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硬质合金立铣刀 Solid Carbide Endmill



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目录

CONTENTS

基本信息 BASIC INFORMATION >>>>>

- 01 标记说明
Icon guideline
- 03 整体硬质合金立铣刀(订货号)表示规则
Product code (order number) instruction of solid carbide endmill
- 05 涂层介绍
Coating introduction
- 07 刀具系列介绍
Introduction of tool series
- 09 产品选择目录表
Product selection table

产品与切削参数 TOOLS AND CUTTING DATA >>>>>





- 21 U系列普通钢通用加工立铣刀
U series endmill for steel general machining
- 40 UC系列普通钢通用加工立铣刀
UC series endmill for steel general machining
- 49 UR系列普通钢粗加工立铣刀
UR series endmill for steel roughing
- 51 UN系列普通钢粗加工立铣刀
UN series endmill for steel roughing
- 53 X系列普通钢高效加工立铣刀
X series endmill for steel high efficiency machining
- 63 H系列高硬钢通用加工立铣刀
H series endmill for hardened steel general machining
- 73 A系列铝合金通用加工立铣刀
A series endmill for aluminium alloys general machining
- 80 S系列不锈钢通用加工立铣刀
S series endmill for stainless steels general machining
- 88 G系列石墨加工立铣刀
G series endmill for graphite machining
- 99 UM系列小径深加工立铣刀
UM series endmill for small diameter deep processing
- 120 E系列经济型通用加工立铣刀
E series economic endmill for general machining
- 135 推荐切削参数
Recommended cutting data

附录 APPENDIX >>>>>






- 199 铣削加工的切削参数与通用计算公式
Recommended cutting data and general formula for milling
- 200 工件材料代码表
Workpiece code table
- 201 工件材料常用牌号对照表
Reference table of workpiece materials

标记说明 Icon Guideline

01 材质 / Material

				
硬质合金 Cemented Carbide	金属陶瓷 Cermet	CBN Polycrystalline Cubic Boron Nitride	PCD Polycrystalline Diamond	





02 螺旋角 / Helix Angle

				
30° Helix Angle	35° Helix Angle	35°/38° Helix Angle	43°/45°/47° Helix Angle	45° Helix Angle

03 涂层 / Coating

				
TiAlN Coating	AlCrSiN Coating	TiAlCrSiN Coating	金刚石涂层 Diamond Coating	

04 刃数 / Number of Flutes

				
2刃 2 Flutes	3刃 3 Flutes	4刃 4 Flutes	6刃 6 Flutes	

05 角部形状 / Corner

				
圆角 Corner Radius	直角 Sharp Edge	球头 Ball Nose	倒角 Chamfer	

06 加工用途 / Applications

				
槽铣 Slot Milling	侧铣 Side Milling	仿形铣 Profile Milling		

整体硬质合金立铣刀订货号表示规则
Product Code (Order Number) Instruction
Of Solid Carbide Endmill

U-			S	
{ 1 }			{ 2 }	
产品系列 Product series	工件材料 Workpiece material	系列说明 Remark	底刃形状 Endteeth type	
U	钢件、铸铁 Steel, Cast iron	通用加工系列 General machining	S	平头 Square
UC	钢件、铸铁 Steel, Cast iron	通用加工系列 General machining	B	球头 Ball nose
UR	钢件、铸铁 Steel, Cast iron	通用粗加工系列 Roughing	R	圆弧角 Corner radius
UN	钢件、铸铁 Steel, Cast iron	通用粗加工系列 Roughing	C	刀尖倒角 Chamfer
X	钢件、铸铁 Steel, Cast iron	高效加工系列 High efficient machining		
H	高硬钢 Hardened steel	通用加工系列 General machining		
UM	钢件、铸铁 Steel, Cast Iron	小径深加工系列 Small diameter & Deep cavity machining		
A	铝合金 Aluminum Alloy	通用铝合金加工系列 Aluminum alloy general machining		
S	不锈钢 Stainless steel	通用不锈钢加工系列 Stainless steel general machining		
G	石墨 Graphite	石墨加工系列 Graphite machining		
E	钢件、不锈钢、铝合金 Steel, Stainless steel, Aluminum alloy	经济型通用加工系列 Economical general machining		

H		2	020		06			
{ 3 }		{ 4 }	{ 5 }		{ 6 }			
特征项 Features		刃数 Flute number	刃径 Flute diameter		特征项 Characteristic code			
N	长颈 Long neck	2	2mm	020		类型 Type	代表项 Represented item	对应值 Value instruction
H	长柄 Long shank	3	10mm	100	1	平头\球头 Square \ Ball nose	a.颈长 b.刃长 a. neck length b. flute length	06-6mm
L	长刃 Long flute	4			2	圆角头 Corner radius	r值 r value	06-r0.6
S	短刃 Short flute	6			3	刀尖倒角 Chamfer	倒角值 Chamfer value	06-c0.06
空 Blank	标准 Standard							

涂层介绍 Coating Introduction

01 涂层特性 / Feature of Coating

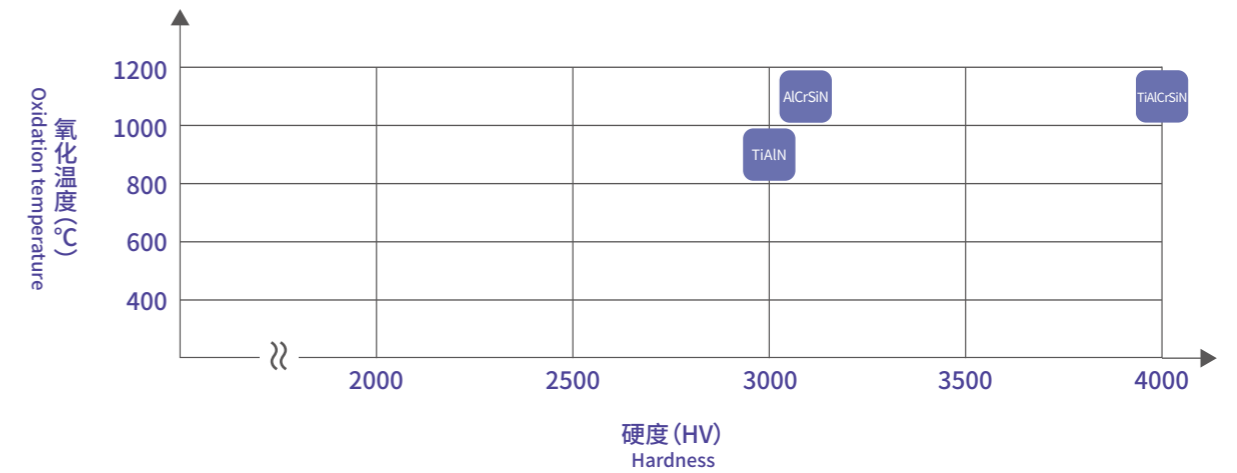
涂层名称 Coating name	维氏硬度 (HV0.05) Vickers hardness	摩擦系数 Friction coefficient	最高适用温度(°C) Maximum applicable temperature	特点与功能 Features and function
AlCrSiN	3300	0.4	1100	高抗氧化性和高附着强度, 适用于碳钢、合金钢、不锈钢、钛合金等材料 (55HRC以下) 的各种铣削加工, 通用性好。 High oxidation resistance and high adhesion, suitable for milling of carbon steel, alloy steel, stainless steel, titanium alloy etc. (under 55HRC). Good versatility. 干、湿式切削均可实现长寿命加工 Long life in both dry cutting and wet cutting.
TiAlN	2900	0.35	900	高抗氧化性和高附着强度, 适用于不锈钢铣削加工, 部分高硬度钢的干式加工, 钛合金钻削加工。 High oxidation resistance and high adhesion, suitable for milling of stainless steel, dry machining of hardened steel and drilling of titanium alloy.
TiAlCrSiN	4000	0.35	1100	高硬度和高抗氧化性, 实现了高硬度材料切削加工的长寿命化和高效率化。 High Hardness and high oxidation resistance. Enables long life and high efficiency in machining of high hardness materials. 在高硬度材料(55HRC以上)的切削加工中发挥卓越性能。 Exhibits amazing performance when cutting high-hardness, materials(55HRC or higher).
粗晶金刚石 Coarse grained diamond	8500	—	700	高硬度, 高热导率, 高耐磨性; High hardness, high thermal conductivity, high wear resistance; 适用于石墨加工。 Suitable for graphite machining.
超细晶金刚石 Ultrafine grained diamond	8000	—	700	高硬度, 高热导率, 高耐磨性, 自润滑性好; High hardness, high thermal conductivity, high wear resistance, good self lubrication; 适用于非铁材料, 碳纤维复合材料等加工 Suitable for machining non-ferrous material, carbon fiber composites, etc.



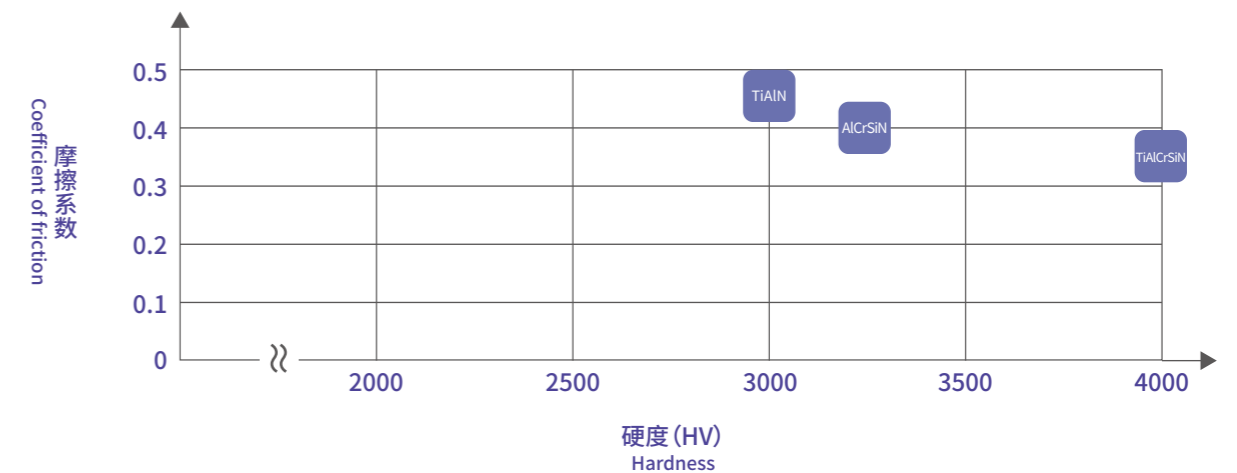
02 纳米PVD涂层定位 / Positioning of Nano PVD Coating

晶体颗粒控制在纳米量级, 因而大幅改善了硬度和抗氧化性
By controlling the crystalline structure at nano level, hardness and oxidation resistance are greatly improved.

硬度与氧化温度
Hardness and oxidation temperature



硬度与润滑特性
Hardness and lubricant properties



刀具系列介绍 Introduction of Tool Series

U系列 普通钢通用加工立铣刀 U series endmill for steel general machining

- ◎ 适用于普通钢、铸铁材料(≤48HRC)的通用加工
Suitable for application of steel & cast iron (≤48HRC) general machining
- ◎ 采用高抗氧化性和高附着强度的AlCr系涂层
AlCr series coating with high oxidation resistance and high adhesion
- ◎ 干、湿式加工均可实现长寿命
Long life for both dry cutting and wet cutting

UR系列 普通钢粗加工立铣刀 UR series endmill for steel roughing

- ◎ 适用于普通钢、铸铁材料(≤48HRC)的大切深、大切宽粗加工
Suitable for application of steel & cast iron(≤48HRC) roughing with big cutting depth and width
- ◎ 独特的波形齿设计,使切屑更细更小,排屑更顺畅
Special wave teeth design makes fine and short chip, and smooth chip removal.

X系列 普通钢高效加工立铣刀 X series endmill for steel high efficiency machining

- ◎ 适用于普通钢、铸铁材料(≤48HRC)的高效加工
Suitable for application of steel & cast iron (≤48HRC) high performance machining
- ◎ 采用高抗氧化性和高附着强度的AlCr系涂层
AlCr series coating with high oxidation resistance and high adhesion
- ◎ 不等螺旋、不等分割设计,减震性能优越
Unequal helix angle and unequal spacing of teeth, greatly reduces vibration
- ◎ 适用于大切深、大切宽的高效加工
Applicable to big cutting depth and width

UC系列 普通钢通用加工立铣刀 UC series endmill for steel general machining

- ◎ 高硬度、高韧性基材材质,特殊角度设计,适用于高硬钢材料的加工
High hardness, high toughness substrate materials, special angle design, suitable for hardened steel machining.
- ◎ 适用于48-55HRC普通钢、铸铁的通用加工
Application of steel & cast iron (48-55HRC) general machining

UN系列 普通钢粗加工立铣刀 UN series endmill for steel roughing

- ◎ 适用于普通钢、铸铁材料(≤48HRC)的大切深、大切宽粗加工、半精加工
Suitable for application of steel & cast iron(≤48HRC) roughing and semi-finishing with big cutting depth and width
- ◎ 独特的断屑齿设计,使切屑更小,排屑更顺畅,表面质量更高
Special teeth design makes short chip, better chip removal and better surface quality

H系列 高硬钢通用加工立铣刀 H series endmill for hardened steel general machining

- ◎ 适用于高硬钢材料(≤60HRC)的半精加工、精加工
Suitable for application of hardened steel (≤60HRC) semi-finishing and finishing
- ◎ 采用高硬度和高抗氧化性的TiAlCrSiN涂层
TiAlCrSiN coating with high hardness and high oxidation resistance

A系列 铝合金通用加工立铣刀 A series endmill for aluminum alloys general machining

- ◎ 适用于铝合金(Si<12%)及铜合金(<200HB)的半精加工及精加工
Suitable for application of semi-finishing and finishing of aluminum alloy(Si<12%) and copper alloy (<200HB)
- ◎ 独特的刃型设计,能够有效防止振动
Special edge design, reduces vibration effectively.
- ◎ 精细磨削的切削刃,实现良好的精加工面
Special edge preparation, good surface quality

G系列 石墨加工立铣刀 G series endmill for graphite machining

- ◎ 刀具精度高,工件加工表面质量好
Excellent accuracy and excellent surface finish
- ◎ 金刚石涂层纯度高,具有优良的耐磨性,可实现长时间石墨加工
High purity diamond coating enable high abrasion resistance and better tool life
- ◎ 适用于石墨材料的半精加工和精加工
Suitable for application of semi-finishing and finishing of graphites

E系列 经济型通用加工立铣刀 E series economic endmill for general machining

- ◎ 适用于3C、模具行业柄径为4mm的合金钢、铜铝合金、不锈钢等材料(≤48HRC)粗、精加工
Suitable for application of alloy steel, copper&aluminum alloy, stainless steel and other materials (≤48HRC) roughing and finishing for 3C and mold & die industry
- ◎ 采用高性能AlCr系纳米涂层,耐高温、耐磨损
Use high performance AlCr nano coating; Good high temperature resistance and wear resistance

S系列 不锈钢通用加工立铣刀 S series end mill for stainless steel general machining

- ◎ 适用于不锈钢(≤300HB)的通用加工
Suitable for application of stainless steel (≤300HB) general machining
- ◎ 采用高抗氧化性和高附着强度的TiAlN涂层
TiAlN coating with high oxidation resistance and high adhesion
- ◎ 干、湿式加工均可实现长寿命
Long life in both dry cutting and wet cutting

UM系列 小径深加工立铣刀 UM series endmill for small diameter & deep machining

- ◎ 适用于碳钢、合金钢、淬硬钢、铜、铝合金(≤55HRC)等材料的微加工
Suitable for small & deep-cavity milling of carbon steel, alloy steel, hardened steel, copper&aluminum alloys etc (≤55HRC)
- ◎ 采用高抗氧化性和高附着强度的AlCr系涂层
AlCr series coating with high oxidation resistance and high adhesion
- ◎ 特殊的避空设计,耐折损性高
Special reduced neck design gives high breakage resistance

产品选择目录表



Product selection table

名称 Name	产品系列 Series	产品型号 Item code	产品名称 Product name	刀尖形状 Nose shape	刀具类型 Type	齿数 No. of flutes	刃径范围 Flute diameter range	页码 Page		规格 明细表 Size list	切削 条件 Cutting data	形状图示 Picture	涂层 Coating	工件材料 Workpiece Material										
								规格 明细表 Size list	切削 条件 Cutting data					铸铁 Cast iron	碳素钢 合金钢 Carbon steel, alloy	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC ~55HRC	高硬材料 Hardened steels 55HRC ~65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy
通用加工 立铣刀 Endmill for general machining	U	U-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	ø1-ø20	23	135				AlCrSiN	◎	◎	◎	○					○		
		U-SL2	2刃长刃平头立铣刀 Square, Long flute, 2 Flutes	平头 Square	长刃 Long flute	2	ø2-ø20	24	135					AlCrSiN	◎	◎	◎	○					○	
		U-SH2	2刃长柄平头立铣刀 Square, Long shank, 2 Flutes	平头 Square	长柄 Long shank	2	ø2-ø20	25	135					AlCrSiN	◎	◎	◎	○					○	
		U-S3	3刃平头立铣刀 Square, Regular, 3 Flutes	平头 Square	常规刃 Regular	3	ø2-ø20	26	136					AlCrSiN	◎	◎	◎	○					○	
		U-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	ø1-ø20	27	137					AlCrSiN	◎	◎	◎	○					○	
		U-SL4	4刃长刃平头立铣刀 Square, Long flute, 2 Flutes	平头 Square	长刃 Long flute	4	ø1-ø20	29	137					AlCrSiN	◎	◎	◎	○					○	
		U-SH4	4刃长柄平头立铣刀 Square, Long shank, 4 Flutes	平头 Square	长柄 Long shank	4	ø2-ø20	30	137					AlCrSiN	◎	◎	◎	○					○	
		U-S6	6刃平头立铣刀 Square, Regular, 6 Flutes	平头 Square	常规刃 Regular	6	ø6-ø20	31	137					AlCrSiN	◎	◎	◎	○					○	
		U-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	ø1-ø20	32	135					AlCrSiN	◎	◎	◎	○					○	
		U-RH2	2刃长柄圆角头立铣刀 Radius, Long shank, 2 Flutes	圆弧 Radius	长柄 Long shank	2	ø6-ø20	34	135					AlCrSiN	◎	◎	◎	○					○	
		U-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	ø1.5-ø20	35	137					AlCrSiN	◎	◎	◎	○					○	
		U-RH4	4刃长柄圆角头立铣刀 Radius, Long shank, 4 Flutes	圆弧 Radius	长柄 Long shank	4	ø3-ø20	36	137					AlCrSiN	◎	◎	◎	○					○	
		U-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	ø1-ø20	37	138					AlCrSiN	◎	◎	◎	○					○	
		U-BH2	2刃长柄球头立铣刀 Ball, Long shank, 2 Flutes	球头 Ball	长柄 Long shank	2	ø2-ø20	38	138					AlCrSiN	◎	◎	◎	○					○	
		U-B4	4刃球头立铣刀 Ball, Regular, 4 Flutes	球头 Ball	常规刃 Regular	4	ø2-ø20	39	138					AlCrSiN	◎	◎	◎	○					○	

◎ 最适合 Most Suitable ○ 适合 Suitable

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								铸铁 Cast iron	碳素钢 / 合金钢 Carbon steel, alloy					预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC ~55HRC	高硬材料 Hardened steels 55HRC ~65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy	
通用加工 立铣刀 Endmill for general machining	UC	UC-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	Ø1-Ø10	41	139				AlCrSiN	◎	◎	◎	○					○	
		UC-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø1-Ø10	42	140				AlCrSiN	◎	◎	◎	○					○	
		UC-SH4	4刃长柄平头立铣刀 Square, Long shank, 4 Flutes	平头 Square	长柄 Long shank	4	Ø1-Ø10	43	140				AlCrSiN	◎	◎	◎	○					○	
		UC-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	Ø1-Ø10	44	139				AlCrSiN	◎	◎	◎	○					○	
		UC-R4	4刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	4	Ø1-Ø10	45	140				AlCrSiN	◎	◎	◎	○					○	
		UC-RH4	4刃长柄圆角头立铣刀 Radius, Long shank, 4 Flutes	圆弧 Radius	长柄 Long shank	4	Ø1-Ø10	46	140				AlCrSiN	◎	◎	◎	○					○	
		UC-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø10	47	140				AlCrSiN	◎	◎	◎	○					○	
		UC-BH2	2刃长柄球头立铣刀 Ball, Long shank, 2 Flutes	球头 Ball	长柄 Long shank	2	Ø1-Ø10	48	140				AlCrSiN	◎	◎	◎	○					○	
粗加工 立铣刀 Endmill for rough machining	UR	UR-S4	4刃平头立铣刀 (波浪齿) Square, Regular, 4 Flutes with wave teeth	平头 Square	常规刃 Regular	4	Ø6-Ø20	50	141				AlCrSiN	◎	◎	◎	○					○	
	UN	UN-S4	4刃平头立铣刀 (断屑齿) Square, Regular, 4 Flutes with chip breaking teeth	平头 Square	常规刃 Regular	4	Ø6-Ø20	52	142				AlCrSiN	◎	◎	◎	○					○	
高效加工 立铣刀 Endmill for efficiency machining	X	X-S3	3刃平头立铣刀 Square, Regular, 3 Flutes	平头 Square	常规刃 Regular	3	Ø3-Ø20	55	143				AlCrSiN	◎	◎	◎	○					○	
		X-C3	3刃平头立铣刀 (刀尖倒角保护) Square, Regular, 3 Flutes with Chamfer	平头 Square	常规刃 Regular	3	Ø6-Ø16	56	143				AlCrSiN	◎	◎	◎	○					○	
		X-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø2-Ø20	57	144				AlCrSiN	◎	◎	◎	○					○	

◎ 最适合 Most Suitable ○ 适合 Suitable

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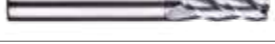

Product selection table

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								规格 明细表 Size list	切削 条件 Cutting data			铸铁 Cast iron	碳素钢 合金钢 Carbon steel, alloy	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC ~55HRC	高硬材料 Hardened steels 55HRC ~65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy	
高效加工 立铣刀 Endmill for efficiency machining	X	X-C4	4刃平头立铣刀 (刀尖倒角保护) Square, Regular, 4 Flutes with Chamfer	平头 Square	常规刃 Regular	4	Ø3-Ø20	58	144		AlCrSiN	◎	◎	◎	○						○		
		X-CN4	4刃长颈平头立铣刀 (刀尖倒角保护) Square, Long neck, 4Flutes with Chamfer	平头 Square	长颈 Long neck	4	Ø3-Ø20	59	144		AlCrSiN	◎	◎	◎	○							○	
		X-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	Ø3-Ø16	60	144		AlCrSiN	◎	◎	◎	○							○	
		X-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø12	61	145		AlCrSiN	◎	◎	◎	○							○	
		X-BH2	2刃长柄球头立铣刀 Ball, Long shank, 2 Flutes	球头 Ball	长柄 Long shank	2	Ø4-Ø12	62	145		AlCrSiN	◎	◎	◎	○							○	
高硬钢加工 立铣刀 Endmill for hardened steel machining	H	H-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø1-Ø20	65	146		TiAlCrSiN		○	◎	◎	○							
		H-SL4	4刃长刃平头立铣刀 Square, Long flute, 4 Flute	平头 Square	长刃 Long flute	4	Ø1-Ø16	66	146		TiAlCrSiN		○	◎	◎	○							
		H-S6	6刃平头立铣刀 Square, Regular, 6 Flutes	平头 Square	常规刃 Regular	6	Ø1-Ø12	67	148		TiAlCrSiN		○	◎	◎	○							
		H-SL6	6刃长刃平头立铣刀 Square, Long Regular, 6 Flutes	平头 Square	长刃 Long flute	6	Ø1-Ø12	68	148		TiAlCrSiN		○	◎	◎	○							
		H-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	Ø1-Ø12	69	146		TiAlCrSiN		○	◎	◎	○							
		H-RN4	4刃长颈圆角头立铣刀 Radius, Long neck, 4 Flutes	圆弧 Radius	长颈 Long neck	4	Ø1-Ø12	70	146		TiAlCrSiN		○	◎	◎	○							
		H-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø0.6-Ø16	71	147		TiAlCrSiN		○	◎	◎	○							
		H-BH2	2刃长柄球头立铣刀 Ball, Long shank, 2 Flutes	球头 Ball	长柄 Long shank	2	Ø2-Ø12	72	147		TiAlCrSiN		○	◎	◎	○							

◎ 最适合 Most Suitable ○ 适合 Suitable

产品选择目录表

Product selection table

名称 Name	产品系列 Series	产品型号 Item code	产品名称 Product name	刀尖形状 Nose shape	刀具类型 Type	齿数 No. of flutes	刃径范围 Flute diameter range	页码 Page		形状图示 Picture	涂层 Coating	工件材料 Workpiece Material														
								规格 明细表 Size list	切削 条件 Cutting data			铸铁 Cast iron	碳素钢 合金钢 Carbon steel, alloy	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC ~55HRC	高硬材料 Hardened steels 55HRC ~65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy				
铝合金通用加工立铣刀 Endmill for aluminum alloys machining	A	A-S2/SS2/SL2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规/短刃/长刃 Regular/Short/Long flute	2	Ø1-Ø12	74	149												○	◎				
		A-S3/SS3/SL3	3刃平头立铣刀 Square, Regular, 3 Flutes	平头 Square	常规/短刃/长刃 Regular/Short/Long flute	3	Ø1-Ø12	76	150													○	◎			
		A-R2/RS2/RL2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规/短刃/长刃 Regular/Short/Long flute	2	Ø1-Ø10	77	149														○	◎		
		A-R3/RS3	3刃圆角头立铣刀 Radius, Regular, 3 Flutes	圆弧 Radius	常规/短刃 Regular/Short flute	3	Ø2-Ø10	78	150															○	◎	
		A-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø10	79	151															○	◎	
不锈钢通用加工立铣刀 Endmill for stainless steel machining	S	S-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	Ø0.5-Ø8	81	152		TiAlN		○										◎			
		S-SS4	4刃短刃平头立铣刀 Square, Short Regular, 4 Flutes	平头 Square	短刃 Short flute	4	Ø2-Ø12	82	154		TiAlN		○											◎		
		S-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø1-Ø12	83	154		TiAlN		○												◎	
		S-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	Ø3-Ø8	84	152		TiAlN		○												◎	
		S-R3	3刃圆角头立铣刀 Radius, Regular, 3 Flutes	圆弧 Radius	常规刃 Regular	3	Ø2-Ø6	85	153		TiAlN		○												◎	
		S-R4/RS4	4刃圆角头/短刃立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规/短刃 Regular/Short flute	4	Ø2-Ø10	86	154		TiAlN		○												◎	
		S-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø4	87	155		TiAlN		○												◎	

◎ 最适合 Most Suitable ○ 适合 Suitable

产品选择目录表






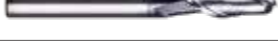


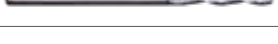






Product selection table

名称 Name	产品系列 Series	产品型号 Item code	产品名称	刀尖形状 Nose shape	刀具类型 Type	齿数 No. of flutes	刃径范围 Flute diameter range	页码 Page		规格 明细表 Size list	切削 条件 Cutting Data	形状图示 Picture	涂层 Coating	工件材料 Workpiece Material											
								规格 明细表 Size list	切削 条件 Cutting Data					铸铁 Cast iron	碳素钢 合金钢 Carbon steel, alloy	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC ~55HRC	高硬材料 Hardened steels 55HRC ~65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy	
石墨加工 立铣刀 Endmill for graphite machining	G	G-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	∅0.4-∅12	89	156				DIA								◎	○	○		
		G-SN2	2刃长颈平头立铣刀 Square, Long neck, 2 Flutes	平头 Square	长颈 Long neck	2	∅1-∅12	90	156				DIA									◎	○	○	
		G-S3	3刃平头立铣刀 Square, Regular, 3 Flutes	平头 Square	常规刃 Regular	3	∅1-∅12	91	157				DIA										◎	○	○
		G-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	∅2-∅12	92	158				DIA										◎	○	○
		G-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	∅2-∅12	93	156				DIA										◎	○	○
		G-RN2	2刃长颈圆角头立铣刀 Radius, Long neck, 2 Flutes	圆弧 Radius	长颈 Long neck	2	∅2-∅10	94	156				DIA										◎	○	○
		G-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	∅2-∅12	95	158				DIA										◎	○	○
		G-RN4	4刃长颈圆角头立铣刀 Radius, Long neck, 4 Flutes	圆弧 Radius	长颈 Long neck	3	∅2-∅12	96	158				DIA										◎	○	○
		G-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	∅0.5-∅12	97	158				DIA										◎	○	○
		G-BN2	2刃长颈球头立铣刀 Ball, Long neck, 2 Flutes	球头 Ball	长颈 Long neck	2	∅0.5-∅10	98	158				DIA										◎	○	○
小径深加工 立铣刀 Endmill for small diameter & deep machining	UM	UM-SN2	小径深加工 2刃平头立铣刀 Square, long neck, 2 flute	平头 Square	长颈 Long neck	2	∅0.1-∅6	101	159				AlCrSiN	◎	◎	◎	○				○	○	◎	○	
		UM-BN2	小径深加工 2刃球头立铣刀 Ball, long neck, 2 flute	球头 Ball	长颈 Long neck	2	∅0.1-∅6	105	167				AlCrSiN	◎	◎	◎	○				○	○	◎	○	
		UM-RN2	小径深加工 2刃圆角头立铣刀 Radius, long neck, 2 flute	圆弧 Radius	长颈 Long neck	2	∅0.2-∅6	109	177				AlCrSiN	◎	◎	◎	○				○	○	◎	○	
		UM-RN4	小径深加工 4刃圆角头立铣刀 Radius, long neck, 4 flute	圆弧 Radius	长颈 Long neck	4	∅1-∅6	117	195				AlCrSiN	◎	◎	◎	○				○	○	◎	○	

◎ 最适合 Most Suitable ○ 适合 Suitable

产品选择目录表

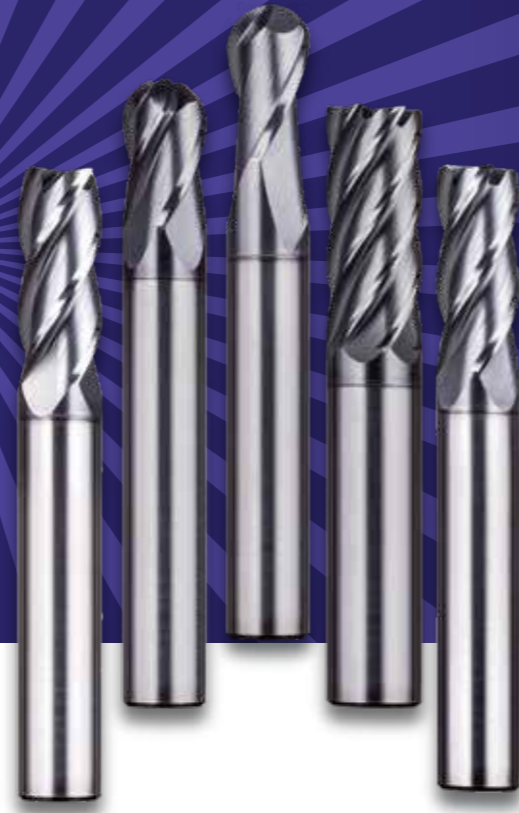
Product selection table

名称 Name	产品系列 Series	产品型号 Item code	产品名称 Product name	刀尖形状 Nose shape	刀具类型 Type	齿数 No. of flutes	刃径范围 Flute diameter range	页码 Page		形状图示 Picture	涂层 Coating	工件材料 Workpiece Material												
								规格 明细表 Size list	切削 条件 Cutting Data			铸铁 Cast iron	碳素钢 / 合金钢 Carbon steel, alloy	预硬 化钢 Pre- hardened steels <45HRC	高硬 材料 Hardened steels 45HRC ~55HRC	高硬 材料 Hardened steels 55HRC ~65HRC	高硬 材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 Ti alloy	石墨 Graphite	铜合金 Copper alloy	铝合金 Aluminum alloy		
经济型通用 加工立铣刀 Endmill for general machining economic type	E	EA-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	Ø1-Ø6	120													○	◎		
		EA-S3	3刃平头立铣刀 Square, Regular, 3 Flutes	平头 Square	常规刃 Regular	3	Ø1-Ø6	121														○	◎	
		EA-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	Ø1-Ø6	122														○	◎	
		EA-R3	3刃圆角头立铣刀 Radius, Regular, 3 Flutes	圆弧 Radius	常规刃 Regular	3	Ø1-Ø6	123															○	◎
		EA-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø6	124															○	◎
		EP-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	Ø1-Ø6	125			AlCrSiN	◎	◎	◎									○	
		EP-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø1-Ø6	126			AlCrSiN	◎	◎	◎									○	
		EP-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	Ø1-Ø6	127			AlCrSiN	◎	◎	◎									○	
		EP-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	Ø1-Ø6	128			AlCrSiN	◎	◎	◎									○	
		EP-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø6	129			AlCrSiN	◎	◎	◎									○	
		ES-S2	2刃平头立铣刀 Square, Regular, 2 Flutes	平头 Square	常规刃 Regular	2	Ø1-Ø6	130			TiAlN		○										◎	
		ES-S4	4刃平头立铣刀 Square, Regular, 4 Flutes	平头 Square	常规刃 Regular	4	Ø1-Ø6	131			TiAlN		○										◎	
		ES-R2	2刃圆角头立铣刀 Radius, Regular, 2 Flutes	圆弧 Radius	常规刃 Regular	2	Ø1-Ø6	132			TiAlN		○										◎	
		ES-R4	4刃圆角头立铣刀 Radius, Regular, 4 Flutes	圆弧 Radius	常规刃 Regular	4	Ø1-Ø6	133			TiAlN		○										◎	
		ES-B2	2刃球头立铣刀 Ball, Regular, 2 Flutes	球头 Ball	常规刃 Regular	2	Ø1-Ø6	134			TiAlN		○										◎	

◎ 最适合 Most Suitable ○ 适合 Suitable

U系列

普通钢通用加工立铣刀 U series endmill for steel general machining



加工材料范围广

Suitable for wide range of workpiece

- 适用于普通钢、铸铁、不锈钢等($\leq 48\text{HRC}$)的半精加工、精加工
Suitable for semi-finishing, finishing of steel, cast iron, stainless steel ($< 48\text{HRC}$)

加工工况广

Suitable for wide range of application

- 适用于小切深、大切宽的面铣;大切深、小切宽的侧铣;同时适用于小于0.5D的浅槽铣
Suitable for facing milling under small a_p & big a_e , side milling under big a_p & small a_e , and slotting under condition of less than 0.5D

基体涂层优势

Substrate coating strength

- 超高性能的超细晶和超高硬度基体
High performance, ultra-fine and super hard substrate.
- 采用Balzers最新一代涂层炉KiLA配合AlCr系涂层,使用稳定、耐高温、耐磨损
Use the latest Killa coating furnace from Balzers, with AlCr series coating, which enable stable machining with good high temperature resistance & wear resistance

刀型结构

Geometry structure

- 特殊的切削刃设计,保证刃口强度与锋利性
Special cutting edge design, which guarantees the strength & sharpness of the cutting edge

“

超高性能的基体配合高硬度涂层,使得刀具获的优秀得耐磨性及韧性,即使在高效率切削条件下,也能保持良好得耐磨以及抗崩性能。

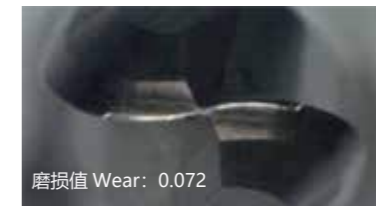
Super high performance substrate with high hardness coating, equip the cutting tool with good wear resistance and toughness, which makes the tool maintain good wear resistance and anti-chipping performance.

