

2022切削工具新品册

NEW CUTTING TOOLS CATALOGUE



2022

Проминструмент

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。

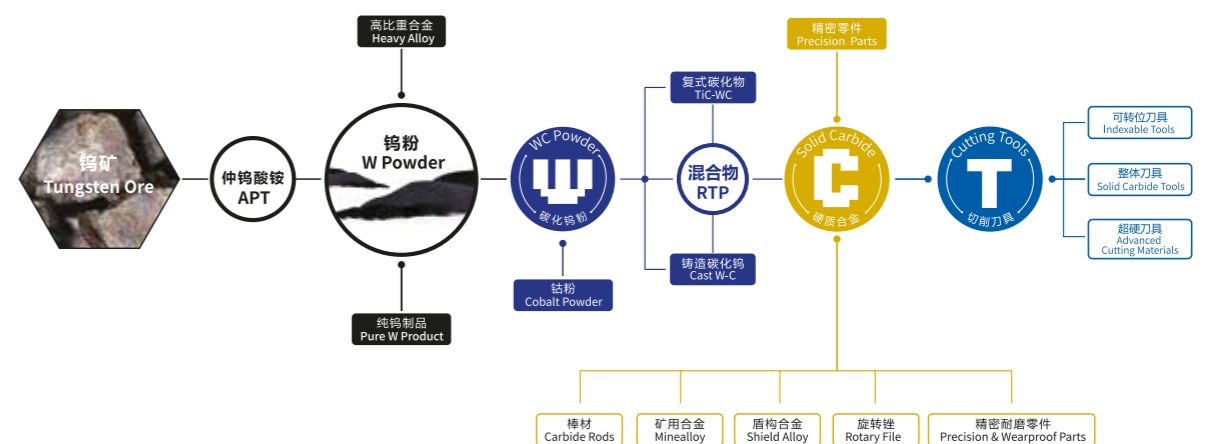
凭借完整钨产业链的产品集成技术研发，以及务实、创新的管理理念，厦门金鹭始终保持着强劲的发展势头，为全球用户提供最高性价比的产品和服务，为现代工业领域解决高硬度、耐高温、耐磨损问题，提供了优良的产品和完善的解决方案，客户遍布全球四十多个工业发达国家和地区，享誉海内外。

公司拥有国内4个生产基地和1个国家级企业研发中心，海外3个销售公司和1个海外生产基地，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 four production headquarters and one national level research center domestically, and three sales branches and one production base overseas. 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".



目录 CONTENT

A 车削Turning

- 003 小零件车削刀具
Small Parts Turning Tools
- 044 淬火钢材料加工用PCBN车削刀具BHC200P系列
PCBN BHC200P Series for Turning Hardened Steel
- 058 立柱式PCBN车削刀具YZ系列
Solid Welding PCBN YZ Series for Turning Hardened Steel and Cast Iron
- 066 整体式PCBN车削刀具YS系列
Solid PCBN YS Series for Turning Hardened Steel and Cast Iron
- 075 金属陶瓷补充牌号GP92TM (SPL)
The Supplementary Grade of Cermet GP92TM(SPL)

B 铣削 Milling

- 087 铝合金高速高效加工立铣刀
Endmills for High-speed and High-efficiency Aluminum Machining
- 106 铝合金外观加工立铣刀-SA160系列
Endmill for Finishing or Appearance Milling of Aluminum Alloy — SA160 series

C 孔加工 Holemaking

- 113 GUMD可换式钻头系列
Head Changeable Drill
- 127 D938 深孔加工麻花钻
D938 Series Deep Hole Internal Coolant Twist Drill

D 附录 Appendix

- 144 附录
Appendix

“蜂鸟”系列—小零件车削刀具 Small Parts Turning Inserts

- 高精度
全系列磨削产品，尺寸精度高，满足高精度工件加工尺寸要求。
- 高表面质量
锋利刃、刃倾角设计搭载全新升级的GAT71系列牌号及特殊表面处理技术，实现更好的加工表面质量。
- 高稳定性
特殊断屑台设计，精准断屑排屑，搭配全新升级的涂层技术及优异的刃口处理技术，实现良好的寿命稳定性。
- 规格丰富
产品规格丰富，实现外圆、内孔、背车、槽及螺纹的整体车削解决方案。

- High Precision
Full series grinding products, high dimensional precision, meet high precision work piece processing requirements.
- High Surface Quality
Sharp edge and cutting edge inclination design, equipped with the new GAT71 series grades and special surface treatment technology, achieve better surface quality.
- High Stability
Special chipbreaker design, improves the performance on chip breaking and removal, with new and upgraded coating technology and excellent edge treatment technology, achieve good stability of tool life.
- Variety Specifications
Product specifications are rich, provide overall turning solutions for external circle, internal hole, back turning, grooving and threading.



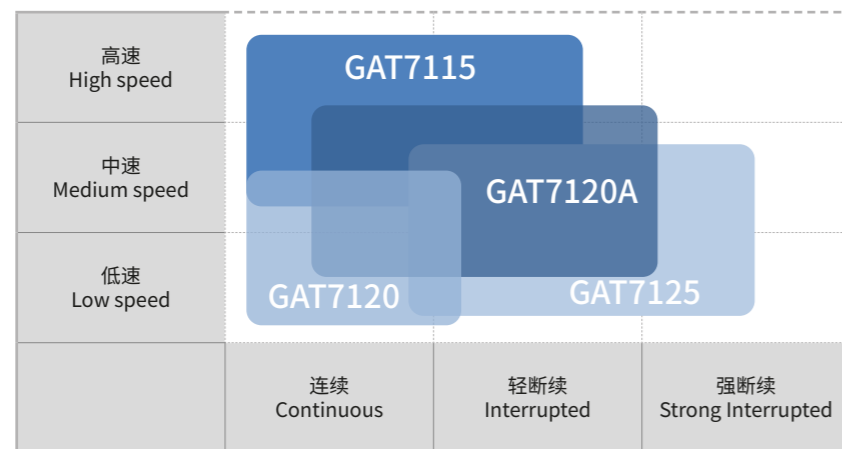
A 车削 Turning

CONTENT >

小零件车削PVD牌号应用一览表

Application Summary of PVD Grades for Small Parts Turning

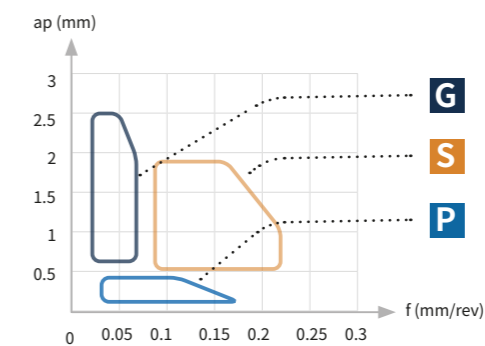
牌号 Grade	颜色 Color	材质结构 Material Microstructure	特点 Feature
GAT7115	灰色 Grey		<ul style="list-style-type: none"> 全新纳米结构的PVD涂层与亚微细晶粒的硬质合金基体相结合，加上特殊的表面处理技术，具有优异的耐磨性、抗氧化性和加工稳定性。 New nanostructured PVD coating combine with micro-grain cemented carbide substrate and special surface treatment, provides outstanding wear resistance, oxidation resistance and machining stability. 适合于钢、不锈钢等材料的中高速通用加工。 Suitable for steel and stainless steel in general cutting condition with medium or high speed.
GAT7120	紫红色 Amaranth		<ul style="list-style-type: none"> 高耐磨的PVD涂层搭配超微细晶硬质合金基体，在中低速下具有优异的耐磨性，实现精密加工。 High wear-resistant PVD coating with ultra-fine grained cemented carbide substrate, provides excellent wear resistance at medium and low speed, achieving precision machining. 适用于钢、不锈钢等材料的中低速连续加工工况。 Suitable for steel and stainless steel in stable cutting condition with low or medium speed.
GAT7120A	紫红色 Amaranth		<ul style="list-style-type: none"> 优化的亚微细晶硬质合金基体搭配高耐磨PVD涂层，牌号通用性强，针对钢类加工具有优异的性能表现。 Optimized micro-grain carbide substrate with high wear resistant PVD coating, provides high versatility, for steel cutting has excellent performance. 适用于钢类材料的通用加工。 Suitable for general cutting of steel materials.
GAT7125	灰色 Grey		<ul style="list-style-type: none"> 采用全新涂层技术升级的PVD涂层搭配高Co含量的硬质合金基体，具有优异的抗崩刃性与刃口强度。 New generation coating with new PVD technology, combined with high-Co cemented carbide substrate, provides excellent toughness and cutting edge strength. 适合于钢、不锈钢等材料的轻断续到断续加工工况。 Suitable for steel and stainless steel in unstable cutting condition.



小零件车削槽型

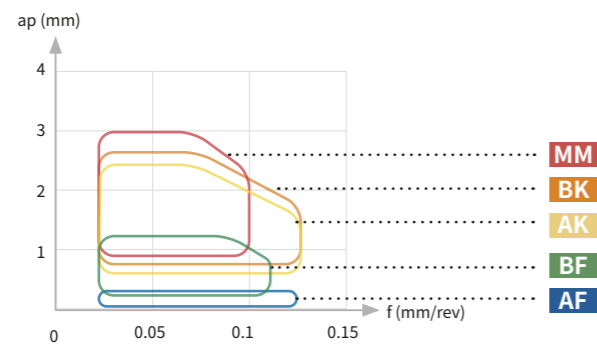
Turning Geometry for Small Parts

通用开槽系列 General Slotted Geometry Series			
槽型 Geometry	切深 Cutting Depth	槽型截面 Geometry Section	特点 Feature
P槽型 P Geometry Series	0.1-0.4mm		<ul style="list-style-type: none"> 斜槽设计：稳定控制切屑的移除方向 Chute design: stable control of chip removal direction 无刃宽设计：刃口锋利，有效降低切削力 Design without edge width: the edge is sharp, which can effectively reduce cutting force
G槽型 G Geometry Series	0.6-2.5mm		<ul style="list-style-type: none"> 圆弧槽设计：提高刀刃锋利性，同时保证刀尖强度 Arc geometry design: improves the sharpness of the edge and ensures the strength of the tip at the same time 大刃长设计：满足较大切深 Design of large cutting edge length: meets the requirement of larger cutting depth
S槽型 S Geometry Series	0.5-1.9mm		<ul style="list-style-type: none"> 刃倾角设计：控制切屑流向，降低切削阻力 Design of insert inclination angle: controls chip flow direction and reduces cutting resistance 无刃宽设计：刃口锋利，有效降低切削力 Design without edge width: the edge is sharp, which can effectively reduce cutting force



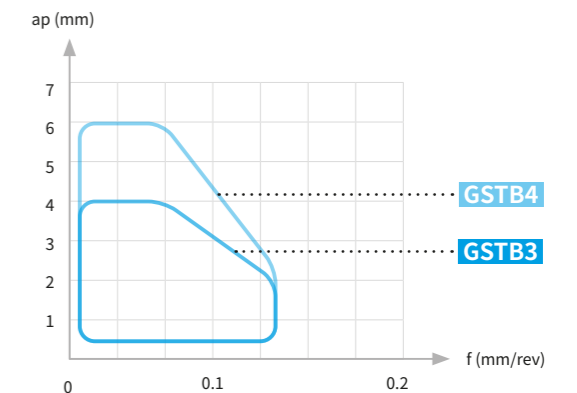
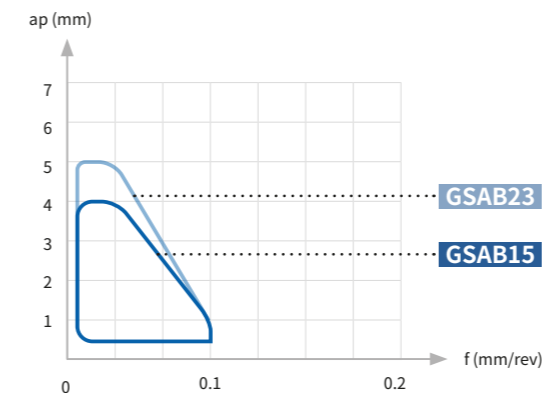
小零件车削槽型 Turning Geometry for Small Parts

三维断屑槽系列 3D Geometry Series			
槽型 Geometry	切深 Cutting Depth	槽型截面 Geometry Section	特点 Feature
AF 槽型 AF Geometry Series	0.02-0.2mm		<ul style="list-style-type: none"> •小槽宽设计: 满足微小切深领域的断屑要求 Design of small cutting edge width: meets the chip breaking requirements in the field of small cutting depth •大前角设计: 减少切削阻力, 获得优异的加工表面质量 Design of large rake angle: reduces cutting resistance and obtains excellent machining surface quality
BF 槽型 BF Geometry Series	0.2-1.2mm		<ul style="list-style-type: none"> •特殊断屑台设计: 促进切屑卷曲, 利于排屑 Special chip breaker design: promotes chip curling, which is beneficial to chip removal •小前角设计: 刀尖强度高, 通用性强 Design with small rake angle: high edge strength and versatility
AK 槽型 AK Geometry Series	0.7-2.5mm		<ul style="list-style-type: none"> •锋利刃设计: 满足良好的加工表面质量要求 Sharp-edged design: Satisfies the requirements of excellent surface quality •刃倾角设计: 控制切屑流向, 降低切削阻力 Design of edge inclination angle: controls chip flow direction and reduces cutting resistance
BK 槽型 BK Geometry Series	0.8-2.6mm		<ul style="list-style-type: none"> •大槽宽设计: 排屑顺畅, 实现稳定加工 Large edge width design: smooth chip removal and stable processing are realized •刃倾角设计: 控制切屑流向, 降低切削阻力 Design of edge inclination angle: controls chip flow direction and reduces cutting resistance
MM 槽型 MM Geometry Series	0.9-3.0mm		<ul style="list-style-type: none"> •双前角设计: 兼顾锋利性和强度, 加工范围广 Double rake angle design: gives attention to sharpness and strength, and has a wide processing range •双曲面断屑台设计: 促进稳定卷屑, 断屑、排屑优异 Design of hyperboloid chip breaker: promotes stable chip breaking and has excellent chip breaking and removing performance




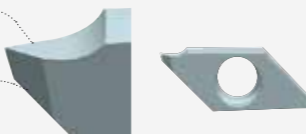
小零件车削槽型 Turning Geometry for Small Parts

背车系列 Back Turning Series			
系列 Series	切深 Cutting Depth	槽型截面 Geometry Section	特点 Feature
GSAB 平装背车 GSAB Series	0.5-5mm		<ul style="list-style-type: none"> •特殊形状设计: 满足背车加工要求 Special shape design: meeting the back turning processing requirements •特殊槽型设计: 稳定控制切屑流向 Special geometry design: stably control chip flow
GSTB 立装背车 GSTB Series	0.5-6mm		<ul style="list-style-type: none"> •立装结构设计: 装夹牢固, 实现稳定切削 Vertical structure design: clamping firmly, achieving stable cutting •斜槽设计: 有效控制排屑方向 Chute design: effectively control the chip removal direction



小零件车削槽型

Turning Geometry for Small Parts

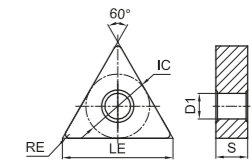
槽及螺纹系列 Groove and Thread Series	
系列 Series	特点 Feature
GSTC/GSTS切断切槽 GSTC/GSTS Series	<ul style="list-style-type: none"> • 锋利刃, 大前角设计: 切削轻快, 加工表面质量优异 Sharp edge, large rake angle design: quick cutting, excellent machined surface quality • 立装结构设计: 装夹牢固, 实现稳定切削 Vertical structure design: clamping firmly, achieving stable cutting 
GSTT 螺纹 GSTT Series	<ul style="list-style-type: none"> • 无刃宽、锋利刃设计: 加工表面质量优异 No edge width, sharp edge design: excellent machining surface quality • 立装结构设计: 装夹牢固, 实现稳定切削 Vertical structure design: clamping firmly, achieving stable cutting 

切断切槽及螺纹槽型截面表 Series Geometry

槽型截面 Geometry Section	断屑槽名称 Geometry							
	GSTC*-U		GSTC*-T		GSTC*-N		GSTS*-U	
	GAN	型号 Ordering code	GAN	型号 Ordering code	GAN	型号 Ordering code	GAN	型号 Ordering code
前角GAN Rake angle GAN 	15°	GSTC3*N-U	12°	GSTC*-T GSTC*R16-T	0°	GSTC*-N GSTC*R20-N	15°	GSTSA*-U
	20°	GSTC4*N-U GSTC4*R16-U					20°	GSTSB*-U
	24°	GSTC3*R16-U						

车削刀片(负型)
Turning Insert (Negative)

TN□□
三角形60° 有孔
Triangle 60°, with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
TNGG160401L-P	16.5	9.525	4.76	3.81	0.1	●	●		●
TNGG160401R-P	16.5	9.525	4.76	3.81	0.1	●	●		●
TNGG160402L-P	16.5	9.525	4.76	3.81	0.2	●	●		●
TNGG160402R-P	16.5	9.525	4.76	3.81	0.2	●	●		●
TNGG160404L-P	16.5	9.525	4.76	3.81	0.4	●	●		●
TNGG160404R-P	16.5	9.525	4.76	3.81	0.4	●	●		●
TNGG160408L-P	16.5	9.525	4.76	3.81	0.8	○	●		○
TNGG160408R-P	16.5	9.525	4.76	3.81	0.8	○	○		○
TNGG160404L-G	16.5	9.525	4.76	3.81	0.4		●		
TNGG160404R-G	16.5	9.525	4.76	3.81	0.4		●		
TNGG160408L-G	16.5	9.525	4.76	3.81	0.8		●		
TNGG160408R-G	16.5	9.525	4.76	3.81	0.8		●		
TNGG160404R-S	16.5	9.525	4.76	3.81	0.4	○			
TNGG160401M-AK	16.5	9.525	4.76	3.81	<0.1	●			●
TNGG160402M-AK	16.5	9.525	4.76	3.81	<0.2	●		○	●
TNGG160404M-AK	16.5	9.525	4.76	3.81	<0.4	●			●

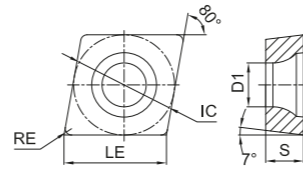
●标准库存 Stock ○需预定 Available upon Order

三维断屑槽及通用开槽型号表示方法
Identification System for Series of 3D and General Slotted Geometry



车削刀片(正型)
Turning Inserts (Positive)

CC□□
菱形80°有孔
Rhombic80°,with Hole



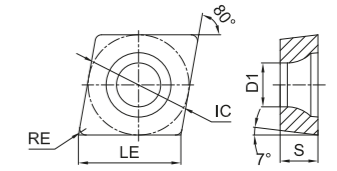
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
CCGT0301005ML-P	4.0	3.5	1.4	1.9	<0.05	○	○		○
CCGT0301005MR-P	4.0	3.5	1.4	1.9	<0.05	○	○		○
CCGT030101ML-P	4.0	3.5	1.4	1.9	<0.1	●	○		○
CCGT030101MR-P	4.0	3.5	1.4	1.9	<0.1	○	○		○
CCGT030102ML-P	4.0	3.5	1.4	1.9	<0.2	●	○		●
CCGT030102MR-P	4.0	3.5	1.4	1.9	<0.2	○	○		○
CCGT030104ML-P	4.0	3.5	1.4	1.9	<0.4	●	○		●
CCGT030104MR-P	4.0	3.5	1.4	1.9	<0.4	○	○		○
CCGT0401005ML-P	4.8	4.3	1.8	2.3	<0.05	○	○		○
CCGT0401005MR-P	4.8	4.3	1.8	2.3	<0.05	○	○		○
CCGT040101ML-P	4.8	4.3	1.8	2.3	<0.1	○	○		○
CCGT040101MR-P	4.8	4.3	1.8	2.3	<0.1	○	○		○
CCGT040102ML-P	4.8	4.3	1.8	2.3	<0.2	●	○		●
CCGT040102MR-P	4.8	4.3	1.8	2.3	<0.2	●	○		○
CCGT040104ML-P	4.8	4.3	1.8	2.3	<0.4	●	○		●
CCGT040104MR-P	4.8	4.3	1.8	2.3	<0.4	●	○		○
CCGT0602005ML-P	6.5	6.35	2.38	2.8	<0.05	○	○		○
CCGT0602005MR-P	6.5	6.35	2.38	2.8	<0.05	○	●		○
CCGT060201ML-P	6.5	6.35	2.38	2.8	<0.1	●	○		●
CCGT060201MR-P	6.5	6.35	2.38	2.8	<0.1	○	●		○
CCGT09T3005ML-P	9.7	9.525	3.97	4.4	<0.05	○	○		○
CCGT09T3005MR-P	9.7	9.525	3.97	4.4	<0.05	○	●		○
CCGT09T301ML-P	9.7	9.525	3.97	4.4	<0.1	○	○		○
CCGT09T301MR-P	9.7	9.525	3.97	4.4	<0.1	○	○		○
CCGT030101L-P	4.0	3.5	1.4	1.9	0.1		●		
CCGT030102L-P	4.0	3.5	1.4	1.9	0.2		●		
CCGT030104L-P	4.0	3.5	1.4	1.9	0.4		●		
CCGT040101L-P	4.8	4.3	1.8	2.3	0.1		●		
CCGT040102L-P	4.8	4.3	1.8	2.3	0.2		●		
CCGT040104L-P	4.8	4.3	1.8	2.3	0.4		●		
CCGT060201L-P	6.5	6.35	2.38	2.8	0.1		○		
CCGT060201R-P	6.5	6.35	2.38	2.8	0.1		○		



●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

CC□□
菱形80°有孔
Rhombic80°,with Hole



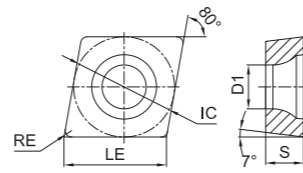
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
CCGT060202L-P	6.5	6.35	2.38	2.8	0.2		●		
CCGT060202R-P	6.5	6.35	2.38	2.8	0.2		●		
CCGT060204L-P	6.5	6.35	2.38	2.8	0.4		●		
CCGT060204R-P	6.5	6.35	2.38	2.8	0.4		●		
CCGT09T301L-P	9.7	9.525	3.97	4.4	0.1		○		
CCGT09T301R-P	9.7	9.525	3.97	4.4	0.1		●		
CCGT09T302L-P	9.7	9.525	3.97	4.4	0.2		○		
CCGT09T302R-P	9.7	9.525	3.97	4.4	0.2		●		
CCGT09T304L-P	9.7	9.525	3.97	4.4	0.4		●		
CCGT09T304R-P	9.7	9.525	3.97	4.4	0.4		●		
CCGT0602005ML-G	6.5	6.35	2.38	2.8	<0.05	○	○		○
CCGT0602005MR-G	6.5	6.35	2.38	2.8	<0.05	○	○		○
CCGT060201MEL-G	6.5	6.35	2.38	2.8	<0.1	○	○		○
CCGT060201MER-G	6.5	6.35	2.38	2.8	<0.1	○	○		○
CCGT060201ML-G	6.5	6.35	2.38	2.8	<0.1	●	○		○
CCGT060201MR-G	6.5	6.35	2.38	2.8	<0.1	●	○		○
CCGT060202ML-G	6.5	6.35	2.38	2.8	<0.2	●	○		○
CCGT060202MR-G	6.5	6.35	2.38	2.8	<0.2	●	○		○
CCGT09T3005ML-G	9.7	9.525	3.97	4.4	<0.05	●	○		○
CCGT09T3005MR-G	9.7	9.525	3.97	4.4	<0.05	●	●		○
CCGT09T301MEL-G	9.7	9.525	3.97	4.4	<0.1	○	○		○
CCGT09T301MER-G	9.7	9.525	3.97	4.4	<0.1	○	○		○
CCGT09T301ML-G	9.7	9.525	3.97	4.4	<0.1	●	○		○
CCGT09T301MR-G	9.7	9.525	3.97	4.4	<0.1	●	●		●
CCGT09T302ML-G	9.7	9.525	3.97	4.4	<0.2	●	○		○
CCGT09T302MR-G	9.7	9.525	3.97	4.4	<0.2	●	○		●



●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

CC□□
菱形80°有孔
Rhombic80°,with Hole

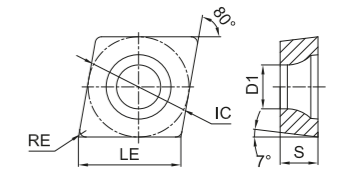


订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
CCGT060201EL-G	6.5	6.35	2.38	2.8	0.1		○		
CCGT060201ER-G	6.5	6.35	2.38	2.8	0.1		○		
CCGT060201L-G	6.5	6.35	2.38	2.8	0.1		○		
CCGT060201R-G	6.5	6.35	2.38	2.8	0.1		○		
CCGT060202EL-G	6.5	6.35	2.38	2.8	0.2	●			
CCGT060202ER-G	6.5	6.35	2.38	2.8	0.2	●			
CCGT060202L-G	6.5	6.35	2.38	2.8	0.2	●			
CCGT060202R-G	6.5	6.35	2.38	2.8	0.2	●			
CCGT060204EL-G	6.5	6.35	2.38	2.8	0.4	●			
CCGT060204ER-G	6.5	6.35	2.38	2.8	0.4	●			
CCGT060204L-G	6.5	6.35	2.38	2.8	0.4	○			
CCGT060204R-G	6.5	6.35	2.38	2.8	0.4	○			
CCGT09T301EL-G	9.7	9.525	3.97	4.4	0.1	●			
CCGT09T301ER-G	9.7	9.525	3.97	4.4	0.1	●			
CCGT09T301L-G	9.7	9.525	3.97	4.4	0.1	●			
CCGT09T301R-G	9.7	9.525	3.97	4.4	0.1	●			
CCGT09T302EL-G	9.7	9.525	3.97	4.4	0.2	●			
CCGT09T302ER-G	9.7	9.525	3.97	4.4	0.2	●			
CCGT09T302L-G	9.7	9.525	3.97	4.4	0.2	●			
CCGT09T302R-G	9.7	9.525	3.97	4.4	0.2	●			
CCGT09T304EL-G	9.7	9.525	3.97	4.4	0.4	●			
CCGT09T304ER-G	9.7	9.525	3.97	4.4	0.4	●			
CCGT09T304L-G	9.7	9.525	3.97	4.4	0.4	●			
CCGT09T304R-G	9.7	9.525	3.97	4.4	0.4	○			

●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

CC□□
菱形80°有孔
Rhombic80°,with Hole



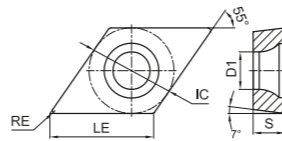
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
CCGT0602005M-BF	6.5	6.35	2.38	2.8	<0.05	○			
CCGT060201M-BF	6.5	6.35	2.38	2.8	<0.1	●			●
CCGT060202M-BF	6.5	6.35	2.38	2.8	<0.2	●			●
CCGT09T301M-BF	9.7	9.525	3.97	4.4	<0.1	●		○	●
CCGT09T302M-BF	9.7	9.525	3.97	4.4	<0.2	●		○	●
CCGT09T304M-BF	9.7	9.525	3.97	4.4	<0.4	●			●
CCGT060201M-BK	6.5	6.35	2.38	2.8	<0.1	●			●
CCGT060202M-BK	6.5	6.35	2.38	2.8	<0.2	●			●
CCGT09T301M-BK	9.7	9.525	3.97	4.4	<0.1	●		○	●
CCGT09T302M-BK	9.7	9.525	3.97	4.4	<0.2	●		○	●
CCGT09T304M-BK	9.7	9.525	3.97	4.4	<0.4	●			●

