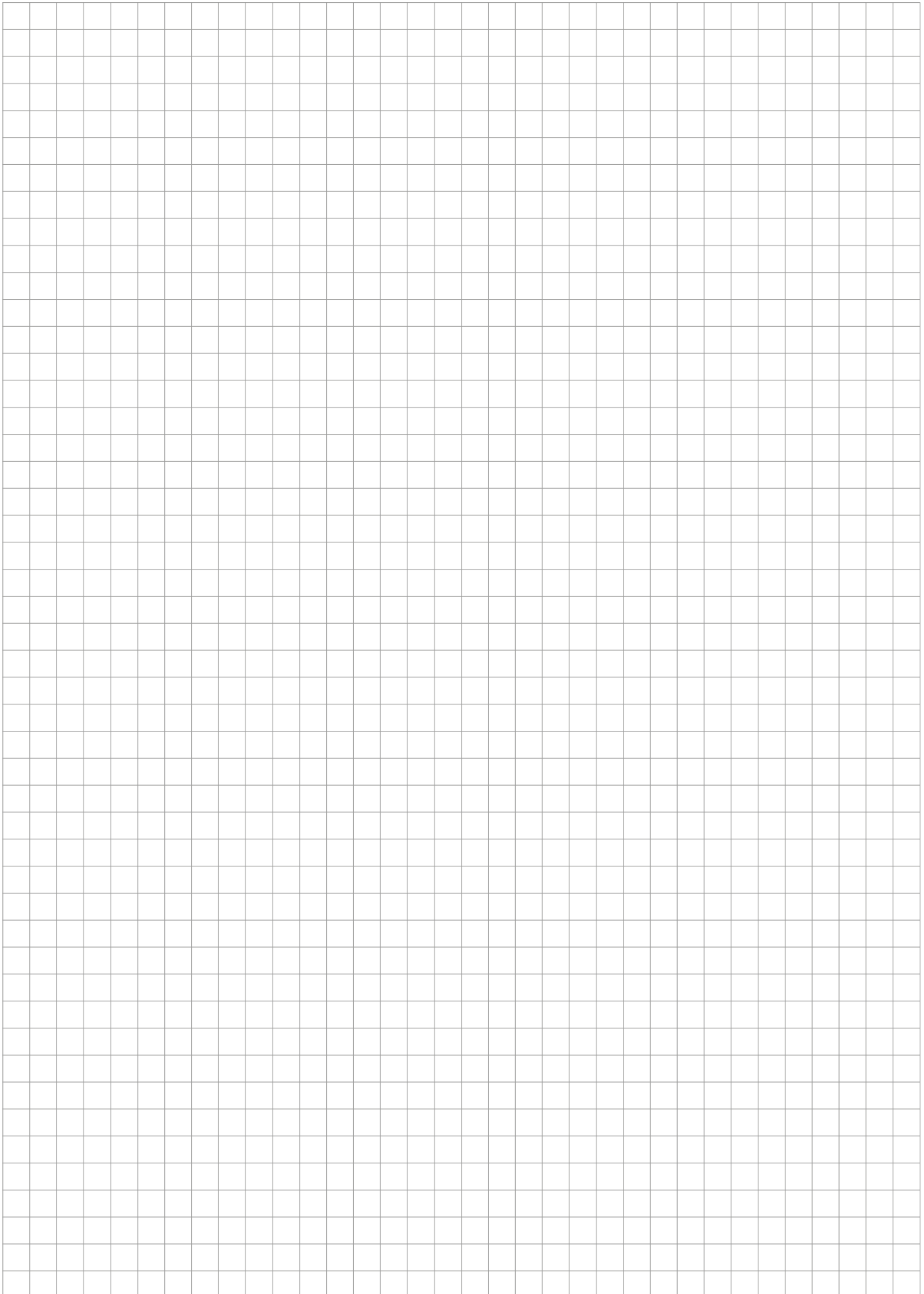
T型槽倒角

Chamfering of T-slots

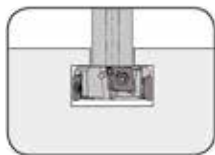
工件材质 Workpiece material	刀具材质 Cutting material	v_c (m/min)	f_z (mm), Z=3
碳钢 Carbon steel	TI25 / AS45	300 - 400	0,10 - 0,13
合金钢 Alloyed steel	TI25 / AS45	180 - 300	0,13 - 0,21
灰铸铁 Grey cast iron	TI25 / AS45	140 - 240	0,16 - 0,27

该切削参数只适用于防振的标准硬质合金刀杆

The cutting data is only valid for standard carbide toolholders (shanks) listed in this chapter.

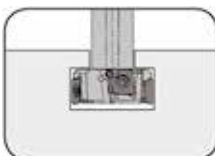


铣刀杆
Milling shank
M406/M409



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铣刀杆
Milling Shank
M409



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可转位刀片
Indexable insert
406/409



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M406/M409



T型槽铣刀
安装可换式刀片
406/409系统
切削刃 Ø 25-50 mm

T-Slot Cutter with
exchangeable inserts
from 406/409 systems
cutting edge Ø 25-50 mm

T型槽铣削

Milling of T-Slots

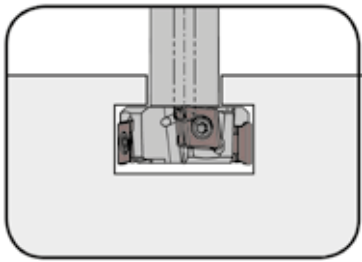


铣刀杆

Milling shank

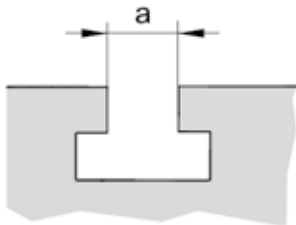
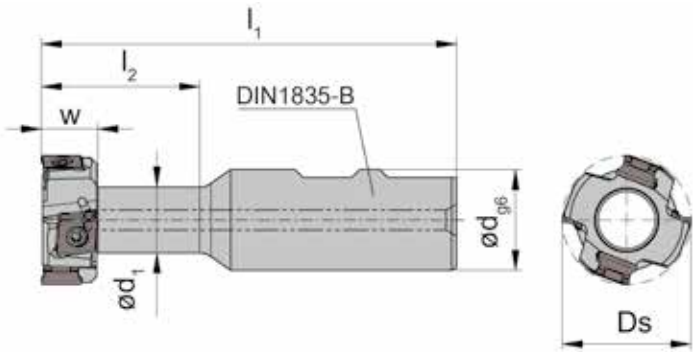
M406
直接冷却液供应
with through coolant supply

切削刃Ø	Cutting edge Ø	25 mm



配合可转位刀片
for Indexable insert

型号 406
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Z _{eff}	Ds	d	l ₁	l ₂	d ₁	w	a	n _{max}	右手型刀片 right hand insert	左手型刀片 left hand insert
M406.025.11.D16.1.02.B	4	2	25	16	83	31	12.4	11	12.9	19000	2x R406.063.U...	2x L406.063.U...

按需提供更多尺寸
Further sizes upon request
Ø25mm以上为2个夹持面
from Ø 25 mm 2 clamping flats
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M406.025.11.D16.1.02.B	030.2608.T8P	T8PL

T型槽铣削

Milling of T-Slots

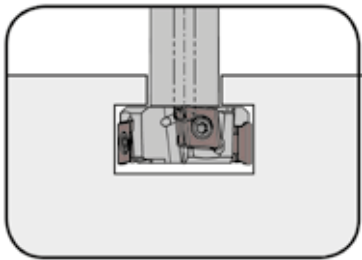


铣刀杆

Milling shank

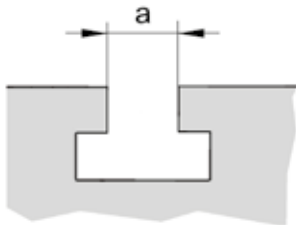
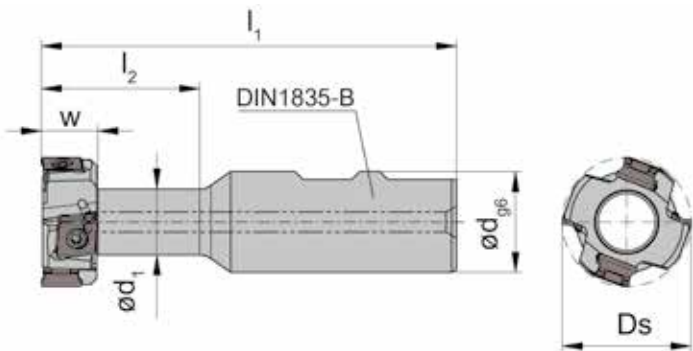
M409
直接冷却液供应
with through coolant supply

切削刃Ø	Cutting edge Ø	32-50 mm



配合可转位刀片
for Indexable insert

型号 409
Type



图示=右手型
Picture = right hand cutting version

产品型号 Part number	Z	Z _{eff}	Ds	d	l ₁	l ₂	d ₁	w	a	n _{max}	右手型刀片 right hand insert	左手型刀片 left hand insert
M409.032.14.D25.1.02.B	4	2	32	25	103	39	16,4	14	16,9	15600	2x R409.093.U...	2x L409.093.U...
M409.040.18.D25.1.02.B	4	2	40	25	109	48	20,4	18	20,9	13900	2x R409.093.U...	2x L409.093.U...
M409.050.22.D32.1.02.B	6	2	50	32	125	59	26,4	22	26,9	12500	4x R409.093.U...	2x L409.093.U...

按需提供更多尺寸
Further sizes upon request
Ø25mm以上为2个夹持面
from Ø 25 mm 2 clamping flats
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

配件

Spare Parts

铣刀杆 Milling shank	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
M409...	030.3511.T10P	T10PL

T型槽铣削

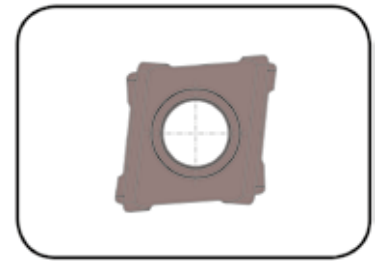
Milling of T-Slots



可转位刀片

Indexable insert

406



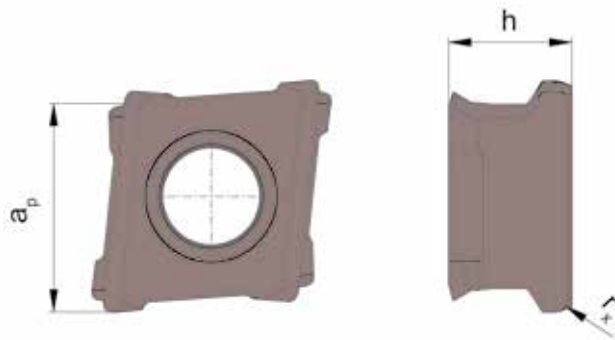
切深可达

Depth of cut up to

6.3 mm

用于铣削刀柄
for Milling shank

型号 M406
Type



4个切削刃刀片
with 4 usable cutting edges

产品型号 Part number	a _p	h	r _x		AS46	AS4B
R/L406.063.U.04	6.3	3.85	0.4		▲/▲	▲/▲
R/L406.063.U.08	6.3	3.85	0.8		▲/▲	▲/▲
▲ 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				硬质合金牌号 Carbide grades		
尺寸单位 : mm						
Dimensions in mm						
注明R或L型						
State R or L version						

T型槽铣削

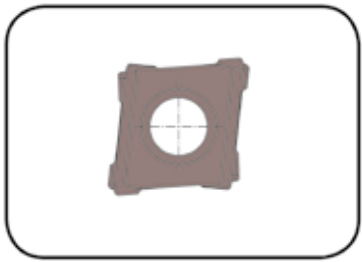
Milling of T-Slots



可转位刀片

Indexable insert

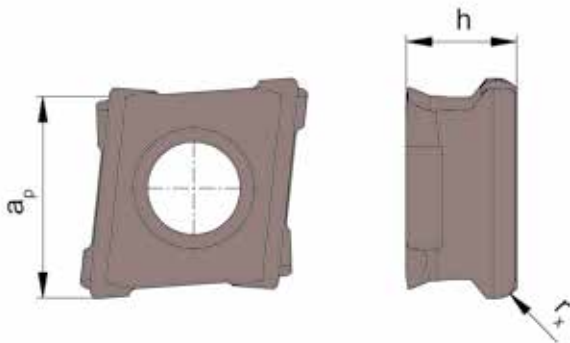
409



切深可达

Depth of cut up to

9.3 mm



用于铣削刀柄
for Milling shank

型号 M409
Type

4个切削刃刀片
with 4 usable cutting edges

产品型号 Part number	a_p	h	r_x	AS46	AS4B
R/L409.093.U.04	9.3	5.2	0.4	▲/▲	▲/▲
R/L409.093.U.08	9.3	5.2	0.8	▲/▲	▲/▲
R/L409.093.U.12	9.3	5.2	1.2	▲/▲	▲/▲
▲ 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

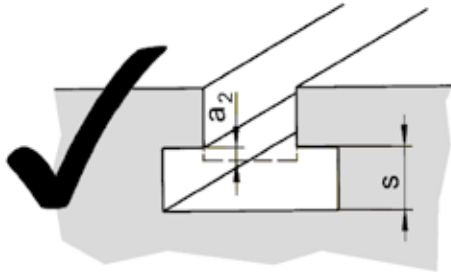
State R or L version

硬质合金牌号
Carbide grades

应用技术

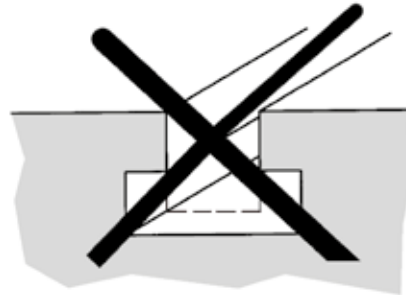
Application Technology

$$a_2 \approx 0,2 \times s$$



推荐

recommended



不推荐

not recommended

切削参数

Cutting data

T型槽铣削 Ø25 / Ø32 mm

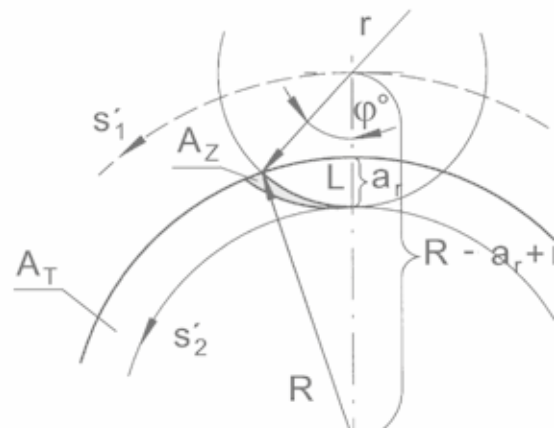
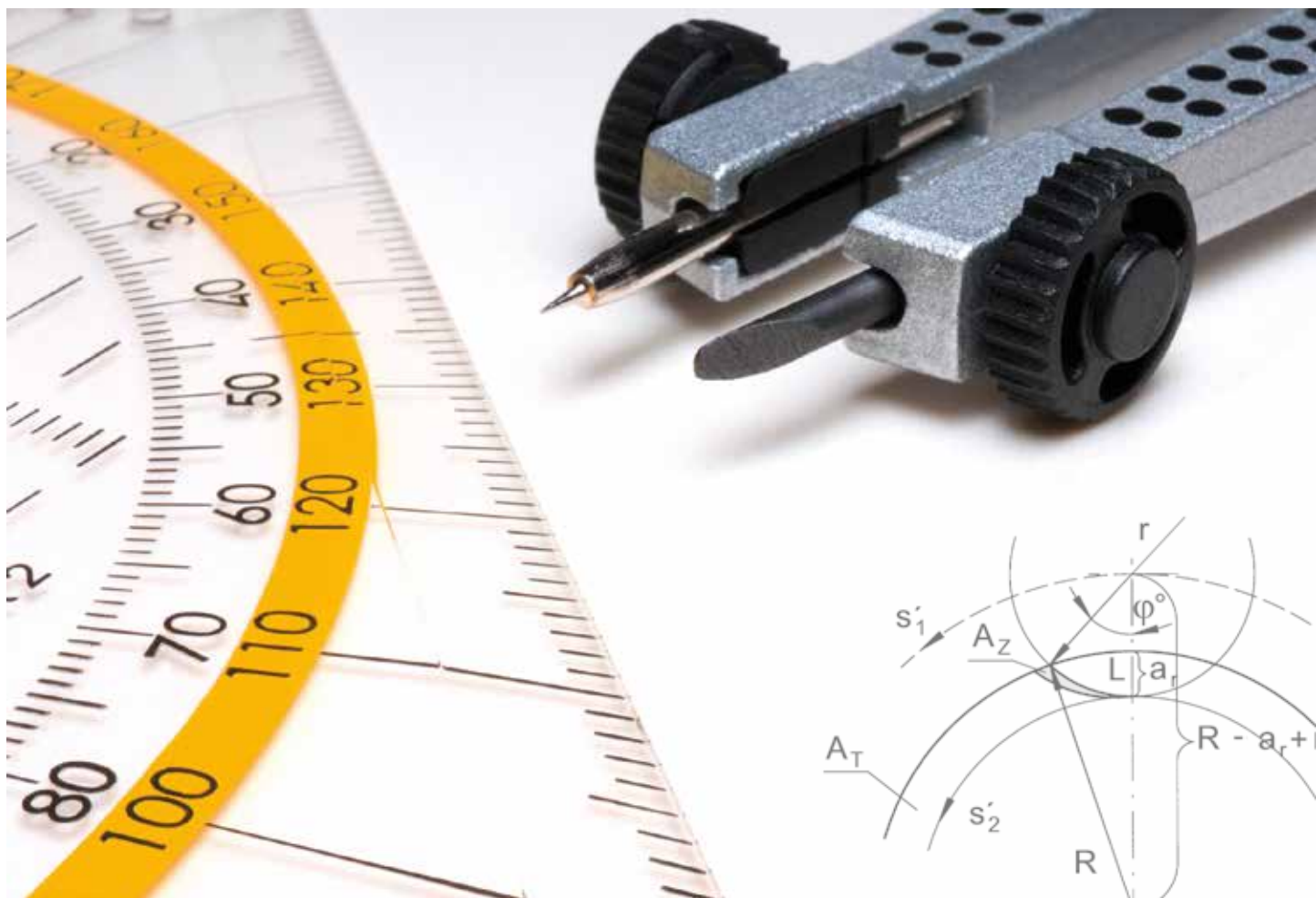
Milling of T-Slots

工件材质 Workpiece material	刀具材质 Cutting material	v_c (m/min)	f_z (mm)
可热处理钢件 heat-treatable steel	AS4B	120 - 160	0,07 - 0,14
灰铸铁 Grey cast iron	AS4B	100 - 160	0,07 - 0,14

T型槽铣削 Ø40 / Ø50 mm

Milling of T-Slots

工件材质 Workpiece material	刀具材质 Cutting material	v_c (m/min)	f_z (mm)
可热处理钢件 heat-treatable steel	AS4B	60 - 90	0,06 - 0,08
灰铸铁 Grey cast iron	AS4B	90 - 140	0,06 - 0,08



概要/Summary

页/Page

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螺钉扭矩

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可选择的铣刀杆

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Available Milling Shanks

切削参数

J16-J17

Cutting Data

J

进给率和时间的计算

使用HORN的HTC程序可以简单而方便的计算出所需要的速度和进给。推荐您使用该程序计算切削参数，可以得到最好的切削性能和结果。可以在下页查看其基本功能。

HCT (HORN Circular Technology)

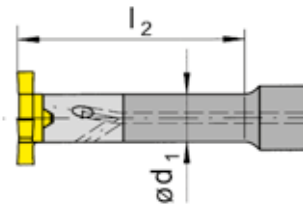
-安全快捷-
您需要的圆弧插补铣槽及直槽铣削的切削参数。
系统要求：Windows 95，可用于CD-ROM上。

