



模具行业

MOULD INDUSTRY



公司简介

About GESAC

厦门金鹭特种合金有限公司，成立于1989年，是一家中外合资的国家高新技术企业，隶属于中国六大稀土集团之一的厦门钨业股份有限公司。公司致力于高品质钨粉末材料、硬质合金、精密切削工具等钨系列产品的研发、生产，以及行业专业解决方案的提供，是世界知名的钨粉末、硬质合金及切削工具供应商。

凭借完整钨产业链的产品集成技术研发，以及务实、创新的管理理念，厦门金鹭始终保持着强劲的发展势头，为全球用户提供最高性价比的钨粉末产品和服务，为现代工业领域解决高硬度、耐高温、耐磨损问题，提供了优良的产品和完善的解决方案，客户遍布全球四十多个工业发达国家和地区，享誉海内外。

公司拥有3个生产基地，3个海外销售公司和1个企业技术中心，独立承担并完成多项“国家科技支撑计划项目”，“国家科技重大专项”，“国家火炬计划项目”，“国家重点新产品”开发项目及省市重点研究课题，被评为“战略性新兴产业骨干企业”、“创新型企业”、“先进技术企业”。

Xiamen Golden Egret Special Alloy Co., Ltd. (GESAC), founded in 1989, is a Sino-foreign joint venture with national high-tech, affiliated with XTC, which is one of six major rare earth groups in China. GESAC is committed to research & development, production and professional solutions providing of high-quality tungsten powder materials, cemented carbide, precision cutting tools and other tungsten products. Up to now, GESAC has become world-famous manufacturer and supplier of tungsten powder, cemented carbide and precision cutting tools products.

With the Integrated Product Development of complete tungsten industry chain, as well as a pragmatic and innovative management concept, GESAC has always maintained a strong momentum of development, providing the cost effective tungsten powder products and services for global users, offering the excellent products and perfect solutions for solving high hardness, high temperature resistance and wear resistance topics. Our brand "Golden Egret" has become one of the leading brand in the market, enjoying famous reputation in more than 40 countries and regions.

GESAC owns three production bases, three overseas sales branches and one R&D center. We undertook and completed several development programs independently, including the "National Science and Technology Support Programs", the "National Torch Program Projects", and the "National Key Projects" and so on. GESAC was awarded as "Key Enterprise for Strategic Emerging Industry", "Innovative Enterprise" and "Enterprise with Advanced Technology".

1998年



集美工厂

Jimei Plant in 1998

钨粉末、合金生产基地
Tungsten Powder & Carbide Plant



同安区
Tong'an

2009年



同安工厂

Tong'an Plant in 2009

合金棒材、刀具生产基地
Carbide Rods & Cutting Tools Plant



集美区
Jimei

湖里区
Huli

五缘湾
Wuyuanwan

海沧区
Haicang

2006年



海沧工厂

Haicang Plant in 2006

钨粉末生产基地
Tungsten Powder Plant



1989年



湖里工厂

Huli Plant in 1989

行政总部
Administrative Headquarters



2008年



五缘湾研发中心

Wuyuanwan R&D Center in 2008



塑料模具加工配套方案

Solutions to plastic mould machining

铣削粗加工

Rough milling



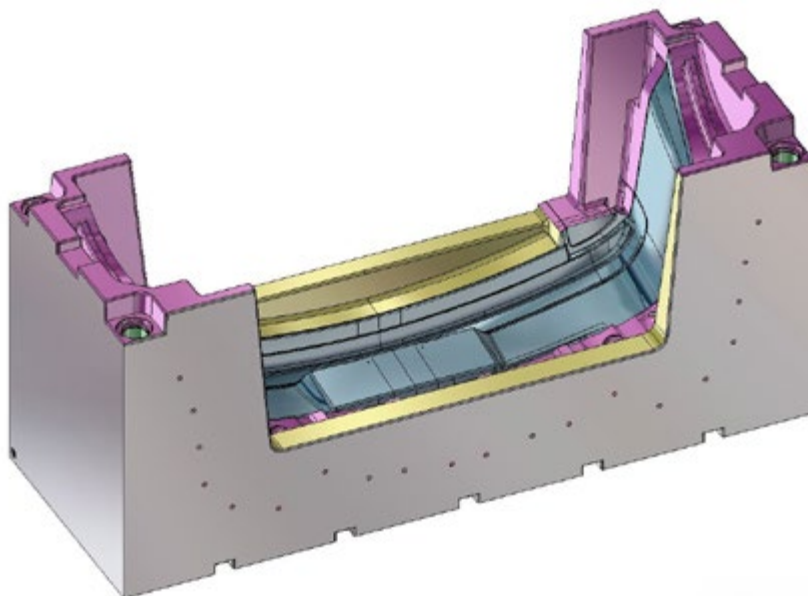
- RD/RP+MPA100/MPB100系列
RD/RP+MPA100/MPB100 Series
- 通用仿形铣削加工
Universal profile milling



- APMT+MEA190
APMT+MEA190 Series
- 通用方肩铣削加工
Universal shoulder milling



- SDMT+MKB113系列
SDMT+MKB113 Serie
- 高效高进给铣削加工
High-efficiency high-feed milling



半精加工

Semi-finishing



- ZPR+MRA100系列
ZPR+MRA100 Series
- 高精度圆角铣削加工
High-precision corner radius milling



- APKT+MEB190系列
APKT+MEB190 Series
- 方肩铣削加工
Shoulder milling

精加工
Finishing



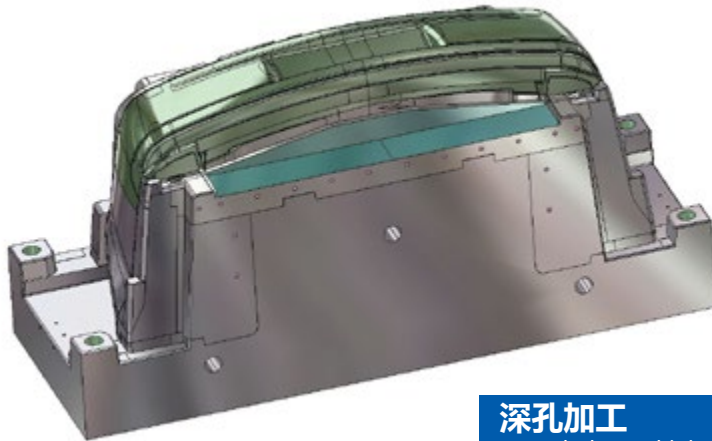
- QTD+MBA100系列
QTD+MBA100 Series
- 高精度仿形铣削加工
High-precision profile milling



- SP210系列
SP210 Series
- 高效铣削加工
High performance machining



- SP210系列 2刃球头
SP210 Series 2 Flute , Balinose
- 高速精加工专用
Exclusive use for high-speed finish machining



孔加工
Drilling



- QPMG+ GHD浅孔钻系列
QPMG+ GHD Shallow Drills Series
- 高效钻削加工
High efficiency drilling



- TPEH+GCK精镗刀系列
TPEH+GCK Finish Boring Series
- 高光洁度镗削加工
High finish boring



- GOD系列皇冠钻
GOD Series Crown Drills

深孔加工
Deep-hole machining



TOGT+GQ101系列枪钻
TOGT+GQ101 Series Gun-drills



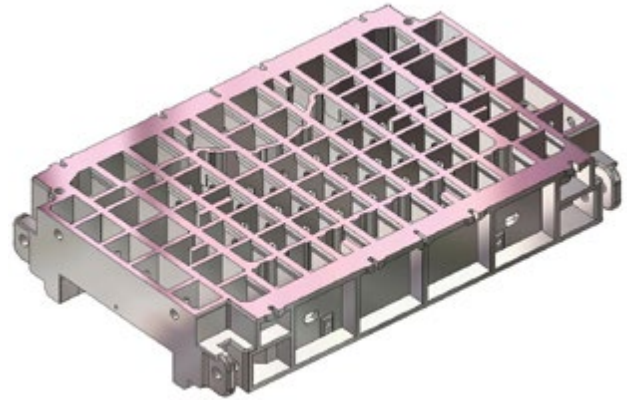
- D938 麻花钻系列
D938 Twist Drills Series
- 高效钻削加工
High-efficiency drilling

冲压模具加工配套方案

Solutions to press mould machining

端面铣削

Face milling



- SNEU+MFB145/MFB245/MFB275/MFB288系列
SNEU+MFB145/MFB245/ MFB275/MFB288 Series
- 高经济平面铣削加工
Cost-effective face milling

粗加工和半精加工

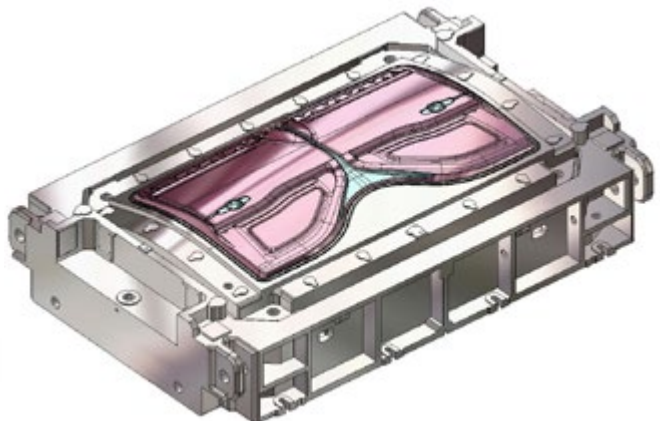
Roughing & semi-finishing



- RD/RP+MPA100/MPB100系列
RD/RP+MPA100/MPB100 Series
- 通用仿形铣削加工
Universal profile milling
- APMT+MEA190
APMT+MEA190 Series
- 方肩铣系列
Shoulder milling
- SMR+MLA100系列
SMR+MLA100 Series
- 柳叶仿形铣削加工
Ball-nose Profile Milling

圆周铣削

Peripheral milling



- APKT+MHB190系列
APKT+MHB190 Series
- 高效圆周铣削加工
High-efficiency peripheral milling

精加工
Finishing



- ZPR+MRA100系列
ZPR+MRA100 Series
- 高精度圆角铣削加工
High-precision corner radius milling



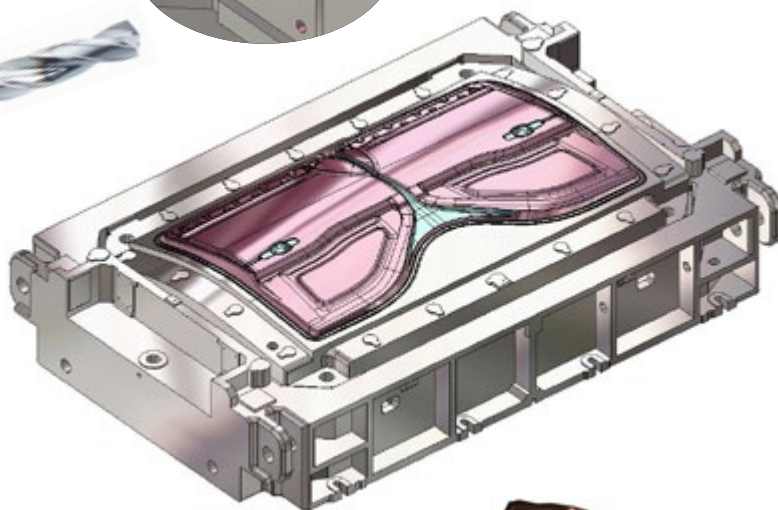
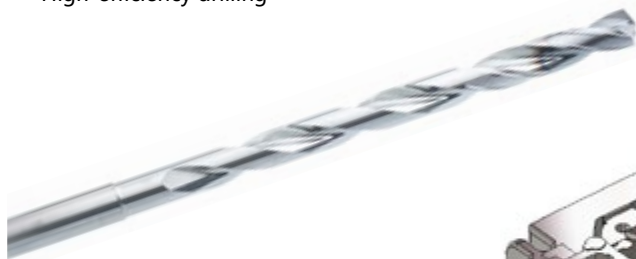
- QTD+MBA100系列
QTD+MBA100 Series
- 高精度仿形铣削加工
High-precision profile milling



- SH260-H/SH300-H高硬系列
SH260-H/SH300-H Series
- 高精度型平面及侧边铣削加工
High precision Face milling and Side milling

孔加工
Drilling

- D938 麻花钻系列
D938 Twist Drills Series
- 高效钻削加工
High-efficiency drilling



- QPMG+ GHD浅孔钻系列
QPMG+ GHD Shallow Drills Series
- 高效钻削加工
High efficiency drilling



- GOD系列皇冠钻
GOD Series Crown Drills

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孔加工 Drilling — C

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INDEXABLE MILLING
可转位铣削刀具

A

涂层牌号介绍及应用 Grades Introduction and Application

工件材质 Workpiece	ISO	涂层硬质合金 Coating	
		CVD	PVD
P 钢 Steel	P01		
	P10	GP2115	
	P20		GA4225 GP4225 GA4230
	P30		
	P40		
	P50		
M 不锈钢 Stainless Steel	M01		
	M10		
	M20		GA4225 GA4230
	M30	GM2140	
	M40		
	M50		
K 铸铁 Cast Iron	K01		
	K10	GK2115	
	K20		GK4125
	K30		
	K40		
H 高硬度材料 Hardened Material	H01		GA4230 GH4125 GH4115
	H10		
	H20		
	H30		

可转位铣削刀具系列介绍

Indexable Milling Introduction

面铣系列

Face Milling

SEET

单面通用45°面铣
Single-side General 45° Face Milling
SEE(M)T刀片+MFA145刀体
SEE(M)T Inserts and MFA145 Cutters

- 单面正型4刃刀片，多种槽型设计，切削轻快；
Single-side positive insert with four cutting edges.
Various groove design, cutting easily.
- 适用于各种材料的机械结构部件高效面铣加工。
Specially suit for efficiency face milling for connection
face of mechanical components with different material.



SNEU

双面通用45°/75°/88°面铣
Double-side General 45°/75°/88° Face Milling
SNE(M)U刀片+MFB145/245&MFB275/288刀体
SNE(M)U Inserts and MFB145/245&MFB275/288 Cutters

- 双面加厚的负型八刃刀片设计，具有高强度，保证加工稳定性；
Double-side & thicker negative insert design, with high
strength, to assure stability.
- 主要用于通用材料的粗到半精面铣加工。
Mainly for light to heavy cutting of general material.



可转位铣削刀具系列介绍

Indexable Milling Introduction

方肩铣系列

Shoulder Milling

APMT

通用方肩铣

General Shoulder Milling

APMT刀片+MEA190刀体

APMT Inserts and MEA190 Cutters

- 通用材料的铣削加工;
Milling for general materials.
- 适合大切深加工, 加工效率高。
High efficiency with big cut depth.



APKT

单面曲线刃方肩铣

Single-side Helical Edge Shoulder Milling

APKT刀片+MEB190/MHB190刀体

APKT Inserts and MEB190/MHB190 Cutters

- 应用于通用材料的面铣, 方肩铣等多种切削;
Apply for face milling, shouder milling of the general material.
- 适合薄壁零件加工, 能够满足高精度方肩铣需求;
Suit thin component milling, achieve high accuracy shoulder milling.
- 在通用机械, 模具行业, 航天航空, 汽车行业等领域广泛应用。
Widely applied in general machinery, die mould industry, aerospace industry, automobile industry.



可转位铣削刀具系列介绍

Indexable Milling Introduction

方肩铣系列

Shoulder Milling

ANKX

双面曲线刃方肩铣

Double-side Helical Edge Shoulder Milling

ANKX刀片+MEC190/MHC190刀体

ANKX Inserts and MEC190/MHC190 Cutters

- 应用于通用材料的面铣，方肩铣，槽铣，型腔铣，仿形铣等多种切削；
Apply for face milling, shoulder milling, slot milling, pocket milling, profile milling of the general material.
- 适合重载加工和高效率加工；
Suit heavy milling and high efficient demand milling.
- 在通用机械，模具行业，航空航天，汽车行业等领域广泛应用。
Widely applied in general machinery, die mould industry, aerospace industry, automobile industry.



WNGU

高经济通用方肩铣

Economic Shoulder Milling

WNGU刀片+MEE190刀体

WNGU Inserts and MEE190 Cutters

- 负型双面加强结构设计，保证刀刃锋利同时，提高刀片强度；
Double side structure ensures shape edge and high intensity.
- 应用于通用材料的面铣、方肩铣、槽铣等多种切削；
Apply for face milling, shoulder milling, slot milling of the general material.
- 在通用机械，模具行业，航空航天，汽车行业等领域广泛应用。
Widely applied in general machinery, mould industry, aerospace industry, automobile industry.



可转位铣削刀具系列介绍

Indexable Milling Introduction

方肩铣系列

Shoulder Milling

SDKT

单面四刃方肩铣

Single Side Four Edges Shoulder Milling

SDKT刀片+MES190刀体

SDKT Inserts and MES190 Cutters

- 四条曲线刃，切削轻快；
Four helical edges contribute to low force milling.
- 应用于通用材料的面铣、方肩铣、槽铣等多种切削；
Apply for face milling, shoudler milling, slot milling of the general material.
- 在通用机械，模具行业，航天航空，汽车行业等领域广泛应用。
Widely applied in general machinery, mould industry, aerospace industry, automobile industry.



仿形铣系列

Profile Milling

QTD

精铣球头刀

Ball Nose Finish Milling

QTD刀片+MBA100刀体

QTD Inserts and MBA100 Cutters

- 直线刃设计，刀片R精度 $\pm 5\mu$ ；
Straight line cutting edge, the accuracy of the radius is $\pm 5\mu\text{m}$.
- 全R形构造，直壁面加工时亦有对应的刃口；
With arc outward appearance design, efficiency cuttingedge still works when machining side wall.
- 独特的刃口设计，刀片刃口强度更高；
Unique edge design makes it much stronger.
- 小振动、高速度，深型腔加工亦圆滑顺畅。
Small chatter and high speed fluent machining even in deep pocket condition.



可转位铣削刀具系列介绍

Indexable Milling Introduction

仿形铣系列

Profile Milling

RD/RP

通用仿形铣

General Profile Milling

RD/RP刀片+MPA100/MPB100刀体

RD/RP Inserts and MPA100/MPB100 Cutters

- 经济且高效，最适合模具行业的仿形粗加工；
Economy and highly efficiency, suitable for roughing in mold industry.
- 槽型全面，覆盖轻载到重载加工；
Comprehensive geometries can cover light machining to heavy machining.
- 防转动系统设计，切削过程更稳定；
Anti-indexing system, more stable milling.
- 可提供经济型和精密型两种刀片，客户的选择性更强。
Two choices for customer: economical type and precision type.



快进给铣系列

High Feed Milling

UD/UP

3刃快进给铣

3 Edges High Feed Milling

UD/UP刀片+MKA110刀体

UD/UP Inserts and MKA110 Cutters

- 3种尺寸规格刀片搭配不同工况槽型，能够满足大多数领域的切削加工；
3 kinds of size with different geometries can meet the requirement of most cutting fields.
- 适用于多种铣削方式，主要应用于平面铣削以及型腔铣削加工；
Suitable for various milling application, mainly used for face milling and pocket milling.
- 大容屑槽设计配合螺钉夹紧方式实现高稳定性铣削，有效改善刀体和刀片散热。
Large chip pocket design with screw clamping to achieve stable milling, and improves heat dissipation.



可转位铣削刀具系列介绍

Indexable Milling Introduction

快进给铣系列

High Feed Milling

SDMT

4刃快进给铣

4 Edges High Feed Milling

SDMT刀片+MKB113刀体

SDMT Inserts and MKB113 Cutters

- 4条有效切削刃，经济实用。
- 4 cutting edges insert design with high economy.
- 采用闭口容屑槽设计，显著提升刀体刚性，在高负荷条件下实现稳定切削。
- Special chip-room designing can obviously improve the tool rigidity, Stable milling can be realized even under high-load cutting condition.



倒角铣系列

Chamfer Milling

SPMT

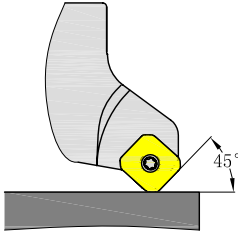

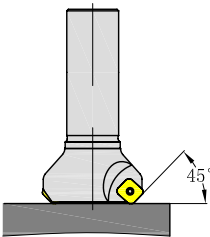
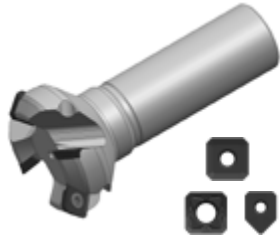
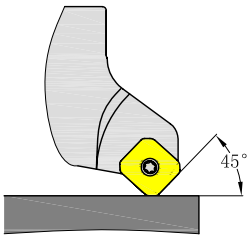

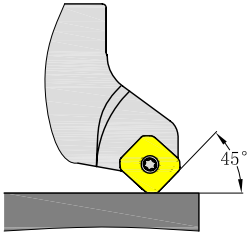
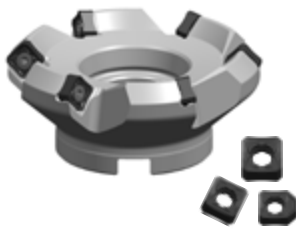
SPMT刀片+MCA130/145/160刀体

SPMT Inserts and MCA130/145/160 Cutters

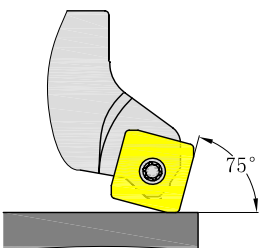

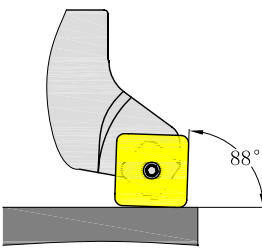

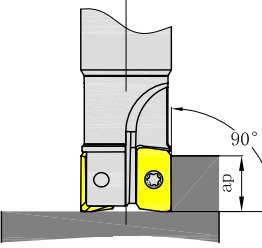

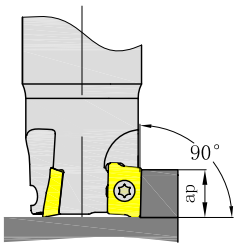

- 4个切削刃，可实现正向与反向倒角。
- 4 cutting edges, available for positive and negative chamfer milling
- 2种刀片规格，IC:09/12。
- 2 specifications, IC:09/12



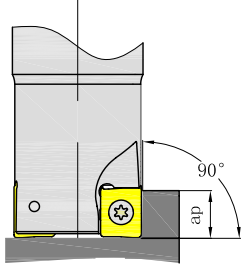

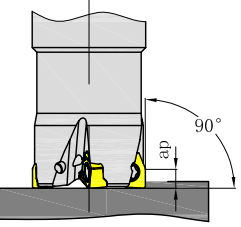

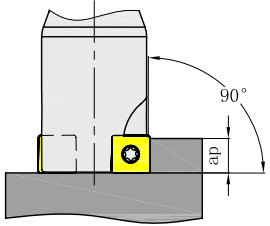

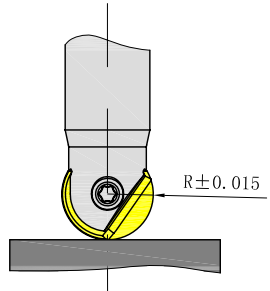

可转位铣削产品一览表 Indexable Milling Product

类型 Type	应用 Approach angle	刀片 系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
平面 铣削 Face Milling	 SE13:ap _{max} =6.0mm	SE*T P020	MFA145 (Φ50-Φ125)		通用轻快切削, 适用于各种材料的机械结构部件接触面高效面铣加工。 Smoothly cutting with universal property, specially suit for efficiency face milling for connection face of mechanical components with different material.
	 SE13:ap _{max} =6.0mm		MFA145 (Φ50-Φ63)		
	 SN12:ap _{max} =5.0mm	SN*U P025	MFB145 (Φ50-Φ315)		通用轻快切削, 适用于各种材料的机械结构部件接触面高效面铣加工。 Smoothly cutting with universal property, specially suit for efficiency face milling for connection face of mechanical components with different material.
	 SN12:ap _{max} =5.0mm		MFB245 (Φ50-Φ315)		

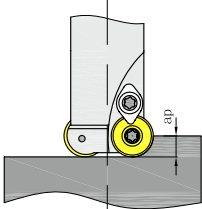

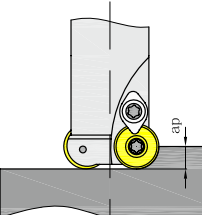

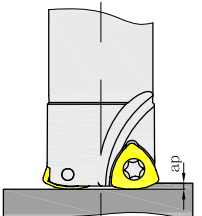

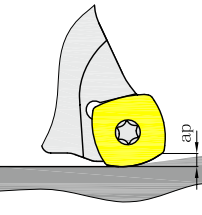

可转位铣削产品一览表 Indexable Milling Product

类型 Type	应用 Approach angle	刀片 系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
平面 铣削 Face Milling	 <p>SN12:ap_{max}=6.0mm</p>	SN*U P025	MFB275 (Φ50-Φ315)		通用轻快切削, 适用于各种材料的机械结构部件接触面高效面铣加工。 Smoothly cutting with universal property, specially suit for efficiency face milling for connection face of mechanical components with different material.
	 <p>SN12:ap_{max}=7.0mm</p>		MFB288 (Φ50-Φ315)		
方肩 铣削 Shoulder Milling	 <p>AP11:ap_{max}=9mm AP16:ap_{max}=14mm</p>	APMT P034	MEA190 (Φ16-Φ250)		用于钢、铸铁、不锈钢等材料加工, 主要应用于方肩铣、面铣、型腔铣、槽铣。 Suitable for cutting steel, cast iron, stainless steel, mainly used for shoulder milling, face milling, pocket milling, slot milling.
	 <p>AP11:ap_{max}=9mm AP16:ap_{max}=14mm</p>	APKT P039	MEB190 (Φ16-Φ200)		曲线刃, 切削轻快; 用于钢、铸铁、不锈钢等材料加工, 主要应用于方肩铣、面铣、型腔铣、槽铣。 Helical edge contribute to low force milling, mainly used for shoulder milling, face milling, pocket milling, slot milling.

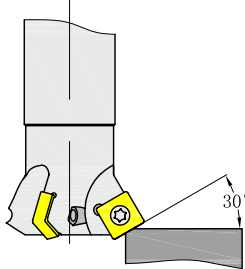

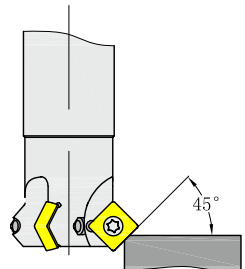

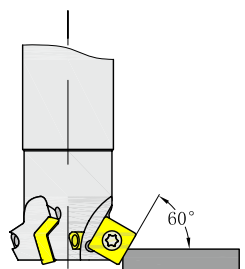

可转位铣削产品一览表 Indexable Milling Product

类型 Type	应用 Approach angle	刀片 系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
方肩 铣削 Shoulder Milling	 <p>AN12:ap_{max}=9mm AN16:ap_{max}=14mm</p>	<p>ANKX P046</p>	<p>MEC190 (Φ32-Φ200)</p>		<p>双面负型, 高经济性; 用于钢、铸铁、不锈钢等材料加工, 主要应用于方肩铣、面铣、型腔铣、槽铣。 Double side contribute to high economic , mainly used for shoulder milling,face milling,pocket milling,slot milling.</p>
	 <p>WNGU04:ap_{max}=4mm WNGU08:ap_{max}=7.5mm</p>	<p>WNGU P052</p>	<p>MEE190 (Φ20-Φ200)</p>		<p>双面负型, 高经济性; 用于钢、铸铁等材料加工, 主要应用于方肩铣、面铣、型腔铣、槽铣。 Double side contribute to high economic , Suitable for cutting steel ,cast iron etc. mainly used for shoulder milling,face milling,pocket milling,slot milling.</p>
	 <p>SD14:ap_{max}=10mm</p>	<p>SDKT P057</p>	<p>MES190 (Φ40-Φ315)</p>		<p>四条曲线刃, 切削轻快; 用于钢、铸铁、不锈钢等材料加工, 主要应用于方肩铣、面铣、型腔铣、槽铣。 Four helical edges contribute to low force milling, mainly used for shoulder milling,face milling,pocket milling,slot milling.</p>
仿形 铣削 Profile Milling	 <p>R±0.015</p>	<p>QTD P062</p>	<p>MBA100 (Φ12-Φ32)</p>		<p>主要用于钢、铸铁等材料加工, 应用于模具行业仿形铣削及型腔铣削加工。 Suitable for the cutting of steel and cast iron, mainly used for profile milling and pocket milling in Mold industry.</p>

可转位铣削产品一览表 Indexable Milling Product

类型 Type	应用 Approach angle	刀片系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
仿形 铣削 Profile Milling	 <p>RD05:ap_{max}=2.5 mm RD07:ap_{max}=3.5 mm RD08:ap_{max}=4.0 mm RD10:ap_{max}=5.0 mm RD12:ap_{max}=6.0 mm RD16:ap_{max}=8.0 mm</p>	RD P068	MPA100 (Φ10-Φ125)		<p>主要用于钢、铸铁等材料加工，应用于模具行业仿形铣削及型腔铣削加工。 Suitable for the cutting of steel and cast iron, mainly used for profile milling and pocket milling in Mold industry.</p>
	 <p>RP08:ap_{max}=4.0 mm RP10:ap_{max}=5.0 mm RP12:ap_{max}=6.0 mm RP16:ap_{max}=8.0 mm</p>	RP P073	MPB100 (Φ16-Φ125)		<p>主要用于钢、铸铁、不锈钢等材料加工，应用于模具行业、航空航天领域等仿形铣削及型腔铣削加工。 Suitable for the cutting of steel, cast iron and stainless steel, mainly used for profile milling and pocket milling in Mold industry and Aerospace Industry.</p>
快进给 铣削 High Feed Milling	 <p>UD08:ap_{max}=1.0mm UD12:ap_{max}=1.5mm UP17:ap_{max}=2.0mm</p>	UD/UP P081	MKA110 (Φ20-Φ100)		<p>用于钢、铸铁、不锈钢等材料加工，主要应用于平面铣削以及型腔铣削加工。 Suitable for the cutting of steel, cast iron and stainless steel, mainly used for face milling and pocket milling.</p>
	 <p>SD12:ap_{max}=2.0mm SD15:ap_{max}=3.0mm</p>	SDMT P087	MKB113 (Φ32-Φ125)		<p>用于钢、铸铁、不锈钢等材料加工，主要应用于平面铣削以及型腔铣削加工。 Suitable for the cutting of steel, cast iron and stainless steel, mainly used for face milling and pocket milling.</p>

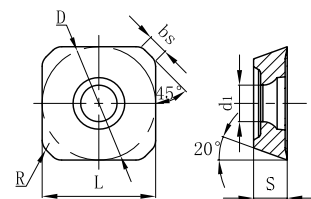
可转位铣削产品一览表 Indexable Milling Product










类型 Type	应用 Approach angle	刀片 系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
倒角铣削 Chamfer Milling	 <p>SP09: $ap_{max}=3.0mm$ SP12: $ap_{max}=4.5mm$</p>	SPMT P092	MCA130 ($\Phi 25-\Phi 32$)		主要用于钢、不锈钢及耐热合金的倒角加工。 Suitable for the cutting of steel, stainless steel and heat-resisting alloy, mainly used for chamfer milling.
	 <p>SP09: $ap_{max}=5.0mm$ SP12: $ap_{max}=7.0mm$</p>		MCA145 ($\Phi 25-\Phi 32$)		
	 <p>SP09: $ap_{max}=6.0mm$ SP12: $ap_{max}=8.0mm$</p>		MCA160 ($\Phi 25-\Phi 36$)		

平面铣削
Face Milling

SE*T













常规面铣刀片
General Face Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)						涂层硬质合金 Coated								
	L	D	S	d ₁	R	bs	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
 SEET1204AFEN-PL	12.7	12.7	4.76	5.5	1.2	2.5	●	○	○		○	○			
 SEET13T3AGEN-PL	13.4	13.4	3.97	4.4	1	1.7	●	●	○	○	○				
 SEET13T3AGEN-PM	13.4	13.4	3.97	4.4	1.5	1.2	●	●	○	○	○	○			
 SEMT13T3AGEN-PM	13.4	13.4	3.97	4.4	1.5	1.2	●	○	○	○	○	○			
 SEET13T3AGSN-PH	13.4	13.4	3.97	4.4	1.5	1.3	○	●	○	○	○	○			
 SEMT13T3AGSN-PH	13.4	13.4	3.97	4.4	1.5	1.3	○	○	○	○	○	○			
 SEET13T3AGSN-KM	13.4	13.4	3.97	4.4	1.5	1.3	●	●	○			●	○		
 SEET13T3AGSN-KH	13.4	13.4	3.97	4.4	1.6	1.3	○	○	○			○	○		
 SEET13T3AGEN-WB	13.4	13.4	4.76	3.97	1.5	2.37	○	●	○		○	○	○		

●标准库存 Stock ○需预定 Available upon Order

SE*T13T3系列槽型 SE*T13T3 Series Geometry

通用材料轻切削 Light Cutting for General material	通用材料中切削 Medium Cutting for General material	通用材料重切削 Rough Cutting for General material	铸铁材料中切削 Medium Cutting for Cast Iron	铸铁材料重切削 Rough Cutting for Cast Iron	修光刃 Wiper
					
PL	PM	PH	KM	KH	WB
					
大前角窄刃宽设计，最适于低切削力、低进给率的轻载加工。 Large rake angle with narrow edgewidth. Suit for light milling of low cutting speed and low feed.	大前角设计，切削轻快，大多数一般工况下可实现高稳定性加工。 Smoothly cutting. High stability milling can be achieved under general cutting conditions.	高强度刃口，断续切削、去黑皮加工时性能优异。 Strong cutting edge for intermittent cutting condition.	铸铁专用槽型，可应对绝大多数的铸铁中载切削。 The chipbreaker specially applicable for cast iron under general cutting conditions. Most medium milling can be achieved.	铸铁重载切削专用槽型，断续、带黑皮粗加工时表现优越。Special chipbreaker for cast iron cutting and heavy cutting. Suitable for rough cutting.	大圆弧修光刃，提高表面质量。Wiper edge with big circle shape to improve the quality of finish surface.

平面铣削
Face Milling

MFA145

心轴式
Arbor

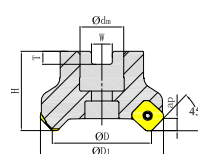


Fig1

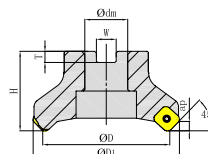


Fig2

疏齿型

Coarse Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	图示 Shape	库存 Stock
			ΦD	ΦD_1	Φd_m	H	W	T					
MFA145050R03A22SE13	50	3	50	63	22	40	10.4	6.3	6	SE*T13T3	X	Fig1	○
MFA145063R04A22SE13	63	4	63	76	22	40	10.4	6.3	6	SE*T13T3	X	Fig1	●

●标准库存 Stock ○需预定 Available upon Order

密齿型

Close Pith

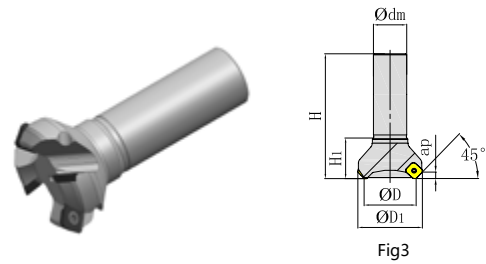
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	图示 Shape	库存 Stock
			ΦD	ΦD_1	Φd_m	H	W	T					
MFA145050R04A22SE13	50	4	50	63	22	40	10.4	6.3	6	SE*T13T3	X	Fig1	●
MFA145063R05A22SE13	63	5	63	76	22	40	10.4	6.3	6	SE*T13T3	X	Fig1	●
MFA145080R06B27SE13	80	6	80	93	27	50	12.4	7	6	SE*T13T3	√	Fig2	●
MFA145100R07B32SE13	100	7	100	113	32	50	14.4	8.3	6	SE*T13T3	√	Fig2	●
MFA145125R08B40SE13	125	8	125	138	40	50	16.4	8.3	6	SE*T13T3	√	Fig2	●

●标准库存 Stock ○需预定 Available upon Order

平面铣削
Face Milling

MFA145

圆柱直柄式
Shank



疏齿型
Coarse Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	H ₁					
MFA145050R03P32SE13	50	3	50	63	32	120	39	6	SE*T13T3	X	Fig3	○
MFA145063R04P32SE13	63	4	63	76	32	120	39	6	SE*T13T3	X	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

密齿型
Close Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	H ₁					
MFA145050R04P32SE13	50	4	50	63	32	120	39	6	SE*T13T3	X	Fig3	○
MFA145063R05P32SE13	63	5	63	76	32	120	39	6	SE*T13T3	X	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀垫 Shim	刀垫用螺钉 Shim Screw	刀垫螺钉扳手 L Type Wrench	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape						
适用刀片 Insert						
SE*T13T3	X	X	TH35L	SI60M3.5X8.0-05410I	TT15P	TT15T
	X	X	PTH35LB	PSI60M035080-05410B	PTT15PB	PTT15TB
SE*T13T3	DSE1300S	SSAM5X8.5F	TH35L	SI60M3.5X11.6-05410I	TT15P	TT15T
	H0K30DSE1300S	PSSAM050085B	PTH35LB	PSI60M035116-05410B	PTT15PB	PTT15TB

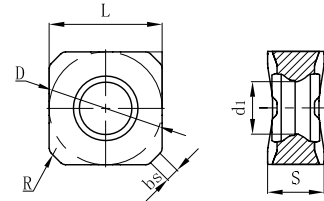
推荐切削参数 Recommended Cutting Data

	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 (fz) (mm/tooth)		
				Vc (m/min)	轻切削 (L) Ligth Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	250 (210-350)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	碳素钢、合金钢 Carbon Steel Alloy Steel	HB180-280	GA4225 GA4230 GP4225 GP2115	220 (170-270)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
		HB280-350	GA4225 GA4230 GP4225 GP2115	140 (100-180)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
M	不锈钢 Stainless Steel	≤ HB275	GM2140	180 (130-250)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
K	铸铁、球墨铸铁 Gray Cast Iron Nodular Cast Iron	≤ HB350	GK4125 GK2115	180 (130-250)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)

平面铣削
Face Milling

SN*U









常规面铣刀片
General Face Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)						涂层硬质合金 Coated									
	L	D	S	bs	d1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	SNEU1206ANEN-GL	12.7	12.7	6.35	2.2	6.0	0.8	○	●	○	○	○	○	●		
	SNEU1206ANEN-GM	12.7	12.7	6.35	2.2	6.0	0.8	●	●	○	○	○	●	●		
	SNMU1206ANEN-GM	12.7	12.7	6.35	2.2	6.0	0.8	●	○	○	○	○	○	○		
	SNEU1206ANSN-GH	12.7	12.7	6.35	2.2	6.0	0.8	○	●	○	○	○	●	●		
	SNMU1206ANSN-GH	12.7	12.7	6.35	2.2	6.0	0.8	○	●	○	○	○	○	○		
	SNEU1206ANEN-GW	12.7	12.7	6.35	5.6	6.0	0.8	○	○	○	○	○	○	○		
	SNEU1206ENEN-GM	12.7	12.7	6.35	1.4	6.0	0.8	○	●	○	○	○	●	○		
	SNMU1206ENEN-GM	12.7	12.7	6.35	1.4	6.0	0.8		●				○			
	SNEU1206ZNEN-GM	12.7	12.7	6.35	1.1	6.0	0.8	○	●	○	○	○	●	●		
	SNMU1206ZNEN-GM	12.7	12.7	6.35	1.1	6.0	0.8		●				○	○		
	SNEU120612-GM	12.7	12.7	6.35	--	6.0	1.2	○	●	○	○	○	●	○		
	SNMU120612-GM	12.7	12.7	6.35	--	6.0	1.2		●							

●标准库存 Stock ○需预定 Available upon Order

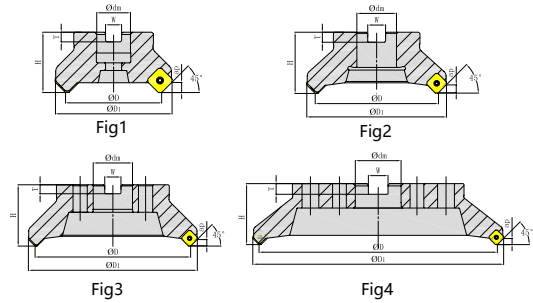
SN*U 系列槽型 SN*U Series Geometry

通用材料轻切削 Light Cutting for General material	通用材料中切削 Medium Cutting for General material	通用材料重切削 Rough Cutting for General materia	修光刃 Wiper
			
GL	GM	GH	GW
			
<p>大前角窄刃宽设计，最适于低切削力、低进给率的轻载加工。 Large rake angle with Narrow edge width. Suit for light milling of low cutting speed and low feed.</p>	<p>大前角设计，切削轻快，大多数一般工况下可实现高稳定性加工。 Smoothly cutting. High stability milling can be achieved under general cutting conditions.</p>	<p>高强度刃口，断续切削、去黑皮加工时性能优异。 Strong cutting edge for intermittent cutting condition.</p>	<p>大圆弧修光刃，提高表面质量。 Wiper edge with big circle shape to improve the quality of finish surface.</p>

平面铣削
Face Milling

MFB145

心轴式(带刀垫)
Arbor (Shim)



疏齿型
Coarse Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB145050R03A22SN12	50	3	50	63.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	○
MFB145063R04A22SN12	63	4	63	76.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	●
MFB145080R05A27SN12	80	5	80	93.6	27	50	12.4	7.0	5	SN*U1206	√	√	Fig1	●
MFB145100R06B32SN12	100	6	100	113.5	32	50	14.4	8.0	5	SN*U1206	√	x	Fig2	●
MFB145125R07B40SN12	125	7	125	138.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig2	●
MFB145160R08C40SN12	160	8	160	173.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig3	○
MFB145200R10C60SN12	200	10	200	213.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145250R12C60SN12	250	12	250	263.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145315R15D60SN12	315	15	315	328.5	60	80	25.7	14	5	SN*U1206	√	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

密齿型
Close Pith

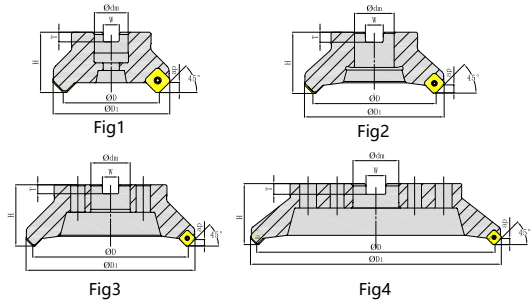
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB145050R04A22SN12	50	4	50	63.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	○
MFB145063R05A22SN12	63	5	63	76.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	○
MFB145080R07A27SN12	80	7	80	93.6	27	50	12.4	7.0	5	SN*U1206	√	√	Fig1	○
MFB145100R08B32SN12	100	8	100	113.5	32	50	14.4	8.0	5	SN*U1206	√	x	Fig2	○
MFB145125R10B40SN12	125	10	125	138.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig2	○
MFB145160R12C40SN12	160	12	160	173.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig3	○
MFB145200R14C60SN12	200	14	200	213.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145250R16C60SN12	250	16	250	263.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145315R20D60SN12	315	20	315	328.5	60	80	25.7	14	5	SN*U1206	√	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

平面铣削
Face Milling

MFB145

心轴式(带刀垫)
Arbor (Shim)



超密齿型
Extra Close Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB145050R05A22SN12	50	5	50	63.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	○
MFB145063R06A22SN12	63	6	63	76.5	22	40	10.4	6.3	5	SN*U1206	√	√	Fig1	○
MFB145080R08A27SN12	80	8	80	93.6	27	50	12.4	7.0	5	SN*U1206	√	√	Fig1	○
MFB145100R10B32SN12	100	10	100	113.5	32	50	14.4	8.0	5	SN*U1206	√	x	Fig2	○
MFB145125R12B40SN12	125	12	125	138.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig2	○
MFB145160R15C40SN12	160	15	160	173.5	40	63	16.4	9.0	5	SN*U1206	√	x	Fig3	○
MFB145200R18C60SN12	200	18	200	213.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145250R21C60SN12	250	21	250	263.5	60	63	25.7	14	5	SN*U1206	√	x	Fig3	○
MFB145315R24D60SN12	315	24	315	328.5	60	80	25.7	14	5	SN*U1206	√	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

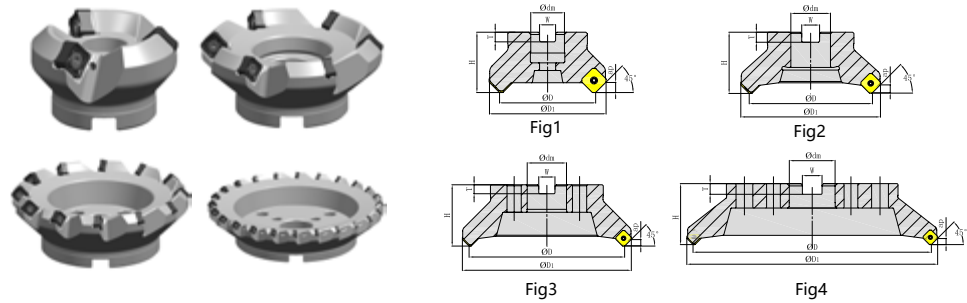
刀体配件列表 Spare Parts

零件名称 Parts	刀垫 Shim	刀垫用螺钉 Shim Screw	刀垫螺钉扳手 L Type Wrench	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape						
适用刀片 Insert						
SN*U1206	DSN1206M	SSAM6X7.5F	TH40L	SI60M4X15.8-07108	TT15P	TT15T
	H0K30SSN12	PSSAM060075B	PTH40LB	PSI60M040158-07108B	PTT15PB	PTT15TB

平面铣削
Face Milling

MFB245

心轴式(不带刀垫)
Arbor (no shim)



疏齿型
Coarse Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB245050R03A22SN12	50	3	50	63.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245063R04A22SN12	63	4	63	76.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245080R05A27SN12	80	5	80	93.6	27	50	12.4	7.0	5	SN*U1206	x	√	Fig1	●
MFB245100R06B32SN12	100	6	100	113.5	32	50	14.4	8.0	5	SN*U1206	x	x	Fig2	●
MFB245125R07B40SN12	125	7	125	138.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig2	●
MFB245160R08C40SN12	160	8	160	173.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig3	●
MFB245200R10C60SN12	200	10	200	213.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	●
MFB245250R12C60SN12	250	12	250	263.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	○
MFB245315R15D60SN12	315	15	315	328.5	60	63	25.7	14	5	SN*U1206	x	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

密齿型
Close Pith

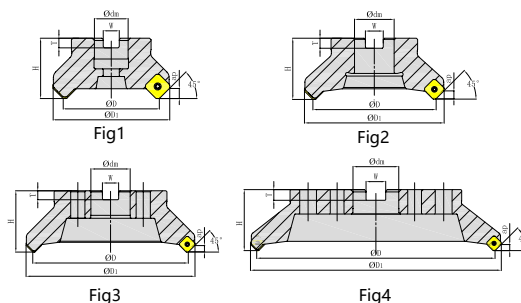
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB245050R04A22SN12	50	4	50	63.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245063R05A22SN12	63	5	63	76.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245080R07A27SN12	80	7	80	93.6	27	50	12.4	7.0	5	SN*U1206	x	√	Fig1	●
MFB245100R08B32SN12	100	8	100	113.5	32	50	14.4	8.0	5	SN*U1206	x	x	Fig2	●
MFB245125R10B40SN12	125	10	125	138.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig2	●
MFB245160R12C40SN12	160	12	160	173.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig3	●
MFB245200R14C60SN12	200	14	200	213.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	●
MFB245250R16C60SN12	250	16	250	263.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	○
MFB245315R20D60SN12	315	20	315	328.5	60	63	25.7	14	5	SN*U1206	x	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

平面铣削
Face Milling

MFB245

心轴式(不带刀垫)
Arbor (no Shim)


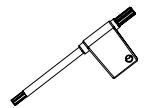
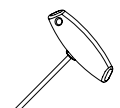


超密齿型
Extra Close Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD1	Φdm	H	W	T						
MFB245050R05A22SN12	50	5	50	63.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245063R06A22SN12	63	6	63	76.5	22	40	10.4	6.3	5	SN*U1206	x	√	Fig1	●
MFB245080R08A27SN12	80	8	80	93.6	27	50	12.4	7.0	5	SN*U1206	x	√	Fig1	●
MFB245100R10B32SN12	100	10	100	113.5	32	50	14.4	8.0	5	SN*U1206	x	x	Fig2	●
MFB245125R12B40SN12	125	12	125	138.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig2	●
MFB245160R15C40SN12	160	15	160	173.5	40	63	16.4	9.0	5	SN*U1206	x	x	Fig3	○
MFB245200R18C60SN12	200	18	200	213.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	○
MFB245250R21C60SN12	250	21	250	263.5	60	63	25.7	14	5	SN*U1206	x	x	Fig3	○
MFB245315R24D60SN12	315	24	315	328.5	60	63	25.7	14	5	SN*U1206	x	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

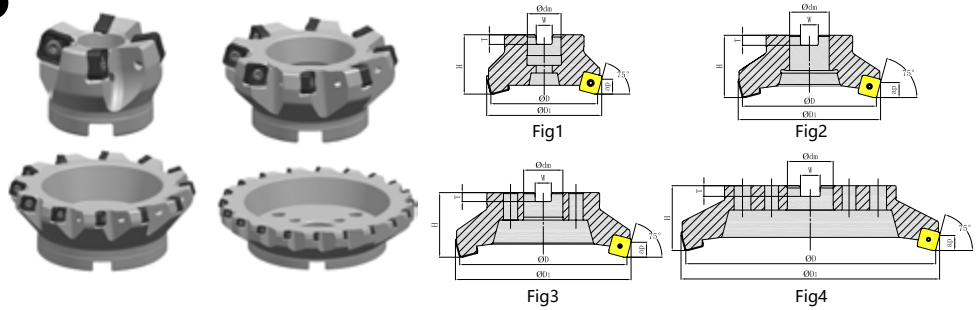
刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
SN*U1206	SI60M5X14-07010	TT20P	TT20T
	PSI60M050140-07010B	PTT20PB	PTT20TB

平面铣削
Face Milling

MFB275

心轴式
Arbor


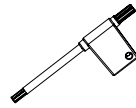
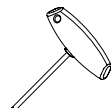


密齿型
Close Pitch

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD ₁	Φdm	H	W	T						
MFB275050R04A22SN12	50	4	50	55	22	40	10.4	6.3	6	SN*U1206	x	√	Fig1	○
MFB275063R05A22SN12	63	5	63	68	22	40	10.4	6.3	6	SN*U1206	x	√	Fig1	○
MFB275080R07A27SN12	80	7	80	85	27	50	12.4	7.0	6	SN*U1206	x	√	Fig1	○
MFB275100R08B32SN12	100	8	100	105	32	50	14.4	8.0	6	SN*U1206	x	x	Fig2	○
MFB275125R10B40SN12	125	10	125	130	40	63	16.4	9.0	6	SN*U1206	x	x	Fig2	○
MFB275160R12C40SN12	160	12	160	165	40	63	16.4	9.0	6	SN*U1206	x	x	Fig3	○
MFB275200R14C60SN12	200	14	200	205	60	63	25.7	14	6	SN*U1206	x	x	Fig3	○
MFB275250R16C60SN12	250	16	250	255	60	63	25.7	14	6	SN*U1206	x	x	Fig3	○
MFB275315R20D60SN12	315	20	315	320	60	80	25.7	14	6	SN*U1206	x	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

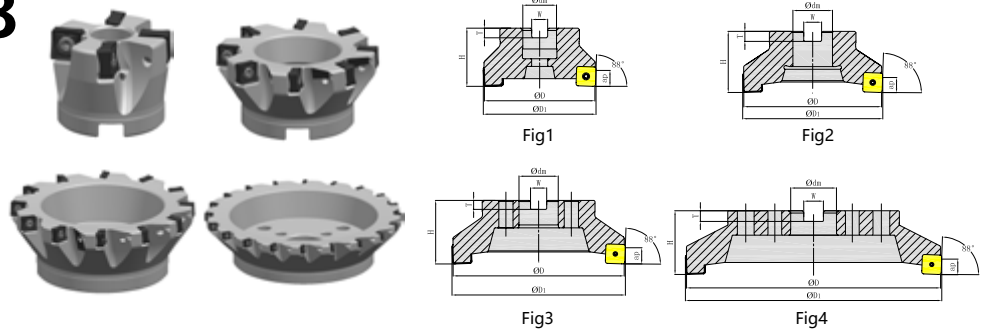
刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
SN*U1206	SI60M5X14-07010	TT20P	TT20T
	PSI60M050140-07010B	PTT20PB	PTT20TB

平面铣削
Face Milling

MFB288

心轴式
Arbor



密齿型
Close Pith

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						最大 切深 apmax	匹配刀片 Gauge Insert	刀垫 Shim	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD	ΦD1	Φdm	H	W	T						
MFB288050R04A22SN12	50	4	50	50.8	22	40	10.4	6.3	7	SN*U1206	x	√	Fig1	●
MFB288063R05A22SN12	63	5	63	63.8	22	40	10.4	6.3	7	SN*U1206	x	√	Fig1	●
MFB288080R07A27SN12	80	7	80	80.8	27	50	12.4	7.0	7	SN*U1206	x	√	Fig1	●
MFB288100R08B32SN12	100	8	100	100.8	32	50	14.4	8.0	7	SN*U1206	x	x	Fig2	●
MFB288125R10B40SN12	125	10	125	125.8	40	63	16.4	9.0	7	SN*U1206	x	x	Fig2	●
MFB288160R12C40SN12	160	12	160	160.7	40	63	16.4	9.0	7	SN*U1206	x	x	Fig3	○
MFB288200R14C60SN12	200	14	200	200.7	60	63	25.7	14	7	SN*U1206	x	x	Fig3	○
MFB288250R16C60SN12	250	16	250	250.7	60	63	25.7	14	7	SN*U1206	x	x	Fig3	○
MFB288315R20D60SN12	315	20	315	315.7	60	80	25.7	14	7	SN*U1206	x	x	Fig4	○

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
SN*U1206	SI60M5X14-07010	TT20P	TT20T
	PSI60M050140-07010B	PTT20PB	PTT20TB

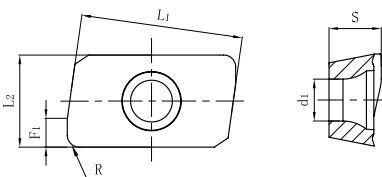
推荐切削参数 Recommended Cutting Data

被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 (fz) (mm/tooth)		
			Vc (m/min)	轻切削 (L) Light Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
P 软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	250 (210-350)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	HB180-280	GA4225 GA4230 GP4225 GP2115	220 (170-270)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	HB280-350	GA4225 GA4230 GP4225 GP2115	140 (100-180)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
M 不锈钢 Stainless Steel	≤ HB275	GM2140	180 (130-250)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
K 铸铁、球墨铸铁 Gray Cast Iron Nodular Cast Iron	≤ HB350	GK4125 GK2115	180 (130-250)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)

方肩铣削
Shoulder Milling

APMT







通用方肩铣刀片
General Shoulder Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)							涂层硬质合金 Coated								
	L1	L2	S	F1	d1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	APMT1135PDER-PL	10.83	6.16	3.5	1.92	2.8	0.8	●	●	○	○	○	○	○	○	
	APMT1604PDER-PL	16.26	9.26	4.76	2	4.6	0.8	●	●	○	○	○	○	○	○	
	APMT1135PDER-PM	10.83	6.16	3.5	1.92	2.8	0.8	●	●	○	○	●	●	○	○	
	APMT1604PDER-PM	16.26	9.26	4.76	2	4.6	0.8	●	●	○	○	●	●	○	○	
	APMT113504R-PM	10.83	6.16	3.5	1.92	2.8	0.4	○	●							
	APMT160416R-PM	16.26	9.26	4.76	2	4.6	1.6	○	●							
	APMT113508-GM	10.83	6.16	3.5	1.92	2.8	0.8	○	●	○	○	○	○	○	○	
	APMT160410-GM	16.26	9.26	4.76	2	4.6	1.0	○	●	○	○	○	○	○	○	
	APMT1135PDER-PR	10.83	6.16	3.5	1.87	2.8	0.8	●	●	○	○	○	●	○	○	
	APMT1604PDER-PR	16.26	9.26	4.76	2.2	4.6	0.8	●	●	○	○	○	●	○	○	

●标准库存 Stock ○需预定 Available upon Order

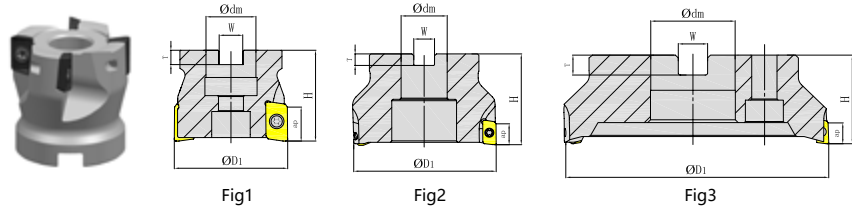
APMT 系列槽型 APMT Series Geometry

通用材料轻切削 Light Cutting for General Material	通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
		
<p>PL</p>	<p>PM/GM</p>	<p>PR</p>
		
<p>低切削阻力的轻载切削， 获得更好的加工质量 Light cutting with low force to achieve excellent performance</p>	<p>一般工况下实现高稳定性加工 High stability cutting in general condition</p>	<p>刀刃强度更好，适合粗加工 More stronger edge for rough cutting</p>

方肩铣削
Shoulder Milling

MEA190

心轴式
Arbor



订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions (mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	H	W	T					
MEA190040R05A16AP11	40	5	40	16	40	10.4	6.3	09	APMT1135	×	Fig1	●
MEA190050R06A22AP11	50	6	50	22	50	10.4	6.3	09	APMT1135	×	Fig1	●
MEA190050R04A22AP16	50	4	50	22	50	10.4	6.3	14	APMT1604	×	Fig1	●
MEA190063R05A22AP16	63	5	63	22	50	10.4	6.3	14	APMT1604	×	Fig1	●
MEA190080R06A27AP16	80	6	80	27	50	12.4	7	14	APMT1604	×	Fig1	●
MEA190100R07B32AP16	100	7	100	32	63	14.4	8	14	APMT1604	×	Fig1	●
MEA190125R08B40AP16	125	8	125	40	63	16.4	9	14	APMT1604	×	Fig2	○
MEA190160R10C40AP16	160	10	160	40	63	25.7	14	14	APMT1604	×	Fig3	○
MEA190200R12C60AP16	200	12	200	60	63	25.7	14	14	APMT1604	×	Fig3	○
MEA190250R14C60AP16	250	14	250	60	63	25.7	14	14	APMT1604	×	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MEA190

圆柱直柄式
Shank

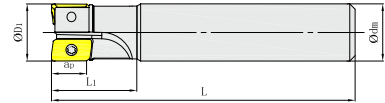


Fig4

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD1	Φdm	L	L1					
MEA190016R02P16AP11	16	2	16	16	120	40	9	APMT1135	×	Fig4	●
MEA190016R02P16AP11L	16	2	16	16	170	40	9	APMT1135	×	Fig4	●
MEA190020R02P20AP11	20	2	20	20	120	50	9	APMT1135	×	Fig4	●
MEA190020R03P20AP11	20	3	20	20	120	50	9	APMT1135	×	Fig4	●
MEA190025R03P25AP11	25	3	25	25	160	50	9	APMT1135	×	Fig4	●
MEA190025R04P25AP11	25	4	25	25	160	50	9	APMT1135	×	Fig4	●
MEA190025R02P25AP16	25	2	25	25	160	50	14	APMT1604	×	Fig4	●
MEA190032R04P32AP11	32	4	32	32	160	80	9	APMT1135	×	Fig4	●
MEA190032R03P32AP16	32	3	32	32	160	80	14	APMT1604	×	Fig4	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape 适用刀片 Insert			
APMT1135	SI60M2.5X6.5-03509I	TT07P	TT07T
	PSI60M025065-03509IS	PTT07PQ	PTT07TQ
APMT1604	SI60M4X8.9-05313I	TT15P	TT15T
	PSI60M040089-05313IS	PTT15PQ	PTT15TQ

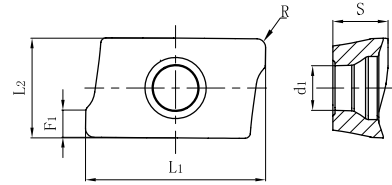
推荐切削参数 Recommended Cutting Data

	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	进给 / 刃 (fz) mm/tooth		
					轻切削 (L) Light Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
					PL	PM/GM	PR
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GA4225 GA4230 GM2140	120 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GK4125 GK2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GK4125 GK2115	120 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
H	淬火钢 Quenching Steel	HRC48-55	GH4125 GH4115	80 (60-120)	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)

方肩铣削
Shoulder Milling

APKT




单面曲线刃方肩铣刀片
Single-side Helical Edge Shoulder Milling Inserts



订货号 Ordering code	尺寸 (mm) Dimensions(mm)						涂层硬质合金 Coated									
	L1	L2	S	F1	d1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	APKT113504R-GL	11.31	7	3.5	2	3.21	0.4	●	●	○	○	●	○	○		
	APKT113508R-GL	11.31	7	3.5	2	3.21	0.8	●	●	○	○	●	○	○		
	APKT113504R-GM	11.31	7	3.5	2	3.21	0.4	●	●	○	○	●	●	●	○	
	APKT113508R-GM	11.31	7	3.5	2	3.21	0.8	●	●	○	○	●	●	●	○	
	APKT113532R-GM	10.16	7	3.44	3.6	3.21	3.2	○	●	○	○	○	○	○	○	
	APKT160408R-GM	16.96	9.4	5.2	2.57	4.21	0.8	●	●	○	○	●	●	●	○	
	APKT160412R-GM	16.96	9.4	5.2	2.57	4.21	1.2	○	●	○	○	○	○	○	○	
	APKT160416R-GM	16.96	9.4	5.2	2.57	4.21	1.6	○	○	○	○	○	○	○	○	
	APKT160432R-GM	15	9.4	5.2	2.57	4.21	3.2	○	●	○	○	○	○	○	○	
	APKT113516R-GH	11.31	7	3.5	2	3.21	1.6	○	●	○	○		●	○	○	
	APKT160416R-GH	16.96	9.4	5.2	2.57	4.21	1.6	○	●	○	○		●	○	○	

●标准库存 Stock ○需预定 Available upon Order

APKT 系列槽型 APKT Series Geometry

通用材料轻切削 Light Cutting for General Material	通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
		
<p>GL</p>	<p>GM</p>	<p>GH</p>
		
<p>低切削阻力的轻载切削， 获得更好的加工质量 Light cutting with low force to achieve excellent performance</p>	<p>一般工况下实现高稳定性加工 High stability cutting in general condition</p>	<p>刀刃强度更好，适合粗加工 More stronger edge for rough cutting</p>

方肩铣削
Shoulder Milling

MEB190

心轴式
Arbor

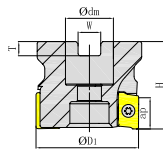
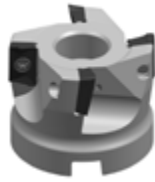


Fig1

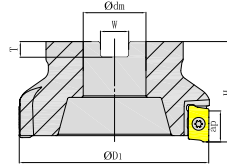


Fig2

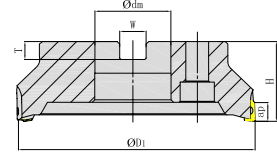


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			Φ_{D1}	Φ_{dm}	H	W	T					
MEB190040R05A16AP11	40	5	40	16	40	8.4	5.6	09	APKT1135	×	Fig1	●
MEB190050R07A22AP11	50	7	50	22	40	10.4	6.3	09	APKT1135	√	Fig1	●
MEB190125R11B40AP11	125	11	125	40	50	16.4	9	09	APKT1135	√	Fig1	○
MEB190050R04A22AP16	50	4	50	22	40	10.4	6.3	14	APKT1604	√	Fig1	●
MEB190063R05A22AP16	63	5	63	22	40	10.4	6.3	14	APKT1604	√	Fig1	●
MEB190080R07A27AP16	80	7	80	27	50	12.4	7	14	APKT1604	√	Fig1	●
MEB190100R08A32AP16	100	8	100	32	63	14.4	8	14	APKT1604	√	Fig1	●
MEB190125R09B40AP16	125	9	125	10	63	16.4	9	14	APKT1604	×	Fig2	●
MEB190160R10C40AP16	160	10	160	10	63	16.4	9	14	APKT1604	×	Fig3	○
MEB190200R12C60AP16	200	12	200	60	63	25.7	13	14	APKT1604	×	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MEB190

侧固式
Welden

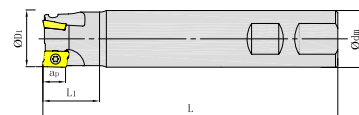


Fig4

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD_1	ΦD_m	L	L ₁					
MEB190016R02W16AP11	16	2	16	16	130	25	9	APKT1135	×	Fig4	●
MEB190020R02W20AP11	20	2	20	20	130	25	9	APKT1135	×	Fig4	●
MEB190020R03W20AP11	20	3	20	20	130	25	9	APKT1135	√	Fig4	●
MEB190025R03W25AP11	25	3	25	25	130	30	9	APKT1135	√	Fig4	●
MEB190025R02W25AP16	25	2	25	25	130	45	14	APKT1604	√	Fig4	●
MEB190032R04W32AP11	32	4	32	32	130	45	9	APKT1135	√	Fig4	●
MEB190032R03W32AP16	32	3	32	32	130	45	14	APKT1604	√	Fig4	●
MEB190032R03W32AP16L	32	3	32	32	200	54	14	APKT1604	√	Fig4	●

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MHB190

玉米铣刀体
Helical Shoulder Milling

侧固式
Welden

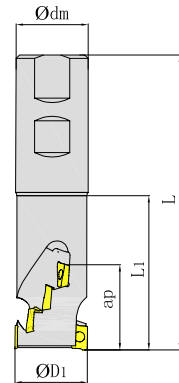


Fig5

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φdm	L	L ₁					
MHB190032R02W32AP11	32	2/8	32	32	130	65	39.9	APKT1135	√	Fig5	●
MHB190040R03W32AP11	40	3/12	40	32	130	66	39.9	APKT1135	√	Fig5	●

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MHB190

玉米铣刀体

Helical Shoulder Milling

心轴式
Arbor

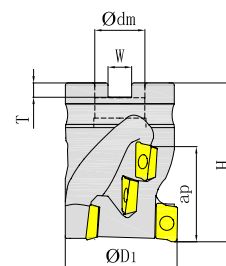


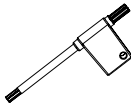

Fig6

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD1	Φdm	H	W	T					
MHB190050R04A22AP11	50	4/16	50	22	70	10.4	6.3	39.9	APKT1135	×	Fig6	●
MHB190063R05A27AP11	63	5/20	63	27	70	12.4	6.3	39.9	APKT1135	√	Fig6	●
MHB190050R03A22AP16	50	3/9	50	22	70	10.4	6.3	43	APKT1604	√	Fig6	●
MHB190063R04A27AP16	63	4/16	63	27	85	12.4	6.3	57	APKT1604	√	Fig6	●
MHB190080R05A32AP16	80	5/20	80	32	85	14.4	7	57	APKT1604	√	Fig6	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表

Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
APKT1135	SI60M2.5X6.5-03509	TT09P	×
	PSI60M025065-03509IS	PTT09PQ	×
APKT1604	SI60M3.5X8-05314	TT15P	TT15T
	PSI60M035080-05314S	PTT15PQ	PTT15TQ

推荐切削参数 Recommended Cutting Data

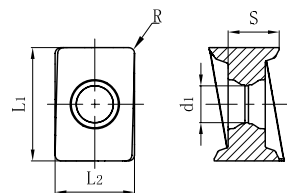
被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	进给 / 刃 (fz) mm/tooth			
				轻切削 (L) Light Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting	
				GL	GM	GH	
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GA4230 GK4125 GK2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GA4230 GK4125 GK2115	120 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
H	淬火钢 Quenching Steel	HRC48-55	GH4125 GH4115	80 (60-120)	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)




方肩铣削
Shoulder Milling

ANKX

双面4刃曲线刃方肩铣刀片







Double-side 4 Edges Shoulder Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)					涂层硬质合金 Coated									
	L1	L2	S	d1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	ANKX120704R-GL	12	10	8	4.6	0.4	●	●	○	○	○	●	●		
	ANKX160708R-GL	16	11.2	7.9	5.2	0.8	●	●	○	○	○	●	●		
	ANKX120708R- GM	12	10	8	4.6	0.8	●	●	○	○	○	●	●	○	
	ANKX160708R-GM	16	11.2	7.9	5.2	0.8	●	●	○	○	○	●	●	○	
	ANKX160716R- GM	16	11.2	7.9	5.2	1.6	●	●	○	○	○	●	●	○	
	ANKX160716R-GH	16	11.2	7.9	5.2	1.6	●	●	○	○		●	●	○	

●标准库存 Stock ○需预定 Available upon Order

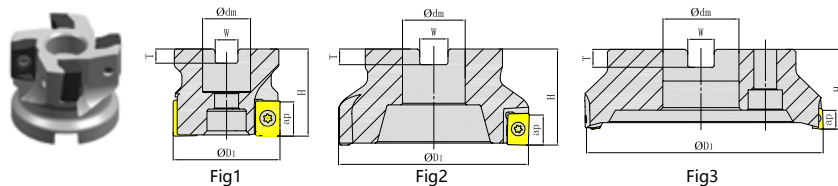
ANKX 系列槽型 ANKX Series Geometry

通用材料轻切削 Light Cutting for General Material	通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
		
<p>GL</p>	<p>GM</p>	<p>GH</p>
		
<p>低切削阻力的轻载切削， 获得更好的加工质量 Light cutting with low force to achieve excellent performance</p>	<p>一般工况下实现高稳定性加工 High stability cutting in general condition</p>	<p>刀刃强度更好，适合粗加工 More stronger edge for rough cutting</p>

方肩铣削
Shoulder Milling

MEC190

心轴式
Arbor



订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions (mm)					最大切深 apmax	匹配刀片 Gauge Insert	内冷 Inner-cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	H	W	T					
MEC190050R04A22AN12	50	4	50	22	40	10.4	6.3	09	ANKX1207	×	Fig1	●
MEC190063R05A22AN12	63	5	63	22	40	10.4	6.3	09	ANKX1207	√	Fig1	●
MEC190050R04A22AN16	50	4	50	22	40	10.4	6.3	14	ANKX1607	√	Fig1	●
MEC190063R05A22AN16	63	5	63	22	40	10.4	6.3	14	ANKX1607	√	Fig1	●
MEC190080R05A27AN16	80	5	80	27	50	12.4	7	14	ANKX1607	√	Fig1	●
MEC190080R06A27AN16	80	6	80	27	50	12.4	7	14	ANKX1607	√	Fig1	●
MEC190100R07B32AN16	100	7	100	32	50	14.4	8	14	ANKX1607	√	Fig2	●
MEC190100R08A32AN16	100	8	100	32	50	14.4	8	14	ANKX1607	√	Fig1	●
MEC190125R10B40AN16	125	10	125	40	63	16.4	9	14	ANKX1607	√	Fig2	●
MEC190160R12C40AN16	160	12	160	60	63	16.4	9	14	ANKX1607	×	Fig3	○
MEC190200R14C60AN16	200	14	200	60	63	25.7	14	14	ANKX1607	×	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MEC190

侧固式
Welden

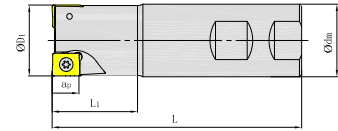


Fig4

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD_1	Φd_m	L	L ₁					
MEC190032R02W32AN12	32	2	32	32	130	40	9	ANKX1207	×	Fig4	●
MEC190040R03W32AN12	40	3	40	32	130	40	9	ANKX1207	√	Fig4	○
MEC190032R02W32AN16	32	2	32	32	130	40	14	ANKX1607	×	Fig4	●
MEC190032R02W32AN16L	32	2	32	32	200	50	14	ANKX1607	×	Fig4	●
MEC190032R03W32AN16	32	3	32	32	130	40	14	ANKX1607	×	Fig4	●
MEC190032R03W32AN16L	32	3	32	32	200	50	14	ANKX1607	×	Fig4	●
MEC190040R03W32AN16	40	3	40	32	130	50	14	ANKX1607	√	Fig4	●

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MHC190

玉米铣刀体 Helical Shoulder Milling

侧固式
Welded

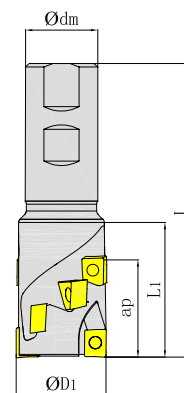


Fig5

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φdm	L	L ₁					
MHC190040R02W32AN12	40	2/8	40	32	130	66	43	ANKX1207	√	Fig5	●

●标准库存 Stock ○需预定 Available upon Order

心轴式
Arbor

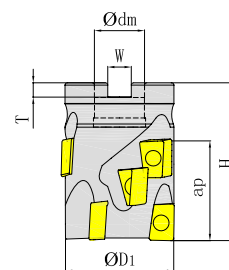


Fig6

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φdm	H	W	T					
MHC190050R03A22AN12	50	3/12	50	22	70	10.4	6.3	43	ANKX1207	√	Fig6	●
MHC190063R04A27AN12	63	4/16	63	27	70	12.4	6.3	43	ANKX1207	√	Fig6	●
MHC190050R03A22AN16	50	3/9	50	22	70	10.4	6.3	57	ANKX1607	√	Fig6	●
MHC190063R04A27AN16	63	4/12	63	27	85	12.4	6.3	57	ANKX1607	√	Fig6	●
MHC190080R05A32AN16	80	5/15	80	32	85	14.4	7	57	ANKX1607	√	Fig6	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
适用刀片 Insert	形状 Shape		
			
ANKX1207	SI60M3.5X12-05314	TT15P	×
	PSI60M035120-05314S	PTT15PQ	×
ANKX1607	SI60M4.5X10-06412	TT20P	TT20T
	PSI60M045100-06412S	PTT20PQ	PTT20TQ

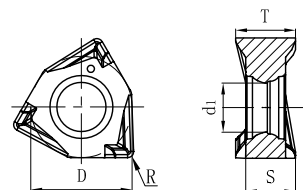
推荐切削参数 Recommended Cutting Data



被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 (fz) mm/tooth			
				轻切削 (L) Light Cutting	中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting	
				Vc (m/min)	GL	GM	GH
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GK4125 GK2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GK4125 GK2115	120 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
H	淬火钢 Quenching Steel	HRC48-55	GH4115 GH4125	80 (60-120)	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)

方肩铣削
Shoulder Milling

WNGU





双面六刃方肩铣刀
Double side 6 Cutting Edges Shoulder Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)					涂层硬质合金 Coated									
	D	d1	S	T	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	WNGU040304-GM	6.7	3.25	3.3	3.96	0.4	●	●	○	○	○	●	●		
	WNGU040308-GM	6.7	3.25	3.3	3.96	0.8	●	●	○	○	○	●	●		
	WNGU080608-GM	12.48	4.6	6.45	7.9	0.8	●	●	○	●	○	●	●		
	WNGU080608-GH	12.48	4.6	6.45	7.9	0.8	●	●	○	○		●	●		

●标准库存 Stock ○需预定 Available upon Order

WNGU 系列槽型 WNGU Series Geometry

通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
	
GM	GH
	
<p>一般工况下实现高稳定性加工 High stability cutting in general condition</p>	<p>刀刃强度更好, 适合粗加工 More stronger edge for rough cutting</p>

方肩铣削
Shoulder Milling

MEE190

心轴式
Arbor

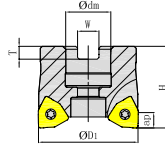


Fig1

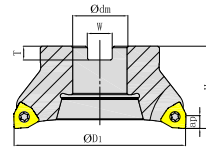


Fig2

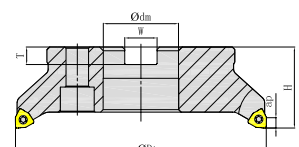


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			Φ_{D1}	Φ_{dm}	H	W	T					
MEE190050R04A22WN08	50	4	50	22	40	10.4	6.3	7.5	WNGU0806	×	Fig1	●
MEE190050R05A22WN08	50	5	50	22	40	10.4	6.3	7.5	WNGU0806	√	Fig1	●
MEE190063R06A22WN08	63	6	63	22	40	10.4	6.3	7.5	WNGU0806	×	Fig1	●
MEE190080R07A27WN08	80	7	80	27	50	12.4	7	7.5	WNGU0806	×	Fig1	●
MEE190100R08B32WN08	100	8	100	32	50	14.4	8	7.5	WNGU0806	×	Fig2	●
MEE190125R11B40WN08	125	11	125	40	63	16.4	9	7.5	WNGU0806	×	Fig2	●
MEE190160R12C40WN08	160	12	160	40	63	16.4	9	7.5	WNGU0806	×	Fig3	●
MEE190200R16C60WN08	200	16	200	60	63	25.7	14	7.5	WNGU0806	×	Fig3	●

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MEE190

直柄式
Shank


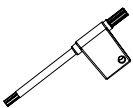
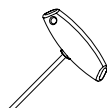


Fig4

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ϕ_{D1}	ϕ_{dm}	L	L ₁					
MEE190020R03P20WN04	20	3	20	20	150	30	4	WNGU0403	√	Fig4	●
MEE190025R04P25WN04	25	4	25	25	170	30	4	WNGU0403	√	Fig4	●
MEE190032R05P32WN04	32	5	32	32	195	30	4	WNGU0403	√	Fig4	●
MEE190035R05P32WN04	35	5	35	32	195	30	4	WNGU0403	√	Fig4	●
MEE190040R06P32WN04	40	6	40	32	195	30	4	WNGU0403	√	Fig4	●
MEE190040R03P32WN08	40	3	40	32	160	60	7.5	WNGU0806	×	Fig4	●

●标准库存 Stock ◦需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
适用刀片 Insert	形状 Shape		
			
WNGU0403	SI60M2.5X6.5-03610I	TT08P	×
	PSI60M025065-03610IB	PTT08PB	×
WNGU0806	SI60M4.0X11-05510I	TT15P	TT15T
	PSI60M040100-05510IB	PTT15PB	PTT15TB

推荐切削参数 Recommended Cutting Data

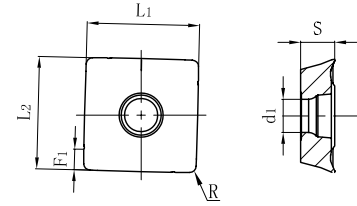
	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	进给 / 刃 (fz) mm/tooth	
					中切削 (M) Medium Cutting	重切削 (H) Heavy Cutting
					GM	GH
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230 GP4225 GP2115	180 (150-220)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180- 350	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230 GP4225 GP2115	150 (120-200)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron	≤ HB280	GA4230 GK4125 GK2115	180 (150-220)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GA4230 GK4125 GK2115	120 (100-180)	0.15 (0.1-0.2)	0.2 (0.1-0.25)




方肩铣削
Shoulder Milling

SDKT

单面四刃方肩铣刀片







Single Side Four Edges Shoulder Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)						涂层硬质合金 Coated								
	L1	L2	S	F1	d1	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
 SDKT14T3PEER-GL	13.92	13.92	3.96	2.5	4.1	0.8	●	●	○	●	●	●	○		
 SDKT14T3PEER-GM	13.92	13.92	3.96	2.5	4.1	0.8	●	●	○	●	●	●	●		
 SDKT14T3PEER-GH	13.92	13.92	3.96	2.5	4.1	0.8	●	●	○	○	○	○	○		

●标准库存 Stock ○需预定 Available upon Order

SDKT 系列槽型 SDKT Series Geometry

通用材料轻切削 Light Cutting for General Material	通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
		
GL	GM	GH
		
<p>低切削阻力的轻载切削， 获得更好的加工质量 Light cutting with low force to achieve excellent performance</p>	<p>一般工况下实现高稳定性加工 High stability cutting in general condition</p>	<p>刀刃强度更好，适合粗加工 More stronger edge for rough cutting</p>

方肩铣削
Shoulder Milling

MES190

心轴式
Arbor

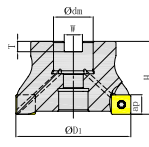


Fig1

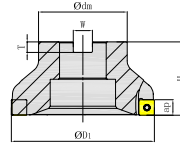


Fig2

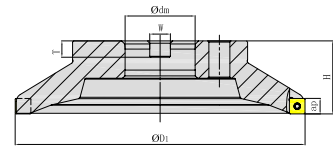


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	H	W	T					
MES190050R04A22SD14	50	04	50	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190050R05A22SD14	50	05	50	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190063R05A22SD14	63	05	63	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190063R06A22SD14	63	06	63	22	40	10.4	6.3	10	SDKT14	√	Fig1	●
MES190080R06A27SD14	80	06	80	27	50	12.4	7	10	SDKT14	√	Fig1	●
MES190100R07B32SD14	100	07	100	32	50	14.4	8	10	SDKT14	×	Fig2	●
MES190100R08B32SD14	100	08	100	32	50	14.4	8	10	SDKT14	×	Fig2	●
MES190125R08B40SD14	125	08	125	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190125R10B40SD14	125	10	125	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190160R08C40SD14	160	08	160	40	63	16.4	9	10	SDKT14	×	Fig3	○
MES190160R12C40SD14	160	12	160	40	63	16.4	9	10	SDKT14	×	Fig3	●
MES190200R10C60SD14	200	10	200	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190200R16C60SD14	200	16	200	60	63	25.7	14	10	SDKT14	×	Fig3	●
MES190250R12C60SD14	250	12	250	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190250R18C60SD14	250	18	250	60	63	25.7	14	10	SDKT14	×	Fig3	○
MES190315R15D60SD14	315	15	315	60	80	25.7	14	10	SDKT14	×	Fig3	○
MES190315R24D60SD14	315	24	315	60	80	25.7	14	10	SDKT14	×	Fig3	○

●标准库存 Stock ○需预定 Available upon Order

方肩铣削
Shoulder Milling

MES190

圆柱直柄式

Shank

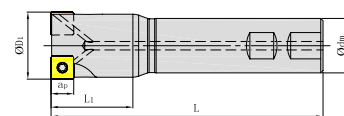


Fig4

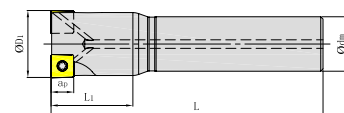

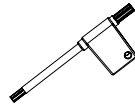
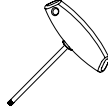


Fig5

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	L	L ₁					
MES190040R03P20SD14	40	03	40	20	120	40	10	SDKT14	√	Fig4	●
MES190040R03W32SD14	40	03	40	32	170	40	10	SDKT14	√	Fig5	●
MES190040R04W32SD14	40	04	40	32	120	40	10	SDKT14	√	Fig5	○
MES190050R04W32SD14	50	04	50	32	120	50	10	SDKT14	√	Fig5	●
MES190050R05W32SD14	50	05	50	32	160	50	10	SDKT14	√	Fig5	○

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
SDKT14*	SI60M3.5X10-05018I	TT15P	TT15T
	PSI60M035100-05018IS	PTT15PB	PTT15TB

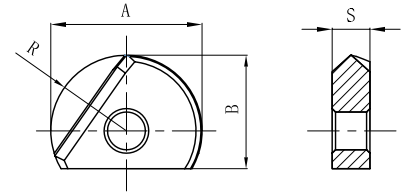
推荐切削参数 Recommended Cutting Data


被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	进给 / 刃 (fz) mm/tooth		
				轻切削 (L) Light Cutting PL	中切削 (M) Medium Cutting PM	重切削 (H) Heavy Cutting PR
P	软钢 Low Carbon Steel ≤ HB180	GA4225 GA4230 GP4225	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	碳钢、合金钢 Carbon Steel, Alloy Steel HB180-350	GA4225 GA4230 GP4225	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	预硬钢 Per-hardened Steel HRC35-45	GA4225 GA4230 GP4225	150 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite) ≤ HB270	GA4225 GA4230 GM2140	140 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
	不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic) ≤ HB270	GA4225 GA4230 GM2140	120 (100-160)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	灰铸铁 Grey Cast Iron ≤ HB280	GA4230 GK4125 GK2115	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron ≤ HB350	GA4230 GK4125 GK2115	120 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
H	淬火钢 Quenching Steel HRC48-55	GA4230	80 (60-120)	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)

仿形铣削
Profile Milling

QTD

仿形铣削刀片
Profile Milling Inserts



订货号 Ordering Code	尺寸 (mm) Dimensions(mm)				涂层硬质合金 Coated									
	R	A	B	S	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115	
	QTD1203	6	12	10	3	●	○				○		●	●
	QTD1604	8	16	12	4	●	○				○		●	●
	QTD2005	10	20	15	5	●	○				○		●	●
	QTD2506	12.5	25	18.5	6	●	○				○		●	●
	QTD3007	15	30	22.5	7	●	○				○		●	●
	QTD3207	16	32	23.5	7	○	○				○		●	○

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

MBA100

直柄式
Straight Shank

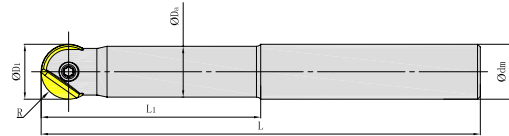


Fig1

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD_1	Φd_m	ΦD_a	L	L ₁	R				
MBA100012R01P12QT12S	12	1	12	12	10.5	90	30	6	QTD1203	×	Fig1	●
MBA100012R01P12QT12	12	1	12	12	10.5	120	60	6	QTD1203	×	Fig1	●
MBA100012R01P12QT12L	12	1	12	12	10.5	150	90	6	QTD1203	×	Fig1	●
MBA100016R01P16QT16S	16	1	16	16	14.5	100	35	8	QTD1604	×	Fig1	●
MBA100016R01P16QT16	16	1	16	16	14.5	135	70	8	QTD1604	×	Fig1	●
MBA100016R01P16QT16L	16	1	16	16	14.5	170	100	8	QTD1604	×	Fig1	●
MBA100020R01P20QT20S	20	1	20	20	18.5	110	45	10	QTD2005	×	Fig1	●
MBA100020R01P20QT20	20	1	20	20	18.5	160	80	10	QTD2005	×	Fig1	●
MBA100020R01P20QT20L	20	1	20	20	18.5	210	135	10	QTD2005	×	Fig1	●
MBA100025R01P25QT25S	25	1	25	25	23	125	50	12.5	QTD2506	×	Fig1	●
MBA100025R01P25QT25	25	1	25	25	23	180	100	12.5	QTD2506	×	Fig1	●
MBA100025R01P25QT25L	25	1	25	25	23	235	150	12.5	QTD2506	×	Fig1	●
MBA100030R01P32QT30S	30	1	30	30	28.5	150	60	15/16	QTD3007 QTD3207	×	Fig1	●
MBA100030R01P32QT30	30	1	30	30	28.5	200	120	15/16	QTD3007 QTD3207	×	Fig1	●
MBA100030R01P32QT30L	30	1	30	30	28.5	270	180	15/16	QTD3007 QTD3207	×	Fig1	●

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

MBA100

锥颈式
Taper Shank

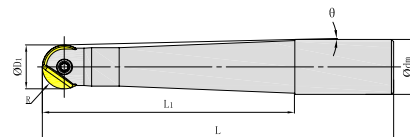


Fig2

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	L	L ₁	R	Θ				
MBA100-012R01P16T-QT12L	12	1	12	16	145	85	6	1.5°	QTD1203	×	Fig2	●
MBA100-016R01P20T-QT16L	16	1	16	20	166	100	8	1°	QTD1604	×	Fig2	●
MBA100-020R01P25T-QT20L	20	1	20	25	191	115	10	1.5°	QTD2005	×	Fig2	●
MBA100-025R01P32T-QT25L	25	1	25	32	215	135	12.5	1.5°	QTD2506	×	Fig2	●
MBA100-030R01P32T-QT30L	30	1	30	32	240	160	15/16	0.5°	QTD3007 QTD3207	×	Fig2	●

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

MBA100

可换式刀头
Modular head

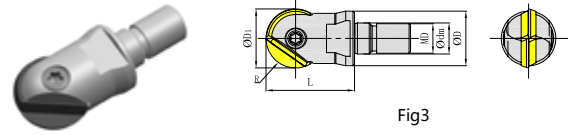

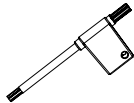


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)						匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	ΦD	Φdm	L	R	MD				
MBA100-012R01M06-QT12	12	1	12	11.5	6.5	20	6	M6	QTD1203	×	Fig3	●
MBA100-016R01M08-QT16	16	1	16	15	8.5	23	8	M8	QTD1604	×	Fig3	●
MBA100-020R01M10-QT20	20	1	20	18.5	10.5	30	10	M10	QTD2005	×	Fig3	●
MBA100-025R01M12-QT25	25	1	25	24	12.5	35	12.5	M12	QTD2506	×	Fig3	●
MBA100-030R01M16-QT30	30	1	30	29	17	43	15/16	M16	QTD3007 QTD3207	×	Fig3	●

●标准库存 Stock ◯需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner
适用刀片 Insert		
QTD1203	SBM3.5X9.5	TT09T
	PSBM035095Q	PTT09TQ
QTD1604	SBM4.0X13.5	TT15T
	PSBM040135Q	PTT15TQ
QTD2005	SBM5.0X16.5	TT20T
	PSBM050165Q	PTT20TQ
QTD2506	SBM6.0X20	TT30T
	PSBM060200Q	PTT30TQ
QTD3007	SBM8.0X25	TT40T
	PSBM080250Q	PTT40TQ
QTD3207	SBM8.0X25	TT40T
	PSBM080250Q	PTT40TQ

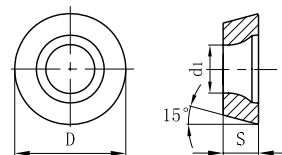
推荐切削参数 Recommended Cutting Data







被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	每转进给量 Nominal feed : f (mm/rev)						最大 切深 ap A _{pmax} (mm)	最大 切宽 ae A _e _{max} (mm)	
				刀具直径: ΦD (mm) Radius								
				Vc (m/min)	12	16	20	25	30			32
P	软钢 Low Carbon Steel	≤ HB180	GA4225 GA4230	350 (300-400)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230	300 (250-350)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
	预硬钢 Per-hardened Steel	HRC35-45	GA4225 GA4230	250 (200-300)	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0	0.3-0.6	D/40
K	灰铸铁 Grey Cast Iron	≤ HB280	GK4125	300 (250-350)	0.2-0.5	0.2-0.5	0.4-0.7	0.4-0.7	0.7-1.0	0.7-1.0	0.3-0.6	D/50
	球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GK4125	350 (300-400)	0.1-0.4	0.1-0.4	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.2-0.5	D/40
H	淬硬钢 Quenching Steel	HRC48-55	GH4125 GH4115	150 (100-200)	0.1-0.4	0.1-0.4	0.2-0.5	0.2-0.5	0.2-0.5	0.2-0.5	0.1-0.3	D/50

