

常州朗明工具有限公司

<https://lf-tools.com>



整体硬质合金 刀具使用目录

SOLID CARBIDE TOOLS
USE DIRECTORY

常州朗明工具有限公司

<https://lf-tools.com>



企业简介 Introduction



公司成立于2014年，总投资金额1800万人民币。公司拥有国外进口ROLLOMATIC(罗曼蒂克)、makino seiki (牧野)、SAACKE (萨克)、WALTER (瓦尔特)、VOLLMER (孚尔默) 等世界顶级数控磨床，德国卓勒ZOLLER (genius 3)、PJ1000、500倍显微镜、500倍刀具外观检测仪等检测设备。

产品广泛应用于模具、冶金、医疗器械、电子产品及机械设备等领域。

Our company was established in 2014 with a total investment of 18million RMB. We has imported ROLLOMATIC(Romantic), Makino Seiki(Makino), SAACKE(Sark), WALTER(Walter), VOLLMER(Vollmer) and other world's top CNC grinding machines, German Zoller(Genius 3), PJ1000 microscope,500X Cutting tool appearance detector and other testing equipment.

Products are widely used in mold, medical machinery, electronics products and mechanical equipment and other fields.

生产设备 Production equipment



罗曼蒂克数控磨床
ROLLOMATIC



萨克数控磨床
SAACKE



牧野数控磨床
makino seiki



孚尔默数控磨床
VOLLMER



瓦尔特数控磨床
WALTER HELITRONIC POWER



卓乐对刀仪
ZOLLER genius 3

图示说明 Graphic description

加工用途 Applications



螺旋角度 Spiral Angle



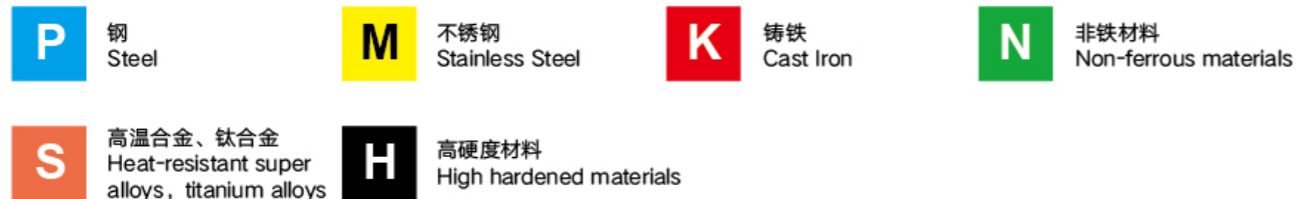
加工硬度 Work Hardness



刀具材质应用 Tool Material Application



被加工材料 Processed material



使用硬质合金刀具的目的，就是为了极大的提高时效，所以请使用较高的线速度来进行铣削，推荐在100以上为佳。以线速度100为例，直径8mm来计算刀具的转速S。

The purpose of using carbide cutting tools is to greatly improve the aging, so please use a higher linear speed for milling, it is recommended that more than 100 is better. Take linear speed 100 as an example, diameter 8mm to calculate the speed of the tool S.

$$100 \div 3.14 \div 8 \times 1000 = 3980$$

线速度 (米) π 刀具刃径 毫米 转速
 Linear velocity (m) Tool diameter mm Rotational speed

线速度过低会引起硬质合金刀具的崩刃。

Too low line speed will cause carbide cutting tool breakage.

硬质合金铣刀与高速钢铁刀VC对比 Carbide milling cutter and high speed steel milling cutter VC comparison

工件材料 Work material	硬度HRC Hardness HRC	硬质合金刀 Vc/M·min Carbide cutting tool Vc/M·min	高速钢刀Vc/Mmin High speed steel tool Vc/Mmin
低、中碳钢 Low and medium carbon steel	<200	80~150	21~40
	225~290	60~115	15~36
	300~425	40~75	9~20
高碳钢 High-carbon steel	<220	60~130	18~36
	225~325	53~105	14~24
	325~375	36~48	9~12
合金钢 Alloy steel	375~425	35~45	6~10
	<220	55~120	15~35
	225~325	40~80	10~24
工具钢 Tool steel	325~425	30~60	5~9
	200~250	45~83	12~23
灰铸铁 Gray cast iron	100~140	110~115	24~36
	150~225	60~110	15~21
	230~290	45~90	9~18
可锻铸铁 Malleable cast iron	300~320	21~30	5~10
	110~160	100~200	42~50
	160~200	83~120	24~36
铝镁合金 Al-mg alloy	200~240	72~110	15~24
	240~280	40~60	9~21
	95~100	360~600	180~300

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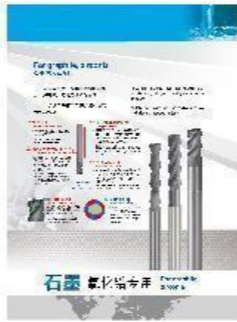
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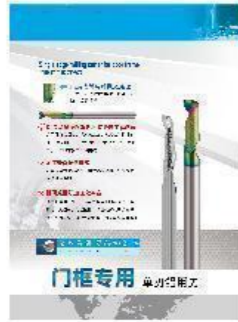
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XS Series Features XS系列特点

更高的涂层硬度结合低摩擦系数的表面涂层使切削更流畅。

高速高硬精加工.干铣

适用于微加工, 适合以下材料牌号:
42CrMo, Cr12Mov, SKD11, SKD51

HRC52~68

The higher coating hardness combined with the low friction coefficient surface coating makes the cutting smoother.

High speed and high hardness precision machining. Dry milling

Suitable for microfabrication, suitable for the following material grades:42CrMo, Cr12Mov, SKD11, SKD51

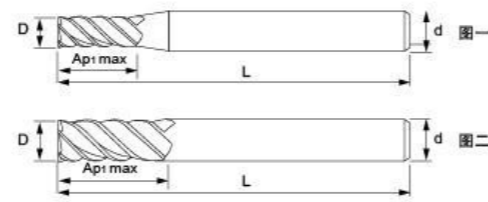
XS Series



高速高硬铣刀 High speed high hard milling cutter

XS高速高硬铣刀 XS High speed and high hardness milling cutter

4刃平刀 4-flute end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		~HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	○	○	○	○	○	○	○	○	○	○

Unit:mm

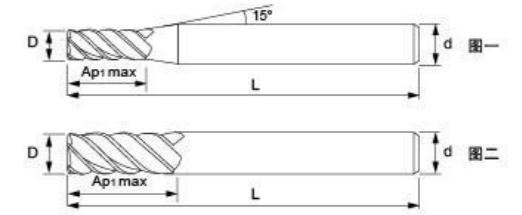
刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
1	2.5	50	4	6	15	100	6
1.5	3.75	50	4	8	20	60	8
2	5	50	4	8	20	75	8
2.5	6.25	50	4	8	20	100	8
3	7.5	50	4	10	25	75	10
4	10	50	4	10	25	100	10
1	2.5	50	6	12	30	75	12
1.5	3.75	50	6	12	30	100	12
2	5	50	6	14	35	100	14
2.5	6.25	50	6	14	35	150	14
3	7.5	50	6	16	40	100	16
4	10	50	6	16	40	150	16
6	15	50	6	20	50	100	20
6	15	60	6	20	50	150	20
6	15	75	6				

- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工件表面粗糙度;
- ◆ 为高精度铣削设计;
- ◆ 极高的耐磨性。

Designed for processing high hardness materials;
Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
Excellent surface roughness of the workpiece;
Designed for high-precision milling;
Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

4刃圆鼻刀 4-flute Corner Radius end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		~HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	○	○	○	○	○	○	○	○	○	○

Unit:mm

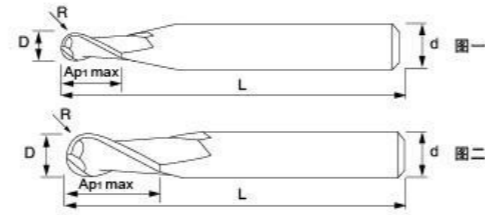
刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
1	R0.1	2	50	4	8	R1.0	16	60	8
1	R0.2	2	50	4	8	R2.0	16	60	8
1.5	R0.1	3	50	4	8	R0.2	16	75	8
1.5	R0.2	3	50	4	8	R0.5	16	75	8
2	R0.1	4	50	4	8	R1.0	16	75	8
2	R0.2	4	50	4	8	R2.0	16	75	8
2	R0.5	4	50	4	8	R0.2	16	100	8
3	R0.2	6	50	4	8	R0.5	16	100	8
3	R0.5	6	50	4	8	R1.0	16	100	8
4	R0.2	8	50	4	8	R2.0	16	100	8
4	R0.5	8	50	4	10	R0.5	20	75	10
6	R0.2	12	60	6	10	R1.0	20	75	10
6	R0.5	12	60	6	10	R2.0	20	75	10
6	R1.0	12	60	6	10	R0.5	20	100	10
6	R0.2	12	75	6	10	R1.0	20	100	10
6	R0.5	12	75	6	10	R2.0	20	100	10
6	R1.0	12	75	6	12	R0.5	24	75	12
6	R0.2	12	100	6	12	R1.0	24	75	12
6	R0.5	12	100	6	12	R2.0	24	75	12
6	R1.0	12	100	6	12	R0.5	24	100	12
8	R0.2	16	60	8	12	R1.0	24	100	12
8	R0.5	16	60	8	12	R2.0	24	100	12

- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工件表面粗糙度;
- ◆ 圆弧角可防止高速切削时崩刃;
- ◆ 极高的耐磨性。

Designed for processing high hardness materials;
Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
Excellent surface roughness of the workpiece;
Arc angle can prevent edge collapse during high-speed cutting;
Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

2刃球刀 2-flute Ball end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	○	○	○	○		○	○		○	

Unit:mm

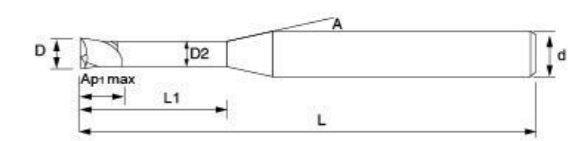
刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
1	R0.5	1.5	50	4	6	R3.0	9	75	6
1.5	R0.75	2.25	50	4	6	R3.0	9	100	6
2	R1.0	3	50	4	8	R4.0	12	60	8
2.5	R1.25	3.75	50	4	8	R4.0	12	75	8
3	R1.5	4.5	50	4	8	R4.0	12	100	8
4	R2.0	6	50	4	10	R5.0	15	75	10
1	R0.5	1.5	50	6	10	R5.0	15	100	10
1.5	R0.75	2.25	50	6	12	R6.0	18	75	12
2	R1.0	3	50	6	12	R6.0	18	100	12
2.5	R1.25	3.75	50	6	16	R8.0	24	100	16
3	R1.5	4.5	50	6	16	R8.0	24	150	16
4	R2.0	6	50	6	20	R10.0	30	100	20
6	R3.0	9	50	6	20	R10.0	30	150	20
6	R3.0	9	60	6					

- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工件表面粗糙度;
- ◆ 为高精度铣削设计;
- ◆ 极高的耐磨性。

Designed for processing high hardness materials;
Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
Excellent surface roughness of the workpiece;
Designed for high-precision milling;
Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

深沟平刀 Long Neck end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	○	○	○	○		○	○		○	

Unit:mm

刃径 (D)	有效长 (L2)	刃长 (Ap1 max)	颈径 (D2)	颈角 (A)	全长 (L)	柄径 (d)	刃数 (Z)
0.1	0.3	0.1	0.085	12°	50	4	2
0.1	0.5	0.1	0.085	12°	50	4	2
0.1	0.75	0.1	0.085	12°	50	4	2
0.15	0.5	0.15	0.13	12°	50	4	2
0.15	0.75	0.15	0.13	12°	50	4	2
0.15	1	0.15	0.13	12°	50	4	2
0.2	0.75	0.2	0.18	12°	50	4	2
0.2	1.0	0.2	0.18	12°	50	4	2
0.2	1.5	0.2	0.18	12°	50	4	2
0.3	1.0	0.3	0.28	12°	50	4	2
0.3	1.5	0.3	0.28	12°	50	4	2
0.3	2.0	0.3	0.28	12°	50	4	2
0.3	3.0	0.3	0.28	12°	50	4	2
0.4	1.5	0.4	0.37	12°	50	4	2
0.4	2.0	0.4	0.37	12°	50	4	2
0.4	3.0	0.4	0.37	12°	50	4	2
0.4	4.0	0.4	0.37	12°	50	4	2
0.5	2.0	1	0.46	12°	50	4	2
0.5	3.0	1	0.46	12°	50	4	2
0.5	4.0	1	0.46	12°	50	4	2
0.5	2.0	1	0.46	12°	50	4	4
0.5	3.0	1	0.46	12°	50	4	4
0.5	4.0	1	0.46	12°	50	4	4
0.6	2.0	1.2	0.56	12°	50	4	2
0.6	3.0	1.2	0.56	12°	50	4	2
0.6	4.0	1.2	0.56	12°	50	4	2
0.6	6.0	1.2	0.56	12°	50	4	2
0.6	2.0	1.2	0.56	12°	50	4	4
0.6	3.0	1.2	0.56	12°	50	4	4
0.6	4.0	1.2	0.56	12°	50	4	4
0.6	6.0	1.2	0.56	12°	50	4	4
0.8	3.0	1.6	0.76	12°	50	4	2
0.8	4.0	1.6	0.76	12°	50	4	2
0.8	6.0	1.6	0.76	12°	50	4	2
0.8	8.0	1.6	0.76	12°	50	4	2

XS高速高硬铣刀 XS High speed and high hardness milling cutter

深沟平刀 Long Neck end mill



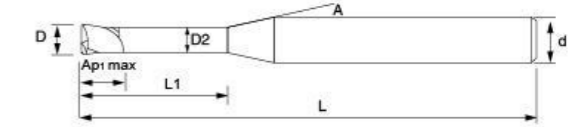
Unit:mm

刃径 (D)	有效长 (L2)	刃长 (Ap1 max)	颈径 (D2)	颈角 (A)	全长 (L)	柄径 (d)	刃数 (Z)
0.8	3	1.6	0.76	12°	50	4	4
0.8	4	1.6	0.76	12°	50	4	4
0.8	6	1.6	0.76	12°	50	4	4
0.8	8	1.6	0.76	12°	50	4	4
1.0	4.0	2	0.95	12°	50	4	2
1.0	6.0	2	0.95	12°	50	4	2
1.0	8.0	2	0.95	12°	50	4	2
1.0	10.0	2	0.95	12°	50	4	2
1.0	12.0	2	0.95	12°	50	4	2
1.0	4.0	2	0.95	12°	50	4	4
1.0	6.0	2	0.95	12°	50	4	4
1.0	8.0	2	0.95	12°	50	4	4
1.0	10.0	2	0.95	12°	50	4	4
1.0	12.0	2	0.95	12°	50	4	4
1.5	6.0	3	1.43	12°	50	4	4
1.5	8.0	3	1.43	12°	50	4	4
1.5	10.0	3	1.43	12°	50	4	4
1.5	12.0	3	1.43	12°	50	4	4
2.0	6.0	4	1.91	12°	50	4	4
2.0	8.0	4	1.91	12°	50	4	4
2.0	10.0	4	1.91	12°	50	4	4
2.0	12.0	4	1.91	12°	50	4	4
2.0	14.0	4	1.91	12°	50	4	4
3.0	8.0	6	2.9	12°	50	4	4
3.0	10.0	6	2.9	12°	50	4	4
3.0	12.0	6	2.9	12°	50	4	4
3.0	14.0	6	2.9	12°	50	4	4
3.0	16.0	6	2.9	12°	50	4	4
4.0	10.0	6	3.8	12°	60	6	4
4.0	12.0	6	3.8	12°	60	6	4
4.0	14.0	6	3.8	12°	60	6	4
4.0	16.0	6	3.8	12°	60	6	4
4.0	20.0	6	3.8	12°	60	6	4

- ◆ 为加工高硬度材料设计; Designed for processing high hardness materials;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层; Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
- ◆ 卓越的工件表面粗糙度; Excellent surface roughness of the workpiece;
- ◆ 由于颈部稍细可以加工深槽; Due to the slightly thinner neck, deep grooves can be machined;
- ◆ 极高的耐磨性; Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

深沟圆鼻刀 Long Neck Corner Radius end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	○	○	○	○		○	○		○	

Unit:mm

刃径 (D)	R角 (R)	有效长 (L2)	刃长 (Ap1 max)	颈径 (D2)	颈角 (A)	全长 (L)	柄径 (d)	刃数 (Z)
0.2	R0.02	1	0.2	0.18	12°	50	4	4
0.2	R0.02	1.5	0.2	0.18	12°	50	4	4
0.2	R0.05	1	0.2	0.18	12°	50	4	4
0.2	R0.05	2	0.2	0.18	12°	50	4	4
0.3	R0.05	1.5	0.3	0.28	12°	50	4	2
0.3	R0.05	2.0	0.3	0.28	12°	50	4	2
0.3	R0.05	3.0	0.3	0.28	12°	50	4	2
0.4	R0.05	2.0	0.4	0.37	12°	50	4	2
0.4	R0.05	3.0	0.4	0.37	12°	50	4	2
0.4	R0.05	4.0	0.4	0.37	12°	50	4	2
0.4	R0.1	2.0	0.4	0.37	12°	50	4	2
0.4	R0.1	3.0	0.4	0.37	12°	50	4	2
0.4	R0.1	4.0	0.4	0.37	12°	50	4	2
0.5	R0.05	2.0	1	0.46	12°	50	4	2
0.5	0.05	3.0	1	0.46	12°	50	4	2
0.5	R0.05	4.0	1	0.46	12°	50	4	2
0.5	R0.1	2.0	1	0.46	12°	50	4	2
0.5	R0.1	3.0	1	0.46	12°	50	4	2
0.5	R0.1	4.0	1	0.46	12°	50	4	2
0.6	R0.05	3.0	1.2	0.56	12°	50	4	2
0.6	R0.05	4.0	1.2	0.56	12°	50	4	2
0.6	R0.05	6.0	1.2	0.56	12°	50	4	2
0.6	R0.1	3.0	1.2	0.56	12°	50	4	2
0.6	R0.1	4.0	1.2	0.56	12°	50	4	2
0.6	R0.1	6.0	1.2	0.56	12°	50	4	2
0.8	R0.05	4.0	1.6	0.76	12°	50	4	2
0.8	R0.05	6.0	1.6	0.76	12°	50	4	2
0.8	R0.05	8.0	1.6	0.76	12°	50	4	2
0.8	R0.1	4.0	1.6	0.76	12°	50	4	2
0.8	R0.1	6.0	1.6	0.76	12°	50	4	2
0.8	R0.1	8.0	1.6	0.76	12°	50	4	2
0.8	R0.2	4.0	1.6	0.76	12°	50	4	2
0.8	R0.2	6.0	1.6	0.76	12°	50	4	2
0.8	R0.2	8.0	1.6	0.76	12°	50	4	2
1.0	R0.05	4.0	2	0.95	12°	50	4	4
1.0	R0.05	6.0	2	0.95	12°	50	4	4
1.0	R0.05	8.0	2	0.95	12°	50	4	4

XS高速高硬铣刀 XS High speed and high hardness milling cutter

深沟圆鼻刀

Long Neck Corner Radius end mill



Unit:mm

刃径 (D)	R角 (R)	有效长 (L2)	刃长 (Ap1 max)	颈径 (D2)	颈角 (A)	全长 (L)	柄径 (d)	刃数 (Z)
1.0	R0.1	4.0	2	0.95	12°	50	4	4
1.0	R0.1	6.0	2	0.95	12°	50	4	4
1.0	R0.1	8.0	2	0.95	12°	50	4	4
1.0	R0.2	4.0	2	0.95	12°	50	4	4
1.0	R0.2	6.0	2	0.95	12°	50	4	4
1.0	R0.2	8.0	2	0.95	12°	50	4	4
1.5	R0.1	4.0	3	1.43	12°	50	4	4
1.5	R0.1	6.0	3	1.43	12°	50	4	4
1.5	R0.1	8.0	3	1.43	12°	50	4	4
1.5	R0.2	4.0	3	1.43	12°	50	4	4
1.5	R0.2	6.0	3	1.43	12°	50	4	4
1.5	R0.2	8.0	3	1.43	12°	50	4	4
2.0	R0.1	6.0	4	1.91	12°	50	4	4
2.0	R0.1	8.0	4	1.91	12°	50	4	4
2.0	R0.1	10.0	4	1.91	12°	50	4	4
2.0	R0.1	12.0	4	1.91	12°	50	4	4
2.0	R0.2	6.0	4	1.91	12°	50	4	4
2.0	R0.2	8.0	4	1.91	12°	50	4	4
2.0	R0.2	10.0	4	1.91	12°	50	4	4
2.0	R0.2	12.0	4	1.91	12°	50	4	4
3.0	R0.1	8.0	6	2.85	12°	50	4	4
3.0	R0.1	10.0	6	2.85	12°	50	4	4
3.0	R0.1	12.0	6	2.85	12°	50	4	4
3.0	R0.1	16.0	6	2.85	12°	50	4	4
3.0	R0.2	8.0	6	2.85	12°	50	4	4
3.0	R0.2	10.0	6	2.85	12°	50	4	4
3.0	R0.2	12.0	6	2.85	12°	50	4	4
3.0	R0.2	16.0	6	2.85	12°	50	4	4
4.0	R0.1	10.0	6	3.8	12°	60	6	4
4.0	R0.1	12.0	6	3.8	12°	60	6	4
4.0	R0.1	16.0	6	3.8	12°	60	6	4
4.0	R0.1	20.0	6	3.8	12°	60	6	4
4.0	R0.2	10.0	6	3.8	12°	60	6	4
4.0	R0.2	12.0	6	3.8	12°	60	6	4
4.0	R0.2	16.0	6	3.8	12°	60	6	4
4.0	R0.2	20.0	6	3.8	12°	60	6	4
4.0	R0.5	10.0	6	3.8	12°	60	6	4
4.0	R0.5	12.0	6	3.8	12°	60	6	4
4.0	R0.5	16.0	6	3.8	12°	60	6	4
4.0	R0.5	20.0	6	3.8	12°	60	6	4

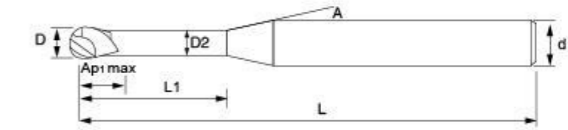
- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工作表面粗糙度;
- ◆ 由于颈部稍细可以加工深槽;
- ◆ 极高的耐磨性。

Designed for processing high hardness materials;
 Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
 Excellent surface roughness of the workpiece;
 Due to the slightly thinner neck, deep grooves can be machined;
 Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

深沟球刀

Long Neck Ball end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminum alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	◎	◎	◎	○		○	○		○	

Unit:mm

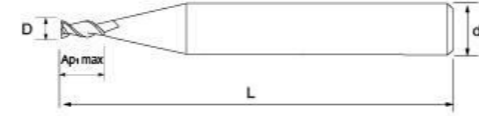
刃径 (D)	R角 (R)	有效长 (L2)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃径 (D)	R角 (R)	有效长 (L2)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
0.2	R0.1	0.5	0.2	50	4	1.0	R0.5	4	1.0	50	4
0.2	R0.1	1	0.2	50	4	1.0	R0.5	6	1.0	50	4
0.2	R0.1	1.5	0.2	50	4	1.0	R0.5	4	1.0	50	6
0.3	R0.15	1	0.3	50	4	1.5	R0.75	4	1.5	50	4
0.3	R0.15	1.5	0.3	50	4	1.5	R0.75	6	1.5	50	4
0.3	R0.15	2	0.3	50	4	1.5	R0.75	8	1.5	50	4
0.4	R0.2	1	0.4	50	4	2.0	R1.0	4	2.0	50	4
0.4	R0.2	2	0.4	50	4	2.0	R1.0	6	2.0	50	4
0.4	R0.2	3	0.4	50	4	2.0	R1.0	8	2.0	50	4
0.4	R0.2	4	0.4	50	4	2.0	R1.0	10	2.0	50	4
0.5	R0.25	2	0.5	50	4	2.0	R1.0	10	2.0	60	6
0.5	R0.25	3	0.5	50	4	3.0	R1.5	6	3.0	50	4
0.5	R0.25	4	0.5	50	4	3.0	R1.5	8	3.0	50	4
0.6	R0.3	2	0.6	50	4	3.0	R1.5	10	3.0	50	4
0.6	R0.3	3	0.6	50	4	3.0	R1.5	10	3.0	60	6
0.6	R0.3	4	0.6	50	4	3.0	R1.5	12	3.0	60	6
0.6	R0.3	6	0.6	50	4	4.0	R2.0	8	6	60	6
0.8	R0.4	2	0.8	50	4	4.0	R2.0	10	6	60	6
0.8	R0.4	4	0.8	50	4	4.0	R2.0	12	6	60	6
0.8	R0.4	6	0.8	50	4	4.0	R2.0	16	6	60	6
1.0	R0.5	2	1.0	50	4	4.0	R2.0	20	6	60	6

- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工作表面粗糙度;
- ◆ 由于颈部稍细可以加工深槽;
- ◆ 极高的耐磨性。

Designed for processing high hardness materials;
 Suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings;
 Excellent surface roughness of the workpiece;
 Due to the slightly thinner neck, deep grooves can be machined;
 Extremely high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

微小径平刀 Micro Diameter end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	◎	◎	◎	○		○	○		○	

Unit:mm

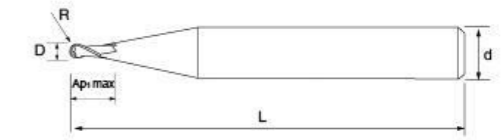
刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃数 (Z)
0.05	0.1	50	4	2
0.1	0.2	50	4	2
0.15	0.3	50	4	2
0.2	0.4	50	4	2
0.3	0.6	50	4	2
0.4	0.8	50	4	2
0.5	1	50	4	2
0.5	1	50	4	4
0.6	1.2	50	4	2
0.6	1.2	50	4	4
0.7	1.4	50	4	2
0.8	1.6	50	4	2
0.8	1.6	50	4	4
0.9	1.8	50	4	2

- ◆ 为加工高硬度材料设计;
- ◆ 适于干式切削, 高速切削, 最新开发的原材料和涂层;
- ◆ 卓越的工件表面粗糙度;
- ◆ 极高的耐磨性。

It is designed for high hardness materials for processing.
It is suitable for dry cutting, high-speed cutting, newly developed raw materials and coatings.
Excellent workpiece surface roughness.
Very high wear resistance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

微小径2刃球刀 Micro Diameter 2-flute Ball end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○	◎	◎	◎	○		○	○		○	

Unit:mm

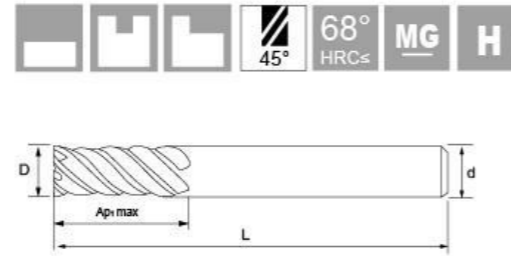
刃径 (D)	R角半径 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
0.1	R0.05	0.15	50	4
0.15	R0.075	0.23	50	4
0.2	R0.1	0.3	50	4
0.3	R0.15	0.45	50	4
0.4	R0.2	0.6	50	4
0.5	R0.25	0.75	50	4
0.6	R0.3	0.9	50	4
0.7	R0.35	1.05	50	4
0.8	R0.4	1.2	50	4
0.9	R0.45	1.35	50	4

- ◆ 为加工高硬度钢而设计;
- ◆ 在医学、光学、电子和航空航天工业做高精密切削;
- ◆ 干切削时性能优越;
- ◆ 卓越的高硬度钢切削性能。

It is designed for processing high hardness steel.
High precision milling in the medical, optical, electronic and aerospace industries.
The performance of dry cutting is superior.
The excellent high hardness steel cutting performance.

XS高速高硬铣刀 XS High speed and high hardness milling cutter

强力6刃平刀 Strong 6-flute end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel					淬火钢 Quenched steel					不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin	
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70													
○	○		○	○	○	○													

Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃数 (Z)
6	15	60	6	6
6	15	75	6	6
8	20	60	8	6
8	20	75	8	6
8	20	100	8	6
10	25	75	10	6
10	25	100	10	6
12	30	75	12	6
12	30	100	12	6
16	40	100	16	6
16	40	150	16	6

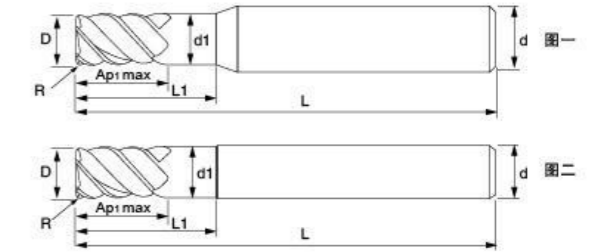
- ◆ 为加工高硬度钢而设计;
- ◆ 由于负前角的设计具有高耐磨性;
- ◆ 在冲压模具领域有着极好的侧铣功能。

It is designed for processing high hardness steel.
Due to the high wear resistance of the design of the negative front corner.
It has excellent side milling function in stamping die field.