”

- 刀具型号: U-BH2-10005
- 刀具规格: R5*18*100*d10
- 加工材料: 5CrNiMo (30-35HRC)
- 切削速度: 3800RPM
- 进给速度: 2000mm/min
- 切削方式: 仿形铣
- 切削量: $a_p=0.15\text{mm}$, $a_e=0.25\text{mm}$
- 冷却方式: 气冷
- Model No:U-BH2-10005
- Specification:R5*18*100*d10
- Workpiece material:5CrNiMo (30-35HRC)
- Cutting speed:3800RPM
- Feed rate:2000mm/min
- Way of cutting:Profile milling
- $a_p, a_e:a_p=0.15\text{mm}$, $a_e=0.25\text{mm}$
- Coolant:Gas



加工 2 小时后
Process 2 hours later



磨损值 Wear: 0.072

U-BH2-10005



磨损值 Wear: 0.105

A 公司 (Company)

- 刀具型号: U-S4-04011
- 刀具规格: D4*11*50*d4
- 加工材料: 45# 钢 (180HB)
- 切削速度: 11942RPM
- 进给速度: 1194mm/min
- 切削方式: 圆周铣 - 顺铣
- 切削量: $a_p=6\text{mm}$, $a_e=0.4\text{mm}$
- 冷却方式: 水冷
- Model No:U-S4-04011
- Specification:D4*11*50*d4
- Workpiece material:45#steel(180HB)
- Cutting speed:11942RPM
- Feed rate:1194mm/min
- Way of cutting: side milling, climb
- $a_p, a_e:a_p=6\text{mm}$, $a_e=0.4\text{mm}$
- Coolant:Water

切削长度 80 米
Cutting length:80m



磨损值 Wear: 0.050

U-S4-04011



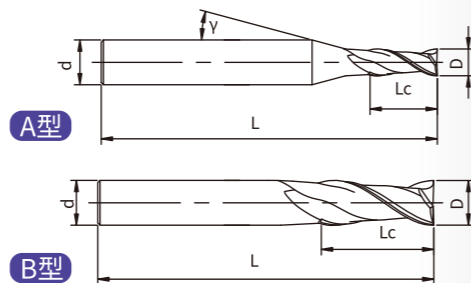
磨损值 Wear: 0.112

A 公司 (Company)

U-S2

2刃平头通用加工立铣刀

2 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-S2-01003	1	3	50	4	A	●
U-S2-01504	1.5	4	50	4	A	●
U-S2-02006	2	6	50	4	A	●
U-S2-02508	2.5	8	50	4	A	●
U-S2-03009	3	9	50	4	A	●
U-S2-63009	3	9	50	6	A	○
U-S2-03509	3.5	9	50	4	A	○
U-S2-63509	3.5	9	50	6	A	○
U-S2-04011	4	11	50	4	B	●
U-S2-64011	4	11	50	6	A	●
U-S2-05013	5	13	50	6	A	○
U-S2-06016	6	16	50	6	B	●
U-S2-08020	8	20	60	8	B	●
U-S2-10025	10	25	75	10	B	●
U-S2-12030	12	30	75	12	B	●
U-S2-14034	14	34	100	14	B	○
U-S2-16036	16	36	100	16	B	○
U-S2-18040	18	40	100	18	B	○
U-S2-20045	20	45	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

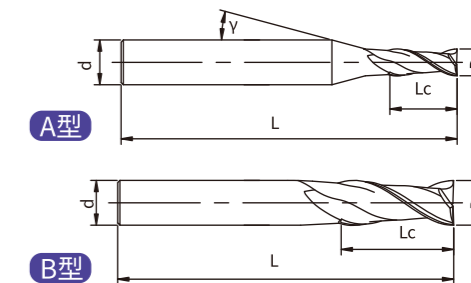
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P135

U-SL2

2刃长刃平头通用加工立铣刀

2 flute, square long flute endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-SL2-02015	2	15	75	4	A	○
U-SL2-03025	3	25	75	4	A	○
U-SL2-04030	4	30	75	4	B	●
U-SL2-05030	5	30	75	6	A	○
U-SL2-06035	6	35	75	6	B	●
U-SL2-08040	8	40	100	8	B	●
U-SL2-10045	10	45	100	10	B	●
U-SL2-12050	12	50	100	12	B	●
U-SL2-14055	14	55	100	14	B	○
U-SL2-16060	16	60	150	16	B	○
U-SL2-18065	18	65	150	18	B	○
U-SL2-20070	20	70	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

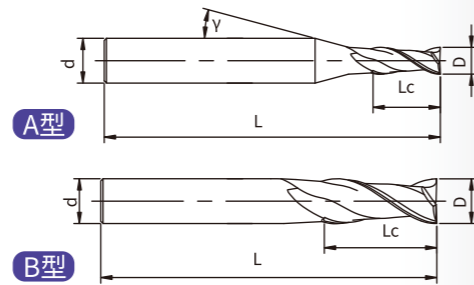
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P135

U-SH2

2刃长柄平头通用加工立铣刀

2 flute, square long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-SH2-02006	2	6	75	4	A	○
U-SH2-03009	3	9	75	4	A	○
U-SH2-04011	4	11	75	4	B	●
U-SH2-05020	5	20	75	6	A	●
U-SH2-06020	6	20	100	6	B	●
U-SH2-08025	8	25	100	8	B	●
U-SH2-10030	10	30	100	10	B	●
U-SH2-12035	12	35	100	12	B	●
U-SH2-14036	14	36	150	14	B	○
U-SH2-16036	16	36	150	16	B	○
U-SH2-18045	18	45	150	18	B	○
U-SH2-20045	20	45	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

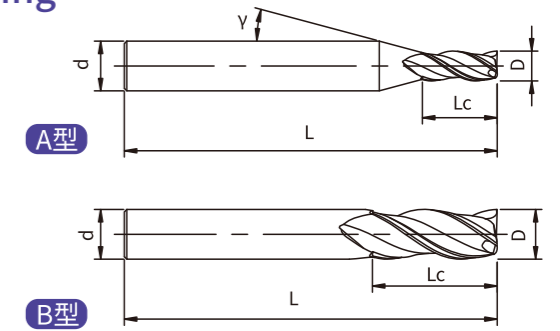
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P135

U-S3

3刃平头通用加工立铣刀

3 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-S3-02006	2	6	50	4	A	○
U-S3-03009	3	9	50	4	A	●
U-S3-04011	4	11	50	4	B	●
U-S3-05013	5	13	50	6	A	●
U-S3-06016	6	16	50	6	B	●
U-S3-08020	8	20	60	8	B	●
U-S3-10025	10	25	75	10	B	●
U-S3-12030	12	30	75	12	B	●
U-S3-14032	14	32	100	14	B	○
U-S3-16036	16	36	100	16	B	○
U-S3-18040	18	40	100	18	B	○
U-S3-20045	20	45	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

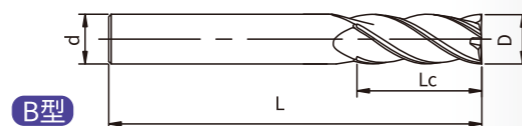
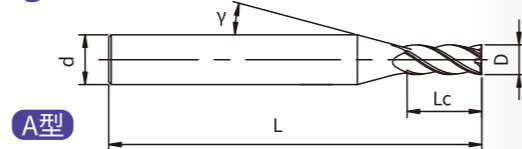
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P136

U-S4

4刃平头通用加工立铣刀

4 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-S4-01003	1	3	50	4	A	●
U-S4-01505	1.5	5	50	4	A	●
U-S4-61505	1.5	5	50	6	A	○
U-S4-02006	2	6	50	4	A	●
U-S4-62006	2	6	50	6	A	●
U-S4-02508	2.5	8	50	4	A	●
U-S4-62508	2.5	8	50	6	A	●
U-S4-03009	3	9	50	4	A	●
U-S4-63009	3	9	50	6	A	●
U-S4-03511	3.5	11	50	4	A	●
U-S4-63511	3.5	11	50	6	A	●
U-S4-04011	4	11	50	4	B	●
U-S4-64011	4	11	50	6	A	●
U-S4-05013	5	13	50	6	A	●
U-S4-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

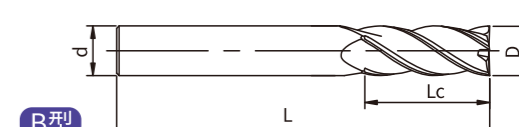
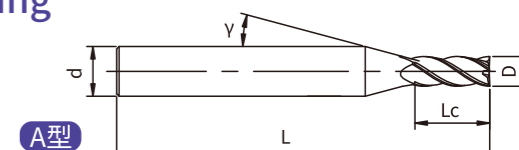
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P137

U-S4

4刃平头通用加工立铣刀

4 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-S4-07020	7	20	60	8	A	●
U-S4-08020	8	20	60	8	B	●
U-S4-09023	9	23	75	10	A	●
U-S4-10025	10	25	75	10	B	●
U-S4-12030	12	30	75	12	B	●
U-S4-14034	14	34	100	14	B	●
U-S4-16036	16	36	100	16	B	●
U-S4-18045	18	45	100	18	B	●
U-S4-20045	20	45	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

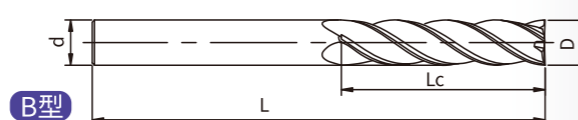
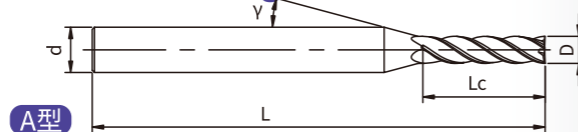
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P137

U-SL4

4刃长刃平头通用加工立铣刀

4 flute, square long flute endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-SL4-01004	1	4	50	4	A	●
U-SL4-02010	2	10	50	4	A	●
U-SL4-03015	3	15	60	4	A	●
U-SL4-63015	3	15	60	6	A	○
U-SL4-04020	4	20	60	4	B	●
U-SL4-64020	4	20	75	6	A	●
U-SL4-05025	5	25	75	6	A	●
U-SL4-06030	6	30	75	6	B	●
U-SL4-08040	8	40	100	8	B	●
U-SL4-10050	10	50	100	10	B	●
U-SL4-12050	12	50	100	12	B	●
U-SL4-14045	14	45	100	14	B	●
U-SL4-16060	16	60	150	16	B	●
U-SL4-18070	18	70	150	18	B	●
U-SL4-20070	20	70	150	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

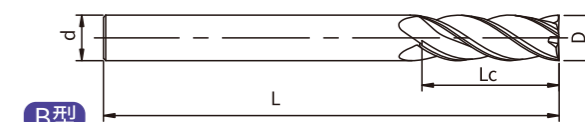
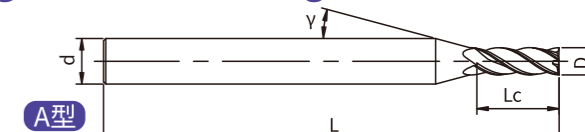
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P137

U-SH4

4刃长柄平头通用加工立铣刀

4 flute, square long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-SH4-02010	2	10	75	4	A	○
U-SH4-03012	3	12	75	4	A	○
U-SH4-04011	4	11	75	4	B	●
U-SH4-04015	4	15	75	4	B	●
U-SH4-05020	5	20	75	6	A	●
U-SH4-06016	6	16	75	6	B	●
U-SH4-06020	6	20	75	6	B	●
U-SH4-08020	8	20	100	8	B	●
U-SH4-08025	8	25	100	8	B	●
U-SH4-10030	10	30	100	10	B	●
U-SH4-10035	10	35	100	10	B	●
U-SH4-12035	12	35	100	12	B	●
U-SH4-14036	14	36	150	14	B	○
U-SH4-16036	16	36	150	16	B	○
U-SH4-18045	18	45	150	18	B	○
U-SH4-20045	20	45	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

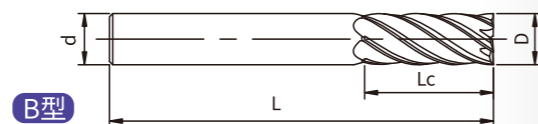
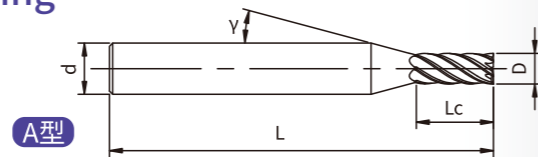
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P137

U-S6

6刃平头通用加工立铣刀

6 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-S6-06015	6	15	50	6	B	○
U-S6-08020	8	20	60	8	B	○
U-S6-10025	10	25	75	10	B	○
U-S6-12030	12	30	75	12	B	○
U-S6-14032	14	32	100	14	B	○
U-S6-16036	16	36	100	16	B	○
U-S6-18040	18	40	100	18	B	○
U-S6-20045	20	45	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

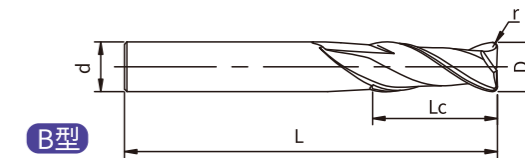
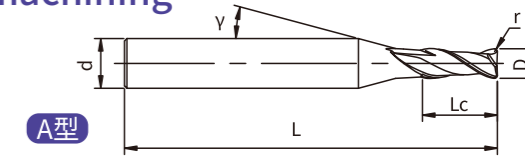
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P137

U-R2

2刃圆角头通用加工立铣刀

2 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-R2-01002	1	3	0.2	50	4	A	●
U-R2-01502	1.5	5	0.2	50	4	A	○
U-R2-02002	2	6	0.2	50	4	A	○
U-R2-03002	3	9	0.2	50	4	A	○
U-R2-63002	3	9	0.2	50	6	A	○
U-R2-03005	3	9	0.5	50	4	A	●
U-R2-63005	3	9	0.5	50	6	A	○
U-R2-04002	4	11	0.2	50	4	B	○
U-R2-64002	4	11	0.2	50	6	A	●
U-R2-04005	4	11	0.5	50	4	B	○
U-R2-64005	4	11	0.5	50	6	A	●
U-R2-05002	5	13	0.2	50	6	A	○
U-R2-05005	5	13	0.5	50	6	A	○
U-R2-06005	6	16	0.5	50	6	B	○
U-R2-06010	6	16	1.0	50	6	B	●
U-R2-08005	8	20	0.5	60	8	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

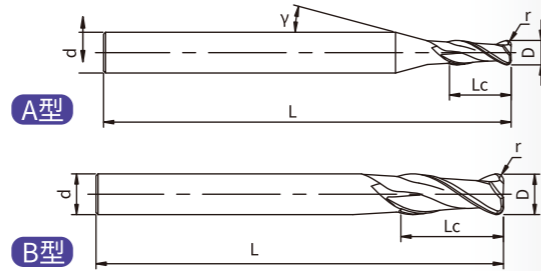
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P135

U-R2

2刃圆角头通用加工立铣刀

2 flute, ball nose endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-R2-08010	8	20	1.0	60	8	B	●
U-R2-10005	10	25	0.5	75	10	B	●
U-R2-10010	10	25	1.0	75	10	B	○
U-R2-10020	10	25	2.0	75	10	B	○
U-R2-12005	12	30	0.5	75	12	B	○
U-R2-12010	12	30	1.0	75	12	B	○
U-R2-12020	12	30	2.0	75	12	B	○
U-R2-16005	16	36	0.5	100	16	B	○
U-R2-16010	16	36	1.0	100	16	B	○
U-R2-16020	16	36	2.0	100	16	B	○
U-R2-20010	20	45	1.0	100	20	B	○
U-R2-20020	20	45	2.0	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

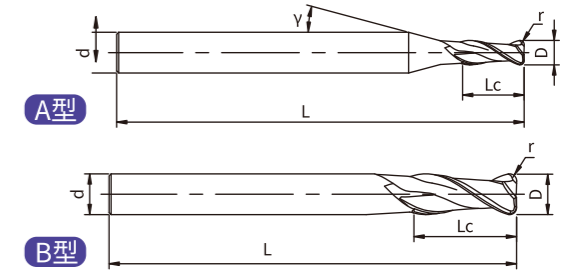
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-RH2

2刃长柄圆角头通用加工立铣刀

2 flute, ball nose, long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-RH2-06005	6	16	0.5	75	6	B	○
U-RH2-06010	6	16	1.0	75	6	B	●
U-RH2-08005	8	20	0.5	100	8	B	●
U-RH2-08010	8	20	1.0	100	8	B	●
U-RH2-10005	10	25	0.5	100	10	B	●
U-RH2-10010	10	25	1.0	100	10	B	●
U-RH2-10020	10	25	2.0	100	10	B	○
U-RH2-12005	12	30	0.5	100	12	B	○
U-RH2-12010	12	30	1.0	100	12	B	○
U-RH2-12020	12	30	2.0	100	12	B	○
U-RH2-16005	16	36	0.5	150	16	B	○
U-RH2-16010	16	36	1.0	150	16	B	○
U-RH2-16020	16	36	2.0	150	16	B	○
U-RH2-20010	20	45	1.0	150	20	B	○
U-RH2-20020	20	45	2.0	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

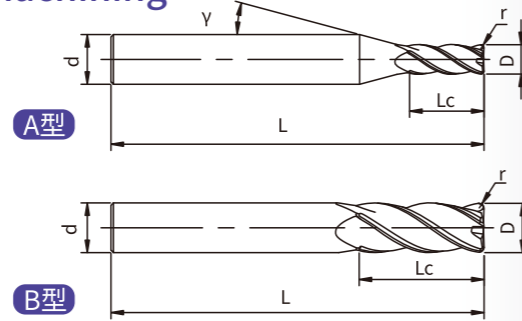
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-R4

4刃圆角头通用加工立铣刀

4 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-R4-01502	1.5	5	0.2	50	4	A	●
U-R4-02002	2	6	0.2	50	4	A	●
U-R4-03002	3	9	0.2	50	4	A	●
U-R4-03005	3	9	0.5	50	4	A	●
U-R4-04002	4	11	0.2	50	4	B	●
U-R4-04005	4	11	0.5	50	4	B	●
U-R4-04010	4	11	1.0	50	4	B	●
U-R4-05005	5	13	0.5	50	6	A	●
U-R4-05010	5	13	1.0	50	6	A	●
U-R4-06002	6	16	0.2	50	6	B	●
U-R4-06005	6	16	0.5	50	6	B	●
U-R4-06010	6	16	1.0	50	6	B	●
U-R4-08005	8	20	0.5	60	8	B	●
U-R4-08010	8	20	1.0	60	8	B	●
U-R4-10005	10	25	0.5	75	10	B	●
U-R4-10010	10	25	1.0	75	10	B	●
U-R4-10020	10	25	2.0	75	10	B	●
U-R4-12005	12	30	0.5	75	12	B	●
U-R4-12010	12	30	1.0	75	12	B	●
U-R4-12020	12	30	2.0	75	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

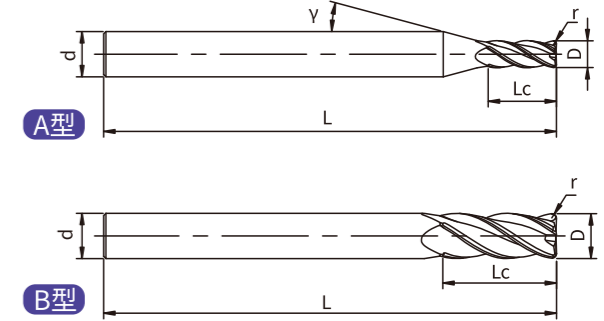
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-RH4

4刃长柄圆角头通用加工立铣刀

4 flute corner radius, with long shank length endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-RH4-03005	3	9	0.5	75	4	A	○
U-RH4-04005	4	11	0.5	75	4	B	●
U-RH4-06005	6	16	0.5	75	6	B	●
U-RH4-06010	6	16	1.0	75	6	B	●
U-RH4-08005	8	20	0.5	100	8	B	●
U-RH4-08010	8	20	1.0	100	8	B	●
U-RH4-10005	10	25	0.5	100	10	B	●
U-RH4-10010	10	25	1.0	100	10	B	●
U-RH4-10020	10	25	2.0	100	10	B	●
U-RH4-12005	12	30	0.5	100	12	B	●
U-RH4-12010	12	30	1.0	100	12	B	●
U-RH4-12020	12	30	2.0	100	12	B	○
U-RH4-16005	16	36	0.5	150	16	B	○
U-RH4-16010	16	36	1.0	150	16	B	○
U-RH4-16020	16	36	2.0	150	16	B	○
U-RH4-20010	20	45	1.0	150	20	B	○
U-RH4-20020	20	45	2.0	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

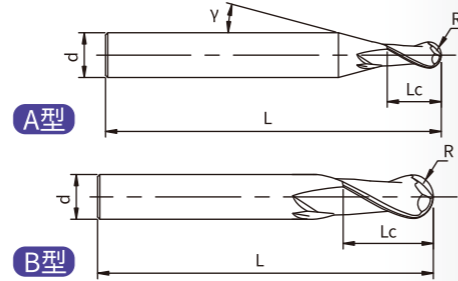
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-B2

2刃球头通用加工立铣刀

2 flute, ball nose endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-B2-01002	1	0.5	2	50	4	A	●
U-B2-01503	1.5	0.75	3	50	4	A	●
U-B2-02004	2	1	4	50	4	A	●
U-B2-02505	2.5	1.25	5	50	4	A	●
U-B2-03006	3	1.5	6	50	4	A	●
U-B2-63006	3	1.5	6	50	6	A	●
U-B2-04008	4	2	8	50	4	B	●
U-B2-64008	4	2	8	50	6	A	●
U-B2-05010	5	2.5	10	50	6	A	●
U-B2-06012	6	3	12	50	6	B	●
U-B2-07014	7	3.5	14	60	8	A	●
U-B2-08014	8	4	14	60	8	B	●
U-B2-09016	9	4.5	16	75	10	A	●
U-B2-10018	10	5	18	75	10	B	●
U-B2-12022	12	6	22	75	12	B	●
U-B2-16030	16	8	30	100	16	B	●
U-B2-20038	20	10	38	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

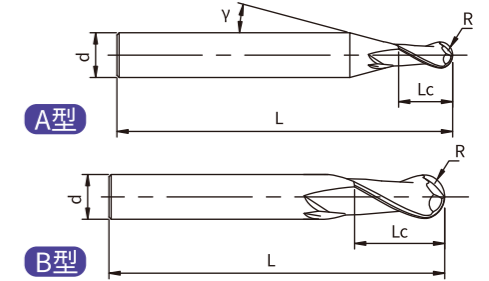
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-BH2

2刃长柄球头通用加工立铣刀

2 flute, ball nose, with long shank length endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-BH2-02004	2	1	4	75	4	A	●
U-BH2-03006	3	1.5	6	75	4	A	●
U-BH2-63006	3	1.5	6	75	6	A	●
U-BH2-04008	4	2	8	75	4	B	●
U-BH2-64008	4	2	8	75	6	A	●
U-BH2-05010	5	2.5	10	75	6	A	●
U-BH2-06012	6	3	12	75	6	B	●
U-BH2-08014	8	4	14	75	8	B	●
U-BH2-08014H	8	4	14	100	8	B	●
U-BH2-10018	10	5	18	100	10	B	●
U-BH2-12022	12	6	22	100	12	B	●
U-BH2-16030	16	8	30	150	16	B	○
U-BH2-20038	20	10	38	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

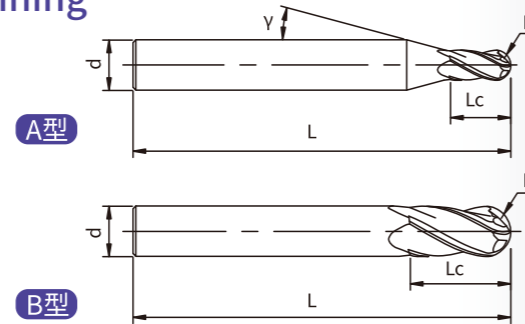
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

U-B4

4刃球头通用加工立铣刀

4 flute, ball nose endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
U-B4-02004	2	1	4	50	4	A	○
U-B4-03006	3	1.5	6	50	4	A	○
U-B4-63006	3	1.5	6	50	6	A	●
U-B4-04008	4	2	8	50	4	B	●
U-B4-64008	4	2	8	50	6	A	●
U-B4-05010	5	2.5	10	50	6	A	●
U-B4-06012	6	3	12	50	6	B	●
U-B4-08014	8	4	14	60	8	B	●
U-B4-10018	10	5	18	75	10	B	●
U-B4-12022	12	6	22	75	12	B	●
U-B4-16030	16	8	30	100	16	B	○
U-B4-20018	20	10	38	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
$R \leq 1.5$	$\begin{matrix} 0 \\ -0.01 \end{matrix}$
$1.5 < R < 3$	$\begin{matrix} 0 \\ -0.015 \end{matrix}$
$R \geq 3$	$\begin{matrix} 0 \\ -0.02 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

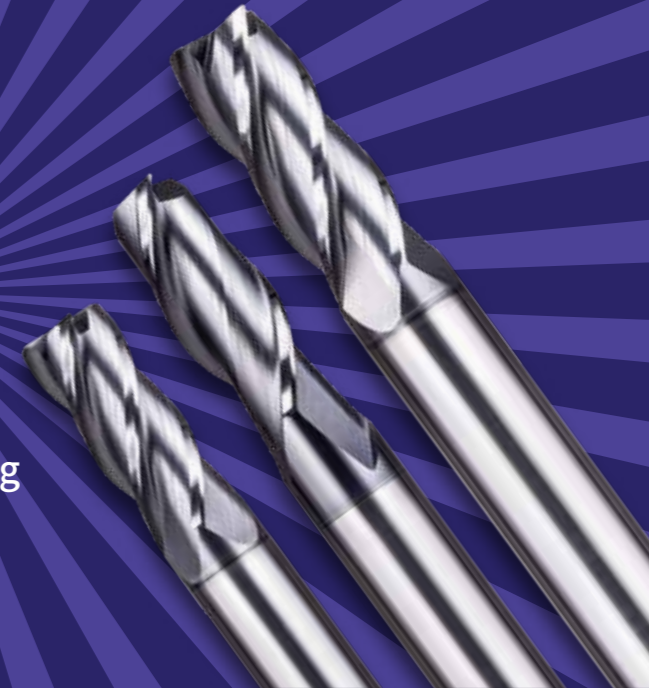
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P138

UC系列

普通钢通用加工立铣刀

UC series endmill for steel general machining

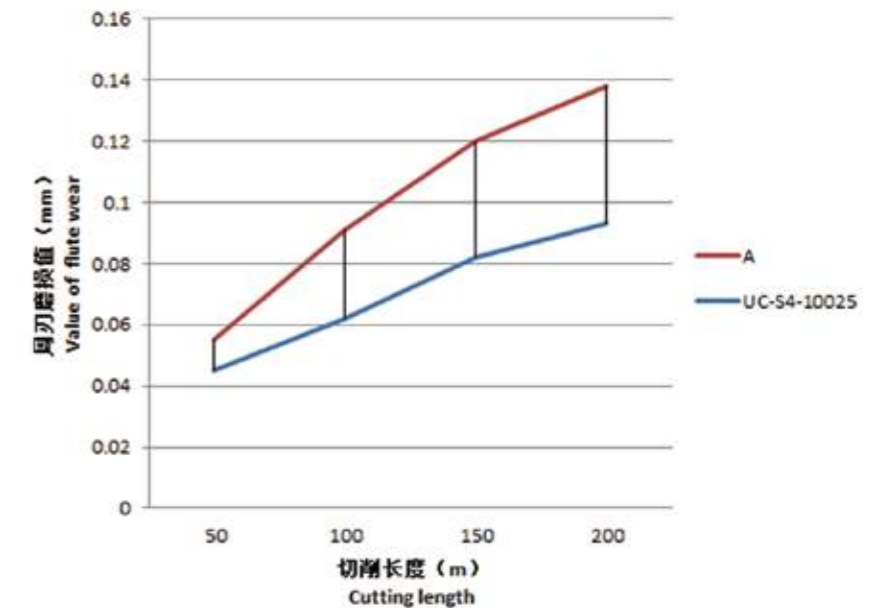


加工材质范围广: 能实现从普通钢到高硬钢的高效率切削加工
Workable on wide range of workpiece: Suitable for high efficient machining for steel, hardened steel

刀具结构: 特殊的切削刃配合大螺旋角设计, 保证刀具刃口强度, 刀具寿命更长
Tool geometry: Special cutting edge, together with big helix angle design, ensure cutting edge strength, and prolong tool life

基体涂层优势: 超高性能的超细晶和超高硬度基体配合Balzers最新一代涂层炉KiLA配合AlCr系涂层, 耐磨性能、抗氧化性能、润滑性能优异
Substrate and coating advantage: Super high performance, ultra fine grain and high hardness substrate, together with AlCr series coating from Balzers latest Killa furnace, excellent wear resistance, oxidize resistance and lubricity.