仿形铣削
Profile Milling

RD

仿形铣削刀片
Profile Milling Inserts



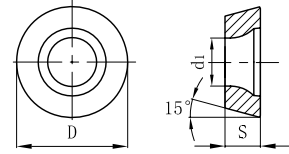
订货号 Ordering Code		尺寸 (mm) Dimensions(mm)			涂层硬质合金 Coated								
		D	S	d1	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	RDET0803M0-BL	8	3.18	2.94		○	○						
	RDET10T3M0-BL	10	3.97	4.4		○	○						
	RDET1204M0-BL	12	4.76	4.4		○	○						
	RDET1604M0-BL	16	4.76	5.5		●	○						
	RDET0802M0-GM	8	2.38	2.94	●	○	○						
	RDET0803M0-GM	8	3.18	2.94		○	○						
	RDET10T3M0-GM	10	3.97	4.4	●	●	○		○				
	RDET1204M0-GM	12	4.76	4.4	○	●	○		○				
	RDET1604M0-GM	16	4.76	5.5		○	○						
	RDET1204M0T-MM	12	4.76	4.4	○	●	○						
	RDEW0501M0	5	1.51	2.2	●	●	○			○			○
	RDEW0702M0	7	2.38	2.8	●	●	○			○			
	RDEW1003M0	10	3.18	4.4		○	○						
	RDEW0702M0T	7	2.38	2.8	●	●	○			○			○
	RDEW0803M0T	8	3.18	2.94	○	○	○						
	RDEW10T3M0T	10	3.97	4.4	●	○	○						
	RDEW1204M0T	12	4.76	4.4	●	●	○			○	○		○
	RDEW1604M0T	16	4.76	5	○	○	○			○	○		○
	RDEW12T3M0T-BM	12	3.97	4.4		○	○						
	RDEW1204M0T-BM	12	4.76	4.4		○	○						




●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

RD









仿形铣削刀片
Profile Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions(mm)			涂层硬质合金 Coated								
		D	S	d1	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	RDMT10T3M0-GM	10	3.97	4.4	●	●	○	○	○	○	○	○	
	RDMT1204M0-GM	12	4.76	4.4	●	●	○	○	○	○	○	○	
	RDMW1204M0T-BM	12	4.76	4.4	●	●	○	●		○	○	○	○
	RDMW1605M0T-BM	16	5.56	5.5	●	●	○	○		○	○		
	RDMW10T3M0T	10	3.97	4.4	●	●	○	○		○	○	○	
	RDMW1604M0T	16	4.76	5.5	●	●	○	○		○	○		

●标准库存 Stock ○需预定 Available upon Order

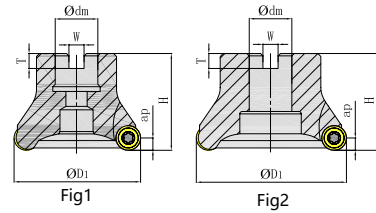
RD系列槽型 RD Series Geometry

通用材料轻切削 Light Cutting for General material	通用材料中切削 Medium Cutting for General material	通用材料重切削 Heavy cutting for General material	
			
BL	GM	None	
			
<p>大前角设计 切削刃更加锋利 Design with big front rake angle makes the cutting edges sharper.</p>	<p>适中刃宽及前角设计 兼顾刃带强度及锋利性 Design with medium rake angle and edge width. Combine sharp with strength</p>	<p>平板设计 切削刃强度更高 Design with flat chipbreaker makes the cutting edge stronger.</p>	

仿形铣削
Profile Milling

MPA100

心轴式
Arbor



订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 A _{pmax}	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			Φ_{D1}	Φ_{dm}	H	W	T					
MPA100040R05A16RD08	40	5	40	16	40	8.4	6.3	4	RD**0803	×	Fig1	●
MPA100050R04A22RD10	50	4	50	22	50	10.4	6.3	5	RD**10T3	×	Fig1	●
MPA100050R04A22RD12	50	4	50	22	50	10.4	6.3	6	RD**1204	×	Fig1	●
MPA100050R05A22RD12	50	5	50	22	50	10.4	6.3	6	RD**1204	×	Fig1	●
MPA100052R05A22RD12	52	5	52	22	50	10.4	6.3	6	RD**1204	×	Fig1	○
MPA100063R05A22RD12	63	5	63	22	50	10.4	6.3	6	RD**1204	×	Fig1	●
MPA100063R04A22RD16	63	4	63	22	40	10.4	6.3	8	RD**1604	×	Fig1	●
MPA100080R05A27RD16	80	5	80	27	50	12.4	7	8	RD**1604	×	Fig1	●
MPA100100R06B32RD16	100	6	100	32	50	14.4	9	8	RD**1604	×	Fig2	●
MPA100125R07B40RD16	125	8	125	40	63	16.4	9	8	RD**1604	×	Fig2	○

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

MPA100

圆柱直柄式
Shank

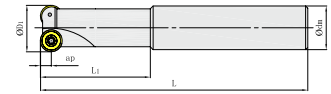


Fig3

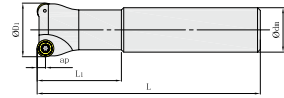


Fig4

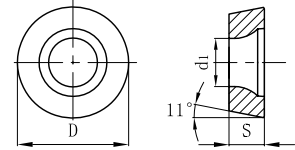
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			ϕD_1	ϕdm	L	L ₁					
MPA100010R02P16RD05	10	2	10	16	120	40	2.5	RD**0501	×	Fig3	○
MPA100012R02P16RD05	12	2	12	16	120	40	3.5	RD**0501	×	Fig3	○
MPA100016R02P16RD07	16	2	16	16	160	60	3.5	RD**0702	×	Fig3	●
MPA100017R02P16RD08	17	2	17	16	160	60	4	RD**0803	×	Fig4	●
MPA100020R02P20RD08	20	2	20	20	160	60	4	RD**0803	×	Fig3	○
MPA100020R02P20RD10	20	2	20	20	160	50	5	RD**10T3	×	Fig3	○
MPA100025R02P20RD10	25	2	25	20	160	50	5	RD**10T3	×	Fig4	●
MPA100032R03P32RD12	32	3	32	32	200	80	6	RD**1204	×	Fig3	●
MPA100032R02P32RD16	32	2	32	32	200	80	8	RD**1604	×	Fig3	●
MPA100035R02P32RD16	35	2	35	32	200	80	8	RD**1604	×	Fig4	●

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

RP

仿形铣削刀片
Profile Milling Inserts



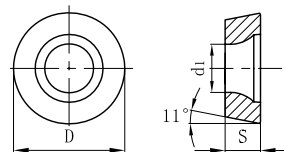
订货号 Ordering Code		尺寸 (mm) Dimensions(mm)			涂层硬质合金 Coated								
		D	S	d1	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	RPET1003M0-GL	10	3.18	4.4		○	○						
	RPET1204M0-GL	12	4.76	4.4		○	○						
	RPET08T2M0-GM	8	2.78	2.94	●	○	○		○				
	RPET1003M0T-GM	10	3.18	4.4		○	○		○				
	RPET1204M0-GM	12	4.76	4.4	●	○	○		○				
	RPET1204M0T-GM	12	4.76	4.4		●	○		○	○			
	RPET1606M0T-GM	16	6.35	5.5		○	○						
	RPET1606M0-SM	16	6.35	5.5		○	○	○	○	○	○		
	RPET1606M0T-GH	16	6.35	5.5		○	○	○	○	○	○		
	RPEW08T2M0	8	2.78	2.94		○	○						
	RPEW1003M0	10	3.18	4.4		○	○						
	RPEW10T3M0	10	3.97	4.4			○						
	RPEW1003M0T	10	3.18	4.4	●	●	○						
	RPEW1204M0T	12	4.76	4.4	○	○	○						

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

RP









仿形铣削刀片
Profile Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions(mm)			涂层硬质合金 Coated								
		D	S	d ₁	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	RPMT10T3M0-GM	10	3.97	4.4	●	●	○						
	RPMT1003M0T-GM	10	3.18	4.4	●	●	○	○	○	○	○	○	○
	RPMT1204M0-GM	12	4.76	4.4	●	●	○	○	○	○	○	○	○
	RPMW1003M0T	10	3.18	4.4	●	●	○	○		○	○	○	
	RPMW1204M0T	12	4.76	4.4	●	●	○	○		○	○	○	

●标准库存 Stock ○需预定 Available upon Order

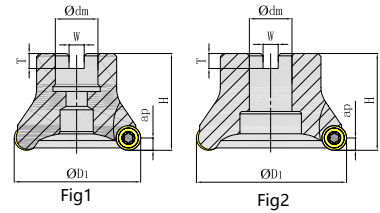
RP 系列槽型 RP Series Geometry

通用材料轻切削 Light Cutting for General material	通用材料中切削 Medium Cutting for General material	通用材料重切削 Heavy Cutting for General material	
			
<p>GL</p>	<p>GM</p>	<p>GH</p>	<p>None</p>
			
<p>大前角设计 切削刃更加锋利 Design with big front rake angle makes the cutting edges sharper.</p>	<p>适中刃宽及前角设计 兼顾刃带强度及锋利性 Design with medium rake angle and edge width. Combine sharp with strength</p>	<p>小前角 / 平板设计 切削刃强度更高 Design with flat chipbreaker and small front rake angle makes the cutting edge stronger.</p>	

仿形铣削
Profile Milling

MPB100

心轴式
Arbor



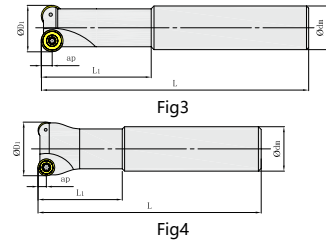
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 A _{pmax}	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD_1	Φd_m	H	W	T					
MPB100040R05A16RP08	40	5	40	16	40	8.4	6.3	4	RP**08T2	×	Fig1	○
MPB100040R04A16RP10	40	4	40	16	40	8.4	6.3	5	RP**1003	×	Fig1	●
MPB100050R04A22RP10	50	4	50	22	50	10.4	6.3	5	RP**1003	×	Fig1	●
MPB100050R04A22RP12	50	4	50	22	50	10.4	6.3	6	RP**1204	×	Fig1	●
MPB100063R05A22RP12	63	5	63	22	50	10.4	6.3	6	RP**1204	×	Fig1	●
MPB100063R04A22RP16	63	4	63	22	40	10.4	6.3	8	RP**1606	×	Fig1	○
MPB100080R06A27RP16	80	6	80	27	50	12.4	7	8	RP**1606	×	Fig2	●
MPB100100R07B32RP16	100	7	100	32	50	14.4	8	8	RP**1606	×	Fig2	●
MPB100125R08B40RP16	125	8	125	40	63	16.4	9	8	RP**1606	×	Fig2	○

●标准库存 Stock ○需预定 Available upon Order

仿形铣削
Profile Milling

MPB100

圆柱直柄式
Shank



订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 Apmx	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ϕD_1	ϕD_m	L	L ₁					
MPB100016R02P16RP08S	16	2	16	16	120	40	4	RP**08T2	×	Fig.3	○
MPB100016R02P16RP08	16	2	16	16	160	60	4	RP**08T2	×	Fig.3	●
MPB100020R02P20RP08	20	2	20	20	160	60	4	RP**08T2	×	Fig.3	●
MPB100025R03P25RP08	25	3	25	25	160	60	4	RP**08T2	×	Fig.3	●
MPB100020R02P20RP10	20	2	20	20	160	50	5	RP**1003	×	Fig3	○
MPB100025R02P20RP10	25	2	25	20	160	50	5	RP**1003	×	Fig4	●
MPB100025R02P20RP10L	25	2	25	20	200	50	5	RP**1003	×	Fig4	○
MPB100025R02P25RP12	25	2	25	25	160	50	6	RP**1204	×	Fig3	●
MPB100032R02P25RP12	32	2	32	25	160	50	6	RP**1204	×	Fig4	●
MPB100032R02P25RP12L	32	2	32	25	200	60	6	RP**1204	×	Fig4	○
MPB100040R02P32RP16	40	2	40	32	200	80	8	RP**1606	×	Fig.4	○

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	压板螺钉 Plate Pinch Screw	压板 Plate Pinch	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape					
适用刀片 Insert					
RD**07 RD**08/RP**08	×	×	SI60M2.5X6.5-03509I	TT08P	×
	×	×	PSI60M025065-03509IS	PTT08PQ	×
RD**10 RP**10	SI60M3.5X10-05510I	CAX1	SI60M4X9-05313I	TT15P	×
	PSI60M035100-05510IS	PCAX01RQ	PSI60M040089-05313IS	PTT15PQ	×
RRD**12 RP**12	SI60M3.5X12-05314	CAX2	SI60M4X9-05313I	TT15P	×
	PSI60M035120-05314S	PCAX02RQ	PSI60M040089-05313IS	PTT15PQ	×
RD**16 RP**16	×	×	SI60M5X11-07209	TT20P	TT20T
	×	×	PSI60M050108-07209S	PTT20PQ	PTT20TQ

推荐切削参数 Recommended Cutting Data

被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	刀片规格 Radius	进给 / 刃 (fz) mm/tooth			
					轻切削 (L) Light Cutting	中切削 (M) Light Cutting	重切削 (H) Light Cutting	
					GL/BL	GM/MM/EM	GH/KH/T	
P	软钢 Low Carbon Steel	≤ HB180	GP2115 GA4225 GP4225 GA4230	180 (150-220)	05	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
					10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
					16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.30 (0.20-0.45)
					20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
	碳钢、合金钢 Carbon Steel, Alloy Steel	HB180-350	GP2115 GA4225 GP4225 GA4230	160 (140-200)	05	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
					10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
					16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.30 (0.20-0.45)
					20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
	预硬钢 Per-hardened Steel	HRC35-45	GP2115 GA4225 GP4225 GA4230	120 (100-160)	05	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
					10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
					16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.30 (0.20-0.45)
					20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HB270	GM2140	140 (120-180)	05	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
					10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
					16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.35 (0.20-0.45)
					20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)

- 刀具转速 (min⁻¹) = (1000 X 切削速度) / (3.14 X 刀具切削刃直径)
Tool RPM (min⁻¹) = (1000 X Cutting Speed) / (3.14 X Diameter Of Cutter)
- 机床工作台进给量 (mm/min) = 每刃进给量 X 刀具刃数 X 刀具转速
Workpiece Feed (mm/min) = Feed Per Tooth X Number Of Tooth X Tool RPM

推荐切削参数 Recommended Cutting Data

被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed Vc (m/min)	刀片规格 Radius	进给 / 刃 (fz) mm/tooth		
					轻切削 (L) Light Cutting	中切削 (M) Light Cutting	重切削 (H) Light Cutting
					GL/BL	GM/MM/EM	GH/KH/T
M 不锈钢 (奥氏体、双相) Stainless Steel (Austenite, Diphasic)	≤ HB270	GM2140	120 (100-160)	05	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
				07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
				10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
				16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.35 (0.20-0.45)
				20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
K 灰铸铁 Grey Cast Iron	≤ HB280	GK2115 GK4125	180 (150-220)	05	0.08 (0.05-0.15)	0.15 (0.08-0.15)	0.12 (0.08-0.20)
				07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
				10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
				16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.30 (0.20-0.45)
				20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
K 球墨铸铁、蠕墨铸铁 Nodular Cast Iron Vermicular Cast Iron	≤ HB350	GK2115 GK4125	120 (100-180)	05	0.08 (0.05-0.15)	0.15 (0.08-0.15)	0.12 (0.08-0.20)
				07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
				10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
				16	0.18 (0.10-0.25)	0.25 (0.15-0.35)	0.30 (0.20-0.45)
				20	0.20 (0.12-0.25)	0.30 (0.15-0.40)	0.35 (0.20-0.45)
H 淬火钢 Quenching Steel	HRC48-55	GH4125 GH4115	80 (60-120)	08	0.08 (0.05-0.15)	0.10 (0.08-0.15)	0.12 (0.08-0.20)
				10 12	0.15 (0.10-0.25)	0.20 (0.15-0.30)	0.25 (0.20-0.35)
				16	0.18 (0.10-0.25)	0.22 (0.15-0.35)	0.28 (0.20-0.40)
				20	0.20 (0.15-0.30)	0.25 (0.15-0.35)	0.30 (0.20-0.40)

- 刀具转速 (min⁻¹) = (1000 X 切削速度) / (3.14 X 刀具切削刃直径)
Tool RPM (min⁻¹) = (1000 X Cutting Speed) / (3.14 X Diameter Of Cutter)
- 机床工作台进给量 (mm/min) = 每刃进给量 X 刀具刃数 X 刀具转速
Workpiece Feed (mm/min) = Feed Per Tooth X Number Of Tooth X Tool RPM

RD/RP 刀片推荐进给量与切深关系

The Relationship of Recommended Feed and Depth of RD/RP Inserts

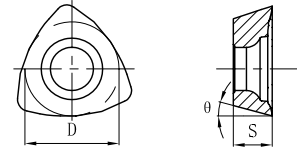
刀片规格 Insert Size	工况 Condition	切深 ap (mm)							
		0.1	0.5	1	1.5	2	2.5	3	4
05	中切削 (M) Medium Cutting	0.35 (0.22-0.63)	0.17 (0.08-0.26)	0.12 (0.06-0.21)	0.1 (0.05-0.17)	-	-	-	-
	重切削 (H) Heavy Cutting	0.45 (0.29-0.95)	0.2 (0.12-0.38)	0.16 (0.09-0.28)	0.14 (0.07-0.25)	-	-	-	-
07 08	中切削 (M) Medium Cutting	0.59 (0.23-0.90)	0.27 (0.10-0.41)	0.20 (0.08-0.30)	0.17 (0.06-0.26)	0.15 (0.03-0.23)	-	-	-
	重切削 (H) Heavy Cutting	0.68 (0.32-1.13)	0.31 (0.14-0.52)	0.23 (0.11-0.38)	0.19 (0.09-0.32)	0.17 (0.08-0.29)	-	-	-
10	轻切削 (L) Light Cutting	0.75 (0.25-0.90)	0.34 (0.11-0.41)	0.25 (0.08-0.30)	0.21 (0.07-0.25)	0.19 (0.06-0.23)	0.17 (0.05-0.21)	-	-
	中切削 (M) Medium Cutting	0.90 (0.25-1.26)	0.41 (0.11-0.57)	0.30 (0.08-0.42)	0.25 (0.07-0.35)	0.23 (0.06-0.31)	0.21 (0.05-0.28)	-	-
	重切削 (H) Heavy Cutting	1.01 (0.35-1.51)	0.46 (0.16-0.69)	0.33 (0.12-0.50)	0.28 (0.10-0.42)	0.25 (0.09-0.38)	0.23 (0.08-0.35)	-	-
12	轻切削 (L) Light Cutting	0.83 (0.28-1.10)	0.38 (0.13-0.50)	0.27 (0.09-0.36)	0.23 (0.08-0.30)	0.20 (0.07-0.27)	0.18 (0.06-0.25)	0.17 (0.06-0.23)	-
	中切削 (M) Medium Cutting	0.99 (0.28-1.38)	0.45 (0.13-0.63)	0.33 (0.09-0.45)	0.27 (0.08-0.38)	0.24 (0.07-0.34)	0.22 (0.06-0.31)	0.21 (0.06-0.29)	-
	重切削 (H) Heavy Cutting	1.10 (0.39-1.65)	0.50 (0.18-0.75)	0.36 (0.13-0.54)	0.30 (0.11-0.45)	0.27 (0.09-0.40)	0.25 (0.08-0.37)	0.23 (0.08-0.35)	-
16	轻切削 (L) Light Cutting	1.14 (0.32-1.59)	0.52 (0.14-0.72)	0.37 (0.10-0.52)	0.31 (0.09-0.43)	0.27 (0.08-0.38)	0.25 (0.07-0.35)	0.23 (0.06-0.32)	0.21 (0.06-0.29)
	中切削 (M) Medium Cutting	1.27 (0.32-1.90)	0.57 (0.14-0.86)	0.41 (0.10-0.62)	0.34 (0.09-0.51)	0.30 (0.08-0.45)	0.28 (0.07-0.41)	0.26 (0.06-0.38)	0.23 (0.06-0.35)
	重切削 (H) Heavy Cutting	1.59 (0.44-2.54)	0.72 (0.20-1.15)	0.52 (0.14-0.83)	0.43 (0.12-0.69)	0.38 (0.11-0.60)	0.35 (0.10-0.54)	0.32 (0.09-0.51)	0.29 (0.08-0.46)

备注：圆刀片切削加工，一般情况 $ap < 25\%ic$ ，当超过此切深时推荐用 $Kr=45^\circ$ 的 SNEU/SEET 系刀片。
Remarks: In general, when the cutting depth is less than $25\%ic$ using screw cutting tool. If the cutting depth exceeds the $Kr=45^\circ$ series of SNEU/SEET inserts are recommended.

快进给铣削
High Feed Milling

UD/UP









3刃快进给铣刀片
3 Edges High Feed Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions (mm)			涂层硬质合金 Coated								
		D	S	θ	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	UDET080308-MM	6.8	3.18	15	●	●	○	○	●	○	○		
	UDET12T312-MM	9.6	3.97	15	●	●	○	○	●	○	○		
	UPET170520-PM	13	5.56	11	●	●	○	○	○	○	○		
	UDMT080308T-MH	6.8	3.18	15	●	●	○						
	UDMT12T312T-MH	9.6	3.97	15	●	●	○						
	UDMW12T312T	9.6	3.97	15	●	●	○						

●标准库存 Stock ○需预定 Available upon Order

UD/UP 系列槽型 UD/UP Series Geometry

通用材料中载切削 Medium Cutting for General material		通用材料重载切削 Rough Cutting for General material	
			
MM	PM	MH	None
			
<p>较大的正前角 切削刃锋利 Bigger rake angle makes cutting edge more sharply.</p>	<p>中等前角加倒棱 适用于中载切削 Chamfered cutting edge with rake angle is suitable for medium cutting.</p>	<p>较小的前角 切削刃强度高 Smaller rake angle makes stronger cutting edge.</p>	<p>平板设计 切削刃强度更高 Flat insert design makes strongest cutting edge.</p>

快进给铣削
High Feed Milling

MKA110

心轴式
Arbor

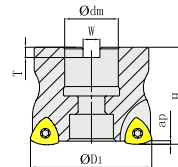
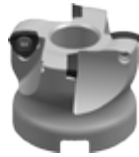


Fig1

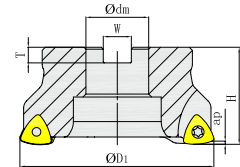


Fig2

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 A _{max}	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			Φ_{D1}	Φ_{dm}	H	W	T					
MKA110040R05A16UD08	40	5	40	16	40	8.4	5.6	1.0	UD**0803	×	Fig1	●
MKA110050R06A22UD08	50	6	50	22	40	10.4	6.3	1.0	UD**0803	×	Fig1	●
MKA110050R04A22UD12	50	4	50	22	40	10.4	6.3	1.5	UD**12T3	×	Fig1	●
MKA110063R05A22UD12	63	5	63	22	40	10.4	6.3	1.5	UD**12T3	×	Fig1	●
MKA110063R04A22UP17	63	4	63	22	40	10.4	6.3	2.0	UP**1705	×	Fig1	●
MKA110063R05A22UP17	63	5	50	22	40	10.4	6.3	2.0	UP**1705	×	Fig1	●
MKA110080R05A27UP17	80	5	80	27	50	12.4	7	2.0	UP**1705	×	Fig1	●
MKA110080R06A27UP17	80	6	80	27	50	12.4	7	2.0	UP**1705	×	Fig1	●
MKA110100R06B32UP17	100	6	100	32	50	14.4	8	2.0	UP**1705	×	Fig2	●

●标准库存 Stock ○需预定 Available upon Order

快进给铣削
High Feed Milling

MKA110

圆柱直柄式
Shank

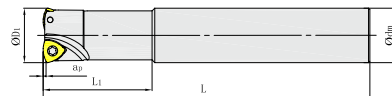
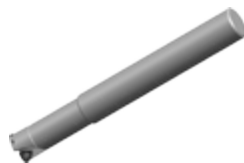


Fig3

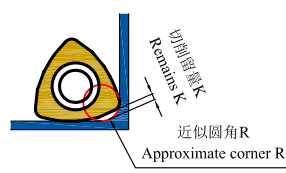
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 Apmax	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD_1	Φdm	L	L ₁					
MKA110020R02P20UD08S	20	2	20	20	120	40	1.0	UD**0803	×	Fig3	●
MKA110020R02P20UD08	20	2	20	20	160	50	1.0	UD**0803	×	Fig3	●
MKA110025R02P25UD08S	25	2	25	20	120	40	1.0	UD**0803	×	Fig3	●
MKA110025R02P25UD08	25	2	25	25	160	50	1.0	UD**0803	×	Fig3	●
MKA110035R05P32UD08	35	5	35	32	200	50	1.0	UD**0803	×	Fig3	●
MKA110025R02P25UD12	25	2	25	25	160	50	1.5	UD**12T3	×	Fig3	●
MKA110030R03P32UD12	30	3	30	32	200	50	1.5	UD**12T3	×	Fig3	●
MKA110032R03P32UD12	32	3	32	32	200	50	1.5	UD**12T3	×	Fig3	●
MKA110035R03P32UD12	35	3	35	32	200	50	1.5	UD**12T3	×	Fig3	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner		
适用刀片 Insert	形状 Shape			
	UD*T0803	SI60M2.5X6.3-03510 PSI60M025063-03510B	TT08P TT08PB	× ×
UD*T12T3	SI60M4X11-05609 PSI60M040110-05609B	TT15P PTT15PB	TT15T PTT15TB	
	UPET1705	SI60M5X10.8-07214 PSI60M050108-07214B	TT20P PTT20PB	TT20T PTT20TB

加工程序参数 Parameters for Programing Calculations

刀片规格 Insert	近似编程圆角 R(mm) Approximate Corner	切削残留量 K(mm) Remains	
UD**0803	1.8	0.58	切削残留量 K Remains K 近似圆角 R Approximate corner R
UD**12T3	2.8	0.86	
UP**1705	3.5	1.02	

推荐切削参数 Recommended Cutting Data

	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 (mm/tooth)	
				Vc (m/min)	中切削 (M) Medium Cutting(M)	重切削 (H) Heavy Cutting(H)
P	普通结构钢 Mild Steel	≤ HB200	GA4225 GP4225 GA4230	180 (150-200)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	≤ HRC35	GA4225 GA4230 GP2115	150 (120-180)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	HRC35-45	GA4230	120 (90-140)	1.0 (0.6-1.2)	1.2 (0.8-1.5)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HRC35	GM2140	120 (90-140)	0.8 (0.6-1.0)	1.0 (0.8-1.2)
K	铸铁、球墨铸铁 Cast Iron Nodular Cast Iron	≤ HB350	GK2115 GK4125	180 (150-200)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
H	淬火钢 Quenching Steel	HRC45-55	GA4230	80 (60-100)	0.2 (0.1-0.3)	0.3 (0.15-0.4)

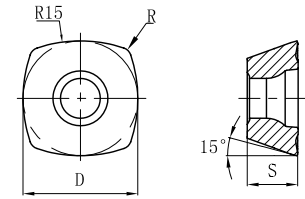
UD/UP 刀片推荐进给量与切深关系 The Relationship of Recommended Feed and Depth of UD/UP Inserts



刀片规格 Insert Size	切深 ap (mm)					
	0.5	1	1.5	2	2.5	3
08	0.8 (0.6-1.2)	0.5 (0.4-0.8)	-	-	-	-
12	1.5 (1.0-2.0)	1.2 (0.8-1.5)	0.8 (0.6-1.2)	-	-	-
17	2 (1.8-2.5)	1.5 (1.0-2.0)	1.2 (0.8-1.5)	0.8 (0.6-1.2)	-	-

快进给系列
High Feed Milling

SDMT





4刃快进给铣刀片
4 Edges High Feed Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions (mm)			涂层硬质合金 Coated								
		D	S	R	GA4225	GA4230	GP4225	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	SDMT120512-GM	12.7	5.56	1.2	●	●	○	○	●	●	○		
	SDMT150512-GM	15.875	5.56	1.2	●	●	○	○	○	○	○		
	SDMT120512-GH	12.7	5.56	1.2	●	●	○	○	●	○	○		
	SDMT150512-GH	15.875	5.56	1.2	●	●	○	○	○	○	○		

●标准库存 Stock ○需预定 Available upon Order

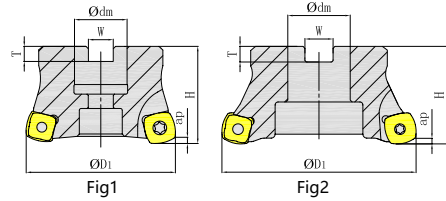
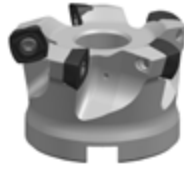
SDMT 系列槽型 SDMT Series Geometry

通用材料中切削 Medium Cutting for General Material	通用材料重切削 Heavy Cutting for General Material
	
GM	GH
	
<p>中等前角加倒棱, 适用于中载切削 Chamfered cutting edge with rake angle is suitable for medium cutting.</p>	<p>大刃宽小前角, 适用于重载切削 Cutting force with special rake angle is suitable for heavy cutting.</p>

快进给系列
High Feed Milling

MKB113

心轴式
Arbor



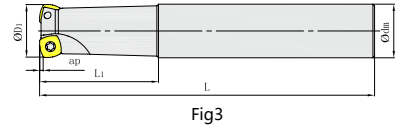
订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)					最大 切深 A _{max}	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ΦD ₁	Φd _m	H	W	T					
MKB113050R04A22SD12	50	4	50	22	40	10.4	6.3	2.0	SDMT1205	×	Fig1	●
MKB113052R05A22SD12	52	5	52	22	40	10.4	6.3	2.0	SDMT1205	×	Fig1	○
MKB113063R04A22SD12	63	4	63	22	40	10.4	6.3	2.0	SDMT1205	×	Fig1	●
MKB113063R05A22SD12	63	5	63	22	40	10.4	6.3	2.0	SDMT1205	√	Fig1	●
MKB113063R04A22SD15	63	4	63	22	40	10.4	6.3	3.0	SDMT1505	×	Fig1	●
MKB113080R06A27SD12	80	6	80	27	50	12.4	7	2.0	SDMT1205	√	Fig1	●
MKB113080R05A27SD15	80	5	80	27	50	12.4	7	3.0	SDMT1505	×	Fig1	●
MKB113100R06A32SD15	100	6	100	32	50	14.4	8	3.0	SDMT1505	√	Fig1	○
MKB113100R06B32SD12	100	6	100	32	50	14.4	8	2.0	SDMT1205	×	Fig2	●
MKB113100R07B32SD12	100	7	100	32	50	14.4	8	2.0	SDMT1205	×	Fig2	●
MKB113100R06B32SD15	100	6	100	32	50	14.4	8	3.0	SDMT1505	×	Fig2	●
MKB113125R07B40SD15	125	7	125	40	63	16.4	9	3.0	SDMT1505	×	Fig2	●

●标准库存 Stock ○需预定 Available upon Order

快进给系列
High Feed Milling

MKB113

圆柱直柄式
Shank



订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions(mm)				最大 切深 A _{pmax}	匹配刀片 Gauge Insert	内冷 Inner- cooling	图示 Shape	库存 Stock
			ϕD_1	ϕD_m	L	L ₁					
MKB113032R02P32SD12S	32	2	32	32	160	70	2.0	SDMT1205	×	Fig3	●
MKB113032R02P32SD12	32	2	32	32	200	70	2.0	SDMT1205	√	Fig3	●
MKB113035R03P32SD12	35	3	35	32	200	70	2.0	SDMT1205	√	Fig3	●
MKB113040R03P32SD12	40	3	40	32	200	70	2.0	SDMT1205	×	Fig3	●

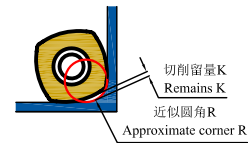
●标准库存 Stock ◊需预定 Available upon Order

刀体配件列表 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner	
形状 Shape			
适用刀片 Insert			
SDMT1205	SI60M4X11-05515	TT15P	TT15T
	PSI60M040110-05515B	PTT15PB	PTT15TB
SDMT1505	SI60M5X10.8-07216	TT20P	TT20T
	PSI60M050108-07216B	PTT20PB	PTT20TB

加工程序参数 Parameters for Programing Calculations

刀片规格 Insert	近似编程圆角 R(mm) Approximate Corner	切削残留量 K(mm) Remains
SD**1205	4.0	0.85
SD**1505	5.0	1.05



推荐切削参数 Recommended Cutting Data

	被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 mm/tooth	
				Vc (m/min)	中切削 (M) Medium Cutting(M)	重切削 (H) Heavy Cutting(H)
P	普通结构钢 Mild Steel	≤ HB200	GA4225 GP4225 GA4230	180 (150-200)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	≤ HRC35	GA4225 GA4230 GP2115	150 (120-180)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	HRC35-45	GA4230	120 (90-140)	1.0 (0.6-1.2)	1.2 (0.8-1.5)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HRC35	GM2140 GA4230	120 (90-140)	0.8 (0.6-1.0)	1.0 (0.8-1.2)
K	铸铁、球墨铸铁 Cast Iron Nodular Cast Iron	≤ HB350	GK2115 GK4125	180 (150-200)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
H	淬火钢 Quenching Steel	HRC45-55	GH4115 GH4125	80 (60-100)	0.2 (0.1-0.3)	0.3 (0.15-0.4)

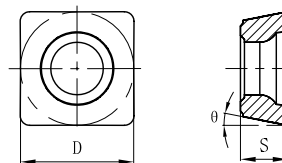
SDMT 刀片推荐进给量与切深关系 The Relationship of Recommended Feed and Depth of SDMT Inserts



刀片规格 Insert Size	切深 ap (mm)					
	0.5	1	1.5	2	2.5	3
12	1.8 (1.5-2.0)	1.5 (1.0-1.8)	1.0 (0.6-1.5)	0.8 (0.4-1.0)	-	-
15	2.0 (1.8-3.0)	1.8 (1.5-2.0)	1.5 (1.0-1.8)	1.0 (0.6-1.5)	0.8 (0.4-1.0)	0.6 (0.4-0.8)

倒角铣削
Chamfer Milling

SPMT

倒角铣削刀片
Chamfer Milling Inserts



订货号 Ordering Code		尺寸 (mm) Dimensions (mm)			涂层硬质合金 Coated								
		D	S	θ	GA425	GA430	GP425	GP2115	GM2140	GK4125	GK2115	GH4125	GH4115
	SPMT09T308-CM	9.53	3.97	11	●	●			○	●			
	SPMT120408-CM	12.7	4.76	11	●	●			○	●			

●标准库存 Stock ○需预定 Available upon Order

倒角铣削
Chamfer Milling

MCA130

圆柱侧压式
Weldon

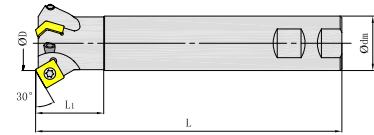


Fig1

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions (mm)				最大 切深 A _{max}	匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD	Φdm	L	L ₁					
MCA130025R02W25SP09	25	2	25	25	120	40	3	SPMT09T308-CM	×	Fig1	●
MCA130032R03W32SP12	32	3	32	32	180	40	4.5	SPMT120408-CM	×	Fig1	●

●标准库存 Stock ○需预定 Available upon Order

MCA145

圆柱侧压式
Weldon

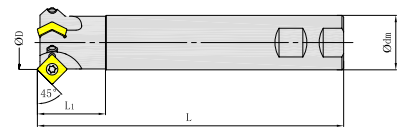
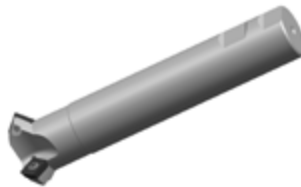


Fig2

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions (mm)				最大 切深 A _{max}	匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD	Φdm	L	L ₁					
MCA145025R02W25SP09	25	2	25	25	120	40	5	SPMT09T308-CM	×	Fig2	●
MCA145032R03W32SP12	32	3	32	32	180	40	7	SPMT120408-CM	×	Fig2	●

●标准库存 Stock ○需预定 Available upon Order

MCA160

圆柱侧压式
Weldon

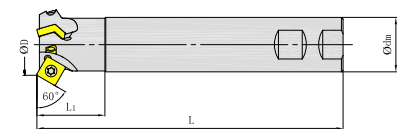
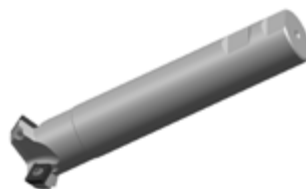


Fig3

订货号 Ordering Code	直径 Diameters	刃数 Teeth	尺寸 (mm) Dimensions (mm)				最大 切深 A _{max}	匹配刀片 Gauge Insert	内冷 Coolant	图示 Shape	库存 Stock
			ΦD	Φdm	L	L ₁					
MCA160025R02W25SP09	25	2	25	25	120	40	6	SPMT09T308-CM	×	Fig3	●
MCA160036R03W32SP12	36	3	36	32	180	40	8	SPMT120408-CM	×	Fig3	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表 MCA130/45/60 Spare Parts

零件名称 Parts	刀片螺钉 Insert Screw	刀片螺钉扳手 Insert Spanner
适用刀片 Insert		
SPMT09T3	SI60M4X8.5-05512	TT15P
	PSI60M040085-05512B	PTT15PB
SPMT1204	SI60M5X10.8-07212	TT15P
	PSI60M050108-07212B	PTT15PB

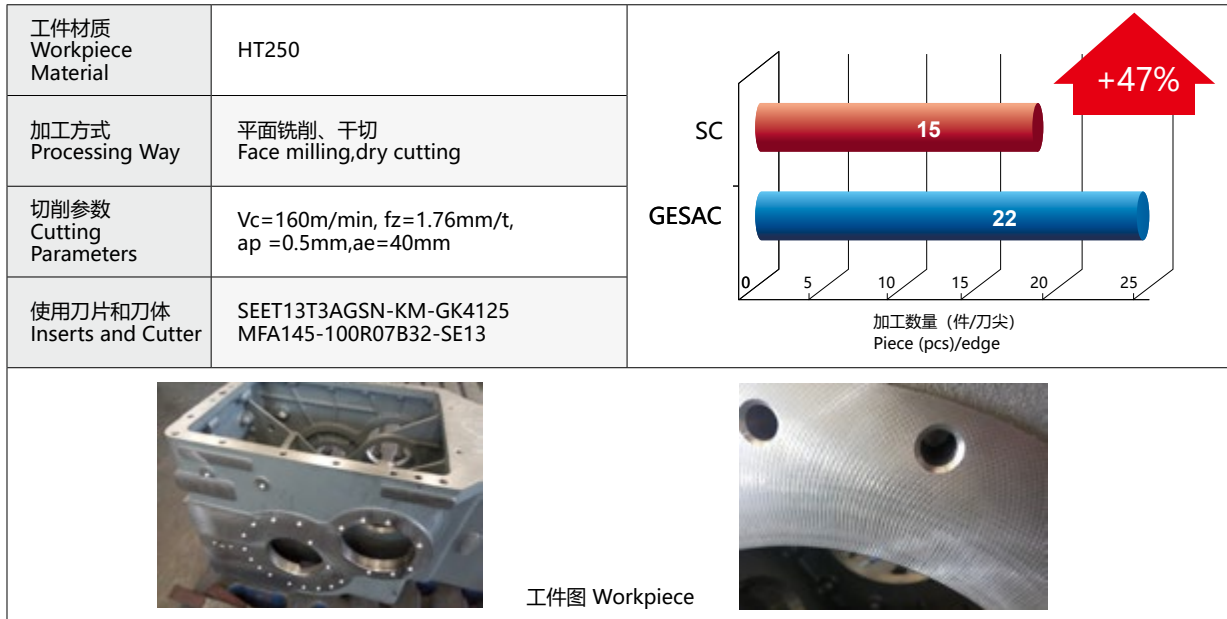
推荐切削参数 Recommended Cutting Data

被加工材料 Workpiece Material	材料硬度 Material Hardness	牌号 Grade	切削速度 Cutting Speed	进给 / 刃 mm/tooth		
			Vc (m/min)	中切削 (M) Medium Cutting(M)	重切削 (H) Heavy Cutting(H)	
P	普通结构钢 Mild Steel	≤ HB200	GA4225 GA4230	180 (150-200)	0.25 (0.1-0.4)	0.4 (0.1-0.5)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	≤ HRC35	GA4225 GA4230	150 (120-180)	0.3 (0.1-0.4)	0.4 (0.1-0.5)
	碳素钢、合金钢 Carbon Steel, Alloy Steel	HRC35-45	GA4225 GA4230	120 (80-150)	0.3 (0.1-0.4)	0.4 (0.1-0.5)
M	不锈钢 (铁素体、马氏体) Stainless Steel (Ferrite, Martensite)	≤ HRC35	GM2140	120 (80-160)	0.3 (0.1-0.4)	0.4 (0.1-0.5)
K	铸铁、球墨铸铁 Cast Iron Nodular Cast Iron	≤ HB350	GK4125	130 (90-160)	0.3 (0.1-0.4)	0.4 (0.1-0.5)

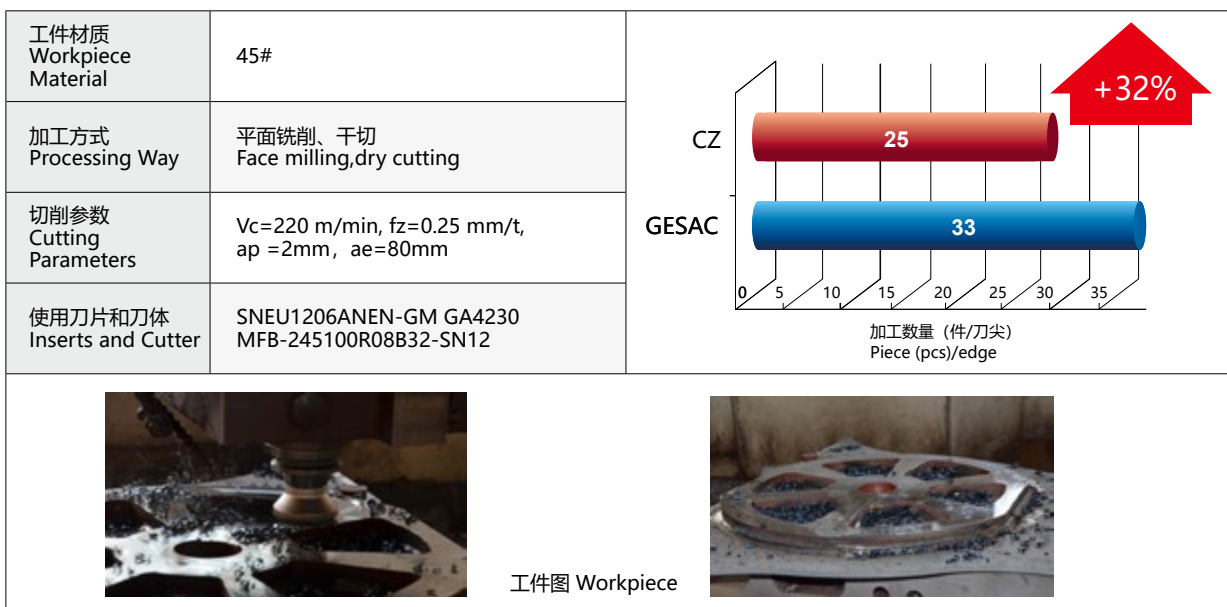
加工案例 Application Case

面铣 Face Milling

SEET刀片+MFA145刀体
SEET Inserts +MFA145 Cutter



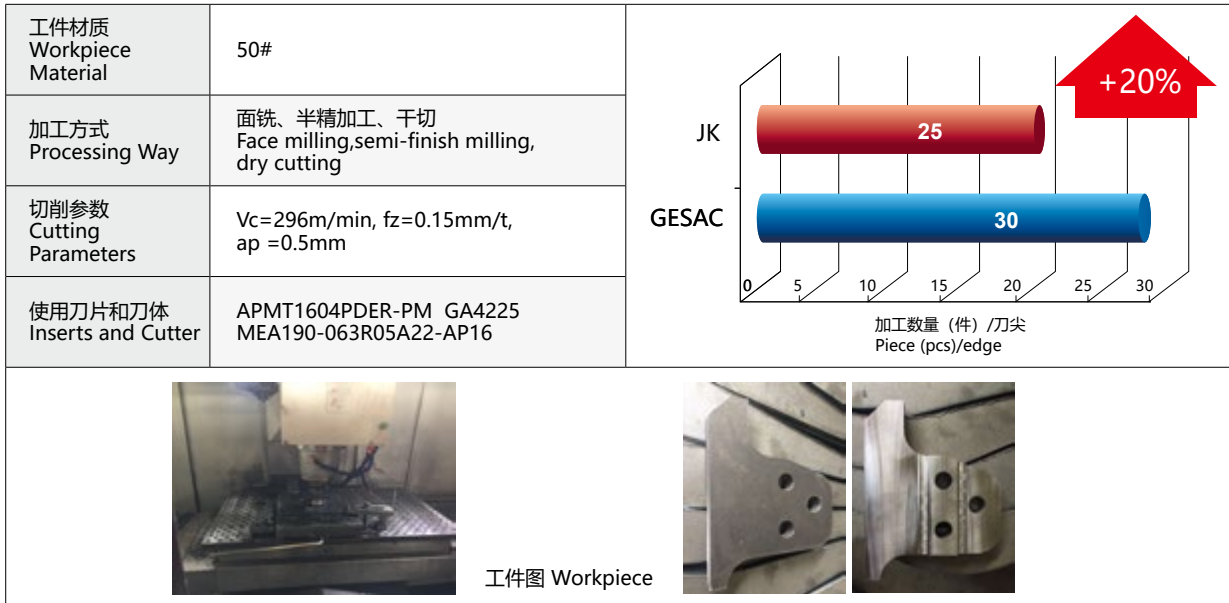
SNEU刀片+MFB145/245刀体
SNEU Inserts +MFB145/245 Cutter



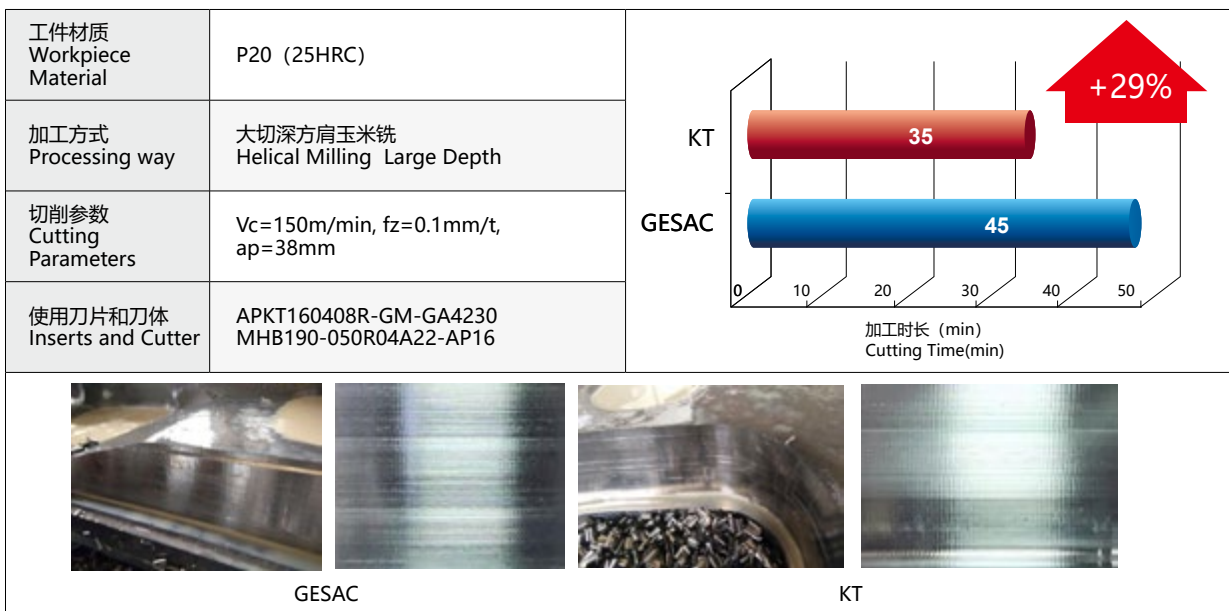
加工案例 Application Case

方肩铣 Shoulder Milling

APMT刀片+MEA190刀体 APMT Inserts and MEA190 Cutter

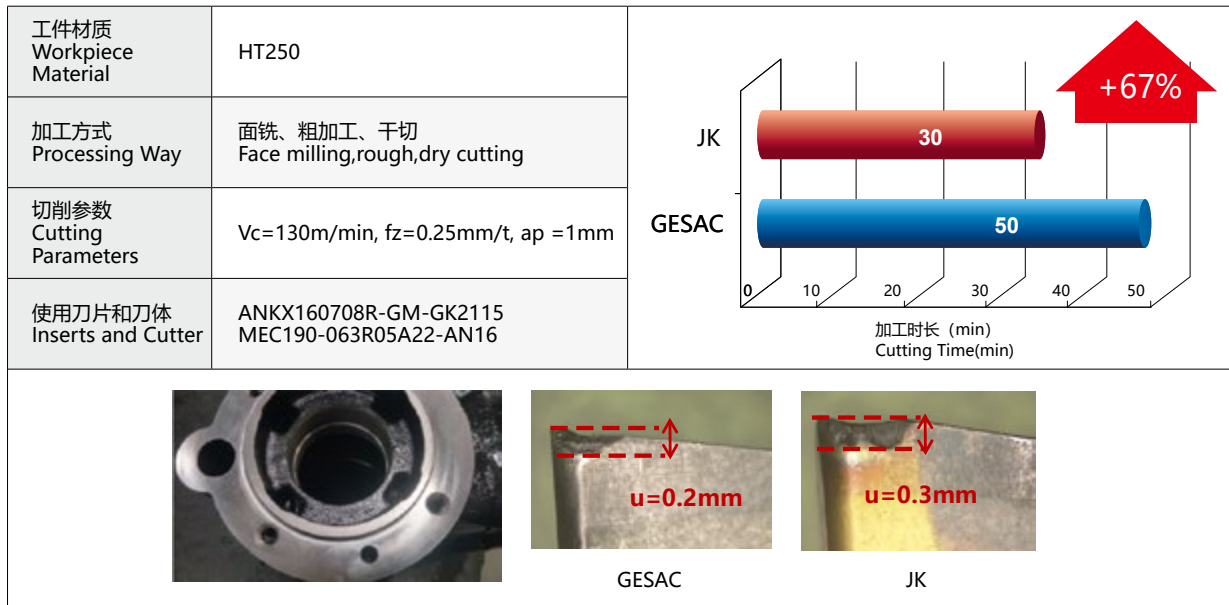


APKT刀片+MEB190刀体 APKT Inserts and MEB190 Cutter

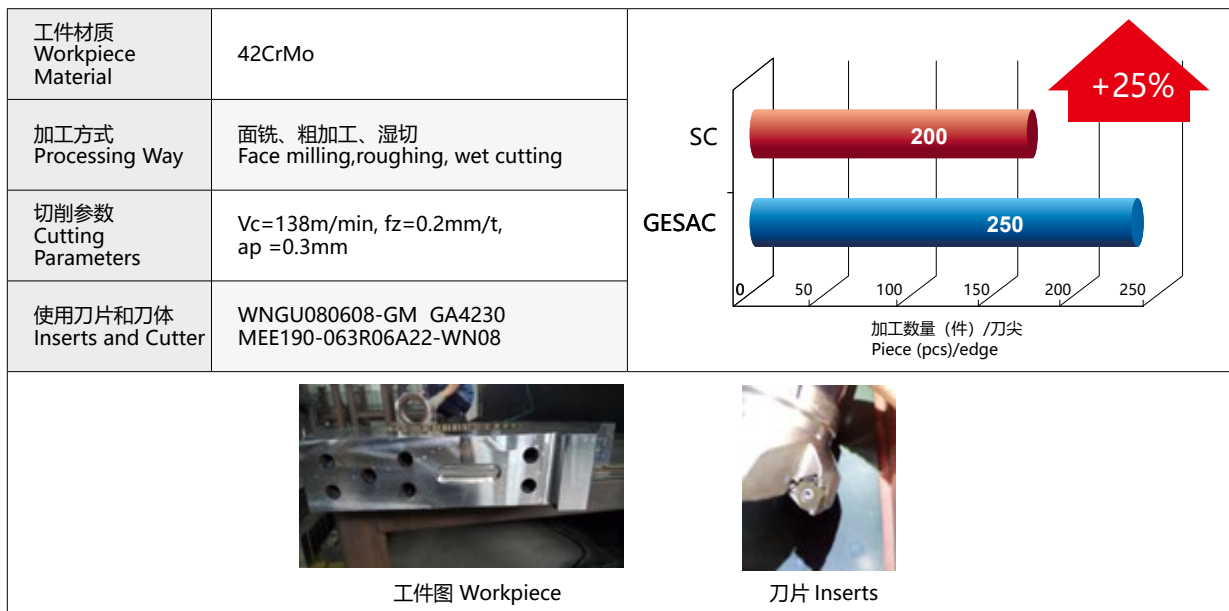


加工案例 Application Case

ANKX刀片+MEC190刀体 ANKX Inserts and MEC190 Cutter

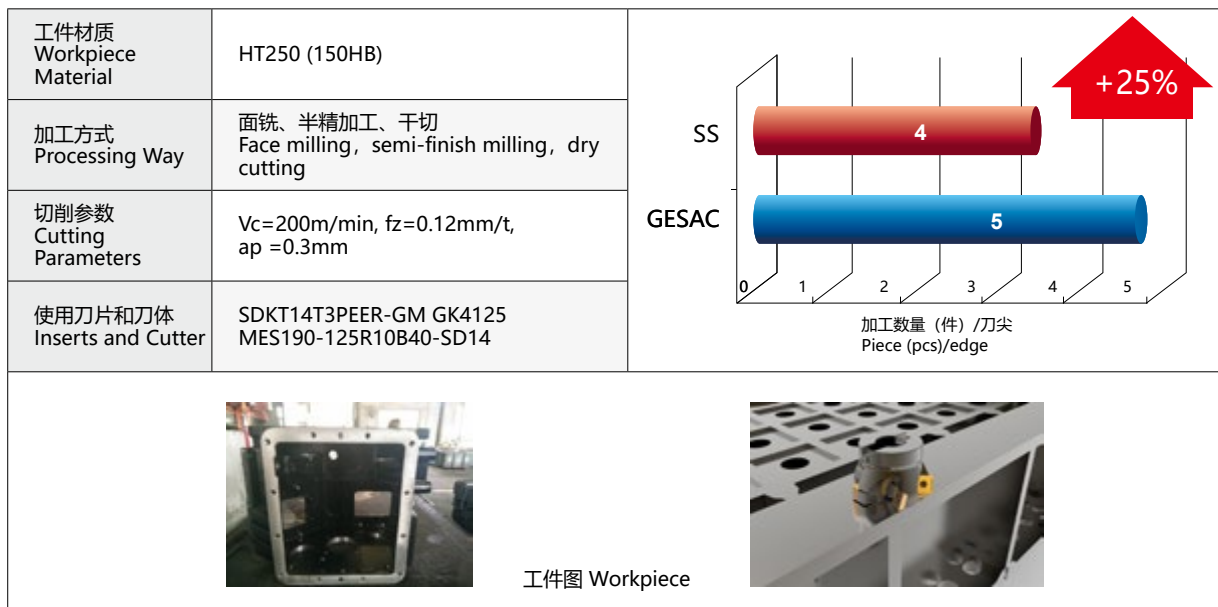


WNGU刀片+MEE190刀体 WNGU Inserts and MEE190 Cutter



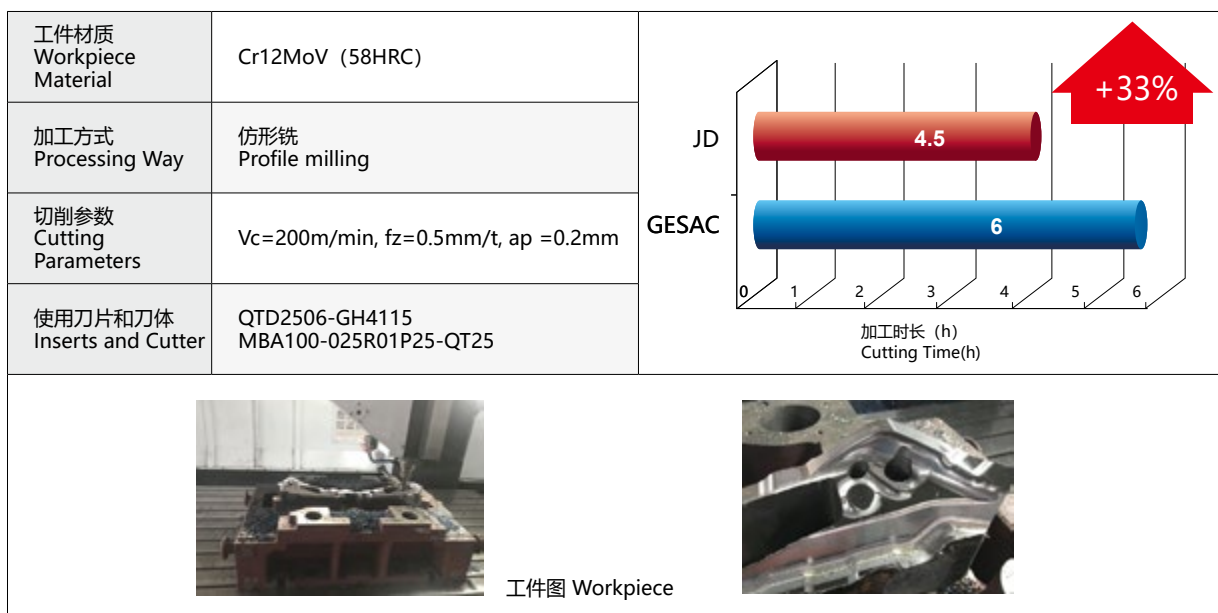
加工案例 Application Case

SDKT刀片+MES190刀体 SDKT Inserts and MES190 Cutter



仿形铣 Profile Milling

QTD刀片+MBA100刀体 QTD Inserts and MBA100 Cutter



加工案例 Application Case

RD刀片+MPA100刀体 RD Inserts and MPA100 Cutter

工件材质 Workpiece Material	P20	<p>JD: 4h GESAC: 5h +25%</p> <p>加工时长 (h) Cutting Time(h)</p>
加工方式 Processing Way	仿形铣、粗加工、干切 Profile milling, roughing, dry cutting	
切削参数 Cutting Parameters	$V_c=158\text{m/min}$, $f_z=1.1\text{mm/t}$, $a_p=0.7\text{mm}$	
使用刀片和刀体 Inserts and Cutter	RDMW1605M0T-BM GP4225 MPA100-063R05A22-RD12	
<p>工件图 workpiece</p>		<p>刀片 Inserts</p>

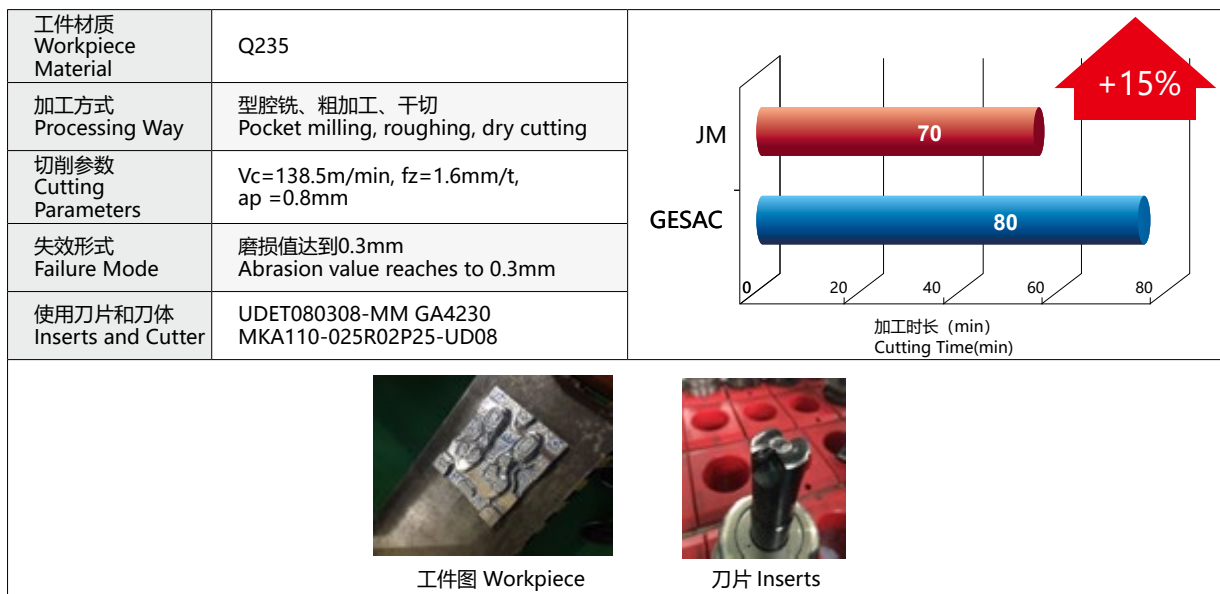
RP刀片+MPB100刀体 RP Inserts and MPB100

工件材质 Workpiece Material	2083	<p>JJ: 2h GESAC: 2.5h +25%</p> <p>加工时长 (h) Cutting Time(h)</p>
加工方式 Processing Way	面铣、粗加工、干切 Face milling, roughing, dry cutting	
切削参数 Cutting Parameters	$V_c=178\text{m/min}$, $f_z=0.67\text{mm/t}$, $a_p=0.5\text{mm}$	
使用刀片和刀体 Inserts and Cutter	RPEW1204M0T GA4230 MPB100-063R04A22-RP12	
<p>工件图 Workpiece</p>		<p>刀片 Inserts</p>

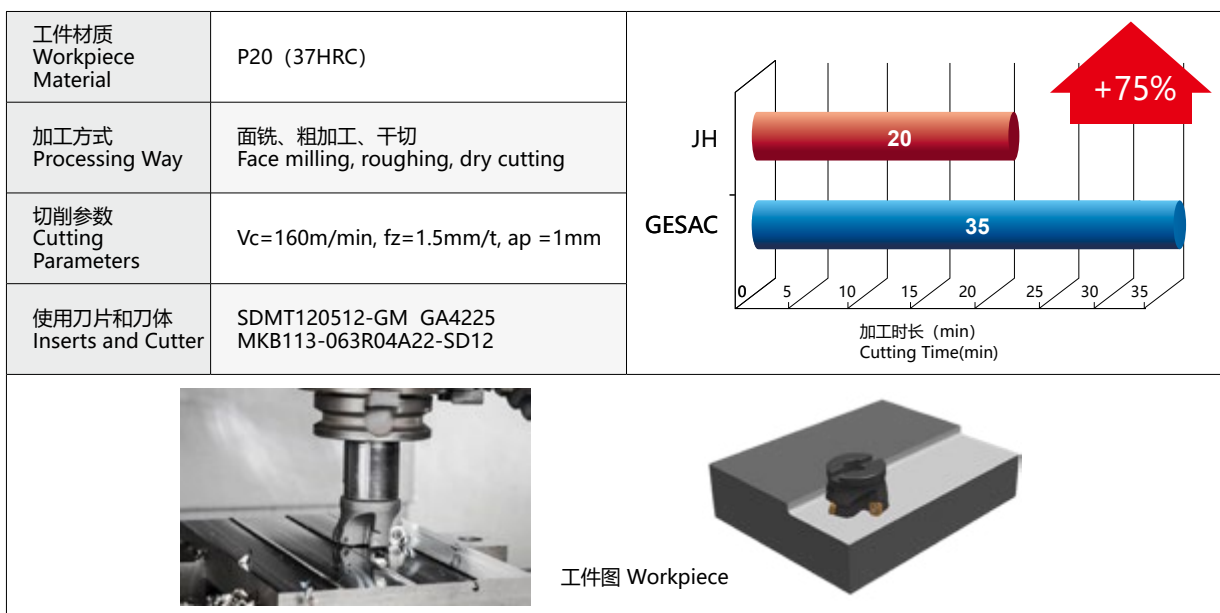
加工案例 Application Case

快进给铣 High Feed Milling

UD/UP刀片+MKA110刀体 UD/UP Inserts and MKA110 Cutter



SDMT刀片+MKB113刀体 SDMT Inserts and MKB113 Cutter

































Solid Carbide Endmills
整体硬质合金立铣刀

B

标记说明 Guidelines to Icons

标示 Mark	说明 Description
柄部 形状 Shank	 ISO 标准柄部 ISO Standard Shank
	 ISO 标准柄部 ISO Standard Shank
涂层 Coating	 AlCrN涂层 AlCrN Coating
	 AlCrSiN涂层 AlCrSiN Coating
	 TiAlN涂层 TiAlN Coating
	 AlTiN纳米涂层 Nano Coating AlTiN
	 AlCrN/TiSiN多层 AlTiN/TiSiN Coating
	 AlTiN/TiSiN纳米多层 Nano Coating AlTiN/TiSiN
	 TiAlCrSiN涂层 TiAlCrSiN Coating
	 粗晶金刚石涂层 Normal Diamond Coating
	 超细晶金刚石涂层 Ultra Fine Grain Diamond Coating
	切削 方式 Cutting Condition
 槽铣 For Slotting	
 仿形切削 For Profile Milling	
螺旋角 Helix	 左20°螺旋角 -20°Helix
	 15°螺旋角 15°Helix
	 20°螺旋角 20°Helix

标示 Mark	说明 Description
螺旋角 Helix	 28°螺旋角 28°Helix
	 30°螺旋角 30°Helix
	 35°螺旋角 35°Helix
	 40°螺旋角 40°Helix
	 45°螺旋角 45°Helix
	 双螺旋角 Variable Helix
	 双螺旋角 Variable Helix
	 双螺旋角 Variable Helix
	 双螺旋角 Variable Helix
	 不等螺旋角 Variable Helix
刃数 No.of Flutes	 1 刃立铣刀 1 Flute Endmills
	 2 刃立铣刀 2 Flute Endmills
	 3 刃立铣刀 3 Flute Endmills
	 4 刃立铣刀 4 Flute Endmills
	 5 刃立铣刀 5 Flute Endmills
	 6 刃立铣刀 6 Flute Endmills
	 12 刃立铣刀 12 Flute Endmills

标示 Mark	说明 Description
底刃 形状 Endteeth Type	 平头 Square
	 圆角头 Corner Radius
	 球头 Ballnose
	 刀尖倒角 Square with Chamfer
	 倒角 Chamfer
	工件 材料 Workpiece Material
 不锈钢 Stainless Steels	
 铸铁 Cast Iron	
 非铁材料 Non-ferrous Materials	
 高温合金、钛合金 Heat-resistant Super Alloys, Titanium Alloys	
 高硬度材料 High Hardened Materials	
 高硬度材料 High Hardened Materials	

整体立铣刀产品应用一览表 Application Summary of Solid Carbide Endmills

材料组 ISO Material Group	金鹭材料分组 MC GESAC	通用加工 General Machining	粗加工 Roughing	高效加工 High Efficiency Machining	高速加工 High Speed Machining	微加工 Micro Machining		
P	1 2 3 4 碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35HRC)	UP210 SH260-H NEW	UPR100 UPR210 NEW UPN210 NEW	SP210	SH260-H NEW	SPM200 NEW		
	5 合金钢 (35-48HRC) Alloy Steel (35-48HRC)							
	6 PH与铁素体/马氏体钢 (< 35HRC) PH, Ferritic, Martensitic Steel (< 35HRC)							
M	1 2 3 不锈钢 Stainless Steel					SPM200 NEW		
K	1 2 灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	UP210	UPR100 UPR210 NEW UPN210 NEW	SP210		SPM200 NEW		
	3 高合金铸铁 (35-45HRC) High-alloy Cast Iron (35-45HRC)							
N	1 2 锻造铝合金、铸造铝合金 (Si≤12%) Wrought Aluminium Alloys/ Cast Aluminium Alloys (Si≤12%)					SPM200 NEW		
	3 铸造铝合金 (Si > 12%) Cast Aluminium Alloys (Si > 12%)							
	4 铜合金 (< 200HB) Copper Alloys < 200HB)							
	5 石墨、复合材料 Graphite, Composite Material				SG200			
H	1 高硬钢 (45-55HRC) Hardened Steel (45-55HRC)	SH160	SH260-H NEW	FH200-H	FH200-H	SH260-H NEW	SH300-H	SPM200 NEW
	2 高硬钢 (55-60HRC) Hardened Steel (55-60HRC)							
	3 4 高硬钢 (> 60HRC) Hardened Steel (> 60HRC)							

系列介绍 Series Introduction



UP210通用加工立铣刀 UP210 Endmills for General Purpose

- 适用于普通钢、铸铁材料($\leq 48\text{HRC}$)的加工;
Suitable for steels and cast iron($\leq 48\text{HRC}$).
- 采用高性能AlCr系涂层, 耐高温、耐磨损;
High performance AlCr series coating, high temperature resistance and high wear resistance.
- 适合于油雾冷却、水冷、油冷、空冷等多种冷却环境。
Adapt to several kinds of cooling conditions, for example oil.

SP210高效加工立铣刀 SP210 Endmills for High Efficiency Machining

- 适用于普通钢、铸铁材料($\leq 48\text{HRC}$)的高效加工;
Suitable for high efficiency machining of steels and cast iron($\leq 48\text{HRC}$).
- 不等距螺旋角、不等齿距设计, 拥有卓越的抗震能力;
Variable helix angle and differential flute pitch, reduces vibration.
- 适用于大切深、大切宽的高效切削 (机床刚性好)。
Applicable to high efficiency machining of large cutting depth (ap), large cutting width (ap) .



UPR100粗加工立铣刀 UPR100 Endmills for Rough Application

- 适用于普通钢、铸铁材料($\leq 48\text{HRC}$)的粗加工;
Suitable for roughing steels and cast iron($\leq 48\text{HRC}$).
- 特殊的刃口断屑槽处理, 适用于工件的沟槽和侧壁粗加工。
Special chip-breaking cutting edge design, for roughing applications.

系列介绍

Series Introduction



UPR210粗加工立铣刀

UPR210 Roughing Endmills

- 适用于普通钢、铸铁材料($\leq 48\text{HRC}$)的粗加工;
- Suitable for roughing in steel and cast iron($\leq 48\text{HRC}$).
- 采用标准型波形齿设计, 金属去除率高。
- Standard knuckle-type teeth design gives high metal removal rate.

UPN210粗加工立铣刀

UPN210 Roughing Endmills

- 适用于普通钢、铸铁材料($\leq 48\text{HRC}$)的半精加工、粗加工, 金属去除率高;
- Suitable for semi-finishing and roughing in steel and cast iron($\leq 48\text{HRC}$), provides high metal removal rate.
- 采用特殊的断屑齿设计, 实现了高质量稳定加工。
- Flat knuckle-type teeth design raises quality of production by suppressing chattering.



SH160高硬钢(48-55HRC)加工立铣刀

SH160 Endmills for Hardened Steels(48-55HRC)

- 高韧性基体材质, 特殊角度设计, 用于高硬钢材料的加工;
- High toughness matrix materials, special angle design special for hardened steels processing.
- 适用于48-55HRC高硬钢的半精加工;
- For hardened steels(48-55HRC) semi-finishing.
- 推荐使用气冷或油雾冷却。
- Recommended to use air or oil mist cooling.

系列介绍 Series Introduction



SH260-H 高硬钢加工通用立铣刀 SH260-H Endmills Optimized for Hardened Steels

- 适用于30~60HRC高硬度材料的精加工、半精加工；
Suitable for semi-finishing and finishing of 30~60HRC hardened steels.
- 高强度、高韧性的基体材质配合新研发的高硬涂层，有效的延长刀具使用寿命；
High strength, high toughness matrix materials with newly developed coating, lengthens the tool life significantly.
- 独特的槽型结构，实现卓越的高硬钢材料加工；
Unique flute structure, enables spectacular hardened steels milling.
- 推荐使用油冷或油雾冷却。
Recommend to use oil or oil mist cooling.

SH300-H 高硬钢加工专用立铣刀 SH300-H Endmills Exclusive Use for Hardened Steels

- 适用于45~70HRC高硬度材料的精加工、半精加工；
Suitable for semi-finishing and finishing of 45~70HRC hardened steels.
- 全新高强度、高韧性的超细晶基体材质配合新研发的高硬涂层，有效的延长刀具使用寿命；
Newly high strength, high toughness matrix materials with newly developed coating, lengthens the tool life significantly.
- 专用刀型设计，高精度品质管控，实现卓越的高硬钢材料加工。
Special tool design, high precision control, enables spectacular hardened steels machining.



FH200-H 高硬钢高进给加工专用立铣刀 FH200-H Endmills Exclusive Use for Hardened Steel High Feed

- 专用于35~65HRC高硬度材料的高进给粗加工；
Dedicated to high feed rough machining of 35~65HRC high hardness material.
- 特殊的专用刀型设计，完美实现薄切削效果，实现高进给加工，显著提高加工效率；
Special-purpose tool type design, perfect implementation thin cutting effect, realize high feed rough machining, significantly improve the processing efficiency.
- 刀具采用全新超细硬质合金基体，并搭配新一代高硬涂层，使刀具拥有极高的耐磨性、高温稳定性，适用于各种工况。
Use newly super fine carbide matrix, and match with new generation hard coating, that enables high wear-resistant as well as high thermal stability for various working condition.

系列介绍

Series Introduction



SG200 石墨加工立铣刀

SG200 Endmills for High Speed Machining of Graphite

- 采用金刚石涂层, 涂层和基体的强化粘合, 具有高附着力, 刀具韧度高; Using diamond coating, enhanced adhesion between coating and substrate, provided with high adhesion and tool toughness.
- 高纯度金刚石涂层膜, 具有良好的耐磨性, 保证长寿命加工; High-purity diamond coating film, good wear resistance, long-life processing.
- 适用于石墨电极、石墨制品等石墨工件的半精加工和精加工, 推荐使用气冷。 Suitable for semi-finishing and finishing of graphite parts, such as graphite electrode and graphite products. Air cooling is recommended.













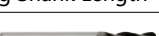

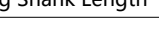

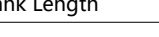

SPM200 小径深加工立铣刀

SPM200 Endmills for Small & Cavity Milling

- 适用于碳钢、合金钢、淬硬钢、铜、铝合金等材料 (硬度 \leq HRC55) 的深沟槽微加工; Suitable for deep cavity micro-processing of carbon steel, alloy steel, hardened steel, copper & aluminum alloys etc., which hardness is less HRC55.
- 高精度的刃径精度、球头轮廓、R弧轮廓及柄部精度(h5); High precision diameter, ballnose profile, R profile and shank (h5).
- 采用高性能AlCrSiN纳米涂层, 耐高温、耐磨损; High performance AlCrSiN nano coating, high temperature resistance and high wear resistance.
- 特殊的角度及长避空设计。 Special angles with reduced neck design.



刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page	
UP210									
钢件 铸铁 Steels, Cast Iron	2	Square	AlCrSiN	2 刃短刃平头 2 Flute, Stub Length 	UP210-SS2	D1 ~ D20	120	306	
	2	Square	AlCrSiN	2 刃平头 2 Flute, Standard Length 	UP210-S2	D1 ~ D20	121	306	
	2	Square	AlCrSiN	2 刃长刃平头 2 Flute, Long Flute Length 	UP210-SL2	D2 ~ D20	123	306	
	2	Square	AlCrSiN	2 刃长柄平头 2 Flute, with Long Shank Length 	UP210-SH2	D2 ~ D20	124	306	
	3	Square	AlCrSiN	3 刃平头 3 Flute, Standard Length 	UP210-S3	D2 ~ D25	125	306	
	4	Square	AlCrSiN	4 刃短刃平头 4 Flute, Stub Length 	UP210-SS4	D1 ~ D20	126	307	
	4	Square	AlCrSiN	4 刃平头 4 Flute, Standard Length 	UP210-S4	D1 ~ D20	127	307	
	4	Square	AlCrSiN	4 刃长刃平头 4 Flute, Long Flute Length 	UP210-SL4	D1 ~ D20	130	307	
	4	Square	AlCrSiN	4 刃长柄平头 4 Flute, with Long Shank Length 	UP210-SH4	D2 ~ D20	132	307	
	6	Square	AlCrSiN	6 刃平头 6 Flute, Standard Length 	UP210-S6	D6 ~ D20	134	307	
	2	Corner-R	AlCrSiN	2 刃圆角头 2 Flute, Corner Radius 	UP210-R2	D1 ~ D20	135	306	
	2	Corner-R	AlCrSiN	2 刃长柄圆角头 2 Flute Corner Radius, with Long Shank Length 	UP210-RH2	D4 ~ D20	138	306	
	4	Corner-R	AlCrSiN	4 刃圆角头 4 Flute, Corner Radius 	UP210-R4	D1 ~ D20	140	307	
	4	Corner-R	AlCrSiN	4 刃长柄圆角头 4 Flute Corner Radius, with Long Shank Length 	UP210-RH4	D3 ~ D20	143	307	
	2	Ballnose	AlCrSiN	2 刃球头 2 Flute, Ballnose 	UP210-B2	D0.8 ~ D20	145	309	
	2	Ballnose	AlCrSiN	2 刃长柄球头 2 Flute Ballnose, with Long Shank Length 	UP210-BH2	D2 ~ D20	147	309	
	4	Ballnose	AlCrSiN	4 刃球头 4 Flute, Ballnose 	UP210-B4	D2 ~ D20	149	309	
	4	Chamfer	AlCrSiN	4 刃倒角铣刀 60° NEW 4 Flute, Chamfering Milling Cutters 60° 	UP210-L60	D4 ~ D20	151	310	

◎ 非常适合 Most Suitable ○ 一般适合 Suitable

工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC

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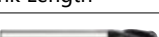







刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刀形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page	
			AICrSiN	4 刃倒角铣刀 90° NEW 4 Flute, Chamfering Milling Cutters 90°	UP210-L90	D4 ~ D20	152	310	
			AICrSiN	4 刃倒角铣刀 120° NEW 4 Flute, Chamfering Milling Cutters 120°	UP210-L120	D4 ~ D20	153	310	
SP210									
钢件 铸铁 Cast Iron			AICrSiN	3 刃平头变螺旋 3 Flute, with Variable Helix	SP210-S3	D2.5 ~ D20	154	310	
			AICrSiN	3 刃平头变螺旋 (刀尖倒角) 3 Flute, Variable Helix with Chamfer	SP210-C3	D6 ~ D16	155	310	
			AICrSiN	4 刃平头双螺旋 (刀尖倒角) 4 Flute, Variable Helix with Chamfer	SP210-C4	D3 ~ D20	156	311	
			AICrSiN	4 刃平头双螺旋 4 Flute, with Variable Helix	SP210-S4	D2 ~ D20	158	311	
			AICrSiN	4 刃长颈平头双螺旋 (刀尖倒角) 4 Flute Variable Helix with Chamfer, with Reduced Neck	SP210-CN4	D3 ~ D20	159	311	
			AICrSiN	4 刃圆角头双螺旋 4 Flute Corner Radius, with Variable Helix	SP210-R4	D3 ~ D16	160	311	
			AICrSiN	4 刃长柄圆角头双螺旋 4 Flutes with Long Corner Radius, with Variable Helix	SP210-RH4	D4 ~ D12	162	311	
			AICrSiN	2 刃球头 2 Flute, Ballnose	SP210-B2	D1 ~ D12	163	313	
			AICrSiN	2 刃长柄球头 2 Flute Ballnose, with Long Shank Length	SP210-BH2	D4 ~ D12	164	313	
	UPR100								
			TiAlN	4 刃粗加工平头 4 Flute Square, with Roughing Geometry	UPR100-S4	D6 ~ D20	165	314	
UPR210									
			AICrSiN	4 刃粗加工平头 NEW 4 Flute Square, with Roughing Geometry	UPR210-S4	D6 ~ D20	166	316	
UPN210									
			AICrSiN	4 刃粗加工平头 NEW 4 Flute Square, with Roughing Geometry	UPN210-S4	D6 ~ D20	167	317	

☉ 非常适合 Most Suitable ○ 一般适合 Suitable

工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC
⊙	⊙	○	⊙	○	○						
⊙	⊙	○	⊙	○	○						
⊙	⊙	○	⊙								
⊙	⊙	○	⊙								
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刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page	
SH160									
高硬钢 Hardened Steels	2	Square	TiAlN	2 刃平头 2 Flute, Standard Length 	SH160-S2	D0.5 ~ D20	168	318	
	4	Square	TiAlN	4 刃平头 4 Flute, Standard Length 	SH160-S4	D1 ~ D20	170	318	
	4	Square	TiAlN	4 刃长柄平头 4 Flute, with Long Shank Length 	SH160-SH4	D3 ~ D12	171	318	
	6	Square	TiAlN	6 刃平头 6 Flute, Standard Length 	SH160-S6	D6 ~ D20	172	318	
	2	Corner-R	TiAlN	2 刃圆角头 2 Flute, Corner Radius 	SH160-R2	D2 ~ D12	173	318	
	4	Corner-R	TiAlN	4 刃圆角头 4 Flute, Corner Radius 	SH160-R4	D2 ~ D12	175	318	
	4	Corner-R	TiAlN	4 刃长柄圆角头 4 Flute Corner Radius, with Long Shank Length 	SH160-RH4	D6 ~ D12	177	318	
	2	Ballnose	TiAlN	2 刃球头 2 Flute, Ballnose 	SH160-B2	D0.5 ~ D16	178	319	
	2	Ballnose	TiAlN	2 刃长柄球头 2 Flute Ballnose, with Long Shank Length 	SH160-BH2	D4 ~ D12	179	319	
	4	Ballnose	TiAlN	4 刃球头 4 Flute, Ballnose 	SH160-B4	D2 ~ D16	180	319	
SH260-H									
	2	Square	TiAlCrSiN	2 刃平头 NEW 2 Flute, Standard Length 	SH260-S2-H	D1 ~ D12	181	320	
	2	Square	TiAlCrSiN	2 刃长颈平头 NEW 2 Flute, with Reduced Neck 	SH260-SN2-H	D1 ~ D6	182	320	
	4	Square	TiAlCrSiN	4 刃平头 NEW 4 Flute, Standard Length 	SH260-S4-H	D1 ~ D20	183	321	
	4	Square	TiAlCrSiN	4 刃长柄平头 NEW 4 Flute, with Long Shank Length 	SH260-SH4-H	D1 ~ D20	184	321	
	4	Square	TiAlCrSiN	4 刃长颈平头 NEW 4 Flute, with Reduced Neck 	SH260-SN4-H	D1 ~ D12	185	321	
	4	Square	TiAlCrSiN	4 刃长刃平头 NEW 4 Flute, Long Flute Length 	SH260-SL4-H	D1 ~ D16	186	321	
	4	Corner-R	TiAlCrSiN	4 刃圆角头 NEW 4 Flute, Corner Radius 	SH260-R4-H	D1 ~ D12	187	321	





































◎ 非常适合 Most Suitable ○ 一般适合 Suitable

工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、 合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、 复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC

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刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表 页码 Dimension Page	切削参数 页码 Cutting Parameters Page	
高硬钢 Hardened Steels			TIAICrSiN	4 刃长柄圆角头 NEW 4 Flute Corner Radius, with Long Shank Length	SH260-RH4-H	D4 ~ D12	190	321	
			TIAICrSiN	4 刃长颈圆角头 NEW 4 Flute Corner Radius, with Reduced Neck	SH260-RN4-H	D1 ~ D12	192	321	
			TIAICrSiN	2 刃球头 NEW 2 Flute, Ballnose	SH260-B2-H	D1 ~ D16	194	322	
			TIAICrSiN	2 刃长柄球头 NEW 2 Flute Ballnose, with Long Shank Length	SH260-BH2-H	D2 ~ D12	195	322	
			TIAICrSiN	2 刃长颈球头 NEW 2 Flute Ballnose, with Reduced Neck	SH260-BN2-H	D1 ~ D12	196	322	
	SH300-H								
				TIAICrSiN	2 刃平头 2 Flute, Standard Length	SH300-S2-H	D1 ~ D12	198	323
				TIAICrSiN	2 刃长颈平头 2 Flute, with Reduced Neck	SH300-SN2-H	D1 ~ D6	199	323
				TIAICrSiN	4 刃短刃平头 4 Flute, Stub Length	SH300-SS4-H	D1 ~ D16	200	323
				TIAICrSiN	4 刃平头 4 Flute, Standard Length	SH300-S4-H	D1 ~ D20	202	323
				TIAICrSiN	4 刃长柄平头 4 Flute, with Long Shank Length	SH300-SH4-H	D1 ~ D20	204	323
				TIAICrSiN	4 刃长刃平头 4 Flute, Long Flute Length	SH300-SL4-H	D1 ~ D20	206	323
				TIAICrSiN	4 刃长颈平头 4 Flute, with Reduced Neck	SH300-SN4-H	D1 ~ D20	208	323
				TIAICrSiN	6 刃平头 6 Flute, Standard Length	SH300-S6-H	D6 ~ D20	211	324
				TIAICrSiN	6 刃长柄平头刀 6 Flute, Long Shank Length	SH300-SH6-H	D6 ~ D20	212	324
			TIAICrSiN	6 刃长刃平头刀 6 Flute, Long Flute Length	SH300-SL6-H	D6 ~ D20	213	324	
			TIAICrSiN	2 刃圆角头 2 Flute, Corner Radius	SH300-R2-H	D1 ~ D12	214	323	
			TIAICrSiN	2 刃长颈圆角头 2 Flute Corner Radius, with Reduced Neck	SH300-RN2-H	D1 ~ D6	216	323	
			TIAICrSiN	4 刃圆角头 4 Flute, Corner Radius	SH300-R4-H	D1 ~ D20	217	323	

☉ 非常适合 Most Suitable ○ 一般适合 Suitable

工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、 合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、 复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC
	○	◎							◎	◎	○
	○	◎							◎	◎	○
	○	◎							◎	◎	○
	○	◎							◎	◎	○
	○	◎							◎	◎	○
	○	◎							◎	◎	○
		○							○	◎	◎
		○							○	◎	◎
		○							○	◎	◎
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		○							○	◎	◎
		○							○	◎	◎
		○							○	◎	◎
		○							○	◎	◎
		○							○	◎	◎
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		○							○	◎	◎
		○							○	◎	◎
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		○							○	◎	◎






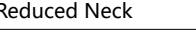

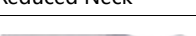

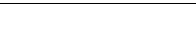


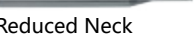

刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page	
高硬钢 Hardened Steels	4	Corner-R	TiAlCrSiN	4 刃长柄圆角头 4 Flute Corner Radius, with Long Shank Length	SH300-RH4-H	D1 ~ D20	220	323	
	4	Corner-R	TiAlCrSiN	4 刃长颈圆角头 4 Flute Corner Radius, with Reduced Neck	SH300-RN4-H	D1 ~ D12	223	323	
	6	Corner-R	TiAlCrSiN	6 刃圆角头刀 6 Flute, Corner Radius	SH300-R6-H	D6 ~ D20	229	324	
	6	Corner-R	TiAlCrSiN	6 刃长柄圆角头刀 6 Flute Corner Radius, with Long Shank Length	SH300-RH6-H	D6 ~ D20	231	324	
	2	Ballnose	TiAlCrSiN	2 刃球头 2 Flute, Ballnose	SH300-B2-H	D0.6 ~ D12	233	324	
	2	Ballnose	TiAlCrSiN	2 刃长柄球头 2 Flute Ballnose, with Long Shank Length	SH300-BH2-H	D0.6 ~ D12	235	324	
	2	Ballnose	TiAlCrSiN	2 刃长颈球头 2 Flute Ballnose, with Reduced Neck	SH300-BN2-H	D0.6 ~ D12	237	324	
	4	Ballnose	TiAlCrSiN	4 刃球头 4 Flute, Ballnose	SH300-B4-H	D2 ~ D12	241	325	
	4	Ballnose	TiAlCrSiN	4 刃长柄球头 4 Flute Ballnose, with Long Shank Length	SH300-BH4-H	D2 ~ D12	242	325	
	4	Ballnose	TiAlCrSiN	4 刃长颈球头 4 Flute Ballnose, with Reduced Neck	SH300-BN4-H	D2 ~ D12	243	325	
FH200-H									
	4	Corner-R	TiAlCrSiN	4 刃圆角头 4 Flute, Corner Radius	FH200-R4-H	D1 ~ D12	244	326	
	4	Corner-R	TiAlCrSiN	4 刃长颈圆角头 4 Flute Corner Radius, with Reduced Neck	FH200-RN4-H	D8 ~ D12	246	326	
	6	Corner-R	TiAlCrSiN	6 刃圆角头 6 Flute, Corner Radius	FH200-R6-H	D6 ~ D20	247	327	
	6	Corner-R	TiAlCrSiN	6 刃长柄圆角头 6 Flute Corner Radius, with Long Shank Length	FH200-RH6-H	D6 ~ D20	248	327	
	6	Corner-R	TiAlCrSiN	6 刃长颈圆角头 6 Flute Corner Radius, with Reduced Neck	FH200-RN6-H	D6 ~ D20	249	327	

◎ 非常适合 Most Suitable ○ 一般适合 Suitable

工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、 合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、 复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	○								○	◎	◎
	◎								◎	◎	◎
	◎								◎	◎	◎
	◎								◎	◎	◎
	◎								◎	◎	◎
	◎								◎	◎	◎

刀具系列目录 (按系列) Endmills Index - Tool Series

适用加工材料 Workpiece Material	刃数 No. of Flutes	底刃形状 Endteeth Type	涂层 Coating	刀具名称及外形 Description	系列型号 Type	尺寸范围 Diameter Range	尺寸表页码 Dimension Page	切削参数页码 Cutting Parameters Page	
SG200									
石墨 Graphite	2	Square	U-DIA	2 刃平头 2 Flute, Standard Length 	SG200-S2	D0.4 ~ D12	250	329	
	2	Square	U-DIA	2 刃长颈平头 2 Flute, with Reduced Neck 	SG200-SN2	D1 ~ D12	252	329	
	3	Square	U-DIA	3 刃平头 3 Flute, Standard Length 	SG200-S3	D1 ~ D12	254	329	
	4	Square	U-DIA	4 刃平头 4 Flute, Standard Length 	SG200-S4	D2 ~ D12	256	329	
	2	Corner-R	U-DIA	2 刃圆角头 2 Flute, Corner Radius 	SG200-R2	D1 ~ D12	257	329	
	2	Corner-R	U-DIA	2 刃长颈圆角头 2 Flute Corner Radius, with Reduced Neck 	SG200-RN2	D1 ~ D6	259	329	
	4	Corner-R	U-DIA	4 刃圆角头 4 Flute, Corner Radius 	SG200-R4	D2 ~ D12	261	329	
	4	Corner-R	U-DIA	4 刃长颈圆角头 4 Flute Corner Radius, with Reduced Neck 	SG200-RN4	D2 ~ D12	262	329	
	2	Ballnose	U-DIA	2 刃球头 2 Flute, Ballnose 	SG200-B2	D0.5 ~ D12	264	330	
	2	Ballnose	U-DIA	2 刃长颈球头 2 Flute Ballnose, with Reduced Neck 	SG200-BN2	D0.5 ~ D12	265	330	
SPM200									
钢件 铸铁 铜合金 高硬钢 Steels, Cast Iron, Copper Alloys, Hardened Steels	2	Square	AICrSiN	2 刃长颈平头 2 Flute, with Reduced Neck 	SPM200-SN2	D0.1 ~ D6	268	331	
	2	Corner-R	AICrSiN	2 刃长颈圆角头 2 Flute Corner Radius, with Reduced Neck 	SPM200-RN2	D0.2 ~ D6	274	341	
	4	Corner-R	AICrSiN	4 刃长颈圆角头 4 Flute Corner Radius, with Reduced Neck 	SPM200-RN4	D1 ~ D6	288	363	
	2	Ballnose	AICrSiN	2 刃长颈球头 2 Flute Ballnose, with Reduced Neck 	SPM200-BN2	D0.1 ~ D6	294	368	