常规推荐

铣刀悬伸

尽可能选择最短的夹持装置或铣刀柄，以控制刀具的跳动公差。

大宽度和大悬伸的加工需要特殊的加工方法，例如将槽宽分多次加工出来，以降低切削力，达到最好的加工效果。



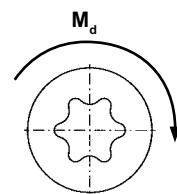
铣刀直径

当使用大直径刀具时，刀的直径越接近于孔的直径，加工周期将由于较小的旋转中心和较高的进给率而缩短，通常情况下，刀具的直径由工件的参数和应用设置所决定。



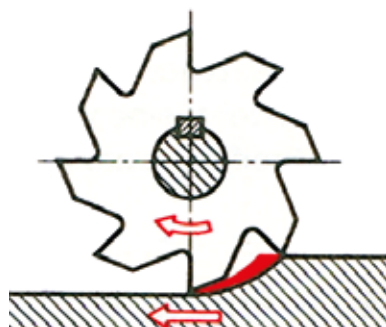
夹紧螺丝的拧紧扭矩

推荐使用扭矩扳手，不要使用附加润滑剂如铜膏，会产生负面影响或者影响夹紧力。所有的螺钉已附着润滑剂。



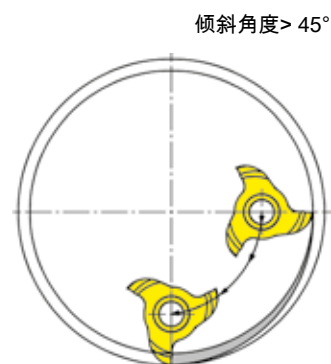
铣削方向

大多数HORN的铣刀是右手型，加工中推荐硬质合金刀具普遍采用的顺铣方式。



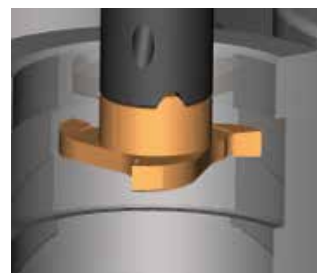
铣入工件

铣削时一个简单的径向切入会产生一个很大的接触角，这将导致振刀，并在之后的切削中一直存在，直到槽底。推荐切入槽时以切入角 45° 到 180° 至槽底。计算得出的切削参数为满切时，但也适用于其他切削情况。



孔铣削和偏移铣削使用螺旋插补铣

HORN铣削刀片有圆形断屑槽，这意味着轴向切深超过2mm后切削角将是负的。当螺旋插补铣削时铣刀的切削深度被限定在2mm以内。大切深需要非标断屑槽，如有问题请联系我们。



单刃刀片

当刀片的切削直径比孔径大时，在不旋转的情况下刀具通过孔可以加工背面的倒角或平面。这时单刃刀具没有径向和轴向跳动。

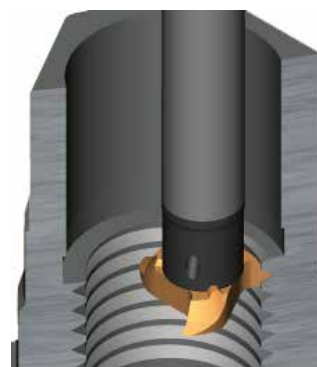


螺纹铣削

使用HORN的螺纹铣刀时螺纹轮廓在满切情况下形成。这时螺纹锥度最小，尤其工件材质为高合金钢时。底孔为盲孔时推荐自底部至顶部的加工方法。否则可能会因为盲孔底部的切屑损坏刀具。

螺纹加工方法推荐：

铣刀直接不能超过螺纹小径的70%，否则会重复切削使整个螺纹尺寸超差。



Feed rates and time calculation

It is simple and easy to calculate your speed and feeds using HORN'S HCT programme. We recommend that you calculate the cutting data with this programme as it will provide you with the best cutting performance and results. Basic features of the calculations can be found on the following pages.

HCT (HORN Circular Technology)

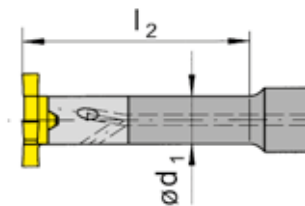
- safe and fast -

Your cutting data for groove milling by circular interpolation of internal and external grooves as well as groove milling of linear grooves. System requirements from Windows 95. Available on CD-ROM.

BASIC RECOMMENDATIONS

Overhang of the milling cutter

Select the shortest possible clamping device and milling shank, to control the runout tolerance of the tools. Large cutting widths in combination with long overhangs require specific manufacturing methods such as dividing the cutting width to achieve the best possible cutting result due to reduced cutting forces.



Diameter of the milling cutter

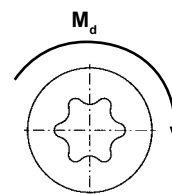
When using a large diameter cutter, whose relationship is close to the bore diameter, manufacturing cycletime can be reduced, due to the smaller center of rotation and higher feed rates could be realized. Many times the rotation of the milling cutter center will be defined by the parameters of the workpiece and the whole application setup.



Clamping torque of the screws

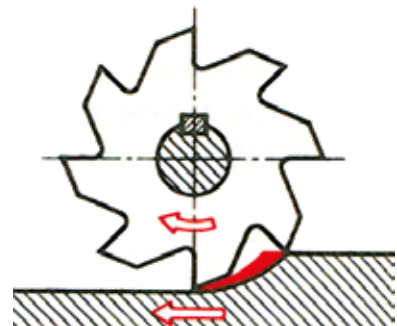
We recommend to use a torque screw driver to achieve the indicated torque values per insert and tool type. Additional additives such as copper paste are not permitted. This will have a negative effect and change the clamping forces.

All clamping screws are already coated with additives.



Milling direction

Most HORN milling tools are right handed, and it is recommended to use them with the climb milling process as this is generally recommended for carbide tools.

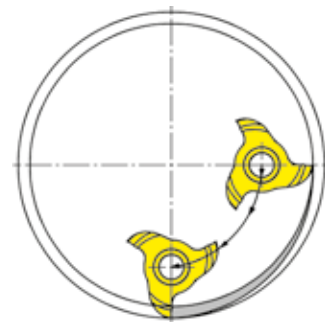


Milling entry into the workpiece

A simple radial entry of the milling cutter creates a very long contact angle which leads to vibrations which will not disappear for the rest of the milling operation and are visible on the bottom of the groove.

It is recommended to enter the groove with a ramp angle of 45° up to 180° to the maximum depth of cut. The calculated cutting data refers to the milling condition when the insert is in the full cut but can be also used for the entry loop.

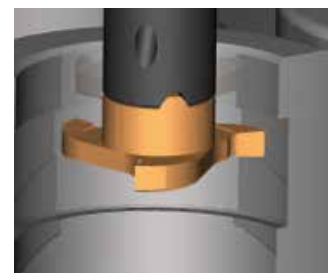
Ramp angle $> 45^\circ$



J

Bore milling and offset milling by helical interpolation

HORN milling inserts are manufactured with a round chip breaker. This means that beyond a depth of cut of 2 mm in axial direction the insert gets a negative cutting angle. Milling inserts are limited to a depth of cut of 2 mm when used for helical interpolation. Larger depths of cut can only be produced when choosing special chip breakers. Please contact us in case of any further questions.



Single edged inserts

When entering through a bore off centre and without rotating it is possible to generate back chamfers and flats with inserts having a larger cutting diameter than the bore diameter. Single edged cutters have no run out tolerance.



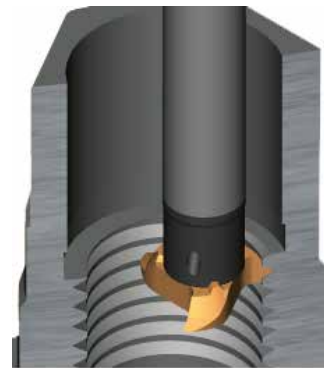
Thread milling

With HORN thread milling inserts the thread profile is generated in one full cut to the profile depth of the thread. This produces threads with minimal taper especially in high alloyed steels.

In blind holes it is recommended to mill from the bottom to the top. Otherwise there is the risk of damaging the tool because of milling into chips at the bottom of the blind hole.

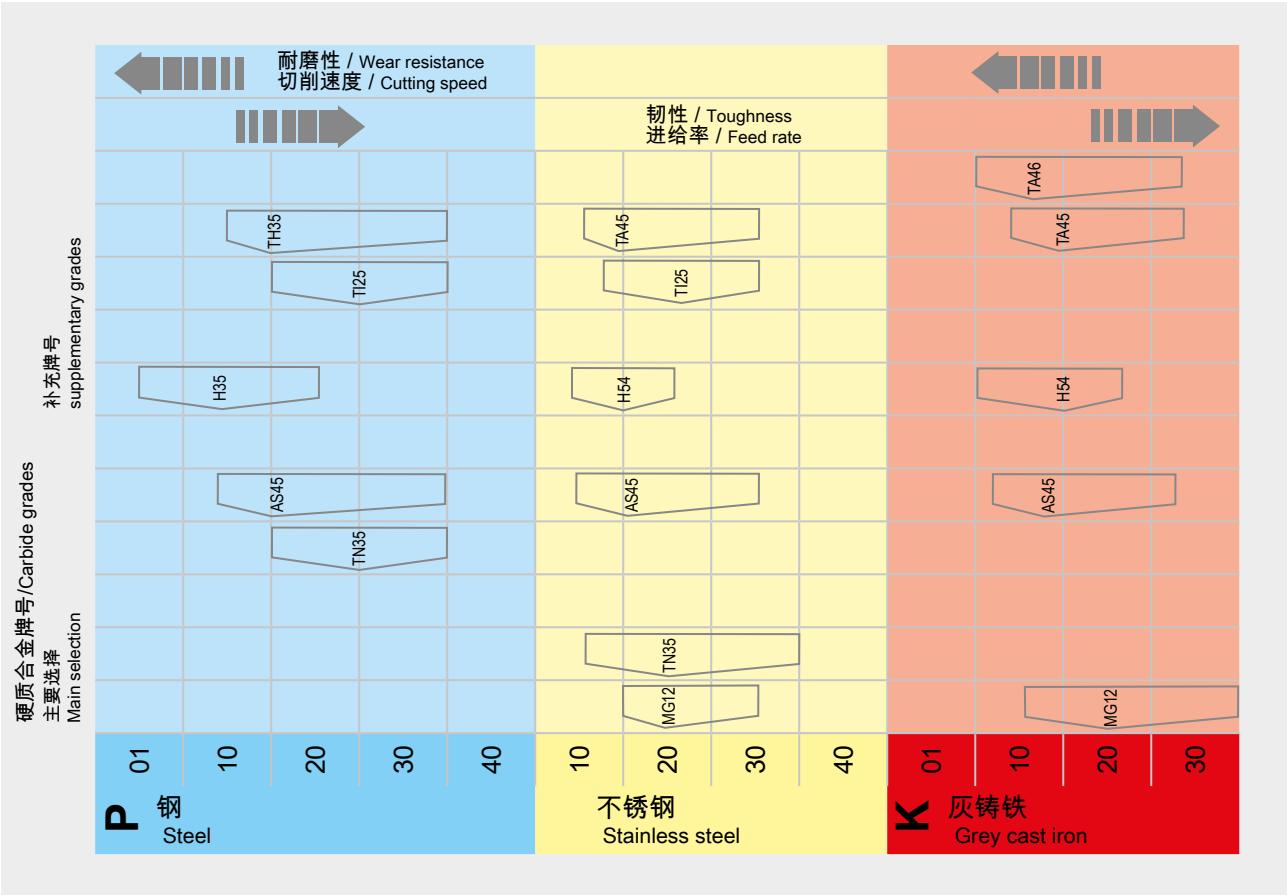
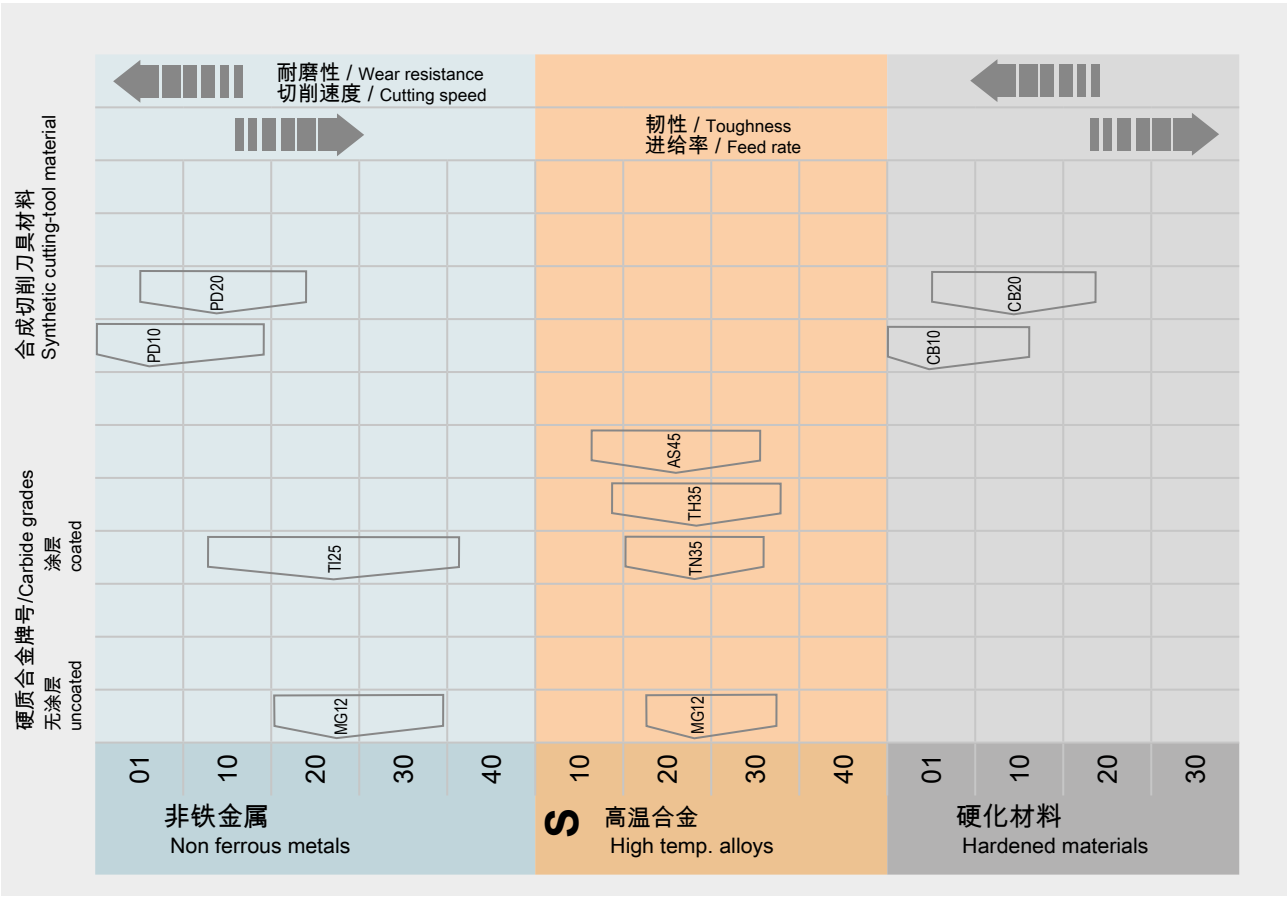
A general recommendation for thread milling:

The milling cutter diameter should not exceed 70% of the minor diameter of the thread. Otherwise recutting of the profile occurs which could bring the whole thread out of tolerance.



硬质合金牌号的选择

Choice of Carbide Grades



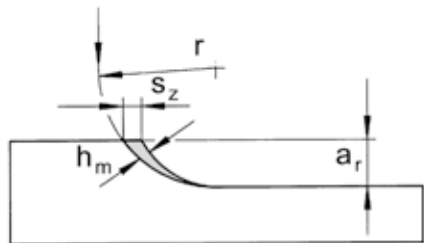
槽铣削 (圆弧插补铣削)

Groove Milling by circular interpolation



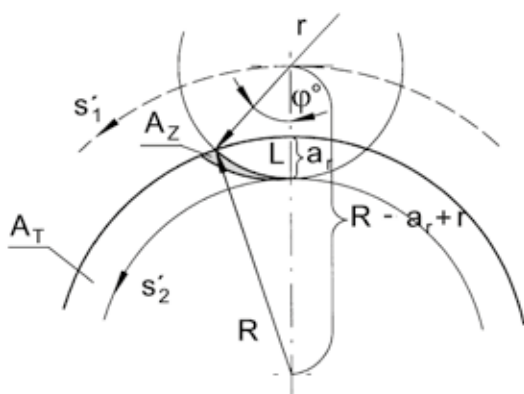
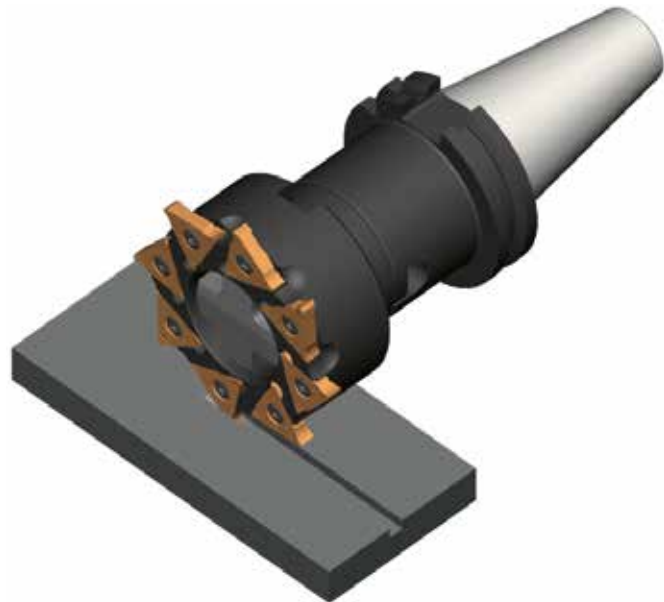
直槽铣削-外部

Milling of a linear groove - external



$$s_z = h_m \sqrt{\frac{2r}{a_r}}$$

$$s = n \cdot z \cdot s_z \text{ mm/min}$$



$$\cos \varphi^\circ = \frac{r^2 + [R + r - a_r]^2 - R^2}{2r [R + r - a_r]} \longrightarrow \varphi^\circ$$



$L = \frac{\pi \cdot 2r \cdot \varphi^\circ}{360^\circ} \text{ mm}$	切削长度 Length of cut
$A_z = L \cdot h_m \text{ mm}^2$	切屑面积 Area of chip
$A_T = \pi [R^2 - (R - a_r)^2] \text{ mm}^2$	槽截面的面积 Area of groove section

$t = \frac{A_T}{n \cdot z \cdot A_z} \text{ min}$	加工时间 (用于 A_T) Time for cut (for A_T)
$s'_1 = \frac{\pi \cdot 2 (R + r - a_r)}{t} \text{ mm/min}$	刀具中心的进给 Feed rate of tool centre
$s'_2 = s'_1 \frac{R - a_r}{R + r - a_r} \text{ mm/min}$	刀尖进给 Feed rate of tool tip

J

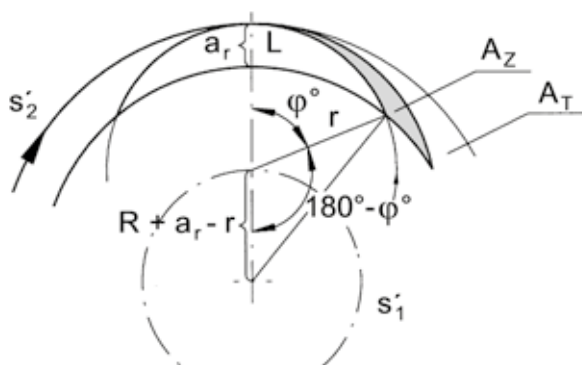


HCT (HORN Circular Technology)

-安全快捷-
您需要的圆弧插补铣槽及直槽铣削的切削参数。
系统要求：Windows 95，可用于CD-ROM上。

内槽铣削

Milling of an internal groove



$$\cos [180^\circ - \varphi^\circ] = \frac{r^2 + [R + a_r - r]^2 - R^2}{2r [R + a_r - r]} \longrightarrow 180^\circ - \varphi^\circ \longrightarrow \varphi^\circ$$

$L = \frac{\pi \cdot 2r \cdot \varphi^\circ}{360^\circ} \text{ mm}$	切削长度 Length of cut
$A_z = L \cdot h_m \text{ mm}^2$	切屑面积 Area of chip
$A_T = \pi [(R + a_r)^2 - R^2] \text{ mm}^2$	槽截面的面积 Area of groove section

$t = \frac{A_T}{n \cdot z \cdot A_z} \text{ min}$	加工时间 (用于 A_T) Time for cut (for A_T)
$s'_1 = \frac{\pi \cdot 2 (R + a_r)}{t} \text{ mm/min}$	刀具中心的进给 Feed rate of tool centre
$s'_2 = s'_1 \frac{R + a_r}{R - r + a_r} \text{ mm/min}$	刀尖进给 Feed rate of tool tip

规格

Specification

	规格 Specification	ISO 规格 Specification
进给率 Feed rate	s'	v_f
转速 Revolutions	n	n
齿数 Number of teeth	z	z
进给/齿 Feed/tooth	s_z	f_z
切屑中间厚度 medium thickness of chip	h_m	h_m
径向切削深度 radial depth of cut	a_r	a_e

	规格 Specification	ISO 规格 Specification
刀具半径 Radius of cutter	r	r
工件半径 Radius of workpiece	R	R
刀具中心的进给 Feed rate of tool centre	s'_1	v_{f3}
刀尖进给 Feed rate of tool tip	s'_2	v_{f2}



HCT (HORN Circular Technology)

- safe and fast -

Your cutting data for groove milling by circular interpolation of internal and external grooves as well as groove milling of linear grooves.