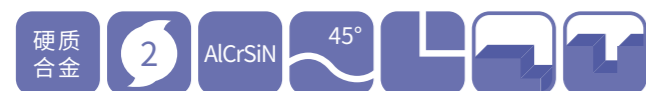
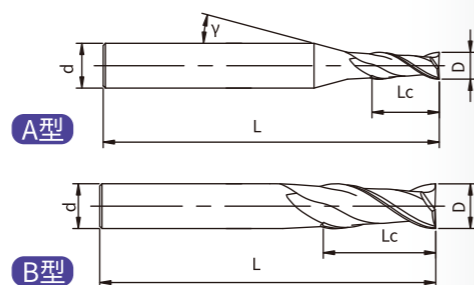
- 刀具型号: UC-S4-10025
- 刀具规格: D10*25*75*d10
- 加工材料: H13 (45HRC)
- 切削速度: 2600RPM
- 进给速度: 400mm/min
- 切削方式: 侧铣
- 切削量: $a_p=10\text{mm}$, $a_e=0.5\text{mm}$
- 冷却方式: 气冷
- Model No: UC-S4-10025
- Specification: D10*25*75*d10
- Workpiece material: H13 (45HRC)
- Cutting speed: 2600RPM
- Feed rate: 400mm/min
- Way of cutting: side milling
- $a_p, a_e: a_p=10\text{mm}$, $a_e=0.5\text{mm}$
- Coolant: Gas



UC-S2

2刃平头通用加工立铣刀

2 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-S2-01003	1	3	50	4	A	●
UC-S2-01504	1.5	4	50	4	A	●
UC-S2-02006	2	6	50	4	A	●
UC-S2-02508	2.5	8	50	4	A	●
UC-S2-03009	3	9	50	4	A	●
UC-S2-63009	3	9	50	6	A	○
UC-S2-03509	3.5	9	50	4	A	○
UC-S2-63509	3.5	9	50	6	A	○
UC-S2-04011	4	11	50	4	B	●
UC-S2-64011	4	11	50	6	A	●
UC-S2-05013	5	13	50	6	A	●
UC-S2-06016	6	16	50	6	B	●
UC-S2-08020	8	20	60	8	B	●
UC-S2-10025	10	25	75	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

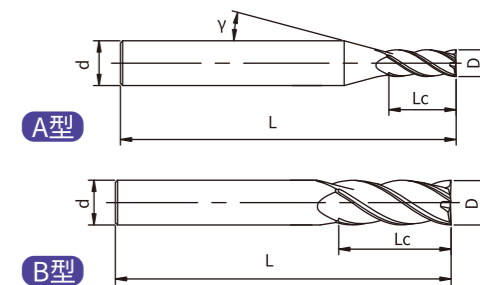
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P139

UC-S4

4刃平头通用加工立铣刀

4 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-S4-01003	1	3	50	4	A	●
UC-S4-02006	2	6	50	4	A	●
UC-S4-02508	2.5	8	50	4	A	●
UC-S4-03009	3	9	50	4	A	●
UC-S4-63009	3	9	50	6	A	○
UC-S4-04011	4	11	50	4	B	●
UC-S4-64011	4	11	50	6	A	○
UC-S4-05013	5	13	50	6	A	●
UC-S4-06016	6	16	50	6	B	●
UC-S4-07020	7	20	60	8	A	○
UC-S4-08020	8	20	60	8	B	○
UC-S4-09023	9	23	75	10	A	○
UC-S4-10025	10	25	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

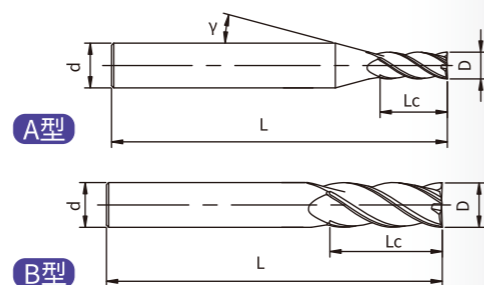
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P139

UC-SH4

4刃长柄平头通用加工立铣刀

4 flute, square long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-SH4-03012	3	12	75	4	A	●
UC-SH4-04015	4	15	75	4	B	●
UC-SH4-06020	6	20	75	6	B	●
UC-SH4-08025	8	25	100	8	B	●
UC-SH4-10030	10	30	100	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

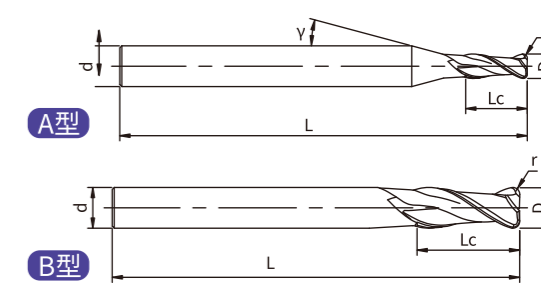
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UC-R2

2刃圆角头通用加工立铣刀

2 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-R2-02002	2	6	0.2	50	4	A	○
UC-R2-03005	3	9	0.5	50	4	A	○
UC-R2-04005	4	11	0.5	50	4	B	●
UC-R2-05005	5	13	0.5	50	6	A	○
UC-R2-06005	6	16	0.5	50	6	B	○
UC-R2-06010	6	16	1	50	6	B	●
UC-R2-08005	8	20	0.5	60	8	B	●
UC-R2-08010	8	20	1	60	8	B	●
UC-R2-10005	10	25	0.5	75	10	B	○
UC-R2-10010	10	25	1	75	10	B	○
UC-R2-10020	10	25	2	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

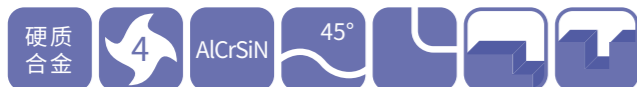
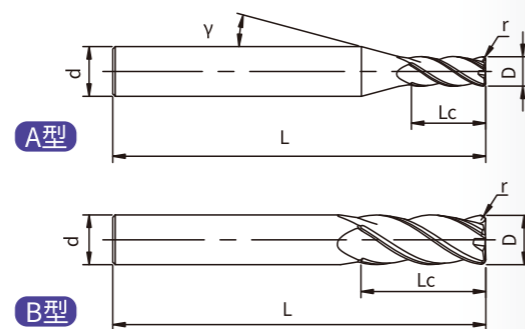
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UC-R4

4刃圆角头通用加工立铣刀

4 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-R4-01502	1.5	5	0.2	50	4	A	●
UC-R4-02002	2	6	0.2	50	4	A	●
UC-R4-03002	3	9	0.2	50	4	A	●
UC-R4-03005	3	9	0.5	50	4	A	●
UC-R4-04002	4	11	0.2	50	4	B	●
UC-R4-04005	4	11	0.5	50	4	B	●
UC-R4-04010	4	11	1.0	50	4	B	●
UC-R4-05005	5	13	0.5	50	6	A	●
UC-R4-05010	5	13	1.0	50	6	A	●
UC-R4-06002	6	16	0.2	50	6	B	●
UC-R4-06005	6	16	0.5	50	6	B	●
UC-R4-06010	6	16	1.0	50	6	B	●
UC-R4-08005	8	20	0.5	60	8	B	●
UC-R4-08010	8	20	1.0	60	8	B	●
UC-R4-10005	10	25	0.5	75	10	B	●
UC-R4-10010	10	25	1.0	75	10	B	●
UC-R4-10020	10	25	2.0	75	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

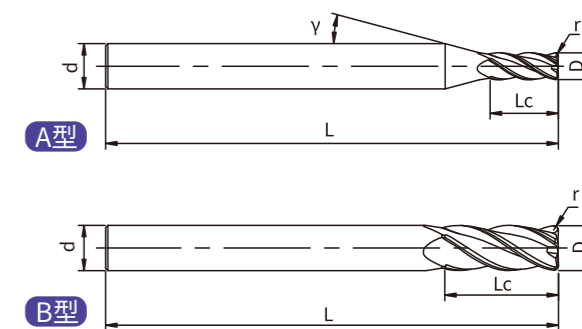
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UC-RH4

4刃长柄圆角头通用加工立铣刀

4 flute, corner radius, long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-RH4-04005	4	11	0.5	75	4	B	●
UC-RH4-06005	6	16	0.5	75	6	B	●
UC-RH4-06010	6	16	1.0	75	6	B	●
UC-RH4-08005	8	20	0.5	100	8	B	●
UC-RH4-08010	8	20	1.0	100	8	B	●
UC-RH4-10005	10	25	0.5	100	10	B	●
UC-RH4-10010	10	25	1.0	100	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

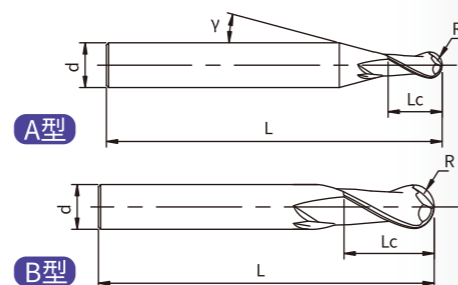
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UC-B2

2刃球头通用加工立铣刀

2 flute, ball nose endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-B2-01002	1	0.5	2	50	4	A	●
UC-B2-01503	1.5	0.75	3	50	4	A	●
UC-B2-02004	2	1	4	50	4	A	●
UC-B2-02505	2.5	1.25	5	50	4	A	●
UC-B2-03006	3	1.5	6	50	4	A	●
UC-B2-04008	4	2	8	50	4	B	●
UC-B2-05010	5	2.5	10	50	6	A	●
UC-B2-06012	6	3	12	50	6	B	●
UC-B2-07014	7	3.5	14	60	8	A	●
UC-B2-08014	8	4	14	60	8	B	●
UC-B2-09016	9	4.5	16	75	10	A	●
UC-B2-10018	10	5	18	75	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

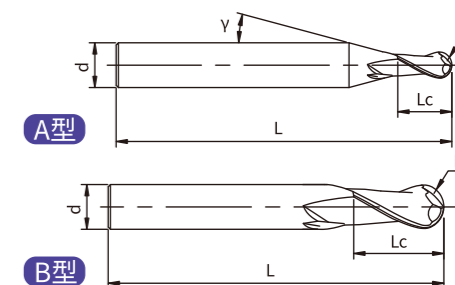
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UC-BH2 2刃长柄球头通用加工立铣刀

2 flute, ball nose, long shank endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UC-BH2-04008	4	2	8	75	4	B	●
UC-BH2-06012	6	3	12	75	6	B	●
UC-BH2-08014	8	4	14	75	8	B	●
UC-BH2-10018	10	5	18	100	10	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P140

UR系列

普通钢粗加工立铣刀 UR series endmill for steel rough machining



独特的波形刃设计, 使得切削更细小, 排屑更顺畅
Special wave flute design, makes small chip and smooth chip exhausting

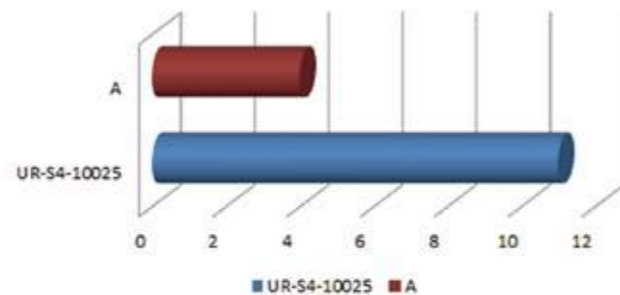
采用大螺旋角+U型槽设计, 提高刀具加工稳定性
Big helix angle + U groove design, increases machining stability

高性能超细晶基体配合高性能AlCrSiN涂层, 耐高温, 耐磨损, 在重载粗加工况也能轻松驾驭
High performance ultra fine substrate, together with high performance AlCrSiN coating, good heat resistance and wear resistance. Also suitable for heavy roughing

- 刀具型号: UR-S4-10005
- 刀具规格: D10*C0.3*25*75*d10
- 加工材料: 45# (180HB)
- 切削速度: 5500RPM
- 进给速度: 600mm/min
- 切削方式: 槽铣
- 切削量: ap=6mm, ae=10mm
- 冷却方式: 水基乳化液
- Model No:UR-S4-10005
- Specification:D10*C0.3*25*75*d10
- Workpiece material:45# (180HB)
- Cutting speed:5500RPM
- Feed rate:600mm/min
- Way of cutting:slotting
- ap, ae: ap=6mm, ae=10mm
- Coolant:emulsion

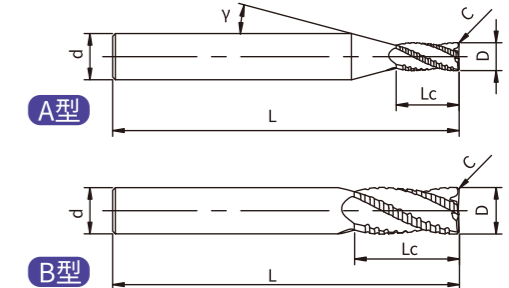


加工工件数 (PCS)
Workpiece quantity



UR-S4

4刃粗加工平头立铣刀 4 flute, square endmill for rough machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	刃尖倒角(C) Chamfer	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UR-S4-06016	6	16	0.2	50	6	B	●
UR-S4-08020	8	20	0.2	60	8	B	●
UR-S4-10025	10	25	0.3	75	10	B	●
UR-S4-12030	12	30	0.3	75	12	B	●
UR-S4-16036	16	36	0.4	100	16	B	●
UR-S4-20045	20	45	0.5	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 6	0 -0.03
6 < D ≤ 10	0 -0.04
D > 10	0 -0.05 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P141

UN系列

普通钢断屑齿粗加工
立铣刀
UN series endmill for steel roughing



适用于普通钢、铸铁材料(≤48HRC)的大切深、大切宽粗加工、半精加工
Suitable for semi-finishing, roughing with big ap. ae. on steel, cast iron (≤48HRC)

独特的断屑齿+大容屑槽设计,使切屑更小,排屑更顺畅,表面质量更高
Special chip breaker+big chip pocket design, makes small chip and smooth chip exhausting, so as to get better surface quality

高性能超细晶基体配合高性能AlCrSiN涂层,耐高温,耐磨损
High performance ultra fine substrate, together with high performance AlCrSiN coating, good heat resistance and wear resistance

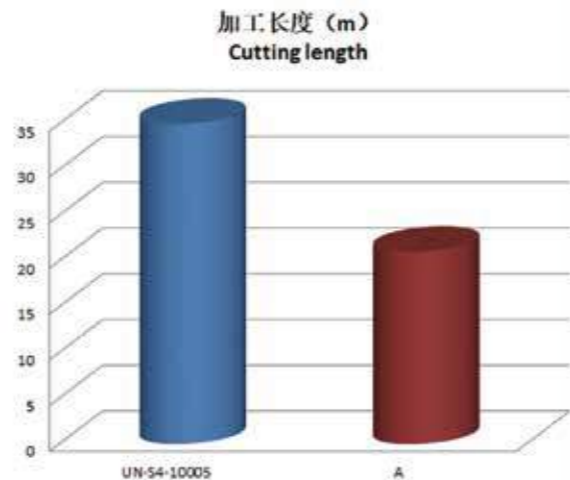
- 刀具型号: UN-S4-10005
- 刀具规格: D10*C0.3*25*75*d10
- 加工材料: 4140 (30HRC)
- 切削速度: 4000RPM
- 进给速度: 900mm/min
- 切削方式: 侧铣
- 切削量: ap=6mm, ae=10mm
- 冷却方式: 油雾
- Model No:UN-S4-10005
- Specification:D10*C0.3*25*75*d10
- Workpiece material:4140 (30HRC)
- Cutting speed:4000RPM
- Feed rate:900mm/min
- Way of cutting:side milling
- ap, ae: ap=6mm, ae=10mm
- Coolant:Oil mist



UN-S4-10005

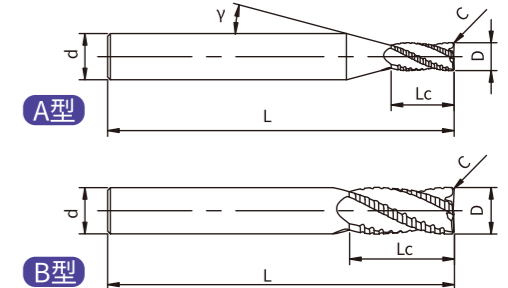


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UN-S4

4刃粗加工平头立铣刀
4 flute, square endmill for rough machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	刃尖倒角(C) Chamfer	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
UN-S4-06016	6	16	0.2	50	6	B	●
UN-S4-08020	8	20	0.2	60	8	B	●
UN-S4-10025	10	25	0.3	75	10	B	●
UN-S4-12030	12	30	0.3	75	12	B	●
UN-S4-16036	16	36	0.4	100	16	B	●
UN-S4-20045	20	45	0.5	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.03
6<D≤10	0 -0.04
D>10	0 -0.05 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	○	○			○			

○ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P142

X系列

普通钢高效加工立铣刀

X series endmill for steel high efficiency machining



加工材料范围广

Suitable for wide range of workpiece

- ◎ 变槽深设计, 兼顾刀具刚性及容屑空间, 适用于大切深、大切宽的高效加工
Variable groove depth design considering both tool rigidity and chip pocket, good for high efficient machining with big cutting depth & width

加工工况广

Suitable for wide range of application

- ◎ 适用于小切深、大切宽的面铣; 大切深、小切宽的侧铣; 同时适用于小于0.5D的浅槽铣
Suitable for facing milling under small ap & big ae, side milling under big ap & small ae, and slotting under condition of less than 0.5D

基体涂层优势

Substrate coating strength

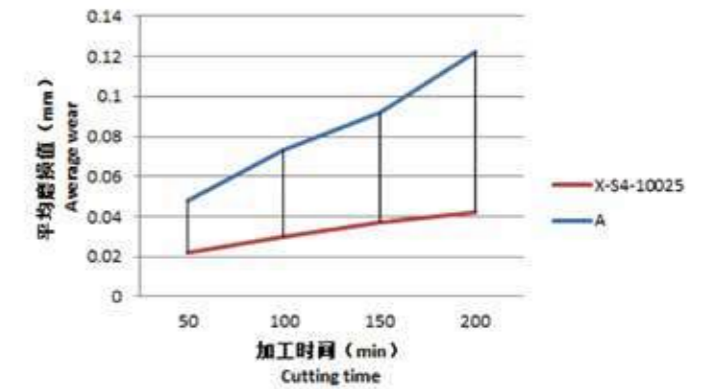
- ◎ 高性能的超细晶基体, 保证刀具兼具高耐磨性及高韧性
High performance ultra-fine substrate guarantees good wear and toughness
- ◎ 采用Balzers最新一代涂层炉KiLA配合自主研发高性能AlCrSiN涂层
Use the latest Kila coating furnace from Balzers, with AlCr series coating

刀型结构

Geometry structure

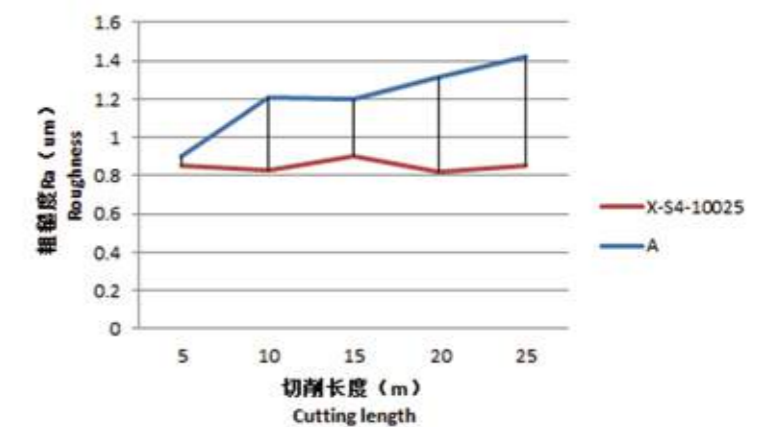
- ◎ 采用不等齿距, 不等螺旋分割设计, 减震性能优越
Use variable pitch & helix design; Excellent vibration reduction performance

- 刀具型号: X-S4-10005
- 刀具规格: D10*25*75*d10
- 加工材料: Q235A (HB200)
- 切削速度: 5100RPM
- 进给速度: 1600mm/min
- 切削方式: 侧铣
- 切削量: $a_p=12\text{mm}$, $a_e=0.15\text{m}$
- 冷却方式: 水基乳化液
- Model No:X-S4-10005
- Specification:D10*25*75*d10
- Workpiece material:Q235A (HB200)
- Cutting speed:1600mm/min
- Feed rate:2000mm/min
- Way of cutting:Side milling
- $a_p, a_e:a_p=12\text{mm}$, $a_e=0.15\text{m}$
- Coolant:Emulsion



刀具磨损趋势变化对比
Comparison of tool wear trend

- 刀具型号: X-BH2-08014
- 刀具规格: R4*14*75*d8
- 加工材料: 718 (38HRC)
- 切削速度: 8000RPM
- 进给速度: 4500mm/min
- 切削方式: 仿形铣
- 切削量: $a_p=0.15\text{mm}$, $a_e=0.15\text{mm}$
- 冷却方式: 油雾冷却
- Model No:X-BH2-08014
- Specification:R4*14*75*d8
- Workpiece material:718 (38HRC)
- Cutting speed:8000RPM
- Feed rate:4500mm/min
- Way of cutting: Profile milling
- $a_p, a_e:a_p=0.15\text{mm}$, $a_e=0.15\text{mm}$
- Coolant:Oil mist

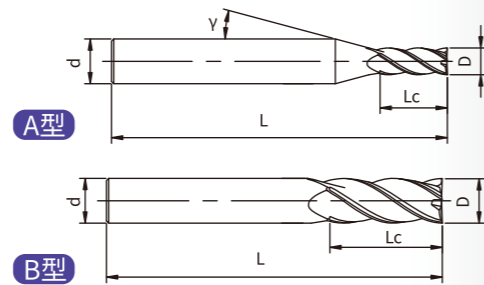


被加工表面粗糙度测试
Workpiece surface roughness test

X-S3

3刃平头变螺旋高效加工立铣刀

3 flute, square variabe helix endmill for high efficiency machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-S3-03009	3	9	50	4	A	●
X-S3-04011	4	11	50	4	B	●
X-S3-05013	5	13	50	6	B	●
X-S3-06016	6	16	50	6	B	●
X-S3-08020	8	20	60	8	B	●
X-S3-10025	10	25	75	10	B	●
X-S3-12030	12	30	75	12	B	●
X-S3-16036	16	36	100	16	B	●
X-S3-20045	20	45	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

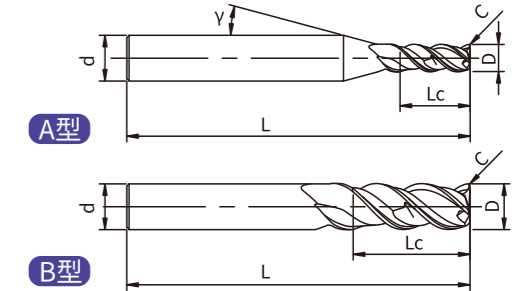
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P143

X-C3

3刃平头双螺旋高效加工立铣刀(刀尖倒角)

3 flute, square variabe helix endmill for high efficiency machining (chamfer)



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	刃尖倒角(C) Chamfer	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-C3-06020	6	16	0.2	50	6	B	●
X-C3-08020	8	20	0.2	60	8	B	●
X-C3-10030	10	25	0.3	75	10	B	●
X-C3-12030	12	30	0.3	75	12	B	●
X-C3-16030	16	36	0.3	100	16	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

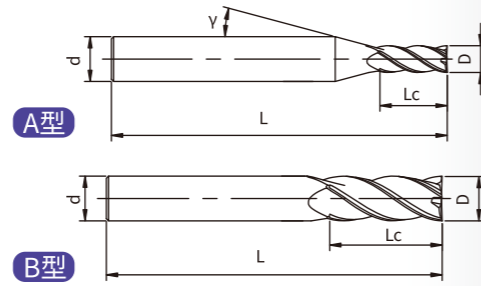
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P143

X-S4

4刃平头双螺旋高效加工立铣刀
4 flute, square variabe helix endmill for high efficiency machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-S4-02006	2	6	50	4	A	●
X-S4-03009	3	9	50	4	A	●
X-S4-04011	4	11	50	4	B	●
X-S4-05013	5	13	50	6	A	●
X-S4-06016	6	16	50	6	B	●
X-S4-08020	8	20	60	8	B	●
X-S4-10025	10	25	75	10	B	●
X-S4-12030	12	30	75	12	B	●
X-S4-16036	16	36	100	16	B	●
X-S4-20045	20	45	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

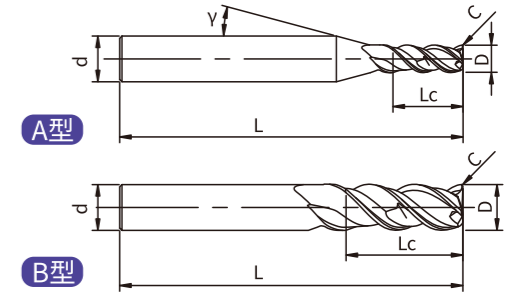
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P144

X-C4

4刃平头变螺旋高效加工立铣刀(刀尖倒角)
4 flute, square variabe helix endmill for high efficiency machining (chamfer)



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	刃尖倒角(C) Chamfer	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-C4-03003	3	9	0.03	50	4	A	○
X-C4-03013	3	9	0.13	50	4	A	●
X-C4-04004	4	11	0.04	50	4	B	○
X-C4-04018	4	11	0.18	50	4	B	●
X-C4-05005	5	13	0.05	50	6	A	○
X-C4-05013	5	13	0.13	57	6	A	●
X-C4-05020	5	13	0.2	50	6	A	●
X-C4-06006	6	16	0.06	50	6	B	○
X-C4-06013	6	16	0.13	57	6	B	●
X-C4-06020	6	16	0.2	50	6	B	●
X-C4-08008	8	20	0.08	60	8	B	●
X-C4-08020	8	20	0.2	60	8	B	●
X-C4-10010	10	25	0.1	75	10	B	●
X-C4-10030	10	25	0.3	75	10	B	●
X-C4-12012	12	30	0.12	75	12	B	○
X-C4-12030	12	30	0.3	75	12	B	●
X-C4-16015	16	36	0.15	100	16	B	○
X-C4-16040	16	36	0.4	100	16	B	○
X-C4-20015	20	45	0.15	100	20	B	○
X-C4-20050	20	45	0.5	100	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

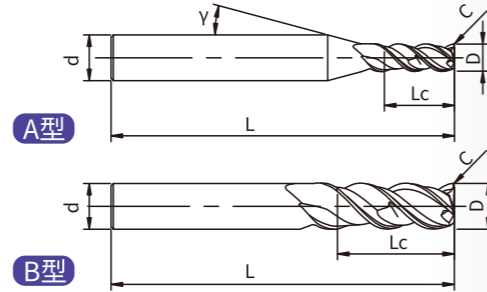
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P144

X-CN4

4刃长颈平头双螺旋高效加工立铣刀(刀尖倒角)

4 flute, square variabe helix endmill for high efficiency machining (chamfer)



订货号 Ordering Code	外径 (D) Mill Dia.	刃长 (Lc) Flute Length	颈长 (L1) Under Neck Length	颈径 (d2) Neck Dia.	刃尖倒角 (C) Chamfer	全长 (L) Overall Length	柄径 (d) Shank Dia.	类型 Type	库存 Stock
X-CN4-03013	3	10	18	2.9	0.13	75	4	A	○
X-CN4-04018	4	12	20	3.8	0.18	75	4	B	●
X-CN4-05020	5	15	35	4.8	0.2	75	6	B	●
X-CN4-06020	6	16	24	5.8	0.2	100	6	B	●
X-CN4-08020	8	20	30	7.5	0.2	100	8	B	○
X-CN4-10030	10	25	40	9.5	0.3	150	10	B	○
X-CN4-12030	12	30	40	11	0.3	150	12	B	○
X-CN4-16040	16	36	50	15	0.4	150	16	B	○
X-CN4-20050	20	45	60	19	0.5	150	20	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

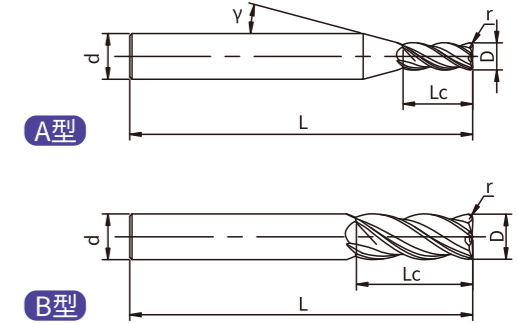
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P144

X-R4

4刃圆角头双螺旋高效加工立铣刀

4 flute, corner radius, variabe helix endmill for high efficiency machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-R4-03003	3	9	0.3	50	4	A	○
X-R4-03005	3	9	0.5	50	4	A	●
X-R4-04003	4	11	0.3	50	4	B	●
X-R4-04005	4	11	0.5	50	4	B	●
X-R4-05003	5	13	0.3	50	6	A	○
X-R4-05005	5	13	0.5	50	6	A	●
X-R4-06005	6	16	0.5	50	6	B	●
X-R4-06010	6	16	1	50	6	B	●
X-R4-08005	8	20	0.5	60	8	B	●
X-R4-08010	8	20	1	60	8	B	●
X-R4-10005	10	25	0.5	75	10	B	●
X-R4-10010	10	25	1	75	10	B	●
X-R4-10020	10	25	2	75	10	B	●
X-R4-12005	12	30	0.5	75	12	B	○
X-R4-12010	12	30	1	75	12	B	●
X-R4-12020	12	30	2	75	12	B	○
X-R4-14020	14	32	2	75	14	B	○
X-R4-16020	16	36	2	100	16	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02
D > 12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

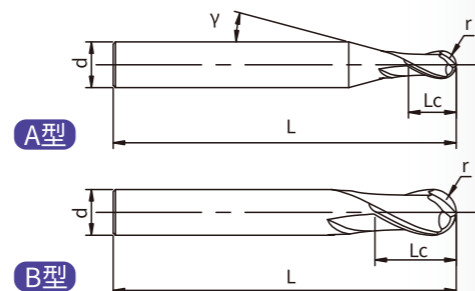
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P144

X-B2

2刃球头高速加工立铣刀

2 flute, ball nose endmill for high speed machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-B2-01002	1	0.5	2	50	4	A	●
X-B2-01503	1.5	0.75	3	50	4	A	●
X-B2-02004	2	1	4	50	4	A	●
X-B2-03006	3	1.5	6	50	4	A	●
X-B2-04008	4	2	8	50	4	B	●
X-B2-06012	6	3	12	50	6	B	●
X-B2-08014	8	4	14	60	8	B	●
X-B2-10018	10	5	18	75	10	B	●
X-B2-11020	11	5.5	20	75	12	B	●
X-B2-12022	12	6	22	75	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

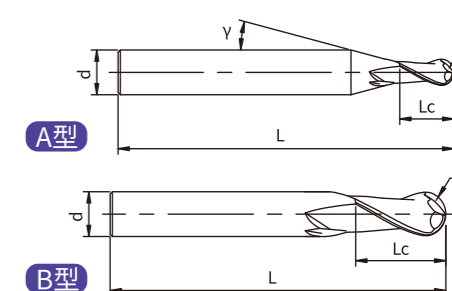
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P145

X-BH2

2刃长柄球头高速加工立铣刀

2 flute, ball nose, long shank endmill for high speed machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
X-BH2-04008	4	2	8	75	4	B	●
X-BH2-06012	6	3	12	60	6	B	●
X-BH2-06012H	6	3	12	75	6	B	●
X-BH2-08014	8	4	14	75	8	B	●
X-BH2-10018	10	5	18	100	10	B	●
X-BH2-12022	12	6	22	100	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P145

H系列

高硬钢加工立铣刀

H series endmill for hardened steel machining



可加工材料硬度高

Suitable for high hardness workpiece

- 可用于40~65HRC预硬化钢、淬火钢、高硬钢的半精加工、精加工
Suitable for semi-finishing, finishing of pre-hardened steel, hardened steel, and high speed steel

加工工况广

Suitable for wide range of application

- 适用普通加工、高速加工、部分高效加工、可加工注塑模具、锻造模具、压铸模具等
Suitable for general machining, high speed machining and part of high efficient machining,
Used on injection mould, forging die and die-casting mould

基体涂层优势

Substrate coating strength

- 超高性能的超细晶和超高硬度基体
High performance, ultra-fine and super hard substrate.
- 采用Balzers最新一代涂层炉KiLA配合自主研发TiAlSiCrN系涂层,使用稳定、耐高温、耐磨损
Use the latest Kila coating furnace from Balzers, with our self-developed TiAlCrSiN

刀型结构

Geometry structure

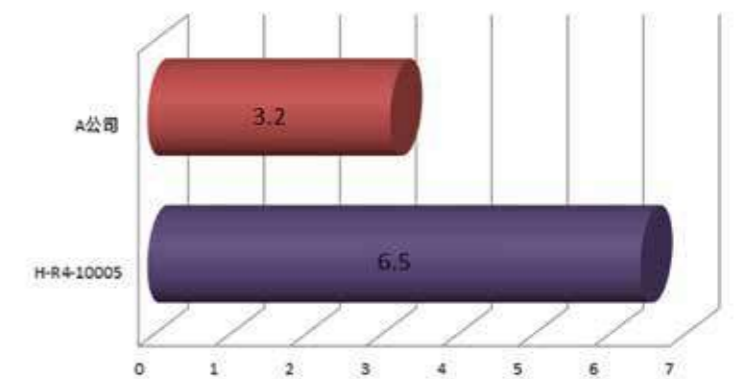
- 独特的槽型设计、精细磨削切削刃,实现卓越的高硬钢材料加工
Unique geometry design, fine grinded cutting edge, enable excellent processing on hardened steel

“ 全新技术,让切削更简单
New technology makes cutting easier ”

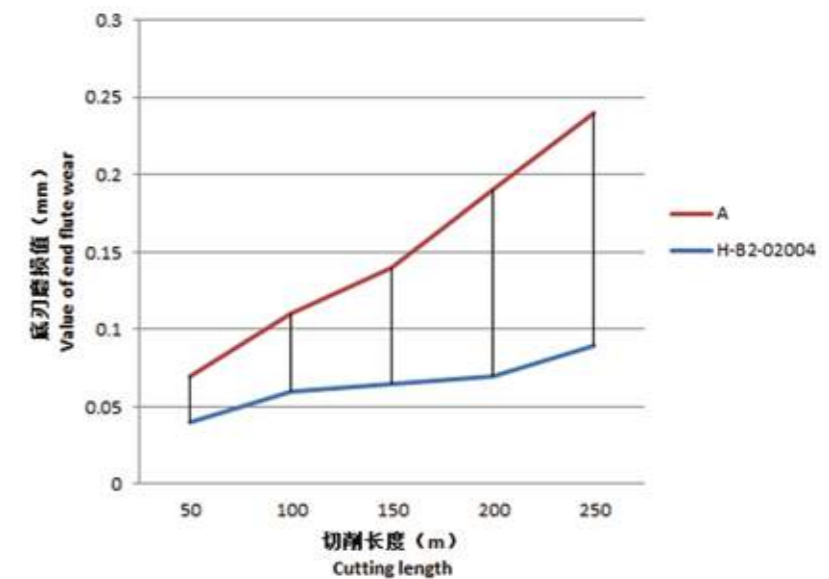
- 刀具型号: H-R4-10005
- 刀具规格: D10*R0.5*25*75*d10
- 加工材料: SKD61 (52HRC)
- 切削速度: 8000RPM
- 进给速度: 3000mm/min
- 切削方式: 侧铣、面铣
- 切削量: 面铣 ap=0.03mm ae=5mm
侧铣 ap=0.1mm ae=0.05mm
- 冷却方式: 水基乳化液
- Model No:H-R4-10005
- Specification:D10*R0.5*25*75*d10
- Workpiece material:SKD61 (52HRC)
- Cutting speed:8000RPM
- Feed rate:3000mm/min
- Way of cutting:Side milling, face milling
- ap, ae:face milling ap=0.03mm ae=5mm
side milling ap=0.1mm, ae=0.05mm
- Coolant:Emulsion



加工时长 (h)



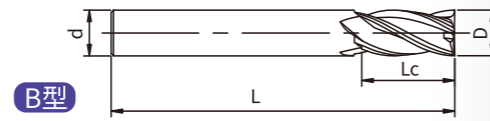
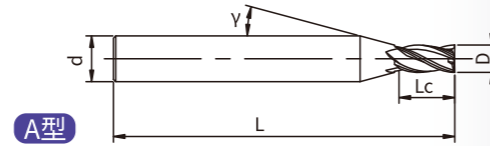
- 刀具型号: H-B2-02004
- 刀具规格: R1*4*50*d4
- 加工材料: SKD11 (60HRC)
- 切削速度: 20000RPM
- 进给速度: 2000mm/min
- 切削方式: 面铣
- 切削量: ap=0.1mm, ae=0.3mm
- 冷却方式: 油雾
- Model No:H-B2-02004
- Specification:R1*4*50*d4
- Workpiece material:SKD11 (60HRC)
- Cutting speed:20000RPM
- Feed rate:2000mm/min
- Way of cutting: face milling
- ap, ae:ap=0.1mm, ae=0.3mm
- Coolant:oil mist



H-S4

4刃平头高硬钢加工立铣刀

4 flute, square endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-S4-01003	1	3	50	4	A	●
H-S4-01504	1.5	4	50	4	A	●
H-S4-02006	2	6	50	4	A	●
H-S4-62006	2	6	50	6	A	●
H-S4-02508	2.5	8	50	4	A	●
H-S4-03008	3	8	50	4	A	●
H-S4-63008	3	8	50	6	A	●
H-S4-04011	4	11	50	4	B	●
H-S4-64011	4	11	50	6	A	●
H-S4-05013	5	13	50	6	A	●
H-S4-06016	6	16	50	6	B	●
H-S4-08020	8	20	60	8	B	●
H-S4-10025	10	25	75	10	B	●
H-S4-12030	12	30	75	12	B	●
H-S4-14032	14	32	100	14	B	●
H-S4-16040	16	40	100	16	B	●
H-S4-20045	20	45	100	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

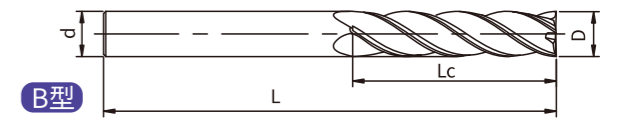
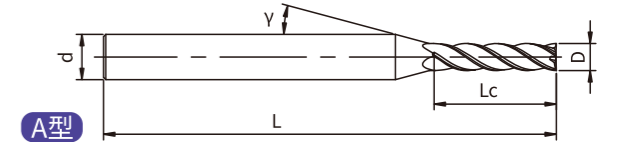
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P146

H-SL4

4刃长刃平头高硬钢加工立铣刀

4 flute, square long flute endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-SL4-03012	3	12	75	6	A	●
H-SL4-04015	4	15	75	6	A	●
H-SL4-05020	5	20	75	6	A	●
H-SL4-06020	6	20	75	6	B	●
H-SL4-08025	8	25	100	8	B	●
H-SL4-10030	10	30	100	10	B	●
H-SL4-12035	12	35	100	12	B	●
H-SL4-14040	14	40	100	14	B	●
H-SL4-16050	16	50	150	16	B	●
H-SL4-20055	20	55	150	20	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

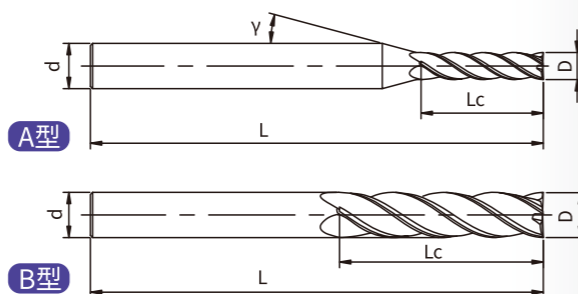
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P146

H-S6

6刃平头高硬钢加工立铣刀

6 flute, square endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-S6-06018	6	18	50	6	B	●
H-S6-08020	8	20	60	8	B	●
H-S6-10030	10	30	75	10	B	●
H-S6-12032	12	32	75	12	B	●
H-S6-16040	16	40	100	14	B	●
H-S6-20045	20	45	100	16	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