☉ 非常适合 Most Suitable ○ 一般适合 Suitable

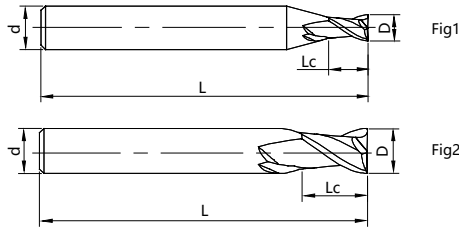
工件材料 Workpiece Material											
P		M	K	N			S	H			
1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
碳钢、 合金钢 Carbon Steel, Alloy Steel	合金钢 Alloy Steel	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨、 复合材料 Graphite, Composite Materials	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	高硬钢 Hardened Steel	高硬钢 Hardened Steel	高硬钢 Hardened Steel
< 35HRC	≤ 48HRC								45-55HRC	55-60HRC	> 60HRC

					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				
					○	○	⊙				

	⊙	⊙	○	⊙	○	⊙		○	○	⊙	○
	⊙	⊙	○	⊙	○	⊙		○	○	⊙	○
	⊙	⊙	○	⊙	○	⊙		○	○	⊙	○
	⊙	⊙	○	⊙	○	⊙		○	○	⊙	○

UP210-SS2

2刃短刃平头
2 Flute, Stub Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SS2-01002	1	2	50	4	1	●
UP210-SS2-01502	1.5	2	50	4	1	○
UP210-SS2-02003	2	3	50	4	1	●
UP210-SS2-02504	2.5	4	50	4	1	○
UP210-SS2-03005	3	5	50	4	1	○
UP210-SS2-04006	4	6	50	4	2	●
UP210-SS2-05008	5	8	50	6	1	●
UP210-SS2-06009	6	9	50	6	2	●
UP210-SS2-07010	7	10	60	8	1	○
UP210-SS2-08012	8	12	60	8	2	●
UP210-SS2-10015	10	15	75	10	2	●
UP210-SS2-12018	12	18	75	12	2	●
UP210-SS2-14021	14	21	100	14	2	○
UP210-SS2-16024	16	24	100	16	2	●
UP210-SS2-18027	18	27	100	18	2	○
UP210-SS2-20030	20	30	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-S2

2刃平头

2 Flute, Standard Length

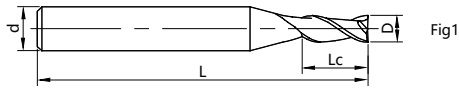


Fig1

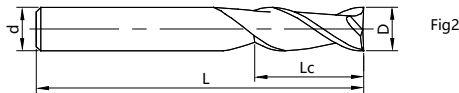


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S2-01003	1	3	50	4	1	●
UP210-S2-01504	1.5	4	50	4	1	●
UP210-S2-02006	2	6	50	4	1	●
UP210-S2-02508	2.5	8	50	4	1	●
UP210-S2-03009	3	9	50	4	1	●
UP210-S2-63009	3	9	50	6	1	●
UP210-S2-03509	3.5	9	50	4	1	●
UP210-S2-63509	3.5	9	50	6	1	●
UP210-S2-04011	4	11	50	4	2	●
UP210-S2-64011	4	11	50	6	1	●
UP210-S2-04513	4.5	13	50	6	1	●
UP210-S2-05013	5	13	50	6	1	●
UP210-S2-05516	5.5	16	50	6	1	○
UP210-S2-06016	6	16	50	6	2	●
UP210-S2-06516	6.5	16	60	8	1	○
UP210-S2-07020	7	20	60	8	1	●
UP210-S2-07520	7.5	20	60	8	1	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-S2

2刃平头

2 Flute, Standard Length

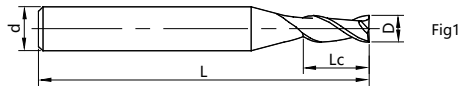


Fig1

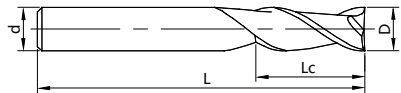


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S2-08020	8	20	60	8	2	●
UP210-S2-08523	8.5	23	75	10	1	○
UP210-S2-09023	9	23	75	10	1	●
UP210-S2-09525	9.5	25	75	10	1	●
UP210-S2-10025	10	25	75	10	2	●
UP210-S2-10526	10.5	26	75	12	1	○
UP210-S2-11028	11	28	75	12	1	●
UP210-S2-12030	12	30	75	12	2	●
UP210-S2-13032	13	32	100	14	1	●
UP210-S2-14034	14	34	100	14	2	●
UP210-S2-15036	15	36	100	16	1	○
UP210-S2-16036	16	36	100	16	2	●
UP210-S2-17040	17	40	100	20	1	●
UP210-S2-18040	18	40	100	18	2	●
UP210-S2-19040	19	40	100	20	1	○
UP210-S2-20045	20	45	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-SL2

2刃长刃平头

2 Flute, Long Flute Length

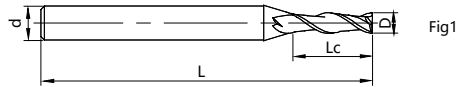


Fig1

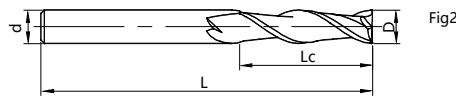


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SL2-02015	2	15	75	4	1	●
UP210-SL2-03025	3	25	75	4	1	●
UP210-SL2-04030	4	30	75	4	2	●
UP210-SL2-05030	5	30	75	6	1	●
UP210-SL2-06035	6	35	75	6	2	●
UP210-SL2-08040	8	40	100	8	2	●
UP210-SL2-10045	10	45	100	10	2	●
UP210-SL2-12050	12	50	100	12	2	●
UP210-SL2-14055	14	55	100	14	2	●
UP210-SL2-16060	16	60	150	16	2	●
UP210-SL2-18065	18	65	150	18	2	●
UP210-SL2-20070	20	70	150	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (< 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-SH2

2刃长柄平头

2 Flute, with Long Shank Length

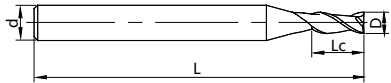


Fig1

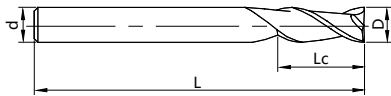


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SH2-02006	2	6	75	4	1	●
UP210-SH2-03009	3	9	75	4	1	●
UP210-SH2-63012	3	12	75	6	1	●
UP210-SH2-04011	4	11	75	4	2	●
UP210-SH2-64011	4	11	75	6	2	●
UP210-SH2-05020	5	20	75	6	1	●
UP210-SH2-06016	6	16	100	6	2	●
UP210-SH2-06020	6	20	100	6	2	●
UP210-SH2-08025	8	25	100	8	2	●
UP210-SH2-10030	10	30	100	10	2	●
UP210-SH2-12035	12	35	100	12	2	●
UP210-SH2-14036	14	36	150	14	2	○
UP210-SH2-15035	15	35	150	16	1	○
UP210-SH2-16036	16	36	150	16	2	●
UP210-SH2-18045	18	45	150	18	2	○
UP210-SH2-20045	20	45	150	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

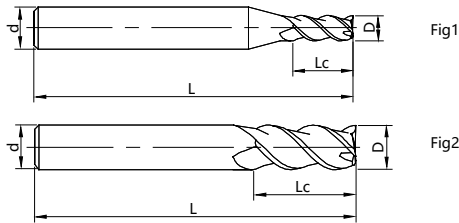
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-S3

3刃平头

3 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S3-02006	2	6	50	4	1	●
UP210-S3-03009	3	9	50	4	1	●
UP210-S3-04011	4	11	50	4	2	●
UP210-S3-05013	5	13	50	6	1	●
UP210-S3-06016	6	16	50	6	2	●
UP210-S3-06516	6.5	16	60	8	1	○
UP210-S3-08020	8	20	60	8	2	●
UP210-S3-10025	10	25	75	10	2	●
UP210-S3-12030	12	30	75	12	2	●
UP210-S3-14032	14	32	100	14	2	○
UP210-S3-16036	16	36	100	16	2	●
UP210-S3-18040	18	40	100	18	2	○
UP210-S3-20045	20	45	100	20	2	●
UP210-S3-25050	25	50	100	25	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

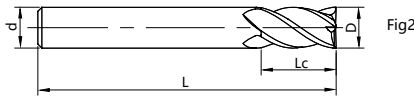
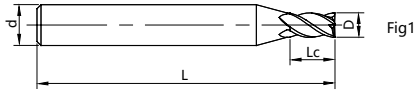
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-SS4

4刃短刃平头
4 Flute, Stub Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SS4-01002	1	2	50	4	1	●
UP210-SS4-01502	1.5	2	50	4	1	○
UP210-SS4-02003	2	3	50	4	1	●
UP210-SS4-02504	2.5	4	50	4	1	○
UP210-SS4-03005	3	5	50	4	1	●
UP210-SS4-04006	4	6	50	4	2	●
UP210-SS4-05008	5	8	50	6	1	●
UP210-SS4-06009	6	9	50	6	2	●
UP210-SS4-07010	7	10	60	8	1	○
UP210-SS4-08012	8	12	60	8	2	●
UP210-SS4-10015	10	15	75	10	2	●
UP210-SS4-12018	12	18	75	12	2	●
UP210-SS4-14021	14	21	100	14	2	●
UP210-SS4-16024	16	24	100	16	2	●
UP210-SS4-18027	18	27	100	18	2	○
UP210-SS4-20030	20	30	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-S4

4刃平头

4 Flute, Standard Length

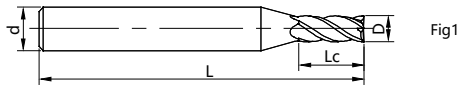


Fig1

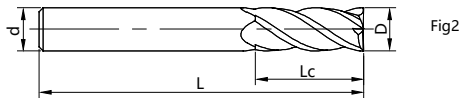


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S4-01003	1	3	50	4	1	●
UP210-S4-61003	1	3	50	6	1	●
UP210-S4-01505	1.5	5	50	4	1	●
UP210-S4-61505	1.5	5	50	6	1	●
UP210-S4-02006	2	6	50	4	1	●
UP210-S4-62006	2	6	50	6	1	●
UP210-S4-02508	2.5	8	50	4	1	●
UP210-S4-62508	2.5	8	50	6	1	●
UP210-S4-03009	3	9	50	4	1	●
UP210-S4-63009	3	9	50	6	1	●
UP210-S4-03511	3.5	11	50	4	1	●
UP210-S4-63509	3.5	9	50	6	1	●
UP210-S4-04011	4	11	50	4	2	●
UP210-S4-64011	4	11	50	6	1	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-S4

4刃平头

4 Flute, Standard Length

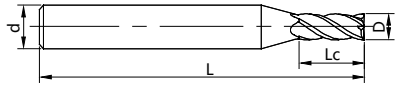


Fig1

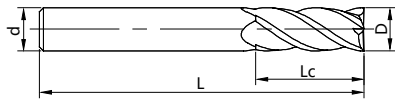


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S4-04511	4.5	11	50	6	1	●
UP210-S4-05008	5	8	50	6	1	●
UP210-S4-05013	5	13	50	6	1	●
UP210-S4-05516	5.5	16	50	6	1	●
UP210-S4-06016	6	16	50	6	2	●
UP210-S4-06516	6.5	16	60	8	1	●
UP210-S4-07020	7	20	60	8	1	●
UP210-S4-07520	7.5	20	60	8	1	●
UP210-S4-08020	8	20	60	8	2	●
UP210-S4-08523	8.5	23	75	10	1	●
UP210-S4-09023	9	23	75	10	1	●
UP210-S4-09525	9.5	25	75	10	1	●
UP210-S4-10025	10	25	75	10	2	●
UP210-S4-11028	11	28	75	12	1	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-S4

4刃平头

4 Flute, Standard Length

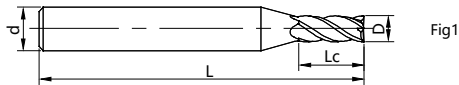


Fig1

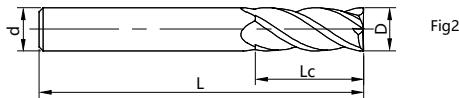


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S4-12030	12	30	75	12	2	●
UP210-S4-13032	13	32	100	14	1	●
UP210-S4-14032	14	32	75	14	2	●
UP210-S4-14034	14	34	100	14	2	●
UP210-S4-15036	15	36	100	16	1	●
UP210-S4-16036	16	36	100	16	2	●
UP210-S4-16040	16	40	100	16	2	●
UP210-S4-16045	16	45	100	16	2	●
UP210-S4-17038	17	38	100	18	1	○
UP210-S4-18045	18	45	100	18	2	●
UP210-S4-20045	20	45	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-SL4

4刃长刃平头

4 Flute, Long Flute Length

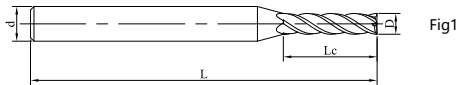


Fig1

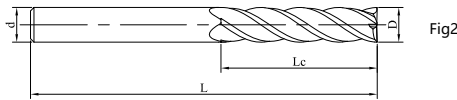


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SL4-01004	1	4	50	4	1	●
UP210-SL4-02010	2	10	50	4	1	●
UP210-SL4-03015	3	15	60	4	1	●
UP210-SL4-63015	3	15	60	6	1	●
UP210-SL4-04020	4	20	60	4	2	●
UP210-SL4-64020	4	20	75	6	1	●
UP210-SL4-04030	4	30	75	4	2	●
UP210-SL4-05025	5	25	75	6	1	●
UP210-SL4-06030	6	30	75	6	2	●
UP210-SL4-06035	6	35	75	6	2	●
UP210-SL4-08035	8	35	100	8	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-SL4

4刃长刃平头

4 Flute, Long Flute Length

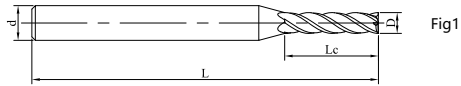


Fig1

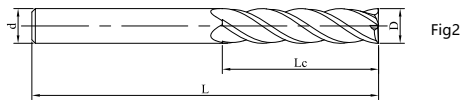


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SL4-08040	8	40	100	8	2	●
UP210-SL4-10045	10	45	100	10	2	●
UP210-SL4-10050	10	50	100	10	2	●
UP210-SL4-12045	12	45	100	12	2	●
UP210-SL4-12050	12	50	100	12	2	●
UP210-SL4-14045	14	45	100	14	2	●
UP210-SL4-16050	16	50	150	16	2	●
UP210-SL4-16060	16	60	150	16	2	●
UP210-SL4-16070	16	70	150	16	2	●
UP210-SL4-18070	18	70	150	18	2	●
UP210-SL4-20070	20	70	150	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (< 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

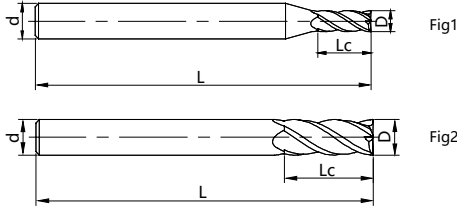
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-SH4

4刃长柄平头

4 Flute, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SH4-02010	2	10	75	4	1	●
UP210-SH4-03012	3	12	75	4	1	●
UP210-SH4-03012A	3	12	100	4	1	○
UP210-SH4-04011	4	11	75	4	2	●
UP210-SH4-04011A	4	11	100	4	2	●
UP210-SH4-04015	4	15	75	4	2	●
UP210-SH4-05020	5	20	75	6	1	●
UP210-SH4-06016	6	16	75	6	2	●
UP210-SH4-06020	6	20	75	6	2	●
UP210-SH4-06020A	6	20	100	6	2	●
UP210-SH4-08020	8	20	100	8	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

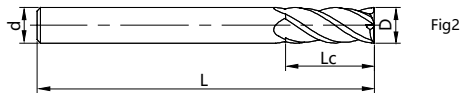
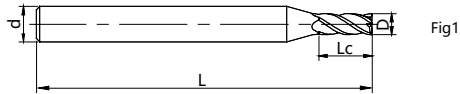
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-SH4

4刃长柄平头

4 Flute, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-SH4-08025	8	25	100	8	2	●
UP210-SH4-10030	10	30	100	10	2	●
UP210-SH4-10035	10	35	100	10	2	●
UP210-SH4-12035	12	35	100	12	2	●
UP210-SH4-14036	14	36	150	14	2	○
UP210-SH4-16036	16	36	150	16	2	●
UP210-SH4-18045	18	45	150	18	2	○
UP210-SH4-20045	20	45	150	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

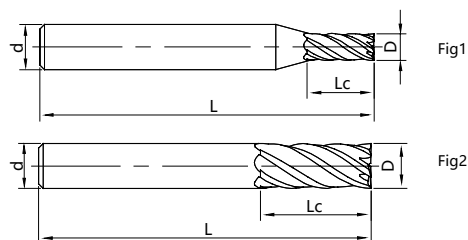
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-S6

6刃平头

6 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-S6-06015	6	15	50	6	2	●
UP210-S6-08020	8	20	60	8	2	●
UP210-S6-10025	10	25	75	10	2	●
UP210-S6-12030	12	30	75	12	2	●
UP210-S6-14032	14	32	100	14	2	○
UP210-S6-16036	16	36	100	16	2	●
UP210-S6-18040	18	40	100	18	2	○
UP210-S6-20045	20	45	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

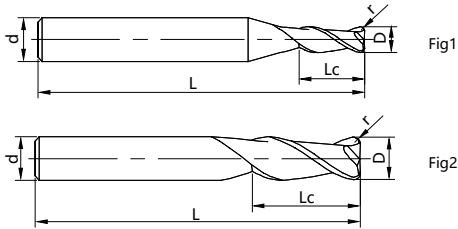
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-R2

2刃圆角头

2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R2-01002	1	3	0.2	50	4	1	●
UP210-R2-01502	1.5	5	0.2	50	4	1	○
UP210-R2-02002	2	6	0.2	50	4	1	●
UP210-R2-03002	3	9	0.2	50	4	1	○
UP210-R2-63002	3	9	0.2	50	6	1	○
UP210-R2-63003	3	9	0.3	50	6	1	●
UP210-R2-03005	3	9	0.5	50	4	1	●
UP210-R2-63005	3	9	0.5	50	6	1	○
UP210-R2-04002	4	11	0.2	50	4	2	○
UP210-R2-64002	4	11	0.2	50	6	1	○
UP210-R2-04003	4	11	0.3	50	4	2	○
UP210-R2-64003	4	11	0.3	50	6	1	●
UP210-R2-04005	4	11	0.5	50	4	2	●
UP210-R2-64005	4	11	0.5	50	6	1	●
UP210-R2-04010	4	11	1	50	4	2	●
UP210-R2-05002	5	13	0.2	50	6	1	○
UP210-R2-05003	5	13	0.3	50	6	1	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

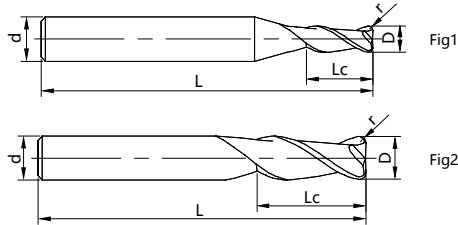
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-R2

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R2-05005	5	13	0.5	50	6	1	●
UP210-R2-05010	5	13	1	50	6	1	○
UP210-R2-06005	6	16	0.5	50	6	2	●
UP210-R2-06010	6	16	1	50	6	2	●
UP210-R2-06015	6	16	1.5	50	6	2	●
UP210-R2-06020	6	16	2	50	6	2	○
UP210-R2-08003	8	20	0.3	60	8	2	○
UP210-R2-08005	8	20	0.5	60	8	2	●
UP210-R2-08010	8	20	1	60	8	2	●
UP210-R2-08015	8	20	1.5	60	8	2	●
UP210-R2-08020	8	20	2	60	8	2	○
UP210-R2-10003	10	25	0.3	75	10	2	○
UP210-R2-10005	10	25	0.5	75	10	2	●
UP210-R2-10010	10	25	1	75	10	2	●
UP210-R2-10015	10	25	1.5	75	10	2	●
UP210-R2-10020	10	25	2	75	10	2	●
UP210-R2-10030	10	25	3	75	10	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

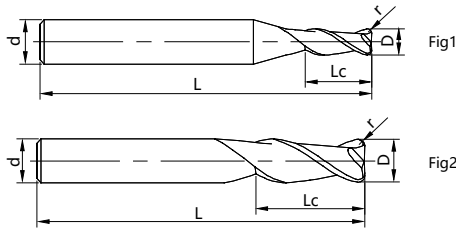
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-R2

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R2-12005	12	30	0.5	75	12	2	●
UP210-R2-12010	12	30	1	75	12	2	●
UP210-R2-12015	12	30	1.5	75	12	2	●
UP210-R2-12020	12	30	2	75	12	2	●
UP210-R2-12030	12	30	3	75	12	2	●
UP210-R2-14010	14	32	1	100	14	2	○
UP210-R2-14020	14	32	2	100	14	2	○
UP210-R2-16005	16	36	0.5	100	16	2	○
UP210-R2-16010	16	36	1	100	16	2	●
UP210-R2-16020	16	36	2	100	16	2	●
UP210-R2-16030	16	36	3	100	16	2	●
UP210-R2-18010	18	40	1	100	18	2	○
UP210-R2-18020	18	40	2	100	18	2	○
UP210-R2-20010	20	45	1	100	20	2	○
UP210-R2-20020	20	45	2	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

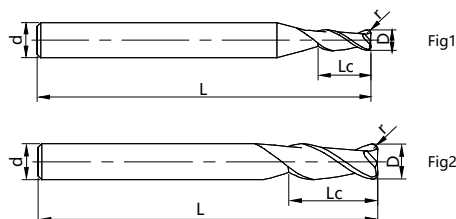
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-RH2

2刃长柄圆角头

2 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-RH2-04005	4	11	0.5	75	4	2	○
UP210-RH2-06005	6	16	0.5	75	6	2	●
UP210-RH2-06010	6	16	1	75	6	2	●
UP210-RH2-06015	6	16	1.5	75	6	2	●
UP210-RH2-08005	8	20	0.5	100	8	2	●
UP210-RH2-08010	8	20	1	100	8	2	●
UP210-RH2-08015	8	20	1.5	100	8	2	●
UP210-RH2-10005	10	25	0.5	100	10	2	●
UP210-RH2-10010	10	25	1	100	10	2	●
UP210-RH2-10015	10	25	1.5	100	10	2	●
UP210-RH2-10020	10	25	2	100	10	2	○
UP210-RH2-12005	12	30	0.5	100	12	2	●
UP210-RH2-12010	12	30	1	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

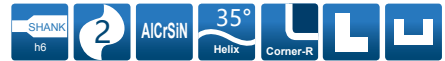
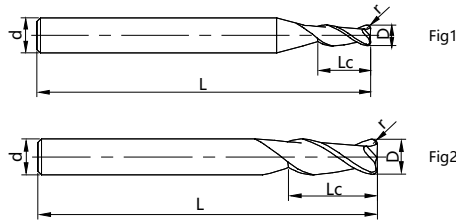
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-RH2

2刃长柄圆角头

2 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-RH2-12015	12	30	1.5	100	12	2	●
UP210-RH2-12020	12	30	2	100	12	2	●
UP210-RH2-14010	14	36	1	150	14	2	○
UP210-RH2-14020	14	36	2	150	14	2	○
UP210-RH2-16005	16	36	0.5	150	16	2	●
UP210-RH2-16010	16	36	1	150	16	2	●
UP210-RH2-16015	16	36	1.5	150	16	2	●
UP210-RH2-16020	16	36	2	150	16	2	●
UP210-RH2-18010	18	45	1	150	18	2	○
UP210-RH2-18020	18	45	2	150	18	2	○
UP210-RH2-20010	20	45	1	150	20	2	○
UP210-RH2-20020	20	45	2	150	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

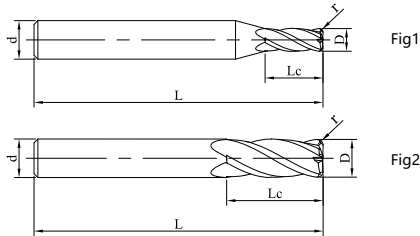
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P306
Cutting Parameters

UP210-R4

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R4-01002	1	3	0.2	50	4	1	○
UP210-R4-01502	1.5	5	0.2	50	4	1	●
UP210-R4-02002	2	6	0.2	50	4	1	●
UP210-R4-03002	3	9	0.2	50	4	1	●
UP210-R4-03003	3	9	0.3	50	4	1	●
UP210-R4-03005	3	9	0.5	50	4	1	●
UP210-R4-04002	4	11	0.2	50	4	2	●
UP210-R4-04003	4	11	0.3	50	4	2	●
UP210-R4-04005	4	11	0.5	50	4	2	●
UP210-R4-04010	4	11	1	50	4	2	●
UP210-R4-04510	4.5	12	1	50	6	1	●
UP210-R4-05002	5	13	0.2	50	6	1	●
UP210-R4-05005	5	13	0.5	50	6	1	●
UP210-R4-05010	5	13	1	50	6	1	●
UP210-R4-05015	5	13	1.5	50	6	1	○
UP210-R4-06002	6	16	0.2	50	6	2	●
UP210-R4-06005	6	16	0.5	50	6	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

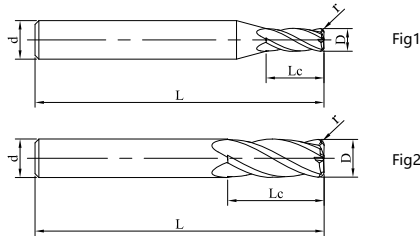
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-R4

4刃圆角头

4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R4-06010	6	16	1	50	6	2	●
UP210-R4-06015	6	16	1.5	50	6	2	●
UP210-R4-08003	8	20	0.3	60	8	2	●
UP210-R4-08005	8	20	0.5	60	8	2	●
UP210-R4-08010	8	20	1	60	8	2	●
UP210-R4-08015	8	20	1.5	60	8	2	●
UP210-R4-08020	8	20	2	60	8	2	●
UP210-R4-10002	10	25	0.2	75	10	2	●
UP210-R4-10003	10	25	0.3	75	10	2	●
UP210-R4-10005	10	25	0.5	75	10	2	●
UP210-R4-10010	10	25	1	75	10	2	●
UP210-R4-10015	10	25	1.5	75	10	2	●
UP210-R4-10020	10	25	2	75	10	2	●
UP210-R4-10025	10	25	2.5	75	10	2	○
UP210-R4-10030	10	25	3	75	10	2	○
UP210-R4-12005	12	30	0.5	75	12	2	●
UP210-R4-12010	12	30	1	75	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

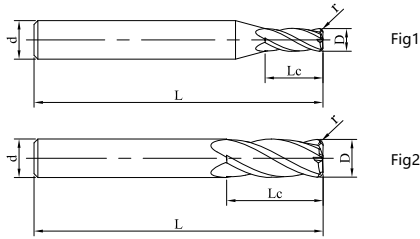
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-R4

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-R4-12015	12	30	1.5	75	12	2	●
UP210-R4-12020	12	30	2	75	12	2	●
UP210-R4-12025	12	30	2.5	75	12	2	●
UP210-R4-12030	12	30	3	75	12	2	●
UP210-R4-14010	14	32	1	100	14	2	○
UP210-R4-14020	14	32	2	100	14	2	○
UP210-R4-16005	16	36	0.5	100	16	2	●
UP210-R4-16010	16	36	1	100	16	2	●
UP210-R4-16020	16	36	2	100	16	2	●
UP210-R4-16030	16	36	3	100	16	2	●
UP210-R4-18010	18	40	1	100	18	2	○
UP210-R4-18020	18	40	2	100	18	2	○
UP210-R4-20010	20	45	1	100	20	2	●
UP210-R4-20020	20	45	2	100	20	2	●
UP210-R4-20030	20	45	3	100	20	2	●
UP210-R4-20040	20	45	4	100	20	2	●
UP210-R4-20050	20	45	5	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

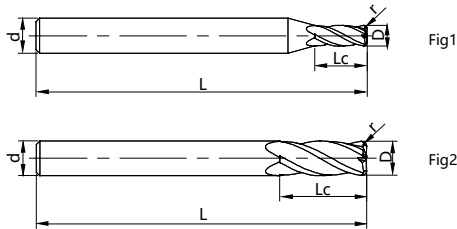
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-RH4

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-RH4-03005	3	9	0.5	75	4	1	○
UP210-RH4-04005	4	11	0.5	75	4	2	●
UP210-RH4-06005	6	16	0.5	75	6	2	●
UP210-RH4-06010	6	16	1	75	6	2	●
UP210-RH4-06015	6	16	1.5	75	6	2	○
UP210-RH4-08005	8	20	0.5	100	8	2	●
UP210-RH4-08010	8	20	1	100	8	2	●
UP210-RH4-08015	8	20	1.5	100	8	2	○
UP210-RH4-08020	8	20	2	100	8	2	●
UP210-RH4-10005	10	25	0.5	100	10	2	●
UP210-RH4-10010	10	25	1	100	10	2	●
UP210-RH4-10015	10	25	1.5	100	10	2	●
UP210-RH4-10020	10	25	2	100	10	2	●
UP210-RH4-12005	12	30	0.5	100	12	2	●
UP210-RH4-12010	12	30	1	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

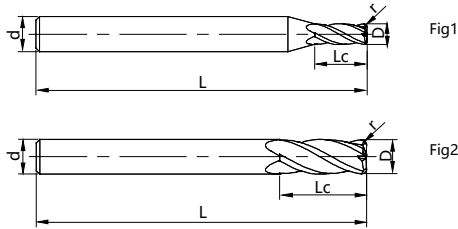
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-RH4

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
UP210-RH4-12015	12	30	1.5	100	12	2	●
UP210-RH4-12020	12	30	2	100	12	2	●
UP210-RH4-12030	12	30	3	100	12	2	○
UP210-RH4-14010	14	36	1	150	14	2	○
UP210-RH4-14020	14	36	2	150	14	2	○
UP210-RH4-16005	16	36	0.5	150	16	2	○
UP210-RH4-16010	16	36	1	150	16	2	●
UP210-RH4-16015	16	36	1.5	150	16	2	○
UP210-RH4-16020	16	36	2	150	16	2	○
UP210-RH4-16030	16	36	3	150	16	2	○
UP210-RH4-18010	18	45	1	150	18	2	○
UP210-RH4-18020	18	45	2	150	18	2	○
UP210-RH4-20010	20	45	1	150	20	2	○
UP210-RH4-20020	20	45	2	150	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

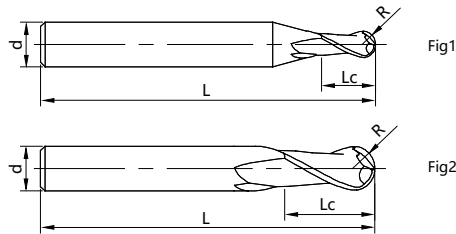
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P307
Cutting Parameters

UP210-B2

2刃球头
2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-B2-00801	0.8	0.4	1.6	50	4	1	●
UP210-B2-00901	0.9	0.45	1.8	50	4	1	○
UP210-B2-01002	1	0.5	2	50	4	1	●
UP210-B2-61002	1	0.5	2	50	6	1	○
UP210-B2-01503	1.5	0.75	3	50	4	1	●
UP210-B2-61503	1.5	0.75	3	50	6	1	○
UP210-B2-02004	2	1	4	50	4	1	●
UP210-B2-62004	2	1	4	50	6	1	●
UP210-B2-02505	2.5	1.25	5	50	4	1	●
UP210-B2-03006	3	1.5	6	50	4	1	●
UP210-B2-63006	3	1.5	6	50	6	1	●
UP210-B2-04008	4	2	8	50	4	2	●
UP210-B2-64008	4	2	8	50	6	1	●
UP210-B2-05010	5	2.5	10	50	6	1	●
UP210-B2-05510	5.5	2.75	10	50	6	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

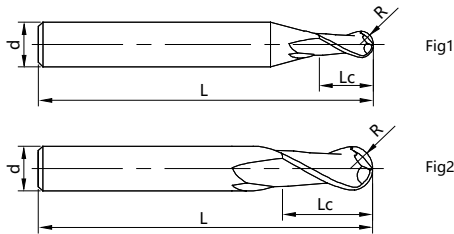
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-B2

2刃球头
2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-B2-06012	6	3	12	50	6	2	●
UP210-B2-06012A	6	3	12	60	6	2	●
UP210-B2-07014	7	3.5	14	60	8	1	●
UP210-B2-08014	8	4	14	60	8	2	●
UP210-B2-09016	9	4.5	16	75	10	1	●
UP210-B2-10018	10	5	18	75	10	2	●
UP210-B2-11020	11	5.5	20	75	12	1	●
UP210-B2-12022	12	6	22	75	12	2	●
UP210-B2-13026	13	6.5	26	90	14	1	○
UP210-B2-14026	14	7	26	90	14	2	●
UP210-B2-15030	15	7.5	30	100	16	1	●
UP210-B2-16030	16	8	30	100	16	2	●
UP210-B2-18034	18	9	34	100	18	2	○
UP210-B2-20038	20	10	38	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

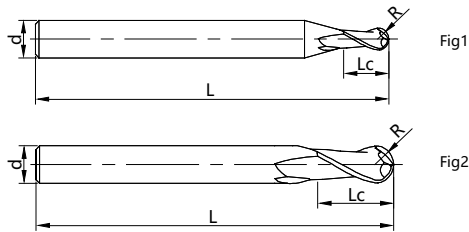
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-BH2

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-BH2-02004	2	1	4	75	4	1	●
UP210-BH2-62004	2	1	4	75	6	1	●
UP210-BH2-03006	3	1.5	6	75	4	1	●
UP210-BH2-63006	3	1.5	6	75	6	1	●
UP210-BH2-04008	4	2	8	75	4	2	●
UP210-BH2-64008	4	2	8	75	6	1	●
UP210-BH2-05010	5	2.5	10	75	6	1	●
UP210-BH2-06012	6	3	12	75	6	2	●
UP210-BH2-06012A	6	3	12	100	6	2	○
UP210-BH2-07014	7	3.5	14	100	8	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
⊙	⊙	○	⊙			

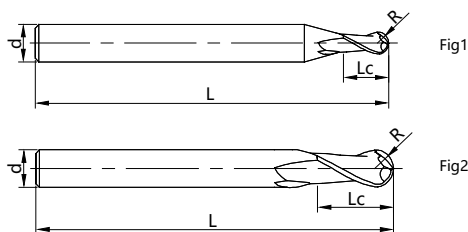
⊙最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-BH2

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-BH2-08014	8	4	14	100	8	2	●
UP210-BH2-09016	9	4.5	16	100	10	1	○
UP210-BH2-10018	10	5	18	100	10	2	●
UP210-BH2-11020	11	5.5	20	100	12	1	○
UP210-BH2-12022	12	6	22	100	12	2	●
UP210-BH2-14026	14	7	26	150	14	2	○
UP210-BH2-16030	16	8	30	150	16	2	●
UP210-BH2-18034	18	9	34	150	18	2	○
UP210-BH2-20038	20	10	38	150	20	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

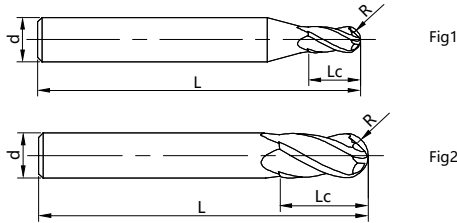
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-B4

4刃球头
4 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-B4-02004	2	1	4	50	4	1	●
UP210-B4-62004	2	1	4	50	6	1	●
UP210-B4-02505	2.5	1.25	5	50	4	1	○
UP210-B4-03006	3	1.5	6	50	4	1	●
UP210-B4-63006	3	1.5	6	50	6	1	●
UP210-B4-04008	4	2	8	50	4	2	●
UP210-B4-64008	4	2	8	50	6	1	●
UP210-B4-05010	5	2.5	10	50	6	1	●
UP210-B4-06012	6	3	12	50	6	2	●
UP210-B4-07014	7	3.5	14	60	8	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-B4

4刃球头
4 Flute, Ballnose

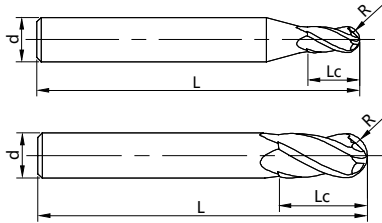


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
UP210-B4-08014	8	4	14	60	8	2	●
UP210-B4-09016	9	4.5	16	75	10	1	○
UP210-B4-10018	10	5	18	75	10	2	●
UP210-B4-11020	11	5.5	20	75	12	1	○
UP210-B4-12022	12	6	22	75	12	2	●
UP210-B4-14024	14	7	24	75	14	2	●
UP210-B4-16030	16	8	30	100	16	2	●
UP210-B4-18034	18	9	34	100	18	2	○
UP210-B4-20038	20	10	38	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P309
Cutting Parameters

UP210-L60

4刃60°倒角铣刀

4 Flute, Chamfering Milling Cutters 60°

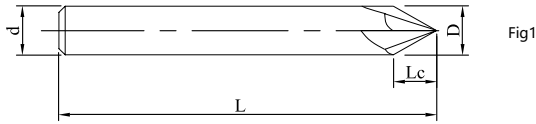


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L60-04060	4	3.5	50	4	1	●
UP210-L60-06060	6	5.2	50	6	1	●
UP210-L60-08060	8	7	60	8	1	●
UP210-L60-10060	10	8.7	75	10	1	●
UP210-L60-12060	12	10.4	75	12	1	●
UP210-L60-16060	16	13.9	100	16	1	●
UP210-L60-20060	20	17.4	100	20	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎	○	○	

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P310
Cutting Parameters

UP210-L90

4刃90°倒角铣刀

4 Flute, Chamfering Milling Cutters 90°

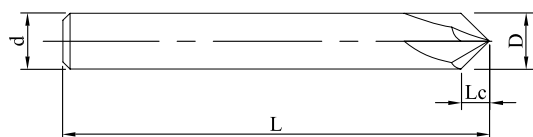


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L90-04090	4	2	50	4	1	●
UP210-L90-06090	6	3	50	6	1	●
UP210-L90-08090	8	4	60	8	1	●
UP210-L90-10090	10	5	75	10	1	●
UP210-L90-12090	12	6	75	12	1	●
UP210-L90-16090	16	8	100	16	1	●
UP210-L90-20090	20	10	100	20	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎	○	○	

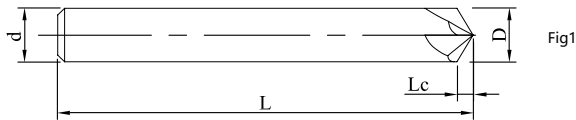
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P310
Cutting Parameters

UP210-L120

4刃120°倒角铣刀

4 Flute, Chamfering Milling Cutters 120°



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UP210-L120-040120	4	1.2	50	4	1	●
UP210-L120-060120	6	1.8	50	6	1	●
UP210-L120-080120	8	2.4	60	8	1	●
UP210-L120-100120	10	2.9	75	10	1	●
UP210-L120-120120	12	3.5	75	12	1	●
UP210-L120-160120	16	4.6	100	16	1	●
UP210-L120-200120	20	5.8	100	20	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎	○	○	

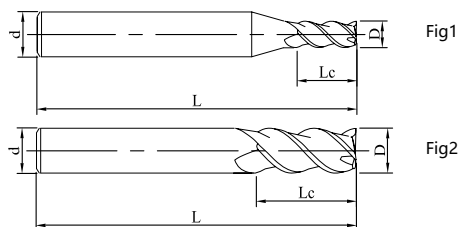
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P310
Cutting Parameters

SP210-S3

3刃平头变螺旋

3 Flute, with Variable Helix



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SP210-S3-02508	2.5	8	50	4	1	○
SP210-S3-03009	3	9	50	4	1	●
SP210-S3-04011	4	11	50	4	2	●
SP210-S3-05013	5	13	50	6	1	●
SP210-S3-06016	6	16	50	6	2	●
SP210-S3-08020	8	20	60	8	2	●
SP210-S3-10025	10	25	75	10	2	●
SP210-S3-12030	12	30	75	12	2	●
SP210-S3-16036	16	36	100	16	2	●
SP210-S3-20045	20	45	100	20	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

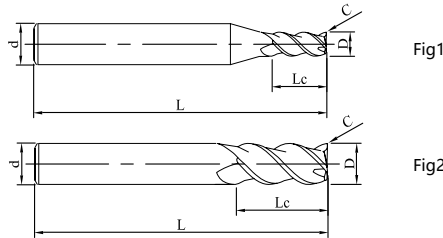
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P310
Cutting Parameters

SP210-C3

3刃平头变螺旋(刀尖倒角)

3 Flute, with Variable Helix with Chamfer



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
SP210-C3-06020	6	16	0.2	50	6	2	●
SP210-C3-08020	8	20	0.2	75	8	2	●
SP210-C3-10030	10	25	0.3	75	10	2	●
SP210-C3-12030	12	30	0.3	75	12	2	●
SP210-C3-16030	16	36	0.3	100	16	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

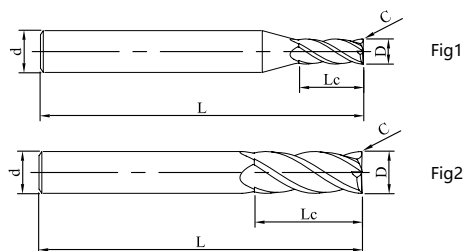
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P310
Cutting Parameters

SP210-C4

4刃平头双螺旋(刀尖倒角)

4 Flute, Variable Helix with Chamfer



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
SP210-C4-03003	3	9	0.03	50	4	1	●
SP210-C4-03013	3	9	0.13	50	4	1	●
SP210-C4-63008	3	8	0.15	57	6	1	●
SP210-C4-64011	4	11	0.15	57	6	1	●
SP210-C4-04004	4	11	0.04	50	4	2	●
SP210-C4-04018	4	11	0.18	50	4	2	●
SP210-C4-05005	5	13	0.05	50	6	1	○
SP210-C4-05013	5	13	0.15	57	6	1	●
SP210-C4-05020	5	13	0.2	50	6	1	●
SP210-C4-06006	6	16	0.06	50	6	2	●
SP210-C4-06013	6	13	0.2	57	6	2	●
SP210-C4-06020	6	16	0.2	50	6	2	●
SP210-C4-06040	6	16	0.4	50	6	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

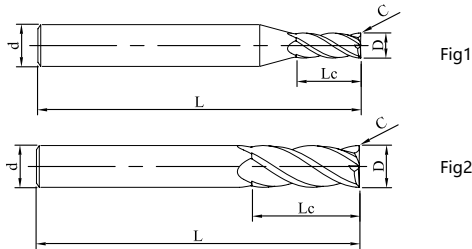
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-C4

4刃平头双螺旋(刀尖倒角)
4 Flute, Variable Helix with Chamfer



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
SP210-C4-08008	8	20	0.08	60	8	2	●
SP210-C4-08019	8	19	0.2	63	8	2	●
SP210-C4-08020	8	20	0.2	60	8	2	●
SP210-C4-10010	10	25	0.1	75	10	2	●
SP210-C4-10022	10	22	0.3	72	10	2	●
SP210-C4-10030	10	25	0.3	75	10	2	●
SP210-C4-12012	12	30	0.12	75	12	2	●
SP210-C4-12030	12	30	0.3	75	12	2	●
SP210-C4-16015	16	36	0.15	100	16	2	●
SP210-C4-16040	16	36	0.4	100	16	2	●
SP210-C4-18015	18	45	0.15	100	18	2	○
SP210-C4-20015	20	45	0.15	100	20	2	●
SP210-C4-20050	20	45	0.5	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-S4

4刃平头双螺旋

4 Flute, with Variable Helix

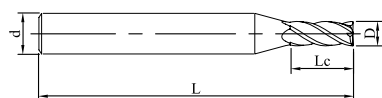


Fig1

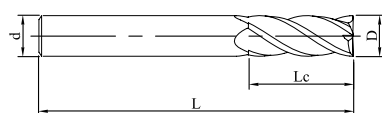


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SP210-S4-02006	2	6	50	4	1	●
SP210-S4-62006	2	6	50	6	1	●
SP210-S4-03009	3	9	50	4	1	●
SP210-S4-63009	3	9	50	6	1	●
SP210-S4-04011	4	11	50	4	2	●
SP210-S4-64011	4	11	50	6	1	●
SP210-S4-05013	5	13	50	6	1	●
SP210-S4-06016	6	16	50	6	2	●
SP210-S4-07020	7	20	60	8	1	●
SP210-S4-08020	8	20	60	8	2	●
SP210-S4-10025	10	25	75	10	2	●
SP210-S4-12030	12	30	75	12	2	●
SP210-S4-16036	16	36	100	16	2	●
SP210-S4-20045	20	45	100	20	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

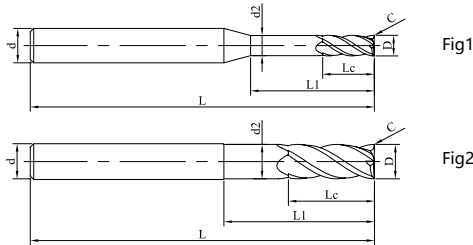
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-CN4

4刃长颈平头双螺旋 (刀尖倒角)

4 Flute Variable Helix with Chamfer, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	C	d2	L1	L	d	图号 Figure No.	库存 Stock
SP210-CN4-03013	3	10	0.13	2.9	18	75	4	1	●
SP210-CN4-04018	4	12	0.18	3.8	20	75	4	2	●
SP210-CN4-05020	5	15	0.2	4.8	35	75	6	2	●
SP210-CN4-06020	6	16	0.2	5.8	24	100	6	2	●
SP210-CN4-08020	8	20	0.2	7.5	30	100	8	2	○
SP210-CN4-10030	10	25	0.3	9.5	40	150	10	2	○
SP210-CN4-12030	12	30	0.3	11	40	150	12	2	●
SP210-CN4-16040	16	36	0.4	15	50	150	16	2	○
SP210-CN4-20050	20	45	0.5	19	60	150	20	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

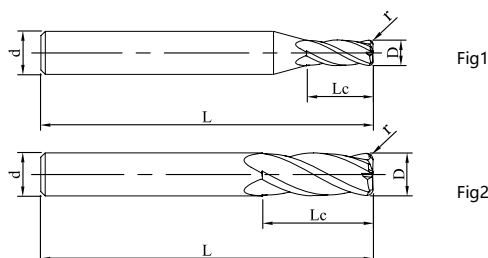
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-R4

4刃圆角头双螺旋

4 Flute Comer Radius, with Variable Helix



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SP210-R4-03002	3	9	0.2	50	4	1	○
SP210-R4-03003	3	9	0.3	50	4	1	●
SP210-R4-03005	3	9	0.5	50	4	1	●
SP210-R4-04003	4	11	0.3	50	4	2	●
SP210-R4-04005	4	11	0.5	50	4	2	●
SP210-R4-05003	5	13	0.3	50	6	1	○
SP210-R4-05005	5	13	0.5	50	6	1	●
SP210-R4-05010	5	13	1	50	6	1	○
SP210-R4-06003	6	16	0.3	50	6	2	○
SP210-R4-06005	6	16	0.5	50	6	2	●
SP210-R4-06010	6	16	1	50	6	2	●
SP210-R4-06015	6	16	1.5	50	6	2	○
SP210-R4-08005	8	20	0.5	60	8	2	●
SP210-R4-08010	8	20	1.0	60	8	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

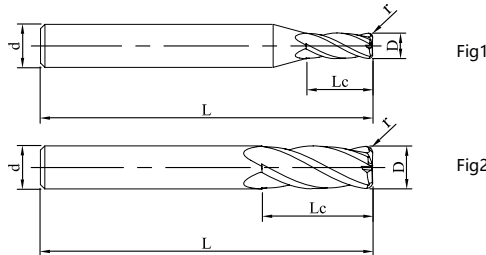
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-R4

4刃圆角头双螺旋

4 Flute Comer Radius, with Variable Helix



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SP210-R4-08015	8	20	1.5	60	8	2	○
SP210-R4-08020	8	20	2	60	8	2	○
SP210-R4-10005	10	25	0.5	75	10	2	●
SP210-R4-10010	10	25	1	75	10	2	●
SP210-R4-10015	10	25	1.5	75	10	2	●
SP210-R4-10020	10	25	2	75	10	2	●
SP210-R4-10030	10	25	3	75	10	2	●
SP210-R4-12005	12	30	0.5	75	12	2	●
SP210-R4-12010	12	30	1	75	12	2	●
SP210-R4-12015	12	30	1.5	75	12	2	●
SP210-R4-12020	12	30	2	75	12	2	●
SP210-R4-12030	12	30	3	75	12	2	●
SP210-R4-14020	14	32	2	75	14	2	○
SP210-R4-16020	16	36	2	100	16	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

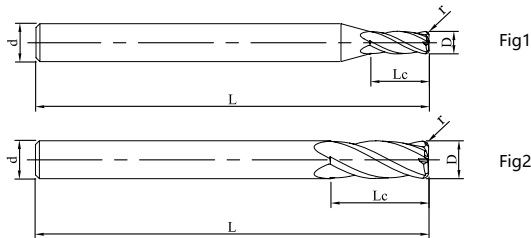
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-RH4

4刃长柄圆角头双螺旋

4 Flute with Long Comer Radius, with Variable Helix



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SP210-RH4-04005	4	11	0.5	75	4	2	●
SP210-RH4-06005	6	15	0.5	75	6	2	●
SP210-RH4-08005	8	20	0.5	100	8	2	●
SP210-RH4-08010	8	20	1	100	8	2	●
SP210-RH4-10005	10	25	0.5	100	10	2	●
SP210-RH4-10010	10	25	1	100	10	2	●
SP210-RH4-12010	12	30	1	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

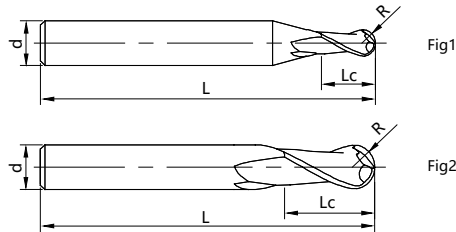
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P311
Cutting Parameters

SP210-B2

2刃球头
2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SP210-B2-01002	1	0.5	2	50	4	1	●
SP210-B2-61002	1	0.5	2	50	6	1	○
SP210-B2-01503	1.5	0.75	3	50	4	1	●
SP210-B2-61503	1.5	0.75	3	50	6	1	●
SP210-B2-02004	2	1	4	50	4	1	●
SP210-B2-62004	2	1	4	50	6	1	●
SP210-B2-03006	3	1.5	6	50	4	1	●
SP210-B2-63006	3	1.5	6	50	6	1	●
SP210-B2-04008	4	2	8	50	4	2	●
SP210-B2-06012	6	3	12	50	6	2	●
SP210-B2-06012A	6	3	12	60	6	2	●
SP210-B2-08014	8	4	14	60	8	2	●
SP210-B2-10018	10	5	18	75	10	2	●
SP210-B2-11020	11	5.5	20	75	12	1	○
SP210-B2-12022	12	6	22	75	12	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

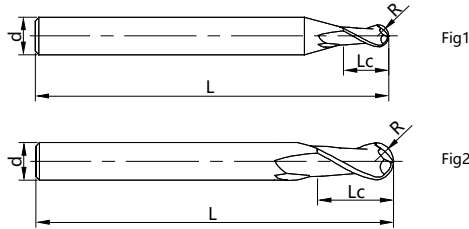
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P313
Cutting Parameters

SP210-BH2

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SP210-BH2-61002	1	0.5	2	75	6	1	●
SP210-BH2-61503	1.5	0.75	3	75	6	1	●
SP210-BH2-02004	2	1	4	75	4	1	●
SP210-BH2-62004	2	1	4	75	6	1	●
SP210-BH2-63006	3	1.5	6	75	6	1	●
SP210-BH2-04008	4	2	8	75	4	2	●
SP210-BH2-04008A	4	2	8	100	4	2	●
SP210-BH2-64008	4	2	8	75	6	1	●
SP210-BH2-06012	6	3	12	75	6	2	●
SP210-BH2-06012A	6	3	12	100	6	2	●
SP210-BH2-08014	8	4	14	75	8	2	●
SP210-BH2-08014A	8	4	14	100	8	2	●
SP210-BH2-10018	10	5	18	100	10	2	●
SP210-BH2-12022	12	6	22	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R < 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	◎	○	◎			

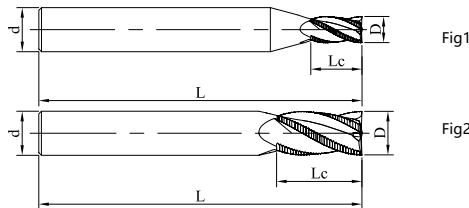
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P313
Cutting Parameters

UPR100-S4

4刃粗加工平头

4 Flute Square, with Roughing Geometry



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
UPR100-S4-06015	6	15	50	6	2	●
UPR100-S4-08020	8	20	60	8	2	●
UPR100-S4-10025	10	25	75	10	2	●
UPR100-S4-12030	12	30	75	12	2	●
UPR100-S4-14034	14	34	100	14	2	●
UPR100-S4-16036	16	36	100	16	2	●
UPR100-S4-20045	20	45	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 6	0 -0.03
6 < D ≤ 10	0 -0.04
D > 10	0 -0.05

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
◎	○	○	◎	○	○	

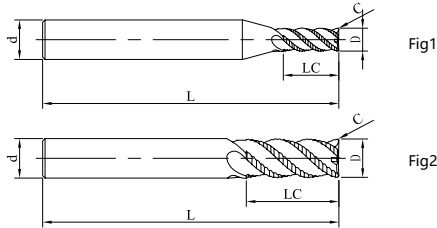
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P314
Cutting Parameters

UPR210-S4

4刃粗加工平头

4 Flute Square, with Roughing Geometry



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
UPR210-S4-06016	6	16	0.2	50	6	2	●
UPR210-S4-08020	8	20	0.2	60	8	2	●
UPR210-S4-10025	10	25	0.3	75	10	2	●
UPR210-S4-12030	12	30	0.3	75	12	2	●
UPR210-S4-16036	16	36	0.4	100	16	2	●
UPR210-S4-20045	20	45	0.5	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 6	0 -0.03
6 < D ≤ 10	0 -0.04
D > 10	0 -0.05

单位unit (mm)

工件材料 Workpiece Material

P		M	K	H		
1234	5	123	123	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	○	○	◎	○		

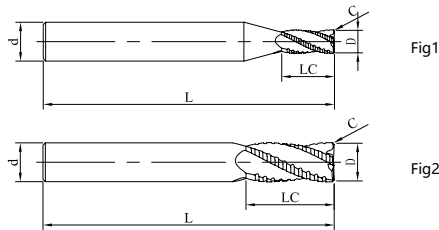
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P316
Cutting Parameters

UPN210-S4

4刃粗加工平头

4 Flute Square, with Roughing Geometry



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	C	L	d	图号 Figure No.	库存 Stock
UPN210-S4-06016	6	16	0.2	50	6	2	●
UPN210-S4-08020	8	20	0.2	60	8	2	●
UPN210-S4-10025	10	25	0.3	75	10	2	●
UPN210-S4-12030	12	30	0.3	75	12	2	●
UPN210-S4-16036	16	36	0.4	100	16	2	●
UPN210-S4-20045	20	45	0.5	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 6	0 -0.03
6 < D ≤ 10	0 -0.04
D > 10	0 -0.05

单位unit (mm)

工件材料 Workpiece Material

P		M	K	H		
1234	5	123	123	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	○	○	◎	○		

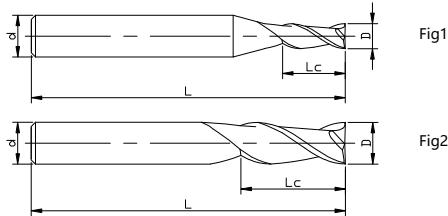
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P317
Cutting Parameters

SH160-S2

2刃平头

2 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH160-S2-00501	0.5	1.5	50	4	1	○
SH160-S2-01003	1	3	50	4	1	●
SH160-S2-01504	1.5	4	50	4	1	●
SH160-S2-02006	2	6	50	4	1	●
SH160-S2-02508	2.5	8	50	4	1	●
SH160-S2-03009	3	9	50	4	1	●
SH160-S2-63009	3	9	50	6	1	●
SH160-S2-04010	4	10	50	4	2	●
SH160-S2-64010	4	10	50	6	1	●
SH160-S2-05013	5	13	50	6	1	●
SH160-S2-06015	6	15	50	6	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			◎		

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-S2

2刃平头

2 Flute, Standard Length

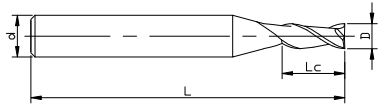


Fig1

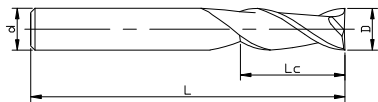


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH160-S2-07020	7	20	60	8	1	○
SH160-S2-08020	8	20	60	8	2	●
SH160-S2-09023	9	23	75	10	1	○
SH160-S2-10025	10	25	75	10	2	●
SH160-S2-11028	11	28	75	12	1	○
SH160-S2-12030	12	30	75	12	2	○
SH160-S2-13032	13	32	100	14	1	○
SH160-S2-14034	14	34	100	14	2	○
SH160-S2-16036	16	36	100	16	2	○
SH160-S2-18040	18	40	100	18	2	○
SH160-S2-20045	20	45	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			◎		

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-S4

4刃平头

4 Flute, Standard Length

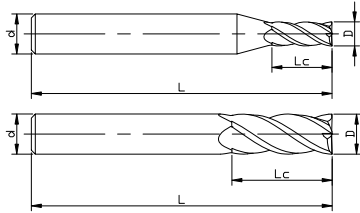


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH160-S4-01003	1	3	50	4	1	●
SH160-S4-01504	1.5	4	50	4	1	●
SH160-S4-02006	2	6	50	4	1	●
SH160-S4-02508	2.5	8	50	4	1	●
SH160-S4-03009	3	9	50	4	1	●
SH160-S4-63009	3	9	50	6	1	●
SH160-S4-04010	4	10	50	4	2	●
SH160-S4-64010	4	10	50	6	1	●
SH160-S4-05013	5	13	50	6	1	●
SH160-S4-06015	6	15	50	6	2	●
SH160-S4-07020	7	20	60	8	1	○
SH160-S4-08020	8	20	60	8	2	●
SH160-S4-09023	9	23	75	10	1	○
SH160-S4-10025	10	25	75	10	2	●
SH160-S4-12030	12	30	75	12	2	●
SH160-S4-16036	16	36	100	16	2	●
SH160-S4-20045	20	45	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-SH4

4刃长柄平头

4 Flute, with Long Shank Length

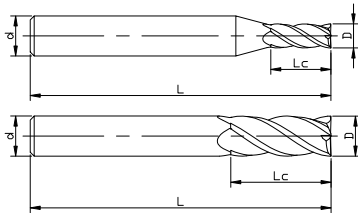


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH160-SH4-03012	3	12	75	4	1	●
SH160-SH4-04015	4	15	75	4	2	●
SH160-SH4-06020	6	20	100	6	2	●
SH160-SH4-08025	8	25	100	8	2	●
SH160-SH4-10030	10	30	100	10	2	●
SH160-SH4-12035	12	35	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

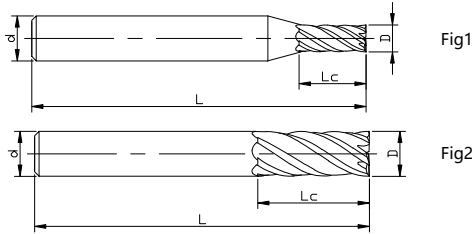
⊙最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-S6

6刃平头

6 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH160-S6-06015	6	15	50	6	2	●
SH160-S6-08020	8	20	60	8	2	●
SH160-S6-10025	10	25	75	10	2	●
SH160-S6-12030	12	30	75	12	2	●
SH160-S6-16036	16	36	100	16	2	●
SH160-S6-20045	20	45	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

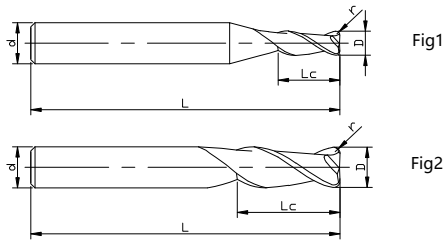
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-R2

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH160-R2-02002	2	6	0.2	50	4	1	●
SH160-R2-03003	3	9	0.3	50	4	1	○
SH160-R2-03005	3	9	0.5	50	4	1	●
SH160-R2-04005	4	10	0.5	50	4	2	●
SH160-R2-04010	4	10	1	50	4	2	●
SH160-R2-05005	5	13	0.5	50	6	1	○
SH160-R2-05010	5	13	1	50	6	1	○
SH160-R2-06005	6	15	0.5	50	6	2	●
SH160-R2-06010	6	15	1	50	6	2	●
SH160-R2-08005	8	20	0.5	60	8	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.02
D>12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

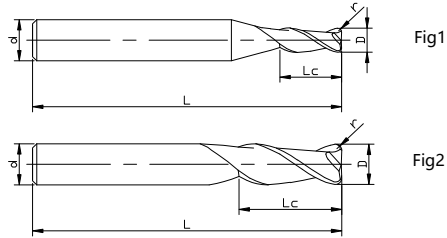
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

⊙最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-R2

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH160-R2-08010	8	20	1	60	8	2	●
SH160-R2-10005	10	25	0.5	75	10	2	○
SH160-R2-10010	10	25	1	75	10	2	○
SH160-R2-10015	10	25	1.5	75	10	2	○
SH160-R2-10020	10	25	2	75	10	2	○
SH160-R2-12005	12	30	0.5	75	12	2	○
SH160-R2-12010	12	30	1	75	12	2	○
SH160-R2-12015	12	30	1.5	75	12	2	○
SH160-R2-12020	12	30	2	75	12	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

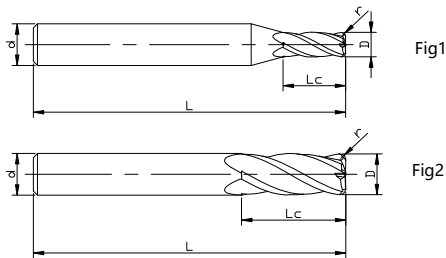
⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-R4

4刃圆角头

4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH160-R4-02002	2	6	0.2	50	4	1	●
SH160-R4-03003	3	9	0.3	50	4	1	●
SH160-R4-03005	3	9	0.5	50	4	1	●
SH160-R4-63003	3	8	0.3	50	6	1	○
SH160-R4-63005	3	8	0.5	50	6	1	●
SH160-R4-04002	4	10	0.2	50	4	2	●
SH160-R4-04003	4	10	0.3	50	4	2	●
SH160-R4-04005	4	10	0.5	50	4	2	●
SH160-R4-04010	4	10	1	50	4	2	●
SH160-R4-64002	4	10	0.2	50	6	1	●
SH160-R4-64003	4	10	0.3	50	6	1	○
SH160-R4-64005	4	10	0.5	50	6	1	●
SH160-R4-64010	4	10	1	50	6	1	○
SH160-R4-05005	5	13	0.5	50	6	1	●
SH160-R4-05010	5	13	1	50	6	1	○
SH160-R4-06002	6	15	0.2	50	6	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

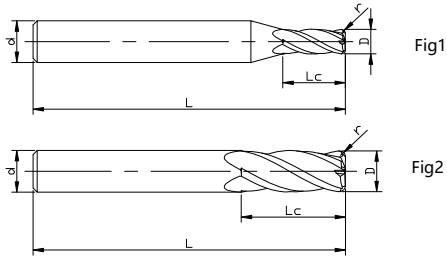
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

⊙最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-R4

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH160-R4-06003	6	15	0.3	50	6	2	●
SH160-R4-06005	6	15	0.5	50	6	2	●
SH160-R4-06010	6	15	1	50	6	2	●
SH160-R4-08002	8	20	0.2	60	8	2	●
SH160-R4-08003	8	20	0.3	60	8	2	●
SH160-R4-08005	8	20	0.5	60	8	2	●
SH160-R4-08010	8	20	1	60	8	2	●
SH160-R4-10005	10	25	0.5	75	10	2	●
SH160-R4-10010	10	25	1	75	10	2	●
SH160-R4-10015	10	25	1.5	75	10	2	○
SH160-R4-10020	10	25	2	75	10	2	○
SH160-R4-12005	12	30	0.5	75	12	2	●
SH160-R4-12010	12	30	1	75	12	2	●
SH160-R4-12015	12	30	1.5	75	12	2	○
SH160-R4-12020	12	30	2	75	12	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

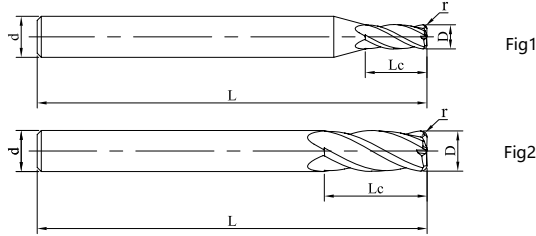
⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-RH4

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH160-RH4-06005	6	15	0.5	75	6	2	●
SH160-RH4-06010	6	15	1	75	6	2	●
SH160-RH4-08005	8	20	0.5	100	8	2	●
SH160-RH4-08010	8	20	1	100	8	2	○
SH160-RH4-10005	10	25	0.5	100	10	2	●
SH160-RH4-10010	10	25	1	100	10	2	●
SH160-RH4-12005	12	30	0.5	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

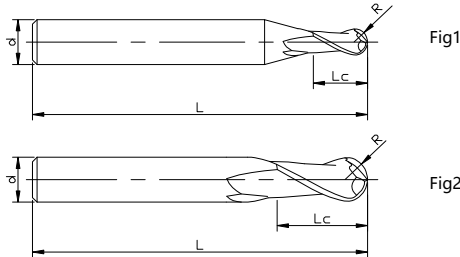
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

⊙最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P318
Cutting Parameters

SH160-B2

2 刃球头
2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH160-B2-00501	0.5	0.25	1	50	4	1	●
SH160-B2-01002	1	0.5	2	50	4	1	●
SH160-B2-01503	1.5	0.75	3	50	4	1	●
SH160-B2-02004	2	1	4	50	4	1	●
SH160-B2-03006	3	1.5	6	50	4	1	●
SH160-B2-04008	4	2	8	50	4	2	●
SH160-B2-05010	5	2.5	10	50	6	1	●
SH160-B2-06012	6	3	12	50	6	2	●
SH160-B2-07014	7	3.5	14	60	8	1	●
SH160-B2-08014	8	4	14	60	8	2	●
SH160-B2-09016	9	4.5	16	75	10	1	○
SH160-B2-10018	10	5	18	75	10	2	●
SH160-B2-11020	11	5.5	20	75	12	1	○
SH160-B2-12022	12	6	22	75	12	2	●
SH160-B2-16026	16	8	26	100	16	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
R≤1.5	0 -0.01
1.5<R≤3	0 -0.015
R≥3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			⊙		

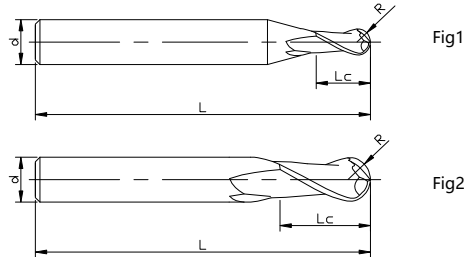
⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P319
Cutting Parameters

SH160-BH2

2 刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P?页 See Page ? for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH160-BH2-04008	4	2	8	75	4	2	○
SH160-BH2-06012	6	3	12	100	6	2	●
SH160-BH2-08014	8	4	14	100	8	2	●
SH160-BH2-10018	10	5	18	100	10	2	●
SH160-BH2-12024	12	6	24	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差 Tol
R ≤ 1.5	0 -0.01
1.5 < R ≤ 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			◎		

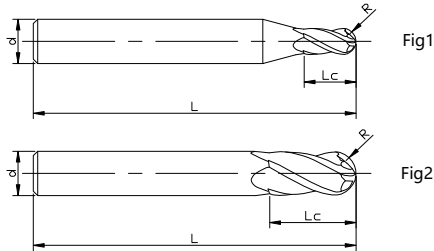
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P319
Cutting Parameters

SH160-B4

4 刃球头

4 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH160-B4-02004	2	1	4	50	4	1	○
SH160-B4-03006	3	1.5	6	50	4	1	●
SH160-B4-04008	4	2	8	50	4	2	○
SH160-B4-05010	5	2.5	10	50	6	1	○
SH160-B4-06012	6	3	12	50	6	2	●
SH160-B4-07014	7	3.5	14	60	8	1	○
SH160-B4-08014	8	4	14	60	8	2	●
SH160-B4-09016	9	4.5	16	75	10	1	○
SH160-B4-10018	10	5	18	75	10	2	●
SH160-B4-11020	11	5.5	20	75	12	1	○
SH160-B4-12022	12	6	22	75	12	2	○
SH160-B4-16026	16	8	26	100	16	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
R ≤ 1.5	0 -0.01
1.5 < R ≤ 3	0 -0.015
R ≥ 3	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
			◎		

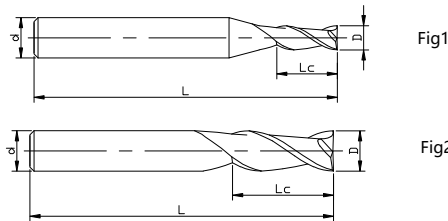
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P319
Cutting Parameters

SH260-S2-H NEW

2刃平头

2 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S2-1-2.5-H	1	2.5	50	4	1	●
SH260-S2-2-5-H	2	5	50	4	1	●
SH260-S2-3-7-H	3	7.5	50	4	1	●
SH260-S2-4-10-H	4	10	50	4	2	●
SH260-S2-5-12.5-H	5	12.5	50	6	1	●
SH260-S2-6-15-H	6	15	50	6	2	●
SH260-S2-8-20-H	8	20	60	8	2	●
SH260-S2-10-25-H	10	25	75	10	2	●
SH260-S2-12-30-H	12	30	75	12	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.01
D > 12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

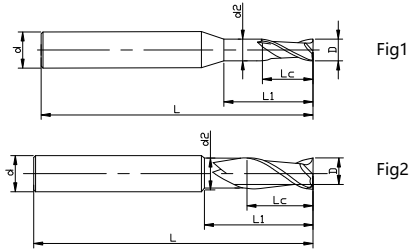
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P319
Cutting Parameters

SH260-SN2-H NEW

2刃长颈平头

2 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-SN2-1-3-H	1	1.5	0.96	3	50	4	1	●
SH260-SN2-1-6-H	1	1.5	0.96	6	50	4	1	●
SH260-SN2-2-6-H	2	3	1.92	6	50	4	1	●
SH260-SN2-2-12-H	2	3	1.92	12	50	4	1	●
SH260-SN2-3-9-H	3	4.5	2.88	9	50	4	1	●
SH260-SN2-3-18-H	3	4.5	2.88	18	50	4	1	○
SH260-SN2-4-12-H-6	4	6	3.8	12	60	6	2	●
SH260-SN2-4-24-H-6	4	6	3.8	24	60	6	1	●
SH260-SN2-5-15-H	5	7.5	4.8	15	60	6	1	○
SH260-SN2-6-18-H	6	9	5.8	18	75	6	2	●
SH260-SN2-6-36-H	6	9	5.8	36	75	6	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.01
D>12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

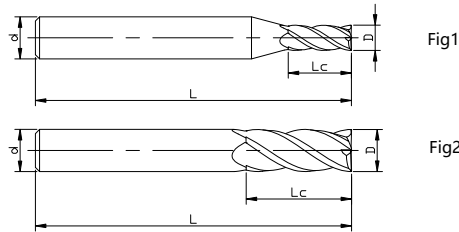
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P320
Cutting Parameters

SH260-S4-H NEW

4刃平头

4 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-S4-1-2.5-H	1	2.5	50	4	1	●
SH260-S4-1.5-4-H	1.5	4	50	4	1	●
SH260-S4-2-5-H	2	5	50	4	1	●
SH260-S4-2.5-6-H	2.5	6	50	4	1	●
SH260-S4-3-8-H-3	3	8	50	3	2	●
SH260-S4-4-10-H	4	10	50	4	2	●
SH260-S4-5-13-H	5	13	50	6	1	●
SH260-S4-6-15-H	6	15	50	6	2	●
SH260-S4-8-20-H	8	20	60	8	2	●
SH260-S4-10-25-H	10	25	75	10	2	●
SH260-S4-10-30-H	10	30	75	10	2	●
SH260-S4-12-30-H	12	30	75	12	2	●
SH260-S4-12-36-H	12	36	75	12	2	●
SH260-S4-16-40-H	16	40	100	16	2	●
SH260-S4-20-50-H	20	50	100	20	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-SH4-H NEW

4刃长柄平头

4 Flute, with Long Shank Length

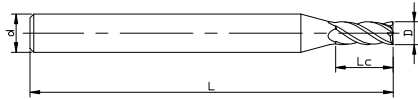


Fig1

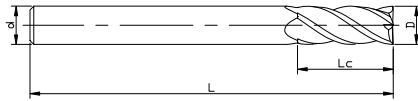


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SH4-1-60-H	1	2.5	60	4	1	●
SH260-SH4-2-60-H	2	5	60	4	1	●
SH260-SH4-3-60-H	3	8	60	4	1	●
SH260-SH4-3-60-H-6	3	8	60	6	1	●
SH260-SH4-4-60-H	4	10	60	4	2	●
SH260-SH4-4-60-H-6	4	10	60	6	1	●
SH260-SH4-4-75-H-6	4	10	75	6	1	●
SH260-SH4-5-60-H	5	13	60	6	1	●
SH260-SH4-6-60-H	6	15	60	6	2	●
SH260-SH4-6-75-H	6	15	75	6	2	●
SH260-SH4-8-75-H	8	20	75	8	2	●
SH260-SH4-8-100-H	8	20	100	8	2	●
SH260-SH4-10-100-H	10	25	100	10	2	●
SH260-SH4-12-100-H	12	30	100	12	2	●
SH260-SH4-16-150-H	16	40	150	16	2	●
SH260-SH4-20-150-H	20	50	150	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

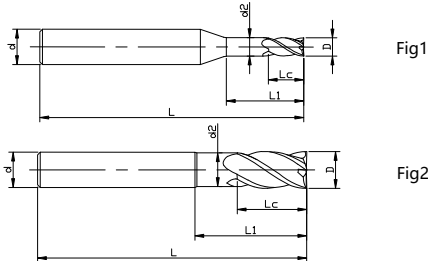
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-SN4-H NEW

4刃长颈平头

4 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-SN4-1-3-H	1	2	0.96	3	50	4	1	○
SH260-SN4-1-6-H	1	2	0.96	6	50	4	1	●
SH260-SN4-2-6-H	2	4	1.92	6	50	4	1	●
SH260-SN4-2-12-H	2	4	1.92	12	50	4	1	●
SH260-SN4-3-9-H	3	6	2.88	9	50	4	1	●
SH260-SN4-3-18-H-6	3	6	2.88	18	60	6	1	○
SH260-SN4-4-12-H	4	8	3.8	12	60	4	2	●
SH260-SN4-4-24-H-6	4	8	3.8	24	60	6	1	○
SH260-SN4-5-15-H	5	10	4.8	15	60	6	1	○
SH260-SN4-6-18-H	6	12	5.8	18	75	6	2	○
SH260-SN4-6-24-H	6	12	5.8	24	75	6	2	●
SH260-SN4-8-24-H	8	16	7.8	24	75	8	2	○
SH260-SN4-8-32-H	8	16	7.8	32	100	8	2	●
SH260-SN4-10-30-H	10	20	9.8	30	100	10	2	○
SH260-SN4-10-40-H	10	20	9.8	40	100	10	2	●
SH260-SN4-12-36-H	12	24	11.8	36	100	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P					H	
1 2 3 4	5	6	1	2	3 4	
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)	
○	◎		◎	◎	○	

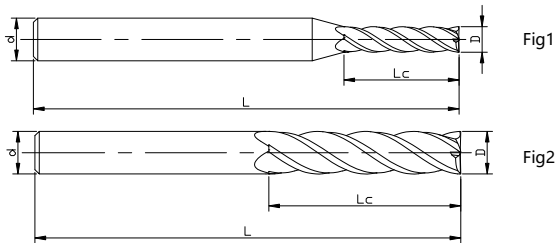
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-SL4-H NEW

4刃长刃平头

4 Flute, Long Flute Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH260-SL4-1-5-H	1	5	50	4	1	●
SH260-SL4-2-10-H	2	10	50	4	1	●
SH260-SL4-3-15-H	3	15	50	4	1	○
SH260-SL4-4-16-H	4	16	60	4	2	●
SH260-SL4-4-20-H-6	4	20	60	6	1	●
SH260-SL4-5-20-H	5	20	60	6	1	○
SH260-SL4-6-24-H	6	24	75	6	2	●
SH260-SL4-8-32-H	8	32	75	8	2	●
SH260-SL4-10-40-H	10	40	100	10	2	●
SH260-SL4-10-50-H	10	50	120	10	2	○
SH260-SL4-12-50-H	12	50	120	12	2	○
SH260-SL4-16-60-H	16	60	150	16	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

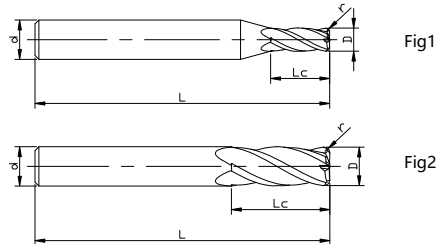
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-R4-H NEW

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4-1-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R4-1-0.2-H	1	2.5	0.2	50	4	1	●
SH260-R4-1.5-0.1-H	1.5	4	0.1	50	4	1	●
SH260-R4-1.5-0.2-H	1.5	4	0.2	50	4	1	●
SH260-R4-1.5-0.3-H	1.5	4	0.3	50	4	1	●
SH260-R4-2-0.1-H	2	5	0.1	50	4	1	●
SH260-R4-2-0.2-H	2	5	0.2	50	4	1	●
SH260-R4-2-0.3-H	2	5	0.3	50	4	1	●
SH260-R4-2-0.5-H	2	5	0.5	50	4	1	●
SH260-R4-3-0.2-H	3	8	0.2	50	4	1	●
SH260-R4-3-0.3-H	3	8	0.3	50	4	1	●
SH260-R4-3-0.5-H	3	8	0.5	50	4	1	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

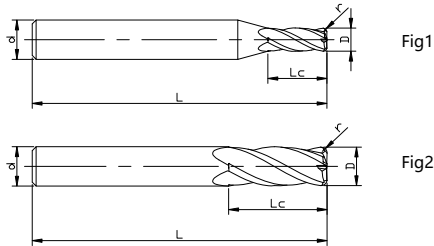
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-R4-H NEW

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4-3-0.2-H-3	3	8	0.2	50	3	2	●
SH260-R4-3-0.3-H-3	3	8	0.3	50	3	2	●
SH260-R4-4-0.2-H	4	10	0.2	50	4	2	●
SH260-R4-4-0.3-H	4	10	0.3	50	4	2	●
SH260-R4-4-0.5-H	4	10	0.5	50	4	2	●
SH260-R4-4-1-H	4	10	1	50	4	2	●
SH260-R4-5-0.2-H	5	13	0.2	50	6	1	●
SH260-R4-5-0.5-H	5	13	0.5	50	6	1	○
SH260-R4-6-0.2-H	6	15	0.2	50	6	2	●
SH260-R4-6-0.3-H	6	15	0.3	50	6	2	●
SH260-R4-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R4-6-1-H	6	15	1	50	6	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

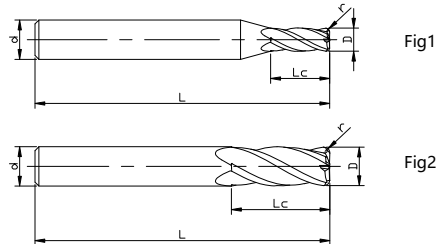
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-R4-H NEW

4刃圆角头
4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-R4-8-0.2-H	8	20	0.2	60	8	2	●
SH260-R4-8-0.3-H	8	20	0.3	60	8	2	●
SH260-R4-8-0.5-H	8	20	0.5	60	8	2	●
SH260-R4-8-1-H	8	20	1	60	8	2	●
SH260-R4-10-0.2-H	10	25	0.2	75	10	2	○
SH260-R4-10-0.5-H	10	25	0.5	75	10	2	●
SH260-R4-10-1-H	10	25	1	75	10	2	●
SH260-R4-10-2-H	10	25	2	75	10	2	○
SH260-R4-12-0.5-H	12	30	0.5	75	12	2	●
SH260-R4-12-1-H	12	30	1	75	12	2	●
SH260-R4-12-2-H	12	30	2	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (< 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

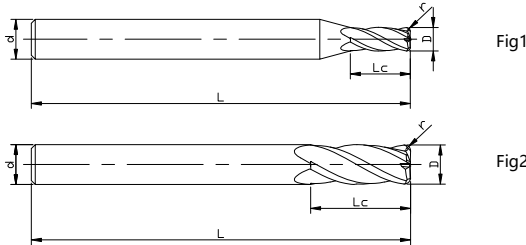
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-RH4-H NEW

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4-4-60-0.2-H	4	10	0.2	60	4	2	●
SH260-RH4-4-60-0.3-H	4	10	0.3	60	4	2	●
SH260-RH4-4-60-0.5-H	4	10	0.5	60	4	2	●
SH260-RH4-4-75-0.5-H	4	10	0.5	75	4	2	●
SH260-RH4-4-60-1-H	4	10	1	60	4	2	●
SH260-RH4-4-75-0.5-H-6	4	10	0.5	75	6	1	●
SH260-RH4-4-60-1-H-6	4	10	1	60	6	1	●
SH260-RH4-6-60-0.3-H	6	15	0.3	60	6	2	●
SH260-RH4-6-60-0.5-H	6	15	0.5	6	6	2	○
SH260-RH4-6-75-0.5-H	6	15	0.5	75	6	2	●
SH260-RH4-6-100-0.5-H	6	15	0.5	100	6	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-RH4-H NEW

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

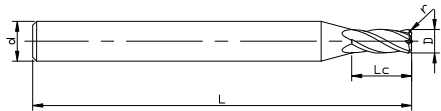


Fig1

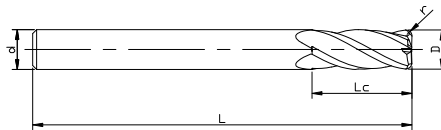


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH260-RH4-6-60-1-H	6	15	1	60	6	2	●
SH260-RH4-6-75-1-H	6	15	1	75	6	2	●
SH260-RH4-8-75-0.3-H	8	20	0.3	75	8	2	○
SH260-RH4-8-75-0.5-H	8	20	0.5	75	8	2	●
SH260-RH4-8-100-0.5-H	8	20	0.5	100	8	2	●
SH260-RH4-8-75-1-H	8	20	1	75	8	2	●
SH260-RH4-10-100-0.5-H	10	25	0.5	100	10	2	●
SH260-RH4-10-100-1-H	10	25	1	100	10	2	●
SH260-RH4-12-100-0.5-H	12	30	0.5	100	12	2	●
SH260-RH4-12-100-1-H	12	30	1	100	12	2	●
SH260-RH4-12-120-1-H	12	30	1	120	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

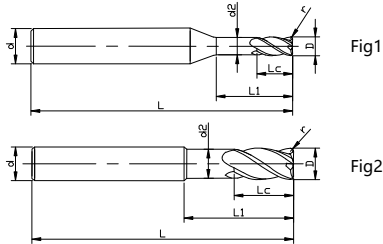
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-RN4-H NEW

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN4-1-3-0.1-H	1	2	0.1	0.96	3	50	4	1	○
SH260-RN4-1-6-0.1-H	1	2	0.1	0.96	6	50	4	1	●
SH260-RN4-1.5-4.5-0.1-H	1.5	3	0.1	1.45	4.5	50	4	1	○
SH260-RN4-1.5-9-0.1-H	1.5	3	0.1	1.45	9	50	4	1	●
SH260-RN4-2-6-0.2-H	2	4	0.2	1.92	6	50	4	1	○
SH260-RN4-2-12-0.2-H	2	4	0.2	1.92	12	50	4	1	●
SH260-RN4-2-6-0.3-H	2	4	0.3	1.92	6	50	4	1	○
SH260-RN4-2-12-0.3-H	2	4	0.3	1.92	12	50	4	1	○
SH260-RN4-3-9-0.2-H-6	3	6	0.2	2.88	9	60	6	1	●
SH260-RN4-3-18-0.2-H-6	3	6	0.2	2.88	18	60	6	1	●
SH260-RN4-3-9-0.3-H-6	3	6	0.3	2.88	9	60	6	1	○
SH260-RN4-3-18-0.3-H-6	3	6	0.3	2.88	18	60	6	1	○
SH260-RN4-4-12-0.2-H-6	4	8	0.2	3.8	12	60	6	1	●
SH260-RN4-4-12-0.3-H-6	4	8	0.3	3.8	12	60	6	1	○
SH260-RN4-4-12-0.5-H-6	4	8	0.5	3.8	12	60	6	1	●
SH260-RN4-4-24-0.5-H-6	4	8	0.5	3.8	24	75	6	1	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

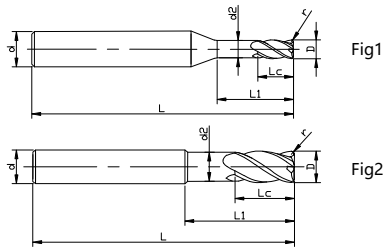
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-RN4-H NEW

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-RN4-6-18-0.2-H	6	12	0.2	5.8	18	75	6	2	○
SH260-RN4-6-24-0.2-H	6	12	0.2	5.8	24	75	6	2	○
SH260-RN4-6-18-0.5-H	6	12	0.5	5.8	18	75	6	2	●
SH260-RN4-6-24-0.5-H	6	12	0.5	5.8	24	75	6	2	●
SH260-RN4-8-24-0.2-H	8	16	0.2	7.8	24	75	8	2	○
SH260-RN4-8-32-0.2-H	8	16	0.2	7.8	32	75	8	2	○
SH260-RN4-8-24-0.5-H	8	16	0.5	7.8	24	75	8	2	●
SH260-RN4-8-32-0.5-H	8	16	0.5	7.8	32	75	8	2	●
SH260-RN4-10-30-0.5-H	10	20	0.5	9.8	30	100	10	2	●
SH260-RN4-10-40-0.5-H	10	20	0.5	9.8	40	100	10	2	●
SH260-RN4-10-30-1-H	10	20	1	9.8	30	100	10	2	●
SH260-RN4-10-40-1-H	10	20	1	9.8	40	100	10	2	●
SH260-RN4-12-36-0.5-H	12	24	0.5	11.8	36	100	12	2	●
SH260-RN4-12-48-0.5-H	12	24	0.5	11.8	48	100	12	2	●
SH260-RN4-12-36-1-H	12	24	1	11.8	36	100	12	2	●
SH260-RN4-12-48-1-H	12	24	1	11.8	48	100	12	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 6	0 -0.01
6 < D ≤ 12	0 -0.02
D > 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

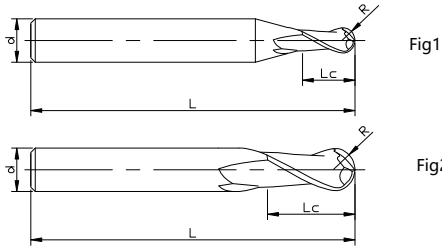
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (< 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
○	◎		◎	◎	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P321
Cutting Parameters

SH260-B2-H NEW

2刃球头
2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH260-B2-1-1.5-H	1	0.5	1.5	50	4	1	●
SH260-B2-1.5-2.5-H	1.5	0.75	2.5	50	4	1	●
SH260-B2-2-3-H	2	1	3	50	4	1	●
SH260-B2-3-4.5-H	3	1.5	4.5	50	4	1	●
SH260-B2-3-4.5-H-3	3	1.5	4.5	50	3	2	●
SH260-B2-3-4.5-H-6	3	1.5	4.5	50	6	1	●
SH260-B2-4-6-H	4	2	6	50	4	2	●
SH260-B2-4-6-H-6	4	2	6	50	6	1	●
SH260-B2-5-7.5-H	5	2.5	7.5	50	6	1	●
SH260-B2-6-9-H	6	3	9	50	6	2	●
SH260-B2-8-12-H	8	4	12	60	8	2	●
SH260-B2-10-15-H	10	5	15	75	10	2	●
SH260-B2-12-18-H	12	6	18	75	12	2	●
SH260-B2-16-24-H	16	8	24	100	16	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	◎		◎	◎	○

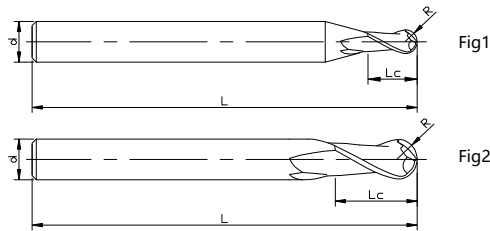
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P322
Cutting Parameters

SH260-BH2-H NEW

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH260-BH2-2-60-H	2	1	3	60	4	1	●
SH260-BH2-2-60-H-6	2	1	3	60	6	1	●
SH260-BH2-3-60-H	3	1.5	4.5	60	4	1	●
SH260-BH2-3-60-H-6	3	1.5	4.5	60	6	1	●
SH260-BH2-3-75-H-6	3	1.5	4.5	75	6	1	●
SH260-BH2-4-60-H	4	2	6	60	4	2	●
SH260-BH2-4-75-H	4	2	6	75	4	2	●
SH260-BH2-4-60-H-6	4	2	6	60	6	1	●
SH260-BH2-4-75-H-6	4	2	6	75	6	1	●
SH260-BH2-5-60-H	5	2.5	7.5	60	6	1	●
SH260-BH2-6-60-H	6	3	9	60	6	2	●
SH260-BH2-6-75-H	6	3	9	75	6	2	●
SH260-BH2-6-100-H	6	3	9	100	6	2	●
SH260-BH2-8-75-H	8	4	12	75	8	2	●
SH260-BH2-8-100-H	8	4	12	100	8	2	●
SH260-BH2-10-100-H	10	5	15	100	10	2	●
SH260-BH2-12-100-H	12	6	18	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	◎		◎	◎	○

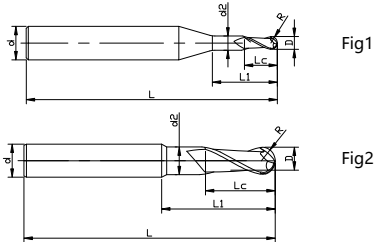
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P322
Cutting Parameters