●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

DC□□

菱形55°有孔
Rhombic55°,with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
DCGT0702005ML-P	7.8	6.35	2.38	2.8	<0.05	○	○		○
DCGT0702005MR-P	7.8	6.35	2.38	2.8	<0.05	○	●		○
DCGT070201ML-P	7.8	6.35	2.38	2.8	<0.1	○	○		○
DCGT070201MR-P	7.8	6.35	2.38	2.8	<0.1	○			○
DCGT070202MR-P	7.8	6.35	2.38	2.8	<0.2				○
DCGT11T3005ML-P	11.6	9.525	3.97	4.4	<0.05	○	○		○
DCGT11T3005MR-P	11.6	9.525	3.97	4.4	<0.05	○	●		○
DCGT11T302MR-P	11.6	9.525	3.97	4.4	<0.2	●	○		●
DCGT0702003L-P	7.8	6.35	2.38	2.8	0.03		○		
DCGT0702003R-P	7.8	6.35	2.38	2.8	0.03		○		
DCGT070201L-P	7.8	6.35	2.38	2.8	0.1		○		
DCGT070201R-P	7.8	6.35	2.38	2.8	0.1		●		
DCGT070202L-P	7.8	6.35	2.38	2.8	0.2		○		
DCGT070202R-P	7.8	6.35	2.38	2.8	0.2		●		
DCGT070204L-P	7.8	6.35	2.38	2.8	0.4		●		
DCGT070204R-P	7.8	6.35	2.38	2.8	0.4		○		
DCGT11T3003L-P	11.6	9.525	3.97	4.4	0.03		○		
DCGT11T3003R-P	11.6	9.525	3.97	4.4	0.03		○		
DCGT11T301L-P	11.6	9.525	3.97	4.4	0.1		○		
DCGT11T301R-P	11.6	9.525	3.97	4.4	0.1		●		
DCGT11T302L-P	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T302R-P	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T304L-P	11.6	9.525	3.97	4.4	0.4		●		
DCGT11T304R-P	11.6	9.525	3.97	4.4	0.4		●		

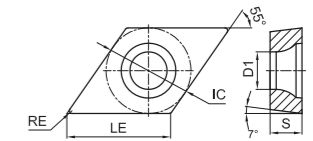


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

DC□□

菱形55°有孔
Rhombic55°,with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
DCGT0702005ML-G	7.8	6.35	2.38	2.8	<0.05	○	○		○
DCGT0702005MR-G	7.8	6.35	2.38	2.8	<0.05	●	●		○
DCGT070201MEL-G	7.8	6.35	2.38	2.8	<0.1	○	○		○
DCGT070201MER-G	7.8	6.35	2.38	2.8	<0.1	○	○		○
DCGT070201ML-G	7.8	6.35	2.38	2.8	<0.1	○	○		○
DCGT070201MR-G	7.8	6.35	2.38	2.8	<0.1	●	○		○
DCGT11T3005ML-G	11.6	9.525	3.97	4.4	<0.05	○	○		○
DCGT11T3005MR-G	11.6	9.525	3.97	4.4	<0.05	○	●		○
DCGT11T301MEL-G	11.6	9.525	3.97	4.4	<0.1	○	○		○
DCGT11T301MER-G	11.6	9.525	3.97	4.4	<0.1	○	○		○
DCGT11T301ML-G	11.6	9.525	3.97	4.4	<0.1	○	○		○
DCGT11T301MR-G	11.6	9.525	3.97	4.4	<0.1	●	●		●
DCGT11T302MER-G	11.6	9.525	3.97	4.4	<0.2				●
DCGT11T302MR-G	11.6	9.525	3.97	4.4	<0.2	●	○		●
DCGT070201L-G	7.8	6.35	2.38	2.8	0.1		○		
DCGT070201R-G	7.8	6.35	2.38	2.8	0.1		●		
DCGT070202L-G	7.8	6.35	2.38	2.8	0.2		●		
DCGT070202R-G	7.8	6.35	2.38	2.8	0.2		○		
DCGT11T301EL-G	11.6	9.525	3.97	4.4	0.1		●		
DCGT11T301ER-G	11.6	9.525	3.97	4.4	0.1		●		
DCGT11T301L-G	11.6	9.525	3.97	4.4	0.1		●		
DCGT11T301R-G	11.6	9.525	3.97	4.4	0.1		●		
DCGT11T302EL-G	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T302ER-G	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T302L-G	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T302R-G	11.6	9.525	3.97	4.4	0.2		●		
DCGT11T304EL-G	11.6	9.525	3.97	4.4	0.4		○		
DCGT11T304ER-G	11.6	9.525	3.97	4.4	0.4		●		
DCGT11T302MR-S	11.6	9.525	3.97	4.4	<0.2	○			○
DCGT11T304MR-S	11.6	9.525	3.97	4.4	<0.4	○			●

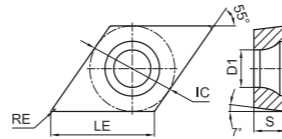





















●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

DC □ □

菱形55°有孔
Rhombic55°,with Hole



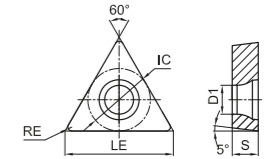
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
 DCGT070201M-AF	7.8	6.35	2.38	2.8	<0.1	●			●
 DCGT11T301M-AF	11.6	9.525	3.97	4.4	<0.1	○		○	●
 DCGT11T301M-AK	11.6	9.525	3.97	4.4	<0.1	●		○	●
 DCGT11T302M-AK	11.6	9.525	3.97	4.4	<0.2	●		○	●
 DCGT11T304M-AK	11.6	9.525	3.97	4.4	<0.4				○
 DCGT070201M-BF	7.8	6.35	2.38	2.8	<0.1	●		○	●
 DCGT070202M-BF	7.8	6.35	2.38	2.8	<0.2	●			●
 DCGT070204M-BF	7.8	6.35	2.38	2.8	<0.4	●			●
 DCGT11T301M-BF	11.6	9.525	3.97	4.4	<0.1	●		○	●
 DCGT11T302M-BF	11.6	9.525	3.97	4.4	<0.2	●		○	●
 DCGT11T304M-BF	11.6	9.525	3.97	4.4	<0.4	●		○	●
 DCGT070201M-BK	7.8	6.35	2.38	2.8	<0.1	●		○	●
 DCGT070202M-BK	7.8	6.35	2.38	2.8	<0.2	●			●
 DCGT11T301M-BK	11.6	9.525	3.97	4.4	<0.1	●		○	●
 DCGT11T302M-BK	11.6	9.525	3.97	4.4	<0.2	●		○	●
 DCGT11T304M-BK	11.6	9.525	3.97	4.4	<0.4	●			●
 DCGT11T301M-MM	11.6	9.525	3.97	4.4	<0.1	●		○	●
 DCGT11T302M-MM	11.6	9.525	3.97	4.4	<0.2	●		○	●
 DCGT11T304M-MM	11.6	9.525	3.97	4.4	<0.4	●		○	●



●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TB □ □

三角形60°有孔
Triangle60°,with Hole



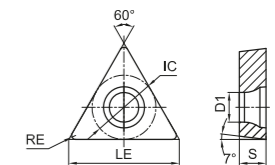
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
 TBGT060102L-P	6.9	3.97	1.59	2.3	0.2		●		
 TBGT060104L-P	6.9	3.97	1.59	2.3	0.4		●		


















●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TC □ □

三角形60°有孔
Triangle60°,with Hole



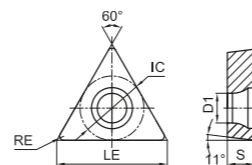
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
 TCGT060102L-P	6.9	3.97	1.59	2.3	0.2		●		
 TCGT060104L-P	6.9	3.97	1.59	2.3	0.4		●		
 TCGT080202L-P	8.2	4.76	2.38	2.3	0.2		●		
 TCGT080204L-P	8.2	4.76	2.38	2.3	0.4		●		
 TCGT110202L-P	11	6.35	2.38	2.8	0.2		●		
 TCGT110204L-P	11	6.35	2.38	2.8	0.4		●		
 TCGT0802005ML-G	8.2	4.76	2.38	2.3	<0.05	○	○		○
 TCGT0802005MR-G	8.2	4.76	2.38	2.3	<0.05	○	○		○
 TCGT080201ML-G	8.2	4.76	2.38	2.3	<0.1	○	○		○
 TCGT080201MR-G	8.2	4.76	2.38	2.3	<0.1	○	○		○
 TCGT1103005ML-G	11	6.35	3.18	2.8	<0.05	○	●		○
 TCGT1103005MR-G	11	6.35	3.18	2.8	<0.05	○	●		○
 TCGT080202L-G	8.2	4.76	2.38	2.3	0.2		○		
 TCGT080204L-G	8.2	4.76	2.38	2.3	0.4		○		
 TCGT110301L-G	11	6.35	3.18	2.8	0.1		○		
 TCGT110302L-G	11	6.35	3.18	2.8	0.2		○		
 TCGT110304L-G	11	6.35	3.18	2.8	0.4		●		

●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TP□□

三角形60°有孔
Triangle 60°, with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
TPGH1103005ML-P	11	6.35	3.18	3.4	<0.05	○	●		○
TPGH090202L-P	9.6	5.56	2.38	3.0	0.2		●		
TPGH090204L-P	9.6	5.56	2.38	3.0	0.4		●		
TPGH110301L-P	11	6.35	3.18	3.4	0.1	●	●		
TPGH110302L-P	11	6.35	3.18	3.4	0.2	●	●		
TPGH110304L-P	11	6.35	3.18	3.4	0.4		●		
TPGT080202L-P	8.2	4.76	2.38	2.3	0.2		●		
TPGT080202R-P	8.2	4.76	2.38	2.3	0.2		○		
TPGT080204L-P	8.2	4.76	2.38	2.3	0.4		●		
TPGT080204R-P	8.2	4.76	2.38	2.3	0.4		○		
TPGT080201L-G	8.2	4.76	2.38	2.3	0.1		○		
TPGT080202L-G	8.2	4.76	2.38	2.3	0.2		○		
TPGT080204L-G	8.2	4.76	2.38	2.3	0.4		○		

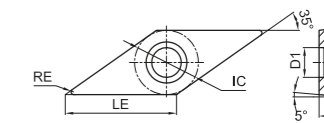


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VB□□

菱形35°有孔
Rhombic 35°, with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
VBGT1103005ML-P	11.2	6.35	3.18	2.8	<0.05	○	○		○
VBGT1103005MR-P	11.2	6.35	3.18	2.8	<0.05	●	●		●
VBGT110301ML-P	11.2	6.35	3.18	2.8	<0.1	●	○		●
VBGT110301MR-P	11.2	6.35	3.18	2.8	<0.1	●	○		●
VBGT110302ML-P	11.2	6.35	3.18	2.8	<0.2	○	○		●
VBGT110302MR-P	11.2	6.35	3.18	2.8	<0.2	●	○		●
VBGT1103003L-P	11.2	6.35	3.18	2.8	0.03		○		
VBGT1103003R-P	11.2	6.35	3.18	2.8	0.03		●		
VBGT110301L-P	11.2	6.35	3.18	2.8	0.1		●		
VBGT110301R-P	11.2	6.35	3.18	2.8	0.1		●		
VBGT110302L-P	11.2	6.35	3.18	2.8	0.2		●		
VBGT110302R-P	11.2	6.35	3.18	2.8	0.2		●		
VBGT110304L-P	11.2	6.35	3.18	2.8	0.4		○		
VBGT110304R-P	11.2	6.35	3.18	2.8	0.4		●		
VBGT1103005ML-G	11.2	6.35	3.18	2.8	<0.05	○	●		○
VBGT1103005MR-G	11.2	6.35	3.18	2.8	<0.05	●	●		●
VBGT110301L-G	11.2	6.35	3.18	2.8	0.1		●		
VBGT110301R-G	11.2	6.35	3.18	2.8	0.1		●		
VBGT110302EL-G	11.2	6.35	3.18	2.8	0.2		○		
VBGT110302ER-G	11.2	6.35	3.18	2.8	0.2		○		
VBGT110302R-G	11.2	6.35	3.18	2.8	0.2		○		
VBGT110304EL-G	11.2	6.35	3.18	2.8	0.4		●		
VBGT110304ER-G	11.2	6.35	3.18	2.8	0.4		●		

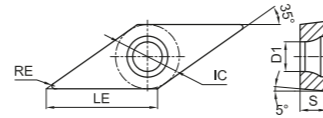


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VB □ □

菱形35°有孔
Rhombic35°,with Hole



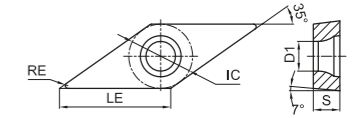
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
VBGT1103005ML-S	11.2	6.35	3.18	2.8	<0.05	○	○		○
VBGT1103005MR-S	11.2	6.35	3.18	2.8	<0.05	●	●		●
VBGT110301ML-S	11.2	6.35	3.18	2.8	<0.1	●	○		○
VBGT110301MR-S	11.2	6.35	3.18	2.8	<0.1	●	○		●
VBGT110302ML-S	11.2	6.35	3.18	2.8	<0.2	●	○		●
VBGT110302MR-S	11.2	6.35	3.18	2.8	<0.2	●	○		●
VBGT110301L-S	11.2	6.35	3.18	2.8	0.1		●		
VBGT110301R-S	11.2	6.35	3.18	2.8	0.1		●		
VBGT110302L-S	11.2	6.35	3.18	2.8	0.2		●		
VBGT110302R-S	11.2	6.35	3.18	2.8	0.2		●		
VBGT110304L-S	11.2	6.35	3.18	2.8	0.4		●		
VBGT110304R-S	11.2	6.35	3.18	2.8	0.4		●		
VBGT160402L-S	16.6	9.525	4.76	4.4	0.2		○		
VBGT160402R-S	16.6	9.525	4.76	4.4	0.2		○		
VBGT160404L-S	16.6	9.525	4.76	4.4	0.4		●		
VBGT160404R-S	16.6	9.525	4.76	4.4	0.4		●		
VBGT110301M-AF	11.2	6.35	3.18	2.8	<0.1	●		○	○
VBGT110301M-BF	11.2	6.35	3.18	2.8	<0.1	●		○	●
VBGT110302M-BF	11.2	6.35	3.18	2.8	<0.2	●		○	●
VBGT110301M-BK	11.2	6.35	3.18	2.8	<0.1	●		○	●
VBGT110302M-BK	11.2	6.35	3.18	2.8	<0.2	●		○	●
VBGT110304M-BK	11.2	6.35	3.18	2.8	<0.4	●			●
VBGT110302M-MM	11.2	6.35	3.18	2.8	<0.2	○		○	○
VBGT110304M-MM	11.2	6.35	3.18	2.8	<0.4	●			○

●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VC □ □

菱形35°有孔
Rhombic35°,with Hole



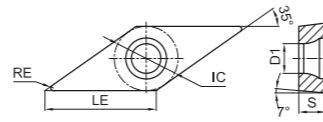
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
VCGT1103005ML-P	11.2	6.35	3.18	2.8	<0.05	○	○		○
VCGT1103005MR-P	11.2	6.35	3.18	2.8	<0.05	○	○		○
VCGT110301ML-P	11.2	6.35	3.18	2.8	<0.1	○	○		○
VCGT110301MR-P	11.2	6.35	3.18	2.8	<0.1	○	○		●
VCGT1103003L-P	11.2	6.35	3.18	2.8	0.03		○		
VCGT1103003R-P	11.2	6.35	3.18	2.8	0.03		○		
VCGT110301L-P	11.2	6.35	3.18	2.8	0.1		○		
VCGT110301R-P	11.2	6.35	3.18	2.8	0.1		○		
VCGT110302L-P	11.2	6.35	3.18	2.8	0.2		○		
VCGT110302R-P	11.2	6.35	3.18	2.8	0.2		○		
VCGT110304L-P	11.2	6.35	3.18	2.8	0.4		○		
VCGT110304R-P	11.2	6.35	3.18	2.8	0.4		○		
VCGT1103005MR-G	11.2	6.35	3.18	2.8	<0.05	●	●		●
VCGT110302R-G	11.2	6.35	3.18	2.8	0.2		○		
VCGT1103005ML-S	11.2	6.35	3.18	2.8	<0.05	○	○		○
VCGT1103005MR-S	11.2	6.35	3.18	2.8	<0.05	○	○		○
VCGT1103003R-S	11.2	6.35	3.18	2.8	0.03		○		
VCGT110301L-S	11.2	6.35	3.18	2.8	0.1		●		
VCGT110301R-S	11.2	6.35	3.18	2.8	0.1		●		
VCGT110302L-S	11.2	6.35	3.18	2.8	0.2		○		
VCGT110302R-S	11.2	6.35	3.18	2.8	0.2		●		





●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VC □ □

菱形35° 有孔
Rhombic35°,with Hole



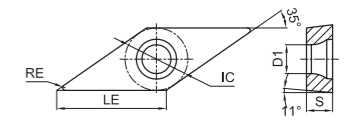
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
 VCGT110301M-AF	11.2	6.35	3.18	2.8	<0.1	●		○	●
VCGT080202M-BF	8.3	4.76	2.38	2.3	<0.2	●			●
 VCGT110301M-BF	11.2	6.35	3.18	2.8	<0.1	●		○	●
VCGT110302M-BF	11.2	6.35	3.18	2.8	<0.2	●		○	●
VCGT110301M-BK	11.2	6.35	3.18	2.8	<0.1	●		○	●
 VCGT110302M-BK	11.2	6.35	3.18	2.8	<0.2	●		○	●
VCGT110304M-BK	11.2	6.35	3.18	2.8	<0.4	●			●
VCGT110302M-MM	11.2	6.35	3.18	2.8	<0.2	●		○	●
 VCGT110304M-MM	11.2	6.35	3.18	2.8	<0.4	●			●




●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VP □ □

菱形35° 有孔
Rhombic35°,with Hole



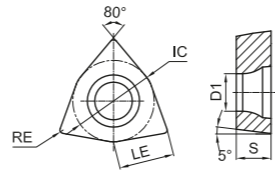
订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
VPGT1103005ML-P	11.2	6.35	3.18	2.8	<0.05	○	○		○
VPGT1103005MR-P	11.2	6.35	3.18	2.8	<0.05	●	○		○
VPGT110301ML-P	11.2	6.35	3.18	2.8	<0.1	○	○		○
VPGT110301MR-P	11.2	6.35	3.18	2.8	<0.1	●	○		●
VPGT110302ML-P	11.2	6.35	3.18	2.8	<0.2	○	○		○
 VPGT110302MR-P	11.2	6.35	3.18	2.8	<0.2	●	○		●
VPGT1103003L-P	11.2	6.35	3.18	2.8	0.03		○		
VPGT1103003R-P	11.2	6.35	3.18	2.8	0.03		●		
VPGT110301L-P	11.2	6.35	3.18	2.8	0.1		○		
VPGT110301R-P	11.2	6.35	3.18	2.8	0.1		●		
VPGT110302L-P	11.2	6.35	3.18	2.8	0.2		●		
VPGT110302R-P	11.2	6.35	3.18	2.8	0.2		●		
VPGT1103005ML-G	11.2	6.35	3.18	2.8	<0.05	○	○		○
VPGT1103005MR-G	11.2	6.35	3.18	2.8	<0.05	○	○		○
 VPGT110301L-G	11.2	6.35	3.18	2.8	0.1		○		
VPGT110301R-G	11.2	6.35	3.18	2.8	0.1		●		
VPGT110302R-G	11.2	6.35	3.18	2.8	0.2	●	●		●
VPGT080201M-BK	8.3	4.76	2.38	2.3	<0.1	○			○
 VPGT080202M-BK	8.3	4.76	2.38	2.3	<0.2	○			○

●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

WB □ □

六边形80°有孔
Hexagon 80°, with Hole



订货号 Ordering code	尺寸 Dimension(mm)					涂层硬质合金 Coated			
	LE	IC	S	D1	RE	GAT7115	GAT7120	GAT7120A	GAT7125
WBGT020101L-P	2.5	3.97	1.62	2.3	0.1		○		
WBGT020102L-P	2.5	3.97	1.62	2.3	0.2	○	●		○
WBGT020104L-P	2.5	3.97	1.62	2.3	0.4	○	●		○
WBGTL30202L-P	3.2	4.76	2.38	2.3	0.2		○		
WBGTL30204L-P	3.2	4.76	2.38	2.3	0.4		○		

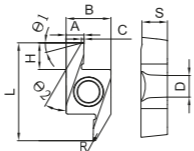


●标准库存Stock ○需预定Available upon Order

背车刀片
Back Turning Inserts

GSAB □ □

平装背车刀片
Back Turning Inserts



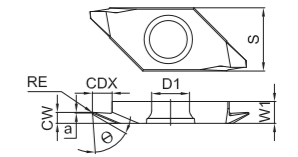
订货号 Ordering code	尺寸 Dimension(mm)										涂层硬质合金 Coated			
	A	B	C	D	H	L	R	S	Ø1	Ø2	GAT7115	GAT7120	GAT7120A	GAT7125
GSAB15R4025005	2.8	7.0	0.4	3.4	4.3	15.5	0.05	3.97	15°	30°	●	●		●
GSAB15R4025005M	2.8	7.0	0.4	3.4	4.3	15.5	<0.05	3.97	15°	30°	●	●		●
GSAB15R4025015	2.8	7.0	0.4	3.4	4.2	15.4	0.15	3.97	15°	30°	●	●		●
GSAB15R4025015M	2.8	7.0	0.4	3.4	4.2	15.4	<0.15	3.97	15°	30°	●	●		●
GSAB15R4045005	4.7	7.0	0.65	3.4	4.3	15.5	0.05	3.97	15°	45°	○	●		○
GSAB15R4045005M	4.7	7.0	0.65	3.4	4.3	15.5	<0.05	3.97	15°	45°	○	●		○
GSAB15R4045015	4.7	7.0	0.65	3.4	4.2	15.4	0.15	3.97	15°	45°	●	●		○
GSAB15R4045015M	4.7	7.0	0.65	3.4	4.2	15.4	<0.15	3.97	15°	45°	●	●		○
GSAB23R5045005	4.7	7.0	0.55	3.4	5.3	23.5	0.05	3.97	15°	40°	○	●		○
GSAB23R5045005M	4.7	7.0	0.55	3.4	5.3	23.5	<0.05	3.97	15°	40°	○	●		○
GSAB23R5045015	4.7	7.0	0.55	3.4	5.2	23.4	0.15	3.97	15°	40°	●	●		○
GSAB23R5045015M	4.7	7.0	0.55	3.4	5.2	23.4	<0.15	3.97	15°	40°	●	●		○

●标准库存Stock ○需预定Available upon Order

背车刀片
Back Turning Inserts

GSTB □ □

立装背车刀片
Back Turning Inserts



订货号 Ordering code	尺寸 Dimension(mm)								涂层硬质合金 Coated			
	CW	CDX	a	Ø	RE	D1	W1	S	GAT7115	GAT7120	GAT7120A	GAT7125
GSTB3R15005M	1.5	2.7	0.25	56°	<0.05	5.2	3.0	8.7	●	●		○
GSTB3R15010M	1.5	2.7	0.25	56°	<0.10	5.2	3.0	8.7	○	●		○
GSTB3R28005M	2.8	4.6	0.3	56°	<0.05	5.2	3.0	8.7	●	○		○
GSTB3R28010M	2.8	4.6	0.3	56°	<0.10	5.2	3.0	8.7	○	●		○
GSTB3R28020	2.8	4.6	0.5	56°	0.20	5.2	3.0	8.7		○		○
GSTB4R38005M	3.8	6.3	0.3	56°	<0.05	5.2	4.0	9.5	●	○		○
GSTB4R38010M	3.8	6.3	0.3	56°	<0.10	5.2	4.0	9.5	●	○		○
GSTB4R38020M	3.8	6.3	0.5	56°	<0.20	5.2	4.0	9.5	○			○

●标准库存Stock ○需预定Available upon Order

背车型号表示方法
Identification System for Series of Back Turning

GSAB 15 R 40 25 015 (M)

系列代号-平装背车 GSAB Series	刀片大小 Inscribed Size	刀片方向 Hand of Insert	最大切深 Cutting depth	切削刃宽 Edge Width	刀尖圆弧 Corner Radius	刀尖圆弧为负公差 Negative Corner Radius Tolerance
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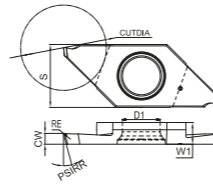
GSTB 3 R 28 015 (M)

系列代号-平装背车 GSTB Series	刀片大小 Inscribed Size	刀片方向 Hand of Insert	切削刃宽 Edge Width	刀尖圆弧 Corner Radius	刀尖圆弧为负公差 Negative Corner Radius Tolerance
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切断切槽刀片
Parting and Grooving Inserts

GSTC □ □

切断加工刀片
Parting Inserts



订货号 Ordering code	尺寸 Dimension(mm)							涂层硬质合金 Coated	
	CW	CUTDIA	RE	W1	S	D1	PSIRR	GAT7115	GAT7125
GSTC3L100N-N	1	12	0	3	8.7	5	0°	○	○
GSTC3R100N-N	1	12	0	3	8.7	5	0°	○	○
GSTC3L150N-N	1.5	12	0	3	8.7	5	0°	○	○
GSTC3R150N-N	1.5	12	0	3	8.7	5	0°	○	○
GSTC3L200N-N	2	12	0	3	8.7	5	0°	○	○
GSTC3R200N-N	2	12	0	3	8.7	5	0°	○	○
GSTC3L100R20-N	1	12	0	3	8.7	5	20°	○	○
GSTC3R100R20-N	1	12	0	3	8.7	5	20°	○	○
GSTC3L150R20-N	1.5	12	0	3	8.7	5	20°	○	○
GSTC3R150R20-N	1.5	12	0	3	8.7	5	20°	○	○
GSTC3L200R20-N	2	12	0	3	8.7	5	20°	○	○
GSTC3R200R20-N	2	12	0	3	8.7	5	20°	○	○
GSTC4L150N-N	1.5	16	0	4	9.5	5	0°	○	○
GSTC4R150N-N	1.5	16	0	4	9.5	5	0°	○	○
GSTC4L200N-N	2	16	0	4	9.5	5	0°	○	○
GSTC4R200N-N	2	16	0	4	9.5	5	0°	○	○
GSTC4L150R20-N	1.5	16	0	4	9.5	5	20°	○	○
GSTC4R150R20-N	1.5	16	0	4	9.5	5	20°	○	○
GSTC4L200R20-N	2	16	0	4	9.5	5	20°	○	○
GSTC4R200R20-N	2	16	0	4	9.5	5	20°	○	○



●标准库存Stock ○需预定Available upon Order

切断切槽型号表示方法
Identification System for Threading Insert

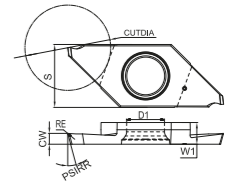
GSTC 3 R 150 R 16 - T

系列代号 GSTC-立装切断切槽 GSTC series GSTS-减薄立装切断切槽 GSTS series	刀片大小 Inscribed Size	刀片方向 Hand of Insert	切削刀宽 Edge Width	导程角方向 Hand of Lead	导程角角度 Lead angle	槽型 Geometry
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切断切槽刀片
Parting and Grooving Inserts

GSTC □ □

切断加工刀片
Parting Inserts



订货号 Ordering code	尺寸 Dimension(mm)							涂层硬质合金 Coated	
	CW	CUTDIA	RE	W1	S	D1	PSIRR	GAT7115	GAT7125
GSTC3L100N-T	1	12	0.08	3	8.7	5	0°	○	●
GSTC3R100N-T	1	12	0.08	3	8.7	5	0°	●	●
GSTC3L150N-T	1.5	12	0.08	3	8.7	5	0°	○	●
GSTC3R150N-T	1.5	12	0.08	3	8.7	5	0°	●	○
GSTC3L200N-T	2	12	0.08	3	8.7	5	0°	○	○
GSTC3R200N-T	2	12	0.08	3	8.7	5	0°	●	○
GSTC3L100R16-T	1	12	0.08	3	8.7	5	16°	○	●
GSTC3R100R16-T	1	12	0.08	3	8.7	5	16°	●	●
GSTC3L150R16-T	1.5	12	0.08	3	8.7	5	16°	○	○
GSTC3R150R16-T	1.5	12	0.08	3	8.7	5	16°	●	●
GSTC3L200R16-T	2	12	0.08	3	8.7	5	16°	○	○
GSTC3R200R16-T	2	12	0.08	3	8.7	5	16°	●	○
GSTC4L150N-T	1.5	16	0.08	4	9.5	5	0°	○	○
GSTC4R150N-T	1.5	16	0.08	4	9.5	5	0°	●	○
GSTC4L200N-T	2	16	0.08	4	9.5	5	0°	○	○
GSTC4R200N-T	2	16	0.08	4	9.5	5	0°	○	○
GSTC4L150R16-T	1.5	16	0.08	4	9.5	5	16°	○	○
GSTC4R150R16-T	1.5	16	0.08	4	9.5	5	16°	○	○
GSTC4L200R16-T	2	16	0.08	4	9.5	5	16°	○	○
GSTC4R200R16-T	2	16	0.08	4	9.5	5	16°	○	●