XS高速高硬铣刀 XS High speed and high hardness milling cutter



6刃圆弧头立铣刀(S) 6-flute Corner Radius end mill(S)



3 ≤ D ≤ 12		
0		
-0.02		
d=6	8 ≤ d ≤ 10	d=12
0	0	0
-0.008	-0.009	-0.011

碳钢、合金钢、铸铁 Carbon steel, alloy steel, cast iron (<30HRC)	工具钢、预硬钢、高硬度钢 Tool steel, pre-hardened steel, high hardness steel (≤45HRC)	高硬度钢 High hardness steel (≤55HRC)	高硬度钢 High hardness steel (>55HRC)
○	○	○	○

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	有效长 (L1)	沟径 (d1)	全长 (L)	柄径 (d)	刃数 (Z)
3	0.3	3	9	2.9	50	6	6
4	0.3	4	12	3.9	50	6	6
5	0.3	5	15	4.9	50	6	6
6	0.3	6	18	5.85	50	6	6
6	0.5	6	18	5.85	50	6	6
6	1	6	18	5.85	50	6	6
8	0.3	8	24	7.85	60	8	6
8	0.5	8	24	7.85	60	8	6
8	1	8	24	7.85	60	8	6
10	0.5	10	30	9.7	75	10	6
10	1	10	30	9.7	75	10	6
12	0.5	12	36	11.7	75	12	6
12	1	12	36	11.7	75	12	6

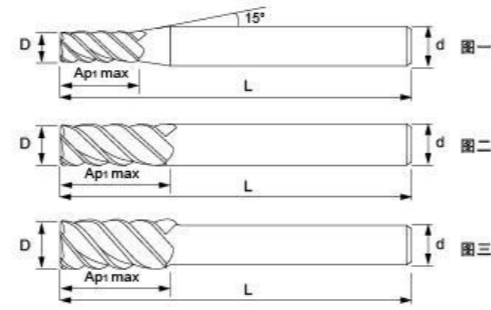
- ◆ 短刃长型，刚性高，可进行高速、高进给加工。

Short blade and long shape, with high rigidity, capable of high-speed and high feed processing.

XS高速高硬铣刀 XS High speed and high hardness milling cutter



6刃圆弧头立铣刀(M) 6-flute Corner Radius end mill(M)



D ≤ 12	D > 12		
0	0		
-0.02	-0.03		
d=6	8 ≤ d ≤ 10	12 ≤ d ≤ 16	d=20
0	0	0	0
-0.008	-0.009	-0.011	-0.013

碳钢、合金钢、铸铁 Carbon steel, alloy steel, cast iron (<30HRC)	工具钢、预硬钢、高硬度钢 Tool steel, pre-hardened steel, high hardness steel (≤45HRC)	高硬度钢 High hardness steel (≤55HRC)	高硬度钢 High hardness steel (>55HRC)
○	◎	◎	◎

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃数 (Z)
3	0.3	10	60	6	6
4	0.3	12	60	6	6
5	0.3	15	60	6	6
6	0.3	15	60	6	6
6	0.5	15	60	6	6
6	1	15	60	6	6
8	0.3	20	75	8	6
8	0.5	20	75	8	6
8	1	20	75	8	6
10	0.3	25	75	10	6
10	0.5	25	75	10	6
10	1	25	75	10	6
12	0.5	30	100	12	6
12	1	30	100	12	6
16	1	40	100	16	6
16	1.5	40	100	16	6
18	1	40	100	16	6
18	1.5	40	100	16	6
20	1	45	100	20	6
20	1.5	45	100	20	6
20	2	45	100	20	6

◆ 高硬度材料高速加工用圆弧头立铣刀。

Arc end milling cutters for high-speed machining of high hardness materials.

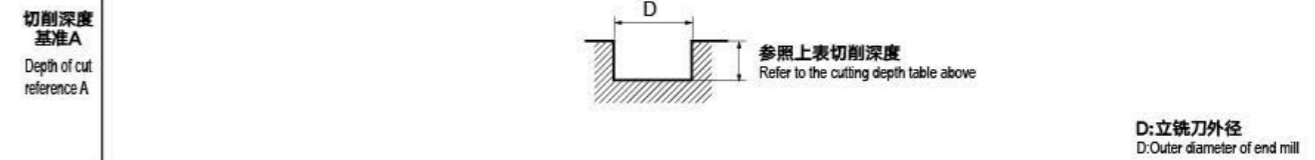
推荐切削条件 Recommended cutting condition

工件材料 Work material	高硬度钢(HRC45-55) SKD61等 High hardness steel (HRC45-55) SKD61 Etc.			高硬度钢(HRC55-62) SKD11等 High hardness steel (HRC55-62) SKD11 Etc.			高硬度钢(HRC62-70)SKS、SKH等 High hardness steel (HRC62-70) SKS、SKH Etc.		
	转速 (min ⁻¹)	进给速度 (mm/min)	切削深度 (mm)	进给速度 (mm/min)	切削深度 (mm)	切削深度 (mm)	转速 (min ⁻¹)	进给速度 (mm/min)	切削深度 (mm)
1	40000	1200	0.05	40000	800	0.03	32000	500	0.02
2	40000	2000	0.1	24000	1000	0.05	16000	600	0.05
3	32000	3800	0.2	16000	1900	0.1	11000	1200	0.05
4	24000	4400	0.2	12000	2200	0.1	8000	1300	0.05
6	16000	5800	0.3	8000	2900	0.2	5300	1800	0.1
8	12000	5800	0.4	6000	2900	0.2	4000	1800	0.1
10	9600	5800	0.5	4800	2900	0.3	3200	1800	0.2
12	8000	4800	0.6	4000	2400	0.3	2700	1500	0.2
16	6000	3600	0.8	3000	1800	0.5	2000	1100	0.3
20	4800	2900	1.0	2400	1400	0.5	1600	880	0.3
25	3800	2300	1.0	1900	1100	0.5	1300	720	0.3



小直径的立铣刀切槽 Small diameter end mill grooves

工件材料 Work material	高硬度钢(HRC45-55) SKD61等 High hardness steel (HRC45-55) SKD61 Etc.			高硬度钢(HRC55-62) SKD61等 High hardness steel (HRC55-62) SKD61 Etc.		
	转速 (min ⁻¹)	进给速度 (mm/min)	切削深度 (mm)	转速 (min ⁻¹)	进给速度 (mm/min)	切削深度 (mm)
1	15000	300	0.1	9500	110	0.05
2	8000	320	0.2	4800	190	0.1



- 1) 切削深度小时，转速与进给速度可进一步提高。
 - 2) 机床或工件安装刚性差，产生颤振、异常声音时，请将上表的转速与进给速度同比例下降。
- 1) When the cutting depth is small, the speed and feed speed can be further improved.
2) When the machine tool or workpiece installation rigidity is poor, resulting in chatter and abnormal sound, please reduce the speed of the above table in proportion to the feed speed.

HRC48~58

XD Series Features XD系列特点

Higher finish and coating density, good red hardness, make the tool super durable.

更高的光洁度和涂层致密度，良好的红硬性，使刀具超级耐用。

High Speed.Dry.Milling HRC48~58

高速.干式铣削 HRC48~58

Suitable for the following material grades:
718H, S136H

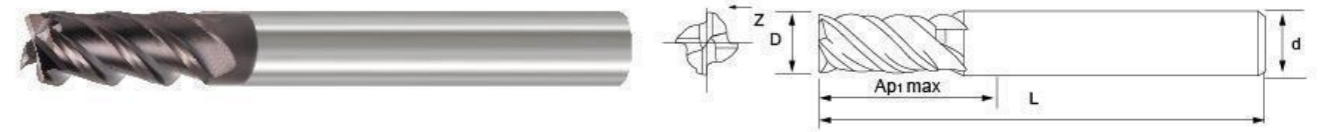
适合以下材料牌号：
718H, S136H



XD Series

XD高速超耐磨铣刀 High speed and ultra wear-resistant end mill

XD高速超耐磨平头立铣刀 XD High speed and ultra wear-resistant end mill



标准型 Normal form

Unit:mm

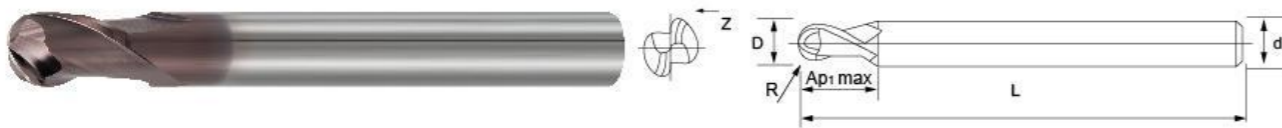
刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
1.0	4	3	50	42
1.5	4	4	50	42
2.0	4	5	50	42
2.5	4	6	50	42
3.0	4	8	50	42
3.5	4	9	50	42
4.0	4	10	50	42
5.0	6	13	50	72
6.0	6	15	50	72
8.0	8	20	60	120
10	10	25	75	196
12	12	30	75	266
14	14	35	100	490
16	16	40	100	612
18	18	40	100	750
20	20	45	100	902

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
4	4	15	75	62
6	6	24	75	102
4	4	16	100	76
6	6	24	100	116
8	8	32	100	182
10	10	40	100	262
12	12	45	100	356
6	6	45	150	180
8	8	50	150	252
10	10	55	150	364
12	12	60	150	498
16	16	65	150	884
20	20	75	150	1310

XD高速超耐磨球头立铣刀 XD High speed and ultra wear-resistant Ball End Mill



标准型 Normal form

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R0.25	4	0.75	50	42
R0.5	4	1.5	50	42
R0.75	4	2.25	50	42
R1.0	4	3	50	42
R1.25	4	3.75	50	42
R1.5	4	4.5	50	42
R2.0	4	6	50	42
R2.5	6	7.5	50	72
R3.0	6	9	50	72
R4.0	8	12	60	120
R5.0	10	15	75	196
R6.0	12	18	75	266
R7.0	14	21	100	490
R8.0	16	24	100	612
R10.0	20	30	100	902

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R2	4	6	100	76
R3	6	9	100	116
R4	8	12	100	182
R5	10	15	100	262
R6	12	18	100	356
R3	6	9	150	180
R4	8	12	150	252
R5	10	15	150	364
R6	12	18	150	498
R8	16	24	150	884
R10	20	30	150	1310

XD高速超耐磨圆鼻立铣刀 XD High speed and ultra wear-resistant Round nose end mill



标准型 Normal form

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
1.0	R0.2	2	4	50	42
1.5	R0.2	3	4	50	42
2.0	R0.2	4	4	50	42
2.5	R0.2	5	4	50	42
2.5	R0.5	5	4	50	42
3.0	R0.5	6	4	50	42
3.0	R1.0	6	4	50	42
4.0	R0.5	8	4	50	42
4.0	R1.0	8	4	50	42
5.0	R0.5	10	6	50	72
5.0	R1.0	10	6	50	72
6.0	R0.5	12	6	50	72
6.0	R1.0	12	6	50	72
8.0	R0.5	16	8	60	120
8.0	R1.0	16	8	60	120
8.0	R1.5	16	8	60	120
10.0	R0.5	20	10	75	196
10.0	R1.5	20	10	75	196
10.0	R1.5	20	10	75	196
10.0	R2.0	20	10	75	196
12.0	R0.5	24	12	75	266
12.0	R1.0	24	12	75	266
12.0	R1.5	24	12	75	266
12.0	R2.0	24	12	75	266

加长型 Lengthened type

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
6	R0.5	12	6	100	116
6	R1.0	12	6	100	116
8	R0.5	16	8	100	182
8	R1.0	16	8	100	182
8	R1.5	16	8	100	182
10	R0.5	20	10	100	262
10	R1.0	20	10	100	262
10	R1.5	20	10	100	262
10	R2.0	20	10	100	262
12	R0.5	24	12	100	356
12	R1.0	24	12	100	356
12	R1.5	24	12	100	356
12	R2.0	24	12	100	356

XL Series Features XL系列特点

最新涂层技术，优异的涂层光洁度和耐磨性

模具钢. 不锈钢. 软钢件/湿式. 干湿/铣削

适合以下材料牌号：
P20, 718H

HRC30~50

The latest coating technology, excellent coating finish and wear resistance

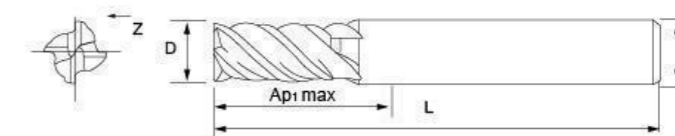
Mould steel. Stainless steel. Mild steel parts/wet. Dry and wet/milling

Suitable for the following material grades:
P20, 718H

XL Series

XL高速模具铣刀 High speed mold end mill

XL高速模具平头立铣刀 XL High speed mold end mill



标准型 Normal form

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
1.0	4	3	50	42
1.5	4	4	50	42
2.0	4	5	50	42
2.5	4	6	50	42
3.0	4	8	50	42
3.5	4	9	50	42
4.0	4	10	50	42
5.0	6	13	50	72
6.0	6	15	50	72
8.0	8	20	60	118
10	10	25	75	182
12	12	30	75	240
14	14	35	100	422
16	16	40	100	520
18	18	40	100	626
20	20	45	100	746

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
4	4	15	75	60
6	6	24	75	100
4	4	16	100	76
6	6	24	100	116
8	8	32	100	182
10	10	40	100	256
12	12	45	100	332
6	6	45	150	174
8	8	50	150	252
10	10	55	150	360
12	12	60	150	470
16	16	65	150	864
20	20	75	150	1230

XL高速模具球头立铣刀 XL High speed mold Ball End Mill



标准型 Normal form

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R0.25	4	0.75	50	42
R0.5	4	1.5	50	42
R0.75	4	2.25	50	42
R1.0	4	3	50	42
R1.25	4	3.75	50	42
R1.5	4	4.5	50	42
R2.0	4	6	50	42
R2.5	6	7.5	50	72
R3.0	6	9	50	72
R4.0	8	12	60	118
R5.0	10	15	75	182
R6.0	12	18	75	240
R7.0	14	21	100	422
R8.0	16	24	100	520
R10.0	20	30	100	746

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R2	4	6	100	76
R3	6	9	100	116
R4	8	12	100	182
R5	10	15	100	256
R6	12	18	100	332
R3	6	9	150	174
R4	8	12	150	252
R5	10	15	150	360
R6	12	18	150	470
R8	16	24	150	864
R10	20	30	150	1230

XL高速模具圆鼻立铣刀 XL High speed mold Round nose end mill



标准型 Normal form

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
1.0	R0.2	2	4	50	42
1.5	R0.2	3	4	50	42
2.0	R0.2	4	4	50	42
2.5	R0.2	5	4	50	42
2.5	R0.5	5	4	50	42
3.0	R0.5	6	4	50	42
3.0	R1.0	6	4	50	42
4.0	R0.5	8	4	50	42
4.0	R1.0	8	4	50	42
5.0	R0.5	10	6	50	72
5.0	R1.0	10	6	50	72
6.0	R0.5	12	6	50	72
6.0	R1.0	12	6	50	72
8.0	R0.5	16	8	60	118
8.0	R1.0	16	8	60	118
8.0	R1.5	16	8	60	118
10.0	R0.5	20	10	75	182
10.0	R1.5	20	10	75	182
10.0	R1.5	20	10	75	182
10.0	R2.0	20	10	75	182
12.0	R0.5	24	12	75	240
12.0	R1.0	24	12	75	240
12.0	R1.5	24	12	75	240
12.0	R2.0	24	12	75	240

加长型 Lengthened type

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
6	R0.5	12	6	100	116
6	R1.0	12	6	100	116
8	R0.5	16	8	100	182
8	R1.0	16	8	100	182
8	R1.5	16	8	100	182
10	R0.5	20	10	100	256
10	R1.0	20	10	100	256
10	R1.5	20	10	100	256
10	R2.0	20	10	100	256
12	R0.5	24	12	100	332
12	R1.0	24	12	100	332
12	R1.5	24	12	100	332
12	R2.0	24	12	100	332

Characteristics of Straight Edge Rough Round Nose Cutting Tools

Efficient black skin removal, welding scar removal, quenched steel, fast forward cutting for straight blades, round nose end milling cutter.

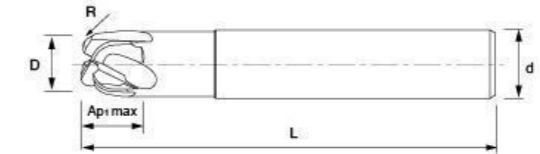
直刃开粗圆鼻刀特点

高效去黑皮，去焊疤，淬火钢，快进给直刃开粗，圆鼻立铣刀。

XCC
Series

XCC直刃开粗圆鼻刀 Straight blade rough nose cutting tool

直刃开粗圆鼻刀 Straight blade rough nose cutting tool



Unit:mm

刃径 (D)	R角 (R)	全长 (L)	柄径 (d)	刃数 (F)
6	1.5	50	6	4
8	2	60	8	4
10	2	75	10	4
12	2	75	12	4

HRC50°以下

GT Series Features GT系列特点

Nano multilayer coating protects the cutting edge from heat conduction and wear

纳米多层涂层使刃口免于导热，磨损

Semi-finishing below 50°, with good surface finish and machinability and wear resistance

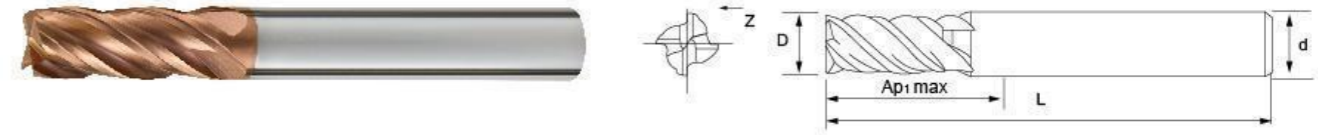
50°以下半精加工，具有良好的表面光洁度和切削性耐磨性



GT Series

GT经济型 GT Economical Series

GT经济型平头立铣刀 GT Economical end mill



标准型 Normal form

Unit:mm

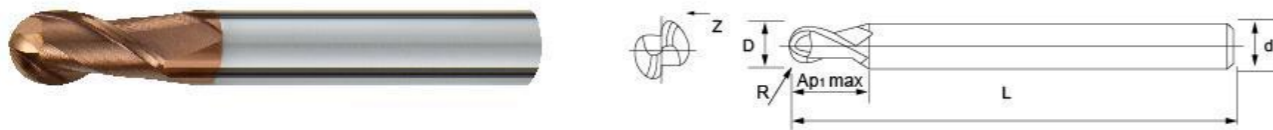
刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
0.3-0.6	4	1.5	50	30
0.7-0.9	4	2.5	50	30
1.0	4	3	50	30
1.5	4	4	50	30
2.0	4	5	50	30
2.5	4	6	50	30
3.0	4	8	50	30
3.5	4	9	50	30
4.0	4	10	50	30
3.0	6	8	50	42
4.0	6	10	50	42
5.0	6	13	50	42
6.0	6	15	50	42
7.0	8	18	60	78
8.0	8	20	60	78
9.0	10	22	75	120
10	10	25	75	120
11	12	25	75	160
12	12	30	75	160
14	14	35	100	278
16	16	40	100	350
18	18	40	100	422
20	20	45	100	492

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
3	4	12	75	40
4	4	15	75	40
5	6	20	75	72
6	6	24	75	72
3	4	12	100	46
4	4	16	100	46
5	6	20	100	78
6	6	24	100	78
8	8	32	100	118
10	10	40	100	166
12	12	45	100	220
6	6	45	150	120
8	8	50	150	180
10	10	55	150	252
12	12	60	150	324
16	16	65	150	532
20	20	75	150	766

GT经济型球头立铣刀 GT Economical Ball End Mill



标准型 Normal form

Unit:mm

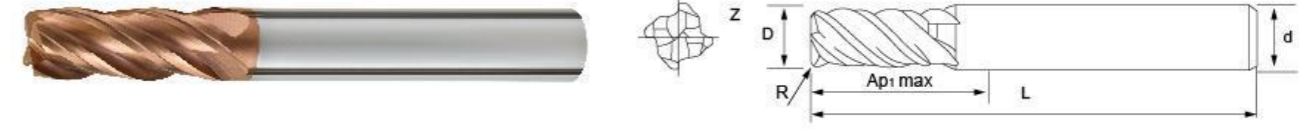
刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R0.25	4	0.75	50	30
R0.5	4	1.5	50	30
R0.75	4	2.25	50	30
R1.0	4	3	50	30
R1.25	4	3.75	50	30
R1.5	4	4.5	50	30
R2.0	4	6	50	30
R2.5	6	7.5	50	42
R3.0	6	9	50	42
R4.0	8	12	60	78
R5.0	10	15	75	120
R6.0	12	18	75	160
R7.0	14	21	100	278
R8.0	16	24	100	350
R10.0	20	30	100	492

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R1	4	3	100	46
R1.5	4	4.5	100	46
R2	4	6	100	46
R1	6	3	100	78
R1.5	6	4.5	100	78
R2	6	6	100	78
R2.5	6	7.5	100	78
R3	6	9	100	78
R4	8	12	100	118
R5	10	15	100	166
R6	12	18	100	220
R3	6	9	150	120
R4	8	12	150	180
R5	10	15	150	252
R6	12	18	150	324
R8	16	24	150	532
R10.0	20	30	150	766

GT经济型圆鼻立铣刀 GT Economical Round nose end mill



标准型 Normal form

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
1.0	R0.2	2	4	50	30
1.5	R0.2	3	4	50	30
2	R0.2	4	4	50	30
2.5	R0.2	5	4	50	30
2.5	R0.5	5	4	50	30
3.0	R0.5	6	4	50	30
3.0	R1.0	6	4	50	30
4.0	R0.5	8	4	50	30
4.0	R1.0	8	4	50	30
5.0	R0.5	10	6	50	42
5.0	R1.0	10	6	50	42
6.0	R0.5	12	6	50	42
6.0	R1.0	12	6	50	42
8.0	R0.5	16	8	60	78
8.0	R1.0	16	8	60	78
8.0	R1.5	16	8	60	78
10.0	R0.5	20	10	75	120
10.0	R1.5	20	10	75	120
10.0	R1.5	20	10	75	120
10.0	R2.0	20	10	75	120
12.0	R0.5	24	12	75	160
12.0	R1.0	24	12	75	160
12.0	R1.5	24	12	75	160
12.0	R2.0	24	12	75	160

加长型 Lengthened type

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
6	R0.5	12	6	100	78
6	R1.0	12	6	100	78
8	R0.5	16	8	100	118
8	R1.0	16	8	100	118
8	R1.5	16	8	100	118
10	R0.5	20	10	100	166
10	R1.0	20	10	100	166
10	R1.5	20	10	100	166
10	R2.0	20	10	100	166
12	R0.5	24	12	100	220
12	R1.0	24	12	100	220
12	R1.5	24	12	100	220
12	R2.0	24	12	100	220

HRC 45°以下

HT经济型系列特点

高性能的耐磨涂层，高硬性和低导热率

普通钢材，预硬钢，铸铁等粗加工

High-performance wear-resistant coating, high hardness and low thermal conductivity

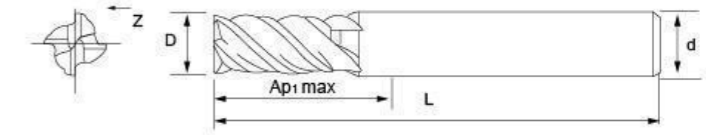
Rough machining of ordinary steel, pre-hardened steel, cast iron, etc.



HT Series

HT经济型 HT Economical Series

HT经济型平头立铣刀 HT Economical end mill



标准型 Normal form

Unit:mm

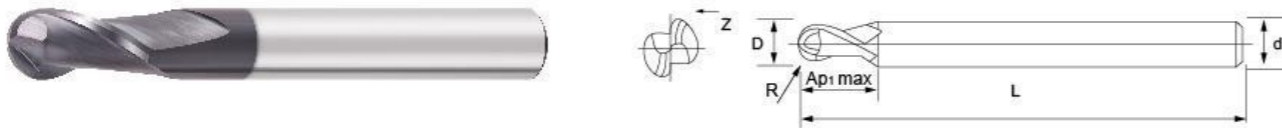
刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
0.3-0.6	4	1.5	50	30
0.7-0.9	4	2.5	50	30
1.0	4	3	50	30
1.5	4	4	50	30
2.0	4	5	50	30
2.5	4	6	50	30
3.0	4	8	50	30
3.5	4	9	50	30
4.0	4	10	50	30
3.0	6	8	50	42
4.0	6	10	50	42
5.0	6	13	50	42
6.0	6	15	50	42
7.0	8	18	60	78
8.0	8	20	60	78
9.0	10	22	75	120
10	10	25	75	120
11	12	25	75	160
12	12	30	75	160
14	14	35	100	278
16	16	40	100	350
18	18	40	100	422
20	20	45	100	492

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
3	4	12	75	40
4	4	15	75	40
5	6	20	75	72
6	6	24	75	72
3	4	12	100	46
4	4	16	100	46
5	6	20	100	78
6	6	24	100	78
8	8	32	100	118
10	10	40	100	166
12	12	45	100	220
6	6	45	150	120
8	8	50	150	180
10	10	55	150	252
12	12	60	150	324
16	16	65	150	532
20	20	75	150	766

HT经济型球头立铣刀 HT Economical Ball End Mill



标准型 Normal form

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R0.25	4	0.75	50	30
R0.5	4	1.5	50	30
R0.75	4	2.25	50	30
R1.0	4	3	50	30
R1.25	4	3.75	50	30
R1.5	4	4.5	50	30
R2.0	4	6	50	30
R2.5	6	7.5	50	42
R3.0	6	9	50	42
R4.0	8	12	60	78
R5.0	10	15	75	120
R6.0	12	18	75	160
R7.0	14	21	100	278
R8.0	16	24	100	350
R10.0	20	30	100	492

加长型 Lengthened type

Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
R1	4	3	100	46
R1.5	4	4.5	100	46
R2	4	6	100	46
R1	6	3	100	78
R1.5	6	4.5	100	78
R2	6	6	100	78
R2.5	6	7.5	100	78
R3	6	9	100	78
R4	8	12	100	118
R5	10	15	100	166
R6	12	18	100	220
R3	6	9	150	120
R4	8	12	150	180
R5	10	15	150	252
R6	12	18	150	324
R8	16	24	150	532
R10.0	20	30	150	766

HT经济型圆鼻立铣刀 HT Economical Round nose end mill



标准型 Normal form

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
1.0	R0.2	2	4	50	30
1.5	R0.2	3	4	50	30
2	R0.2	4	4	50	30
2.5	R0.2	5	4	50	30
2.5	R0.5	5	4	50	30
3.0	R0.5	6	4	50	30
3.0	R1.0	6	4	50	30
4.0	R0.5	8	4	50	30
4.0	R1.0	8	4	50	30
5.0	R0.5	10	6	50	42
5.0	R1.0	10	6	50	42
6.0	R0.5	12	6	50	42
6.0	R1.0	12	6	50	42
8.0	R0.5	16	8	60	78
8.0	R1.0	16	8	60	78
8.0	R1.5	16	8	60	78
10.0	R0.5	20	10	75	120
10.0	R1.5	20	10	75	120
10.0	R1.5	20	10	75	120
10.0	R2.0	20	10	75	120
12.0	R0.5	24	12	75	160
12.0	R1.0	24	12	75	160
12.0	R1.5	24	12	75	160
12.0	R2.0	24	12	75	160

加长型 Lengthened type

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	单价 Price
6	R0.5	12	6	100	78
6	R1.0	12	6	100	78
8	R0.5	16	8	100	118
8	R1.0	16	8	100	118
8	R1.5	16	8	100	118
10	R0.5	20	10	100	166
10	R1.0	20	10	100	166
10	R1.5	20	10	100	166
10	R2.0	20	10	100	166
12	R0.5	24	12	100	220
12	R1.0	24	12	100	220
12	R1.5	24	12	100	220
12	R2.0	24	12	100	220

HRC35° 以下

TT Series Features

TT系列特点

TT series cutting tool base material adopts imported ultra-fine particle high-quality bars, and five axis high-precision grinding machines such as Walter, Sack, and Romantic are used for processing to ensure the consistency of tool size. The coating adopts TiAlN nano coating, with excellent surface finish and extremely high micro hardness and thermal hardness. Suitable for processing stainless steel, heat-resistant steel, and non-ferrous metal materials below HRC50 degrees.