SH260-BN2-H NEW

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-BN2-1-3-H	1	0.5	1	0.96	3	50	4	1	○
SH260-BN2-1-6-H	1	0.5	1	0.96	6	50	4	1	●
SH260-BN2-1.5-5-H	1.5	0.75	1.5	1.45	5	50	4	1	○
SH260-BN2-1.5-9-H	1.5	0.75	1.5	1.45	9	50	4	1	●
SH260-BN2-2-6-H	2	1	2	1.95	6	50	4	1	○
SH260-BN2-2-12-H	2	1	2	1.95	12	50	4	1	●
SH260-BN2-3-9-H	3	1.5	3	2.9	9	50	4	1	●
SH260-BN2-3-18-H	3	1.5	3	2.9	18	50	4	1	●
SH260-BN2-3-18-H-6	3	1.5	3	2.9	18	50	6	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	◎		◎	◎	○

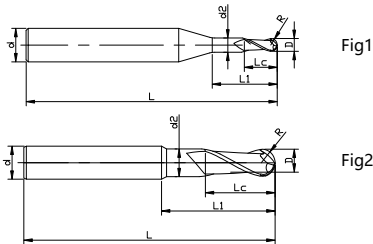
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P322
Cutting Parameters

SH260-BN2-H NEW

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH260-BN2-4-12-H	4	2	4	3.9	12	50	4	2	●
SH260-BN2-4-24-H	4	2	4	3.9	24	60	4	2	○
SH260-BN2-4-24-H-6	4	2	4	3.9	24	60	6	1	●
SH260-BN2-5-15-H	5	2.5	5	4.9	15	60	6	1	○
SH260-BN2-5-30-H	5	2.5	5	4.9	30	75	6	1	○
SH260-BN2-6-18-H	6	3	6	5.9	18	75	6	2	○
SH260-BN2-8-24-H	8	4	8	7.9	24	75	8	2	●
SH260-BN2-10-30-H	10	5	10	9.9	30	100	10	2	●
SH260-BN2-12-36-H	12	6	12	11.9	36	100	12	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.008

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
◎	◎		◎	◎	○

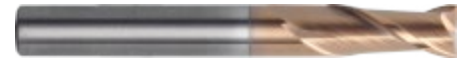
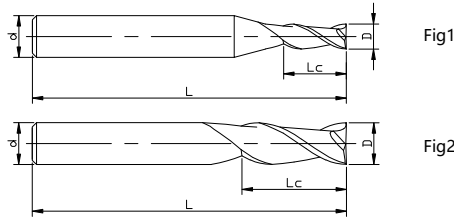
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P322
Cutting Parameters

SH300-S2-H

2刃平头

2 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-S2-01003-H	1	2.5	50	4	1	○
SH300-S2-01504-H	1.5	3.75	50	4	1	○
SH300-S2-02005-H	2	5	50	4	1	○
SH300-S2-03008-H	3	7.5	50	4	1	○
SH300-S2-63008-H	3	7.5	50	6	1	○
SH300-S2-04010-H	4	10	50	4	2	○
SH300-S2-64010-H	4	10	50	6	1	○
SH300-S2-05013-H	5	12.5	50	6	1	○
SH300-S2-06015-H	6	15	50	6	2	●
SH300-S2-08020-H	8	20	60	8	2	○
SH300-S2-08020E-H	8	20	75	8	2	○
SH300-S2-10025-H	10	25	75	10	2	○
SH300-S2-12030-H	12	30	75	12	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤12	0 -0.01
D>12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

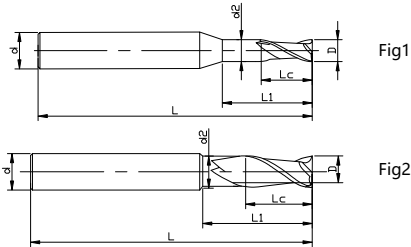
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SN2-H

2刃长颈平头

2 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-SN2-01003-H	1	1.5	0.95	3	50	4	1	○
SH300-SN2-01006-H	1	1.5	0.95	6	50	4	1	○
SH300-SN2-01505-H	1.5	2.25	1.45	4.5	50	4	1	○
SH300-SN2-01509-H	1.5	2.25	1.45	9	50	4	1	○
SH300-SN2-02006-H	2	3	1.95	6	50	4	1	○
SH300-SN2-02012-H	2	3	1.95	12	60	4	1	○
SH300-SN2-63009-H	3	4.5	2.9	9	60	6	1	○
SH300-SN2-63018-H	3	4.5	2.9	18	60	6	1	○
SH300-SN2-64012-H	4	6	3.9	12	60	6	1	○
SH300-SN2-64024-H	4	6	3.9	24	75	6	1	○
SH300-SN2-05015-H	5	7.5	4.9	15	60	6	1	○
SH300-SN2-05030-H	5	7.5	4.9	30	75	6	1	○
SH300-SN2-06018-H	6	9	5.9	18	75	6	2	○
SH300-SN2-06036-H	6	9	5.9	36	90	6	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 12	0 -0.01
D > 12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

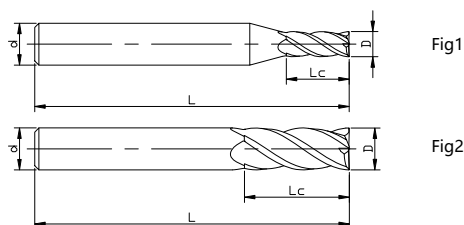
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SS4-H

4刃短刃平头
4 Flute, Stub Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SS4-31002-H	1	2	50	3	1	○
SH300-SS4-01002-H	1	2	50	4	1	○
SH300-SS4-61002-H	1	2	50	6	1	○
SH300-SS4-31503-H	1.5	3	50	3	1	○
SH300-SS4-01503-H	1.5	3	50	4	1	○
SH300-SS4-61503-H	1.5	3	50	6	1	○
SH300-SS4-33004-H	2	4	50	3	1	○
SH300-SS4-03004-H	2	4	50	4	1	○
SH300-SS4-63004-H	2	4	50	6	1	○
SH300-SS4-33006-H	3	6	50	3	2	○
SH300-SS4-03006-H	3	6	50	4	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SS4-H

4刃短刃平头
4 Flute, Stub Length

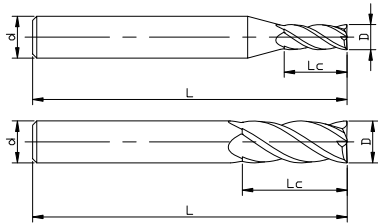


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SS4-63006-H	3	6	50	6	1	○
SH300-SS4-04008-H	4	8	50	4	2	○
SH300-SS4-64008-H	4	8	50	6	1	○
SH300-SS4-05010-H	5	10	50	6	1	○
SH300-SS4-06012-H	6	12	50	6	2	○
SH300-SS4-08012E-H	8	12	75	8	2	○
SH300-SS4-08016-H	8	16	60	8	2	○
SH300-SS4-10020-H	10	20	75	10	2	○
SH300-SS4-12024-H	12	24	75	12	2	○
SH300-SS4-14028-H	14	28	100	14	2	○
SH300-SS4-16032-H	16	32	100	16	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-S4-H

4刃平头

4 Flute, Standard Length

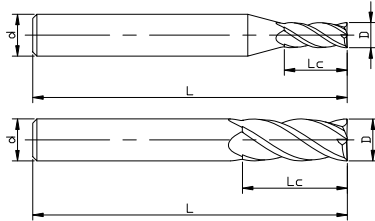


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-S4-31004-H	1	3.5	50	3	1	○
SH300-S4-01004-H	1	3.5	50	4	1	●
SH300-S4-61004-H	1	3.5	50	6	1	○
SH300-S4-31505-H	1.5	5	50	3	1	○
SH300-S4-01505-H	1.5	5	50	4	1	●
SH300-S4-61505-H	1.5	5	50	6	1	○
SH300-S4-32007-H	2	7	50	3	1	●
SH300-S4-02007-H	2	7	50	4	1	●
SH300-S4-62007-H	2	7	50	6	1	○
SH300-S4-33010-H	3	10	50	3	2	●
SH300-S4-03010-H	3	10	50	4	1	●
SH300-S4-63010-H	3	10	50	6	1	○
SH300-S4-04012-H	4	12	50	4	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-S4-H

4刃平头

4 Flute, Standard Length

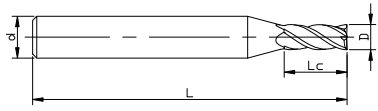


Fig1

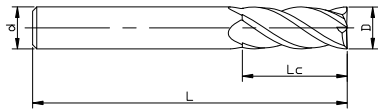


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-S4-64012-H	4	12	50	6	1	○
SH300-S4-05015-H	5	15	50	6	1	●
SH300-S4-06015-H	6	15	50	6	2	●
SH300-S4-08020-H	8	20	60	8	2	●
SH300-S4-08020E-H	8	20	75	8	2	●
SH300-S4-10025-H	10	25	75	10	2	●
SH300-S4-10025E-H	10	25	90	10	2	●
SH300-S4-12030-H	12	30	75	12	2	●
SH300-S4-12030E-H	12	30	90	12	2	○
SH300-S4-14035-H	14	35	100	14	2	○
SH300-S4-16040-H	16	40	100	16	2	○
SH300-S4-18040-H	18	40	100	18	2	○
SH300-S4-20045-H	20	45	100	20	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤8	0 -0.01
10<D≤12	0 -0.015
D>12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

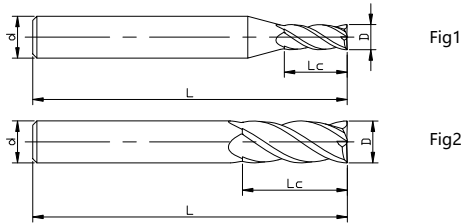
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SH4-H

4刃长柄平头

4 Flute, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SH4-31004-H	1	3.5	60	3	1	○
SH300-SH4-01004-H	1	3.5	60	4	1	●
SH300-SH4-61004-H	1	3.5	60	6	1	○
SH300-SH4-31505-H	1.5	5	60	3	1	○
SH300-SH4-01505-H	1.5	5	60	4	1	●
SH300-SH4-61505-H	1.5	5	60	6	1	○
SH300-SH4-32007-H	2	7	60	3	1	○
SH300-SH4-02007-H	2	7	60	4	1	●
SH300-SH4-62007-H	2	7	60	6	1	○
SH300-SH4-33010-H	3	10	60	3	2	○
SH300-SH4-03010-H	3	10	60	4	1	●
SH300-SH4-63010-H	3	10	60	6	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SH4-H

4刃长柄平头

4 Flute, with Long Shank Length

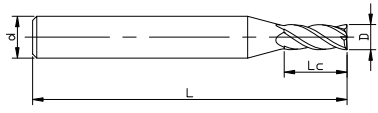


Fig1

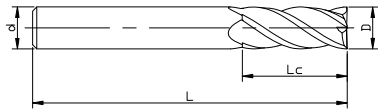


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SH4-04012-H	4	12	60	4	2	●
SH300-SH4-64012-H	4	12	60	6	1	○
SH300-SH4-05015-H	5	15	60	6	1	○
SH300-SH4-06015-H	6	15	60	6	2	○
SH300-SH4-06015E-H	6	15	75	6	2	●
SH300-SH4-08020E-H	8	20	100	8	2	●
SH300-SH4-10025-H	10	25	100	10	2	●
SH300-SH4-12030-H	12	30	100	12	2	●
SH300-SH4-14035-H	14	35	120	14	2	○
SH300-SH4-16040-H	16	40	120	16	2	○
SH300-SH4-18040-H	18	40	150	18	2	○
SH300-SH4-20045-H	20	45	150	20	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SL4-H

4刃长刃平头

4 Flute, Long Flute Length

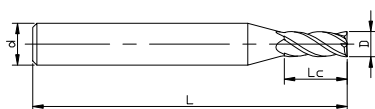


Fig1

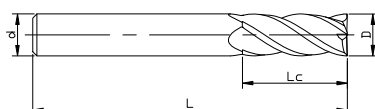


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SL4-01004-H	1	4	60	4	1	○
SH300-SL4-01006-H	1	6	60	4	1	●
SH300-SL4-61004-H	1	4	60	6	1	○
SH300-SL4-01508-H	1.5	8	60	4	1	●
SH300-SL4-61508-H	1.5	8	60	6	1	○
SH300-SL4-02008-H	2	8	60	4	1	○
SH300-SL4-62008-H	2	8	60	6	1	○
SH300-SL4-03012-H	3	12	60	4	1	○
SH300-SL4-63012-H	3	12	60	6	1	○
SH300-SL4-04016-H	4	16	60	4	2	○
SH300-SL4-64016-H	4	16	60	6	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SL4-H

4刃长刃平头

4 Flute, Long Flute Length

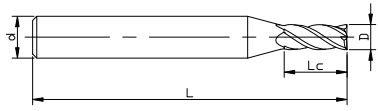


Fig1

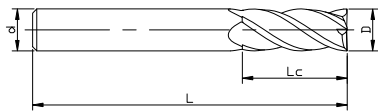


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SL4-05020-H	5	20	60	6	1	○
SH300-SL4-06020-H	6	20	60	6	2	○
SH300-SL4-06025E-H	6	25	75	6	2	○
SH300-SL4-08025-H	8	25	75	8	2	○
SH300-SL4-08030-H	8	30	75	8	2	○
SH300-SL4-10040-H	10	40	100	10	2	●
SH300-SL4-12040-H	12	40	100	12	2	○
SH300-SL4-14545-H	14	45	120	14	2	○
SH300-SL4-16055-H	16	55	120	16	2	○
SH300-SL4-20060-H	20	60	120	20	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

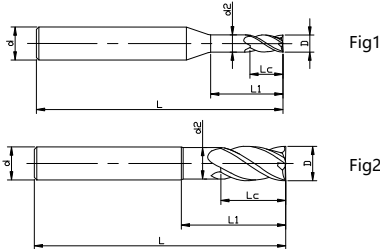
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SN4-H

4刃长颈平头

4 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-SN4-31004-H	1	2	0.96	4	50	3	1	○
SH300-SN4-01004-H	1	2	0.96	4	50	4	1	○
SH300-SN4-61004-H	1	2	0.96	4	50	6	1	○
SH300-SN4-31004E-H	1	2	0.96	4	60	3	1	○
SH300-SN4-01004E-H	1	2	0.96	4	60	4	1	●
SH300-SN4-61004E-H	1	2	0.96	4	60	6	1	●
SH300-SN4-31506-H	1.5	3	1.45	6	50	3	1	○
SH300-SN4-01506-H	1.5	3	1.45	6	50	4	1	○
SH300-SN4-61506-H	1.5	3	1.45	6	50	6	1	○
SH300-SN4-31506E-H	1.5	3	1.45	6	60	3	1	○
SH300-SN4-01506E-H	1.5	3	1.45	6	60	4	1	○
SH300-SN4-61508E-H	1.5	3	1.45	8	60	4	1	○
SH300-SN4-61506E-H	1.5	3	1.45	6	60	6	1	●
SH300-SN4-32008-H	2	4	1.9	8	50	3	1	○
SH300-SN4-02008-H	2	4	1.9	8	50	4	1	○
SH300-SN4-62008-H	2	4	1.9	8	50	6	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

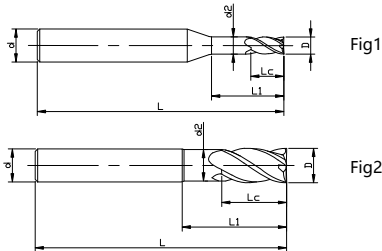
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SN4-H

4刃长颈平头

4 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-SN4-32008E-H	2	4	1.9	8	60	3	1	○
SH300-SN4-02008E-H	2	4	1.9	8	60	4	1	●
SH300-SN4-62008E-H	2	4	1.9	8	60	6	1	●
SH300-SN4-33012-H	3	6	2.9	12	50	3	2	○
SH300-SN4-03012-H	3	6	2.9	12	50	4	1	○
SH300-SN4-63012-H	3	6	2.9	12	50	6	1	○
SH300-SN4-33012E-H	3	6	2.9	12	60	3	2	○
SH300-SN4-03012E-H	3	6	2.9	12	60	4	1	○
SH300-SN4-63009E-H	3	6	2.9	9	60	6	1	●
SH300-SN4-63012E-H	3	6	2.9	12	60	6	1	●
SH300-SN4-64012E-H	4	8	3.9	12	60	6	1	●
SH300-SN4-04016-H	4	8	3.9	16	50	4	2	○
SH300-SN4-64016-H	4	8	3.9	16	50	6	1	○
SH300-SN4-04016E-H	4	8	3.9	16	60	4	2	○
SH300-SN4-64016E-H	4	8	3.9	16	60	6	1	●
SH300-SN4-05020-H	5	10	5.9	20	50	6	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

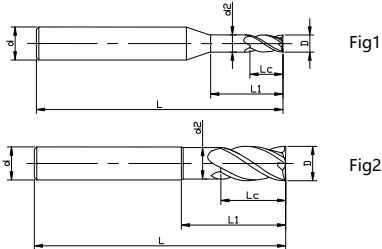
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-SN4-H

4刃长颈平头

4 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-SN4-05020E-H	5	10	5.9	20	60	6	1	○
SH300-SN4-05020F-H	5	10	5.9	20	75	6	1	○
SH300-SN4-06018E-H	6	12	5.9	18	60	6	2	●
SH300-SN4-06024-H	6	12	5.9	24	75	6	2	○
SH300-SN4-06024E-H	6	12	5.9	24	90	6	2	○
SH300-SN4-06024F-H	6	12	5.9	24	100	6	2	○
SH300-SN4-08024-H	8	16	7.9	24	75	8	2	●
SH300-SN4-08032-H	8	16	7.9	32	75	8	2	○
SH300-SN4-08032E-H	8	16	7.9	32	100	8	2	○
SH300-SN4-10040-H	10	20	9.9	40	100	10	2	●
SH300-SN4-10040E-H	10	20	9.9	40	120	10	2	○
SH300-SN4-12048-H	12	24	11.9	48	100	12	2	●
SH300-SN4-12048E-H	12	24	11.9	48	120	12	2	○
SH300-SN4-14056-H	14	28	13.9	56	120	14	2	○
SH300-SN4-16064-H	16	32	15.9	64	120	16	2	○
SH300-SN4-20080-H	20	40	19.9	80	120	20	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 < D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-S6-H

6刃平头刀

6 Flute, Standard Length

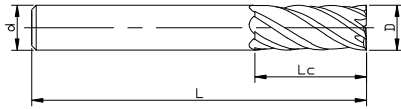


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-S6-06015-H	6	15	50	6	1	●
SH300-S6-08020-H	8	20	60	8	1	●
SH300-S6-08020E-H	8	20	75	8	1	○
SH300-S6-10025-H	10	25	75	10	1	●
SH300-S6-12030-H	12	30	75	12	1	○
SH300-S6-14035-H	14	35	100	14	1	○
SH300-S6-16040-H	16	40	100	16	1	○
SH300-S6-18040-H	18	40	100	18	1	○
SH300-S6-20045-H	20	45	100	20	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.015
D > 12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-SH6-H

6刃长柄平头刀

6 Flute, with Long Shank Length

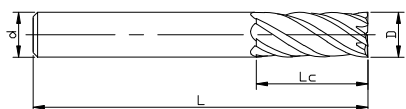


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SH6-06015-H	6	15	60	6	1	○
SH300-SH6-06015E-H	6	20	75	6	1	○
SH300-SH6-08020-H	8	20	90	8	1	○
SH300-SH6-10025-H	10	25	100	10	1	○
SH300-SH6-12030-H	12	30	100	12	1	●
SH300-SH6-14035-H	14	35	120	14	1	○
SH300-SH6-16040-H	16	40	120	16	1	○
SH300-SH6-18040-H	18	40	120	18	1	○
SH300-SH6-20045-H	20	45	120	20	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤12	0 -0.015
D>12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-SL6-H

6刃长刃平头刀

6 Flute, Long Flute Length

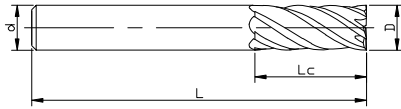


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SH300-SL6-06025-H	6	25	75	6	1	○
SH300-SL6-08035-H	8	35	100	8	1	○
SH300-SL6-10045-H	10	45	100	10	1	○
SH300-SL6-12055-H	12	55	100	12	1	○
SH300-SL6-14055-H	14	55	120	14	1	○
SH300-SL6-16065-H	16	65	120	16	1	○
SH300-SL6-20075-H	20	75	150	20	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 12	0 -0.015
D > 12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

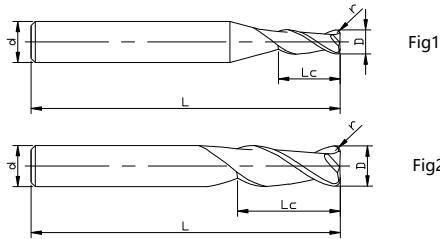
P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-R2-H

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R2-01001-H	1	2.5	0.1	50	4	1	○
SH300-R2-01002-H	1	2.5	0.2	50	4	1	○
SH300-R2-02001-H	2	5	0.1	50	4	1	○
SH300-R2-02002-H	2	5	0.2	50	4	1	○
SH300-R2-02003-H	2	5	0.3	50	4	1	○
SH300-R2-63002-H	3	7.5	0.2	50	6	1	○
SH300-R2-63003-H	3	7.5	0.3	50	6	1	○
SH300-R2-63005-H	3	7.5	0.5	50	6	1	○
SH300-R2-04003-H	4	10	0.3	50	4	2	○
SH300-R2-04005-H	4	10	0.5	50	4	2	○
SH300-R2-64005-H	4	10	0.5	50	6	1	○
SH300-R2-04010-H	4	10	1	50	4	2	○
SH300-R2-64010-H	4	10	1	50	6	1	○
SH300-R2-05005-H	5	12.5	0.5	50	6	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

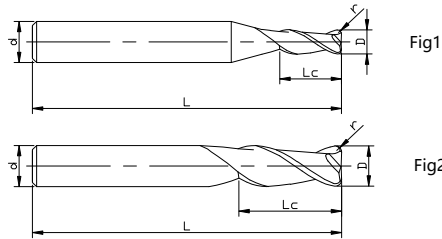
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-R2-H

2刃圆角头

2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R2-05010-H	5	12.5	1	50	6	1	○
SH300-R2-06005-H	6	15	0.5	50	6	2	○
SH300-R2-06010-H	6	15	1	50	6	2	○
SH300-R2-08005-H	8	20	0.5	60	8	2	○
SH300-R2-08010-H	8	20	1	60	8	2	○
SH300-R2-10005-H	10	25	0.5	75	10	2	○
SH300-R2-10010-H	10	25	1	75	10	2	○
SH300-R2-10015-H	10	25	1.5	75	10	2	○
SH300-R2-10020-H	10	25	2	75	10	2	○
SH300-R2-12005-H	12	30	0.5	75	12	2	○
SH300-R2-12010-H	12	30	1	75	12	2	○
SH300-R2-12015-H	12	30	1.5	75	12	2	○
SH300-R2-12020-H	12	30	2	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

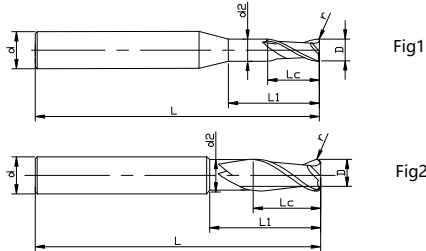
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN2-H

2刃长颈圆角头

2 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN2-01001-H	1	1.5	0.1	6	0.95	50	4	1	○
SH300-RN2-01002-H	1	1.5	0.2	6	0.95	50	4	1	○
SH300-RN2-02001-H	2	3	0.1	12	1.95	50	4	1	○
SH300-RN2-02002-H	2	3	0.2	12	1.95	50	4	1	○
SH300-RN2-02003-H	2	3	0.3	12	1.95	50	4	1	○
SH300-RN2-63002-H	3	4.5	0.2	18	2.9	60	6	1	○
SH300-RN2-63003-H	3	4.5	0.3	18	2.9	60	6	1	○
SH300-RN2-63005-H	3	4.5	0.5	18	2.9	60	6	1	○
SH300-RN2-64005-H	4	6	0.5	24	3.9	75	6	1	○
SH300-RN2-64010-H	4	6	1	24	3.9	75	6	1	○
SH300-RN2-05005-H	5	7.5	0.5	30	4.9	75	6	1	○
SH300-RN2-05010-H	5	7.5	1	30	4.9	75	6	1	○
SH300-RN2-06005-H	6	9	0.5	36	5.9	90	6	2	○
SH300-RN2-06010-H	6	9	1	36	5.9	90	6	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-R4-H

4刃圆角头

4 Flute, Corner Radius

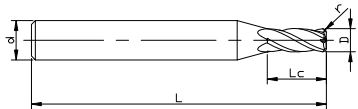


Fig1

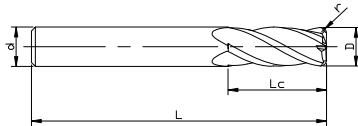


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R4-31001-H	1	3.5	0.1	50	3	1	○
SH300-R4-01001-H	1	3.5	0.1	50	4	1	○
SH300-R4-61001-H	1	3.5	0.1	50	6	1	○
SH300-R4-31002-H	1	3.5	0.2	50	3	1	○
SH300-R4-01002-H	1	3.5	0.2	50	4	1	○
SH300-R4-61002-H	1	3.5	0.2	50	6	1	○
SH300-R4-31501-H	1.5	5	0.1	50	3	1	○
SH300-R4-01501-H	1.5	5	0.1	50	4	1	○
SH300-R4-61501-H	1.5	5	0.1	50	6	1	○
SH300-R4-31502-H	1.5	5	0.2	50	3	1	○
SH300-R4-01502-H	1.5	5	0.2	50	4	1	○
SH300-R4-61502-H	1.5	5	0.2	50	6	1	○
SH300-R4-32001-H	2	7	0.1	50	3	1	○
SH300-R4-02001-H	2	7	0.1	50	4	1	○
SH300-R4-62001-H	2	7	0.1	50	6	1	○
SH300-R4-32002-H	2	7	0.2	50	3	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-R4-H

4刃圆角头
4 Flute, Corner Radius

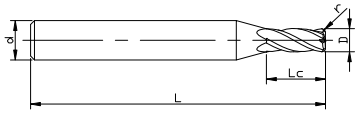


Fig1

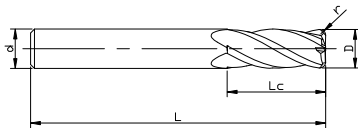


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R4-02002-H	2	7	0.2	50	4	1	●
SH300-R4-62002-H	2	7	0.2	50	6	1	○
SH300-R4-33002-H	3	10	0.2	50	3	2	○
SH300-R4-03002-H	3	10	0.2	50	4	1	○
SH300-R4-63002-H	3	10	0.2	50	6	1	○
SH300-R4-33005-H	3	10	0.5	50	3	2	○
SH300-R4-03005-H	3	10	0.5	50	4	1	●
SH300-R4-63005-H	3	10	0.5	50	6	1	○
SH300-R4-04002-H	4	12	0.2	50	4	2	○
SH300-R4-64002-H	4	12	0.2	50	6	1	○
SH300-R4-04005-H	4	12	0.5	50	4	2	○
SH300-R4-64005-H	4	12	0.5	50	6	1	○
SH300-R4-05002-H	5	15	0.2	50	6	1	○
SH300-R4-05005-H	5	15	0.5	50	6	1	○
SH300-R4-06005-H	6	15	0.5	50	6	2	●
SH300-R4-06010-H	6	15	1	50	6	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-R4-H

4刃圆角头

4 Flute, Corner Radius

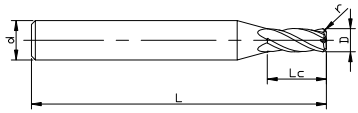


Fig1

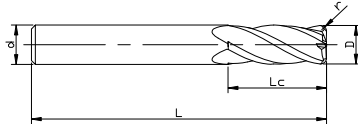


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R4-08005-H	8	20	0.5	60	8	2	●
SH300-R4-08005E-H	8	20	0.5	75	8	2	○
SH300-R4-08010-H	8	20	1	60	8	2	○
SH300-R4-08010E-H	8	20	1	75	8	2	○
SH300-R4-10005-H	10	25	0.5	75	10	2	○
SH300-R4-10010-H	10	25	1	75	10	2	○
SH300-R4-10020-H	10	25	2	75	10	2	○
SH300-R4-12005-H	12	30	0.5	75	12	2	○
SH300-R4-12010-H	12	30	1	75	12	2	●
SH300-R4-12020-H	12	30	2	75	12	2	○
SH300-R4-16010-H	16	40	1	100	16	2	○
SH300-R4-16020-H	16	40	2	100	16	2	○
SH300-R4-20010-H	20	45	1	100	20	2	○
SH300-R4-20020-H	20	45	2	100	20	2	○
SH300-R4-20030-H	20	45	3	100	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RH4-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

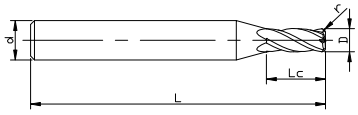


Fig1

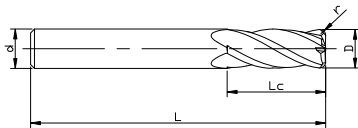


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-RH4-31001-H	1	3.5	0.1	60	3	1	○
SH300-RH4-01001-H	1	3.5	0.1	60	4	1	○
SH300-RH4-61001-H	1	3.5	0.1	60	6	1	○
SH300-RH4-31002-H	1	3.5	0.2	60	3	1	○
SH300-RH4-01002-H	1	3.5	0.2	60	4	1	○
SH300-RH4-61002-H	1	3.5	0.2	60	6	1	○
SH300-RH4-31501-H	1.5	5	0.1	60	3	1	○
SH300-RH4-01501-H	1.5	5	0.1	60	4	1	○
SH300-RH4-61501-H	1.5	5	0.1	60	6	1	○
SH300-RH4-31502-H	1.5	5	0.2	60	3	1	○
SH300-RH4-01502-H	1.5	5	0.2	60	4	1	○
SH300-RH4-61502-H	1.5	5	0.2	60	6	1	○
SH300-RH4-32001-H	2	7	0.1	60	3	1	○
SH300-RH4-02001J-H	2	6	0.1	60	4	1	○
SH300-RH4-02001-H	2	7	0.1	60	4	1	○
SH300-RH4-62001-H	2	7	0.1	60	6	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

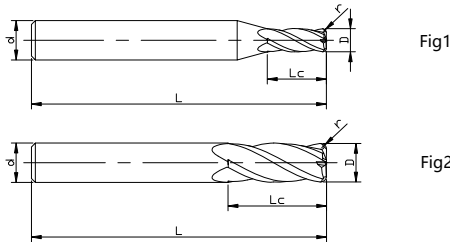
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RH4-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-RH4-32002-H	2	7	0.2	60	3	1	○
SH300-RH4-02002-H	2	7	0.2	60	4	1	○
SH300-RH4-62002-H	2	7	0.2	60	6	1	○
SH300-RH4-33002-H	3	10	0.2	60	3	2	○
SH300-RH4-03002-H	3	10	0.2	60	4	1	○
SH300-RH4-63002A-H	3	8	0.2	60	6	1	○
SH300-RH4-63002-H	3	10	0.2	60	6	1	○
SH300-RH4-33005-H	3	10	0.5	60	3	2	○
SH300-RH4-03005-H	3	10	0.5	60	4	1	○
SH300-RH4-63005-H	3	10	0.5	60	6	1	○
SH300-RH4-04002-H	4	12	0.2	60	4	2	●
SH300-RH4-04005-H	4	12	0.5	60	4	2	○
SH300-RH4-05002-H	5	15	0.2	60	6	1	○
SH300-RH4-05005-H	5	15	0.5	60	6	1	○
SH300-RH4-06005-H	6	15	0.5	60	6	2	○
SH300-RH4-06005E-H	6	15	0.5	75	6	2	●

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RH4-H

4刃长柄圆角头

4 Flute Corner Radius, with Long Shank Length

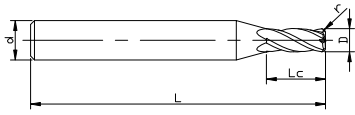


Fig1

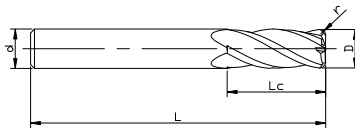


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-RH4-06010-H	6	15	1	60	6	2	○
SH300-RH4-06010E-H	6	15	1	75	6	2	○
SH300-RH4-08005-H	8	20	0.5	100	8	2	●
SH300-RH4-08010-H	8	20	1	100	8	2	○
SH300-RH4-10005-H	10	25	0.5	100	10	2	○
SH300-RH4-10010-H	10	25	1	100	10	2	●
SH300-RH4-10020-H	10	25	2	100	10	2	●
SH300-RH4-12005-H	12	30	0.5	100	12	2	●
SH300-RH4-12010-H	12	30	1	100	12	2	●
SH300-RH4-12020-H	12	30	2	100	12	2	●
SH300-RH4-16010-H	16	40	1	150	16	2	○
SH300-RH4-16020-H	16	40	2	150	16	2	○
SH300-RH4-20010-H	20	45	1	150	20	2	○
SH300-RH4-20020-H	20	45	2	150	20	2	○
SH300-RH4-20030-H	20	45	3	150	20	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

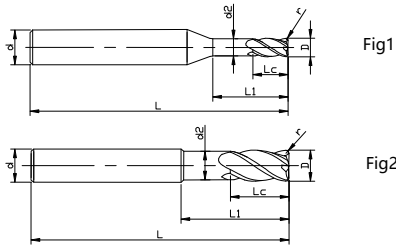
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-31001-H	1	2	0.1	4	0.95	50	3	1	○
SH300-RN4-01001-H	1	2	0.1	4	0.95	50	4	1	○
SH300-RN4-61001-H	1	2	0.1	4	0.95	50	6	1	○
SH300-RN4-31001E-H	1	2	0.1	4	0.95	60	3	1	○
SH300-RN4-01001E-H	1	2	0.1	4	0.95	60	4	1	●
SH300-RN4-61001E-H	1	2	0.1	4	0.95	60	6	1	○
SH300-RN4-01001M-H	1	2	0.1	6	0.95	50	4	1	○
SH300-RN4-31002-H	1	2	0.2	4	0.95	50	3	1	○
SH300-RN4-01002-H	1	2	0.2	4	0.95	50	4	1	○
SH300-RN4-61002-H	1	2	0.2	4	0.95	50	6	1	○
SH300-RN4-31002E-H	1	2	0.2	4	0.95	60	3	1	○
SH300-RN4-01002E-H	1	2	0.2	4	0.95	60	4	1	○
SH300-RN4-61002E-H	1	2	0.2	4	0.95	60	6	1	○
SH300-RN4-31501-H	1.5	3	0.1	6	1.45	50	3	1	○
SH300-RN4-01501-H	1.5	3	0.1	6	1.45	50	4	1	○
SH300-RN4-61501-H	1.5	3	0.1	6	1.45	50	6	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

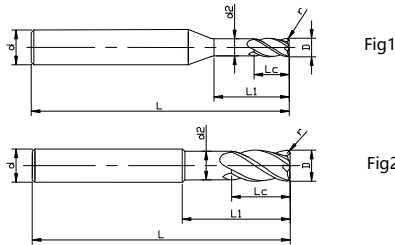
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-31501E-H	1.5	3	0.1	6	1.45	60	3	1	○
SH300-RN4-01501E-H	1.5	3	0.1	6	1.45	60	4	1	○
SH300-RN4-61501E-H	1.5	3	0.1	6	1.45	60	6	1	○
SH300-RN4-31502-H	1.5	3	0.2	6	1.45	50	3	1	○
SH300-RN4-01502-H	1.5	3	0.2	6	1.45	50	4	1	○
SH300-RN4-61502-H	1.5	3	0.2	6	1.45	50	6	1	○
SH300-RN4-31502E-H	1.5	3	0.2	6	1.45	60	3	1	○
SH300-RN4-01502E-H	1.5	3	0.2	6	1.45	60	4	1	○
SH300-RN4-61502E-H	1.5	3	0.2	6	1.45	60	6	1	○
SH300-RN4-32001-H	2	4	0.1	8	1.95	50	3	1	○
SH300-RN4-02001-H	2	4	0.1	8	1.95	50	4	1	○
SH300-RN4-62001-H	2	4	0.1	8	1.95	50	6	1	○
SH300-RN4-32001E-H	2	4	0.1	8	1.95	60	3	1	○
SH300-RN4-02001J-H	2	4	0.1	6	1.95	60	4	1	●
SH300-RN4-02001E-H	2	4	0.1	8	1.95	60	4	1	●
SH300-RN4-62001E-H	2	4	0.1	8	1.95	60	6	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

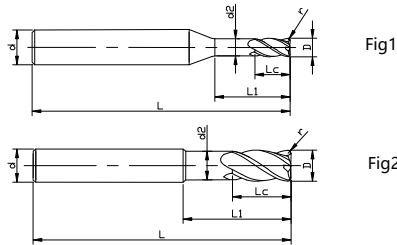
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-32002-H	2	4	0.2	8	1.95	50	3	1	○
SH300-RN4-02002-H	2	4	0.2	8	1.95	50	4	1	○
SH300-RN4-62002-H	2	4	0.2	8	1.95	50	6	1	○
SH300-RN4-32002E-H	2	4	0.2	8	1.95	60	3	1	○
SH300-RN4-02002E-H	2	4	0.2	8	1.95	60	4	1	○
SH300-RN4-62002E-H	2	4	0.2	8	1.95	60	6	1	○
SH300-RN4-33002-H	3	6	0.2	12	2.9	50	3	2	○
SH300-RN4-03002-H	3	6	0.2	12	2.9	50	4	1	○
SH300-RN4-63002-H	3	6	0.2	12	2.9	50	6	1	○
SH300-RN4-33002E-H	3	6	0.2	12	2.9	60	3	2	○
SH300-RN4-03002E-H	3	6	0.2	12	2.9	60	4	1	●
SH300-RN4-63002J-H	3	6	0.2	12	2.9	60	6	1	●
SH300-RN4-63002E-H	3	6	0.2	12	2.9	60	6	1	○
SH300-RN4-33005-H	3	6	0.5	12	2.9	50	3	2	○
SH300-RN4-03005-H	3	6	0.5	12	2.9	50	4	1	○
SH300-RN4-63005-H	3	6	0.5	12	2.9	50	6	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

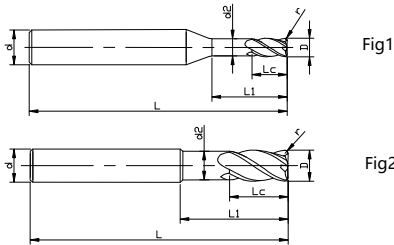
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-33005E-H	3	6	0.5	12	2.9	60	3	2	○
SH300-RN4-03005E-H	3	6	0.5	12	2.9	60	4	1	○
SH300-RN4-63005E-H	3	6	0.5	12	2.9	60	6	1	○
SH300-RN4-04002-H	4	8	0.2	16	3.9	50	4	2	○
SH300-RN4-64002-H	4	8	0.2	16	3.9	50	6	1	○
SH300-RN4-04002E-H	4	8	0.2	16	3.9	60	4	2	○
SH300-RN4-64002E-H	4	8	0.2	16	3.9	60	6	1	○
SH300-RN4-04005-H	4	8	0.5	16	3.9	50	4	2	○
SH300-RN4-64005-H	4	8	0.5	16	3.9	50	6	1	●
SH300-RN4-04005E-H	4	8	0.5	16	3.9	60	4	2	○
SH300-RN4-64005E-H	4	8	0.5	16	3.9	60	6	1	○
SH300-RN4-64005L-H	4	8	0.5	20	3.9	60	6	1	●
SH300-RN4-05002-H	5	10	0.2	20	4.9	50	6	1	○
SH300-RN4-05002F-H	5	10	0.2	20	4.9	75	6	1	○
SH300-RN4-05005-H	5	10	0.5	20	4.9	50	6	1	○
SH300-RN4-05005F-H	5	10	0.5	20	4.9	75	6	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

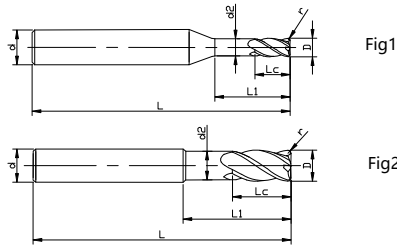
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-06005J-H	6	12	0.5	24	5.9	60	6	2	○
SH300-RN4-06005-H	6	12	0.5	24	5.9	50	6	2	○
SH300-RN4-06005E-H	6	12	0.5	24	5.9	60	6	2	○
SH300-RN4-06005F-H	6	12	0.5	24	5.9	75	6	2	●
SH300-RN4-06010-H	6	12	1	24	5.9	50	6	2	○
SH300-RN4-06010E-H	6	12	1	24	5.9	60	6	2	○
SH300-RN4-06010F-H	6	12	1	24	5.9	75	6	2	○
SH300-RN4-08005-H	8	16	0.5	32	7.9	60	8	2	○
SH300-RN4-08005E-H	8	16	0.5	32	7.9	75	8	2	○
SH300-RN4-08010-H	8	16	1	32	7.9	60	8	2	○
SH300-RN4-08010E-H	8	16	1	32	7.9	75	8	2	●
SH300-RN4-10005-H	10	20	0.5	40	9.9	75	10	2	○
SH300-RN4-10005F-H	10	20	0.5	40	9.9	100	10	2	○
SH300-RN4-10010-H	10	20	1	40	9.9	75	10	2	○
SH300-RN4-10010F-H	10	20	1	40	9.9	100	10	2	○
SH300-RN4-10020-H	10	20	2	40	9.9	75	10	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

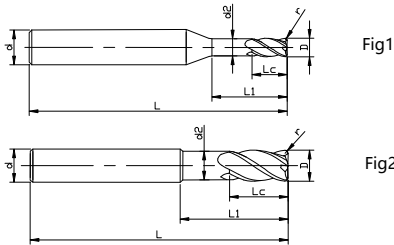
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L1	d2	L	d	图号 Figure No.	库存 Stock
SH300-RN4-10020F-H	10	20	2	40	9.9	100	10	2	○
SH300-RN4-12005-H	12	24	0.5	48	11.9	75	12	2	○
SH300-RN4-12005F-H	12	24	0.5	48	11.9	100	12	2	○
SH300-RN4-12010-H	12	24	1	48	11.9	75	12	2	○
SH300-RN4-12010F-H	12	24	1	48	11.9	100	12	2	●
SH300-RN4-12020-H	12	24	2	48	11.9	75	12	2	○
SH300-RN4-12020F-H	12	24	2	48	11.9	100	12	2	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D ≤ 8	0 -0.01
10 ≤ D ≤ 12	0 -0.015
D > 12	0 -0.02

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

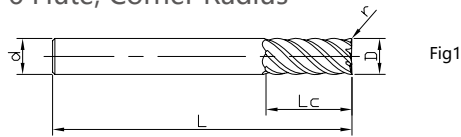
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P323
Cutting Parameters

SH300-R6-H

6刃圆角头刀

6 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R6-06005-H	6	15	0.5	50	6	1	●
SH300-R6-06010-H	6	15	1	50	6	1	○
SH300-R6-08005-H	8	20	0.5	60	8	1	○
SH300-R6-08010-H	8	20	1	60	8	1	○
SH300-R6-08005E-H	8	20	0.5	75	8	1	●
SH300-R6-08010E-H	8	20	1	75	8	1	○
SH300-R6-10005-H	10	25	0.5	75	10	1	○
SH300-R6-10010-H	10	25	1	75	10	1	●
SH300-R6-10020-H	10	25	2	75	10	1	○
SH300-R6-12005-H	12	30	0.5	75	12	1	○
SH300-R6-12010-H	12	30	1	75	12	1	○

●标准库存Stock
○需预定Available Upon Order

D	公差Tol
D ≤ 12	0 -0.015
D > 12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢, 合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-R6-H

6刃圆角头刀
6 Flute, Corner Radius

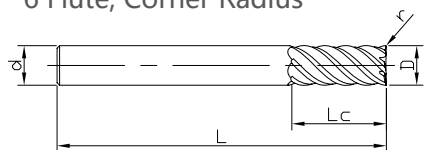


Fig1



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-R6-12020-H	12	30	2	75	12	1	○
SH300-R6-14005-H	14	35	0.5	100	14	1	○
SH300-R6-14010-H	14	35	1	100	14	1	○
SH300-R6-14020-H	14	35	2	100	14	1	○
SH300-R6-16010-H	16	40	1	100	16	1	○
SH300-R6-16020-H	16	40	2	100	16	1	○
SH300-R6-16030-H	16	40	3	100	16	1	○
SH300-R6-20010-H	20	45	1	100	20	1	○
SH300-R6-20020-H	20	45	2	100	20	1	○
SH300-R6-20030-H	20	45	3	100	20	1	○

●标准库存Stock
○需预定Available Upon Order

D	公差Tol
D≤12	0 -0.015
D>12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

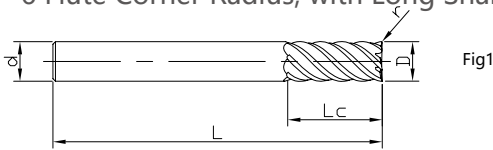
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-RH6-H

6刃长柄圆角头刀

6 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-RH6-06005-H	6	15	0.5	60	6	1	○
SH300-RH6-06010-H	6	15	1	60	6	1	○
SH300-RH6-06005E-H	6	15	0.5	75	6	1	○
SH300-RH6-06010E-H	6	15	1	75	6	1	○
SH300-RH6-08005-H	8	20	0.5	75	8	1	○
SH300-RH6-08010-H	8	20	1	75	8	1	○
SH300-RH6-10005-H	10	25	0.5	100	10	1	○
SH300-RH6-10010-H	10	25	1	100	10	1	○
SH300-RH6-10020-H	10	25	2	100	10	1	○
SH300-RH6-12005-H	12	30	0.5	100	12	1	○
SH300-RH6-12010-H	12	30	1	100	12	1	●

●标准库存Stock
○需预定Available Upon Order

D	公差Tol
D ≤ 12	0 -0.015
D > 12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

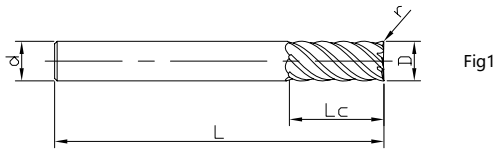
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-RH6-H

6刃长柄圆角头刀

6 Flute Corner Radius, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SH300-RH6-12020-H	12	30	2	100	12	1	○
SH300-RH6-14005-H	14	35	0.5	120	14	1	○
SH300-RH6-14010-H	14	35	1	120	14	1	○
SH300-RH6-14020-H	14	35	2	120	14	1	○
SH300-RH6-16010-H	16	40	1	120	16	1	○
SH300-RH6-16020-H	16	40	2	120	16	1	○
SH300-RH6-16030-H	16	40	3	120	16	1	○
SH300-RH6-20002-H	20	45	0.2	120	20	1	○
SH300-RH6-20010-H	20	45	1	120	20	1	○
SH300-RH6-20020-H	20	45	2	120	20	1	○
SH300-RH6-20030-H	20	45	3	120	20	1	○

●标准库存Stock
○需预定Available Upon Order

D	公差Tol
D ≤ 12	0 -0.015
D > 12	0 -0.020

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

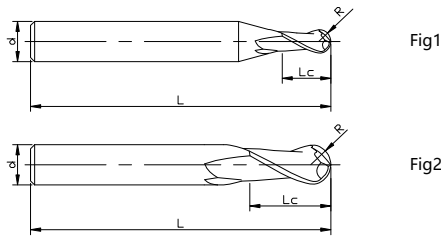
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-B2-H

2刃球头

2 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-B2-30601-H	0.6	0.3	0.9	50	3	1	○
SH300-B2-00601-H	0.6	0.3	0.9	50	4	1	●
SH300-B2-60601-H	0.6	0.3	0.9	50	6	1	○
SH300-B2-31002-H	1	0.5	1.5	50	3	1	○
SH300-B2-01002-H	1	0.5	1.5	50	4	1	●
SH300-B2-61002-H	1	0.5	1.5	50	6	1	○
SH300-B2-31502-H	1.5	0.75	2.3	50	3	1	○
SH300-B2-01502-H	1.5	0.75	2.3	50	4	1	●
SH300-B2-61502-H	1.5	0.75	2.3	50	6	1	○
SH300-B2-32003-H	2	1	3	50	3	1	○
SH300-B2-02003-H	2	1	3	50	4	1	●
SH300-B2-62003-H	2	1	3	50	6	1	○

●标准库存Stock
○需预定Available Upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-B2-H

2刃球头

2 Flute, Ballnose

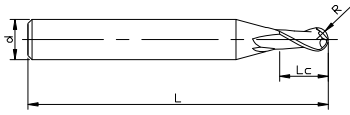


Fig1

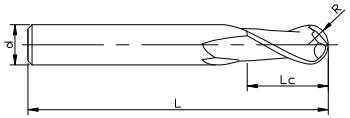


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-B2-33005-H	3	1.5	4.5	50	3	2	○
SH300-B2-03005-H	3	1.5	4.5	50	4	1	●
SH300-B2-63005-H	3	1.5	4.5	50	6	1	○
SH300-B2-04006-H	4	2	6	50	4	2	●
SH300-B2-64006-H	4	2	6	50	6	1	○
SH300-B2-05008-H	5	2.5	7.5	50	6	1	○
SH300-B2-06009-H	6	3	9	50	6	2	●
SH300-B2-08012-H	8	4	12	60	8	2	●
SH300-B2-08012E-H	8	4	12	75	8	2	●
SH300-B2-10015-H	10	5	15	75	10	2	●
SH300-B2-12018-H	12	6	18	75	12	2	○

●标准库存Stock
○需预定Available Upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

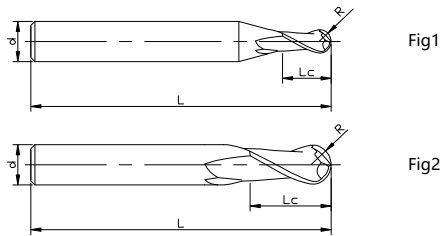
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BH2-H

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-BH2-30601-H	0.6	0.3	0.9	60	3	1	○
SH300-BH2-00601-H	0.6	0.3	0.9	60	4	1	○
SH300-BH2-60601-H	0.6	0.3	0.9	60	6	1	○
SH300-BH2-31002-H	1	0.5	1.5	60	3	1	○
SH300-BH2-01002-H	1	0.5	1.5	60	4	1	○
SH300-BH2-61002-H	1	0.5	1.5	60	6	1	○
SH300-BH2-31502-H	1.5	0.75	2.3	60	3	1	●
SH300-BH2-01502-H	1.5	0.75	2.3	60	4	1	○
SH300-BH2-61502-H	1.5	0.75	2.3	60	6	1	○
SH300-BH2-32003-H	2	1	3	60	3	1	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

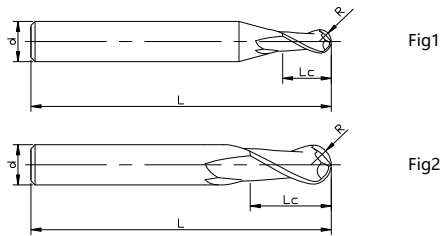
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BH2-H

2刃长柄球头

2 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-BH2-02003-H	2	1	3	60	4	1	○
SH300-BH2-62003-H	2	1	3	60	6	1	○
SH300-BH2-04006-H	4	2	6	60	4	2	○
SH300-BH2-64006-H	4	2	6	60	6	1	○
SH300-BH2-05008-H	5	2.5	7.5	60	6	1	○
SH300-BH2-06009-H	6	3	9	60	6	2	○
SH300-BH2-06009E-H	6	3	9	75	6	2	●
SH300-BH2-08012-H	8	4	12	100	8	2	●
SH300-BH2-10015-H	10	5	15	100	10	2	●
SH300-BH2-12018-H	12	6	18	100	12	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

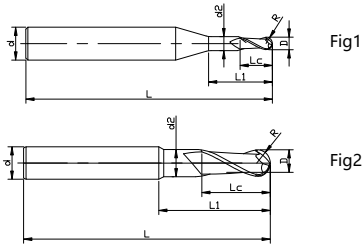
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-BN2-30602-H	0.6	0.3	0.9	0.55	1.5	50	3	1	○
SH300-BN2-00602-H	0.6	0.3	0.9	0.55	1.5	50	4	1	○
SH300-BN2-60602-H	0.6	0.3	0.9	0.55	1.5	50	6	1	○
SH300-BN2-31003-H	1	0.5	1.5	0.95	2.5	50	3	1	○
SH300-BN2-01003-H	1	0.5	1.5	0.95	2.5	50	4	1	○
SH300-BN2-61003-H	1	0.5	1.5	0.95	2.5	50	6	1	○
SH300-BN2-01006-H	1	0.5	1.5	0.95	6	50	4	1	●
SH300-BN2-31504-H	1.5	0.75	2.3	1.45	3.75	50	3	1	○
SH300-BN2-01504-H	1.5	0.75	2.3	1.45	3.75	50	4	1	●
SH300-BN2-61504-H	1.5	0.75	2.3	1.45	3.75	50	6	1	○
SH300-BN2-61506-H	1.5	0.75	2.3	1.45	6	50	6	1	○
SH300-BN2-32005-H	2	1	3	1.95	5	50	3	1	○
SH300-BN2-02005-H	2	1	3	1.95	5	50	4	1	●
SH300-BN2-62005-H	2	1	3	1.95	5	50	6	1	○
SH300-BN2-32005E-H	2	1	3	1.95	5	60	3	1	○
SH300-BN2-02005E-H	2	1	3	1.95	5	60	4	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

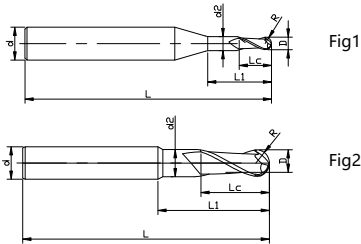
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-BN2-62005E-H	2	1	3	1.95	5	60	6	1	○
SH300-BN2-02006E-H	2	1	3	1.95	6	60	4	1	○
SH300-BN2-02008-H	2	1	3	1.95	8	50	4	1	●
SH300-BN2-02010E-H	2	1	3	1.95	10	60	4	1	●
SH300-BN2-33008-H	3	1.5	4.5	2.9	7.5	50	3	2	○
SH300-BN2-03006-H	3	1.5	4.5	2.9	6	50	4	1	○
SH300-BN2-03008-H	3	1.5	4.5	2.9	7.5	50	4	1	○
SH300-BN2-03015E-H	3	1.5	4.5	2.9	15	60	4	1	○
SH300-BN2-63008-H	3	1.5	4.5	2.9	7.5	50	6	1	○
SH300-BN2-63012-H	3	1.5	4.5	2.9	12	50	6	1	○
SH300-BN2-33008E-H	3	1.5	4.5	2.9	7.5	60	3	2	○
SH300-BN2-03008E-H	3	1.5	4.5	2.9	7.5	60	4	1	○
SH300-BN2-63008E-H	3	1.5	4.5	2.9	7.5	60	6	1	○
SH300-BN2-63009E-H	3	1.5	4.5	2.9	9	60	6	1	○
SH300-BN2-63012E-H	3	1.5	4.5	2.9	12	60	6	1	●
SH300-BN2-63015E-H	3	1.5	4.5	2.9	15	60	6	1	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

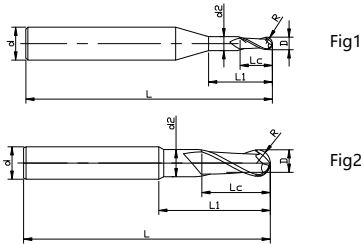
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-BN2-04010-H	4	2	6	3.9	10	50	4	2	○
SH300-BN2-04010E-H	4	2	6	3.9	10	60	4	2	○
SH300-BN2-64010-H	4	2	6	3.9	10	50	6	1	●
SH300-BN2-64010E-H	4	2	6	3.9	10	60	6	1	○
SH300-BN2-64012E-H	4	2	6	3.9	12	60	6	1	●
SH300-BN2-64016E-H	4	2	6	3.9	16	60	6	1	●
SH300-BN2-04020F-H	4	2	6	3.9	20	75	4	2	●
SH300-BN2-05013-H	5	2.5	7.5	4.9	12.5	50	6	1	○
SH300-BN2-06015-H	6	3	9	5.9	15	50	6	2	●
SH300-BN2-06015E-H	6	3	9	5.9	15	60	6	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R≤3	±0.005
R>3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

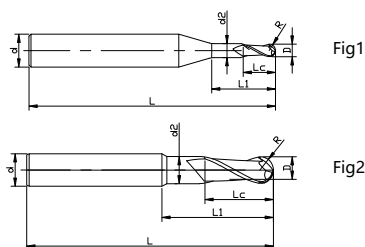
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-BN2-H

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-BN2-06015F-H	6	3	9	5.9	15	75	6	2	○
SH300-BN2-06030G-H	6	3	9	5.9	30	100	6	2	●
SH300-BN2-08020-H	8	4	12	7.9	20	60	8	2	●
SH300-BN2-08020E-H	8	4	12	7.9	20	75	8	2	○
SH300-BN2-08020G-H	8	4	12	7.9	20	100	8	2	○
SH300-BN2-08040G-H	8	4	12	7.9	40	100	8	2	●
SH300-BN2-10025-H	10	5	15	9.9	25	75	10	2	○
SH300-BN2-10025F-H	10	5	15	9.9	25	100	10	2	●
SH300-BN2-12030-H	12	6	18	11.9	30	75	12	2	○
SH300-BN2-12030F-H	12	6	18	11.9	30	100	12	2	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

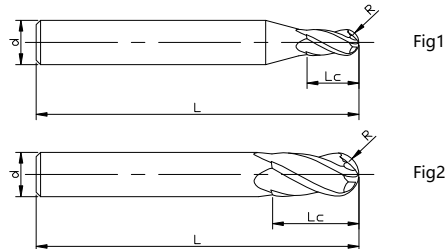
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P324
Cutting Parameters

SH300-B4-H

4刃球头

4 Flute, Ballnose



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-B4-02003-H	2	1	3	50	4	1	○
SH300-B4-62003-H	2	1	3	50	6	1	○
SH300-B4-03005-H	3	1.5	4.5	50	4	1	○
SH300-B4-63005-H	4	2	4.5	50	6	1	○
SH300-B4-64006-H	4	2	6	50	6	1	○
SH300-B4-05008-H	5	2.5	7.5	50	6	1	○
SH300-B4-06009-H	6	3	9	50	6	2	●
SH300-B4-08012-H	8	4	12	60	8	2	○
SH300-B4-10015-H	10	5	15	75	10	2	○
SH300-B4-12018-H	12	6	18	75	12	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

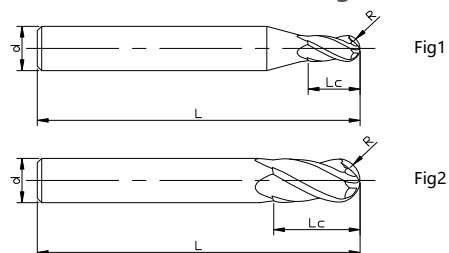
工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P325
Cutting Parameters

4刃长柄球头 4 Flute Ballnose, with Long Shank Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SH300-BH4-02003-H	2	1	3	60	4	1	○
SH300-BH4-62003-H	2	1	3	60	6	1	○
SH300-BH4-03005-H	3	1.5	4.5	60	4	1	○
SH300-BH4-63005-H	3	1.5	4.5	60	6	1	○
SH300-BH4-64006-H	4	2	6	60	6	1	○
SH300-BH4-05008-H	5	2.5	7.5	60	6	1	○
SH300-BH4-06009-H	6	3	9	75	6	2	●
SH300-BH4-08012-H	8	4	12	75	8	2	○
SH300-BH4-10015-H	10	5	15	100	10	2	○
SH300-BH4-12018-H	12	6	18	100	12	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

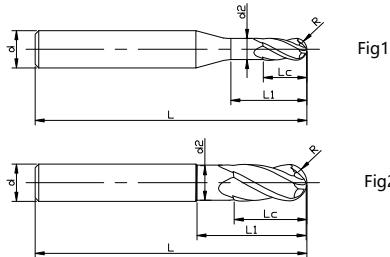
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P325

SH300-BN4-H

4刃长颈球头

4 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SH300-BN4-02006-H	2	1	3	1.9	6	50	4	1	●
SH300-BN4-62006-H	2	1	3	1.9	6	50	6	1	○
SH300-BN4-02508-H	2.5	1.25	4	2.38	7.5	50	4	1	○
SH300-BN4-62508-H	2.5	1.25	4	2.38	7.5	50	6	1	○
SH300-BN4-03009-H	3	1.5	4.5	2.9	9	60	4	1	○
SH300-BN4-63009-H	3	1.5	4.5	2.9	9	60	6	1	○
SH300-BN4-04012-H	4	2	6	3.9	12	75	4	2	●
SH300-BN4-64012-H	4	2	6	3.9	12	75	6	1	○
SH300-BN4-05015-H	5	2.5	7.5	4.7	15	75	6	1	○
SH300-BN4-06018-H	6	3	9	5.7	18	75	6	2	○
SH300-BN4-08024-H	8	4	12	7.6	24	100	8	2	○
SH300-BN4-10030-H	10	5	15	9.5	30	100	10	2	○
SH300-BN4-12036-H	12	6	18	11.5	36	120	12	2	○

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 3	±0.005
R > 3	±0.007

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	○		○	◎	◎

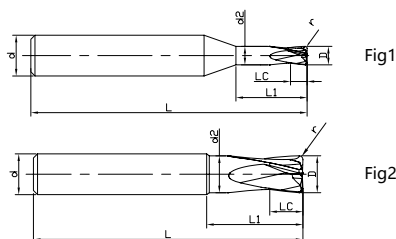
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P325

FH200-R4-H

4刃圆角头

4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-R4-01002-H	1	1	0.2	0.95	2	50	4	1	○
FH200-R4-01505-H	1.5	1.5	0.5	1.45	3	50	4	1	○
FH200-R4-02005-H	2	2	0.5	1.9	4	50	6	1	○
FH200-R4-03005-H	3	3	0.5	2.9	6	50	6	1	○
FH200-R4-04005-H	4	4	0.5	3.8	8	60	6	1	●
FH200-R4-05005-H	5	5	0.5	4.7	10	60	6	1	○
FH200-R4-05010-H	5	5	1	4.7	10	60	6	1	○
FH200-R4-06003-H	6	6	0.3	5.7	12	60	6	2	○
FH200-R4-06005-H	6	6	0.5	5.7	12	60	6	2	●
FH200-R4-06010-H	6	6	1	5.7	12	60	6	2	○
FH200-R4-06015-H	6	6	1.5	5.7	12	60	6	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 5	0 -0.01
D > 5	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

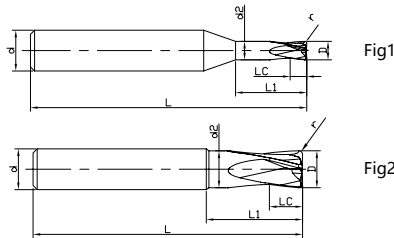
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P326

FH200-R4-H

4刃圆角头

4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-R4-08003-H	8	8	0.3	7.6	16	60	8	2	○
FH200-R4-08005-H	8	8	0.5	7.6	16	60	8	2	○
FH200-R4-08010-H	8	8	1	7.6	16	60	8	2	●
FH200-R4-08020-H	8	8	2	7.6	16	60	8	2	○
FH200-R4-10005-H	10	10	0.5	9.5	20	75	10	2	○
FH200-R4-10010-H	10	10	1	9.5	20	75	10	2	●
FH200-R4-10020-H	10	10	2	9.5	20	75	10	2	○
FH200-R4-12005-H	12	12	0.5	11.5	24	75	12	2	○
FH200-R4-12010-H	12	12	1	11.5	24	75	12	2	○
FH200-R4-12020-H	12	12	2	11.5	24	75	12	2	○
FH200-R4-12030-H	12	12	3	11.5	24	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D ≤ 5	0 -0.01
D > 5	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

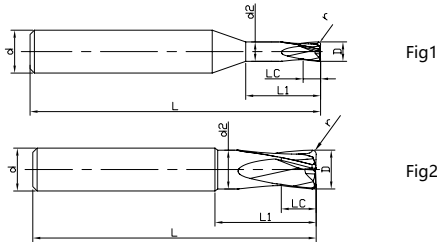
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P326

FH200-RN4-H

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-RN4-08005-H	8	8	0.5	7.6	24	75	8	2	○
FH200-RN4-08005E-H	8	8	0.5	7.6	24	100	8	2	○
FH200-RN4-08010-H	8	8	1	7.6	24	75	8	2	○
FH200-RN4-08010E-H	8	8	1	7.6	24	100	8	2	○
FH200-RN4-08020-H	8	8	2	7.6	24	75	8	2	○
FH200-RN4-08020E-H	8	8	2	7.6	24	100	8	2	○
FH200-RN4-10005-H	10	10	0.5	9.5	30	100	10	2	○
FH200-RN4-10010-H	10	10	1	9.5	30	100	10	2	○
FH200-RN4-10020-H	10	10	2	9.5	30	100	10	2	○
FH200-RN4-12005-H	12	12	0.5	11.5	36	100	12	2	○
FH200-RN4-12010-H	12	12	1	11.5	36	100	12	2	○
FH200-RN4-12010E-H	12	12	1	11.5	36	120	12	2	○
FH200-RN4-12020-H	12	12	2	11.5	36	100	12	2	○
FH200-RN4-12020E-H	12	12	2	11.5	36	120	12	2	○
FH200-RN4-12030-H	12	12	3	11.5	36	100	12	2	○
FH200-RN4-12030E-H	12	12	3	11.5	36	120	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D≤5	0 -0.01
D>5	0 -0.015

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

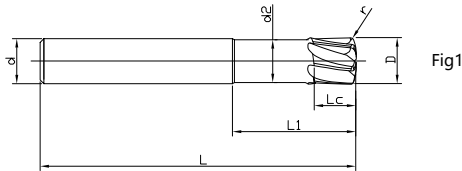
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P326
Cutting Parameters

FH200-R6-H

6刃圆角头

6 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-R6-06004-H	6	5	0.375	5.5	18	60	6	1	●
FH200-R6-08005-H	8	7	0.5	7.5	24	75	8	1	●
FH200-R6-10006-H	10	8	0.625	9.5	30	90	10	1	●
FH200-R6-12008-H	12	10	0.75	11.5	36	100	12	1	●
FH200-R6-16010-H	16	14	1	15.5	48	110	16	1	○
FH200-R6-20013-H	20	18	1.25	19.5	60	125	20	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤20	-0.014 -0.038

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

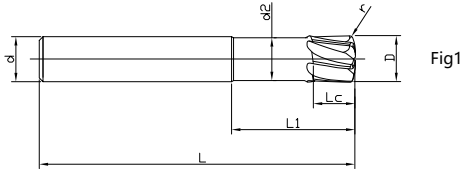
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P327
Cutting Parameters

FH200-RH6-H

6刃长柄圆角头

6 Flute Corner Radius, with long shank length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-RH6-06004-H	6	5	0.375	5.5	18	100	6	1	○
FH200-RH6-08005-H	8	7	0.5	7.5	24	100	8	1	○
FH200-RH6-10006-H	10	8	0.625	9.5	30	120	10	1	○
FH200-RH6-12008-H	12	10	0.75	11.5	36	120	12	1	○
FH200-RH6-16010-H	16	14	1	15.5	48	150	16	1	○
FH200-RH6-20013-H	20	18	1.25	19.5	60	150	20	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤20	-0.014 -0.038

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

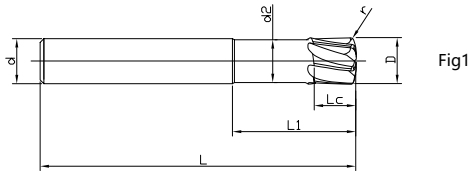
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P327
Cutting Parameters

FH200-RN6-H

6刃长颈圆角头

6 Flute Corner Radius, with reduced neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
FH200-RN6-06004-H	6	5	0.375	5.5	24	100	6	1	○
FH200-RN6-08005-H	8	7	0.5	7.5	32	100	8	1	○
FH200-RN6-10006-H	10	8	0.625	9.5	40	120	10	1	○
FH200-RN6-12008-H	12	10	0.75	11.5	48	120	12	1	○
FH200-RN6-16010-H	16	14	1	15.5	64	150	16	1	○
FH200-RN6-20013-H	20	18	1.25	19.5	80	150	20	1	○

●标准库存 Stock
○需预定 Available upon Order

D	公差Tol
D≤20	-0.014 -0.038

单位unit (mm)

工件材料 Workpiece Material

P			H		
1 2 3 4	5	6	1	2	3 4
碳钢、合金钢 Carbon Steel, Alloy Steel (< 35HRC)	合金钢 Alloy Steel (35-48HRC) Steel(48HRC以下)	PH与铁素体/马氏体钢 PH, Ferrite, Martensite Steel (< 35HRC)	淬硬钢 Hardened Steel (45-55HRC)	淬硬钢 Hardened Steel (55-60HRC)	淬硬钢 Hardened Steel (> 60HRC)
	◎		◎	◎	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P327
Cutting Parameters

SG200-S2

2刃平头

2 Flute, Standard Length

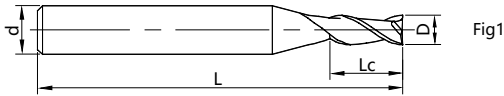


Fig1

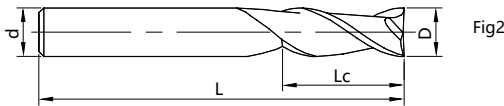
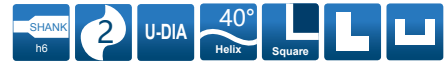


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SG200-S2-00401	0.4	0.8	50	4	1	○
SG200-S2-00802	0.8	2	50	4	1	○
SG200-S2-01003	1	3	50	4	1	●
SG200-S2-01504	1.5	4	50	4	1	○
SG200-S2-02006	2	6	50	4	1	○
SG200-S2-02008	2	8	75	4	1	●
SG200-S2-03009	3	9	50	4	1	○
SG200-S2-03012	3	12	75	4	1	○
SG200-S2-63009	3	9	50	6	1	○
SG200-S2-04011	4	11	50	4	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

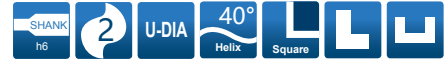
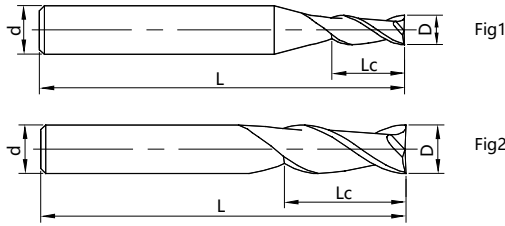
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-S2

2刃平头

2 Flute, Standard Length



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SG200-S2-04016	4	16	75	4	2	○
SG200-S2-64011	4	11	50	6	1	○
SG200-S2-05013	5	13	50	6	1	●
SG200-S2-05020	5	20	100	6	1	○
SG200-S2-06016	6	16	50	6	2	●
SG200-S2-06025	6	25	100	6	2	●
SG200-S2-08020	8	20	60	8	2	●
SG200-S2-10025	10	25	75	10	2	○
SG200-S2-12030	12	30	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

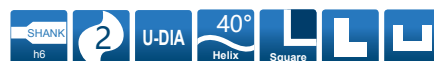
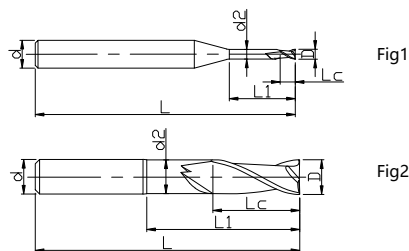
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-SN2

2刃长颈平头

2 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-SN2-01005	1	3	0.95	5	50	4	1	○
SG200-SN2-01020	1	3	0.95	20	60	4	1	○
SG200-SN2-01510	1.5	6	1.44	10	50	4	1	○
SG200-SN2-01520	1.5	6	1.44	20	60	4	1	○
SG200-SN2-02015	2	8	1.92	15	50	4	1	●
SG200-SN2-02020	2	8	1.92	20	50	4	1	●
SG200-SN2-02030	2	8	1.92	30	75	4	1	○
SG200-SN2-03015	3	12	2.9	15	50	4	1	○
SG200-SN2-03030	3	12	2.9	30	75	4	1	○
SG200-SN2-04020	4	16	3.9	20	50	4	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

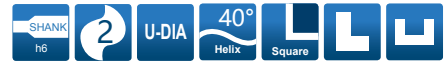
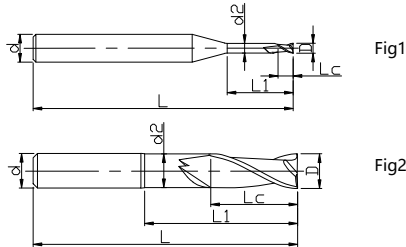
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-SN2

2刃长颈平头

2 Flute, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-SN2-04025	4	16	3.9	25	75	4	2	○
SG200-SN2-04040	4	16	3.9	40	75	4	2	○
SG200-SN2-05030	5	20	4.9	30	75	6	1	○
SG200-SN2-06030	6	24	5.9	30	75	6	2	●
SG200-SN2-06040	6	24	5.9	40	75	6	2	○
SG200-SN2-08040	8	25	7.9	40	100	8	2	●
SG200-SN2-10040	10	25	9.8	40	100	10	2	●
SG200-SN2-12040	12	25	11.8	40	100	12	2	○
SG200-SN2-12060	12	25	11.8	60	100	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

3刃平头

3 Flute, Standard Length

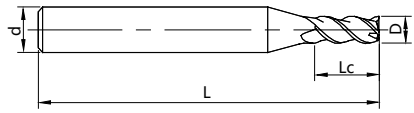


Fig1

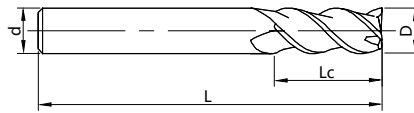
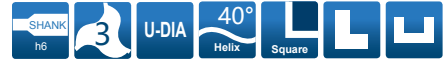


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SG200-S3-01003	1	3	50	4	1	○
SG200-S3-01504	1.5	4	50	4	1	●
SG200-S3-01506	1.5	6	60	4	1	○
SG200-S3-02006	2	6	50	4	1	○
SG200-S3-02010	2	10	60	4	1	○
SG200-S3-03009	3	9	50	4	1	●
SG200-S3-03015	3	15	60	4	1	○
SG200-S3-63009	3	9	50	6	1	○
SG200-S3-04011	4	11	50	4	2	○
SG200-S3-04020	4	20	75	4	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-S3

3刃平头

3 Flute, Standard Length

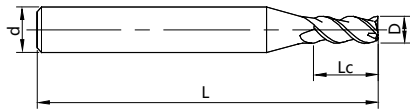


Fig1

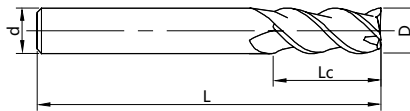
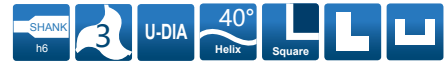


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SG200-S3-64011	4	11	50	6	1	○
SG200-S3-05013	5	13	50	6	1	○
SG200-S3-06016	6	16	50	6	2	○
SG200-S3-06018	6	18	75	6	2	○
SG200-S3-06025	6	25	100	6	2	●
SG200-S3-08020	8	20	60	8	2	○
SG200-S3-08035	8	35	100	8	2	○
SG200-S3-10025	10	25	75	10	2	○
SG200-S3-10040	10	40	100	10	2	●
SG200-S3-12030	12	30	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

4刃平头

4 Flute, Standard Length

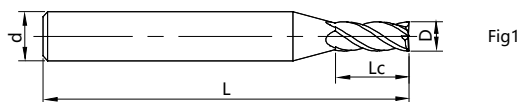


Fig1

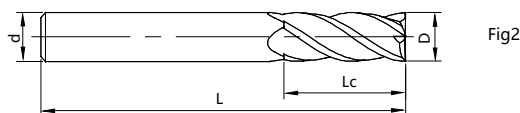


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SG200-S4-02006	2	6	50	4	1	●
SG200-S4-02010	2	10	60	4	1	●
SG200-S4-03009	3	9	50	4	1	●
SG200-S4-03015	3	15	60	4	1	●
SG200-S4-63009	3	9	50	6	1	○
SG200-S4-04011	4	11	50	4	2	●
SG200-S4-04020	4	20	75	4	2	●
SG200-S4-64011	4	11	50	6	1	●
SG200-S4-05013	5	13	50	6	1	○
SG200-S4-06016	6	16	50	6	2	●
SG200-S4-06025	6	25	100	6	2	●
SG200-S4-08020	8	20	60	8	2	●
SG200-S4-08025	8	25	100	8	2	●
SG200-S4-10025	10	25	75	10	2	●
SG200-S4-10040	10	40	100	10	2	●
SG200-S4-12030	12	30	75	12	2	○
SG200-S4-12045	12	45	100	12	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-R2

2刃圆角头

2 Flute, Corner Radius

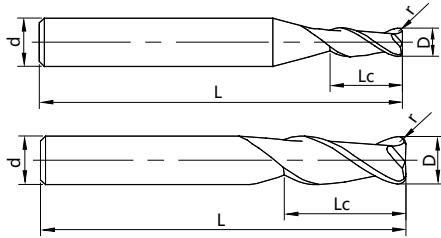
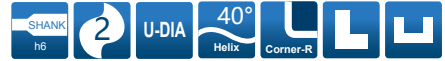


Fig1

Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SG200-R2-01002	1	2	0.2	60	4	1	○
SG200-R2-01503	1.5	3	0.3	60	4	1	○
SG200-R2-02002	2	3.5	0.2	50	4	1	●
SG200-R2-02005	2	3.5	0.5	60	4	1	○
SG200-R2-03002	3	4	0.2	50	4	1	○
SG200-R2-03010	3	4	1	75	4	1	○
SG200-R2-04002	4	5	0.2	75	4	2	●
SG200-R2-04005	4	5	0.5	50	4	2	●
SG200-R2-04010	4	5	1	75	4	2	○
SG200-R2-05002	5	6	0.2	100	6	1	○
SG200-R2-05005	5	6	0.5	50	6	1	○
SG200-R2-06002	6	7	0.2	100	6	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D<6	0 -0.02
6≤D≤12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

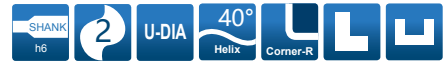
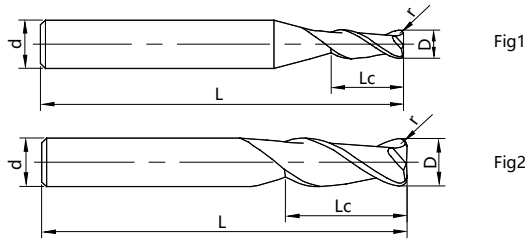
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-R2

2刃圆角头
2 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SG200-R2-06003	6	16	0.3	50	6	2	○
SG200-R2-06005	6	16	0.5	50	6	2	○
SG200-R2-06010	6	7	1	100	6	2	●
SG200-R2-08005	8	20	0.5	60	8	2	○
SG200-R2-08010	8	20	1	60	8	2	○
SG200-R2-10005	10	25	0.5	75	10	2	●
SG200-R2-10010	10	25	1	75	10	2	○
SG200-R2-10015	10	25	1.5	75	10	2	○
SG200-R2-12005	12	30	0.5	75	12	2	○
SG200-R2-12010	12	30	1	75	12	2	○
SG200-R2-12015	12	30	1.5	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

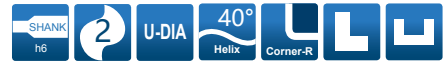
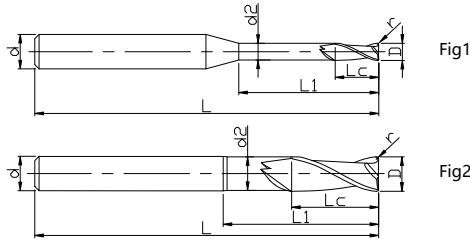
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-RN2

2刃长颈圆角头

2 Flute, Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-RN2-01001	1	2	0.1	0.96	5	60	4	1	○
SG200-RN2-01002	1	2	0.2	0.96	5	60	4	1	○
SG200-RN2-01501	1.5	3	0.1	1.44	5	60	4	1	○
SG200-RN2-01502	1.5	3	0.2	1.44	5	60	4	1	●
SG200-RN2-01503	1.5	3	0.3	1.44	5	60	4	1	○
SG200-RN2-02002	2	3.5	0.2	1.92	6	50	4	1	●
SG200-RN2-02003	2	3.5	0.3	1.92	6	50	4	1	○
SG200-RN2-02005	2	3.5	0.5	1.92	6	50	4	1	●
SG200-RN2-03002	3	4	0.2	2.9	10	50	4	1	○
SG200-RN2-03003	3	4	0.3	2.9	10	50	4	1	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

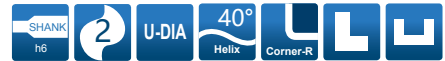
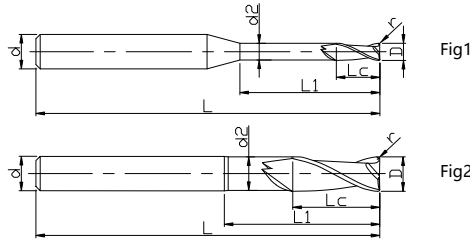
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-RN2

2刃长颈圆角头

2 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-RN2-03005	3	4	0.5	2.9	10	50	4	1	○
SG200-RN2-03010	3	4	1	2.95	10	75	4	1	○
SG200-RN2-04002	4	5	0.2	3.9	15	50	4	2	○
SG200-RN2-04005	4	5	0.5	3.9	15	50	4	2	●
SG200-RN2-04010	4	5	1	3.9	15	50	4	2	○
SG200-RN2-05002	5	6	0.2	4.9	15	60	6	1	○
SG200-RN2-05005	5	6	0.5	4.9	15	60	6	1	○
SG200-RN2-06002	6	7	0.2	5.9	20	60	6	2	○
SG200-RN2-06005	6	7	0.5	5.9	20	60	6	2	●
SG200-RN2-06010	6	7	1	5.9	20	60	6	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

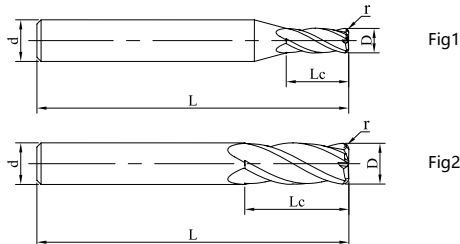
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-R4

4刃圆角头

4 Flute, Corner Radius



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	L	d	图号 Figure No.	库存 Stock
SG200-R4-02002	2	3.5	0.2	50	4	1	●
SG200-R4-02005	2	3.5	0.5	60	4	1	○
SG200-R4-03002	3	4	0.2	50	4	1	○
SG200-R4-03005	3	4	0.5	75	4	1	○
SG200-R4-03010	3	4	1	75	4	1	○
SG200-R4-04002	4	6	0.2	50	4	2	●
SG200-R4-04010	4	6	1	50	4	2	●
SG200-R4-05003	5	7	0.3	50	6	1	○
SG200-R4-06005	6	9	0.5	50	6	2	●
SG200-R4-06010	6	9	1	50	6	2	○
SG200-R4-08005	8	12	0.5	60	8	2	○
SG200-R4-08010	8	12	1	60	8	2	○
SG200-R4-10005	10	15	0.5	75	10	2	●
SG200-R4-10010	10	15	1	75	10	2	○
SG200-R4-12005	12	18	0.5	75	12	2	○
SG200-R4-12010	12	18	1	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

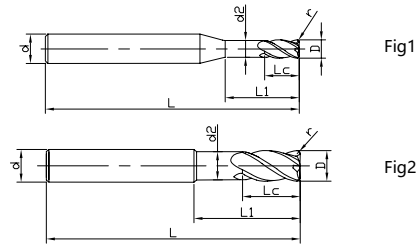
工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤ 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

4刃长颈圆角头
4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-RN4-02002	2	3.5	0.2	1.92	6	50	4	1	○
SG200-RN4-02003	2	3.5	0.3	1.92	30	60	4	1	○
SG200-RN4-02005	2	3.5	0.5	1.92	30	60	4	1	○
SG200-RN4-03002	3	4	0.2	2.9	10	50	4	1	○
SG200-RN4-03003	3	4	0.3	2.9	20	50	4	1	○
SG200-RN4-03005	3	4	0.5	2.9	20	75	4	1	○
SG200-RN4-03010	3	4	1	2.9	20	75	4	1	○
SG200-RN4-04002	4	6	0.2	3.9	20	75	4	2	●
SG200-RN4-04005	4	6	0.5	3.9	20	50	4	2	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D<6	0 -0.02
6≤D≤12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

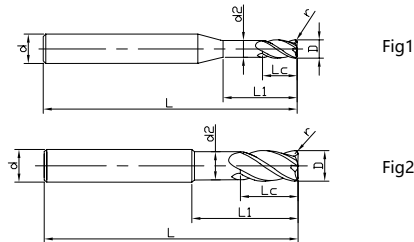
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-RN4

4刃长颈圆角头

4 Flute Corner Radius, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	Lc	r	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-RN4-04010	4	6	1	3.9	20	50	4	2	○
SG200-RN4-06005	6	9	0.5	5.9	25	80	6	2	●
SG200-RN4-06010	6	9	1	5.9	25	60	6	2	○
SG200-RN4-08005	8	12	0.5	7.9	30	100	8	2	●
SG200-RN4-08010	8	12	1	7.9	30	100	8	2	○
SG200-RN4-10005	10	15	0.5	9.8	45	100	10	2	○
SG200-RN4-10010	10	15	1	9.8	35	100	10	2	●
SG200-RN4-12005	12	18	0.5	11.8	40	100	12	2	●
SG200-RN4-12010	12	18	1	11.8	40	100	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
D < 6	0 -0.02
6 ≤ D ≤ 12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (< 48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P329
Cutting Parameters

SG200-B2

2刃球头

2 Flute, Ballnose

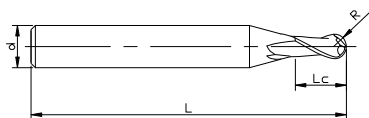


Fig1

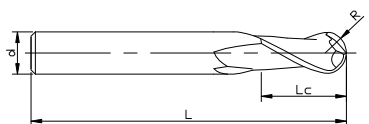


Fig2



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	L	d	图号 Figure No.	库存 Stock
SG200-B2-00502	0.5	0.25	2	50	4	1	○
SG200-B2-00602	0.6	0.3	2	50	4	1	○
SG200-B2-00803	0.8	0.4	3	50	4	1	○
SG200-B2-01002	1	0.5	2	50	4	1	●
SG200-B2-01503	1.5	0.75	3	50	4	1	○
SG200-B2-02004	2	1	4	50	4	1	●
SG200-B2-02006	2	1	6	60	4	1	●
SG200-B2-03006	3	1.5	6	50	4	1	○
SG200-B2-03008	3	1.5	8	60	4	1	●
SG200-B2-04008	4	2	8	50	4	2	●
SG200-B2-04016	4	2	16	60	4	2	●
SG200-B2-05010	5	2.5	10	50	6	1	○
SG200-B2-06012	6	3	12	50	6	2	●
SG200-B2-08014	8	4	14	60	8	2	●
SG200-B2-10018	10	5	18	75	10	2	○
SG200-B2-12022	12	6	22	75	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
R<3	0 -0.02
3≤R≤12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

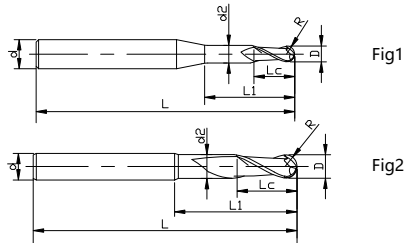
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P330
Cutting Parameters

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-BN2-00508	0.5	0.25	2	0.45	8	50	4	1	●
SG200-BN2-01010	1	0.5	3	0.95	10	50	4	1	●
SG200-BN2-01015	1	0.5	3	0.95	15	60	4	1	●
SG200-BN2-01020	1	0.5	3	0.95	20	60	4	1	○
SG200-BN2-01515	1.5	0.75	3	1.44	15	50	4	1	○
SG200-BN2-02015	2	1	6	1.95	15	75	4	1	●
SG200-BN2-02020	2	1	4	1.92	20	75	4	1	●
SG200-BN2-02030	2	1	6	1.92	30	75	4	1	○
SG200-BN2-03015	3	1.5	6	2.9	15	50	4	1	○
SG200-BN2-03020	3	1.5	6	2.9	20	75	4	1	●
SG200-BN2-04012	4	2	8	3.9	12	60	4	2	●
SG200-BN2-04020	4	2	8	3.9	20	60	4	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
R<3	0 -0.02
3≤R≤12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel(<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

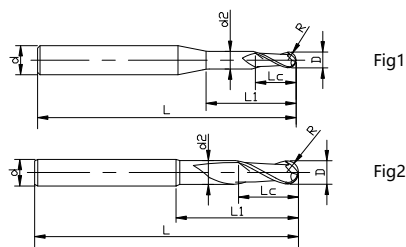
◎最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P330
Cutting Parameters

SG200-BN2

2刃长颈球头

2 Flute Ballnose, with Reduced Neck



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	D	R	Lc	d2	L1	L	d	图号 Figure No.	库存 Stock
SG200-BN2-06018	6	3	12	5.9	18	75	6	2	○
SG200-BN2-06025	6	3	16	5.9	25	75	6	2	●
SG200-BN2-06030	6	3	12	5.9	30	75	6	2	○
SG200-BN2-08024	8	4	14	7.9	24	100	8	2	○
SG200-BN2-08030	8	4	20	7.9	30	100	8	2	●
SG200-BN2-08040	8	4	14	7.9	40	100	8	2	○
SG200-BN2-10030	10	5	18	9.8	30	100	10	2	○
SG200-BN2-10040	10	5	22	9.8	40	100	10	2	●
SG200-BN2-10050	10	5	18	9.8	50	100	10	2	○
SG200-BN2-12035	12	6	22	11.8	35	100	12	2	○
SG200-BN2-12050	12	6	22	11.8	50	100	12	2	○

●标准库存Stock
○需预定Available upon Order

D	公差Tol
R<3	0 -0.02
3≤R≤12	0 -0.03

单位unit (mm)

工件材料 Workpiece Material

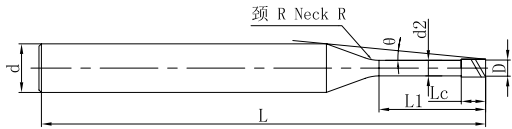
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 (<35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (≤48HRC)	不锈钢 Stainless Steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				○	○	◎

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P330
Cutting Parameters



小径深加工2刃平头立铣刀
2 Flute, Extended Neck-Square Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