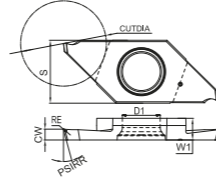


●标准库存Stock ○需预定Available upon Order

切断切槽刀片
Parting and Grooving Inserts

GSTC □ □

切断加工刀片
Parting Inserts



订货号 Ordering code	尺寸 Dimension(mm)							涂层硬质合金 Coated	
	CW	CUTDIA	RE	W1	S	D1	PSIRR	GAT7115	GAT7125
GSTC3L100N-U	1	12	0.03	3	8.7	5	0°	○	○
GSTC3R100N-U	1	12	0.03	3	8.7	5	0°	●	○
GSTC3L125N-U	1.25	12	0.03	3	8.7	5	0°	○	●
GSTC3R125N-U	1.25	12	0.03	3	8.7	5	0°	○	●
GSTC3L150N-U	1.5	12	0.03	3	8.7	5	0°	●	○
GSTC3R150N-U	1.5	12	0.03	3	8.7	5	0°	●	●
GSTC3L200N-U	2	12	0.03	3	8.7	5	0°	○	○
GSTC3R200N-U	2	12	0.03	3	8.7	5	0°	●	●
GSTC3L100R16-U	1	12	0.03	3	8.7	5	16°	●	●
GSTC3R100R16-U	1	12	0.03	3	8.7	5	16°	●	●
GSTC3L125R16-U	1.25	12	0.03	3	8.7	5	16°	○	○
GSTC3R125R16-U	1.25	12	0.03	3	8.7	5	16°	○	●
GSTC3L150R16-U	1.5	12	0.03	3	8.7	5	16°	○	○
GSTC3R150R16-U	1.5	12	0.03	3	8.7	5	16°	●	○
GSTC3L200R16-U	2	12	0.03	3	8.7	5	16°	○	○
GSTC3R200R16-U	2	12	0.03	3	8.7	5	16°	●	●
GSTC4L150N-U	1.5	16	0.05	4	9.5	5	0°	●	○
GSTC4R150N-U	1.5	16	0.05	4	9.5	5	0°	●	●
GSTC4L200N-U	2	16	0.05	4	9.5	5	0°	○	○
GSTC4R200N-U	2	16	0.05	4	9.5	5	0°	○	●
GSTC4L150R16-U	1.5	16	0.05	4	9.5	5	16°	○	○
GSTC4R150R16-U	1.5	16	0.05	4	9.5	5	16°	●	○
GSTC4L200R16-U	2	16	0.05	4	9.5	5	16°	●	○
GSTC4R200R16-U	2	16	0.05	4	9.5	5	16°	●	○

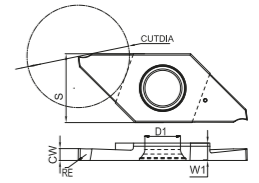
●标准库存Stock ○需预定Available upon Order



切断切槽刀片
Parting and Grooving Inserts

GSTS □ □

切断加工刀片
Parting Inserts



订货号 Ordering code	尺寸 Dimension(mm)							涂层硬质合金 Coated	
	CW	CUTDIA	RE	W1	S	D1	PSIRR	GAT7115	GAT7125
GSTSA2L100N-U	1	6	0.05	2.2	8.7	4.4	0°	●	●
GSTSA2R100N-U	1	6	0.05	2.2	8.7	4.4	0°	○	○
GSTSA2L150N-U	1.5	9	0.05	2.2	8.7	4.4	0°	●	○
GSTSA2R150N-U	1.5	9	0.05	2.2	8.7	4.4	0°	○	●
GSTSA2L200N-U	2	12	0.05	2.2	8.7	4.4	0°	○	○
GSTSA2R200N-U	2	12	0.05	2.2	8.7	4.4	0°	○	○
GSTSB2L150N-U	1.5	14	0.05	2.2	9.5	4.4	0°	○	○
GSTSB2R150N-U	1.5	14	0.05	2.2	9.5	4.4	0°	○	○
GSTSB2L200N-U	2	16	0.05	2.2	9.5	4.4	0°	○	○
GSTSB2R200N-U	2	16	0.05	2.2	9.5	4.4	0°	○	○

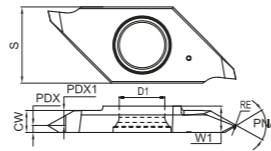
●标准库存Stock ○需预定Available upon Order



螺纹车削刀片
Threading Inserts

GSTT □ □

螺纹加工刀片
Threading Insert



订货号 Ordering code	螺距		尺寸 Dimension(mm)									涂层硬质合金 Coated	
	mm	牙/英寸 Pitch	W1	CW	S	D1	RE	PDX	PDX1	PNA	GAT7115	GAT7125	
GSTT3LA6000	0.2~0.6	64~48	3	2.5	8.7	5.2	-	2.1	0.4	60°	○	○	
GSTT3LB6000	0.2~0.6	64~48	3	2.5	8.7	5.2	-	0.4	2.1	60°	○	○	
GSTT3LA60005	0.5~1.25	48~24	3	2.5	8.7	5.2	0.05	1.7	0.8	60°	○	○	
GSTT3LB60005	0.5~1.25	48~24	3	2.5	8.7	5.2	0.05	0.8	1.7	60°	○	○	
GSTT3LN6001	1~1.5	24~18	3	2.5	8.7	5.2	0.1	1.25	1.25	60°	○	●	
GSTT3LA55005	-	40~16	3	2.5	8.7	5.2	0.05	1.7	0.8	55°	○	○	
GSTT3LB55005	-	40~16	3	2.5	8.7	5.2	0.05	0.8	1.7	55°	○	○	
GSTT3RA6000	0.2~0.6	64~48	3	2.5	8.7	5.2	-	0.4	2.1	60°	○	●	
GSTT3RB6000	0.2~0.6	64~48	3	2.5	8.7	5.2	-	2.1	0.4	60°	○	○	
GSTT3RA60005	0.5~1.25	48~24	3	2.5	8.7	5.2	0.05	0.8	1.7	60°	○	●	
GSTT3RB60005	0.2~0.6	48~24	3	2.5	8.7	5.2	0.05	1.7	0.8	60°	○	○	
GSTT3RN6001	1~1.5	24~18	3	2.5	8.7	5.2	0.1	1.25	1.25	60°	○	●	
GSTT3RA55005	-	40~16	3	2.5	8.7	5.2	0.05	0.8	1.7	55°	○	○	
GSTT3RB55005	-	40~16	3	2.5	8.7	5.2	0.05	1.7	0.8	55°	○	○	



●标准库存 Stock ○需预定 Available upon Order

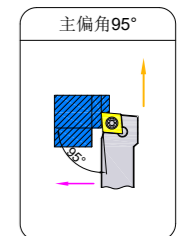
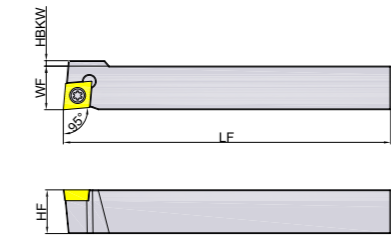
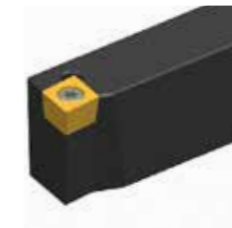
螺纹型号表示方法
Identification System for Threading Insert

GSTT 3 R A 60 01

系列代号-立装螺纹 GSTT series	刀片大小 Inscribed Size	刀片方向 Hand of Insert	刀尖位置 Edge Position	螺纹类型 Thread Standard	刀尖圆弧 Corner Radius
			A-左置 Left N-中值 Middle B-右置 Right		

小零件车刀杆-无偏头(正型)
Turning Tool Holder for Small Parts -Unbiased Head(Positive)

SCLCR/L-Z

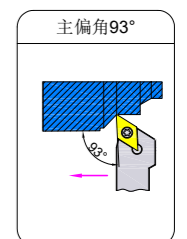
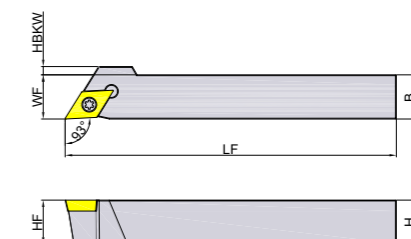


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	HBKW				R	L
SCLCR/L1010JK06Z	10	10	120	10	10	-	CC**0602**	SI60M025065-03509	TT07P	●	●
SCLCR/L1010JK09Z	10	10	120	10	10	2.5	CC**09T3**	SI60M040089-05313	TT15P	●	●
SCLCR/L1212JK09Z	12	12	120	12	12	-	CC**09T3**	SI60M040089-05313	TT15P	●	●
SCLCR/L1616JK09Z	16	16	120	16	16	-	CC**09T3**	SI60M040089-05313	TT15P	●	●

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-无偏头(正型)
Turning Tool Holder for Small Parts -Unbiased Head(Positive)

SDJCR/L-Z

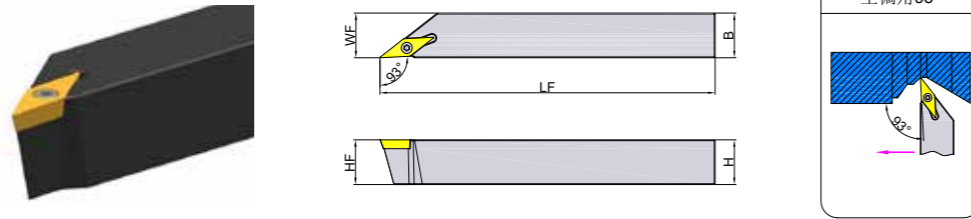


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	HBKW				R	L
SDJCR/L1010JK07Z	10	10	120	10	10	-	DC**0702**	SI60M025065-03509	TT07P	●	●
SDJCR/L1010JK11Z	10	10	120	10	10	3	DC**11T3**	SI60M040089-05313	TT15P	●	●
SDJCR/L1212JK11Z	12	12	120	12	12	1	DC**11T3**	SI60M040089-05313	TT15P	●	●
SDJCR/L1616JK11Z	16	16	120	16	16	-	DC**11T3**	SI60M040089-05313	TT15P	●	●

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-无偏头(正型)
Turning Tool Holder for Small Parts -Unbiased Head(Positive)

SVJ*R/L-Z

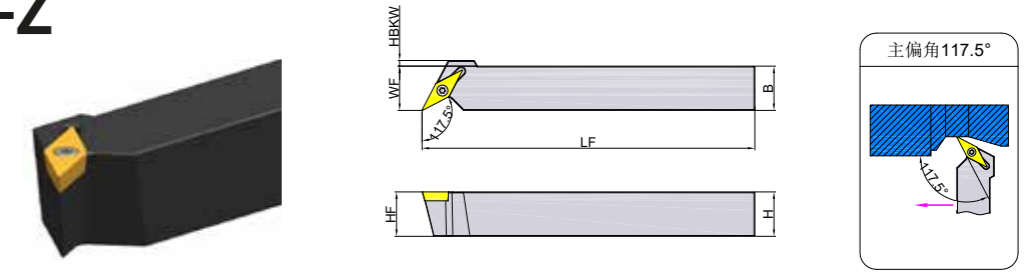


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	HBKW				R	L
SVJBR/L1010JK11Z	10	10	120	10	10	-	VB**1103**	SI60M025065-03509	TT07P	●	●
SVJBR/L1212JK11Z	12	12	120	12	12	-	VB**1103**	SI60M025065-03509	TT07P	●	●
SVJBR/L1616JK11Z	16	16	120	16	16	-	VB**1103**	SI60M025065-03509	TT07P	●	●
SVJCR/L1010JK11Z	10	10	120	10	10	-	VC**1103**	SI60M025065-03509	TT07P	●	●
SVJCR/L1212JK11Z	12	12	120	12	12	-	VC**1103**	SI60M025065-03509	TT07P	●	●
SVJCR/L1616JK11Z	16	16	120	16	16	-	VC**1103**	SI60M025065-03509	TT07P	●	●
SVJPR/L1212JK11Z	12	12	120	12	12	-	VP**1103**	SI60M025065-03509	TT07P	●	●
SVJPR/L1616JK11Z	16	16	120	16	16	-	VP**1103**	SI60M025065-03509	TT07P	●	●

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-无偏头(正型)
Turning Tool Holder for Small Parts -Unbiased Head(Positive)

SVQ*R-Z

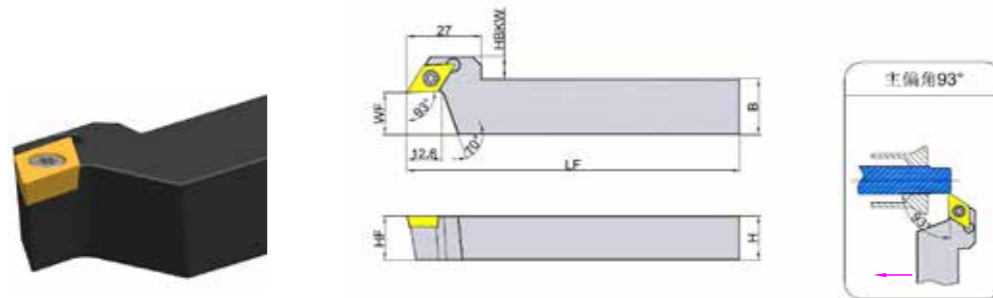


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	HBKW				R	L
SVQCR1010JK11Z	10	10	120	10	10	8	VC**1103**	SI60M025065-03509	TT07P	●	
SVQCR1212JK11Z	12	12	120	12	12	6	VC**1103**	SI60M025065-03509	TT07P	●	
SVQCR1616JK11Z	16	16	120	16	16	2	VC**1103**	SI60M025065-03509	TT07P	●	
SVQPR1010JK08Z	10	10	120	10	10	4	VP**0802**	SI60M020050-02704	TT06P	●	
SVQPR1010JK11Z	10	10	120	10	10	8	VP**1103**	SI60M025065-03509	TT07P	●	
SVQPR1212JK08Z	12	12	120	12	12	2	VP**0802**	SI60M020050-02704	TT06P	●	
SVQPR1212JK11Z	12	12	120	12	12	6	VP**1103**	SI60M025065-03509	TT07P	●	
SVQPR1616JK08Z	16	16	120	16	16	-	VP**0802**	SI60M020050-02704	TT06P	●	
SVQPR1616JK11Z	16	16	120	16	16	2	VP**1103**	SI60M025065-03509	TT07P	●	

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-空间刀杆(正型)
Turning Tool Holder for Small Parts-Space Tool Holder (Positive)

SDJCR

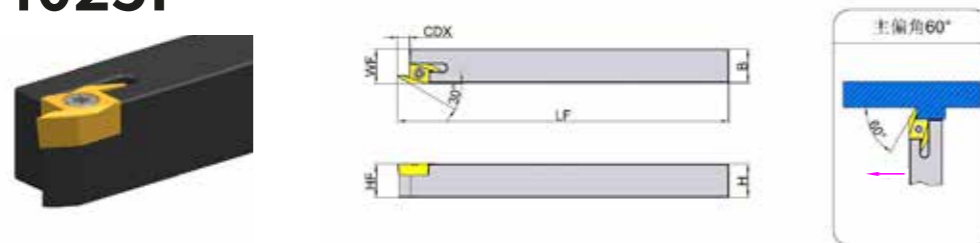


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	HBKW				R	L
SDJCR1216JK11F15	12	16	120	12	15	12	DC**11T3**	SI60M040089-05313	TT15P	●	
SDJCR1620JK11F15	16	20	120	16	15	8	DC**11T3**	SI60M040089-05313	TT15P	●	

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-背车刀杆(GSAB)
Turning Tool Holder for Small Parts - Back Turning (GSAB)

SGSAB-4025F

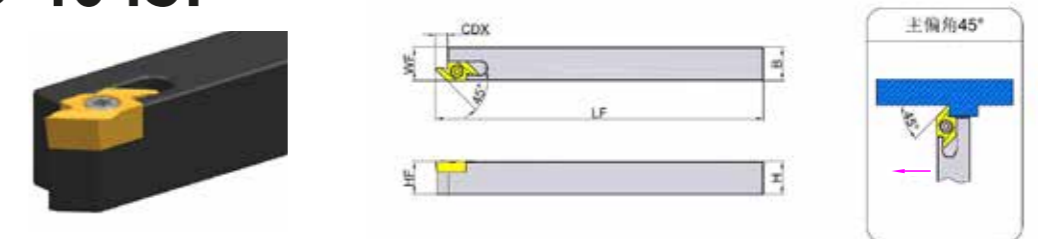


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	CDX				R	L
SGSABR1010JK4025F	10	10	120	10	10.2	4.2	GSAB15R4025**	SI60M030072-04210	TT09P	●	
SGSABR1212JK4025F	12	12	120	12	12.2	4.2	GSAB15R4025**	SI60M030072-04210	TT09P	●	
SGSABR1616JK4025F	16	16	120	16	16.2	4.2	GSAB15R4025**	SI60M030072-04210	TT09P	●	

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-背车刀杆(GSAB)
Turning Tool Holder for Small Parts - Back Turning (GSAB)

SGSAB-4045F

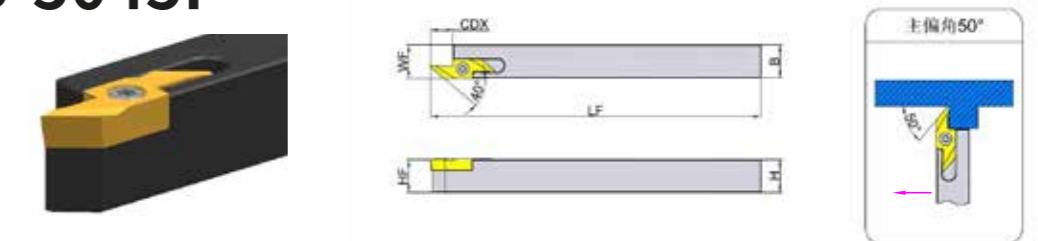


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	CDX				R	L
SGSABR1010JK4045F	10	10	120	10	10.2	4.2	GSAB15R4045**	SI60M030072-04210	TT09P	●	
SGSABR1212JK4045F	12	12	120	12	12.2	4.2	GSAB15R4045**	SI60M030072-04210	TT09P	●	
SGSABR1616JK4045F	16	16	120	16	16.2	4.2	GSAB15R4045**	SI60M030072-04210	TT09P	●	

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-背车刀杆(GSAB)
Turning Tool Holder for Small Parts - Back Turning (GSAB)

SGSAB-5045F

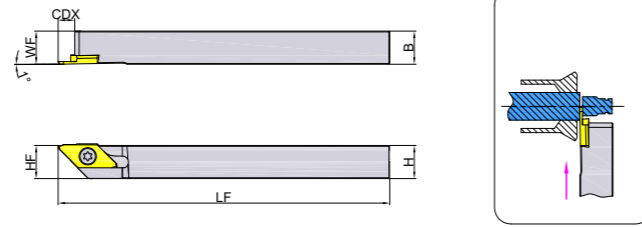


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	CDX				R	L
SGSABR1010JK5045F	10	10	120	10	10.2	8.2	GSAB23R5045**	SI60M030072-04210	TT09P	●	
SGSABR1212JK5045F	12	12	120	12	12.2	8.2	GSAB23R5045**	SI60M030072-04210	TT09P	●	
SGSABR1616JK5045F	16	16	120	16	16.2	8.2	GSAB23R5045**	SI60M030072-04210	TT09P	●	

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-背车/切断切槽/螺纹(GST)
Turning Tool Holder for Small Parts - Back Turning/Grooving and Parting/ Threading (GST)

GST

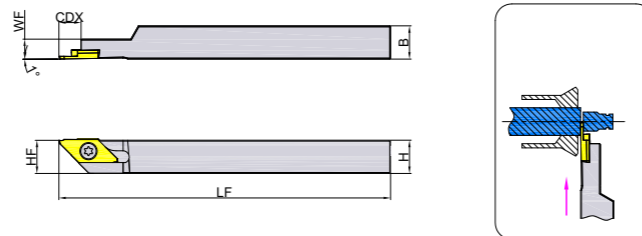


订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	CDX				R	L
GSTR/L1010JK3	10	10	120	10	10	6	GST*3R**	SSAM045095	TT10P	●	○
GSTR/L1010JK4	10	10	120	10	10	8	GST*4R**	SSAM045095	TT10P	●	○
GSTR/L1212JK3	12	12	120	12	12	6	GST*3R**	SSAM045095	TT10P	●	○
GSTR/L1212JK4	12	12	120	12	12	8	GST*4R**	SSAM045095	TT10P	●	○
GSTR/L1616JK3	16	16	120	16	16	6	GST*3R**	SSAM045095	TT10P	●	○
GSTR/L1616JK4	16	16	120	16	16	8	GST*4R**	SSAM045095	TT10P	●	○
GSTR/L2020JK3	20	20	120	20	20	6	GST*3R**	SSAM045095	TT10P	●	○
GSTR/L2020JK4	20	20	120	20	20	8	GST*4R**	SSAM045095	TT10P	●	○

●标准库存 Stock ○需预定 Available upon Order

小零件车刀杆-背车/切断切槽/螺纹(GST-RS)
Turning Tool Holder for Small Parts - Back Turning/Grooving and Parting/ Threading (GST-RS)

GST-RS



订货号 Ordering Code	尺寸 Dimension (mm)						匹配刀片 Insert	螺钉 Screw	扳手 Wrench	库存 Stock	
	H	B	LF	HF	WF	CDX				R	L
GSTR/L1010JK3-RS	10	10	120	10	7.2	6	GST*3R**	SSAM045070	TT10P	●	○
GSTR/L1212JK3-RS	12	12	120	12	7.2	6	GST*3R**	SSAM045070	TT10P	●	○
GSTR/L1010JK4-RS	10	10	120	10	7.2	8	GST*4R**	SSAM045070	TT10P	●	○
GSTR/L1212JK4-RS	12	12	120	12	7.2	8	GST*4R**	SSAM045070	TT10P	●	○

●标准库存 Stock ○需预定 Available upon Order

加工案例
Cutting Cases

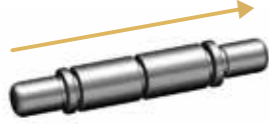
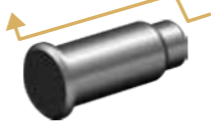
GAT7115

小传动杆 Small Transmission Shaft	长轴件 Long Shaft
使用刀片 Insert: DCGT11T302M-BK-GAT7115 加工材料 Material: 12L14 切削速度 Vc: 47 m/min 进给 f: 0.025 mm/rev 切深 ap: 3 mm	使用刀片 Insert: DCGT11T302M-BF-GAT7115 加工材料 Material: SUS304 切削速度 Vc: 14m/min 进给 f: 0.035 mm/rev 切深 ap: 0.1 mm
GESAC GAT7115 8000pcs 竞品 competitor 3000pcs 加工数量 Qty +167%	GESAC GAT7115 7000pcs 竞品 competitor 4000pcs 加工数量 Qty +75%

种植体 Implant	汽配件 Auto Parts
使用刀片 Insert: DCGT11T302M-BF-GAT7115 加工材料 Material: SUS465 切削速度 Vc: 29 m/min 进给 f: 0.02 mm/rev 切深 ap: 1 mm	使用刀片 Insert: VBGT110302M-BF-GAT7115 加工材料 Material: GH625 切削速度 Vc: 50 m/min 进给 f: 0.05 mm/rev 切深 ap: 0.1 mm
GESAC GAT7115 85pcs 竞品 competitor 65pcs 加工数量 Qty +23%	GESAC GAT7115 93pcs 竞品 competitor 80pcs 加工数量 Qty +16%

加工案例
Cutting Cases

GAT7120

打印机轴 Printer Shaft	轴 Shaft
使用刀片 insert: TNGG160402R-P-GAT7120 加工材料 material: 1215 切削速度 Vc: 88 m/min 进给 f: 0.055 mm/rev 切深 ap: 1 mm 	使用刀片 insert: VBGT110301R-S-GAT7120 加工材料 material: SUS304 切削速度 Vc: 66 m/min 进给 f: 0.045 mm/rev 切深 ap: 0.1 mm 
GAT7120 1200pcs 竞品 competitor 1050pcs +14% 加工数量 Qty	GAT7120 7500pcs 竞品 competitor 4000pcs +88% 加工数量 Qty

GAT7120A

垫片 Shim	管接头 Tube Fitting
使用刀片 insert: TNGG160402M-AK-GAT7120A 加工材料 material: 1215 切削速度 Vc: 110m/min 进给 f: 0.05 mm/rev 切深 ap: 0.04 mm 	使用刀片 insert: PVCGT110302M-BF-GAT7120A 加工材料 material: C45Pb 切削速度 Vc: 108m/min 进给 f: 0.07mm/r 切深 ap: 0.07-0.1 mm 
GAT7120A 4000pcs 竞品 competitor 4000pcs 加工数量 Qty	GAT7120A 1350pcs 竞品 competitor 1350pcs 加工数量 Qty

GAT7125

轴 Shaft	手表壳 Watch Shell
使用刀片 insert: DCGT11T302M-BF-GAT7125 加工材料 material: SUS304 切削速度 Vc: 66 m/min 进给 f: 0.04 mm/rev 切深 ap: 0.03 mm 	使用刀片 insert: TNGG160402R-P-GAT7125 加工材料 material: SUS316 切削速度 Vc: 165 m/min 进给 f: 0.05 mm/rev 切深 ap: 0.03 mm 
GAT7125 180pcs 竞品 competitor 150pcs +20% 加工数量 Qty	GAT7125 135pcs 竞品 competitor 120pcs +12% 加工数量 Qty

小零件车削加工推荐切削参数

Recommended Cutting Data for Small Parts Turning Machining

车削加工推荐参数

Recommended Cutting Data

ISO	工件材料 Material	硬度 (HB) Hardness	槽型 Geometry	牌号 Grade	线速度 Vc(m/min) Cutting Speed	切深 ap(mm) Cutting Depth	进给 f(mm/rev) Feed
P	Steel 钢	≤ 300	P	GAT7115	120(60-180)	0.1(0.03-0.5)	0.1(0.03-0.18)
				GAT7120	90(40-140)		
				GAT7125	90(40-150)		
			G	GAT7115	120(60-180)	0.8(0.3-2.5)	0.05(0.01-0.08)
				GAT7120	90(40-140)		
				GAT7125	90(40-150)		
			S	GAT7115	120(60-180)	0.8(0.3-2.0)	0.12(0.08-0.25)
				GAT7120	90(40-140)		
				GAT7125	90(40-150)		
			AF	GAT7115	120(60-180)	0.16(0.02-0.2)	0.08(0.03-0.12)
				GAT7125	90(40-150)		
				GAT7120A	100(50-160)		
			AK	GAT7115	120(60-180)	1.4(0.3-2.5)	0.07(0.02-0.12)
				GAT7125	90(40-150)		
				GAT7120A	100(50-160)		
			BF	GAT7115	120(60-180)	0.7(0.2-1.2)	0.06(0.02-0.12)
				GAT7125	90(40-150)		
				GAT7120A	100(50-160)		
			BK	GAT7115	120(60-180)	1.6(0.8-2.5)	0.08(0.03-0.12)
				GAT7125	90(40-150)		
				GAT7120A	100(50-160)		
			MM	GAT7115	120(60-180)	1.8(0.8-3.0)	0.06(0.03-0.1)
				GAT7125	90(40-150)		
				GAT7120A	100(50-160)		

小零件车削加工推荐切削参数

Recommended Cutting Data for Small Parts Turning Machining

车削加工推荐参数

Recommended Cutting Data

ISO	工件材料 Material	硬度 (HB) Hardness	槽型 Geometry	牌号 Grade	线速度 Vc(m/min) Cutting Speed	切深 ap(mm) Cutting Depth	进给 f(mm/rev) Feed
M	Stainless Steel 不锈钢	≤ 300	P	GAT7115	100(60-150)	0.1(0.03-0.5)	0.1(0.03-0.18)
				GAT7120	80(40-120)		
				GAT7125	80(40-130)		
			G	GAT7115	100(60-150)	0.8(0.3-2.5)	0.05(0.01-0.08)
				GAT7120	80(40-120)		
				GAT7125	80(40-130)		
			S	GAT7115	100(60-150)	0.8(0.3-2.0)	0.12(0.08-0.25)
				GAT7120	80(40-120)		
				GAT7125	80(40-130)		
			AF	GAT7115	100(60-150)	0.16(0.02-0.2)	0.08(0.03-0.12)
				GAT7125	80(40-130)		
			AK	GAT7115	100(60-150)	1.4(0.7-2.5)	0.07(0.02-0.12)
				GAT7125	80(40-130)		
			BF	GAT7115	100(60-150)	0.7(0.2-1.2)	0.06(0.02-0.12)
				GAT7125	80(40-130)		
			BK	GAT7115	100(60-150)	1.6(0.8-2.5)	0.08(0.03-0.12)
				GAT7125	80(40-130)		
			MM	GAT7115	100(60-150)	1.8(0.8-3.0)	0.06(0.03-0.1)
				GAT7125	80(40-130)		