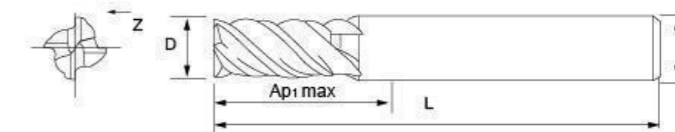
TT系列刀具母材采用进口超细微粒高品质棒材，加工所使用瓦尔特、萨克、罗曼帝克等五轴高精度磨床，以确保刀具尺寸的一致性。涂层采用TiAlN纳米涂层，表面光洁度极佳兼具有极高的微硬度及热硬度。适合加工HRC35度以下的不锈钢、耐热钢及非铁金属材料。



TT Series

TT软料钢件专用 Soft materials for steel parts

TT钢件专用平头立铣刀 TT Steel end mill



Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	刃数Z
1.0	3/4	3	50	2/4
1.5	3/4	4	50	2/4
2.0	3/4	5	50	2/4
2.5	3/4	6	50	2/4
3.0	3/4	8/12	50/75/100	2/4
3.5	4	9	50	2/4
4.0	4	10/15/16	50/75/150	2/4
1.0	6	3	50	2/4
1.5	6	4	50	2/4
2.0	6	5	50	2/4
2.5	6	6	50	2/4
3.0	6	8	50	2/4
3.5	6	9	50	2/4
4.0	6	10	50	2/4
4.5	6	12	50	2/4
5.0	6	13/18/20	50/75/100	2/4
5.5	6	15	50	2/4
6.0	6	15/24/24	50/75/100	2/4
6.5	8	18	60	2/4
7.0	8	18	60	2/4
7.5	8	19	60	2/4
8.0	8	20/32/50	60/100/150	2/4
8.5	10	20	75	2/4
9.0	10	22	75	2/4
9.5	10	25	75	2/4
10.0	10	25/40/55	75/100/150	2/4
10.5	12	30	75	2/4
11.0	12	25	75	2/4
11.5	12	30	75	2/4
12.0	12	30/45/60	75/100/150	2/4
14.0	14	35	100	2/4
16.0	16	40/65	100/150	2/4
18.0	18	40/65	100/150	2/4
20.0	20	45/75	100/150	2/4
25.0	25	45/75	100/150	2/4

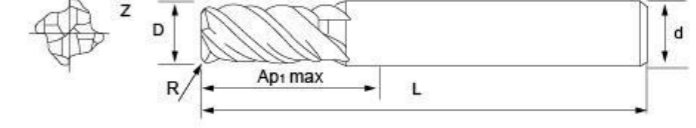
TT钢件专用球头立铣刀 TT Steel Ball End Mill



Unit:mm

刃径 (D)	R径	柄径 (d)	刃长 (Ap1 max)	全长 (L)	刃数Z
1.0	0.50	3	2	50	2
1.0	0.50	4	2	50	2
1.5	0.75	3	3	50	2
1.5	0.75	4	3	50	2
2.0	1.00	3	4	50	2
2.0	1.00	4	4	50	2
2.5	1.25	3	5	50	2
2.5	1.25	4	5	50	2
3.0	1.50	3	6	50	2
3.0	1.50	4	6	50	2
3.5	1.75	4	7	50	2
4.0	2.00	4	8	50	2
1.0	0.50	6	2	50/75/100	2
1.5	0.75	6	3	50/75/100	2
2.0	1.00	6	4	50/75/100	2
2.5	1.25	6	5	50/75/100	2
3.0	1.50	6	6	50/75/100	2
3.5	1.75	6	7	50/75/100	2
4.0	2.00	6	8	50/75/100	2
4.5	2.25	6	9	50/75/100	2
5.0	2.50	6	10	50/75/100	2
5.5	2.75	6	11	50/75/100	2
6.0	3.00	6	12	50/75/100	2
7.0	3.50	8	14	60	2
8.0	4.00	8	16	60/75/100/150	2
9.0	4.50	10	18	75	2
10.0	5.00	10	20	75/100/150	2
11.0	5.50	12	22	75	2
12.0	6.00	12	24	75/100/150	2
14.0	7.00	14	28	100/150	2
16.0	8.00	16	32	100/150	2
18.0	9.00	18	36	100/150	2
20.0	10.00	20	40	100/150	2

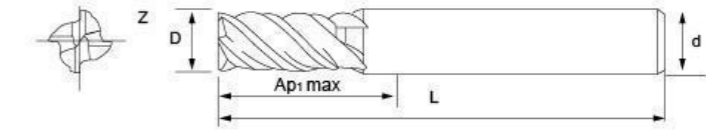
TT钢件专用圆鼻立铣刀 TT Steel Round nose end mill



Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	柄径 (d)	全长 (L)	刃数Z
1.0	0.2/0.3	3	3	50	2/4
1.0	0.2/0.3	3	4	50	2/4
1.5	0.2/0.3	4	4	50	2/4
2.0	0.2/0.5	5	4	50	2/4
2.5	0.2	6	4	50	2/4
3.0	0.2/0.5/1.0	8	4	50	2/4
4.0	0.2/0.5/1.0/1.5	10/15	4	50/75	2/4
5.0	0.2/0.5/1.0	13	6	50	2/4
6.0	0.2/0.5/1.0/1.5/2.0	15/20	6	50/100	2/4
8.0	0.3/0.5/1.0/1.5/2.0	20/25	8	60/100	2/4
10.0	0.3/0.5/1.0/1.5/2.0	25/30	10	75/100	2/4
12.0	0.3/0.5/1.0/1.5/2.0	30/35	12	75/100	2/4

4刃立铣刀 4 flute end mill



Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃数 (Z)
D1	3	50	D4	4
D1.5	3.5	50	D4	4
D2	5	50	D4	4
D2.5	6	50	D4	4
D3	8	50	D4	4
D3	9	50	D6	4
D3.5	10	50	D4	4
D4	10	50	D4	4
D4	12	75	D4	4
D4	16	100	D4	4
D4R0.5	10	50	D4	4
D4R1	10	50	D4	4
D4	11	50	D6	4
D5	13	50	D6	4
D5	20	75	D5	4
D5	25	100	D5	4
D5R0.2	13	50	D6	4
D6	15	50	D6	4
D6	18	50	D6	4
D6	24	75	D6	4
D6	30	100	D6	4
D6R0.2	15	50	D6	4
D6R0.5	15	50	D6	4
D6R1	15	50	D6	4
D8	20	60	D8	4
D8	24	60	D8	4
D8	30	75	D8	4
D8	35	100	D8	4
D8R0.5	20	60	D8	4
D8R1	20	60	D8	4
D10	25	75	D10	4
D10	30	75	D10	4
D10	40	100	D10	4
D10R0.5	25	75	D10	4
D10R1	25	75	D10	4
D12	30	75	D12	4
D12	36	75	D12	4
D12	45	100	D12	4
D12R0.5	30	75	D12	4
D12R1	30	75	D12	4
D14	40	100	D14	4
D16	45	100	D16	4
D20	45	100	D20	4

HRC20~35

U200快进给系列特点

最新AlCr涂层技术，优秀的涂层光洁度和耐磨性

高效大容量U槽排屑，适合加工碳钢，合金钢，软钢，预硬模具钢，合金钢，铁素体不锈钢，奥氏体不锈钢，钛合金，可伐合金

U200 Rapid Feed Series Features

The latest AlCr coating technology, excellent coating finish and wear resistance

High-efficiency and large-capacity U groove chip removal, suitable for processing carbon steel, alloy steel, mild steel, pre-hardened die steel, alloy steel, ferritic stainless steel, austenitic stainless steel, titanium alloy, Kovar alloy

α ≠ β 不等刃设计

α ≠ β unequal edge design

大不等分设计的，在抑制刀具震动；进行高效率切削的同时，提高加工面的光洁度。

Large unequal design in the suppression of tool vibration; Efficient cutting colleagues to improve the finish of the machined surface.

θ1 ≠ θ2 不等导程设计

θ1 ≠ θ2 unequal lead design

每个切削刃的导程角变化，抑制震动；实现优异的精加工面。

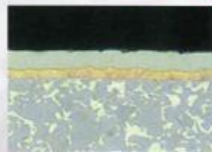
The lead angle of each cutting edge changes to inhibit the shock tool. Achieve excellent finishing surfaces.



最新研发多层涂层设计

Newly developed multi-layer coating design

最新研发的AlCrN基多层涂层，耐磨层+耐热层+微细颗粒硬质合金基体，具备良好的耐磨性、热稳定性和光洁度，适用于高温合金，不锈钢等难加工材料。



The newly developed AlCrN-based multi-layer coating, wear-resistant layer + heat-resistant layer + fine-grained cemented carbide matrix, has good wear resistance, thermal stability and finish, suitable for high-temperature alloy, stainless steel and other difficult materials.



U200 Series

U200快进给系列 U200 Rapid Feed Series

推荐切削条件侧面切削

Recommended cutting conditions Side cutting



根据加工条件四要素：

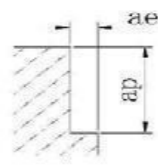
机床刚性、工装牢固性、刀具加持力、排屑性优异情况下选择合理加工参数切削参数精光加工，切削转速可适当降低

Four elements according to processing conditions:

Machine rigidity, tooling firmness, tool holding force, chip removal excellent case select reasonable processing parameters Cutting parameters finishing processing, cutting speed can be appropriately reduced

加工材质 Processed material	碳钢、合金钢、软钢 Carbon steel, alloy steel, mild steel				预硬模具钢、合金钢、合金工具钢 Pre-hard die steel, alloy steel, alloy tool steel				铁素体不锈钢、奥氏体不锈钢、钛合金、可伐合金 Ferritic stainless steel, austenitic stainless steel, titanium alloy, Invar alloy			
	A3、45钢、40Mn、40Cr、40CrMo、20CrMnTi等				NAK80、718H、SDK、P20、30CrMnSiA、Cr12等				201、304、430、316L、TC4、TC6、4J29			
外径 D (mm)	转数 S (min)	进给速度 F (mm/min)	切削深度 ap (mm)	切削宽度 ae (mm)	转数 S (min)	进给速度 F (mm/min)	切削深度 ap (mm)	切削宽度 ae (mm)	转数 S (min)	进给速度 F (mm/min)	切削深度 ap (mm)	切削宽度 ae (mm)
1	8000	1500	2	0.1	8000	1000	2	0.1	8000	800	2	0.05
2	8000	1500	4	0.1	8000	1000	4	0.1	8000	800	4	0.1
3	8000	1500	5	0.3	6000	1000	5	0.2	6000	800	5	0.2
4	8000	1500	8	0.4	6000	1000	8	0.2	5000	800	8	0.2
5	6000	1500	10	1.0	5000	1000	10	0.3	4500	1200	10	0.3
6	6000	1500	10	1.0	5000	1000	10	0.3	4500	1200	10	0.3
8	4000	1500	15	1.5	5000	1200	15	0.4	3300	2500	15	0.4
10	3500	1500	20	2.0	3000	1200	20	0.5	3000	2500	20	0.5
12	3000	1200	25	2.0	2500	1200	25	0.6	2800	2500	25	0.6
16	2000	1200	30	3.0	2000	800	30	0.8	1700	1000	30	0.8
20	2000	1200	40	4.0	2000	800	40	1	1700	800	40	1

切削深度基准
Depth of cut reference



MT series mold frame tools features

The contact length between the cutting edge and the workpiece is longer, effectively reducing the load borne by the cutting edge and extending the service life of the milling cutter.

MT系列模架刀特点

切削刃与工件的接触长度更长，有效降低切削刃所承受的负载，延长铣刀使用时间。

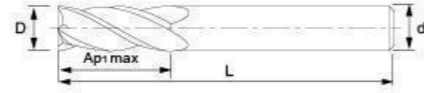


MT Series

模框刀系列 Mold frame tools series

MT模框刀系列 MT mold frame tools series

4刃平刀 4-flute end mill



Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
5	25	75	5/6
6	20	50	6
6	30	75	6
6	35	100	6
8	25	60	8
8	35	75	8
8	40	100	8
10	35	75	10
10	41	100	10
10	50	100	10
12	35	75	12
12	51	100	12
12	55	100	12
16	75	150	16

- 采用可变螺旋角加不等分刃设计，带来完美抗振性能，主要针对模架、模框材料加工
- 超大容屑空间获得优异的排屑性能，并同时兼具高速加工性能

Adopting a variable helix angle and unequal blade design, providing perfect vibration resistance, mainly for processing mold base and frame materials
Super large chip capacity space for excellent chip removal performance while also possessing high-speed machining performance



HRC20-35

Applied to efficient machining conditions of titanium alloys, high-temperature alloys, stainless steel, difficult to machine materials and other components in the aerospace field, helping customers improve machining efficiency and dimensional accuracy.

应用领域 Application field

应用于航空航天领域钛合金、高温合金、不锈钢、难加工材料等零部件的高效加工工况，帮助客户提高加工效率及尺寸精度。

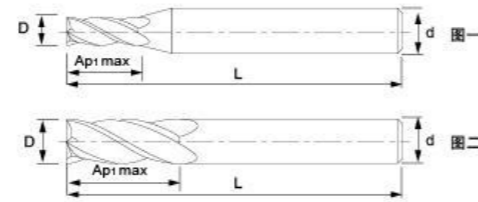


NT Series

难加工材料 Difficult to process material series

NT难加工材料系列 NT Difficult to process material series

4刃平刀 4-flute end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○				○	○	○	○	○	○	

Unit:mm

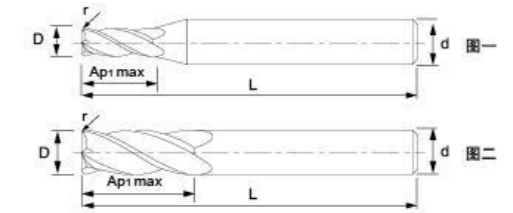
刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
1	3	50	4
1.5	4	50	4
2	6	50	4
2.5	6	50	4
3	8	50	4
3	8	50	6
4	10	50	4
4	10	50	6
5	13	50	6
6	15	50	6
8	20	50	8
10	25	75	10
12	30	75	12
14	35	100	14
16	40	100	16
18	40	100	18
20	45	100	20

- ◆ 采用可变螺旋角加不等分刃设计, 带来完美抗振性能, 主要针对钛合金材料加工
- ◆ 超大容屑空间获得优异的排屑性能, 并同时兼具高速加工及强力粗加工性能

Adopts variable helix angle and unequal cutting edge design to bring perfect anti-vibration performance, mainly for stainless steel processing;
super large chip space to obtain excellent chip removal performance, and at the same time high-speed processing and strong roughness Processing performance.

NT难加工材料系列 NT Difficult to process material series

4刃圆鼻刀 4-flute Corner Radius end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	树脂 Resin
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							
○	○	○	○				○	○	○	○	○	○	

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
3	0.5	8	50	4
3	0.5	8	50	6
4	0.5	10	50	4
4	0.5	10	50	6
5	0.5	13	50	6
5	1.0	13	50	6
6	0.5	16	50	6
6	1.0	16	50	6
8	0.5	20	60	8
8	1.0	20	60	8
10	0.5	25	75	10
10	1.0	25	75	10
10	2.0	25	75	10
10	3.0	25	75	10
12	1.0	30	75	12
12	2.0	30	75	12
12	3.0	30	75	12
16	1.0	40	100	16
16	2.0	40	100	16
16	3.0	40	100	16
16	4.0	40	100	16
16	5.0	40	100	16
20	1.0	45	100	20
20	2.0	45	100	20
20	3.0	45	100	20
20	4.0	45	100	20
20	5.0	45	100	20

- ◆ 采用可变螺旋角加不等分刃设计, 带来完美抗振性能, 主要针对钛合金材料加工
- ◆ 超大容屑空间获得优异的排屑性能, 并同时兼具高速加工及强力粗加工性能

Adopts variable helix angle and unequal cutting edge design to bring perfect anti-vibration performance, mainly for stainless steel processing;
super large chip space to obtain excellent chip removal performance, and at the same time high-speed processing and strong roughness Processing performance.

Tooth cutting tool series Features

Suitable for processing small aperture threads and jobs with high hardness. Threads have good rigidity, high strength, and are not easy to break

Especially suitable for processing carbon steel, 45 steel, 20Cr, S136, 40Cr, 42Cr, mold steel, quenched steel, etc

牙刀系列特点

合适加工小孔径螺纹和硬度比较高的工作，刚性好，强度高，不容易断

特别适合加工碳钢、45号钢、20Cr、S136、40Cr、42Cr、模具钢、淬火钢等

刚性好

Good rigidity

强度高

High strength

不易断

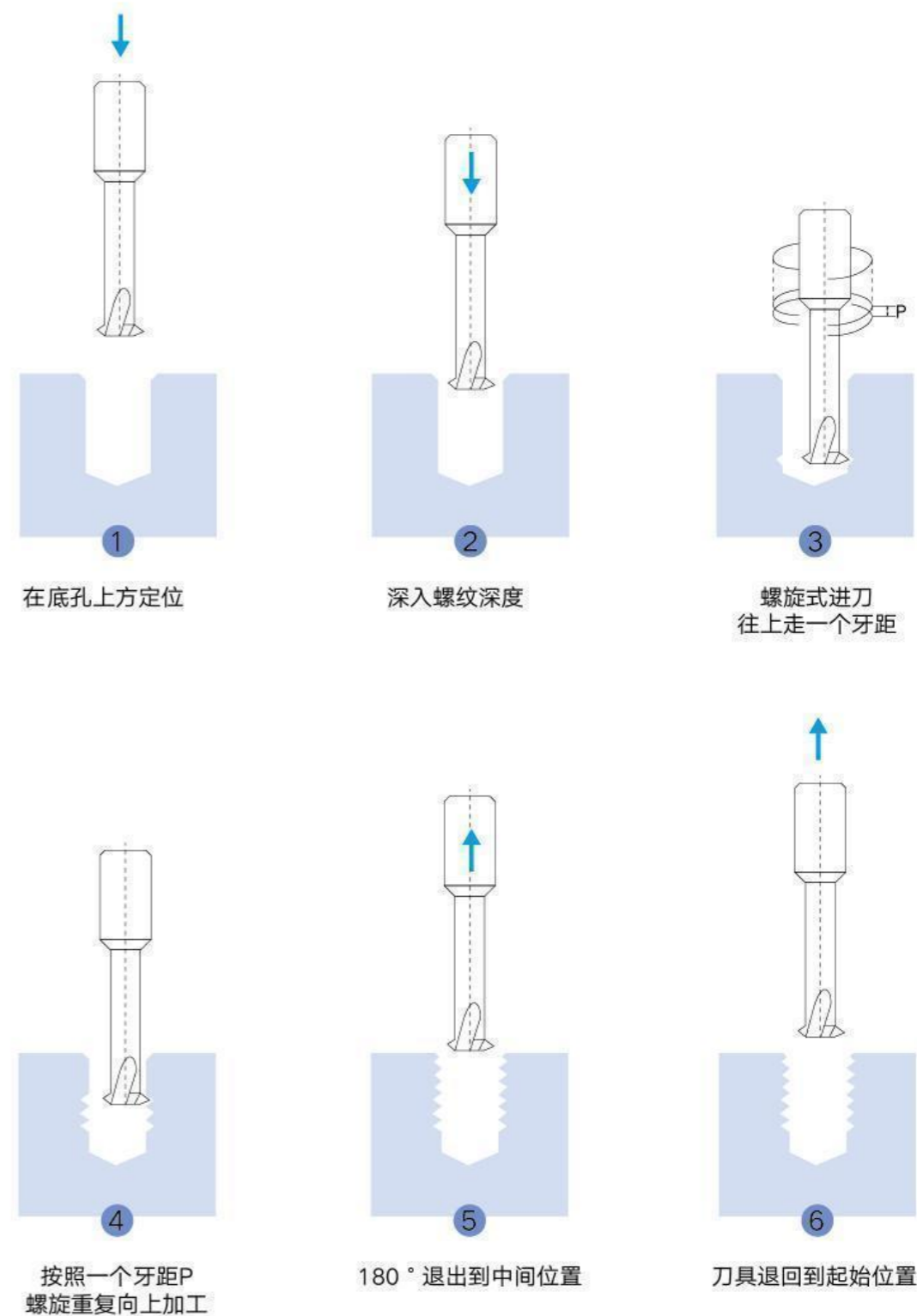
Be not easy to break



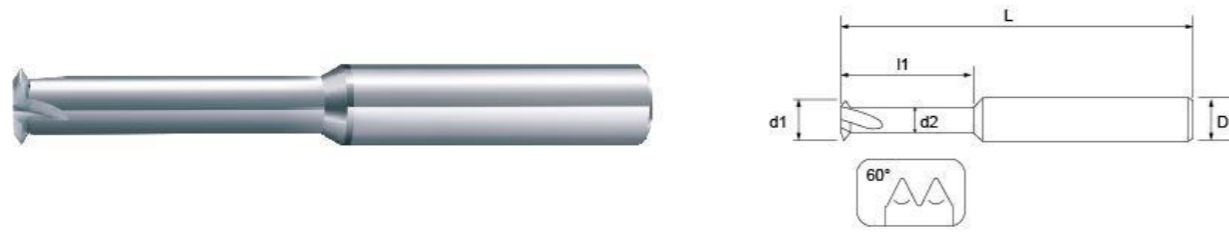
牙刀系列

Tooth cutting tool series

单牙螺纹铁刀加工过程 Single threaded iron tool processing process



单齿螺纹铣刀 Single Tooth Tungsten Steel Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				◎	◎						

- 合适加工打样件螺纹工件不多、螺纹规格型号多、也可加工美制螺纹、单扣牙加工阻力小、通用性强、使用方便
避空加长特别适合深孔和螺纹种类复杂的工况

Unit:mm

产品编码	型号 mm	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO S0.2 0.550150450 D	M0.8*0.2	0.55	0.32	1.5	4.0	50	2
ISO S0.225 0.6250180450 D	M0.9*0.225	0.625	0.35	1.8	4.0	50	2
ISO S0.025 0.720250450 D	M1.0*0.25	0.72	0.43	2.5	4.0	50	2
ISO S0.025 0.90320450 D	M1.2*0.25	0.9	0.63	3.2	4.0	50	2
ISO S0.3 1.050350450 D	M1.4*0.3	1.05	0.7	3.5	4.0	50	3
ISO S0.35 1.2040450 D	M1.6*0.35	1.2	0.8	4.0	4.0	50	3
ISO S0.4 1.55060450 D	M2.0*0.4	1.55	0.9	6.0	4.0	50	3
ISO S0.45 1.960650450 D	M2.5*0.45	1.96	1.3	6.5	4.0	50	4
ISO S0.5 2.35080450 D	M3.0*0.5	2.35	1.6	8.0	4.0	50	4
ISO S0.7 3.15100450 D	M4.0*0.7	3.15	2.1	10	4.0	50	4
ISO S0.8 3.9120450 D	M5.0*0.8	3.9	2.8	12	4.0	50	4
ISO S1.0 4.8150650 D	M6.0*1.0	4.8	3.4	15	6.0	50	4
ISO S1.25 6.0200660 D	M8.0*1.25	6.0	4.2	20	6.0	60	4
ISO S1.5 7.7250860 D	M10*1.5	7.7	5.6	25	8.0	60	4
ISO S1.75 9.6301075 D	M12*1.75	9.6	7.3	30	10	75	4
ISO S2.0 10361075 D	M14*2.0	10	7.3	36	10	75	4
ISO S2.5 12381275 D	M18*2.5	12	8.8	38	12	75	4
ISO S3.0 144814100 D	M24*3.0	14	10.2	48	14	100	6
ISO S3.5 165016100 D	M30*3.5	16	11.5	50	16	100	6

单齿螺纹铣刀-钛合金/高温合金 Single Tooth Tungsten Steel Thread Milling Cutter-Titanium Alloy/High Temperature Alloy



◎ 最佳 Best ○ 适合 Good

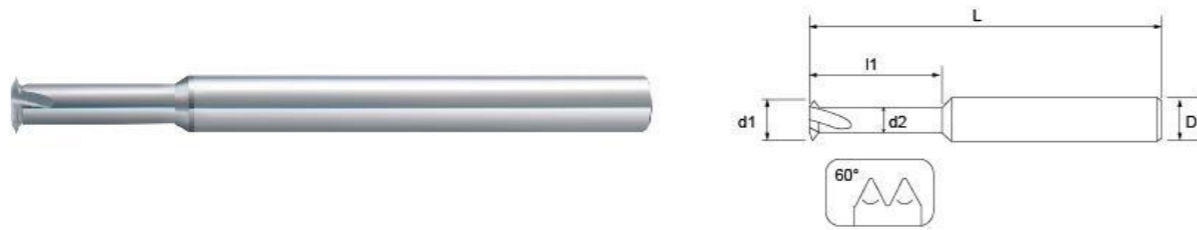
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				○	◎					◎	◎

- 合适加工打样件螺纹工件不多、螺纹规格型号多、也可加工美制螺纹、单扣牙加工阻力小、通用性强、使用方便
采用高温合金、钛合金专用涂层，提高了刀具的抗粘屑和高温熔沾问题，从而实现寿命提升

Unit:mm

产品编码	型号 mm	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO S0.35 1.2040450 X	M1.6*0.35	1.2	0.8	4.0	4.0	50	3
ISO S0.4 1.55060450 X	M2.0*0.4	1.55	0.9	6.0	4.0	50	3
ISO S0.45 1.960650450 X	M2.5*0.45	1.96	1.3	6.5	4.0	50	4
ISO S0.5 2.35080450 X	M3.0*0.5	2.35	1.6	8.0	4.0	50	4
ISO S0.7 3.15100450 X	M4.0*0.7	3.15	2.1	10	4.0	50	4
ISO S0.8 3.9120450 X	M5.0*0.8	3.9	2.8	12	4.0	50	4
ISO S1.0 4.8150650 X	M6.0*1.0	4.8	3.4	15	6.0	50	4
ISO S1.25 6.0200660 X	M8.0*1.25	6.0	4.2	20	6.0	60	4
ISO S1.5 7.7250860 X	M10*1.5	7.7	5.6	25	8.0	60	4
ISO S1.75 9.6301075 X	M12*1.75	9.6	7.3	30	10	75	4
ISO S2.0 10361075 X	M14*2.0	10	7.3	36	10	75	4
ISO S2.5 12381275 X	M18*2.5	12	8.8	38	12	75	4
ISO S3.0 144814100 X	M24*3.0	14	10.2	48	14	100	6
ISO S3.5 165016100 X	M30*3.5	16	11.5	50	16	100	6

单齿加长螺纹铣刀 Single Tooth Tungsten Steel Thread Milling Cutter-Titanium Alloy/High Temperature Alloy



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				○	○						

■ 合适加工打样件螺纹工件不多、螺纹规格多、使用方便
单扣牙加工抗力小，可加工较深的螺纹孔

Unit:mm

产品编码	型号 mm	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO S0.3 1.0503504100 D	M1.4*0.3	1.05	0.7	3.5	4.0	100	3
ISO S0.35 1.20404100 D	M1.6*0.35	1.2	0.8	4.0	4.0	100	3
ISO S0.4 1.550604100 D	M2.0*0.4	1.55	0.9	6.0	4.0	100	3
ISO S0.45 1.9606504100 D	M2.5*0.45	1.96	1.3	6.5	4.0	100	4
ISO S0.5 2.350804100 D	M3.0*0.5	2.35	1.6	8.0	4.0	100	4
ISO S0.7 3.151004100 D	M4.0*0.7	3.15	2.1	10	4.0	100	4
ISO S0.8 3.91204100 D	M5.0*0.8	3.9	2.8	12	4.0	100	4
ISO S1.0 4.81506100 D	M6.0*1.0	4.8	3.4	15	6.0	100	4
ISO S1.25 6.02006100 D	M8.0*1.25	6.0	4.2	20	6.0	100	4
ISO S1.5 7.72508100 D	M10*1.5	7.7	5.6	25	8.0	100	4
ISO S1.75 9.63010100 D	M12*1.75	9.6	7.3	30	10	100	4
ISO S2.0 103610100 D	M14*2.0	10	7.3	36	10	100	4
ISO S2.5 123812100 D	M18*2.5	12	8.8	38	12	100	4
ISO S3.0 144814100 D	M24*3.0	14	10.2	48	14	100	6
ISO S3.5 165016100 D	M30*3.5	16	11.5	50	16	100	6

单齿钢用范围螺纹铣刀 Single Tooth Range Tungsten Steel Thread Milling Cutter - For Steel



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				○	○						

■ 合适加工打样件螺纹工件不多、螺纹规格型号多、也可加工
美制螺纹，单扣牙加工抗力小，通用性强，使用方便

Unit:mm

产品编码	型号 mm	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L
ISO S0.25-0.35 1.050350450 D	0.25-0.35	1.05	0.6	3.5	4.0	50
ISO S0.25-0.35 1.20040450 D	0.25-0.35	1.2	0.75	4.0	4.0	50
ISO S0.3-0.5 1.55060450 D	0.3-0.5	1.55	0.9	6.0	4.0	50
ISO S0.3-0.7 1.960650450 D	0.3-0.7	1.96	1.1	6.5	4.0	50
ISO S0.3-0.8 2.35080450 D	0.3-0.8	2.35	1.4	8.0	4.0	50
ISO S0.3-0.8 3.15100450 D	0.3-0.8	3.15	2.0	10	4.0	50
ISO S0.3-1.0 3.9120450 D	0.3-1.0	3.9	2.5	12	4.0	50
ISO S0.5-1.5 4.8150650 D	0.5-1.5	4.8	2.9	15	6.0	50
ISO S0.5-1.75 6.0200450 D	0.5-1.75	6.0	4.0	20	6.0	50
ISO S0.5-2.5 7.7250860 D	0.5-2.5	7.7	4.8	25	8.0	60
ISO S1.0-3.0 9.6301075 D	1.0-3.0	9.6	6.0	30	10	75
ISO S1.0-3.5 10361075 D	1.0-3.5	10	6.0	36	10	75
ISO S1.0-4.0 12381275 D	1.0-4.0	12	7.3	38	12	75
ISO S1.5-4.0 144814100 D	1.5-4.0	14	9.0	48	14	100
ISO S2.0-5.0 165016100 D	2.0-5.0	16	10	50	16	100

单齿钢用范围螺纹铣刀—避空加长 Single Tooth Range Tungsten Steel Thread Milling Cutter-L1 Extended