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°	
									SPM200-SN2-0.1-0.3-V	0.1	0.3	0.15	0.08	
SPM200-SN2-0.1-0.5-V	0.5	14.03	0.52	0.55	0.58	0.60	0.65	●						
SPM200-SN2-0.1-1-V	1	13.22	1.05	1.09	1.13	1.18	1.27	●						
SPM200-SN2-0.2-0.5-V	0.2	0.5	0.3	0.17	50	4	1	14.03	0.52	0.54	0.57	0.59	0.64	●
SPM200-SN2-0.2-1-V		1						13.20	1.04	1.08	1.12	1.16	1.26	●
SPM200-SN2-0.2-1.5-V		1.5						12.45	1.56	1.62	1.67	1.74	1.88	●
SPM200-SN2-0.2-2-V		2						11.79	2.08	2.15	2.23	2.31	2.50	●
SPM200-SN2-0.2-3-V		3						10.65	3.11	3.22	3.34	3.46	3.74	●
SPM200-SN2-0.3-1-V	0.3	1	0.45	0.27	50	4	2	13.06	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.3-1.5-V		1.5						12.31	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.3-2-V		2						11.65	2.12	2.21	2.29	2.38	2.57	●
SPM200-SN2-0.3-2.5-V		2.5						11.05	2.64	2.75	2.85	2.96	3.20	●
SPM200-SN2-0.3-3-V		3						10.51	3.16	3.28	3.40	3.53	3.82	●
SPM200-SN2-0.4-1-V	0.4	1	0.6	0.37	50	4	2	13.01	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.4-1.5-V		1.5						12.25	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.4-2-V		2						11.57	2.12	2.21	2.29	2.38	2.57	●
SPM200-SN2-0.4-2.5-V		2.5						10.97	2.64	2.75	2.85	2.96	3.20	●
SPM200-SN2-0.4-3-V		3						10.42	3.16	3.28	3.40	3.53	3.82	●
SPM200-SN2-0.4-3.5-V		3.5						9.92	3.68	3.82	3.96	4.11	4.44	●
SPM200-SN2-0.4-4-V		4						9.47	4.20	4.35	4.51	4.68	5.06	●
SPM200-SN2-0.4-5-V		5						8.68	5.24	5.42	5.62	5.83	6.30	●
SPM200-SN2-0.4-6-V		6						8.01	6.27	6.49	6.73	6.98	7.55	●
SPM200-SN2-0.4-8-V		8						6.94	8.34	8.63	8.94	9.28	10.03	●
SPM200-SN2-0.4-10-V	10	6.12	10.41	10.77	11.16	11.58	12.52	●						

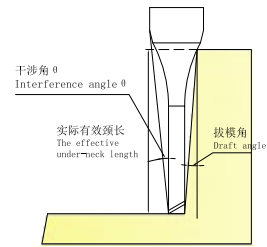
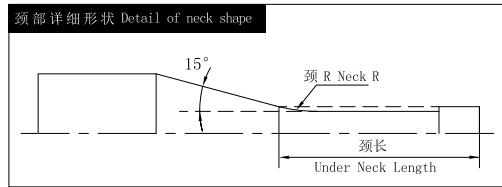
●标准库存Stock
○需预定Available upon Order

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

单位unit (mm)

推荐切削参数 ※ P331
Cutting Parameters

小径深加工2刃平头立铣刀
2 Flute, Extended Neck-Square Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

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°	
SPM200-SN2-0.5-1-V	0.5	1	0.75	0.47	50	4	2	12.96	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.5-1.5-V		1.5						12.19	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.5-2-V		2						11.50	2.12	2.21	2.29	2.38	2.57	●
SPM200-SN2-0.5-2.5-V		2.5						10.88	2.64	2.75	2.85	2.96	3.20	●
SPM200-SN2-0.5-3-V		3						10.33	3.16	3.28	3.40	3.53	3.82	●
SPM200-SN2-0.5-4-V		4						9.37	4.20	4.35	4.51	4.68	5.06	●
SPM200-SN2-0.5-5-V		5						8.58	5.24	5.42	5.62	5.83	6.30	●
SPM200-SN2-0.5-6-V		6						7.91	6.27	6.49	6.73	6.98	7.55	●
SPM200-SN2-0.5-8-V		8						6.84	8.34	8.63	8.94	9.28	10.03	●
SPM200-SN2-0.5-10-V		10						6.02	10.41	10.77	11.16	11.58	12.52	●
SPM200-SN2-0.6-2-V	0.6	2	0.9	0.57	50	4	4	11.21	2.17	2.31	2.44	2.56	2.78	●
SPM200-SN2-0.6-3-V		3						10.07	3.24	3.42	3.58	3.72	4.02	●
SPM200-SN2-0.6-4-V		4						9.13	4.30	4.51	4.69	4.87	5.26	●
SPM200-SN2-0.6-5-V		5						8.36	5.35	5.59	5.80	6.02	6.50	●
SPM200-SN2-0.6-6-V		6						7.70	6.40	6.67	6.91	7.17	7.75	●
SPM200-SN2-0.6-7-V		7						7.14	7.44	7.74	8.02	8.32	8.99	●
SPM200-SN2-0.6-8-V		8						6.66	8.49	8.81	9.12	9.47	10.23	●
SPM200-SN2-0.6-9-V		9						6.23	9.53	9.88	10.23	10.62	11.48	●
SPM200-SN2-0.6-10-V		10						5.86	10.57	10.94	11.34	11.77	12.72	●
SPM200-SN2-0.7-2-V		0.7						2	1.05	0.67	50	4	4	11.13
SPM200-SN2-0.7-4-V	4		9.02	4.30	4.51	4.69	4.87	5.26						●
SPM200-SN2-0.7-6-V	6		7.59	6.40	6.67	6.91	7.17	7.75						●
SPM200-SN2-0.7-8-V	8		6.54	8.49	8.81	9.12	9.47	10.23						●
SPM200-SN2-0.7-10-V	10		5.75	10.57	10.94	11.34	11.77	12.72						●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
0.1≤D≤0.5	$\frac{0}{-0.007}$
0.6≤D≤0.9	$\frac{0}{-0.01}$
1.0≤D≤6.0	$\frac{0}{-0.015}$

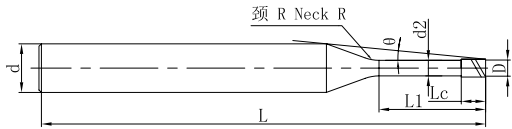
单位unit (mm)

推荐切削参数 ※ P331
Cutting Parameters

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

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°	
SPM200-SN2-0.8-4-V	0.8	4	1.2	0.76	50	4	4	8.94	4.27	4.48	4.65	4.83	5.22	●
SPM200-SN2-0.8-6-V		6			7.49			6.37	6.63	6.87	7.13	7.70	●	
SPM200-SN2-0.8-8-V		8			6.45			8.46	8.77	9.09	9.43	10.19	●	
SPM200-SN2-0.8-10-V		10			5.65			10.54	10.91	11.30	11.73	12.68	●	
SPM200-SN2-0.8-12-V		12			5.04			12.61	13.05	13.52	14.03	15.16	●	
SPM200-SN2-0.9-6-V	0.9	6	1.35	0.86	50	4	4	7.37	6.37	6.63	6.87	7.13	7.70	●
SPM200-SN2-0.9-8-V		8			6.33			8.46	8.77	9.09	9.43	10.19	●	
SPM200-SN2-0.9-10-V		10			5.54			10.54	10.91	11.30	11.73	12.68	●	
SPM200-SN2-0.9-12-V		12			4.93			12.61	13.05	13.52	14.03	15.16	●	
SPM200-SN2-1-2-V	1	2	1.5	0.96	50	4	4	10.89	2.15	2.29	2.41	2.52	2.73	●
SPM200-SN2-1-3-V		3			9.68			3.21	3.39	3.54	3.68	3.98	●	
SPM200-SN2-1-4-V		4			8.71			4.27	4.48	4.65	4.83	5.22	●	
SPM200-SN2-1-5-V		5			7.91			5.32	5.56	5.76	5.98	6.46	●	
SPM200-SN2-1-6-V		6			7.25			6.37	6.63	6.87	7.13	7.70	●	
SPM200-SN2-1-7-V		7			6.69			7.41	7.7	7.98	8.28	8.95	●	
SPM200-SN2-1-8-V		8			6.21			8.46	8.77	9.09	9.43	10.19	●	
SPM200-SN2-1-9-V		9			5.79			9.50	9.84	10.19	10.58	11.43	●	
SPM200-SN2-1-10-V		10			5.43			10.54	10.91	11.30	11.73	12.68	●	
SPM200-SN2-1-12-V		12			4.82			12.61	13.05	13.52	14.03	15.16	●	
SPM200-SN2-1-14-V		14			4.34			14.67	15.19	15.73	16.32	17.65	●	
SPM200-SN2-1-16-V		16			3.94			16.74	17.33	17.95	18.62	20.14	●	
SPM200-SN2-1-20-V		20			3.33			20.88	21.6	22.38	23.22	25.11	●	
SPM200-SN2-1-25-V		25			2.79			26.05	26.95	27.93	28.97	-	●	
SPM200-SN2-1.2-6-V		1.2			6			1.8	1.15	50	4	4	7.01	6.35

●标准库存Stock
○需预定Available upon Order

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

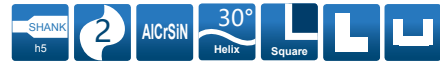
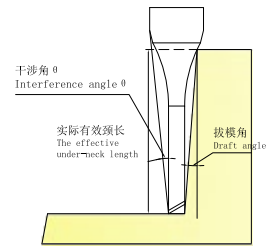
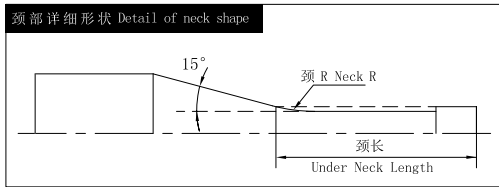
单位unit (mm)

推荐切削参数 ※ P331
Cutting Parameters

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

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°	
SPM200-SN2-1.2-8-V	1.2	8	1.8	1.15	50	4	4	5.97	8.43	8.74	9.05	9.39	10.16	●
SPM200-SN2-1.2-10-V		10			5.20			10.51	10.88	11.27	11.69	12.64	●	
SPM200-SN2-1.2-12-V		12			4.61			12.58	13.02	13.49	13.99	15.13	●	
SPM200-SN2-1.2-16-V		16			3.75			16.71	17.3	17.92	18.59	20.10	●	
SPM200-SN2-1.4-6-V	1.4	6	2.1	1.34	50	4	4	6.74	6.33	6.57	6.81	7.07	7.64	●
SPM200-SN2-1.4-12-V		12			4.38			12.55	12.99	13.46	13.97	15.10	●	
SPM200-SN2-1.5-4-V	1.5	4	2.25	1.44	50	4	4	8.08	4.24	4.43	4.59	4.77	5.15	●
SPM200-SN2-1.5-6-V		6			6.60			6.33	6.57	6.81	7.07	7.64	●	
SPM200-SN2-1.5-8-V		8			5.58			8.41	8.71	9.03	9.37	10.13	●	
SPM200-SN2-1.5-10-V		10			4.83			10.48	10.85	11.24	11.67	12.61	●	
SPM200-SN2-1.5-12-V		12			4.26			12.55	12.99	13.46	13.97	15.10	●	
SPM200-SN2-1.5-14-V		14			3.81			14.62	15.13	15.68	16.26	17.58	●	
SPM200-SN2-1.5-16-V		16			3.44			16.69	17.27	17.89	18.56	20.07	●	
SPM200-SN2-1.5-18-V		18			3.14			18.76	19.41	20.11	20.86	22.56	●	
SPM200-SN2-1.5-20-V		20			2.89			20.82	21.55	22.33	23.16	-	●	
SPM200-SN2-1.5-25-V		25			2.41			25.99	26.9	27.87	28.91	-	●	
SPM200-SN2-1.5-30-V		30			2.06			31.16	32.25	33.41	34.66	-	●	
SPM200-SN2-1.5-35-V		35			1.80			36.33	37.59	38.95	-	-	●	
SPM200-SN2-1.5-40-V		40			1.60			41.50	42.94	44.49	-	-	●	
SPM200-SN2-1.6-6-V		1.6			6			2.4	1.54	50	4	4	6.45	6.33
SPM200-SN2-1.6-8-V	8		5.43	8.41	8.71	9.03	9.37			10.13			●	
SPM200-SN2-1.8-6-V	1.8	6	2.7	1.73	50	4	4	6.14	6.31	6.55	6.79	7.04	7.61	●
SPM200-SN2-1.8-8-V		8			5.14			8.39	8.69	9.00	9.34	10.10	●	
SPM200-SN2-2-4-V	2	4	3	1.92	50	4	4	7.27	4.21	4.39	4.55	4.72	5.11	●

●标准库存Stock
○需预定Available upon Order

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

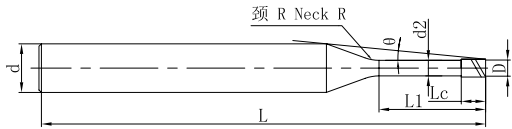
单位unit (mm)

推荐切削参数 ※ P331
Cutting Parameters

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

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°	
SPM200-SN2-2-6-V	2	6	3	1.92	50	4	4	5.81	6.30	6.53	6.77	7.02	7.59	●
SPM200-SN2-2-8-V		8			50			4.83	8.38	8.67	8.99	9.32	10.08	●
SPM200-SN2-2-10-V		10			50			4.14	10.45	10.81	11.20	11.62	12.57	●
SPM200-SN2-2-12-V		12			55			3.62	12.51	12.95	13.42	13.92	15.05	●
SPM200-SN2-2-14-V		14			55			3.21	14.58	15.09	15.64	16.22	17.54	●
SPM200-SN2-2-16-V		16			55			2.89	16.65	17.23	17.85	18.52	-	●
SPM200-SN2-2-18-V		18			60			2.63	18.72	19.37	20.07	20.82	-	●
SPM200-SN2-2-20-V		20			60			2.41	20.78	21.51	22.28	23.12	-	●
SPM200-SN2-2-25-V		25			65			1.99	25.95	26.86	27.83	-	-	●
SPM200-SN2-2-30-V		30			70			1.70	31.12	32.2	33.37	-	-	●
SPM200-SN2-2-35-V		35			75			1.48	36.29	37.55	-	-	-	●
SPM200-SN2-2-40-V		40			80			1.31	41.46	42.9	-	-	-	●
SPM200-SN2-2-50-V		50			90			1.07	51.79	53.6	-	-	-	●
SPM200-SN2-2.5-8-V	2.5	8	3.75	2.4	50	4	4	3.95	8.35	8.64	8.95	9.29	10.04	●
SPM200-SN2-2.5-12-V		12			55			2.89	12.48	12.92	13.39	13.89	-	●
SPM200-SN2-2.5-16-V		16			55			2.28	16.62	17.2	17.82	18.49	-	●
SPM200-SN2-2.5-20-V		20			60			1.88	20.75	21.48	22.25	-	-	●
SPM200-SN2-2.5-30-V		30			70			1.31	31.09	32.17	-	-	-	●
SPM200-SN2-2.5-40-V		40			80			1.01	41.43	42.87	-	-	-	●
SPM200-SN2-2.5-50-V		50			90			0.82	51.76	-	-	-	-	●
SPM200-SN2-3-8-V	3	8	4.5	2.88	55	6	4	6.27	8.33	8.62	8.93	9.26	10.02	●
SPM200-SN2-3-12-V		12			60			4.86	12.46	12.9	13.36	13.86	14.99	●
SPM200-SN2-3-16-V		16			60			3.97	16.60	17.17	17.79	18.46	19.96	●
SPM200-SN2-3-20-V		20			65			3.35	20.73	21.45	22.23	23.06	24.93	●

●标准库存Stock
○需预定Available upon Order

D	公差Tol
0.1 ≤ D ≤ 0.5	$\begin{matrix} 0 \\ -0.007 \end{matrix}$
0.6 ≤ D ≤ 0.9	$\begin{matrix} 0 \\ -0.01 \end{matrix}$
1.0 ≤ D ≤ 6.0	$\begin{matrix} 0 \\ -0.015 \end{matrix}$

单位unit (mm)

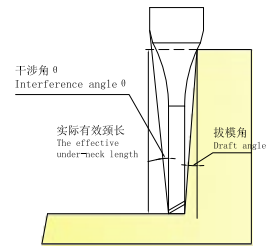
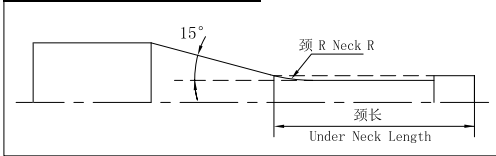
推荐切削参数 ※ P331
Cutting Parameters

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

颈部详细形状 Detail of neck shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

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°	
SPM200-SN2-3-25-V	3	25	4.5	2.88	70	6	4	2.81	25.90	26.8	27.77	28.81	-	●
SPM200-SN2-3-30-V		30			75			2.41	31.07	32.15	33.31	34.56	-	●
SPM200-SN2-3-40-V		40			90			1.89	41.40	42.85	44.39	-	-	●
SPM200-SN2-3-50-V		50			100			1.55	51.74	53.54	55.48	-	-	●
SPM200-SN2-4-12-V	4	12	6	3.86	60	6	4	3.63	12.44	12.88	13.34	13.84	14.97	●
SPM200-SN2-4-16-V		16			60			2.90	16.58	17.16	17.78	18.44	-	●
SPM200-SN2-4-20-V		20			70			2.41	20.71	21.43	22.21	23.04	-	●
SPM200-SN2-4-25-V		25			70			2.00	25.88	26.78	27.75	-	-	●
SPM200-SN2-4-30-V		30			80			1.70	31.05	32.13	33.29	-	-	●
SPM200-SN2-4-35-V		35			80			1.48	36.22	37.48	-	-	-	●
SPM200-SN2-4-40-V		40			90			1.31	41.39	42.83	-	-	-	●
SPM200-SN2-4-50-V		50			100			1.07	51.72	53.52	-	-	-	●
SPM200-SN2-5-20-V	5	20	7.5	4.85	70	6	4	1.31	20.71	21.43	-	-	-	●
SPM200-SN2-5-25-V		25			70			1.07	25.87	26.78	-	-	-	●
SPM200-SN2-5-30-V		30			80			0.90	31.04	-	-	-	-	●
SPM200-SN2-5-40-V		40			90			0.69	41.38	-	-	-	-	●
SPM200-SN2-5-50-V		50			100			0.56	51.72	-	-	-	-	●
SPM200-SN2-6-20-V	6	20	9	5.85	70	6	-	-	-	-	-	-	-	●
SPM200-SN2-6-30-V		30			80			-	-	-	-	-	-	●
SPM200-SN2-6-40-V		40			90			-	-	-	-	-	-	●
SPM200-SN2-6-50-V		50			100			-	-	-	-	-	-	●

●标准库存Stock
○需预定Available upon Order

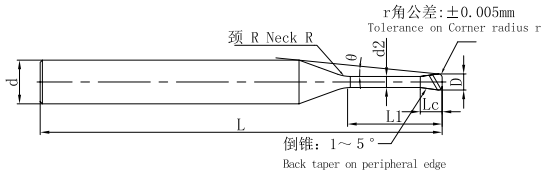
D	公差Tol
0.1 ≤ D ≤ 0.5	0 -0.007
0.6 ≤ D ≤ 0.9	0 -0.01
1.0 ≤ D ≤ 6.0	0 -0.015

单位unit (mm)

推荐切削参数 ※ P331
Cutting Parameters

小径深加工2刃圆角头立铣刀 2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°								
SPM200-RN2-0.2-0.5-0.02-V	0.2	0.02	0.5	0.16	0.17	50	4	1	14.07	0.52	0.54	0.56	0.58	0.63	●							
SPM200-RN2-0.2-1-0.02-V			1						13.23	1.04	1.08	1.12	1.16	1.25	●							
SPM200-RN2-0.2-2-0.02-V			2						11.82	2.08	2.15	2.23	2.31	2.50	●							
SPM200-RN2-0.2-0.5-0.05-V		0.05	0.5						0.24	0.27	50	4	2	14.12	0.52	0.54	0.56	0.58	0.62	●		
SPM200-RN2-0.2-1-0.05-V			1											13.28	1.04	1.08	1.11	1.15	1.24	●		
SPM200-RN2-0.2-1.5-0.05-V			1.5											12.53	1.56	1.61	1.67	1.73	1.87	●		
SPM200-RN2-0.2-2-0.05-V			2											11.85	2.08	2.15	2.22	2.30	2.49	●		
SPM200-RN2-0.3-1-0.02-V			0.3											0.02	1	0.32	0.37	50	4	2	13.09	1.06
SPM200-RN2-0.3-2-0.02-V	2	11.67		2.11	2.21	2.29	2.38	2.57							●							
SPM200-RN2-0.3-3-0.02-V	3	10.53		3.16	3.28	3.40	3.53	3.81							●							
SPM200-RN2-0.3-1-0.05-V	0.05	1		10.56	3.16	3.28	3.40	3.52						3.81	13.14						1.06	1.12
SPM200-RN2-0.3-1.5-0.05-V		1.5							12.38	1.59	1.66	1.73	1.80		1.94						●	
SPM200-RN2-0.3-2-0.05-V		2							11.71	2.11	2.21	2.29	2.37		2.56						●	
SPM200-RN2-0.3-2.5-0.05-V		2.5							11.11	2.64	2.75	2.84	2.95		3.18						●	
SPM200-RN2-0.3-3-0.05-V		3							10.56	3.16	3.28	3.40	3.52		3.81						●	
SPM200-RN2-0.4-1-0.02-V	0.4	0.02	1						10.47	3.16	3.28	3.40	3.52		3.81	13.04	1.06	1.12	1.17	1.23	1.33	●
SPM200-RN2-0.4-2-0.02-V			2													11.60	2.11	2.21	2.29	2.38	2.57	●
SPM200-RN2-0.4-3-0.02-V			3													10.44	3.16	3.28	3.40	3.53	3.81	●
SPM200-RN2-0.4-4-0.02-V			4	9.49	4.20	4.35	4.51	4.68						5.06		●						
SPM200-RN2-0.4-1-0.05-V		0.05	1	11.03	2.64	2.75	2.84	2.95						3.18		13.09	1.06	1.12	1.17	1.22	1.32	●
SPM200-RN2-0.4-1.5-0.05-V			1.5													12.32	1.59	1.66	1.73	1.80	1.94	●
SPM200-RN2-0.4-2-0.05-V			2													11.64	2.11	2.21	2.29	2.37	2.56	●
SPM200-RN2-0.4-2.5-0.05-V			2.5													11.03	2.64	2.75	2.84	2.95	3.18	●
SPM200-RN2-0.4-3-0.05-V	3	10.47	3.16						3.28	3.40	3.52	3.81	●									

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

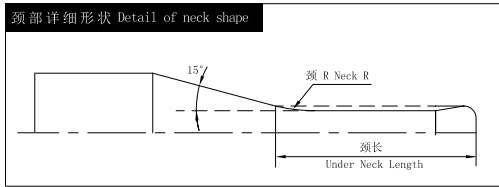
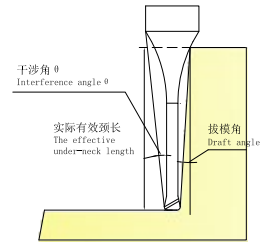
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-0.4-3.5-0.05-V	0.4	0.05	3.5	0.32	0.37	50	4	2	9.97	3.68	3.82	3.95	4.10	4.43	●
SPM200-RN2-0.4-4-0.05-V			4							4.20	4.35	4.51	4.67	5.05	●
SPM200-RN2-0.4-1-0.1-V		0.1	1							1.06	1.11	1.16	1.21	1.31	●
SPM200-RN2-0.4-2-0.1-V			2							2.11	2.20	2.28	2.37	2.55	●
SPM200-RN2-0.4-3-0.1-V			3							3.16	3.28	3.39	3.52	3.79	●
SPM200-RN2-0.4-4-0.1-V			4							4.20	4.35	4.50	4.67	5.04	●
SPM200-RN2-0.5-1-0.02-V	0.5	0.02	1	0.4	0.47	50	4	2	13.00	1.06	1.12	1.17	1.23	1.33	●
SPM200-RN2-0.5-2-0.02-V			2							2.11	2.21	2.29	2.38	2.57	●
SPM200-RN2-0.5-3-0.02-V			3							3.16	3.28	3.40	3.53	3.81	●
SPM200-RN2-0.5-4-0.02-V			4							4.20	4.35	4.51	4.68	5.06	●
SPM200-RN2-0.5-6-0.02-V			6							6.27	6.49	6.73	6.98	7.54	●
SPM200-RN2-0.5-1-0.05-V			0.05							1	1.06	1.12	1.17	1.22	1.32
SPM200-RN2-0.5-2-0.05-V		2								2.11	2.21	2.29	2.37	2.56	●
SPM200-RN2-0.5-3-0.05-V		3								3.16	3.28	3.40	3.52	3.81	●
SPM200-RN2-0.5-4-0.05-V		4								4.20	4.35	4.51	4.67	5.05	●
SPM200-RN2-0.5-5-0.05-V		5								5.24	5.42	5.61	5.82	6.29	●
SPM200-RN2-0.5-6-0.05-V		6								6.27	6.49	6.72	6.97	7.53	●
SPM200-RN2-0.5-1-0.1-V		0.1	1							1.06	1.11	1.16	1.21	1.31	●
SPM200-RN2-0.5-2-0.1-V			2							2.11	2.20	2.28	2.37	2.55	●
SPM200-RN2-0.5-3-0.1-V			3							3.16	3.28	3.39	3.52	3.79	●
SPM200-RN2-0.5-4-0.1-V			4							4.20	4.35	4.50	4.67	5.04	●
SPM200-RN2-0.5-5-0.1-V			5							5.24	5.42	5.61	5.82	6.28	●
SPM200-RN2-0.5-6-0.1-V			6							6.27	6.49	6.72	6.97	7.52	●
SPM200-RN2-0.6-2-0.02-V		0.6	0.02							2	0.48	0.57	50	4	4

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

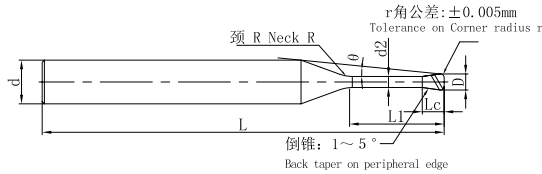
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
										SPM200-RN2-0.6-4-0.02-V	0.6	0.02	4	0.48	
SPM200-RN2-0.6-6-0.02-V	6	7.71	6.40	6.66	6.90	7.16	7.74	●							
SPM200-RN2-0.6-2-0.05-V	2	11.27	2.17	2.31	2.43	2.55	2.76	●							
SPM200-RN2-0.6-4-0.05-V	0.05	4	9.18	4.29	4.51	4.68	4.86	5.25	●						
SPM200-RN2-0.6-6-0.05-V		6	7.73	6.40	6.66	6.90	7.16	7.74	●						
SPM200-RN2-0.6-8-0.05-V		8	6.68	8.49	8.80	9.12	9.46	10.22	●						
SPM200-RN2-0.6-10-0.05-V	10	5.88	10.57	10.94	11.33	11.76	12.71	●							
SPM200-RN2-0.6-2-0.1-V	0.1	2	11.34	2.16	2.30	2.43	2.54	2.75	●						
SPM200-RN2-0.6-4-0.1-V		4	9.22	4.29	4.50	4.68	4.85	5.24	●						
SPM200-RN2-0.6-6-0.1-V		6	7.76	6.39	6.66	6.90	7.15	7.72	●						
SPM200-RN2-0.6-8-0.1-V		8	6.70	8.48	8.80	9.11	9.45	10.21	●						
SPM200-RN2-0.6-10-0.1-V		10	5.89	10.57	10.94	11.33	11.75	12.70	●						
SPM200-RN2-0.7-4-0.05-V		0.7	0.05	4	0.56	0.67	50	4	4	9.07	4.29	4.51	4.68	4.86	5.25
SPM200-RN2-0.7-6-0.05-V	6			7.62						6.40	6.66	6.90	7.16	7.74	●
SPM200-RN2-0.7-4-0.1-V	0.1		4	9.11						4.29	4.50	4.68	4.85	5.24	●
SPM200-RN2-0.7-6-0.1-V			6	7.65						6.39	6.66	6.90	7.15	7.72	●
SPM200-RN2-0.8-4-0.02-V	0.8	0.02	4	0.64	0.76	50	4	4	8.96	4.27	4.47	4.65	4.82	5.21	●
SPM200-RN2-0.8-6-0.02-V			6			7.51			6.37	6.63	6.87	7.12	7.70	●	
SPM200-RN2-0.8-4-0.05-V		0.05	4			50			8.99	4.27	4.47	4.65	4.82	5.21	●
SPM200-RN2-0.8-6-0.05-V			6			7.52			6.37	6.63	6.86	7.12	7.69	●	
SPM200-RN2-0.8-8-0.05-V			8			6.47			8.45	8.76	9.08	9.42	10.18	●	
SPM200-RN2-0.8-12-0.05-V		12	5.05			12.61			13.04	13.51	14.02	15.15	●		
SPM200-RN2-0.8-4-0.1-V		0.1	4			50			9.03	4.26	4.47	4.64	4.81	5.19	●
SPM200-RN2-0.8-6-0.1-V			6			7.55			6.37	6.62	6.86	7.11	7.68	●	

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

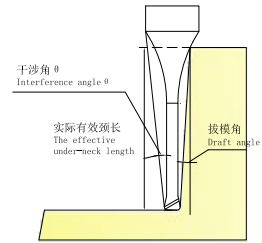
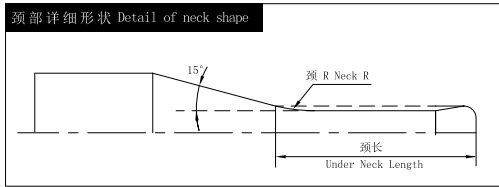
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-0.8-8-0.1-V	0.8	0.1	8	0.64	0.76	50	4	4	6.49	8.45	8.76	9.07	9.41	10.17	●
SPM200-RN2-0.8-12-0.1-V			12			55			5.06	12.60	13.04	13.51	14.01	15.14	●
SPM200-RN2-0.8-4-0.2-V		0.2	4			50			9.12	4.26	4.46	4.63	4.80	5.17	●
SPM200-RN2-0.8-6-0.2-V			6			50			7.62	6.36	6.61	6.85	7.10	7.66	●
SPM200-RN2-0.8-8-0.2-V			8			50			6.54	8.45	8.75	9.06	9.40	10.14	●
SPM200-RN2-0.8-12-0.2-V			12			55			5.09	12.60	13.03	13.50	14.00	15.11	●
SPM200-RN2-1-2-0.02-V	1	0.02	2	0.8	0.96	50	4	4	10.92	2.15	2.28	2.40	2.52	2.73	●
SPM200-RN2-1-4-0.02-V			4			50			8.72	4.27	4.47	4.65	4.82	5.21	●
SPM200-RN2-1-6-0.02-V			6			50			7.26	6.37	6.63	6.87	7.12	7.70	●
SPM200-RN2-1-8-0.02-V			8			50			6.22	8.46	8.77	9.08	9.42	10.19	●
SPM200-RN2-1-10-0.02-V			10			50			5.44	10.53	10.91	11.30	11.72	12.67	●
SPM200-RN2-1-12-0.02-V			12			55			4.83	12.61	13.05	13.52	14.02	15.16	●
SPM200-RN2-1-2-0.05-V		0.05	2			50			10.96	2.15	2.28	2.40	2.51	2.72	●
SPM200-RN2-1-3-0.05-V			3			50			9.73	3.21	3.38	3.53	3.67	3.96	●
SPM200-RN2-1-4-0.05-V			4			50			8.75	4.27	4.47	4.65	4.82	5.21	●
SPM200-RN2-1-5-0.05-V			5			50			7.95	5.32	5.55	5.75	5.97	6.45	●
SPM200-RN2-1-6-0.05-V			6			50			7.28	6.37	6.63	6.86	7.12	7.69	●
SPM200-RN2-1-8-0.05-V			8			50			6.23	8.45	8.76	9.08	9.42	10.18	●
SPM200-RN2-1-10-0.05-V			10			50			5.45	10.53	10.90	11.30	11.72	12.67	●
SPM200-RN2-1-12-0.05-V			12			55			4.84	12.61	13.04	13.51	14.02	15.15	●
SPM200-RN2-1-16-0.05-V			16			60			3.95	16.74	17.32	17.95	18.62	20.12	●
SPM200-RN2-1-20-0.05-V			20			60			3.34	20.88	21.60	22.38	23.22	25.10	●
SPM200-RN2-1-2-0.1-V		0.1	2			50			11.03	2.14	2.27	2.39	2.50	2.71	●
SPM200-RN2-1-3-0.1-V			3			50			9.79	3.21	3.38	3.53	3.66	3.95	●

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

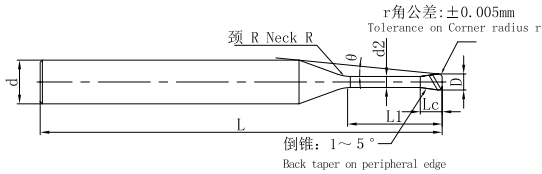
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-1-4-0.1-V	1	0.1	4	0.8	0.96	50	4	4	8.80	4.26	4.47	4.64	4.81	5.19	●
SPM200-RN2-1-5-0.1-V			5			50			7.99	5.32	5.55	5.75	5.96	6.44	●
SPM200-RN2-1-6-0.1-V			6			50			7.31	6.37	6.62	6.86	7.11	7.68	●
SPM200-RN2-1-8-0.1-V			8			50			6.25	8.45	8.76	9.07	9.41	10.17	●
SPM200-RN2-1-10-0.1-V			10			50			5.46	10.53	10.90	11.29	11.71	12.65	●
SPM200-RN2-1-12-0.1-V			12			55			4.85	12.60	13.04	13.51	14.01	15.14	●
SPM200-RN2-1-16-0.1-V			16			60			3.96	16.74	17.32	17.94	18.61	20.11	●
SPM200-RN2-1-20-0.1-V			20			60			3.35	20.87	21.60	22.37	23.21	25.08	●
SPM200-RN2-1-2-0.2-V		0.2	2	0.8	0.96	50	4	4	11.17	2.14	2.26	2.38	2.48	2.68	●
SPM200-RN2-1-3-0.2-V			3			50			9.90	3.20	3.37	3.51	3.65	3.93	●
SPM200-RN2-1-4-0.2-V			4			50			8.89	4.26	4.46	4.63	4.80	5.17	●
SPM200-RN2-1-5-0.2-V			5			50			8.06	5.31	5.54	5.74	5.95	6.41	●
SPM200-RN2-1-6-0.2-V			6			50			7.37	6.36	6.61	6.85	7.10	7.66	●
SPM200-RN2-1-8-0.2-V			8			50			6.30	8.45	8.75	9.06	9.40	10.14	●
SPM200-RN2-1-10-0.2-V			10			50			5.50	10.53	10.89	11.28	11.70	12.63	●
SPM200-RN2-1-12-0.2-V			12			55			4.88	12.60	13.03	13.50	14.00	15.11	●
SPM200-RN2-1-16-0.2-V		16	60	3.98	16.74	17.31	17.93	18.59	20.09	●					
SPM200-RN2-1-20-0.2-V		20	60	3.36	20.87	21.59	22.36	23.19	25.06	●					
SPM200-RN2-1-2-0.3-V		0.3	2	0.8	0.96	50	4	4	11.32	2.13	2.25	2.36	2.47	2.66	●
SPM200-RN2-1-3-0.3-V			3			50			10.01	3.20	3.36	3.50	3.63	3.90	●
SPM200-RN2-1-4-0.3-V	4		50			8.98			4.25	4.45	4.62	4.78	5.15	●	
SPM200-RN2-1-5-0.3-V	5		50			8.14			5.31	5.53	5.73	5.93	6.39	●	
SPM200-RN2-1-6-0.3-V	6		50			7.44			6.36	6.61	6.84	7.08	7.63	●	
SPM200-RN2-1-8-0.3-V	8		50			6.35			8.44	8.75	9.05	9.38	10.12	●	

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

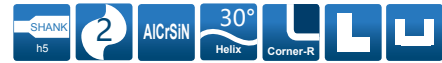
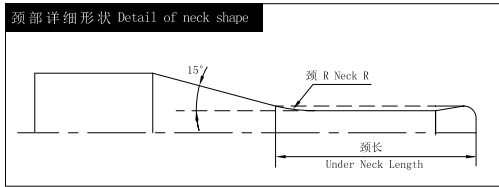
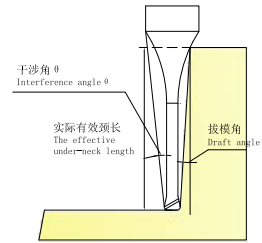
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°								
SPM200-RN2-1-10-0.3-V	1	0.3	10	0.8	0.96	50	4	4	5.53	10.52	10.89	11.27	11.68	12.60	●							
SPM200-RN2-1-12-0.3-V			12			55				12.60	13.03	13.49	13.98	15.09	●							
SPM200-RN2-1-16-0.3-V			16			60				16.73	17.30	17.92	18.58	20.06	●							
SPM200-RN2-1-20-0.3-V			20			60				20.87	21.58	22.35	23.18	25.04	●							
SPM200-RN2-1.25-5-0.1-V	1.25	0.1	5	1	1.20	50	4	4	7.68	5.30	5.52	5.72	5.93	6.40	●							
SPM200-RN2-1.25-10-0.1-V			10			50				10.50	10.87	11.26	11.68	12.62	●							
SPM200-RN2-1.25-15-0.1-V			15			55				15.68	16.22	16.80	17.43	18.83	●							
SPM200-RN2-1.25-20-0.1-V			20			60				20.84	21.57	22.34	23.18	25.05	●							
SPM200-RN2-1.25-5-0.2-V		0.2	5			50				7.75	5.29	5.51	5.71	5.91	6.38	●						
SPM200-RN2-1.25-10-0.2-V			10			50				10.50	10.86	11.25	11.66	12.59	●							
SPM200-RN2-1.25-15-0.2-V			15			55				15.67	16.21	16.79	17.41	18.81	●							
SPM200-RN2-1.25-20-0.2-V			20			60				20.84	21.56	22.33	23.16	25.02	●							
SPM200-RN2-1.25-5-0.3-V		0.3	5			50				7.83	5.29	5.50	5.70	5.90	6.35	●						
SPM200-RN2-1.25-10-0.3-V			10			50				10.50	10.86	11.24	11.65	12.57	●							
SPM200-RN2-1.25-15-0.3-V			15			55				15.67	16.20	16.78	17.40	18.78	●							
SPM200-RN2-1.25-20-0.3-V			20			60				20.84	21.55	22.32	23.15	25.00	●							
SPM200-RN2-1.5-4-0.1-V		1.5	0.1			4				1.2	1.44	50	4	4	8.17	4.23	4.42	4.58	4.75	5.13	●	
SPM200-RN2-1.5-6-0.1-V						6						50				6.66	6.32	6.57	6.80	7.05	7.62	●
SPM200-RN2-1.5-8-0.1-V						8						50				5.62	8.41	8.71	9.02	9.35	10.10	●
SPM200-RN2-1.5-12-0.1-V						12						55				4.28	12.55	12.98	13.45	13.95	15.07	●
SPM200-RN2-1.5-15-0.1-V	15			55	3.63	15.65	16.19	16.77	17.40			18.80				●						
SPM200-RN2-1.5-20-0.1-V	20			60	2.90	20.82	21.54	22.32	23.15			-				●						
SPM200-RN2-1.5-4-0.2-V	0.2		4	50	8.26	4.23	4.41	4.57	4.74			5.10				●						
SPM200-RN2-1.5-6-0.2-V			6	50	6.72	6.32	6.56	6.79	7.04			7.59				●						

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

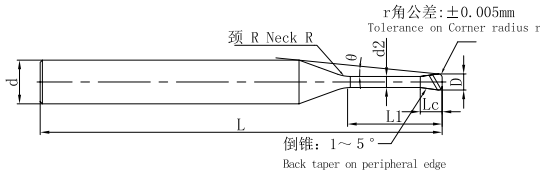
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-1.5-8-0.2-V	1.5	0.2	8	1.2	1.44	50	4	4	5.66	8.40	8.70	9.01	9.34	10.08	●
SPM200-RN2-1.5-12-0.2-V			12			55			4.31	12.55	12.98	13.44	13.94	15.05	●
SPM200-RN2-1.5-15-0.2-V			15			55			3.65	15.65	16.19	16.76	17.38	18.78	●
SPM200-RN2-1.5-20-0.2-V			20			60			2.91	20.82	21.53	22.31	23.13	-	●
SPM200-RN2-1.5-4-0.3-V		0.3	4			50			8.36	4.22	4.40	4.56	4.72	5.08	●
SPM200-RN2-1.5-6-0.3-V			6			50			6.78	6.31	6.55	6.78	7.02	7.57	●
SPM200-RN2-1.5-8-0.3-V			8			50			5.71	8.40	8.69	8.99	9.32	10.05	●
SPM200-RN2-1.5-12-0.3-V			12			55			4.33	12.54	12.97	13.43	13.92	15.03	●
SPM200-RN2-1.5-15-0.3-V			15			55			3.67	15.64	16.18	16.75	17.37	18.76	●
SPM200-RN2-1.5-20-0.3-V			20			60			2.92	20.81	21.53	22.29	23.12	-	●
SPM200-RN2-1.5-4-0.5-V		0.5	4			50			8.55	4.21	4.39	4.54	4.69	5.03	●
SPM200-RN2-1.5-6-0.5-V			6			50			6.91	6.31	6.54	6.76	6.99	7.52	●
SPM200-RN2-1.5-8-0.5-V			8			50			5.80	8.39	8.68	8.97	9.29	10.00	●
SPM200-RN2-1.5-12-0.5-V			12			55			4.39	12.54	12.96	13.41	13.89	14.98	●
SPM200-RN2-1.5-15-0.5-V	15		55	3.71	15.64	16.17	16.73	17.34	18.71	●					
SPM200-RN2-1.5-20-0.5-V	20		60	2.95	20.81	21.51	22.27	23.09	-	●					
SPM200-RN2-1.75-5-0.1-V	1.75	0.1	5	1.4	1.68	50	4	4	6.96	5.26	5.47	5.67	5.88	6.35	●
SPM200-RN2-1.75-10-0.1-V			10			50			4.53	10.46	10.82	11.21	11.63	12.56	●
SPM200-RN2-1.75-15-0.1-V			15			55			3.35	15.63	16.17	16.75	17.38	18.78	●
SPM200-RN2-1.75-20-0.1-V			20			60			2.66	20.80	21.52	22.29	23.13	-	●
SPM200-RN2-1.75-5-0.2-V		0.2	5			50			7.03	5.26	5.47	5.66	5.86	6.32	●
SPM200-RN2-1.75-10-0.2-V			10			50			4.56	10.46	10.82	11.20	11.61	12.54	●
SPM200-RN2-1.75-15-0.2-V			15			55			3.37	15.63	16.16	16.74	17.36	18.75	●
SPM200-RN2-1.75-20-0.2-V			20			60			2.67	20.80	21.51	22.28	23.11	-	●

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

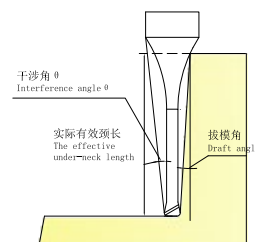
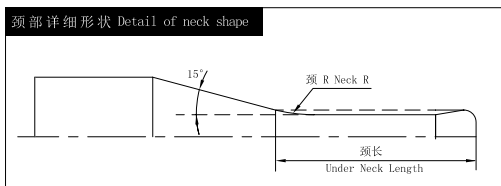
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-1.75-5-0.3-V	1.75	0.3	5	1.4	1.68	50	4	4	7.11	5.25	5.46	5.65	5.85	6.30	●
SPM200-RN2-1.75-10-0.3-V			10			50			4.59	10.45	10.81	11.19	11.60	12.51	●
SPM200-RN2-1.75-15-0.3-V			15			55			3.39	15.62	16.16	16.73	17.35	18.73	●
SPM200-RN2-1.75-20-0.3-V			20			60			2.69	20.79	21.51	22.27	23.10	-	●
SPM200-RN2-2-4-0.1-V	2	0.1	4	1.6	1.92	50	4	4	7.36	4.21	4.38	4.54	4.71	5.08	●
SPM200-RN2-2-6-0.1-V			6			50			5.86	6.29	6.53	6.76	7.01	7.57	●
SPM200-RN2-2-8-0.1-V			8			50			4.87	8.37	8.66	8.97	9.31	10.05	●
SPM200-RN2-2-12-0.1-V			12			55			3.64	12.51	12.94	13.41	13.91	15.03	●
SPM200-RN2-2-16-0.1-V			16			55			2.90	16.65	17.22	17.84	18.51	-	●
SPM200-RN2-2-20-0.1-V			20			60			2.42	20.78	21.50	22.27	23.11	-	●
SPM200-RN2-2-25-0.1-V			25			65			2.00	25.95	26.85	27.82	-	-	●
SPM200-RN2-2-30-0.1-V			30			70			1.70	31.12	32.20	33.36	-	-	●
SPM200-RN2-2-4-0.2-V		0.2	4			50			7.46	4.20	4.37	4.53	4.69	5.06	●
SPM200-RN2-2-6-0.2-V			6			50			5.93	6.29	6.52	6.75	6.99	7.54	●
SPM200-RN2-2-8-0.2-V			8			50			4.91	8.37	8.66	8.96	9.29	10.03	●
SPM200-RN2-2-12-0.2-V			12			55			3.66	12.51	12.94	13.40	13.89	15.00	●
SPM200-RN2-2-16-0.2-V			16			55			2.92	16.64	17.22	17.83	18.49	-	●
SPM200-RN2-2-20-0.2-V			20			60			2.43	20.78	21.49	22.26	23.09	-	●
SPM200-RN2-2-25-0.2-V			25			65			2.00	25.95	26.84	27.80	-	-	●
SPM200-RN2-2-30-0.2-V			30			70			1.71	31.11	32.19	33.35	-	-	●
SPM200-RN2-2-4-0.3-V	0.3	4	50	7.56	4.20	4.37	4.52	4.68	5.03	●					
SPM200-RN2-2-6-0.3-V		6	50	5.99	6.28	6.51	6.74	6.98	7.52	●					
SPM200-RN2-2-8-0.3-V		8	50	4.96	8.36	8.65	8.95	9.28	10.01	●					
SPM200-RN2-2-12-0.3-V		12	55	3.69	12.50	12.93	13.39	13.88	14.98	●					

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

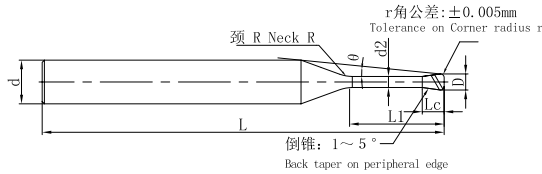
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-2-16-0.3-V	2	0.3	16	1.6	1.92	55	4	4	2.93	16.64	17.21	17.82	18.48	-	●
SPM200-RN2-2-20-0.3-V			20			60			2.44	20.77	21.49	22.25	23.08	-	●
SPM200-RN2-2-25-0.3-V			25			65			2.01	25.94	26.84	27.79	28.82	-	●
SPM200-RN2-2-30-0.3-V			30			70			1.71	31.11	32.18	33.34	-	-	●
SPM200-RN2-2-6-0.5-V		0.5	6			50			6.11	6.28	6.50	6.71	6.95	7.47	●
SPM200-RN2-2-8-0.5-V			8			50			5.04	8.36	8.64	8.93	9.25	9.96	●
SPM200-RN2-2-12-0.5-V			12			55			3.73	12.50	12.92	13.36	13.85	14.93	●
SPM200-RN2-2-16-0.5-V			16			55			2.96	16.63	17.19	17.80	18.45	-	●
SPM200-RN2-2-20-0.5-V			20			60			2.46	20.77	21.47	22.23	23.05	-	●
SPM200-RN2-2-25-0.5-V			25			65			2.03	25.94	26.82	27.77	28.79	-	●
SPM200-RN2-2-30-0.5-V			30			70			1.72	31.10	32.17	33.31	-	-	●
SPM200-RN2-2-6-0.8-V			0.8			6			50	6.31	6.26	6.48	6.68	6.90	7.40
SPM200-RN2-2-8-0.8-V		8				50			5.18	8.35	8.62	8.90	9.20	9.88	●
SPM200-RN2-2-12-0.8-V		12				55			3.81	12.49	12.89	13.33	13.80	14.86	●
SPM200-RN2-2-16-0.8-V		16				55			3.01	16.62	17.17	17.77	18.40	19.83	●
SPM200-RN2-2-20-0.8-V		20				60			2.49	20.76	21.45	22.20	23.00	-	●
SPM200-RN2-2-25-0.8-V	25	65		2.05	25.93	26.80	27.74	28.75	-	●					
SPM200-RN2-2-30-0.8-V	30	70		1.74	31.09	32.15	33.28	-	-	●					
SPM200-RN2-2.5-10-0.1-V	2.5	0.1		10	2	2.40	50	4	4	3.36	10.41	10.77	11.16	11.57	12.50
SPM200-RN2-2.5-20-0.1-V			20	60			1.89			20.75	21.47	22.24	-	-	●
SPM200-RN2-2.5-30-0.1-V			30	70			1.32			31.09	32.17	-	-	-	●
SPM200-RN2-2.5-10-0.2-V		0.2	10	50			3.39			10.41	10.77	11.15	11.56	12.48	●
SPM200-RN2-2.5-20-0.2-V			20	60			1.90			20.75	21.46	22.23	-	-	●
SPM200-RN2-2.5-30-0.2-V			30	70			1.32			31.08	32.16	-	-	-	●

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

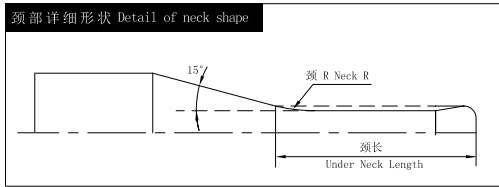
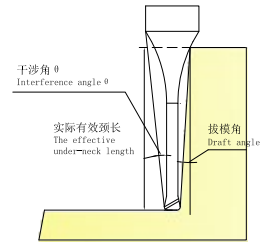
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-2.5-10-0.3-V	2.5	0.3	10	2	2.40	50	4	4	3.42	10.41	10.76	11.14	11.54	12.46	●
SPM200-RN2-2.5-20-0.3-V			20			60			1.91	20.74	21.46	22.22	-	-	●
SPM200-RN2-2.5-30-0.3-V			30			70			1.32	31.08	32.15	-	-	-	●
SPM200-RN2-2.5-10-0.5-V		0.5	10			50			3.47	10.40	10.75	11.12	11.51	12.41	●
SPM200-RN2-2.5-20-0.5-V			20			60			1.92	20.74	21.44	22.20	-	-	●
SPM200-RN2-2.5-30-0.5-V			30			70			1.33	31.07	32.14	-	-	-	●
SPM200-RN2-3-6-0.1-V	3	0.1	6	2.4	2.88	50	6	4	7.40	6.25	6.47	6.70	6.95	7.50	●
SPM200-RN2-3-8-0.1-V			8			55			6.32	8.32	8.61	8.92	9.25	9.99	●
SPM200-RN2-3-12-0.1-V			12			60			4.89	12.46	12.89	13.35	13.85	14.96	●
SPM200-RN2-3-16-0.1-V			16			60			3.99	16.59	17.17	17.78	18.45	19.94	●
SPM200-RN2-3-18-0.1-V			18			65			3.65	18.66	19.31	20.00	20.75	22.42	●
SPM200-RN2-3-20-0.1-V			20			65			3.36	20.73	21.45	22.22	23.05	24.91	●
SPM200-RN2-3-30-0.1-V		30	75			2.42			31.06	32.14	33.30	34.55	-	●	
SPM200-RN2-3-35-0.1-V		35	80			2.12			36.23	37.49	38.84	40.29	-	●	
SPM200-RN2-3-6-0.2-V		0.2	6			50			7.46	6.25	6.46	6.69	6.93	7.48	●
SPM200-RN2-3-8-0.2-V			8			55			6.36	8.32	8.60	8.91	9.23	9.97	●
SPM200-RN2-3-12-0.2-V			12			60			4.92	12.45	12.88	13.34	13.83	14.94	●
SPM200-RN2-3-16-0.2-V			16			60			4.00	16.59	17.16	17.77	18.43	19.91	●
SPM200-RN2-3-18-0.2-V			18			65			3.66	18.66	19.30	19.99	20.73	22.40	●
SPM200-RN2-3-20-0.2-V			20			65			3.38	20.72	21.44	22.21	23.03	24.88	●
SPM200-RN2-3-30-0.2-V		30	75			2.43			31.06	32.14	33.29	34.53	-	●	
SPM200-RN2-3-35-0.2-V		35	80			2.13			36.23	37.48	38.83	40.28	-	●	
SPM200-RN2-3-6-0.3-V		0.3	6			50			7.53	6.24	6.46	6.68	6.92	7.46	●
SPM200-RN2-3-8-0.3-V			8			55			6.41	8.32	8.60	8.90	9.22	9.94	●

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

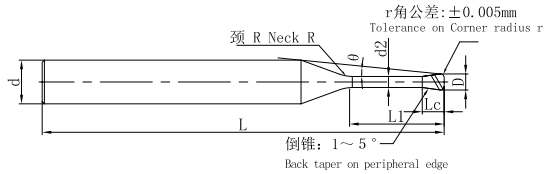
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°		
SPM200-RN2-3-12-0.3-V	3	0.3	12	2.4	2.88	60	6	4	4.94	12.45	12.87	13.33	13.82	14.91	●	
SPM200-RN2-3-16-0.3-V			16			60			4.02	16.59	17.15	17.76	18.42	19.89	●	
SPM200-RN2-3-18-0.3-V			18			65			3.68	18.65	19.29	19.98	20.72	22.37	●	
SPM200-RN2-3-20-0.3-V			20			65			3.39	20.72	21.43	22.20	23.02	24.86	●	
SPM200-RN2-3-30-0.3-V			30			75			2.43	31.06	32.13	33.28	34.52	-	●	
SPM200-RN2-3-35-0.3-V			35			80			2.13	36.23	37.48	38.82	40.26	-	●	
SPM200-RN2-3-8-0.5-V		0.5	8			55			6.51	8.31	8.58	8.87	9.19	9.89	●	
SPM200-RN2-3-12-0.5-V			12			60			5.00	12.44	12.86	13.31	13.79	14.87	●	
SPM200-RN2-3-16-0.5-V			16			60			4.06	16.58	17.14	17.74	18.39	19.84	●	
SPM200-RN2-3-18-0.5-V			18			65			3.71	18.65	19.28	19.96	20.69	22.33	●	
SPM200-RN2-3-20-0.5-V			20			65			3.42	20.71	21.42	22.17	22.99	24.81	●	
SPM200-RN2-3-30-0.5-V			30			75			2.45	31.05	32.12	33.26	34.49	-	●	
SPM200-RN2-3-35-0.5-V			35			80			2.14	36.22	37.46	38.80	40.23	-	●	
SPM200-RN2-3-8-1-V			1			8			55	6.76	8.29	8.55	8.82	9.11	9.77	●
SPM200-RN2-3-12-1-V						12			60	5.15	12.43	12.83	13.25	13.71	14.74	●
SPM200-RN2-3-16-1-V						16			60	4.16	16.56	17.10	17.69	18.31	19.72	●
SPM200-RN2-3-18-1-V	18	65		3.79	18.63	19.24	19.90	20.61	22.20	●						
SPM200-RN2-3-20-1-V	20	65		3.49	20.70	21.38	22.12	22.91	24.69	●						
SPM200-RN2-3-30-1-V	30	75		2.48	31.03	32.08	33.20	34.41	-	●						
SPM200-RN2-3-35-1-V	35	80		2.17	36.20	37.43	38.74	40.16	-	●						
SPM200-RN2-4-8-0.1-V	4	0.1		8	3.2	3.86	55	6	4	4.90	8.31	8.59	8.90	9.23	9.97	●
SPM200-RN2-4-12-0.1-V			12	60			3.66			12.44	12.87	13.33	13.83	14.94	●	
SPM200-RN2-4-16-0.1-V			16	60			2.91			16.57	17.15	17.76	18.43	-	●	
SPM200-RN2-4-20-0.1-V			20	65			2.42			20.71	21.43	22.20	23.03	-	●	

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

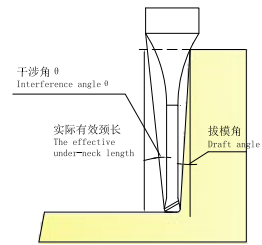
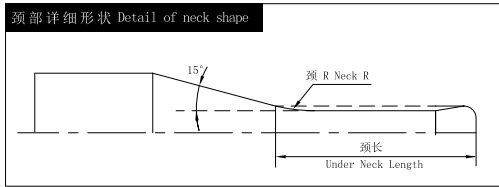
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-4-30-0.1-V	4	0.1	30	3.2	3.86	75	6	4	1.71	31.05	32.12	33.28	-	-	●
SPM200-RN2-4-35-0.1-V			35			80			1.49	36.21	37.47	-	-	-	●
SPM200-RN2-4-45-0.1-V			45			90			1.18	46.55	48.17	-	-	-	●
SPM200-RN2-4-8-0.2-V		0.2	8			55			4.94	8.30	8.58	8.89	9.21	9.94	●
SPM200-RN2-4-12-0.2-V			12			60			3.68	12.44	12.86	13.32	13.81	14.92	●
SPM200-RN2-4-16-0.2-V			16			60			2.93	16.57	17.14	17.75	18.41	-	●
SPM200-RN2-4-20-0.2-V			20			65			2.43	20.71	21.42	22.19	23.01	-	●
SPM200-RN2-4-30-0.2-V			30			75			1.71	31.04	32.12	33.27	-	-	●
SPM200-RN2-4-35-0.2-V			35			80			1.49	36.21	37.47	-	-	-	●
SPM200-RN2-4-45-0.2-V		45	90			1.18			46.55	48.16	-	-	-	●	
SPM200-RN2-4-8-0.3-V		0.3	8			55			4.99	8.30	8.58	8.88	9.20	9.92	●
SPM200-RN2-4-12-0.3-V			12			60			3.70	12.43	12.86	13.31	13.80	14.89	●
SPM200-RN2-4-16-0.3-V			16			60			2.94	16.57	17.13	17.74	18.40	-	●
SPM200-RN2-4-20-0.3-V			20			65			2.44	20.70	21.41	22.18	23.00	-	●
SPM200-RN2-4-30-0.3-V			30			75			1.72	31.04	32.11	33.26	-	-	●
SPM200-RN2-4-35-0.3-V			35			80			1.49	36.21	37.46	-	-	-	●
SPM200-RN2-4-45-0.3-V		45	90			1.19			46.54	48.16	-	-	-	●	
SPM200-RN2-4-12-0.5-V		0.5	12			60			3.75	12.43	12.84	13.29	13.77	14.84	●
SPM200-RN2-4-16-0.5-V			16			60			2.97	16.56	17.12	17.72	18.37	-	●
SPM200-RN2-4-20-0.5-V			20			65			2.47	20.70	21.40	22.15	22.97	-	●
SPM200-RN2-4-30-0.5-V	30		75	1.73	31.03	32.10	33.24	-	-	●					
SPM200-RN2-4-35-0.5-V	35		80	1.50	36.20	37.44	-	-	-	●					
SPM200-RN2-4-45-0.5-V	45		90	1.19	46.54	48.14	-	-	-	●					
SPM200-RN2-4-12-1-V	1	12	60	3.88	12.41	12.81	13.23	13.69	14.72	●					

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

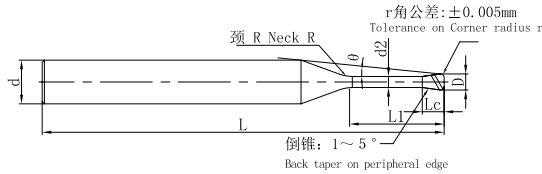
推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

外径Φ4以上不是倒锥形状
Φ4 or higher does not have backdraft shape



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°		
SPM200-RN2-4-16-1-V	4	1	16	3.2	3.86	60	6	4	3.05	16.54	17.09	17.67	18.29	19.70	●	
SPM200-RN2-4-20-1-V			20			65				20.68	21.36	22.10	22.89	-	●	
SPM200-RN2-4-30-1-V			30			75				31.02	32.06	33.18	-	-	●	
SPM200-RN2-4-35-1-V			35			80				1.52	36.18	37.41	38.73	-	-	●
SPM200-RN2-4-45-1-V			45			90				1.20	46.52	48.11	-	-	-	●
SPM200-RN2-5-20-0.1-V	5	0.1	20	4	4.85	65	6	4	1.32	20.70	21.42	-	-	-	●	
SPM200-RN2-5-40-0.1-V			40			85				0.69	41.38	-	-	-	-	●
SPM200-RN2-5-20-0.2-V		0.2	20			65				1.32	20.70	21.41	-	-	-	●
SPM200-RN2-5-40-0.2-V			40			85				0.69	41.37	-	-	-	-	●
SPM200-RN2-5-20-0.3-V		0.3	20			65				1.33	20.69	21.41	-	-	-	●
SPM200-RN2-5-40-0.3-V			40			85				0.69	41.37	-	-	-	-	●
SPM200-RN2-5-20-0.5-V		0.5	20			65				1.34	20.69	21.39	-	-	-	●
SPM200-RN2-5-40-0.5-V			40			85				0.70	41.36	-	-	-	-	●
SPM200-RN2-5-20-1-V		1	20			65				1.38	20.67	21.36	-	-	3°	●
SPM200-RN2-5-40-1-V			40			85				0.71	41.34	-	-	-	-	●
SPM200-RN2-6-12-0.1-V	6	0.1	12	4.8	5.85	50	6	-	-	-	-	-	-	-	●	
SPM200-RN2-6-18-0.1-V			18			60				-	-	-	-	-	●	
SPM200-RN2-6-24-0.1-V			24			70				-	-	-	-	-	●	
SPM200-RN2-6-35-0.1-V			35			80				-	-	-	-	-	●	
SPM200-RN2-6-55-0.1-V			55			100				-	-	-	-	-	●	
SPM200-RN2-6-12-0.2-V		0.2	12			50				-	-	-	-	-	●	
SPM200-RN2-6-18-0.2-V			18			60				-	-	-	-	-	●	
SPM200-RN2-6-24-0.2-V			24			70				-	-	-	-	-	●	
SPM200-RN2-6-35-0.2-V			35			80				-	-	-	-	-	●	
SPM200-RN2-6-55-0.2-V			55			100				-	-	-	-	-	●	

●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

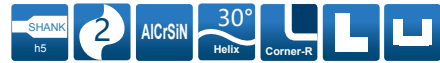
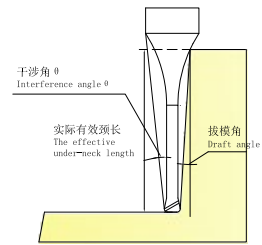
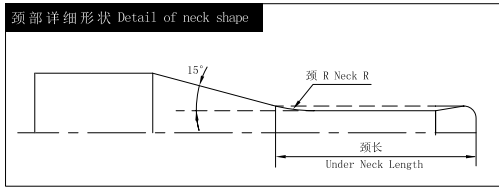
单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN2-6-55-0.2-V	6	0.2	55	4.8	5.85	100	6	-	-	-	-	-	-	-	●
SPM200-RN2-6-12-0.3-V			12			50				-	-	-	-	●	
SPM200-RN2-6-18-0.3-V			18			60				-	-	-	-	●	
SPM200-RN2-6-24-0.3-V			24			70				-	-	-	-	●	
SPM200-RN2-6-35-0.3-V			35			80				-	-	-	-	●	
SPM200-RN2-6-55-0.3-V			55			100				-	-	-	-	●	
SPM200-RN2-6-18-0.5-V		0.5	18			60				-	-	-	-	●	
SPM200-RN2-6-24-0.5-V			24			70				-	-	-	-	●	
SPM200-RN2-6-35-0.5-V			35			80				-	-	-	-	●	
SPM200-RN2-6-55-0.5-V			55			100				-	-	-	-	●	
SPM200-RN2-6-18-1-V			1			18				60	-	-	-	-	●
SPM200-RN2-6-24-1-V						24				70	-	-	-	-	●
SPM200-RN2-6-35-1-V		35				80				-	-	-	-	●	
SPM200-RN2-6-55-1-V		55				100				-	-	-	-	●	

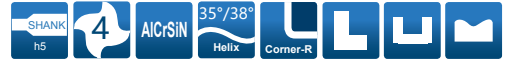
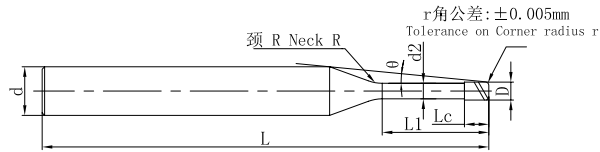
●标准库存Stock
○需预定Available upon Order

r	公差Tol
r	±0.005

单位unit (mm)

推荐切削参数 ※ P341
Cutting Parameters

小径深加工4刃圆角头立铣刀
4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°		
SPM200-RN4-1-4-0.05-V	1	0.05	4	0.8	0.96	50	4	4	8.75	4.27	4.47	4.65	4.82	5.21	●	
SPM200-RN4-1-6-0.05-V			6			50			7.28	6.37	6.63	6.86	7.12	7.69	●	
SPM200-RN4-1-8-0.05-V			8			50			6.23	8.45	8.76	9.08	9.42	10.18	●	
SPM200-RN4-1-10-0.05-V			10			50			5.45	10.53	10.90	11.30	11.72	12.67	●	
SPM200-RN4-1-12-0.05-V			12			60			4.84	12.61	13.04	13.51	14.02	15.15	●	
SPM200-RN4-1-16-0.05-V			16			60			3.95	16.74	17.32	17.95	18.62	20.12	●	
SPM200-RN4-1-20-0.05-V			20			60			3.34	20.88	21.60	22.38	23.22	25.10	●	
SPM200-RN4-1-4-0.1-V			0.1			4					50	8.80	4.26	4.47	4.64	4.81
SPM200-RN4-1-6-0.1-V		6		50	7.31	6.37					6.62	6.86	7.11	7.68	●	
SPM200-RN4-1-8-0.1-V		8		50	6.25	8.45					8.76	9.07	9.41	10.17	●	
SPM200-RN4-1-10-0.1-V		10		50	5.46	10.53					10.90	11.29	11.71	12.65	●	
SPM200-RN4-1-12-0.1-V		12		60	4.85	12.60					13.04	13.51	14.01	15.14	●	
SPM200-RN4-1-16-0.1-V		16		60	3.96	16.74					17.32	17.94	18.61	20.11	●	
SPM200-RN4-1-20-0.1-V		20		60	3.35	20.87					21.60	22.37	23.21	25.08	●	
SPM200-RN4-1.5-4-0.05-V		1.5		0.05	4	1.2					1.44	50	8.12	4.23	4.42	4.59
SPM200-RN4-1.5-8-0.05-V			8		50				5.60	8.41		8.71	9.02	9.36	10.11	●
SPM200-RN4-1.5-12-0.05-V	12		60		4.27		12.55	12.99	13.46	13.96		15.09	●			
SPM200-RN4-1.5-15-0.05-V	15		60		3.62		15.65	16.20	16.78	17.41		18.82	●			
SPM200-RN4-1.5-20-0.05-V	20		60		2.89		20.82	21.55	22.32	23.16		-	●			
SPM200-RN4-1.5-4-0.1-V	0.1		4	50	8.17		4.23	4.42	4.58	4.75		5.13	●			
SPM200-RN4-1.5-8-0.1-V			8	50	5.62		8.41	8.71	9.02	9.35		10.10	●			
SPM200-RN4-1.5-12-0.1-V			12	60	4.28		12.55	12.98	13.45	13.95		15.07	●			
SPM200-RN4-1.5-15-0.1-V			15	60	3.63		15.65	16.19	16.77	17.40		18.80	●			
SPM200-RN4-1.5-20-0.1-V			20	60	2.90		20.82	21.54	22.32	23.15		-	●			

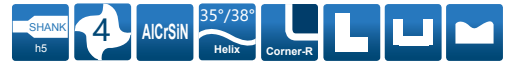
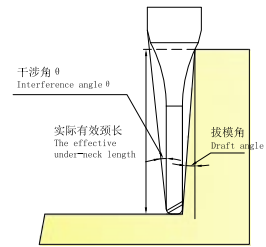
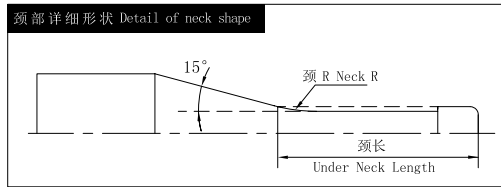
●标准库存Stock
○需预定Available upon Order

r & D	公差Tol
r	±0.005
D	0 -0.01

单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

小径深加工4刃圆角头立铣刀 4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN4-2-4-0.05-V	2	0.05	4	1.6	1.92	50	4	4	7.32	4.21	4.39	4.55	4.72	5.09	●
SPM200-RN4-2-6-0.05-V			6			50			5.84	6.30	6.53	6.76	7.01	7.58	●
SPM200-RN4-2-8-0.05-V			8			50			4.85	8.37	8.67	8.98	9.31	10.07	●
SPM200-RN4-2-12-0.05-V			12			60			3.63	12.51	12.95	13.41	13.91	15.04	●
SPM200-RN4-2-16-0.05-V			16			60			2.90	16.65	17.23	17.85	18.51	-	●
SPM200-RN4-2-20-0.05-V			20			60			2.41	20.78	21.50	22.28	23.11	-	●
SPM200-RN4-2-4-0.1-V		0.1	4	50	7.36	4.21	4.38	4.54	4.71	5.08	●				
SPM200-RN4-2-6-0.1-V			6	50	5.86	6.29	6.53	6.76	7.01	7.57	●				
SPM200-RN4-2-8-0.1-V			8	50	4.87	8.37	8.66	8.97	9.31	10.05	●				
SPM200-RN4-2-12-0.1-V			12	60	3.64	12.51	12.94	13.41	13.91	15.03	●				
SPM200-RN4-2-16-0.1-V			16	60	2.90	16.65	17.22	17.84	18.51	-	●				
SPM200-RN4-2-20-0.1-V			20	60	2.42	20.78	21.50	22.27	23.11	-	●				
SPM200-RN4-2-4-0.2-V		0.2	4	50	7.46	4.20	4.37	4.53	4.69	5.06	●				
SPM200-RN4-2-6-0.2-V			6	50	5.93	6.29	6.52	6.75	6.99	7.54	●				
SPM200-RN4-2-8-0.2-V			8	50	4.91	8.37	8.66	8.96	9.29	10.03	●				
SPM200-RN4-2-12-0.2-V			12	60	3.66	12.51	12.94	13.40	13.89	15.00	●				
SPM200-RN4-2-16-0.2-V			16	60	2.92	16.64	17.22	17.83	18.49	-	●				
SPM200-RN4-2-20-0.2-V			20	60	2.43	20.78	21.49	22.26	23.09	-	●				
SPM200-RN4-2-25-0.2-V		25	70	2.00	25.95	26.84	27.80	-	-	●					
SPM200-RN4-2-30-0.2-V		30	70	1.71	31.11	32.19	33.35	-	-	●					
SPM200-RN4-2-4-0.3-V	0.3	4	50	7.56	4.20	4.37	4.52	4.68	5.03	●					
SPM200-RN4-2-8-0.3-V		8	50	4.96	8.36	8.65	8.95	9.28	10.01	●					
SPM200-RN4-2-12-0.3-V		12	60	3.69	12.50	12.93	13.39	13.88	14.98	●					
SPM200-RN4-2-16-0.3-V		16	60	2.93	16.64	17.21	17.82	18.48	-	●					
SPM200-RN4-2-20-0.3-V		20	60	2.44	20.77	21.49	22.25	23.08	-	●					

●标准库存Stock
○需预定Available upon Order

r & D	公差Tol
r	±0.005
D	0 -0.01

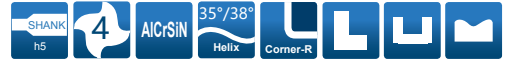
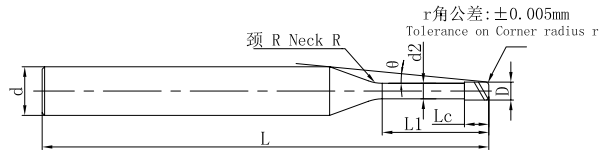
单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°						
SPM200-RN4-2-4-0.5-V	2	0.5	4	1.6	1.92	50	4	4	7.76	4.19	4.35	4.50	4.65	4.98	●					
SPM200-RN4-2-6-0.5-V			6			50			6.11	6.28	6.50	6.71	6.95	7.47	●					
SPM200-RN4-2-8-0.5-V			8			50			5.04	8.36	8.64	8.93	9.25	9.96	●					
SPM200-RN4-2-12-0.5-V			12			60			3.73	12.50	12.92	13.36	13.85	14.93	●					
SPM200-RN4-2-16-0.5-V			16			60			2.96	16.63	17.19	17.80	18.45	-	●					
SPM200-RN4-2-20-0.5-V			20			60			2.46	20.77	21.47	22.23	23.05	-	●					
SPM200-RN4-2-25-0.5-V			25			70			2.03	25.94	26.82	27.77	28.79	-	●					
SPM200-RN4-2-30-0.5-V			30			70			1.72	31.10	32.17	33.31	-	-	●					
SPM200-RN4-2.5-8-0.1-V	2.5	0.1	8	2	2.4	50	4	4	3.98	8.34	8.63	8.94	9.27	10.02	●					
SPM200-RN4-2.5-16-0.1-V			16			60			2.29	16.62	17.19	17.81	18.47	-	●					
SPM200-RN4-2.5-20-0.1-V			20			60			1.89	20.75	21.47	22.24	-	-	●					
SPM200-RN4-2.5-8-0.2-V		0.2	8			50			4.02	8.34	8.63	8.93	9.26	9.99	●					
SPM200-RN4-2.5-16-0.2-V			16			60			2.30	16.61	17.18	17.80	18.46	-	●					
SPM200-RN4-2.5-20-0.2-V			20			60			1.90	20.75	21.46	22.23	-	-	●					
SPM200-RN4-2.5-12-0.3-V		0.3	12			60			2.95	12.47	12.90	13.35	13.84	-	●					
SPM200-RN4-2.5-20-0.3-V			20			60			1.91	20.74	21.46	22.22	-	-	●					
SPM200-RN4-2.5-12-0.5-V			12			60			2.99	12.47	12.88	13.33	13.81	-	●					
SPM200-RN4-2.5-20-0.5-V		0.5	20			60			1.92	20.74	21.44	22.20	-	-	●					
SPM200-RN4-3-8-0.1-V		3	0.1			8			2.4	2.88	60	6	6	6.32	8.32	8.61	8.92	9.25	9.99	●
SPM200-RN4-3-16-0.1-V						16					60			3.99	16.59	17.17	17.78	18.45	19.94	●
SPM200-RN4-3-25-0.1-V	25			70	2.82	25.90	26.79	27.76			28.80			-	●					
SPM200-RN4-3-30-0.1-V	30		80	2.42	31.06	32.14	33.30	34.55			-			●						
SPM200-RN4-3-8-0.2-V	0.2		8	60	6.36	8.32	8.60	8.91			9.23			9.97	●					
SPM200-RN4-3-12-0.2-V			12	60	4.92	12.45	12.88	13.34			13.83			14.94	●					

●标准库存Stock
○需预定Available upon Order

r & D	公差Tol
r	±0.005
D	0 -0.01

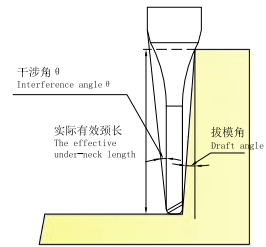
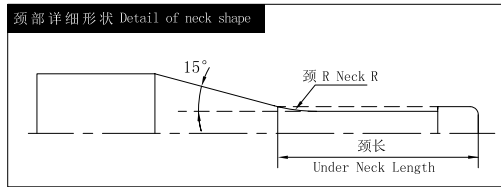
单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°		
SPM200-RN4-3-16-0.2-V	3	0.2	16	2.4	2.88	60	6	4	4.00	16.59	17.16	17.77	18.43	19.91	●	
SPM200-RN4-3-20-0.2-V			20			70				3.38	20.72	21.44	22.21	23.03	24.88	●
SPM200-RN4-3-25-0.2-V			25			70				2.82	25.89	26.79	27.75	28.78	-	●
SPM200-RN4-3-30-0.2-V			30			80				2.43	31.06	32.14	33.29	34.53	-	●
SPM200-RN4-3-8-0.3-V			0.3			8				60	6.41	8.32	8.60	8.90	9.22	9.94
SPM200-RN4-3-16-0.3-V		16				60				4.02	16.59	17.15	17.76	18.42	19.89	●
SPM200-RN4-3-20-0.3-V		20				70				3.39	20.72	21.43	22.20	23.02	24.86	●
SPM200-RN4-3-25-0.3-V		25				70				2.83	25.89	26.78	27.74	28.77	-	●
SPM200-RN4-3-30-0.3-V		30				80				2.43	31.06	32.13	33.28	34.52	-	●
SPM200-RN4-3-8-0.5-V		0.5	8			60				6.51	8.31	8.58	8.87	9.19	9.89	●
SPM200-RN4-3-12-0.5-V			12			60				5.00	12.44	12.86	13.31	13.79	14.87	●
SPM200-RN4-3-16-0.5-V			16			60				4.06	16.58	17.14	17.74	18.39	19.84	●
SPM200-RN4-3-20-0.5-V			20			70				3.42	20.71	21.42	22.17	22.99	24.81	●
SPM200-RN4-3-25-0.5-V			25			70				2.85	25.88	26.77	27.72	28.74	-	●
SPM200-RN4-3-30-0.5-V			30			80				2.45	31.05	32.12	33.26	34.49	-	●
SPM200-RN4-3-35-0.5-V	35		80	2.14	36.22	37.46	38.80	40.23	-	●						
SPM200-RN4-4-12-0.1-V	4	0.1	12	3.2	3.86	60	6	4	3.66	12.44	12.87	13.33	13.83	14.94	●	
SPM200-RN4-4-20-0.1-V			20			60				2.42	20.71	21.43	22.20	23.03	-	●
SPM200-RN4-4-30-0.1-V			30			80				1.71	31.05	32.12	33.28	-	-	●
SPM200-RN4-4-40-0.1-V			40			80				1.32	41.38	42.82	-	-	-	●
SPM200-RN4-4-12-0.2-V		0.2	12			60				3.68	12.44	12.86	13.32	13.81	14.92	●
SPM200-RN4-4-20-0.2-V			20			60				2.43	20.71	21.42	22.19	23.01	-	●
SPM200-RN4-4-30-0.2-V			30			80				1.71	31.04	32.12	33.27	-	-	●
SPM200-RN4-4-40-0.2-V			40			80				1.32	41.38	42.81	-	-	-	●

●标准库存Stock
○需预定Available upon Order

r & D	公差Tol
r	±0.005
D	0 -0.01

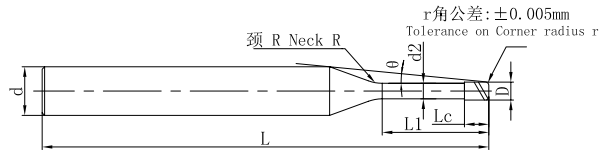
单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°		
SPM200-RN4-4-12-0.3-V	4	0.3	12	3.2	3.86	60	6	4	3.70	12.43	12.86	13.31	13.80	14.89	●	
SPM200-RN4-4-20-0.3-V			20			60				2.44	20.70	21.41	22.18	23.00	-	●
SPM200-RN4-4-30-0.3-V			30			80				1.72	31.04	32.11	33.26	-	-	●
SPM200-RN4-4-40-0.3-V			40			80				1.32	41.38	42.81	-	-	-	●
SPM200-RN4-4-12-0.5-V		0.5	12			60				3.75	12.43	12.84	13.29	13.77	14.84	●
SPM200-RN4-4-20-0.5-V			20			60				2.47	20.70	21.40	22.15	22.97	-	●
SPM200-RN4-4-30-0.5-V			30			80				1.73	31.03	32.10	33.24	-	-	●
SPM200-RN4-4-40-0.5-V			40			80				1.33	41.37	42.79	-	-	-	●
SPM200-RN4-5-20-0.1-V	5	0.1	20	4	4.85	70	6	4	1.32	20.70	21.42	-	-	-	●	
SPM200-RN4-5-40-0.1-V			40			90				0.69	41.38	-	-	-	-	●
SPM200-RN4-5-20-0.2-V		0.2	20			70				1.32	20.70	21.41	-	-	-	●
SPM200-RN4-5-40-0.2-V			40			90				0.69	41.37	-	-	-	-	●
SPM200-RN4-5-20-0.3-V		0.3	20			70				1.33	20.69	21.41	-	-	-	●
SPM200-RN4-5-40-0.3-V			40			90				0.69	41.37	-	-	-	-	●
SPM200-RN4-5-20-0.5-V		0.5	20			70				1.34	20.69	21.39	-	-	-	●
SPM200-RN4-5-40-0.5-V			40			90				0.70	41.36	-	-	-	-	●
SPM200-RN4-5-20-1-V		1	20			70				1.38	20.67	21.36	-	-	-	●
SPM200-RN4-5-40-1-V			40			90				0.71	41.34	-	-	-	-	●
SPM200-RN4-6-30-0.2-V	6	0.2	30	4.8	5.85	80	6	4	-	-	-	-	-	-	●	
SPM200-RN4-6-54-0.2-V			54			100				-	-	-	-	-	●	
SPM200-RN4-6-72-0.2-V			72			120				-	-	-	-	-	●	
SPM200-RN4-6-30-0.3-V		0.3	30			80				-	-	-	-	-	●	
SPM200-RN4-6-54-0.3-V			54			100				-	-	-	-	-	●	
SPM200-RN4-6-72-0.3-V			72			120				-	-	-	-	-	●	

●标准库存Stock
○需预定Available upon Order

r & D	公差Tol
r	±0.005
D	0 -0.01

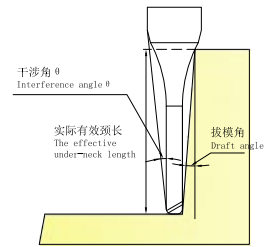
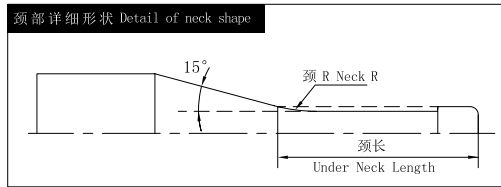
单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	圆角 半径 r	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°	
SPM200-RN4-6-30-0.5-V	6	0.5	30	4.8	5.85	80	6	4	-	-	-	-	-	-	●
SPM200-RN4-6-54-0.5-V			54			100			-	-	-	-	-	●	
SPM200-RN4-6-72-0.5-V			72			120			-	-	-	-	-	●	
SPM200-RN4-6-30-1-V		1	30			80			-	-	-	-	-	●	
SPM200-RN4-6-54-1-V			54			100			-	-	-	-	-	●	
SPM200-RN4-6-72-1-V			72			120			-	-	-	-	-	●	

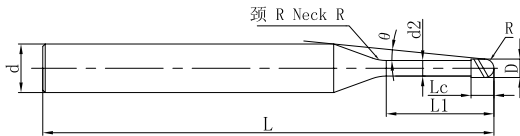
- 标准库存Stock
- 需预定Available upon Order

r & D	公差Tol
r	±0.005
D	$\begin{matrix} 0 \\ -0.01 \end{matrix}$

单位unit (mm)

推荐切削参数 ※ P363
Cutting Parameters

小径深加工2刃球头立铣刀
2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-0.1-0.2-V	0.1	0.05	0.2	0.08	0.08	50	4	1	14.66	0.2	0.21	0.22	0.24	0.26	●
SPM200-BN2-0.1-0.3-V			0.3						14.48	0.31	0.33	0.34	0.36	0.39	●
SPM200-BN2-0.1-0.5-V			0.5						14.12	0.52	0.55	0.57	0.59	0.64	●
SPM200-BN2-0.2-0.5-V	0.2	0.1	0.5	0.16	0.17	50	4	1	14.21	0.51	0.53	0.55	0.57	0.61	●
SPM200-BN2-0.2-0.75-V			0.75						13.77	0.78	0.8	0.83	0.86	0.92	●
SPM200-BN2-0.2-1-V			1						13.36	1.04	1.07	1.11	1.15	1.23	●
SPM200-BN2-0.2-1.25-V			1.25						12.97	1.3	1.34	1.39	1.43	1.54	●
SPM200-BN2-0.2-1.5-V			1.5						12.6	1.56	1.61	1.66	1.72	1.85	●
SPM200-BN2-0.2-2-V			2						11.92	2.07	2.14	2.22	2.3	2.48	●
SPM200-BN2-0.2-2.5-V			2.5						11.31	2.59	2.68	2.77	2.87	3.1	●
SPM200-BN2-0.2-3-V			3						10.76	3.11	3.21	3.33	3.45	3.72	●
SPM200-BN2-0.3-0.5-V			0.3						0.15	0.5	0.24	0.27	50	4	2
SPM200-BN2-0.3-0.75-V	0.75	13.72		0.79	0.83	0.87	0.91	0.98		●					
SPM200-BN2-0.3-1-V	1	13.3		1.05	1.11	1.16	1.2	1.29		●					
SPM200-BN2-0.3-1.25-V	1.25	12.9		1.32	1.38	1.44	1.5	1.61		●					
SPM200-BN2-0.3-1.5-V	1.5	12.53		1.58	1.66	1.72	1.78	1.92		●					
SPM200-BN2-0.3-2-V	2	11.84		2.11	2.2	2.28	2.36	2.54		●					
SPM200-BN2-0.3-2.5-V	2.5	11.22		2.63	2.74	2.83	2.93	3.16		●					
SPM200-BN2-0.3-3-V	3	10.66		3.15	3.27	3.39	3.51	3.78		●					
SPM200-BN2-0.4-0.75-V	0.4	0.2		0.75	0.32	0.37	50	4		2					
SPM200-BN2-0.4-1-V			1	13.34					1.05		1.1	1.15	1.19	1.28	●
SPM200-BN2-0.4-1.5-V			1.5	12.55					1.58		1.65	1.72	1.78	1.9	●
SPM200-BN2-0.4-2-V			2	11.84					2.11		2.19	2.27	2.35	2.53	●
SPM200-BN2-0.4-2.5-V			2.5	11.2					2.63		2.73	2.83	2.93	3.15	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

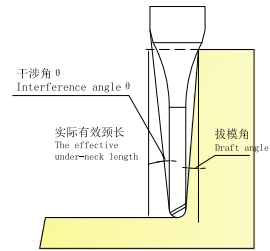
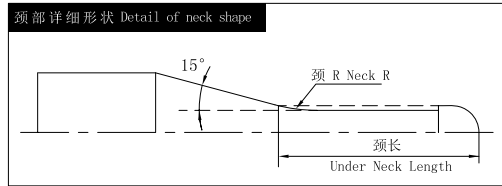
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-0.4-3-V	0.4	0.2	3	0.32	0.37	50	4	2	10.63	3.15	3.27	3.38	3.5	3.77	●
SPM200-BN2-0.4-3.5-V			3.5							3.67	3.8	3.94	4.08	4.39	●
SPM200-BN2-0.4-4-V			4							4.19	4.34	4.49	4.65	5.01	●
SPM200-BN2-0.4-4.5-V			4.5							4.71	4.87	5.04	5.23	5.63	●
SPM200-BN2-0.5-1-V	0.5	0.25	1	0.4	0.47	50	4	2	13.39	1.05	1.09	1.14	1.19	1.27	●
SPM200-BN2-0.5-1.5-V			1.5							1.58	1.65	1.71	1.77	1.89	●
SPM200-BN2-0.5-2-V			2							2.1	2.19	2.27	2.34	2.51	●
SPM200-BN2-0.5-2.5-V			2.5							2.63	2.73	2.82	2.92	3.14	●
SPM200-BN2-0.5-3-V			3							3.15	3.27	3.38	3.49	3.76	●
SPM200-BN2-0.5-4-V			4							4.19	4.34	4.48	4.64	5	●
SPM200-BN2-0.5-5-V			5							5.23	5.41	5.59	5.79	6.24	●
SPM200-BN2-0.5-5.5-V			5.5							6.27	6.48	6.7	6.94	7.49	●
SPM200-BN2-0.5-6-V			6							8.33	8.62	8.92	9.24	9.97	●
SPM200-BN2-0.5-8-V			8							13.15	1.07	1.14	1.2	1.27	1.41
SPM200-BN2-0.6-1-V	0.6	0.3	1	0.48	0.57	50	4	4	11.61	2.15	2.28	2.39	2.5	2.7	●
SPM200-BN2-0.6-2-V			2							2.15	2.28	2.39	2.5	2.7	●
SPM200-BN2-0.6-2.5-V			2.5							2.68	2.84	2.97	3.09	3.32	●
SPM200-BN2-0.6-3-V			3							3.22	3.39	3.54	3.67	3.95	●
SPM200-BN2-0.6-3.5-V			3.5							3.75	3.94	4.1	4.25	4.57	●
SPM200-BN2-0.6-4-V			4							4.28	4.48	4.66	4.82	5.19	●
SPM200-BN2-0.6-4.5-V			4.5							4.81	5.03	5.21	5.4	5.81	●
SPM200-BN2-0.6-5-V			5							5.33	5.57	5.77	5.97	6.43	●
SPM200-BN2-0.6-5.5-V			5.5							5.86	6.11	6.32	6.55	7.05	●
SPM200-BN2-0.6-6-V			6							6.38	6.64	6.87	7.12	7.67	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

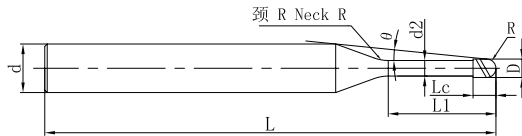
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-0.6-7-V	0.6	0.3	7	0.48	0.57	50	4	4	7.3	7.43	7.71	7.98	8.27	8.92	●
SPM200-BN2-0.6-8-V			8						6.79	8.48	8.78	9.09	9.42	10.16	●
SPM200-BN2-0.6-9-V			9						6.35	9.52	9.85	10.2	10.57	11.4	●
SPM200-BN2-0.6-10-V			10						5.97	10.56	10.92	11.31	11.72	12.65	●
SPM200-BN2-0.6-12-V			12						5.32	12.63	13.06	13.52	14.02	15.13	●
SPM200-BN2-0.7-2-V	0.7	0.35	2	0.56	0.67	50	4	4	11.6	2.14	2.27	2.39	2.49	2.69	●
SPM200-BN2-0.7-4-V			4						9.33	4.27	4.48	4.65	4.81	5.18	●
SPM200-BN2-0.7-6-V			6						7.81	6.38	6.64	6.87	7.11	7.66	●
SPM200-BN2-0.7-8-V			8						6.71	8.47	8.78	9.09	9.41	10.15	●
SPM200-BN2-0.8-2-V	0.8	0.4	2	0.64	0.76	50	4	4	11.64	2.12	2.24	2.35	2.45	2.63	●
SPM200-BN2-0.8-4-V			4						9.3	4.25	4.44	4.61	4.77	5.12	●
SPM200-BN2-0.8-5-V			5						8.45	5.3	5.53	5.72	5.92	6.36	●
SPM200-BN2-0.8-6-V			6						7.74	6.35	6.6	6.83	7.07	7.61	●
SPM200-BN2-0.8-8-V			8						6.63	8.44	8.74	9.04	9.37	10.09	●
SPM200-BN2-0.8-10-V	10	5.8	10.52	10.88	11.26	11.67	12.58	●							
SPM200-BN2-0.9-2-V	0.9	0.45	2	0.72	0.86	50	4	4	11.63	2.12	2.23	2.34	2.44	2.62	●
SPM200-BN2-0.9-4-V			4						9.24	4.25	4.44	4.6	4.76	5.11	●
SPM200-BN2-0.9-6-V			6						7.66	6.35	6.6	6.82	7.06	7.6	●
SPM200-BN2-0.9-8-V			8						6.54	8.44	8.74	9.04	9.36	10.08	●
SPM200-BN2-1-2-V	1	0.5	2	0.8	0.96	50	4	4	11.62	2.12	2.23	2.33	2.43	2.61	●
SPM200-BN2-1-3-V			3						10.25	3.18	3.34	3.48	3.6	3.85	●
SPM200-BN2-1-4-V			4						9.17	4.24	4.43	4.6	4.75	5.1	●
SPM200-BN2-1-5-V			5						8.29	5.3	5.52	5.71	5.9	6.34	●
SPM200-BN2-1-6-V			6						7.57	6.35	6.59	6.81	7.05	7.58	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