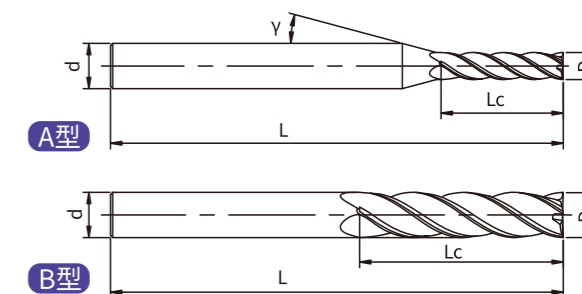
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P148

H-SL6

6刃长刃平头高硬钢加工立铣刀

6 flute, square long flute endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-SL6-06024	6	24	75	6	B	●
H-SL6-08032	8	32	75	8	B	●
H-SL6-10040	10	40	100	10	B	●
H-SL6-12045	12	45	100	12	B	●
H-SL6-16064	16	64	150	14	B	●
H-SL6-20075	20	75	150	16	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

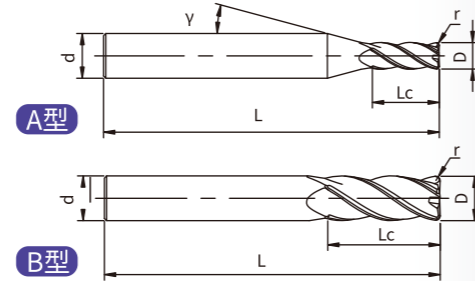
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P148

H-R4

4刃圆角头高硬钢加工立铣刀

4 flute, corner radius endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-R4-03002	3	8	0.2	50	4	A	●
H-R4-04003	4	10	0.3	50	4	B	●
H-R4-04005	4	10	0.5	50	4	B	●
H-R4-05005	5	13	0.5	50	6	A	●
H-R4-06005	6	16	0.5	50	6	B	●
H-R4-06010	6	16	1.0	50	6	B	●
H-R4-08005	8	20	0.5	60	8	B	●
H-R4-08010	8	20	1.0	60	8	B	●
H-R4-10005	10	25	0.5	75	10	B	●
H-R4-10010	10	25	1.0	75	10	B	●
H-R4-12005	12	30	0.5	75	12	B	●
H-R4-12010	12	30	1.0	75	12	B	●
H-R4-12020	12	30	2.0	75	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

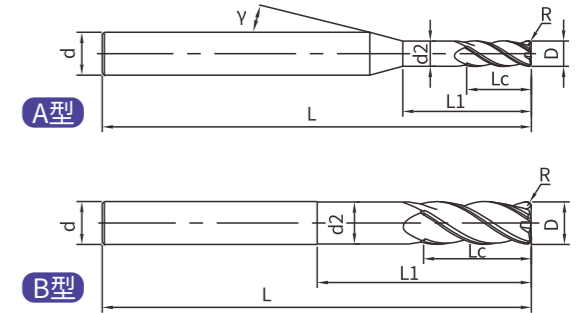
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P146

H-RN4

4刃长颈圆角头高硬钢加工立铣刀

4 flute, corner radius long neck endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	颈长(L1) Under Neck Length	颈径(d2) Neck Dia.	全长(L) Overall Length
H-RN4-06005	6	6	0.5	18	5.8	75
H-RN4-06010	6	6	1.0	18	5.8	75
H-RN4-08005	8	8	0.5	24	7.8	100
H-RN4-08010	8	8	1.0	24	7.8	100
H-RN4-10005	10	10	0.5	30	9.6	100
H-RN4-10010	10	10	1.0	30	9.6	100
H-RN4-10020	10	10	2.0	30	9.6	100
H-RN4-12005	12	12	0.5	36	11.5	100
H-RN4-12010	12	12	1.0	36	11.5	100
H-RN4-12020	12	12	2.0	36	11.5	100
H-RN4-16010	16	16	1.0	40	15.5	150
H-RN4-16020	16	16	2.0	40	15.5	150

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

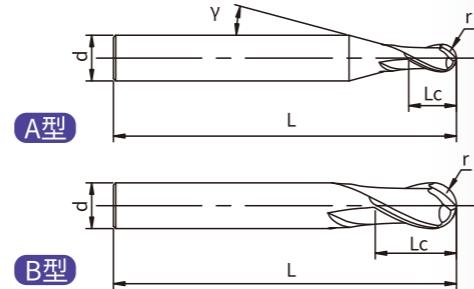
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P146

H-B2

2刃球头高硬钢加工立铣刀

2 flute, ball nose endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-B2-01002	1	0.5	2	50	4	A	●
H-B2-01503	1.5	0.75	3	50	4	A	●
H-B2-02004	2	1	4	50	4	A	●
H-B2-02505	2.5	1.25	5	50	4	A	●
H-B2-03006	3	1.5	6	50	4	A	●
H-B2-63006	3	1.5	6	50	6	A	●
H-B2-04008	4	2	8	50	4	B	●
H-B2-64008	4	2	8	50	6	A	●
H-B2-05010	5	2.5	10	50	6	A	●
H-B2-06012	6	3	12	50	6	B	●
H-B2-07014	7	3.5	14	60	8	A	●
H-B2-08016	8	4	14	60	8	B	●
H-B2-10020	10	5	20	75	10	B	●
H-B2-12024	12	6	24	75	12	B	●
H-B2-16032	16	8	32	100	16	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

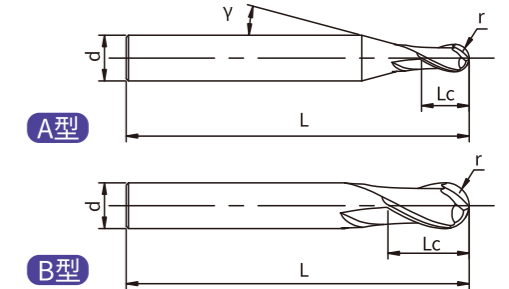
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P147

H-BH2

2刃长柄球头高硬钢加工立铣刀

2 flute, ball nose long shank endmill for hardened steel machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
H-BH2-63006	3	1.5	6	60	6	A	●
H-BH2-64008	4	2	8	75	6	A	●
H-BH2-65010	5	2.5	10	75	6	A	●
H-BH2-06012	6	3	12	75	6	B	●
H-BH2-08016	8	4	16	100	8	B	●
H-BH2-10020	10	5	20	100	10	B	●
H-BH2-12024	12	6	24	100	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03 (mm)

工件材料 Workpiece Materials

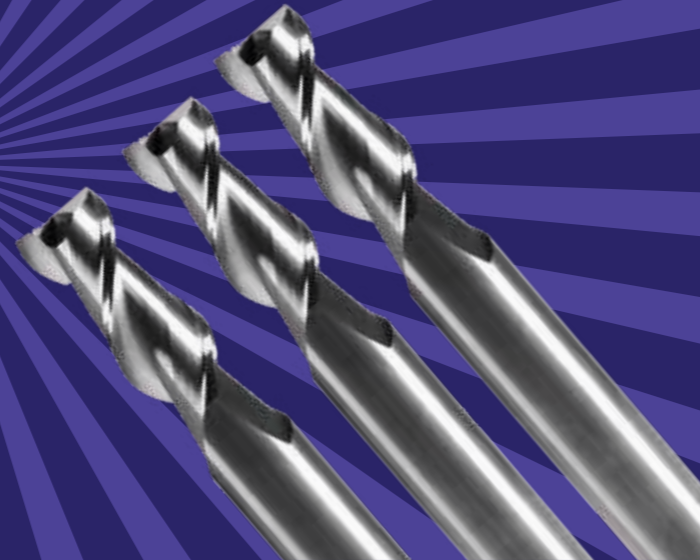
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○	◎	◎	○				○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P147

A系列

铝合金通用加工立铣刀 A series endmill for aluminium alloys general machining



大前角和特殊周刃设计有效防止积屑瘤的产生,能够在精加工中完美表现
Big rake angle and special flute design effectively prevent build-up-edge, making the tool perform well in finishing

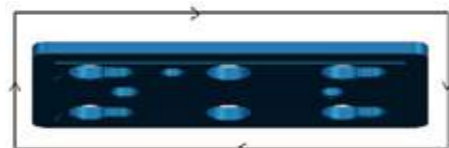
独特的容屑槽设计,保证刀具强度及排屑性能,大幅提高了加工稳定性
Special groove design guarantee both tool strength and chip removal performance, increasing machining stability a lot

超细颗粒硬质合金基体,刀具耐磨性和切削刃强度得到完美结合
Ultra fine substrate, good wear resistance and cutting edge strength

- 刀具型号: A-S3-06016
- 刀具规格: D6*16*50*d6
- 加工材料: AL6063
- 切削速度: 12000RPM
- 进给速度: 600mm/min
- 切削方式: 精加工、侧铣
- 切削量: ap=5mm, ae=0.05mm
- 冷却方式: 乳化液
- Model No:A-S3-06016
- Specification:D6*16*50*d6
- Workpiece material:AL6063
- Cutting speed:12000RPM
- Feed rate:600mm/min
- Way of cutting:finishing, side milling
- ap, ae: ap=5mm, ae=0.05mm
- Coolant:emulsion

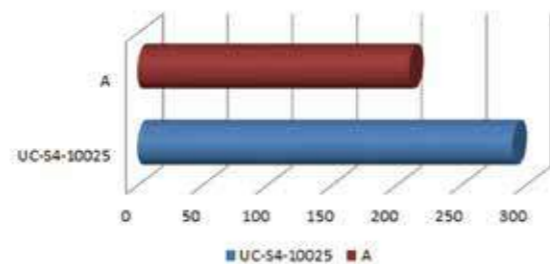


加工表面质量 (20X)
The machining surface (20X)



走刀轨迹
Cutting Path

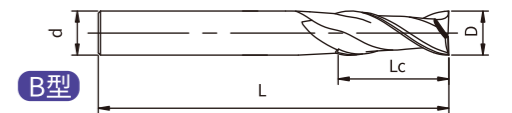
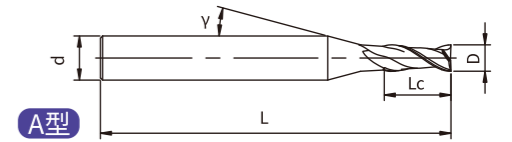
加工寿命
Tool life



A-S2/SS2/SL2

2刃平头铝合金加工立铣刀

2 flute, square endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-S2-01003	1	3	50	4	A	●
A-SL2-01005	1	5	50	4	A	○
A-S2-01203	1.2	3	50	4	A	○
A-SS2-01503	1.5	3	50	4	A	○
A-S2-01504	1.5	4	50	4	A	●
A-SL2-01505	1.5	5	50	4	A	○
A-SL2-01506	1.5	6	50	4	A	○
A-SS2-02004	2	4	50	4	A	○
A-S2-02006	2	6	50	4	A	●
A-SL2-02008	2	8	50	4	A	○
A-S2-02508	2.5	8	50	4	A	○
A-SS2-03006	3	6	50	4	A	○
A-S2-03009	3	9	50	4	A	●
A-S2-63009	3	9	50	6	A	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

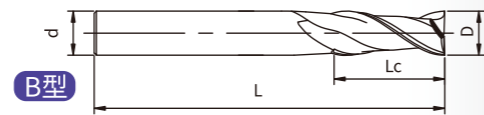
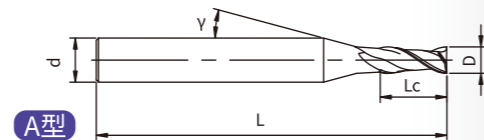
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P149

A-S2/SS2/SL2

2刃平头铝合金加工立铣刀

2 flute, square endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-SS2-04006	4	6	50	4	B	○
A-S2-04011	4	11	50	4	B	●
A-S2-64011	4	11	50	6	A	○
A-S2-05013	5	13	50	6	A	○
A-SS2-06009	6	9	50	6	B	○
A-SS2-06012	6	12	50	6	B	○
A-S2-06016	6	16	50	6	B	●
A-SS2-08009	8	9	60	8	B	○
A-SS2-08015	8	15	60	8	B	○
A-S2-08020	8	20	60	8	B	●
A-SS2-10015	10	15	75	10	B	○
A-S2-10025	10	25	75	10	B	○
A-SS2-12015	12	15	75	10	B	○
A-S2-12030	12	30	75	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

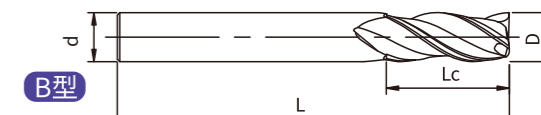
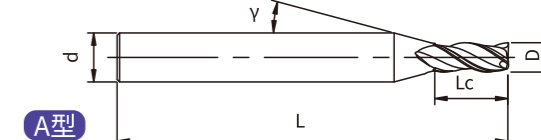
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P149

A-S3/SS3/SL3

3刃平头铝合金加工立铣刀

3 flute, square endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-S3-01003	1	3	50	4	A	●
A-SL3-01005	1	5	50	4	A	○
A-S3-01203	1.2	3	50	4	A	○
A-S3-01504	1.5	4	50	4	A	●
A-SL3-01505	1.5	5	50	4	A	○
A-SS3-02004	2	4	50	4	A	○
A-S3-02006	2	6	50	4	A	●
A-S3-02508	2.5	8	50	4	A	●
A-SS3-03006	3	6	50	4	A	○
A-S3-03009	3	9	50	4	A	●
A-SS3-04006	4	6	50	4	B	○
A-S3-04011	4	11	50	4	B	●
A-S3-64011	4	11	50	6	A	○
A-S3-05013	5	13	50	6	A	●
A-SS3-06012	6	12	50	6	B	●
A-S3-06016	6	16	50	6	B	●
A-SS3-08015	8	15	60	8	B	○
A-S3-08020	8	20	60	8	B	●
A-SS3-10015	10	15	75	10	B	○
A-S3-10025	10	25	75	10	B	○
A-SS3-12015	12	15	75	10	B	○
A-S3-12030	12	30	75	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

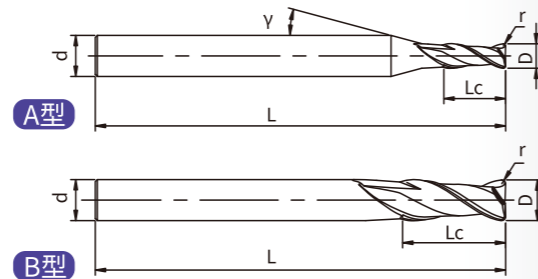
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P150

A-R2/RS2/RS2

2刃圆角头铝合金加工立铣刀

2 flute, corner radius endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner Radius	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-R2-01001	1	3	0.1	50	4	A	●
A-R2-01002	1	3	0.2	50	4	A	○
A-R2-01202	1.2	3	0.2	50	4	A	○
A-RL2-01502	1.5	6	0.2	50	4	A	○
A-R2-02002	2	6	0.2	50	4	A	○
A-R2-02005	2	6	0.5	50	4	A	●
A-R2-03002	3	9	0.2	50	4	A	●
A-R2-03003	3	9	0.3	50	4	A	○
A-R2-03005	3	9	0.5	50	4	A	○
A-R2-04002	4	11	0.2	50	4	B	●
A-RS2-04005	4	6	0.5	50	4	B	○
A-R2-05002	5	13	0.2	50	6	A	○
A-R2-05003	5	13	0.3	50	6	A	○
A-R2-06005	6	16	0.5	50	6	B	○
A-R2-06010	6	16	1	50	6	B	○
A-R2-08005	8	20	0.5	60	8	B	○
A-R2-08010	8	20	1	60	8	B	○
A-RS2-10002	10	15	0.2	50	10	B	○
A-R2-10005	10	25	0.5	75	10	B	○
A-R2-10020	10	25	2	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

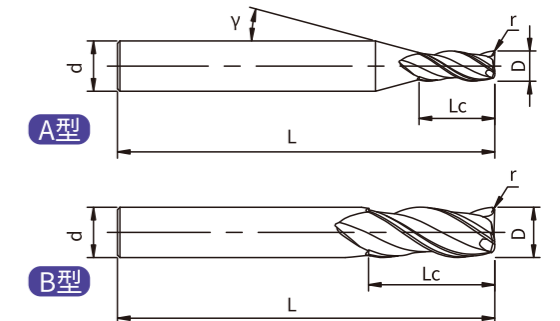
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P149

A-R3/RS3

3刃圆角头铝合金加工立铣刀

3 flute, corner radius endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner Radius	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-R3-02002	2	6	0.2	50	4	A	○
A-R3-03002	3	9	0.2	50	4	A	○
A-R3-04002	4	11	0.2	50	4	B	○
A-R3-04005	4	11	0.5	50	4	B	○
A-R3-05002	5	13	0.2	50	6	A	○
A-R3-05005	5	13	0.5	50	6	A	○
A-R3-06005	6	16	0.5	50	6	B	○
A-R3-06010	6	16	1	50	6	B	○
A-RS3-08002	8	9	0.2	60	8	B	○
A-R3-08005	8	20	0.5	60	8	B	○
A-R3-08010	8	20	1	60	8	B	○
A-R3-10005	10	25	0.5	75	10	B	○
A-RS3-10005	10	10	0.5	50	10	B	○
A-R3-10020	10	25	2	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

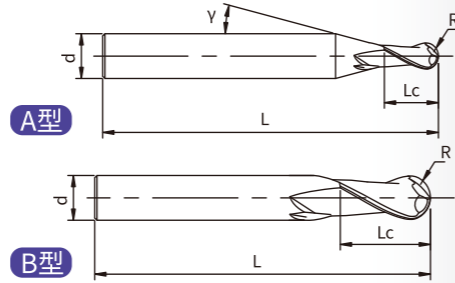
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P150

A-B2

2刃球头铝合金加工立铣刀

2 flute, ballnose endmill for aluminium alloys
general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
A-B2-01002	1	0.5	2	50	4	A	○
A-B2-02004	2	1	4	50	4	A	○
A-B2-02006	2	1	6	50	4	A	○
A-B2-03006	3	1.5	6	50	4	A	○
A-B2-04008	4	2	8	50	4	B	○
A-B2-64009	4	2	9	50	6	A	○
A-B2-06012	6	3	12	50	6	B	○
A-B2-08014	8	4	14	60	8	B	○
A-B2-10018	10	5	18	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R < 3	±0.015
R ≥ 3	±0.02

(mm)

工件材料 Workpiece Materials

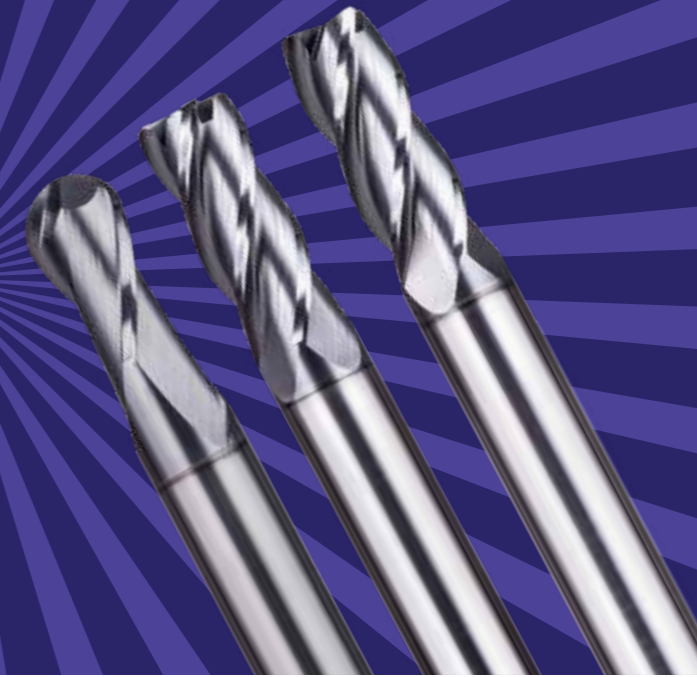
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P151

S系列

不锈钢通用加工立铣刀
S series endmill for stainless steels
general machining



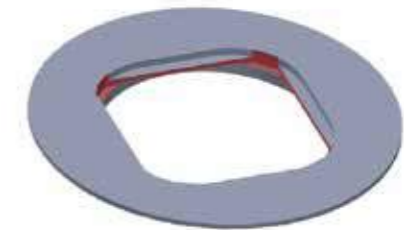
采用超细硬质合金和TiAlN涂层, 耐高温, 耐磨损, 涂层表面光滑, 降低切削阻力
Use ultra fine carbide and TiAlN coating, good heat resistance and wear resistance, Smooth coating surface reduces cutting force

独特的刃口设计, 有效解决刀具刃口粘屑问题
Special cutting edge design, effectively solve the issue of sticky chip on cutting edge

全尖角保护设计, 使刀具具有良好的抗崩性能, 满足通用加工需求
Full angle protection design gives the tool with good anti-breaking performance, which is suitable for general machining

- 刀具型号: S-S2-01504
- 刀具规格: D1.5*4*50*d4
- 加工材料: SUS316L(HB150-200)
- 切削速度: 12000RPM
- 进给速度: 2025mm/min
- 切削方式: 方肩铣、侧铣
- 切削量: 方肩铣 ap=0.6mm, ae=0.3mm
侧铣 ap=0.3mm, ae=0.03mm
- 冷却方式: 油冷

- Model No:S-S2-01504
- Specification:D1.5*4*50*d4
- Workpiece material:SUS316L(HB150-200)
- Cutting speed:12000RPM
- Feed rate:2025mm/min
- Way of cutting:shoulder milling, side milling
- ap, ae: shoulder milling ap=0.6mm, ae=0.3mm
side milling ap=0.3mm, ae=0.03mm
- Coolant:oil



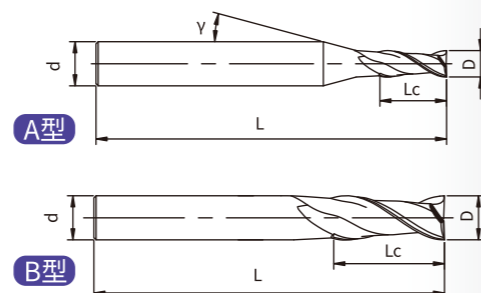
红色为加工区



S-S2

2刃平头不锈钢通用加工立铣刀

2 flute, square endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-S2-00501	0.5	1	50	4	A	●
S-S2-00802	0.8	2	50	4	A	●
S-S2-01003	1	3	50	4	A	●
S-S2-01504	1.5	4	50	4	A	●
S-S2-02006	2	6	50	4	A	●
S-S2-02508	2.5	8	50	4	A	●
S-S2-03009	3	9	50	4	A	●
S-S2-04011	4	11	50	4	B	●
S-S2-06016	6	16	50	6	B	●
S-S2-08020	8	20	60	8	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	$\begin{matrix} 0 \\ -0.02 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

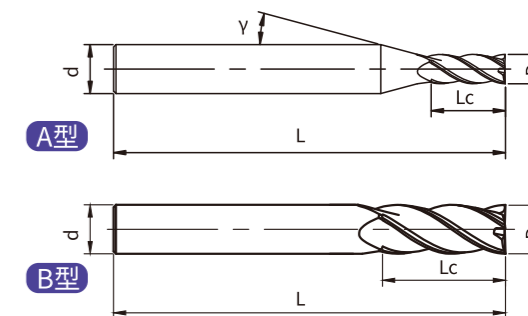
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P152

S-SS4

4刃短刃平头不锈钢通用加工立铣刀

4 flute, square short flute endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-SS4-02004	2	4	50	4	A	●
S-SS4-03004	3	4	50	4	A	●
S-SS4-04006	4	6	50	4	B	●
S-SS4-05008	5	8	50	6	A	○
S-SS4-06009	6	9	50	6	B	●
S-SS4-08010	8	10	60	8	B	●
S-SS4-10012	10	12	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	$\begin{matrix} 0 \\ -0.02 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

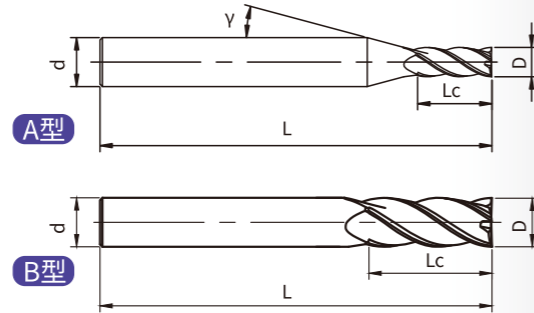
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P154

S-S4

4刃平头不锈钢通用加工立铣刀

4 flute, square endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-S4-01003	1	3	50	4	A	●
S-S4-01504	1.5	4	50	4	A	●
S-S4-02006	2	6	50	4	A	●
S-S4-02508	2.5	8	50	4	A	●
S-S4-03009	3	9	50	4	A	●
S-S4-03510	3.5	10	50	4	A	○
S-S4-04011	4	11	50	4	B	●
S-S4-64011	4	11	50	6	A	●
S-S4-05013	5	13	50	6	A	○
S-S4-06016	6	16	50	6	B	●
S-S4-08020	8	20	60	8	B	●
S-S4-10025	10	25	75	10	B	○
S-S4-12030	12	30	75	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

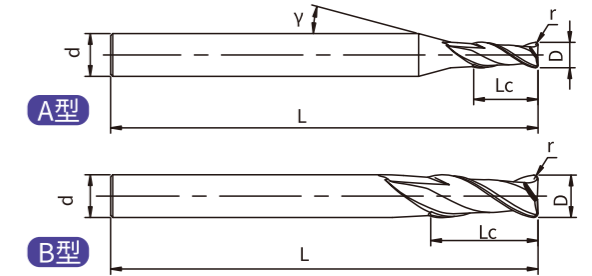
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P154

S-R2

2刃圆角头不锈钢通用加工立铣刀

2 flute, corner radius endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-R2-03003	3	9	0.3	50	4	A	○
S-R2-03005	3	9	0.5	50	4	A	○
S-R2-04003	4	11	0.3	50	4	B	○
S-R2-64002	4	11	0.2	50	6	A	○
S-R2-64003	4	11	0.3	50	6	A	○
S-R2-64005	4	11	0.5	50	6	A	○
S-R2-05002	5	13	0.2	50	6	A	○
S-R2-05003	5	13	0.3	50	6	A	○
S-R2-05005	5	13	0.5	50	6	A	○
S-R2-06002	6	16	0.2	50	6	B	○
S-R2-06003	6	16	0.3	50	6	B	○
S-R2-06005	6	16	0.5	50	6	B	○
S-R2-08005	8	20	0.5	60	8	B	○
S-R2-08010	8	20	1.0	60	8	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

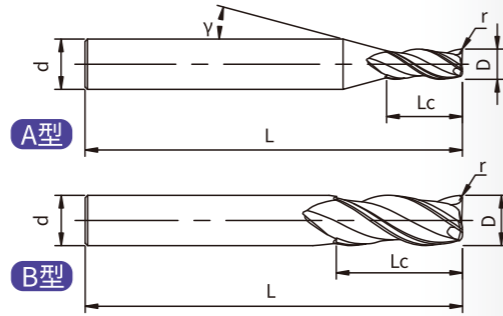
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P152

S-R3

3刃圆角头不锈钢通用加工立铣刀

3 flute, corner radius endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-R3-02001	2	6	0.1	50	4	A	●
S-R3-02002	2	6	0.2	50	4	A	●
S-R3-04002	4	11	0.2	50	4	B	●
S-R3-64005	4	11	0.5	50	6	A	●
S-R3-06002	6	16	0.2	50	6	B	○
S-R3-06005	6	16	0.5	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	$\begin{matrix} 0 \\ -0.02 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

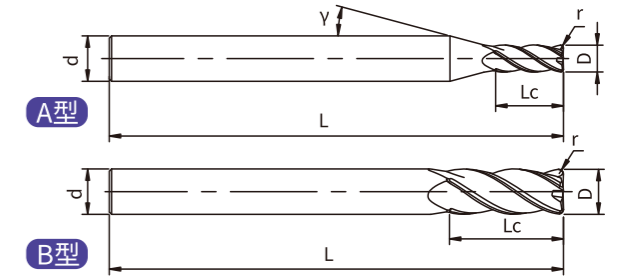
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P153

S-R4/RS4

4刃短刃圆角头不锈钢通用加工立铣刀

4 flute, corner radius short flute endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	圆角(r) Corner	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-R4-02002	2	6	0.2	50	4	A	●
S-R4-03003	3	9	0.3	50	4	A	○
S-R4-03005	3	9	0.5	50	4	A	○
S-R4-04003	4	11	0.3	50	4	B	○
S-R4-04005	4	11	0.5	50	4	B	○
S-R4-64002	4	11	0.2	50	6	A	●
S-R4-64003	4	11	0.3	50	6	A	○
S-R4-05005	5	13	0.5	50	6	B	○
S-R4-06005	6	16	0.5	50	6	B	●
S-RS4-06005	6	6	0.5	50	6	B	●
S-R4-08002	8	20	0.2	60	8	B	○
S-R4-08005	8	20	0.5	60	8	B	●
S-R4-08010	8	20	1	60	8	B	○
S-R4-10005	10	25	0.5	75	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	$\begin{matrix} 0 \\ -0.02 \end{matrix}$ (mm)

工件材料 Workpiece Materials

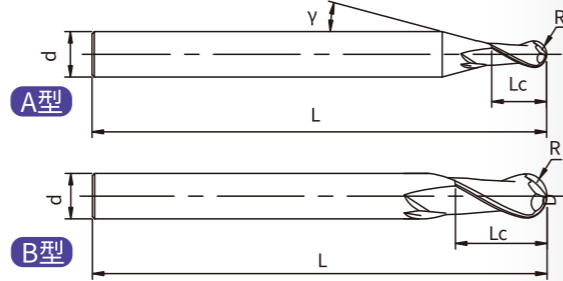
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P154

S-B2

2刃球头不锈钢通用加工立铣刀
2 flute, ballnose endmill for stainless steel
general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	类型 Type	库存 Stock
S-B2-01002	1	0.5	2	50	4	A	○
S-B2-01503	1.5	0.75	3	50	4	A	○
S-B2-02004	2	1	4	50	4	A	○
S-B2-03006	3	1.5	6	50	4	A	○
S-B2-63006	3	1.5	6	50	6	A	○
S-B2-04008	4	2	8	50	4	B	○
S-B2-64008	4	2	8	50	6	A	○
S-B2-05010	5	2.5	10	50	6	A	○
S-B2-06012	6	3	12	50	6	B	○
S-B2-08014	8	4	14	60	8	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球头半径R	公差 Tol.
R < 3	±0.015
R ≥ 3	±0.02 (mm)

工件材料 Workpiece Materials

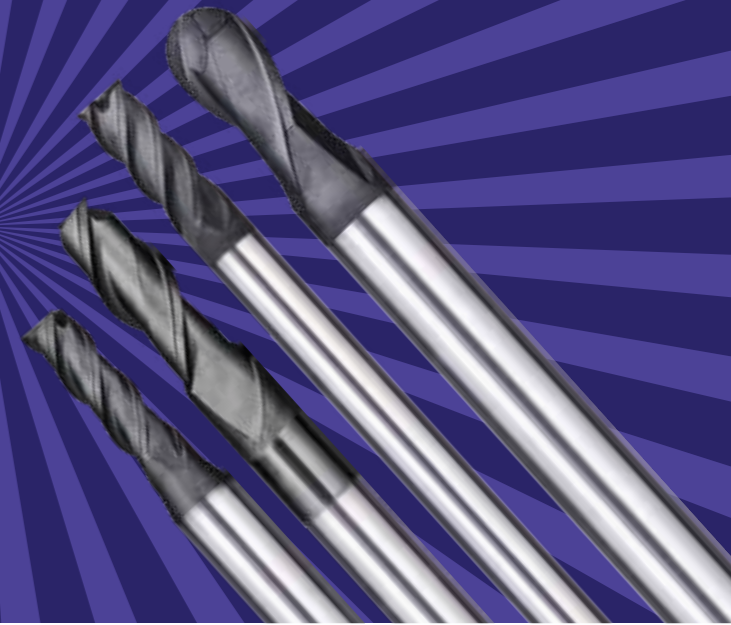
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P155

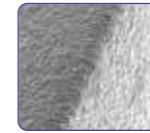
G系列

金刚石涂层立铣刀
G series endmill for graphite
machining



采用高纯度金刚石涂层, 基体与涂层粘性强, 具有良好的耐磨性, 能够实现刀具长寿命加工
Use high pure diamond coating, perfect adhesiveness between substrate and coating; Good wear resistance enable longer life during machining

适用于石墨电极、石墨模具等石墨工件的精加工、半精加工, 推荐使用气冷
Suitable for finishing & semi-finishing of graphite workpiece such as graphite electrode, graphite mould, etc., recommending gas coolant



金刚石涂层刀具刃口形貌
Cutting edge picture of diamond coating tool



金刚石涂层刀具表层形貌图
Surface picture of diamond coating tool



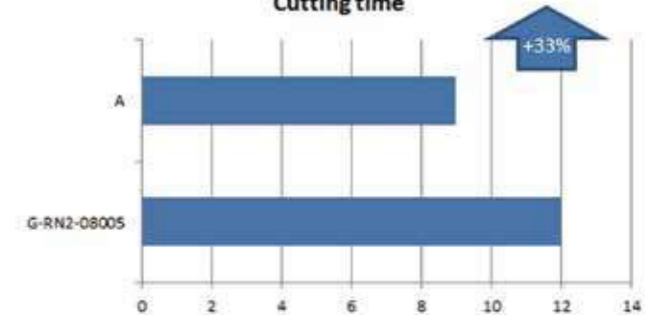
金刚石涂层刀具断面图
Cross section picture of diamond coating tool

- 刀具型号: G-RN2-08005
- 刀具规格: D8*R0.5*12*30*100*d8
- 加工材料: 石墨
- 切削速度: 10000RPM
- 进给速度: 3000mm/min
- 切削方式: 侧铣
- 切削量: ap=0.15mm, ae=0.2mm
- 冷却方式: 气冷

- Model No:G-RN2-08005
- Specification:D8*R0.5*12*30*100*d8
- Workpiece material:Graphite
- Cutting speed:10000RPM
- Feed rate:3000mm/min
- Way of cutting: side milling
- ap, ae: ap=0.15mm, ae=0.2mm
- Coolant:Gas



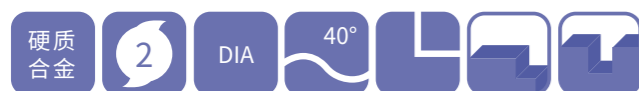
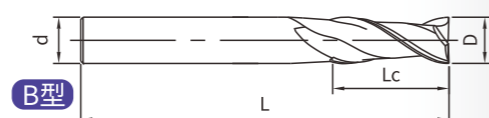
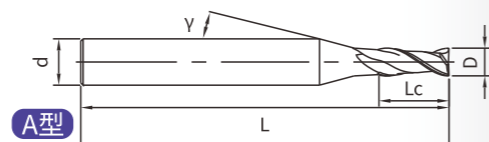
加工时间
Cutting time