小零件车削加工推荐切削参数

Recommended Cutting Data for Small Parts Turning Machining

车削加工推荐参数
Recommended Cutting Data

ISO	工件材料 Material	硬度 (HB) Hardness	系列 Series	牌号 Grade	线速度 Vc(m/min) Cutting Speed	切深 ap(mm) Cutting Depth	切槽进给 f1(mm/rev) Grooving Feed	横向进给 f2(mm/rev) Surfacing Feed			
P	Steel 钢	≤ 300	GSAB	GAT7115	120(60-180)	2.0(0.5-5.0)	0.02(0.01-0.03)	0.05(0.01-0.1)			
				GAT7120	90(40-140)						
				GAT7125	90(40-150)						
			GSTB	GAT7115	120(60-180)	2.5(0.5-6.0)	0.02(0.01-0.03)	0.05(0.01-0.15)			
				GAT7120	90(40-140)						
				GAT7125	90(40-150)						
			GSTC	GAT7115	120(60-180)	-	0.02(0.01-0.03)	-			
				GAT7125	90(40-150)						
			GSTS	GAT7115	120(60-180)	-	0.02(0.01-0.03)	-			
				GAT7125	90(40-150)						
			GSTT	GAT7115	120(60-180)	-	-	-			
				GAT7125	90(40-150)						
			M	不锈钢 (Stainless steel)	≤ 300	GSAB	GAT7115	100(60-150)	2.0(0.5-5.0)	0.02(0.01-0.03)	0.05(0.01-0.1)
							GAT7120	80(40-120)			
GAT7125	80(40-130)										
GSTB	GAT7115	100(60-150)				2.5(0.5-6.0)	0.02(0.01-0.03)	0.05(0.01-0.15)			
	GAT7120	80(40-120)									
	GAT7125	80(40-130)									
GSTC	GAT7115	100(60-150)				-	0.015(0.01-0.02)	-			
	GAT7125	80(40-130)									
GSTS	GAT7115	100(60-150)				-	0.015(0.01-0.02)	-			
	GAT7125	80(40-130)									
GSTT	GAT7115	100(60-150)				-	-	-			
	GAT7125	80(40-130)									

小零件车削加工推荐切削参数

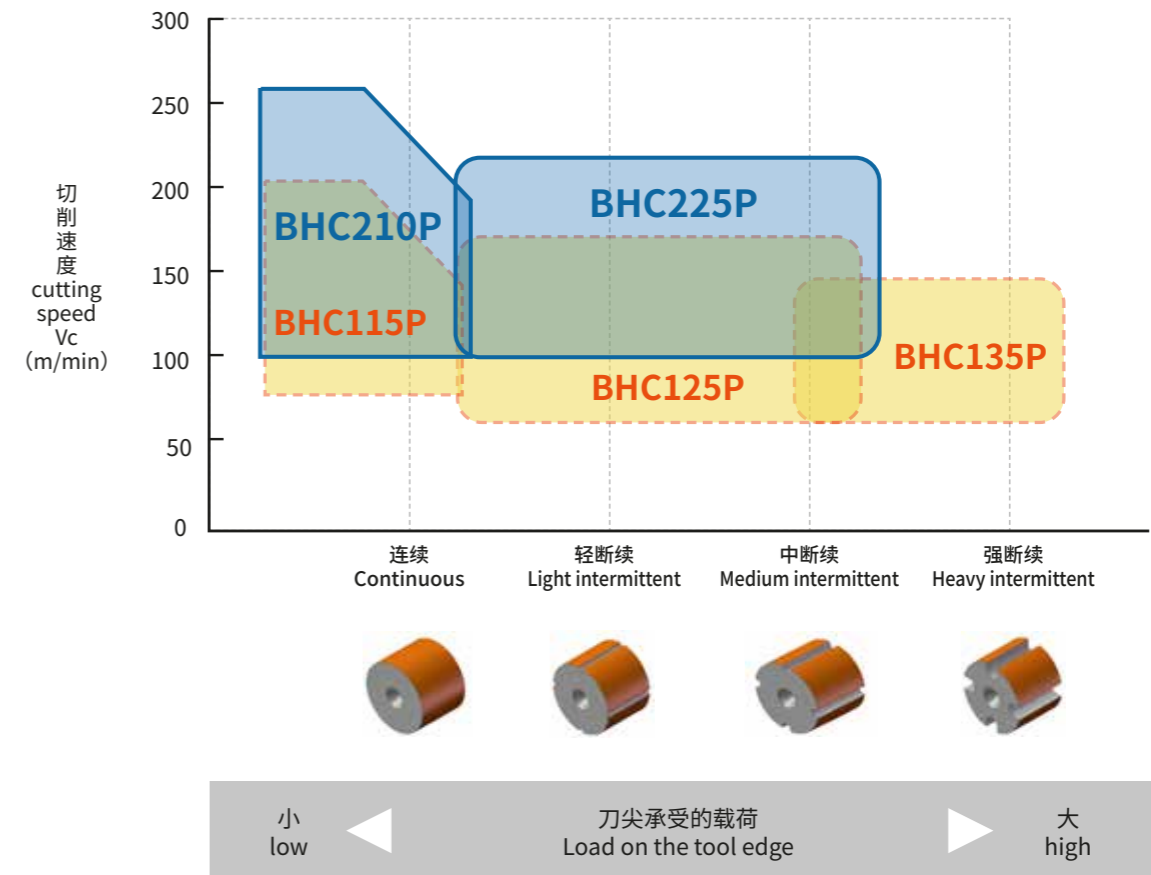
Recommended Cutting Data for Small Parts Turning Machining

GSTT切深量与走刀次数
Cutting Depth and Cutting Times

种类 (Type)	螺距 (Pitch)	型号 (Model)	刀尖 (Knife Point) R (RE)	总切深 (Total Cutting Depth) (mm)	走刀次数 (回) (Times of Cutting)	1	2	3	4	5	6	7	8	9	10	
	mm* 牙 / 英寸															
公制螺纹 (Metric thread)	外螺纹 (External thread)	GSTT 3R/L A/B6000	Max 0.05 平坦 (Smooth)	0.20mm	4	0.06	0.04	0.03	0.02							
				0.25mm	4	0.07	0.06	0.04	0.02							
				0.30mm	4	0.08	0.07	0.06	0.02							
				0.35mm	5	0.08	0.07	0.06	0.04	0.02						
				0.40mm	5	0.10	0.08	0.06	0.04	0.02						
				0.45mm	6	0.10	0.08	0.06	0.04	0.04	0.02					
		0.50mm	GSTT 3R/L A/B6000	0.05	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02				
			GSTT 3R/L A/B60005		0.33	5	0.10	0.10	0.07	0.04	0.02					
		0.60mm	GSTT 3R/L A/B6000	Max 0.05 平坦 (Smooth)	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02			
			GSTT 3R/L A/B60005		0.40	6	0.10	0.10	0.08	0.06	0.04	0.02				
		0.70mm	GSTT 3R/L A/B60005	0.05	6	0.10	0.10	0.10	0.10	0.06	0.02					
		0.75mm		0.05	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02				
		0.80mm	GSTT 3R/L A/B60005	0.05	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02				
				0.05	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02			
		1.00mm	GSTT 3R/L A/B60005	0.10	7	0.18	0.15	0.12	0.10	0.06	0.03	0.02				
				0.05	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02		
		1.25mm	GSTT 3R/L N6001	0.10	8	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.02			
				0.10	8	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.02			
1.50mm	GSTT 3R/L N6001	0.10	10	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05	0.02			

应用介绍

Application Introduction



淬火钢材料加工用PCBN车削刀具BHC200P系列 PCBN BHC200P Series for Turning Hardened Steel

- 采用全CBN焊片，去除硬质合金衬底，提升焊接稳定性，进一步强化产品切削加工稳定性。
Solid CBN without carbide are used to improve the welding stability, and further strengthen the stability of product cutting.
- 新一代TiAlSiN涂层，抗化学磨损性能好，提升高线速度下的使用寿命。
The new generation of TiAlSiN coating has good chemical wear resistance and improves the cutting life while at highly speed.
- 新增双面焊片系列，相比原单面焊片可用刀头数增加一倍，提高了产品的经济性。
The new double-sided welding pad series doubles the number of available tool edges compared with the original single-sided welding pad, which improves the economy of the product;
- 适用于淬火钢的连续到中等断续加工，典型零件有齿轮、传动轴、轴承等。
It is suitable for continuous to medium intermittent processing of hardened steel. Typical parts include gears, transmission shafts, bearings, etc.

典型零件 Typical part

			
齿轮 Gear	轴承 Bearing	传动轴 Transmission shaft	汽车零件 Automobile parts

全新淬火钢车削涂层PCBN牌号应用一览表

Application Summary of New Coated PCBN Grades for Hardened steel

BHC210P适用于连续到轻断续加工
BHC210P is suitable for continuous to light interrupted machining of hardened steel.

	TiSiN层	
	TiAlSiN层	<ul style="list-style-type: none"> 新一代TiAlSiN涂层，抗化学磨损性能好，提升高线速度下的使用寿命。 The new TiAlSiN coating has good chemical wear resistance and improves the service life at high linear speed.
	AlTiN层	
	AlTiN层	<ul style="list-style-type: none"> 低含量细晶实体CBN基体，具有优异的耐磨性、红硬性及稳定性。 Low content fine-grained CBN matrix has excellent wear resistance, red hardness and stability.

被加工材料 Workpiece	GCr15(58-62HRC)	
刀具型号 Test tool	DNGA150408LS-2	
切削参数 Parameters	Vc=180m/min, f=0.1mm/rev, ap=0.1mm, 水基乳化液/外冷 (wet/external) Emulsion/externa	

后刀面磨损
Flank surface abrasion VB (mm)

切削距离cutting distance (km)

Com.A涂层CBN
Com.A coated CBN

BHC210P
耐磨性能好
Good wear resistance

表面粗糙度
Surface roughness Ra (µm)

切削距离cutting distance (km)

Com.A涂层CBN
Com.A coated CBN

BHC210P
表面质量优异
Excellent surface quality

BHC225P适用于连续到断续加工
BHC225P is suitable for continuous to interrupted machining of hardened steel.

	TiSiN层	
	TiAlSiN层	<ul style="list-style-type: none"> 新一代TiAlSiN涂层，抗化学磨损性能好，提升高线速度下的使用寿命。 The new TiAlSiN coating has good chemical wear resistance and improves the service life at high speed.
	AlTiN层	
	AlTiN层	<ul style="list-style-type: none"> 混晶实体CBN基体，具有兼具优异的耐磨性、抗崩性及稳定性。 Mixed crystal solid CBN matrix has excellent wear resistance, toughness and stability.

被加工材料 Workpiece	SKD11(58-62HRC)	
刀具型号 Test tool	TNGA160408M-3	
切削参数 Parameters	Vc=150m/min, f=0.12mm/rev, ap=0.2mm, 水基乳化液/外冷 (wet/external)	

后刀面磨损
Flank surface abrasion VB (mm)

切削距离cutting distance (km)

崩刃break

Com.B coated ceramics

Com.A涂层CBN
Com.A coated CBN

BHC225P
耐磨性能好
Good wear resistance

切削距离
tool life (km)

BHC225P
具有更优异的使用寿命及稳定性
Better tool life and stability

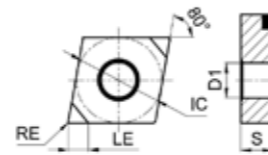
Com.A涂层CBN
Com.A coated CBN

Com.B coated ceramics

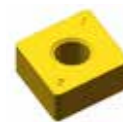
车削刀片(负型)
Turning Inserts (Negative)

CN□□

菱形80°有孔
Rhombic80°,with Hole



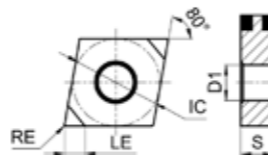
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		LE	IC	S	D1	RE	BHC210P	BHC225P
CNGA120404LS-2	2	2.2	12.7	4.76	5.16	0.4	●	●
CNGA120408LS-2	2	2.2	12.7	4.76	5.16	0.8	●	
CNGA120404M-2	2	2.2	12.7	4.76	5.16	0.4		●
CNGA120408M-2	2	2.2	12.7	4.76	5.16	0.8	●	●
CNGA120412M-2	2	2.2	12.7	4.76	5.16	1.2		●
CNGA120408H-2	2	2.2	12.7	4.76	5.16	0.8	●	●



●标准库存Stock ○需预定Available upon Order

CN□□

菱形80°有孔
Rhombic80°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
CNGA120404LS-4	4	2.2	12.7	4.76	5.16	0.4	●	
CNGA120408LS-4	4	2.2	12.7	4.76	5.16	0.8	●	
CNGA120404M-4	4	2.2	12.7	4.76	5.16	0.4		●
CNGA120408M-4	4	2.2	12.7	4.76	5.16	0.8		●
CNGA120412M-4	4	2.2	12.7	4.76	5.16	1.2		●
CNGA120408H-4	4	2.2	12.7	4.76	5.16	0.8		●

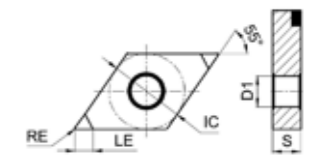


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

DN□□

菱形55°有孔
Rhombic55°,with Hole



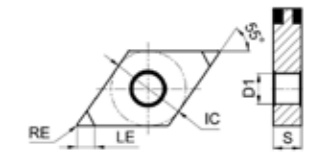
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		LE	IC	S	D1	RE	BHC210P	BHC225P
DNGA150404LS-2	2	2.2	12.7	4.76	5.16	0.4	○	
DNGA150408LS-2	2	2.2	12.7	4.76	5.16	0.8	●	
DNGA150404M-2	2	2.2	12.7	4.76	5.16	0.4	●	●
DNGA150408M-2	2	2.2	12.7	4.76	5.16	0.8		●
DNGA150412M-2	2	2.2	12.7	4.76	5.16	1.2		●
DNGA150608M-2	2	2.2	12.7	6.35	5.16	0.8		○
DNGA150612M-2	2	2.2	12.7	6.35	5.16	1.2		○



●标准库存Stock ○需预定Available upon Order

DN□□

菱形55°有孔
Rhombic55°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
DNGA150404LS-4	4	2.2	12.7	4.76	5.16	0.4	●	
DNGA150408LS-4	4	2.2	12.7	4.76	5.16	0.8	●	
DNGA150404M-4	4	2.2	12.7	4.76	5.16	0.4		●
DNGA150408M-4	4	2.2	12.7	4.76	5.16	0.8		●
DNGA150412M-4	4	2.2	12.7	4.76	5.16	1.2		●
DNGA150604M-4	4	2.2	12.7	6.35	5.16	0.4		●
DNGA150608M-4	4	2.2	12.7	6.35	5.16	0.8		●
DNGA150612M-4	4	2.2	12.7	6.35	5.16	1.2		●

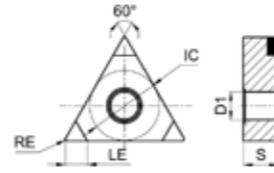


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

TN□□

三角形60°有孔
Triangle 60°,with Hole



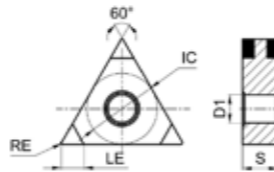
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
TNGA160404LS-3	3	2.2	9.525	4.76	3.81	0.4	●	
TNGA160408LS-3	3	2.2	9.525	4.76	3.81	0.8	●	
TNGA160404M-3	3	2.2	9.525	4.76	3.81	0.4	●	●
TNGA160408M-3	3	2.2	9.525	4.76	3.81	0.8	●	●
TNGA160412M-3	3	2.2	9.525	4.76	3.81	1.2		○
TNGA160404H-3	3	2.2	9.525	4.76	3.81	0.4		●
TNGA160408H-3	3	2.2	9.525	4.76	3.81	0.8		●



●标准库存Stock ○需预定Available upon Order

TN□□

三角形60°有孔
Triangle 60°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
TNGA160404LS-6	6	2.2	9.525	4.76	3.81	0.4	●	
TNGA160408LS-6	6	2.2	9.525	4.76	3.81	0.8	●	
TNGA160404M-6	6	2.2	9.525	4.76	3.81	0.4		●
TNGA160408M-6	6	2.2	9.525	4.76	3.81	0.8		●
TNGA160412M-6	6	2.2	9.525	4.76	3.81	1.2		●
TNGA160408H-6	6	2.2	9.525	4.76	3.81	0.8		●

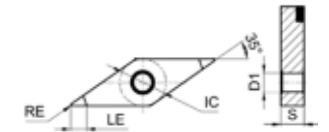


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

VN□□

菱形35°有孔
Rhombic35°,with Hole



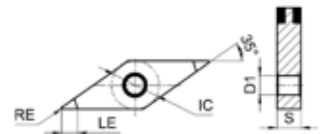
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
VNGA160404LS-2	2	2.2	9.525	4.76	3.81	0.4	●	
VNGA160408LS-2	2	2.2	9.525	4.76	3.81	0.8	●	
VNGA160404M-2	2	2.2	9.525	4.76	3.81	0.4	●	●
VNGA160408M-2	2	2.2	9.525	4.76	3.81	0.8	○	●
VNGA160412M-2	2	2.2	9.525	4.76	3.81	1.2		●



●标准库存Stock ○需预定Available upon Order

VN□□

菱形35°有孔
Rhombic35°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
VNGA160404LS-4	4	2.2	9.525	4.76	3.81	0.4	●	
VNGA160408LS-4	4	2.2	9.525	4.76	3.81	0.8	●	
VNGA160404M-4	4	2.2	9.525	4.76	3.81	0.4		●
VNGA160408M-4	4	2.2	9.525	4.76	3.81	0.8		●
VNGA160412M-4	4	2.2	9.525	4.76	3.81	1.2		●

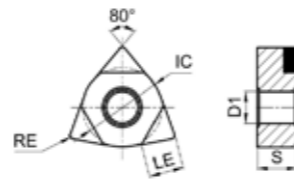


●标准库存Stock ○需预定Available upon Order

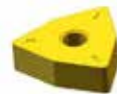
车削刀片(负型)
Turning Inserts (Negative)

WN □ □

六边形80°有孔
Hexagon 80°, with Hole



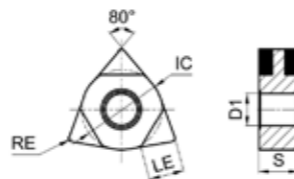
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
WNGA080404LS-3	3	2.2	12.7	4.76	5.16	0.4	●	
WNGA080408LS-3	3	2.2	12.7	4.76	5.16	0.8	●	
WNGA080404M-3	3	2.2	12.7	4.76	5.16	0.4		●
WNGA080408M-3	3	2.2	12.7	4.76	5.16	0.8		●
WNGA080412M-3	3	2.2	12.7	4.76	5.16	1.2		○
WNGA080408H-3	3	2.2	12.7	4.76	5.16	0.8		●



●标准库存Stock ○需预定Available upon Order

WN □ □

六边形80°有孔
Hexagon 80°, with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
WNGA080404LS-6	6	2.2	12.7	4.76	5.16	0.4	●	
WNGA080408LS-6	6	2.2	12.7	4.76	5.16	0.8	●	
WNGA080404M-6	6	2.2	12.7	4.76	5.16	0.4		●
WNGA080408M-6	6	2.2	12.7	4.76	5.16	0.8		●
WNGA080412M-6	6	2.2	12.7	4.76	5.16	1.2		●

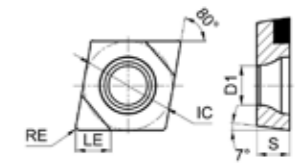


●标准库存Stock ○需预定Available upon Order

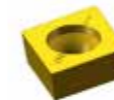
车削刀片(正型)
Turning Inserts (Positive)

CC □ □

菱形80°有孔
Rhombic 80°, with Hole



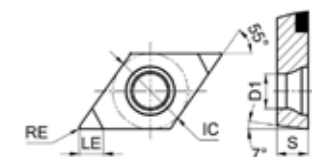
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
CCGW060202L-2	2	2	6.35	2.38	2.8	0.2	●	●
CCGW060204L-2	2	2	6.35	2.38	2.8	0.4	●	●
CCGW060208L-2	2	2	6.35	2.38	2.8	0.8	○	
CCGW060204M-2	2	2	6.35	2.38	2.8	0.4	●	●
CCGW060208M-2	2	2	6.35	2.38	2.8	0.8	●	●
CCGW09T304L-2	2	2	9.525	3.97	4.4	0.4	●	●
CCGW09T308L-2	2	2	9.525	3.97	4.4	0.8	○	
CCGW09T304M-2	2	2	9.525	3.97	4.4	0.4	●	●
CCGW09T308M-2	2	2	9.525	3.97	4.4	0.8		●
CCGW09T304H-2	2	2	9.525	3.97	4.4	0.4		●
CCGW09T308H-2	2	2	9.525	3.97	4.4	0.8		●



●标准库存Stock ○需预定Available upon Order

DC □ □

菱形55°有孔
Rhombic 55°, with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
DCGW070202L-2	2	2	6.35	2.38	2.8	0.2	●	●
DCGW070204L-2	2	2	6.35	2.38	2.8	0.4	●	●
DCGW070204M-2	2	2	6.35	2.38	2.8	0.4		○
DCGW070208M-2	2	2	6.35	2.38	2.8	0.8		●
DCGW11T304L-2	2	2	9.525	3.97	4.4	0.4	●	
DCGW11T308L-2	2	2	9.525	3.97	4.4	0.8	●	
DCGW11T302M-2	2	2	9.525	3.97	4.4	0.2	●	
DCGW11T304M-2	2	2	9.525	3.97	4.4	0.4	●	●
DCGW11T308M-2	2	2	9.525	3.97	4.4	0.8	●	●

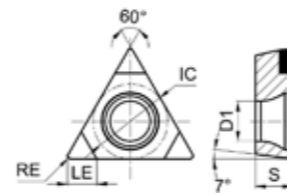


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TC□□

三角形60°有孔
Triangle 60°,with Hole



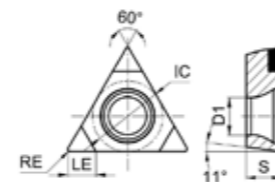
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
TCGW110304L-3	3	2	6.35	3.18	3.4	0.4	○	
TCGW110304M-3	3	2	6.35	3.18	3.4	0.4		○
TCGW110308M-3	3	2	6.35	3.18	3.4	0.8		○



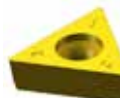
●标准库存Stock ○需预定Available upon Order

TP□□

三角形60°有孔
Triangle 60°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
TPGW080202L-1	1	2	4.76	2.38	2.34	0.2	○	
TPGW080204L-1	1	2	4.76	2.38	2.34	0.4	●	
TPGW080208L-1	1	2	4.76	2.38	2.34	0.8	○	
TPGW090202L-3	3	2	5.56	2.38	2.8	0.2	○	
TPGW090204L-3	3	2	5.56	2.38	2.8	0.4	●	
TPGW090208L-3	3	2	5.56	2.38	2.8	0.8	○	
TPGW110204L-3	3	2	6.35	2.38	2.8	0.4	○	
TPGW110208M-3	3	2	6.35	2.38	2.8	0.8		○
TPGW110302L-3	3	2	6.35	3.18	3.4	0.2	○	
TPGW110304L-3	3	2	6.35	3.18	3.4	0.4	●	●
TPGW110308L-3	3	2	6.35	3.18	3.4	0.8	●	●
TPGW110304M-3	3	2	6.35	3.18	3.4	0.4		○
TPGW110308M-3	3	2	6.35	3.18	3.4	0.8		○

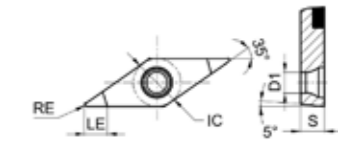


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VB□□

菱形35°有孔
Rhombic 35°,with Hole



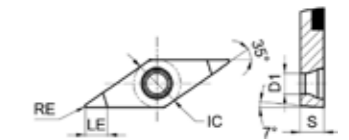
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
VBGW110302L-2	2	2	6.35	3.18	2.8	0.2	○	
VBGW110304L-2	2	2	6.35	3.18	2.8	0.4	○	
VBGW110308L-2	2	2	6.35	3.18	2.8	0.8	○	
VBGW110304M-2	2	2	6.35	3.18	2.8	0.4		●
VBGW110308M-2	2	2	6.35	3.18	2.8	0.8		○
VBGW160404L-2	2	2	9.525	4.76	4.4	0.4	●	
VBGW160408L-2	2	2	9.525	4.76	4.4	0.8	○	
VBGW160404M-2	2	2	9.525	4.76	4.4	0.4		●
VBGW160408M-2	2	2	9.525	4.76	4.4	0.8	●	●



●标准库存Stock ○需预定Available upon Order

VC□□

菱形35°有孔
Rhombic 35°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					涂层PCBN Coated PCBN	
		LE	IC	S	D1	RE	BHC210P	BHC225P
VCGW110302L-2	2	2	6.35	3.18	2.8	0.2	○	
VCGW110304L-2	2	2	6.35	3.18	2.8	0.4	●	
VCGW110308L-2	2	2	6.35	3.18	2.8	0.8	○	
VCGW110308M-2	2	2	6.35	3.18	2.8	0.8		○
VCGW160404L-2	2	2	9.525	4.76	4.4	0.4	○	○
VCGW160408L-2	2	2	9.525	4.76	4.4	0.8	○	
VCGW160402M-2	2	2	9.525	4.76	4.4	0.2	●	
VCGW160404M-2	2	2	9.525	4.76	4.4	0.4	●	



●标准库存Stock ○需预定Available upon Order

应用案例 Application

案例1: 行星齿轮加工
Case 1: Planet gear

工件 Workpiece	20CrMnTiH (HRC58~62)		
加工方式 Processing methods	内孔 (D32.13) 连续精车削 Internal hole (D32.13) continuous finishing		
切削参数 Parameters	Vc=180m/min, fn=0.06mm/rev, ap=0.15mm, 干切(Dry)		
测试刀具 Test tool	CNGA120408LS-4-BHC210P		

案例2: 同步环加工
Case 2: Synchronizer ring

工件 Workpiece	20CrMnTiH (HRC56)		
加工方式 Processing methods	内孔 (D100) 连续精车削 Internal hole (D100) continuous finishing		
切削参数 Parameters	Vc=157m/min, fn=0.05mm/rev, ap=0.15mm, 水基乳化液/外冷 (wet/external) Emulsion/ external		
测试刀具 Test tool	VBGW160404L-2-BHC210P		

案例3: 轮毂单元外法兰加工
Case 3: Hub of wheel hub unite

工件 Workpiece	65Mn (HRC60)		
加工方式 Processing methods	内孔 (D70) 壁连续精车削 Internal hole (D70) continuous finishing		
切削参数 Parameters	Vc=250m/min, fn=0.17mm/rev, ap=0.2mm, 水基乳化液/内冷 (wet/internal) Emulsion/ external		
测试刀具 Test tool	VNGA160408M-4-BHC225P		

应用案例 Application

案例4: 二级行星轮加工
Case 4: Second stage planetary gear

工件 Workpiece	18CrNiMo7A (HRC58~62)		
加工方式 Processing methods	内孔 (D316) 连续精车削 Internal hole (D316) continuous finishing		
切削参数 Parameters	Vc=104m/min, fn=0.37mm/rev, ap=0.25mm, 水基乳化液/外冷 (wet/external)		
测试刀具 Test tool	CNGA120408M-2-BHC225P		