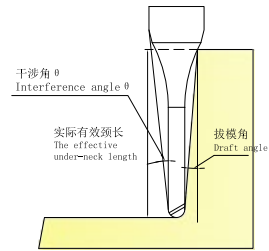
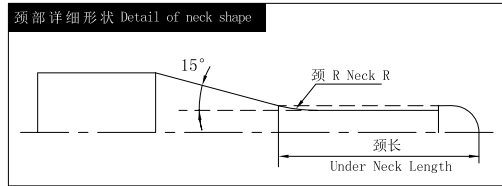
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-1-7-V	1	0.5	7	0.8	0.96	50	4	4	6.96	7.39	7.66	7.92	8.2	8.83	●
SPM200-BN2-1-8-V			8			50			6.44	8.44	8.73	9.03	9.35	10.07	●
SPM200-BN2-1-9-V			9			50			5.99	9.48	9.8	10.14	10.5	11.31	●
SPM200-BN2-1-10-V			10			50			5.6	10.52	10.87	11.25	11.65	12.56	●
SPM200-BN2-1-12-V			12			55			4.96	12.59	13.01	13.46	13.95	15.04	●
SPM200-BN2-1-13-V			13			55			4.69	13.62	14.08	14.57	15.1	16.29	●
SPM200-BN2-1-14-V			14			55			4.45	14.66	15.15	15.68	16.25	17.53	●
SPM200-BN2-1-16-V			16			55			4.03	16.73	17.29	17.9	18.55	20.01	●
SPM200-BN2-1-18-V			18			60			3.69	18.79	19.43	20.11	20.85	22.5	●
SPM200-BN2-1-20-V			20			60			3.4	20.86	21.57	22.33	23.15	24.99	●
SPM200-BN2-1.1-2-V	1.1	0.55	2	0.88	1.06	50	4	4	11.61	2.11	2.22	2.32	2.42	2.6	●
SPM200-BN2-1.1-4-V			4						9.09	4.24	4.43	4.59	4.74	5.08	●
SPM200-BN2-1.1-6-V			6						7.47	6.34	6.59	6.81	7.04	7.57	●
SPM200-BN2-1.1-8-V			8						6.34	8.43	8.73	9.03	9.34	10.06	●
SPM200-BN2-1.1-10-V			10						5.5	10.51	10.87	11.24	11.64	12.54	●
SPM200-BN2-1.2-4-V	1.2	0.6	4	0.96	1.15	50	4	4	9.05	4.22	4.4	4.55	4.7	5.04	●
SPM200-BN2-1.2-8-V			8						6.25	8.41	8.7	8.99	9.3	10.01	●
SPM200-BN2-1.2-10-V			10						5.41	10.49	10.84	11.21	11.6	12.5	●
SPM200-BN2-1.2-12-V			12						4.77	12.56	12.97	13.42	13.9	14.98	●
SPM200-BN2-1.4-8-V	1.4	0.7	8	1.12	1.34	50	4	4	6.04	8.38	8.66	8.95	9.26	9.96	●
SPM200-BN2-1.4-12-V			12						4.56	12.53	12.94	13.38	13.86	14.93	●
SPM200-BN2-1.4-16-V			16						3.67	16.66	17.22	17.82	18.46	19.9	●
SPM200-BN2-1.5-4-V	1.5	0.75	4	1.2	1.44	50	4	4	8.82	4.2	4.36	4.51	4.65	4.97	●
SPM200-BN2-1.5-6-V			6						7.08	6.29	6.52	6.73	6.95	7.46	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

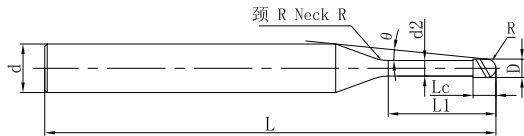
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-1.5-8-V	1.5	0.75	8	1.2	1.44	50	4	4	5.92	8.38	8.66	8.95	9.25	9.94	●
SPM200-BN2-1.5-10-V			10			50			5.08	10.46	10.8	11.16	11.55	12.43	●
SPM200-BN2-1.5-12-V			12			55			4.45	12.53	12.94	13.38	13.85	14.92	●
SPM200-BN2-1.5-14-V			14			55			3.96	14.6	15.08	15.6	16.15	17.4	●
SPM200-BN2-1.5-16-V			16			55			3.57	16.66	17.22	17.81	18.45	19.89	●
SPM200-BN2-1.5-18-V			18			60			3.25	18.73	19.36	20.03	20.75	22.38	●
SPM200-BN2-1.5-20-V			20			60			2.98	20.8	21.5	22.25	23.05	-	●
SPM200-BN2-1.6-8-V	1.6	0.8	8	1.28	1.54	50	4	4	5.8	8.38	8.66	8.94	9.25	9.93	●
SPM200-BN2-1.6-12-V			12			55			4.34	12.53	12.94	13.37	13.85	14.9	●
SPM200-BN2-1.6-16-V			16			55			3.47	16.66	17.21	17.81	18.44	19.88	●
SPM200-BN2-1.6-20-V			20			60			2.89	20.8	21.49	22.24	23.04	-	●
SPM200-BN2-1.8-8-V	1.8	0.9	8	1.44	1.73	50	4	4	5.55	8.36	8.63	8.91	9.21	9.88	●
SPM200-BN2-1.8-12-V			12			55			4.11	12.5	12.91	13.34	13.81	14.85	●
SPM200-BN2-1.8-16-V			16			55			3.26	16.64	17.19	17.77	18.41	19.83	●
SPM200-BN2-1.8-20-V			20			60			2.7	20.77	21.46	22.21	23.01	-	●
SPM200-BN2-2-3-V	2	1	3	1.6	1.92	50	4	4	9.72	3.11	3.22	3.32	3.42	3.62	●
SPM200-BN2-2-4-V			4			50			8.32	4.16	4.31	4.44	4.57	4.86	●
SPM200-BN2-2-6-V			6			50			6.46	6.26	6.46	6.66	6.87	7.35	●
SPM200-BN2-2-8-V			8			50			5.27	8.34	8.6	8.88	9.17	9.84	●
SPM200-BN2-2-10-V			10			50			4.46	10.41	10.74	11.09	11.47	12.32	●
SPM200-BN2-2-12-V			12			55			3.86	12.48	12.88	13.31	13.77	14.81	●
SPM200-BN2-2-13-V			13			55			3.62	13.51	13.95	14.42	14.92	16.05	●
SPM200-BN2-2-14-V			14			55			3.4	14.55	15.02	15.53	16.07	17.29	●
SPM200-BN2-2-16-V			16			55			3.04	16.62	17.16	17.74	18.37	19.78	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

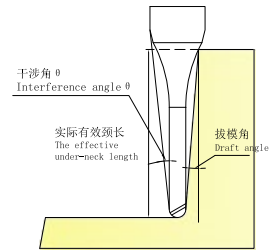
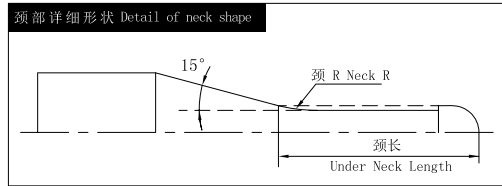
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

》续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-2-18-V	2	1	18	1.6	1.92	60	4	4	2.75	18.68	19.3	19.96	20.67	-	●
SPM200-BN2-2-20-V			20			60			2.51	20.75	21.44	22.18	22.97	-	●
SPM200-BN2-2-22-V			22			60			2.31	22.82	23.58	24.39	25.27	-	●
SPM200-BN2-2-25-V			25			65			2.06	25.92	26.79	27.72	28.72	-	●
SPM200-BN2-2-30-V			30			70			1.75	31.09	32.14	33.26	-	-	●
SPM200-BN2-2-35-V			35			75			1.52	36.26	37.48	38.8	-	-	●
SPM200-BN2-2-40-V			40			80			1.34	41.42	42.83	-	-	-	●
SPM200-BN2-2.5-6-V	2.5	1.25	6	2	2.4	50	4	4	5.62	6.22	6.41	6.6	6.8	7.25	●
SPM200-BN2-2.5-10-V			10			50			3.69	10.37	10.69	11.03	11.4	12.23	●
SPM200-BN2-2.5-15-V			15			55			2.59	15.54	16.04	16.58	17.15	-	●
SPM200-BN2-2.5-20-V			20			60			1.99	20.71	21.39	22.12	-	-	●
SPM200-BN2-2.5-25-V			25			65			1.62	25.88	26.74	27.66	-	-	●
SPM200-BN2-2.5-30-V			30			70			1.36	31.05	32.09	-	-	-	●
SPM200-BN2-3-8-V	3	1.5	8	2.4	2.88	55	6	4	7.04	8.27	8.51	8.77	9.04	9.65	●
SPM200-BN2-3-10-V			10			55			6.05	10.34	10.65	10.98	11.34	12.14	●
SPM200-BN2-3-13-V			13			60			5	13.44	13.86	14.31	14.79	15.87	●
SPM200-BN2-3-16-V			16			60			4.26	16.55	17.07	17.63	18.24	19.6	●
SPM200-BN2-3-20-V			20			65			3.56	20.68	21.35	22.07	22.84	24.57	●
SPM200-BN2-3-25-V			25			70			2.95	25.85	26.7	27.61	28.59	-	●
SPM200-BN2-3-30-V			30			75			2.52	31.02	32.05	33.15	34.34	-	●
SPM200-BN2-3-35-V	35	80	2.2	36.19	37.39	38.69	40.08	-	●						
SPM200-BN2-3.5-15-V	3.5	1.75	15	2.8	3.36	60	6	4	3.99	15.49	15.96	16.48	17.03	18.27	●
SPM200-BN2-3.5-25-V			25			70			2.56	25.82	26.66	27.56	28.53	-	●
SPM200-BN2-3.5-35-V			35			80			1.89	36.16	37.36	38.64	-	-	●

●标准库存 Stock
○需预定 Available upon Order

R	公差Tol
R≤0.25	±0.003
R>0.25	±0.005

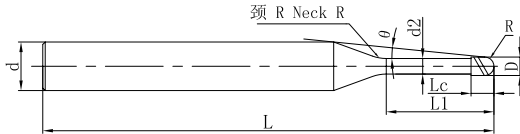
单位unit (mm)

推荐切削参数 ※ P368
Cutting Parameters

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill



标记说明请参考P102页 See page 102 for guidelines to icons

» 续前 Continue

订货号 Ordering Code	外径 D Mill Dia.	球半 径 R	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°	
SPM200-BN2-3.5-45-V	3.5	1.75	45	2.8	3.36	90	6	4	1.5	46.5	48.05	-	-	-	●
SPM200-BN2-4-10-V	4	2	10	3.2	3.86	55	6	4	4.86	10.31	10.6	10.91	11.24	11.99	●
SPM200-BN2-4-13-V			13			60			3.88	13.41	13.81	14.23	14.69	15.72	●
SPM200-BN2-4-16-V			16			60			3.23	16.51	17.02	17.56	18.14	19.45	●
SPM200-BN2-4-20-V			20			65			2.63	20.65	21.3	21.99	22.74	-	●
SPM200-BN2-4-25-V			25			70			2.14	25.81	26.64	27.53	28.49	-	●
SPM200-BN2-4-30-V			30			75			1.81	30.98	31.99	33.08	-	-	●
SPM200-BN2-4-35-V			35			80			1.56	36.15	37.34	38.62	-	-	●
SPM200-BN2-4-40-V			40			80			1.38	41.32	42.69	-	-	-	●
SPM200-BN2-4-45-V			45			90			1.23	46.49	48.04	-	-	-	●
SPM200-BN2-4-50-V			50			100			1.11	51.66	53.39	-	-	-	●
SPM200-BN2-5-20-V	5	2.5	20	4	4.85	65	6	4	1.48	20.62	21.25	-	-	-	●
SPM200-BN2-5-25-V			25			70			1.18	25.79	26.6	-	-	-	●
SPM200-BN2-5-30-V			30			75			0.98	30.96	-	-	-	-	●
SPM200-BN2-5-40-V			40			80			0.73	41.29	-	-	-	-	●
SPM200-BN2-6-12-V	6	3	12	6	5.85	60	6	-	-	-	-	-	-	-	●
SPM200-BN2-6-20-V			20			65			-	-	-	-	-	●	
SPM200-BN2-6-30-V			30			75			-	-	-	-	-	●	
SPM200-BN2-6-50-V			50			100			-	-	-	-	-	●	

●标准库存 Stock
○需预定 Available upon Order




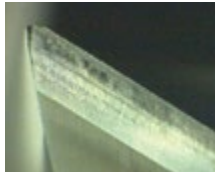
R	公差Tol
R ≤ 0.25	±0.003
R > 0.25	±0.005

单位unit (mm)

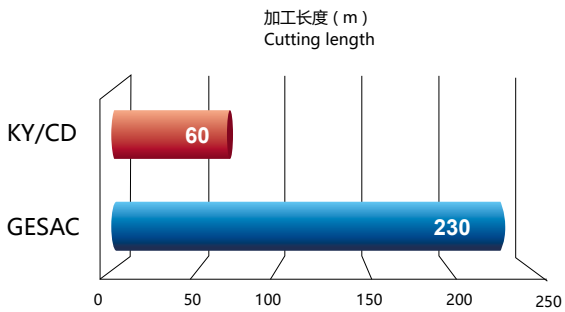
推荐切削参数 ※ P368
Cutting Parameters

加工案例 Application Case

冲压模加工 Stamping Die Machining

刀具型号 Type	UP210-SL4-12045	    <p>加工1.5小时后刀具磨损量 Wear Condition of Cutting 1.5H</p>
刀具规格 Size	D12*45*100*d12	
加工材料 Workpiece	H13(45HRC)	
切削速度 Cutting Speed	2600RPM(100m/min)	
进给速度 Feed Rate	1600mm/min (0.15mm/z)	
切削方式 Cutting Method	侧铣 Side Milling	
切削量 Cutting Depth	ap=30mm,ae=0.05-0.2mm	
冷却方式 Cooling Method	气冷 Air Cooling	

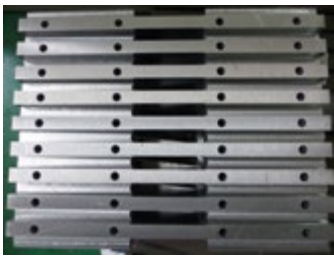
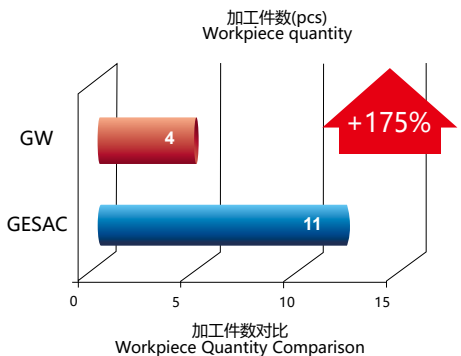
活字块精铣外形轮廓加工 Type Block Contour Finishing

刀具型号 Type	SP210-S4-10025	 <p>加工长度 (m) Cutting length</p> <p>加工寿命对比 Endmills life comparison</p> <p>效率Efficiency+167% 寿命Life +283%</p>
刀具规格 Size	D10*25*100*d10	
加工材料 Workpiece	Q235A(HB200)	
切削速度 Cutting Speed	5100RPM(160m/min)	
进给速度 Feed Rate	1600mm/min (0.078mm/z)	
切削方式 Cutting Method	外形轮廓精加工 Contour Finishing	
切削量 Cutting Depth	ap=12mm,ae=0.15mm	
冷却方式 Cooling Method	乳化液Emulsion	

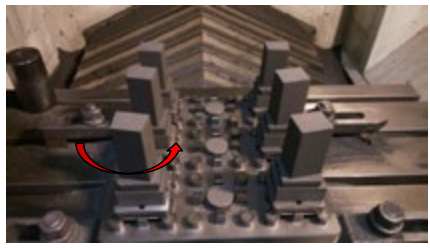
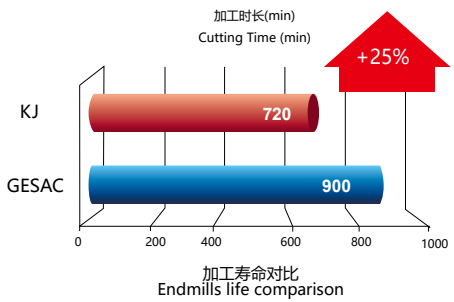


加工案例 Application Case

电磁吸盘加工 Magnetic Chuck


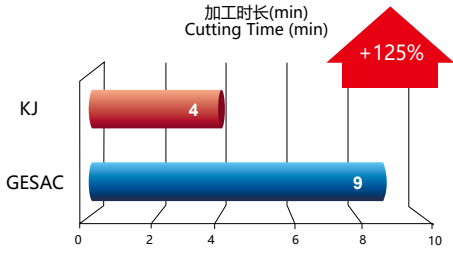
刀具型号 Type	UPR210-S4-10025	  <p>加工件数(pcs) Workpiece quantity</p> <p>GW: 4</p> <p>GESAC: 11</p> <p>加工件数对比 Workpiece Quantity Comparison</p> <p>+175%</p>
刀具规格 Size	D10*C0.3*25*75*d10	
加工材料 Workpiece	45#(180HB)	
切削速度 Cutting Speed	5500rpm (172.7m/min)	
进给速度 Feed Rate	600mm/min (0.027mm/z)	
切削方式 Cutting Method	槽铣Slotting	
切削量 Cutting Depth	ap=6mm,ae=10mm	
冷却方式 Cooling Method	乳化液Emulsion	

石墨电极加工 Graphite Electrode Machining



刀具型号 Type	SG200-RN4-10005	  <p>加工时长(min) Cutting Time (min)</p> <p>KJ: 720</p> <p>GESAC: 900</p> <p>加工寿命对比 Endmills life comparison</p> <p>+25%</p>
刀具规格 Size	D10*R0.5*15*45*100*d10	
加工材料 Workpiece	石墨 Graphite	
切削速度 Cutting Speed	9000RPM (280m/min)	
进给速度 Feed Rate	4000mm/min (0.11mm/z)	
切削方式 Cutting Method	小切深, 小切宽侧壁加工 Side milling	
切削量 Cutting Depth	Ap=0.15mm, Ae=0.25mm	
冷却方式 Cooling Method	气冷Air Cooling	

加工案例 Application Case

汽车模具加工 Auto Moulds NEW


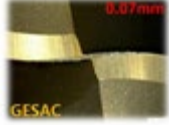


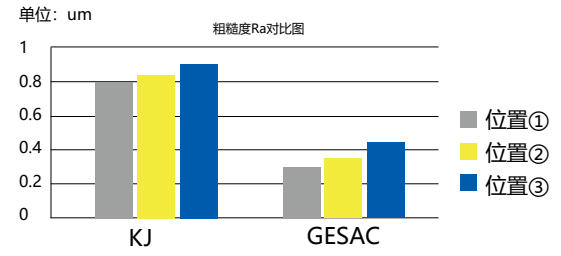
刀具型号 Type	SH260-B2-10-15-H	  <p>加工时长(min) Cutting Time (min)</p> <p>KJ: 4</p> <p>GESAC: 9</p> <p>+125%</p>
刀具规格 Size	R5*15*75*d10	
加工材料 Workpiece	NAK80(48-52HRC)	
切削速度 Cutting Speed	4000RPM(126.6m/min)	
进给速度 Feed Rate	0.25mm/z(2000mm/min))	
切削方式 Cutting Method	仿形铣Profiling	
切削量 Cutting Depth	ap=0.1mm ap=50%Dmm	
冷却方式 Cooling Method	气冷Air Cooling	

汽车模具加工 Auto Moulds NEW




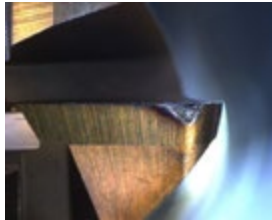
刀具型号 Type	SH260-RH4-6-75-0.5-H	  <p>我司刀具加工 3H, 刀具 Z 向磨损 < 0.01mm After 3 hours of processing, the tool Z axial wear < 0.01mm</p>
刀具规格 Size	D6*R0.5*15*75*d6	
加工材料 Workpiece	1.2344(50-54HRC)	
切削速度 Cutting Speed	7000RPM(131.8m/min)	
进给速度 Feed Rate	0.08mm/z(2250mm/min))	
切削方式 Cutting Method	面铣 Face milling 侧铣 Side milling	
切削量 Cutting Depth	ap=0.04-0.05mm ap=0.05-0.06mm	
冷却方式 Cooling Method	水基乳化液 Emulsion	

加工案例 Application Case

汽车整形公模加工 Auto Shaping Male Die and Mould Machining

刀具型号 Type	SH300-BH2-06009E-H	 												
刀具规格 Size	R3*9*75*d6													
加工材料 Workpiece	SKD11 (62HRC)	 												
切削速度 Cutting Speed	10000RPM (188.4m/min)													
进给速度 Feed Rate	1200mm/min (0.06mm/z)	<p>连续仿型加工 9 个小时后 Profiling for 9 hours</p> <p>单位: um</p> <p>粗糙度Ra对比图</p>  <table border="1"> <caption>粗糙度Ra对比图数据</caption> <thead> <tr> <th>位置</th> <th>KJ (um)</th> <th>GESAC (um)</th> </tr> </thead> <tbody> <tr> <td>位置①</td> <td>~0.8</td> <td>~0.3</td> </tr> <tr> <td>位置②</td> <td>~0.85</td> <td>~0.35</td> </tr> <tr> <td>位置③</td> <td>~0.9</td> <td>~0.4</td> </tr> </tbody> </table>	位置	KJ (um)	GESAC (um)	位置①	~0.8	~0.3	位置②	~0.85	~0.35	位置③	~0.9	~0.4
位置	KJ (um)		GESAC (um)											
位置①	~0.8		~0.3											
位置②	~0.85		~0.35											
位置③	~0.9		~0.4											
切削方式 Cutting Method	仿型铣 Profiling													
切削量 Cutting Depth	ap=0.03mm ae=0.05mm													
冷却方式 Cooling Method	油冷 Oil													

SKD11粗加工 Rough Machining of SKD11

刀具型号 Type	FH200-R6-12008-H	 
刀具规格 Size	D12*R0.75*10*36*100*d12*D11.5	
加工材料 Workpiece	SKD11(60HRC)	<p>加工过程 Machining process</p> <p>切屑形式 Chip form</p>
切削速度 Cutting Speed	1592RPM(60m/min)	
进给速度 Feed Rate	1911mm/min(0.2mm/z)	 
切削方式 Cutting Method	面铣 Face Milling	
切削量 Cutting Depth	ap=0.25mm, ae=6mm	
冷却方式 Cooling Method	气冷 Air Cooling	

加工案例

Application Case

刀片铜钨电极模具精加工 Finishing for High Precision Copper-Tungsten Electrode Mold for Inserts

刀具型号 Type	SPM200-BN2-0.6-4-V	<p>a) 加工刀具 Cutting Tool</p> <p>b) 加工工件 Workpiece</p> <p>c) 加工尺寸 Size of Workpiece</p> <p>d) A部放大图 The Size of A park</p> <p>加工时长(min) Cutting Time (min)</p> <p>JH: 850</p> <p>GESAC: 1100</p> <p>+29.4%</p>
刀具名称 Description	2刃长颈球头涂层立铣刀 2 Flute, Extended Neck-Ballnose Coating Endmill	
刀具规格 Size	R0.3*0.48*4*50*d4*D0.57	
工件材料 Workpiece	铜钨合金 (20~30HRC) Copper-Tungsten	
加工设备 Machine	德国科恩 (KARN-771) Germany Karn (KARN-771)	
刀柄类型 Tool Holder	热缩式刀柄 HSK—E25 HSK—E25 Heat Shrinkable Toolholder	
切削速度 Milling Speed	30000RPM(56m/min)	
进给速度 Feed Rate	500mm/min	
切削方式 Milling Method	仿形精加工 Profile Finishing	
切深量 Cutting Depth	ap=0.01mm, ae=0.02mm	
冷却方式 Coolant	油雾 Oil Mist	
工件精度要求 Workpiece Precision Demand	角度公差: ± 15' 表面粗糙度: Ra < 0.1µm Angles Tol. : ± 15' Surface Roughness: Ra < 0.1µm	

推荐切削参数

Recommended Cutting Data

UP210- SS2、S2、SL2、SH2、R2、RH2

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1.5D	180	转速 (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		进给速度 (mm/min)	1070	1030	920	930	920	860	860	860
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		进给速度 (mm/min)	610	580	550	620	560	500	410	370
M	不锈钢 Stainless Steel	ap≤1.5D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		进给速度 (mm/min)	690	660	590	650	610	590	490	460
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1.5D	160	转速 (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		进给速度 (mm/min)	850	820	820	750	700	680	610	560
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	140	转速 (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		进给速度 (mm/min)	650	670	670	620	580	560	500	460

UP210- S3

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1.5D	180	转速 (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		进给速度 (mm/min)	1610	1550	1380	1400	1380	1290	1290	1290
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		进给速度 (mm/min)	910	870	830	930	850	760	620	560
M	不锈钢 Stainless Steel	ap≤1.5D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		进给速度 (mm/min)	1040	990	890	980	920	880	740	680
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1.5D	160	转速 (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		进给速度 (mm/min)	1270	1220	1220	1130	1060	1020	910	840
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	140	转速 (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		进给速度 (mm/min)	980	1000	1000	940	870	840	750	680

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UP210- SS4、S4、SL4、SH4、R4、RH4

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1.5D	180	转速 (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		进给速度 (mm/min)	2140	2060	1830	1860	1830	1720	1720	1720
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		进给速度 (mm/min)	1210	1160	1100	1240	1130	1010	830	750
M	不锈钢 Stainless Steel	ap≤1.5D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		进给速度 (mm/min)	1380	1330	1190	1300	1230	1170	980	910
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1.5D	160	转速 (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		进给速度 (mm/min)	1700	1630	1630	1500	1410	1360	1210	1120
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	140	转速 (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		进给速度 (mm/min)	1310	1340	1340	1250	1160	1120	1000	910

UP210- S6

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1.5D	180	转速 (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		进给速度 (mm/min)	3210	3100	2750	2800	2750	2580	2580	2580
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		进给速度 (mm/min)	1820	1740	1660	1860	1690	1510	1240	1120
M	不锈钢 Stainless Steel	ap≤1.5D	130	转速 (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		进给速度 (mm/min)	2070	1990	1780	1960	1840	1760	1480	1370
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1.5D	160	转速 (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		进给速度 (mm/min)	2550	2450	2450	2260	2110	2040	1820	1680
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	140	转速 (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		进给速度 (mm/min)	1960	2010	2010	1870	1740	1670	1510	1360

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UP210- SS2、S2、SL2、SH2、R2、RH2

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤0.8D	80	转速 (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				进给速度 (mm/min)	430	540	440	400	370	350	400	410
M	合金钢 Alloy Steel (35-48HRC)	ap≤0.3D	60	转速 (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				进给速度 (mm/min)	260	310	270	230	220	220	230	230
M	不锈钢 Stainless Steel	ap≤0.3D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	140	160	200	200	200	190	170	160
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.5D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	210	250	250	220	210	200	190	170
K	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.3D	50	转速 (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				进给速度 (mm/min)	160	180	210	180	180	170	160	140

UP210- S3

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤0.8D	80	转速 (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				进给速度 (mm/min)	640	800	660	590	550	520	600	610
M	合金钢 Alloy Steel (35-48HRC)	ap≤0.3D	60	转速 (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				进给速度 (mm/min)	380	460	400	340	330	330	340	340
M	不锈钢 Stainless Steel	ap≤0.3D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	210	240	310	300	290	290	260	240
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.5D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	320	370	380	330	320	310	280	250
K	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.3D	50	转速 (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				进给速度 (mm/min)	240	280	320	270	260	260	240	220

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia). When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UP210- B2、BH2

钢件、铸铁 For Steels, Cast Iron —— 仿形铣 Profiling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	4	5	6	7	8	9	10	11	12
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤0.2D	160	转速 (min-1)	12740	10190	8490	7280	6370	5660	5100	4630	4250
		ae≤0.3D		进给速度 (mm/min)	1020	1020	1020	1020	1020	1020	1020	1020	1020
	合金钢 Alloy Steel (35-48HRC)	ap≤0.15D	120	转速 (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.15D		进给速度 (mm/min)	610	640	660	630	620	610	610	610	610
M	不锈钢 Stainless Steel	ap≤0.2D	110	转速 (min-1)	8760	7010	5840	5010	4380	3890	3500	3190	2920
		ae≤0.2D		进给速度 (mm/min)	610	630	640	630	630	620	630	640	640
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.2D	140	转速 (min-1)	11150	8920	7430	6370	5570	4950	4460	4050	3720
		ae≤0.2D		进给速度 (mm/min)	780	800	820	800	800	790	800	810	820
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.1D	120	转速 (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.1D		进给速度 (mm/min)	610	640	660	660	670	650	650	660	670

UP210- B4

钢件、铸铁 For Steels, Cast Iron —— 仿形铣 Profiling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤0.2D	160	转速 (min-1)	12740	10190	8490	7280	6370	5660	5100	4630	4250
		ae≤0.3D		进给速度 (mm/min)	2040	2040	2040	2040	2040	2040	2040	2040	2040
	合金钢 Alloy Steel (35-48HRC)	ap≤0.15D	120	转速 (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.15D		进给速度 (mm/min)	1220	1280	1330	1270	1240	1220	1220	1210	1210
M	不锈钢 Stainless Steel	ap≤0.2D	110	转速 (min-1)	8760	7010	5840	5010	4380	3890	3500	3190	2920
		ae≤0.2D		进给速度 (mm/min)	1230	1260	1290	1260	1260	1250	1260	1270	1290
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.2D	140	转速 (min-1)	11150	8920	7430	6370	5570	4950	4460	4050	3720
		ae≤0.2D		进给速度 (mm/min)	1560	1610	1640	1610	1610	1590	1610	1620	1640
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.1D	120	转速 (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.1D		进给速度 (mm/min)	1220	1280	1330	1310	1340	1310	1300	1320	1340

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia). When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UP210- L60、L90、L120

钢件、铸铁 For Steels, Cast Iron ——倒角 Chamfering



工件材料 Workpiece Material		Vc m/min	刃径 Tool Diameter(mm)	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	130	转速 (min-1)	10350	6900	5175	4140	3450	2588	2070
			进给速度 (mm/min)	414	33	311	414	442	435	406
	合金钢 Alloy Steel (35-48HRC)	90	转速 (min-1)	7166	4777	3583	2866	2389	1791	1433
			进给速度 (mm/min)	229	191	172	172	239	229	241
M	不锈钢 Stainless Steel	80	转速 (min-1)	6369	4246	3185	2548	2123	1592	1274
			进给速度 (mm/min)	204	170	153	153	212	204	214
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	100	转速 (min-1)	7962	5308	3981	3185	2654	1990	1592
			进给速度 (mm/min)	318	255	239	318	340	334	312
N	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys, Cast Aluminum Alloys (Si < 12%)	150	转速 (min-1)	11943	7962	5971	4777	3981	2986	2389
			进给速度 (mm/min)	621	573	597	611	669	585	602
	铜合金 Copper Alloys (< HB200)									

SP210- S3、C3

钢件、铸铁 For Steels, Cast Iron ——侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap ≤ 1.5D	200	转速 (min-1)	21230	15920	10620	7960	6370	5310	3980	3190
		ae ≤ 0.15D		进给速度 (mm/min)	2040	1960	1690	1670	1620	1590	1490	1480
	合金钢 Alloy Steel (35-48HRC)	ap ≤ 1D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae ≤ 0.12D		进给速度 (mm/min)	1290	1180	1080	1160	1050	930	760	680
M	不锈钢 Stainless Steel	ap ≤ 1.5D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae ≤ 0.15D		进给速度 (mm/min)	1580	1330	1150	1220	1130	1080	900	820
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ≤ 1.5D	170	转速 (min-1)	18050	13540	9020	6770	5410	4510	3380	2710
		ae ≤ 0.15D		进给速度 (mm/min)	1620	1500	1440	1300	1200	1150	1020	930
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap ≤ 1D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae ≤ 0.12D		进给速度 (mm/min)	1290	1250	1190	1090	1000	960	850	770

推荐切削参数

Recommended Cutting Data

SP210- C4、CN4、R4、RH4、S4

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1.5D	200	转速 (min-1)	21230	15920	10620	7960	6370	5310	3980	3190
		ae≤0.15D		进给速度 (mm/min)	2720	2610	2250	2230	2170	2120	1990	1980
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		进给速度 (mm/min)	1720	1580	1430	1550	1400	1240	1020	910
M	不锈钢 Stainless Steel	ap≤1.5D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.15D		进给速度 (mm/min)	2100	1770	1530	1620	1510	1430	1190	1100
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1.5D	170	转速 (min-1)	18050	13540	9020	6770	5410	4510	3380	2710
		ae≤0.15D		进给速度 (mm/min)	2170	2000	1910	1730	1600	1530	1350	1250
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	150	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		进给速度 (mm/min)	1720	1670	1590	1460	1340	1270	1140	1020

SP210- S3、C3

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1D	80	转速 (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				进给速度 (mm/min)	790	920	730	640	590	570	640	650
	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	60	转速 (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				进给速度 (mm/min)	500	550	450	370	360	360	370	370
M	不锈钢 Stainless Steel	ap≤0.3D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	320	320	350	340	320	320	280	260
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.8D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	420	450	420	360	340	340	310	280
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.5D	50	转速 (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				进给速度 (mm/min)	330	350	360	300	290	290	260	240

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SP210- C4、CN4、R4、RH4、S4
 钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	3	4	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1D	80	转速 (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				进给速度 (mm/min)	1050	1220	970	850	790	760	850	870
M	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	60	转速 (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				进给速度 (mm/min)	660	730	600	500	470	480	490	500
M	不锈钢 Stainless Steel	ap≤0.3D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	420	420	470	450	430	430	380	350
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.8D	55	转速 (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	560	600	560	480	460	450	410	370
K	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.5D	50	转速 (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				进给速度 (mm/min)	450	460	480	400	380	380	350	320

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
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【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
 When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SP210- B2、BH2

钢件、铸铁 For Steels, Cast Iron —— 仿形铣 Profiling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	1	2	3	4	6	8	10	12
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤0.04D	220	转速 (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		进给速度 (mm/min)	2800	2800	2800	2800	2800	2800	2800	2800
	合金钢 Alloy Steel (35-48HRC)	ap≤0.02D	180	转速 (min-1)	50000	28660	19110	14330	9550	7170	5730	4780
		ae≤0.02D		进给速度 (mm/min)	1950	2010	1990	2010	2010	2010	2000	2000
M	不锈钢 Stainless Steel	ap≤0.04D	220	转速 (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		进给速度 (mm/min)	2520	2450	2570	2630	2570	2540	2520	2530
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤0.04D	220	转速 (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		进给速度 (mm/min)	2520	2450	2570	2630	2570	2540	2520	2530
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.04D	220	转速 (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		进给速度 (mm/min)	2380	2450	2430	2450	2450	2450	2440	2440

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数 Recommended Cutting Data

UPR100- S4

钢件、铸铁 For Steels, Cast Iron ——侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae≤0.2D		进给速度 (mm/min)	1250	1250	1250	1190	1120	980
	合金钢 Alloy Steel (35-48HRC)	ap≤1D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae≤0.12D		进给速度 (mm/min)	700	700	700	700	700	630
M	不锈钢 Stainless Steel	ap≤1D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae≤0.2D		进给速度 (mm/min)	990	990	990	990	930	830
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae≤0.2D		进给速度 (mm/min)	1250	1250	1250	1190	1120	980
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤1D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae≤0.12D		进给速度 (mm/min)	990	990	990	990	930	830
N	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys, Cast Aluminum Alloys (Si<12%)	ap≤1.5D	350	转速 (min-1)	18580	13930	11150	9290	6970	5570
		ae≤0.3D		进给速度 (mm/min)	4460	4460	4460	4460	4460	4460
	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys, Cast Aluminum Alloys (Si<12%)	ap≤1.5D	300	转速 (min-1)	15920	11940	9550	7960	5970	4780
		ae≤0.3D		进给速度 (mm/min)	3500	3340	3440	3190	3110	3060

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
 2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
 3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
- When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UPR100- S4

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap≤1D	80	转速 (min-1)	4250	3190	2550	2120	1590	1270
				进给速度 (mm/min)	760	700	660	640	700	710
	合金钢 Alloy Steel (35-48HRC)	ap≤0.5D	60	转速 (min-1)	3190	2390	1910	1590	1190	960
				进给速度 (mm/min)	380	380	380	380	330	310
M	不锈钢 Stainless Steel	ap≤0.5D	55	转速 (min-1)	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	350	350	350	350	310	280
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap≤1D	55	转速 (min-1)	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	370	370	360	350	310	280
	高合金铸铁 High Alloy Cast Iron (35-45HRC)	ap≤0.8D	55	转速 (min-1)	2920	2190	1750	1460	1100	880
				进给速度 (mm/min)	350	350	350	320	290	260
N	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys, Cast Aluminum Alloys (Si<12%)	ap≤1D	180	转速 (min-1)	9550	7170	5730	4780	3580	2870
				进给速度 (mm/min)	1910	1720	1610	1530	1860	1830
	锻造铝合金 铸造铝合金 Wrought Aluminum Alloys, Cast Aluminum Alloys (Si<12%)	ap≤1D	160	转速 (min-1)	8490	6370	5100	4250	3190	2550
				进给速度 (mm/min)	1530	1400	1330	1270	1400	1430

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UPR210- S4

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap ≤ 1.5D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae ≤ 0.3D		进给速度 (mm/min)	1070	1070	1070	1070	1000	900
	合金钢 Alloy Steel (35-48HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.25D		进给速度 (mm/min)	630	660	690	700	570	535
M	不锈钢 Stainless Steel	ap ≤ 1.5D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae ≤ 0.3D		进给速度 (mm/min)	580	610	630	640	525	490
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ≤ 1.5D	140	转速 (min-1)	7430	5570	4460	3720	2790	2230
		ae ≤ 0.3D		进给速度 (mm/min)	1070	1070	1070	1070	1000	900
	高合金铸铁 Cast Iron (35-45HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.25D		进给速度 (mm/min)	630	660	690	700	570	535
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 1D	100	转速 (min-1)	5300	3980	3190	2650	1990	1590
		ae ≤ 0.125D		进给速度 (mm/min)	530	480	450	420	400	380

UPR210- S4

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	合金钢 Alloy Steel (35-48HRC)	ap ≤ 0.75D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320
M	不锈钢 Stainless Steel	ap ≤ 0.75D	90	转速 (min-1)	4775	3580	2865	2385	1790	1432
				进给速度 (mm/min)	382	160	190	210	200	190
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ≤ 1D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
				进给速度 (mm/min)	640	630	610	640	570	535
	高合金铸铁 Cast Iron (35-45HRC)	ap ≤ 0.75D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
				进给速度 (mm/min)	430	400	450	425	360	320

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

UPN210- S4

钢件、铸铁 For Steels, Cast Iron —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae ≤ 0.3D		进给速度 (mm/min)	990	990	990	990	930	830
	合金钢 Alloy Steel (35-48HRC)	ap ≤ 1D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae ≤ 0.25D		进给速度 (mm/min)	580	610	630	640	525	490
M	不锈钢 Stainless Steel	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae ≤ 0.3D		进给速度 (mm/min)	280	310	330	350	310	290
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ≤ 1.5D	130	转速 (min-1)	6900	5180	4140	3450	2590	2070
		ae ≤ 0.3D		进给速度 (mm/min)	990	990	990	990	930	830
	高合金铸铁 Cast Iron (35-45HRC)	ap ≤ 1D	110	转速 (min-1)	5840	4380	3500	2920	2190	1750
		ae ≤ 0.25D		进给速度 (mm/min)	580	610	630	640	525	490
H	合金钢 淬硬钢 Alloy Steel Hardened Steel (< 55HRC)	ap ≤ 1D	90	转速 (min-1)	4780	3580	2870	2390	1790	1430
		ae ≤ 0.125D		进给速度 (mm/min)	480	430	400	380	360	345

UPN210- S4

钢件、铸铁 For Steels, Cast Iron —— 槽铣 Slotting



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	碳钢 合金钢 Carbon Steel, Alloy (< 35HRC)	ap ≤ 0.8D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.3D		进给速度 (mm/min)	640	630	610	640	570	535
	合金钢 Alloy Steel (35-48HRC)	ap ≤ 0.5D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
		ae ≤ 0.25D		进给速度 (mm/min)	430	400	450	425	360	320
M	不锈钢 Stainless Steel	ap ≤ 0.8D	100	转速 (min-1)	5310	3980	3190	2655	1990	1600
		ae ≤ 0.3D		进给速度 (mm/min)	150	160	190	210	200	190
K	灰铸铁 球墨铸铁 Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ≤ 0.8D	120	转速 (min-1)	6370	4780	3820	3190	2390	1910
		ae ≤ 0.3D		进给速度 (mm/min)	640	630	610	640	570	535
	高合金铸铁 Cast Iron (35-45HRC)	ap ≤ 0.5D	100	转速 (min-1)	5310	4000	3190	2650	1990	1590
		ae ≤ 0.25D		进给速度 (mm/min)	430	400	450	425	360	320

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH160- S2、R2

合金钢、淬硬钢 For Alloy Steels, Hardened Steel —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12	16	20
H	淬硬钢 Hardened steel (< 55HRC)	ap≤1D	120	转速 (min-1)	19110	9550	6370	4780	3820	3190	2390	1910
		ae≤0.05D		进给速度 (mm/min)	380	380	380	380	370	360	310	290
	淬硬钢 Hardened steel (55-60HRC)	ap≤0.7D	90	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.03D		进给速度 (mm/min)	260	360	370	360	360	330	320	290

SH160- S4、SH4、R4、RH4

合金钢、淬硬钢 For Alloy Steels, Hardened Steel —— 侧铣 Side Milling



工件材料 Workpiece Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12	16	20
H	淬硬钢 Hardened steel (< 55HRC)	ap≤1D	120	转速 (min-1)	19110	9550	6370	4780	3820	3190	2390	1910
		ae≤0.05D		进给速度 (mm/min)	760	760	760	760	730	710	620	570
	淬硬钢 Hardened steel (55-60HRC)	ap≤0.7D	90	转速 (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.03D		进给速度 (mm/min)	510	720	730	720	730	670	630	570

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH160-B2、BH2

合金钢、淬硬钢 For Alloy Steels, Hardened Steel——仿型铣 Profiling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12	14	16
H	淬硬钢 Hardened steel (< 55HRC)	ap≤0.03D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310	4550	3980
		ae≤0.03D		进给速度 (mm/min)	510	570	590	610	570	570	530	490
	淬硬钢 Hardened steel (55-60HRC)	ap≤0.02D	150	转速 (min-1)	23890	11940	7960	5970	4780	3980	3410	2990
		ae≤0.03D		进给速度 (mm/min)	330	310	320	330	330	320	310	300

SH160-B4

合金钢、淬硬钢 For Alloy Steels, Hardened Steel——仿型铣 Profiling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12	14	16
H	淬硬钢 Hardened steel (< 55HRC)	ap≤0.03D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310	4550	3980
		ae≤0.03D		进给速度 (mm/min)	1020	1150	1190	1210	1150	1150	1060	990
	淬硬钢 Hardened steel (55-60HRC)	ap≤0.02D	150	转速 (min-1)	23890	11940	7960	5970	4780	3980	3410	2990
		ae≤0.03D		进给速度 (mm/min)	670	620	640	670	670	640	610	600

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH260- S2、SN2-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——槽铣 Sloting



工件材料 Workpiece Material	切削量 Cutting Depth (mm)	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
			2	4	6	8	10	12
P 合金钢 Alloy Steel (30-45HRC)	Ae=1.0D Ap≤0.05D	转速N (min-1)	20000	10350	8500	6600	5250	4400
		进给速度F (mm/min)	520	550	630	610	580	580
H 合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ae=1.0D Ap≤0.02D	转速N (min-1)	16000	8300	5200	3800	3100	2800
		进给速度F (mm/min)	380	410	340	320	300	300
淬硬钢 Hardened Steel (55-60HRC)	Ae=1D Ap≤0.01D	转速N (min-1)	13500	6800	4600	3000	2400	2000
		进给速度F (mm/min)	240	240	230	190	180	170

SH260- S2、SN2-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——侧铣 Side Milling



工件材料 Workpiece Material	切削量 Cutting Depth (mm)	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
			2	4	6	8	10	12
P 合金钢 Alloy Steel (30-45HRC)	Ap≤0.8D Ae≤0.03D	转速N (min-1)	20000	10350	8500	6600	5250	4400
		进给速度F (mm/min)	720	750	880	610	820	820
H 合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	Ap≤0.5D Ae≤0.03D	转速N (min-1)	16000	8300	5200	3800	3100	2800
		进给速度F (mm/min)	540	570	520	460	420	420
淬硬钢 Hardened Steel (55-60HRC)	ap≤0.5D ae≤0.01D	转速N (min-1)	13500	6800	4600	3000	2400	2000
		进给速度F (mm/min)	340	360	350	270	250	250

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH260- S4、SH4、SL4、SN4、R4、RH4、RN4-H
 合金钢、淬硬钢 For Alloy Steels, Hardend Steels——侧铣 Side Milling



工件材料 Workpiece Material	切削量 Cutting Depth (mm)	切削域 Cutting Range	切削条件 Cutting Condition	刃径Dc Tool Dia (mm)					
				2	4	6	8	10	12
P 合金钢 Alloy Steel (30-45HRC)	ap≤1.2D ae≤0.08D	通用条件 General	转速N (min-1)	14000	7200	4800	3600	2900	2400
			进给速度F (mm/min)	800	900	1000	1100	1050	1000
		高速条件 High Speed	转速N (min-1)	20000	10000	7000	5200	4200	3600
			进给速度F (mm/min)	1200	1400	1600	1800	1600	1500
H 合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	ap≤1.0D ae≤0.04D	通用条件 General	转速N (min-1)	12500	6400	4200	3200	2500	2100
			进给速度F (mm/min)	500	600	700	800	700	640
		高速条件 High Speed	转速N (min-1)	18000	9200	6100	4600	3600	3000
			进给速度F (mm/min)	900	1150	1300	1400	1300	1200
	ap≤0.8D ae≤0.02D	通用条件 General	转速N (min-1)	11000	5600	3700	2800	2200	1900
			进给速度F (mm/min)	440	500	580	630	570	550
淬硬钢 Hardened Steel (55-60HRC)	高速条件 High Speed	转速N (min-1)	15000	8000	5300	4000	3200	2700	
		进给速度F (mm/min)	790	900	1040	1100	1000	900	

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH260-B2、BH2、BN2-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——仿型铣 Profiling



工件材料 Workpiece Material	切削量 Cutting Depth (mm)	切削域 Cutting Range	切削条件 Cutting Condition	刃径 Dc Tool Dia (mm)						
				R1*2	R2*4	R3*6	R4*8	R5*10	R6*12	
P 合金钢 Alloy Steel (30-45HRC)	ap=0.05~0.1 ae≤0.02D	通用条件 General	转速N (min-1)	20000	10300	6900	5100	4100	3400	
			进给速度F (mm/min)	1500	1650	1650	1700	1700	1750	
		高速条件 High Speed	转速N (min-1)	35000	17500	11600	8700	7000	6000	
			进给速度F (mm/min)	2600	2700	2700	2850	2850	2900	
H 合金钢、淬硬钢 Alloy Steel Hardened Steel (45-55HRC)	ap=0.05~0.1 Ae≤0.02D	通用条件 General	转速N (min-1)	15900	8000	5300	4000	3200	2600	
			进给速度F (mm/min)	1200	1300	1300	1350	1350	1400	
		高速条件 High Speed	转速N (min-1)	28600	14300	9500	7200	5700	4500	
			进给速度F (mm/min)	2200	2300	2300	2350	2350	2400	
	淬硬钢 Hardened Steel (55-60HRC)	ap=0.05~0.1 ae≤0.02D	通用条件 General	转速N (min-1)	12000	6000	4000	2900	2400	2100
				进给速度F (mm/min)	900	960	960	920	920	900
高速条件 High Speed	转速N (min-1)	25400	12700	8500	6400	5000	1900			
	进给速度F (mm/min)	1800	1800	1800	1500	1500	1500			

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditions.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D (mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH300- S2、SN2、R2、RN2-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	1	2	4	6	8	10	12
H	淬硬钢 Hardened Steel (45~55HRC)	$ap \leq 1D$	100	转速 (min-1)	25400	15900	7960	5300	3980	3180	2650
		$ae \leq 0.02D$		进给速度 (mm/min)	500	570	560	530	480	480	430
	淬硬钢 Hardened Steel (55~60HRC)	$ap \leq 1D$	80	转速 (min-1)	19100	12700	6370	4250	3180	2550	2120
		$ae \leq 0.015D$		进给速度 (mm/min)	280	300	320	290	280	260	260
	淬硬钢 Hardened Steel (> 60HRC)	$ap \leq 1D$	60	转速 (min-1)	16000	9550	4780	3180	2390	1910	1590
		$ae \leq 0.01D$		进给速度 (mm/min)	160	190	200	200	180	160	160

SH300- SS4、S4、SH4、SL4、SN4、R4、RH4、RN4-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	1	2	4	6	8	10	12
H	淬硬钢 Hardened Steel (45~55HRC)	$ap \leq 1D$	150	转速 (min-1)	40000	24000	12000	8000	6000	4800	4000
		$ae \leq 0.02D$		进给速度 (mm/min)	1350	1440	2400	1760	1440	1248	1200
	淬硬钢 Hardened Steel (55~60HRC)	$ap \leq 1D$	120	转速 (min-1)	30000	18000	10350	6900	5175	4140	3450
		$ae \leq 0.015D$		进给速度 (mm/min)	1000	1080	2070	1518	1242	1076.4	1035
	淬硬钢 Hardened Steel (> 60HRC)	$ap \leq 1D$	100	转速 (min-1)	20000	14000	7960	5300	4000	3280	2600
		$ae \leq 0.01D$		进给速度 (mm/min)	800	840	1592	1166	960	852.8	780

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than $4 \cdot D$ (mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH300-S6、SH6、SL6、R6、RH6-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	14	16	20
H	淬硬钢 Hardened Steel (45~55HRC)	ap≤1.5D	120	转速 (min-1)	6200	4800	4000	3200	2800	2400	1600
		ae≤0.03D		进给速度 (mm/min)	1674	1584	1560	1440	1344	1296	960
	淬硬钢 Hardened Steel (55~60HRC)	ap≤1.5D	100	转速 (min-1)	4500	3600	3000	2400	2100	1800	1200
		ae≤0.025D		进给速度 (mm/min)	1215	1188	1170	1080	1020	972	720
	淬硬钢 Hardened Steel (> 60HRC)	ap≤1.5D	70	转速 (min-1)	3100	2400	2000	1600	1400	1200	800
		ae≤0.02D		进给速度 (mm/min)	744	720	720	627	600	576	432

SH300-B2、BH2、BN2-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——仿型铣 Profiling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	0.6	1	2	4	6	8	10	12
H	淬硬钢 Hardened Steel (45~55HRC)	ap≤0.01D	150	转速 (min-1)	44000	23000	16000	10000	7400	5700	4500	3800
		ae≤0.02D		进给速度 (mm/min)	1100	1200	1770	1680	1500	1300	1100	1000
	淬硬钢 Hardened Steel (55~60HRC)	ap≤0.015D	120	转速 (min-1)	41000	21000	14000	9500	5100	4100	3500	2600
		ae≤0.015D		进给速度 (mm/min)	1000	1200	1480	1390	1300	1170	1000	800
	淬硬钢 Hardened Steel (> 60HRC)	ap≤0.01D	90	转速 (min-1)	40000	20000	13000	7000	5100	3900	3100	2600
		ae≤0.01D		进给速度 (mm/min)	700	800	1300	1100	960	800	700	600

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SH300-B4、BH4、BN4-H

合金钢、淬硬钢 For Alloy Steels, Hardend Steels——仿型铣 粗加工 Profiling Milling Roughing



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
H	淬硬钢 Hardened Steel (45~55HRC)	ap≤0.08D	130	转速 (min-1)	21000	10350	6900	5175	4140	3450
		ae≤0.18D		进给速度 (mm/min)	21000	10350	6900	5175	4140	3450
	淬硬钢 Hardened Steel (55~60HRC)	ap≤0.06D	100	转速 (min-1)	15120	7560	5040	3780	3020	2520
		ae≤0.013D		进给速度 (mm/min)	1210	1210	1310	1280	1200	1210
	淬硬钢 Hardened Steel (> 60HRC)	ap≤0.04D	80	转速 (min-1)	12740	6370	4250	3180	2550	2120
		ae≤0.08D		进给速度 (mm/min)	920	1020	980	890	920	850

SH300-B4、BH4、BN4-H

合金钢、淬硬钢 For 合金钢、淬硬钢 For Alloy Steels, Hardend Steels——仿型铣 精加工 Profiling Milling Finishing



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
H	淬硬钢 Hardened Steel (45~55HRC)	ap≤0.03D	180	转速 (min-1)	29460	14700	9800	7360	5890	4900
		ae≤0.02D		进给速度 (mm/min)	2360	2640	2660	2650	2590	2700
	淬硬钢 Hardened Steel (55~60HRC)	ap≤0.02D	150	转速 (min-1)	23880	11940	7960	5970	4780	3980
		ae≤0.02D		进给速度 (mm/min)	1720	1760	1850	1860	1870	1910
	淬硬钢 Hardened Steel (> 60HRC)	ap≤0.01D	130	转速 (min-1)	20700	10350	6900	5180	4140	3450
		ae≤0.01D		进给速度 (mm/min)	1160	1240	1240	1300	1320	1240

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia).
When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

FH200-R4、RN4-H

合金钢、淬硬钢 For Alloy Steel, Hardend Steel——面铣 Face milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	1	2	4	6	8	10	12
P	合金钢 Alloy Steel (< 48HRC)	ap≤0.03D	150	转速 (min-1)	40000	24000	12000	8000	6500	5000	4500
		ae≤0.5D		进给速度 (mm/min)	2640	3120	3840	5760	5760	5800	5200
H	淬硬钢 Hardened Steel (48-55HRC)	ap≤0.025D	125	转速 (min-1)	33000	20000	10000	7000	5500	4000	3500
		ae≤0.5D		进给速度 (mm/min)	2200	2600	3200	4800	4800	4400	3800
	淬硬钢 Hardened Steel (55-63HRC)	ap≤0.02D	90	转速 (min-1)	23000	14000	7200	5000	3600	3000	2500
		ae≤0.5D		进给速度 (mm/min)	2000	2500	2800	3500	3300	3000	2600

【注意】

- 1、刀具在加工时出现的底刃发红属正常现象，只要机床无明显振动或刀具无明显崩损，则可继续使用。
- 2、该刀型不适合进行侧铣加工
- 3、根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 4、为了排屑顺畅，建议使用气冷或油冷方式。

【Note】

- 1.Turning red is a normal phenomenon in the process of processing, as long as the machine does not have obvious vibration or cutting tool without obvious damage, you can continue to use.
- 2.The knife type is not suitable for large depth and side milling.
- 3.Please adjust the speed, feed and cutting depth according to actual cutting conditions.
- 4.Air blow or oil mist is recommended for good chip evacuation.

推荐切削参数

Recommended Cutting Data

FH200-R6、RN6、RH6-H

合金钢、淬硬钢 For Alloy Steel, Hardend Steel——面铣 Face milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	6	8	10	12	16	20
P	合金钢 Alloy Steel (35-48HRC)	ap≤0.035D	60-90	转速 (min-1)	3200-4800	2400-3600	1900-2900	1600-2400	1200-1800	950-1450
		ae≤0.5D		进给速度 (mm/min)	2200-3000	2200-3000	2200-3000	2200-3000	2500-3500	2500-3500
H	淬硬钢 Hardened Steel (35-63HRC)	ap≤0.035D	60-90	转速 (min-1)	3200-4800	2400-3600	1900-2900	1600-2400	1200-1800	950-1450
		ae≤0.5D		进给速度 (mm/min)	1920-2880	1950-2920	1950-2950	1920-2880	2160-3240	2280-3480

【注意】

- 1、刀具在加工时出现的底刃发红属正常现象，只要机床无明显振动或刀具无明显崩损，则可继续使用。
- 2、切削速度与刀具寿命呈负相关，追求刀具高寿命，建议切削速度在60-80m/min间选取。
- 3、由于底刃形状特殊，加工出的工件表面会有相应的刀具轮廓痕迹，后续的半精加工可以轻易去除
- 4、刀具底刃中心无切削刃，不允许垂直下刀，应从工件边缘横向入刀，或者斜向入刀
5. 该刀型不适合进行大切深和侧铣加工

【Note】

- 1.Turning red is a normal phenomenon in the process of processing, as long as the machine does not have obvious vibration or cutting tool without obvious damage, you can continue to use.
- 2.The cutting speed and tool life were negatively correlated, if you need high tool life, the proposed cutting speed is selected between 60-80m/min.
- 3.Because of the special shape of the bottom edge, machined surface of the workpiece will have the corresponding tool profile traces, subsequent semi finishing can be easily removed.
- 4.Tool bottom edge center without cutting edge, vertical knife is not allowed, should be from the edge of the workpiece into the knife, or into the oblique knife
- 5.The knife type is not suitable for large depth and side milling.

加工技术参数表 Programming Data

FH200-R6、RN6、RH6-H

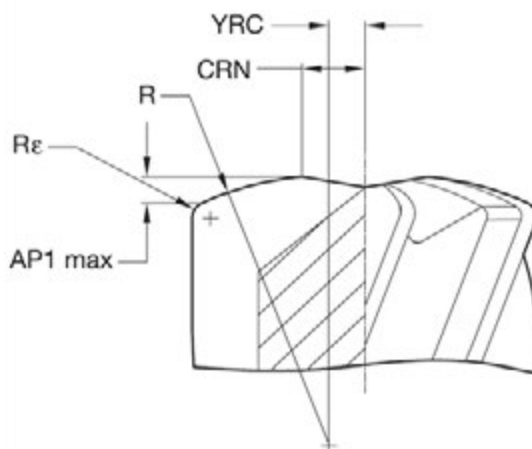
刀具几何参数 geometrical parameters						坡铣加工时圆弧插补及线性插补建议值 ramping guide for circular and linear ramping						
						圆弧插补 circular interpolation		线性坡铣 linear ramping				
diameter Ap1 max R R _ε YRC CRN						允许加工孔径区间 optimal range of circle diameter for a single pass		不同倾斜角对应计算长度 (mm) calculated length per ramp angle				
						最小值 smallest	最大值 largest	角度 (度) Ramp Angle(degree)				
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]			1°	2°	3°	4°	5°
6	0.20	9	0.375	0.75	1.26	8.52	12.00	11.51	5.75	3.83	2.87	2.30
8	0.27	12	0.500	1.00	1.68	11.36	16.00	15.34	7.67	5.11	3.83	3.06
10	0.33	15	0.625	1.25	2.10	14.20	20.00	19.18	9.58	6.39	4.79	3.83
12	0.40	18	0.750	1.50	2.52	17.04	24.00	23.01	11.50	7.66	5.74	4.59
16	0.54	24	1.000	2.00	3.36	22.72	32.00	30.68	15.34	10.22	7.66	6.12
20	0.67	30	1.250	2.00	4.2	28.40	40.00	38.35	19.17	12.77	9.57	7.65
坡铣时推荐使用进给率的 % recommended percentage of programmed feed rate to use while ramping								100%	70%	50%	30%	10%

R= 刀头半径尺寸。the head radius size.

YRC= 从中心线到半径 R 齿冠的距离。distance from centreline to the crown of the R radius.

CRN= 从中心线到切削刃起点的距离。这个尺寸可以帮助确定螺旋坡铣的最小循环范围。distance from centreline to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.

R_ε= 刀具的肩轴半径或角半径。the shoulder radius or radius at the corner of the cutter.



FH200-H 六刃圆角头立铣刀底刃刀型示意图
FH200-H schematic diagram of 6 flute endmill shaper blade

推荐切削参数 Recommended Cutting Data

SG200- S2、SN2、R2、RN2 石墨For Graphite —— 侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤1D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		进给速度 (mm/min)	1910	1590	1270	1120	1080	1380
	石墨 Graphite	ap≤1.5D	250	转速 (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		进给速度 (mm/min)	3980	2790	2390	2190	2390	2390

SG200- S3 石墨For Graphite —— 侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤1D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		进给速度 (mm/min)	2870	2390	1910	1670	1620	2070
	石墨 Graphite	ap≤1.5D	250	转速 (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		进给速度 (mm/min)	5970	4180	3580	3280	3580	3580

SG200- S4、R4、RN4 石墨For Graphite —— 侧铣 Side Milling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤1D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		进给速度 (mm/min)	3820	3190	2550	2230	2170	2760
	石墨 Graphite	ap≤1.5D	250	转速 (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		进给速度 (mm/min)	7960	5570	4780	4380	4780	4780

【注意】

- 1、请使用刚性较高的机床和刀柄。
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 3、上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia). When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数

Recommended Cutting Data

SG200- S2、SN2、R2、RN2

石墨 For Graphite —— 槽铣 Slotting



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤0.5D	180	转速 (min-1)	28660	14330	9550	7170	5730	4780
				进给速度 (mm/min)	1150	1150	960	860	800	860
	石墨 Graphite	ap≤0.5D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
				进给速度 (mm/min)	1910	1430	1380	1350	1400	1590

SG200- S3

石墨 For Graphite —— 槽铣 Slotting



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤0.5D	180	转速 (min-1)	28660	14330	9550	7170	5730	4780
				进给速度 (mm/min)	1720	1720	1430	1290	1200	1290
	石墨 Graphite	ap≤0.5D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
				进给速度 (mm/min)	2870	2150	2070	2030	2100	2390

SG200-B2、BN2

石墨 For Graphite —— 仿形铣 Profiling



工件材料 Workpiec Material		切削量 Cutting Depth (mm)	Vc m/min	刃径 Tool Diameter(mm)	2	4	6	8	10	12
N	铸造铝合金 High silicon alum inum (Si > 12%)	ap≤0.3D	200	转速 (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.3D		进给速度 (mm/min)	2040	1430	1270	1270	1400	1380
	石墨 Graphite	ap≤0.5D	250	转速 (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.4D		进给速度 (mm/min)	2790	1990	1860	1790	1910	1990

【注意】

1. 请使用刚性较高的机床和刀柄。
2. 请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
3. 上表是按照刀具悬长为直径4倍以下时所制订的，如果刀具悬长过长，加工时易产生振动，此时，请适当调整转速，进给速度和切深量。

【Note】

1. Make sure work piece and machine are stable and use a precision holder.
2. Please adjust the speed, feed and cutting depth according to actual cutting conditons.
3. The milling conditions are for an end mill where the tool overhang length is less than 4*D(mill dia). When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
0.1	0.3	0.006	45,000	450	45,000	428	43,740	313	50,000	500	38,475	230	36,045	187
	0.5	0.004	45,000	450	45,000	428	43,740	313	50,000	500	38,475	230	36,045	187
	1	0.003	45,000	410	43,740	387	39,330	284	50,000	455	34,650	209	32,445	168
0.2	0.5	0.02	40,500	574	36,450	517	34,425	363	45,000	637	30,375	271	28,350	218
	1	0.014	40,500	574	36,450	517	34,425	363	45,000	637	30,375	271	28,350	218
	1.5	0.008	36,450	473	32,805	425	30,983	326	43,740	567	27,338	244	25,515	196
	2	0.005	32,400	378	29,160	340	27,540	257	38,880	454	24,300	193	22,680	155
	3	0.003	32,400	340	29,160	306	27,540	231	38,880	409	24,300	174	22,680	140
0.3	1	0.021	36,000	510	32,400	459	30,600	322	43,200	612	27,000	240	25,200	194
	1.5	0.021	36,000	510	32,400	459	30,600	322	43,200	612	27,000	240	25,200	194
	2	0.012	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
	2.5	0.01	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
	3	0.008	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
0.4	1	0.04	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	1.5	0.028	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	2	0.028	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	2.5	0.022	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	3	0.016	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	3.5	0.012	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	4	0.01	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	5	0.01	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163
	6	0.006	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163
	8	0.003	20,160	310	18,144	279	17,136	180	24,192	372	15,120	155	14,112	118
0.5	10	0.002	17,280	228	15,552	205	14,688	132	20,736	274	12,960	114	12,096	86
	1	0.05	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	1.5	0.05	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	2	0.035	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	2.5	0.03	25,920	523	23,328	471	22,032	397	31,104	627	19,440	269	18,144	217
	3	0.02	25,920	523	23,328	471	22,032	397	31,104	627	19,440	269	18,144	217
	4	0.02	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	5	0.013	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
6	0.013	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163	

【注意】请参考P.335页。 【Note】 Please refer to P.335

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
0.5	8	0.008	23,040	348	20,736	313	19,584	222	27,648	418	17,280	175	16,128	132
	10	0.004	20,160	270	18,144	243	17,136	157	24,192	324	15,120	135	14,112	103
0.6	2	0.042	28,800	907	25,920	816	24,480	572	34,560	1,089	21,600	428	20,160	345
	3	0.035	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	4	0.024	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	5	0.02	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	6	0.015	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	7	0.015	23,040	644	20,736	580	19,584	445	27,648	773	17,280	332	16,128	268
	8	0.015	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	9	0.012	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.7	2	0.07	28,800	907	25,920	816	24,480	572	34,560	1,089	21,600	428	20,160	346
	4	0.049	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	6	0.018	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	8	0.018	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	10	0.018	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.8	4	0.056	28,800	907	25,920	816	24,480	702	34,560	1,089	21,600	619	20,160	380
	6	0.032	25,920	746	23,328	671	22,032	610	31,104	896	21,600	599	18,144	341
	8	0.02	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	10	0.02	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	12	0.012	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.9	6	0.036	25,920	895	23,328	806	22,032	618	31,104	985	19,440	500	18,144	373
	8	0.023	25,920	820	23,328	738	22,032	567	31,104	985	19,440	462	18,144	341
	10	0.023	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	12	0.023	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
1	2	0.1	25,920	1,220	23,328	1,098	22,032	1,035	31,104	1,465	20,637	907	18,144	761
	3	0.085	25,920	1,220	23,328	1,098	22,032	1,035	31,104	1,465	20,637	907	18,144	761
	4	0.07	25,920	1,220	23,328	1,098	22,032	969	31,104	1,465	20,637	867	18,144	689
	5	0.055	25,920	1,220	23,328	1,098	22,032	925	31,104	1,465	20,637	784	18,144	617
	6	0.04	23,328	1,008	20,995	907	19,829	813	27,994	1,210	18,630	671	16,330	419
	7	0.04	23,328	1,008	20,995	907	19,829	753	27,994	1,210	18,630	633	16,330	419
	8	0.04	23,328	1,008	20,995	907	19,829	753	27,994	1,210	18,630	560	16,330	419

【注意】请参考P.335页。 【Note】 Please refer to P.335

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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	9	0.033	23,328	1,008	20,995	907	19,829	696	27,994	1,210	17,496	519	16,330	419
	10	0.025	23,328	1,008	20,995	907	19,829	696	27,994	1,210	17,496	519	16,330	419
	12	0.025	20,736	784	18,662	706	17,626	452	24,883	941	15,552	399	14,515	313
	14	0.025	20,736	784	18,662	706	17,626	452	24,883	941	15,552	399	14,515	313
	16	0.015	20,736	671	18,662	605	17,626	428	24,883	806	15,552	336	14,515	255
	20	0.01	18,621	549	20,111	494	15,828	313	22,345	659	13,966	275	13,035	203
	25	0.005	15,750	427	17,010	384	13,388	243	18,900	512	11,813	213	11,025	158
1.2	6	0.084	23,040	1,089	20,736	980	19,584	783	27,648	1,307	17,280	513	16,128	414
	8	0.048	20,736	896	18,662	806	17,626	705	24,883	1,075	15,552	462	14,515	373
	10	0.03	20,736	896	18,662	806	17,626	670	24,883	1,075	15,552	462	14,515	373
	12	0.03	20,736	896	18,662	806	17,626	618	24,883	1,075	15,552	462	14,515	373
	16	0.02	18,432	796	16,589	716	15,667	550	22,118	955	13,824	410	12,902	331
1.4	6	0.1	20,160	952	18,144	858	17,136	601	24,192	1,143	15,120	449	14,112	363
	12	0.035	18,144	784	16,330	706	15,422	541	21,773	941	13,608	404	12,701	326
1.5	4	0.11	20,160	1,047	18,144	943	17,136	721	24,192	1,257	15,120	583	14,112	434
	6	0.11	20,160	1,047	18,144	943	17,136	721	24,192	1,257	15,120	561	14,112	434
	8	0.08	18,144	862	16,330	846	15,422	649	21,773	1,034	13,608	484	12,701	374
	10	0.06	18,144	784	16,330	776	15,422	649	21,773	1,034	13,608	484	12,701	374
	12	0.06	18,144	784	16,330	706	15,422	649	21,773	941	13,608	404	12,701	326
	14	0.038	18,144	784	16,330	706	15,422	649	21,773	941	13,608	404	12,701	326
	16	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	18	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	20	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	25	0.023	12,096	392	10,886	353	10,282	250	14,515	471	9,072	196	8,467	149
	30	0.015	10,080	266	10,886	239	8,568	160	12,096	320	7,560	125	7,056	101
1.6	6	0.11	18,720	1,081	16,848	1,017	15,912	683	22,464	1,179	14,040	509	13,104	410
	8	0.11	18,720	1,081	16,848	885	15,912	621	22,464	1,179	14,040	509	13,104	410
1.8	6	0.13	18,720	1,081	16,848	1,061	15,912	683	22,464	1,179	14,040	556	13,104	448
	8	0.13	18,720	1,081	16,848	973	15,912	621	22,464	1,179	14,040	556	13,104	448
2	4	0.2	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399

【注意】请参考P.335页。 【Note】 Please refer to P.335

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
2	6	0.2	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	8	0.14	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	10	0.14	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	12	0.1	13,608	862	12,247	776	11,567	595	16,330	1,034	10,206	444	9,526	358
	14	0.08	13,608	862	12,247	776	11,567	595	16,330	1,034	10,206	444	9,526	326
	16	0.08	13,608	823	12,247	776	11,567	541	16,330	941	10,206	404	9,526	326
	18	0.05	13,608	823	12,247	776	11,567	541	16,330	941	10,206	404	9,526	326
	20	0.05	13,608	784	12,247	706	11,567	541	16,330	941	10,206	404	9,526	326
	25	0.05	12,096	609	10,886	549	10,282	352	14,515	732	9,072	311	8,467	244
	30	0.03	12,096	609	10,886	549	10,282	352	14,515	732	9,072	311	8,467	244
	35	0.02	10,584	437	9,526	393	8,996	254	12,701	525	7,938	205	7,409	167
	40	0.01	10,584	437	9,526	393	8,996	254	12,701	525	7,938	205	7,409	167
50	0.005	9,072	266	8,165	239	7,711	155	10,886	320	6,804	125	6,350	101	
2.5	8	0.18	12,960	1,122	11,664	1,011	11,016	708	15,552	1,347	9,720	578	9,072	427
	12	0.18	12,960	1,122	11,664	1,011	11,016	644	15,552	1,134	9,720	529	9,072	388
	16	0.1	11,664	966	10,498	869	9,914	580	13,997	1,008	8,748	476	8,165	349
	20	0.1	11,664	840	10,498	756	9,914	580	13,997	1,008	8,748	476	8,165	349
	30	0.06	10,368	653	9,331	588	8,813	392	12,442	783	7,776	307	7,258	248
	40	0.03	9,072	469	8,165	422	7,711	282	10,886	563	6,804	221	6,350	178
50	0.01	9,072	469	8,165	422	7,711	282	10,886	563	6,804	221	6,350	178	
3	8	0.3	11,520	997	10,368	897	9,792	629	13,824	1,198	9,540	513	8,064	380
	12	0.21	11,520	997	10,368	897	9,792	629	13,824	1,198	9,540	513	8,064	380
	16	0.15	10,368	895	9,331	738	8,813	567	12,442	1,030	8,505	462	7,258	341
	20	0.12	10,368	820	9,331	738	8,813	567	12,442	896	8,505	462	7,258	341
	25	0.08	10,368	820	9,331	738	8,813	567	12,442	896	8,505	462	7,258	341
	30	0.08	10,368	746	9,331	671	8,813	567	12,442	896	8,505	462	7,258	312
	40	0.05	9,216	663	8,294	597	7,834	458	11,059	796	6,912	342	6,451	276
	50	0.02	8,064	417	7,258	375	6,854	250	9,677	500	6,048	196	5,645	158
4	12	0.4	8,460	1,692	7,614	1,372	7,191	1,222	10,350	2,070	6,345	812	5,922	655
	16	0.28	8,460	1,692	7,614	1,372	7,191	1,222	10,350	2,070	6,345	812	5,922	655
	20	0.28	7,614	1,523	6,853	1,234	6,472	1,100	9,315	1,863	5,711	731	5,330	590
	25	0.16	7,614	1,372	6,853	1,110	6,472	990	9,315	1,677	5,711	731	5,330	590

【注意】请参考P335页。 【Note】 Please refer to P335

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P				N		H					
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
4	30	0.16	7,614	1,372	6,853	1,110	6,472	990	9,315	1,677	5,711	731	5,330	590
	35	0.1	6,853	1,234	6,168	999	5,825	891	8,223	1,481	5,140	658	4,797	530
	40	0.1	6,853	1,234	6,168	999	5,825	891	8,223	1,481	5,140	658	4,797	530
	50	0.06	5,922	846	5,330	761	5,034	592	7,106	1,015	4,442	398	4,145	321
5	20	0.3	6,761	1,487	6,085	1,338	5,747	946	8,113	1,622	5,071	635	4,732	514
	25	0.3	6,084	1,216	5,476	1,094	5,171	851	7,301	1,459	4,563	572	4,259	462
	30	0.2	6,084	1,095	5,476	985	5,171	766	7,301	1,315	4,563	516	4,259	416
	40	0.15	5,476	986	4,928	887	4,654	690	6,571	1,184	4,107	464	3,833	374
	50	0.1	5,476	986	4,928	887	4,654	690	6,571	1,184	4,107	464	3,833	374
6	20	0.5	5,564	1,333	5,008	1,200	4,730	932	6,676	1,466	4,173	689	3,894	506
	30	0.4	5,058	1,211	4,552	1,091	4,299	848	6,070	1,332	3,794	626	3,541	460
	40	0.3	5,058	998	4,552	898	4,299	762	6,070	1,199	3,794	563	3,541	413
	50	0.2	4,500	887	4,050	798	3,825	621	5,400	981	3,375	464	3,150	341

【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.

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
0.1	0.3	0.006	50,000	350	45,000	299	43,740	218	50,000	350	38,475	160	36,045	130
	0.5	0.004	50,000	350	45,000	299	43,740	218	50,000	350	38,475	160	36,045	130
	1	0.003	50,000	318	43,740	271	39,330	198	50,000	318	34,650	146	32,445	116
0.2	0.5	0.015	40,500	401	36,450	361	34,425	254	45,000	446	30,375	189	28,350	152
	1	0.011	40,500	401	36,450	361	34,425	254	45,000	446	30,375	189	28,350	152
	1.5	0.006	36,450	330	32,805	297	30,983	228	43,740	397	27,338	170	25,515	137
	2	0.004	32,400	265	29,160	238	27,540	180	38,880	317	24,300	149	22,680	132
0.3	3	0.002	32,400	238	29,160	214	27,540	161	38,880	285	24,300	149	22,680	120
	1	0.021	36,000	408	32,400	367	30,600	257	43,200	490	27,000	216	25,200	174
	1.5	0.021	36,000	408	32,400	367	30,600	257	43,200	490	27,000	216	25,200	174
	2	0.012	32,400	336	29,160	302	27,540	231	38,880	403	24,300	173	22,680	140
	2.5	0.01	32,400	336	29,160	302	27,540	231	38,880	403	24,300	173	22,680	140
0.4	3	0.008	32,400	336	29,160	302	27,540	231	38,880	403	24,300	162	22,680	131
	1	0.04	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	1.5	0.028	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	2	0.028	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	2.5	0.022	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	3	0.016	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	3.5	0.012	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	4	0.01	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	5	0.01	23,040	284	20,736	256	19,584	187	27,648	365	17,280	166	16,128	130
	6	0.006	23,040	284	20,736	256	19,584	187	27,648	365	17,280	166	16,128	130
0.5	8	0.003	20,160	216	18,144	195	17,136	144	24,192	260	15,120	127	14,112	115
	10	0.002	17,280	159	15,552	143	14,688	105	20,736	191	12,960	93	12,096	85
	1	0.05	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	1.5	0.05	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	2	0.035	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	2.5	0.03	25,920	418	23,328	376	22,032	319	31,104	501	19,440	215	18,144	173
	3	0.02	25,920	418	23,328	376	22,032	319	31,104	501	19,440	215	18,144	173
	4	0.02	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
5	0.013	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173	
6	0.013	23,040	325	20,736	292	19,584	187	27,648	390	17,280	166	16,128	130	

【注意】请参考P.340页。 【Note】 Please refer to P.340

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
0.5	8	0.008	23,040	278	20,736	250	19,584	155	27,648	334	17,280	140	16,128	105
	10	0.004	20,160	216	18,144	194	17,136	109	24,192	259	15,120	95	14,112	71
0.6	2	0.042	28,800	816	25,920	734	24,480	515	34,560	980	21,600	384	20,160	310
	3	0.035	25,920	671	23,328	604	22,032	464	31,104	806	19,440	347	18,144	279
	4	0.024	25,920	671	23,328	604	22,032	464	31,104	806	19,440	347	18,144	279
	5	0.02	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	6	0.015	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	7	0.015	23,040	515	20,736	464	19,584	356	27,648	618	17,280	266	16,128	214
	8	0.015	23,040	464	20,736	418	19,584	267	27,648	536	17,280	236	16,128	185
	9	0.012	23,040	464	20,736	418	19,584	267	27,648	536	17,280	236	16,128	185
0.7	2	0.07	28,800	816	25,920	734	24,480	515	34,560	980	21,600	384	20,160	310
	4	0.049	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	6	0.018	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	8	0.018	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
	10	0.018	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
0.8	4	0.056	28,800	816	25,920	734	24,480	572	34,560	980	21,600	428	20,160	345
	6	0.032	25,920	597	23,328	536	22,032	516	31,104	716	19,440	385	18,144	311
	8	0.02	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	10	0.02	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
	12	0.012	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
0.9	6	0.036	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	8	0.023	25,920	671	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	10	0.023	23,040	464	20,736	418	19,584	267	27,648	557	17,280	236	16,128	185
	12	0.023	23,040	406	20,736	373	19,584	267	27,648	487	17,280	236	16,128	185
1	2	0.09	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	3	0.07	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	4	0.065	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	5	0.05	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	6	0.035	23,328	907	20,995	816	19,829	696	27,994	1,148	17,496	519	16,330	376
	7	0.035	23,328	907	20,995	816	19,829	696	27,994	1,148	17,496	519	16,330	376
	8	0.035	23,328	907	20,995	816	19,829	696	27,994	1,088	17,496	519	16,330	376

【注意】请参考P.340页。 【Note】 Please refer to P.340

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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	9	0.03	23,328	907	20,995	816	19,829	626	27,994	1,088	17,496	415	16,330	335
	10	0.022	23,328	806	20,995	734	19,829	626	27,994	1,088	17,496	415	16,330	335
	12	0.022	20,736	626	18,662	564	17,626	361	24,883	752	15,552	319	14,515	250
	14	0.022	20,736	626	18,662	564	17,626	361	24,883	752	15,552	319	14,515	250
	16	0.012	20,736	536	18,662	483	17,626	342	24,883	644	15,552	268	14,515	203
	20	0.008	18,621	439	16,759	395	15,828	250	22,345	527	13,966	192	13,035	142
1.2	25	0.005	15,750	341	14,175	307	13,388	194	18,900	410	11,813	149	11,025	110
	6	0.084	23,040	980	20,736	882	19,584	684	27,648	1,175	17,280	462	16,128	373
	8	0.048	20,736	806	18,662	725	17,626	616	24,883	967	15,552	415	14,515	335
	10	0.03	20,736	806	18,662	725	17,626	616	24,883	967	15,552	415	14,515	335
	12	0.03	20,736	644	18,662	578	17,626	494	24,883	860	15,552	369	14,515	298
1.4	16	0.02	18,432	636	16,589	501	15,667	439	22,118	763	13,824	328	12,902	265
	6	0.1	20,160	857	18,144	771	17,136	541	24,192	1,029	15,120	404	14,112	325
1.5	12	0.035	18,144	705	16,330	635	15,422	486	21,773	846	13,608	364	12,701	293
	4	0.11	20,160	952	18,144	858	17,136	601	24,192	1,143	15,120	449	14,112	362
	6	0.11	20,160	857	18,144	779	17,136	601	24,192	1,029	15,120	449	14,112	362
	8	0.06	18,144	784	16,330	706	15,422	541	21,773	941	13,608	404	12,701	326
	10	0.06	18,144	705	16,330	635	15,422	541	21,773	941	13,608	404	12,701	326
	12	0.06	18,144	705	16,330	635	15,422	541	21,773	846	13,608	364	12,701	293
	14	0.038	18,144	705	16,330	635	15,422	541	21,773	846	13,608	364	12,701	293
	16	0.038	16,128	548	14,515	494	13,709	316	19,354	658	12,096	279	11,290	219
	18	0.038	16,128	548	14,515	494	13,709	316	19,354	658	12,096	279	11,290	219
	20	0.038	16,128	548	14,515	439	13,709	281	19,354	658	12,096	248	11,290	194
	25	0.023	12,096	352	10,886	282	10,282	200	14,515	423	9,072	157	8,467	119
	30	0.015	10,080	239	10,886	191	8,568	134	12,096	287	7,560	100	7,056	80
1.6	35	0.01	10,080	212	10,886	167	8,568	134	12,096	256	7,560	100	7,056	80
	40	0.005	8,064	113	7,258	102	6,854	68	9,677	137	6,048	53	5,645	43
1.8	6	0.11	18,720	879	16,848	796	15,912	621	22,464	1,061	14,040	464	13,104	374
	8	0.11	18,720	879	16,848	796	15,912	559	22,464	1,061	14,040	464	13,104	374
2	6	0.13	18,720	897	16,848	796	15,912	621	22,464	1,061	14,040	464	13,104	374
	8	0.13	18,720	897	16,848	796	15,912	559	22,464	1,061	14,040	464	13,104	374
2	4	0.2	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362

【注意】请参考P.340页。 【Note】 Please refer to P.340

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P						N		H			
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
2	6	0.2	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	8	0.14	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	10	0.14	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	12	0.08	13,608	784	12,247	706	11,567	531	16,330	941	10,206	404	9,526	326
	14	0.08	13,608	784	12,247	706	11,567	531	16,330	941	10,206	404	9,526	293
	16	0.08	13,608	705	12,247	636	11,567	486	16,330	846	10,206	383	9,526	293
	18	0.05	13,608	705	12,247	636	11,567	486	16,330	846	10,206	364	9,526	260
	20	0.05	13,608	626	12,247	564	11,567	432	16,330	799	10,206	323	9,526	260
	25	0.05	12,096	548	10,886	494	10,282	281	14,515	658	9,072	279	8,467	209
	30	0.03	12,096	487	10,886	439	10,282	246	14,515	585	9,072	248	8,467	194
	35	0.02	10,584	349	9,526	314	8,996	203	12,701	419	7,938	164	7,409	133
40	0.01	10,584	306	9,527	275	8,996	177	12,701	367	7,938	143	7,409	116	
50	0.005	9,072	212	8,165	167	7,711	108	10,886	256	6,804	87	6,350	70	
2.5	8	0.18	12,960	1,021	11,664	919	11,016	644	15,552	1,225	9,720	482	9,072	388
	12	0.18	12,960	918	11,664	840	11,016	580	15,552	1,021	9,720	468	9,072	348
	16	0.1	11,664	755	10,498	682	9,914	521	13,997	907	8,748	405	8,165	314
	20	0.1	11,664	715	10,498	640	9,914	464	13,997	756	8,748	405	8,165	279
	30	0.06	10,368	522	9,331	411	8,813	313	12,442	626	7,776	245	7,258	198
	40	0.03	9,072	328	8,165	295	7,711	225	10,886	393	6,804	176	6,350	142
50	0.01	9,072	304	8,165	274	7,711	183	10,886	338	6,804	154	6,350	124	
3	8	0.3	11,520	907	10,368	816	9,792	572	13,824	1,089	8,640	428	8,064	345
	12	0.21	11,520	907	10,368	816	9,792	572	13,824	1,089	8,640	428	8,064	345
	16	0.12	10,368	746	9,331	671	8,813	516	12,442	896	7,776	385	7,258	310
	20	0.12	10,368	708	9,331	635	8,813	516	12,442	806	7,776	385	7,258	310
	25	0.08	10,368	708	9,331	635	8,813	516	12,442	806	7,776	385	7,258	310
	30	0.08	10,368	597	9,331	541	8,813	516	12,442	716	7,776	385	7,258	279
	40	0.05	9,216	464	8,294	418	7,834	320	11,059	556	6,912	274	6,451	221
50	0.02	8,064	312	7,258	262	6,854	175	9,677	350	6,048	137	5,645	111	
4	12	0.4	8,460	1,523	7,614	1,233	7,191	1,100	10,350	1,863	6,345	730	5,922	589
	16	0.28	8,460	1,523	7,614	1,233	7,191	1,100	10,350	1,863	6,345	730	5,922	589
	20	0.28	7,614	1,370	6,853	1,110	6,472	989	9,315	1,677	5,711	657	5,330	529
	25	0.16	7,614	1,233	6,853	998	6,472	891	9,315	1,508	5,711	657	5,330	529

【注意】请参考P.340页。 【Note】 Please refer to P.340

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-SN2

小径深加工2刃平头立铣刀

2 Flute, Extended Neck-Square Endmill

» 续前 Continue

工件材料 Workpiece Materials			P				N		H					
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.70		1.20		0.50		0.45	
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
4	30	0.16	7,614	1,233	6,853	998	6,472	792	9,315	1,508	5,711	584	5,330	529
	35	0.1	6,853	986	6,168	799	5,825	713	8,223	1,184	5,140	526	4,797	424
	40	0.1	6,853	863	6,168	699	5,825	624	8,223	1,036	5,140	460	4,797	371
	50	0.06	5,922	592	6,395	533	5,034	414	7,106	710	4,442	278	4,145	224
5	20	0.3	6,761	1,216	6,085	1,094	5,747	851	8,113	1,459	5,071	572	4,732	462
	25	0.3	6,084	1,094	5,476	985	5,171	765	7,301	1,312	4,563	514	4,259	415
	30	0.2	6,084	985	5,476	886	5,171	689	7,301	1,182	4,563	463	4,259	374
	40	0.15	5,476	788	4,928	709	4,654	552	6,571	947	4,107	371	3,833	299
6	50	0.1	5,476	788	4,928	621	4,654	518	6,571	887	4,107	324	3,833	262
	20	0.5	5,564	1,111	5,008	1,000	4,730	778	6,676	1,333	4,173	522	3,894	422
	30	0.4	5,058	1,010	4,552	909	4,299	707	6,070	1,211	3,794	474	3,541	383
	40	0.3	5,058	908	4,552	817	4,299	635	6,070	1,090	3,794	427	3,541	345
	50	0.2	4,500	735	4,050	662	3,825	572	5,400	883	3,375	384	3,150	311

【注意】

- 1.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。
- 2.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。
- 3.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。
- 4.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】

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. Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
3. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
4. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1	0.011	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		2	0.007	37,800	697	36,450	671	34,425	572	45,000	728	30,375	448	28,350	365
	0.05	0.5	0.02	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1	0.014	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1.5	0.008	42,300	779	38,475	709	36,338	603	45,000	728	32,063	473	29,925	386
0.3	0.02	1	0.016	43,200	1,045	38,880	941	36,720	660	45,000	1,087	32,400	492	30,240	397
		2	0.011	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		3	0.007	33,242	684	29,918	616	28,256	473	38,475	793	24,932	353	23,270	284
	0.05	1	0.021	43,200	1,045	38,880	941	36,720	660	45,000	1,087	32,400	492	30,240	397
		1.5	0.016	41,040	993	36,936	894	34,884	627	42,750	1,032	30,780	468	28,728	377
		2	0.012	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		2.5	0.01	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		3	0.008	33,242	684	29,918	616	28,256	473	38,475	793	24,932	353	23,270	284
		0.4	0.02	1	0.016	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558
2	0.013			34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411
3	0.01			26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288
4	0.007			21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237
0.05	1		0.025	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
	1.5		0.02	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
	2		0.016	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411
	2.5		0.015	32,400	797	29,160	716	27,540	609	38,880	956	24,300	478	22,680	391
	3		0.014	26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288
	3.5		0.012	24,786	548	22,307	493	21,068	420	29,743	658	18,590	329	17,350	269
	4		0.008	21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237
	0.1		1	0.033	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053
2		0.028	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411	
3		0.016	26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288	
4		0.01	21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237	
0.5	0.02	1	0.016	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.013	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411

【注意】请参考P.351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60		
外径 Mill Dia. (mm)	圆角 半径 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	
0.5	0.02	3	0.01	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343	
		4	0.008	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305	
		6	0.006	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200	
	0.05	1	0.03	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457	
		2	0.023	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457	
		3	0.017	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343	
		4	0.017	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305	
		5	0.011	21,773	588	19,596	525	18,507	444	26,127	700	16,330	331	15,241	267	
		6	0.008	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200	
	0.1	1	0.035	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457	
		2	0.03	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457	
		3	0.02	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343	
		4	0.02	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305	
		5	0.013	21,773	588	19,596	525	18,507	444	26,127	700	16,330	331	15,241	267	
		6	0.013	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200	
	0.6	0.02	2	0.016	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572
			4	0.013	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
			6	0.01	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334
0.05		2	0.028	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572	
		4	0.019	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429	
		6	0.012	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334	
		8	0.01	20,684	762	18,616	687	17,582	527	24,821	915	15,513	393	14,479	317	
		10	0.007	18,507	610	16,656	549	15,731	440	22,208	733	13,880	320	12,955	258	
0.1		2	0.035	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572	
		4	0.024	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429	
		6	0.015	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334	
		8	0.013	20,684	762	18,616	687	17,582	527	24,821	915	15,513	393	14,479	317	
0.7	0.05	4	0.024	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429	
		6	0.015	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334	
	0.1	4	0.029	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429	
		6	0.018	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334	

【注意】请参考P351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
0.8	0.02	4	0.016	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.013	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
	0.05	4	0.026	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.015	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
		8	0.012	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370
	0.1	12	0.01	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
		4	0.032	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.019	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
		8	0.015	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370
	0.2	12	0.012	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
		4	0.056	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.032	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
8		0.018	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370	
1	0.02	12	0.015	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
		2	0.016	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.013	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		6	0.01	26,244	1,415	26,369	1,581	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.008	23,328	1,257	23,620	1,274	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.006	20,412	1,101	20,995	1,132	17,350	935	24,494	1,320	15,309	734	14,288	599
	0.05	12	0.005	18,144	869	18,371	990	15,422	647	21,773	1,043	13,608	571	12,701	456
		2	0.046	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.035	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.027	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.021	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.017	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.016	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.011	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.01	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.006	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
	20	0.004	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285	
	0.1	2	0.065	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
3		0.05	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047	

【注意】请参考P.351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1	0.1	4	0.038	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.03	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.024	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.024	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.015	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.015	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.009	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
	20	0.006	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285	
	0.2	2	0.11	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.09	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.07	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.04	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.04	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.025	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
	12	0.025	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456	
	16	0.015	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381	
	20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285	
	0.3	2	0.11	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.09	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.07	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.04	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.04	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
10		0.025	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599	
12	0.025	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456		
16	0.015	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381		
20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285		
1.25	0.1	5	0.03	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.015	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		15	0.01	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.006	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285

【注意】请参考P351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

》续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1.25	0.2	5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.025	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		15	0.016	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
	0.3	20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
		5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.025	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
1.5	0.1	15	0.016	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
		4	0.042	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.04	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.036	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.036	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
	0.2	15	0.023	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.018	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
		4	0.07	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.06	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
	0.3	15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
		4	0.07	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.06	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
0.5	15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426	
	20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385	
	4	0.085	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795	
	6	0.08	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761	
	8	0.07	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726	
	12	0.065	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581	
0.5	15	0.045	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426	
	20	0.035	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385	

【注意】请参考P.351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1.75	0.1	5	0.04	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.036	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.023	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.018	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.2	5	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.3	5	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
2	0.1	4	0.08	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205
		6	0.07	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.055	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.03	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.03	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.025	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.015	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.01	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.2	4	0.1	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205
		6	0.08	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.07	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.04	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
0.3	16	0.04	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749	
	20	0.035	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588	
	25	0.025	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588	
	30	0.017	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559	
0.3	4	0.13	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205	
	6	0.11	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144	
	8	0.09	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040	
	12	0.06	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842	

【注意】请参考P351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
2	0.3	16	0.06	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.037	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.03	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.021	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.5	6	0.17	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.14	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.08	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.08	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.05	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.05	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
	0.8	6	0.22	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.2	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.13	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.1	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.06	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.057	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
2.5	0.1	10	0.05	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.03	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.015	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.2	10	0.07	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.04	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.025	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.3	10	0.09	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.06	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.03	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.5	10	0.12	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.08	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.05	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
3	0.1	6	0.08	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.07	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991

【注意】请参考P.351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	0.1	12	0.05	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.035	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.035	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.035	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.027	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.02	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.2	6	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.09	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.07	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.05	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.05	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.05	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.04	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.3	6	0.145	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.13	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.075	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.075	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.075	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.06	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.5	8	0.18	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.13	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.1	12,898	1,811	11,464	1,609	12,240	1,718	15,287	2,146	9,554	1,074	9,076	893
		20	0.1	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.08	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.065	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	1	8	0.2	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
12		0.15	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991	
16		0.12	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991	

【注意】请参考P351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	1	18	0.11	12,898	1,811	11,464	1,609	12,240	1,718	15,287	2,146	9,554	1,074	9,076	893
		20	0.11	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.09	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.075	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
4	0.1	8	0.08	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		12	0.065	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.06	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.055	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.045	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.04	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.03	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
		8	0.16	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
	0.2	12	0.14	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.13	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.11	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.1	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.08	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.06	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
	0.3	8	0.24	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		12	0.22	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.2	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.18	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.16	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.14	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.12	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
		12	0.35	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
	0.5	16	0.25	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.2	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.15	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.1	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.05	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
		12	0.4	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058

【注意】请参考P.351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	0.5	16	0.29	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.23	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.17	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.12	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.06	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
5	0.1	20	0.08	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.06	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.2	20	0.16	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.13	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.3	20	0.24	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.2	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.5	20	0.35	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.135	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	1	20	0.4	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.15	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
6	0.1	12	0.08	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.065	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.06	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.05	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.04	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	0.2	12	0.16	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.14	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.13	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.11	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.08	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	0.3	12	0.24	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.22	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.2	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.18	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.14	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	0.5	18	0.35	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.29	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053

【注意】请参考P351页。 【Note】 Please refer to P.351

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	0.5	35	0.24	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.165	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	1	18	0.4	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.35	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.28	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.2	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663

【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.