System requirements from Windows 95. Available on CD-ROM.

以下扭矩适用于刀片的螺钉，我们建议对螺钉不要额外使用润滑剂（如铜膏）。
关于扭矩扳手，见章节辅助装置

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

型号 type	螺钉 Screw	M _d Nm	夹紧扳手 Clamping wrench	刀板 Blade
380	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
381.0...	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
382...06	5F.06T15P	5,50	T15PQ	DT15PK
382...08	5F.08T20P	5,50	T20PQ	DT20PK
382...10/12/14	5.10T20P	6,50	T20PQ	DT20PK / DT20PQ
383...06	5F.06T15P	5,50	T15PQ	DT15PK
383...08	5F.08T20P	5,50	T20PQ	DT20PK
383...10/12	5.10T20P	6,50	T20PQ	DT20PK / DT20PQ
ABS	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
ADR.01...	C009000	0,75	T6W	DT6K
ADR.02/03...	C009001	1,50	T8L	DT8K
ADR.04/05/06...	C009002	1,50	T8L	DT8K
B105/BKT105	6.075T15P	5,00	T15PQ	DT15PK
B110/BKT110	6.075T15P	5,00	T15PQ	DT15PK
BKT356	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
DAH	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
DAHM.25.012...	030.2547.T8P	1,30	T8PL	DT8PK
DAHM.25...	030.2553.T8P	1,30	T8PL	DT8PK
DAHM.37...	030.3070.T10P	3,40	T10PL	DT10PK
DAHM.62...	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
DAM31...02B	030.2541.T8P	1,10	T8PL	DT8PK
DAM31...03A/B	030.2547.T8P	1,10	T8PL	DT8PK
DAM31...04A/B	030.2553.T8P	1,10	T8PL	DT8PK
DAM31...05A/B	030.2557.T8P	1,10	T8PL	DT8PK
DAM32...A...	030.3576.T10P	3,50	T10PL	DT10PK
DAM32...02A/B	030.3562.T10P	3,50	T10PL	DT10PK
DAM32.025.D...03A/B	030.3569.T10P	3,50	T10PL	DT10PK
DAM32.032.D...03A/B	030.3576.T10P	3,50	T10PL	DT10PK
DAM32.417...03B	030.3569.T10P	3,50	T10PL	DT10PK
DAM62	030.3070.T10P	3,00	T10PL	DT10PK
DRHD	6.075T15P	5,00	T15PQ	DT15PK
HSK	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
L381.A060...	5F.08T20P	5,50	T20PQ	DT20PK
L381.D080...	5F.08T20P	5,50	T20PQ	DT20PK
L381.D086...	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
L381.G070...	5.10T20P	6,50	T20PQ	DT20PK / DT20PQ
L381.G080...	5F.08T20P	5,50	T20PQ	DT20PK
L381.G086/090/098	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
L381.N090...	5F.08T20P	5,50	T20PQ	DT20PK
L381.S...	5.15T20P	6,50	T20PQ	DT20PK / DT20PQ
L381.T...	5F.08T20P	5,50	T20PQ	DT20PK
L381.X090...	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
LM275.D...	030.357P.0315	3,00	T10PL	DT10PK
M101	030.3543.T8P	2,00	T8PL	DT8PK

型号 type	螺钉 Screw	M _d Nm	夹紧扳手 Clamping wrench	刀板 Blade
M101...A22...30/...40	030.0520.0912	6,50	T15PQ	DT15PK
M101...A32...30/...40	030.0620.0913	8,00	T20PQ	DT20PK / DT20PQ
M101...A40...30/...40	030.1030.0911	15,00	SW6,0 DIN911	
M116	5.13T20EP	6,50	T20PQ	DT20PK / DT20PQ
M117K...05	030.265P.0821	1,20	T8PL	DT8PK
M117K...07	030.265P.0819	1,20	T8PL	DT8PK
M117K...09	030.400P.0227	4,30	T15PQ	DT15PK
M117.MD10...	030.400P.0227	4,30	T15PQ	DT15PK
M117U...05	030.265P.0818	1,20	T8PL	DT8PK
M117U...07	2.6.5T8EP	1,20	T8PL	DT8PK
M117P...05	030.265P.0818	1,20	T8PL	DT8PK
M117P...07	2.6.5T8EP	1,20	T8PL	DT8PK
M271	030.2609.T8P	1,20	T8PL	DT8PK
M274	030.3513.T15P	3,00	T15PQ	DT15PK
M275	3.5.10T10P	3,00	T10PL	DT10PK
M279	030.0516.T20P	6,50	T20PQ	DT20PK / DT20PQ
M306	2.6.5T8EP	1,20	T8PL	DT8PK
M308	3.5.12T10EP	3,00	T10PL	DT10PK
M310...03	030.0324.T7P	1,20	T7PL	DT7PK
M310...04	030.3535.T8P	2,00	T8PL	DT8PK
M310...05	030.3543.T8P	2,00	T8PL	DT8PK
M311	4.14T15P	5,00	T15PQ	DT15PK
M311.0016.00.B/E	4.16T15KP	5,00	T15PQ	DT15PK
M313	5.14T20P	6,50	T20PQ	DT20PK / DT20PQ
M313.0016.00.B/E	5.13T20KP	6,50	T20PQ	DT20PK / DT20PQ
M328	5.14T20P	6,50	T20PQ	DT20PK / DT20PQ
M328.0020.00.B/E	5.13T20KP	6,50	T20PQ	DT20PK / DT20PQ
M328.0020.D...	5.17T20P	6,50	T20PQ	DT20PK / DT20PQ
M332	5.17T20P	6,50	T20PQ	DT20PK / DT20PQ
M335	6.17T25P	12,00	T25PQ	DT20PQ
M406...02/03	030.2669.T8P	1,20	T8PL	DT8PK
M406	030.2608.T8P	1,20	T8PL	DT8PK
M409	030.3511.T10P	3,50	T10PL	DT10PK
MDR.01...	C009000	0,75	T6W	DT6K
MDR.02/03...	C009001	1,50	T8L	DT8K
MDR.04/05/06...	C009002	1,50	T8L	DT8K
MDR.08/09/10...	C009004	3,50	T15Q	DT15K
R381.T...	5F.08T20P	6,50	T20PQ	DT20PK / DT20PQ
R381.X090...	5.12T20P	6,50	T20PQ	DT20PK / DT20PQ
R381.X073...	5F.08T20P	6,50	T20PQ	DT20PK / DT20PQ
RM275.D...	030.357P.0315	3,00	T10PL	DT10PK
RM275.T...	3.510.T10P	3,00	T10PL	DT10PK
SM328	5.17T20P	6,50	T20PQ	DT20PK / DT20PQ
Z313...057	5.26T20P	6,50	T20PQ	DT20PK / DT20PQ
Z313...082	5.28T20P	6,50	T20PQ	DT20PK / DT20PQ
Z313...107	5.30T20P	6,50	T20PQ	DT20PK / DT20PQ

尺寸 Dimensions				产品型号 Part number	刀片 Inserts			使用 Use			
l ₁	d _{g6}	l ₂	d ₁		Typ	t _{max}	Ds				
130	12	40	11	M116.0012.01B	116	4,3	20,4				
130	12	56	11	M116.0012.02B							
130	16	40	11	M116.0016.01B/E							
130	16	56	11	M116.0016.02B/E							
150	16	80	11	M116.0016.03B/E							
125	25	-	25	M275.031.D25.3.04A	S275	2,5	31				
80	12	21	6	M306.0012.01A/B/E	108/306/606	1,0/2,5	9,6/11,7				
90	12	30	6	M306.0012.02A/B/E							
100	12	42	6	M306.0012.03A/B/E							
100	7,5	-	-	M306.0707.03A		ap max 3,2	11,7				
120	10	-	-	M306.1010.03A							
90	12	30	7,3	M306.0712.02A/B/E							
100	16	25	7,3	M306.0716.01A/B/E		0,7/2,0	9,6/11,7				
110	16	35	7,3	M306.0716.02A/B/E							
16	11	-	6	M306.ER11.02							
37	16	11	6	M306.M081.01		1,0/2,5	9,6/11,7				
60	10	15	6	M306.ST10.01A/B							
70	12	15	6	M306.ST12.01A/B							
95	12	29	8	M308.0012.01A/B/E	111/308/608	2,3/3,5	13,4/15,7				
110	12	42	8	M308.0012.02A/B/E							
120	12	56	8	M308.0012.03A/B/E							
160	12	-	12	M308.0012.07A							
110	12	42	9,5	M308.1012.02A/B/E							
110	16	33	9,5	M308.1016.01A/B/E							
110	16	33	9,5	M308.1016.02A/B/E							
110	16	33	9,5	M308.1016.03A/B/E							
16	11	-	8	M308.ER11.02							
22	16	-	8	M308.ER16.02							
22	20	-	8	M308.ER20.02							
37	16	14	8	M308.M081.01							
60	10	18	8	M308.ST10.01A/B							
70	12	18	8	M308.ST12.01A/B							
70	13	26	8	M308.ST13.01A				311/611	3,5	17,7	
100	12	32	9	M311.0012.01A/B/E							
100	12	45	9	M311.0012.02A/B/E							
120	12	64	9	M311.0012.03A/B/E	-	17,7					
130	12	20	9	M311.0012.05A							
130	12	20	9	SM311.0012.05B/E*							
80	12	-	-	M311.0012.D.00A	ap max 5,7	17,7					
80	16	-	-	M311.0016.D.00A							
90	16	25	9	M311.0016.00B/E							
100	16	32	9	M311.0016.01A/B/E	311	17					
110	16	45	9	M311.0016.02A/B/E							
130	16	64	9	M311.0016.03A/B/E							
110	16	32	13	M311.1316.01A/B/E				311/611	3,5	17,7	
130	16	45	13	M311.1316.02A/B/E							
145	16	64	13	M311.1316.03A/B/E							
22	11	-	9	M311.ER11.02	311/611	3,5	17,7				
22	16	-	9	M311.ER16.02							
22	20	-	9	M311.ER20.02							
22	25	-	9	M311.ER25.02							

*可热处理钢件

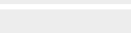
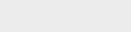
*Material of shank tungsten alloy - upon request

尺寸单位：mm
Dimensions in mm

尺寸 Dimensions				产品型号 Part number	刀片 Inserts	Ds	使用 Use	
l_1	d_{g6}	l_2	d_1					
19,7	20	-	12,5	M311.ER20.14.01	311/611	ap max 5,7	17,7	
19,7	25	-	14,5	M311.ER25.14.01				
37	16	14	9	M311.M081.01				
60	10	18	9	M311.ST10.01A/B				
70	12	18	9	M311.ST12.01A/B				
70	13	26	9	M311.ST13.01A				
80	16	26	9	M311.ST16.01A	313/613	4,5/3,2	21,7	
130	12	-	-	SM313.0012.00B/E*				
130	16	25	12	SM313.0016.00B/E*				
100	12	-	-	M313.0012.01A/B/E				
130	12	-	-	M313.0012.02A/B/E	313	-	20	
93	16	30	11,5	M313.0016.00B/E				
90	16	23	12	SM313.0016.00B/E*	313/613	4,5/3,2	21,7	
100	16	42	12	M313.0016.01A/B/E				
130	16	60	12	M313.0016.02A/B/E				
160	16	85	12	M313.0016.03A/B/E				
160	16	20	12	M313.0016.07A				
130	16	20	12	SM313.0016.05B/E*				
160	16	20	12	SM313.0016.07B/E*				
80	16	-	-	M313.0016.D00A				
80	20	-	-	M313.0032.D00A				
110	20	45	16	M313.1620.01A/B/E				
130	20	65	16	M313.1620.02A/B/E				
160	20	85	16	M313.1620.03A/B/E				
20	16	-	11,3	M313.ER16.01				
30	16	-	11,3	M313.ER16.02				
20	20	-	11,3	M313.ER20.01				
30	20	-	11,3	M313.ER20.02				
30	25	-	11,3	M313.ER25.02				
30	32	-	11,3	M313.ER32.02				
19,7	25	-	14	M313.ER25.14.01	613	ap max 5,7	21,7	
19,7	32	-	14	M313.ER32.14.01				
37	16	15	11,3	M313.M081.01				
60	10	-	11,3	M313.ST10.01A				
70	12	18	11,3	M313.ST12.01A/B				
70	13	26	11,3	M313.ST13.01A				
80	16	26	11,3	M313.ST16.01A				
80	16	-	-	M328.0016.D.00A				
80	20	-	-	M328.0020.D.00A				
100	16	42	14,3	M328.0016.01A/B/E	325/328/628	5/6,5/9,3	24,8/27,7	
130	16	60	14,3	M328.0016.02A/B/E				
160	16	85	14,3	M328.0016.03A/B/E				
100	20	42	14,3	M328.0020.01A/B/E				
130	20	60	14,3	M328.0020.02A/B/E				
160	20	85	14,3	M328.0020.03A/B/E	328	-	24	
104	20	35	13,5	M328.0020.00B/E				
100	20	25	15	SM328.0020.00B/E*				

*可热处理钢件
*Material of shank tungsten alloy - upon request

尺寸单位 : mm
Dimensions in mm

尺寸 Dimensions				产品型号 Part number	Typ	刀片 Inserts	Ds	使用 Use	
l ₁	d _{g6}	l ₂	d ₁			t _{max}			
130	20	25	15	SM328.0020.05B/E	328/628	-	27,7		
145	20	-	20	SM328.0020.06B/E*					
160	20	25	15	SM328.0020.07B/E*					
200	20	-	20	SM328.0020.08B/E*					
250	20	-	-	M328.0020.10A					
80	16	-	-	M328.0016.D.00A					
80	20	-	-	M328.0020.D.00A					
145	20	-	-	M328.0020.D.05A/B/E					
160	20	-	-	M328.0020.D.06A/B/E					
180	20	-	-	M328.0020.D.07A/B/E					
120	9	-	-	M328.0909.01A		9,3	28		
100	12	32	9	M328.0912.01A					
94,3	12	26,3	-	M328.0912.01B					
37	16	15	14,3	M328.M081.01					
35	20	-	14	M328.ER20.02		6,5	27,7		
35	25	-	14	M328.ER25.02					
35	32	-	14	M328.ER32.02					
21,7	25	-	-	M328.ER25.16.01	325/328/628	ap max 5,7	24,8/27,7		
21,7	32	-	-	M328.ER32.16.01		5,0/6,5			
70	12	-	14	M328.ST12.01A/B					
70	12	20	9	M328.ST12.2.01A/B					
70	13	-	14	M328.ST13.01A					
90	16	36	14	M328.ST16.01A					
100	20	36	14	M328.ST20.01A					
100	12	32	11	M332.0012.2.01A	332/632/636	10,0	31,7		
100	16	32	11	M332.0016.2.01A		8,3			
100	16	42	16	M332.0016.01A/B					
130	16	60	16	M332.0016.02A/B					
160	16	85	16	M332.0016.03A/B					
100	20	42	20	M332.0020.01A/B					
130	20	60	20	M332.0020.02A/B					
160	20	85	20	M332.0020.03A/B					
160	25	95	23,5	M332.2325.06A					
180	25	115	23,5	M332.2325.07A					
200	25	135	23,5	M332.2325.08A					
250	25	185	23,5	M332.2325.09A					
35	20	-	14,3	M332.ER20.02					
70	12	25	11	M332.ST12.2.01A/B					
70	13	25	11	M332.ST13.2.01A					
90	16	36	14,3	M332.ST16.01A					
100	20	36	14,3	M332.ST20.01A					
37	16	15	14,4	M332.M081.01					
100	20	40	17,5	M335.0020.01A/B	335	8,0	34,7		
130	20	60	17,5	M335.0020.02A/B/E					
160	20	85	17,5	M335.0020.03A					
125	25	23	34	380.0044.03A/B/E	314	4,0	44		

*可热处理钢件

*Material of shank tungsten alloy - upon request

尺寸单位 : mm
Dimensions in mm

切削参数

Cutting Data



使用HTC计算进给率所需的切削速 v_c 和中间厚度 h_m 的标准值

Standard values for cutting speeds v_c and medium thickness h_m for calculating feed rates by calculating cutting program »HCT«.