G-S2

石墨加工2刃平头立铣刀

2 flute, square endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-S2-004008	0.4	0.8	50	4	A	●
G-S2-00802	0.8	2	50	4	A	●
G-S2-01003	1	3	60	4	A	●
G-S2-01506	1.5	6	60	4	A	●
G-S2-02006	2	6	60	4	A	●
G-S2-03009	3	9	60	4	A	●
G-S2-63009	3	9	60	6	A	○
G-S2-04012	4	12	60	4	B	●
G-S2-64012	4	12	60	6	A	○
G-S2-05015	5	15	60	6	A	○
G-S2-06018	6	18	60	6	B	●
G-S2-08024	8	24	75	8	B	●
G-S2-10025	10	25	80	10	B	○
G-S2-12025	12	25	80	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
0.2 ≤ D < 6	0 -0.015
6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

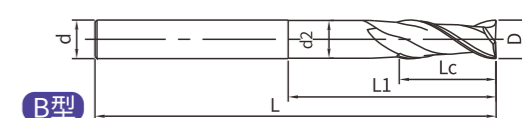
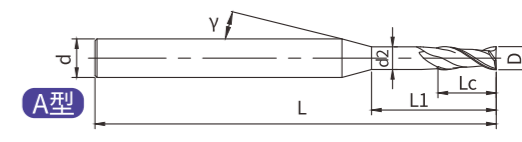
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P156

G-SN2

石墨加工2刃长颈立铣刀

2 flute, long neck endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	颈长(L1) Under Neck Length	颈径(d2) Neck Dia.	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-SN2-01005	1	3	5	0.95	60	4	A	●
G-SN2-01510	1.5	6	10	1.44	60	4	A	●
G-SN2-02015	2	8	15	1.92	60	4	A	●
G-SN2-02020	2	8	20	1.92	60	4	A	○
G-SN2-03015	3	12	15	2.9	60	4	A	●
G-SN2-04020	4	16	20	3.9	60	4	B	○
G-SN2-04025	4	16	25	3.9	75	4	B	●
G-SN2-04040	4	16	40	3.9	75	4	B	○
G-SN2-05030	5	20	30	4.9	75	6	A	●
G-SN2-06030	6	24	30	5.9	75	6	B	●
G-SN2-08040	8	24	40	7.9	150	8	B	●
G-SN2-10040	10	25	40	9.8	150	10	B	○
G-SN2-12040	12	25	40	11.8	150	12	B	●
G-SN2-12060	12	25	60	11.8	150	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
0.2 ≤ D < 6	0 -0.015
6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

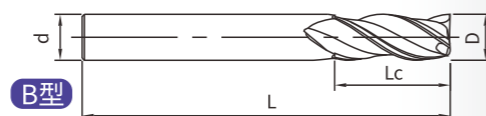
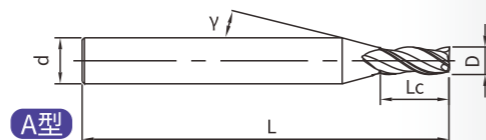
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P156

G-S3

石墨加工3刃平头立铣刀

3 flute, square endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-S3-01003	1	3	60	4	A	●
G-S3-01506	1.5	6	60	4	A	●
G-S3-02006	2	6	60	4	A	●
G-S3-03009	3	9	60	4	A	●
G-S3-63009	3	9	60	6	A	○
G-S3-04012	4	12	60	4	B	●
G-S3-64012	4	12	60	6	A	○
G-S3-06018	6	18	60	6	B	●
G-S3-08024	8	24	75	8	B	●
G-S3-10025	10	25	80	10	B	●
G-S3-12025	12	25	80	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
0.2 ≤ D < 6	0 -0.015
6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

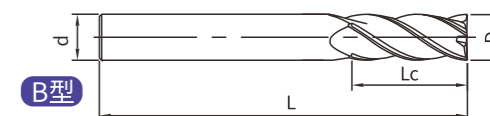
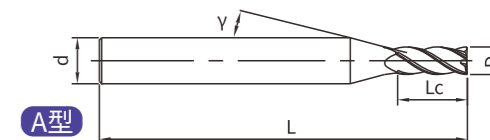
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P157

G-S4

石墨加工4刃平头立铣刀

4 flute, square endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-S4-02006	2	6	60	4	A	●
G-S4-03009	3	9	60	4	A	●
G-S4-63009	3	9	60	6	A	○
G-S4-04012	4	12	60	4	B	●
G-S4-64012	4	12	60	6	A	○
G-S4-05015	5	15	60	6	A	●
G-S4-06018	6	18	60	6	B	●
G-S4-08024	8	24	75	8	B	●
G-S4-10025	10	25	80	10	B	●
G-S4-12025	12	25	80	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
0.2 ≤ D < 6	0 -0.015
6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

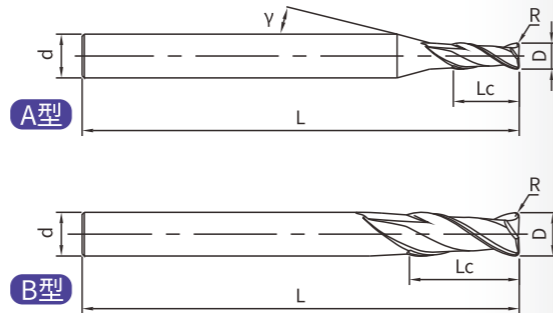
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

G-R2

石墨加工2刃圆角头立铣刀

2 flute, corner radius endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-R2-02002	2	0.2	3.5	60	4	A	●
G-R2-03002	3	0.2	4	60	4	A	●
G-R2-04002	4	0.2	5	60	4	B	●
G-R2-04005	4	0.5	5	60	4	B	●
G-R2-05005	5	0.5	6	75	6	A	●
G-R2-06003	6	0.3	9	75	6	B	●
G-R2-06005	6	0.5	9	75	6	B	●
G-R2-08005	8	0.5	12	75	8	B	●
G-R2-08010	8	1	12	75	8	B	○
G-R2-10005	10	0.5	15	100	10	B	●
G-R2-10010	10	1	15	100	10	B	●
G-R2-10015	10	1.5	15	100	10	B	○
G-R2-12005	12	0.5	18	100	12	B	○
G-R2-12010	12	1	18	100	12	B	○
G-R2-12015	12	1.5	18	100	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

圆角半径R	公差 Tol.	外径D	公差 Tol.
R	±0.01 (mm)	0.2 ≤ D < 6	$\begin{matrix} 0 \\ -0.015 \end{matrix}$
		6 ≤ D ≤ 12	$\begin{matrix} 0 \\ -0.025 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

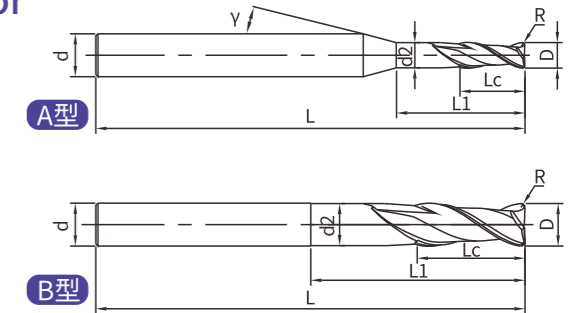
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P157

G-RN2

石墨加工2刃长颈圆角头立铣刀

2 flute, corner radius long neck endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	颈长(L1) Under Neck Length	颈径(d2) Neck Dia.	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-RN2-02002	2	0.2	3.5	6	1.92	60	4	A	●
G-RN2-02003	2	0.3	3.5	6	1.92	60	4	A	○
G-RN2-02005	2	0.5	3.5	6	1.92	60	4	A	○
G-RN2-03002	3	0.2	4	10	2.9	60	4	A	●
G-RN2-03003	3	0.3	4	10	2.9	60	4	A	○
G-RN2-03005	3	0.5	4	10	2.9	60	4	A	○
G-RN2-04002	4	0.2	5	15	3.9	75	4	B	●
G-RN2-04005	4	0.5	5	15	3.9	75	4	B	●
G-RN2-04010	4	1	5	15	3.9	75	4	B	○
G-RN2-05002	5	0.2	6	15	4.9	100	6	A	○
G-RN2-05005	5	0.5	6	15	4.9	100	6	A	○
G-RN2-06002	6	0.2	7	20	5.9	100	6	B	●
G-RN2-06005	6	0.5	7	20	5.9	100	6	B	●
G-RN2-06010	6	1	7	20	5.9	100	6	B	○
G-RN2-08005	8	0.5	12	30	7.9	100	8	B	●
G-RN2-10005	10	0.5	15	35	9.8	100	10	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

圆角半径R	公差 Tol.	外径D	公差 Tol.
R	±0.01 (mm)	0.2 ≤ D < 6	$\begin{matrix} 0 \\ -0.015 \end{matrix}$
		6 ≤ D ≤ 12	$\begin{matrix} 0 \\ -0.025 \end{matrix}$ (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

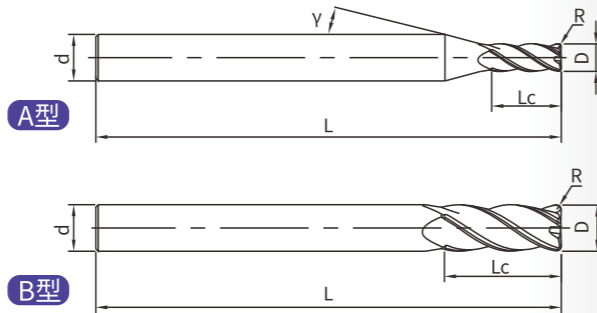
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

G-R4

石墨加工4刃圆角头立铣刀

4 flute, corner radius endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-R4-02002	2	0.2	3.5	60	4	A	●
G-R4-03002	3	0.2	4	60	4	A	○
G-R4-04002	4	0.2	6	60	4	B	●
G-R4-04005	4	0.5	6	60	4	B	●
G-R4-06003	6	0.3	9	75	6	B	○
G-R4-06005	6	0.5	9	75	6	B	●
G-R4-08005	8	0.5	12	75	8	B	●
G-R4-08010	8	1	12	75	8	B	○
G-R4-10005	10	0.5	15	100	10	B	●
G-R4-10010	10	1	15	100	10	B	○
G-R4-12005	12	0.5	18	100	12	B	○
G-R4-12010	12	1	18	100	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

圆角半径R	公差 Tol.	外径D	公差 Tol.
R	±0.01 (mm)	0.2 ≤ D < 6	0 -0.015
		6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

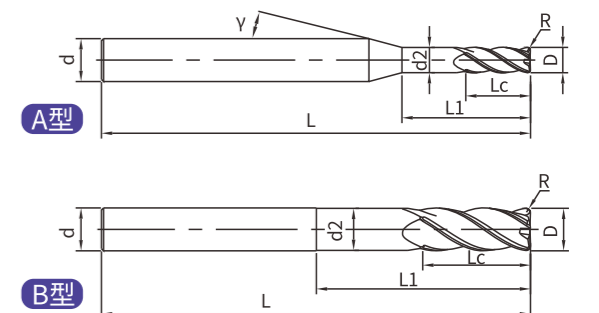
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

G-RN4

石墨加工4刃长颈圆角头立铣刀

4 flute, corner radius long neck endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	颈长(L1) Under Neck Length	颈径(d2) Neck Dia.	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-RN4-020015	2	0.15	3.5	6	1.92	60	4	A	○
G-RN4-02002	2	0.2	3.5	6	1.92	60	4	A	●
G-RN4-03002	3	0.2	4	10	2.9	60	4	A	●
G-RN4-03003	3	0.3	4	20	2.9	60	4	A	○
G-RN4-04002	4	0.2	6	20	3.9	75	4	B	●
G-RN4-04005	4	0.5	6	20	3.9	75	4	B	●
G-RN4-04010	4	1	6	20	3.9	75	4	B	○
G-RN4-06005	6	0.5	9	25	5.9	100	6	B	●
G-RN4-06010	6	1	9	25	5.9	100	6	B	○
G-RN4-06015	6	1.5	9	25	5.9	100	6	B	○
G-RN4-08005	8	0.5	12	30	7.9	100	8	B	●
G-RN4-08010	8	1	12	30	7.9	100	8	B	○
G-RN4-08020	8	2	12	30	7.9	100	8	B	○
G-RN4-10005	10	0.5	15	35	9.8	100	10	B	●
G-RN4-10010	10	1	15	35	9.8	100	10	B	○
G-RN4-12005	12	0.5	18	40	11.8	100	12	B	●
G-RN4-12010	12	1	18	40	11.8	100	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

圆角半径R	公差 Tol.	外径D	公差 Tol.
R	±0.01 (mm)	0.2 ≤ D < 6	0 -0.015
		6 ≤ D ≤ 12	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

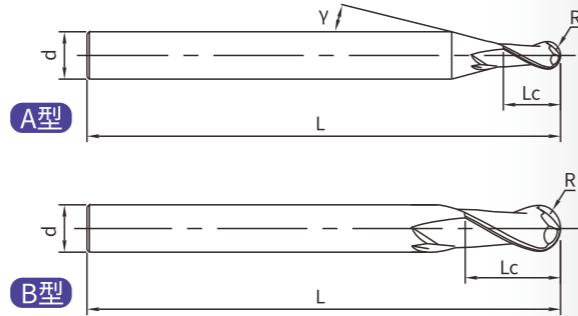
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

G-B2

石墨加工2刃球头立铣刀

2 flute, ball nose endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-B2-00502	0.5	0.25	2	50	4	A	●
G-B2-00602	0.6	0.3	2	50	4	A	●
G-B2-00803	0.8	0.4	3	50	4	A	●
G-B2-01003	1	0.5	3	60	4	A	●
G-B2-01505	1.5	0.75	5	60	4	A	●
G-B2-02006	2	1	6	60	4	A	●
G-B2-03008	3	1.5	8	60	4	A	○
G-B2-04016	4	2	16	60	4	B	●
G-B2-06016	6	3	16	60	6	B	●
G-B2-08020	8	4	20	80	8	B	●
G-B2-10025	10	5	25	100	10	B	○
G-B2-12025	12	6	25	100	12	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R<3	0 -0.015
3≤R≤6	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

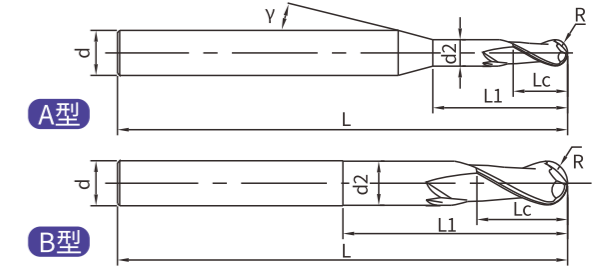
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

G-BN2

石墨加工2刃长颈球头立铣刀

2 flute, ball nose long neck endmill for graphite machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	颈长(L1) Under Neck Length	刃长(Lc) Flute Length	颈径(d2) Neck Dia.	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
G-BN2-00505	0.5	0.25	5	2	0.46	50	4	A	●
G-BN2-00606	0.6	0.3	6	2	0.55	50	4	A	●
G-BN2-00610	0.6	0.3	10	2	0.55	50	4	A	○
G-BN2-00808	0.8	0.4	8	3	0.75	50	4	A	●
G-BN2-00815	0.8	0.4	15	3	0.75	50	4	A	○
G-BN2-01008	1	0.5	8	3	0.95	60	4	A	○
G-BN2-01010	1	0.5	10	3	0.95	60	4	A	●
G-BN2-01508	1.5	0.75	8	5	1.44	75	4	A	●
G-BN2-01515	1.5	0.75	15	5	1.44	75	4	A	●
G-BN2-01525	1.5	0.75	25	5	1.44	75	4	A	○
G-BN2-02010	2	1	10	6	1.92	75	4	A	○
G-BN2-02015	2	1	15	6	1.92	75	4	A	●
G-BN2-02025	2	1	25	6	1.92	75	4	A	○
G-BN2-03015	3	1.5	15	8	2.9	75	4	A	●
G-BN2-03025	3	1.5	25	8	2.9	75	4	A	○
G-BN2-04025	4	2	25	12	3.9	75	4	B	●
G-BN2-04040	4	2	40	12	3.9	100	4	B	○
G-BN2-06025	6	3	25	18	5.9	75	6	B	●
G-BN2-06040	6	3	40	18	5.9	100	6	B	○
G-BN2-08030	8	4	30	20	7.9	100	8	B	●
G-BN2-08040	8	4	40	20	7.9	100	8	B	○
G-BN2-10035	10	5	35	25	9.8	100	10	B	●
G-BN2-10050	10	5	50	25	9.8	100	10	B	○
G-BN2-12050	12	6	50	25	11.8	100	12	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球半径R	公差 Tol.
R<3	0 -0.015
3≤R≤6	0 -0.025 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	石墨 Graphite
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数P158

UM系列

小径深加工立铣刀 UM series endmill for small diameter deep machining



特殊的避空设计,耐折损性高
Special reduced neck design gives high breakage resistance

适用于碳钢、合金钢、淬硬钢、铜、铝合金 (<55HRC) 的深沟槽微加工
Suitable for small diameter & deep machining of carbon steel, alloy steel, hardened steel, copper, aluminum alloy (<55HRC)

采用高性能超细晶基体配合高性能AlCrSiN涂层,耐高温,耐磨损,在重载粗加工况也能轻松驾驭
Use high performance ultra fine substrate, together with high performance AlCrSiN coating, good heat resistance and wear resistance. Also suitable for heavy roughing

高的刃径精度 Flute diameter tolerance	0.1≤D≤0.5: $\begin{matrix} 0 \\ -0.007 \end{matrix}$ 0.6≤D≤0.9: $\begin{matrix} 0 \\ -0.010 \end{matrix}$ 1.0≤D≤6.0: $\begin{matrix} 0 \\ -0.015 \end{matrix}$
高的R弧轮廓精度 R profile tolerance	R±0.005
高的球头轮廓精度 Ball nose profile tolerance	R≤0.25, R±0.003 R>0.25, R±0.005
高的刀柄外径精度 Shank diameter tolerance	h5

- 刀具型号: UM-BN2-006040
- 刀具规格: R0.3*0.48*4*50*d4
- 加工材料: 铜钨合金 (25~30HRC)
- 切削速度: 30000RPM
- 进给速度: 500mm/min
- 切削方式: 仿形精加工
- 切削量: ap=0.01mm, ae=0.02mm
- 冷却方式: 油雾冷却

- Model No:UM-BN2-006040
- Specification:R0.3*0.48*4*50*d4
- Workpiece material:Coper tungsten alloy (25~30HRC)
- Cutting speed:30000RPM
- Feed rate:500mm/min
- Way of cutting:profile finish milling
- ap, ae:ap=0.01mm, ae=0.02mm
- Coolant:Oil mist

- 刀具型号: UM-RN2-101008
- 刀具规格: D1*R0.1*0.8*10*50*d4
- 加工材料: NAK80 (42HRC)
- 切削速度: 26438RPM
- 进给速度: 634mm/min
- 切削方式: 等高线顺铣
- 切削量: ap=0.016mm
- 冷却方式: 气冷
- Model No:UM-RN2-101008
- Specification:D1*R0.1*0.8*10*50*d4
- Workpiece material:NAK80 (42HRC)
- Cutting speed:26438RPM
- Feed rate:634mm/min
- Way of cutting: contour milling
- ap, ae:ap=0.016mm
- Coolant:air coolant

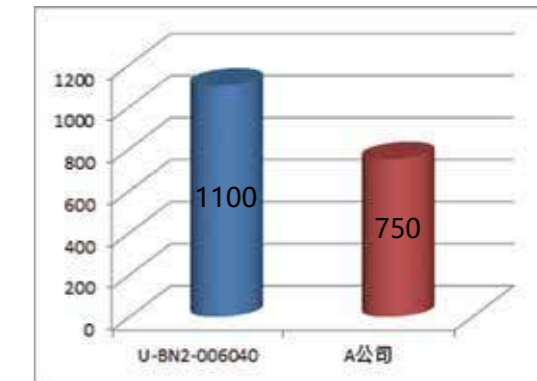


UM-BN2-006040

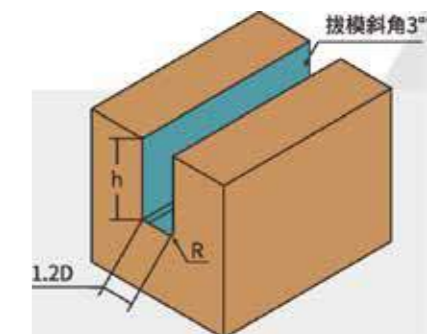
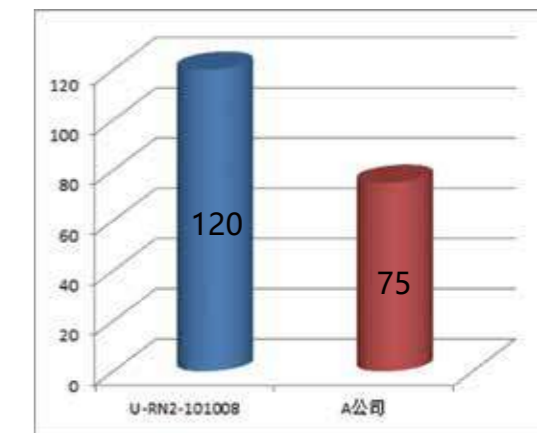


A

加工时间 (min)
Processing time

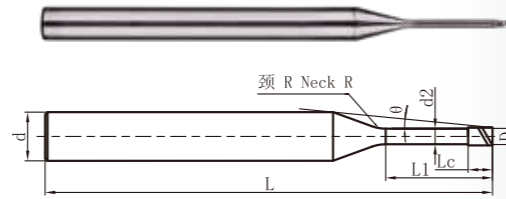


加工距离 (m)
Cutting length



UM-SN2

小径深加工2刃平头立铣刀
2 flute, square endmill for small diameter & deep machining



订货号 Ordering Code	外径 (D) Mill Dia.	颈长 (L1) Under Neck Length	刃长 (Lc) Flute Length	颈径 (d2) Neck Dia.	全长 (L) Overall Length	柄径 (d) Shank Dia.	颈 (R) Neck R	干涉角 (θ) Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
									0.5°	1°	1.5°	2°	3°	
									UM-SN2-15200		20			
UM-SN2-15250		25			65			2.41	25.99	26.9	27.87	28.91	-	●
UM-SN2-15300	1.5	30	2.25	1.44	70	4	4	2.06	31.16	32.25	33.41	34.66	-	●
UM-SN2-15350		35			75			1.80	36.33	37.59	38.95	-	-	●
UM-SN2-15400		40			80			1.60	41.50	42.94	44.49	-	-	●
UM-SN2-16060	1.6	6	2.4	1.54	50	4	4	6.45	6.33	6.57	6.81	7.07	7.64	●
UM-SN2-16080		8			50			5.43	8.41	8.71	9.03	9.37	10.13	●
UM-SN2-18060	1.8	6	2.7	1.73	50	4	4	6.14	6.31	6.55	6.79	7.04	7.61	●
UM-SN2-18080		8			50			5.14	8.39	8.69	9.00	9.34	10.10	●
UM-SN2-20040		4			50			7.27	4.21	4.39	4.55	4.72	5.11	●
UM-SN2-20060		6			50			5.81	6.30	6.53	6.77	7.02	7.59	●
UM-SN2-20080		8			50			4.83	8.38	8.67	8.99	9.32	10.08	●
UM-SN2-20100		10			50			4.14	10.45	10.81	11.20	11.62	12.57	●
UM-SN2-20120		12			55			3.62	12.51	12.95	13.42	13.92	15.05	●
UM-SN2-20140		14			55			3.21	14.58	15.09	15.64	16.22	17.54	●
UM-SN2-20160	2	16	3	1.92	55	4	4	2.89	16.65	17.23	17.85	18.52	-	●
UM-SN2-20180		18			60			2.63	18.72	19.37	20.07	20.82	-	●
UM-SN2-20200		20			60			2.41	20.78	21.51	22.28	23.12	-	●
UM-SN2-20250		25			65			1.99	25.95	26.86	27.83	-	-	●
UM-SN2-20300		30			70			1.70	31.12	32.2	33.37	-	-	●
UM-SN2-20350		35			75			1.48	36.29	37.55	-	-	-	●
UM-SN2-20400		40			80			1.31	41.46	42.9	-	-	-	●
UM-SN2-20500		50			90			1.07	51.79	53.6	-	-	-	●
UM-SN2-25080		8			50			3.95	8.35	8.64	8.95	9.29	10.04	●
UM-SN2-25120		12			55			2.89	12.48	12.92	13.39	13.89	-	●
UM-SN2-25160		16			55			2.28	16.62	17.2	17.82	18.49	-	●
UM-SN2-25200	2.5	20	3.75	2.4	60	4	4	1.88	20.75	21.48	22.25	-	-	●
UM-SN2-25300		30			70			1.31	31.09	32.17	-	-	-	●
UM-SN2-25400		40			80			1.01	41.43	42.87	-	-	-	●
UM-SN2-25500		50			90			0.82	51.76	-	-	-	-	●
UM-SN2-30080		8			55			6.27	8.33	8.62	8.93	9.26	10.02	●
UM-SN2-30120		12			60			4.86	12.46	12.9	13.36	13.86	14.99	●
UM-SN2-30160		16			60			3.97	16.60	17.17	17.79	18.46	19.96	●
UM-SN2-30200	3	20	4.5	2.88	65	6	4	3.35	20.73	21.45	22.23	23.06	24.93	●
UM-SN2-30250		25			70			2.81	25.90	26.8	27.77	28.81	-	●
UM-SN2-30300		30			75			2.41	31.07	32.15	33.31	34.56	-	●
UM-SN2-30400		40			90			1.89	41.40	42.85	44.39	-	-	●
UM-SN2-30500		50			100			1.55	51.74	53.54	55.48	-	-	●
UM-SN2-40120		12			60			3.63	12.44	12.88	13.34	13.84	14.97	●
UM-SN2-40160		16			60			2.90	16.58	17.16	17.78	18.44	-	●
UM-SN2-40200	4	20	6	3.86	70	6	4	2.41	20.71	21.43	22.21	23.04	-	●
UM-SN2-40250		25			70			2.00	25.88	26.78	27.75	-	-	●
UM-SN2-40300		30			80			1.70	31.05	32.13	33.29	-	-	●

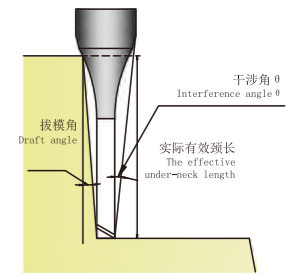
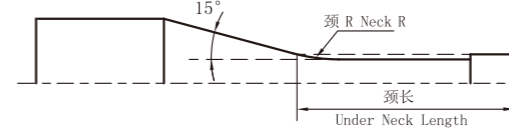
● 标准库存 Stock ○ 需预定 Available Upon Order 推荐切削参数 P161/P165

外径 D	公差 Tol.	外径 D	公差 Tol.	外径 D	公差 Tol.
0.1 ≤ D ≤ 0.5	0 -0.007	0.6 ≤ D ≤ 0.9	0 -0.01	1.0 ≤ D ≤ 6.0	0 -0.015

(mm)

UM-SN2

小径深加工2刃平头立铣刀
2 flute, square endmill for small diameter & deep machining



订货号 Ordering Code	外径 (D) Mill Dia.	颈长 (L1) Under Neck Length	刃长 (Lc) Flute Length	颈径 (d2) Neck Dia.	全长 (L) Overall Length	柄径 (d) Shank Dia.	颈 (R) Neck R	干涉角 (θ) Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
									0.5°	1°	1.5°	2°	3°	
									UM-SN2-40350		35			
UM-SN2-40400	4	40	6	3.86	90	6	4	1.31	41.39	42.83	-	-	-	●
UM-SN2-40500		50			100			1.07	51.72	53.52	-	-	-	●
UM-SN2-50200		20			70			1.31	20.71	21.43	-	-	-	●
UM-SN2-50250		25			70			1.07	25.87	26.78	-	-	-	●
UM-SN2-50300	5	30	7.5	4.85	80	6	4	0.90	31.04	-	-	-	-	●
UM-SN2-50400		40			90			0.69	41.38	-	-	-	-	●
UM-SN2-50500		50			100			0.56	51.72	-	-	-	-	●
UM-SN2-60200		20			70			-	-	-	-	-	-	●
UM-SN2-60300		30			80			-	-	-	-	-	-	●
UM-SN2-60400	6	40	9	5.85	90	6	-	-	-	-	-	-	-	●
UM-SN2-60500		50			100			-	-	-	-	-	-	●

● 标准库存 Stock ○ 需预定 Available Upon Order

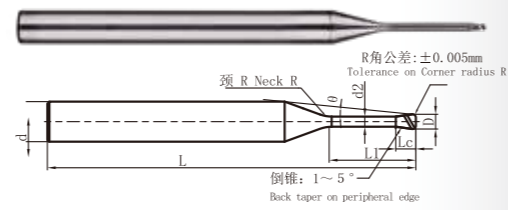
推荐切削参数 P162/P166

外径 D	公差 Tol.
0.1 ≤ D ≤ 0.5	0 -0.007
0.6 ≤ D ≤ 0.9	0 -0.01
1.0 ≤ D ≤ 6.0	0 -0.015

(mm)

UM-RN2

小径深加工2刃圆角头立铣刀
2 flute, corner radius endmill for small diameter & deep machining



订货号 Ordering Code	外径 (D) Mill Dia.	圆角 (R) Corner Radius	颈长 (L1) Under Neck Length	刃长 (Lc) Flute Length	颈径 (d2) Neck Dia.	全长 (L) Overall Length	柄径 (d) Shank Dia.	颈径 (R) Neck R	干涉角 (θ) Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
										0.5°	1°	1.5°	2°	3°	
										UM-RN2-30A030	3	1	30	2.4	
UM-RN2-30A035			35			50			2.17	36.20	37.43	38.74	40.16	-	●
UM-RN2-401008			8			55			4.90	8.31	8.59	8.90	9.23	9.97	●
UM-RN2-401012			12			55			3.66	12.44	12.87	13.33	13.83	14.94	●
UM-RN2-401016			16			60			2.91	16.57	17.15	17.76	18.43	-	●
UM-RN2-401020		0.1	20			65			2.42	20.71	21.43	22.20	23.30	-	●
UM-RN2-401030			30			70			1.71	31.50	32.12	33.28	-	-	●
UM-RN2-401035			35			50			1.49	36.21	37.47	-	-	-	●
UM-RN2-401045			45			50			1.18	46.55	48.17	-	-	-	●
UM-RN2-402008			8			50			4.94	8.30	8.58	8.89	9.21	9.94	●
UM-RN2-402012			12			55			3.68	12.44	12.86	13.32	13.81	14.92	●
UM-RN2-402016			16			55			2.93	16.57	17.14	17.75	18.41	-	●
UM-RN2-402020		0.2	20			60			2.43	20.71	21.42	22.19	23.01	-	●
UM-RN2-402030			30			65			1.71	31.04	32.12	33.27	-	-	●
UM-RN2-402035			35			70			1.49	36.21	37.47	-	-	-	●
UM-RN2-402045			45			50			1.18	46.55	48.16	-	-	-	●
UM-RN2-403008			8			50			4.99	8.30	8.58	8.88	9.20	9.92	●
UM-RN2-403012			12			50			3.70	12.43	12.86	13.31	13.80	14.89	●
UM-RN2-403016			16			55			2.94	16.57	17.13	17.74	18.40	-	●
UM-RN2-403020		0.3	20			55			2.44	20.70	21.41	22.18	23.00	-	●
UM-RN2-403030			30			60			1.72	31.04	32.11	33.26	-	-	●
UM-RN2-403035	4		35	3.2	3.86	65	6	4	1.49	36.21	37.46	-	-	-	●
UM-RN2-403045			45			70			1.19	46.54	48.16	-	-	-	●
UM-RN2-405012			12			50			3.75	12.43	12.84	13.29	13.77	14.84	●
UM-RN2-405016			16			50			2.97	16.56	17.12	17.72	18.37	-	●
UM-RN2-405020		0.5	20			55			2.47	20.70	21.40	22.15	22.97	-	●
UM-RN2-405030			30			55			1.73	31.03	32.10	33.24	-	-	●
UM-RN2-405035			35			60			1.50	36.20	37.44	-	-	-	●
UM-RN2-405045			45			65			1.19	46.54	48.14	-	-	-	●
UM-RN2-40A012			12			70			3.88	12.41	12.81	13.23	13.69	14.72	●
UM-RN2-40A016			16			50			3.50	16.54	17.09	17.67	18.29	19.70	●
UM-RN2-40A020		1	20			50			2.52	20.68	21.36	22.10	22.89	-	●
UM-RN2-40A030			30			55			1.75	31.02	32.06	33.18	-	-	●
UM-RN2-40A035			35			55			1.52	36.18	37.41	38.73	-	-	●
UM-RN2-40A045			45			60			1.20	46.52	48.11	-	-	-	●
UM-RN2-501020		0.1	20			65			1.32	20.70	21.42	-	-	-	●
UM-RN2-501040			40			70			0.69	41.38	-	-	-	-	●
UM-RN2-502020		0.2	20			50			1.32	20.70	21.41	-	-	-	●
UM-RN2-502040			40			60			0.69	41.37	-	-	-	-	●
UM-RN2-503020		0.3	20	4	4.85	70	6	4	1.33	20.69	21.41	-	-	-	●
UM-RN2-503040			40			50			0.69	41.37	-	-	-	-	●
UM-RN2-505020		0.5	20			60			1.34	20.69	21.39	-	-	-	●
UM-RN2-505040			40			85			0.70	41.36	-	-	-	-	●

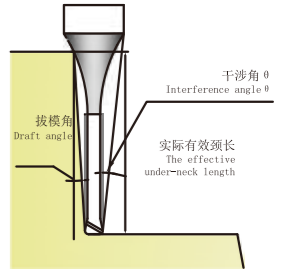
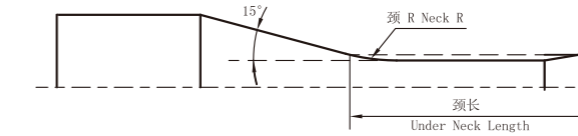
● 标准库存 Stock ○ 需预定 Available Upon Order

推荐切削参数 P183/P192

圆角 R	公差 Tol.
R	±0.005 (mm)