◎ 最佳 Best ○ 适合 Good

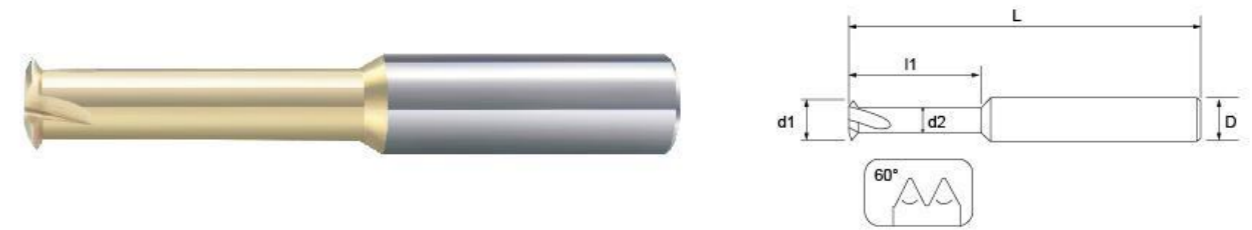
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				◎	◎						

- 合适加工打样件螺纹工件不多、螺纹规格型号多、也可加工美制螺纹
单扣牙加工阻力小、通用性强使用方便
避空加长特别适合深孔和螺纹种类复杂的工况

Unit:mm

产品编码	螺纹型号			螺距(P)		尺寸规格					
	M粗牙	细牙	UN,UNS,UNF,UNEF	mm	tpi	d1	d2	L1	D	L	F
ISO S0.5-0.8 3.90160450 D	M5X0.8	M5X0.5 M5X0.75	No.10-56UNS, No.10-48UNS, No.40UNS,	0.5-0.8	32-56	3.9	2.8	16	4.0	50	4
ISO S0.5-1.0 4.850200660 D	M6X1.0	M6X0.5 M6X0.75	No.12-56UNS, No.12-48UNS, 1/4-40UNS, 1/4-36UNS, 1/4-32UNEF, 1/4-28UNF, 1/4-27UNS, 1/4-24UNS	0.5-1.0	24-56	4.85	3.5	20	6.0	60	5
ISO S0.5-1.25 5.9250660 D	M8X1.25	M7X0.5 M7X0.75 M7.5X1.0	5/16-48UNS, 5/16-40UNS, 5/16-36UNS, 5/16-36UNEF, 5/16-28UNS, 5/16-27UNS, 5/16-24UNS, 5/16-20UNS	0.5-1.25	20-48	5.9	4.2	25	6.0	60	5
ISO S0.5-1.0 9.8351075 D		M10X0.5 M11X0.75 M11X1.0	7/16-32UNS, 7/16-28UNEF, 7/16-27UNS, 7/16-24UNS	0.5-1.0	24-56	9.8	8.5	35	10	75	6
ISO S1.0-1.5 7.9320875 D	M10X1.5	M10X1.0 M10X1.25	3/8-24UNF, 3/8-20NS, 7/16-18UNS, 7/16-16UNS	1.0-1.50	13-24	7.9	5.8	32	8.0	75	6
ISO S1.0-1.75 9.9381075 D	M12X1.75	M12X1.0 M12X1.25 M12X1.5	1/2-24UNS, 1/2-20UNS, 1/2-18UNS, 1/2-16UNS, 1/2-14UNS	1.0-1.75	14-24	9.9	7.6	38	10	75	6
ISO S1.0-2.0 11.9401275 D	M16X2.0	M13.5X1.0 M14X1.25 M14X1.5	9/16-24UNEF, 9/16-18UNF, 5/8-18UNF, 3/4-16UNF, 7/8-14UNF	1.0-2.0	14-24	11.9	9.6	40	12	75	6
ISO S2.0-3.0 144814100 D	M18X2.5 M20X2.5 M22X2.5 M24X3.0 M27X3.0		9/16-12UNC, 5/8-11UNC 3/4-10UNC, 7/8-9UNC	2.0-3.0	9-12	14	10.2	48	14	100	6
ISO S2.0-3.5 165016100 D	M20X2.5 M22X2.5 M24X3.0 M27X3.0 M30X3.5 M33X3.5		9/16-12UNC, 5/8-11UNC 3/4-10UNC, 1-8UNC	2.0-3.5	8-12	16	11.5	50	16	100	6

单齿范围螺纹铣刀—钛合金/高温合金 Single Tooth Range Champagne Thread Milling Cutter-Titanium Alloy/High Temperature Alloy



◎ 最佳 Best ○ 适合 Good

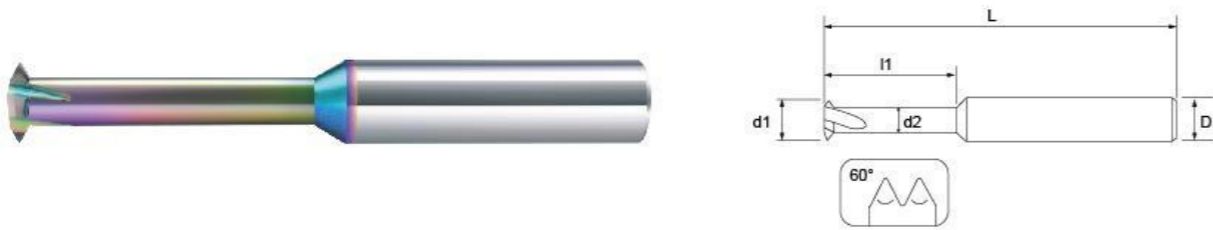
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	◎	○	○				○	◎				◎	◎	

- 合适加工打样件螺纹工件不多、螺纹规格型号多、也可加工美制螺纹、
单扣牙加工阻力小、通用性强使用方便
采用高温合金、钛合金专用涂层,提高了刀具的抗粘屑和高温熔沾问题,从而实现寿命提升

Unit:mm

产品编码	螺纹型号			螺距(P)		尺寸规格					
	M粗牙	细牙	UN,UNS,UNF,UNEF	mm	tpi	d1	d2	L1	D	L	F
ISO S0.5-0.8 3.90160450 X	M5X0.8	M5X0.5 M5X0.75	No.10-56UNS, No.10-48UNS, No.40UNS,	0.5-0.8	32-56	3.9	2.8	16	4.0	50	4
ISO S0.5-1.0 4.850200660 X	M6X1.0	M6X0.5 M6X0.75	No.12-56UNS, No.12-48UNS, 1/4-40UNS, 1/4-36UNS, 1/4-32UNEF, 1/4-28UNF, 1/4-27UNS, 1/4-24UNS	0.5-1.0	24-56	4.85	3.5	20	6.0	60	5
ISO S0.5-1.25 5.9250660 X	M8X1.25	M7X0.5 M7X0.75 M7.5X1.0	5/16-48UNS, 5/16-40UNS, 5/16-36UNS, 5/16-36UNEF, 5/16-28UNS, 5/16-27UNS, 5/16-24UNS, 5/16-20UNS	0.5-1.25	20-48	5.9	4.2	25	6.0	60	5
ISO S0.5-1.0 9.8351075 X		M10X0.5 M11X0.75 M11X1.0	7/16-32UNS, 7/16-28UNEF, 7/16-27UNS, 7/16-24UNS	0.5-1.0	24-56	9.8	8.5	35	10	75	6
ISO S1.0-1.5 7.9320875 X	M10X1.5	M10X1.0 M10X1.25	3/8-24UNF, 3/8-20NS, 7/16-18UNS, 7/16-16UNS	1.0-1.50	13-24	7.9	5.8	32	8.0	75	6
ISO S1.0-1.75 9.9381075 X	M12X1.75	M12X1.0 M12X1.25 M12X1.5	1/2-24UNS, 1/2-20UNS, 1/2-18UNS, 1/2-16UNS, 1/2-14UNS	1.0-1.75	14-24	9.9	7.6	38	10	75	6
ISO S1.0-2.0 11.9401275 X	M16X2.0	M13.5X1.0 M14X1.25 M14X1.5	9/16-24UNEF, 9/16-18UNF, 5/8-18UNF, 3/4-16UNF, 7/8-14UNF	1.0-2.0	14-24	11.9	9.6	40	12	75	6
ISO S2.0-3.0 144814100 X	M18X2.5 M20X2.5 M22X2.5 M24X3.0 M27X3.0		9/16-12UNC, 5/8-11UNC 3/4-10UNC, 7/8-9UNC	2.0-3.0	9-12	14	10.2	48	14	100	6
ISO S2.0-3.5 165016100 X	M20X2.5 M22X2.5 M24X3.0 M27X3.0 M30X3.5 M33X3.5		9/16-12UNC, 5/8-11UNC 3/4-10UNC, 1-8UNC	2.0-3.5	8-12	16	11.5	50	16	100	6

单齿DLC七彩铝用范围螺纹铣刀 Single Tooth DLC Seven Color Aluminum Tungsten Steel



◎ 最佳 Best ○ 适合 Good

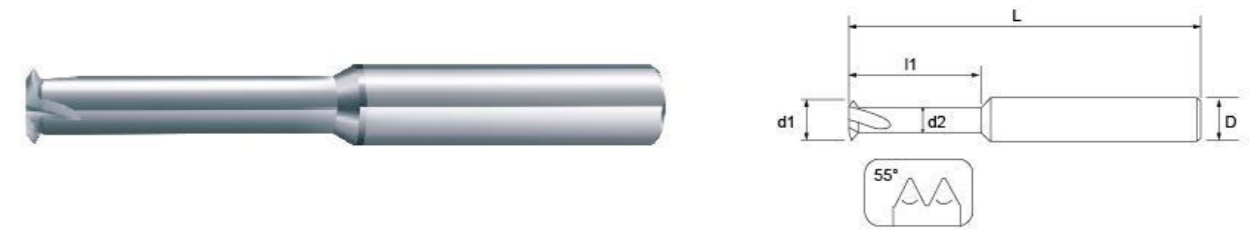
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
								○	○	○	○			

- 合适加工打样件螺纹孔数量不多，螺纹规格多，使用方便，单扣牙加工抗力小，可加工较深的螺纹孔，七彩DLC涂层具有最低的摩擦系数，对非铁金属具有高抗熔结性，抗腐蚀性。适合加工铜合金、铝合金、有色金属、亚克力等。

Unit:mm

产品编码	型号 mm	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO S0.25 0.70300450 DCL	P0.25	0.72	0.43	2.5	4.0	50	2
ISO S0.25 0.70300450 DCL	P0.25	0.9	0.63	3.2	4.0	50	2
ISO S0.3 1.70300450 DCL	P0.3	1.05	0.6	3.5	4.0	50	3
ISO S0.35 1.70300450 DCL	P0.35	1.2	0.75	4.0	4.0	50	3
ISO S0.4-0.5 1.70300450 DCL	P0.4-P0.5	1.55	0.9	6.0	4.0	50	3
ISO S0.45-0.6 1.70300450 DCL	P0.45-P0.6	1.96	1.1	6.5	4.0	50	4
ISO S0.5-0.7 2.70300450 DCL	P0.5-P0.7	2.35	1.4	8.0	4.0	50	4
ISO S0.5-1.0 3.70300450 DCL	P0.5-P1.0	3.15	2.0	10	4.0	50	4
ISO S0.5-1.0 3.70300450 DCL	P0.5-P1.0	3.9	2.5	12	4.0	50	4
ISO S0.5-1.5 4.70300450 DCL	P0.5-P1.5	4.8	2.9	15	6.0	50	4
ISO S0.5-1.5 6.70300450 DCL	P0.5-P1.5	6.0	4.0	20	6.0	50	4
ISO S0.8-2.0 7.70300450 DCL	P0.8-P2.0	7.7	4.8	25	8.0	60	4
ISO S1.0-2.5 9.70300450 DCL	P1.0-P2.5	9.6	6.0	30	10	75	4
ISO S1.0-3.0 10.70300450 DCL	P1.0-P3.0	10	6.0	36	10	75	4
ISO S1.25-3.5 12.70300450 DCL	P1.25-3.5	12	7.3	38	12	75	4
ISO S1.5-3.5 144814100 DLC	P1.5-3.5	14	9.0	48	14	100	4
ISO S2.0-4.0 165016100 DLC	P2.0-4.0	16	10	50	16	100	4

单齿55° 英制范围螺纹铣刀 Single Tooth 55° Inch Range Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

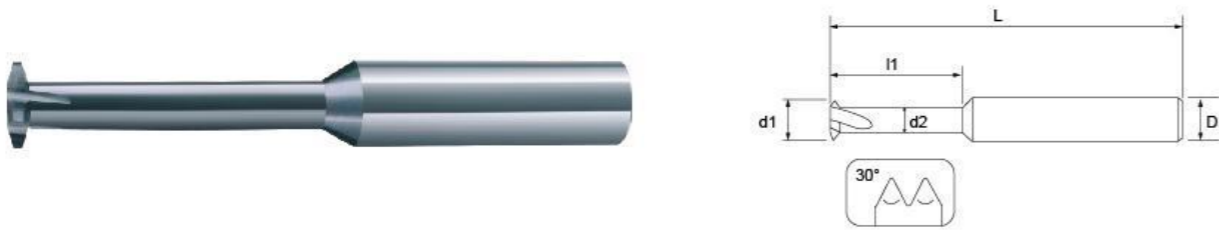
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○					○	○				○	

- 合适加工打样件螺纹工件不多，螺纹规格型号多，可加工英制管螺纹、英制锥管螺纹、惠氏螺纹、单扣牙加工阻力小、通用性强使用方面

Unit:mm

产品编码	螺纹规格	牙距	刃径 d1	角度	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
W S32 3.10800450 D	W5/32	P0.793	3.1	55°	1.9	8	4.0	50	4
W S24 3.5100450 D	W3/16-24	P1.058	3.5	55°	2.0	10	4.0	50	4
W S20 4.0120450 D	W1/4-20	P1.27	4.0	55°	2.2	12	4.0	50	4
W S28-18 6.0140650 D	W5/16-18 G1/16-28 G1/8-28	P0.907-P1.411	6.0	55°	4.5	14	6.0	50	4
W S19-14 8.0220860 D	W3/8-16 W7/16-14 G1/4-19 G3/8-19	P1.336-P1.814	8.0	55°	5.9	22	8.0	60	4
W S19-14 10301075 D	W7/16-14 G1/2-14 G1/4-19 G3/4-14 G3/8-19	P1.336-P1.814	10	55°	7.3	30	10	75	4
W S14-10 12381275 D	W5/8-11 W3/4-10 G1/2-14 G3/4-14 G1-11	P1.336-P2.54	12	55°	8.2	38	12	75	4

30° 梯形螺纹铣刀 30° Trapezoidal Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

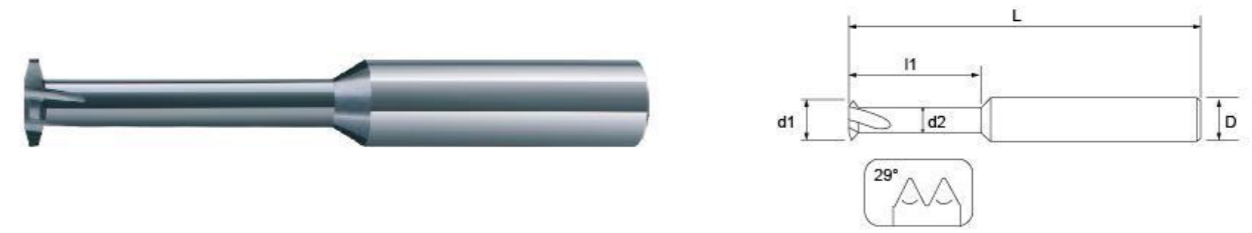
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	○				◎	◎					○	

■ 梯形螺纹是螺纹传动的主要传动形式，多用于机床多的主丝杠传动和刀架的丝杠传动

Unit:mm

产品编码	30° 螺纹铣刀	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
TR S1.0 5.5200650 D	TR7X1.0	5.5	4.1	20	6.0	50	4
TR S1.5 6.0200650 D	TR8X1.0 TR9X1.5	6.0	4.0	20	6.0	50	4
TR S2.0 6.4200660 D	TR9X2 TR10X2 TR11X2	6.4	3.7	20	8.0	60	4
TR S2.0 9.4351075 D	TR12X2 TR14X2 TR16X2 TR18X2 TR20X2	9.4	6.5	35	10	75	4
TR S3.0 7.4250860 D	TR11X3 TR12X3 TR14X3	7.4	3.8	25	8.0	60	4
TR S3.0 10351075 D	TR14X3 TR22X3 TR24X3 TR26X3 TR28X3 TR30X3	10	6.0	35	10	75	4
TR S4.0 11381275 D	TR16X4 TR18X4 TR20X4	11	6.0	38	12	75	4
TR S5.0 145014100 D	TR22X5 TR24X5 TR26X5 TR28X5	14	7.8	50	14	100	4
TR S6.0 165016100 D	TR30X6 TR32X6 TR34X6 TR36X6 TR38X6 TR40X6 TR42X6	16	9.0	50	16	100	4

29° 爱克母螺纹铣刀 29° Acme Female Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

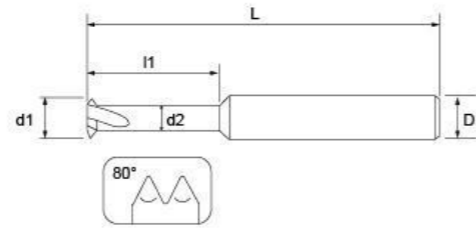
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	○				◎	◎					○	

■ 梯形螺纹是螺纹传动的主要传动形式，多用于机床多的主丝杠传动和刀架的丝杠传动

Unit:mm

产品编码	型号	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ACME S16 4.7150650 D	1/4-16	4.7	2.6	15	6.0	50	4
ACME S14 6.0200650 D	5/16-14	6.0	3.6	20	6.0	50	4
ACME S12 7.2250860 D	3/8-12 7/16-12	7.2	4.5	25	8.0	60	4
ACME S10 10351075 D	1/2-10	10	6.6	35	10	75	4
ACME S8 12351275 D	5/8-8	12	7.5	35	12	75	4
ACME S6 12351275 D	3/4-6 7/8-6	12	6.5	35	12	75	4

80° PG德标螺纹铣刀 PG German standard Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

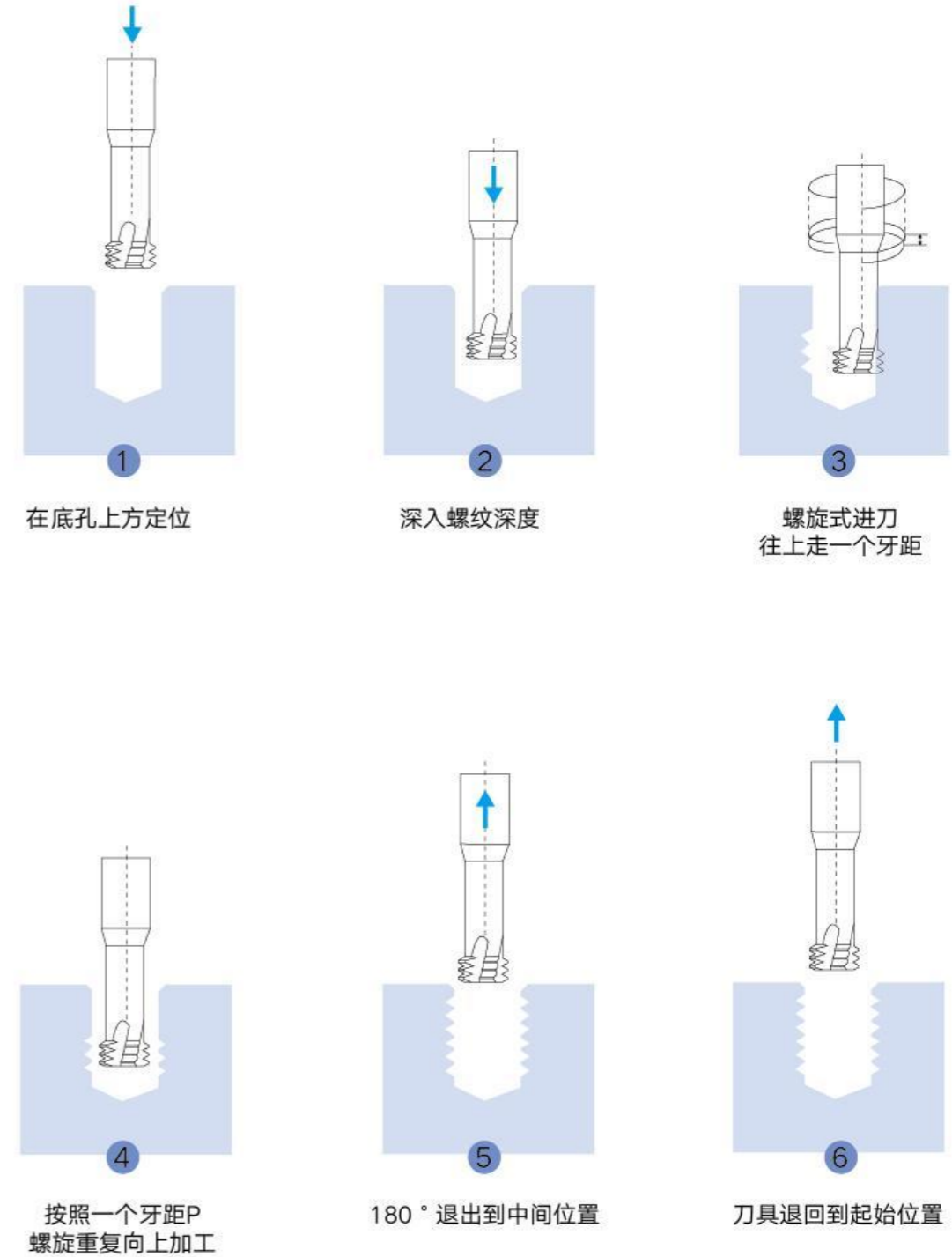
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬硬钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	○				◎	◎					○	

■ 合适加工打样件螺纹孔数量不多，螺纹规格多，使用方便
单扣牙加工抗力小，可加工较深的螺纹孔

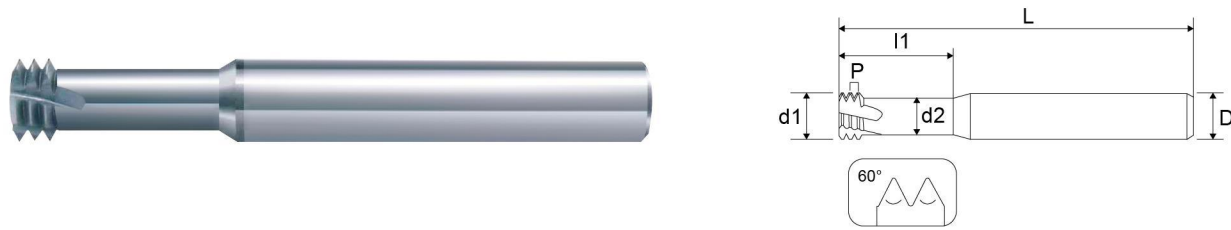
Unit:mm

产品编码	型号	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
PG S 8.0150860 D	PG7 PG9 PG11 PG13.5 PG16	8	6	15	8.0	60	4
PG S 10201075 D	PG9 PG11 PG13.5 PG16	10	7	20	10	75	4
PG S 12201275 D	PG21 PG29 PG36 PG42 PG48	12	7	20	12	75	4

三牙螺纹铣刀加工过程 Three threaded iron tool processing process



三排牙公制螺纹铣刀-两倍径 Three Tooth Metric Thread Milling Cutter-2D



◎ 最佳 Best ○ 适合 Good

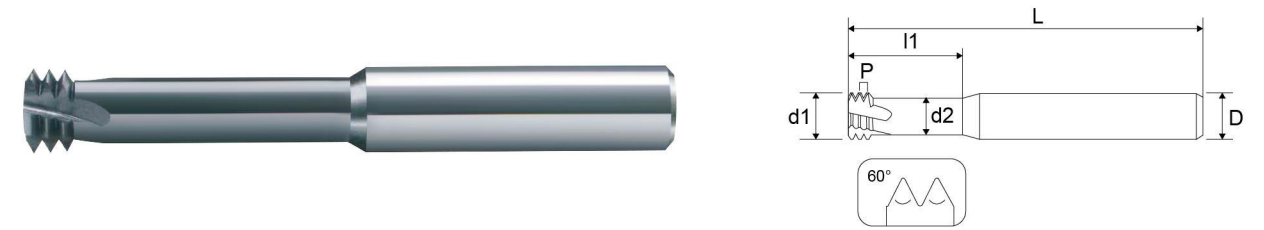
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			~48HRC	~55HRC	~60HRC	~65HRC								
◎	◎	◎	◎	○			◎	◎				○	◎	

■ 合适加工小孔径螺纹和硬度比较高的工件，三扣牙刚性高，强度高，不容易断，灰黑色涂层中间纳米叠层结构具有较高的韧性和高的压应力。特别适合加工碳钢、45号钢、20Cr、S136、40Cr、42Cr、模具钢、淬火钢等

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.70200450 D	M1.0	0.25	0.73	0.43	2.0	4.0	50	3
ISO T0.25 0.90240450 D	M1.2	0.25	0.92	0.62	2.4	4.0	50	3
ISO T0.3 1.050280450 D	M1.4	0.3	1.05	0.65	2.8	4.0	50	3
ISO T0.35 1.20320450 D	M1.6	0.35	1.2	0.75	3.2	4.0	50	3
ISO T0.35 1.40360450 D	M1.8	0.35	1.4	0.98	3.6	4.0	50	3
ISO T0.4 1.550400450 D	M2.0	0.4	1.55	1.05	4.0	4.0	50	3
ISO T0.45 1.70500450 D	M2.2	0.45	1.7	1.1	5.0	4.0	50	3
ISO T0.45 2.00500450 D	M2.5	0.45	2.0	1.45	5.0	4.0	50	3
ISO T0.5 2.40600450 D	M3.0	0.5	2.4	1.8	6.0	4.0	50	3
ISO T0.6 2.750800450 D	M3.5	0.6	2.75	2.0	8.0	4.0	50	3
ISO T0.7 3.150800450 D	M4.0	0.7	3.15	2.3	8.0	4.0	50	3
ISO T0.75 3.50900450 D	M4.5	0.75	3.5	2.55	9.0	4.0	50	3
ISO T0.8 4.0100450 D	M5.0	0.8	4.0	3.0	10	4.0	50	3
ISO T1.0 4.8120650 D	M6.0	1.0	4.8	3.6	12	6.0	50	3
ISO T1.06.0160650 D	M8.0	1.0	6.0	4.8	16	6.0	50	4
ISO T1.25 6.0160650 D	M8.0	1.25	6.0	4.5	16	6.0	50	4
ISO T1.0 8.0200860 D	M10	1.0	8.0	6.8	20	8.0	60	4
ISO T1.5 8.0200860 D	M10	1.5	8.0	6.2	20	8.0	60	4
ISO T1.0 10241075 D	M12	1.0	10	8.7	24	10	75	4
ISO T1.5 10241075 D	M12	1.5	10	8.1	24	10	75	4
ISO T1.75 10241075 D	M12	1.75	10	7.8	24	10	75	4
ISO T1.5 12281275 D	M14	1.5	12	10.1	28	12	75	4
ISO T2.0 10281075 D	M14	2.0	10	7.5	28	10	75	4
ISO T2.0 12321275 D	M16	2.0	12	9.5	32	12	75	4
ISO T1.5 143214100 D	M16	1.5	14	12.1	32	14	100	4
ISO T2.0 13.53214100 D	M16	2.0	13.5	11	32	14	100	4
ISO T1.5 164016100 D	M20	1.5	16	14.1	40	16	100	4
ISO T2.5 164016100 D	M20	2.5	16	12.6	40	16	100	6
ISO T3.0 164816100 D	M24	3.0	16	12	48	16	100	6

三排牙公制螺纹铣刀-三倍径 Three Tooth Metric Thread Milling Cutter-3D



◎ 最佳 Best ○ 适合 Good

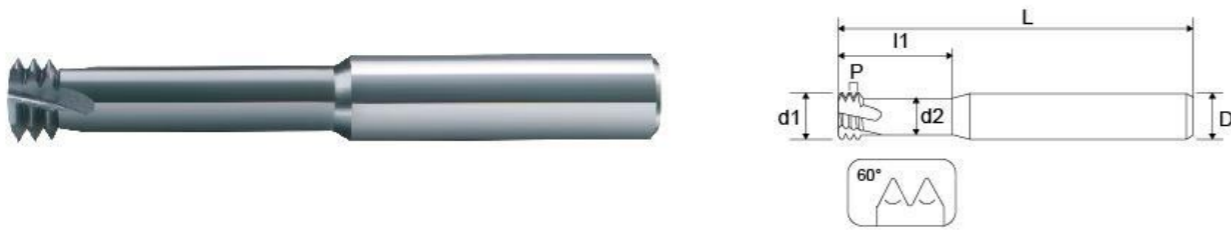
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			~48HRC	~55HRC	~60HRC	~65HRC								
◎	◎	◎	◎	○			◎	◎				○	◎	

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性高、耐磨性高、螺纹尺寸更加稳定，采用AITISIN 基层涂层，含铝、钛、硅、氮等多种复合元素其中含有较高的铝元素具有较高的润滑效果特别适合加工不锈钢等通用钢件。