推荐切削参数 Recommended Cutting Data

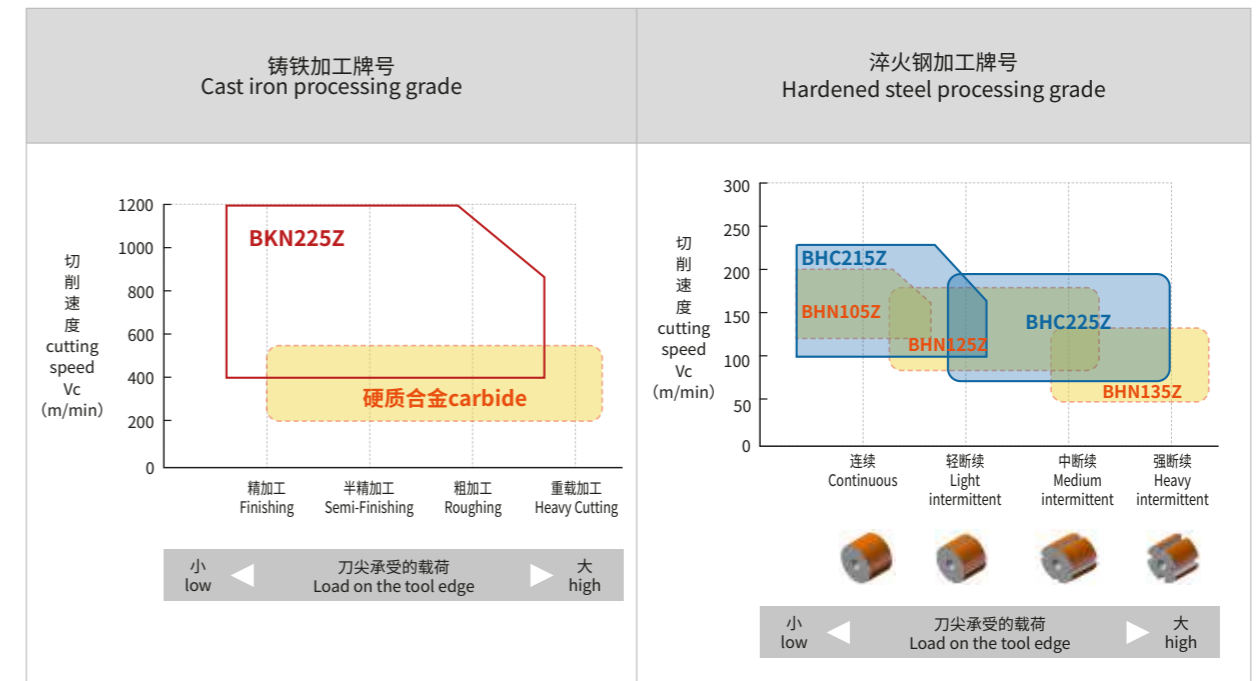
ISO	工件材料 Material	硬度 (HB) Hardness	适用于 used for	牌号 Grade	加工类型 Application	下限 - 推荐 - 上限 Lower limit-Recommend-Upper limit		
						切削速度 cutting speed Vc(m/min)	切深 Cutting Depth ap(mm)	进给量 Feedrate f(mm/rev)
H	高硬度材料 High hardness	≥ HRC50	连续 ~ 轻断续 Continuous and light interrupted processing	BHC210P	精加工 Finishing	140-180-260	0.05-0.10-0.20	0.05-0.08-0.15
					半精加工 Semi finishing	100-150-180	0.10-0.20-0.35	0.08-0.12-0.25
				BHC225P	精加工 Finishing	120-160-220	0.05-0.10-0.20	0.05-0.08-0.15
					半精加工 Semi finishing	100-140-170	0.10-0.20-0.35	0.08-0.13-0.25
					粗加工 Roughing	100-120-140	0.25-0.35-0.50	0.10-0.20-0.25



立柱式PCBN车削刀具YZ系列 Solid Welding PCBN YZ Series for Turning Hardened Steel and Cast Iron

- 具有更好的稳定性、更高的使用寿命和更广泛的应用范围。
Better stability, longer tool life and wider application range.
- 立柱式通焊结构，双面可用，经济性更高。
Solid welding CBN Available on both sides, more economical.
- 全自动真空焊接工艺，具有牢固的焊接稳定性。
Automatic vacuum welding process has strong welding stability.
- 代替硬质合金和陶瓷材料，实现淬火钢及铸铁材料的高效加工。
Substitute carbide and ceramic materials to realize efficient processing of hardened steel and cast iron.

应用介绍 Application Introduction



典型零件 Typical part



齿轮
Gear



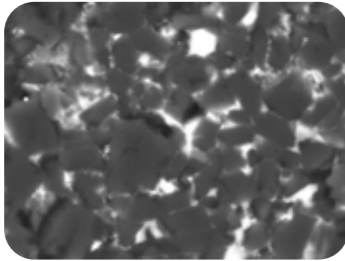

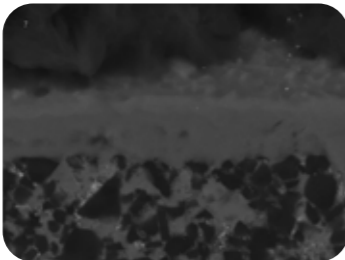
轴承
Bearing



空调压缩机
Compressor

全新立柱式PCBN牌号应用一览表

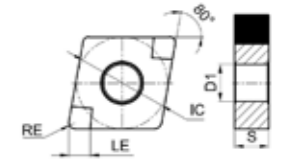
Application Summary of New Solid Welding PCBN Grade

牌号 Grade	颜色 Color	材质结构 Grade Microstructure	特点 Grade Feature
BKN225Z	无涂层 Uncoated		<ul style="list-style-type: none"> 抗冲击性能和耐磨性能优异，通用性较好 Excellent impact and wear resistance, it has strong universality. 适合于灰铸铁、高硬度合金铸铁的半精加工和精加工 Semi-finishing and finishing of grey cast iron and high hard alloy cast iron.
BHC215Z	古铜色		<ul style="list-style-type: none"> 新一代TiAlSiN涂层，抗化学磨损性能好，提升高线速度下的使用寿命 The new TiAlSiN coating has good chemical wear resistance and improves the service life at high linear speed. 低含量细晶实体CBN基体，具有优异的耐磨性、红硬性 Low content fine crystalline CBN matrix, with excellent wear resistance and red hardness. 适用于HRC50以上淬火钢的连续到轻断续加工 Suitable for continuous to light intermittent machining of hardened steel.
BHC225Z	古铜色		<ul style="list-style-type: none"> 新一代TiAlSiN涂层，抗化学磨损性能好，提升高线速度下的使用寿命。 The new TiAlSiN coating has good chemical wear resistance and improves the service life at high linear speed. 混晶结构，兼具韧性与耐磨性，可实现更稳定的加工和长寿命 A multi-modal grained CBN substrate, has superior toughness and greatly improved wear resistance, and can achieve more stable machining and longer tool life. 适合于HRC50以上淬火钢的通用加工 Suitable for general processing of hardened steel.

车削刀片(负型) Turning Inserts (Negative)

CN□□

菱形80°有孔
Rhombic80°,with Hole



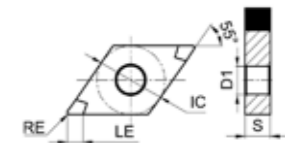
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					立柱式PCBN Solid Welding PCBN		
		LE	IC	S	D1	RE	BKN225Z	BHC215Z	BHC225Z
CNGA120404LS-4	4	2.2	12.7	4.76	5.16	0.4	○	●	
CNGA120408LS-4	4	2.2	12.7	4.76	5.16	0.8	○	●	
CNGA120412LS-4	4	2.2	12.7	4.76	5.16	1.2	○	○	
CNGA120404M-4	4	2.2	12.7	4.76	5.16	0.4	○	○	○
CNGA120408M-4	4	2.2	12.7	4.76	5.16	0.8	●	●	●
CNGA120412M-4	4	2.2	12.7	4.76	5.16	1.2	○	○	●
CNGA120412H-4	4	2.2	12.7	4.76	5.16	1.2	●		●



●标准库存Stock ○需预定Available upon Order

DN□□

菱形55°有孔
Rhombic55°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					立柱式PCBN Solid Welding PCBN		
		LE	IC	S	D1	RE	BKN225Z	BHC215Z	BHC225Z
DNGA150404LS-4	4	2.2	12.7	4.76	5.16	0.4	○	○	
DNGA150408LS-4	4	2.2	12.7	4.76	5.16	0.8	○	○	
DNGA150404M-4	4	2.2	12.7	4.76	5.16	0.4	○	○	○
DNGA150408M-4	4	2.2	12.7	4.76	5.16	0.8	●	●	●
DNGA150412M-4	4	2.2	12.7	4.76	5.16	1.2	○	○	○
DNGA150412H-4	4	2.2	12.7	4.76	5.16	1.2	○	○	●

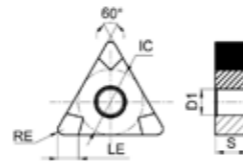



●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

TN□□

三角形60°有孔
Triangle 60°,with Hole

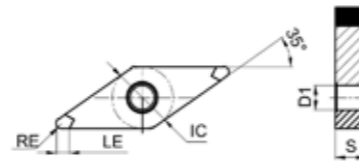



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					立柱式PCBN Solid Welding PCBN		
		LE	IC	S	D1	RE	BKN225Z	BHC215Z	BHC225Z
 TNGA160404LS-6	6	2.2	9.525	4.76	3.81	0.4	○	●	
TNGA160408LS-6	6	2.2	9.525	4.76	3.81	0.8	○	○	
TNGA160404M-6	6	2.2	9.525	4.76	3.81	0.4	○	○	●
TNGA160408M-6	6	2.2	9.525	4.76	3.81	0.8	●	●	●
TNGA160412M-6	6	2.2	9.525	4.76	3.81	1.2	○	○	●

●标准库存Stock ○需预定Available upon Order

VN□□

菱形35°有孔
Rhombic35°,with Hole



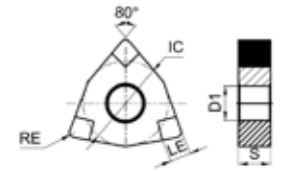
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					立柱式PCBN Solid Welding PCBN		
		LE	IC	S	D1	RE	BKN225Z	BHC215Z	BHC225Z
 VNGA160404LS-4	4	2.2	9.525	4.76	3.81	0.4	○	●	
VNGA160408LS-4	4	2.2	9.525	4.76	3.81	0.8	○	○	
VNGA160404M-4	4	2.2	9.525	4.76	3.81	0.4	○	○	○
VNGA160408M-4	4	2.2	9.525	4.76	3.81	0.8	●	●	●
VNGA160412M-4	4	2.2	9.525	4.76	3.81	1.2	○	○	○


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

WN□□

六边形80°有孔
Hexagon80°,with Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)					立柱式PCBN Solid Welding PCBN		
		LE	IC	S	D1	RE	BKN225Z	BHC215Z	BHC225Z
 WNGA080404LS-6	6	2.2	12.7	4.76	5.16	0.4	○	●	
WNGA080408LS-6	6	2.2	12.7	4.76	5.16	0.8	○	○	○
WNGA080404M-6	6	2.2	12.7	4.76	5.16	0.4	●	○	○
WNGA080408M-6	6	2.2	12.7	4.76	5.16	0.8	●	●	●
WNGA080412M-6	6	2.2	12.7	4.76	5.16	1.2	●	○	●
WNGA080412H-6	6	2.2	12.7	4.76	5.16	1.2	●	○	●

●标准库存Stock ○需预定Available upon Order

应用案例 Application

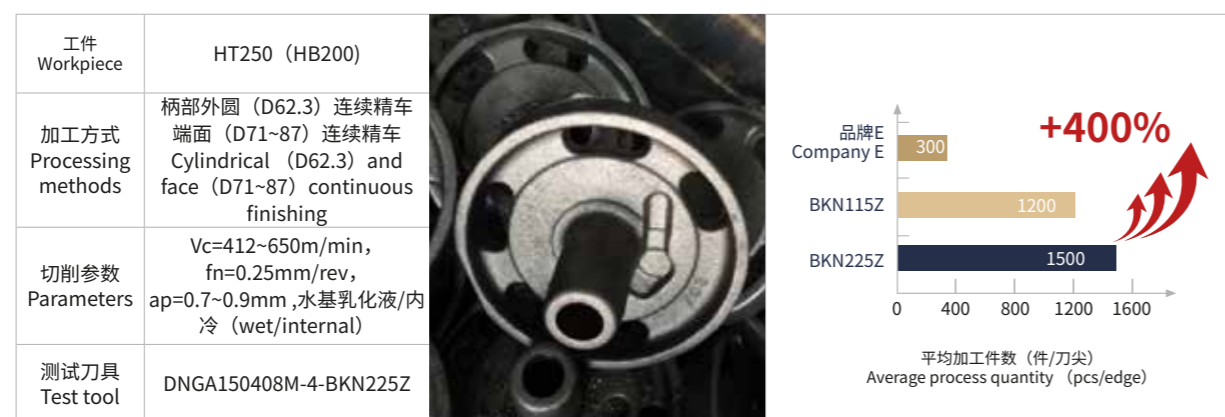
案例1: 轴承内圈加工
Case 1: Bearing inner race



案例2: 轴承外圈加工
Case 2: Bearing cup



案例3: 空调压缩机上轴承
Case 3: Upper bearing of compressor



应用案例 Application

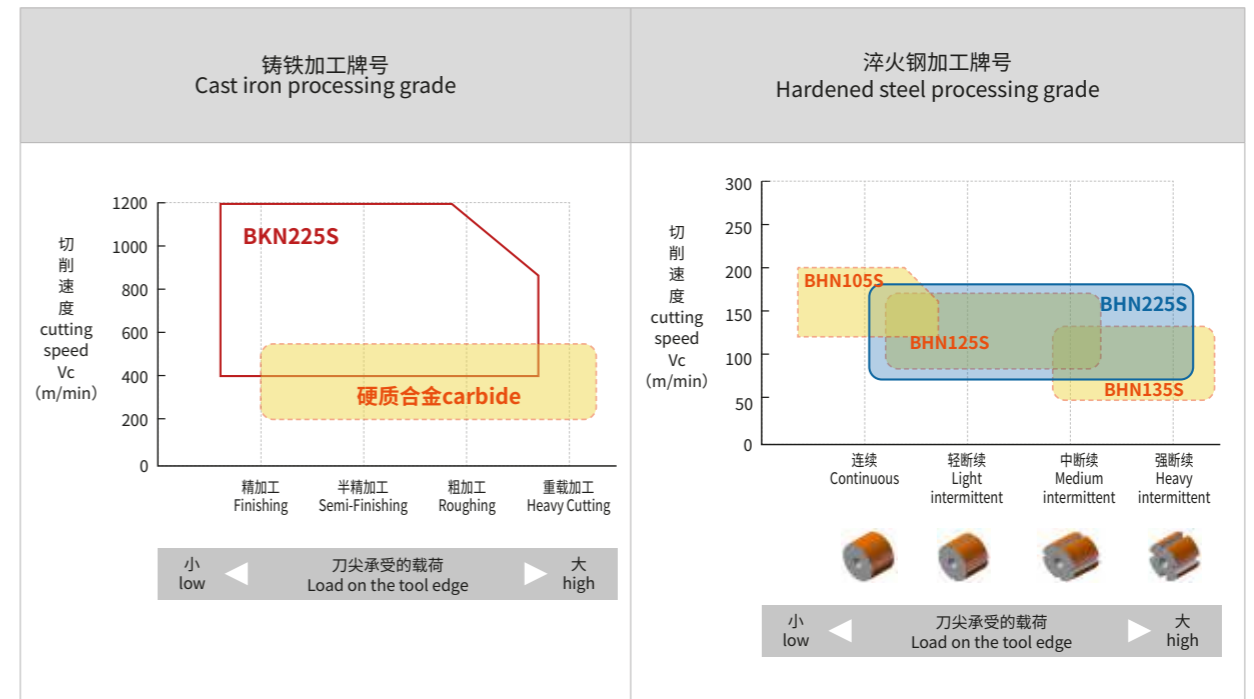
案例4: 空调压缩机气缸
Case 4: Cylinder of compressor



推荐切削参数 Recommended Cutting Data

ISO	工件材料 Material	硬度 (HB) Hardness	牌号 Grade	加工类型 Application	下限 - 推荐 - 上限 Lower limit-Recommend-Upper limit		
					切削速度 cutting speed Vc(m/min)	切深 Cutting Depth ap(mm)	进给量 Feedrate f(mm/rev)
K	铸铁材料 Cast material	HB180~300	BKN225Z	精加工 Finishing	600-800-1200	0.05-0.10-0.30	0.05-0.10-0.20
				半精加工 Semi finishing	400-600-1000	0.15-0.30-0.50	0.05-0.20-0.40
				粗加工 Roughing	300-450-700	0.30-0.50-0.80	0.05-0.25-0.40
H	高硬度材料 High hardness	≥ HRC50	BHC215Z	精加工 Finishing	120-150-230	0.05-0.10-0.20	0.05-0.10-0.15
				半精加工 Semi finishing	100-120-180	0.10-0.30-0.50	0.08-0.15-0.25
			BHC225Z	精加工 Finishing	120-150-200	0.05-0.10-0.20	0.05-0.10-0.15
				半精加工 Semi finishing	100-130-180	0.10-0.30-0.35	0.08-0.15-0.25
				粗加工 Roughing	80-110-150	0.25-0.50-0.80	0.10-0.20-0.30

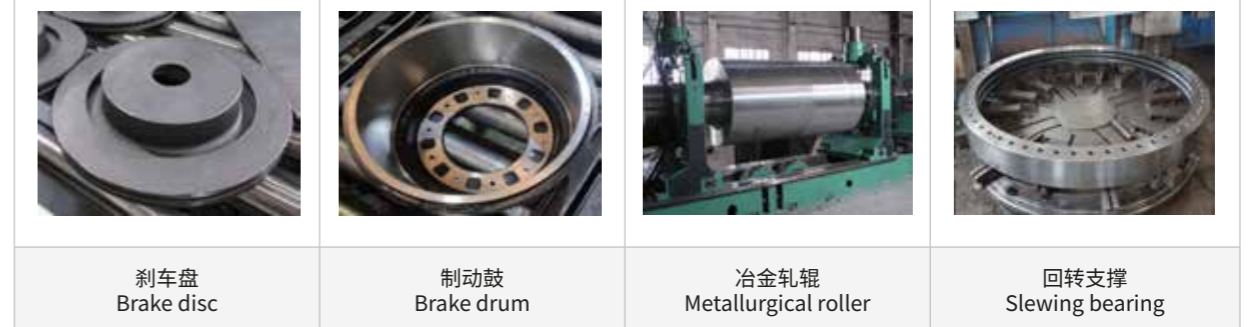
应用介绍
Application Introduction



整体式PCBN车削刀具YS系列
Solid PCBN YS Series for Turning Hardened Steel and Cast Iron

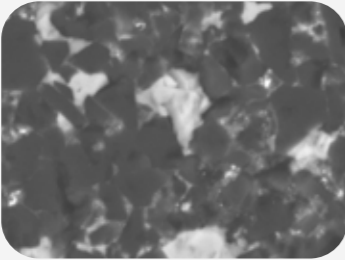
- 具有更好的稳定性、更高的使用寿命和更广泛的应用范围。
Better stability, longer tool life and wider application range.
- 整体式结构，能够实现大余量或者不稳定工况的加工。
Solid CBN can be used for machining with large allowance or unstable conditions.
- 代替硬质合金和陶瓷材料，实现淬火钢及铸铁材料的高效加工。
Substitute carbide and ceramic materials to realize efficient processing of hardened steel and cast iron.

典型零件 Typical part



全新整体式PCBN牌号应用一览表

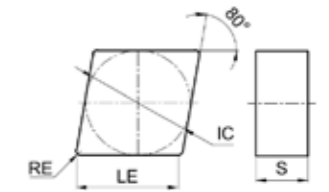
Application Summary of New Solid PCBN Grade

牌号 Grade	颜色 Color	材质结构 Grade Microstructure	特点 Grade Feature
BKN225S	无涂层 Uncoated		<ul style="list-style-type: none"> 抗冲击性能和耐磨性能优异，通用性较好 Excellent impact and wear resistance, it has strong universality. 适合于灰铸铁、高硬度合金铸铁的通用加工 Suitable for general processing grey cast iron and high hard alloy cast iron
BHN225S	无涂层 Uncoated		<ul style="list-style-type: none"> 混晶结构，兼具韧性与耐磨性，可实现更稳定的加工和长寿命 a multi-modal grained CBN substrate, has superior toughness and greatly improved wear resistance, and can achieve more stable machining and longer tool life. 适合于HRC50以上淬火钢的通用加工 Suitable for general processing of hardened steel.

车削刀片(负型) Turning Inserts (Negative)

CN□□

菱形80°无孔
Rhombic80°,without Hole



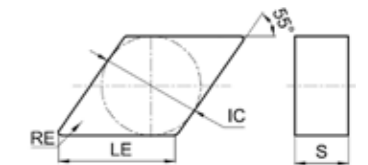
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
CNGN120408LS-4	4	12.7	12.7	4.76	0.8	○	●
CNGN120404M-4	4	12.7	12.7	4.76	0.4	○	○
CNGN120408M-4	4	12.7	12.7	4.76	0.8	○	○
CNGN120412M-4	4	12.7	12.7	4.76	1.2	○	○
CNGN120704M-4	4	12.7	12.7	7.94	0.4	○	○
CNGN120708M-4	4	12.7	12.7	7.94	0.8	○	○
CNGN120712M-4	4	12.7	12.7	7.94	1.2	●	●
CNGN120716M-4	4	12.7	12.7	7.94	1.6	○	○



●标准库存Stock ○需预定Available upon Order

DN□□

菱形55°无孔
Rhombic55°,without Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
DNGN110308M-4	4	9.525	9.525	3.18	0.8	○	○
DNGN110312M-4	4	9.525	9.525	3.18	1.2	○	○

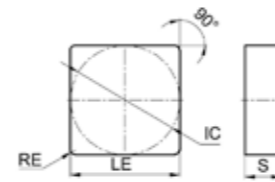


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

SN □ □

正方形90°无孔
Square 90°, without Hole



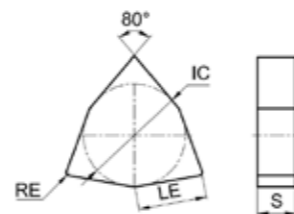
订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
SNGN090404M-8	8	9.525	9.525	4.76	0.4	○	○
SNGN090408M-8	8	9.525	9.525	4.76	0.8	○	○
SNGN090412M-8	8	9.525	9.525	4.76	1.2	○	○
SNGN120404M-8	8	12.7	12.7	4.76	0.4	○	○
SNGN120408M-8	8	12.7	12.7	4.76	0.8	○	○
SNGN120412M-8	8	12.7	12.7	4.76	1.2	●	○
SNGN120708M-8	8	12.7	12.7	7.94	0.8	○	○
SNGN120712M-8	8	12.7	12.7	7.94	1.2	○	○
SNGN120716M-8	8	12.7	12.7	7.94	1.6	●	○
SNGN150708M-8	8	15.875	15.875	7.94	0.8	○	○
SNGN150712M-8	8	15.875	15.875	7.94	1.2	○	○



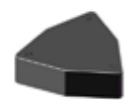
●标准库存Stock ○需预定Available upon Order

WN □ □

六边形80°无孔
Hexagon 80°, without Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
WNGN080404M-6	6	8.72	12.7	4.76	0.4	○	○
WNGN080408M-6	6	8.72	12.7	4.76	0.8	○	○
WNGN080412M-6	6	8.72	12.7	4.76	1.2	○	○
WNGN080416M-6	6	8.72	12.7	4.76	1.6	○	○
WNGN080604M-6	6	8.72	12.7	6.35	0.4	○	○
WNGN080608M-6	6	8.72	12.7	6.35	0.8	○	○
WNGN080612M-6	6	8.72	12.7	6.35	1.2	○	○
WNGN080616M-6	6	8.72	12.7	6.35	1.6	○	○

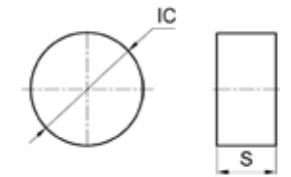


●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

RN □ □

圆形360°无孔
Circular 360°, without Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
RNGN060300M	-	-	6	3.18	-	○	●
RNGN090300M	-	-	9.525	3.18	-	○	●
RNGN120400M	-	-	12.7	4.76	-	●	●
RNGN120400H	-	-	12.7	4.76	-	●	○
RNGN120700M	-	-	12.7	7.94	-	○	○
RNGN150700M	-	-	15.875	7.94	-	○	○
RNGN201000M	-	-	20	10	-	○	○

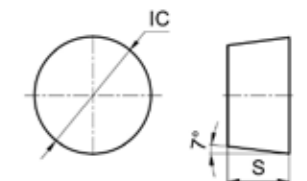


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

RC □ □

圆形360°无孔
Circular 360°, without Hole



订货号 Ordering code	刃数 Edge	尺寸 Dimension(mm)				整体PCBN Solid PCBN	
		LE	IC	S	RE	BKN225S	BHN225S
RCGN120700M	-	-	12.7	7.94	-	○	○
RCGN160700M	-	-	16	7.94	-	○	○



●标准库存Stock ○需预定Available upon Order

应用案例 Application

案例1: 回转支撑加工
Case 1: Slewing bearing

工件 Workpiece	42CrMo (HRC60)		<p>品牌A Company A: 2</p> <p>BHN105S: 7</p> <p>BHN225S: 8</p> <p>平均加工件数 (件/刀尖) Average process quantity (pcs/edge)</p>
加工方式 Processing methods	滚珠轨道内圆 (D860) 连续车削 Inner circle of ball track (D860) continuous finishing		
切削参数 Parameters	Vc=110m/min, fn=0.07mm/rev, ap=0.16mm, 干切(Dry)		
测试刀具 Test tool	RCGN160700M-BHN225S		

案例2: 水泵基座加工
Case 2: Foundation of pump

工件 Workpiece	Cr28 (HRC55~60)		<p>品牌B Company B: 2</p> <p>BHN225S: 2</p> <p>平均加工件数 (件/刀尖) Average process quantity (pcs/edge)</p>
加工方式 Processing methods	内圆 (D1254) 连续粗车削 Internal hole (D1254) continuous roughing		
切削参数 Parameters	Vc=75m/min, fn=0.42mm/rev, ap=2mm, 干切(Dry)		
测试刀具 Test tool	RNGN120400M-BHN225S		

应用案例 Application

案例3: 刹车盘加工
Case 3: Brake disc

工件 Workpiece	HT250(HB180~220)		<p>品牌C Company C: 200</p> <p>BKN225S: 1000</p> <p>平均加工件数 (件/刀尖) Average process quantity (pcs/edge)</p> <p>+400%</p>
加工方式 Processing methods	端面、外圆双刀连续粗车 Face and excircle continuous Roughing by using two inserts		
切削参数 Parameters	Vc=800m/min, fn=0.45mm/rev, ap=2~3mm, 干切(Dry)		
测试刀具 Test tool	CNGN120712M-4-BKN225S		

案例4: 制动鼓加工
Case 4: Brake drum

工件 Workpiece	HT250(HB180~220)		<p>品牌D Company D: 30</p> <p>BKN225S: 60</p> <p>平均加工件数 (件/刀尖) Average process quantity (pcs/edge)</p> <p>+100%</p>
加工方式 Processing methods	外圆、端面、内圆连续粗车 Face, excircle and internal continuous Roughing		
切削参数 Parameters	Vc=1130m/min, fn=0.5mm/rev, ap=2~3mm, 水基乳化液/外冷 (wet/external)		
测试刀具 Test tool	CNGN120716M-4-BKN225S		

推荐切削参数

Recommended Cutting Data

ISO	工件材料 Material	硬度 (HB) Hardness	牌号 Grade	加工类型 Application	下限 - 推荐 - 上限 Lower limit-Recommend-Upper limit		
					切削速度 cutting speed Vc(m/min)	切深 Cutting Depth ap(mm)	进给量 Feedrate f(mm/rev)
K	铸铁材料 Cast Iron	HB180~300	BKN225S	精加工 Finishing	600-800-1200	0.05-0.20-0.50	0.05-0.10-0.20
				半精加工 Semi finishing	400-600-1000	0.05-0.50-1.00	0.05-0.20-0.35
				粗加工 Roughing	300-450-700	0.05-2.00- $1/3$ LE	0.05-0.35-0.50
H	高硬度材料 High hardened	\geq HRC50	BHN225S	精加工 Finishing	120-150-190	0.05-0.20-0.35	0.05-0.10-0.20
				半精加工 Semi finishing	100-130-160	0.10-0.50-2.00	0.08-0.20-0.35
				粗加工 Roughing	70-100-130	0.25-1.00- $1/3$ LE	0.10-0.35-0.50



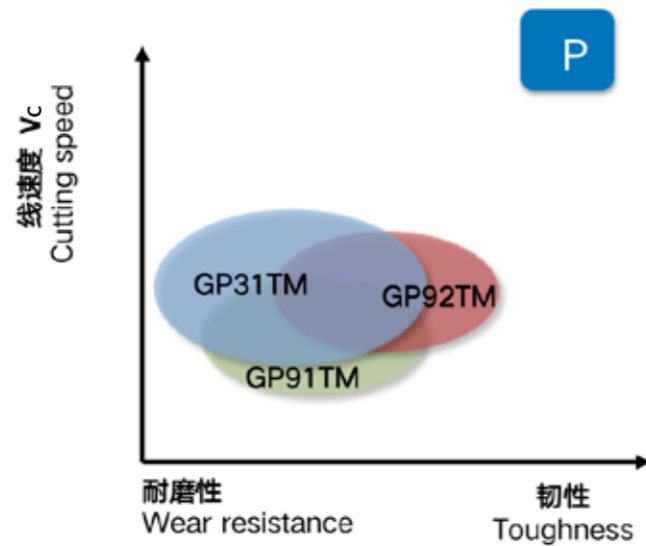
金属陶瓷补充牌号GP92TM (SPL) The Supplementary Grade of Cermet GP92TM(SPL)

- 优化升级材料成分及微观结构，具有优异的抗崩刃性及寿命。
Optimized and upgraded material composition and microstructure, with good toughness and long tool life.
- 全新槽型设计，兼顾刀尖锋利性及韧性，断屑范围广，通用性强。
The new design of geometry, considering both sharpness and strength, with wide range of breaking chips, and good versatility.
- 应用于液压管接头、小型轴类以及汽车零配件等普通钢、合金钢材料精-半精加工。
Applied to finishing and semi-finishing of ordinary steel and alloy steel materials such as hydraulic pipe joints, small shaft and auto parts.