材料 Material			硬度 Hardness Brinell (HB)	切削速度 v _c Cutting speed v _c				切屑中间厚度 h _m medium thickness of chip h _m		
				MG12	TN35 Ti25 TH35	AS45 TA45	*H35	SP Typ / Insert Type 108,111,116, 306 - 336, 606 - 636		
								非常稳定 very rigid	稳定 rigid	不稳定 not rigid
P	碳钢 Carbon steel	0.2% C	140	-	240	240	200-350	0,05	0,03	0,01
		0.4% C	180	-	210	210	200-300			
		0.6% C	200	-	160	160	150-250			
	合金钢 Alloyed steel	退火 annealed	180	-	150	150	180			
		淬火 quenched	280	-	120	120	160			
		淬火 quenched	350	-	70	70	-			
	高合金钢 high alloyed steel (>5%)	退火 annealed	200	-	70	70	-			
		硬化 hardened	-	-	-	-	-			
	铸钢 Cast steel	非合金 unalloyed	180	80	180	180	-	0,05	0,03	0,01
		合金 alloyed	220	70	120	120	-			
M	不锈钢 Stainless steel	马氏体，铁素体 martensitic, ferritic	200	80	130	130	-			
		奥氏体 austenitic	180	70	120	120	-			
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	70	100	100	-			
		高拉伸强度 high tensile strength	250	60	90	90	-			
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160	70	100	120	-			
		珠光体 perlitic	250	-	60	60	-			
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125	60	100	100	-			
		珠光体 perlitic	225	70	120	120	-			
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	550	800	-	-			
		热处理 heat treatable	80-120	220	300	-	-			
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	220	300	-	-			
		热处理 heat treatable	100	100	200	-	-			
	铜合金 Copper-alloys	非热处理 not heat treatable	90	120	-	-	-			
		热处理 heat treatable	100	100	-	-	-			
S	耐热合金 Heat resistant alloy (Fe)	退火 annealed	200	40	80	80	-			
		硬化 hardened	275	30	-	-	-			
	耐热合金 Heat resistant alloy (Ni. Co)	退火 annealed	250	20	40	40	-			
		硬化 hardened	350	15	-	-	-			

切削参数

Cutting Data

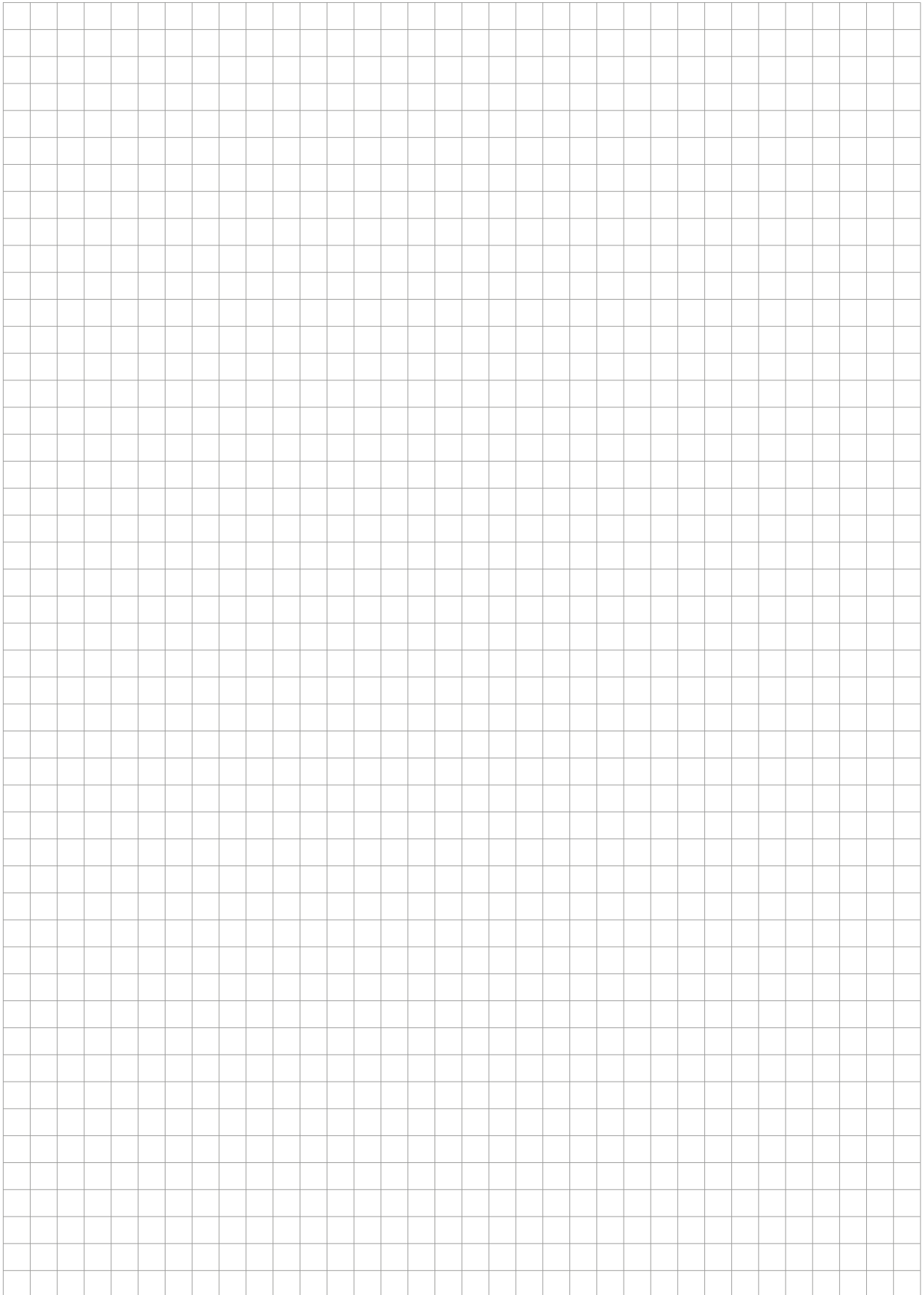


使用HTC计算进给率所需的切削速 v_c 和中间厚度 h_m 的标准值

Standard values for cutting speeds v_c and medium thickness h_m for calculating feed rates by calculating cutting program »HCT«.

材料 Material			硬度 Hardness Brinell (HB)	切削速度 v _c Cutting speed v _c				切屑中间厚度 h _m medium thickness of chip h _m			
				MG12	TN35 Ti25 TH35	AS45 TA45	*H35	可转位刀片系列 / Indexable Insert Type S310/314/S275			
									非常稳定 very rigid	稳定 rigid	不稳定 not rigid
P	碳钢 Carbon steel	0.2% C	140	-	240	240	200-350	0,1	0,05	0,03	
		0.4% C	180	-	210	210	200-300				
		0.6% C	200	-	160	160	150-250				
	合金钢 Alloyed steel	退火 annealed	180	-	150	150	180				
		淬火 quenched	280	-	120	120	160				
		淬火 quenched	350	-	70	70	-				
	高合金钢 high alloyed steel (>5%)	退火 annealed	200	-	70	70	-	-	-	-	
		硬化 hardened	-	-	-	-	-				
	铸钢 Cast steel	非合金 unalloyed	180	80	180	180	-	0,1	0,05	0,03	
		合金 alloyed	220	70	120	120	-				
M	不锈钢 Stainless steel	马氏体, 铁素体 martensitic, ferritic	200	80	130	130	-				
		奥氏体 austenitic	180	70	120	120	-				
K	灰铸铁 Grey cast iron	低拉伸强度 low tensile strength	180	70	100	100	-				
		高拉伸强度 high tensile strength	250	60	90	90	-				
	球墨铸铁 Spheroidal graphite cast iron	铁素体 ferritic	160	70	100	120	-				
		珠光体 perlitic	250	-	60	60	-				
	可锻铸铁 Malleable cast iron	铁素体 ferritic	125	60	100	100	-				
		珠光体 perlitic	225	70	120	120	-				
N	铝合金 Al-alloys	非热处理 not heat treatable	30-80	550	800	-	-				
		热处理 heat treatable	80-120	220	300	-	-				
	铸铝合金 Al-cast-alloy	非热处理 not heat treatable	80	220	300	-	-				
		热处理 heat treatable	100	100	200	-	-				
	铜合金 Copper-alloys	非热处理 not heat treatable	90	120	-	-	-				
		热处理 heat treatable	100	100	-	-	-				
S	耐热合金 Heat resistant alloy (Fe)	退火 annealed	200	40	80	80	-				
		硬化 hardened	275	30	-	-	-				
	耐热合金 Heat resistant alloy (Ni. Co)	退火 annealed	250	20	40	40	-				
		硬化 hardened	350	15	-	-	-				

*仅314系列刀片材质可为金属陶瓷
*Cermet only indexable insert type 314 available



J



系列/System

M275

381

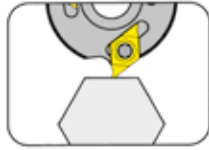
页/Page

K2

K8

K

铣刀
Cutter
M275



页/Page
K4-K5

可转位刀片
Indexable insert
S275



页/Page
K6

M275



铣刀

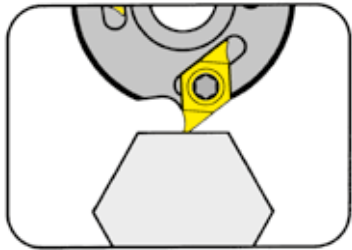
切削刃 Ø 自 40 mm

Cutter

from cutting edge Ø 40 mm

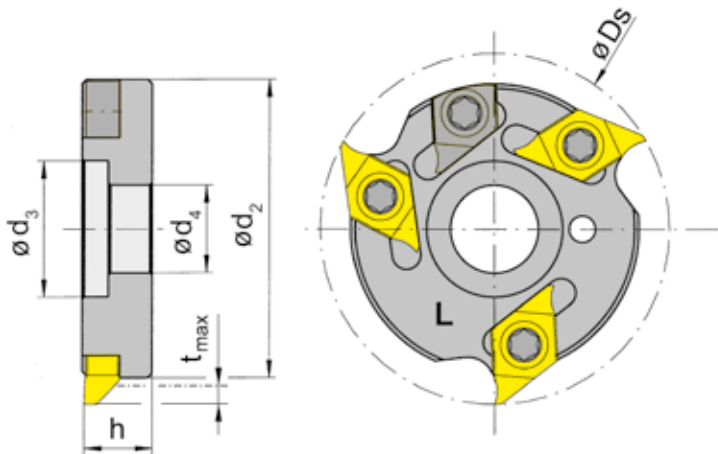
铣刀
Cutter

M275



切削刃Ø Cutting edge Ø 40 mm

适用机床：Tornos
for machine: Tornos



图示=左手型切削
Picture = left hand cutting version

配合刀片
R/LS275.MK13.M0
for insert R/LS275.MK13.M0

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₄	d ₃	机床型号 Machine type
R/LM275.D040.10.04	40	33	7.9	3	10	15.5	EvoDECO 10

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

右手刀柄使用右手刀片，左手刀柄使用左手刀片
Right hand toolholders use right hand inserts. Left hand toolholders use left hand inserts.
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

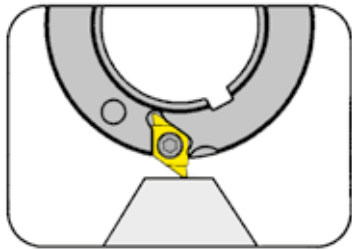


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
LM275.D040.10.04	030.357P.0315	T10PL	LS275.AT41.HM
RM275.D040.10.04	030.357P.0315	T10PL	RS275.AT41.HM

铣刀
Cutter

M275

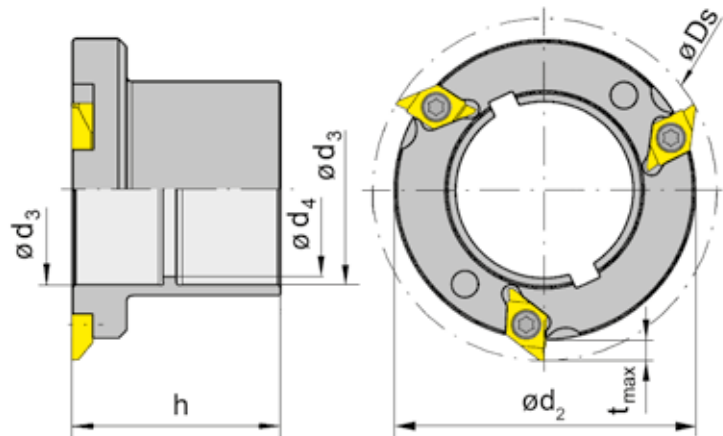


切削刃Ø

Cutting edge Ø

64 mm

适用机床：Traub
for machine: Traub



图示=右手型
Picture = right hand cutting version

配合刀片RS275.MK13.M0
for insert RS275.MK13.M0

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₄	d ₃
RM275.T064.33.03	64	56	39	3	33	36

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm

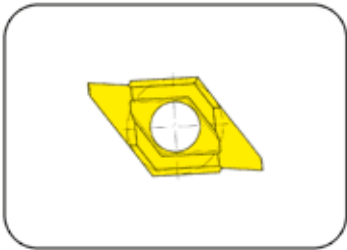


配件
Spare Parts

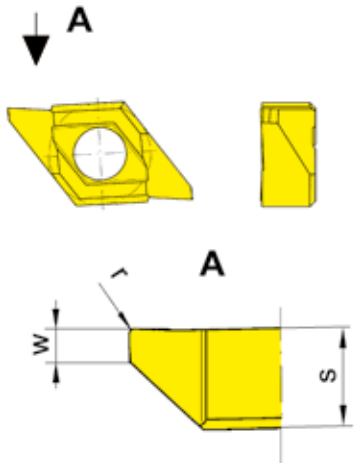
铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
RM275.T064.33.03	3.510T10P	T10PL

可转位刀片
Indexable insert

S275

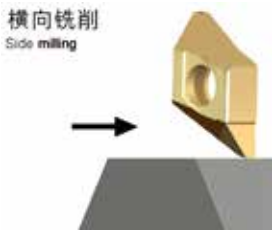


切宽	Width of cut	1.3 mm



铣刀
Cutter

型号 M275
Type



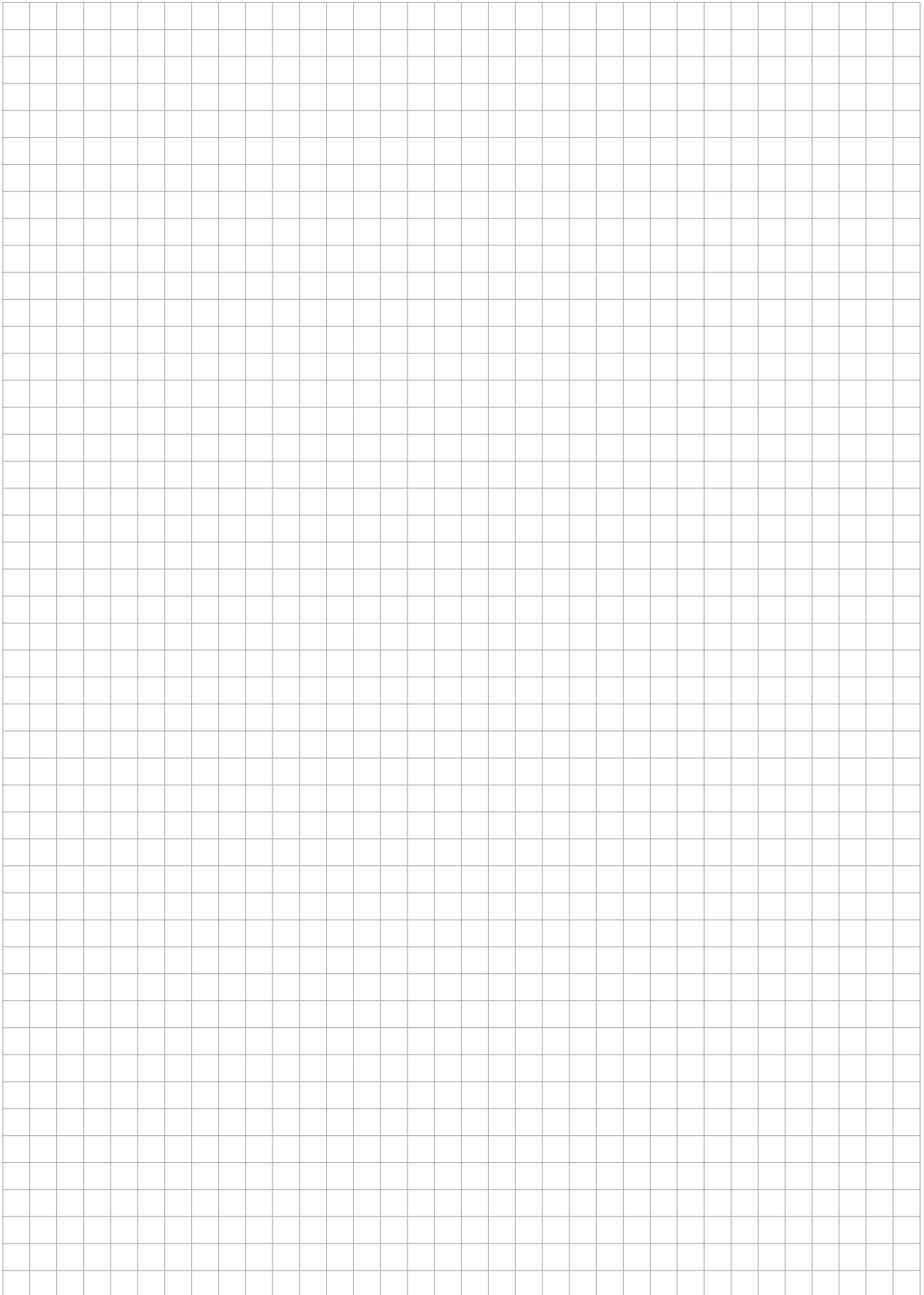
R=右手型-如图
R = right hand version shown

L=左手型
L = left hand version

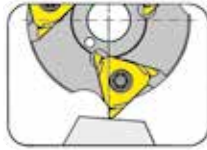
产品型号 Part number	w	r	s		MG12	AS45	TI25
R/LS275.MK13.M0	1.3	0.2	3.9		Δ/Δ	▲/▲	▲/▲
▲ 库存 / on stock Δ 4周 / 4 weeks x 根据要求 / upon request				P	•	○	•
● 推荐 / recommended				M	•	•	•
○ 次推荐 / alternative recommendation				K	•	•	•
- 不合适 / not suitable				N	○	•	•
非涂层 / uncoated grades				S	•	•	•
涂层 / coated grades				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
按需提供更多尺寸
Further sizes upon request

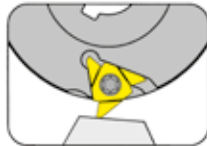
硬质合金牌号
Carbide grades



铣刀
Cutter
381



页/Page
K10, K12, K15-K19, K21-K22



页/Page
K11, K13-K14, K20

可转位刀片
Indexable insert
N314/314



页/Page
K23-K24

381



铣刀

切削刃 Ø 自 60 mm

Cutter

from cutting edge Ø 60 mm

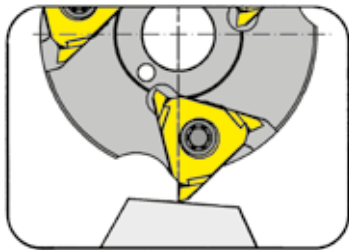
K

多边形铣削
Polygon Milling



铣刀
Cutter

381

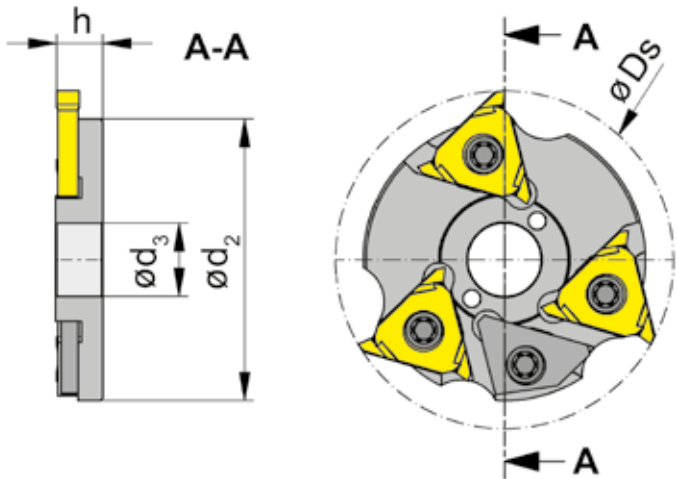


切削刃Ø

Cutting edge Ø

60 mm

用于机床：Star
for machine: Star



图示=左手型切削
Picture = left hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
L381.A060.13.04	60	50	8.2	4.5	13	Star SR-20J

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm



配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.A060.13.04	5F.08T20P	T20PQ	L314.AT30.HM

多边形铣削

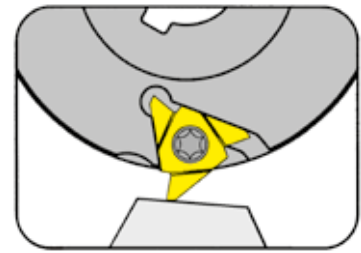
Polygon Milling



铣刀

Cutter

381

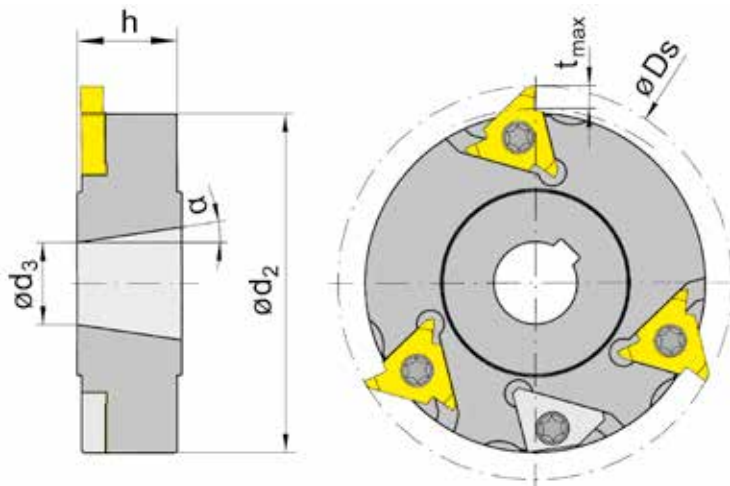


切削刃Ø

Cutting edge Ø

70 / 86 / 98

适用机床 : **Gildemeister**
for machine: **Gildemeister**



用于刀片 **L314.MK50...**
for inserts **L314.MK50...**

图示=左手型切削
Picture = left hand cutting version

产品型号 Part number	Ds	d ₂	h	α	t _{max}	d ₃	机床型号 Machine type
L381.G070.15.04	70	58	15	8.16°	5	11.5	GLD25/GD32
L381.G086.25.04	86	74	23	8.16°	5	18.0	GM20-6,-35-8/GMC35
L381.G098.26.04	98	86	23	8.32°	5	20.0	GM35-6,-35-8,-42-6/GMC35