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.730300450 D	M1.0	0.25	0.73	0.43	3.0	4.0	50	3
ISO T0.25 0.920360450 D	M1.2	0.25	0.92	0.62	3.6	4.0	50	3
ISO T0.3 1.0504520450 D	M1.4	0.3	1.05	0.65	4.2	4.0	50	3
ISO T0.35 1.20480450 D	M1.6	0.35	1.2	0.78	4.8	4.0	50	3
ISO T0.4 1.550600450 D	M2.0	0.4	1.55	1.05	6.0	4.0	50	3
ISO T0.45 2.00750450 D	M2.5	0.45	2.0	1.45	7.5	4.0	50	3
ISO T0.5 2.40900450 D	M3.0	0.5	2.4	1.8	9.0	4.0	50	3
ISO T0.7 3.15120450 D	M4.0	0.7	3.15	2.3	12	4.0	50	3
ISO T0.8 4.0150450 D	M5.0	0.8	4.0	3.0	15	4.0	50	3
ISO T1.0 4.8180650 D	M6.0	1.0	4.8	3.6	18	6.0	50	3
ISO T1.25 6.0240650 D	M8.0	1.25	6.0	4.5	24	6.0	50	4
ISO T1.5 8.0300860 D	M10	1.5	8.0	6.2	30	8.0	60	4
ISO T1.75 10361075 D	M12	1.75	10	7.8	36	10	75	4

三排牙公制螺纹铣刀-四倍径 Four Tooth Metric Thread Mills-Cutter-3D



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	◎	○			◎	◎				○	◎	

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性好、耐磨性高、螺纹尺寸更加稳定，采用AlTiSiN 涂层，含铝、钛、硅、氮等多种复合元素其中含有较高的铝元素具有较高的润滑效果特别适合加工不锈钢等通用钢件。

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.4 1.550800450 D	M2.0	0.4	1.55	1.05	8.0	4.0	50	3
ISO T0.45 2.00100450 D	M2.5	0.45	2.0	1.45	10	4.0	50	3
ISO T0.5 2.4120450 D	M3.0	0.5	2.4	1.8	12	4.0	50	3
ISO T0.7 3.15160450 D	M4.0	0.7	3.15	2.3	16	4.0	50	3
ISO T0.8 4.0200450 D	M5.0	0.8	4.0	3.0	20	4.0	50	3

三排牙公制螺纹铣刀-钛合金/高温合金 Three Teeth Metric Thread Mills-Titanium Alloy/High Temperature Alloy



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	◎	○	○				○	◎				◎	◎	

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性好、耐磨性高、螺纹尺寸更加稳定采用高温合金、钛合金专用涂层，提高了刀具的抗粘屑和高温熔沾问题，从而实现寿命提升

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.730200450 X	M1.0	0.25	0.73	0.43	2.0	4.0	50	3
ISO T0.25 0.920240450 X	M1.2	0.25	0.92	0.62	2.4	4.0	50	3
ISO T0.3 1.050280450 X	M1.4	0.3	1.05	0.65	2.8	4.0	50	3
ISO T0.35 1.20320450 X	M1.6	0.35	1.2	0.78	3.2	4.0	50	3
ISO T0.35 1.40360450 X	M1.8	0.35	1.4	0.98	3.6	4.0	50	3
ISO T0.4 1.550400450 X	M2.0	0.4	1.55	1.05	4.0	4.0	50	3
ISO T0.45 1.70500450 X	M2.2	0.45	1.7	1.1	5.0	4.0	50	3
ISOT0.45 2.00500450 X	M2.5	0.45	2.0	1.45	5.0	4.0	50	3
ISO T0.5 2.40600450 X	M3.0	0.5	2.4	1.8	6.0	4.0	50	3
ISO T0.6 2.750800450 X	M3.5	0.6	2.75	2.0	8.0	4.0	50	3
ISO T0.7 3.150800450 X	M4.0	0.7	3.15	2.3	8.0	4.0	50	3
ISO T0.75 3.50900450 X	M4.5	0.75	3.5	2.55	9.0	4.0	50	3
ISO T0.8 4.0100450 X	M5.0	0.8	4.0	3.0	10	4.0	50	3
ISO T1.0 408120650 X	M6.0	1.0	4.8	3.6	12	6.0	50	3
ISO T1.0 6.0160650 X	M8.0	1.0	6.0	4.8	16	6.0	50	4
ISO T1.25 6.0160650 X	M8.0	1.25	6.0	4.5	16	6.0	50	4
ISO T1.0 8.0200860 X	M10	1.0	8.0	6.8	20	8.0	60	4
ISO T1.5 8.0200860 X	M10	1.5	8.0	6.2	20	8.0	60	4
ISO T1.0 10241075 X	M12	1.0	10	8.7	24	10	75	4
ISO T1.5 10241075 X	M12	1.5	10	8.1	24	10	75	4
ISO T1.75 10241075 X	M12	1.75	10	7.8	24	10	75	4
ISO T1.5 12281275 X	M14	1.5	12	10.1	28	12	75	4
ISO T2.0 10281075 X	M14	2.0	10	7.5	28	10	75	4
ISO T2.0 12321275 X	M16	2.0	12	9.5	32	12	75	4
ISO T1.5 143214100 X	M16	1.5	14	12.1	32	14	100	4
ISO T2.0 13.53214100 X	M16	2.0	13.5	11	32	14	100	4
ISO T1.5 164016100 X	M20	1.5	16	14.1	40	16	100	4
ISO T2.5 164016100 X	M20	2.5	16	12.6	40	16	100	6
ISO T3.0 164816100 X	M24	3.0	16	12	48	16	100	6

三排牙公制螺纹铣刀-钛合金/高温合金-三倍径 Three Teeth Metric Thread Mills-Titanium Alloy/High Temperature Alloy



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 Titanium
			-48HRC	-55HRC	-60HRC	-65HRC							
○	◎	○	○				○	◎				◎	◎

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性好、耐磨性高、螺纹尺寸更加稳定采用高温合金、钛合金专用涂层，提高了刀具的抗粘屑和高温熔沾问题，从而实现寿命提升

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.730300450 X	M1.0	0.25	0.73		3.0	4.0	50	3
ISO T0.25 0.920360450 X	M1.2	0.25	0.92		3.6	4.0	50	3
ISO T0.3 1.050420450 X	M1.4	0.3	1.05		4.2	4.0	50	3
ISO T0.35 1.20480450 X	M1.6	0.35	1.2		4.8	4.0	50	3
ISO T0.4 1.550600450 X	M2.0	0.4	1.55		6.0	4.0	50	3
ISO T0.45 2.00750450 X	M2.5	0.45	2.0		7.5	4.0	50	3
ISO T0.5 2.40900450 X	M3.0	0.5	2.4		9.0	4.0	50	3
ISO T0.7 3.15120450 X	M4.0	0.7	3.15		12	4.0	50	3
ISO T0.8 4.0150450 X	M5.0	0.8	4.0		15	4.0	50	3
IOS T1.0 4.8180650 X	M6.0	1.0	4.8		18	6.0	50	3
ISO T1.25 6.0240650 X	M8.0	1.25	6.0		24	6.0	50	4
ISO T1.5 8.0300860 X	M10	1.5	8.0		30	8.0	60	4
ISO T1.75 10361075 X	M12	1.75	10		36	10	75	4

三排牙公制螺纹铣刀-航空航天专用 Three Teeth Metric Thread Mills-Aerospace Special



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 Titanium
			-48HRC	-55HRC	-60HRC	-65HRC							
○	◎	○	○				○	◎				◎	◎

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性好、耐磨性高、螺纹尺寸更加稳定采用高温合金、钛合金专用涂层，提高了刀具的抗粘屑和高温熔沾问题，从而实现寿命提升

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
MJ T0.4 1.550600450 X	MJ2.0	0.4	1.55	1.05	6.0	4.0	50	3
MJ T0.45 2.00750450 X	MJ2.5	0.45	2.0	1.45	7.5	4.0	50	3
MJ T0.5 2.40900450 X	MJ3.0	0.5	2.4	1.8	9.0	4.0	50	3
MJ T0.7 3.15120450 X	MJ4.0	0.7	3.15	2.3	12	4.0	50	3
MJ T0.8 4.0150450 X	MJ5.0	0.8	4.0	3.0	15	4.0	50	3
MJ T1.0 4.8180650 X	MJ6.0	1.0	4.8	3.6	18	6.0	50	3
MJ T1.25 6.0240650 X	MJ8.0	1.25	6.0	4.5	24	6.0	50	3

三排牙公制螺纹铣刀-古铜色涂层 Three Tooth Metric Thread Mills-Bronze Coating



◎ 最佳 Best ○ 适合 Good

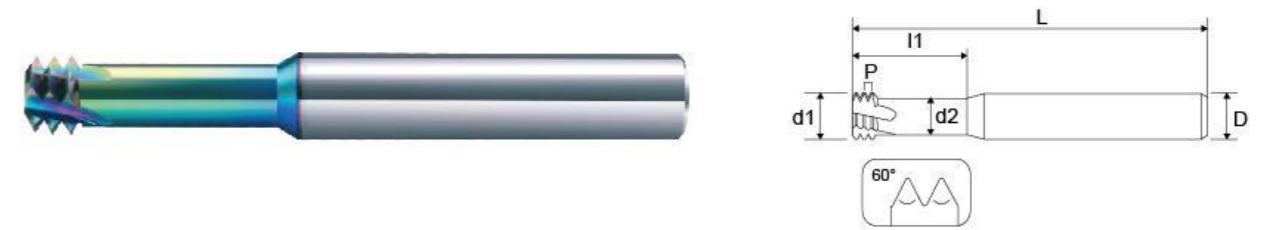
P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
◎	○	◎	◎				◎	○					

■ 合适加工小孔径螺纹和硬度比较高的工件、三扣牙刚性好、强度高，不容易断

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.7 30200450 R	M1.0	0.25	0.73	2.0	3.0	4.0	50	3
ISO T0.25 0.920240450 R	M1.2	0.25	0.92	2.4	3.6	4.0	50	3
ISO T0.3 1.050280450 R	M1.4	0.3	1.05	2.8	4.2	4.0	50	3
ISO T0.35 1.20320450 R	M1.6	0.35	1.2	3.2	4.8	4.0	50	3
ISO T0.4 1.550400450 R	M2.0	0.4	1.55	4.0	6.0	4.0	50	3
ISO T0.45 2.00500450 R	M2.5	0.45	2.0	5.0	7.5	4.0	50	3
ISO T0.5 2.40600450 R	M3.0	0.5	2.4	6.0	9.0	4.0	50	3
ISO T0.7 3.150800450 R	M4.0	0.7	3.15	8.0	12	4.0	50	3
ISO T0.8 4.0100450 R	M5.0	0.8	4.0	10	15	4.0	50	3
ISO T1.0 4.8120650 R	M6.0	1.0	4.8	12	18	6.0	50	3
ISO T1.25 6.0160650 R	M8.0	1.25	6.0	16	24	6.0	50	4
ISO T1.5 8.0200860 R	M10	1.5	8.0	20	30	8.0	60	4
ISO T1.75 10241075 R	M12	1.75	10	24	36	10	75	4
ISO T2.0 10281075 R	M14	2.0	10	10.1	28	10	75	4

三排牙公制螺纹铣刀-七彩铝用 Three Tooth Metric Thread Milling Cutter-Colorful Aluminum



◎ 最佳 Best ○ 适合 Good

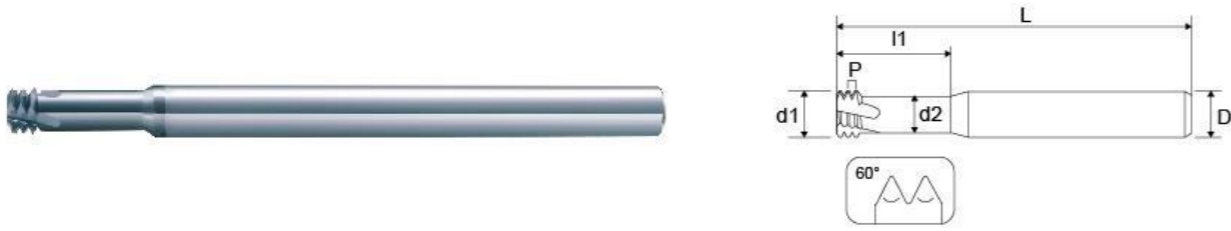
P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
◎	○	◎	◎				◎	○					

■ 七彩DLC涂层具有最低的摩擦系数,对非铁金属具有高抗熔结性,抗腐蚀性。
适合加工铜合金、铝合金、有色金属、亚克力等

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.25 0.730300450 DLC	M1.0	0.25	0.73	0.43	3.0	4.0	50	3
ISO T0.25 0.920360450 DLC	M1.2	0.25	0.92	0.62	3.6	4.0	50	3
ISO T0.3 1.050420450DLC	M1.4	0.3	1.05	0.65	4.2	4.0	50	3
ISO T0.35 1.20480450 DLC	M1.6	0.35	1.2	0.78	4.8	4.0	50	3
ISO T0.4 1.550600450 DLC	M2.0	0.4	1.55	1.05	6.0	4.0	50	3
ISO T0.45 2.00750450 DLC	M2.5	0.45	2.0	1.45	7.5	4.0	50	3
ISO T0.5 2.40900450 DLC	M3.0	0.5	2.4	1.8	9.0	4.0	50	3
ISO T0.7 3.15120450 DLC	M4.0	0.7	3.15	2.3	12	4.0	50	3
ISO T0.8 4.0150450 DLC	M5.0	0.8	4.0	3.0	15	4.0	50	3
ISO T1.0 4.8180650 DLC	M6.0	1.0	4.8	3.6	18	6.0	50	3
ISO T1.25 6.0240650 DLC	M8.0	1.25	6.0	4.5	16	6.0	50	4
ISO T1.5 8.0300860 DLC	M10	1.5	8.0	6.2	30	8.0	60	4
ISO T1.75 10361075 DLC	M12	1.75	10	7.8	36	10	75	4
ISO T2.0 10371075 DLC	M14	2.0	10	7.5	28	10	75	4

三排牙加长公制螺纹铣刀 Three Tooth Extended Metric Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

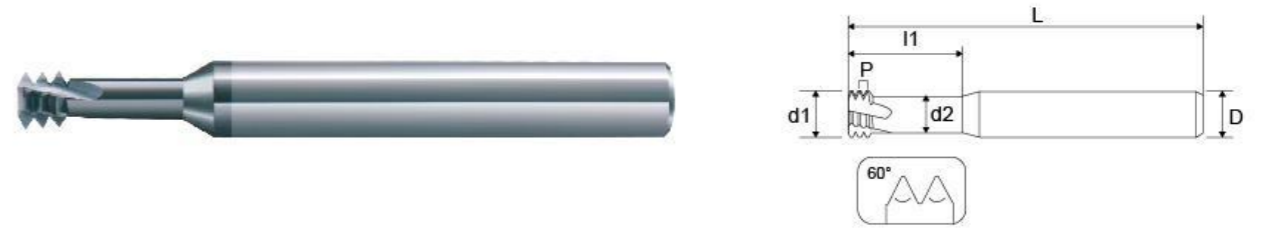
P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
○	○	○	○	○			○	○				○	○

■ 合适加工小孔径螺纹和硬度比较高的工件，三扣牙钢性好，强度高，不容易断

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO T0.35 1.203206100 A	M1.6	0.35	1.2	0.78	3.2	6.0	100	3
ISO T0.4 1.5504006100 A	M2.0	0.4	1.55	1.05	4.0	6.0	100	3
ISO T0.45 2.00 5006100 A	M2.5	0.45	2.0	1.45	5.0	6.0	100	3
ISO T0.5 2.400606100 A	M3.0	0.5	2.4	1.8	6.0	6.0	100	3
ISO T0.7 3.150806100 A	M4.0	0.7	3.15	2.3	8.0	6.0	100	3
ISO T0.8 4.051006100 A	M5.0	0.8	4.0	3.0	10	6.0	100	3
ISO T1.0 4.81206100 A	M6.0	1.0	4.8	3.6	12	6.0	100	3
ISO T1.25 6.01606100 A	M8.0	1.25	6.0	4.5	16	6.0	100	4
ISO T1.5 8.02008100 A	M10	1.5	8.0	6.2	20	8.0	100	4
ISO T1.75 102410100 A	M12	1.75	10	7.8	24	10	100	4
ISO T2.0 102810100 A	M14	2.0	10	7.5	28	10	100	4

三排牙美制螺纹铣刀 Three Tooth Extended Metric Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
○	○	○	○	○			○	○				○	○

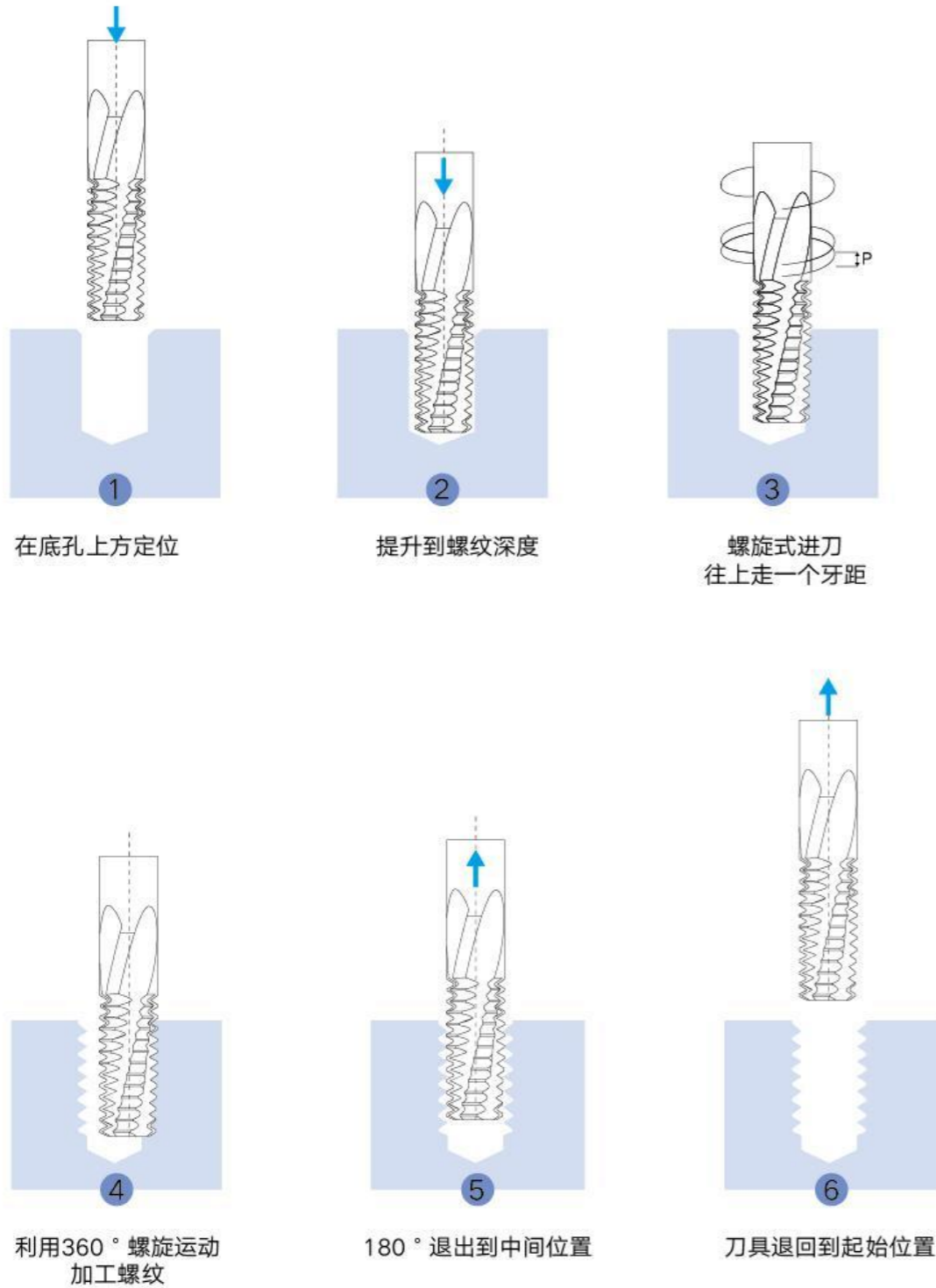
■ 合适加工小孔径螺纹和硬度比较高的工件，三扣牙钢性好，强度高，不容易断

Unit:mm

产品编码	尺寸	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
UNF T72 1.450390450 A	NO.1-72	1.45	1.0	3.9	4.0	50	3
UNF T56 1.950530450 A	NO.3-56	1.95	1.4	5.3	4.0	50	3
UNF T48 2.250600450 A	NO.4-48	2.25	1.6	6.0	4.0	50	3
UNF T40 2.750720450 A	NO.6-40	2.75	1.9	7.2	4.0	50	3
UNF T36 3.30870450 A	NO.8-36	3.3	2.4	8.7	4.0	50	3
UNF T32 3.9100450 A	NO.10-32	3.9	2.9	10	4.0	50	3
UNF T28 5.3120650 A	1/4-28	5.3	4.2	12	6.0	50	3
UNF T20 9.5241075 A	7/16-20	9.5	7.9	24	10	75	4

产品编码	尺寸	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
UNC T64 1.40400450 A	NO.1-64	1.4	0.9	4.0	4.0	50	3
UNC T56 1.650500450 A	NO.2-56	1.65	1.1	5.0	4.0	50	3
UNC T48 1.950500450 A	NO.3-48	1.95	1.3	5.0	4.0	50	3
UNC T40 2.150600450 A	NO.4-40	2.15	1.3	6.0	4.0	50	3
UNC T40 2.450720450 A	NO.5-40	2.45	1.6	7.2	4.0	50	3
UNC T32 2.650750450 A	NO.6-32	2.65	1.6	7.5	4.0	50	3
UNC T32 3.20900450 A	NO.8-32	3.2	2.2	9.0	4.0	50	3
UNC T24 3.7100450 A	NO.10-24	3.7	2.4	10	4.0	50	3
UNC T20 4.9120650 A	1/4-20	4.9	3.3	12	6.0	50	3
UNC T16 7.8200860 A	5/16-18	6.4	4.7	18	8.0	60	4
UNC T18 6.4180860 A	3/8-16	7.8	5.85	20	8.0	60	4
UNC T14 9.2241075 A	7/16-14	9.2	7.0	24	10	75	4
UNC T13 10241075 A	1/2-13	10	7.5	24	10	75	4

全牙螺纹铣刀加工过程



全齿公制螺纹铣刀 All Tooth Metric Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬硬钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○	○				○	○	○	○			○	◎

■ 合适大批量同规格生产，螺纹规格多，使用方便，2倍径以内深度的工件，加工效率高

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空长 I1	柄径 D	总长 L	刃数 F
ISO F0.5 2.4060450 D	M3	0.5	2.4	6.0	4.0	50	4
ISO F0.7 3.15080450 D	M4	0.7	3.15	8.0	4.0	50	4
ISO F0.5 4.0100450 D	M5	0.5	4.0	10	4.0	50	3
ISO F0.75 4.0100450 D	M5	0.75	4.0	10	4.0	50	3
ISO F0.8 4.0100450 D	M5	0.8	4.0	10	4.0	50	4
ISO F0.75 4.8120660 D	M6	0.75	4.8	12	6.0	60	3
ISO F1.0 4.8120660 D	M6	1.0	4.8	12	6.0	60	4
ISO F0.5 6.0160660 D	M8	0.5	6.0	16	6.0	60	3
ISO F0.75 6.0160660 D	M8	0.75	6.0	16	6.0	60	3
ISO F1.0 6.0160660 D	M8	1.0	6.0	16	6.0	60	3
ISO F1.25 6.0160660 D	M8	1.25	6.0	16	6.0	60	4
ISO F1.0 8.0200860 D	M10	1.0	8.0	20	8.0	60	4
ISO F1.25 8.0200860 D	M10	1.25	8.0	20	8.0	60	4
ISO F1.5 8.0200860 D	M10	1.5	8.0	20	8.0	60	4
ISO F0.5 10241075 D	M12	0.5	10	24	10	75	4
ISO F0.75 10241075 D	M12	0.75	10	24	10	75	4
ISO F1.0 10241075 D	M12	1.0	10	24	10	75	4
ISO F1.25 10241075 D	M12	1.25	10	24	10	75	4
ISO F1.5 10241075 D	M12	1.5	10	24	10	75	4
ISO F1.75 10241075 D	M12	1.75	10	24	10	75	4
ISO F1.0 12281275 D	M14	1.0	12	28	12	75	4
ISO F1.5 12281275 D	M14	1.5	12	28	12	75	4
ISO F2.0 11.6281275 D	M14	2.0	11.6	28	12	75	4
ISO F1.5 143214100 D	M16	1.5	14	32	14	100	4
ISO F2.0 133214100 D	M16	2.0	13	32	14	100	4
ISO F2.5 14.83816100 D	M18	2.5	14.8	38	16	100	4
ISO F1.5 163816100 D	M20	1.5	16	38	16	100	4
ISO F2.5 164216100 D	M20	2.5	16	42	16	100	4
ISO F3.0 164216100 D	M24	3.0	16	42	16	100	4

全齿美制螺纹铣刀 Full Tooth American Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	◎				◎	◎	○	○			◎	

■ 合适大批量同规格生产，螺纹规格多，使用方便，2倍径以内深度的工件，加工效率高

Unit:mm

产品编码	粗牙 UNC	细牙 UNF	特细牙 UNEF	牙距 TPI	刃径 d1	刃长 I1	柄径 D	总长 L	刃数 F
UNF F32 3.9100450 D		10-32		32	3.9	10	6.0	50	4
UNEF F32 6.8180860 D			5/16-32 3/8-32	32	6.8	18	8.0	60	4
UNF F28 5.3120660D		1/4-28	7/16-28 1/2-28	28	5.3	12	6.0	60	4
UNF F24 6.5180860D		5/16-24	9-16-24 5/8-24	24	6.5	18	8.0	60	4
UNC F20 4.85120660D	1/4-20	7/16-20 1/2-20	3/4-20 7/8-20 1"-20	20	4.85	12	6.0	60	4
UNF F20 9.5241075D		7/16-20 1/2-20	3/4-20 7/8-20 1"-20	20	9.5	24	10	75	4
UNCF18 6.4180860 D	5/16-18	9/16-18 5/8-18		18	6.4	18	8.0	60	4
UNF F18 10241075D		9/16-18 5/8-18		18	10	24	12	75	4
UNC F16 7.8210860 D	3/8-16	3/4-16		16	7.8	21	10	60	4
UNF F16 12281215D		3/4-16		16	12	28	8.0	75	4
UNC F14 8.8241075 D	7/16-14	7/8-14		14	8.8	24	12	75	4
UNC F13 10241075 D	1/2-13			13	10	24	10	75	4
		1"-12 1"-1/8-12		12	12	28	12	75	4
UNCF1212281275 D	9/16-12	1"-1/4-12 1"-1/2-12		12	12	28	12	75	4
		1"-3/8-12		12	12	28	12	75	4
UNC F11 12281275 D	5/8-11			11	12	28	12	75	4
UNC F10 163816100 D	3/4-10			10	16	38	16	100	4

BSP(G) 55° 英制直管螺纹铣刀 BSP(G) 55° Inch Pipe Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

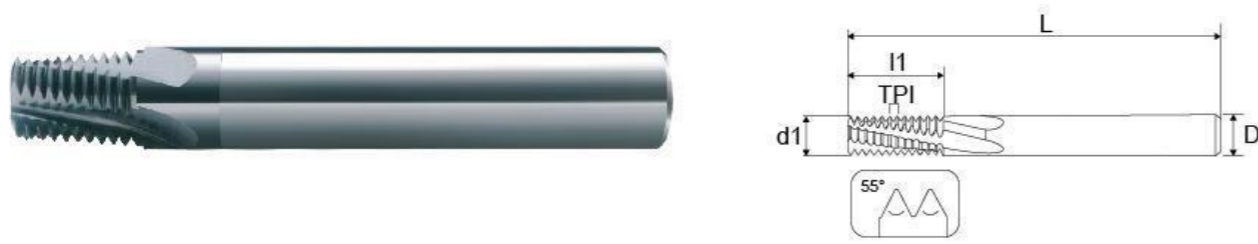
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	◎				◎	◎	○	○			◎	

■ BSP(G)直管螺纹，加工材料铝合金，不锈钢，钛合金效果很好。效率高

Unit:mm

产品编码	尺寸	螺距 TPI	刃径 d1	刃长 I1	柄径 D	总长 L	刃数 F
BSP F28 6.0140660 D	1/16	28	6.0	14	6.0	60	4
BSP F28 8.0140860 D	1/8	28	8.0	14	8.0	60	4
BSP F19 8.0180860 D	1/4	19	8.0	18	8.0	60	4
BSP F19 10201075 D	1/4	19	10	20	10	75	4
BSP F19 12251275 D	3/8	19	12	25	12	75	4
BSP F14 12201275 D	1/2	14	12	20	12	75	4
BSP F1.0 163016100 D	3/4	14	16	30	16	100	4
BSP F11 163216100 D	1"	11	16	32	16	100	4
BSP F11 204520100 D	1"	11	20	45	20	100	5

BSPT(RC) 55° 英制锥度密封管螺纹铣刀 BSPT(RC) 55° Inch Pipe Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	◎				◎	◎	○	○			○	◎