牌号介绍

Grade introduction

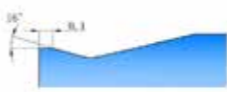
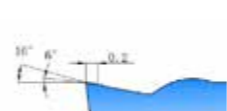
牌号 Grade	颜色 Color	材质结构 Material Microstructure	特点 Feature
GP92TM	无涂层 Uncoated		<ul style="list-style-type: none"> 晶粒细化及特殊梯度构造, 提升了刀片稳定性及寿命。 Grain refinement and special gradient structure improve the stability and life of the inserts. 成分优化形成均匀包覆的粘结相, 具有优异的抗崩刃性及刀尖强度。 The composition is optimized to form a bonding phase with uniform coating, which has excellent edge breaking resistance and tip strength. 适用于钢材的精-半精加工 Suitable for steel finishing or Semi finishing.

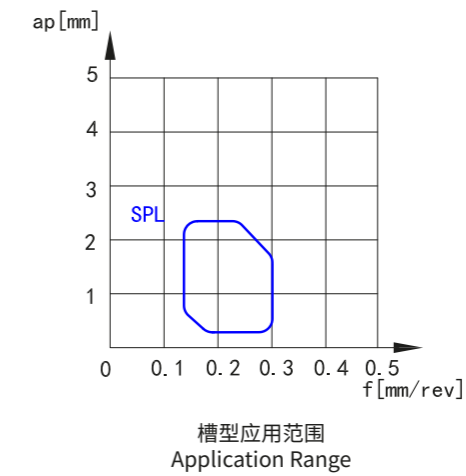


牌号应用范围图
Grade Application Range

槽型介绍

Geometry introduction

轻载通用槽型-SPL General Geometry for light machining-SPL		
槽型 Geometry	槽型截面 Geometry Section	特点 Feature
SPL槽型系列 (负型) SPLGeometry Series (Negative)		<ul style="list-style-type: none"> 特殊过渡平台设计: 断屑范围广, 通用性强 Special transition platform design: Wide chip breaking range, broad using 大前角带刃宽设计: 锋利韧性兼顾, 加工范围广, 切削阻力小 Designed of large rake with smooth chip breaker: Both sharp and tough, wide range of processing, Low cutting force
SPL槽型系列 (正型) SPLGeometry Series (Positive)		<ul style="list-style-type: none"> 球形凸台设计: 断屑范围广, 通用性强 Spherical boss designed: Wide chip breaking range, broad using 双前角设计: 增加锋利性, 获得优异表面质量 Designed of double rake: Increasing the sharpness to gain the good surface

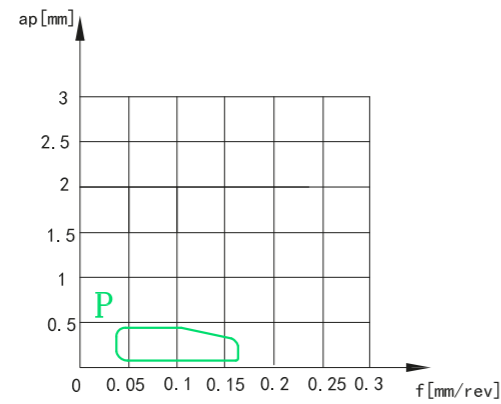


槽型应用范围
Application Range

槽型介绍

Geometry introduction

小零件精加工槽型-P Geometry of Small Parts finishing-P		
槽型 Geometry	槽型截面 Geometry Section	特点 Feature
P槽型系列 P Geometry Series		<ul style="list-style-type: none"> •斜槽设计：稳定控制切屑的移除方向 Chute design: Stable control of chip removal direction •无刃宽设计：刃口锋利，有效降低切削力 Designed with sharp breaker: Designed with sharp breaker which can effectively reduce cutting force 

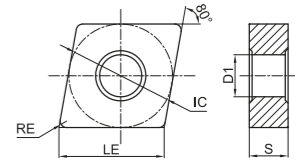



槽型应用范围
Application Range

车削刀片(负型)
Turning Inserts (Negative)

CN□□

菱形80°有孔
Rhombic 80° with hole

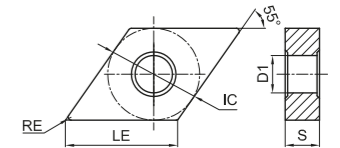



订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermets
	LE	IC	S	D1	RE	GP92TM
CNMG120404-SPL	12.9	12.7	4.76	5.16	0.4	●
						

●标准库存Stock ○需预定Available upon Order

DN□□

菱形55°有孔
Rhombic 55° with hole



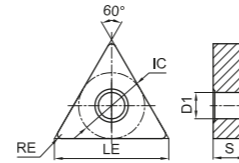
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermets
	LE	IC	S	D1	RE	GP92TM
DNMG150404-SPL	15.5	12.7	4.76	5.16	0.4	●
DNMG150408-SPL	15.5	12.7	4.76	5.16	0.8	●
						




●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

TN □ □

三角形60°有孔
Triangle 60° with hole

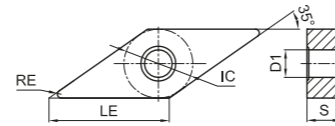




订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 TNGG160402L-P	16.5	9.525	4.76	3.81	0.2	●
 TNMG160404-SPL	16.5	9.525	4.76	3.81	0.4	●
 TNMG160408-SPL	16.5	9.525	4.76	3.81	0.8	●

●标准库存Stock ○需预定Available upon Order

VN □ □

菱形35°有孔
Rhombic 35° with hole



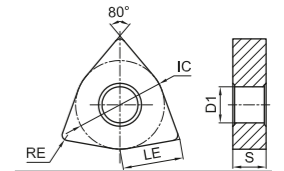
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 VNMG160404-SPL	16.6	9.525	4.76	3.81	0.4	●
 VNMG160408-SPL	16.6	9.525	4.76	3.81	0.8	●



●标准库存Stock ○需预定Available upon Order

车削刀片(负型)
Turning Inserts (Negative)

WN □ □

六边形80°有孔
Hexagon 80° with hole



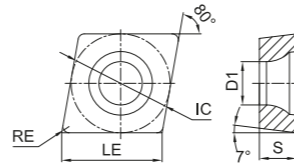
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 WNMG080404-SPL	8.7	12.7	4.76	5.16	0.4	●
 WNMG080408-SPL	8.7	12.7	4.76	5.16	0.8	●

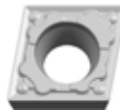
●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

CC □ □

菱形80°有孔
Rhombic 80°with hole

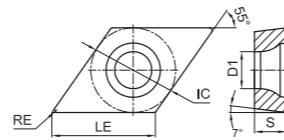


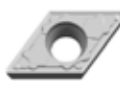
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 CCMT060202-SPL	6.5	6.35	2.38	2.8	0.2	●
CCMT060204-SPL	6.5	6.35	2.38	2.8	0.4	●
CCMT09T302-SPL	9.7	9.525	3.97	4.4	0.2	●
CCMT09T304-SPL	9.7	9.525	3.97	4.4	0.4	●
CCMT09T308-SPL	9.7	9.525	3.97	4.4	0.8	●

●标准库存Stock ○需预定Available upon Order

DC □ □

菱形55°有孔
Rhombic 55°with hole



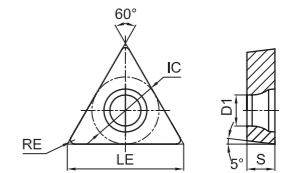
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 DCMT070204-SPL	7.8	6.35	2.38	2.8	0.4	●
DCMT11T302-SPL	11.6	9.525	3.97	4.4	0.2	●
DCMT11T304-SPL	11.6	9.525	3.97	4.4	0.4	●
DCMT11T308-SPL	11.6	9.525	3.97	4.4	0.8	●


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TB □ □

三角形60°有孔
Triangle 60°with hole

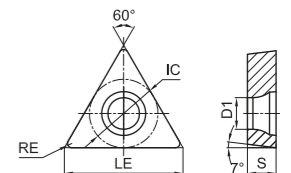



订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 TBGT060102L-P	6.9	3.97	1.59	2.3	0.2	●

●标准库存Stock ○需预定Available upon Order

TC □ □

三角形60°有孔
Triangle 60°with hole



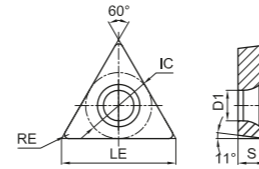
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 TCMT110204-SPL	11	6.35	2.38	2.8	0.4	●



●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

TP □ □

三角形60°有孔
Triangle 60°with hole

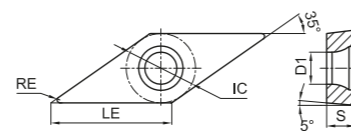




订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 TPGH090202L-P	9.6	5.56	2.38	3.0	0.2	●
TPGH110302L-P	11	6.35	3.18	3.4	0.2	●
 TPMT090204-SPL	9.6	5.56	2.38	2.5	0.4	●
TPMT110304-SPL	11	6.35	3.18	3.4	0.4	●

●标准库存Stock ○需预定Available upon Order

VB □ □

菱形35°有孔
Rhombic 35°with hole



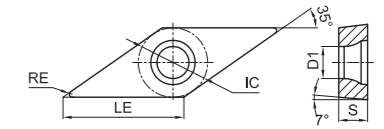
订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 VBGT110302R-P	11.2	6.35	3.18	2.8	0.2	●
 VBMT110304-SPL	11.2	6.35	3.18	2.8	0.4	●
VBMT160404-SPL	16.6	9.525	4.76	4.4	0.4	●


●标准库存Stock ○需预定Available upon Order

车削刀片(正型)
Turning Inserts (Positive)

VC □ □

菱形35°有孔
Rhombic 35°with hole

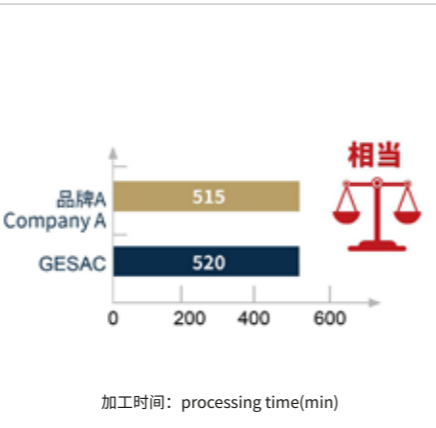


订货号 Ordering code	尺寸 Dimension(mm)					金属陶瓷 Cermet
	LE	IC	S	D1	RE	GP92TM
 VCMT110304-SPL	11.2	6.35	3.18	2.8	0.4	●


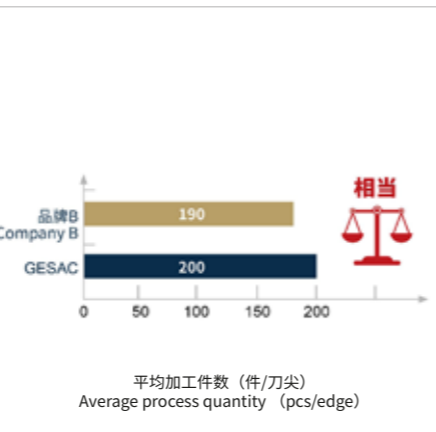
●标准库存Stock ○需预定Available upon Order

应用案例 Application

案例1 Case 1

工件 Workpiece	液压管接头 (45#) Hydraulic pipe joint		
加工方式 Processing methods	外圆 (D24.5) 轻断续精加工 Excircle(D24.5) Light interrupted finishing		
切削参数 Parameters	Vc=138.5m/min, f=0.05mm/r, ap=0.5mm, 水基乳化液/外冷 Water emolition/external cooling		
测试刀具 Test tool	CCMT09T304-SPL-GP92TM		

案例2: Case 2:

工件 Workpiece	联动轴 (20CrMnTi) Linkage shaft		
加工方式 Processing methods	外圆 (D39) 端面断续加工 Excircle(D39)end face interrupted machining		
切削参数 Parameters	Vc=159m/min, f=0.15mm/r, ap=0.5mm, 水基乳化液/外冷 Water emolition/external cooling		
测试刀具 Test tool	VNMG160404-SPL-GP92TM		

铝合金高速高效加工立铣刀 Endmills for High-speed and High-efficiency Aluminum Machining

B

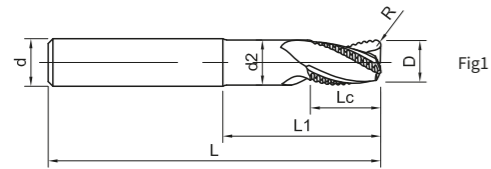
铣削 Milling

- 适用于航空铝合金材料的高速高效加工。
 - 抑振刀型设计, 高速切削过程稳定。
 - 提升刀具强度, 适应高去除率切削工况。
 - 优化内冷结构, 实现高效冷却。
 - 铝合金专用涂层, 有效延长刀具寿命。
- Suitable for high-speed and high-efficiency machining of aviation aluminum alloy materials.
 - Vibration suppression tool is designed to keep the cutting process stable at high speeds.
 - Strengthen the tool and adapt to high removal rate cutting situations.
 - Optimize the internal cooling structure to achieve effective cooling.
 - Aluminum alloy coating is used to extent tool life.



SA210-WR NEW

3刃长颈圆角头
3 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-12010	12	1	16	48	11.5	100	12	1	●
SA210-WR-12020	12	2	16	48	11.5	100	12	1	●
SA210-WR-12030	12	3	16	48	11.5	100	12	1	●
SA210-WR-16010	16	1	20	65	15.2	115	16	1	●
SA210-WR-16010A	16	1	24	42	15.2	92	16	1	●
SA210-WR-16020	16	2	20	65	15.2	115	16	1	●
SA210-WR-16020A	16	2	24	42	15.2	92	16	1	●
SA210-WR-16030	16	3	20	65	15.2	115	16	1	●
SA210-WR-16030A	16	3	24	42	15.2	92	16	1	●
SA210-WR-20010	20	1	25	73	19	125	20	1	●
SA210-WR-20010A	20	1	30	52	19	104	20	1	●
SA210-WR-20020	20	2	25	73	19	125	20	1	●
SA210-WR-20020A	20	2	30	52	19	104	20	1	●
SA210-WR-20020B	20	2	20	88	19	140	20	1	●
SA210-WR-20030	20	3	25	73	19	125	20	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

单位Unit(mm)

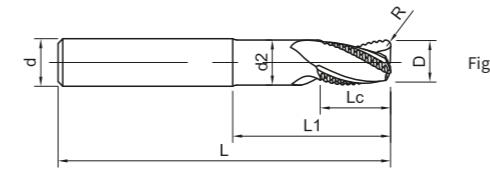
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels, Alloy steels <35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA210-WR NEW

3刃长颈圆角头
3 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-20030A	20	3	30	52	19	104	20	1	●
SA210-WR-20030B	20	3	20	88	19	140	20	1	●
SA210-WR-20040	20	4	25	73	19	125	20	1	●
SA210-WR-20050	20	5	25	73	19	125	20	1	●
SA210-WR-20050A	20	5	30	52	19	104	20	1	●
SA210-WR-25010	25	1	30	72	23.75	130	25	1	●
SA210-WR-25010B	25	1	25	92	23.75	150	25	1	●
SA210-WR-25020	25	2	30	72	23.75	130	25	1	●
SA210-WR-25020A	25	2	37	52	23.75	110	25	1	●
SA210-WR-25020B	25	2	25	92	23.75	150	25	1	●
SA210-WR-25030	25	3	30	72	23.75	130	25	1	●
SA210-WR-25030A	25	3	37	52	23.75	110	25	1	●
SA210-WR-25030B	25	3	25	92	23.75	150	25	1	●
SA210-WR-25030C	25	3	35	100	23.75	150	25	1	●
SA210-WR-25030D	25	3	35	80	23.75	135	25	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

单位Unit(mm)

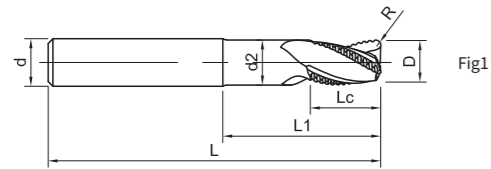
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels, Alloy steels <35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA210-WR NEW

3刃长颈圆角头
3 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-25040	25	4	30	72	23.75	130	25	1	●
SA210-WR-25040A	25	4	37	52	23.75	110	25	1	●
SA210-WR-25040B	25	4	25	92	23.75	150	25	1	●
SA210-WR-25050	25	5	30	72	23.75	130	25	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

单位Unit(mm)

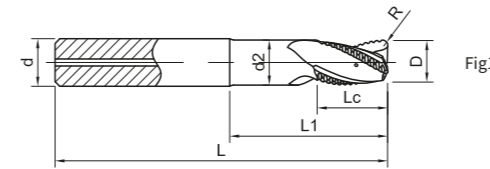
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA210-WR-IC NEW

3刃长颈圆角头 (内冷涂层)
3 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-IC-12010	12	1	16	48	11.5	100	12	1	○
SA210-WR-IC-12020	12	2	16	48	11.5	100	12	1	○
SA210-WR-IC-12030	12	3	16	48	11.5	100	12	1	●
SA210-WR-IC-16010	16	1	20	65	15.2	115	16	1	○
SA210-WR-IC-16010A	16	1	24	42	15.2	92	16	1	○
SA210-WR-IC-16020	16	2	20	65	15.2	115	16	1	○
SA210-WR-IC-16020A	16	2	24	42	15.2	92	16	1	○
SA210-WR-IC-16030	16	3	20	65	15.2	115	16	1	●
SA210-WR-IC-16030A	16	3	24	42	15.2	92	16	1	●
SA210-WR-IC-20010	20	1	25	73	19	125	20	1	○
SA210-WR-IC-20010A	20	1	30	52	19	104	20	1	○
SA210-WR-IC-20020	20	2	25	73	19	125	20	1	○
SA210-WR-IC-20020A	20	2	30	52	19	104	20	1	○
SA210-WR-IC-20020B	20	2	20	88	19	140	20	1	○
SA210-WR-IC-20030	20	3	25	73	19	125	20	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

单位Unit(mm)

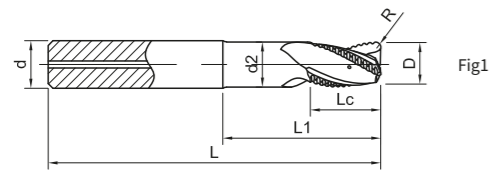
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA210-WR-IC NEW

3刃长颈圆角头 (内冷涂层)
3 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-IC-20030A	20	3	30	52	19	104	20	1	●
SA210-WR-IC-20030B	20	3	20	88	19	140	20	1	●
SA210-WR-IC-20040	20	4	25	73	19	125	20	1	○
SA210-WR-IC-20050	20	5	25	73	19	125	20	1	○
SA210-WR-IC-20050A	20	5	30	52	19	104	20	1	○
SA210-WR-IC-25010	25	1	30	72	23.75	130	25	1	○
SA210-WR-IC-25010B	25	1	25	92	23.75	150	25	1	○
SA210-WR-IC-25020	25	2	30	72	23.75	130	25	1	○
SA210-WR-IC-25020A	25	2	37	52	23.75	110	25	1	○
SA210-WR-IC-25020B	25	2	25	92	23.75	150	25	1	○
SA210-WR-IC-25030	25	3	30	72	23.75	130	25	1	●
SA210-WR-IC-25030A	25	3	37	52	23.75	110	25	1	●
SA210-WR-IC-25030B	25	3	25	92	23.75	150	25	1	●
SA210-WR-IC-25030C	25	3	35	100	23.75	150	25	1	●
SA210-WR-IC-25030D	25	3	35	80	23.75	135	25	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

单位Unit(mm)

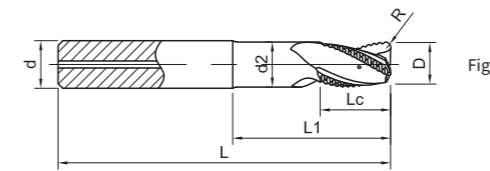
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA210-WR-IC NEW

3刃长颈圆角头 (内冷涂层)
3 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA210-WR-IC-25040	25	4	30	72	23.75	130	25	1	○
SA210-WR-IC-25040A	25	4	37	52	23.75	110	25	1	○
SA210-WR-IC-25040B	25	4	25	92	23.75	150	25	1	○
SA210-WR-IC-25050	25	5	30	72	23.75	130	25	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤16	0 -0.05
D>16	0 -0.06

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 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <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 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-SN4 NEW

4刃长颈平头
4 Flutes with a long neck, Square-head



订货号 Ordering Code	D	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-SN4-06030	6	24	30	5.5	60	6	1	●
SA300-SF-SN4-08040	8	32	40	7.5	64	8	1	●
SA300-SF-SN4-10050	10	40	50	9.5	80	10	1	●
SA300-SF-SN4-12040	12	30	40	11.5	83	12	1	●
SA300-SF-SN4-12062	12	48	62	11.5	100	12	1	●
SA300-SF-SN4-16051	16	40	51	15.5	93	16	1	●
SA300-SF-SN4-16082	16	64	82	15.5	125	16	1	●
SA300-SF-SN4-20063	20	50	63	19	108	20	1	●
SA300-SF-SN4-200A2	20	80	102	19	150	20	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

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 Carbon steels、Alloy steels <35HRC	合金钢 Alloy steels <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 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-IC-SN4 NEW

4刃长颈平头 (内冷涂层)
4 Flutes with a long neck, Square-head, Internal Coolant, Coating



订货号 Ordering Code	D	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-IC-SN4-12040	12	30	40	11.5	83	12	1	○
SA300-SF-IC-SN4-12062	12	48	62	11.5	100	12	1	○
SA300-SF-IC-SN4-16051	16	40	51	15.5	93	16	1	○
SA300-SF-IC-SN4-16082	16	64	82	15.5	125	16	1	○
SA300-SF-IC-SN4-20063	20	50	63	19	108	20	1	○
SA300-SF-IC-SN4-200A2	20	80	102	19	150	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

单位Unit(mm)

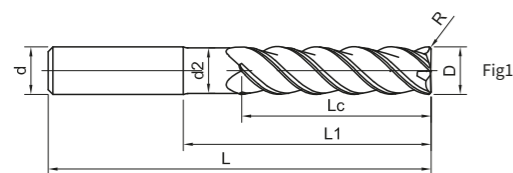
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels <35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-RN4 NEW

4刃长颈圆角头
4 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-RN4-12005	12	0.5	30	40	11.5	83	12	1	●
SA300-SF-RN4-12020	12	2	30	40	11.5	83	12	1	●
SA300-SF-RN4-12020A	12	2	48	62	11.5	100	12	1	●
SA300-SF-RN4-12030	12	3	30	40	11.5	83	12	1	●
SA300-SF-RN4-12030A	12	3	48	62	11.5	100	12	1	●
SA300-SF-RN4-12040	12	4	30	40	11.5	83	12	1	●
SA300-SF-RN4-12040A	12	4	48	62	11.5	100	12	1	●
SA300-SF-RN4-12050	12	5	30	40	11.5	83	12	1	●
SA300-SF-RN4-16020	16	2	40	51	15.5	93	16	1	●
SA300-SF-RN4-16020A	16	2	64	82	15.5	125	16	1	●
SA300-SF-RN4-16030	16	3	40	51	15.5	93	16	1	●
SA300-SF-RN4-16030A	16	3	64	82	15.5	125	16	1	●
SA300-SF-RN4-16040	16	4	40	51	15.5	93	16	1	●
SA300-SF-RN4-16040A	16	4	64	82	15.5	125	16	1	●
SA300-SF-RN4-16050	16	5	40	51	15.5	93	16	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

单位Unit(mm)

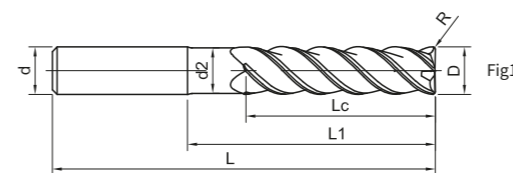
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels < 35HRC	合金钢 Alloy steels < 48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-RN4 NEW

4刃长颈圆角头
4 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-RN4-20030	20	3	50	63	19	108	20	1	●
SA300-SF-RN4-20030A	20	3	80	102	19	150	20	1	●
SA300-SF-RN4-20040	20	4	50	63	19	108	20	1	●
SA300-SF-RN4-20040A	20	4	80	102	19	150	20	1	●
SA300-SF-RN4-20050	20	5	50	63	19	108	20	1	●
SA300-SF-RN4-20050A	20	5	80	102	19	150	20	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

单位Unit(mm)

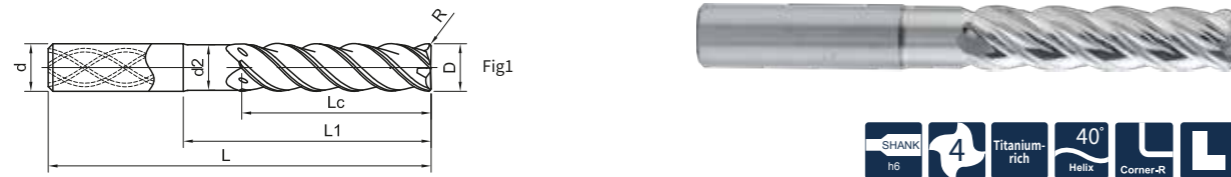
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels < 35HRC	合金钢 Alloy steels < 48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-IC-RN4 NEW

4刃长颈圆角头 (内冷涂层)
4 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-IC-RN4-12005	12	0.5	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12020	12	2	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12020A	12	2	48	62	11.5	100	12	1	○
SA300-SF-IC-RN4-12030	12	3	30	40	11.5	83	12	1	●
SA300-SF-IC-RN4-12030A	12	3	48	62	11.5	100	12	1	●
SA300-SF-IC-RN4-12040	12	4	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12040A	12	4	48	62	11.5	100	12	1	○
SA300-SF-IC-RN4-12050	12	5	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-16020	16	2	40	51	15.5	93	16	1	○
SA300-SF-IC-RN4-16020A	16	2	64	82	15.5	125	16	1	○
SA300-SF-IC-RN4-16030	16	3	40	51	15.5	93	16	1	●
SA300-SF-IC-RN4-16030A	16	3	64	82	15.5	125	16	1	●
SA300-SF-IC-RN4-16040	16	4	40	51	15.5	93	16	1	○
SA300-SF-IC-RN4-16040A	16	4	64	82	15.5	125	16	1	○
SA300-SF-IC-RN4-16050	16	5	40	51	15.5	93	16	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