按需提供更多尺寸
Further sizes upon request

尺寸单位 : mm
Dimensions in mm

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



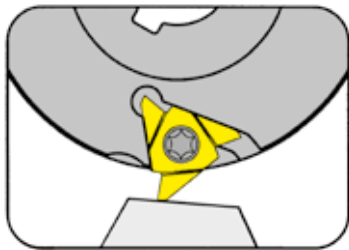
配件

Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.G070.15.04	5.10T20P	T20PQ	N314.AT40.HM
L381.G...	5.12T20P	T20PQ	N314.AT40.HM

铣刀
Cutter

381

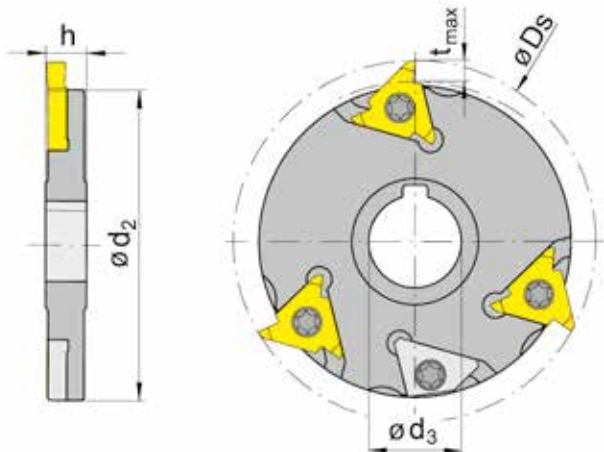


切削刃Ø

Cutting edge Ø

80 mm

适用机床：Gildemeister
for machine: Gildemeister



图示=左手型切削
Picture = left hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
L381.G080.16.04	80	68	9	5	16	SPRINT 20/32

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

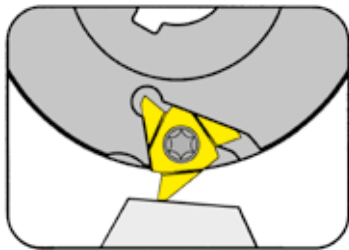


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.G080.16.04	5F.08T20P	T20PQ	L314.AT30.HM

铣刀
Cutter

381

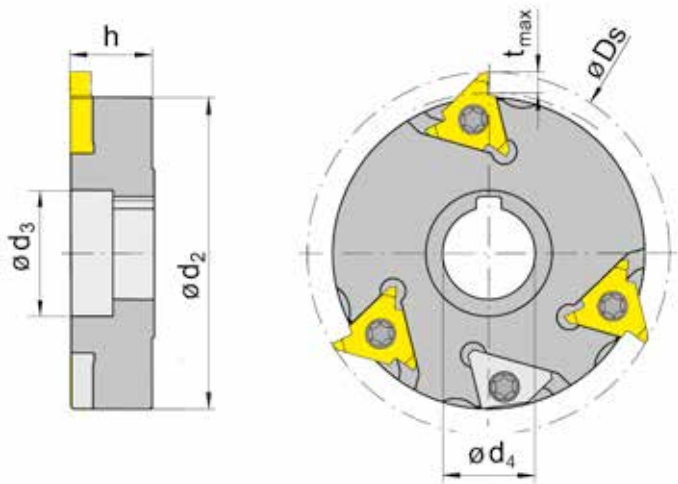


切削刃Ø

Cutting edge Ø

90 mm

适用机床：Gildemeister
for machine: Gildemeister



图示=左手型切削
Picture = left hand cutting version

用于刀片L314.MK50...
for inserts L314.MK50...

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₄	d ₃	机床型号 Machine type
L381.G090.22.04	90	78	20	5	22	30	SPRINT 32L/-42L

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm



配件
Spare Parts

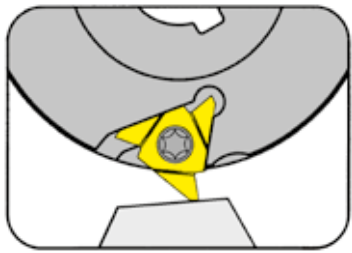
铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.G090.22.04	5.12T20P	T20PQ	N314.AT40.HM

多边形铣削
Polygon Milling



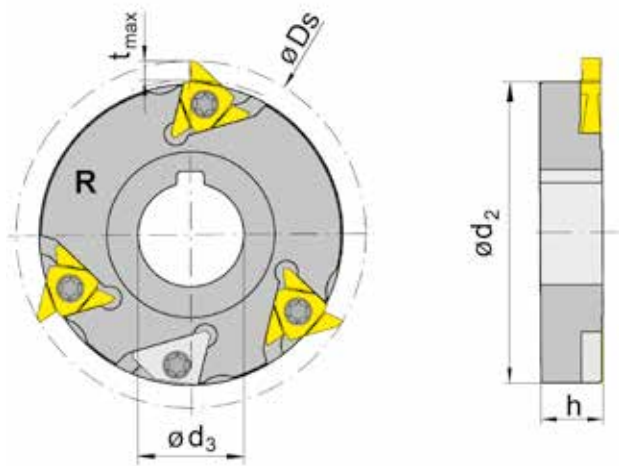
铣刀
Cutter

381



切削刃Ø	Cutting edge Ø	90 mm

适用机床：INDEX
for machine: INDEX



图示=右手型
Picture = right hand cutting version

用于刀片R/L314.MK50...
for inserts R/L314.MK50...

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type	刀片 Insert
L381.X090.27.04	90	78	16,2	5	27	Index ABC	L314...
R381.X090.27.04	90	78	16,2	5	27	Index ABC	R314...

注明R或L型
State R or L version
按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

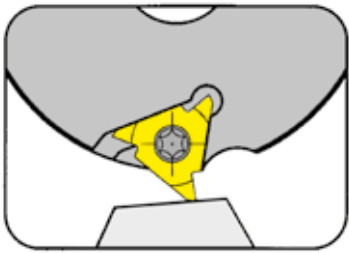


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
R/L381.X090.27.04	5.12T20P	T20PQ	020.0314.1531

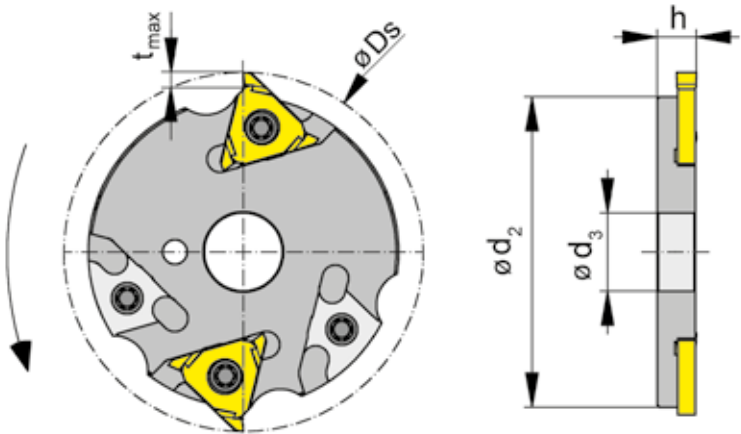
铣刀
Cutter

381



切削刃Ø	Cutting edge Ø	73.5 mm

适用机床：INDEX
for machine: INDEX



图示=右手型
Picture = right hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
R381.X073.16.04	73.5	63.5	8	5	16	Index MS25

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm



配件
Spare Parts

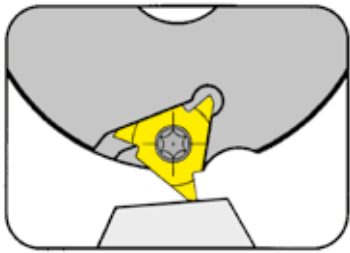
铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
R381.X073.16.04	5F.08T20P	T20PQ	R314.AT30.HM

多边形铣削
Polygon Milling



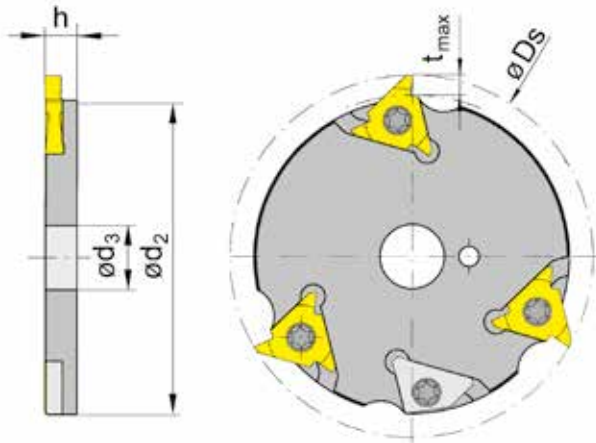
铣刀
Cutter

381



切削刃Ø	Cutting edge Ø	90 mm

适用机床：Nakamura
for machine: Nakamura



图示=左手型切削
Picture = left hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
L381.N090.16.04	90	80	7.8	5	16	WT250

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm



配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.N090.16.04	5F.08T20P	T20PQ	L314.AT30.HM

铣刀

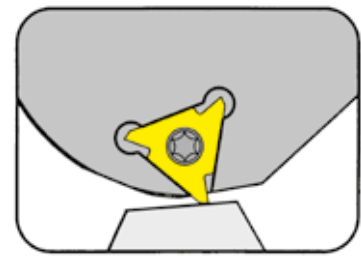
Cutter

381

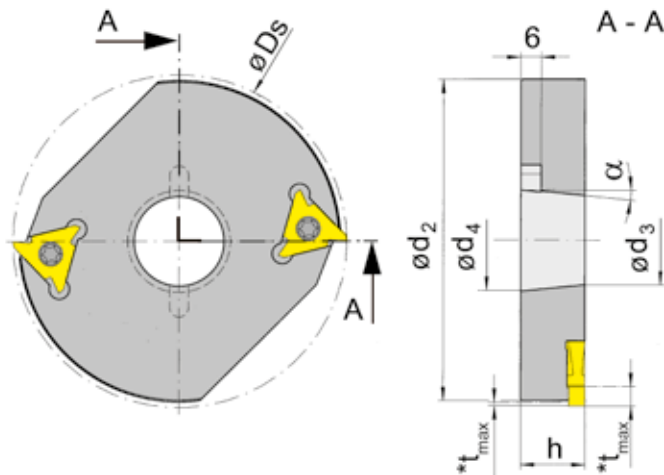
切削刃Ø

Cutting edge Ø

78 / 98 / 118



适用机床：A.H. Schütte
for machine: A.H. Schütte



图示=左手型切削
Picture = left hand cutting version

配合刀片L314.MK70.M0
for insert L314.MK70.M0

产品型号 Part number	Ds	d ₂	h	α	t _{max}	d ₃	机床型号 Machine type
L381.S078.30.02	78	66.0	19	5.42°	5	26.3	SG18, SG20, AG18
L381.S098.30.02	98	94.6	19	5.42°	5	26.3	SG20/SF26,-S,-L/SE18/AF26,32
L381.S118.30.02	118	115.0	19	5.42°	5	26.3	SF32,42,51,67/AF42

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

注意事项：

增强型接口，可轴向进给

Note:

reinforced pocket, feed in axial direction

* tmax侧铣削=5.0mm/槽铣削=1.2mm

* tmax Side Milling = 5,0 mm / Groove Milling = 1,2 mm

螺丝的扭矩规格，详见技术说明。

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



配件

Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
L381...	5.15T20P	T20PQ

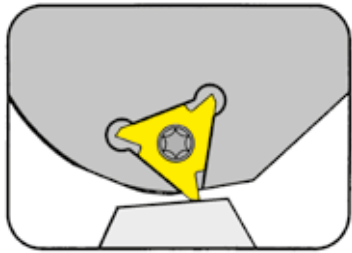
多边形铣削

Polygon Milling



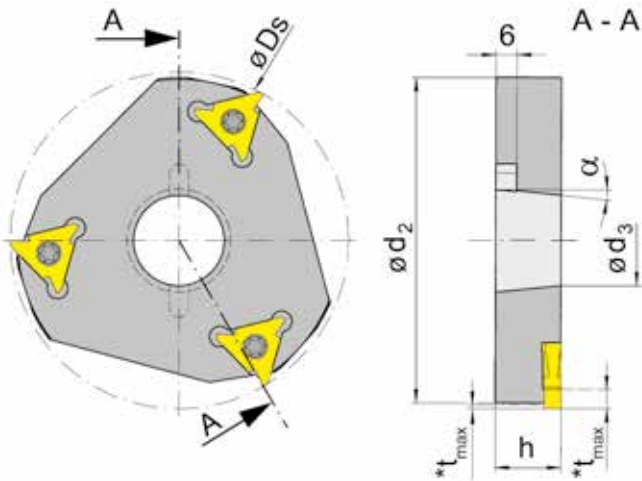
铣刀
Cutter

381



切削刃Ø	Cutting edge Ø	78 / 98 / 118 mm

适用机床：A.H. Schütte
for machine: A.H. Schütte



图示=左手型切削
Picture = left hand cutting version

配合刀片L314.MK70.M0
for insert L314.MK70.M0

产品型号 Part number	Ds	d ₂	h	α	t _{max}	d ₃	机床型号 Machine type
L381.S078.30.03	78	77.0	19	5.42°	5	26.3	SG18, SG20, AG18
L381.S098.30.03	98	94.6	19	5.42°	5	26.3	SG20/SF26,-S,-L/SE18/AF26,32
L381.S118.30.03	118	115.0	19	5.42°	5	26.3	SF32,42,51,67/AF42

按需提供更多尺寸
Further sizes upon request

尺寸单位：mm
Dimensions in mm

注意事项：
增强型接口，可轴向进给

Note:
reinforced pocket, feed in axial direction
* t_{max}侧铣削=5.0mm/槽铣削=1.2mm
* t_{max} Side Milling = 5,0 mm / Groove Milling = 1,2 mm
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

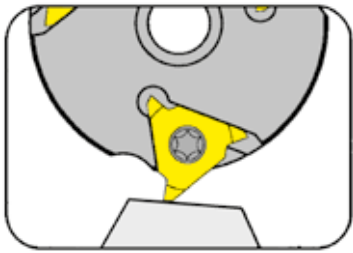


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench
L381...	5.15T20P	T20PQ

铣刀
Cutter

381

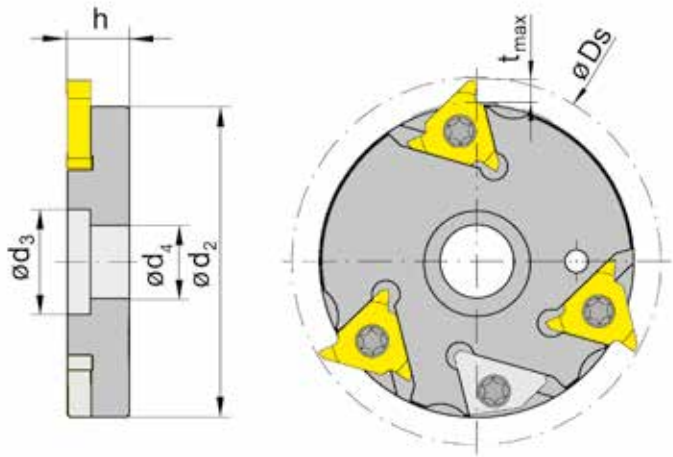


切削刃Ø

Cutting edge Ø

80 mm

适用机床：Tornos
for machine: Tornos



图示=左手型切削
Picture = left hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₄	d ₃	机床型号 Machine type
L381.D080.16.04	80	57.5	13.6	5	16	23	DECO 2000/DECO 13/20/26

按需提供更多尺寸
Further sizes upon request

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

尺寸单位：mm
Dimensions in mm

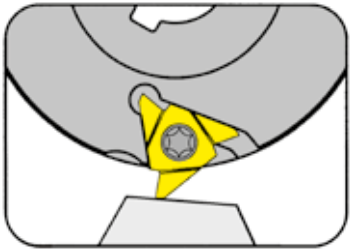


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.D080.16.04	5F.08T20P	T20PQ	L314.AT30.HM

铣刀
Cutter

381

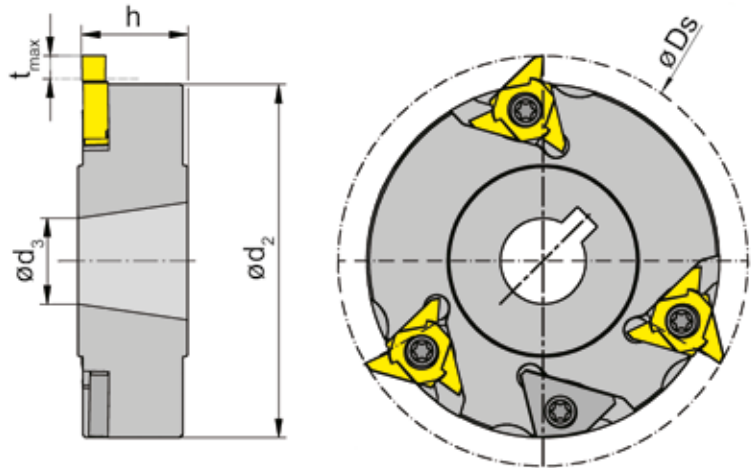


切削刃Ø

Cutting edge Ø

86 mm

适用机床：Tornos
for machine: Tornos



图示=左手型切削
Picture = left hand cutting version

用于刀片L314.MK50...
for inserts L314.MK50...

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₄	d ₃	机床型号 Machine type
L381.D086.25.04	86	74	23	5	24.7	18	Tornos Multi-Deco

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

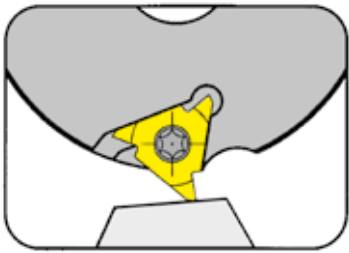


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.D086.25.04	5.12T20P	T20PQ	N314.AT40.HM

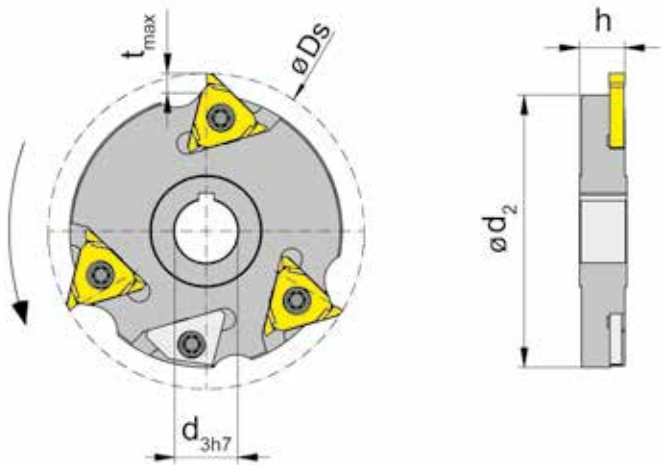
铣刀
Cutter

381



切削刃Ø	Cutting edge Ø	80 mm

适用机床：Traub
for machine: Traub



图示=右手型
Picture = right hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
R381.T080.16.04	80	69	12	5	16	TRAUB TNL18

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

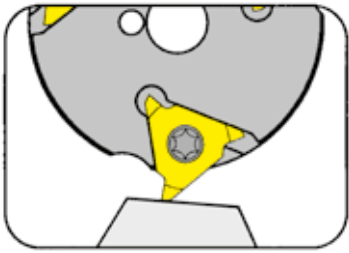


配件
Spare Parts

铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
R381.T080.16.04	5F.08T20P	T20PQ	R314.AT30.HM

铣刀
Cutter

381

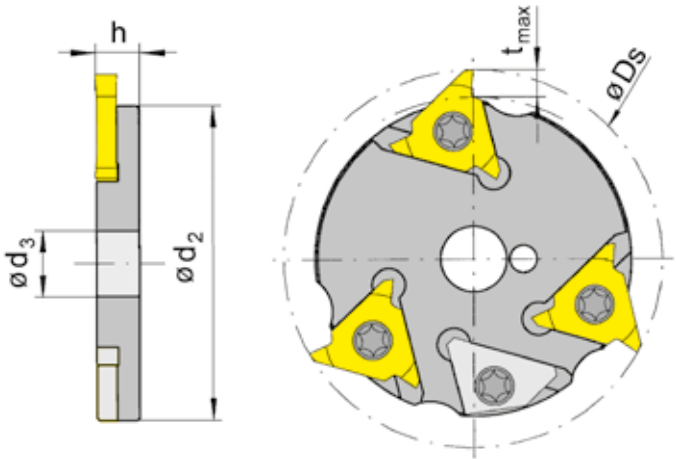


切削刃Ø

Cutting edge Ø

69 mm

适用机床：Traub
for machine: Traub



图示=左手型切削
Picture = left hand cutting version

配合刀片N314.MK40.20
for insert N314.MK40.20

产品型号 Part number	Ds	d ₂	h	t _{max}	d ₃	机床型号 Machine type
L381.T069.12.04	69	57.5	8	5	12	TNL12-7/TNL26/TNK36

按需提供更多尺寸
Further sizes upon request
螺丝的扭矩规格，详见技术说明。
For torque specification of the screw, please see Technical Instructions.