■ BSPT(RC)锥度管螺纹，加工材料铝合金，不锈钢，钛合金效果很好，效率高

Unit:mm

产品编码	尺寸	螺距 TPI	刃径 d1	刃长 l1	柄径 D	总长 L	刃数 F
BSP F28 6.0140660 D	1/16	28	5.3	9.9	6.0	60	4
BSP F28 8.0140860 D	1/8	28	7.3	9.9	8.0	60	4
BSP F19 8.0180860 D	1/4	19	7.0	14	8.0	60	4
BSP F19 10201075 D	1/4	19	9.0	15	10	75	4
BSP F19 12251275 D	3/8	19	11.0	14	12	75	4
BSP F14 12201275 D	1/2	14	10.8	19	12	75	4
BSP F1.0 163016100 D	3/4	14	14.6	21	16	100	4
BSP F11 163216100 D	1"	11	14.3	27	16	100	4
BSP F11 204520100 D	1"	11	17.38	42	20	100	5

NPT NPTF 美制锥度螺纹铣刀 NPT NPTF American Tapered Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
◎	◎	◎	◎				◎	◎	○	○			○	◎

■ NPT一般密封螺纹，NPTF干密封螺纹，加工材料：不锈钢、钛合金效果很好，效率高

NPT-60° 美制锥度管螺纹

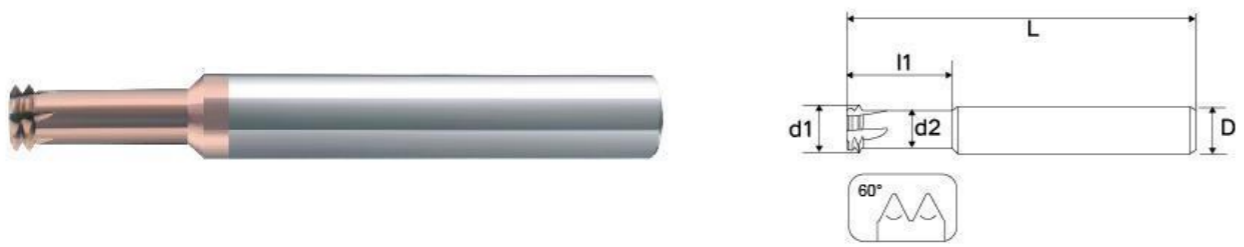
Unit:mm

产品编码	尺寸	螺距 TPI	刃径 d1	刃长 l1	柄径 D	总长 L	刃数 F
NPT F27 5.4940660 D	1/16	27	5.4	9.4	6.0	60	4
NPT F27 7.4940860D	1/8	27	7.4	9.4	8.0	60	4
NPT F18 7.11410860 D	1/4	18	7.1	14.1	8.0	60	4
NPT F18 9.11411075D	1/4	18	9.1	14.1	10	75	4
NPT F18 11.11411275 D	3/8	18	11.1	14.1	12	75	4
NPT F14 10.81811275 D	1/2	14	10.8	18.1	12	75	4
NPT F14 14.818116100D	3/4	14	14.8	18.1	16	100	4
NPT F11.5 14.62216100 D	1"	11.5	14.6	22	16	100	4
NPT F11.5 17.684520100 D	1"	11.5	17.38	42	20	100	5

NPTF-60° 美制锥度密封管螺纹

产品编码	尺寸	螺距 TPI	刃径 d1	刃长 l1	柄径 D	总长 L	刃数 F
NPTF F27 5.4940660 D	1/16	27	5.4	9.4	6.0	60	4
NPTF F27 7.4940860D	1/8	27	7.4	9.4	8.0	60	4
NPTF F18 7.11410860 D	1/4	18	7.1	14.1	8.0	60	4
NPTF F18 9.11411075D	1/4	18	9.1	14.1	10	75	4
NPTF F18 11.11411275 D	3/8	18	11.1	14.1	12	75	4
NPTF F14 10.81811275 D	1/2	14	10.8	18.1	12	75	4
NPT F14 14.818116100D	3/4	14	14.8	18.1	16	100	4
NPTF F11.5 14.62216100 D	1"	11.5	14.6	22	16	100	4
NPTF F11.5 17.684520100 D	1"	11.5	17.38	42	20	100	5

公制超硬二排牙螺纹铣刀 Metric Super Hard Two-Row Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

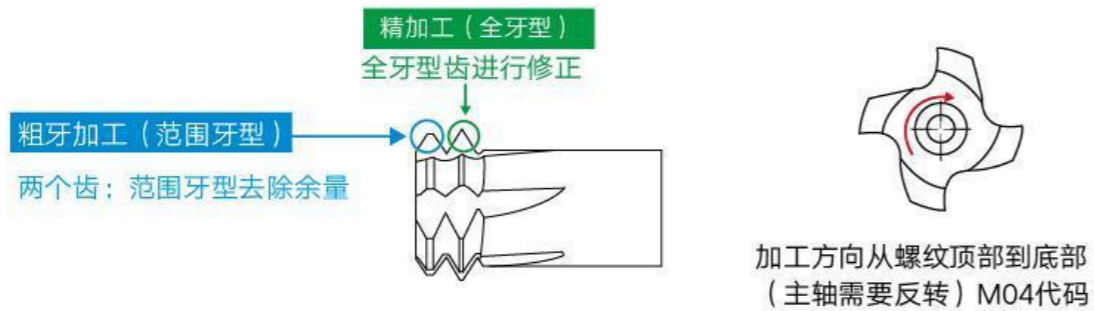
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminium Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
			◎	◎	◎									

■ 第一排矮齿用来初加工,第二排牙齿精加工完成螺纹。刀具左旋设计,主轴需要反转加旋左切减少让刀增加切削力度。合适加工48HRC以上淬火钢模具钢等高硬材料

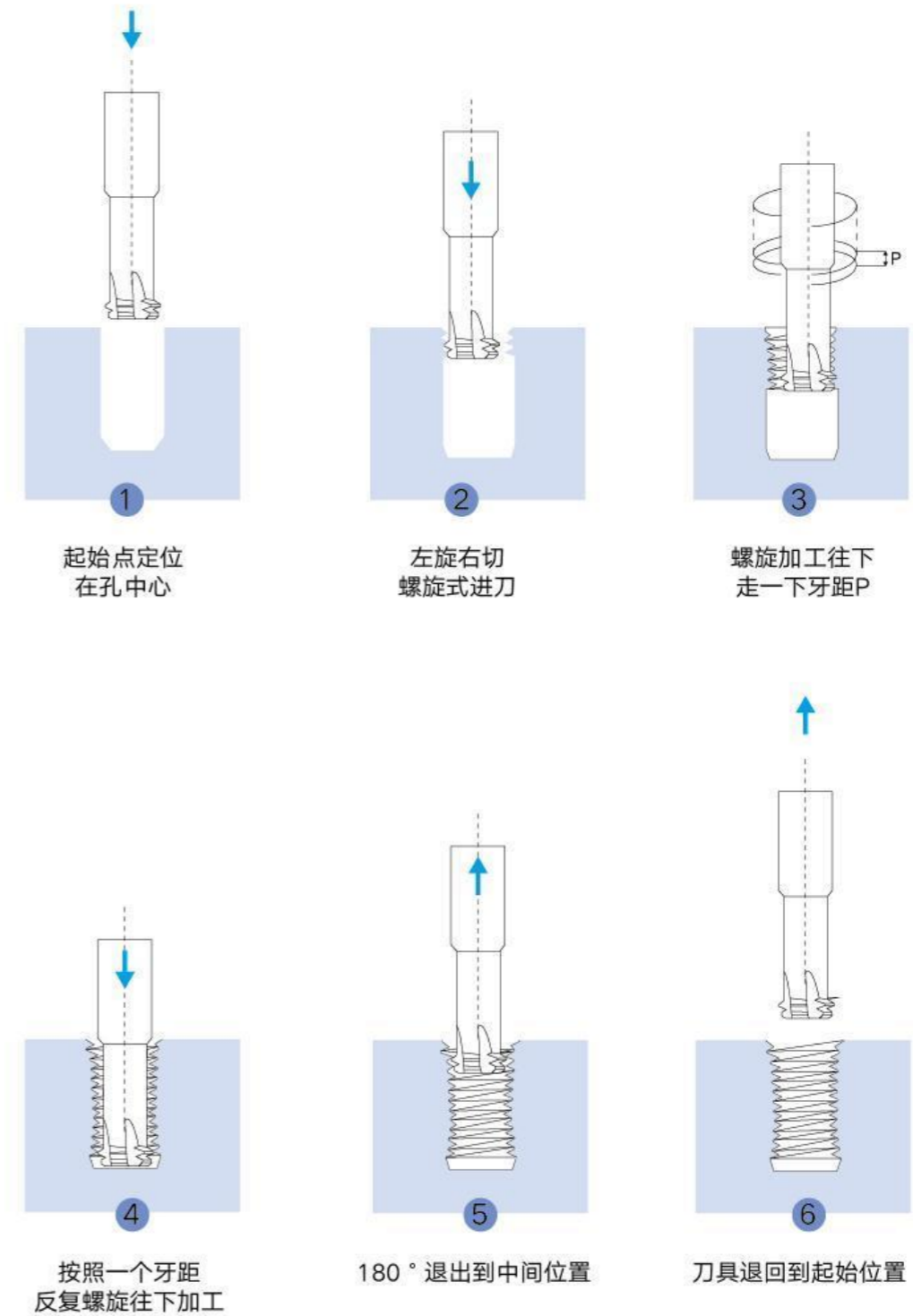
Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空直径 d2	避空长 l1	柄径 D	总长 L	刃数 F
ISO H0.35 1.203206100 H	M1.6	0.35	1.2	0.78	3.2	6.0	50	3
ISO H0.4 1.5504006100 H	M2.0	0.4	1.55	1.05	4.0	6.0	50	4
ISO H0.45 2.00 5006100 H	M2.5	0.45	2.0	1.45	5.0	6.0	50	4
ISO H0.5 2.400606100 H	M3.0	0.5	2.4	1.8	6.0	6.0	50	4
ISO H0.7 3.150806100 H	M4.0	0.7	3.15	2.3	8.0	6.0	50	4
ISO H0.8 4.051006100 H	M5.0	0.8	4.05	3.05	10	6.0	50	4
ISO H1.0 4.81206100 H	M6.0	1.0	4.8	3.6	12	6.0	50	5
ISO H1.25 6.01606100 H	M8.0	1.25	6.5	5.0	16	8.0	60	6
ISO H1.5 8.02008100 H	M10	1.5	8.2	6.4	20	10	75	6
ISO H1.75 102410100 H	M12	1.75	9.6	7.5	24	10	75	6

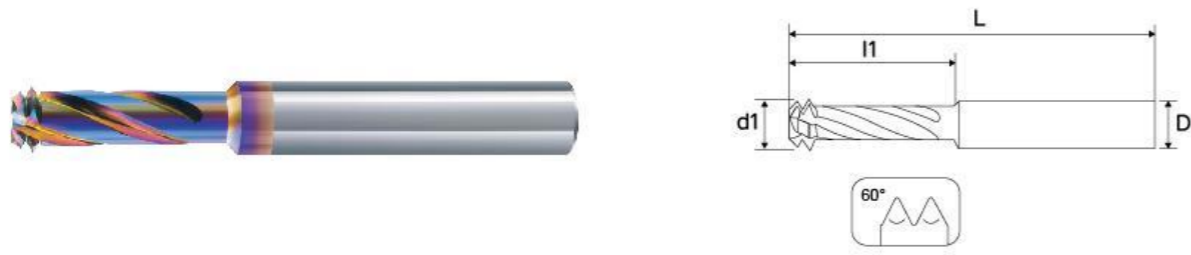
公制超硬二排牙螺纹铣刀工作原理:



公制超硬二排牙螺纹铣刀加工过程



免打孔铝用多功能螺纹铣刀 Tungsten Steel Free Bottom Hole Multi-Function Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

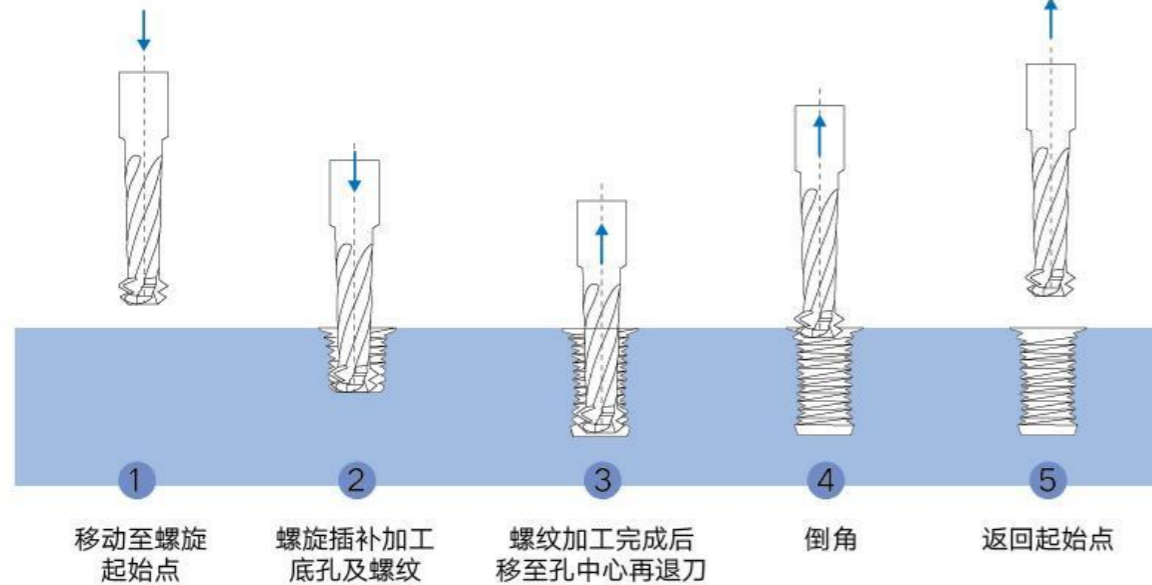
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○						○						

- 不需要预钻孔，免打底孔螺纹铣刀可一次完成底孔、螺纹及倒角铣削加工
搭配上七彩DLC涂层，在加工铜铝合金等有色金属时大大的提高效率、颠覆传统加工

Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空长 l1	柄径 D	总长 L	刃数 F
ISO M0.35 1.150500450 DLC	M1.6	0.35	1.15	5.0	4.0	50	2
ISO M0.4 1.50650450 DLC	M2.0	0.4	1.5	6.5	4.0	50	2
ISO M0.45 1.90700450 DLC	M2.5	0.45	1.9	7.0	4.0	50	2
ISO M0.5 2.40900650 DLC	M3.0	0.5	2.4	9.0	6.0	50	3
ISO M 0.7 3.2110650 DLC	M4.0	0.7	3.2	11	6.0	50	3
ISO M 0.8 3.9120650 DLC	M5.0	0.8	3.9	12	6.0	50	3
ISO M1.0 4.7140650 DLC	M6.0	1.0	4.7	14	6.0	50	3
ISO M1.25 6.5180860 DLC	M8.0	1.25	6.5	18	8.0	60	4
ISO M1.5 7.8230860 DLC	M10	1.5	7.8	23	8.0	60	4
ISO M1.75 9.6261075 DLC	M12	1.75	9.6	26	10	75	4

免打底孔铝用多功能螺纹铣刀加工过程：



免打底孔钢用多功能螺纹铣刀 Tungsten Steel Free Bottom Hole Multi-function Thread Milling Cutter For Steel



◎ 最佳 Best ○ 适合 Good

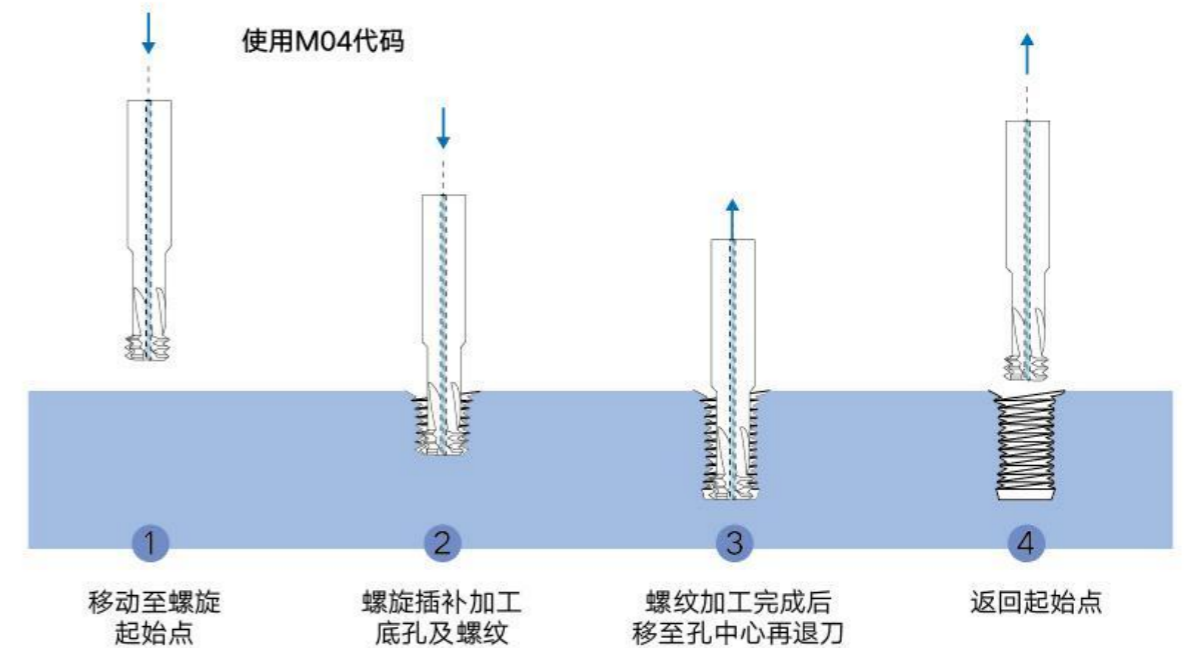
P			H				K	M	N			S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金	钛合金
			-48HRC	-55HRC	-60HRC	-65HRC								
○	○	○												

- 不需要预钻孔，免打底孔螺纹铣刀可一次完成孔、螺纹铣削加工
采用高硬度涂层，在加工钢件时大大提高了刀具的切削力度和寿命，颠覆传统加工

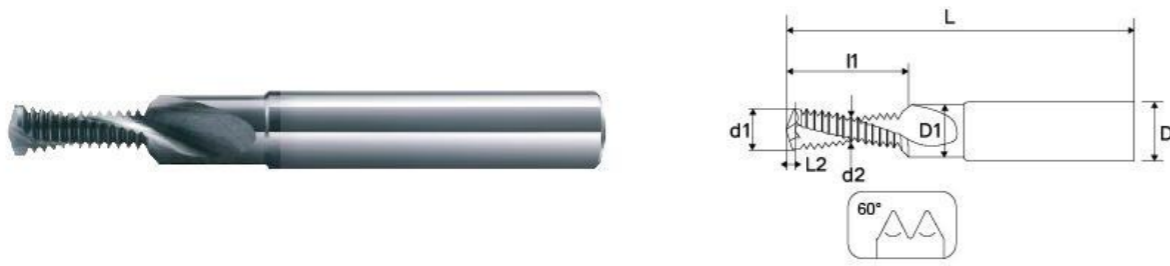
Unit:mm

产品编码	尺寸	螺距 P	刃径 d1	避空长 l1	柄径 D	总长 L	刃数 F	内冷/外冷
ISO M0.5 2.40700650 A	M3.0	0.5	2.4	7.0	6.0	50	4	外冷
ISO M0.7 3.20900650 A	M4.0	0.7	3.2	9.0	6.0	50	4	外冷
ISO M0.8 3.9120650 A	M5.0	0.8	3.9	12	6.0	50	4	外冷
ISO M1.0 4.7140650 A	M6.0	1.0	4.7	14	6.0	50	4	外冷
ISO M1.25 6.2180860 A	M8.0	1.25	6.2	18	8.0	60	4	内冷
ISO M1.5 7.5230860 A	M10	1.5	7.5	23	8.0	60	4	内冷
ISO M1.75 9.0261075 A	M12	1.75	9.0	26	10	75	4	内冷

免打底孔钢用多功能螺纹铣刀加工过程：



三合一钻铣螺纹铣刀 Tungsten Steel Drilling And Milling Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

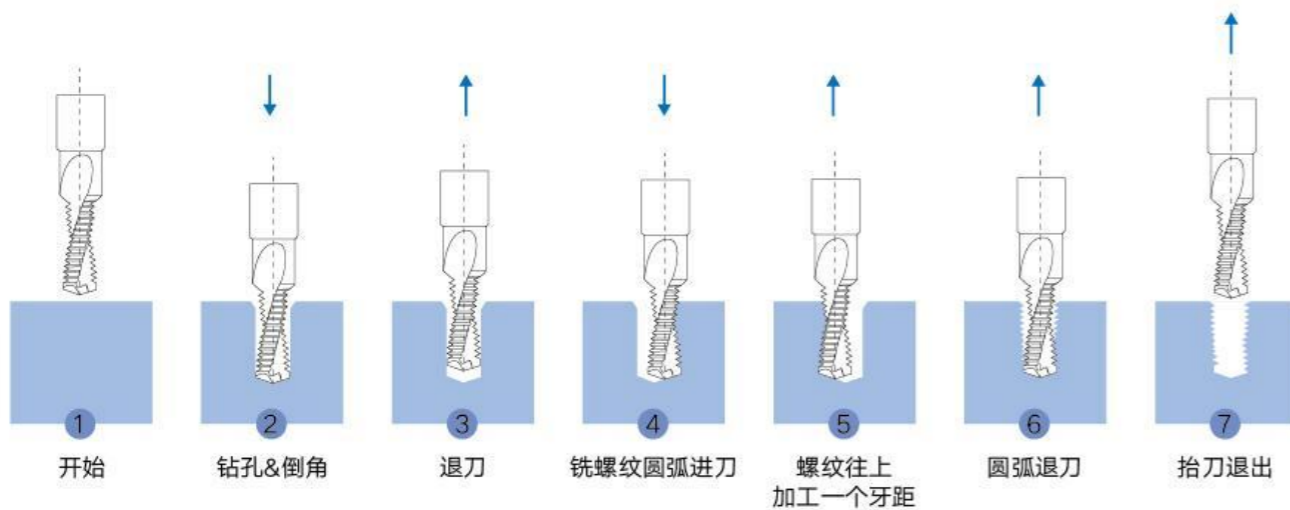
P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
							◎	○	○				

■ 适合大批量同规格生产，三合一钻铣螺纹铣刀一把刀可实现底孔加工、倒角和内螺纹加工可以不更换刀具，减少非加工时间，提高生产效率。适合铜合金、铝合金等有色金属等

Unit:mm

产品编码	尺寸	螺纹外径 d2	钻头径 d1	避空长 l1	钻头长 l2	颈径 D1	柄径 D	总长 L	刃数 F
ISO DR1.0 5.0120860 A	M6*1.0	4.8	5.0	12	1.0	7.0	8.0	60	2
ISO DR1.25 6.0151075 A	M8*1.25	6.5	6.8	15	1.3	9.0	10	75	2
ISO DR1.5 8.5201275 A	M10*1.5	8.2	8.5	20	1.5	11	12	75	2
ISO DR1.75 10.32414100 A	M12*1.75	9.9	10.3	24	1.8	13.5	14	75	2

三合一钻铣螺纹铣刀加工过程：



七彩三合一钻铣螺纹铣刀 Tungsten Steel Drilling And Milling Thread Milling Cutter



◎ 最佳 Best ○ 适合 Good

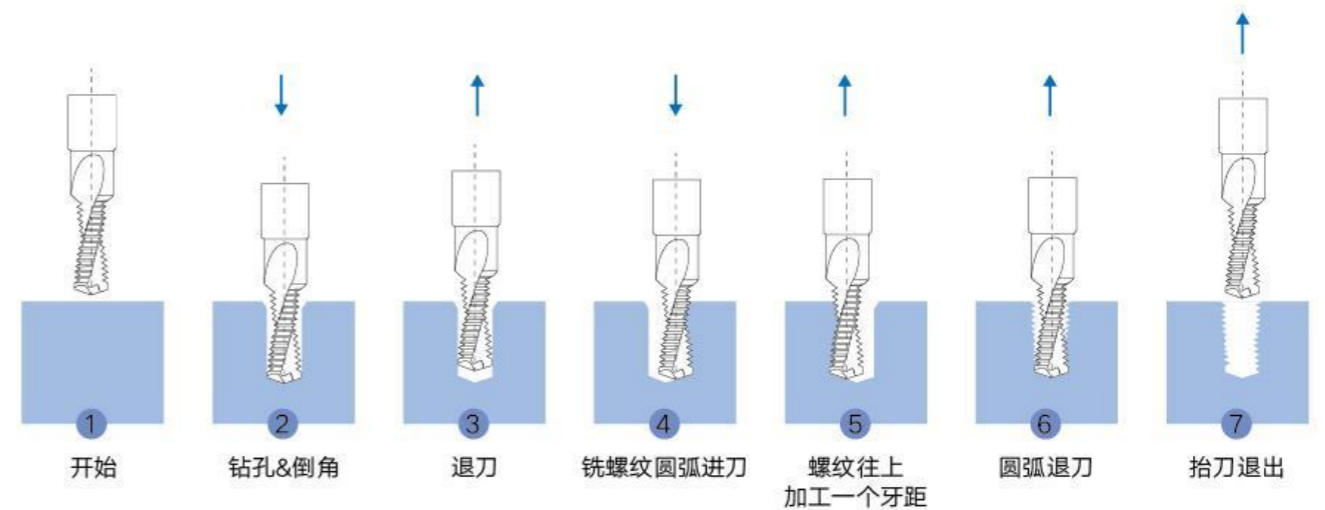
P			H				K	M	N		S		
碳素钢 Carbon Steel	合金钢 Alloy Steel	预硬钢 Prehardened Steel	淬火钢 Hardened Steel				铸铁 Cast Iron	不锈钢 Stainless Steels	铝合金 Aluminum Alloys	铜合金 Copper Alloys	塑胶 Plastic Cement	亚克力 Acrylic	高温合金 钛合金
			-48HRC	-55HRC	-60HRC	-65HRC							
							○	◎	◎				

■ 适合大批量同规格生产，三合一钻铣螺纹铣刀一把刀可实现底孔加工、倒角和内螺纹加工可以不更换刀具，减少非加工时间，提高生产效率。适合铜合金、铝合金等有色金属等

Unit:mm

产品编码	尺寸	螺纹外径 d2	钻头径 d1	避空长 l1	钻头长 l2	颈径 D1	柄径 D	总长 L	刃数 F
ISO DR1.0 5.0120860 DLC	M6*1.0	4.8	5.0	12	1.0	7.0	8.0	60	2
ISO DR1.25 6.0151075 DLC	M8*1.25	6.5	6.8	15	1.3	9.0	10	75	2
ISO DR1.5 8.5201275 DLC	M10*1.5	8.2	8.5	20	1.5	11	12	75	2
ISO DR1.75 10.32414100 DLC	M12*1.75	9.9	10.3	24	1.8	13.5	14	75	2

三合一钻铣螺纹铣刀加工过程：



Polarizer special milling cutter

Adopting alloy tungsten steel as the base material, it has higher wear resistance and strength, and is a specialized tool for high hardness and high-speed cutting applications.

It can achieve layered cutting of polarizers, reduce tool changing time, and ensure high sharpness of spiral cutting edges. The cutting surface is smooth and free of burrs and dark lines.



偏光片专用铣刀特点

采用合金钨钢母材，具有更高的耐磨性和强度，属于高硬度高速切削应用的专属刀具。

可以达到偏光片叠层切割，减少换刀时间，螺旋刃口锋利度高排削好。切割表面光滑无毛刺无暗纹起线。

Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	刃数 (F)
2.0	10	60	6	2
2.5	10	60	6	2
2.5	13	60	6	2
3.0	10	60	6	2
3.0	15	60	6	2
3.0	18	60	6	2
3.0	20	60	6	2
3.2	15	60	6	2
4.0	18	60	6	2
4.0	20	60	6	2
4.5	18	60	6	2
4.5	20	60	6	2
6.0	25	60	6	2

偏光片专用铣刀 Polarizer special milling cutter

Aluminum Special

Ultra-thin chemical coating, high temperature resistance and low friction

Large-capacity U-shaped chip flute, high-efficiency chip removal, high mirror edge and chip flute, no chips during processing.