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 Carbon steels, Alloy steels < 35HRC	合金钢 Alloy steels < 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 ※ P102
Recommended Cutting Data ※ P102

SA300-SF-IC-RN4 NEW

4刃长颈圆角头 (内冷涂层)
4 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-SF-IC-RN4-20030	20	3	50	63	19	108	20	1	●
SA300-SF-IC-RN4-20030A	20	3	80	102	19	150	20	1	●
SA300-SF-IC-RN4-20040	20	4	50	63	19	108	20	1	○
SA300-SF-IC-RN4-20040A	20	4	80	102	19	150	20	1	○
SA300-SF-IC-RN4-20050	20	5	50	63	19	108	20	1	○
SA300-SF-IC-RN4-20050A	20	5	80	102	19	150	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
6 ≤ D ≤ 20	-0.02 -0.04

单位Unit(mm)

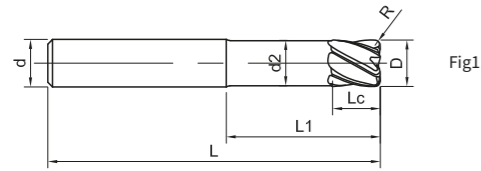
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels, Alloy steels < 35HRC	合金钢 Alloy steels < 48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA300-WF-RN6 NEW

6刃长颈圆角头
6 Flutes with a long neck, Corner Radius



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-WF-RN6-16030	16	3	16	42	15.5	92	16	1	●
SA300-WF-RN6-16030A	16	3	16	65	15.5	115	16	1	●
SA300-WF-RN6-16040	16	4	16	65	15.5	115	16	1	●
SA300-WF-RN6-20030	20	3	20	52	19	104	20	1	●
SA300-WF-RN6-20030A	20	3	20	73	19	125	20	1	●
SA300-WF-RN6-20040	20	4	20	73	19	125	20	1	●
SA300-WF-RN6-25030	25	3	25	52	24	110	25	1	●
SA300-WF-RN6-25030A	25	3	25	72	24	130	25	1	●
SA300-WF-RN6-25030B	25	3	25	92	24	150	25	1	●
SA300-WF-RN6-25040	25	4	25	72	24	130	25	1	●

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
16 ≤ D ≤ 25	-0.02 -0.05

单位Unit(mm)

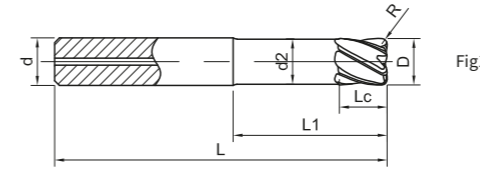
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels, Alloy steels < 35HRC	合金钢 Alloy steels < 48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※ P102
Recommended Cutting Data ※ P102

SA300-WF-IC-RN6 NEW

6刃长颈圆角头 (内冷涂层)
6 Flutes with a long neck, Corner Radius, Internal Coolant, Coating



订货号 Ordering Code	D	R	Lc	L1	d2	L	d	图号 Figure No.	库存 Stock
SA300-WF-IC-RN6-16030	16	3	16	42	15.5	92	16	1	○
SA300-WF-IC-RN6-16030A	16	3	16	65	15.5	115	16	1	●
SA300-WF-IC-RN6-16040	16	4	16	65	15.5	115	16	1	○
SA300-WF-IC-RN6-20030	20	3	20	52	19	104	20	1	●
SA300-WF-IC-RN6-20030A	20	3	20	73	19	125	20	1	●
SA300-WF-IC-RN6-20040	20	4	20	73	19	125	20	1	○
SA300-WF-IC-RN6-25030	25	3	25	52	24	110	25	1	●
SA300-WF-IC-RN6-25030A	25	3	25	72	24	130	25	1	●
SA300-WF-IC-RN6-25030B	25	3	25	92	24	150	25	1	●
SA300-WF-IC-RN6-25040	25	4	25	72	24	130	25	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
16 ≤ D ≤ 25	-0.02 -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 Carbon steels, Alloy steels < 35HRC	合金钢 Alloy steels < 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 ※ P102
Recommended Cutting Data ※ P102

推荐切削参数 Recommended Cutting Data

SA210-WR/WR-IC 铝合金Aluminum Alloys——侧铣Side Milling



工件材料 Workpiece Material		切削量 Removal Rate (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	12	16	20	25
N	铝合金 Aluminium Alloys	ap≤1D	500~1750	转速 Speed (min ⁻¹)	14000	17000	20000	22000
		ae≤0.7D		进给速度 Feed (mm/min)	6300	7650	9000	9900

SA210-WR/WR-IC 铝合金Aluminum Alloys——槽铣Slotting



工件材料 Workpiece Material		切削量 Removal Rate (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	12	16	20	25
N	铝合金 Aluminium Alloys	ap≤0.75D	500~1750	转速 Speed (min ⁻¹)	14000	17000	20000	22000
		Ae=1D		进给速度 Feed (mm/min)	4200	5100	6000	6600

SA300-SF/SF-IC 铝合金Aluminum Alloys——侧铣Side Milling



工件材料 Workpiece Material		切削量 Removal Rate (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	6	8	10	12	16	20
N	铝合金 Aluminium Alloys	ap≤4D	200~1150	转速 Speed (min ⁻¹)	12000	13000	14000	16000	17000	18000
		ae≤0.5		进给速度 Feed (mm/min)	2880	3120	3360	3840	4080	4320

SA300-WF/WF-IC 铝合金Aluminum Alloys——侧铣Side Milling



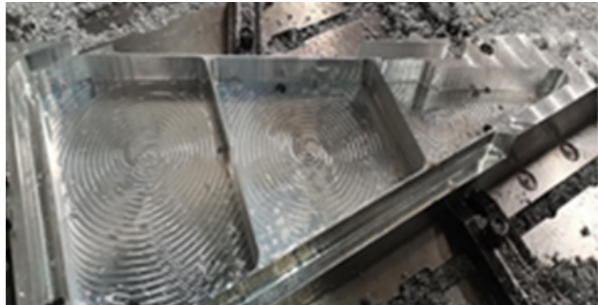
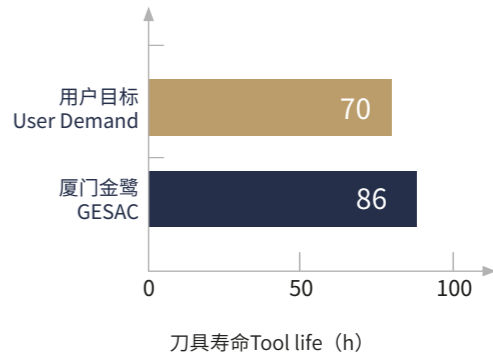
工件材料 Workpiece Material		切削量 Removal Rate (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	16	20	25
N	铝合金 Aluminium Alloys	ap≤2	850~1750	转速 Speed (min ⁻¹)	17000	20000	22000
		ae≤0.7D		进给速度 Feed (mm/min)	10200	12000	13200

- 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。

- 1、Use machine and holder with high rigidity.
- 2、Adjust the speed, feed and cutting depth according to actual cutting condition.

应用案例 Case

铝框粗加工 Roughing of Aluminum Frame

刀具型号 Cutting Tool	SA210-WR-20030	
刀具规格 Specification	D20*R3*25*73*125*d20*D19	
加工材料 Workpiece Material	7050-T7451 (150HB)	
转速 Speed	15000rpm (942m/min)	
进给速度 Feed	5000-7000mm/min (0.111-0.155mm/z)	 <p>用户目标 User Demand 70</p> <p>厦门金鹭 GESAC 86</p> <p>刀具寿命Tool life (h)</p>
切削方式 Cutting Method	型腔铣 Pocket milling	
切深量 Cutting Depth	ap=4-5.5mm, ae=5-20mm	
冷却方式 Cooling Method	乳化液、外冷 Emulsion, External Cooling	
切削效果 Processing Result	加工过程稳定，刀具寿命高于客户目标。 The machining process is stable and the tool life is higher than customer's target.	

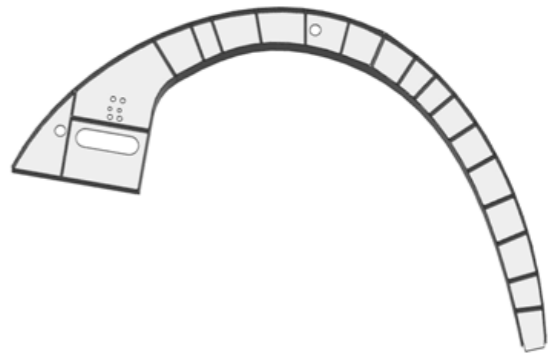
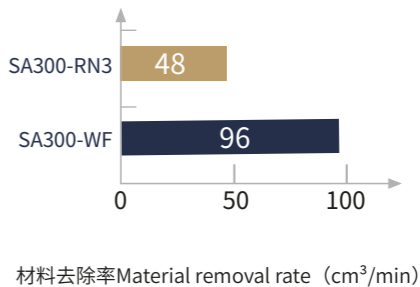
应用案例 Case

铝框侧壁精加工 Finishing of Aluminum Frame Side Wall

刀具型号 Cutting Tool	SA300-SF-RN4-12030A	
刀具规格 Specification	D12*R3*48*62*100*d12*D11.5	
加工材料 Workpiece Material	7175 (150HB)	
转速 Speed	18000rpm (678m/min)	
进给速度 Feed	3600mm/min (0.05mm/z)	
切削方式 Cutting Method	侧铣 Side milling	
切深量 Cutting Depth	ap=35mm, ae=0.3mm	 <p>传统方案 Tradition 10</p> <p>高效方案 Efficient 1</p> <p>加工完成时间 Processing time (h)</p>
冷却方式 Cooling Method	乳化液、外冷 Emulsion, External Cooling	
切削效果 Processing Result	加工过程无异常振动，筋条尺寸满足要求。 There is no normal vibration during the process of machining, the bar Specification meets the requirements.	

应用案例 Case

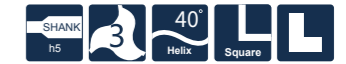
腹板精加工 Finishing of Web Plate

刀具型号 Cutting Tool	SA300-WF-RN6-25030A	
刀具规格 Specification	D25*R3*25*72*130*d25*D24	
加工材料 Workpiece Material	2024 (150HB)	
转速 Speed	8000rpm (471m/min)	
进给速度 Feed	6000mm/min (0.125mm/z)	
切削方式 Cutting Method	面铣 Face milling	
切深量 Cutting Depth	ap=1mm, ae=16mm	 <p>SA300-RN3 48</p> <p>SA300-WF 96</p> <p>材料去除率 Material removal rate (cm³/min)</p>
冷却方式 Cooling Method	乳化液、外冷 Emulsion, External Cooling	
切削效果 Processing Result	工件表面粗糙度好， 相对传统3刃刀具效率大幅提升 The surface roughness of the Workpiece Material is good, and the efficiency is greatly improved compared with that of the traditional 3-flute endmill.	



SA160-S3

3 刃平头
3 Flutes, Square Head



订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SA160-S3-04011	4	11	50	4	1	●
SA160-S3-06016	6	16	50	6	1	●
SA160-S3-06018	6	18	50	6	1	●
SA160-S3-08020	8	20	60	8	1	●
SA160-S3-08024	8	24	60	8	1	●
SA160-S3-10025	10	25	70	10	1	●
SA160-S3-10030	10	30	70	10	1	●
SA160-S3-12030	12	30	75	12	1	●
SA160-S3-12036	12	36	75	12	1	○
SA160-S3-16036	16	36	100	16	1	○
SA160-S3-20045	20	45	100	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤10	0 -0.01
D>10	0 -0.02

单位Unit(mm)

铝合金外观加工立铣刀-SA160系列 Endmill for Milling of Aluminum Alloy — SA160 series

- 适用于铝合金的精加工（外观加工）。
Suitable for finishing milling (appearance milling) of aluminum alloy.
- 独特的槽型设计和极高的刃磨质量，满足高外观要求的加工需求。
This product has unique flute design and high grinding quality, meet the processing needs of high appearance requirements.
- 加工外观无刀线、阴阳面等缺陷，实现稳定的外观加工。
The processed appearance is free of defects such as cutting lines and bright-dark surface, realizing stable processing.

工件材料 Workpiece Material

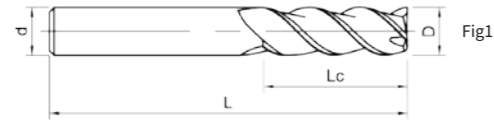
P		M	K	N		
1234	5	123	123	123	4 5	
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎ 最适合 Most Suitable ○ 适合 Suitable

推荐切削参数 ※P112
Recommended Cutting Data ※P112

SA160-SL3

3刃长刃平头
3 Long Flutes, Square Head



订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SA160-SL3-04020	4	20	60	4	1	○
SA160-SL3-06030	6	30	75	6	1	○
SA160-SL3-08040	8	40	75	8	1	○
SA160-SL3-10050	10	50	100	10	1	○
SA160-SL3-12050	12	60	100	12	1	○
SA160-SL3-16080	16	80	140	16	1	○
SA160-SL3-20080	20	80	150	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤10	0 -0.01
D>10	0 -0.02

单位Unit(mm)

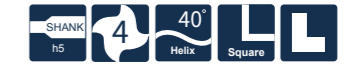
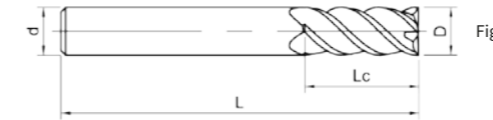
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※P112
Recommended Cutting Data ※P112

SA160-S4

4刃平头
4 Flutes, Square head



订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SA160-S4-04011	4	11	50	4	1	●
SA160-S4-06016	6	16	50	6	1	●
SA160-S4-08020	8	20	60	8	1	●
SA160-S4-10025	10	25	70	10	1	●
SA160-S4-12030	12	30	75	12	1	●
SA160-S4-16036	16	36	100	16	1	○
SA160-S4-20045	20	45	100	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤10	0 -0.01
D>10	0 -0.02

单位Unit(mm)

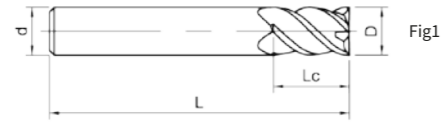
工件材料 Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
碳钢、合金钢 Carbon steels、Alloy steels<35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※P112
Recommended Cutting Data ※P112

SA160-SS4

4 刃短刃平头
4 Short Flutes, Square Head



订货号 Ordering Code	D	Lc	L	d	图号 Figure No.	库存 Stock
SA160-SS4-04008	4	8	50	4	1	●
SA160-SS4-06012	6	12	50	6	1	●
SA160-SS4-08015	8	15	50	8	1	●
SA160-SS4-10015	10	15	50	10	1	●
SA160-SS4-12015	12	15	50	12	1	○
SA160-SS4-16020	16	20	60	16	1	○
SA160-SS4-20030	20	30	75	20	1	○

●标准库存 Stock ○需预定 Available upon Order

D	公差Tol
D≤10	0 -0.01
D>10	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 Carbon steels, Alloy steels <35HRC	合金钢 Alloy steels <48HRC	不锈钢 Stainless steel	铸铁 Cast Iron	铝合金 Aluminium Alloys	铜合金 Copper Alloys	石墨 Graphite
				◎		

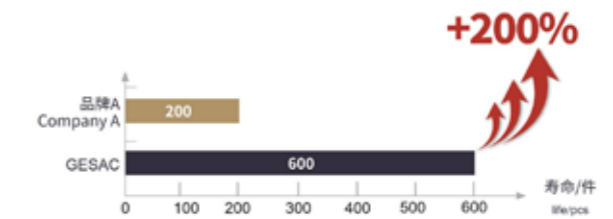
◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P112
Recommended Cutting Data ※P112

应用案例 Application

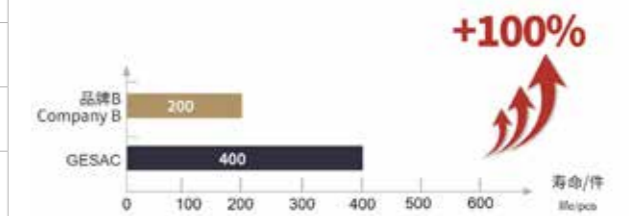
案例1: 客户端性能测试
Case 1: Customer Performance Test

刀具型号 Cutting Tool	SA160-S3-06012
刀具规格 Specification	D6*12*50*d6
加工材料 Workpiece	AL6063(90HB)
转速 Cutting Speed	12000rpm(226m/min)
进给速度 Feed	600mm/min
切深量 Cutting Depth	ap=7mm ae=0.05mm
切削方式 Cutting Method	侧铣 side milling
冷却方式 Cooling Method	乳化液, 外冷 emulsion, external cooling
切削效果 Processing Result	加工表面质量好, 且寿命超过客户要求 The quality of the machined surface is good, and the service life exceeds the customer's requirements



案例2: 客户端性能测试
Case 2: Customer Performance Test

刀具型号 Cutting Tool	SA160-S3-10025
刀具规格 Specification	D10*25*70*d10
加工材料 Workpiece	AL6063(90HB)
转速 Cutting Speed	10000rpm(314m/min)
进给速度 Feed	1000mm/min
切深量 Cutting Depth	ap=13mm ae=0.05mm
切削方式 Cutting Method	侧铣 side milling
冷却方式 Cooling Method	乳化液, 外冷 emulsion, external cooling
切削效果 Processing Result	工件外观无缺陷, 满足客户要求 The appearance of the workpiece is free of defects, meeting the customer's requirements



推荐切削参数
Recommended Cutting Data

SA160-S3/S4、SS3/SS4
铝合金Aluminum Alloys——侧铣Side Milling



工件材料 Workpiece Material		切削量 Removal Rate (mm)	切削速度 Cutting Speed (m/min)	刃径 Tool Diameter (mm)	4	6	8	10	12	16	20
N	铝合金 Aluminium Alloys	ap≤2D	60 - 240	转速 Speed (min ⁻¹)	12000	11000	10000	10000	9000	8000	6000
		ae≤0.1		进给速度 Feed Rate (mm/min)	600	800	800	1000	1200	1300	1500

GUMD可换式钻头系列
Head Changeable Drill

C

孔加工
Holemaking

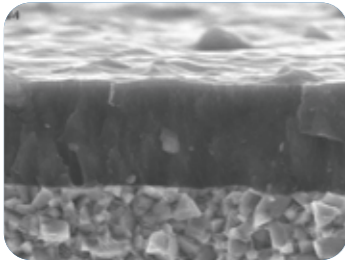
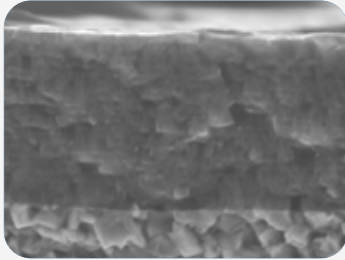
- 螺钉锁紧接口，可靠且易于更换。
- 高强度钻尖设计，定心性能好。
- 双螺旋内冷钻体，排屑顺畅。
- 两种材质，加工范围广。
- 广泛应用于汽车行业、通用机械、能源重工行业。

- Threaded locking interface is reliable and easy to replace.
- High-strength drill tip design with good centering performance.
- Double spiral inner coolants, smooth chip removal.
- Two PVD Grades with a wide range of processing.
- Mainly used in the automobile industry, general machinery industry and energy heavy industry.

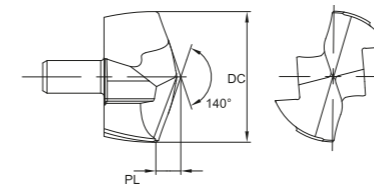


可换式钻头PVD牌号应用一览表

Application Summary of New PVD Grades for Head Changeable Drill

牌号 Grade	颜色 Color	材质结构 Grade Microstructure	特点 Grade Feature
GM3225	紫灰色 Grey Purple		<ul style="list-style-type: none"> 高Co细晶粒硬质合金基体搭配全新升级的AlTiN涂层, 提供了优异的耐磨性和抗崩性, 可用于多种切削速度和进给量的加工。 Combined with the upgraded AlTiN coating, the cobalt fine-grained carbide substrate provides excellent wear resistance and chipping resistance, and is suitable for common processing at various speeds and feeds. 适用于钢、不锈钢、铸铁的通用加工。 Suitable for general machining of steel, stainless steel and cast iron.
NEW GPD7115	紫灰色 Grey Purple		<ul style="list-style-type: none"> 高强韧性的亚微晶硬质合金基体搭配全新的纳米复合多层结构PVD涂层, 带来优异的耐磨性能及红硬性。特殊的表面处理可以有效地抑制积屑瘤的产生。 Toughened submicron-grained WC-Co substrate coated with unique nanostructured multilayer PVD coating for excellent wear resistance and hot hardness. The formation of built-up edge is effectively inhibited by special surface treatment. 适用于钢的中低速加工。 Suitable for steel in general cutting condition with medium or low speed.

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD100-PKM	10.0	1.82	●	●	GUMD-100-3D-F16S GUMD-100-5D-F16S
GUMD101-PKM	10.1	1.84	●	●	
GUMD102-PKM	10.2	1.86	●	●	
GUMD103-PKM	10.3	1.87	●	●	GUMD-105-3D-F16S GUMD-105-5D-F16S
GUMD104-PKM	10.4	1.89	●	●	
GUMD105-PKM	10.5	1.91	●	●	
GUMD106-PKM	10.6	1.93	●	●	
GUMD107-PKM	10.7	1.95	●	●	
GUMD108-PKM	10.8	1.97	●	●	GUMD-110-3D-F16S GUMD-110-5D-F16S
GUMD109-PKM	10.9	1.98	●	●	
GUMD110-PKM	11.0	2.00	●	●	
GUMD111-PKM	11.1	2.02	●	●	GUMD-115-3D-F16S GUMD-115-5D-F16S
GUMD112-PKM	11.2	2.04	●	●	
GUMD113-PKM	11.3	2.06	●	●	
GUMD114-PKM	11.4	2.07	●	●	
GUMD115-PKM	11.5	2.09	●	●	
GUMD116-PKM	11.6	2.11	●	●	
GUMD117-PKM	11.7	2.13	○	○	
GUMD118-PKM	11.8	2.15	●	●	
GUMD119-PKM	11.9	2.17	●	●	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10 < DC ≤ 18	+0.001 +0.019
18 < DC ≤ 21.9	+0.002 +0.023

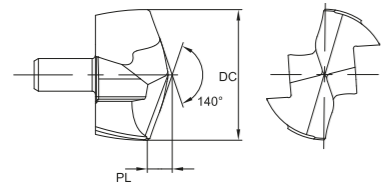
单位Unit(mm)

	工件材料 Workpiece Material					
	P			M	K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Steel	合金钢 Alloy Steel	合金钢、工具钢 Alloy Steel/Tool Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD120-PKM	12.0	2.18	●	●	GUMD-120-3D-F16S GUMD-120-5D-F16S
GUMD121-PKM	12.1	2.20	●	●	
GUMD122-PKM	12.2	2.22	●	●	
GUMD123-PKM	12.3	2.24	●	●	
GUMD124-PKM	12.4	2.26	○	○	GUMD-125-3D-F16S GUMD-125-5D-F16S
GUMD125-PKM	12.5	2.27	●	●	
GUMD126-PKM	12.6	2.29	●	●	
GUMD127-PKM	12.7	2.31	○	○	
GUMD128-PKM	12.8	2.33	●	●	GUMD-130-3D-F16S GUMD-130-5D-F16S
GUMD129-PKM	12.9	2.35	○	○	
GUMD130-PKM	13.0	2.37	●	●	
GUMD131-PKM	13.1	2.38	●	●	
GUMD132-PKM	13.2	2.40	●	●	GUMD-135-3D-F16S GUMD-135-5D-F16S
GUMD133-PKM	13.3	2.42	○	○	
GUMD134-PKM	13.4	2.44	○	○	
GUMD135-PKM	13.5	2.46	●	●	
GUMD136-PKM	13.6	2.47	○	○	GUMD-140-3D-F16S GUMD-140-5D-F16S
GUMD137-PKM	13.7	2.49	●	●	
GUMD138-PKM	13.8	2.51	●	●	
GUMD139-PKM	13.9	2.53	○	○	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10<DC≤18	+0.001 +0.019
18<DC≤21.9	+0.002 +0.023

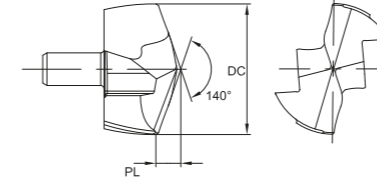
单位Unit(mm)

	工件材料 Workpiece Material					
	P		M		K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Stell	合金钢 Alloy Stell	合金钢、工具钢 Alloy Steel/Tool Stell	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD140-PKM	14.0	2.55	●	●	GUMD-140-3D-F16S GUMD-140-5D-F16S
GUMD141-PKM	14.1	2.57	●	●	
GUMD142-PKM	14.2	2.58	●	●	
GUMD143-PKM	14.3	2.60	○	○	
GUMD144-PKM	14.4	2.62	○	○	GUMD-145-3D-F16S GUMD-145-5D-F16S
GUMD145-PKM	14.5	2.64	●	●	
GUMD146-PKM	14.6	2.66	●	●	
GUMD147-PKM	14.7	2.68	○	○	
GUMD148-PKM	14.8	2.69	●	●	GUMD-150-3D-F20S GUMD-150-5D-F20S
GUMD149-PKM	14.9	2.71	○	○	
GUMD150-PKM	15.0	2.73	●	●	
GUMD151-PKM	15.1	2.75	●	●	
GUMD152-PKM	15.2	2.77	●	●	GUMD-155-3D-F20S GUMD-155-5D-F20S
GUMD153-PKM	15.3	2.78	●	●	
GUMD154-PKM	15.4	2.80	○	○	
GUMD155-PKM	15.5	2.82	●	●	
GUMD156-PKM	15.6	2.84	○	○	GUMD-159-3D-F20S GUMD-159-5D-F20S
GUMD157-PKM	15.7	2.86	○	○	
GUMD158-PKM	15.8	2.88	●	●	
GUMD159-PKM	15.9	2.89	○	○	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10<DC≤18	+0.001 +0.019
18<DC≤21.9	+0.002 +0.023

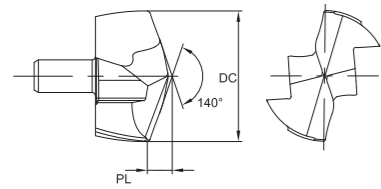
单位Unit(mm)

	工件材料 Workpiece Material					
	P		M		K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Stell	合金钢 Alloy Stell	合金钢、工具钢 Alloy Steel/Tool Stell	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD160-PKM	16.0	2.91	●	●	GUMD-160-3D-F20S GUMD-160-5D-F20S
GUMD161-PKM	16.1	2.93	●	●	
GUMD162-PKM	16.2	2.95	●	●	
GUMD163-PKM	16.3	2.97	○	○	
GUMD164-PKM	16.4	2.98	○	○	
GUMD165-PKM	16.5	3.00	●	●	
GUMD166-PKM	16.6	3.02	○	○	
GUMD167-PKM	16.7	3.04	○	○	
GUMD168-PKM	16.8	3.06	●	●	
GUMD169-PKM	16.9	3.08	○	○	
GUMD170-PKM	17.0	3.09	●	●	GUMD-170-3D-F20S GUMD-170-5D-F20S
GUMD171-PKM	17.1	3.11	●	●	
GUMD172-PKM	17.2	3.13	●	●	
GUMD173-PKM	17.3	3.15	○	○	
GUMD174-PKM	17.4	3.17	○	○	
GUMD175-PKM	17.5	3.18	●	●	
GUMD176-PKM	17.6	3.20	○	○	
GUMD177-PKM	17.7	3.22	○	○	
GUMD178-PKM	17.8	3.24	●	●	
GUMD179-PKM	17.9	3.26	○	○	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10<DC≤18	+0.001 +0.019
18<DC≤21.9	+0.002 +0.023