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

工件材料 Workpiece Materials			P						N		H				
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.80		1.20		0.65		0.60		
外径 Mill Dia. (mm)	圆角 半径 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	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1	0.011	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		2	0.007	37,800	182	34,020	163	33,030	158	45,000	221	33,030	146	33,030	132
	0.05	0.5	0.02	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1	0.014	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1.5	0.008	45,000	216	43,740	201	41,310	182	45,000	248	41,310	153	41,310	138
0.3	0.02	1	0.016	45,000	527	45,000	464	45,000	410	45,000	626	45,000	302	45,000	288
		2	0.011	40,500	477	40,500	414	40,500	378	40,500	558	40,500	270	40,500	261
		3	0.007	31,500	371	31,500	322	31,500	293	36,000	454	27,000	180	27,000	175
	0.05	1	0.021	45,000	527	45,000	464	45,000	410	45,000	626	45,000	302	45,000	288
		1.5	0.016	45,000	527	40,500	464	40,500	410	45,000	626	40,500	302	40,500	288
		2	0.012	40,500	477	40,500	414	40,500	378	40,500	558	40,500	270	40,500	261
0.4	0.05	2.5	0.01	36,000	424	36,000	368	36,000	336	36,000	496	36,000	240	36,000	232
		3	0.008	31,500	371	31,500	322	31,500	293	36,000	454	27,000	180	27,000	175
		3	0.008	31,500	371	31,500	322	31,500	293	36,000	454	27,000	180	27,000	175
0.4	0.02	1	0.016	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		2	0.013	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		3	0.01	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		4	0.007	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
	0.05	1	0.025	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		1.5	0.02	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		2	0.016	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		2.5	0.015	36,450	432	36,450	360	36,450	333	36,450	504	30,060	243	27,540	198
	0.1	3	0.014	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		3.5	0.012	32,400	342	32,400	288	32,400	270	32,400	378	26,460	180	20,628	162
		4	0.008	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
		1	0.033	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
0.5	0.02	2	0.028	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		3	0.016	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		4	0.01	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
		1	0.016	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
2	0.013	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284		

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60		
外径 Mill Dia. (mm)	圆角 半径 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	
0.5	0.02	3	0.01	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235	
		4	0.008	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211	
		6	0.006	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180	
	0.05	1	0.03	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284	
		2	0.023	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284	
		3	0.017	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235	
		4	0.017	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211	
		5	0.011	25,920	486	21,600	342	17,460	252	27,000	576	16,200	225	13,500	180	
		6	0.008	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180	
	0.1	1	0.035	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284	
		2	0.03	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284	
		3	0.02	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235	
		4	0.02	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211	
		5	0.013	25,920	486	21,600	342	17,460	252	27,000	576	16,200	225	13,500	180	
		6	0.013	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180	
	0.6	0.02	2	0.016	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288
			4	0.013	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
			6	0.01	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189
0.05		2	0.028	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288	
		4	0.019	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207	
		6	0.012	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189	
		8	0.01	21,600	419	18,000	308	16,200	257	27,000	496	16,020	205	13,500	180	
		10	0.007	21,600	406	18,000	298	16,200	248	27,000	481	16,020	199	13,500	174	
		10	0.009	21,600	406	18,000	298	16,200	248	27,000	481	16,020	199	13,500	174	
0.1		2	0.035	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288	
		4	0.024	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207	
		6	0.015	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189	
	8	0.013	21,600	419	18,000	308	16,200	257	27,000	496	16,020	205	13,500	180		
0.7	0.05	4	0.024	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207	
		6	0.015	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189	
	0.1	4	0.029	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207	
		6	0.018	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189	

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60		
外径 Mill Dia. (mm)	圆角 半径 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	
0.8	0.02	4	0.016	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259	
		6	0.013	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230	
	0.05	4	0.026	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259	
		6	0.015	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230	
		8	0.012	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207	
		12	0.01	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197	
	0.1	4	0.032	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259	
		6	0.019	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230	
		8	0.015	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207	
		12	0.012	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197	
	0.2	4	0.056	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259	
		6	0.032	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230	
		8	0.018	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207	
		12	0.015	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197	
	1	0.02	2	0.016	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
			4	0.013	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
6			0.01	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485	
8			0.008	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431	
10			0.006	18,371	693	16,534	624	15,615	590	19,596	832	13,778	463	12,859	377	
12			0.005	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288	
0.05		2	0.046	32,101	1,412	28,868	1,270	27,229	1,089	38,408	1,689	24,057	866	22,453	718	
		3	0.035	30,618	1,316	27,556	1,185	27,265	1,091	36,716	1,579	22,964	780	21,433	643	
		4	0.027	29,160	1,223	26,244	1,101	26,025	1,015	34,992	1,467	21,870	734	20,412	599	
		5	0.021	25,981	1,039	23,384	935	24,786	935	31,242	1,249	19,486	654	18,187	535	
		6	0.017	23,620	891	21,258	802	22,084	835	28,344	1,070	17,715	594	16,534	485	
		8	0.016	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431	
		10	0.011	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377	
		12	0.01	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288	
		16	0.006	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239	
		20	0.004	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180	
0.1		2	0.065	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718	
		3	0.05	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643	

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1	0.1	4	0.038	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.03	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.024	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.024	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.015	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.015	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
		16	0.009	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.006	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
	0.2	2	0.11	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		3	0.09	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643
		4	0.07	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.04	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.04	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.025	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
	0.3	16	0.015	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
		2	0.11	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		3	0.09	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643
		4	0.07	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.04	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.04	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
1.25	0.1	10	0.015	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		15	0.01	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
		20	0.006	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P				N		H					
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1.25	0.2	5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		15	0.016	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
	0.3	20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
		5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
1.5	0.1	15	0.016	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
		4	0.042	22,437	1,017	20,208	915	18,860	852	26,944	1,220	16,840	677	15,628	550
		6	0.04	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.036	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.036	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
	0.2	15	0.023	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.018	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		4	0.07	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		6	0.065	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.06	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
	0.3	15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		4	0.07	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		6	0.065	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.06	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
0.5	15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268	
	20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268	
	4	0.085	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500	
	6	0.08	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524	
	8	0.07	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503	
	12	0.065	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402	
0.5	15	0.045	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268	
	20	0.035	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268	

【注意】请参考P362页。 【Note】 Please refer to P362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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
1.75	0.1	5	0.04	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.036	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.023	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.018	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.2	5	0.065	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.3	5	0.065	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
2	0.1	4	0.08	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756
		6	0.07	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.055	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.03	13,778	975	12,400	878	11,712	829	16,534	1,170	10,334	650	9,644	531
		16	0.03	12,247	867	11,022	780	10,410	736	14,697	1,040	9,185	578	8,573	472
		20	0.025	10,716	759	9,644	682	9,109	644	12,859	910	8,037	506	7,502	413
		25	0.015	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.01	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
	0.2	4	0.1	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756
		6	0.08	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.07	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.04	13,778	975	12,400	878	11,712	829	16,534	1,170	10,334	650	9,644	531
0.3	16	0.04	12,247	867	11,022	780	10,410	736	14,697	1,040	9,185	578	8,573	472	
	20	0.035	10,716	759	9,644	682	9,109	644	12,859	910	8,037	506	7,502	413	
	25	0.025	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370	
	30	0.017	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352	
	4	0.13	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756	
	6	0.11	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721	
	8	0.09	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655	
	12	0.06	13,778	975	12,400	878	11,712	829	16,534	1,300	10,334	650	9,644	531	

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60		
外径 Mill Dia. (mm)	圆角 半径 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	
2	0.3	16	0.06	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472	
		20	0.037	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413	
		25	0.03	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370	
		30	0.021	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352	
	0.5	6	0.17	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721	
		8	0.14	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655	
		12	0.08	13,778	975	12,400	878	11,712	921	16,534	1,300	10,334	650	9,644	531	
		16	0.08	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472	
		20	0.05	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413	
		25	0.05	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370	
	0.8	30	0.03	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352	
		6	0.22	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721	
		8	0.2	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655	
		12	0.13	13,778	975	12,400	878	11,712	829	16,534	1,300	10,334	650	9,644	531	
		16	0.1	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472	
		20	0.06	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413	
	2.5	0.1	25	0.057	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
			30	0.045	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
			10	0.055	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		0.2	20	0.03	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
			30	0.015	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
			10	0.07	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		0.3	20	0.04	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
			30	0.025	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
10			0.09	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655	
0.5		20	0.06	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472	
		30	0.03	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370	
		10	0.14	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655	
0.5	20	0.08	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472		
	30	0.05	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370		
	6	0.08	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624		
3	0.1	8	0.07	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624	

【注意】请参考P362页。 【Note】 Please refer to P362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	0.1	12	0.05	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.035	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.035	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.035	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.027	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.02	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.2	6	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		8	0.09	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.07	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.05	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.05	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.05	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.04	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.3	6	0.145	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		8	0.13	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.075	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.075	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.075	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.06	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.5	6	0.18	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.13	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.1	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.1	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.08	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.065	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	1	8	0.2	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
12		0.15	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624	
16		0.12	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624	

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P				N		H					
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	1	18	0.11	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.11	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.09	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.075	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
4	0.1	8	0.08	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		12	0.065	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.06	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.055	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.045	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.04	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.03	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
		8	0.16	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
	0.2	12	0.14	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.13	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.11	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.1	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.08	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.06	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
	0.3	8	0.24	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		12	0.22	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.2	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.18	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.16	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.14	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.12	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
		12	0.35	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
	0.5	16	0.25	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.2	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.15	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.1	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.05	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
		1	12	0.4	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064

【注意】请参考P.362页。 【Note】 Please refer to P.362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	16	0.29	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.23	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.17	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.12	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.06	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
5	0.1	20	0.08	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.06	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.2	20	0.16	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.13	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.3	20	0.24	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.2	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.5	20	0.35	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.135	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	1	20	0.4	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.15	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
6	0.1	12	0.08	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.065	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.06	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.05	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.04	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.2	12	0.16	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.14	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.13	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.11	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.08	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.3	12	0.24	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.22	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.2	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.18	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.14	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.5	18	0.35	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.29	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878

【注意】请参考P362页。 【Note】 Please refer to P362

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN2

小径深加工2刃圆角头立铣刀

2 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
外径 Mill Dia. (mm)	圆角 半径 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	0.5	35	0.24	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.165	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	1	18	0.4	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.35	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.28	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.2	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457

【注意】

- 1.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。
- 2.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。
- 3.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。
- 4.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. Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
3. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
4. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体/ 马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.70		1.20		0.50		0.45	
外径 Mill Dia. (mm)	圆角 半径 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
1	0.05	4	0.012	31,120	1,952	28,008	1,757	26,608	1,669	38,900	2,440	23,947	1,230	22,749	1,000
		6	0.01	25,200	1,424	22,680	1,282	21,546	1,218	31,500	1,780	19,391	990	18,422	810
		8	0.008	22,400	1,264	20,160	1,138	19,152	1,081	28,000	1,580	17,237	880	16,375	720
		10	0.005	19,600	1,112	17,640	1,001	16,758	951	24,500	1,390	15,082	770	14,328	630
		12	0.004	17,440	880	15,696	792	14,911	752	21,800	1,100	13,420	600	12,749	480
		16	0.003	17,440	768	15,696	691	14,911	657	21,800	960	13,420	510	12,749	400
		20	0.002	13,040	576	11,736	518	11,149	492	16,300	720	10,034	385	9,533	300
	0.1	4	0.02	31,120	1,952	28,008	1,757	26,608	1,669	38,900	2,440	23,947	1,230	22,749	1,000
		6	0.018	25,200	1,424	22,680	1,282	21,546	1,218	31,500	1,780	19,391	990	18,422	810
		8	0.014	22,400	1,264	20,160	1,138	19,152	1,081	28,000	1,580	17,237	880	16,375	720
		10	0.01	19,600	1,112	17,640	1,001	16,758	951	24,500	1,390	15,082	770	14,328	630
		12	0.008	17,440	880	15,696	792	14,911	752	21,800	1,100	13,420	600	12,749	480
		16	0.006	17,440	768	15,696	691	14,911	657	21,800	960	13,420	510	12,749	400
		20	0.004	13,040	576	11,736	518	11,149	492	16,300	720	10,034	385	9,533	300
1.5	0.05	4	0.02	23,920	1,624	21,528	1,462	20,452	1,389	29,900	2,030	18,406	1,020	17,486	830
		8	0.014	21,760	1,480	19,584	1,332	18,605	1,265	27,200	1,850	16,744	1,030	15,907	840
		12	0.007	17,440	1,184	15,696	1,066	14,911	1,012	21,800	1,480	13,420	820	12,749	670
		15	0.006	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
		20	0.004	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
	0.1	4	0.027	23,920	1,624	21,528	1,462	20,452	1,389	29,900	2,030	18,406	1,020	17,486	830
		8	0.02	21,760	1,480	19,584	1,332	18,605	1,265	27,200	1,850	16,744	1,030	15,907	840
		12	0.017	17,440	1,184	15,696	1,066	14,911	1,012	21,800	1,480	13,420	820	12,749	670
		15	0.014	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
		20	0.01	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
2	0.05	4	0.035	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		6	0.03	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		8	0.025	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090
		12	0.02	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890
		16	0.015	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790
		20	0.01	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690
	0.1	4	0.042	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		6	0.042	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200

【注意】请参考P367页。 【Note】 Please refer to P367

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体/ 马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.70		1.20		0.50		0.45		
外径 Mill Dia. (mm)	圆角 半径 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	
2	0.1	8	0.036	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090	
		12	0.036	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890	
		16	0.023	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790	
		20	0.018	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690	
	0.2	4	0.08	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
		6	0.08	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
		8	0.07	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090	
		12	0.04	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890	
		16	0.04	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790	
		20	0.035	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690	
	0.3	25	0.025	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690	
		30	0.017	11,300	1,200	10,200	1,080	9,600	1,020	13,600	1,440	8,500	800	7,900	650	
		4	0.11	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
		8	0.09	18,900	2,350	17,000	2,100	16,100	1,950	22,700	2,850	14,200	1,490	13,200	1,210	
	0.5	12	0.06	15,300	1,810	13,800	1,620	13,000	1,530	18,400	2,170	11,500	1,200	10,700	980	
		16	0.06	13,600	1,610	12,200	1,440	11,600	1,360	16,300	1,930	10,200	1,070	9,500	870	
		20	0.037	11,900	1,400	10,700	1,260	10,100	1,190	14,300	1,680	8,900	940	8,300	770	
		4	0.17	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
		6	0.17	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
		8	0.14	18,900	2,350	17,000	2,100	16,100	1,950	22,700	2,850	14,200	1,490	13,200	1,210	
		12	0.08	15,300	1,810	13,800	1,620	13,000	1,530	18,400	2,170	11,500	1,200	10,700	980	
		16	0.08	13,600	1,610	12,200	1,440	11,600	1,360	16,300	1,930	10,200	1,070	9,500	870	
	2.5	0.1	20	0.05	11,900	1,400	10,700	1,260	10,100	1,190	14,300	1,680	8,900	940	8,300	770
			4	0.17	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
6			0.17	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200	
0.2		8	0.08	16,200	2,140	14,600	1,920	13,800	1,820	19,400	2,570	12,200	1,280	11,300	1,100	
	16	0.045	14,100	1,770	12,700	1,600	12,000	1,510	16,900	2,130	10,600	1,110	9,900	960		
	20	0.042	11,800	1,410	10,600	1,270	10,000	1,200	14,100	1,750	8,800	930	8,200	790		
0.3	12	0.09	14,800	1,960	13,300	1,760	12,500	1,660	17,700	2,350	11,100	1,230	10,300	1,010		
	20	0.052	11,800	1,560	10,600	1,400	10,000	1,330	14,100	1,870	8,800	1,040	8,200	850		

【注意】请参考P.367页。 【Note】 Please refer to P.367

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill

》续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体/ 马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.70		1.20		0.50		0.45	
外径 Mill Dia. (mm)	圆角 半径 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
2.5	0.5	12	0.1	14,800	1,960	13,300	1,760	12,500	1,660	17,700	2,350	11,100	1,230	10,300	1,010
		20	0.07	11,800	1,560	10,600	1,400	10,000	1,330	14,100	1,870	8,800	1,040	8,200	850
3	0.1	8	0.055	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		16	0.035	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		25	0.022	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
		30	0.014	9,100	1,720	8,200	1,550	7,700	1,460	10,900	2,060	6,800	1,150	6,400	940
	0.2	8	0.09	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		12	0.07	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		16	0.05	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		20	0.05	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
	0.3	25	0.045	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
		30	0.04	9,100	1,720	8,200	1,550	7,700	1,460	10,900	2,060	6,800	1,150	6,400	940
		8	0.13	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		16	0.075	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
	0.5	20	0.075	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		25	0.067	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		30	0.06	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040
		8	0.18	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
12		0.13	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160	
16		0.1	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160	
0.5	20	0.1	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040	
	25	0.09	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040	
	30	0.08	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040	
	35	0.065	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040	

【注意】请参考P.367页。 【Note】 Please refer to P.367

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体/ 马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.70		1.20		0.50		0.45	
外径 Mill Dia. (mm)	圆角 半径 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	0.1	12	0.065	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		20	0.055	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		30	0.045	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7,000	1,470	6,500	1,170
		40	0.03	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7,000	1,470	6,500	1,170
	0.2	12	0.13	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		20	0.1	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		30	0.08	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7,000	1,470	6,500	1,170
		40	0.06	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7,000	1,470	6,500	1,170
	0.3	12	0.17	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		20	0.13	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		30	0.1	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
		40	0.08	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
	0.5	12	0.24	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		20	0.2	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		30	0.17	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
		40	0.1	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
5	0.1	20	0.07	8,100	2,190	7,300	1,970	6,900	1,760	9,700	2,620	6,100	1,370	5,700	1,020
		40	0.035	7,300	1,970	6,600	1,570	6,200	1,430	8,700	2,360	5,500	1,150	5,100	920
	0.2	20	0.15	8,100	2,190	7,300	1,970	6,900	1,760	9,700	2,620	6,100	1,370	5,700	1,020
		40	0.08	7,300	1,970	6,600	1,570	6,200	1,430	8,700	2,360	5,500	1,150	5,100	920
	0.3	20	0.21	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.1	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920
	0.5	20	0.28	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.14	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920

【注意】请参考P.367页。 【Note】 Please refer to P.367

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-RN4

小径深加工4刃圆角头立铣刀

4 Flute, Extended Neck-Corner Radius Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体/ 马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.70		1.20		0.50		0.45	
外径 Mill Dia. (mm)	圆角 半径 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
5	1	20	0.35	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.18	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920
6	0.2	30	0.15	7,200	1,940	6,500	1,750	6,100	1,560	8,600	2,330	5,400	1,220	5,000	910
		54	0.1	6,500	1,750	5,800	1,400	5,500	1,270	7,800	2,100	4,900	1,020	4,500	820
		72	0.07	6,500	1,750	5,800	1,400	5,500	1,270	7,800	2,100	4,900	1,020	4,500	820
	0.3	30	0.25	7,200	1,940	6,500	1,750	6,100	1,560	8,600	2,330	5,400	1,300	5,000	980
		54	0.18	6,500	1,750	5,800	1,570	5,500	1,270	7,800	2,100	4,900	1,090	4,500	820
		72	0.1	6,500	1,750	5,800	1,570	5,500	1,270	7,800	2,100	4,900	1,090	4,500	820
	0.5	30	0.35	7,200	1,940	6,500	1,750	6,100	1,650	8,600	2,330	5,400	1,300	5,000	980
		54	0.25	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
		72	0.15	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
	1	30	0.55	7,200	1,940	6,500	1,750	6,100	1,650	8,600	2,330	5,400	1,300	5,000	980
		54	0.4	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
		72	0.22	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820

【注意】

1. 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.
2. 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。
3. 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。
4. 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. Use the appropriate coolant such as air cooling or emulsion for the work material and machining shape.
3. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
4. If the rpm of the machine is low, lower the feed rate also to put the rpm and feed rate in the same ratio.

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

工件材料 Workpiece Materials			P						N		H				
			碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)		
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)			1.00		0.90		0.80		1.20		0.65		0.60		
球半径 R(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	0.008	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.3	0.006	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.5	0.004	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
0.1	0.2	0.5	0.02	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		0.75	0.017	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1	0.014	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1.25	0.011	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		1.5	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2.5	0.006	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
3	0.004	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121		
0.15	0.3	0.5	0.027	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		0.75	0.024	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1	0.021	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.25	0.019	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.5	0.016	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		2	0.012	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		2.5	0.01	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
3	0.008	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245		
0.2	0.4	0.75	0.043	45,000	756	45,000	755	45,000	693	45,000	870	42,120	590	39,312	551
		1	0.04	45,000	756	45,000	755	45,000	693	45,000	870	42,120	590	39,312	551
		1.5	0.034	45,000	648	45,000	647	45,000	594	45,000	746	42,120	421	39,312	393
		2	0.028	45,000	540	45,000	540	45,000	495	45,000	622	42,120	421	39,312	393
		2.5	0.022	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		3	0.016	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		3.5	0.012	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		4	0.01	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
4.5	0.008	34,560	353	31,104	318	29,376	275	41,472	423	25,920	221	24,192	205		
0.25	0.5	1	0.045	45,000	1,350	42,120	1,264	39,780	1,074	45,000	1,350	35,100	948	32,760	669
		1.5	0.04	45,000	1,350	42,120	1,264	39,780	1,074	45,000	1,350	35,100	948	32,760	613
		2	0.035	45,000	1,080	42,120	1,011	39,780	860	45,000	1,080	35,100	758	32,760	613
		2.5	0.033	45,000	900	37,908	682	35,802	581	45,000	973	31,590	511	29,484	452

【注意】请参考P.378页。 【Note】 Please refer to P.378

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.25	0.5	3	0.03	42,120	758	37,908	682	35,802	581	45,000	810	31,590	511	22,680	347
		4	0.02	32,400	583	29,160	525	27,540	446	38,880	700	29,160	472	22,680	347
		5	0.018	32,400	583	29,160	525	27,540	446	38,880	700	29,160	472	22,680	347
		5.5	0.015	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		6	0.013	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		8	0.008	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
0.3	0.6	1	0.075	45,000	2,025	45,000	2,025	45,000	1,755	45,000	2,025	43,200	1,555	40,320	1,210
		2	0.063	45,000	2,025	45,000	2,025	45,000	1,755	45,000	2,025	43,200	1,555	40,320	1,210
		2.5	0.046	45,000	1,620	45,000	1,620	45,000	1,404	45,000	1,620	43,200	1,244	40,320	887
		3	0.041	45,000	1,620	45,000	1,620	45,000	1,404	45,000	1,620	43,200	1,244	40,320	887
		3.5	0.035	45,000	1,539	45,000	1,538	44,064	1,307	45,000	1,539	38,880	1,065	36,288	759
		4	0.026	45,000	1,539	45,000	1,538	44,064	1,307	45,000	1,539	38,880	1,065	36,288	689
		4.5	0.022	45,000	1,215	43,740	1,182	41,310	967	45,000	1,215	36,450	788	34,020	613
		5	0.02	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		5.5	0.017	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		6	0.015	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		7	0.015	28,800	734	25,920	793	24,480	541	34,560	881	21,600	441	20,160	446
		8	0.015	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		9	0.012	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		10	0.009	25,200	643	22,680	579	21,420	473	30,240	771	18,900	385	17,640	300
		12	0.007	21,600	518	19,440	466	18,360	382	25,920	622	16,200	311	15,120	242
0.35	0.7	2	0.092	45,000	2,228	45,000	2,228	45,000	1,940	45,000	2,228	43,200	1,739	37,800	1,069
		4	0.041	45,000	1,692	45,000	1,692	44,064	1,443	45,000	1,692	38,880	1,189	34,020	761
		6	0.027	42,120	1,251	37,908	1,126	35,802	925	45,000	1,337	31,590	763	27,216	577
		8	0.02	28,800	760	25,920	684	24,480	563	34,560	912	21,600	464	20,160	380
0.4	0.8	2	0.12	45,000	2,430	45,000	2,430	45,000	2,160	45,000	2,430	43,200	2,333	40,320	1,694
		4	0.078	45,000	2,430	45,000	2,430	45,000	2,160	45,000	2,430	43,200	2,333	40,320	1,694
		5	0.059	45,000	2,186	45,000	2,188	44,064	1,903	45,000	2,188	38,880	1,911	36,288	1,372
		6	0.042	45,000	2,040	40,824	1,852	38,556	1,554	45,000	2,042	34,020	1,286	31,752	1,121
		8	0.02	37,440	1,213	33,696	1,092	31,824	916	44,928	1,455	28,080	758	26,208	660
		10	0.02	28,800	881	25,920	793	24,480	666	34,560	1,058	21,600	551	20,160	480
0.45	0.9	2	0.135	45,000	2,877	45,000	2,877	45,000	2,539	45,000	2,877	41,040	2,170	38,304	1,924

【注意】请参考P378页。 【Note】 Please refer to P378

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

》续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.45	0.9	4	0.081	45,000	2,494	45,000	2,494	43,605	2,132	45,000	2,494	38,475	1,763	35,910	1,563
		6	0.05	43,092	1,818	38,783	1,636	36,628	1,364	45,000	2,072	32,319	1,128	30,164	1,000
		8	0.036	32,832	1,259	29,549	1,133	27,907	944	39,398	1,511	24,624	781	22,982	693
0.5	1	2	0.2	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		3	0.2	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		4	0.14	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		5	0.09	42,120	2,948	37,908	2,653	35,802	2,336	45,000	3,150	38,880	2,286	29,484	1,652
		6	0.06	37,908	2,389	36,742	2,302	34,700	2,087	45,000	2,836	34,992	2,118	26,536	1,241
		7	0.06	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	955
		8	0.06	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		9	0.045	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		10	0.038	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		12	0.025	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		13	0.023	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		14	0.02	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
16	0.015	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617		
18	0.012	22,680	907	20,412	816	19,278	694	27,216	1,089	17,010	572	15,876	508		
20	0.01	19,440	778	17,496	700	16,524	595	23,328	933	14,580	490	13,608	436		
0.55	1.1	2	0.2	45,000	3,532	40,824	3,204	38,556	2,634	45,000	3,532	34,020	2,207	31,752	1,958
		4	0.14	45,000	3,532	40,824	3,204	38,556	2,634	45,000	3,532	34,020	2,207	31,752	1,958
		6	0.06	35,802	2,075	32,222	1,868	30,432	1,535	42,962	2,490	26,852	1,287	25,061	1,141
		8	0.06	35,802	2,075	32,222	1,556	28,091	1,181	42,962	2,075	24,786	990	23,134	878
		10	0.038	35,802	1,597	32,222	1,556	28,091	1,181	42,962	2,075	24,786	990	23,134	878
0.6	1.2	4	0.16	41,539	3,369	37,384	2,934	35,307	2,445	45,000	3,532	33,231	2,300	29,076	1,674
		8	0.06	33,696	1,928	30,326	1,893	28,642	1,862	40,435	2,313	27,216	1,856	23,587	943
		10	0.053	31,104	1,537	27,994	1,310	26,438	1,190	37,325	1,746	24,300	962	21,773	784
		12	0.045	31,104	1,456	27,994	1,310	26,438	1,190	37,325	1,746	23,328	923	21,773	784
0.7	1.4	8	0.11	29,484	2,123	26,536	1,911	25,061	1,625	35,381	2,547	22,113	1,380	20,639	1,238
		12	0.053	27,216	1,470	24,494	1,323	23,134	1,124	32,659	1,764	20,412	956	19,051	858
		16	0.035	20,160	1,028	18,144	925	17,136	787	24,192	1,234	15,120	669	14,112	599
0.75	1.5	4	0.2	37,800	3,742	34,020	3,368	32,130	2,892	45,000	4,456	28,350	2,297	26,460	1,985
		6	0.2	37,800	3,742	34,020	3,368	32,130	2,892	45,000	4,456	28,350	2,297	26,460	1,985
		8	0.09	29,484	2,364	26,536	1,891	25,061	1,625	35,381	2,522	22,113	1,291	20,639	1,115

【注意】请参考P.378页。 【Note】 Please refer to P.378

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

》续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.75	1.5	10	0.09	27,216	1,940	24,494	1,746	23,134	1,499	32,659	2,327	20,412	1,191	19,051	1,029
		12	0.09	27,216	1,616	24,494	1,454	23,134	1,249	32,659	1,940	20,412	993	19,051	858
		14	0.075	27,216	1,616	21,773	1,221	20,563	1,049	29,030	1,629	18,144	833	16,934	719
		16	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		18	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		20	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
0.8	1.6	8	0.22	32,760	2,752	29,484	2,477	27,846	2,244	39,312	3,302	24,570	1,916	21,294	1,431
		12	0.098	29,484	2,600	26,536	2,341	25,061	1,958	35,381	3,120	22,113	1,672	19,165	1,160
		16	0.06	25,272	1,592	22,745	1,433	21,481	1,199	30,326	1,911	18,954	1,024	17,690	892
		20	0.04	18,720	1,114	16,848	1,003	15,912	839	22,464	1,337	14,040	716	13,104	624
0.9	1.8	8	0.26	30,420	2,921	27,378	2,628	25,857	2,172	36,504	3,505	22,815	1,807	21,294	1,534
		12	0.105	25,272	1,820	22,745	1,637	21,481	1,354	30,326	2,183	18,954	1,125	17,690	956
		16	0.068	25,272	1,820	22,745	1,637	21,481	1,354	30,326	2,183	18,954	1,125	17,690	956
		20	0.045	18,720	1,273	16,848	1,146	15,912	947	22,464	1,527	14,040	788	13,104	669
1	2	3	0.4	28,350	4,253	25,515	3,828	24,098	3,254	34,020	5,103	21,263	2,744	19,845	2,381
		4	0.4	28,350	4,253	25,515	3,828	24,098	3,254	34,020	5,103	21,263	2,744	19,845	2,381
		6	0.4	28,350	3,828	25,515	3,444	24,098	2,892	34,020	4,593	21,263	2,424	19,845	2,143
		8	0.28	28,350	3,828	25,515	3,444	24,098	2,892	34,020	4,593	21,263	2,424	19,845	2,143
		10	0.21	26,460	3,175	23,814	2,858	22,491	2,429	31,752	3,811	19,845	2,024	17,199	1,321
		12	0.12	23,814	2,858	21,433	2,572	20,242	2,187	28,577	3,428	17,861	1,846	15,479	1,189
		13	0.12	23,814	2,858	21,433	2,572	20,242	2,187	28,577	3,428	17,861	1,822	14,288	914
		14	0.12	23,814	2,477	21,433	2,229	20,242	1,895	28,577	2,971	16,585	1,466	14,288	914
		16	0.12	22,113	1,592	19,902	1,434	18,797	1,218	26,536	1,911	16,585	1,320	14,288	823
		18	0.09	20,412	1,470	18,371	1,323	17,350	1,124	24,494	1,764	16,585	1,219	14,288	823
		20	0.075	20,412	1,470	18,371	1,323	17,350	1,124	24,494	1,764	16,585	1,015	14,288	823
		22	0.05	16,065	1,093	14,459	983	13,656	836	19,278	1,311	12,049	697	13,495	734
		25	0.05	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	12,701	691
		30	0.03	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	12,701	691
		35	0.025	13,230	847	11,907	762	11,246	648	15,876	1,016	9,923	540	9,261	474
		40	0.022	11,340	725	10,206	653	9,639	555	13,608	871	8,505	463	7,938	407
1.25	2.5	6	0.5	24,975	4,557	22,478	4,100	21,229	3,417	29,970	5,468	18,732	2,779	17,483	2,278
		10	0.34	24,975	4,557	22,478	4,100	21,229	3,417	29,970	5,468	18,732	2,779	17,483	2,278
		15	0.15	19,481	2,558	17,533	2,302	16,558	1,919	23,377	3,070	14,611	1,821	13,637	1,279

【注意】请参考P378页。 【Note】 Please refer to P378

推荐切削参数 (通用)

Recommended cutting datas to general machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P					N		H				
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
1.25	2.5	20	0.12	17,982	1,967	16,184	1,771	15,285	1,476	21,578	2,362	14,611	1,301	12,587	984
		25	0.098	17,982	1,770	16,184	1,593	15,285	1,328	21,578	2,124	13,487	1,080	12,587	885
		30	0.055	13,320	1,377	11,988	1,239	11,322	1,033	15,984	1,652	9,990	840	9,324	689
1.5	3	8	0.6	21,600	4,860	19,440	4,374	18,360	3,690	25,920	5,832	16,200	3,062	15,120	2,722
		10	0.42	21,600	4,860	19,440	4,374	18,360	3,690	25,920	5,832	16,200	3,062	15,120	2,722
		13	0.315	20,160	3,629	18,144	3,266	17,136	2,755	24,192	4,354	15,120	2,286	14,112	2,032
		16	0.315	20,160	3,266	18,144	2,939	17,136	2,480	24,192	3,920	15,120	2,057	13,104	1,699
		20	0.18	16,848	2,274	15,163	2,048	14,321	1,727	20,218	2,730	12,636	1,434	10,886	1,176
		25	0.12	16,848	2,274	15,163	2,048	14,321	1,727	20,218	2,730	12,636	1,434	10,886	1,176
		30	0.12	15,552	2,100	13,997	1,890	13,219	1,594	18,662	2,520	11,664	1,323	10,886	1,176
1.75	3.5	15	0.36	16,088	3,299	14,479	2,969	13,675	2,475	19,305	3,959	12,065	2,012	11,262	1,650
		25	0.21	13,365	2,052	12,029	1,847	11,361	1,539	16,038	2,462	10,024	1,252	9,356	1,026
		35	0.09	13,365	2,052	12,029	1,847	11,361	1,539	16,038	2,462	10,024	1,252	9,356	1,026
		45	0.09	9,900	1,438	8,910	1,294	8,415	1,079	11,880	1,726	7,425	878	6,930	719
2	4	10	0.6	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		13	0.48	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		16	0.42	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		20	0.42	13,455	3,229	12,110	2,906	11,437	2,471	16,146	3,875	10,092	2,058	9,419	1,808
		25	0.24	12,110	2,615	10,899	2,354	10,293	2,001	14,531	3,139	9,083	1,946	8,477	1,464
		30	0.16	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		35	0.1	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		40	0.1	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		45	0.1	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
2.5	5	20	0.525	11,340	4,082	10,206	3,674	9,639	2,892	13,608	4,899	8,505	2,552	7,938	2,143
		25	0.525	10,530	3,285	9,477	3,412	8,951	2,686	12,636	4,549	7,898	2,370	7,371	1,990
		30	0.3	9,477	2,502	8,529	3,072	8,056	2,417	11,372	4,094	7,108	2,132	6,634	1,792
		40	0.2	8,748	1,890	7,873	1,701	7,436	1,338	10,498	2,268	6,561	1,182	6,124	993
3	6	12	0.6	12,150	5,103	10,935	4,593	10,328	3,828	14,580	6,124	9,113	3,113	8,505	2,552
		20	0.5	11,475	4,476	10,328	4,028	9,754	3,356	13,770	5,370	8,607	2,730	8,033	2,237
		30	0.42	9,360	2,696	8,424	2,426	7,956	1,910	11,232	3,235	7,020	1,825	6,552	1,415
		50	0.15	7,776	2,015	6,998	1,814	6,610	1,428	9,331	2,418	5,832	1,260	5,443	1,058

【注意】请参考P.378页。 【Note】 Please refer to P.378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.3	0.003	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.5	0.002	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
0.1	0.2	0.5	0.015	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		0.75	0.013	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1	0.011	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1.25	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		1.5	0.007	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2	0.006	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2.5	0.005	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
3	0.003	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121		
0.15	0.3	0.5	0.02	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		0.75	0.018	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1	0.016	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.25	0.014	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.5	0.012	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		2	0.009	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		2.5	0.008	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
3	0.006	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245		
0.2	0.4	0.75	0.043	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		1	0.04	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		1.5	0.034	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		2	0.028	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		2.5	0.016	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		3	0.011	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		3.5	0.008	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		4	0.005	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
4.5	0.004	34,560	353	31,104	318	29,376	275	41,472	423	25,920	221	24,192	205		
0.25	0.5	1	0.045	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		1.5	0.04	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		2	0.035	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		2.5	0.033	36,000	720	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347

【注意】请参考P378页。 【Note】 Please refer to P378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.25	0.5	3	0.03	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		4	0.02	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		5	0.018	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		5.5	0.008	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		6	0.007	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		8	0.004	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
0.3	0.6	1	0.05	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		2	0.042	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		2.5	0.038	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		3	0.034	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		3.5	0.029	32,400	923	29,160	831	27,540	680	38,880	1,108	24,300	554	22,680	431
		4	0.024	32,400	923	29,160	831	27,540	680	38,880	1,108	24,300	554	22,680	431
		4.5	0.022	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		5	0.02	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		5.5	0.017	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		6	0.015	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		7	0.008	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		8	0.008	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		9	0.006	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		10	0.005	25,200	643	22,680	579	21,420	473	30,240	771	18,900	385	17,640	300
		12	0.004	21,600	518	19,440	466	18,360	382	25,920	622	16,200	311	15,120	242
0.35	0.7	2	0.061	36,000	1,188	32,400	1,069	30,600	879	43,200	1,426	27,000	725	25,200	594
		4	0.034	32,400	1,015	29,160	914	27,540	752	38,880	1,219	24,300	619	22,680	508
		6	0.027	32,400	962	29,160	866	27,540	712	38,880	1,155	24,300	587	22,680	482
		8	0.01	28,800	760	25,920	684	24,480	563	34,560	912	21,600	464	20,160	380
0.4	0.8	2	0.08	36,000	1,296	32,400	1,166	30,600	979	43,200	1,555	27,000	810	25,200	706
		4	0.056	36,000	1,296	32,400	1,166	30,600	979	43,200	1,555	27,000	810	25,200	706
		5	0.045	32,400	1,049	29,160	945	27,540	793	38,880	1,260	24,300	656	22,680	572
		6	0.032	32,400	1,049	29,160	945	27,540	793	38,880	1,260	24,300	656	22,680	572
		8	0.02	28,800	933	25,920	840	24,480	705	34,560	1,120	21,600	583	20,160	508
		10	0.01	28,800	881	25,920	793	24,480	666	34,560	1,058	21,600	551	20,160	480
0.45	0.9	2	0.09	34,200	1,458	30,780	1,312	29,070	1,094	41,040	1,750	25,650	904	23,940	802

【注意】请参考P.378页。 【Note】 Please refer to P.378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.45	0.9	4	0.058	34,200	1,458	30,780	1,312	29,070	1,094	41,040	1,750	25,650	904	23,940	802
		6	0.042	30,780	1,181	27,702	1,063	26,163	886	36,936	1,417	23,085	732	21,546	650
		8	0.03	27,360	1,049	24,624	944	23,256	788	32,832	1,259	20,520	651	19,152	577
0.5	1	2	0.1	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		3	0.1	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		4	0.07	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		5	0.06	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		6	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		7	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		8	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		9	0.03	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		10	0.025	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		12	0.013	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		13	0.011	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		14	0.01	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		16	0.008	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		18	0.006	22,680	907	20,412	816	19,278	694	27,216	1,089	17,010	572	15,876	508
20	0.005	19,440	778	17,496	700	16,524	595	23,328	933	14,580	490	13,608	436		
0.55	1.1	2	0.1	30,240	1,582	27,216	1,424	25,704	1,171	36,288	1,899	22,680	981	21,168	870
		4	0.07	30,240	1,582	27,216	1,424	25,704	1,171	36,288	1,899	22,680	981	21,168	870
		6	0.04	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
		8	0.04	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
		10	0.025	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
0.6	1.2	4	0.08	27,692	1,449	24,923	1,304	23,539	1,087	33,231	1,739	20,769	898	19,384	797
		8	0.04	25,920	1,348	23,328	1,213	22,032	992	31,104	1,617	19,440	855	18,144	725
		10	0.035	25,920	1,281	23,328	1,092	22,032	992	31,104	1,455	19,440	770	18,144	653
		12	0.03	25,920	1,213	23,328	1,092	22,032	992	31,104	1,455	19,440	770	18,144	653
0.7	1.4	8	0.055	22,680	1,361	20,412	1,225	19,278	1,041	27,216	1,633	17,010	885	15,876	794
		12	0.035	22,680	1,225	20,412	1,103	19,278	937	27,216	1,470	17,010	797	15,876	715
		16	0.017	20,160	1,028	18,144	925	17,136	787	24,192	1,234	15,120	669	14,112	599
0.75	1.5	4	0.1	25,200	1,663	22,680	1,497	21,420	1,285	30,240	1,996	18,900	1,021	17,640	882
		6	0.1	25,200	1,663	22,680	1,497	21,420	1,285	30,240	1,996	18,900	1,021	17,640	882

【注意】请参考P378页。 【Note】 Please refer to P378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
0.75	1.5	8	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		10	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		12	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		14	0.05	22,680	1,347	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		16	0.019	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		18	0.019	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
0.8	1.6	8	0.11	23,400	1,638	21,060	1,474	19,890	1,233	28,080	1,966	17,550	1,053	16,380	917
		12	0.065	21,060	1,327	18,954	1,194	17,901	999	25,272	1,592	15,795	853	14,742	743
		16	0.04	21,060	1,327	18,954	1,194	17,901	999	25,272	1,592	15,795	853	14,742	743
		20	0.02	18,720	1,114	16,848	1,003	15,912	839	22,464	1,337	14,040	716	13,104	624
0.9	1.8	8	0.13	23,400	1,872	21,060	1,685	19,890	1,392	28,080	2,246	17,550	1,158	16,380	983
		12	0.07	21,060	1,517	18,954	1,364	17,901	1,128	25,272	1,820	15,795	938	14,742	797
		16	0.045	21,060	1,517	18,954	1,364	17,901	1,128	25,272	1,820	15,795	938	14,742	797
		20	0.022	18,720	1,273	16,848	1,146	15,912	947	22,464	1,527	14,040	788	13,104	669
1	2	3	0.2	18,900	1,890	17,010	1,701	16,065	1,446	22,680	2,268	14,175	1,220	13,230	1,058
		4	0.2	18,900	1,890	17,010	1,701	16,065	1,446	22,680	2,268	14,175	1,220	13,230	1,058
		6	0.2	18,900	1,701	17,010	1,531	16,065	1,285	22,680	2,041	14,175	1,077	13,230	952
		8	0.14	18,900	1,701	17,010	1,531	16,065	1,285	22,680	2,041	14,175	1,077	13,230	952
		10	0.14	18,900	1,512	17,010	1,361	16,065	1,157	22,680	1,814	14,175	964	13,230	847
		12	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		13	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		14	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		16	0.08	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		18	0.06	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		20	0.05	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		22	0.042	16,065	1,093	14,459	983	13,656	836	19,278	1,311	12,049	697	11,246	612
		25	0.035	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	10,584	576
		30	0.015	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	10,584	576
35	0.012	13,230	847	11,907	762	11,246	648	15,876	1,016	9,923	540	9,261	474		
40	0.01	11,340	725	10,206	653	9,639	555	13,608	871	8,505	463	7,938	407		
1.25	2.5	6	0.25	16,650	2,025	14,985	1,823	14,153	1,519	19,980	2,430	12,488	1,236	11,655	1,013

【注意】请参考P.378页。 【Note】 Please refer to P.378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P						N		H			
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(mm)	外径 Mill Dia. (mm)	颈长 Under Neck Length (mm)	ap	转速	进给速度	转速	进给速度	转速	进给速度	转速	进给速度	转速	进给速度	转速	进给速度
				n r/min	Vf mm/min	n r/min	Vf mm/min	n r/min	Vf mm/min	n r/min	Vf mm/min	n r/min	Vf mm/min	n r/min	Vf mm/min
1.25	2.5	10	0.17	16,650	2,025	14,985	1,823	14,153	1,519	19,980	2,430	12,488	1,236	11,655	1,013
		15	0.1	14,985	1,640	13,487	1,476	12,738	1,230	17,982	1,967	11,239	1,000	10,490	820
		20	0.08	14,985	1,640	13,487	1,476	12,738	1,230	17,982	1,967	11,239	1,000	10,490	820
		25	0.065	14,985	1,475	13,487	1,328	12,738	1,106	17,982	1,770	11,239	900	10,490	738
		30	0.044	13,320	1,377	11,988	1,239	11,322	1,033	15,984	1,652	9,990	840	9,324	689
1.5	3	8	0.3	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		10	0.21	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		13	0.21	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		16	0.21	14,400	1,944	12,960	1,750	12,240	1,476	17,280	2,333	10,800	1,225	10,080	1,089
		20	0.12	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
		25	0.08	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
		30	0.08	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
1.75	3.5	15	0.24	12,375	2,115	11,138	1,904	10,519	1,587	14,850	2,538	9,282	1,291	8,663	1,058
		25	0.14	11,138	1,710	10,024	1,539	9,467	1,283	13,365	2,052	8,353	1,043	7,797	855
		35	0.09	11,138	1,710	10,024	1,539	9,467	1,283	13,365	2,052	8,353	1,043	7,797	855
		45	0.072	9,900	1,438	8,910	1,294	8,415	1,079	11,880	1,726	7,425	878	6,930	719
2	4	10	0.4	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		13	0.32	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		16	0.28	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		20	0.28	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		25	0.16	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		30	0.16	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		35	0.1	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		40	0.1	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		45	0.08	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
2.5	5	20	0.35	8,100	1,944	7,290	1,750	6,885	1,377	9,720	2,333	6,075	1,215	5,670	1,021
		25	0.35	8,100	1,944	7,290	1,750	6,885	1,377	9,720	2,333	6,075	1,215	5,670	1,021
		30	0.2	7,290	1,750	6,561	1,575	6,197	1,239	8,748	2,100	5,468	1,094	5,103	919
		40	0.2	7,290	1,575	6,561	1,418	6,197	1,115	8,748	1,890	5,468	985	5,103	827

【注意】请参考P378页。 【Note】 Please refer to P378

推荐切削参数 (高精度)

Recommended cutting datas to high accuracy machining

SPM200-BN2

小径深加工2刃球头立铣刀

2 Flute, Extended Neck-Ballnose Endmill

» 续前 Continue

工件材料 Workpiece Materials				P				N		H					
				碳钢, 合金钢 Carbon Steels, Alloy Steels (180 ~ 250HB)		合金钢, 工具钢 Alloy Steels, Tool Steels (25 ~ 35HRC)		PH与铁素体 /马氏体钢 PH, Ferrite, Martensite Steels (35 ~ 45HRC)		铜, 铜合金 Copper, Copper Alloys		淬硬钢 Hardened Steels (45 ~ 55HRC)		淬硬钢 Hardened Steels (55 ~ 65HRC)	
切削深度 (ap) 比例系数 Ratio to standard depth of cut(ap)				1.00		0.90		0.80		1.20		0.65		0.60	
球半径 R(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
				3	6	12	0.6	8,100	2,268	7,290	2,041	6,885	1,701	9,720	2,722
		20	0.5	7,650	1,989	6,885	1,790	6,503	1,492	9,180	2,387	5,738	1,213	5,355	995
		30	0.42	7,200	1,728	6,480	1,555	6,120	1,224	8,640	2,074	5,400	1,080	5,040	907
		50	0.15	6,480	1,400	5,832	1,260	5,508	992	7,776	1,679	4,860	875	4,536	734

【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.










DRILLING
孔加工

C

标记说明 Guidelines to Icons

标示 Mark	说明 Description
柄部 形状 Shank	 ISO 标准柄部 ISO Standard Shank
	 ISO 标准柄部 ISO Standard Shank
	 DIN6535 HA 圆柱直柄 DIN6535 HA Straight Shank
涂层 Coating	 AlCrN涂层 AlCrN Coating
	 AlCrSiN涂层 AlCrSiN Coating
	 TiAlN涂层 TiAlN Coating
	 AlTiN纳米涂层 Nano Coating AlTiN
	 AlCrN/TiSiN多层 Nano Coating AlTiN
	 AlTiN/TiSiN纳米多层 Nano Coating AlTiN/TiSiN
	 TiAlCrSiN TiAlCrSiN Coating
	 粗晶金刚石涂层 Normal Diamond Coating
	 超细晶金刚石涂层 Ultra Fine Grain Diamond Coating

标示 Mark	说明 Description
钻头 类型 Drills Type	 外冷麻花钻 Twist Drills
	 内冷麻花钻 Twist Drills with Inner Cooling
钻孔 深度 Drilling Depth	 钻孔深度为钻头直径的3倍 The Maximum Depth of Drilling is 3D
	 钻孔深度为钻头直径的5倍 The Maximum Depth of Drilling is 5D
	 钻孔深度为钻头直径的8倍 The Maximum Depth of Drilling is 8D
	 钻孔深度为钻头直径的12倍 The Maximum Depth of Drilling is 12D
	 钻孔深度为钻头直径的15倍 The Maximum Depth of Drilling is 15D

标示 Mark	说明 Description
工件 材料 Workpiece Material	 钢 Steels
	 不锈钢 Stainless Steels
	 铸铁 Cast Iron
	 非铁材料 Non-ferrous Materials
	 高温合金、钛合金 Heat-resistant Super Alloys, Titanium Alloys
 高硬度材料 High Hardened Materials	

整体钻头产品应用一览表 Application Summary of Solid Carbide Drills

材料组 ISO Material Group	金鹭材料分组 MC GESAC		内冷钻孔加工 Inner Coolant Drilling					外冷钻孔加工 External Coolant Drilling		干切钻 孔加工 Dry Drilling
			3*D	5*D	8*D	12*D	15*D	3*D	5*D	3*D
P	1 2 3 4	碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35HRC)	D938	D938	D938	D938	D938	D938	D938	D938
	5	合金钢 (35-48HRC) Alloy Steel (35-48HRC)								
	6	PH 与铁素体 / 马氏体钢 (< 35HRC) PH, Ferritic, Martensitic Steel (< 35HRC)								

系列介绍 Series Introduction



GHD高效型可转位浅孔钻 GHD High Efficient Indexable Drills

- 四条切削刃，经济性好；
Four cutting edges, better economy.
- 拳形切削刃设计，拥有专利保护；
Fist shaped cutting edge design with patent protection.
- 内外刀片共用，管理、使用方便；
Both the central and the outside inserts are the same, convenient for management.
- 适合多种材质加工，通用性好。
Fitting for various materials.

普通钢孔加工行业专家—D938系列 Expert In Steel Drilling—D938 Series




















- 适用于钢件、铸铁及不锈钢的高效钻削加工 (\leq HRC48) ;
Suitable for efficient drilling of Steel, Cast Iron and Stainless steel (\leq HRC48) .
- 全新的基体材质，韧性和耐磨性的完美平衡；
New substrate material, toughness and wear resistance of perfect balance.
- 采用独特的涂层后处理和AlTiN基纳米涂层；
Using unique post-processing of coating and AlTiN-nano coating.
- 优化槽型和钻尖设计，具有良好的排屑性能、超强的自定心性能和断屑性能。
Optimize the groove profile and design of drill point, with good chip evacuation performance, super self-centering performance and chip breaking performance.



刀具系列目录 (按系列) Drills Index - Tool Series

类型 Type	应用 Application	刀片系列 Insert	刀体系列 Cutter	图示 Shape	简介 Profile
可转位 浅孔钻 Indexable Drill		QPMG P386	GHD (2D-5D) (Φ14-Φ51)		拳形切削刃设计、稳定性好、使用方便,适用于各种材料的高效钻削加工。 Fist shaped cutting edge design achieve good stability and convenient for management, suitable for drilling different material.

刀具系列目录 (按系列) Drills Index - Tool Series

适用加工材料 Workpiece Material	刀具名称及外形 Description	钻尖角 Point Angle	柄部类型 Shank Type	涂层 Coating	钻削深度 Drilling Depth	冷却形式 Coolant Type	系列类型 Tool Type	尺寸范围 Dimension Range	尺寸表页码 Dimension Page	切削参数 Cutting Parameters Page
D938										
钢件 Steels	3D 外冷 麻花钻 3D, External Cooling, Twist Drill 	140°					D938-A3N	D1-D20	402	416
	3D 内冷 麻花钻 3D, Inner Cooling, Twist Drill 	140°					D938-A3C	D3-D20	404	416
	5D 外冷 麻花钻 5D, External Cooling, Twist Drill 	140°					D938-A5N	D3-D20	406	416
	5D 内冷 麻花钻 5D, Inner Cooling, Twist Drill 	140°					D938-A5C	D3-D20	408	416
	8D 内冷 麻花钻 8D, Inner Cooling, Twist Drill 	140°					D938-A8C	D3-D16	410	416
	12D 内冷 麻花钻 12D, Inner Cooling, Twist Drill 	135°					D938-A12C	D3-D12	412	416
	15D 内冷 麻花钻 15D, Inner Cooling, Twist Drill 	135°					D938-A15C	D3-D12	414	416

☉ 非常适合 Most Suitable ○ 一般适合 Suitable

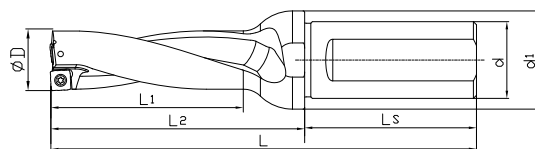
工件材料 Workpiece Material															
1 2 3 4			5	6	1 2 3	1 2	3	1 2	3	4	5	1	2	3 4	
碳钢、合金钢 Carbon Steels, Alloy Steels			合金钢、工具钢 Alloy Steels, Tool Steels	PH 与铁素体 / 马氏体钢 PH and Ferrite/Martensitic Stainless	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Wrought Aluminium Alloys, Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Composite Material	高温合金 Heat Resistant Super Alloys	钛合金 Titanium Alloys	淬硬钢 Hardened Steels	淬硬钢 Hardened Steels
< 35HRC			35-48HRC	< 35HRC		< 35HRC	35-45HRC	Si < 12%	Si > 12%	< HB200		< HB450	< HB400	45-55HRC	55-60HRC

	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								
	⊙	⊙	⊙			○	○								

GHD-2D

专利浅孔钻体

Indexable Drill (Patented)

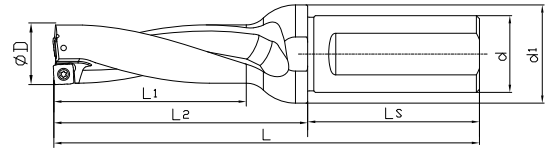


直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ14.0	GHD-140-2D-FC20-Q04A	14.0	20	25	50	46	30	96	QPMG040204
Φ14.5	GHD-145-2D-FC20-Q04A	14.5	20	25	50	46	30	96	
Φ15.0	GHD-150-2D-FC20-Q04A	15.0	20	25	50	50	32	100	
Φ15.5	GHD-155-2D-FC20-Q04A	15.5	20	25	50	50	32	100	
Φ16.0	GHD-160-2D-FC20-Q05A	16.0	20	25	50	52	34	102	QPMG050204
Φ16.5	GHD-165-2D-FC20-Q05A	16.5	20	25	50	52	34	102	
Φ17.0	GHD-170-2D-FC25-Q05A	17.0	25	32	56	54	36	110	
Φ17.5	GHD-175-2D-FC25-Q05A	17.5	25	32	56	54	36	110	
Φ18.0	GHD-180-2D-FC25-Q05A	18.0	25	32	56	59	39	115	QPMG060204
Φ18.5	GHD-185-2D-FC25-Q05A	18.5	25	32	56	59	39	115	
Φ19.0	GHD-190-2D-FC25-Q06A	19.0	25	32	56	61	41	117	
Φ19.5	GHD-195-2D-FC25-Q06A	19.5	25	32	56	61	41	117	
Φ20.0	GHD-200-2D-FC25-Q06A	20.0	25	32	56	63	43	119	QPMG07T306
Φ20.5	GHD-205-2D-FC25-Q06A	20.5	25	32	56	63	43	119	
Φ21.0	GHD-210-2D-FC25-Q06A	21.0	25	32	56	65	45	121	
Φ21.5	GHD-215-2D-FC25-Q06A	21.5	25	32	56	65	45	121	
Φ22.0	GHD-220-2D-FC25-Q06A	22.0	25	32	56	67	47	123	QPMG07T306
Φ22.5	GHD-225-2D-FC25-Q06A	22.5	25	32	56	67	47	123	
Φ23.0	GHD-230-2D-FC25-Q07A	23.0	25	32	56	69	49	125	
Φ23.5	GHD-235-2D-FC25-Q07A	23.5	25	32	56	69	49	125	
Φ24.0	GHD-240-2D-FC25-Q07A	24.0	25	32	56	71	51	127	QPMG07T306
Φ24.5	GHD-245-2D-FC25-Q07A	24.5	25	32	56	71	51	127	
Φ25.0	GHD-250-2D-FC25-Q07A	25.0	25	32	56	73	53	129	
Φ25.5	GHD-255-2D-FC32-Q07A	25.5	32	42	60	81	56	141	
Φ26.0	GHD-260-2D-FC32-Q07A	26.0	32	42	60	81	56	141	QPMG07T306
Φ26.5	GHD-265-2D-FC32-Q07A	26.5	32	42	60	81	56	141	
Φ27.0	GHD-270-2D-FC32-Q07A	27.0	32	42	60	83	58	143	

推荐切削参数 ※ P400
Cutting Parameters

GHD-2D

专利浅孔钻体
Indexable Drill (Patented)



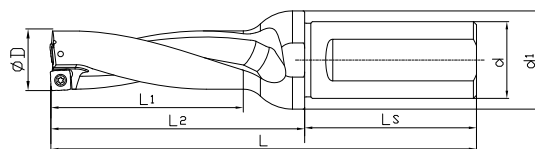
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ27.5	GHD-275-2D-FC32-Q09A	27.5	32	42	60	83	58	143	QPMG09T308
Φ28.0	GHD-280-2D-FC32-Q09A	28.0	32	42	60	85	60	145	
Φ28.5	GHD-285-2D-FC32-Q09A	28.5	32	42	60	85	60	145	
Φ29.0	GHD-290-2D-FC32-Q09A	29.0	32	42	60	87	62	147	
Φ29.5	GHD-295-2D-FC32-Q09A	29.5	32	42	60	87	62	147	
Φ30.0	GHD-300-2D-FC32-Q09A	30.0	32	42	60	89	64	149	
Φ30.5	GHD-305-2D-FC32-Q09A	30.5	32	42	60	89	64	149	
Φ31.0	GHD-310-2D-FC32-Q09A	31.0	32	42	60	91	66	151	
Φ31.5	GHD-315-2D-FC32-Q09A	31.5	32	42	60	91	66	151	
Φ32.0	GHD-320-2D-FC32-Q09A	32.0	32	42	60	93	68	153	
Φ32.5	GHD-325-2D-FC32-Q09A	32.5	32	48	60	93	68	153	
Φ33.0	GHD-330-2D-FC40-Q09A	33.0	40	48	70	99	71	169	
Φ33.5	GHD-335-2D-FC40-Q11A	33.5	40	48	70	99	71	169	
Φ34.0	GHD-340-2D-FC40-Q11A	34.0	40	48	70	101	73	171	
Φ34.5	GHD-345-2D-FC40-Q11A	34.5	40	48	70	101	73	171	
Φ35.0	GHD-350-2D-FC40-Q11A	35.0	40	48	70	103	75	173	
Φ35.5	GHD-355-2D-FC40-Q11A	35.5	40	48	70	103	75	173	
Φ36.0	GHD-360-2D-FC40-Q11A	36.0	40	48	70	105	77	175	
Φ36.5	GHD-365-2D-FC40-Q11A	36.5	40	48	70	105	77	175	
Φ37.0	GHD-370-2D-FC40-Q11A	37.0	40	48	70	107	79	177	
Φ37.5	GHD-375-2D-FC40-Q11A	37.5	40	48	70	107	79	177	
Φ38.0	GHD-380-2D-FC40-Q11A	38.0	40	48	70	109	81	179	
Φ38.5	GHD-385-2D-FC40-Q11A	38.5	40	48	70	109	81	179	
Φ39.0	GHD-390-2D-FC40-Q11A	39.0	40	48	70	111	83	181	
Φ39.5	GHD-395-2D-FC40-Q11A	39.5	40	48	70	111	83	181	
Φ40.0	GHD-400-2D-FC40-Q11A	40.0	40	48	70	113	85	183	

推荐切削参数 ※ P400
Cutting Parameters

GHD-2D

专利浅孔钻体

Indexable Drill (Patented)



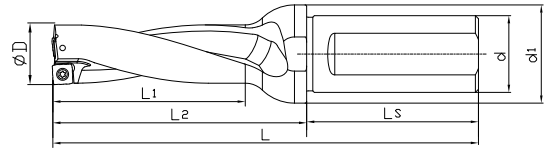
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ40.5	GHD-405-2D-FC40-Q13A	40.5	40	48	70	113	85	183	QPMG130408
Φ41.0	GHD-410-2D-FC40-Q13A	41.0	40	48	70	118	88	188	
Φ41.5	GHD-415-2D-FC40-Q13A	41.5	40	48	70	118	88	188	
Φ42.0	GHD-420-2D-FC40-Q13A	42.0	40	48	70	120	90	190	
Φ42.5	GHD-425-2D-FC40-Q13A	42.5	40	48	70	120	90	190	
Φ43.0	GHD-430-2D-FC40-Q13A	43.0	40	48	70	122	92	192	
Φ43.5	GHD-435-2D-FC40-Q13A	43.5	40	48	70	122	92	192	
Φ44.0	GHD-440-2D-FC40-Q13A	44.0	40	48	70	124	94	194	
Φ44.5	GHD-445-2D-FC40-Q13A	44.5	40	48	70	124	94	194	
Φ45.0	GHD-450-2D-FC40-Q13A	45.0	40	48	70	126	96	196	
Φ45.5	GHD-455-2D-FC40-Q15A	45.5	40	48	70	126	96	196	QPMG150512
Φ46.0	GHD-460-2D-FC40-Q15A	46.0	40	48	70	133	98	203	
Φ46.5	GHD-465-2D-FC40-Q15A	46.5	40	48	70	133	98	203	
Φ47.0	GHD-470-2D-FC40-Q15A	47.0	40	48	70	135	100	205	
Φ47.5	GHD-475-2D-FC40-Q15A	47.5	40	48	70	135	100	205	
Φ48.0	GHD-480-2D-FC40-Q15A	48.0	40	48	70	137	102	207	
Φ48.5	GHD-485-2D-FC40-Q15A	48.5	40	48	70	137	102	207	
Φ49.0	GHD-490-2D-FC40-Q15A	49.0	40	49	70	139	104	209	
Φ49.5	GHD-495-2D-FC40-Q15A	49.5	40	49	70	139	104	209	
Φ50.0	GHD-500-2D-FC40-Q15A	50.0	40	50	70	141	106	211	
Φ50.5	GHD-505-2D-FC40-Q15A	50.5	40	50	70	141	106	211	
Φ51.0	GHD-510-2D-FC40-Q15A	51.0	40	51	70	143	108	213	

推荐切削参数 ※ P400
Cutting Parameters

GHD-3D

专利浅孔钻体

Indexable Drill (Patented)



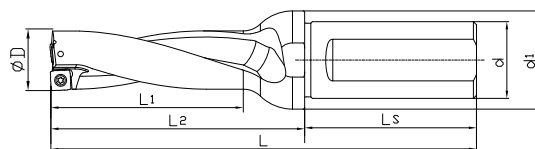
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ14.0	GHD-140-3D-FC20-Q04A	14.0	20	25	50	60	44	110	QPMG040204
Φ14.5	GHD-145-3D-FC20-Q04A	14.5	20	25	50	60	44	110	
Φ15.0	GHD-150-3D-FC20-Q04A	15.0	20	25	50	65	47	115	
Φ15.5	GHD-155-3D-FC20-Q04A	15.5	20	25	50	65	47	115	
Φ16.0	GHD-160-3D-FC20-Q05A	16.0	20	25	50	68	50	118	QPMG050204
Φ16.5	GHD-165-3D-FC20-Q05A	16.5	20	25	50	68	50	118	
Φ17.0	GHD-170-3D-FC25-Q05A	17.0	25	32	56	71	53	127	
Φ17.5	GHD-175-3D-FC25-Q05A	17.5	25	32	56	71	53	127	
Φ18.0	GHD-180-3D-FC25-Q05A	18.0	25	32	56	77	57	133	QPMG060204
Φ18.5	GHD-185-3D-FC25-Q05A	18.5	25	32	56	77	57	133	
Φ19.0	GHD-190-3D-FC25-Q06A	19.0	25	32	56	80	60	136	
Φ19.5	GHD-195-3D-FC25-Q06A	19.5	25	32	56	80	60	136	
Φ20.0	GHD-200-3D-FC25-Q06A	20.0	25	32	56	83	63	139	QPMG07T306
Φ20.5	GHD-205-3D-FC25-Q06A	20.5	25	32	56	83	63	139	
Φ21.0	GHD-210-3D-FC25-Q06A	21.0	25	32	56	86	66	142	
Φ21.5	GHD-215-3D-FC25-Q06A	21.5	25	32	56	86	66	142	
Φ22.0	GHD-220-3D-FC25-Q06A	22.0	25	32	56	89	69	145	QPMG07T306
Φ22.5	GHD-225-3D-FC25-Q06A	22.5	25	32	56	89	69	145	
Φ23.0	GHD-230-3D-FC25-Q07A	23.0	25	32	56	92	72	148	
Φ23.5	GHD-235-3D-FC25-Q07A	23.5	25	32	56	92	72	148	
Φ24.0	GHD-240-3D-FC25-Q07A	24.0	25	32	56	95	75	151	QPMG07T306
Φ24.5	GHD-245-3D-FC25-Q07A	24.5	25	32	56	95	75	151	
Φ25.0	GHD-250-3D-FC25-Q07A	25.0	25	32	56	98	78	154	
Φ25.5	GHD-255-3D-FC32-Q07A	25.5	32	42	60	107	82	167	
Φ26.0	GHD-260-3D-FC32-Q07A	26.0	32	42	60	107	82	167	QPMG07T306
Φ26.5	GHD-265-3D-FC32-Q07A	26.5	32	42	60	107	82	167	
Φ27.0	GHD-270-3D-FC32-Q07A	27.0	32	42	60	110	85	170	

推荐切削参数 ※ P400
Cutting Parameters

GHD-3D

专利浅孔钻体

Indexable Drill (Patented)



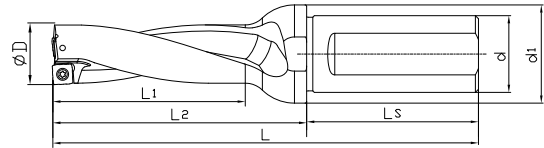
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert	
		D	d	d1	Ls	L2	L1	L		
Φ27.5	GHD-275-3D-FC32-Q09A	27.5	32	42	60	110	85	170	QPMG09T308	
Φ28.0	GHD-280-3D-FC32-Q09A	28.0	32	42	60	113	88	173		
Φ28.5	GHD-285-3D-FC32-Q09A	28.5	32	42	60	113	88	173		
Φ29.0	GHD-290-3D-FC32-Q09A	29.0	32	42	60	116	91	176		
Φ29.5	GHD-295-3D-FC32-Q09A	29.5	32	42	60	116	91	176		
Φ30.0	GHD-300-3D-FC32-Q09A	30.0	32	42	60	119	94	179		
Φ30.5	GHD-305-3D-FC32-Q09A	30.5	32	42	60	119	94	179		
Φ31.0	GHD-310-3D-FC32-Q09A	31.0	32	42	60	122	97	182		
Φ31.5	GHD-315-3D-FC32-Q09A	31.5	32	42	60	124	97	182		
Φ32.0	GHD-320-3D-FC32-Q09A	32.0	32	42	60	125	100	185		
Φ32.5	GHD-325-3D-FC32-Q09A	32.5	32	42	60	125	100	185		
Φ33.0	GHD-330-3D-FC32-Q09A	33.0	32	42	60	128	103	188		
Φ33.5	GHD-335-3D-FC40-Q11A	33.5	40	48	70	135	107	205		QPMG110408
Φ34.0	GHD-340-3D-FC40-Q11A	34.0	40	48	70	135	107	205		
Φ34.5	GHD-345-3D-FC40-Q11A	34.5	40	48	70	135	107	205		
Φ35.0	GHD-350-3D-FC40-Q11A	35.0	40	48	70	138	110	208		
Φ35.5	GHD-355-3D-FC40-Q11A	35.5	40	48	70	138	110	208		
Φ36.0	GHD-360-3D-FC40-Q11A	36.0	40	48	70	141	113	211		
Φ36.5	GHD-365-3D-FC40-Q11A	36.5	40	48	70	141	113	211		
Φ37.0	GHD-370-3D-FC40-Q11A	37.0	40	48	70	144	116	214		
Φ37.5	GHD-375-3D-FC40-Q11A	37.5	40	48	70	144	116	214		
Φ38.0	GHD-380-3D-FC40-Q11A	38.0	40	48	70	147	119	217		
Φ38.5	GHD-385-3D-FC40-Q11A	38.5	40	48	70	147	119	217		
Φ39.0	GHD-390-3D-FC40-Q11A	39.0	40	48	70	150	122	220		
Φ39.5	GHD-395-3D-FC40-Q11A	39.5	40	48	70	150	122	220		
Φ40.0	GHD-400-3D-FC40-Q11A	40.0	40	48	70	153	125	223		

推荐切削参数 ※ P400
Cutting Parameters

GHD-3D

专利浅孔钻体

Indexable Drill (Patented)



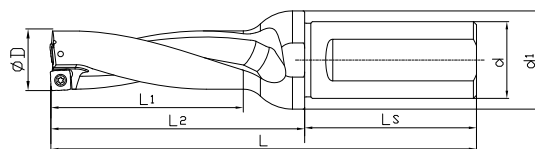
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ40.5	GHD-405-3D-FC40-Q13A	40.5	40	48	70	153	125	223	QPMG130408
Φ41.0	GHD-410-3D-FC40-Q13A	41.0	40	48	70	159	129	229	
Φ41.5	GHD-415-3D-FC40-Q13A	41.5	40	48	70	159	129	229	
Φ42.0	GHD-420-3D-FC40-Q13A	42.0	40	48	70	162	132	232	
Φ42.5	GHD-425-3D-FC40-Q13A	42.5	40	48	70	162	132	232	
Φ43.0	GHD-430-3D-FC40-Q13A	43.0	40	48	70	165	135	235	
Φ43.5	GHD-435-3D-FC40-Q13A	43.5	40	48	70	165	135	235	
Φ44.0	GHD-440-3D-FC40-Q13A	44.0	40	48	70	168	138	238	
Φ44.5	GHD-445-3D-FC40-Q13A	44.5	40	48	70	168	138	238	
Φ45.0	GHD-450-3D-FC40-Q13A	45.0	40	48	70	171	141	241	
Φ45.5	GHD-455-3D-FC40-Q15A	45.5	40	48	70	171	141	241	QPMG150512
Φ46.0	GHD-460-3D-FC40-Q15A	46.0	40	48	70	179	144	249	
Φ46.5	GHD-465-3D-FC40-Q15A	46.5	40	48	70	179	144	249	
Φ47.0	GHD-470-3D-FC40-Q15A	47.0	40	48	70	182	147	252	
Φ47.5	GHD-475-3D-FC40-Q15A	47.5	40	48	70	182	147	252	
Φ48.0	GHD-480-3D-FC40-Q15A	48.0	40	48	70	185	150	255	
Φ48.5	GHD-485-3D-FC40-Q15A	48.5	40	48	70	185	150	255	
Φ49.0	GHD-490-3D-FC40-Q15A	49.0	40	49	70	188	153	258	
Φ49.5	GHD-495-3D-FC40-Q15A	49.5	40	49	70	188	153	258	
Φ50.0	GHD-500-3D-FC40-Q15A	50.0	40	50	70	191	156	261	
Φ50.5	GHD-505-3D-FC40-Q15A	50.5	40	50	70	191	156	261	
Φ51.0	GHD-510-3D-FC40-Q15A	51.0	40	51	70	194	159	264	

推荐切削参数 ※ P400
Cutting Parameters

GHD-4D

专利浅孔钻体

Indexable Drill (Patented)



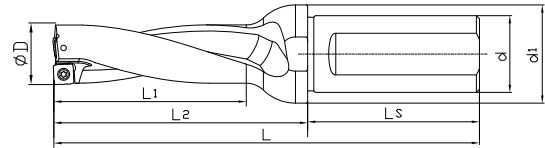
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ14.0	GHD-140-4D-FC20-Q04A	14.0	20	25	50	74	58	124	QPMG040204
Φ14.5	GHD-145-4D-FC20-Q04A	14.5	20	25	50	74	58	124	
Φ15.0	GHD-150-4D-FC20-Q04A	15.0	20	25	50	80	62	130	
Φ15.5	GHD-155-4D-FC20-Q04A	15.5	20	25	50	80	62	130	
Φ16.0	GHD-160-4D-FC20-Q05A	16.0	20	25	50	84	66	134	QPMG050204
Φ16.5	GHD-165-4D-FC20-Q05A	16.5	20	25	50	84	66	134	
Φ17.0	GHD-170-4D-FC25-Q05A	17.0	25	32	56	88	70	144	
Φ17.5	GHD-175-4D-FC25-Q05A	17.5	25	32	56	88	70	144	
Φ18.0	GHD-180-4D-FC25-Q05A	18.0	25	32	56	95	75	151	QPMG060204
Φ18.5	GHD-185-4D-FC25-Q05A	18.5	25	32	56	95	75	151	
Φ19.0	GHD-190-4D-FC25-Q06A	19.0	25	32	56	99	79	155	
Φ19.5	GHD-195-4D-FC25-Q06A	19.5	25	32	56	99	79	155	
Φ20.0	GHD-200-4D-FC25-Q06A	20.0	25	32	56	103	83	159	QPMG07T306
Φ20.5	GHD-205-4D-FC25-Q06A	20.5	25	32	56	103	83	159	
Φ21.0	GHD-210-4D-FC25-Q06A	21.0	25	32	56	107	87	163	
Φ21.5	GHD-215-4D-FC25-Q06A	21.5	25	32	56	107	87	163	
Φ22.0	GHD-220-4D-FC25-Q06A	22.0	25	32	56	111	91	167	QPMG07T306
Φ22.5	GHD-225-4D-FC25-Q06A	22.5	25	32	56	111	91	167	
Φ23.0	GHD-230-4D-FC25-Q07A	23.0	25	32	56	115	95	171	
Φ23.5	GHD-235-4D-FC25-Q07A	23.5	25	32	56	115	95	171	
Φ24.0	GHD-240-4D-FC25-Q07A	24.0	25	32	56	119	99	175	QPMG07T306
Φ24.5	GHD-245-4D-FC25-Q07A	24.5	25	32	56	119	99	175	
Φ25.0	GHD-250-4D-FC25-Q07A	25.0	25	32	56	123	103	179	
Φ25.5	GHD-255-4D-FC32-Q07A	25.5	32	42	60	133	108	193	
Φ26.0	GHD-260-4D-FC32-Q07A	26.0	32	42	60	133	108	193	QPMG07T306
Φ26.5	GHD-265-4D-FC32-Q07A	26.5	32	42	60	133	108	193	
Φ27.0	GHD-270-4D-FC32-Q07A	27.0	32	42	60	137	112	197	

推荐切削参数 ※ P400
Cutting Parameters

GHD-4D

专利浅孔钻体

Indexable Drill (Patented)



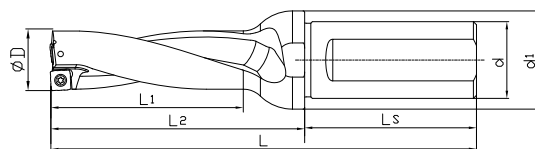
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ27.5	GHD-275-4D-FC32-Q09A	27.5	32	42	60	137	112	197	QPMG09T308
Φ28.0	GHD-280-4D-FC32-Q09A	28.0	32	42	60	141	116	201	
Φ28.5	GHD-285-4D-FC32-Q09A	28.5	32	42	60	141	116	201	
Φ29.0	GHD-290-4D-FC32-Q09A	29.0	32	42	60	145	120	205	
Φ29.5	GHD-295-4D-FC32-Q09A	29.5	32	42	60	145	120	205	
Φ30.0	GHD-300-4D-FC32-Q09A	30.0	32	42	60	149	124	209	
Φ30.5	GHD-305-4D-FC32-Q09A	30.5	32	42	60	149	124	209	
Φ31.0	GHD-310-4D-FC32-Q09A	31.0	32	42	60	153	128	213	
Φ31.5	GHD-315-4D-FC32-Q09A	31.5	32	42	60	153	128	213	
Φ32.0	GHD-320-4D-FC32-Q09A	32.0	32	42	60	157	132	217	
Φ32.5	GHD-325-4D-FC32-Q09A	32.5	32	42	60	157	132	217	
Φ33.0	GHD-330-4D-FC40-Q09A	33.0	40	48	70	165	137	235	
Φ33.5	GHD-335-4D-FC40-Q11A	33.5	40	48	70	165	137	235	
Φ34.0	GHD-340-4D-FC40-Q11A	34.0	40	48	70	169	141	239	
Φ34.5	GHD-345-4D-FC40-Q11A	34.5	40	48	70	169	141	239	
Φ35.0	GHD-350-4D-FC40-Q11A	35.0	40	48	70	173	145	243	
Φ35.5	GHD-355-4D-FC40-Q11A	35.5	40	48	70	173	145	243	
Φ36.0	GHD-360-4D-FC40-Q11A	36.0	40	48	70	177	149	247	
Φ36.5	GHD-365-4D-FC40-Q11A	36.5	40	48	70	177	149	247	
Φ37.0	GHD-370-4D-FC40-Q11A	37.0	40	48	70	181	153	251	
Φ37.5	GHD-375-4D-FC40-Q11A	37.5	40	48	70	181	153	251	
Φ38.0	GHD-380-4D-FC40-Q11A	38.0	40	48	70	185	157	255	
Φ38.5	GHD-385-4D-FC40-Q11A	38.5	40	48	70	185	157	255	
Φ39.0	GHD-390-4D-FC40-Q11A	39.0	40	48	70	189	161	259	
Φ39.5	GHD-395-4D-FC40-Q11A	39.5	40	48	70	189	161	259	
Φ40.0	GHD-400-4D-FC40-Q11A	40.0	40	48	70	193	165	263	
									QPMG110408

推荐切削参数 ※ P400
Cutting Parameters

GHD-4D

专利浅孔钻体

Indexable Drill (Patented)



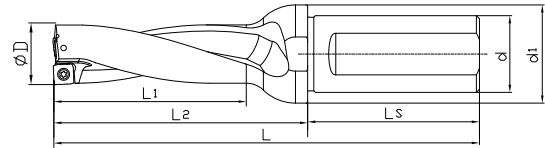
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ40.5	GHD-405-4D-FC40-Q13A	40.5	40	48	70	193	165	263	QPMG130408
Φ41.0	GHD-410-4D-FC40-Q13A	41.0	40	48	70	200	170	270	
Φ41.5	GHD-415-4D-FC40-Q13A	41.5	40	48	70	200	170	270	
Φ42.0	GHD-420-4D-FC40-Q13A	42.0	40	48	70	204	174	274	
Φ42.5	GHD-425-4D-FC40-Q13A	42.5	40	48	70	204	174	274	
Φ43.0	GHD-430-4D-FC40-Q13A	43.0	40	48	70	208	178	278	
Φ43.5	GHD-435-4D-FC40-Q13A	43.5	40	48	70	208	178	278	
Φ44.0	GHD-440-4D-FC40-Q13A	44.0	40	48	70	212	182	282	
Φ44.5	GHD-445-4D-FC40-Q13A	44.5	40	48	70	212	182	282	
Φ45.0	GHD-450-4D-FC40-Q13A	45.0	40	48	70	216	186	286	
Φ45.5	GHD-455-4D-FC40-Q15A	45.5	40	48	70	216	186	286	QPMG150512
Φ46.0	GHD-460-4D-FC40-Q15A	46.0	40	48	70	225	190	295	
Φ46.5	GHD-465-4D-FC40-Q15A	46.5	40	48	70	225	190	295	
Φ47.0	GHD-470-4D-FC40-Q15A	47.0	40	48	70	229	194	299	
Φ47.5	GHD-475-4D-FC40-Q15A	47.5	40	48	70	229	194	299	
Φ48.0	GHD-480-4D-FC40-Q15A	48.0	40	48	70	233	198	303	
Φ48.5	GHD-485-4D-FC40-Q15A	48.5	40	48	70	233	198	303	
Φ49.0	GHD-490-4D-FC40-Q15A	49.0	40	49	70	237	202	307	
Φ49.5	GHD-495-4D-FC40-Q15A	49.5	40	49	70	237	202	307	
Φ50.0	GHD-500-4D-FC40-Q15A	50.0	40	50	70	241	206	311	
Φ50.5	GHD-505-4D-FC40-Q15A	50.5	40	50	70	241	206	311	
Φ51.0	GHD-510-4D-FC40-Q15A	51.0	40	51	70	245	210	315	

推荐切削参数 ※ P400
Cutting Parameters

GHD-5D

专利浅孔钻体

Indexable Drill (Patented)



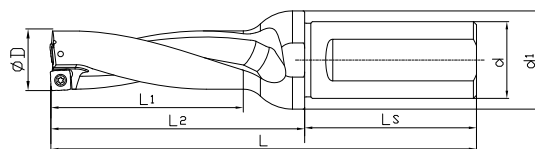
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ14.0	GHD-140-5D-FC20-Q04A	14.0	20	25	50	88	72	138	QPMG040204
Φ14.5	GHD-145-5D-FC20-Q04A	14.5	20	25	50	88	72	138	
Φ15.0	GHD-150-5D-FC20-Q04A	15.0	20	25	50	95	77	145	
Φ15.5	GHD-155-5D-FC25-Q04A	15.5	25	32	56	98	77	154	
Φ16.0	GHD-160-5D-FC25-Q05A	16.0	25	32	56	103	82	159	QPMG050204
Φ16.5	GHD-165-5D-FC25-Q05A	16.5	25	32	56	103	82	159	
Φ17.0	GHD-170-5D-FC25-Q05A	17.0	25	32	56	108	87	164	
Φ17.5	GHD-175-5D-FC25-Q05A	17.5	25	32	56	108	87	164	
Φ18.0	GHD-180-5D-FC25-Q05A	18.0	25	32	56	113	93	169	QPMG060204
Φ18.5	GHD-185-5D-FC25-Q05A	18.5	25	32	56	113	93	169	
Φ19.0	GHD-190-5D-FC25-Q06A	19.0	25	32	56	118	98	174	
Φ19.5	GHD-195-5D-FC25-Q06A	19.5	25	32	56	118	98	174	
Φ20.0	GHD-200-5D-FC25-Q06A	20.0	25	32	56	123	103	179	QPMG07T306
Φ20.5	GHD-205-5D-FC25-Q06A	20.5	25	32	56	123	103	179	
Φ21.0	GHD-210-5D-FC25-Q06A	21.0	25	32	56	128	108	184	
Φ21.5	GHD-215-5D-FC25-Q06A	21.5	25	32	56	128	108	184	
Φ22.0	GHD-220-5D-FC25-Q06A	22.0	25	32	56	133	113	189	QPMG07T306
Φ22.5	GHD-225-5D-FC25-Q06A	22.5	25	32	56	133	113	189	
Φ23.0	GHD-230-5D-FC32-Q07A	23.0	32	42	56	138	118	194	
Φ23.5	GHD-235-5D-FC32-Q07A	23.5	32	42	56	138	118	194	
Φ24.0	GHD-240-5D-FC32-Q07A	24.0	32	42	56	143	123	199	QPMG07T306
Φ24.5	GHD-245-5D-FC32-Q07A	24.5	32	42	56	143	123	199	
Φ25.0	GHD-250-5D-FC32-Q07A	25.0	32	42	56	148	128	204	
Φ25.5	GHD-255-5D-FC32-Q07A	25.5	32	42	56	148	128	204	
Φ26.0	GHD-260-5D-FC32-Q07A	26.0	32	42	60	159	134	219	QPMG07T306
Φ26.5	GHD-265-5D-FC32-Q07A	26.5	32	42	60	159	134	219	
Φ27.0	GHD-270-5D-FC32-Q07A	27.0	32	42	60	164	139	224	

推荐切削参数 ※ P400
Cutting Parameters

GHD-5D

专利浅孔钻体

Indexable Drill (Patented)



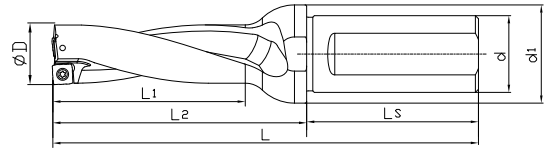
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ27.5	GHD-275-5D-FC32-Q09A	27.5	32	42	60	169	144	229	QPMG09T308
Φ28.0	GHD-280-5D-FC32-Q09A	28.0	32	42	60	169	144	229	
Φ28.5	GHD-285-5D-FC32-Q09A	28.5	32	42	60	169	144	229	
Φ29.0	GHD-290-5D-FC32-Q09A	29.0	32	42	60	174	149	234	
Φ29.5	GHD-295-5D-FC32-Q09A	29.5	32	42	60	174	149	234	
Φ30.0	GHD-300-5D-FC32-Q09A	30.0	32	42	60	179	154	239	
Φ30.5	GHD-305-5D-FC32-Q09A	30.5	32	42	60	179	154	239	
Φ31.0	GHD-310-5D-FC32-Q09A	31.0	32	42	60	184	159	244	
Φ31.5	GHD-315-5D-FC32-Q09A	31.5	32	42	60	184	159	244	
Φ32.0	GHD-320-5D-FC32-Q09A	32.0	32	42	60	189	164	249	
Φ32.5	GHD-325-5D-FC40-Q09A	32.5	40	48	60	194	169	254	
Φ33.0	GHD-330-5D-FC40-Q09A	33.0	40	48	60	194	169	254	
Φ33.5	GHD-335-5D-FC40-Q11A	33.5	40	48	70	203	175	273	
Φ34.0	GHD-340-5D-FC40-Q11A	34.0	40	48	70	203	175	273	
Φ34.5	GHD-345-5D-FC40-Q11A	34.5	40	48	70	203	175	273	
Φ35.0	GHD-350-5D-FC40-Q11A	35.0	40	48	70	208	180	278	
Φ35.5	GHD-355-5D-FC40-Q11A	35.5	40	48	70	208	180	278	
Φ36.0	GHD-360-5D-FC40-Q11A	36.0	40	48	70	213	185	283	
Φ36.5	GHD-365-5D-FC40-Q11A	36.5	40	48	70	213	185	283	
Φ37.0	GHD-370-5D-FC40-Q11A	37.0	40	48	70	218	190	288	
Φ37.5	GHD-375-5D-FC40-Q11A	37.5	40	48	70	218	190	288	
Φ38.0	GHD-380-5D-FC40-Q11A	38.0	40	48	70	223	195	293	
Φ38.5	GHD-385-5D-FC40-Q11A	38.5	40	48	70	223	195	293	
Φ39.0	GHD-390-5D-FC40-Q11A	39.0	40	48	70	228	200	298	
Φ39.5	GHD-395-5D-FC40-Q11A	39.5	40	48	70	228	200	298	
Φ40.0	GHD-400-5D-FC40-Q11A	40.0	40	48	70	233	205	303	