UM-RN2

小径深加工2刃圆角头立铣刀
2 flute, corner radius endmill for small diameter & deep machining



订货号 Ordering Code	外径 (D) Mill Dia.	圆角 (R) Corner Radius	颈长 (L1) Under Neck Length	刃长 (Lc) Flute Length	颈径 (d2) Neck Dia.	全长 (L) Overall Length	柄径 (d) Shank Dia.	颈径 (R) Neck R	干涉角 (θ) Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock
										0.5°	1°	1.5°	2°	3°	
										UM-RN2-50A020	5	1	20	4	
UM-RN2-50A040			40			85			0.71	41.34	-	-	-	-	●
UM-RN2-601012			12			50			-	-	-	-	-	-	●
UM-RN2-601018			18			60			-	-	-	-	-	-	●
UM-RN2-601024		0.1	24			70			-	-	-	-	-	-	●
UM-RN2-601035			35			80			-	-	-	-	-	-	●
UM-RN2-601055			55			100			-	-	-	-	-	-	●
UM-RN2-602012			12			50			-	-	-	-	-	-	●
UM-RN2-602018			18			60			-	-	-	-	-	-	●
UM-RN2-602024		0.2	24			70			-	-	-	-	-	-	●
UM-RN2-602035			35			80			-	-	-	-	-	-	●
UM-RN2-602055			55			100			-	-	-	-	-	-	●
UM-RN2-603012			12			50			-	-	-	-	-	-	●
UM-RN2-603018	6		18	4.8	5.85	60	6	-	-	-	-	-	-	-	●
UM-RN2-603024		0.3	24			70			-	-	-	-	-	-	●
UM-RN2-603035			35			80			-	-	-	-	-	-	●
UM-RN2-603055			55			100			-	-	-	-	-	-	●
UM-RN2-605018			18			60			-	-	-	-	-	-	●
UM-RN2-605024		0.5	24			70			-	-	-	-	-	-	●
UM-RN2-605035			35			80			-	-	-	-	-	-	●
UM-RN2-605055			55			100			-	-	-	-	-	-	●
UM-RN2-60A018			18			60			-	-	-	-	-	-	●
UM-RN2-60A024		1	24			70			-	-	-	-	-	-	●
UM-RN2-60A035			35			80			-	-	-	-	-	-	●
UM-RN2-60A055			55			100			-	-	-	-	-	-	●

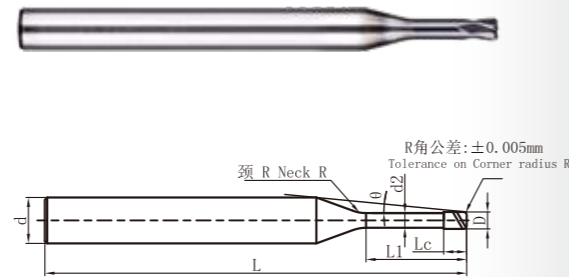
● 标准库存 Stock ○ 需预定 Available Upon Order

推荐切削参数 P184/P193

圆角 R	公差 Tol.
R	±0.005 (mm)

UM-RN4

小径深加工4刃圆角头立铣刀
4 flute, corner radius endmill for small diameter & deep machining



订货号 Ordering Code	外径 (D) Mill Dia.	圆角 (R) Corner Radius	颈长 (L1) Under Neck Length	刃长 (Lc) Flute Length	颈径 (d2) Neck Dia.	全长 (L) Overall Length	柄径 (d) Shank Dia.	颈 R Neck R	干涉角 (θ) Interference Angle	对应拔模角的有效颈长 The effective under-neck length for the various draft angles					库存 Stock						
										0.5°	1°	1.5°	2°	3°							
UM-RN4-305025	3	0.5	25	2.4	2.88	70			2.85	25.88	26.77	27.72	28.74	-	●						
UM-RN4-305030			30			2.45			31.05	32.12	33.26	34.49	-	●							
UM-RN4-305035			35			2.14			36.22	37.46	38.80	40.23	-	●							
UM-RN4-401012	4	0.1	12	3.2	3.86	60			3.66	12.44	12.87	13.33	13.83	14.94	●						
UM-RN4-401020			20			2.42			20.71	21.43	22.20	23.03	-	●							
UM-RN4-401030			30			1.71			31.05	32.12	33.28	-	-	●							
UM-RN4-401040			40			1.32			41.38	42.82	-	-	-	●							
UM-RN4-402012			0.2			12			3.68	12.44	12.86	13.32	13.81	14.92	●						
UM-RN4-402020						20			2.43	20.71	21.42	22.19	23.01	-	●						
UM-RN4-402030		30				1.71			31.04	32.12	33.27	-	-	●							
UM-RN4-402040		40				1.32			41.38	42.81	-	-	-	●							
UM-RN4-403012		0.3				12			3.70	12.43	12.86	13.31	13.80	14.89	●						
UM-RN4-403020						20			2.44	20.70	21.41	22.18	23.00	-	●						
UM-RN4-403030			30			1.72			31.04	32.11	33.26	-	-	●							
UM-RN4-403040			40			1.32			41.38	42.81	-	-	-	●							
UM-RN4-405012	0.5		12	3.75	12.43	12.84	13.29	13.77	14.84	●											
UM-RN4-405020			20	2.47	20.70	21.40	22.15	22.97	-	●											
UM-RN4-405030		30	1.73	31.03	32.10	33.24	-	-	●												
UM-RN4-405040		40	1.33	41.37	42.79	-	-	-	●												
UM-RN4-501020		5	0.1	20	4	4.85	70	6	4	1.32	20.70	21.42	-	-	-	●					
UM-RN4-501040				40			0.69			41.38	-	-	-	-	●						
UM-RN4-502020	20			1.32			20.70			21.41	-	-	-	●							
UM-RN4-502040	40			0.69			41.37			-	-	-	-	●							
UM-RN4-503020	0.3			20			1.33			20.69	21.41	-	-	●							
UM-RN4-503040				40			0.69			41.37	-	-	-	●							
UM-RN4-505020			0.5	20			1.34			20.69	21.39	-	-	●							
UM-RN4-505040				40			0.70			41.36	-	-	-	●							
UM-RN4-50A020				1			20			1.38	20.67	21.36	-	-	●						
UM-RN4-50A040							40			0.71	41.34	-	-	-	●						
UM-RN4-602030	6						0.2			30	4	4.85	80			-	-	-	-	-	●
UM-RN4-602054										54			-			-	-	-	-	-	●
UM-RN4-602072		72	-		-	-		-	-	-			●								
UM-RN4-603030		30	-		-	-		-	-	-			●								
UM-RN4-603054		0.3	54	-	-	-		-	-	●											
UM-RN4-603072			72	-	-	-		-	-	●											
UM-RN4-605030			0.5	30	-	-	-	-	-	●											
UM-RN4-605054				54	-	-	-	-	-	●											
UM-RN4-605072				72	-	-	-	-	-	●											
UM-RN4-60A030				1	30	-	-	-	-	-			●								
UM-RN4-60A054		54			-	-	-	-	-	●											
UM-RN4-60A072		72			-	-	-	-	-	●											

● 标准库存 Stock ○ 需预定 Available Upon Order

推荐切削参数P197

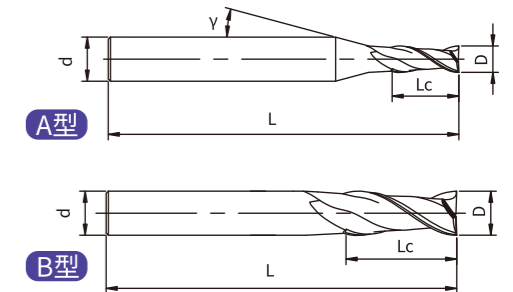
圆角R	公差 Tol.
R	±0.005 (mm)

E系列

经济型通用加工立铣刀
E series economic endmill for general machining

EA-S2

2刃平头铝合金加工立铣刀
2 flute, square endmill for aluminium alloys general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EA-S2-01003	1	3	50	4	A	●
EA-S2-01504	1.5	4	50	4	A	●
EA-S2-02006	2	6	50	4	A	●
EA-S2-03009	3	9	50	4	A	●
EA-S2-04011	4	11	50	4	B	●
EA-S2-63009	3	9	50	6	A	○
EA-S2-64011	4	11	50	6	A	○
EA-S2-05013	5	13	50	6	A	●
EA-S2-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 / -0.02 (mm)

工件材料 Workpiece Materials

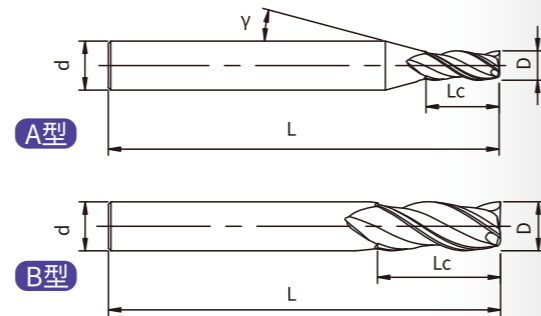
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

EA-S3

3刃平头铝合金加工立铣刀

3 flute, square endmill for aluminium alloys general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EA-S3-01003	1	3	50	4	A	●
EA-S3-01504	1.5	4	50	4	A	●
EA-S3-02006	2	6	50	4	A	●
EA-S3-02508	2.5	8	50	4	A	●
EA-S3-03009	3	9	50	4	A	●
EA-S3-04011	4	11	50	4	B	○
EA-S3-64011	4	11	50	6	A	○
EA-S3-05013	5	13	50	6	A	●
EA-S3-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02 (mm)

工件材料 Workpiece Materials

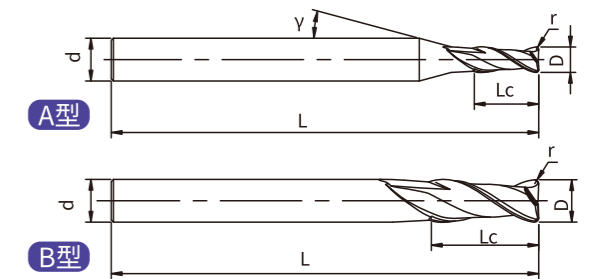
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

EA-R2

2刃圆角头铝合金加工立铣刀

2 flute, corner radius endmill for aluminium alloys general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EA-R2-01001	1	0.1	3	50	4	A	●
EA-R2-01002	1	0.2	3	50	4	A	○
EA-R2-01202	1.2	0.2	3	50	4	A	○
EA-R2-02002	2	0.2	6	50	4	A	○
EA-R2-02005	2	0.5	6	50	4	A	○
EA-R2-03002	3	0.2	9	50	4	A	○
EA-R2-03003	3	0.3	9	50	4	A	○
EA-R2-03005	3	0.5	9	50	4	A	○
EA-R2-04002	4	0.2	11	50	4	B	●
EA-R2-05002	5	0.2	13	50	6	A	○
EA-R2-05003	5	0.3	13	50	6	A	○
EA-R2-06005	6	0.5	16	50	6	B	○
EA-R2-06010	6	1	16	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02 (mm)

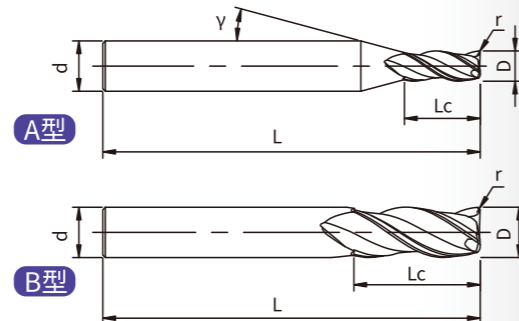
工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

EA-R3

3刃圆角头铝合金加工立铣刀
3 flute, corner radius endmill for aluminium alloys general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EA-R3-02002	2	0.2	6	50	4	A	●
EA-R3-03002	3	0.2	9	50	4	A	○
EA-R3-04002	4	0.2	11	50	4	B	○
EA-R3-04005	4	0.5	11	50	4	B	○
EA-R3-05002	5	0.2	13	50	6	A	○
EA-R3-05005	5	0.5	13	50	6	A	○
EA-R3-06005	6	0.5	16	50	6	B	○
EA-R3-06010	6	1	16	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02 (mm)

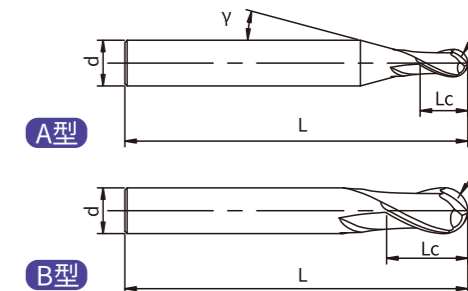
工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

EA-B2 2刃球头铝合金加工立铣刀

2 flute, ballnose endmill for aluminium alloys general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EA-B2-01002	1	0.5	2	50	4	B	○
EA-B2-02004	2	1	4	50	4	B	○
EA-B2-02006	2	1	6	50	4	B	○
EA-B2-03006	3	1.5	6	50	4	B	○
EA-B2-04008	4	2	8	50	4	B	○
EA-B2-64009	4	2	9	50	6	A	○
EA-B2-06012	6	3	12	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球头半径R	公差 Tol.
R < 3	±0.015
R ≥ 3	±0.02 (mm)

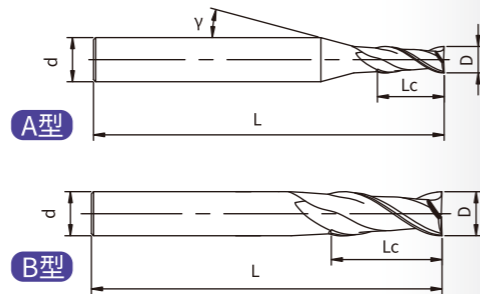
工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
							○	◎

◎ 最适合 Most Suitable ○ 适合 Suitable

EP-S2

2刃平头通用加工立铣刀
2 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EP-S2-01003	1	3	50	4	A	●
EP-S2-01504	1.5	4	50	4	A	●
EP-S2-02006	2	6	50	4	A	●
EP-S2-02508	2.5	8	50	4	A	●
EP-S2-03009	3	9	50	4	A	●
EP-S2-04011	4	11	50	4	B	●
EP-S2-63009	3	9	50	6	A	○
EP-S2-63509	3.5	9	50	6	A	○
EP-S2-64011	4	11	50	6	A	●
EP-S2-05013	5	13	50	6	A	●
EP-S2-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.04
D>12	0 -0.05 (mm)

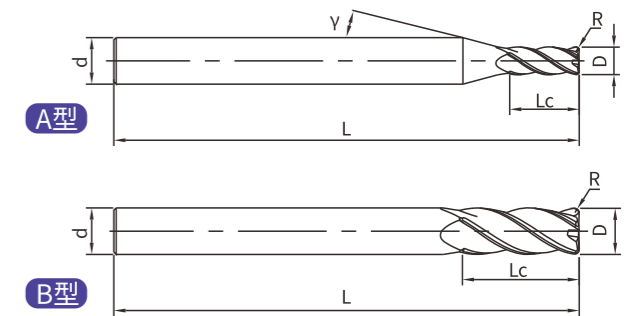
工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

EP-S4

4刃平头通用加工立铣刀
4 flute, square endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EP-S4-01003	1	3	50	4	A	●
EP-S4-01504	1.5	4	50	4	A	●
EP-S4-02006	2	6	50	4	A	●
EP-S4-02508	2.5	8	50	4	A	●
EP-S4-03009	3	9	50	4	A	●
EP-S4-04011	4	11	50	4	B	●
EP-S4-61505	1.5	5	50	6	A	○
EP-S4-62006	2	6	50	6	A	○
EP-S4-62508	2.5	8	50	6	A	○
EP-S4-63009	3	9	50	6	A	●
EP-S4-63511	3.5	11	50	6	A	○
EP-S4-64011	4	11	50	6	A	●
EP-S4-05013	5	13	50	6	A	○
EP-S4-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.04
D>12	0 -0.05 (mm)

工件材料 Workpiece Materials

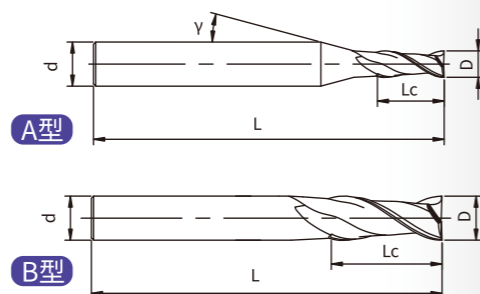
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

EP-R2

2刃圆角头通用加工立铣刀

2 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EP-R2-01002	1	0.2	3	50	4	A	●
EP-R2-01502	1.5	0.2	4	50	4	A	○
EP-R2-02002	2	0.2	6	50	4	A	○
EP-R2-03002	3	0.2	9	50	4	A	○
EP-R2-03005	3	0.5	9	50	4	A	●
EP-R2-04002	4	0.2	11	50	4	A	○
EP-R2-04005	4	0.5	11	50	4	A	○
EP-R2-63002	3	0.2	9	50	6	A	○
EP-R2-63005	3	0.5	9	50	6	A	○
EP-R2-64002	4	0.2	11	50	6	A	●
EP-R2-64005	4	0.5	11	50	6	A	●
EP-R2-05002	5	0.2	13	50	6	A	○
EP-R2-05005	5	0.5	13	50	6	A	○
EP-R2-06005	6	0.5	16	50	6	B	○
EP-R2-06010	6	1	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.04
D>12	0 -0.05

(mm)

工件材料 Workpiece Materials

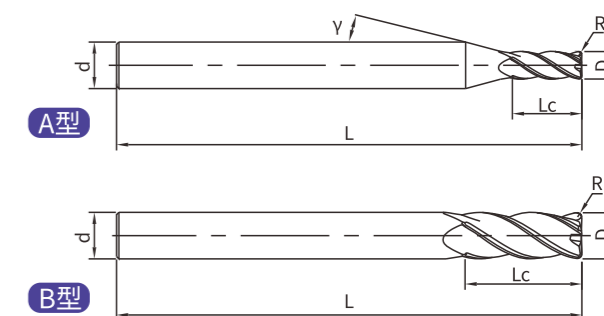
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

EP-R4

4刃圆角头通用加工立铣刀

4 flute, corner radius endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EP-R4-01002	1	0.2	3	50	4	A	●
EP-R4-02002	2	0.2	6	50	4	A	●
EP-R4-03002	3	0.2	9	50	4	A	●
EP-R4-03005	3	0.5	9	50	4	A	●
EP-R4-04002	4	0.2	11	50	4	B	●
EP-R4-04005	4	0.5	11	50	4	B	●
EP-R4-04010	4	1	11	50	4	B	●
EP-R4-05005	5	0.5	13	50	6	A	●
EP-R4-05010	5	1	13	50	6	A	●
EP-R4-06002	6	0.2	16	50	6	B	●
EP-R4-06005	6	0.5	16	50	6	B	●
EP-R4-06010	6	1	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.04
D>12	0 -0.05

(mm)

工件材料 Workpiece Materials

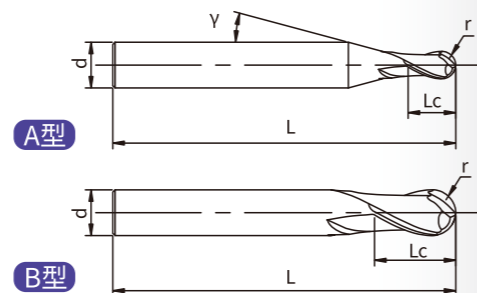
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

EP-B2

2刃球头通用加工立铣刀

2 flute, ball nose endmill for general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
EP-B2-01002	1	0.5	2	50	4	A	●
EP-B2-01503	1.5	0.75	3	50	4	A	●
EP-B2-02004	2	1	4	50	4	A	●
EP-B2-02505	2.5	1.25	5	50	4	A	●
EP-B2-03006	3	1.5	6	50	4	A	●
EP-B2-04008	4	2	8	50	4	B	●
EP-B2-63006	3	1.5	6	50	6	A	●
EP-B2-64008	4	2	8	50	6	A	●
EP-B2-05010	5	2.5	10	50	6	A	●
EP-B2-06012	6	3	12	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

球头半径R	公差 Tol.
R ≤ 1.5	0 -0.02
1.5 < R < 3	0 -0.030
R ≥ 3	0 -0.04 (mm)

工件材料 Workpiece Materials

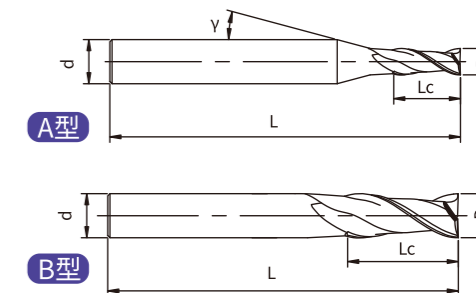
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
◎	◎	○			○		○	

◎ 最适合 Most Suitable ○ 适合 Suitable

ES-S2

2刃平头不锈钢通用加工立铣刀

2 flute, square endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
ES-S2-00501	0.5	1	50	4	A	●
ES-S2-00802	0.8	2	50	4	A	●
ES-S2-01003	1	3	50	4	A	●
ES-S2-01504	1.5	4	50	4	A	●
ES-S2-02006	2	6	50	4	A	●
ES-S2-02508	2.5	8	50	4	B	●
ES-S2-03009	3	9	50	4	A	○
ES-S2-04011	4	11	50	4	A	○
ES-S2-06016	6	16	50	6	A	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D ≤ 12	0 -0.02 (mm)

工件材料 Workpiece Materials

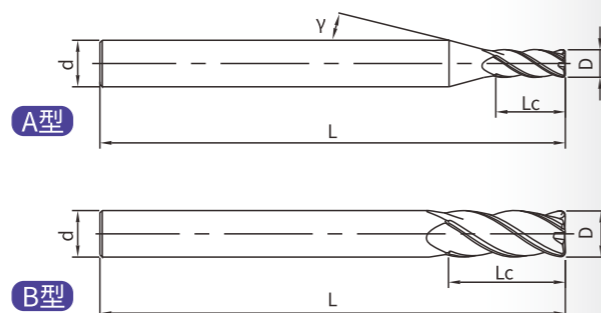
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

ES-S4

4刃平头不锈钢通用加工立铣刀

4 flute, square endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
ES-S4-01003	1	3	50	4	A	●
ES-S4-01504	1.5	4	50	4	A	●
ES-S4-02006	2	6	50	4	A	●
ES-S4-02508	2.5	8	50	4	A	●
ES-S4-03009	3	9	50	4	A	●
ES-S4-03510	3.5	10	50	4	A	○
ES-S4-04011	4	11	50	4	B	●
ES-S4-64011	4	11	50	6	A	●
ES-S4-05013	5	13	50	6	A	○
ES-S4-06016	6	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

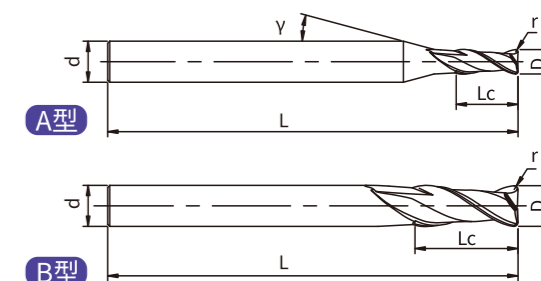
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

ES-R2

2刃圆角头不锈钢通用加工立铣刀

2 flute, corner radius endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
ES-R2-03003	3	0.3	9	50	4	A	○
ES-R2-03005	3	0.5	9	50	4	A	○
ES-R2-04003	4	0.3	11	50	4	B	○
ES-R2-64002	4	0.2	11	50	6	A	○
ES-R2-64003	4	0.3	11	50	6	A	○
ES-R2-64005	4	0.5	11	50	6	A	○
ES-R2-05002	5	0.2	13	50	6	A	○
ES-R2-05003	5	0.3	13	50	6	A	○
ES-R2-05005	5	0.5	13	50	6	A	○
ES-R2-06002	6	0.2	16	50	6	B	○
ES-R2-06003	6	0.3	16	50	6	B	○
ES-R2-06005	6	0.5	16	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

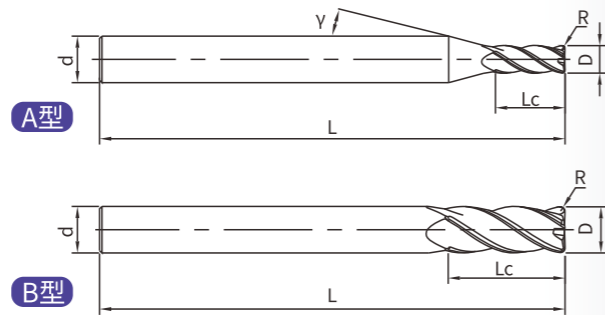
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

ES-R4

4刃圆角头不锈钢通用加工立铣刀

4 flute, corner radius endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	圆角(R) Corner Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
ES-R4-02002	2	0.2	6	50	4	A	●
ES-R4-03003	3	0.3	9	50	4	A	○
ES-R4-03005	3	0.5	9	50	4	A	○
ES-R4-04003	4	0.3	11	50	4	B	○
ES-R4-04005	4	0.5	11	50	4	B	○
ES-R4-64002	4	0.2	11	50	6	A	●
ES-R4-64003	4	0.3	11	50	6	A	○
ES-R4-05005	5	0.5	13	50	6	A	○
ES-R4-06005	6	0.5	16	50	6	B	●

● 标准库存 Stock ○ 需预定 Available Upon Order

外径D	公差 Tol.
D≤12	0 -0.02 (mm)

工件材料 Workpiece Materials

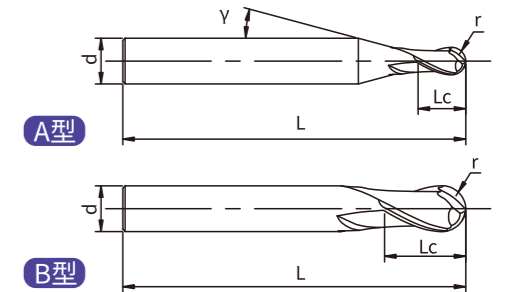
碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

ES-B2

2刃球头不锈钢通用加工立铣刀

2 flute, ball nose endmill for stainless steel general machining



订货号 Ordering Code	外径(D) Mill Dia.	球半径(R) Ball Radius	刃长(Lc) Flute Length	全长(L) Overall Length	柄径(d) Shank Dia.	型号 Type	库存 Stock
ES-B2-01002	1	0.5	2	50	4	A	○
ES-B2-01503	1.5	0.75	3	50	4	A	○
ES-B2-02004	2	1	4	50	4	A	○
ES-B2-03006	3	1.5	6	50	4	A	○
ES-B2-04008	4	2	8	50	4	B	○
ES-B2-63006	3	1.5	6	50	6	A	○
ES-B2-64008	4	2	8	50	6	A	○
ES-B2-05010	5	2.5	12	50	6	A	○
ES-B2-06012	6	3	10	50	6	B	○

● 标准库存 Stock ○ 需预定 Available Upon Order

球头半径R	公差 Tol.
R≤3	±0.015
R≥3	±0.020 (mm)

工件材料 Workpiece Materials

碳素钢 合金钢 Carbon steels Alloy steels	预硬化钢 Pre-hardened steels <45HRC	高硬材料 Hardened steels 45HRC-55HRC	高硬材料 Hardened steels 55HRC-65HRC	高硬材料 Hardened steels >65HRC	不锈钢 Stainless steels	钛合金 耐热合金 Ti alloy Heat-resistant alloy	铜合金 Copper alloy	铝合金 Aluminium alloy
○					◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

U-S2/SL2/SH2/R2/RH2 切削参数推荐表

U-S2/SL2/SH2/R2/RH2 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	1120	14490	720	14490	640
4	15040	1080	10860	690	10860	600
6	10020	960	7240	610	7240	570
8	7520	970	5430	680	5430	650
10	6010	960	4340	640	4340	580
12	5010	900	3620	610	3620	520
16	3750	900	2710	510	2710	430
20	3010	900	2170	480	2170	380

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.8D		ap≤0.3D		ap≤0.3D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	8910	450	6130	140	6680	270
4	6680	560	4590	160	5010	320
6	4460	460	3060	210	3340	280
8	3340	420	2290	210	2500	240
10	2670	380	1830	210	2000	230
12	2220	360	1530	190	1660	230
16	1660	420	1150	170	1240	240
20	1330	430	920	160	1000	240

注意

- 请尽可能使用高刚性、高精度的机床和卡盘。
- 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

U-S3 切削参数推荐表

U-S3 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	1690	14490	1090	14490	950
4	15040	1620	10860	1030	10860	910
6	10020	1440	7240	930	7240	870
8	7520	1470	5430	1020	5430	970
10	6010	1440	4340	960	4340	890
12	5010	1350	3620	920	3620	790
16	3750	1350	2710	770	2710	650
20	3010	1350	2170	710	2170	580

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.8D		ap≤0.3D		ap≤0.3D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	8910	670	6130	220	6680	390
4	6680	840	4590	250	5010	480
6	4460	690	3060	320	3340	420
8	3340	610	2290	310	2500	350
10	2670	570	1830	300	2000	340
12	2220	540	1530	300	1660	340
16	1660	630	1150	270	1240	350
20	1330	640	920	250	1000	350

注意

- 请尽可能使用高刚性、高精度的机床和卡盘。
- 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

U-S4/SL4/SH4/R4/RH4 切削参数推荐表

U-S4/SL4/SH4/R4/RH4 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	2240	14490	1440	14490	1270
4	15040	2160	10860	1390	10860	1210
6	10020	1920	7240	1240	7240	1150
8	7520	1950	5430	1360	5430	1300
10	6010	1920	4340	1290	4340	1180
12	5010	1800	3620	1220	3620	1060
16	3750	1800	2710	1020	2710	870
20	3010	1800	2170	950	2170	780

U-S6 切削参数推荐表

U-S6 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	3370	14490	2170	14490	1910
4	15040	3250	10860	2080	10860	1820
6	10020	2880	7240	1860	7240	1740
8	7520	2940	5430	2050	5430	1950
10	6010	2880	4340	1930	4340	1770
12	5010	2700	3620	1840	3620	1580
16	3750	2700	2710	1550	2710	1300
20	3010	2700	2170	1430	2170	1170

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

U-B2/BH2 切削参数推荐表

U-B2/BH2 Recommended Cutting Parameters

仿形铣 Profiling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.2D ae≤0.3D		ap≤0.2D ap≤0.2D		ap≤0.15D ae≤0.15D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
4	13370	1070	9190	640	10020	640
5	10690	1070	7360	660	8020	670
6	8910	1070	6130	670	6680	690
7	7640	1070	5260	660	5730	660
8	6680	1070	4590	660	5010	650
9	5940	1070	4080	650	4460	640
10	5350	1070	3670	660	4010	640
11	4860	1070	3340	670	3640	640
12	4460	1070	3060	670	3340	640

U-B4 切削参数推荐表

U-B4 Recommended Cutting Parameters

仿形铣 Profiling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.2D ae≤0.3D		ap≤0.2D ap≤0.2D		ap≤0.15D ae≤0.15D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
4	13370	2140	9190	1290	10020	1280
5	10690	2140	7360	1320	8020	1340
6	8910	2140	6130	1350	6680	1390
7	7640	2140	5260	1320	5730	1330
8	6680	2140	4590	1320	5010	1300
9	5940	2140	4080	1310	4460	1280
10	5350	2140	3670	1320	4010	1280
11	4860	2140	3340	1330	3640	1270
12	4460	2140	3060	1350	3340	1270

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

UC-S2/R2 切削参数推荐表 U-S2/R2 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	900	14490	570	14490	510
4	15040	860	10860	550	10860	480
6	10020	760	7240	500	7240	450
8	7520	770	5430	540	5430	520
10	6010	760	4340	510	4340	460

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.8D		ap≤0.3D		ap≤0.3D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	8910	360	6130	110	6680	220
4	6680	450	4590	120	5010	250
6	4460	360	3060	160	3340	220
8	3340	330	2290	160	2500	190
10	2670	300	1830	160	2000	180

| 注意 |

- ▲ 请尽可能使用高刚性、高精度的机床和卡盘。
- ▲ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- ▲ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

UC-S4/SH4/R4/RH4 切削参数推荐表 U-S4/SH4/R4/RH4 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	20060	1790	14490	1150	14490	1020
4	15040	1730	10860	1110	10860	970
6	10020	1530	7240	990	7240	920
8	7520	1560	5430	1090	5430	1040
10	6010	1530	4340	1030	4340	940

UC-B2/BH2 切削参数推荐表 U-B2/BH2 Recommended Cutting Parameters

仿形铣 Profiling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.2D ae≤0.3D		ap≤0.2D ap≤0.2D		ap≤0.15D ae≤0.15D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
4	13370	850	9190	510	10020	510
5	10690	850	7360	530	8020	530
6	8910	850	6130	530	6680	550
7	7640	850	5260	530	5730	530
8	6680	850	4590	530	5010	520
9	5940	850	4080	520	4460	510
10	5350	850	3670	530	4010	510

| 注意 |

- ▲ 请尽可能使用高刚性、高精度的机床和卡盘。
- ▲ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- ▲ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

UR-S4 切削参数推荐表

UR-S4 Recommended Cutting Parameters

侧铣 Side milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.3D		ap≤1.5D ae≤0.3D		ap≤1D ae≤0.25D		ap≤1D ae≤0.125D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
6	7800	1120	6130	600	6680	660	5560	550
8	5840	1120	4590	640	5010	690	4170	500
10	4680	1120	3670	660	4010	720	3340	470
12	3900	1120	3060	670	3340	730	2780	440
16	2920	1050	2290	550	2500	590	2080	420
20	2340	940	1830	510	2000	560	1660	390

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1D		ap≤0.75D		ap≤0.75D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
6	6680	670	5000	390	5570	450
8	5010	660	3750	370	4200	420
10	4010	640	3000	420	3340	470
12	3340	670	2500	390	2780	440
16	2500	590	1870	330	2080	370
20	2000	560	1500	290	1660	330

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

UN-S4 切削参数推荐表

UN-S4 Recommended Cutting Parameters

侧铣 Side milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.3D		ap≤1.5D ae≤0.3D		ap≤1D ae≤0.25D		ap≤1D ae≤0.125D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
6	7240	1030	6130	600	6130	600	5010	500
8	5430	1030	4590	640	4590	640	3750	450
10	4340	1030	3670	660	3670	660	3010	420
12	3620	1030	3060	670	3060	670	2500	390
16	2710	970	2290	550	2290	550	1870	370
20	2170	870	1830	510	1830	510	1500	360

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.5D		ap≤0.5D		ap≤0.3D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
6	6680	670	5000	390	5570	450
8	5010	660	3750	370	4200	420
10	4010	640	3000	420	3340	470
12	3340	670	2500	390	2780	440
16	2500	590	1870	330	2080	370
20	2000	560	1500	290	1660	330

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

X-S3/C3 切削参数推荐表

X-S3/C3 Recommended Cutting Parameters

侧铣 Side milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ae≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	22290	2140	16710	1650	16710	1350
4	16710	2050	12530	1390	12530	1230
6	11150	1770	8350	1200	8350	1130
8	8350	1750	6260	1280	6260	1210
10	6680	1700	5010	1180	5010	1100
12	5570	1660	4170	1130	4170	970
16	4170	1560	3130	940	3130	790
20	3340	1550	2500	860	2500	710

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1D		ap≤0.3D		ap≤0.5D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	8910	820	6130	330	6680	520
4	6680	960	4590	330	5010	570
6	4460	760	3060	360	3340	470
8	3340	670	2290	350	2500	380
10	2670	610	1830	330	2000	370
12	2220	590	1530	330	1660	370
16	1660	670	1150	290	1240	380
20	1330	680	920	270	1000	380