铝专用系列特点

超薄化学涂层，耐高温低摩擦性

大容量的U型排屑槽，高效排屑，高镜面的刃口和排屑槽，在加工过程中不留屑。

✓ DLC 涂层摩擦系数小,铝金属不易熔敷

DLC coating friction coefficient is small, aluminum metal is not easy to melt

采用具有高硬度、低摩擦系数、耐磨性等特性的DLC(类金刚石)涂层技术，可进行铝合金干式加工，加工时不易产生积屑瘤

DLC(diamond-like) coating technology with high hardness, low friction coefficient, wear resistance and other characteristics can be used for dry processing of aluminum alloy, and it is not easy to produce a chip during processing

✓ 加工表面光洁度高

High finish of the machined surface

刀具刃口做特殊处理，结合DLC涂层，可实现高光洁度表面加工

The cutting edge of the tool is specially treated and contains DLC coating to achieve high finish surface processing

✓ 排屑效果好,加工效率高

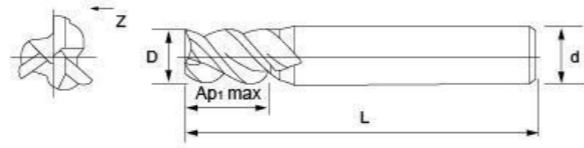
Good chip removal effect, high processing efficiency

通过低摩擦系数的DLC涂层和较低的芯厚值、高扭力、大倾角、为切削排出设置转折点的切削刃，使切削附着少、排出性能优越，可实现高效率加工

With low friction coefficient DLC coating and low core thickness, high torque, large inclination angle, cutting edge setting turning point for cutting discharge, the cutting attachment is less, the discharge performance is superior, and high efficiency machining can be achieved

铝专用 Aluminum Dedicated series

2/3刃铝合金专用立铣刀 2/3 Flute Special End Mill For Aluminum Alloy



Unit:mm

刃径 (D)	柄径 (d)	刃长 (Ap1 max)	全长 (L)	单价 Price
3	4	9	50	30
4	4	12	50	30
3	6	9	50	42
4	6	12	50	42
5	6	15	50	42
6	6	18	50	42
8	8	20	60	78
10	10	30	75	120
12	12	30	75	160
16	16	40	100	350
20	20	45	100	492
3	4	12	100	46
4	4	16	100	46
3	6	12	100	78
4	6	16	100	78
5	6	20	100	78
6	6	24	100	78
8	8	32	100	104
10	10	40	100	166
12	12	45	100	220

钻头系列特点

改良的涂层使刀具表面更硬更滑
更耐热，切削性能得到显著提升

具有更高的强烈断屑，更高的寿命，
更高的精度轻松切削

Drilling Series Features

The improved coating makes the tool surface harder, slippery and heat resistant, and the cutting performance is significantly improved

With higher strong chip breaking, higher life, higher precision and easy cutting

◆ 普通槽形 Plain groove



◆ 优化槽形 Optimized groove shape



● 更高的刚性 Higher stiffness
● 更优良的排屑性能 Better chip removal performance

新的钻尖工艺 New drill point process

新的钻尖和主切削刃保证着切削力的均匀分布并适当增加了锋利性，因此降低了切削阻力和扭矩，优化了切削性能。
The new drill point and main cutting edge ensure an even distribution of cutting forces and an appropriate increase in sharpness, thereby reducing cutting resistance and torque and optimising cutting performance.

排屑性能更佳 Better chip removal performance

新工艺增加了排屑槽的表面平滑程度，光滑平整的表面提高了刀具排屑和散热的性能。
The new process increases the surface smoothness of the chip discharge groove, and the smooth and flat surface improves the performance of the tool chip discharge and heat dissipation.

改良涂层工艺 Improved coating process

改良的涂层设备使得刀具表面更硬更滑更耐热，切削性能得到显著提升。
The improved coating equipment makes the tool surface harder, smoother and more heat resistant, and the cutting performance is significantly improved.

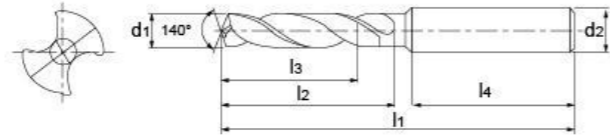
刀具寿命提高 Improved tool life

新工艺在强度不变的前提下增强了刀具的整体刚性，提高了尺寸稳定性及刀具寿命。
The new technology enhances the overall rigidity of the tool, improves the dimensional stability and the tool life without changing the strength.



钻头系列 Drilling Series

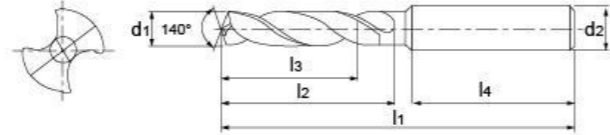
3D麻花钻 (外冷/内冷) 3D twist drill (external cooling/internal cooling)



Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
D3.0	20	54	4
D3.1~3.7	20	54	4
D3.8~4.0	24	58	4
D4.1~4.7	24	66	6
D4.8~5.0	24	66	6
D5.1~6.0	24	66	6
D6.1~7.0	34	79	8
D7.1~8.0	38	79	8
D8.1~9.0	44	89	10
D9.1~10.0	44	89	10
D10.1~11.0	51	102	12
D11.1~12.0	51	102	12
D12.1~13.0	56	107	14
D13.1~14.0	56	107	14
D14.1~15.0	60	115	16
D15.1~16.0	60	115	16
D16.1~17.0	68	123	18
D17.1~18.0	68	123	18
D18.1~19.0	74	131	20
D19.1~20.0	74	131	20

5D麻花钻 (外冷/内冷) 5D twist drill (external cooling/internal cooling)



Unit:mm

刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)
D3.0	26	59	4
D3.1~3.7	26	59	4
D3.8~4.0	26	59	4
D4.1~4.7	35	76	6
D4.8~5.0	35	76	6
D5.1~6.0	39	80	6
D6.1~7.0	48	89	8
D7.1~8.0	52	93	8
D8.1~9.0	61	106	10
D9.1~10.0	65	110	10
D10.1~11.0	74	124	12
D11.1~12.0	78	128	12
D12.1~13.0	87	137	14
D13.1~14.0	91	141	14
D14.1~15.0	100	153	16
D15.1~16.0	104	157	16
D16.1~17.0	113	166	18
D17.1~18.0	117	170	18
D18.1~19.0	126	181	20
D19.1~20.0	130	185	20

钻头系列 Drilling Series

推荐切削条件

Recommended cutting condition

外冷 External cooling



加工材质 Processed material	一般钢、碳钢 General steel, carbon steel		合金钢 Alloy steel		调质钢、模具钢 Tempered steel, die steel	
	SS400 S45C (200HB)		SCM440, 42CrMo (200-300HB)		SKD61 (30-40HRC)	
外径 D (mm)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)
4	60-80-100	0.1-0.13-0.15	50-70-80	0.08-0.1-0.15	35-40-50	0.06-0.08-0.1
6		0.15-0.2-0.25		0.15-0.17-0.2		0.1-0.12-0.15
8		0.2-0.24-0.26		0.18-0.21-0.25		0.13-0.15-0.18
10		0.25-0.28-0.3		0.2-0.23-0.25		0.15-0.18-0.22
12		0.25-0.3-0.35		0.22-0.26-0.3		0.18-0.2-0.23
16	0.3-0.35-0.38	0.25-0.3-0.35	0.2-0.23-0.25			

加工材质 Processed material	不锈钢 Stainless steel		钛合金 Titanium alloy		灰口铸铁 Grey cast iron		球墨铸铁 Nodular cast iron	
	SUS304, SUS316 (-200HB)		Titanium Alloy		FC250 (250HB)		FCD450 (300HB)	
外径 D (mm)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)
4	50-60-70	0.06-0.08-0.15	20-30-35	0.06-0.07-0.1	70-80-100	0.15-0.16-0.2	60-70-90	0.1-0.13-0.18
6		0.1-0.12-0.15		0.1-0.11-0.13		0.15-0.2-0.25		0.16-0.15-0.24
8		0.11-0.15-0.2		0.1-0.13-0.15		0.2-0.23-0.25		0.17-0.2-0.25
10		0.15-0.18-0.23		0.12-0.15-0.18		0.25-0.28-0.3		0.2-0.25-0.28
12		0.18-0.2-0.23		0.13-0.16-0.2		0.26-0.3-0.35		0.25-0.28-0.3
16	0.2-0.23-0.25	0.15-0.2-0.23	0.3-0.33-0.4	0.3-0.31-0.35				

内冷



加工材质 Processed material	一般钢、碳钢 General steel, carbon steel		合金钢 Alloy steel		调质钢、模具钢 Tempered steel, die steel		不锈钢 Stainless steel	
	SS400 S45C (200HB)		SCM440, 42CrMo (200-300HB)		SKD61 (30-40HRC)		SUS304, SUS316 (-200HB)	
外径 D (mm)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)
4	70-90-110	0.1-0.15-0.18	60-80-100	0.08-0.12-0.15	40-50-60	0.08-0.1-0.12	50-70-80	0.06-0.1-0.15
6		0.15-0.22-0.25		0.15-0.2-0.23		0.1-0.15-0.18		0.1-0.15-0.2
8		0.2-0.26-0.28		0.2-0.23-0.25		0.13-0.18-0.2		0.15-0.18-0.22
10		0.25-0.3-0.33		0.2-0.26-0.3		0.15-0.2-0.23		0.16-0.2-0.25
12		0.3-0.33-0.35		0.2-0.29-0.35		0.18-0.22-0.25		0.18-0.22-0.25
16	0.3-0.8-0.4	0.3-0.32-0.35	0.2-0.25-0.28	0.2-0.25-0.25				

加工材质 Processed material	钛合金 Titanium alloy		灰口铸铁 Grey cast iron		球墨铸铁 Nodular cast iron		耐热合金 Heat-resisting alloy	
	Titanium Alloy		FC250 (250HB)		FCD450 (300HB)		Inco1718 (35-40HRC)	
外径 D (mm)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)	切削速度 vc (m/min)	进给量 f (mm/rev)
4	25-35-45	0.06-0.08-0.1	80-90-100	0.15-0.18-0.2	70-90-100	0.1-0.15-0.18	20-25-30	0.05-0.06-0.08
6		0.1-0.12-0.14		0.15-0.22-0.25		0.15-0.2-0.24		0.05-0.07-0.1
8		0.12-0.15-0.17		0.2-0.25-0.28		0.2-0.23-0.25		0.06-0.09-0.12
10		0.12-0.16-0.2		0.25-0.3-0.33		0.2-0.25-0.28		0.08-0.1-0.12
12		0.15-0.18-0.2		0.3-0.33-0.35		0.25-0.3-0.33		0.1-0.13-0.15
16	0.15-0.21-0.23	0.3-0.36-0.4	0.3-0.33-0.35	0.1-0.15-0.2				

重要提醒: 此参数仅供参考, 请根据实际钻头规格、加工工况及客户具体要求做适当调整, 若有疑问或是异常情况, 请及时与我司技术人员联系, 谢谢!

Important note: This parameter is for reference only, please make appropriate adjustments according to the actual drill specifications, processing conditions and customer specific requirements, if you have any questions or abnormal conditions, please contact our technical personnel in time, thank you!

For graphite, zirconia 石墨,氧化锆专用

采用高密度，高熔点的金刚石涂层，具有良好的稳定性和耐磨性

广泛适用于石墨及医疗氧化锆和合金非铁材质

Adopt high density, high melting point diamond coating with good stability and wear resistance

Widely used in graphite and medical zirconia and alloy non-ferrous materials

柄径公差h5

Handle diameter tolerance h5
h5高精度柄径公差，使加工精度更高。
h5 High precision handle diameter tolerance for higher machining accuracy.

HD多层高硬度涂层

HD multi-layer high hardness coating
最新研发的HD多层高硬度涂层，耐热层+耐磨层等多层涂层，显著提高刀具的加工寿命
The newly developed HD multi-layer high-hardness coating, heat-resistant layer + wear-resistant layer and other multi-layer coating significantly improves the processing life of the tool

超微颗粒硬质合金

Micro granular carbide
棒料采用0.3 μm超微颗粒硬质合金，具有超高的耐磨性和强度，在高硬度材料的高速加工中获得超高的加工寿命。
The bar material is made of 0.3 μm ultrafine granular cemented carbide, which has ultra-high wear resistance and strength, and obtains ultra-high processing life in high-speed processing of high-hardness materials.

特殊前角设计

Special front corner design
针对高硬度钢做特殊前角设计，兼具耐磨性和锋利性，在加工中提高加工寿命的同时抑制毛刺产生。
Special front angle design for high hardness steel, both wear resistance and sharpness, improve the processing life while inhibiting burr production.

大圆弧后角设计

Large arc back angle design
大圆弧后角使高效率加工高硬度钢件时提供完美的支撑，提高加工效率。
The large arc rear angle provides perfect support for high-efficiency processing of high-hardness steel parts and improves processing efficiency.

大芯厚设计

Large core thick design
大芯厚设计使刀具刚性更强，加工稳定性更好。
Large core thick design makes the tool more rigid, better processing stability.

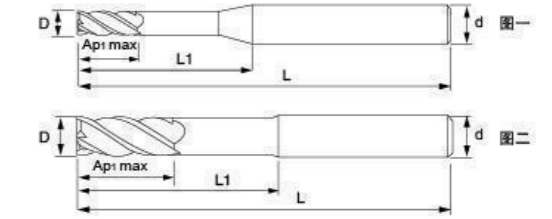
4刃平刀
4-flutes end mill



石墨 氧化锆专用 For graphite, zirconia

石墨氧化锆专用系列 Graphite zirconia special series

4刃平刀 4-flute end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	石墨 Graphite
		~HRC35	HRC35~45	HRC45~55	HRC55~62	HRC62~70							

Unit:mm

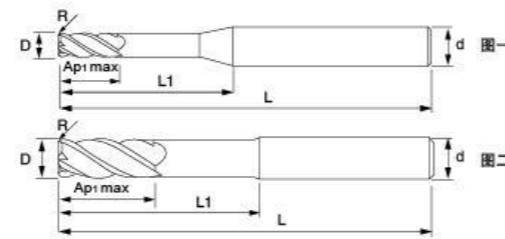
刃径 (D)	刃长 (Ap1 max)	有效长 (L1)	全长 (L)	柄径 (d)
1	2	20	75	4
1.5	3	20	75	4
2	4	25	75	4
3	6	25	75	4
4	8	25	75	4
6	12	25	75	6
6	12	30	100	6
8	16	30	75	8
8	16	40	100	8
8	16	50	150	8
10	20	40	100	10
10	20	50	150	10
12	24	50	100	12
12	24	60	150	12

- ◆ 较高硬度的涂层和优秀的耐磨性极大地提高了工具寿命；
- ◆ 极细薄膜能够确保被加工件表面光滑性及良好的表面粗糙度；
- ◆ 在加工石墨等具有高性能。

Higher hardness coating and excellent wear resistance greatly improve tool life.
The thin film can ensure the smooth surface and good surface roughness of the additives.
It has high performance in processing graphite and so on.

石墨氧化锆专用系列 Graphite zirconia special series

4刃圆鼻刀
4-flute Corner Radius end mill



碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	石墨 Graphite
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							

Unit:mm

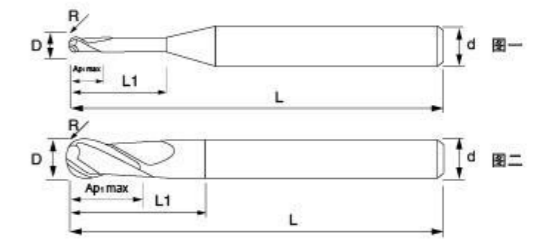
刃径 (D)	R角 (R)	刃长 (Ap1 max)	有效长 (L1)	全长 (L)	柄径 (d)	刃径 (D)	R角 (R)	刃长 (Ap1 max)	有效长 (L1)	全长 (L)	柄径 (d)
1	R0.1	2	20	75	4	10	R0.5	20	40	75	10
1	R0.2	2	25	75	4	10	R1.0	20	50	75	10
2	R0.1	4	25	75	4	10	R0.5	20	40	100	10
2	R0.2	4	30	75	4	10	R1.0	20	50	100	10
3	R0.2	6	20	75	4	10	R0.5	20	40	150	10
4	R0.2	8	25	75	4	10	R1.0	20	50	150	10
4	R0.5	8	30	75	4	12	R0.5	24	50	75	12
6	R0.5	12	25	75	6	12	R1.0	24	60	75	12
6	R0.5	12	30	100	6	12	R0.5	24	50	100	12
8	R0.5	16	30	75	8	12	R1.0	24	60	100	12
8	R0.5	16	40	100	8	12	R0.5	24	50	150	12
8	R0.5	16	50	150	8	12	R1.0	24	60	150	12

- 较高硬度的涂层和优秀的耐磨性极大地提高了工具寿命;
- 极细薄膜能够确保被加件表面光滑性及良好的表面粗糙度;
- 在加工石墨等具有高性能。

Higher hardness coating and excellent wear resistance greatly improve tool life.
The thin film can ensure the smooth surface and good surface roughness of the additives.
It has high performance in processing graphite and so on.

石墨氧化锆专用系列 Graphite zirconia special series

2刃球刀
2-flute Ball end mill



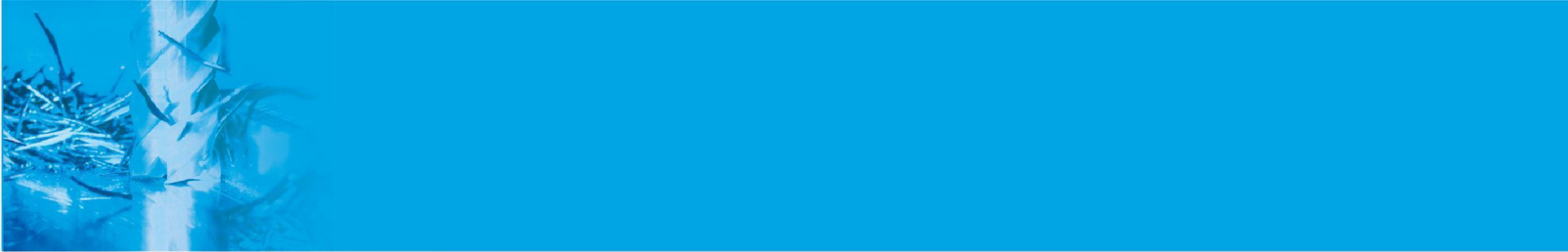
碳素钢 Carbon steel	合金钢/工具钢 Alloy steel/tool steel	调质钢 Tempered and tempered steel		淬火钢 Quenched steel			不锈钢 Stainless steel	镍合金 Nickel alloy	钛合金 Titanium alloy	铸铁 Cast iron	铝合金 Aluminium alloy	铜合金 Copper alloy	石墨 Graphite
		-HRC35	HRC35-45	HRC45-55	HRC55-62	HRC62-70							

Unit:mm

刃径 (D)	R角 (R)	刃长 (Ap1 max)	有效长 (L1)	全长 (L)	柄径 (d)	刃径 (D)	R角 (R)	刃长 (Ap1 max)	有效长 (L1)	全长 (L)	柄径 (d)
1	R0.5	2	10	75	4	8	R4.0	16	50	150	8
1.5	R0.75	3	10	75	4	10	R5.0	20	40	75	10
2	R1.0	4	10	75	4	10	R5.0	20	50	100	10
4	R2.0	8	20	75	4	10	R5.0	20	60	150	10
6	R3.0	12	25	75	6	12	R6.0	24	50	75	12
6	R3.0	12	30	100	6	12	R6.0	24	60	100	12
8	R4.0	16	30	75	8	12	R6.0	24	70	150	12
8	R4.0	16	40	100	8						

- 较高硬度的涂层和优秀的耐磨性极大地提高了工具寿命;
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1 关于石墨刀具 About Graphite tools



与铜电极相比，石墨电极具有电极消耗小、加工速度快、机械加工性能好、加工精度高、热变形小、重量轻、表面处理容易、耐高温、加工温度高、电极可粘附等优点。

尽管石墨是一种非常容易切削的材料，但由于用作EDM电极的石墨材料必须具有足够的强度，以免在操作和EDM加工过程中收到破坏，同时电极形状（薄壁、小圆角、锐变等）也对石墨电极的晶粒尺寸和强度提出了较高要求，这导致在加工过程中石墨工件容易崩碎，刀具容易磨损。

刀具磨损是石墨电极加工中最重要的问题。磨量不仅影响刀具损耗费用、加工时间、加工质量、而且影响电极EDM加工工件材料的表面质量，是优化高速加工的重要参数。

石墨电极材料加工的主要刀具磨损区域为前刀面和后刀面。在前刀面上，刀具与破碎切削区的冲击接触产生冲击磨粒磨损，沿工具表面滑动的切削产生滑动摩擦磨粒磨损。

Compared with the copper electrode, the graphite electrode has the advantages of small electrode consumption, fast processing speed, good machining performance, high processing accuracy, small thermal deformation, light weight, easy surface treatment, high temperature resistance, high processing temperature, and the electrode can be bonded.

Although graphite is a very easy material to cut, because the graphite material used as an EDM electrode must have enough strength to avoid damage during operation and EDM processing, at the same time, the electrode shape (thin wall, small corner, sharp, etc.) also puts higher requirements on the grain size and strength of the graphite electrode, which leads to the graphite workpiece easy to break during processing. Knives wear easily.

Tool wear is the most important problem in graphite electrode machining. The amount of wear not only affects the tool loss cost, machining time, machining quality, but also affects the surface quality of electrode EDM machining workpiece material, which is an important parameter to optimize high-speed machining.

The main tool wear areas of graphite electrode material processing are the front and back tool surfaces. On the front tool surface, the impact contact between the tool and the broken cutting zone results in impact wear, and the sliding friction wear is dominated by the sliding cutting along the tool surface.

2 石墨刀具材料 Graphite tool material



刀具材料是决定刀具切削性能的根本因素，对于加工效率、加工质量、加工成本以及刀具耐用度影响很大。刀具材料越硬，其耐磨性越好，硬度越高，冲击韧性越低，材料越脆。

硬度和韧性是矛盾的，也是刀具材料所应解决的一个关键问题。

对于石墨刀具，普通的TiAlN涂层可在选材上适当选择韧性相对好一点的，也就是钴含量稍高一点的；对于金刚石涂层石墨刀具，可在选材上适当选择硬度相对高一点的，也就是钴含量低一点的。

Tool material is the fundamental factor that determines the cutting performance of the tool, which has a great impact on the processing efficiency, processing quality, processing cost and tool durability. The harder the tool material, the better its wear resistance, the higher the hardness, the lower the impact toughness, the more brittle the material. Hardness and toughness are contradictory, and it is also a key problem that the tool material should solve.

For graphite tools, the ordinary TiAlN coating can be properly selected in the selection of materials with relatively good toughness, that is, the cobalt content is slightly higher; For diamond coated graphite tools, the hardness of the material can be selected appropriately, that is, the cobalt content is low.

3 石墨刀具涂层 Graphite tool coating

金刚石涂层刀具具有硬度高、耐磨性好、摩擦系数低等优点。

在现阶段，金刚石涂层是石墨加工刀具的最佳选择，也最能体现石墨刀具由优越的使用性能。金刚石涂层硬质合金刀具的优点是：综合了天然金刚石的硬度和硬质合金的强度及断裂韧性。但是，目前在国内，金刚石涂层技术还处在起步阶段，还有成本的投入也很大，所以金刚石涂层在近期不会有太大发展。不过，我们可以在普通刀具的基础上，优化刀具的角度、选材和改善普通涂层的结构，在一定程度上，还是可以在石墨加工中应用的。

金刚石涂层刀具与普通涂层的几何角度有本质区别，因此，在设计金刚石涂层刀具时，由于石墨加工的特殊性，其几何角度可适当放大，容屑槽也变大，而不会降低刀具刃口的耐磨性。对于普通的TiAlN涂层，虽然与无涂层刀具相比，其耐磨性有显著提高，但比起金刚石涂层来说，在加工石墨时其几何角度应适当减小，以增加其耐磨性。

Diamond coated tool has the advantages of high hardness, good wear resistance and low friction coefficient.

At this stage, diamond coating is the best choice for graphite processing tools, and it can best reflect the superior performance of graphite tools. The advantage of diamond-coated carbide cutting tools is that it integrates the hardness of natural diamond and the strength and fracture toughness of cemented carbide. However, at present in China, diamond coating technology is still in its infancy, and the cost of investment is also very large, so diamond coating will not have much development in the near future. However, on the basis of ordinary tools, we can optimize the Angle of the tool, material selection and improve the structure of the ordinary coating, and to a certain extent, it can still be applied in graphite processing.

The geometric Angle of diamond-coated tools is fundamentally different from that of ordinary coatings. Therefore, when designing diamond-coated tools, due to the particularity of graphite processing, the geometric Angle can be properly amplified and the chip sink is also larger, without reducing the wear resistance of the cutting edge of the tool. For ordinary TiAlN coatings, although the wear resistance is significantly improved compared with uncoated tools, compared with diamond coatings, the geometric Angle should be appropriately reduced when processing graphite to increase its wear resistance.



4 刃口钝化 The cutting edge is blunted

刀具刃口钝化技术是一个还不被人们重视，而又是非常重要的问题。它之所以重要就在于：钝化后的刀具能有效提高刃口强度，提高刀具寿命和切削过程的稳定性。大家知道刀具是机床的“牙齿”，影响刀具切削性能和刀具寿命的主要因素，除了刀具材料、刀具几何参数、刀具结构、切削用量优化等，通过大量的刀具刃口钝化实践体会到：有一个好的刃口形式和刃口钝化质量，也是刀具能否良好切削加工的前提。因此，刀具刃口的状况好坏也是不可忽视的因素。大家还要重视刀具回收的前景。

有称“刃口钝化”、“刃口强化”、“刃口打磨”、“刃口准备”或“ER处理”等，刀具刃口的钝化是一个还不被人们重视，而又十分重要的问题。用金刚石砂轮磨磨后的硬质合金刀具切削刃，存在程度不同的微小缺口（即微小崩刃与锯齿）。石墨的高速切削加工对刀具性能和稳定性提出了更高的要求，特别是金刚石涂层刀具，在涂层前必须经过刃口钝化处理，才能保证涂层的牢固性和使用寿命。刀具钝化的目的，就是解决刀具刃磨后的刃口微小缺口的问题，减小其锋利度，达到圆滑平整，既坚固又耐用的目的。切削加工条件的选择对于刀具寿命有相当大的影响。

顺铣的切削振动小于逆铣。顺铣时，刀具切入厚度从最大减小到零，刀具切入工件后，不会出现因切不下切屑而造成的弹刀现象，工艺系统刚性好，切削振动小；逆铣时，刀具的切入厚度从零增加到最大，刀具切入初期，因切削厚度薄，将在工件表面划擦一段路径，此时，刃口如果遇到石墨材料中的硬质点或残留在工件表面的切屑颗粒，都将引起刀具的弹刀或颤振，因此逆铣的切削振动较大。

吹气（或吸尘）和浸渍电火花液加工及时清理工件表面的石墨粉尘，有利于减小刀具二次磨损，延长刀具使用寿命，减少石墨粉尘对机床丝杠和导轨的影响。

The technology of tool edge passivation is a very important problem which has not been paid attention to by people. It is important that the tool after passivation can effectively improve the strength of the cutting edge, improve the tool life and the stability of the cutting process. We all know that the tool is the "teeth" of the machine tool, the main factors affecting the cutting performance and tool life, in addition to the tool material, tool geometric parameters, tool structure, cutting parameters optimization, etc., through a large number of tool passivation practice to realize that there is a good cutting edge form and passivation quality, but also the premise of good cutting tool processing. Therefore, the condition of the cutting edge of the tool is also a factor that cannot be ignored. We should also pay attention to the prospects of tungsten slag recovery.

There are called "edge passivation", "edge strengthening", "edge honing", "edge preparation" or "ER treatment", etc., the passivation of tool edge is a problem that has not been generally paid attention to, but is very important. After grinding the carbide cutting edge with diamond grinding wheel, there are different degrees of micro-notch (that is, small collapsing edge and serrations). The high-speed cutting of graphite has put forward higher requirements for the performance and stability of the tool, especially the diamond coated tool, which must be passivated before the coating to ensure the robustness and service life of the coating. The purpose of the tool passivation is to solve the problem of the micro-notch of the cutting edge after the tool grinding, reduce its sharpness, and achieve the purpose of smooth and smooth, both strong and durable.

The choice of cutting conditions has a considerable influence on the tool life. Cutting mode

The cutting vibration of up milling is smaller than that of up milling. When milling, the cutting thickness of the tool is reduced from the maximum to zero. After cutting the tool into the workpiece, there will be no springknife phenomenon caused by not cutting the chip. The process system is rigid and the cutting vibration is small. During the inverse milling, the cutting thickness of the tool increases from zero to the maximum, the early cutting tool, due to the thin cutting thickness, will scratch a path on the surface of the workpiece, at this time, if the cutting edge encounters the hard point in the graphite material or the debris particles remaining on the surface of the workpiece, it will cause the knife or flutter of the tool, so the cutting vibration of the inverse milling is larger.

Blowing (or vacuuming) and impregnating EDM machining
Timely cleaning of the graphite dust on the surface of the workpiece is conducive to reducing the secondary wear of the tool, extending the service life of the tool, and reducing the influence of graphite dust on the lead screw and guide rail of the machine tool.

60°,90°,120°Fixed point drill

● Good guide bit, can make the machining hole positioning accuracy within 0.015mm;

● Select the high-performance chromium base composite coating suitable for drill, improve the lubrication, heat resistance and wear resistance of the tool processing, and improve the shear strength of the tool, so that the tool can achieve a stable and high life in the processing of a variety of materials.

● Selected more economical and excellent performance of cemented carbide as the matrix, so that the tool processing is stable and has a high cost performance.

● Good sharpness cutting edge, so that the fixed point drill to meet the processing needs of different occasions such as centering, chamfering, V-groove processing, chamfering and so on.