推荐切削参数 ※ P400
Cutting Parameters

GHD-5D

专利浅孔钻体

Indexable Drill (Patented)



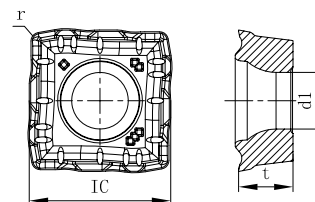
直径 Dia.	钻体型号 Drilling body	尺寸 Dimension (mm)							刀片型号 Insert
		D	d	d1	Ls	L2	L1	L	
Φ40.5	GHD-405-5D-FC40-Q13A	40.5	40	48	70	241	211	311	QPMG130408
Φ41.0	GHD-410-5D-FC40-Q13A	41.0	40	48	70	241	211	311	
Φ41.5	GHD-415-5D-FC40-Q13A	41.5	40	48	70	241	211	311	
Φ42.0	GHD-420-5D-FC40-Q13A	42.0	40	48	70	246	216	316	
Φ42.5	GHD-425-5D-FC40-Q13A	42.5	40	48	70	246	216	316	
Φ43.0	GHD-430-5D-FC40-Q13A	43.0	40	48	70	251	221	321	
Φ43.5	GHD-435-5D-FC40-Q13A	43.5	40	48	70	251	221	321	
Φ44.0	GHD-440-5D-FC40-Q13A	44.0	40	48	70	256	226	326	
Φ44.5	GHD-445-5D-FC40-Q13A	44.5	40	48	70	256	226	326	
Φ45.0	GHD-450-5D-FC40-Q13A	45.0	40	48	70	261	231	331	
Φ45.5	GHD-455-5D-FC40-Q15A	45.5	40	48	70	261	231	331	QPMG150512
Φ46.0	GHD-460-5D-FC40-Q15A	46.0	40	48	70	271	236	341	
Φ46.5	GHD-465-5D-FC40-Q15A	46.5	40	48	70	271	236	341	
Φ47.0	GHD-470-5D-FC40-Q15A	47.0	40	48	70	276	241	346	
Φ47.5	GHD-475-5D-FC40-Q15A	47.5	40	48	70	276	241	346	
Φ48.0	GHD-480-5D-FC40-Q15A	48.0	40	48	70	281	246	351	
Φ48.5	GHD-485-5D-FC40-Q15A	48.5	40	48	70	281	246	351	
Φ49.0	GHD-490-5D-FC40-Q15A	49.0	40	49	70	286	251	356	
Φ49.5	GHD-495-5D-FC40-Q15A	49.5	40	49	70	286	251	356	
Φ50.0	GHD-500-5D-FC40-Q15A	50.0	40	50	70	291	256	361	
Φ50.5	GHD-505-5D-FC40-Q15A	50.5	40	50	70	291	256	361	
Φ51.0	GHD-510-5D-FC40-Q15A	51.0	40	51	70	296	261	366	

推荐切削参数 ※ P400
Cutting Parameters

QPMG

专利浅孔钻削刀片

Indexable Drill Insert (Patented)



型号 Type	牌号 Grade	尺寸 Dimension (mm)				钻孔直径 Dia. of Drill	库存 Stock
		IC	t	r	d1		
QPMG040204-DP	GA4230	4.7	2.3	0.4	2.2	Φ14.0 ~ Φ15.9	●
QPMG050204-DP	GA4230	5.7	2.5	0.4	2.6	Φ16.0 ~ Φ18.9	●
QPMG060204-DP	GA4230	6.5	2.5	0.4	2.6	Φ19.0 ~ Φ22.5	●
QPMG07T306-DP	GA4230	7.94	3.2	0.6	2.85	Φ22.6 ~ Φ27.0	●
QPMG09T308-DP	GA4230	9.7	3.5	0.8	3.5	Φ27.1 ~ Φ33.0	●
QPMG110408-DP	GA4230	11.5	4.76	0.8	4.4	Φ33.1 ~ Φ40.0	●
QPMG130408-DP	GA4230	13.2	4.76	0.8	4.4	Φ40.1 ~ Φ45.0	●
QPMG150512-DP	GA4230	15.2	5.2	1.2	5.5	Φ45.1 ~ Φ51.0	●

●标准库存 Stock ○需预定 Available upon Order

刀体配件列表

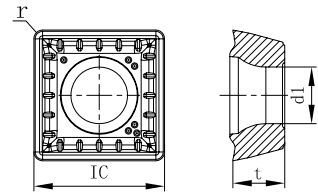
Drill Body Parts

刀片型号 Insert Type	螺钉 Screw		扳手 Wrench		扭矩值 N·m Torque
	型号 Type	订货号 Ordering Code	型号 Type	订货号 Ordering Code	
QPMG040204	SI60M2*4.3	PSI60M020050-02704K	T06	PTT06PK	0.6
QPMG050204	SI60M2.2*5	PSI60M022055-03107K	T07	PTT07PK	0.8
QPMG060204	SI60M2.2*5	PSI60M022055-03107K	T07	PTT07PK	0.8
QPMG07T306	SI60M2.5*6.5	PSI60M025070-03509K	T07	PTT08PK	0.8
QPMG09T308	SI60M3*7.2	PSI60M030080-04210K	T09	PTT09PK	1.2
QPMG110408	SI60M4*9	PSI60M025070-03509K	T15	PTT15PK	2.0
QPMG130408	SI60M4*9	PSI60M030080-04210K	T15	PTT15PK	2.0
QPMG150512	SI60M5*14	PSI60M050110-07212K	T20	PTT20PK	2.5

推荐切削参数 ※ P400
Cutting Parameters

SPMG

通用型钻削刀片
General Drill Insert

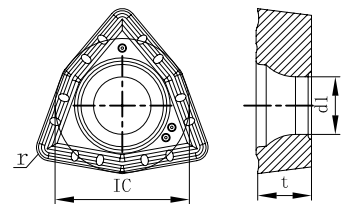


型号 Type	牌号 Grade	尺寸 Dimension (mm)				钻孔直径 Dia. of Drill	库存 Stock
		IC	t	r	d1		
SPMG050204-DM	GA4230	5	2.38	0.4	2.2	Φ13.0 ~ Φ15.0	●
SPMG060204-DM	GA4230	6	2.38	0.4	2.6	Φ15.5 ~ Φ21.5	●
SPMG07T308-DM	GA4230	7.94	3.97	0.8	2.8	Φ22.0 ~ Φ27.5	●
SPMG090408-DM	GA4230	9.8	4.3	0.8	4.23	Φ28.0 ~ Φ33.0	●
SPMG110408-DM	GA4230	11.5	4.76	0.8	4.4	Φ33.0 ~ Φ41.0	●
SPMG140512-DM	GA4230	14.3	5.2	1.2	5.75	Φ42.0 ~ Φ50.0	●

●标准库存 Stock ○需预定 Available upon Order

WCMT

通用型钻削刀片
General Drill Insert



型号 Type	牌号 Grade	尺寸 Dimension (mm)				钻孔直径 Dia. of Drill	库存 Stock
		IC	t	r	d1		
WCMT030208-DU	GA4230	5.56	2.38	0.8	2.8	Φ15.0 ~ Φ20.5	●
WCMT040208-DU	GA4230	6.35	2.38	0.8	2.9	Φ21.0 ~ Φ24.5	●
WCMT050308-DU	GA4230	7.94	3.18	0.8	3.4	Φ25.0 ~ Φ30.0	●
WCMT06T308-DU	GA4230	9.52	3.97	0.8	3.8	Φ30.5 ~ Φ39.5	●
WCMT080412-DU	GA4230	12.7	4.76	1.2	4.4	Φ40.0 ~ Φ60.0	●

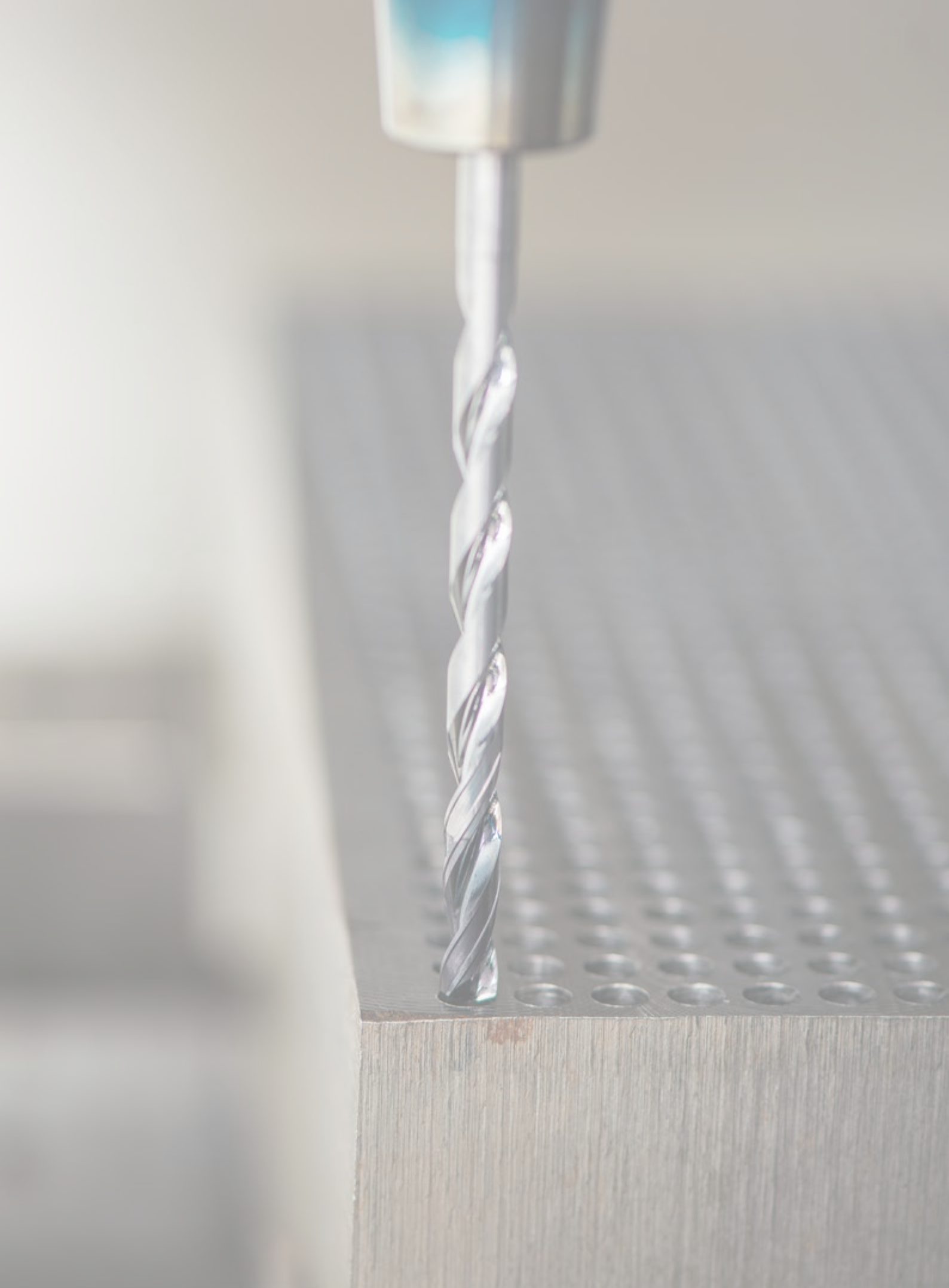
●标准库存 Stock ○需预定 Available upon Order

推荐切削参数 ※ P400
Cutting Parameters

推荐切削参数 Recommended Cutting Data

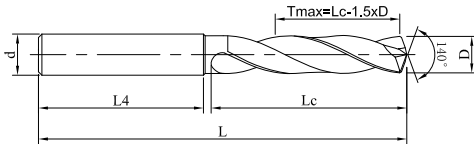
可转位浅孔钻 Indexable Drill

	工件材料 Workpiece Materials	材料硬度 Material Hardness (HB)	切削速度 Vc Recommended Cutting Speed (m/min)	进给 (mm/rev) * 参考钻头直径 * Feed (mm/rev) *Refer to Diameter Range *			
				Ø14.0 – 22.5	Ø23.0 – 27.0	Ø27.5 – 33.0	Ø33.5 – 51.0
P	低碳钢 Low Carbon Steel	80 – 170	(240) 160 – 300	0.04-0.06	0.04-0.06	0.04-0.08	0.04-0.08
	高碳钢 High Carbon Steel	170 – 250	(180) 140 – 220	0.04-0.10	0.04-0.12	0.06-0.16	0.08-0.18
	低合金钢 Low Alloy Steel	140 – 260	(180) 160– 250	0.04-0.10	0.06-0.12	0.08-0.16	0.08-0.18
	高合金钢 High Alloy Steel	180 – 300	(160) 140 – 200	0.04-0.10	0.06-0.12	0.08-0.16	0.08-0.18
	铸钢 Cast Steel	180 – 300	(160) 140 – 200	0.05-0.08	0.06-0.12	0.08-0.14	0.08-0.16
M	铁素体 / 马氏体 不锈钢 (Fer/Mar) Stainless Steel	150 – 270	(180) 140 – 250	0.04-0.10	0.06-0.12	0.06-0.14	0.06-0.16
	奥氏体 Austenitic	150 – 270	(180) 150– 250	0.04-0.10	0.06-0.12	0.06-0.14	0.06-0.16
K	可锻铸铁 Forged Cast Iron	150 – 230	(180) 120–220	0.04-0.10	0.06-0.14	0.06-0.16	0.08-0.20
	灰口铸铁 Gray Cast Iron	150 – 230	(200) 160–250	0.04-0.10	0.06-0.14	0.06-0.16	0.08-0.20
	球墨铸铁 Nodular Cast Iron	160 – 260	(180) 150–220	0.04-0.12	0.06-0.16	0.08-0.18	0.08-0.20
S	镍基 / 铁基 / 钴基 耐热合金 (Ni+/Fe+/Co+)HRSA	130 – 400	(50) 30–80	0.04-0.06	0.04-0.08	0.04-0.10	0.06-0.12
	Ti 基 + 耐热合金 (Ti+)HRSA	130 – 400	(50) 30–70	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.11
H	淬硬钢 Hardened Steel	400 –	(45) 30–60	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14



D938-A3N

普通钢加工3D外冷麻花钻
3D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A3N-0300	3.00	20	36	62	6	
D938-A3N-0330	3.30	20	36	62	6	M4
D938-A3N-0400	4.00	24	36	66	6	
D938-A3N-0420	4.20	24	36	66	6	M5
D938-A3N-0500	5.00	28	36	66	6	M6
D938-A3N-0600	6.00	28	36	66	6	
D938-A3N-0680	6.80	34	36	79	8	M8
D938-A3N-0700	7.00	34	36	79	8	M8×1
D938-A3N-0800	8.00	41	36	79	8	
D938-A3N-0850	8.50	47	40	89	10	M10
D938-A3N-0900	9.00	47	40	89	10	M10×1
D938-A3N-1000	10.00	47	40	89	10	
D938-A3N-1030	10.30	55	45	102	12	M12
D938-A3N-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

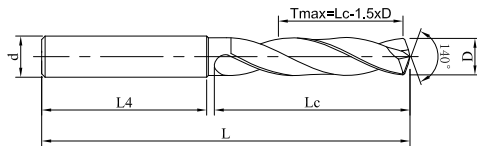
P		M		K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A3N

普通钢加工3D外冷麻花钻
3D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth



标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A3N-1100	11.00	55	45	102	12	
D938-A3N-1200	12.00	55	45	102	12	M14
D938-A3N-1250	12.50	60	45	107	14	M14×1.5
D938-A3N-1300	13.00	60	45	107	14	
D938-A3N-1400	14.00	60	45	107	14	M16
D938-A3N-1450	14.50	65	48	115	16	M16×1.5
D938-A3N-1500	15.00	65	48	115	16	
D938-A3N-1600	16.00	65	48	115	16	
D938-A3N-1700	17.00	73	48	123	18	
D938-A3N-1800	18.00	73	48	123	18	
D938-A3N-1900	19.00	79	50	131	20	
D938-A3N-2000	20.00	79	50	131	20	

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

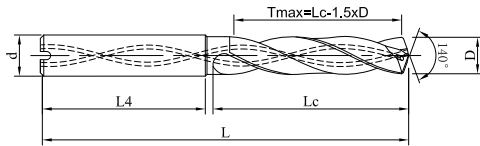
P			M	K		
1234	5	67	123	12	3	
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35-45HRC)	
◎	◎	○	○	○	○	

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A3C

普通钢加工3D内冷麻花钻
3D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A3C-0300	3.00	20	36	62	6	
D938-A3C-0330	3.30	20	36	62	6	M4
D938-A3C-0400	4.00	24	36	66	6	
D938-A3C-0420	4.20	24	36	66	6	M5
D938-A3C-0500	5.00	28	36	66	6	M6
D938-A3C-0600	6.00	28	36	66	6	
D938-A3C-0680	6.80	34	36	79	8	M8
D938-A3C-0700	7.00	34	36	79	8	M8×1
D938-A3C-0800	8.00	41	36	79	8	
D938-A3C-0850	8.50	47	40	89	10	M10
D938-A3C-0900	9.00	47	40	89	10	M10×1
D938-A3C-1000	10.00	47	40	89	10	
D938-A3C-1030	10.30	55	45	102	12	M12
D938-A3C-1050	10.50	55	45	102	12	M12×1.5

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

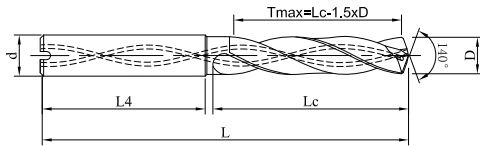
工件材料 Workpiece Material					
P		M		K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A3C

普通钢加工3D内冷麻花钻
3D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A3C-1100	11.00	55	45	102	12	
D938-A3C-1200	12.00	55	45	102	12	M14
D938-A3C-1250	12.50	60	45	107	14	M14×1.5
D938-A3C-1300	13.00	60	45	107	14	
D938-A3C-1400	14.00	60	45	107	14	M16
D938-A3C-1450	14.50	65	48	115	16	M16×1.5
D938-A3C-1500	15.00	65	48	115	16	
D938-A3C-1600	16.00	65	48	115	16	
D938-A3C-1700	17.00	73	48	123	18	
D938-A3C-1800	18.00	73	48	123	18	
D938-A3C-1900	19.00	79	50	131	20	
D938-A3C-2000	20.00	79	50	131	20	

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

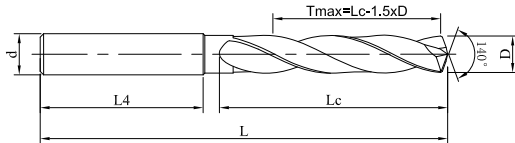
P			M	K		
1234	5	67	123	12	3	
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(48HRC以下)	PH与铁素体/马氏体不锈钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35-45HRC)	
◎	◎	○	○	○	○	

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A5N

普通钢加工5D麻花钻
5D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A5N-0300	3.00	28	36	66	6	
D938-A5N-0330	3.30	28	36	66	6	M4
D938-A5N-0400	4.00	36	36	74	6	
D938-A5N-0420	4.20	36	36	74	6	M5
D938-A5N-0500	5.00	44	36	82	6	M6
D938-A5N-0600	6.00	44	36	82	6	
D938-A5N-0680	6.80	53	36	91	8	M8
D938-A5N-0700	7.00	53	36	91	8	M8×1
D938-A5N-0800	8.00	53	36	91	8	
D938-A5N-0850	8.50	61	40	103	10	M10
D938-A5N-0900	9.00	61	40	103	10	M10×1
D938-A5N-1000	10.00	61	40	103	10	
D938-A5N-1030	10.30	71	45	118	12	M12
D938-A5N-1050	10.50	71	45	118	12	M12×1.5

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

P		M		K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(48HRC以下)	PH与铁素体/马氏体不锈钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35-45HRC)
◎	◎	○	○	○	○

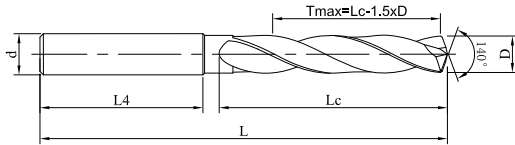
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A5N

普通钢加工5D麻花钻

5D External Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A5N-1100	11.00	71	45	118	12	
D938-A5N-1200	12.00	71	45	118	12	M14
D938-A5N-1250	12.50	77	45	124	14	M14×1.5
D938-A5N-1300	13.00	77	45	124	14	
D938-A5N-1400	14.00	77	45	124	14	M16
D938-A5N-1450	14.50	83	48	133	16	M16×1.5
D938-A5N-1500	15.00	83	48	133	16	
D938-A5N-1600	16.00	83	48	133	16	
D938-A5N-1700	17.00	93	48	143	18	
D938-A5N-1800	18.00	93	48	143	18	
D938-A5N-1900	19.00	101	50	153	20	
D938-A5N-2000	20.00	101	50	153	20	

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

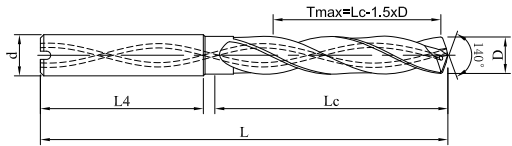
P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A5C

普通钢加工5D内冷麻花钻
5D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A5C-0300	3.00	28	36	66	6	
D938-A5C-0330	3.30	28	36	66	6	M4
D938-A5C-0400	4.00	36	36	74	6	
D938-A5C-0420	4.20	36	36	74	6	M5
D938-A5C-0500	5.00	44	36	82	6	M6
D938-A5C-0600	6.00	44	36	82	6	
D938-A5C-0680	6.80	53	36	91	8	M8
D938-A5C-0700	7.00	53	36	91	8	M8×1
D938-A5C-0800	8.00	53	36	91	8	
D938-A5C-0850	8.50	61	40	103	10	M10
D938-A5C-0900	9.00	61	40	103	10	M10×1
D938-A5C-1000	10.00	61	40	103	10	
D938-A5C-1030	10.30	71	45	118	12	M12

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

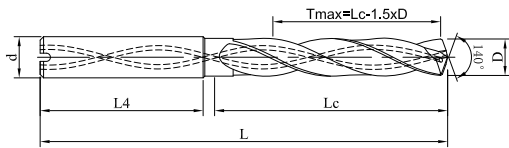
工件材料 Workpiece Material					
P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A5C

普通钢加工5D内冷麻花钻
5D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A5C-1050	10.50	71	45	118	12	M12×1.5
D938-A5C-1100	11.00	71	45	118	12	
D938-A5C-1200	12.00	71	45	118	12	M14
D938-A5C-1250	12.50	77	45	124	14	M14×1.5
D938-A5C-1300	13.00	77	45	124	14	
D938-A5C-1400	14.00	77	45	124	14	M16
D938-A5C-1450	14.50	83	48	133	16	M16×1.5
D938-A5C-1500	15.00	83	48	133	16	
D938-A5C-1600	16.00	83	48	133	16	
D938-A5C-1700	17.00	93	48	143	18	
D938-A5C-1800	18.00	93	48	143	18	
D938-A5C-1900	19.00	101	50	153	20	
D938-A5C-2000	20.00	101	50	153	20	

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

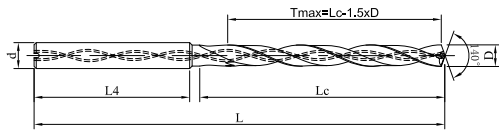
P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A8C

普通钢加工8D内冷麻花钻
8D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A8C-0300	3	34	36	72	6	
D938-A8C-0330	3.3	34	36	72	6	M4
D938-A8C-0400	4	43	36	81	6	
D938-A8C-0420	4.2	43	36	81	6	M5
D938-A8C-0500	5	57	36	95	6	M6
D938-A8C-0600	6	57	36	95	6	
D938-A8C-0680	6.8	76	36	114	8	M8
D938-A8C-0690	6.9	76	36	114	8	
D938-A8C-0700	7	76	36	114	8	M8×1
D938-A8C-0800	8	76	36	114	8	
D938-A8C-0850	8.5	95	40	142	10	M10
D938-A8C-0900	9	95	40	142	10	M10×1

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

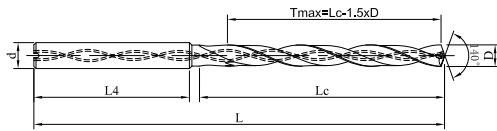
P		M	K		
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron (35-45HRC)
◎	◎	○	○	○	○

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A8C

普通钢加工8D内冷麻花钻
8D Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(m7)	Lc	L4	L	d(h6)	螺纹尺寸 Screw Thread Dim
D938-A8C-1000	10	95	40	142	10	
D938-A8C-1030	10.3	114	45	162	12	M12
D938-A8C-1050	10.5	114	45	162	12	M12×1.5
D938-A8C-1080	10.8	114	45	162	12	
D938-A8C-1100	11	114	45	162	12	
D938-A8C-1200	12	114	45	162	12	M14
D938-A8C-1250	12.5	133	45	182	14	M14×1.5
D938-A8C-1300	13	133	45	182	14	
D938-A8C-1400	14	133	45	182	14	M16
D938-A8C-1450	14.5	152	48	203	16	M16×1.5
D938-A8C-1500	15	152	48	203	16	
D938-A8C-1600	16	152	48	203	16	

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

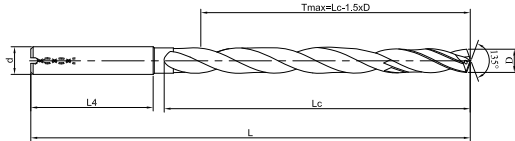
P			M	K		
1234	5	67	123	12	3	
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (<35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel(48HRC以下)	PH与铁素体/马氏体不锈钢(< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35-45HRC)	
⊙	⊙	○	○	○	○	

⊙最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A12C

普通钢加工12D深孔内冷麻花钻
12D Deep-hole Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(h7)	Lc	L4	L	d(h6)
D938-A12C-0300	3	54	36	92	6
D938-A12C-0350	3.5	54	36	92	6
D938-A12C-0400	4	64	36	102	6
D938-A12C-0450	4.5	64	36	102	6
D938-A12C-0500	5	83	36	121	6
D938-A12C-0550	5.5	83	36	121	6
D938-A12C-0600	6	83	36	121	6
D938-A12C-0620	6.2	110	36	148	8
D938-A12C-0650	6.5	110	36	148	8

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

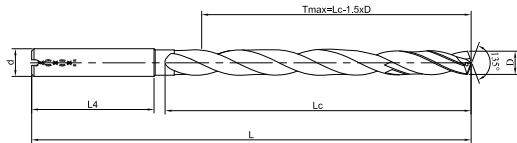
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A12C

普通钢加工12D深孔内冷麻花钻

12D Deep-hole Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(h7)	Lc	L4	L	d(h6)
D938-A12C-0700	7	110	36	148	8
D938-A12C-0750	7.5	110	36	148	8
D938-A12C-0800	8	110	36	148	8
D938-A12C-0830	8.3	138	40	180	10
D938-A12C-0850	8.5	138	40	180	10
D938-A12C-0900	9	138	40	180	10
D938-A12C-0950	9.5	138	40	180	10
D938-A12C-1000	10	138	40	180	10
D938-A12C-1100	11	158	45	206	12
D938-A12C-1200	12	158	45	206	12

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

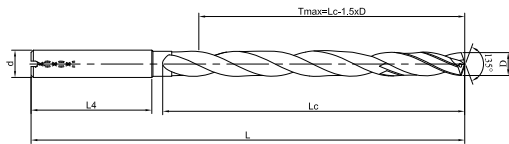
◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A15C

普通钢加工15D深孔内冷麻花钻

15D Deep-hole Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(h7)	Lc	L4	L	d(h6)
D938-A15C-0300	3	55	36	95	6
D938-A15C-0350	3.5	76	36	116	6
D938-A15C-0400	4	76	36	116	6
D938-A15C-0450	4.5	93	36	133	6
D938-A15C-0500	5	93	36	133	6
D938-A15C-0550	5.5	110	36	150	6
D938-A15C-0600	6	110	36	150	6
D938-A15C-0620	6.2	127	36	167	8
D938-A15C-0650	6.5	127	36	167	8

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

P		M	K		
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
◎	◎	○	○	○	○

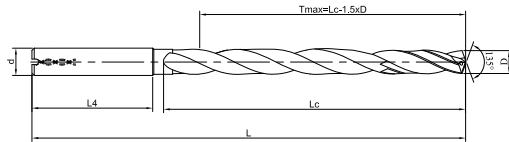
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

D938-A15C

普通钢加工15D深孔内冷麻花钻

15D Deep-hole Inner Cooling Twist Drills For Steel



Tmax-最大推荐钻深 Recommended Maximum Depth

标记说明请参考P380页 See page 380 for guidelines to icons

订货号 Ordering Code	D(h7)	Lc	L4	L	d(h6)
D938-A15C-0700	7	127	36	167	8
D938-A15C-0750	7.5	143	36	183	8
D938-A15C-0800	8	143	36	183	8
D938-A15C-0830	8.3	160	40	204	10
D938-A15C-0850	8.5	160	40	204	10
D938-A15C-0900	9	160	40	204	10
D938-A15C-0950	9.5	177	40	221	10
D938-A15C-1000	10	177	40	221	10
D938-A15C-1100	11	198	45	247	12
D938-A15C-1200	12	214	45	263	12

尺寸范围 Nominal Size Range	D(m7)	D(h7)	d(h6)
≥2—3	+0.002/+0.012	/	0.000/-0.006
> 3—6	+0.004/+0.016	0.000/-0.012	0.000/-0.008
> 6—10	+0.006/+0.021	0.000/-0.015	0.000/-0.009
> 10—18	+0.007/+0.025	0.000/-0.018	0.000/-0.011
> 18—20	+0.008/+0.029	0.000/-0.021	0.000/-0.013

单位unit(mm)

工件材料 Workpiece Material

P			M	K	
1234	5	67	123	12	3
碳钢、合金钢 (< 35HRC) Carbon Steel, Alloy Steel (< 35 HRC)	合金钢 (48HRC以下) Alloy Steel, Tool Steel (48HRC以下)	PH与铁素体/马氏体不锈 钢 (< 48HRC) PH, Ferritic, Martensitic Stainless Steel (< 48HRC)	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron (< 32HRC)	高合金铸铁(35-45HRC) High-alloy Cast Iron(35- 45HRC)
⊙	⊙	○	○	○	○

⊙ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P416
Cutting Parameters

推荐切削参数 Recommended Cutting Data

D938普通钢加工麻花钻 D938 Series Twist Drills For Steel

工件材料 Workpiec Material	切削速度 Cutting Speed Vc (m/min)	进给量 Feed fn (mm/rev)									
		4	6	8	10	12	14	16	18	20	
P	碳钢、合金钢(< 35HRC) Steel, Alloy Steel (< 35HRC)	140	0.09	0.12	0.14	0.14	0.15	0.18	0.18	0.20	0.20
		100	0.13	0.17	0.20	0.20	0.23	0.25	0.25	0.30	0.30
		60	0.16	0.23	0.28	0.30	0.34	0.38	0.38	0.40	0.40
	合金钢、工具钢(35-48HRC) Alloy Steel, Tool Steel (35-48HRC)	100	0.08	0.08	0.09	0.09	0.11	0.12	0.12	0.14	0.14
		80	0.11	0.14	0.16	0.16	0.19	0.22	0.22	0.24	0.24
		60	0.14	0.20	0.25	0.28	0.30	0.32	0.32	0.34	0.34
	PH与铁素体、马氏体不锈钢 (< 48HRC) PH,Ferritic,Martensitic Stainless Steel(< 48HRC)	80	0.04	0.06	0.08	0.08	0.10	0.12	0.12	0.14	0.14
		60	0.06	0.10	0.13	0.16	0.18	0.20	0.20	0.24	0.24
		40	0.08	0.14	0.18	0.22	0.28	0.30	0.30	0.32	0.32
M	不锈钢 Stainless Steel	60	0.04	0.06	0.06	0.08	0.08	0.10	0.10	0.10	0.12
		50	0.08	0.10	0.10	0.12	0.12	0.14	0.14	0.14	0.16
		40	0.10	0.12	0.14	0.16	0.16	0.18	0.18	0.20	0.22
K	灰铸铁、球墨铸铁 (< 32HRC) Grey Cast Iron, Nodular Cast Iron(< 32HRC)	140	0.13	0.15	0.17	0.20	0.22	0.24	0.25	0.28	0.30
		100	0.17	0.20	0.25	0.28	0.30	0.33	0.35	0.38	0.40
		60	0.20	0.25	0.32	0.36	0.42	0.45	0.48	0.48	0.50
	高合金铸铁 (35-45HRC) High-alloy Cast Iron(35- 45HRC)	100	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.23
		80	0.10	0.13	0.16	0.20	0.22	0.24	0.26	0.28	0.28
		60	0.13	0.16	0.20	0.26	0.28	0.30	0.32	0.34	0.35

【注意】

1. 请使用刚性较高的机床，建议采用液压刀柄、热胀刀柄、带弹簧夹头的强力刀柄
2. 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
3. 此标准切削条件表适用于水溶性切削液
4. 对于表中没有的刀具刀径规格，请参照表中最接近的刀径规格选择切削参数，同时加工时请根据实际加工情况适当调整切削参数

【Note】

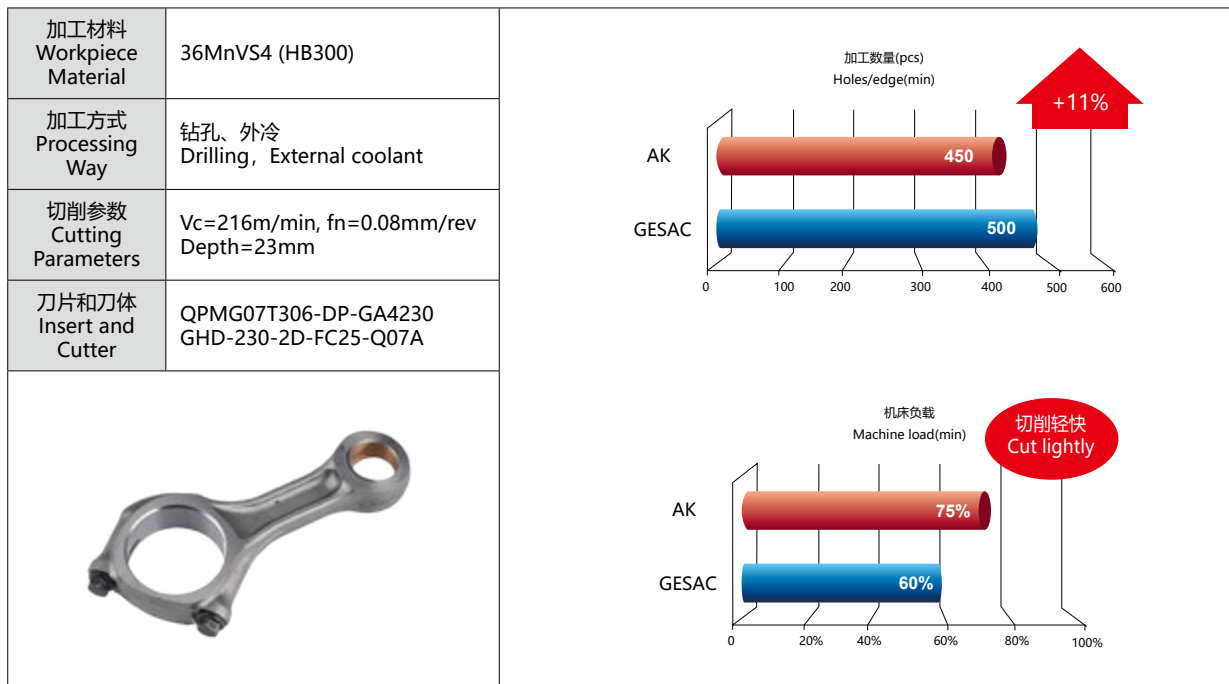
1. Make sure work piece and machine are stable and use a precision holder, Use hydraulic chucks, high quality collet chucks.
2. Make sure total indicated run-out(TIR) is less than 0.02mm.
3. The Recommended Cutting condition is suitable for apply water soluble.
4. If the tool size is not in the table, Please refer to the table closest to the blade diameter size selection of cutting parameters, adjust cutting parameters according to actual working conditions during processing.

加工案例 Application Case

阀体
Valve



汽车连杆
Connecting Rod





TOOLING SYSTEM
工具系统

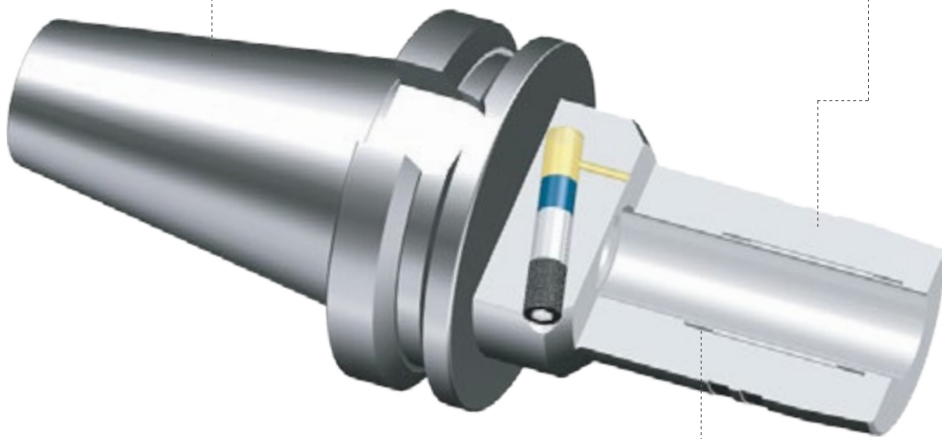
D

GHP 液压刀柄

GHP Hydraulic Chuck

AT3 级别 7:24 锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24 ≤ AT3, cryogenic treatment reduces deformation to maintain the precision of the handle.

厚实与超细长刀体两种设计，应对不同加工环境，具有良好的减震及避让功能。
The two designs of thick and thin blade are designed to cope with different processing environment, and have goods shock absorption and avoidance.



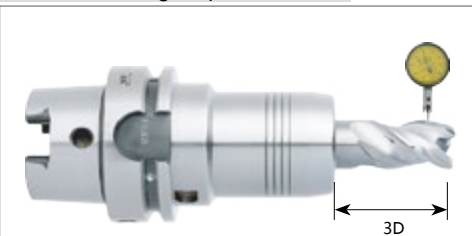
操作简单 / Simplicity of operator



操作简单，仅需一支T型扳手就可以完成刀具的装夹。
Simple operation, only a T-wrench can complete the installation and disassembly of the tool.

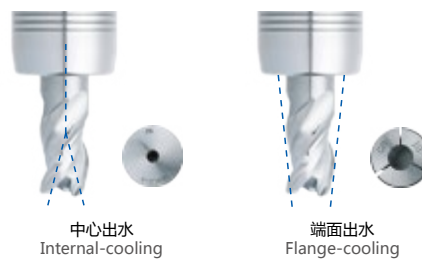
刀体与内衬套一体化，比使用普通密封圈的分体结构更加稳定，刚性及耐用度更高。
The integral of the chuck and the inner liner is more stable and rigid than the separation of the normal sealing ring.

3um 精度高 / Higher precision



3D 处刀具径向跳动 3um 以下，大幅度提高表面光洁度和刀具寿命。刀体动平衡：G2.5; 20000rpm，最高转速：30000 rpm。
Runout(X3D) ≤ 3um, increase surface-finish quality significantly and tool life, balanced: G2.5; 20000 rpm, Max: 30000 rpm.

出水方式 / Cooling



使用不同类型筒夹可以实现中心出水和端面出水的冷却方式。
You can quickly switch internal-cooling and flange-cooling by change collets.

GSK高速精密筒夹刀柄

GSK High Precision Chuck

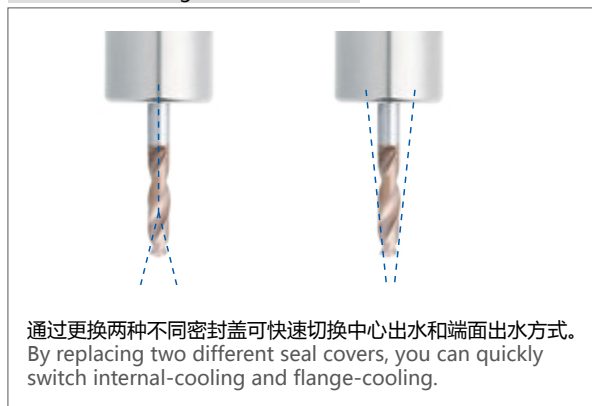


无槽螺帽设计，提高整体平衡性，高转速下静音可靠，防止切削液飞溅。
Notch-free design, prevent vibration, reduce noise splattering coolant, assure increased strength of nut itself.

广泛应用于模具、飞机汽车零部件等高速精密加工。
It is widely used in mould, aircraft parts and other high speed precision processing industry.

AT3级别7:24锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24≤AT3, cryogenic treatment reduces deformation to maintain the precision of the handle.

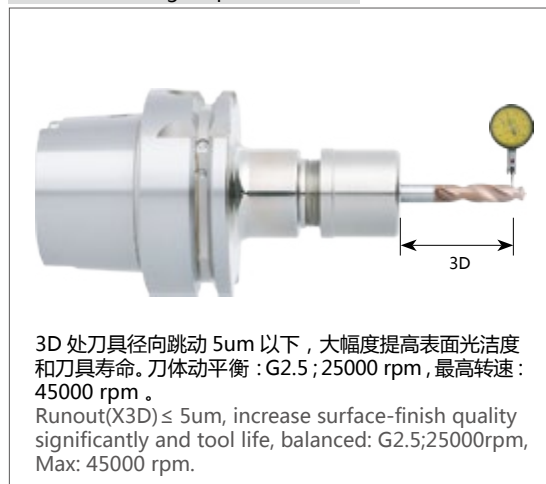
出水方式 / Cooling



加持力大 / Higher clamping force



5um 精度高 / Higher precision



GSK高速精密筒夹刀柄

GSK High Precision Chuck

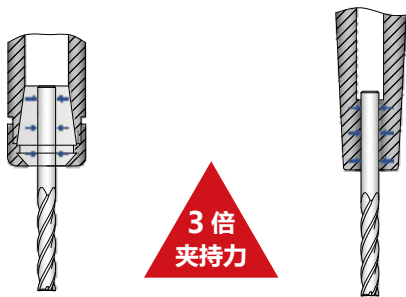


3D 处刀具径向跳动 3um 以下，大幅度提高表面光洁度和刀具寿命。刀体动平衡：G2.5;25000 rpm，最高转速：50000 rpm。
Runout(x3D) ≤ 3um, increase surface-finish quality significantly and tool life, balanced: G2.5;25000 rpm, Max: 50000 rpm.

广泛应用于模具、飞机汽车零部件等高速精密加工。
It is widely used in mould, aircraft parts and other high speed precision processing industry.

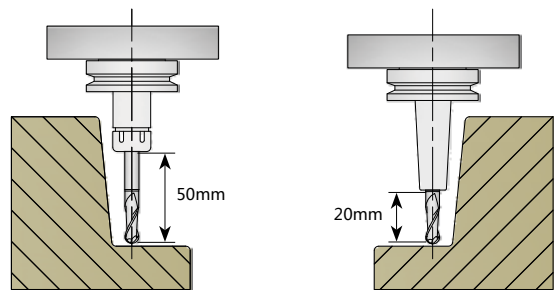
AT3级别7:24锥度，经过深冷工艺处理，能有效防止变形，保持刀柄精度。
7:24 ≤ AT3, cryogenic treatment reduces deformation to maintain the precision of the handle.

夹持力强 / Higher clamping force



刀柄与刀具一体的结构使夹持力更均匀更强劲。
The integrated structure of the handle and cutter brings a strong and uniform clamping force.

适合深腔加工 / Suitable for deep cavity processing



细长结构有利于避让，适用于深腔加工。
The slender structure is good for avoiding and suitable for deep cavity processing.

适用刀具 / Applicable tools



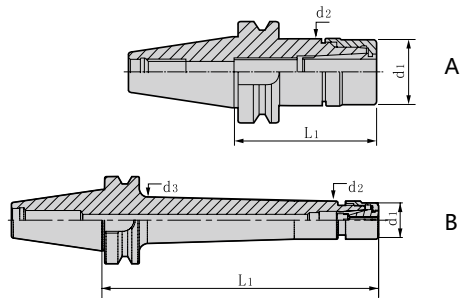
硬质合金刀具
Cemented Carbide Tools



高速钢刀具
High-speed Steel Tools

BT-GSK高速精密筒夹刀柄

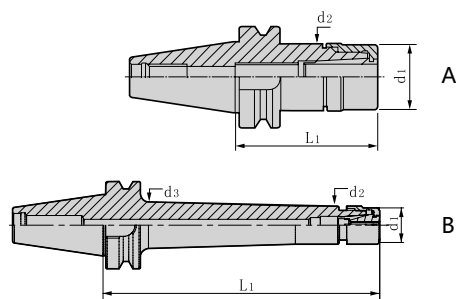
BT-GSK High Precision Chuck



订货号 Ordering Code	图示 Figure	尺寸 Dimension (mm)				适用筒夹 Suit collet	重量 Weight (kg)	
		d1	d2	d3	L1			
BT30-	GSK6-70	A	19.5	20	-	70	DSK6	0.45
	GSK6-100	A	19.5	20	-	100	DSK6	0.64
	GSK10-70	A	27	27.5	-	70	DSK10	0.46
	GSK10-100	A	27	27.5	-	100	DSK10	0.70
	GSK16-70	A	40	40.5	-	70	DSK16	0.70
	GSK16-100	A	40	40.5	-	100	DSK16	1.00
	GSK16-120	A	40	40.5	-	120	DSK16	1.25
	GSK16-150	A	40	40.5	-	150	DSK16	1.35
	GSK20-70	A	48	48.5	-	70	DSK20	0.75
	GSK20-100	A	48	48.5	-	100	DSK20	1.15
GSK25-100	A	55	55	-	100	DSK25	1.20	
BT40-	GSK6-70	A	19.5	20	-	70	DSK6	1.05
	GSK6-100	A	19.5	20	-	100	DSK6	1.25
	GSK6-120	A	19.5	20	-	120	DSK6	1.39
	GSK6-150L	B	19.5	20	26.4	150	DSK6	1.55
	GSK10-70	A	27	27.5	-	70	DSK10	1.10
	GSK10-100	A	27	27.5	-	100	DSK10	1.30
	GSK10-120	A	27	27.5	-	120	DSK10	1.42
	GSK10-150	A	27	27.5	-	150	DSK10	1.55
	GSK10-200L	B	27	27.5	33.7	200	DSK10	1.85
	GSK16-70	A	40	40.5	-	70	DSK16	1.21
	GSK16-100	A	40	40.5	-	100	DSK16	1.42
	GSK16-120	A	40	40.5	-	120	DSK16	1.61
	GSK16-150	A	40	40.5	-	150	DSK16	1.80
	GSK16-200L	B	40	40.5	45.7	200	DSK16	1.95
	GSK20-70	A	48	48.5	-	70	DSK20	1.52
	GSK20-100	A	48	48.5	-	100	DSK20	1.68
	GSK20-120	A	48	48.5	-	120	DSK20	1.90
	GSK20-150	A	48	48.5	-	150	DSK20	2.10
GSK20-200L	B	48	48.5	55.7	200	DSK20	2.30	
GSK25-100	A	55	55	-	100	DSK25	1.81	

BT-GSK高速精密筒夹刀柄

BT-GSK High Precision Chuck



订货号 Ordering Code	图示 Figure	尺寸 Dimension (mm)				适用筒夹 Suit collet	重量 Weight (kg)	
		d1	d2	d3	L1			
BT40-	GSK25-120	A	55	55	-	120	DSK25	2.05
	GSK25-150	A	55	55	-	150	DSK25	2.30
	GSK25-200L	B	55	55	59.9	200	DSK25	2.65
BT50-	GSK10-105	A	27	27.5	-	105	DSK10	3.78
	GSK10-135	A	27	27.5	-	135	DSK10	4.00
	GSK10-165	A	27	27.5	-	165	DSK10	4.33
	GSK10-200L	B	27	27.5	35.2	200	DSK10	4.75
	GSK16-100	A	40	40.5	-	100	DSK16	3.93
	GSK16-125	A	40	40.5	-	125	DSK16	4.17
	GSK16-150	A	40	40.5	-	150	DSK16	4.49
	GSK16-200L	B	40	40.5	48.4	200	DSK16	5.50
	GSK16-250L	B	40	40.5	48.4	250	DSK16	6.50
	GSK20-100	A	48	48.5	-	100	DSK20	4.10
	GSK20-125	A	48	48.5	-	125	DSK20	4.32
	GSK20-150	A	48	48.5	-	150	DSK20	4.65
	GSK20-200	A	48	48.5	-	200	DSK20	5.75
	GSK20-250L	B	48	48.5	55.4	250	DSK20	6.78
	GSK20-300L	B	48	48.5	55.4	300	DSK20	7.80
	GSK25-100	A	55	55	-	100	DSK25	4.10
	GSK25-125	A	55	55	-	125	DSK25	4.62
	GSK25-150	A	55	55	-	150	DSK25	5.10
GSK25-200	A	55	55	-	200	DSK25	5.81	
GSK25-250L	B	55	55	61.4	250	DSK25	6.85	
GSK25-300L	B	55	55	61.4	300	DSK25	8.00	

注：筒夹与扳手需单独另购，可选配中心出水螺帽与端面出水螺帽

Notice: Collets and wrenches shall be orderer separately, internal-cooling nuts and flange-cooling nuts see appendix for details.

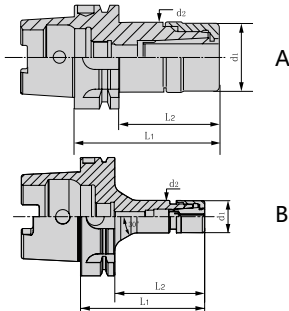
特点 / Feature

■动平衡设定: G2.5; 25,000 rpm. ■Balanced: G2.5; 25,000 rpm.

■3D处径向跳动0.005mm以下. ■Runout (X3D) ≤ 0.005mm.

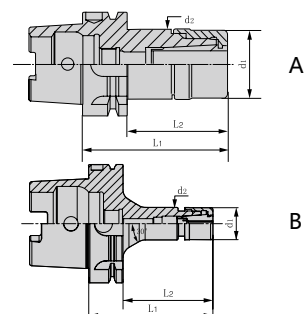
HSK-A-GSK高速精密筒夹刀柄

HSK-A-GSK High Precision Chuck



订货号 Ordering Code	图示 Figure	尺寸 Dimension (mm)				适用筒夹 Suit collet	重量 Weight (kg)	
		d1	d2	d3	L1			
HSK40A-	GSK6-60	A	19.5	20	60	40	DSK6	0.47
	GSK10-75	A	27	27.5	75	55	DSK10	0.5
HSK50A-	GSK6-60	A	19.5	20	60	34	DSK6	0.60
	GSK6-80	A	19.5	20	80	54	DSK6	0.80
	GSK10-75	A	27	27.5	75	49	DSK10	1.00
	GSK10-100	A	27	27.5	100	74	DSK10	1.20
	GSK16-80	A	40	40.5	80	54	DSK16	1.75
	GSK16-100	A	40	40.5	100	74	DSK16	2.00
	GSK20-100	A	48	48.5	100	74	DSK20	2.10
HSK63A-	GSK6-80P	A	19.5	20	80	54	DSK6	0.85
	GSK6-100	A	19.5	20	100	74	DSK6	0.95
	GSK10-75	A	27	27.5	75	49	DSK10	1.00
	GSK10-100	A	27	27.5	100	74	DSK10	1.40
	GSK16-80	A	40	40.5	80	54	DSK16	2.00
	GSK16-100	A	40	40.5	100	74	DSK16	2.30
	GSK16-120	A	40	40.5	120	94	DSK16	2.50
	GSK20-100	A	48	48.5	100	74	DSK20	2.45
	GSK20-120	A	48	48.5	120	94	DSK20	2.65
	GSK25-100	A	55	55	100	74	DSK25	2.30
	GSK25-120	A	55	55	120	94	DSK25	2.70

HSK-A-GSK高速精密筒夹刀柄 HSK-A-GSK High Precision Chuck



订货号 Ordering Code	图示 Figure	尺寸 Dimension (mm)				适用筒夹 Suit collet	重量 Weight (kg)	
		d1	d2	d3	L1			
HSK100A-	GSK10-105	B	27	27.5	105	76	DSK10	2.60
	GSK10-135	B	27	27.5	135	106	DSK10	2.80
	GSK16-105	A	40	40.5	105	76	DSK16	2.80
	GSK16-135	A	40	40.5	135	106	DSK16	3.10
	GSK20-120	A	48	48.5	120	91	DSK20	3.00
	GSK20-150	A	48	48.5	150	121	DSK20	3.30
	GSK25-120	A	55	55	120	91	DSK25	3.20
	GSK25-150	A	55	55	150	121	DSK25	3.50

注：筒夹与扳手需单独另购，可选配中心出水螺帽与端面出水螺帽

Notice: Collets and wrenches shall be orderer separately, internal-cooling nuts and flange-cooling nuts see appendix for details.

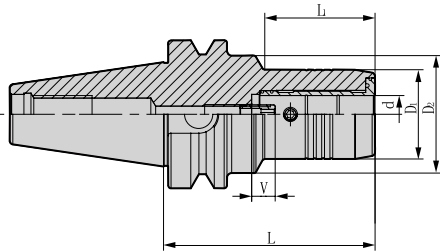
特点 / Feature

■动平衡设定: G2.5; 25,000 rpm。 ■Balanced: G2.5; 25,000 rpm.

■3D处径向跳动0.005mm以下。 ■Runout (X3D) ≤ 0.005mm.

BT-GHP 液压刀柄

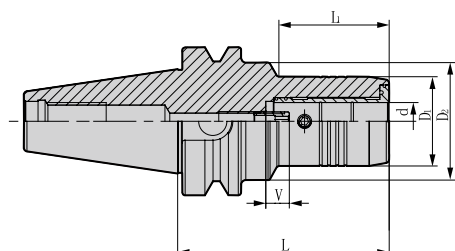
BT-GHP Hydraulic Chuck



订货号 Ordering Code	尺寸 Dimension (mm)							适用筒夹 Suit collet	扳手 Wrench	重量 Weight (kg)	
	d	D1	D2	L	H	V	L1				
BT30-	GHP6-70	6	28	45	70	27.5	10	28	-	TH04T	0.68
	GHP8-70	8	30	45	70	27.5	10	28	-	TH04T	0.71
	GHP10-75	10	32	45	75	32.5	10	38	-	TH04T	0.73
	GHP12-75	12	34	45	75	37.5	10	36	D12/OD12	TH04T	0.78
	GHP14-85	14	36	45	85	37.5	10	44	-	TH04T	0.83
	GHP16-90	16	38	45	90	42.5	10	48	-	TH04T	0.92
	GHP18-90	18	41	45	90	42.5	10	48	-	TH04T	0.95
	GHP20-90	20	43	-	90	42.5	10	-	D20/OD20	TH04T	0.98
BT40-	GHP6-65	6	28	50	65	27.5	10	23	-	TH04T	1.26
	GHP6-90	6	28	50	90	27.5	10	44	-	TH04T	1.42
	GHP6-140	6	28	50	140	27.5	10	44	-	TH04T	2.16
	GHP8-65	8	30	50	65	27.5	10	23	-	TH04T	1.26
	GHP8-90	8	30	50	90	27.5	10	39	-	TH04T	1.43
	GHP8-140	8	30	50	140	27.5	10	44	-	TH04T	2.2
	GHP10-65	10	32	50	65	32.5	10	23	-	TH04T	1.26
	GHP10-90	10	32	50	90	32.5	10	44	-	TH04T	1.45
	GHP10-140	10	32	50	140	32.5	10	44	-	TH04T	2.4
	GHP12-65	12	34	50	65	37.5	10	23	D12/OD12	TH04T	1.26
	GHP12-90	12	34	50	90	37.5	10	44	D12/OD12	TH04T	1.46
	GHP12-140	12	34	50	140	37.5	10	44	D12/OD12	TH04T	2.6
	GHP14-65	14	36	50	65	37.5	10	23	-	TH04T	1.26
	GHP14-90	14	36	50	90	37.5	10	44	-	TH04T	1.48
	GHP14-140	14	36	50	140	37.5	10	44	-	TH04T	2.8
	GHP16-65	16	38	50	65	42.5	10	23	-	TH04T	1.27
	GHP16-90	16	38	50	90	42.5	10	48	-	TH04T	1.5
	GHP16-140	16	38	50	140	42.5	10	48	-	TH04T	2.8
	GHP18-75	18	41	50	75	42.5	10	30	-	TH04T	1.35
	GHP18-90	18	41	50	90	42.5	10	48	-	TH04T	1.53
GHP18-140	18	41	50	140	42.5	10	48	-	TH04T	2.85	
GHP19-75	19	43	50	75	101	10	30	-	TH04T	1.38	
GHP20-75	20	43	50	75	42.5	10	30	D20/OD20	TH04T	1.4	

BT-GHP 液压刀柄

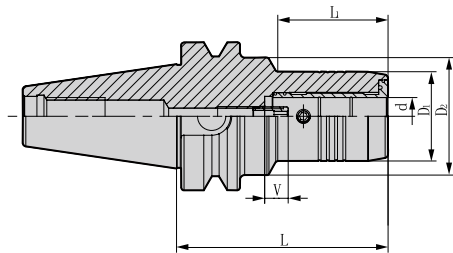
BT-GHP Hydraulic Chuck



订货号 Ordering Code	尺寸 Dimension (mm)							适用筒夹 Suit collet	扳手 Wrench	重量 Weight (kg)	
	d	D1	D2	L	H	V	L1				
BT40-	GHP20-90	20	43	50	90	42.5	10	48	D20/OD20	TH04T	1.56
	GHP20-140	20	43	50	140	42.5	10	48	D20/OD20	TH04T	2.89
	GHP25-100	25	57	-	100	51	10	73	-	TH05T	2.05
	GHP25-135	25	57	-	135	51	10	108	-	TH05T	2.75
	GHP32-105	32	63	-	100	55	10	-	D32/OD32	TH05T	2.28
	GHP32-135	32	63	-	135	55	10	-	D32/OD32	TH05T	2.95
BT50-	GHP6-90	6	28	50	90	27.5	10	23	-	TH04T	4.03
	GHP6-120	6	28	50	120	27.5	10	44	-	TH04T	4.35
	GHP6-140	6	28	50	140	27.5	10	44	-	TH04T	4.65
	GHP8-90	8	30	50	90	27.5	10	23	-	TH04T	4.05
	GHP8-120	8	30	50	120	27.5	10	40	-	TH04T	4.42
	GHP8-140	8	30	50	140	27.5	10	44	-	TH04T	4.68
	GHP10-90	10	32	50	90	32.5	10	23	-	TH04T	4.06
	GHP10-120	10	32	50	120	32.5	10	44	-	TH04T	4.41
	GHP10-140	10	32	50	140	32.5	10	44	-	TH04T	4.71
	GHP12-90	12	34	50	90	37.5	10	23	D12/OD12	TH04T	4.07
	GHP12-120	12	34	50	120	37.5	10	44	D12/OD12	TH04T	4.43
	GHP12-140	12	34	50	140	37.5	10	44	D12/OD12	TH04T	4.73
	GHP14-90	14	36	50	90	37.5	10	23	-	TH04T	4.07
	GHP14-120	14	36	50	120	37.5	10	44	-	TH04T	4.43
	GHP14-140	14	36	50	140	37.5	10	44	-	TH04T	4.72
	GHP16-90	16	38	50	90	42.5	10	23	-	TH04T	4.08
	GHP16-120	16	38	50	120	42.5	10	48	-	TH04T	4.43
	GHP16-140	16	38	50	140	42.5	10	48	-	TH04T	4.73
	GHP18-90	18	41	50	90	42.5	10	32	-	TH04T	4.1
	GHP18-120	18	41	50	120	42.5	10	48	-	TH04T	4.47
GHP18-140	18	41	50	140	42.5	10	48	-	TH04T	4.75	
GHP20-90	20	43	50	90	42.5	10	32	D20/OD20	TH04T	4.11	
GHP20-120	20	43	50	120	42.5	10	48	D20/OD20	TH04T	4.5	
GHP20-140	20	43	50	140	42.5	10	48	D20/OD20	TH04T	4.79	

BT-GHP 液压刀柄

BT-GHP Hydraulic Chuck



订货号 Ordering Code	尺寸 Dimension (mm)							适用筒夹 Suit collet	扳手 Wrench	重量 Weight (kg)	
	d	D1	D2	L	H	V	L1				
BT50-	GHP25-105	25	57	-	105	51	10	67	-	TH05T	4.6
	GHP25-150	25	57	-	150	51	10	112	-	TH05T	5.4
	GHP32-115	32	63	-	115	55	10	77	D32/OD32	TH05T	4.85
	GHP32-150	32	63	-	150	55	10	112	D32/OD32	TH05T	5.67

注：报价时含扳手，筒夹需单独订购。

Notice: Wrench is included, while collet shall be ordered separately.

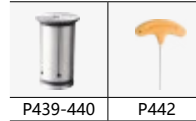
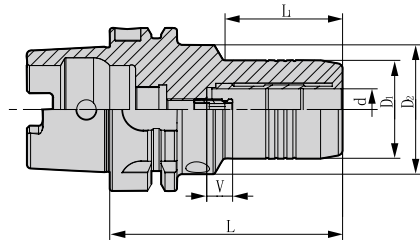
特点 / Feature

■动平衡设定: G2.5; 20000 rpm. ■Balanced: G2.5; 20000 rpm.

■3D处径向跳动0.003mm以下。■Runout (X3D)≤0.003mm.

HSK-A-GHP 液压刀柄

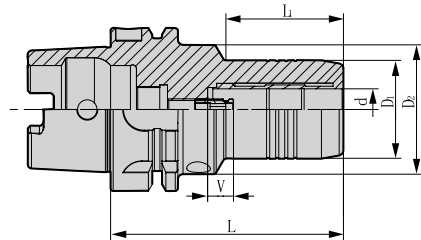
HSK-A-GHP Hydraulic Chuck



订货号 Ordering Code	尺寸 Dimension (mm)								适用筒夹 Suit collet	扳手 Wrench	重量 Weight (kg)
	d	D1	D2	L	H	V	L1				
HSK40A-	GHP6-70	6	28	34	27.5	10	28	70	-	TH04T	0.55
	GHP8-70	8	30	34	27.5	10	28	70	-	TH04T	0.56
	GHP10-75	10	32	34	32.5	10	34	75	-	TH04T	0.61
	GHP12-85	12	34	34	37.5	10	-	85	D12/OD12	TH04T	0.68
HSK50A-	GHP6-70	6	28	40	27.5	10	28	70	-	TH04T	0.74
	GHP8-70	8	30	40	27.5	10	28	70	-	TH04T	0.75
	GHP10-75	10	32	40	32.5	10	34	75	-	TH04T	0.82
	GHP12-85	12	34	40	37.5	10	44	85	D12/OD12	TH04T	0.87
	GHP14-85	14	36	40	37.5	10	44	85	-	TH04T	0.90
	GHP16-90	16	38	60	42.5	10	30	90	-	TH04T	0.94
	GHP18-90	18	41	-	42.5	10	-	90	-	TH04T	0.96
	GHP20-90	20	42	-	42.5	10	-	90	D20/OD20	TH04T	0.99
HSK63A-	GHP6-70	6	28	50	27.5	10	24	70	--	TH04T	1.01
	GHP8-70	8	30	50	27.5	10	24	70	-	TH04T	1.02
	GHP10-80	10	32	50	32.5	10	35	80	-	TH04T	1.08
	GHP12-85	12	34	50	37.5	10	40	85	D12/OD12	TH04T	1.13
	GHP14-85	14	36	50	37.5	10	40	85	-	TH04T	1.17
	GHP16-90	16	38	50	42.5	10	46	90	-	TH04T	1.21
	GHP18-90	18	41	50	42.5	10	47	90	-	TH04T	1.22
	GHP20-90	20	43	50	42.5	10	48	90	D20/OD20	TH04T	1.25
	GHP25-120	25	57	63	51	10	59	120	-	TH05T	2.17
GHP32-125	32	63	75	55	10	63	125	D32/OD32	TH05T	2.54	

HSK-A-GHP 液压刀柄

HSK-A-GHP Hydraulic Chuck

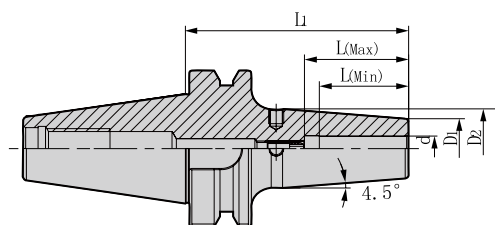


订货号 Ordering Code	尺寸 Dimension (mm)							适用筒夹 Suit collet	扳手 Wrench	重量 Weight (kg)	
	d	D1	D2	L	H	V	L1				
HSK100A-	GHP6-75	6	28	54	27.5	10	26	75	-	TH04T	2.4
	GHP8-75	8	30	54	27.5	10	26	75	-	TH04T	2.41
	GHP10-90	10	32	50	32.5	10	42	90	-	TH04T	2.48
	GHP12-95	12	34	50	37.5	10	47	95	D12/OD12	TH04T	2.53
	GHP14-95	14	36	50	37.5	10	47	95	-	TH04T	2.58
	GHP16-100	16	38	50	42.5	10	53	100	-	TH04T	2.61
	GHP18-100	18	41	50	42.5	10	53	100	-	TH04T	2.66
	GHP20-105	20	43	50	42.5	10	59	105	D20/OD20	TH04T	2.75
	GHP25-120	25	57	63	51	10	62	120	-	TH05T	3.39
GHP32-125	32	63	75	55	10	62	125	D32/OD32	TH05T	3.66	

注：报价时含扳手，筒夹需单独订购。
 Notice: Wrench is included, while collet shall be ordered separately.
 特点 / Feature
 ■动平衡设定: G2.5; 20000 rpm。 ■Balanced: G2.5; 20000 rpm.
 ■3D处径向跳动0.003mm以下。 ■Runout (X3D)≤0.003mm.

BT-SF热缩刀柄

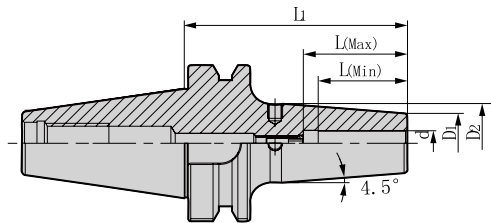
BT-SF Shrink Fit Holder



订货号 Ordering Code	尺寸 Dimension (mm)						重量 Weight (kg)	
	d	D1	D2	L1	L(Max)	L(Min)		
BT30-	SF3-80	3	10	10	80	-	9	0.35
	SF4-80	4	10	10	80	-	12	0.40
	SF5-80	5	10	10	80	-	15	0.43
	SF6-80	6	21	27	80	28	18	0.45
	SF8-80	8	21	27	80	34	24	0.50
	SF10-80	10	24	32	80	40	30	0.55
	SF12-80	12	24	32	80	40	30	0.62
	SF14-80	14	27	34	80	42	32	0.65
	SF16-80	16	27	34	80	42	32	0.68
	SF18-80	18	33	42	80	50	40	0.71
SF20-90	20	33	42	90	50	40	0.75	
BT40-	SF3-90	3	10	10	90	-	9	1.00
	SF4-90	4	10	10	90	-	12	1.10
	SF5-90	5	10	10	90	-	15	1.00
	SF6-90	6	21	27	90	28	18	1.15
	SF6-130	6	21	27	130	28	18	1.20
	SF6-160	6	21	27	160	28	18	1.40
	SF6-200	6	21	27	200	28	18	1.90
	SF8-90	8	21	27	90	34	24	1.15
	SF8-130	8	21	27	130	34	24	1.30
	SF8-160	8	21	27	160	34	24	1.50
	SF8-200	8	21	27	200	34	24	1.90
	SF10-90	10	24	32	90	40	30	1.20
	SF10-130	10	24	32	130	40	30	1.50
	SF10-160	10	24	32	160	40	30	1.80
	SF10-200	10	24	32	200	40	30	1.90
	SF12-90	12	24	32	90	40	30	1.30
	SF12-130	12	24	32	130	40	30	1.60
	SF12-160	12	24	32	160	40	30	1.80
SF12-200	12	24	32	200	40	30	2.00	
SF14-90	14	27	34	90	42	32	1.30	
SF14-130	14	27	34	130	42	32	1.60	

BT-SF热缩刀柄

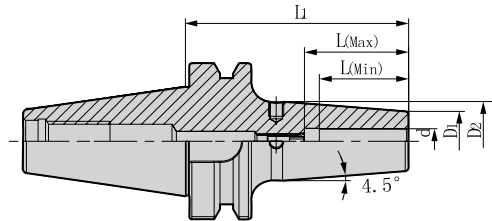
BT-SF Shrink Fit Holder



订货号 Ordering Code	尺寸 Dimension (mm)						重量 Weight (kg)	
	d	D1	D2	L1	L(Max)	L(Min)		
BT40-	SF14-160	14	27	34	160	42	32	1.80
	SF14-200	14	27	34	200	42	32	2.00
	SF16-90	16	27	34	90	42	32	1.40
	SF16-130	16	27	34	130	42	32	1.70
	SF16-160	16	27	34	160	42	32	1.95
	SF16-200	16	27	34	200	42	32	2.20
	SF18-90	18	33	42	90	50	40	1.50
	SF18-130	18	33	42	130	50	40	1.80
	SF18-160	18	33	42	160	50	40	2.00
	SF18-200	18	33	42	200	50	40	2.30
	SF20-90	20	33	42	90	50	40	1.55
	SF20-130	20	33	42	130	50	40	1.85
	SF20-160	20	33	42	160	50	40	2.05
	SF20-200	20	33	42	200	50	40	2.35
	SF25-100	25	44	53	100	55	45	1.65
	SF25-130	25	44	53	130	55	45	1.90
	SF25-160	25	44	53	160	55	45	2.20
	SF25-200	25	44	53	200	55	45	2.50
	SF32-100	32	44	53	100	60	50	2.00
	SF32-130	32	44	53	130	60	50	2.30
SF32-160	32	44	53	160	60	50	2.60	
BT50-	SF6-100	6	21	27	100	28	18	3.70
	SF6-130	6	21	27	130	28	18	3.80
	SF6-160	6	21	27	160	28	18	3.88
	SF6-200	6	21	27	200	28	18	4.00
	SF8-100	8	21	27	100	34	24	3.60
	SF8-130	8	21	27	130	34	24	3.70
	SF8-160	8	21	27	160	34	24	3.90
	SF8-200	8	21	27	200	34	24	4.00
	SF10-100	10	24	32	100	40	30	3.65
	SF10-130	10	24	32	130	40	30	3.78
SF10-160	10	24	32	160	40	30	4.00	

BT-SF热缩刀柄

BT-SF Shrink Fit Holder



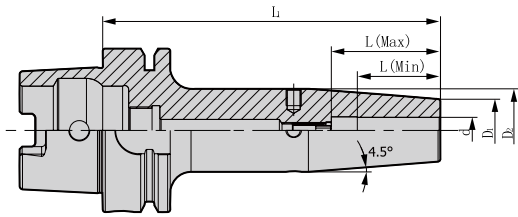
订货号 Ordering Code	尺寸 Dimension (mm)						重量 Weight (kg)	
	d	D1	D2	L1	L(Max)	L(Min)		
BT50-	SF10-200	10	24	32	200	40	30	4.15
	SF12-100	12	24	32	100	40	30	3.70
	SF12-130	12	24	32	130	40	30	3.80
	SF12-160	12	24	32	160	40	30	4.10
	SF12-200	12	24	32	200	40	30	4.25
	SF14-100	14	27	34	100	42	32	3.70
	SF14-130	14	27	34	130	42	32	3.80
	SF14-160	14	27	34	160	42	32	4.10
	SF14-200	14	27	34	200	42	32	4.25
	SF16-100	16	27	34	100	42	32	3.75
	SF16-130	16	27	34	130	42	32	3.88
	SF16-160	16	27	34	160	42	32	4.20
	SF16-200	16	27	34	200	42	32	4.50
	SF18-100	18	33	42	100	50	40	3.75
	SF18-130	18	33	42	130	50	40	3.88
	SF18-160	18	33	42	160	50	40	4.20
	SF18-200	18	33	42	200	50	40	4.50
	SF20-100	20	33	42	100	50	40	3.80
	SF20-130	20	33	42	130	50	40	4.00
	SF20-160	20	33	42	160	50	40	4.30
	SF20-200	20	33	42	200	50	40	4.60
	SF25-100	25	44	53	100	55	45	3.82
	SF25-130	25	44	53	130	55	45	4.05
	SF25-160	25	44	53	160	55	45	4.33
SF25-200	25	44	53	200	55	45	4.65	
SF32-100	32	44	53	100	60	50	4.00	
SF32-130	32	44	53	130	60	50	4.40	
SF32-160	32	44	53	160	60	50	4.70	
SF32-200	32	44	53	200	60	50	5.00	

特点 / Feature

- 动平衡设定: G2.5; 25,000 rpm. ■Balanced: G2.5; 25,000 rpm.
- 3D处径向跳动0.003mm以下. ■Runout (X3D)≤0.003mm.

HSK-A-SF热缩刀柄

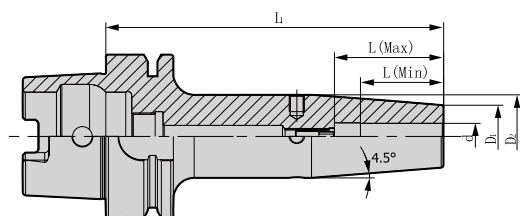
HSK-A-SF Shrink Fit Holder



订货号 Ordering Code	尺寸 Dimension (mm)						重量 Weight (kg)
	d	D1	D2	L1	L(Max)	L(Min)	
HSK63A-SF3-80	3	10	10	80	-	9	0.50
HSK63A-SF4-80	4	10	10	80	-	12	0.60
HSK63A-SF5-80	5	10	10	80	-	15	0.70
HSK63A-SF6-80	6	21	27	80	28	18	0.80
HSK63A-SF6-130	6	21	27	130	28	18	1.00
HSK63A-SF6-160	6	21	27	160	28	18	1.20
HSK63A-SF8-80	8	21	27	80	34	24	0.80
HSK63A-SF8-130	8	21	27	130	34	24	1.02
HSK63A-SF8-160	8	21	27	160	34	24	1.25
HSK63A-SF10-85	10	24	32	85	40	30	0.90
HSK63A-SF10-130	10	24	32	130	40	30	1.17
HSK63A-SF10-160	10	24	32	160	40	30	1.45
HSK63A-SF12-90	12	24	32	90	40	30	0.92
HSK63A-SF12-130	12	24	32	130	40	30	1.15
HSK63A-SF12-160	12	24	32	160	40	30	1.55
HSK63A-SF14-90	14	27	34	90	42	32	0.95
HSK63A-SF14-130	14	27	34	130	42	32	1.18
HSK63A-SF14-160	14	27	34	160	42	32	1.60
HSK63A-SF16-95	16	27	34	95	42	32	1.00
HSK63A-SF16-130	16	27	34	130	42	32	1.21
HSK63A-SF16-160	16	27	34	160	42	32	1.65
HSK63A-SF18-95	18	33	42	95	50	40	1.05
HSK63A-SF18-130	18	33	42	130	50	40	1.25
HSK63A-SF18-160	18	33	42	160	50	40	1.70
HSK63A-SF20-100	20	33	42	100	50	40	1.20
HSK63A-SF20-130	20	33	42	130	50	40	1.49
HSK63A-SF20-160	20	33	42	160	50	40	1.80
HSK63A-SF25-115	25	44	53	115	55	45	1.98
HSK63A-SF25-160	25	44	53	160	55	45	2.10
HSK63A-SF32-120	32	44	53	120	60	50	2.10
HSK63A-SF32-160	32	44	53	160	60	50	2.60
HSK63A-SF10-160	10	24	32	160	40	30	4.00

HSK-A-SF热缩刀柄

HSK-A-SF Shrink Fit Holder



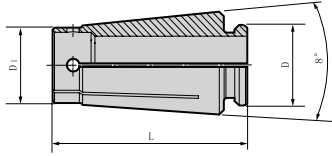
订货号 Ordering Code	尺寸 Dimension (mm)						重量 Weight (kg)
	d	D1	D2	L1	L(Max)	L(Min)	
HSK100A-SF6-85	6	21	27	85	28	18	2.00
HSK100A-SF6-130	6	21	27	130	28	18	2.30
HSK100A-SF6-160	6	21	27	160	28	18	2.62
HSK100A-SF8-85	8	21	27	85	34	24	2.00
HSK100A-SF8-130	8	21	27	130	34	24	2.30
HSK100A-SF8-160	8	21	27	160	34	24	2.65
HSK100A-SF10-90	10	24	32	90	40	30	2.20
HSK100A-SF10-130	10	24	32	130	40	30	2.40
HSK100A-SF10-160	10	24	32	160	40	30	2.70
HSK100A-SF12-95	12	24	32	95	40	30	2.30
HSK100A-SF12-130	12	24	32	130	40	30	2.50
HSK100A-SF12-160	12	24	32	160	40	30	2.75
HSK100A-SF14-95	14	27	34	95	42	32	2.35
HSK100A-SF14-130	14	27	34	130	42	32	2.60
HSK100A-SF14-160	14	27	34	160	42	32	2.85
HSK100A-SF16-100	16	27	34	100	42	32	2.50
HSK100A-SF16-130	16	27	34	130	42	32	2.80
HSK100A-SF16-160	16	27	34	160	42	32	3.13
HSK100A-SF18-100	18	33	42	100	50	40	2.55
HSK100A-SF18-130	18	33	42	130	50	40	2.85
HSK100A-SF18-160	18	33	42	160	50	40	3.21
HSK100A-SF20-105	20	33	42	105	50	40	2.60
HSK100A-SF20-130	20	33	42	130	50	40	2.90
HSK100A-SF20-160	20	33	42	160	50	40	3.25
HSK100A-SF25-115	25	44	53	115	55	45	2.80
HSK100A-SF25-160	25	44	53	160	55	45	3.40
HSK100A-SF32-120	32	44	53	120	60	50	3.20
HSK100A-SF32-160	32	44	53	160	60	50	3.60

特点/Feature

- 动平衡设定: G2.5; 25,000 rpm。 ■Balanced: G2.5; 25,000 rpm.
- 3D处径向跳动0.003mm以下。 ■Runout (X3D)≤0.003mm.

DSK精密弹性筒夹

DSK Precision Collet



订货号 Ordering Code		尺寸 Dimension (mm)		
		D	D1	L
DSK	6	9	7.5	25
	10	13	11.9	30.5
	16	20.3	18.7	45
	20	24	23	50
	25	29.3	28.7	57

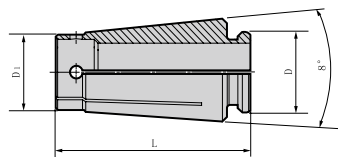
DSK6-11PCS		
订货号 Ordering Code	范围 Range(mm)	
DSK6-	2	1.8-2.0
	2.5	2.3-2.5
	3	2.8-3.0
	3.5	3.0-3.5
	4	3.5-4.0
	4.5	4.0-4.5
	5	4.5-5.0
	5.5	5.0-5.5
6	5.5-6.0	

DSK10-18PCS		
订货号 Ordering Code	范围 Range(mm)	
DSK10-	2	1.75-2.0
	3	2.75-3.0
	3.5	3.0-3.5
	4	3.5-4.0
	4.5	4.0-4.5
	5	4.5-5.0
	5.5	5.0-5.5
	6	5.5-6.0
	6.5	6.0-6.5
	7	6.5-7.0
DSK16-	7.5	7.0-7.5
	8	7.5-8.0
	8.5	8.0-8.5
	9	8.5-9.0
	9.5	9.0-9.5
	10	9.5-10.0

DSK16-27PCS		
订货号 Ordering Code	范围 Range(mm)	
DSK16-	3	2.75-3.0
	3.5	3.0-3.5
	4	3.5-4.0
	4.5	4.0-4.5
	5	4.5-5.0
	5.5	5.0-5.5
	6	5.5-6.0
	6.5	6.0-6.5
	7	6.5-7.0
	7.5	7.0-7.5
	8	7.5-8.0
	8.5	8.0-8.5
	9	8.5-9.0
	9.5	9.0-9.5
	10	9.5-10.0
	10.5	10.0-10.5
11	10.5-11.0	
11.5	11.0-11.5	
12	11.5-12.0	
12.5	12.0-12.5	
13	12.5-13.0	
13.5	13.0-13.5	
14	13.5-14.0	
14.5	14.0-14.5	
15	14.5-15.0	
15.5	15.0-15.5	
16	15.5-16.0	

DSK精密弹性筒夹

DSK Precision Collet



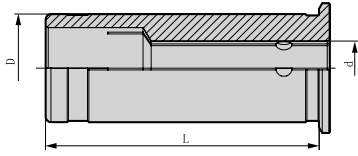
DSK20-34PCS		
订货号 Ordering Code	范围 Range(mm)	
	3.5	3.0-3.5
	4	3.5-4.0
	4.5	4.0-4.5
	5	4.5-5.0
	5.5	5.0-5.5
	6	5.5-6.0
	6.5	6.0-6.5
	7	6.5-7.0
	7.5	7.0-7.5
	8	7.5-8.0
	8.5	8.0-8.5
	9	8.5-9.0
	9.5	9.0-9.5
	10	9.5-10.0
	10.5	10.0-10.5
	11	10.5-11.0
	11.5	11.0-11.5
DSK16-	12	11.5-12.0
	12.5	12.0-12.5
	13	12.5-13.0
	13.5	13.0-13.5
	14	13.5-14.0
	14.5	14.0-14.5
	15	14.5-15.0
	15.5	15.0-15.5
	16	15.5-16.0
	16.5	16.0-16.5
	17	16.5-17.0
	17.5	17.0-17.5
	18	17.5-18.0
	18.5	18.0-18.5
	19	18.5-19.0
	19.5	19.0-19.5
	20	19.5-20.0

DSK25-45PCS		
订货号 Ordering Code	范围 Range(mm)	
	3.5	3.0-3.5
	4	3.5-4.0
	4.5	4.0-4.5
	5	4.5-5.0
	5.5	5.0-5.5
	6	5.5-6.0
	6.5	6.0-6.5
	7	6.5-7.0
	7.5	7.0-7.5
	8	7.5-8.0
	8.5	8.0-8.5
DSK25-	9	8.5-9.0
	9.5	9.0-9.5
	10	9.5-10.0
	10.5	10.0-10.5
	11	10.5-11.0
	11.5	11.0-11.5
	12	11.5-12.0
	12.5	12.0-12.5
	13	12.5-13.0
	13.5	13.0-13.5
	14	13.5-14.0
	14.5	14.0-14.5

DSK25-45PCS		
订货号 Ordering Code	范围 Range(mm)	
	15	14.5-15.0
	15.5	15.0-15.5
	16	15.5-16.0
	16.5	16.0-16.5
	17	16.5-17.0
	17.5	17.0-17.5
	18	17.5-18.0
	18.5	18.0-18.5
	19	18.5-19.0
	19.5	19.0-19.5
DSK25-	20	19.5-20.0
	20.5	20.0-20.5
	21	20.5-21.0
	21.5	21.0-21.5
	22	21.5-22.0
	22.5	22.0-22.5
	23	22.5-23.0
	23.5	23.0-23.5
	24	23.5-24.0
	24.5	24.0-24.5
	25	24.5-25.0

注: DSK筒夹适用于DSK/GSK刀柄, 精度等级为UP: 0.005mm.
 Note: DSK collet is suitable for DSK/GSK holder, Collet Precision: 0.005mm.

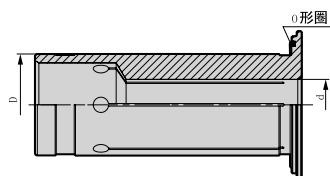
D型端面出水液压刀柄转换筒夹 Hydraulic Collet - Flange Cooling



订货号 Ordering Code		尺寸 Dimension (mm)		
		d	D	L
DHC12-	3	3	12	45
	4	4	12	45
	5	5	12	45
	6	6	12	45
	8	8	12	45
DHC20-	3	3	20	50.5
	4	4	20	50.5
	5	5	20	50.5
	6	6	20	50.5
	8	8	20	50.5
	10	10	20	50.5
	12	12	20	50.5
	14	14	20	50.5
DHC32-	6	6	32	60.5
	8	8	32	60.5
	10	10	32	60.5
	12	12	32	60.5
	14	14	32	60.5
	16	16	32	60.5
	18	18	32	60.5
	20	20	32	60.5
	25	25	32	60.5

OD型中心出水液压刀柄转换筒夹

Hydraulic Collet - Internal Cooling



订货号 Ordering Code		尺寸 Dimension (mm)		
		d	D	L
ODHC12-	3	3	12	45
	4	4	12	45
	5	5	12	45
	6	6	12	45
	8	8	12	45
ODHC20-	3	3	20	50.5
	4	4	20	50.5
	5	5	20	50.5
	6	6	20	50.5
	8	8	20	50.5
	10	10	20	50.5
	12	12	20	50.5
	14	14	20	50.5
ODHC32-	6	6	32	60.5
	8	8	32	60.5
	10	10	32	60.5
	12	12	32	60.5
	14	14	32	60.5
	16	16	32	60.5
	18	18	32	60.5
	20	20	32	60.5
	25	25	32	60.5

高速刀柄J型螺帽

J-Nut For High Speed Tool Holder

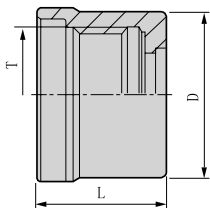


J型螺帽订货号 J-Nut		中心出水密封盖订货号 Nut Seal (Internal Cooling)	扳手 Wrench
DSK	GSK		
DSK6-J	GSK6-J	MSK6-C3、3.3、4、4.2、5、6	TMSK10
DSK10-J	GSK10-J	MSK10-C3、4、4.5、5、5.5、6、6.2、6.5、6.8、7、8、8.5、10	TMSK16
DSK16-J	GSK16-J	MSK16-C7、8、8.5、10、10.3、11、11.5、12、12.5、13.5、14、15、16	TMSK20
DSK20-J	GSK20-J	MSK20-C8、10、12、16、17.5、20	TMSK25
DSK25-J	GSK25-J	MSK25-C8、10、12、16、17、17.5、18、20、25	TMSK6

J型螺帽订货号 J-Nut		端面出水密封盖订货号 Nut Seal (Flange Cooling)	扳手 Wrench
DSK	GSK		
DSK6-J	GSK6-J	MSK6-D3、3.3、4、4.2、5、6	TMSK10
DSK10-J	GSK10-J	MSK10-D3、4、4.5、5、5.5、6、6.2、6.5、6.8、7、8、8.5、10	TMSK16
DSK16-J	GSK16-J	MSK16-D7、8、8.5、10、10.3、11、11.5、12、12.5、13.5、14、15、16	TMSK20
DSK20-J	GSK20-J	MSK20-D8、10、12、16、17.5、20	TMSK25
DSK25-J	GSK25-J	MSK25-D8、10、12、16、17、17.5、18、20、25	TMSK6

高速刀柄J型螺帽

J-Nut For High Speed Tool Holder



订货号 Ordering Code		尺寸 Dimension (mm)		
		D	L	T
GSK	6	19.5	21	M15.5x1.0P
	10	27	24	M21.5x1.0P
	16	40	31	M32x1.5P
	20	48	33	M40x1.0P
	25	55	37	M45x1.5P

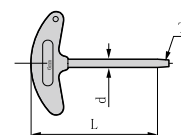
GSK套筒专用扳手 Wrench For GSK Tool Holder

订货号 Ordering Code	适用螺帽 Clamping Nut	重量 Weight (kg)	
TGSK	6	DSK6	0.30
	10	DSK10	0.35
	16	DSK16	0.40
	20	DSK20	0.50
	25	DSK25	0.55



T形扳手 Wrench - T

订货号 Ordering Code	尺寸 Dimension (mm)		
	d	L	T
TH03T-L	3	110	3
TH04T-L	4	120	4
TH05T-L	5	150	5
TH06T-L	6	170	6
TH08T-L	8	190	8





APPENDIX
附录

E

切削定义及计算

Wrench For GSK Tool Holder

常用参数及其单位 Parameter and Unit			
D	铣刀直径 Diameter	(mm)	Fn 每转进给量 Feed per Revolution (mm/rev)
ap	切削深度 Cutting Depth	(mm)	fz 每刃进给量 Feeding per Teeth (mm/tooth)
ae	切削宽度 Cutting Width	(mm)	Z 刀刃数 Number of Teeth
Vf	进给速度 Feed Rate	(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 Length (mm)
Q	金属切削率 Rate of Metal Removal	(cm ³ /min)	Tc 加工时间 Processing Time (min)

通用计算公式 General Formula	
n 主轴转速 Spindle Speed	$n = \frac{Vc \cdot 1000}{\pi \cdot D} \text{ (rev/min)}$
Vc 切削速度 Cutting Speed	$Vc = \frac{\pi \cdot D \cdot n}{1000} \text{ (m/min)}$
Vf 进给速度 Feed Rate	$Vf = fz \cdot z \cdot n \text{ (mm/min)}$
fz 每刃进给量 Feed per Teeth	$fz = \frac{Vf}{z \cdot n} \text{ (mm)}$
Q 金属切削率 Rate of Metal Removal	$Q = \frac{ae \cdot ap \cdot Vf}{1000} \text{ (cm}^3\text{/min)}$
Tc 加工时间 Processing Time	$Tc = \frac{L}{Vf} \text{ (min)}$

工件材料表 Workpiece Material Table

材料组 ISO Material Group	MC GESAC	工件材料 Workpiece Material	含量 Carbon 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 有色金属 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, Composite Materials.		600-1500		
	N6	铝基复合材料(MMCs) Aluminium-based Composite Materials.	GFK, CFK	<700	<210	
S 耐热合金、钛合金 Heat-resistant Alloys and 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 Hardness 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

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厦门金鹭特种合金有限公司

地址：中国厦门市湖里区兴隆路 69 号

工厂地址：中国厦门同安工业集中区集成路 1601-1629 号

电话：+86-592-7107392

传真：+86-592-7107322

邮编：361006

电邮：gesac@cxtc.com

网址：Http://www.gesac.com.cn

XIAMEN GOLDEN EGRET SPECIAL ALLOY CO.,LTD.

Add: No.69 Xinglong Road Huli Xiamen CHINA

Factory Add:No.1601-1629 Jicheng Road Industrial Concentration Area Tongan Xiamen CHINA

Tel: +86-592-7107392

Fax: +86-592-7107322

PC: 361006

Email: gesac@cxtc.com

Http://www.gesac.com.cn



400-998-6858



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