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

X-C4/S4/CN4/R4 切削参数推荐表

X-C4/S4/CN4/R4 Recommended Cutting Parameters

侧铣 Side milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.15D		ap≤1.5D ap≤0.15D		ap≤1D ae≤0.12D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	22290	2850	16710	2200	16710	1800
4	16710	2740	12530	1850	12530	1650
6	11150	2360	8350	1600	8350	1500
8	8350	2340	6260	1700	6260	1620
10	6680	2270	5010	1580	5010	1470
12	5570	2220	4170	1500	4170	1300
16	4170	2080	3130	1240	3130	1070
20	3340	2070	2500	1150	2500	950

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1D		ap≤0.3D		ap≤0.5D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	8910	1100	6130	440	6680	690
4	6680	1280	4590	440	5010	760
6	4460	1010	3060	490	3340	630
8	3340	890	2290	470	2500	520
10	2670	820	1830	450	2000	490
12	2220	790	1530	450	1660	500
16	1660	890	1150	390	1240	510
20	1330	910	920	360	1000	520

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

X-B2/BH2 切削参数推荐表

X-B2/BH2 Recommended Cutting Parameters

仿形铣 Profiling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-48HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.04D ae≤0.04D		ap≤0.04D ae≤0.04D		ap≤0.02D ae≤0.02D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
1	52500	2940	52500	2640	52500	2040
2	36780	2940	36780	2570	30090	2110
3	24520	2940	24520	2690	20060	2080
4	18390	2940	18390	2760	15040	2110
6	12260	2940	12260	2690	10020	2110
8	9190	2940	9190	2660	7520	2110
10	7360	2940	7360	2640	6010	2100
12	6130	2940	6130	2650	5010	2100

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

H-S4/SL4/R4/RN4 切削参数推荐表

H-S4/SL4/R4/RN4 Recommended Cutting Parameters

高速侧铣 High speed side milling



工件材料 Workpiece Materials	合金钢·预硬化钢 (30-45HRC) Alloy steel, Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steel		淬硬钢 (55-60HRC) Hardened Steel	
切削深度 Depth of cut (mm)	ap≤1.2D ae≤0.08D		ap≤1.0D ae≤0.04D		ap≤0.8D ae≤0.02D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	21000	1260	18900	950	15750	830
4	10500	1470	9660	1210	8400	950
6	7350	1680	6410	1370	5570	1090
8	5460	1890	4830	1470	4200	1160
10	4410	1680	3780	1370	3360	1050
12	3780	1580	3150	1260	2840	950

标准侧铣 Slotting



工件材料 Workpiece Materials	合金钢·预硬化钢 (30-45HRC) Alloy steel, Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steel		淬硬钢 (55-60HRC) Hardened Steel	
切削深度 Depth of cut (mm)	ap≤1.2D ae≤0.08D		ap≤1.0D ae≤0.04D		ap≤0.8D ae≤0.02D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	14700	840	13130	530	11550	460
4	7560	950	6720	630	5880	530
6	5040	1050	4410	740	3890	610
8	3780	1160	3360	840	2940	660
10	3050	1100	2630	740	2310	600
12	2520	1050	2210	670	2000	580

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

H-B2/BH2 切削参数推荐表

H-B2/BH2 Recommended Cutting Parameters

高速仿型铣 High speed profiling



工件材料 Workpiece Materials	合金钢·预硬化钢 (30-45HRC) Alloy steel, Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steel		淬硬钢 (55-60HRC) Hardened Steel	
切削深度 Depth of cut (mm)	ap≤0.05-0.1D ae≤0.02D		ap≤0.05-0.1D ae≤0.04D		ap≤0.05-0.1D ae≤0.02D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	36750	2730	30030	2310	26670	1890
4	18380	2840	15020	2420	13340	1890
6	12180	2840	9980	2420	8930	1890
8	9140	2990	7560	2470	6720	1580
10	7350	2990	5990	2470	5250	1580
12	6300	3050	4730	2520	2000	1580

标准仿型铣 Standard side profiling



工件材料 Workpiece Materials	合金钢·预硬化钢 (30-45HRC) Alloy steel, Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steel		淬硬钢 (55-60HRC) Hardened Steel	
切削深度 Depth of cut (mm)	ap≤0.05-0.1D ae≤0.02D		ap≤0.05-0.1D ae≤0.04D		ap≤0.05-0.1D ae≤0.02D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	21000	1580	16700	1260	12600	950
4	10820	1730	8400	1370	6300	1010
6	7250	1730	5570	1370	4200	1010
8	5360	1790	4200	1420	3050	970
10	4310	1790	3360	1420	2520	970
12	3570	1840	2730	1470	2210	950

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

NOTE

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

H-S6/SL6 切削参数推荐表

H-S6/SL6 Recommended Cutting Parameters

侧铣 Side milling



工件材料 Workpiece Materials	合金钢·预硬化钢 (30-45HRC) Alloy steel, Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steel		淬硬钢 (55-60HRC) Hardened Steel	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.05D		ap≤1.5D ae≤0.03D		ap≤0.5D ae≤0.02D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
6	6200	1674	4500	1215	3100	744
8	4800	1584	3600	1188	2400	720
10	4000	1560	3000	1170	2000	720
12	3200	1440	2400	1080	1600	627
16	2400	1296	1800	972	1200	576
20	1600	960	1200	720	800	432

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

NOTE

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

A-S2/S2/SL2/R2/RS2/RL2 切削参数推荐表

A-S2/S2/SL2/R2/RS2/RL2 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	锻造铝合金、铸造铝合金(Si<12%) Forging and Casting Aluminum Alloy(Si<12%)		铜合金(HB<200) Copper Alloy(HB<200)	
切削深度 Depth of cut (mm)	ap≤1D ae≤0.1D		ap≤1D ae≤0.1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
1	16000	580	16000	520
2	12700	710	12700	650
4	12000	1200	12000	1070
6	10600	1280	10600	1150
8	10000	1390	10000	1250
10	9500	1720	9500	1550
12	9280	2400	9280	2170

槽铣 Slotting



工件材料 Workpiece Materials	锻造铝合金、铸造铝合金(Si<12%) Forging and Casting Aluminum Alloy(Si<12%)		铜合金(HB<200) Copper Alloy(HB<200)	
切削深度 Depth of cut (mm)	ap≤0.5D ae≤1D		ap≤0.5D ae≤1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
1	16000	400	16000	380
2	10000	500	10000	450
4	9000	810	9000	800
6	8000	920	8000	830
8	7800	1100	7800	1000
10	8000	1280	8000	1150
12	6800	1300	6800	1130

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

NOTE

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

A-S3/SS3/SL3/R3/RS3 切削参数推荐表

A-S3/SS3/SL3/R3/RS3 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	锻造铝合金、铸造铝合金(Si<12%) Forging and Casting Aluminum Alloy(Si<12%)		铜合金(HB<200) Copper Alloy(HB<200)	
切削深度 Depth of cut (mm)	ap≤1D ae≤0.1D		ap≤1D ae≤0.1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	12700	900	13000	850
4	12000	1430	12000	1200
6	10600	1530	10600	1200
8	10000	1670	10000	1500
10	9500	2050	9500	1800
12	9280	2800	9280	2225

槽铣 Slotting



工件材料 Workpiece Materials	锻造铝合金、铸造铝合金(Si<12%) Forging and Casting Aluminum Alloy(Si<12%)		铜合金(HB<200) Copper Alloy(HB<200)	
切削深度 Depth of cut (mm)	ap≤0.5D ae≤1D		ap≤0.5D ae≤1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	10000	570	10000	520
4	9000	960	9000	860
6	8000	1050	8000	830
8	7800	1300	7800	960
10	8000	1500	8000	1240
12	6800	1620	6800	1500

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

NOTE

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

A-B2 切削参数推荐表

A-B2 Recommended Cutting Parameters

仿型铣 Profiling



工件材料 Workpiece Materials	锻造铝合金、铸造铝合金(Si<12%) Forging and Casting Aluminum Alloy(Si<12%)		铜合金(HB<200) Copper Alloy(HB<200)	
切削深度 Depth of cut (mm)	ap≤1D ae≤0.1D		ap≤1D ae≤0.1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	12700	900	13000	850
4	12000	1430	12000	1200
6	10600	1530	10600	1200
8	10000	1670	10000	1500
10	9500	2050	9500	1900
12	9280	2800	9280	2225

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

| NOTE |

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

S-S2/R2 切削参数推荐表

S-S2/R2 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤1D ae≤0.1D		ap≤1D ae≤0.1D		ap≤1D ae≤0.1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
1	20000	115	25000	220	20000	195
2	15000	185	15900	254	11150	165
4	10800	325	7960	340	5500	180
6	7000	350	5300	340	3700	180
8	5200	345	3980	365	2800	180
10	4200	340	3180	330	2200	180
12	3500	340	2650	300	1850	180

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.1D ae≤1D		ap≤0.1D ae≤1D		ap≤0.1D ae≤1D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	7000	160	4200	120	6000	120
4	6000	160	3580	120	4800	125
6	4200	170	2390	155	3180	135
8	3100	170	1790	155	240	130
10	2500	170	1430	155	1960	130
12	2100	170	1195	155	1590	130

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时, 请考虑加工条件、目的、使用机床等因素, 对切削条件进行调整。
- △ 发生颤动和异常振动时, 请调整切削条件。

| NOTE |

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

S-R3 切削参数推荐表

S-R3 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
	切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
	2	15000	345	15900	480	15000
4	10800	605	7960	525	8000	460
6	7000	650	5300	510	5300	500
8	5200	645	3980	550	4000	495
10	4200	630	3180	500	3200	480
12	3500	630	2650	450	2650	480

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
	切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
	2	9000	170	7165	300	9000
4	6480	300	3580	180	4800	230
6	4200	325	2390	235	3180	250
8	3120	320	1790	235	2400	250
10	2520	315	1430	230	1920	240
12	1950	315	1195	230	1590	240

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

S-SS4/S4/R4 切削参数推荐表

S-SS4/S4/R4 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
	切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
	1	20000	225	25000	700	20000
2	15000	360	15900	635	15000	315
4	10800	630	7960	700	8000	480
6	7000	675	5300	680	5300	515
8	5200	665	3980	730	4000	510
10	4200	660	3180	660	3800	505
12	3500	660	2650	600	3200	505

槽铣 Slotting



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
	切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)		切削深度 Depth of cut (mm)	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
	2	9000	180	7165	280	9000
4	6480	315	3580	240	4800	240
6	4200	335	2390	310	3180	255
8	3120	330	1790	310	2400	255
10	2520	330	1430	310	1920	250
12	1950	330	1195	310	1590	250

注意

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

NOTE

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

S-B2 切削参数推荐表

S-B2 Recommended Cutting Parameters

仿型铣 Profiling



工件材料 Workpiece Materials	碳钢·合金钢·铸铁 (180-250HB) Carbon Steels, Alloy Steels, Cast Iron		不锈钢·工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels	
切削深度 Depth of cut (mm)	ap≤0.2D ae≤0.2D		ap≤0.2D ae≤0.2D		ap≤0.2D ae≤0.2D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
1	40000	800	25000	525	32000	420
2	24000	900	15900	480	16000	450
4	11500	950	7960	525	8000	480
6	8000	920	5300	510	5300	450
8	6000	880	3980	550	4000	400
10	4800	850	3180	540	3200	400
12	4000	800	2650	520	2650	380

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

G-S2/SN2/R2/RN2 切削参数推荐表

G-S2/SN2/R2/RN2 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.5D		ap≤1D ae≤0.15D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	39810	3980	31850	1910
4	19900	2790	15920	1590
6	13270	2390	10620	1270
8	9950	2190	7960	1120
10	7960	2390	6370	1080
12	6640	2390	5310	1380

槽铣 Slotting



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤0.5D		ap≤0.5D	
外径 Mill Dia. (mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	31850	1910	28660	1150
4	15920	1430	14330	1150
6	10620	1380	9550	960
8	7960	1350	7170	860
10	6370	1400	5730	800
12	5310	1590	4780	860

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

1. Prefer to use the high-rigidity and high accuracy machine.
2. Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
3. Please adjust the parameters when chatter or abnormal vibration occurs.

G-S3 切削参数推荐表

G-S3 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.5D		ap≤1D ae≤0.15D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	39810	5970	31850	2870
4	19900	4180	15920	2390
6	13270	3580	10620	1910
8	9950	3280	7960	1670
10	7960	3580	6370	1620
12	6640	3580	5310	2070

槽铣 Slotting



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤0.5D		ap≤0.5D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	31850	2870	28660	1720
4	15920	2150	14330	1720
6	10620	2070	9550	1430
8	7960	2030	7170	1290
10	6370	2100	5730	1200
12	5310	2390	4780	1290

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

G-S4/R4/RN4 切削参数推荐表

G-S4/R4/RN4 Recommended Cutting Parameters

侧铣 Side Milling



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤1.5D ae≤0.5D		ap≤1D ae≤0.15D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	39810	7960	31850	3820
4	19900	5570	15920	3190
6	13270	4780	10620	2550
8	9950	4380	7960	2230
10	7960	4780	6370	2170
12	6640	4780	5310	2760

G-B2/BN2 切削参数推荐表

G-B2/BN2 Recommended Cutting Parameters

仿型铣 Profiling



工件材料 Workpiece Materials	石墨 Graphite		铸造铝合金 (Si>12%) Aluminium Alloy (Si>12%)	
切削深度 Depth of cut (mm)	ap≤0.5D ae≤0.4D		ap≤0.3D ae≤0.3D	
外径 Mill Dia.(mm)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
2	31850	2790	31850	2040
4	19900	1990	15920	1430
6	13270	1860	10620	1270
8	9950	1790	7960	1270
10	7960	1910	6370	1400
12	6640	1990	5310	1380

| 注意 |

- △ 请尽可能使用高刚性、高精度的机床和卡盘。
- △ 此切削参数推荐表中的数值为切削条件的基准值。实际加工时，请考虑加工条件、目的、使用机床等因素，对切削条件进行调整。
- △ 发生颤动和异常振动时，请调整切削条件。

| NOTE |

- 1.Prefer to use the high-rigidity and high accuracy machine.
- 2.Recommended Cutting parameters are for your reference. Please adjust the parameter to fulfill your own purpose.
- 3.Please adjust the parameters when chatter or abnormal vibration occurs.

UM-BN2 切削参数推荐表

UM-BN2 Recommended Cutting Parameters

注意

- ▲ 对于不同工件材料, ap请按上表切削深度比例系数进行调整, 如: 淬硬钢 (45~55HRC), ap需*0.5。
- ▲ 进行肋槽或者挡槽加工等容易造成切屑卡住切削时, 切削深度应为基本切削深度乘以切削深度比例, 然后再降至该值的80%。
- ▲ ae设定为ap×切削比率×3-5倍。进行精加工时, 请输入理论余量值的最高点。
- ▲ 请结合工件材料、加工形状、使用合适的冷却液, 推荐气冷或水冷。
- ▲ 实际加工中, 请考虑加工形状、目的、使用机床等因素, 对切削条件进行调整。
- ▲ 如果机床转速低于表中所示数值, 则进给速度应与转速按同一比例降低。

NOTE

1. For different materials, adjust the cutting depth (ap) according to the cutting depth factors in the above table. E.g. for hardened steels (45~55HRC), ap*0.5.
2. When performing cutting where cutting chips may cause clogging, such as for rib cutting, blind grooves, etc., cutting depth setting should be set by multiplying a cutting depth factor to calculate the cutting depth amount, and this amount should then be reduced to 80% of the calculated value.
3. Adjust by setting ae to (3 to 5) × (ap) × (cutting depth ratio). When performing finishing processing, calculate the theoretical cusp height and set accordingly.
4. Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
5. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
6. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

UM-BN2 高精度切削参数推荐表

UM-SN2 Recommended cutting datas to high accuracy machining

工件材料 Workpiece Materials				1		2		3		4		5		6	
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬硬钢 (45-55HRC) Hardened Steels		淬硬钢 (55-65HRC) Hardened Steels	
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%	
球半径 (R) Ball Radius (mm)	外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)
0.05	0.1	0.2	0.004	50,000	300	50,000	250	50,000	250	50,000	225	50,000	200	50,000	188
		0.3	0.003	50,000	300	50,000	250	50,000	250	50,000	225	50,000	200	50,000	188
		0.5	0.002	50,000	300	50,000	250	50,000	250	50,000	225	50,000	200	50,000	188
0.1	0.2	0.5	0.015	50,000	420	50,000	350	50,000	350	50,000	325	43,225	259	39,900	200
		0.75	0.013	50,000	420	50,000	350	50,000	350	50,000	325	43,225	259	39,900	200
		1	0.011	50,000	420	50,000	350	50,000	350	50,000	325	43,225	259	39,900	200
		1.25	0.008	50,000	378	50,000	315	46,170	291	43,605	256	38,475	208	35,910	162
		1.5	0.007	50,000	378	50,000	315	46,170	291	43,605	256	38,475	208	35,910	162
		2	0.006	50,000	378	50,000	315	46,170	291	43,605	256	38,475	208	35,910	162
		2.5	0.005	45,600	307	45,600	256	41,040	230	38,760	201	34,200	164	31,920	127
3	0.003	45,600	307	45,600	256	41,040	230	38,760	201	34,200	164	31,920	127		
0.15	0.3	0.5	0.02	50,000	600	50,000	500	50,000	500	50,000	450	42,750	364	39,900	319
		0.75	0.018	50,000	600	50,000	500	50,000	500	50,000	450	42,750	364	39,900	319
		1	0.016	50,000	600	50,000	500	50,000	500	50,000	450	42,750	364	39,900	319
		1.25	0.014	50,000	600	50,000	500	50,000	500	50,000	450	42,750	364	39,900	319
		1.5	0.012	50,000	600	50,000	500	50,000	500	50,000	450	42,750	364	39,900	319
		2	0.009	50,000	540	50,000	450	46,170	415	43,605	353	38,475	295	35,910	258
		2.5	0.008	50,000	540	50,000	450	46,170	415	43,605	353	38,475	295	35,910	258
3	0.006	50,000	540	50,000	450	46,170	415	43,605	353	38,475	295	35,910	258		
0.2	0.4	0.75	0.043	50,000	691	45,600	547	41,040	492	38,760	427	34,200	342	31,920	319
		1	0.04	50,000	691	45,600	547	41,040	492	38,760	427	34,200	342	31,920	319
		1.5	0.034	50,000	691	45,600	547	41,040	492	38,760	427	34,200	342	31,920	319
		2	0.028	50,000	691	45,600	547	41,040	492	38,760	427	34,200	342	31,920	319
		2.5	0.016	50,000	560	41,040	444	36,936	399	34,884	346	30,780	277	28,728	258
		3	0.011	50,000	560	41,040	444	36,936	399	34,884	346	30,780	277	28,728	258
		3.5	0.008	50,000	560	41,040	444	36,936	399	34,884	346	30,780	277	28,728	258
		4	0.005	50,000	560	41,040	444	36,936	399	34,884	346	30,780	277	28,728	258
		4.5	0.004	43,776	447	36,480	372	32,832	335	31,008	290	27,360	233	25,536	217
0.25	0.5	1	0.045	45,600	912	38,000	760	34,200	684	32,300	581	28,500	513	26,600	452
		1.5	0.04	45,600	912	38,000	760	34,200	684	32,300	581	28,500	513	26,600	452
		2	0.035	45,600	912	38,000	760	34,200	684	32,300	581	28,500	513	26,600	452
		2.5	0.033	41,040	739	38,000	760	30,780	554	29,070	471	25,650	415	23,940	367
		3	0.03	41,040	739	34,200	616	30,780	554	29,070	471	25,650	415	23,940	367
		4	0.02	41,040	739	34,200	616	30,780	554	29,070	471	25,650	415	23,940	367
		5	0.018	41,040	739	34,200	616	30,780	554	29,070	471	25,650	415	23,940	367
		5.5	0.008	36,480	620	30,400	517	27,360	466	25,840	395	22,800	349	21,280	308
		6	0.007	36,480	620	30,400	517	27,360	466	25,840	395	22,800	349	21,280	308
8	0.004	36,480	620	30,400	517	27,360	466	25,840	395	22,800	349	21,280	308		
0.3	0.6	1	0.05	45,600	1,368	38,000	1,140	34,200	1,026	32,300	840	28,500	684	26,600	532
		2	0.042	45,600	1,368	38,000	1,140	34,200	1,026	32,300	840	28,500	684	26,600	532
		2.5	0.038	45,600	1,368	38,000	1,140	34,200	1,026	32,300	840	28,500	684	26,600	532

UM-BN2 高精度切削参数推荐表

UM-SN2 Recommended cutting datas to high accuracy machining

工件材料 Workpiece Materials				1		2		3		4		5		6	
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels		淬火钢 (55-65HRC) Hardened Steels	
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%	
球半径 (R) Ball Radius (mm)	外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)
1	2	25	0.035	19,152	1,302	15,960	1,085	14,364	977	13,566	830	11,970	692	11,172	608
		30	0.015	19,152	1,302	15,960	1,085	14,364	977	13,566	830	11,970	692	11,172	608
		35	0.012	16,758	1,073	13,965	894	12,569	805	11,870	684	10,474	570	9,776	501
		40	0.010	14,364	920	11,970	766	10,773	690	10,175	586	8,978	488	8,379	429
1.25	2.5	6	0.250	21,090	2,565	17,575	2,138	15,818	1,924	14,939	1,604	13,181	1,304	12,303	1,069
		10	0.170	21,090	2,565	17,575	2,138	15,818	1,924	14,939	1,604	13,181	1,304	12,303	1,069
		15	0.100	18,981	2,077	15,818	1,731	14,236	1,558	13,445	1,299	11,864	1,055	11,072	865
		20	0.080	18,981	2,077	15,818	1,731	14,236	1,558	13,445	1,299	11,864	1,055	11,072	865
		25	0.065	18,981	1,869	15,818	1,557	14,236	1,401	13,445	1,168	11,864	950	11,072	779
		30	0.044	16,872	1,744	14,060	1,454	12,654	1,308	11,951	1,091	10,545	886	9,842	727
1.5	3	8	0.300	18,240	2,736	15,200	2,280	13,680	2,052	12,920	1,731	11,400	1,436	10,640	1,277
		10	0.210	18,240	2,736	15,200	2,280	13,680	2,052	12,920	1,731	11,400	1,436	10,640	1,277
		13	0.210	18,240	2,736	15,200	2,280	13,680	2,052	12,920	1,731	11,400	1,436	10,640	1,277
		16	0.210	18,240	2,462	15,200	2,052	13,680	1,847	12,920	1,558	11,400	1,293	10,640	1,150
		20	0.120	16,416	2,216	13,680	1,847	12,312	1,663	11,628	1,402	10,260	1,164	9,576	1,035
		25	0.080	16,416	2,216	13,680	1,847	12,312	1,663	11,628	1,402	10,260	1,164	9,576	1,035
		30	0.080	16,416	2,216	13,680	1,847	12,312	1,663	11,628	1,402	10,260	1,164	9,576	1,035
		35	0.064	14,592	1,860	12,160	1,550	10,944	1,396	10,336	1,177	9,120	977	8,512	868
1.75	3.5	15	0.240	15,675	2,679	13,063	2,233	11,756	2,009	11,104	1,675	9,797	1,362	9,144	1,116
		25	0.140	14,108	2,166	11,756	1,805	10,581	1,625	9,993	1,354	8,817	1,101	8,230	903
		35	0.090	14,108	2,166	11,756	1,805	10,581	1,625	9,993	1,354	8,817	1,101	8,230	903
		45	0.072	12,540	1,822	10,450	1,518	9,405	1,366	8,883	1,139	7,838	926	7,315	759
2	4	10	0.400	13,110	2,622	10,925	2,185	9,833	1,967	9,286	1,672	8,194	1,393	7,648	1,224
		13	0.320	13,110	2,622	10,925	2,185	9,833	1,967	9,286	1,672	8,194	1,393	7,648	1,224
		16	0.280	13,110	2,622	10,925	2,185	9,833	1,967	9,286	1,672	8,194	1,393	7,648	1,224
		20	0.280	13,110	2,622	10,925	2,185	9,833	1,967	9,286	1,672	8,194	1,393	7,648	1,224
		25	0.160	11,799	2,124	9,833	1,770	8,849	1,593	8,358	1,354	7,375	1,129	6,883	991
		30	0.160	11,799	2,124	9,833	1,770	8,849	1,593	8,358	1,354	7,375	1,129	6,883	991
		35	0.100	11,799	2,124	9,833	1,770	8,849	1,593	8,358	1,354	7,375	1,129	6,883	991
		40	0.100	11,799	2,124	9,833	1,770	8,849	1,593	8,358	1,354	7,375	1,129	6,883	991
		45	0.080	10,488	1,783	8,740	1,486	7,866	1,338	7,429	1,136	6,555	947	6,118	832
		50	0.070	10,488	1,783	8,740	1,486	7,866	1,338	7,429	1,136	6,555	947	6,118	832
2.5	5	20	0.350	10,260	2,462	8,550	2,052	7,695	1,847	7,268	1,454	6,413	1,283	5,985	1,077
		25	0.350	10,260	2,462	8,550	2,052	7,695	1,847	7,268	1,454	6,413	1,283	5,985	1,077
		30	0.200	9,234	2,216	7,695	1,847	6,926	1,663	6,541	1,308	5,771	1,154	5,387	970
		40	0.200	9,234	1,995	7,695	1,663	6,926	1,496	6,541	1,177	5,771	1,039	5,387	873
3	6	12	0.600	10,260	2,873	8,550	2,394	7,695	2,155	7,268	1,796	6,413	1,460	5,985	1,197
		20	0.500	9,690	2,519	8,075	2,100	7,268	1,890	6,864	1,575	6,056	1,281	5,653	1,050
		30	0.420	9,120	2,189	7,600	1,824	6,840	1,642	6,460	1,292	5,700	1,140	5,320	958
		50	0.150	8,208	1,773	6,840	1,477	6,156	1,330	5,814	1,047	5,130	923	4,788	775

注意

- 对于不同工件材料, ap请按上表切削深度比例系数进行调整, 如: 淬硬钢(45~55HRC), ap需*0.5。
- 进行肋槽或者挡槽加工等容易造成切屑卡住切削时, 切削深度应为基本切削深度乘以切削深度比例, 然后再降至该值的80%。
- ae设定为ap×切削比率×3-5倍。进行精加工时, 请输入理论余量值的最高点。
- 请结合工件材料、加工形状、使用合适的冷却液, 推荐气冷或水冷。
- 实际加工中, 请考虑加工形状、目的、使用机床等因素, 对切削条件进行调整。
- 如果机床转速低于表中所列数值, 则进给速度应与转速按同一比例降低。

NOTE

- For different materials, adjust the cutting depth (ap) according to the cutting depth factors in the above table. E.g. for hardened steels (45~55HRC), ap*0.5.
- When performing cutting where cutting chips may cause clogging, such as for rib cutting, blind grooves, etc., cutting depth setting should be set by multiplying a cutting depth factor to calculate the cutting depth amount, and this amount should then be reduced to 80% of the calculated value.
- Adjust by setting ae to (3 to 5) × (ap) × (cutting depth ratio). When performing finishing processing, calculate the theoretical cusp height and set accordingly.
- Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
- In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
- If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

UM-RN2 切削参数推荐表

UM-RN2 Recommended Cutting Parameters

注意

- ▲ 对于不同工件材料, ap请按上表切削深度比例系数进行调整, 如: 淬硬钢 (45~55HRC), ap需*0.5。
- ▲ 进行肋槽或者挡槽加工等容易造成切屑卡住切削时, 切削深度应为基本切削深度乘以切削深度比例, 然后再降至该值的80%。
- ▲ ae设定为ap×切削比率×3-5倍。进行精加工时, 请输入理论余量值的最高点。
- ▲ 请结合工件材料、加工形状、使用合适的冷却液, 推荐气冷或水冷。
- ▲ 实际加工中, 请考虑加工形状、目的、使用机床等因素, 对切削条件进行调整。
- ▲ 如果机床转速低于表中所示数值, 则进给速度应与转速按同一比例降低。

NOTE

1. For different materials, adjust the cutting depth (ap) according to the cutting depth factors in the above table. E.g. for hardened steels (45~55HRC), ap*0.5.
2. When performing cutting where cutting chips may cause clogging, such as for rib cutting, blind grooves, etc., cutting depth setting should be set by multiplying a cutting depth factor to calculate the cutting depth amount, and this amount should then be reduced to 80% of the calculated value.
3. Adjust by setting ae to (3 to 5) × (ap) × (cutting depth ratio). When performing finishing processing, calculate the theoretical cusp height and set accordingly.
4. Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
5. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
6. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

UM-RN2 高精度切削参数推荐表

UM-RN2 Recommended cutting datas to high accuracy machining

工件材料 Workpiece Materials				1		2		3		4		5		6	
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels		淬火钢 (55-65HRC) Hardened Steels	
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%	
外径 Mill Dia. (mm)	圆角 (R) (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)	转速(n) (r/min)	进给 速度 (Vf) (mm/min)
0.2	0.02	0.5	0.016	50,000	292	50,000	245	50,000	219	50,000	195	50,000	171	50,000	152
		1	0.011	50,000	292	50,000	245	50,000	219	50,000	195	50,000	171	50,000	152
		2	0.007	50,000	234	39,900	192	35,910	172	34,865	167	34,865	154	34,865	140
	0.05	0.5	0.02	50,000	292	50,000	245	50,000	219	50,000	195	50,000	171	50,000	152
		1	0.014	50,000	292	50,000	245	50,000	219	50,000	195	50,000	171	50,000	152
		1.5	0.008	50,000	262	50,000	228	46,170	212	43,605	192	43,605	162	43,605	145
0.3	0.02	1	0.016	50,000	661	50,000	556	50,000	490	50,000	433	50,000	319	50,000	304
		2	0.011	42,750	589	42,750	504	42,750	437	42,750	399	42,750	285	42,750	276
		3	0.007	38,000	479	33,250	391	33,250	340	33,250	310	28,500	190	28,500	184
	0.05	1	0.021	50,000	661	50,000	556	50,000	490	50,000	433	50,000	319	50,000	304
		1.5	0.016	50,000	661	50,000	556	42,750	490	42,750	433	42,750	319	42,750	304
		2.5	0.012	42,750	589	42,750	504	42,750	437	42,750	399	42,750	285	42,750	276
0.4	0.05	2.5	0.01	38,000	523	38,000	447	38,000	389	38,000	354	38,000	254	38,000	245
		3	0.008	38,000	479	33,250	391	33,250	340	33,250	310	28,500	190	28,500	184
		1	0.016	50,000	656	50,000	551	50,000	492	50,000	438	38,000	304	34,200	257
0.4	0.02	2	0.013	42,750	589	42,750	494	42,750	447	42,750	390	34,200	276	32,300	228
		3	0.01	38,000	456	38,000	390	38,000	352	38,000	314	31,160	228	24,320	190
		4	0.007	28,500	352	28,500	304	28,500	266	28,500	238	20,520	152	18,240	143
		1	0.025	50,000	656	50,000	551	50,000	492	50,000	438	38,000	304	34,200	257
	0.05	1.5	0.02	50,000	656	50,000	551	50,000	492	50,000	438	38,000	304	34,200	257
		2	0.016	42,750	589	42,750	494	42,750	447	42,750	390	34,200	276	32,300	228
		2.5	0.015	38,475	532	38,475	456	38,475	380	38,475	352	31,730	257	29,070	209
		3	0.014	38,000	456	38,000	390	38,000	352	38,000	314	31,160	228	24,320	190
	1	3.5	0.012	34,200	399	34,200	361	34,200	304	34,200	285	27,930	190	21,774	171
		4	0.008	28,500	352	28,500	304	28,500	266	28,500	238	20,520	152	18,240	143
		1	0.033	50,000	656	50,000	551	50,000	492	50,000	438	38,000	304	34,200	257
		2	0.028	42,750	589	42,750	494	42,750	447	42,750	390	34,200	276	32,300	228
0.5	0.02	3	0.016	38,000	456	38,000	390	38,000	352	38,000	314	31,160	228	24,320	190
		4	0.01	28,500	352	28,500	304	28,500	266	28,500	238	20,520	152	18,240	143
		1	0.016	50,000	1,017	50,000	853	50,000	718	38,000	441	28,500	359	26,600	299
		2	0.013	50,000	1,017	50,000	853	50,000	718	38,000	441	28,500	359	26,600	299
	0.05	3	0.01	42,750	912	42,750	770	42,750	650	34,200	393	25,650	299	23,275	248
		4	0.008	38,000	808	38,000	684	38,000	573	30,400	359	22,800	265	19,000	222
		6	0.006	28,500	542	27,360	456	22,800	361	18,430	247	17,100	238	14,250	190
		1	0.03	50,000	1,017	50,000	853	50,000	718	38,000	441	28,500	359	26,600	299
		2	0.023	50,000	1,017	50,000	853	50,000	718	38,000	441	28,500	359	26,600	299
		3	0.017	42,750	912	42,750	770	42,750	650	34,200	393	25,650	299	23,275	248
		4	0.017	38,000	808	38,000	684	38,000	573	30,400	359	22,800	265	19,000	222
		5	0.011	28,500	608	27,360	513	22,800	361	18,430	266	17,100	238	14,250	190
6	0.008	28,500	542	27,360	456	22,800	361	18,430	247	17,100	238	14,250	190		