60° 90° 120° 定心钻

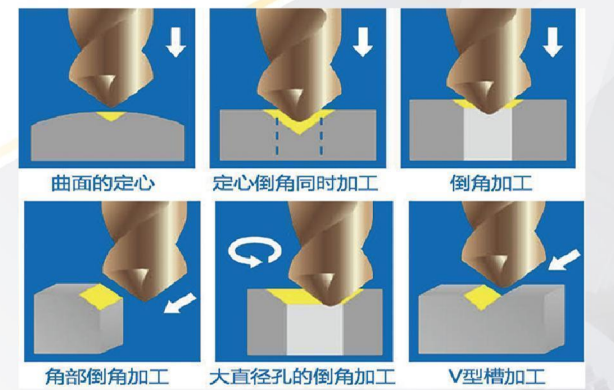
● 引导性好的钻头，可使加工孔的定位精度达到0.015mm以内；

● 精选适合钻头的高性能铬基复合涂层，提高刀具加工的润滑性，耐热性和耐磨性，并提高刀具切变强度，使刀具在加工多种材料均能达到稳定的高寿命。

● 精选较经济且性能优异的硬质合金作为基体，使刀具加工稳定且有很高的性价比。

● 锋利度好的切削刃，使该定点钻满足定心、倒角、V型槽加工、倒边等不同场合的加工需求。

应用场景



Unit:mm

角度 (A)	刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	单价
90	4.0	10	50	4.0	30
90	6.0	15	50	6.0	42
90	8.0	20	60	8.0	78
90	10.0	25	75	10.0	120
90	12.0	30	75	12.0	160
120	4.0	10	50	4.0	30
120	6.0	15	50	6.0	42
120	8.0	20	60	8.0	78
120	10.0	25	75	10.0	120
120	12.0	30	75	12.0	160

定心钻 60°,90°,120° Fixed point drill

Single edge milling cutter for door frame 门框专用单刃铣刀



← 螺旋槽做特殊抛光处理
光滑的排屑槽使铝屑快速排出，
防止铝屑堵塞



✓ DLC 涂层摩擦系数小, 铝金属不易熔敷

采用具有高硬度、低摩擦系数、耐磨性等特性的
DLC(类金刚石)涂层技术, 可进行铝合金干式加
工, 加工时不易产生积屑瘤

✓ 加工表面光洁度高

刀具刃口做特殊处理, 结合DLC涂层, 可实现高
光洁度表面加工

✓ 排屑效果好, 加工效率高

通过低摩擦系数的DLC涂层和较低的芯厚值、高
扭力、大倾角、为切削排出设置转折点的切削刃,
使切削附着少、排出性能优越, 可实现高效率加工

涂层名称	涂层颜色	涂层硬度	耐热温度	摩擦系数	表面粗糙度	耐磨性	耐腐蚀性	韧性
DLC	彩色	HV5000	450°	0.05	⊙	⊙	⊙	⊙

门框专用 单刃铝用刀

合金单刃铣刀 Alloy single-edge Milling Cutter



铣刀质量稳定; 采用单刃大螺旋设计, 排屑通畅不粘屑。
涂层之后刀具寿命延长, 硬度和强度提升。
主要适用全自动数控高精度机床加工3~5 mm左右厚度
的铝型材, 机床转速应在12000转/分钟以上。



刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	变径长 (l)
5	14	80	8	35
8	14	80	8	34
6	16	100	8	45
8	30	100	8	50
4	16	90	8	45
6	16	90	8	45
3	10	60	6	/
4	14	60	6	/
5	16	60	6	/
6	20	60	6	/
6	30	75	6	/
6	14	80	8	35
8	25	80	8	45
5	16	100	8	45
8	16	100	8	36
6	16	120	8	45
8	30	120	8	50

合金双刃铣刀 (不涂层) Alloy double-edged Milling Cutter (No Coating)

侧铣能力强, 是主要用于侧铣的一种刀型。
侧铣效果好, 侧铣下来工件表面毛刺少。
主要适用全自动数控高精度机床机床转速应在12000转/分钟以上。



刃径 (D)	刃长 (Ap1 max)	全长 (L)	柄径 (d)	变径长 (l)
5	14	80	8	35
5	30	100	8	50
6	30	100	8	50
8	30	100	8	50



Special milling cutter for woodworking door lock 木工门锁专用铣刀

主要特点:

- 1、良好的硬性和耐磨性，使用寿命长，可降低主要生产成本。
- 2、优良的抗氧化性，可实现高速加工，提高生产效率。
- 3、可实现被加工工件高光效果，工件高精度高光洁度。

适用于加工木门钻孔、刨花板、多层板、硬木切割等。刀刃四大排屑槽，切割面光洁度高。

高硬/耐磨
抗氧化性
高光洁度



木工锁孔刀 Woodworking cutting tool

木工刀具系列 Woodworking tool series

仿形铣刀



直径	总长
8	60
8	70
8	80
8	90
8	100
10	80
10	100
10	120
12	80
12	100
12	120

沉孔钻



柄径	刃径	刃长	总长
8	4.2	5	70
8	4.0	5	70
8	4.5	5	70
8	4.0	6	80
8	4.1	6	80
8	4.2	8	80
8	4.5	8	80
10	4.5	8	100
10	4.8	8	100

正反三刃木工精铣刀



直径	刃长	总长
8	50	100
8	70	120
10	50	100
10	70	120
12	55	100
12	70	120
12.7	31.75	76.2
12.7	50.8	101.6
12.7	70	120

TCT三刃直刀



直径	刃长	总长
4	22	50
5	22	50
6	22	50
8	25	60
10	32	75
12	32	75
4	32	60
6	32	60
8	32	75
10	60	100
12	60	100

复合铣刀



柄径	刃长	总长
3.175	17	38
3.175	22	50
4	17	50
4	22	50
4	25	50
6	17	50
6	22	50
6	25	60
6	32	75
6.35	25.4	76.2
6.35	19.05	63.5
8	17	60
8	22	60
8	25	60
8	32	75
8	42	100
10	32	75

锥度球头刀



刃径	总长
3.175	38
4	50
6	50
6	75
6	100
8	70
8	80
8	100
8	120
8	150
10	100
10	120
10	150
12	100
12	120
12	150

木工锁孔刀



刃径	总刃长	粗铣刃长	柄径	总长
16	105	55	16	165
18	105	55	18	165
18	105	55	16	165
20	105	55	20	165
20	105	55	16	165

木工单刃



柄径	刃长	总长
3.175	12	38
3.175	17	38
3.175	22	45
3.175	25	45
3.175	28	50
4	17	45
4	22	45
4	25	50
4	32	60
6	17	50
6	22	50
6	25	50
6	32	60
6	42	70
6	52	80
6	62	100
8	25	60
8	32	60
8	42	70
8	52	80
8	62	100
10	32	65
10	42	75
10	62	100

直槽铣刀



柄径	刃长	总长
3.175	12	38
3.175	17	38
3.175	22	45
3.175	25	45
3.175	28	50
4	17	45
4	22	45
4	25	50
4	32	60
6	17	50
6	22	50
6	25	50
6	32	60
6	42	70
6	52	80
6	62	100
8	25	60
8	32	60
8	42	70
8	52	80
8	62	100
10	32	65
10	42	75
10	62	100

变型/粗皮铣刀



柄径	刃长	总长
6	17	50
6	22	50
6	32	60
6	42	70
8	25	60
8	32	60
8	42	80
8	62	100
10	32	70
10	42	80
10	62	100
12	32	70
12	42	80
12	62	100
14	62	100
14	80	120
16	60	100
16	75	120
16	100	150
20	60	100
20	80	120
20	100	150

铝用单刃刀



直径	长度	总长
3.175	12	38
3.175	15	38
3.175	17	38
3.175	22	45
4	12	45
4	17	45
4	22	45
4	25	50
6	17	50
6	22	50
6	25	50
6	32	60
8	25	60
8	32	60
10	32	75
12	32	75

玉米铣刀



直径	长度	总长
3.175	17	45
3.175	22	45
4	17	45
4	22	45
4	25	50
4	32	60
6	17	50
6	22	50
6	42	70
6	42	80
8	17	60
8	22	60
8	25	60
8	32	60
10	32	70
10	42	75
10	42	80
10	62	100
12	32	70
12	42	80
12	52	100

木工双刃球头平头



直径	长度	总长
3.175	12	38
3.175	17	38
3.175	22	45
3.175	25	45
3.175	28	50
4	17	45
4	22	45
4	25	50
4	32	60
6	17	50
6	22	50
6	17	50
6	22	50
6	25	50
6	42	70
6	25	50
6	32	60
6	42	70
6	52	80
6	62	100
8	25	60
8	32	60
8	32	60
8	42	70
8	25	60
8	32	60
8	42	70
8	52	80
8	62	100
10	32	65
10	42	75
10	62	100

双贴面板专用刀

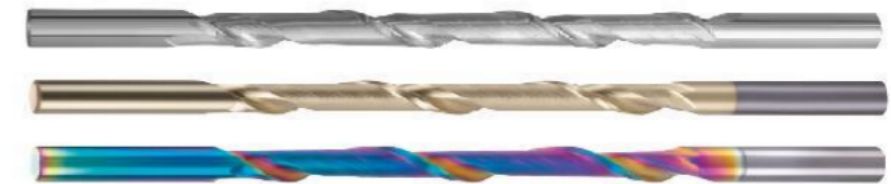


直径	长度	总长
12.7	6	20
12.7	6	22
12.7	6	25
12.7	6	28
12.7	6	32



直径	长度	总长
12.7	8	20
12.7	8	22
12.7	8	25
12.7	8	28
12.7	8	32

木工双柄开料刀



直径	长度	总长
4	60	120
5	80	150
6	80	150
6	100	165

直径	长度	总长
6	125	180
8	80	150
8	100	165
8	130	200

Copper electrode specific series Features

Special blade design, special coating combination, enhances processing stability.

Optimizing the spiral angle design can improve the quality of the machining surface by a 37.5° spiral angle, which can suppress the occurrence of horizontal lines during machining.

铜电极专用系列特点

专用刀刃设计，特殊涂层搭配，提升加工稳定性。

优化螺旋角设计，能提升加工面品质的37.5°螺旋角，可以抑制加工时横纹线的发生。



铜电极
无氧铜
黄铜 紫铜
红铜 青铜

铜电极专用

Copper electrode specific

二刃深沟平刀 2-flute Long Neck Square End Mill



刃径 d	颈长 l1	刃长 l	颈径 d2	颈角 γ	柄径 D	全长 L
0.3	1	0.45	0.27	15°	4	50
0.3	1.5	0.45	0.27	12°	4	50
0.3	2	0.45	0.27	12°	4	50
0.3	3	0.45	0.27	12°	4	50
0.3	4	0.45	0.27	12°	4	50
0.3	5	0.45	0.27	12°	4	50
0.4	1.5	0.6	0.37	12°	4	50
0.4	2	0.6	0.37	12°	4	50
0.4	3	0.6	0.37	12°	4	50
0.4	4	0.6	0.37	12°	4	50
0.4	5	0.6	0.37	12°	4	50
0.4	6	0.6	0.37	12°	4	50
0.5	2	0.75	0.46	12°	4	50
0.5	3	0.75	0.46	12°	4	50
0.5	4	0.75	0.46	12°	4	50
0.5	5	0.75	0.46	12°	4	50
0.5	6	0.75	0.46	12°	4	50
0.5	8	0.75	0.46	12°	4	50
0.5	10	0.75	0.46	12°	4	50
0.6	2	0.9	0.56	12°	4	50
0.6	3	0.9	0.56	12°	4	50
0.6	4	0.9	0.56	12°	4	50
0.6	5	0.9	0.56	12°	4	50
0.6	6	0.9	0.56	12°	4	50
0.6	8	0.9	0.56	12°	4	50
0.6	10	0.9	0.56	12°	4	50
0.7	2	1	0.66	12°	4	50
0.7	3	1	0.66	12°	4	50
0.7	4	1	0.66	12°	4	50
0.7	5	1	0.66	12°	4	50
0.7	6	1	0.66	12°	4	50
0.7	8	1	0.66	12°	4	50
0.7	10	1	0.66	12°	4	50
0.8	2	1.2	0.76	12°	4	50
0.8	3	1.2	0.76	12°	4	50
0.8	4	1.2	0.76	12°	4	50
0.8	5	1.2	0.76	12°	4	50
0.8	6	1.2	0.76	12°	4	50
0.8	8	1.2	0.76	12°	4	50
0.8	10	1.2	0.76	12°	4	50

四刃深沟平刀 4-flute Long Neck Square End Mill



刃径 d	颈长 ℓ1	刃长 ℓ	颈径 d2	颈角 γ	柄径 D	全长 L
1	4	1.5	0.95	12°	4	50
1	5	1.5	0.95	12°	4	50
1	6	1.5	0.95	12°	4	50
1	8	1.5	0.95	12°	4	50
1	10	1.5	0.95	12°	4	50
1	12	1.5	0.95	12°	4	50
1	14	1.5	0.95	12°	4	50
1	16	1.5	0.95	12°	4	50
1	18	1.5	0.95	12°	4	50
1	20	1.5	0.95	12°	4	50
1.5	6	2.3	1.44	12°	4	50
1.5	8	2.3	1.44	12°	4	50
1.5	10	2.3	1.44	12°	4	50
1.5	12	2.3	1.44	12°	4	50
1.5	14	2.3	1.44	12°	4	50
1.5	16	2.3	1.44	12°	4	50
1.5	18	2.3	1.44	12°	4	50
1.5	20	2.3	1.44	12°	4	50
2	6	3	1.94	12°	4	50
2	8	3	1.94	12°	4	50
2	10	3	1.94	12°	4	50
2	12	3	1.94	12°	4	50
2	14	3	1.94	12°	4	50
2	16	3	1.94	12°	4	50
2	18	3	1.94	12°	4	50
2	20	3	1.94	12°	4	50
3	10	4.5	2.92	12°	4	50
3	12	4.5	2.92	12°	4	50
3	14	4.5	2.92	12°	4	50
3	16	4.5	2.92	12°	4	50
3	18	4.5	2.92	12°	4	50
3	20	4.5	2.92	12°	4	50
3	25	4.5	2.92	12°	6	50
3	16	4.5	2.92	12°	6	75
3	18	4.5	2.92	12°	6	75
3	20	4.5	2.92	12°	6	75
3	25	4.5	2.92	12°	6	75
3	30	4.5	2.92	12°	6	75
3	35	4.5	2.92	12°	6	75
4	16	6	3.9	12°	6	60
4	18	6	3.9	12°	6	60
4	20	6	3.9	12°	6	60
4	25	6	3.9	12°	6	60
4	16	6	3.9	12°	6	75
4	18	6	3.9	12°	6	75
4	20	6	3.9	12°	6	75
4	25	6	3.9	12°	6	75
4	30	6	3.9	12°	6	75
4	35	6	3.9	12°	6	75

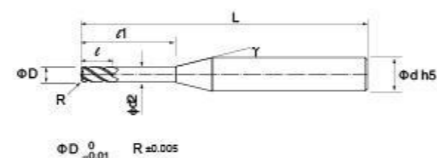
二刃深沟球刀 2-flute Long Neck Ball End Mill



球头半径 R	颈长 ℓ1	刃长 ℓ	外径 D	颈径 d2	颈角 γ	柄径 d	全长 L
R0.15	1	0.3	0.3	0.27	15°	4	50
R0.15	1.5	0.3	0.3	0.27	12°	4	50
R0.15	2	0.3	0.3	0.27	12°	4	50
R0.15	3	0.3	0.3	0.27	12°	4	50
R0.15	4	0.3	0.3	0.27	12°	4	50
R0.15	5	0.3	0.3	0.27	12°	4	50
R0.2	1.5	0.4	0.4	0.37	12°	4	50
R0.2	2	0.4	0.4	0.37	12°	4	50
R0.2	3	0.4	0.4	0.37	12°	4	50
R0.2	4	0.4	0.4	0.37	12°	4	50
R0.2	5	0.4	0.4	0.37	12°	4	50
R0.2	6	0.4	0.4	0.37	12°	4	50
R0.25	2	0.5	0.5	0.46	12°	4	50
R0.25	3	0.5	0.5	0.46	12°	4	50
R0.25	4	0.5	0.5	0.46	12°	4	50
R0.25	5	0.5	0.5	0.46	12°	4	50
R0.25	6	0.5	0.5	0.46	12°	4	50
R0.25	8	0.5	0.5	0.46	12°	4	50
R0.3	2	0.6	0.6	0.56	12°	4	50
R0.3	3	0.6	0.6	0.56	12°	4	50
R0.3	4	0.6	0.6	0.56	12°	4	50
R0.3	5	0.6	0.6	0.56	12°	4	50
R0.3	6	0.6	0.6	0.56	12°	4	50
R0.3	8	0.6	0.6	0.56	12°	4	50
R0.3	10	0.6	0.6	0.56	12°	4	50
R0.4	2	0.8	0.8	0.76	12°	4	50
R0.4	3	0.8	0.8	0.76	12°	4	50
R0.4	4	0.8	0.8	0.76	12°	4	50
R0.4	5	0.8	0.8	0.76	12°	4	50
R0.4	6	0.8	0.8	0.76	12°	4	50
R0.4	8	0.8	0.8	0.76	12°	4	50
R0.4	10	0.8	0.8	0.76	12°	4	50
R0.5	3	1	1	0.95	12°	4	50
R0.5	4	1	1	0.95	12°	4	50
R0.5	5	1	1	0.95	12°	4	50
R0.5	6	1	1	0.95	12°	4	50
R0.5	8	1	1	0.95	12°	4	50
R0.5	10	1	1	0.95	12°	4	50
R0.5	12	1	1	0.95	12°	4	50
R0.5	14	1	1	0.95	12°	4	50
R0.5	16	1	1	0.95	12°	4	50
R0.5	18	1	1	0.95	12°	4	50
R0.5	20	1	1	0.95	12°	4	50

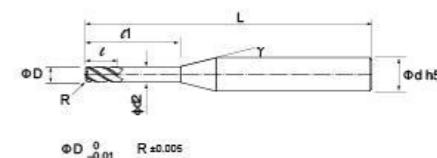
球头半径 R	颈长 ℓ1	刃长 ℓ	外径 D	颈径 d2	颈角 γ	柄径 d	全长 L
R0.75	4	1.5	1.5	1.44	15°	4	50
R0.75	5	1.5	1.5	1.44	12°	4	50
R0.75	6	1.5	1.5	1.44	12°	4	50
R0.75	8	1.5	1.5	1.44	12°	4	50
R0.75	10	1.5	1.5	1.44	12°	4	50
R0.75	12	1.5	1.5	1.44	12°	4	50
R0.75	16	1.5	1.5	1.44	12°	4	50
R0.75	18	1.5	1.5	1.44	12°	4	50
R0.75	20	1.5	1.5	1.44	12°	4	50
R1	6	2	2	1.94	12°	4	50
R1	8	2	2	1.94	12°	4	50
R1	10	2	2	1.94	12°	4	50
R1	12	2	2	1.94	12°	4	50
R1	14	2	2	1.94	12°	4	50
R1	16	2	2	1.94	12°	4	50
R1	18	2	2	1.94	12°	4	50
R1	20	2	2	1.94	12°	4	50
R1	16	2	2	1.94	12°	6	60
R1	18	2	2	1.94	12°	6	60
R1	20	2	2	1.94	12°	6	60
R1	25	2	2	1.94	12°	6	60
R1.5	8	3	3	2.92	12°	4	50
R1.5	10	3	3	2.92	12°	4	50
R1.5	12	3	3	2.92	12°	4	50
R1.5	16	3	3	2.92	12°	4	50
R1.5	20	3	3	2.92	12°	4	50
R1.5	16	3	3	2.92	12°	4	60
R1.5	18	3	3	2.92	12°	4	60
R1.5	20	3	3	2.92	12°	4	60
R1.5	25	3	3	2.92	12°	4	60
R1.5	16	3	3	2.92	12°	6	75
R1.5	18	3	3	2.92	12°	6	75
R1.5	20	3	3	2.92	12°	6	75
R1.5	25	3	3	2.92	12°	6	75
R1.5	30	3	3	2.92	12°	6	75
R2	16	4	4	3.9	12°	6	60
R2	18	4	4	3.9	12°	6	60
R2	20	4	4	3.9	12°	6	60
R2	25	4	4	3.9	12°	6	60
R2	16	4	4	3.9	12°	6	75
R2	18	4	4	3.9	12°	6	75
R2	20	4	4	3.9	12°	6	75
R2	25	4	4	3.9	12°	6	75
R2	30	4	4	3.9	12°	6	75
R2	35	4	4	3.9	12°	6	75

四刃深沟圆鼻刀 4-flute Long Neck Corner Radius End Mill



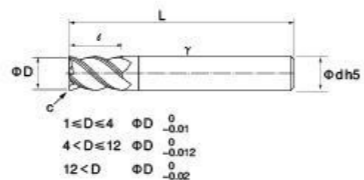
刃径 D	R角半径 R	颈长 l1	刃长 l	颈径 d2	颈角 γ	柄径 D	全长 L
1	0.1	4	1	0.95	12°	4	50
1	0.1	6	1	0.95	12°	4	50
1	0.1	8	1	0.95	12°	4	50
1	0.1	10	1	0.95	12°	4	50
1	0.1	12	1	0.95	12°	4	50
1	0.1	14	1	0.95	12°	4	50
1	0.1	16	1	0.95	12°	4	50
1	0.1	18	1	0.95	12°	4	50
1	0.1	20	1	0.95	12°	4	50
1	0.2	4	1	0.95	12°	4	50
1	0.2	6	1	0.95	12°	4	50
1	0.2	8	1	0.95	12°	4	50
1	0.2	10	1	0.95	12°	4	50
1	0.2	12	1	0.95	12°	4	50
1	0.2	14	1	0.95	12°	4	50
1	0.2	16	1	0.95	12°	4	50
1	0.2	18	1	0.95	12°	4	50
1	0.2	20	1	0.95	12°	4	50
1.5	0.1	6	1.5	1.44	12°	4	50
1.5	0.1	8	1.5	1.44	12°	4	50
1.5	0.1	10	1.5	1.44	12°	4	50
1.5	0.1	12	1.5	1.44	12°	4	50
1.5	0.1	14	1.5	1.44	12°	4	50
1.5	0.1	16	1.5	1.44	12°	4	50
1.5	0.1	18	1.5	1.44	12°	4	50
1.5	0.1	20	1.5	1.44	12°	4	50
1.5	0.2	6	1.5	1.44	12°	4	50
1.5	0.2	8	1.5	1.44	12°	4	50
1.5	0.2	10	1.5	1.44	12°	4	50
1.5	0.2	12	1.5	1.44	12°	4	50
1.5	0.2	14	1.5	1.44	12°	4	50
1.5	0.2	16	1.5	1.44	12°	4	50
1.5	0.2	18	1.5	1.44	12°	4	50
1.5	0.2	20	1.5	1.44	12°	4	50
2	0.1	6	2	1.94	12°	4	50
2	0.1	8	2	1.94	12°	4	50
2	0.1	10	2	1.94	12°	4	50
2	0.1	12	2	1.94	12°	4	50
2	0.1	14	2	1.94	12°	4	50
2	0.1	16	2	1.94	12°	4	50
2	0.1	18	2	1.94	12°	4	50
2	0.1	20	2	1.94	12°	4	50
2	0.2	6	2	1.94	12°	4	50
2	0.2	8	2	1.94	12°	4	50
2	0.2	10	2	1.94	12°	4	50
2	0.2	12	2	1.94	12°	4	50
2	0.2	14	2	1.94	12°	4	50
2	0.2	16	2	1.94	12°	4	50
2	0.2	18	2	1.94	12°	4	50
2	0.2	20	2	1.94	12°	4	50
2	0.5	6	2	1.94	12°	4	50
2	0.5	8	2	1.94	12°	4	50
2	0.5	10	2	1.94	12°	4	50
2	0.5	12	2	1.94	12°	4	50
2	0.5	14	2	1.94	12°	4	50

四刃深沟圆鼻刀 4-flute Long Neck Corner Radius End Mill



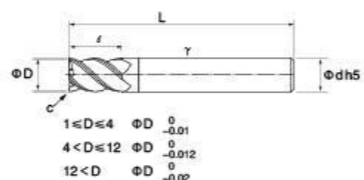
刃径 D	R角半径 R	颈长 l1	刃长 l	颈径 d2	颈角 γ	柄径 D	全长 L
2	0.5	16	2	1.94	12°	4	50
2	0.5	18	2	1.94	12°	4	50
2	0.5	20	2	1.94	12°	4	50
3	0.1	10	3	2.92	12°	4	50
3	0.1	12	3	2.92	12°	4	50
3	0.1	14	3	2.92	12°	4	50
3	0.1	16	3	2.92	12°	4	50
3	0.1	18	3	2.92	12°	4	50
3	0.1	20	3	2.92	12°	4	50
3	0.2	10	3	2.92	12°	4	50
3	0.2	12	3	2.92	12°	4	50
3	0.2	14	3	2.92	12°	4	50
3	0.2	16	3	2.92	12°	4	50
3	0.2	18	3	2.92	12°	4	50
3	0.2	20	3	2.92	12°	4	50
3	0.5	10	3	2.92	12°	4	50
3	0.5	12	3	2.92	12°	4	50
3	0.5	14	3	2.92	12°	4	50
3	0.5	16	3	2.92	12°	4	50
3	0.5	18	3	2.92	12°	4	50
3	0.5	20	3	2.92	12°	4	50
3	0.2	12	3	2.92	12°	6	60
3	0.2	16	3	2.92	12°	6	60
3	0.2	20	3	2.92	12°	6	60
3	0.2	25	3	2.92	12°	6	60
3	0.5	12	3	2.92	12°	6	60
3	0.5	16	3	2.92	12°	6	60
3	0.5	20	3	2.92	12°	6	60
3	0.5	25	3	2.92	12°	6	60
3	0.2	12	3	2.92	12°	6	75
3	0.2	16	3	2.92	12°	6	75
3	0.2	20	3	2.92	12°	6	75
3	0.2	25	3	2.92	12°	6	75
3	0.5	12	3	2.92	12°	6	75
3	0.5	16	3	2.92	12°	6	75
3	0.5	20	3	2.92	12°	6	75
3	0.5	25	3	2.92	12°	6	75
4	0.2	16	4	3.9	12°	6	60
4	0.2	20	4	3.9	12°	6	60
4	0.2	25	4	3.9	12°	6	60
4	0.5	16	4	3.9	12°	6	60
4	0.5	20	4	3.9	12°	6	60
4	0.5	25	4	3.9	12°	6	60
4	0.2	16	4	3.9	12°	6	75
4	0.2	20	4	3.9	12°	6	75
4	0.2	25	4	3.9	12°	6	75
4	0.2	30	4	3.9	12°	6	75
4	0.2	35	4	3.9	12°	6	75
4	0.5	16	4	3.9	12°	6	75
4	0.5	20	4	3.9	12°	6	75
4	0.5	25	4	3.9	12°	6	75
4	0.5	30	4	3.9	12°	6	75
4	0.5	35	4	3.9	12°	6	75

四刃平刀 4-flute Square End Mill



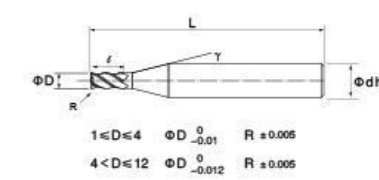
刃径 D	刃长 l	柄径 D	全长 L	C角 c
4	8	4	50	0.1
4	8	6	50	0.1
5	10	6	50	0.1
6	12	6	50	0.15
8	16	8	60	0.15
10	20	10	75	0.25

二刃球刀 2-flute Ball End Mill



球半径 R	直径 D	刃长 l	有效长 ll	颈径 d2	颈角 γ	柄径 D	全长 L
R2	4	6	-	-	-	4	50
R2	4	6	-	-	-	4	75
R2.5	5	8	-	-	12°	6	50
R2.5	5	8	-	-	12°	6	75
R2.5	5	8	-	-	12°	6	100
R3	6	9	-	-	-	6	50
R3	6	9	-	-	-	6	60
R3	6	9	-	-	-	6	75
R3	6	9	-	-	-	6	100
R4	8	12	-	-	-	8	60
R4	8	12	-	-	-	8	75
R4	8	12	-	-	-	8	100
R5	10	15	-	-	-	10	75
R5	10	15	-	-	-	10	100

四刃圆鼻刀 4-flute Corner Radius End Mill



刃径 D	R角半径 R	刃长 l	颈角 γ	柄径 d	全长 L
4	0.2	8	-	4	50
4	0.2	10	-	4	75
4	0.5	8	-	4	50
4	0.5	10	-	4	75
4	1	8	-	4	50
4	1	10	-	4	75
6	0.2	12	-	6	50
6	0.2	12	-	6	60
6	0.2	15	-	6	75
6	0.2	18	-	6	100
6	0.5	12	-	6	50
6	0.5	12	-	6	60
6	0.5	15	-	6	75
6	0.5	18	-	6	100
6	1	12	-	6	50
6	1	12	-	6	60
6	1	15	-	6	75
6	1	18	-	6	100
8	0.5	16	-	8	60
8	0.5	20	-	8	75
8	0.5	24	-	8	100
8	1	16	-	8	60
8	1	20	-	8	75
8	1	24	-	8	100
10	0.5	20	-	10	75
10	0.5	30	-	10	100
10	1	20	-	10	75
10	1	30	-	10	100