尺寸单位：mm
Dimensions in mm

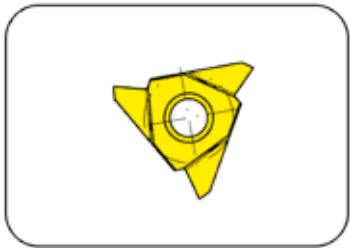


配件
Spare Parts

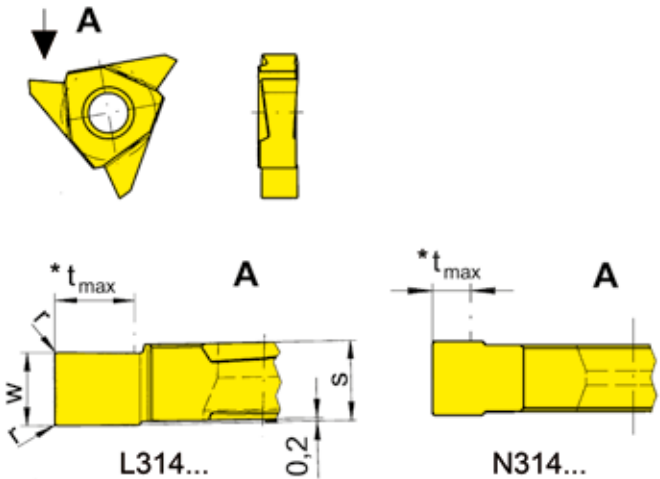
铣刀 Cutter	锁紧螺钉 Clamping Screw	TORX PLUS®扳手 TORX PLUS® Wrench	平衡块 Balancing element
L381.T069.12.04	5F.08T20P	T20PQ	L314.AT30.HM

可转位刀片
Indexable insert

N314

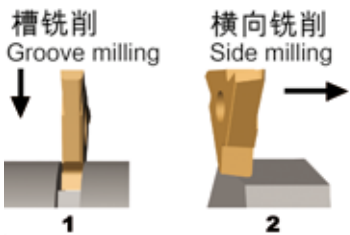


切宽	Width of cut	4-7 mm



铣刀
Cutter

型号 381
Type



产品型号 Part number	w	r	s	MG12	AS45	TI25	TN35
N314.MK40.20	4	-	3.6	▲	▲	▲	▲
R/L314.MK50.20	5	0.15	5.2	▲/▲	▲/▲	▲/▲	▲
L314.MK70.M0	7	0.15	7.4	▲	▲	▲	▲
▲ 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							

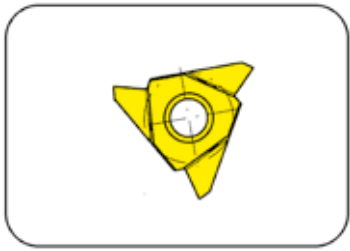
尺寸单位 : mm
Dimensions in mm
注明R, L或N型
State R, L or N version
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

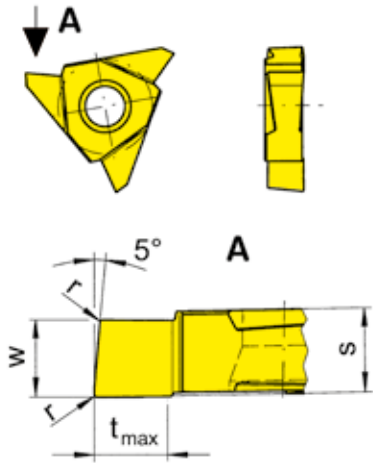
* t _{max}	槽铣削 (1) Groove Milling	横向铣削 (2) Side Milling
N314.MK40.20	见铣刀杆 / see cutter	2,5
R/L314.MK50.20		5,0
L314.MK70.M0		5,0

可转位刀片
Indexable insert

314



切宽	Width of cut	5-5.4 mm



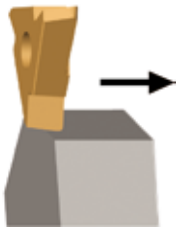
L=左手型-如图
L = left hand version shown

R=右手型
R = right hand version

铣刀
Cutter

型号 381
Type

横向铣削
Side milling



产品型号 Part number	w	r	s	t _{max}	AS45	TH35	TI25
R/L314.MK50.5.20	5.0	0.15	5.4	5	▲/▲	▲/▲	▲/▲
R/L314.MK50.20.L	5.4	0.60	5.4	5	▲/▲	Δ/x	▲/▲
▲ 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
按需提供更多尺寸
Further sizes upon request

硬质合金牌号
Carbide grades

多边形铣削的工作原理

多边形铣削介绍了使用多边形铣削刀具在CNC车床、Swiss机床或多主轴机床上加工旋转工件。

工件（主轴）和铣刀（动力座）必须同步转动。

该操作仅仅适用于常规铣削！

面数决定于工件和铣刀的转速比以及铣刀上的刀片数量。

当转速为2:1时，产生的平面为微凸型。这形状误差适合大多数应用，例如对边型。

当转速为1:1时，平面凸起较大，将不适合对边型。

当转速为3:1时，平面有较大的凹陷，也不适合对边型。

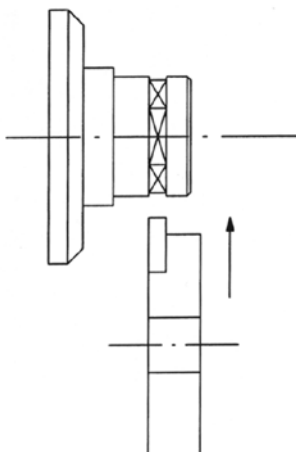
根据这一点可知，工件上的平面数是刀片数的两倍。

必须通过参数计算平面形状：

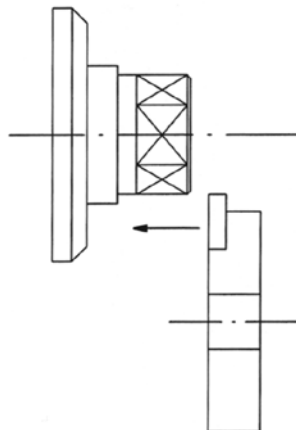
1. 多边形铣刀的铣削直径
2. 对边型尺寸
3. 工件加工前直径
4. 面数
5. 工件和铣刀的转速比

可通过切槽或车削加工出这些平面，通过仿形去倒角（去毛刺）。

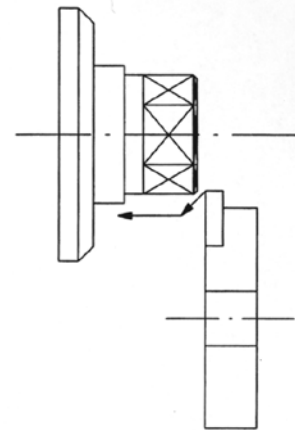
槽铣削



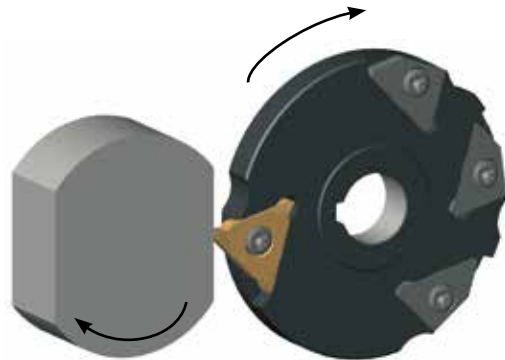
横向铣削



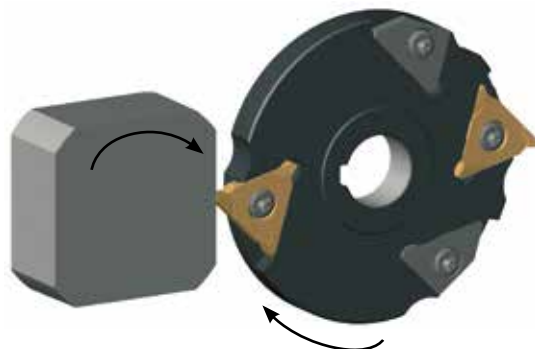
仿形和横向铣削



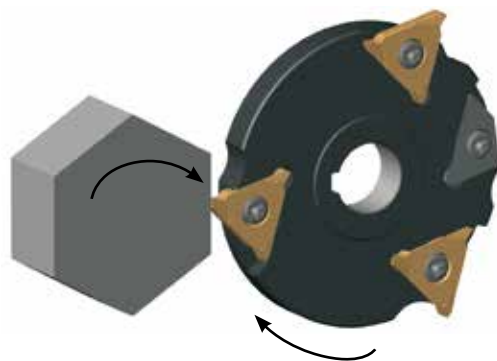
两面体，使用1个刀片，刀盘转速 2:1 主轴转速.



四面体，使用2个刀片. 刀盘转速 2:1 主轴转速.



六面体，使用3个刀片，刀盘转速 2:1 主轴转速.



The concept of Polygon Milling

Polygon milling describes the manufacturing of flats while rotating components with polygon milling cutters on CNC lathes, Swiss Automatics lathes or Multi Spindle machines. The component (main spindle) and the milling cutter (live tool) have to run with synchronized rotations.

The operation only works in conventional milling!

The number of flats depends on the rotation ratio between component and milling cutter as well as on the number of inserts of the milling cutter.

At a revolution ratio of 2:1, the shape of the produced flats are little convex. The form error is suitable for most applications such as across-flats.

At a revolution ratio of 1:1, the shape of the produced flats are heavily convex. This shape is not suitable for across-flats.

At a revolution ratio of 3:1, the shape of the produced flats are heavily concave. This shape is as well not suitable for across-flats.

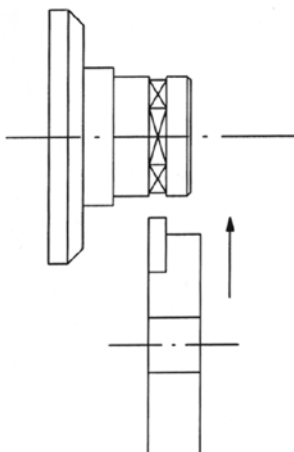
According to this, the number of flats at the component is twice the number of cutting inserts on the milling cutter.

To calculate the shape of the flats following parameter are necessary:

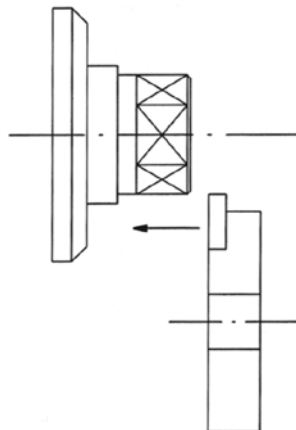
1. Cutting diameter of the polygon milling cutter
2. Across-flats dimension
3. Premachined diameter of the component
4. Number of flats
5. Revolution ratio of component and milling cutter

The flats can be produced by grooving or by turning. Chamfers can be produced by profiling (deburring).

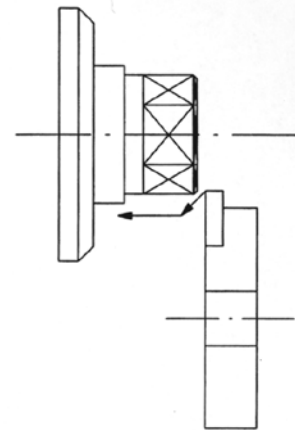
Groove milling



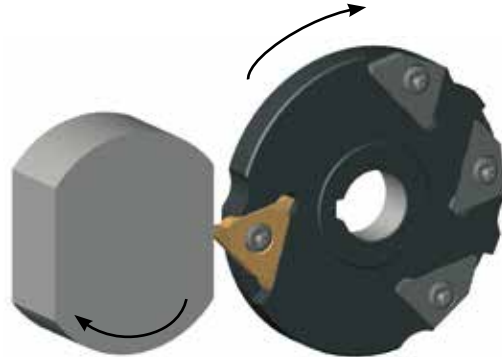
Side milling



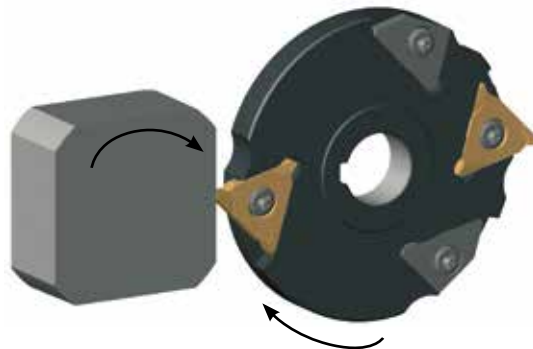
Profiling and
Side milling



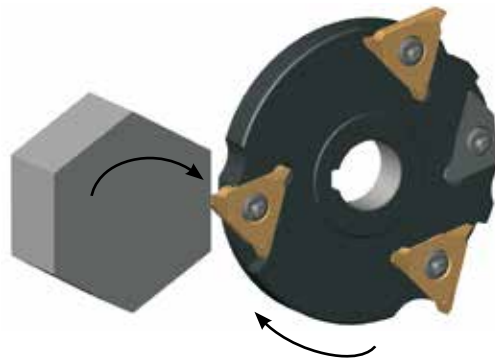
Two flats machined with 1 cutting edge. Revolution ratio 2:1 to the main spindle.



Four flats machined with 2 cutting edges. Revolution ratio 2:1 to the main spindle.



Six flats machined with 3 cutting edges. Revolution ratio 2:1 to the main spindle.



规格	铣刀上刀片数量	比率=刀具：主轴	生成的平面
	1	1 : 1	不适合，大凸面
	2 1	1 : 1 2 : 1	不适合，小凸面 非常适合，小凸面
	3 2 1	1 : 1 1.5 : 1 3 : 1	不适合，凸面 适合，凹面 非常适合，小凹面
	2 1	2 : 1 4 : 1	非常适合，小凸面 不适合，凹面
	3 2 1	1.66 : 1 2.5 : 1 5 : 1	适合，凸面 非常适合，小凹面 不适合，凹面
	3 2	2 : 1 3 : 1	非常适合，小凸曲面 不适合，凹曲面
	4 2	2 : 1 4 : 1	非常适合，小凸曲面 不适合，凹曲面

切削参数

材料	牌号	v_c m/min	进给率 f_z mm	
			横向铣削	槽铣削
Al	MG12	500 - 1000	0.10 - 0.20	0.05 - 0.10
Ms58	MG12	500 - 1000	0.10 - 0.20	0.05 - 0.10
9SMnPb28	TI25	200 - 500	0.08 - 0.15	0.04 - 0.08
16MnCr5/C45	TI25	150 - 250	0.05 - 0.10	0.03 - 0.05

进给率值仅仅适合横向铣削！

切槽工艺中进给率需降低30 - 50 %，同时受刀片宽度影响。

例如：

横向铣削

材料: 钢

铣刀 $\varnothing 90$ mm

SW 24 mm ($\varnothing 27,7$ mm)

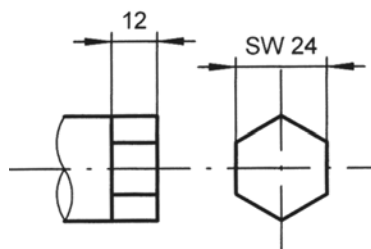
$v_{c\text{eff}} = 448$ m/min

$f_z = 0.08$ mm

3 刃, $l = 2:1$

边长: 12 mm

节拍: ~ 2.19 s



工具:

$n_{WZ} = 1372.00$ mm⁻¹

$v_{cWZ} = 388,25$ mm/min

工件:

$n_{WS} = 686.00$ mm⁻¹

$v_{cWS} = 59.75$ mm/min

Form	No. of inserts on the cutter	Ratio = Tool:Spindel	Flats
	1	1 : 1	not suitable, heavily convex
	2 1	1 : 1 2 : 1	not suitable, convex very suitable, little convex
	3 2 1	1 : 1 1,5 : 1 3 : 1	not suitable, convex suitable, convex very suitable, little concave
	2 1	2 : 1 4 : 1	very suitable, little convex not suitable, concave
	3 2 1	1,66 : 1 2,5 : 1 5 : 1	suitable, convex very suitable, little concave not suitable, concave
	3 2	2 : 1 3 : 1	very suitable, little convex not suitable, concave
	4 2	2 : 1 4 : 1	very suitable, little convex not suitable, concave

Cutting data

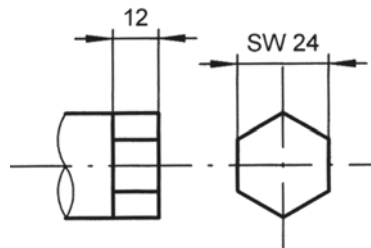
Material	Grades	v_c m/min	Feed rate f_z mm	
			Side milling	Groove milling
Al	TI25, MG12	500 - 1000	0,10 - 0,20	0,05 - 0,10
Ms58	TI25, MG12	500 - 1000	0,10 - 0,20	0,05 - 0,10
9SMnPb28	TH35, TI25, AS45	200 - 500	0,08 - 0,15	0,04 - 0,08
16MnCr5/C45	TH35, TI25, AS45	150 - 250	0,05 - 0,10	0,03 - 0,05

Feed rate values only valid for side milling process!

At groove milling process the feed rate has to be reduced by 30 - 50 %, depending on the insert width!