UM-RN2 高精度切削参数推荐表

UM-RN2 Recommended cutting datas to high accuracy machining

工件材料 Workpiece Materials				1		2		3		4		5		6	
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels		淬火钢 (55-65HRC) Hardened Steels	
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%	
外径 Mill Dia. (mm)	圆角 (R) (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给速度 (Vf) (mm/min)	转速(n) (r/min)	进给速度 (Vf) (mm/min)	转速(n) (r/min)	进给速度 (Vf) (mm/min)	转速(n) (r/min)	进给速度 (Vf) (mm/min)	转速(n) (r/min)	进给速度 (Vf) (mm/min)	转速(n) (r/min)	进给速度 (Vf) (mm/min)
4	1	12	0.4	12,782	2,223	10,652	1,853	9,586	1,667	9,054	1,575	7,990	1,112	7,457	908
		16	0.29	11,742	2,042	9,742	1,694	8,697	1,512	8,262	1,436	7,219	1,004	6,350	773
		20	0.23	11,742	2,042	9,742	1,694	8,697	1,512	8,262	1,436	7,219	1,004	6,350	773
		30	0.17	11,742	2,042	9,742	1,694	8,697	1,512	6,524	1,021	5,216	654	4,868	533
		35	0.12	11,742	2,042	9,742	1,694	8,697	1,512	6,524	1,021	5,216	654	4,868	533
		45	0.06	9,394	1,225	7,828	1,021	6,958	907	5,305	692	4,697	490	3,913	340
5	0.1	20	0.08	10,436	2,269	8,696	1,891	7,827	1,701	7,392	1,607	6,523	1,134	6,088	926
		40	0.06	7,512	1,463	6,261	1,220	5,634	1,097	5,322	1,036	4,696	732	4,382	598
	0.2	20	0.16	10,436	2,269	8,696	1,891	7,827	1,701	7,392	1,607	6,523	1,134	6,088	926
		40	0.13	7,512	1,463	6,261	1,220	5,634	1,097	5,322	1,036	4,696	732	4,382	598
	0.3	20	0.24	10,436	2,269	8,696	1,891	7,827	1,701	7,392	1,607	6,523	1,134	6,088	926
		40	0.2	7,512	1,463	6,261	1,220	5,634	1,097	5,322	1,036	4,696	732	4,382	598
	0.5	20	0.35	10,436	2,269	8,696	1,891	7,827	1,701	7,392	1,607	6,523	1,134	6,088	926
		40	0.135	7,512	1,463	6,261	1,220	5,634	1,097	5,322	1,036	4,696	732	4,382	598
	1	20	0.4	10,436	2,269	8,696	1,891	7,827	1,701	7,392	1,607	6,523	1,134	6,088	926
		40	0.15	7,512	1,463	6,261	1,220	5,634	1,097	5,322	1,036	4,696	732	4,382	598
6	0.1	12	0.08	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		18	0.065	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		24	0.06	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		35	0.05	7,394	1,736	6,162	1,447	5,545	1,302	5,237	1,229	4,622	868	4,313	709
		55	0.04	6,261	1,197	5,216	998	4,696	898	4,435	847	3,912	592	3,652	483
	0.2	12	0.16	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		18	0.14	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		24	0.13	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		35	0.11	7,394	1,736	6,162	1,447	5,545	1,302	5,237	1,229	4,622	868	4,313	709
		55	0.08	6,261	1,197	5,216	998	4,696	898	4,435	847	3,912	592	3,652	483
	0.3	12	0.24	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		18	0.22	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		24	0.2	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		35	0.18	7,394	1,736	6,162	1,447	5,545	1,302	5,237	1,229	4,622	868	4,313	709
		55	0.14	6,261	1,197	5,216	998	4,696	898	4,435	847	3,912	592	3,652	483
	0.5	18	0.35	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		24	0.29	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926
		35	0.24	7,394	1,736	6,162	1,447	5,545	1,302	5,237	1,229	4,622	868	4,313	709
		55	0.165	6,261	1,197	5,216	998	4,696	898	4,435	847	3,912	592	3,652	483
		1	18	0.4	8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075
24	0.35		8,698	2,270	7,249	1,891	6,525	1,701	6,162	1,607	5,436	1,134	5,075	926	
35	0.28		7,394	1,736	6,162	1,447	5,545	1,302	5,237	1,229	4,622	868	4,313	709	
55	0.2		6,261	1,197	5,216	998	4,696	898	4,435	847	3,912	592	3,652	483	

注意

- 对于不同工件材料, ap请按上表切削深度比例系数进行调整, 如: 淬硬钢(45~55HRC), ap需*0.5。
- 请结合工件材料、加工形状、使用合适的冷却液, 推荐气冷或水冷。
- 实际加工中, 请考虑加工形状、目的、使用机床等因素, 对切削条件进行调整。
- 如果机床转速低于表中所示数值, 则进给速度应与转速按同一比例降低。

NOTE

- For different materials, adjust the cutting depth (ap) according to the cutting depth factors in the above table. E.g. for hardened steels (45~55HRC), ap*0.5.
- Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
- In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
- If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

UM-RN4 高精度切削参数推荐表

UM-RN4 Recommended cutting datas to high accuracy machining

工件材料 Workpiece Materials				1		2		3		4		5		6	
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels		淬火钢 (55-65HRC) Hardened Steels	
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%	
外径 Mill Dia. (mm)	圆角 (R) (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)
3	0.5	8	0.18	17,300	2,830	14,400	2,360	13,000	2,120	12,200	2,010	10,800	1,410	10,100	1,160
		12	0.13	17,300	2,830	14,400	2,360	13,000	2,120	12,200	2,010	10,800	1,410	10,100	1,160
		16	0.1	17,300	2,830	14,400	2,360	13,000	2,120	12,200	2,010	10,800	1,410	10,100	1,160
		20	0.1	14,000	2,290	11,700	1,910	10,500	1,720	9,900	1,620	8,700	1,270	8,200	1,040
		25	0.09	14,000	2,290	11,700	1,910	10,500	1,720	9,900	1,620	8,700	1,270	8,200	1,040
		30	0.08	10,900	2,290	9,100	1,910	8,200	1,720	7,700	1,620	6,800	1,270	6,400	1,040
		35	0.065	10,900	2,290	9,100	1,910	8,200	1,720	7,700	1,620	6,800	1,270	6,400	1,040
4	0.1	12	0.065	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,240	7,800	1,750	7,200	1,300
		20	0.055	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,240	7,800	1,750	7,200	1,300
		30	0.045	11,200	3,020	9,300	2,520	8,400	2,010	7,900	1,830	7,000	1,470	6,500	1,170
	0.2	12	0.13	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,240	7,800	1,750	7,200	1,300
		20	0.1	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,240	7,800	1,750	7,200	1,300
		30	0.08	11,200	3,020	9,300	2,520	8,400	2,010	7,900	1,830	7,000	1,470	6,500	1,170
	0.3	12	0.17	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,380	7,800	1,860	7,200	1,410
		20	0.13	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,380	7,800	1,860	7,200	1,410
		30	0.1	11,200	3,020	9,300	2,520	8,400	2,260	7,900	1,900	7,000	1,570	6,500	1,170
	0.5	12	0.24	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,380	7,800	1,860	7,200	1,410
		20	0.2	12,400	3,350	10,400	2,790	9,300	2,520	8,800	2,380	7,800	1,860	7,200	1,410
		30	0.17	11,200	3,020	9,300	2,520	8,400	2,260	7,900	1,900	7,000	1,570	6,500	1,170
5	0.1	20	0.07	9,700	2,620	8,100	2,190	7,300	1,970	6,900	1,760	6,100	1,370	5,700	1,020
		40	0.035	8,700	2,360	7,300	1,970	6,600	1,570	6,200	1,430	5,500	1,150	5,100	920
	0.2	20	0.15	9,700	2,620	8,100	2,190	7,300	1,970	6,900	1,760	6,100	1,370	5,700	1,020
		40	0.08	8,700	2,360	7,300	1,970	6,600	1,570	6,200	1,430	5,500	1,150	5,100	920
	0.3	20	0.21	9,700	2,620	8,100	2,190	7,300	1,970	6,900	1,860	6,100	1,460	5,700	1,110
		40	0.1	8,700	2,360	7,300	1,970	6,600	1,770	6,200	1,490	5,500	1,230	5,100	920
	0.5	20	0.28	9,700	2,620	8,100	2,190	7,300	1,970	6,900	1,860	6,100	1,460	5,700	1,110
		40	0.14	8,700	2,360	7,300	1,970	6,600	1,770	6,200	1,490	5,500	1,230	5,100	920
	1	20	0.35	9,700	2,620	8,100	2,190	7,300	1,970	6,900	1,860	6,100	1,460	5,700	1,110
40		0.18	8,700	2,360	7,300	1,970	6,600	1,770	6,200	1,490	5,500	1,230	5,100	920	
6	0.2	30	0.15	8,600	2,330	7,200	1,940	6,500	1,750	6,100	1,560	5,400	1,220	5,000	910
		54	0.1	7,800	2,100	6,500	1,750	5,800	1,400	5,500	1,270	4,900	1,020	4,500	820
		72	0.07	7,800	2,100	6,500	1,750	5,800	1,400	5,500	1,270	4,900	1,020	4,500	820
	0.3	30	0.25	8,600	2,330	7,200	1,940	6,500	1,750	6,100	1,560	5,400	1,300	5,000	980
		54	0.18	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,270	4,900	1,090	4,500	820
		72	0.1	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,270	4,900	1,090	4,500	820
0.5	30	0.35	8,600	2,330	7,200	1,940	6,500	1,750	6,100	1,650	5,400	1,300	5,000	980	
	54	0.25	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,320	4,900	1,090	4,500	820	

工件材料 Workpiece Materials				1		2		3		4		5		6		
				铜 Copper		碳素钢.合金钢 (180-250HB) Carbon Steels, Alloy Steels		不锈钢.工具钢 (25-35HRC) Stainless Steels, Tool Steels		预硬化钢 (35-45HRC) Pre-Hardened Steels		淬火钢 (45-55HRC) Hardened Steels		淬火钢 (55-65HRC) Hardened Steels		
切削深度(ap)比例系数 Ratio to standard depth of cut(ap)				120%		100%		90%		80%		65%		60%		
外径 Mill Dia. (mm)	圆角 (R) (mm)	颈长 Under Neck Length (mm)	ap	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	转速(n) (r/min)	进给速度(Vf) (mm/min)	
6	1	0.5	72	0.15	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,320	4,900	1,090	4,500	820
		30	0.55	8,600	2,330	7,200	1,940	6,500	1,750	6,100	1,650	5,400	1,300	5,000	980	
		54	0.4	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,320	4,900	1,090	4,500	820	
		72	0.22	7,800	2,100	6,500	1,750	5,800	1,570	5,500	1,320	4,900	1,090	4,500	820	

注意

- 对于不同工件材料, ap请按上表切削深度比例系数进行调整, 如: 淬硬钢(45~55HRC), ap需*0.5。
- 请结合工件材料、加工形状、使用合适的冷却液, 推荐气冷或水冷。
- 实际加工中, 请考虑加工形状、目的、使用机床等因素, 对切削条件进行调整。
- 如果机床转速低于表中列数值, 则进给速度应与转速按同一比例降低。

NOTE

- For different materials, adjust the cutting depth (ap) according to the cutting depth factors in the above table. E.g. for hardened steels (45~55HRC), ap*0.5.
- Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
- In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
- If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

附录 Appendix

Cutting Parameters and General Formula For Milling

铣削加工的切削参数与通用计算公式

常用参数及其单位				Parameter and Unit			
D	铣刀直径	Diameter	(mm)	fn	每转进给量	Feeding per Revolution	(mm/rev)
ap	切削深度	Cutting Depth	(mm)	fz	每刃进给量	Feeding per Tooth	(mm/tooth)
ae	切削宽度	Cutting Width	(mm)	Z	刀刃数	Teeth Number	
Vf	进给速度	Feed Speed	(mm/min)	n	主轴转速	Spindle Speed	(rev/min)
Vc	切削速度	Cutting Speed	(m/min)	L	工作台总进给长度 <small>Length: (工件长度+ 铣刀直径:1+D)</small>		(mm)
Tc	加工时间	Processing Time	(min)	Q	金属切削率	Metal Removal Rate	(cm ³ /min)

通用计算公式				General Formula			
n	主轴转速	Spindle Speed		$n = \frac{Vc \times 1000}{\pi \times D}$	(r/min)		
Vc	切削速度	Cutting Speed		$Vc = \frac{\pi \times D \times n}{1000}$	(m/min)		
fz	每刃进给量	Feeding per Tooth		$fz = \frac{Vf}{z \times n}$	(mm)		
Vf	进给速度	Feed Speed		$Vf = n \times fz \times Z$	(mm/min)		
Q	金属切削率	Metal Removal Rate		$Q = \frac{ae \times ap \times Vf}{1000}$	(mm)		
Tc	加工时间	Processing Time		$Tc = \frac{L}{Vf}$	(min)		

Workpiece code table

工件材料代码表

材料组 ISO Material Group	MC TAIFENG	工件材料 Workpiece Material	含量 Content	抗拉强度 Tensile Strength (N/mm ²)	布氏硬度 Brinell Hardness (HB)	洛氏硬度 Rockwell Hardness (HRC)
P 钢 Steels	P1	低碳钢, 长切屑 Low-carbon Steels, Long Chipping	C<0.25%	<530	<125	—
	P2	低碳钢, 短切屑, 易切钢 Low-carbon Steels, Short Chipping, Free-cutting Steels	C<0.25%	<530	<125	—
	P3	高碳钢及中碳钢 High-carbon Steels, Medium-carbon Steels	C>0.25%	>530	<220	<25
	P4	合金钢, 工具钢 Alloy Steels, Tool Steels	C>0.25%	600-850	<330	<35
	P5	合金钢, 工具钢 Alloy Steels, Tool Steels	C>0.25%	850-1400	340-450	35-48
	P6	铁素体不锈钢, 马氏体不锈钢, PH不锈钢 Ferritic Stainless Steels, Martensitic Stainless Steels, Ph Stainless Steels	C=(0-0.4)%	600-900	<330	<35
	P7	高强度铁素体不锈钢, 马氏体不锈钢, PH不锈钢, High-strength Ferritic Stainless Steels, Martensitic Stainless Steels, Ph Stainless Steels	C=(0.1-0.6)%	900-1350	330-450	35-48
M 不锈钢 Stainless Steels	M1	奥氏体不锈钢 Austenitic Stainless Steels	C=(0.05-0.15)%	<600	130-200	—
	M2	高强度的奥氏体和铸造不锈钢 High-strength Austenitic Stainless Steels And Cast Stainless Steels	C=(0.05-0.15)%	600-800	150-230	<25
	M3	双相不锈钢 Duplex Stainless Steels	C=(0.05-0.20)%	<800	135-275	<30
K 铸铁 Cast Iron	K1	灰铸铁 Grey Cast Iron	—	125-500	120-290	<32
	K2	中等加工难度的合金铸铁, 球墨铸铁 Moderately Difficult Alloy Cast Iron, Nodular Cast Iron	—	<600	130-260	<28
	K3	难加工的高合金铸铁, 球墨铸铁 Difficult High-alloy Cast Iron, Nodular Cast Iron	—	>600	180-350	<43
N 有色材料 Non-ferrous Materials	N1	锻造铝合金 Wrought Aluminium Alloys	—	<520	60-90	—
	N2	铸造铝合金 Cast Aluminium Alloys	Si<12%	<350	70-100	—
	N3	铸造铝合金 Cast Aluminium Alloys	Si>12%	200-320	60-120	—
	N4	铜, 铜合金 Copper, Copper Alloys	—	200-650	60-200	—
	N5	石墨, 复合材料 Graphite, CFK, CFRP Graphite, Composite Materials	—	600-1500	—	—
	N6	铝基复合材料(MMCs) GFK, CFK Aluminium-based Composite Materials	—	<700	<210	—
S 耐热合金 钛合金 Heat-resistant Alloys, Titanium Alloys	S1	铁基高温合金 Iron-based Heat-resistant Alloys	—	500-1200	160-260	25-48
	S2	钴基高温合金 Cobalt-based Heat-resistant Alloys	—	1000-1450	250-450	25-48
	S3	镍基高温合金 Nickel-based Heat-resistant Alloys	—	600-1700	160-450	<48
	S4	钛及钛合金 Titanium And Titanium Alloys	—	900-1600	300-400	33-48
H 高硬度材料 High Hardened Materials	H1	淬硬钢 Hardened Steels	—	—	—	45-55
	H2	淬硬钢 Hardened Steels	—	—	—	55-60
	H3	淬硬钢 Hardened Steels	—	—	—	60-65
	H4	淬硬钢 Hardened Steels	—	—	—	>65

附录 Appendix

Reference table of workpiece materials
工件材料常用牌号对照表

工件材料 Workpiece Materials	中国	德国		日本	美国	法国	英国	欧洲
	GB	材料号	DIN	JIS	AISI/SAE	AFNOR	BS	EN
P1	15	1.0401	C 15	S 15 C	1015	C 12	080 M 15	C 15
P1	20; ML20	1.0402	C 22	S 22 C	1020	C 20	050 A 20	1 C 22
P1	15	1.1141	Ck 15	S 15 C	1015	XC 15	080 M 15	2 C 15
P2	Y15	1.0715	9 SMn 28; 11 SMn 30	SUM 22	1213	S 250	230 M 07	11 SMn 28
P2	Y15Pb	1.0718	9 SMnPb 28	SUM 22 L	12L13	S 250 Pb	—	11 SMnPb 28
P2	Y13	1.0736	9 SMn 36; 11 S Mn 37	SUM 25	1215	S 300	240 M 07	11 SMn 37
P2	—	1.0737	9 SMnPb 36; 11 SMnPb 37	—	12L14	S 300 Pb SMnPb 36	—	11 SMnPb 37
P3	35	1.0501	C 35	S 35 C	1035	CC 35	060 A 35	1 C 35
P3	45	1.0503	C 45	S 45 C	1045	CC 45	080 M 46	1 C 45
P3	ZG340-640;55	1.0535	C 55	S 55 C	1055	C 55	070 M 55	1 C 55
P3	60	1.0601	C 60	S 60 C- CSP	1060	AF 70 C 55	080 A 62	1 C 60
P3	Y35; Y30	1.0726	35 S 20	—	1140	35 MF 4	212 M 36	35 S 20
P3	60Si2CrA; 60Si2Mn	1.0961	60 SiCr 7	SUP 7	9262	60 SC 7	250 A 61	60 SiCr 8
P3	40Mn	1.1157	40 Mn 4	—	1039	35 M 5	150 M 36	—
P3	25; ML25	1.1158	Ck 25	S 25 C	1025	XC 25	070 M 26	2 C 25
P3	35Mn2	1.1167	36 Mn 5	SMn 438 (H)	1335	40 M 5	150 M 36	—
P3	30Mn2	1.1170	28 Mn 6	SCMn 1	1330	35 M 5	150 M 28	28 Mn 6
P3	35Mn	1.1183	Cf 35	S 35 C	1035	XC 38 TS	060 A 35	C 35 G
P3	Ck45; 45; Mn45Mn; ZG310-570	1.1191	Ck 45	S 45 C	1045	XC 42	080 M 46	2 C 45
P3	55	1.1203	Ck 55	S 55 C	1055	XC 55 H1	070 M 55	2 C 55
P3	50	1.1213	Cf 53	S 50 C	1050	XC 48 TS	060 A 57	C 53 G
P3	60Mn; 60	1.1221	Ck 60	S 58 C	1060	XC 60	060 A 62	2 C 60

GB—中国国标
GB—Chinese Standard

DIN—德国化学标准会
DIN—German Institute for Standardization

JIS—日本工业标准
JIS—Japanese Industrial Standards



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P3	—	1.1274	Ck 101	SUP_4	1095	XC 100	060 A 96	C 100 S
P3	T10	1.1545	C 105 W1	—	W 110	Y 105	B W 1 A	C 105 U
P3	CrV; 9SiCr; Cr2; 9Cr2	1.2067	100 Cr 6	—	L3	Y 100 C 6	B L 3	102 Cr 6
P3	CrWMo; CrWMn; 9CrWMn	1.2419	105 WCr 6	SKS 31	—	(107 WCr 13)	—	105 WCr 5
P3	5CrNiMo; 5CrW2Si	1.2542	45 WCrV 7	—	S1	45 WCr V 8	BS 1	45 WCrV 8
P3	5CrNiMo	1.2713	55 NiCrMoV 6	SKT 4	L6	55 NCDV 7	BH 224/5	55 NiCrMoV 7
P3	—	1.5415	15 Mo 3	STFA 12-240	A 204 Gr. A	15 D3	1501	16 Mo 3
P3	—	1.5622	14 Ni 6	SL2N26	A 350-LF 5	15 N 6	—	FeE 285 Ni 6
P3	—	1.6511	36 CrNiMo 4	—	9840	40 NCD 3	816 M 40	36 CrNiMo 4
P3	40CrNiMoA	1.6582	34 CrNiMo 6	SNCM 447	4340	35 NCD 6	817 M 40	34 CrNiMo 6
P3	—	1.6587	17 CrNiMo 6	SNCM 815	—	18 NCD 6	820 A 16	17 CrNiMo 7
P3	15Cr	1.7015	15 Cr 3	SCr 415 H	5015	12 C 3	523 M15	15 Cr 2
P3	35Cr	1.7033	34 Cr 4	SCr 430 H	5130 H	32 C 4	530 A 32	34 Cr 4 KD
P3	40Cr	1.7045	42 Cr 4	SCr 440	5140	42 C 4 TS	530 A 40	40 NiCrMo 3
P3	—	1.7035	41Cr4	SCr440(H)	5140	42C4	530M40	24
P3	—	1.7380	Mo910	—	ASTM A182 F.22	12CD9; 12CD10	1501-622 Cr31, 45	—
P3	40Cr	1.7045	42 Cr 4	SCr 440	5140	42 C 4 TS	530 A 40	40 NiCrMo 3
P3	18CrMn;	1.7131	16 MnCr 5	SCR 415	5115	16 MC 5	527 M 17	16 MnCr 5 KD
P3	20CrMn; 50CrMn	1.7176	55 Cr 3	SUP 9 (A)	5155	55 C 3	527 A 60	55 Cr 3
P3	30CrMn;	1.7218	25 CrMo 4	SCM 420	4130	25 CD 4	708 A 25	25 CrMo 4 KD
P3	50CrVA	1.8159	—	SUP 10	6150	50 CV 4	735 A 50	51 CrV 4
P3	35CrMo	1.7220	34CrMo4	SCm432; SCCrM3	4137; 4135	35CD4	708A37	—

AISI/SA—美国钢铁学会/美国汽车工程师协会
AISI/SA—American Iron and Steel Institute
Society of Automotive Engineer

BS—英国标准
BS—British Standards

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P3	40CrMoA	1.7223	41 CrMo 4	SCM 440	4142	42 CD 4 TS	708 M 40	41 CrMo 4
P3	42CrMo; 42CrMnMo	1.7225	42 CrMo 4	SCM 440 H	4140	42 CD 4	708 A 42	42 CrMo 4
P3	15CrMo	1.7262	15 CrMo 5	SCM 415 H	—	12 CD 4	—	—
P3	12CrMo	1.7335	13 CrMo 4 4	SFVA F 12	A182-F11	15 CD 4.05	1501-621	13 CrMo 4-5
P3	—	1.7361	32 CrMo 12	—	—	30 CD 12	722 M 24	32 CrMo 12
P4	55Si2Mn	1.0904	55 Si 7	SKH 1; SKT 4	9255	55 S 7	250 A 53	55 NiCrMoV 7
P4	V	1.2833	100 V 1	SKS 43	W 210	Y1 105 V	BW 2	100 V 2
P4	12CrNi2	1.5732	14 NiCr 10	SNC 415 H	3415	14 NC 12	—	—
P4	12CrNi3	1.5752	14 NiCr 14	SNC	E	16 NC 11	655 M 13	13 NiCr 12
P4	20CrNiMo	1.6523	21 NiCrMo 2	SNCM 220 H	8620	20 NCD 2	805 M 20	20 NiCrMo 2 KD
P4	—	1.6546	40 NiCrMo 7 2 KB	SNCM 240	8640	40 NCD 2	—	40 NiCrMo 2 KD
P4	—	1.8523	39 CrMoV 13 9	—	—	—	897 M 39	39 CrMoV 13 9
P4	—	1.5710	36NiCr6	SNC236	3135	35NC6	640A35	111A
P6	ZGMn13-1; ZGMn13-2	1.3401	X 120 Mn 12	SCMnH 1	A 128	Z 120 M 12	BW 10	—
P6	Cr6WV; 100CrMoV5	1.2363	X 100 CrMoV	SKD 12	A-2 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1
P6	Cr12W	1.2436	X 210 CrW 12	SKD 2	—	Z 210 CW 1 2	—	X 210 CrW 12
P6	3Cr2W8V; 30WCrV9; 5CrMnMo	1.2581	X 30 WCrV 93	SKD 5	H 21	Z 30 WCV 9	BH 21	X 30 WCrV 9 3
P6	4Cr5MoVSi1; 40CrMoV5	1.2344	X 40 CrMoV 5 1	SKD 61	H 13	Z 40 CDV 5	BH 13	X 40 CrMoV 5 1
P6	W18Cr4V	1.3355	S 1-8-0-1	SKH 2	T 1	Z80WCV 18-04-01	BT 1	HS 1-8-0-1
P6	W18Cr4VCo5	1.3255	S 1-8-1-2-5	SKH 3	T 4	Z80 WKCV 18-05-04-01	BT 4	(HS18-1-1-5)
P6	W6Mo5Cr4V 2Co5	1.3243	S 6-5-2-5	SKH 55	M 35	KCV 06-05- 05-04-02	BM 35	(HS6-5-2-5)
P6	—	1.5662	X 8 Ni 9	SL 9 N 53	A 353	9 Ni	509	FeE 490 Ni 36

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	GB	材料号	DIN	JIS	AISI/SAE	AFNOR	BS	EN
P6	Cr12MoV	1.2601	X 165 CrMoV 12	—	—	—	—	X 165 CrMoV 12
P6	Cr12	1.2080	X210Cr12	SKD1	D3 ASTM D3	Z200C12	BD3	—
P6	—	1.3343	S6-5-2	SUH3	D3	Z40CSD10	4959BA2	—
P6	M7	1.3348	S 2-9-2	—	M 7	Z100DCWV 09-04-02-02	—	HS 2-9-2
M1	—	1.4408	GX 6 CrNiMo 18 10	SCS 14	CF-8M	GX5CrNiMo 19-11-2	316 C 16	GX 5 CrNiMo 19-11-2
M1	0Cr27Ni12 Mo3	1.4435	X 2 CrNiMo 18 14 3	SCS 16	316 L	Z 2 CND 17.13	316 S 11	X 2 CrNiMo 18 16
M1	1Cr18Ni12 Mo2Ti	1.4581	GX 5 CrNi MoNb 18 10	SCS 22	—	Z 4 CNDNb 18.12 M	318 C 17	GX 5 CrNiMo Nb 19-11-2
M1	1Cr23Ni13; 2Cr23Ni13	1.4828	X 15 CrNiSi 20 12	SUH 309	309	Z 15 CNS 20.12	309 S 24	X 15 CrNiSi 20 12
M1	00Cr18Ni10N; 0Cr19Ni9	1.4311	X 2 CrNiN 18 10	SUS 304 LN	304	Z 8 CN 18.12	304 S 62	X 2 CrNiN 18 10
M1	0Cr25Ni20; 2Cr25Ni21	1.4845	X 12 CrNi 25 21	SUS 310 S	310 S	Z 12 CN 25.20	310 S 24	X 8 CrNi 25 21
M1	0Cr17Ni11Mo2; 0Cr17Ni12Mo2	1.4401	X 5 CrNiMo 17 12 2	SUS 316	316	Z 6 CND 17.11	316 S 16	X6 CrNiMo 17 X 12 2 KD
M1	0Cr17Ni12 Mo2	1.4436	X 5 CrNiMo 17 1 3 3	SUS 316	316	Z 6 CND 17.12	316 S 16	X6 CrNiMo 18 13 3 KD
M1	00Cr17Ni14 Mo2	1.4404	X 2 CrNiMo 17 13 2	SUS 316 L	316 L	Z 3 CND 19.10 M	316 S 12	GX 3 CrNiMo 17 12 2 KD
M1	0Cr17Ni13Mo; 00Cr17Ni13Mo2N	1.4429	X 2 CrNiMoN 17 13 3	SUS 316 LN	316 LN	Z 2 CND 17.13 Az	316 S 62	X 3 CrNiMoN 17 13 3
M1	—	1.4406	X 2 CrNiMoN 17	SUS 316 LN 12 2	316	Z 2 CND 17.12 Az	316 S 61 LN	X 3 CrNiMoN 17 12 2
M1	Cr18Ni12 Mo2Ti	1.4571	X 6 CrNiMoTi 17 12 2	SUS 316 Ti	316 Ti	Z 6 CNDT 17.12	320 S 31	X 6 CrNiMoTi 17 12 2
M1	00Cr19Ni13 Mo3	1.4438	X 2 CrNiMo 18 16 4	SUS 317 L	317 L	Z 2 CND 19.15	317 S 12	X 3 CrNiMo 18 16 4
M1	1Cr18Ni9Ti	1.4541	X 6 CrNiTi 18 10	SUS 321	321	Z 6 CNT 18.10	321 S 12	X 6 CrNiTi 18
M1	1Cr18Ni10Ti; 1Cr18Ni9Ti	1.4878	X 12 CrNiTi 18 9	SUS 321	321	Z 6 CNT 18.12	321 S 20	X 10 CrNiTi 18 10
M1	Cr17Ni12Mo3 Nb	1.4583	X 10 CrNi MoNb 18 12	—	318	—	—	—
M1	—	1.4539	X 1 NiCrMo CuN	—	—	Z 1 NCDU 25-20-5	904 S 13 25 20	X 1 NiCrMoCu
M1	—	1.4003	—	—	405	Z8CA12	405S17	—

AISI/SA—美国钢铁学会/美国汽车工程师协会
AISI/SA—American Iron and Steel Institute
Society of Automotive Engineer

BS—英国标准
BS—British Standards

EN—欧洲标准
EN—European Standards

附录 Appendix

Reference table of workpiece materials
工件材料常用牌号对照表

工件材料 Workpiece Materials	中国	德国		日本	美国	法国	英国	欧洲
	GB	材料号	DIN	JIS	AISI/SAE	AFNOR	BS	EN
M1	—	1.4521	X1CrMoTi182	—	S44400	—	—	—
M1	—	1.4542	—	—	630	Z7CNU17-04	—	—
M1	00Cr19Ni13Mo3	1.4438	X 2 CrNiMo 18 16 4	SUS 317 L	317 L	Z 2 CND 19.15	317 S 12	X 3 CrNiMo 18 16 4
M1	1Cr18Ni9Ti	1.4541	X 6 CrNiTi 18 10	SUS 321	321	Z 6 CNT 18.10	321 S 12	X 6 CrNiTi 18
M1	1Cr18Ni10Ti; 1Cr18Ni9Ti	1.4878	X 12 CrNiTi 18 9	SUS 321	321	Z 6 CNT 18.12	321 S 20	X 10 CrNiTi 18 10
M1	1Cr18Ni11Nb	1.4550	X 6 CrNiNb 18 10	SUS 347	347	Z 6 CNNb 18.10	347 S 17	X 6 CrNiNb 18 10
M1	1Cr17	1.4016	X6Cr17	SUS 430	430	—	430 S 17; 430 S 18	—
M1	0Cr15NiMo2Al	1.4532	X 8 CrNiMoAl 15 7 2	—	15-7 PH	X15D2	—	X 8 CrNiMoAl 15-7-2
M1	Cr17Ni12Mo3Nb	1.4583	X 10 CrNiMoNb 18 12	—	318	—	—	—
M1	—	1.4539;52662	X 1 NiCrMo CuN	—	—	Z 1 NCDU 25-20-5	904 S 13 25 20	X 1 NiCrMoCu
M1	0Cr17Ni4Cu4Nb	1.4542	X 5 CrNiCuNb 16 4	SUS 630	630	Z6CNU17.04	—	X 5 CrNiCuNb 16-4
M2	0Cr17Ni7Al	1.4568	X 7 CrNiAl 17 7	SUS 631	—	X7CrNiAl17-7; Z9CNA17-07	301 S 81	X 7 CrNiAl 17-7
M2	—	1.4504	—	—	—	—	—	—
M2	—	1.4504	—	—	—	—	—	—
M2	0Cr17Ni7Al	1.4568	X 7 CrNiAl 17 7	SUS 631	—	X7CrNiAl17-7; Z9CNA17-07	301 S 81	X 7 CrNiAl 17-7
M3	0Cr26Ni5Mo2	1.4460	X 4 CrNiMo 27 5 2	SUS 329 J1	329	X 2 CrNiMo 25-7-3	—	X 3 CrNiMo 27 5 2
M3	—	1.4462	X 2 CrNiMoN 22 5 3	SUS 329J 3L	S318 03	Z 3 CND 22.05 AZ	318 S 13	X 2 CrNiMoN 22 5 3
K1	HT300	0.6030	GG- 30	FC 300	A48-45 B	FGL 300	Grade 300	GJL-300
K1	HT350	0.6035	GG- 35	FC 350	A48-50 B	FGL 350	Grade 350	GJL-350
K1	HT400	0.6040	GG- 40	—	A48-55 B	FGL 400	Grade 400	GJL-400
K2	—	0.7033	GGG-35.3	—	—	—	—	GJS-350-22
K2	QT400-18	0.7040	GGG-40	FCD400	60-40-18	FCS 400-12	SNG 420/12	—

GB—中国国标
GB—Chinese Standard

DIN—德国化学标准会
DIN—German Institute for Standardization

JIS—日本工业标准
JIS—Japanese Industrial Standards

Reference table of workpiece materials
工件材料常用牌号对照表

工件材料 Workpiece Materials	中国	德国		日本	美国	法国	英国	欧洲
	GB	材料号	DIN	JIS	AISI/SAE	AFNOR	BS	EN
K2	—	—	GGG-40.3	—	—	FGS 370-17	SNG 370/17	—
K2	QT500-7	0.7050	GGG-50	FCD500	80-55-06	FGS 500-7	SNG 500/7	—
K2	—	0.7660	GGG-NiCr202	—	A43D2	S-NC202	Grade S6	—
K2	—	—	GGG-NiMo137	—	—	L-MN 137	L-NiMn 137	—
K2	QT600-3	—	GGG-60	FCD600	—	FGS 600-3	SNG 600/3	—
K2	QT700-18	0.7070	GGG-70	FCD700	100-70-03	FGS 700-2	SNG 700/2	—
K3	—	0.8145	GTS-45-06	FCMP440	40010	P 45-06	P 440/7	MN 450 - 6
K3	—	0.8155	GTS-55-04	FCMP490	50005	P 55-04	P 510/4	MN 550-4
K3	—	0.8165	GTS-65-02	FCMP540	70003	P 65-02	P 570/3	MN 650-3
K3	—	—	—	FCMB310	—	MN 32-8	56 1/3	—
K3	—	—	GTS-35	FCMW330	GTS-35	MN 35-10	B 340/12	—
K3	—	—	GTS-65	FCMP540	GTS-65	MP60-3	P 570/3	—
K3	—	—	GTS-70-02	FCMP690	GTS-70-02	MN 700-2	P 690/2	—
K3	—	0.8145	GTS-45-06	FCMP440	40010	P 45-06	P 440/7	MN 450 - 6
K3	—	0.8155	GTS-55-04	FCMP490	50005	P 55-04	P 510/4	MN 550-4
K3	—	0.8165	GTS-65-02	FCMP 540	70003	P 65-02	P 570/3	MN 650-3
H	—	0.9620	GX 260 NiCr 42	0512-00	A 532 IB NiCr-LC	—	—	GJH-X260Ni Cr 4-2
	—	0.9625	G-X 330 NiCr 42	0513-00	A 532 IA NiCr-HC	FB Ni 4 Cr2 HC	—	GJH-X330Ni Cr 4-2
	—	0.9630	G-X 300 CrNiSi 95 2	0457-00	A 532 ID Ni-HiCr	—	—	GJH-X300 Cr NiSi 9-5-2
	—	0.9635	G-X 300 CrMo 15 3	—	A 532 IIC15% CrMo-HC	—	—	GJH-X300 CrMo 15-3
	—	0.9640	G-X 300 CrMoNi 15 2 1	—	—	—	—	GJH-X300 CrMoNi 15-2-1
	—	0.9645	GX 260 CrMoNi 20 2 1	—	A 532 IID20% CrMo-HC	—	—	GJH-X260 CrMoNi 20-2-1
	—	0.9650	GX 260 Cr 27	0466-00	A 532 IIA25% Cr	—	—	GJH-X260 Cr 27
	—	0.9655	G-X 300 CrMo 27 1	—	A 532 IIA25% Cr	—	—	GJH-X300 CrMo 27-1

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