Example:
Side milling
Material: Steel

Cutter Ø 90 mm
SW 24 mm (Ø 27,7 mm)
 $v_{c\text{ eff}} = 448,00$ m/min
 $f_z = 0,08$ mm
3 Cutting edges, $l = 2:1$
Flat length: 12 mm
Cycle time: ~ 2,19 s



Tool:
 $n_{WZ} = 1372,00$ mm⁻¹
 $v_{c\text{ WZ}} = 388,25$ mm/min

Workpiece:
 $n_{WS} = 686,00$ mm⁻¹
 $v_{c\text{ WS}} = 59,75$ mm/min

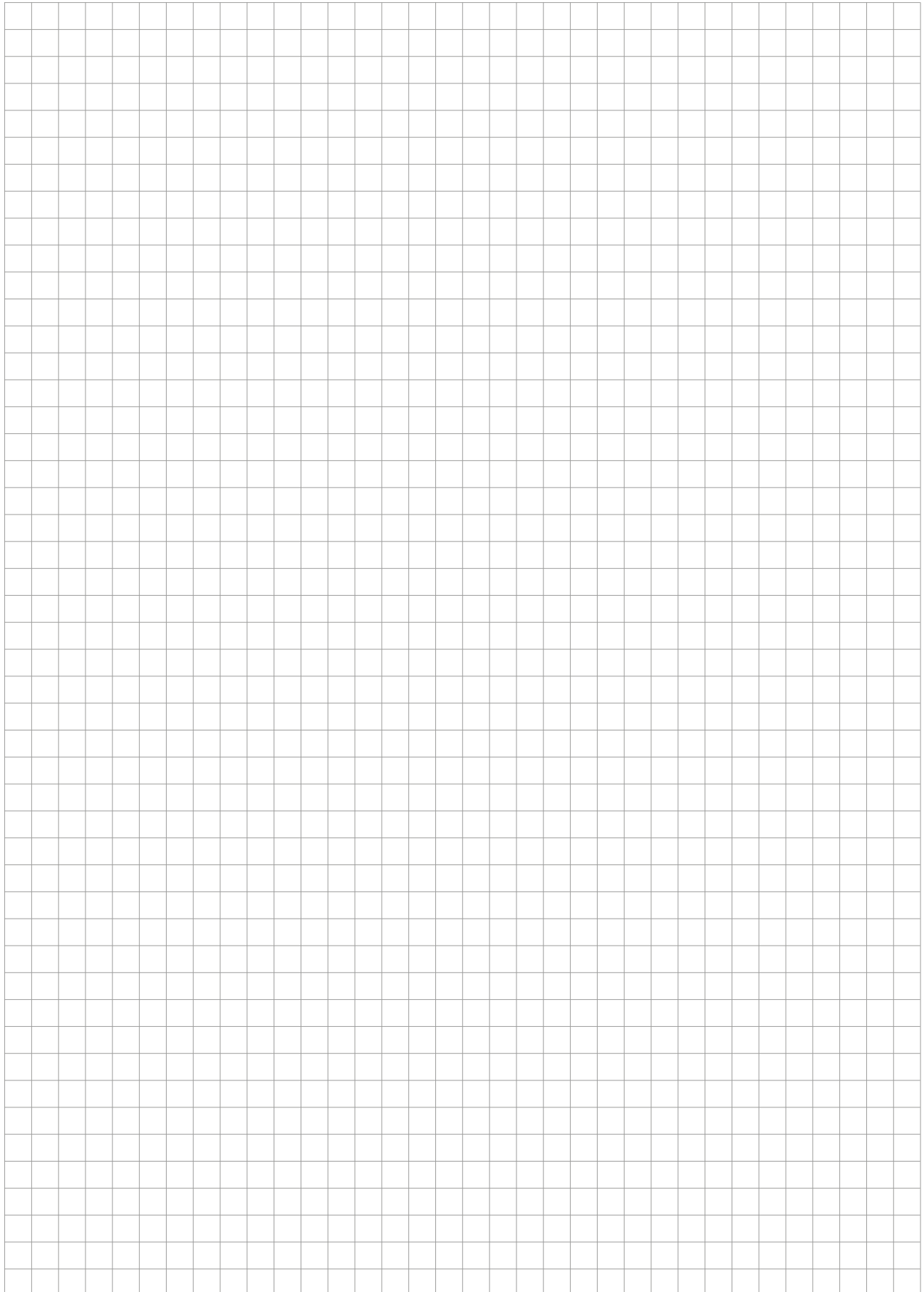
生产厂商 Machine manufacturer	机床 Machine	铣刀 Cutter	可转位刀片 Indexable inserts	Z	n _{max} 铣刀 n _{max} Milling cutter
Gildemeister	GD32	L381.G070.15.04	L314.MK50.20 TN35	2/3	13.000 min-1
Gildemeister	GLD25	L381.G070.15.04	L314.MK50.20 TN35	2/3	13.000 min-1
Gildemeister	GM20-6	L381.G086.25.04	L314.MK50.20 TN35	2/3	11.000 min-1
Gildemeister	GM26-6	L381.G080.16.04	L314.MK40.20 TN35	2/3	12.000 min-1
Gildemeister	GM35-6	L381.G098.26.04	L314.MK50.20 TN35	2/3	10.000 min-1
Gildemeister	GM35-8	L381.G086.25.04	L314.MK50.20 TN35	2/3	11.000 min-1
Gildemeister	GM35-8	L381.G098.26.04	L314.MK50.20 TN35	2/3	10.000 min-1
Gildemeister	GM42-6	L381.G098.26.04	L314.MK50.20 TN35	2/3	10.000 min-1
Gildemeister	GMC35	L381.G086.25.04	L314.MK50.20 TN35	2/3	11.000 min-1
Gildemeister	GMC35	L381.G098.26.04	L314.MK50.20 TN35	2/3	10.000 min-1
Gildemeister	SPRINT20/32	L381.G080.16.04	L314.MK40.20 TN35	2/3	12.000 min-1
Gildemeister	SPRINT32L	L381.G090.22.04	L314.MK50.20 TN35	2/3	13.000 min-1
Gildemeister	SPRINT44L	L381.G090.22.04	L314.MK50.20 TN35	2/3	13.000 min-1
INDEX	ABC	R381.X090.27.04	R314.MK50.20 TN35	2/3	11.000 min-1
INDEX	ABC	L381.X090.27.04	L314.MK50.20 TN35	2/3	11.000 min-1
INDEX	MS25	L381.X073.16.04	N314.MK40.20 TN35	2/3	13.000 min-1
NAKAMURA	WT250	L381.N090.16.04	N314.MK40.20 TN35	2/3	11.000 min-1
Alfred H. Schütte	AF26	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	AF26	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	AF32	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	AF32	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	AF42	L381.S118.30.03	L314.MK70.M0 TN35	3	12.000 min-1*
Alfred H. Schütte	AF42	L381.S118.30.02	L314.MK70.M0 TN35	2	12.000 min-1*
Alfred H. Schütte	AG18	L381.S078.30.03	L314.MK70.M0 TN35	3	20.000 min-1*
Alfred H. Schütte	AG18	L381.S078.30.02	L314.MK70.M0 TN35	2	20.000 min-1*
Alfred H. Schütte	SE18	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	SE18	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	SF20	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	SF20	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	SF26L	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	SF26L	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	SF26	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	SF26S	L381.S098.30.03	L314.MK70.M0 TN35	3	15.000 min-1*
Alfred H. Schütte	SF26S	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	SF26	L381.S098.30.02	L314.MK70.M0 TN35	2	15.000 min-1*
Alfred H. Schütte	SF32	L381.S118.30.03	L314.MK70.M0 TN35	3	12.000 min-1*
Alfred H. Schütte	SF32	L381.S118.30.02	L314.MK70.M0 TN35	2	12.000 min-1*
Alfred H. Schütte	SF42	L381.S118.30.03	L314.MK70.M0 TN35	3	12.000 min-1*
Alfred H. Schütte	SF42	L381.S118.30.02	L314.MK70.M0 TN35	2	12.000 min-1*
Alfred H. Schütte	SF51	L381.S118.30.03	L314.MK70.M0 TN35	3	12.000 min-1*
Alfred H. Schütte	SF51	L381.S118.30.02	L314.MK70.M0 TN35	2	12.000 min-1*
Alfred H. Schütte	SF67	L381.S118.30.03	L314.MK70.M0 TN35	3	12.000 min-1*
Alfred H. Schütte	SF67	L381.S118.30.02	L314.MK70.M0 TN35	2	12.000 min-1*
Alfred H. Schütte	SG18	L381.S078.30.03	L314.MK70.M0 TN35	3	20.000 min-1*
Alfred H. Schütte	SG18	L381.S078.30.02	L314.MK70.M0 TN35	2	20.000 min-1*
Alfred H. Schütte	SG20	L381.S078.30.03	L314.MK70.M0 TN35	3	20.000 min-1*
Alfred H. Schütte	SG20	L381.S078.30.02	L314.MK70.M0 TN35	2	20.000 min-1*
TORNOS	Deco7/10	R/LM275.D040.10.04	R/LS275.MK13.M0 TN35	2/3	15.000 min-1
TORNOS	Deco13	L381.D080.16.04	N314.MK40.20 TN35	2/3	12.000 min-1
TORNOS	Deco20	L381.D080.16.04	N314.MK40.20 TN35	2/3	12.000 min-1
TORNOS	Deco26	L381.D080.16.04	N314.MK40.20 TN35	2/3	12.000 min-1
TORNOS	Deco2000	L381.D080.16.04	N314.MK40.20 TN35	2/3	12.000 min-1
TORNOS	Multi Deco	L381.D086.25.04	L314.MK50.20 TN35	3	15.000 min-1
TRAUB	TNL12-7	RM275.T064.33.03	RS275.MK13.M0TN35	3	13.000 min-1
TRAUB	TNL12-7	L381.T069.12.04	N314.MK40.20 TN35	2/3	13.000 min-1
TRAUB	TNL26	L381.T069.12.04	N314.MK40.20 TN35	2/3	13.000 min-1
TRAUB	TNK36	L381.T069.12.04	N314.MK40.20 TN35	2/3	13.000 min-1

多边形铣削的更详细要求

Polygon cutter for further machines upon request.

增强型卡槽

* reinforced pocket





安装于旋风铣上的可转位刀片



双头
Two starts



可转位刀片系列 314
轮廓深度 可达 $t = 6 \text{ mm}$, $w = 5.4 / 6.5 / 7.5 \text{ mm}$
Indexable Insert Type 314
Depth of profile 可达 $t = 6 \text{ mm}$, $w = 5.4 / 6.5 / 7.5 \text{ mm}$



单头
One start



可转位刀片系列 S302
轮廓深度 可达 $t = 4.3 \text{ mm}$, $w = 4.4 / 5.4 / 6.1 \text{ mm}$
Indexable Insert Type S302
Depth of profile up to $t = 4.3 \text{ mm}$, $w = 4.4 / 5.4 / 6.1 \text{ mm}$

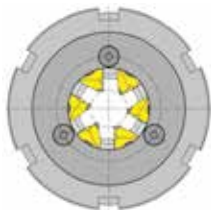


双头
Two starts

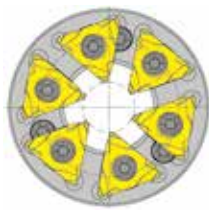
根据完整的螺纹外形尺寸，精确的加工出客户所需的特殊轮廓

To manufacture accurate customer specific profiles, the complete thread form data is required .

旋风铣刀座
Whirling Head
Ds ≥ Ø 10 mm



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订购指引
Order guideline

页 / Page L7

模块化刀具系统：

对于机床上换刀空间有限的解决方案。刀体和夹紧螺母取下后，刀柄仍在机床上，这样可转位刀片就可在机床外更换。

Modular Tooling System:

The solution for tool changes on machines with limited handling space. The basic holder will remain on the machine while the cutter body is removed with the clamping nut. The indexable inserts can now be changed outside the machine without interference.



可根据要求选择其他组合，需要以下数据：

- 旋风铣刀头的切削直径
- 旋风铣刀头的最大外径
- 旋风铣刀头的最大切削倾斜角

当您订购时，请提供您的旋风铣系统的品牌和型号。

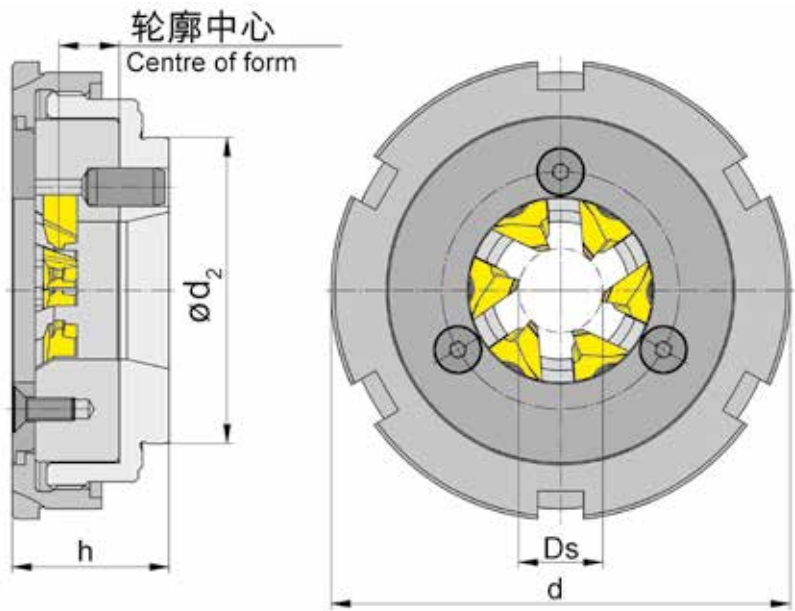
Other combinations are available upon request. The following data will be required:

- required cutting diameter of the whirling head
- maximum outer diameter of the whirling head
- maximum tilt angle of the whirling system

Please also supply the Make and Model number of your whirling system when placing a purchase order.

旋风铣刀座
Whirling Head

M302 / 006



产品型号 Part number	*轮廓中心 *Centre of form	Z	Ds	d	h	d ₂	刀片 Insert	机床类型 Model number of machine
标准刀具 (现货) Standard tools (ex stock)								
M302.AM12.40.06	11.9	6	12	47 (52)	20.7	40	S302	Star SV12/20ECAS20
M302.DM11.0.40.06	7.8		11	60	20.5	40	S302	Tornos Deco 2000/13a/20
M302.AM12.T.40.06	5.0		12	60	17.0	40	S302	Star SR20III
非标刀具 (交期6周) Special tools (delivery 6 weeks)								
006.0050.1348	15.0	6	14	67	18.0	50	S302	Traub TNL 26

* 轮廓中心决定于单个刀片
* The centre of form depends on the individual insert.

尺寸单位 : mm
Dimensions in mm

当您订购时，请提供您的旋风铣系统的品牌和型号。
Please also supply the Make and Model number of your whirling system when placing a purchase order.

整体式系统:

最高的精度和刚性

Monobloc System:

means maximum precision and rigidity



可根据要求选择其他组合，需要以下数据：

- 旋风铣刀头的切削直径
- 旋风铣刀头的最大外径
- 旋风铣刀头的最大切削倾斜角

当您订购时，请提供您的旋风铣系统的品牌和型号。

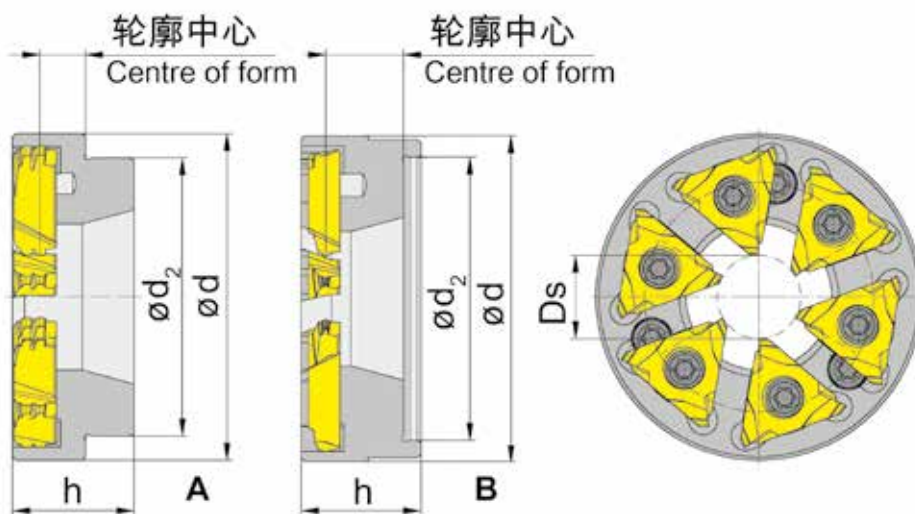
Other combinations are available upon request. The following data will be required:

- required cutting diameter of the whirling head
- maximum outer diameter of the whirling head
- maximum tilt angle of the whirling system

Please also supply the Make and Model number of your whirling system when placing a purchase order.

旋风铣刀座
Whirling Head

L389 / M302



产品型号 Part number	*轮廓中心 *Centre of form	Z	Ds	d	h	d ₂	刀片 Insert	机床类型 / 装置 Model number of machine / Unit	类型 type
标准刀具 (现货) Standard tools (ex stock)									
L389.D014.40.06	12.750	6	14.0	57.2	21.0	40.000	314	Tornos DECO 2000/20a	A
M302.T025.54.06	11.000	6	25.0	106.0	24.1	53.975	S302	Traub TNL 26 / Front unit	A
M302.T010.37.06	6.700	6	10.0	73.55	16.5	36.990	S302	Traub TNL 12 / Front unit	A
M302.C012.33.06	8.000	6	12.0	46.9	15.5	33.000	S302	Citizen L20/M20/M32 / Whirling unit BTW-1000	A
M302.C012.40.06	11.000	6	12.0	46.0	17.0	45.000	S302	Citizen Cincom M16 / Whirling unit PCM: MSW-101 Whirling unit PCM: LSW-215-1000 Nexturn SA20 / SA32 / Whirling unit PCM: NESA-32-SWG15	B
M302.A012.40.06	6.575	6	12.0	47.0	17.5	40.000	S302	Star SV/SR20/ECAS20 / Whirling unit 42173	A
M302.W012.32.06	8.500	6	12.0	43.8	21.5	32.000	S302	Device WTO TN762004 / Whirling unit WTO TN762004	A
M302.C112.40.06	10.000	6	12	46.0	15.5	40.000	S302	Citizen - Jarvis / LTR-0128/-0132/-0139/-0168/-0183	A
非标刀具 (交期6周) Special tools (delivery 6 weeks)									
M302.0013.0124	-	6	13.5	62.0	18.0	62.000	S302	Gildemeister Speed 2018	A

* 轮廓中心决定于单个刀片

* The centre of form depends on the individual insert.

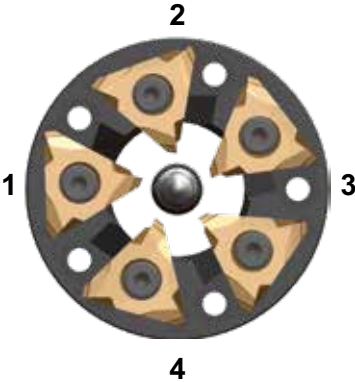
尺寸单位: mm

Dimensions in mm

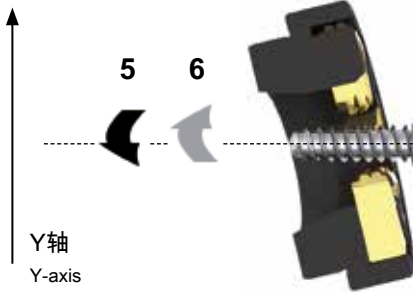
当您订购时, 请提供您的旋风铣系统的品牌和型号。

Please also supply the Make and Model number of your whirling system when placing a purchase order.

切削位置
Cutting location



旋风铣装置的旋转方向
Turning direction of whirling unit



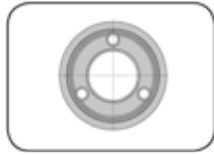
棒料的旋转方向
Turning direction of bar



机床规格 Machine specifications	
生产厂商 Machine manufacturer	
机床类型 Model number of machine	
动力座生产厂商 Machine manufacturer driven tools	
型号 动力座 Type driven tools	
Y轴 Y-axis	☐ 是 / yes ☐ 不 / no
高压冷却 High pressure coolant	☐ 是 / yes ☐ 不 / no
旋风铣装置的旋转方向 Turning direction of whirling unit	☐ 5 ☐ 6
棒料的旋转方向 Turning direction of bar	☐ 7 ☐ 8
切削位置 Cutting location	☐ 1 ☐ 2 ☐ 3 ☐ 4

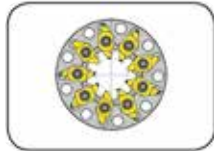
材料 Material	
规格 (DIN) Specification (DIN)	
棒料直径 Bar diameter	Ø
螺纹 Thread	
轮廓图 Profile drawing	
单头 One start	
双头 Two starts	

基础刀柄
Basic Holder
LA002



页/Page
L12

环状刀夹
Ring cassette
LM271



页/Page
L13

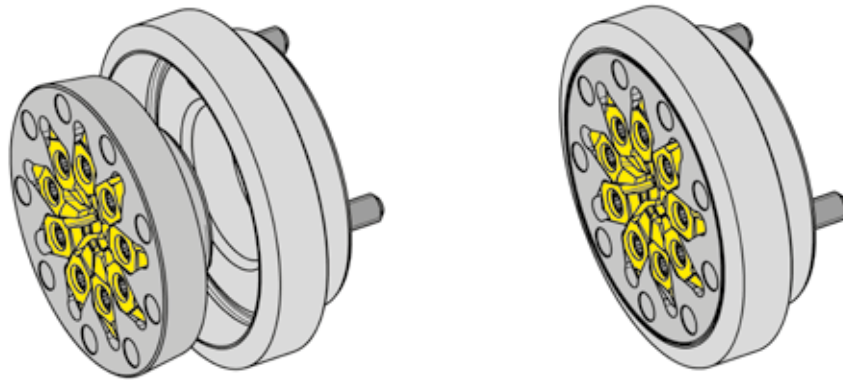


模块化螺纹旋风铣 系统

螺纹的经济加工方法

Modular thread whirling system

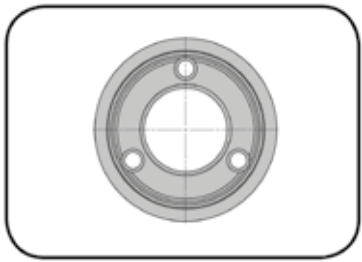
Economical manufacturing of
threads



机床 Machine		单元 Unit			基础接柄 Basic adaptor	环状刀夹 Ring cassette
制造商 Manufacturer	类型 Type	制造商 Manufacturer	类型 Type	中心至旋风铣刀头定位面 H 距离 Distance centre of form - Locating face Whirling head H	产品型号 Part number	产品型号 Part number
STAR	SR-20RIII	STAR	68172		LA002.A040.4124.08	LM271.12.4124.07.4.9 LM271.06.4124.07.4.9 LM271.09.4124.07.4.9 LM271.12.4124.07.4.6 LM271.09.4124.07.4.6 LM271.06.4124.07.4.6 LM271.12.4124.08.5.9
	SR-20RII	STAR	54178			
	ECAS-12/20					
	SV-20	STAR	42173	10		
	SV-12			10		
	SV-32	STAR	43172			
	ECAS-32T	STAR	58171			
CITIZEN	A20	PCM	BSW-215-000	11	LA002.PC40.4124.06	
	C16	PCM	LSW-315-000	11		
	L20 / L25	PCM	LSW-215-000	11		
			LSW-212-000	11		
			LSW-101-000	11		
	M12 / M16	PCM	LSW-315-000	11		
			MSW-101-000	11		
	M20 / M32	PCM	KSW-101-000	11		
			LSW-215-000	11		
			LSW-212-000	11		
LSW-101-000			11			
Gildemeister	SPEED 12-7 / 20-11	PCM	SPW-1220-000	11		
Maier	ML 20 D	PCM	ML-20-W1-15	11		
Nexturn	SA20 / 32	PCM	NESA-32-000	11		
Nomura	NN20	PCM	NN20-W15	11		
CITIZEN	C16	PCM	LSW-424-000	15	LA002.PC35.4124.10	
	M12 / M16					
CITIZEN	L20 / M20 / M32	CITIZEN	BTW-1000	8	LA002.B033.4124.06	
CITIZEN	L20 / M20 / M32	CITIZEN	BTW-2000	7,97		
CITIZEN	L20 / M20 / M32	JARVIS	LTR0128	10	LA002.J040.4124.06	
			LTR0132	10		
			LTR0139			
			LTR0168			
			LTR0183	10		
	L20 / M20 / M32	JARVIS	LTR0131	10	LA002.J037.4124.06	
			LTR0162			
			LTR0169			
	LTR0170					
	LTR0187					
TORNOS	DECO 13a/20a	TORNOS	306101	8,5	LA002.DP40.4124.03	
TORNOS	DECO 20	Pibomulti	250320	8,5		
TORNOS	DECO 20	W&F	MPU.TO.S800.DE20	8,5		
	DECO 13		MPU.TO.0800.DE13	9,5		
	DECO 20		MPU.TO.0800.DE20	9,5		
Gildemeister	SPEED 20/8	Gildemeister	2123031 2723028	9,775	LA002.G042.4124.06	
	SPEED 20/11					
	SPRINT 20/8					

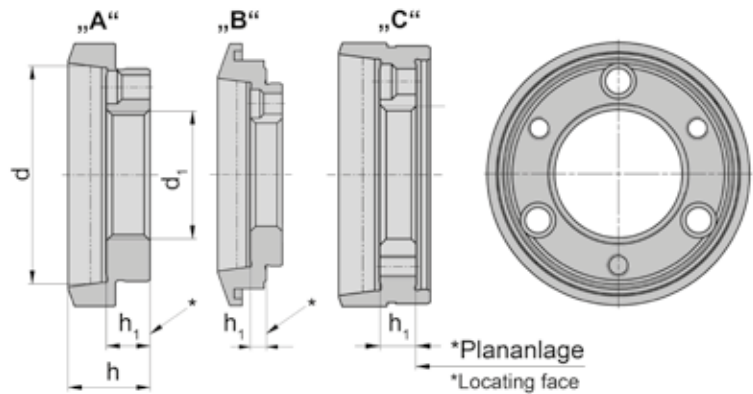
常规刀柄
Basic Holder

LA002



配环状刀夹
for Ring Cassettes

型号 LM271
Type



产品型号 Part number	d	d ₂	d ₁	h	h ₁	形式 Type
LA002.A040.4124.08	41	40,0	M24x1,5LH	15,40	8,20	A
LA002.B033.4124.06	41	33,0	M24x1,5LH	16,00	6,30	C
LA002.DP40.4124.03	41	40,0	M24x1,5LH	17,15	9,95	B
LA002.G042.4124.06	41	42,5	M24x1,5LH	13,15	5,95	B
LA002.J037.4124.06	41	37,0	M24x1,5LH	16,50	6,30	C
LA002.J040.4124.06	41	40,0	M24x1,5LH	16,00	6,30	C
LA002.PC35.4124.10	41	35,0	M24x1,5LH	10,65	3,45	B
LA002.PC40.4124.06	41	40,0	M24x1,5LH	16,50	6,30	C

尺寸单位：mm
Dimensions in mm

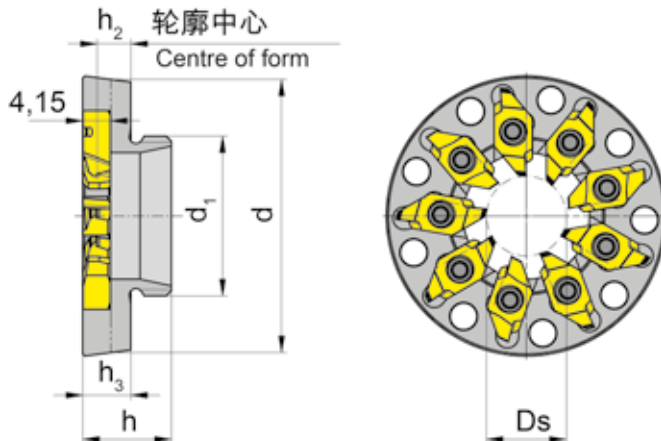
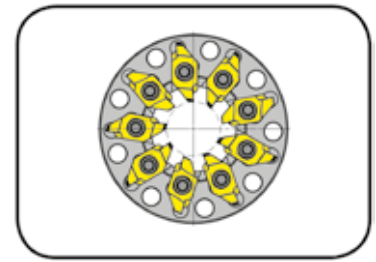
配件
Spare Parts

常规刀柄 Basic Holder	锁紧螺钉 Screw	TORX PLUS®扳手 TORX PLUS® Wrench
LA002.A040.../...J040...	4.14T15P	T15PQ
LA002.PC040.../...DP40...	4.12T15EP	T15PQ
LA002.J037.4124.06	3.14T9P	T9PL
LA002.PC35.4124.10	4.16T15P	T15PQ

环状刀夹

Ring cassette

LM271



配合可转位刀片
for Inserts

型号 S271
Type

产品型号 Part number	Ds	d	d ₁	h	h ₃	h ₂	Z	尺寸 Size
LM271.06.4124.07.4.6	6	41	M24x1,5LH	13,3	7,2	5,05	6	04
LM271.06.4124.07.4.9	6	41	M24x1,5LH	13,3	7,2	5,05	9	04
LM271.09.4124.07.4.6	9	41	M24x1,5LH	13,3	7,2	5,05	6	04
LM271.09.4124.07.4.9	9	41	M24x1,5LH	13,3	7,2	5,05	9	04
LM271.12.4124.07.4.6	12	41	M24x1,5LH	13,3	7,2	5,05	6	04
LM271.12.4124.07.4.9	12	41	M24x1,5LH	13,3	7,2	5,05	6	04
LM271.12.4124.08.5.9	12	41	M24x1,5LH	14,3	8,2	5,05	9	05

尺寸单位：mm
Dimensions in mm

扳手 020.3504.5410 不包含在环形刀夹中，请分开采购！
Wrench 020.3504.5410 is not combined with the ring cassette - separate order required!
LM271...6 = 普通旋风铣刀盘
LM271...9 = HORN Turbowhirling® 旋风铣刀盘
LM271...6 = conventional whirling
LM271...9 = HORN Turbowhirling®

配件

Spare Parts

环状刀夹 Ring cassette	锁紧螺钉 Screw	TORX PLUS® 扳手 TORX PLUS® Wrench
LM271...	030.260P.1013	T8PL



**HORN
TurboWhirling® 旋风铣**

**两倍的加工速度
及更长的刀具寿命**

预加工和精加工
一起完成

**HORN
Turbo whirling®**

**Twice as fast with
higher tool life**

Pre- and finish whirling
in a single process



HORN TurboWhirling®

旋风铣

HORN 最新研发的turbo whirling® 帮助优化旋风铣工艺及帮助提高加工效率. HORN 研发的旋风铣刀具使用了新的特殊的分割使刀具更有竞争力.在此,特殊的切削刃口用于对应的刀盘和用于加工外圆的工件.在使用九齿的刀盘,切削允许分割不同的区域,切削刃承受的相同的切削负载,意味着切削刃可以达到更高的寿命.精加工切削刃切出完整的齿形借助优化的工作范围.无论外直径被加工工件,结合环形长寿命的切削刃齿形创造一个优化的齿形.

HORN Turbo whirling 可用于单头和多头螺纹和特殊齿形加工.S271精磨双刃刀片是针对不同齿形和不同工件材料特制的.可转位刀片被固定在非常稳定的刀片座上,无论是优化的模块化旋风铣刀盘还是普通的整体式刀盘.

HORN

Turbo whirling®

The newly developed HORN turbo whirling® process optimises machining during thread whirling and increases efficiency. HORN has developed cutting tools for whirling with a new cutting division specially for machining threads with a larger allowance. To this end, individual cutting edges work as pre-cutters and machine the workpiece to the defined external diameter. In the case of nine-cutter tools, the cutting division allows the machining work to be divided so that each cutting edge is subject to equal load, meaning that individual cutting edges can achieve significantly higher service lives. The finishing cutting edges produce the finished thread flanks within the optimised working range. Regardless of the external workpiece diameter, combining a range of cutting edge profiles creates an optimum thread with reproducible tool life.

HORN turbo whirling can be applied to single-start and multi-start threads and profiles. What's more, during this process, the S271 precision-ground double-edged indexable inserts are tailored to the respective thread profile and the material to be machined. The indexable inserts are clamped in positive-fit, extremely stable insert seats either in the new modular whirling heads with optimised handling during insert replacement or conventionally in the Monobloc tools.



计算正确的刀片中心高

Calculation of the centre height correction of the cutting edge

计算不同的 ΔL

Calculation of the difference value ΔL

$$X = h_1 + h_2$$

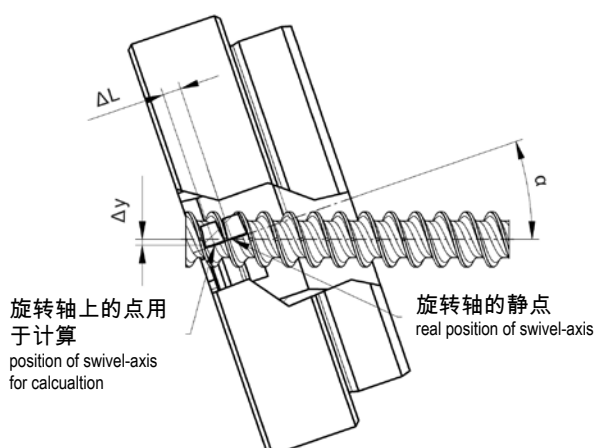
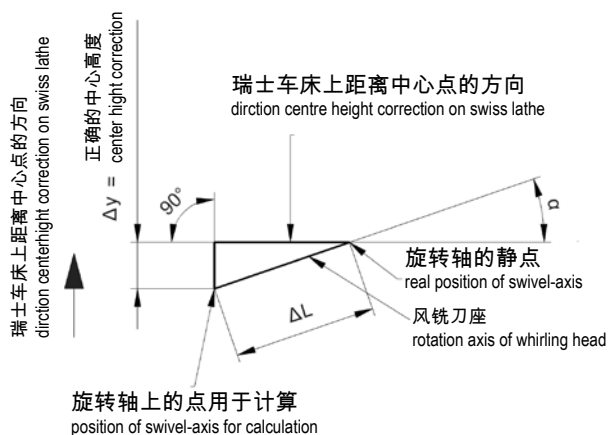
$$\Delta L = X - H$$

计算正确的值 Δy

Calculation of the correction value Δy

$$\Delta y = \Delta L \times \sin \alpha$$

- H** 旋风铣单元旋转轴至旋风铣刀片座定位面的距离
Distance swivel-axis whirling unit / location face whirling head
- h_1** 旋风铣单元定位面至环形刀夹定位面的距离
Distance locating face whirling unit / location face ring cassette
- h_2** 环形刀夹定位面至刀片中心的距离
Distance locating face ring cassette / centre of form of the insert
- X** 刀片中心至旋风铣定位面的距离
Distance centre of form of the insert / locating face of the whirling unit
- ΔL** 刀片中心至旋风铣旋转轴中心点的距离
Distance centre of form of the insert / swivel-axis of the whirling unit
- Δy** 中心高修正值
Correction value centre height
- α** 刀具的旋转角度
Swivel angle of the tool



为你的机床找到合适的刀具:
Find the right tool for your machine:



www.phorn.de/konfigurator/gewindewirbeln

Startseite > Produkte > Fräsen > Gewindewirbeln

Auswahl

Maschine: Antriebseinheit:

↓ **Beispielauswahl**

Maschine: Antriebseinheit:

Ergebnis für Star 42173

Grundkörper	Ringkassette
LA002 AD40.4124.08	LM271.12.4124.07.4.9
LA002 AD40.4124.08	LM271.12.4124.08.5.9

Home > Products > Milling > Thread Whirling

Your selection

Machine: Whirling unit:

↓ **Selection example**

Machine: Whirling unit:

Result for Star 42173

Adapter	Milling cutter
LA002 AD40.4124.08	LM271.12.4124.07.4.9
LA002 AD40.4124.08	LM271.12.4124.08.5.9

使用HCT切削参数计算器,找到合适的切削参数用于您的应用中.
Find the correct cutting data for your application with HCT cutting data calculator

<http://hct.phorn.de>

GEWINDEWIRBELN

Kopfdaten

Datum: Angebot/Auftrag Nr.: Bearbeiter: Werkstückbezeichnung: Zeichnungsnr. Werkstück:

Werkstoff: Fräserbezeichnung: Zeichnungsnr. Fräser: Schneidplattenbezeichnung: Schneidstoff:

Was ist bekannt?

Vc [m/min]: f_m [mm]: Werkzeugschneiden:

Weitere Eingabewerte

Gewindeabmaße

Gewinde-Fußendurchmesser: [mm] Gewinde-Kerndurchmesser: [mm]

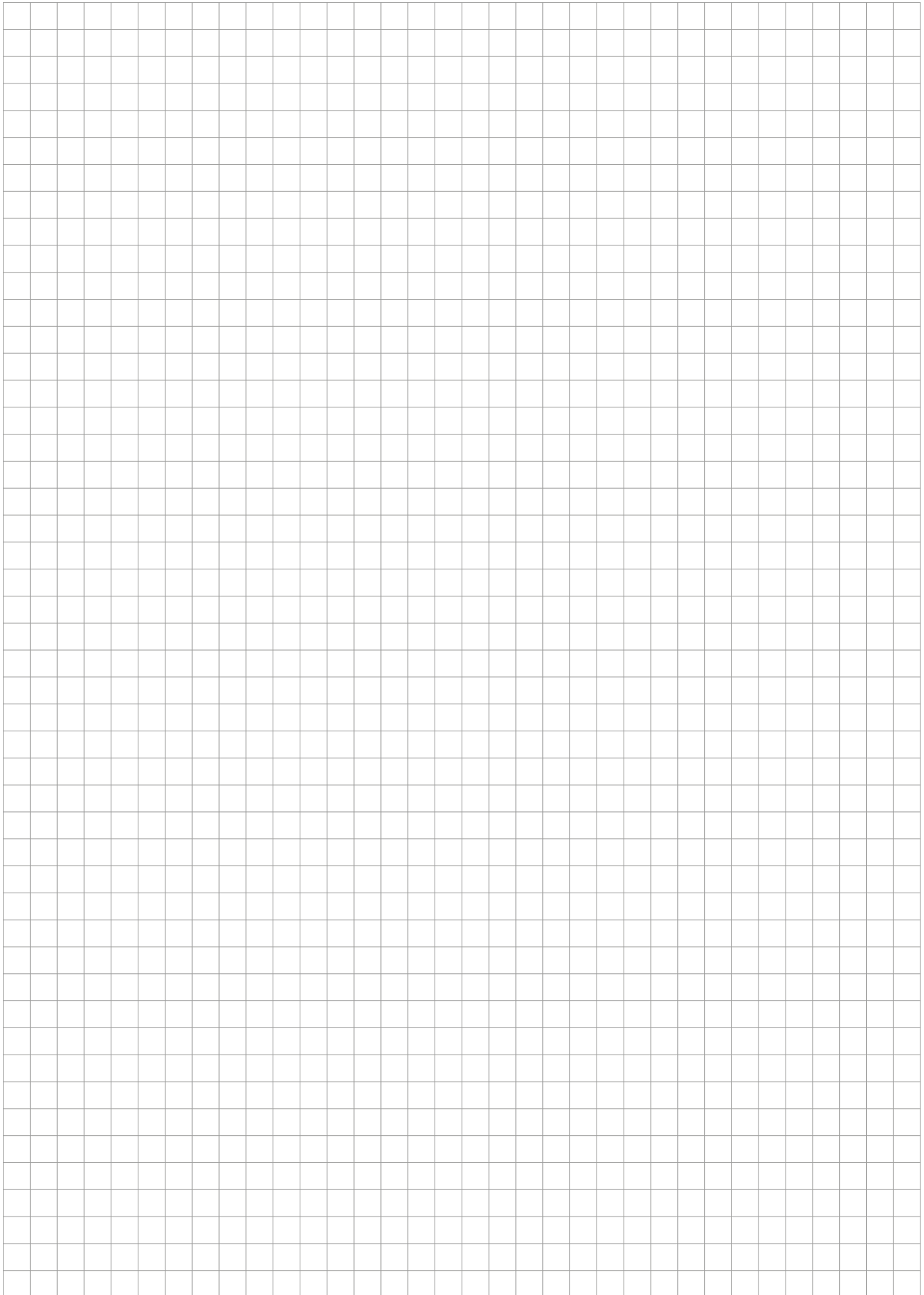
Gewinde-Steigung: [mm] Gewinde-Länge: [mm]

Einstellwinkel Werkzeughalter: [Grad]

Werkzeughalter-Daten

Y-Versatz: [mm] Werkzeugschn.-Kreisbahndurchm.: [mm]

Länge Sinuslineal: [mm] Max. Drehzahl der Wirbeleinheit: [min⁻¹]



加工材料组 nach DIN ISO 513

Cutting Material Groups per DIN ISO 513

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

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