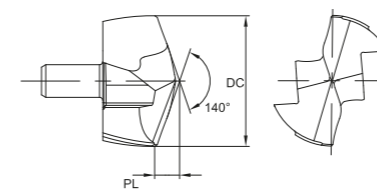
单位Unit(mm)

	工件材料 Workpiece Material					
	P			M	K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Stell	合金钢 Alloy Stell	合金钢、工具钢 Alloy Steel/Tool Stell	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD180-PKM	18.0	3.28	●	●	GUMD-180-3D-F25S GUMD-180-5D-F25S
GUMD181-PKM	18.1	3.29	●	●	
GUMD182-PKM	18.2	3.31	●	●	
GUMD183-PKM	18.3	3.33	○	○	
GUMD184-PKM	18.4	3.35	○	○	
GUMD185-PKM	18.5	3.37	●	●	
GUMD186-PKM	18.6	3.38	○	○	
GUMD187-PKM	18.7	3.40	○	○	
GUMD188-PKM	18.8	3.42	●	●	
GUMD189-PKM	18.9	3.44	○	○	
GUMD190-PKM	19.0	3.46	●	●	GUMD-190-3D-F25S GUMD-190-5D-F25S
GUMD191-PKM	19.1	3.48	●	●	
GUMD192-PKM	19.2	3.49	●	●	
GUMD193-PKM	19.3	3.51	○	○	
GUMD194-PKM	19.4	3.53	○	○	
GUMD195-PKM	19.5	3.55	●	●	
GUMD196-PKM	19.6	3.57	○	○	
GUMD197-PKM	19.7	3.59	○	○	
GUMD198-PKM	19.8	3.60	●	●	
GUMD199-PKM	19.9	3.62	○	○	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10<DC≤18	+0.001 +0.019
18<DC≤21.9	+0.002 +0.023

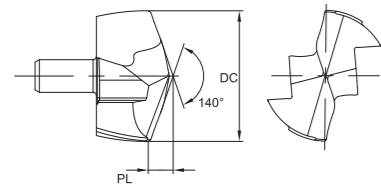
单位Unit(mm)

	工件材料 Workpiece Material					
	P			M	K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Stell	合金钢 Alloy Stell	合金钢、工具钢 Alloy Steel/Tool Stell	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD 刀头 GUMD Drill Head



订货号 Ordering Code	尺寸 Dimension(mm)		涂层硬质合金 Coated		适配刀杆 Suitable Tool Holder
	DC (k7)	PL	GM3225	GPD7115	
GUMD200-PKM	20.0	3.64	●	●	GUMD-200-3D-F25S GUMD-200-5D-F25S
GUMD201-PKM	20.1	3.66	○	○	
GUMD202-PKM	20.2	3.68	●	●	
GUMD203-PKM	20.3	3.69	●	●	
GUMD204-PKM	20.4	3.71	●	●	
GUMD205-PKM	20.5	3.73	●	●	
GUMD206-PKM	20.6	3.75	●	●	
GUMD207-PKM	20.7	3.77	●	●	
GUMD208-PKM	20.8	3.79	●	●	
GUMD209-PKM	20.9	3.80	●	●	
GUMD210-PKM	21.0	3.82	●	●	
GUMD211-PKM	21.1	3.84	○	○	
GUMD212-PKM	21.2	3.86	○	○	
GUMD213-PKM	21.3	3.88	●	●	
GUMD214-PKM	21.4	3.89	○	○	
GUMD215-PKM	21.5	3.91	●	●	
GUMD216-PKM	21.6	3.93	○	○	
GUMD217-PKM	21.7	3.95	○	○	
GUMD218-PKM	21.8	3.97	○	○	
GUMD219-PKM	21.9	3.99	○	○	

●标准库存 Stock ○需预定 Available upon Order

DC	公差Tol (k7)
DC=10	+0.001 +0.016
10<DC≤18	+0.001 +0.019
18<DC≤21.9	+0.002 +0.023

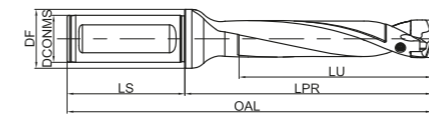
单位Unit(mm)

	工件材料 Workpiece Material					
	P			M	K	
	1 2 3	4	5	1 2 3	1 2	3
	碳钢 Carbon Stell	合金钢 Alloy Stell	合金钢、工具钢 Alloy Steel/Tool Stell	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron
	<25HRC	<35HRC	35-48HRC		<35HRC	35-45HRC
GM3225	○	◎	◎	○	◎	◎
GPD7115	◎	○				

◎最适合Most Suitable ○适合Suitable

推荐切削参数 ※ P124
Recommended Cutting Data ※ P124

GUMD钻杆-3D GUMD Drill Holder-3D



订货号 Ordering Code	尺寸 Dimension(mm)						库存 Stock	适配刀头直径范围 Suitable Drill Head	
	DCONMS (h6)	DF	LS	LU	LPR	OAL		最小直径 DC min	最大直径 DC max
GUMD-100-3D-F16S	16	20	48	33	48	96	●	10.0	10.4
GUMD-105-3D-F16S	16	20	48	34.5	49.5	97.5	●	10.5	10.9
GUMD-110-3D-F16S	16	20	48	36	51	99	●	11.0	11.4
GUMD-115-3D-F16S	16	20	48	37.5	52.5	100.5	●	11.5	11.9
GUMD-120-3D-F16S	16	20	48	39	54	102	●	12.0	12.4
GUMD-125-3D-F16S	16	20	48	40.5	55.5	103.5	●	12.5	12.9
GUMD-130-3D-F16S	16	20	48	42	57	105	●	13.0	13.4
GUMD-135-3D-F16S	16	20	48	43.5	58.5	106.5	●	13.5	13.9
GUMD-140-3D-F16S	16	20	48	45	60	108	●	14.0	14.4
GUMD-145-3D-F16S	16	20	48	46.5	61.5	109.5	●	14.5	14.9
GUMD-150-3D-F20S	20	25	50	50	67	117	●	15.0	15.9
GUMD-160-3D-F20S	20	25	50	53	70	120	●	16.0	16.9
GUMD-170-3D-F20S	20	25	50	56	73	123	●	17.0	17.9
GUMD-180-3D-F25S	25	32	56	62	86	142	●	18.0	18.9
GUMD-190-3D-F25S	25	32	56	65	89	145	●	19.0	19.9
GUMD-200-3D-F25S	25	32	56	68	92	148	●	20.0	20.9
GUMD-210-3D-F25S	25	32	56	71	95	151	●	21.0	21.9

●标准库存 Stock ○需预定 Available upon Order

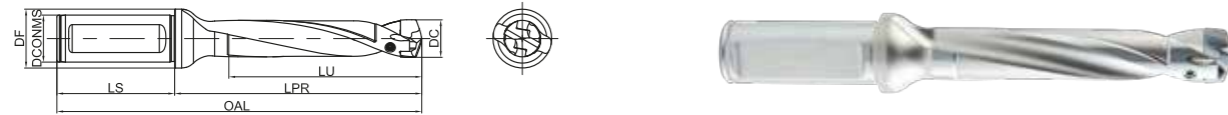
DCONMS	公差Tol (h6)
16	0 -0.011
20	0 -0.013
25	0 -0.013

单位Unit(mm)

刀体配件列表 Spare Parts

规格 Specification	螺钉 Screw		扳手 Wrench	
	订货号 Ordering Code	示意图	订货号 Ordering Code	示意图
GUMD-100~120	PSCCM022038B		PTT06IPB	
GUMD-125~150	PSCCM025046B		PTT07IPB	
GUMD-160~190	PSCCM030058B		PTT08IPB	
GUMD-200~210	PSCCM035072B		PTT09IPB	

GUMD 钻杆-5D GUMD Drill Holder-5D



订货号 Ordering Code	尺寸 Dimension(mm)						库存 Stock	适配刀头直径范围 Suitable Drill Head	
	DCONMS (h6)	DF	LS	LU	LPR	OAL		最小直径 DC min	最大直径 DC max
GUMD-100-5D-F16S	16	20	48	53	68	116	●	10.0	10.4
GUMD-105-5D-F16S	16	20	48	55.5	70.5	118.5	●	10.5	10.9
GUMD-110-5D-F16S	16	20	48	58	73	121	●	11.0	11.4
GUMD-115-5D-F16S	16	20	48	60.5	75.5	123.5	●	11.5	11.9
GUMD-120-5D-F16S	16	20	48	63	78	126	●	12.0	12.4
GUMD-125-5D-F16S	16	20	48	65.5	80.5	128.5	●	12.5	12.9
GUMD-130-5D-F16S	16	20	48	68	83	131	●	13.0	13.4
GUMD-135-5D-F16S	16	20	48	70.5	85.5	133.5	●	13.5	13.9
GUMD-140-5D-F16S	16	20	48	73	88	136	●	14.0	14.4
GUMD-145-5D-F16S	16	20	48	75.5	90.5	138.5	●	14.5	14.9
GUMD-150-5D-F20S	20	25	50	83	100	150	●	15.0	15.9
GUMD-160-5D-F20S	20	25	50	88	105	155	●	16.0	16.9
GUMD-170-5D-F20S	20	25	50	93	110	160	●	17.0	17.9
GUMD-180-5D-F25S	25	32	56	100	124	180	●	18.0	18.9
GUMD-190-5D-F25S	25	32	56	105	129	185	●	19.0	19.9
GUMD-200-5D-F25S	25	32	56	110	134	190	●	20.0	20.9
GUMD-210-5D-F25S	25	32	56	115	139	195	●	21.0	21.9

●标准库存 Stock ○需预定 Available upon Order

DCONMS	公差Tol(h6)
16	0 -0.011
20	0 -0.013
25	0 -0.013

单位Unit(mm)

刀体配件列表 Spare Parts

规格 Specification	螺钉 Screw		扳手 Wrench	
	订货号 Ordering Code	示意图	订货号 Ordering Code	示意图
GUMD-100~120	PSCCM022038B		PTT06IPB	
GUMD-125~150	PSCCM025046B		PTT07IPB	
GUMD-160~190	PSCCM030058B		PTT08IPB	
GUMD-200~210	PSCCM035072B		PTT09IPB	

应用领域 Application

适用于汽车行业、能源重工行业、通用机械行业等。
Mainly used in the automobile industry、general machinery industry and energy & heavy industry

案例 1 Case 1

刀片 Insert	GUMD175-PKM-GPD7115	
刀体 Cutter Holder	GUMD-170-5D-F20-S	
加工材料 Material	45#(230HB)	
切削速度 Cutting speed	Vc=66m/min S=1200r/min	
进给速度 Feed rate	F=192mm/min fn=0.16mm/r	
钻深 Drilling depth	60mm (通孔 Through hole)	
加工设备 Equipment	立式加工中心 Vertical machining centre	
冷却方式 Coolant	内冷 Internal coolant	

案例 2 Case 2

刀片 Insert	GUMD185-PKM-GM3225	
刀体 Cutter Holder	GUMD-180-5D-F25-S	
加工材料 Material	QT600(240-260HB)	
切削速度 Cutting speed	Vc=63 m/min S=1100 r/min	
进给速度 Feed rate	F=271mm/min fn=0.25mm/r	
钻深 Drilling depth	15mm (通孔 Through hole)	
加工设备 Equipment	立式加工中心 Vertical machining centre	
冷却方式 Coolant	内冷 Internal coolant	

推荐切削参数

Recommended Cutting Datas

GUMD 可换式钻头系列

Head Changeable Drill

工件材料 Workpiece Material	切削速度 Vc Cutting Speed (m/min)	加工直径 Diameter Dc (mm)					
		Ø11	Ø13	Ø15	Ø18	Ø21	
P	低碳钢, 长切屑 Low Carbon Steel (< 125HB)	60-100-140	0.14-0.2-0.28	0.16-0.24-0.3	0.18-0.26-0.33	0.20-0.28-0.35	0.25-0.34-0.42
	低碳钢, 短切屑, 易切钢 Low Carbon Steel (< 125HB)	60-100-140	0.14-0.2-0.28	0.16-0.24-0.3	0.18-0.26-0.33	0.20-0.28-0.35	0.25-0.34-0.42
	高碳钢及中碳钢 Medium and High Carbon Steel (< 25HRC)	60-80-120	0.14-0.2-0.28	0.16-0.24-0.3	0.18-0.26-0.33	0.20-0.28-0.35	0.25-0.34-0.42
	合金钢, 工具钢 Alloy Steel (< 35HRC)	60-80-110	0.14-0.2-0.24	0.16-0.22-0.26	0.16-0.22-0.26	0.18-0.24-0.28	0.18-0.26-0.30
	合金钢, 工具钢 Alloy Steel (35-48HRC)	35-60-90	0.10-0.14-0.18	0.12-0.16-0.20	0.12-0.16-0.20	0.14-0.18-0.22	0.14-0.18-0.22
	PH与铁素体, 马氏体钢 PH, Ferrite and Martensite Steel (< 35HRC)	30-60-90	0.10-0.14-0.18	0.12-0.16-0.20	0.12-0.16-0.20	0.14-0.18-0.22	0.14-0.18-0.22
	高强度 PH与铁素体, 马氏体钢 PH, Ferrite and Martensite Steel (35-48HRC)	30-50-80	0.10-0.14-0.18	0.12-0.16-0.20	0.12-0.16-0.20	0.14-0.18-0.22	0.14-0.18-0.22
M	奥氏体不锈钢 Austenitic Stainless Steel (130-200HB)	40-60-80	0.12-0.16-0.18	0.13-0.16-0.2	0.14-0.18-0.24	0.14-0.2-0.26	0.15-0.22-0.3
	高强度的奥氏体和 铸造不锈钢 Austenitic and Casting Stainless Steel (< 25HRC)	40-60-80	0.08-0.1-0.13	0.09-0.11-0.13	0.10-0.12-0.14	0.10-0.12-0.14	0.12-0.14-0.16
	双相不锈钢 Duplex Stainless Steel (< 30HRC)	30-45-60	0.08-0.1-0.13	0.09-0.11-0.13	0.10-0.12-0.14	0.10-0.12-0.14	0.12-0.14-0.16
K	灰铸铁 Gray Cast Iron (< HRC32)	60-120-160	0.14-0.22-0.28	0.14-0.26-0.35	0.18-0.28-0.38	0.2-0.3-0.4	0.22-0.32-0.45
	中等加工难度的合金铸铁, 球墨铸铁 Alloy Cast Iron and Ductile Iron with Moderate Machining Difficulty (< HRC28)	60-100-140	0.14-0.2-0.25	0.14-0.22-0.3	0.16-0.26-0.35	0.18-0.3-0.4	0.2-0.3-0.42
	难加工的高合金铸铁, 球墨铸铁 Alloy Cast Iron and Ductile Iron with High Machining Difficulty (< 45HRC)	50-80-100	0.10-0.14-0.16	0.12-0.15-0.18	0.14-0.18-0.20	0.16-0.2-0.22	0.18-0.22-0.24



D938 深孔加工麻花钻 D938 Series Deep Hole Internal Coolant Twist Drill

- 适用于普通钢、铸铁及不锈钢的高效钻削加工。
Suitable for efficient Drilling of Steel, Cast Iron and Stainless steel.
- 全新的基材材质, 韧性和耐磨性的完美平衡。
New substrate material, perfect balance of toughness and wear resistance.
- 采用AlTiN基纳米涂层和独特的涂层后处理。
Using AlTiN-nano coating and unique post-processing of coating.
- 优化槽型和钻尖设计, 超强的自定心性能和断屑性能、具有良好的排屑性能。
Optimize flute profile and Drill point design, with super self-centering Performance, chip breaking performance and good chip evacuation performance.

D938 深孔加工麻花钻系列目录
Content of D938 Deep Hole Twist Drill Series

产品系列 Drills Series	刀具名称及外形 Description and profile	钻尖角 Point Angle	柄部类型 Shank Type	涂层/牌号 Coating/Grade	孔加工深度 L/D Drilling Depth L/D	冷却形式 Coolant Type	系列类型 Tool Type	尺寸范围 Dimension Range	孔精度等级 Hole accuracy class	选用引导钻类型 Guide Drill Type	尺寸表页码 Dimension Table Page	切削参数 Cutting Parameters Page
D938	12D内冷麻花钻 12D Internal Coolant Twist Drill	135°		AlTiN nano	12D		D938-A12C	D3~D16	IT9-10	D938-A3C	P134	P142
	15D内冷麻花钻 15D Internal Coolant Twist Drill	135°		AlTiN nano	15D		D938-A15C	D3~D14	IT9-10	D938-A3C	P137	P142
	20D内冷麻花钻 20D Internal Coolant Twist Drill	135°		AlTiN nano	20D		D938-A20C	D3~D12	IT9-10	D938-A3C	P140	P142
	25D内冷麻花钻 25D Internal Coolant Twist Drill	135°		AlTiN nano	25D		D938-A25C	D3~D8	IT9-10	D938-A3C	P141	P142

● 最适合 Most Suitable ○ 适合 Suitable

名词解释
Explanation

	标示 Sign	说明 Notes
柄部形状 Shank Type		h6圆柄 Cylindrical Shank
		DIN6535HA柄 DIN6535HA Shank
涂层 Coating	AlTiN nano	AlTiN纳米涂层 AlTiN Nano-Coating
刀具类型 Tool Type		内冷麻花钻 Internal Cooling Twist Drill
ISO材料分类 ISO Material classification	P	ISO分类 钢 ISO Steel
	M	ISO分类 不锈钢 ISO Stainless Steel
	K	ISO分类 铸铁 ISO Cast Iron

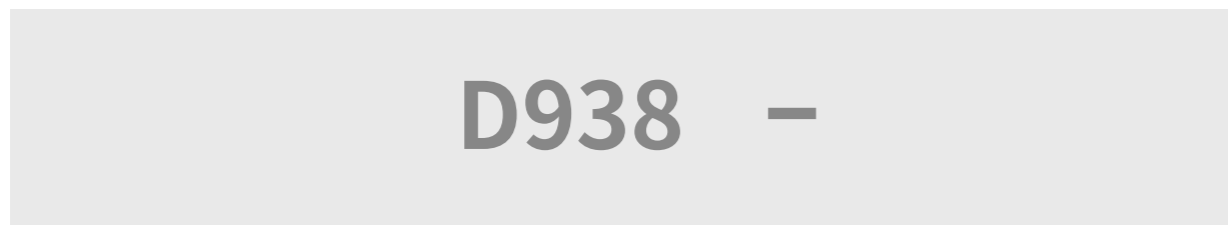
	标示 Sign	说明 Notes
ISO材料分类 ISO Material classification	N	ISO分类 有色金属 ISO Nonferrous Metal
	S	ISO分类 耐热合金钛合金 ISO HRSA
	H	高硬度材料 Hardened Material
长径比 Length/Diameter Ratio	12D	12倍径 12D
	15D	15倍径 15D
	20D	20倍径 20D
	25D	25倍径 25D

工件材料 WorkPiece Material														
P				M	K	N				S	H			
1	2	3	4	5	1	2	3	1	2	3	4	5	1	2
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 Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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)	(35-45HRC)	(Si<12%)	(Si>12%)	(<HB 200)		(<HB 450)	(<HB400)	(45-55HRC)	(55-60HRC)	
○	○	○	○	○	○	○								
○	○	○	○	○	○	○								
○	○	○	○	○	○	○								
○	○	○	○	○	○	○								

名词解释
Explanation

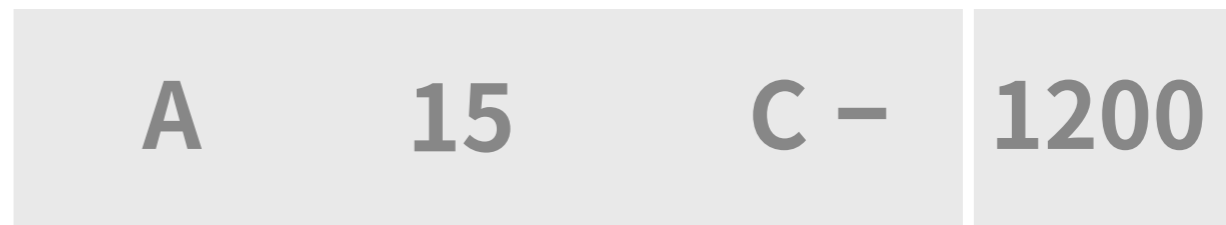
	标示 Sign	说明 Notes
尺寸参数 Dimension Data	DC	刃径 Diameter of Drill
	DCONMS	柄径 Diameter of Shank
	LCF	槽长 Flute Length
	LU	推荐最大钻深 Recommend Maximum drilling Depth
	LS	柄长 Shank Length
	OAL	全长 Overall Length
	PL	钻尖高 Drill Tip Height

整体硬质合金钻头型号 (订货号) 表示规则
Solid Carbide Drills Identification System



①

工件材料 Workpiece	①钻头系列号 Drills Series	
普通钢 Steel	D938	普通钢加工麻花钻 Twist Drill for Steel



②

②柄部类型 Shank Type	
A	圆柱直柄 DIN6535HA

③

③钻孔深度 Drilling Depth	
3	钻深≤3D Depth≤3D
5	钻深≤5D Depth≤5D
8	钻深≤8D Depth≤8D
12	钻深≤12D Depth≤12D
15	钻深≤15D Depth≤15D
20	钻深≤20D Depth≤20D
25	钻深≤25D Depth≤25D

④

④冷却方式 Coolant Type	
C	内冷 Internal Coolant

⑤

⑤刃部直径 Drill Diameter	
0325	刃径为Φ3.25 Dia: Φ3.25
0600	刃径为Φ6.00 Dia: Φ6.00
1200	刃径为Φ12.00 Dia: Φ12.00

● D938系列钻尖—
超强的自定心性能和断屑性能

D938 Series Drill Tip —
Superior self-centering and chip
breaking performance



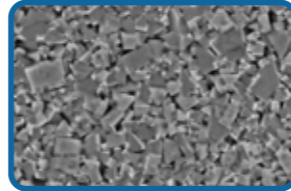
● 双刃带—具有优良的导向性

Double cutting relief —
With excellent directivity



● 全新的基体材质—
韧性和耐磨性的完美平衡

New substrate material —
Perfect balance between
toughness and wear resistance



● 柄部标准—基于DIN6535HA标准设计

The shank is designed in accordance with —
DIN6535HA Standard

● 超光滑排屑槽—具有卓越的排屑性能

Super smooth chip flute —
With good chip evacuation performance



● 刃径精度—采用h7公差精度等级

Cutting Diameter accuracy —
h7 tolerance accuracy class

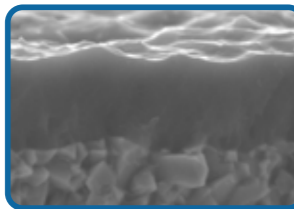
● 短涂层—超低表面摩擦系数

Short Coating —
Ultra low surface friction coefficient



● ALTiN-nano涂层—
优异的红硬性和抗氧化性

ALTiN-nano Coating —
High heat resistance and high
resistance to oxidation



D938 深孔加工麻花钻 D938 Series Deep Hole Internal Coolant Twist Drill

- 适用于普通钢、铸铁及不锈钢的高效钻削加工
Suitable for efficient Drilling of Steel, Cast Iron and Stainless steel
- 全新的基体材质，韧性和耐磨性的完美平衡
New substrate material, perfect balance of toughness and wear resistance
- 采用ALTiN基纳米涂层和独特的涂层后处理
Using ALTiN-nano coating and unique post-processing of coating
- 优化槽型和钻尖设计，超强的自定心性能和断屑性能、具有良好的排屑性能
Optimize flute profile and Drill point design, with super self-centering Performance, chip breaking performance and good chip evacuation performance

深孔钻 (25D以内) 加工方法
Processing techniques for Deep Hole Drilling(≤25D)

步骤 Process	示意图 Schematic diagram	加工说明 Processing instruction	使用刀具及参数 The tools and cutting parameters
1	<p>定中心 Piloting</p> <p>← 2 X Dc</p>	<p>1. 打开冷却液, 水压10-30bar Turn on coolant, pressure 10-30 bar</p> <p>2. 钻定心孔 Piloting</p>	<p>使用3D以内麻花钻 Use the twist drills ≤3D</p>
2	<p>钻入 Engaging</p> <p>← 1.5 X Dc</p>	<p>1. 关闭冷却液 Turn off coolant</p> <p>2. 钻入 Engaging</p>	<p>$n_{max}=100$ r/min $V_f=1000$ mm/min</p>
3	<p>钻孔 Drilling hole</p> <p>← 3 X Dc</p>	<p>1. 打开冷却液, 水压10-30bar Turn on coolant, pressure 10-30 bar</p> <p>2. 钻孔 Drilling hole</p>	<p>$V_c=25\%-50\%$ $V_f=25\%-50\%$</p>
4	<p>钻深孔 Drilling deep hole</p> <p>←</p>	<p>1. 打开冷却液, 水压10-30bar Turn on coolant, pressure 10-30 bar</p> <p>2. 钻深孔 Drilling deep hole</p>	<p>$V_c=100\%$ $V_f=100\%$</p>
5	<p>退出 Restriction</p> <p>→</p>	<p>1. 关闭冷却液 Turn off coolant</p> <p>2. 退刀 Restriction</p>	<p>$n_{max}=100$ r/min $V_f=1000$ mm/min</p>

应用案例
Case

案例1 空心轴钻孔加工
Case1 Hollow shaft

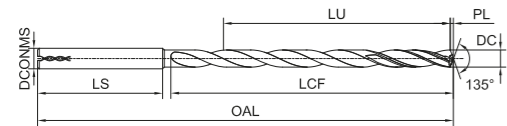
刀具型号 Tool type	D938-A15C-0400	
刀具规格 Specification	D4*76*116*d6	
加工材料 Material	16MnCr5(150-190HB)	
切削速度 Cutting speed	$V_c=75$ m/min $S=6000$ r/min	
进给速度 Feed	$f_n=0.11$ mm/r $F=660$ mm/min	
钻深 Drilling depth	67mm (通孔 Through hole) / 61.5mm (盲孔 Blind hole)	<p>刀具寿命 Tool life (pcs)</p>
加工设备 Equipment	立式加工中心 Vertical machining centre	
冷却方式 Coolant	内冷, 压力32bar Internal coolant	

案例2 曲轴直油孔+斜油孔
Case2 The crankshaft oil hole

刀具型号 Tool type	D938-A20C-0550	
刀具规格 Specification	D5.5*140*180*d6	
加工材料 Material	SAE1538MV	
切削速度 Cutting speed	$V_c=65$ m/min $S=3760$ r/min	
进给速度 Feed	$f_n=0.2/0.07$ mm/r $F=752/263$ mm/min	
钻深 Drilling depth	50.5mm (直油孔 Straight oil hole) / 89.5 mm (斜油孔 Oblique)	<p>刀具寿命 Tool life (pcs)</p>
加工设备 Equipment	卧式专机 (双主轴) Horizontal machining	
冷却方式 Coolant	MQL(微量润滑)	

D938-A12C

普通钢加工12D内冷麻花钻
12D Internal Coolant Twist Drills for Steel



订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A12C-0300	3.00	54	92	6	36	49.5	0.62	●
D938-A12C-0310	3.10	54	92	6	36	49.4	0.64	○
D938-A12C-0320	3.20	54	92	6	36	49.2	0.66	○
D938-A12C-0330	3.30	54	92	6	36	49.1	0.68	●
D938-A12C-0340	3.40	54	92	6	36	48.9	0.70	○
D938-A12C-0350	3.50	54	92	6	36	48.8	0.72	●
D938-A12C-0360	3.60	54	92	6	36	48.6	0.75	○
D938-A12C-0370	3.70	54	92	6	36	48.5	0.77	○
D938-A12C-0380	3.80	64	102	6	36	58.3	0.79	●
D938-A12C-0390	3.90	64	102	6	36	58.2	0.81	●
D938-A12C-0400	4.00	64	102	6	36	58.0	0.83	●
D938-A12C-0410	4.10	64	102	6	36	57.9	0.85	○
D938-A12C-0420	4.20	64	102	6	36	57.7	0.87	●
D938-A12C-0430	4.30	64	102	6	36	57.6	0.89	○
D938-A12C-0440	4.40	64	102	6	36	57.4	0.91	○
D938-A12C-0450	4.50	64	102	6	36	57.3	0.93	●
D938-A12C-0460	4.60	64	102	6	36	57.1	0.95	●
D938-A12C-0470	4.70	64	102	6	36	57.0	0.97	●

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D16刀具接受非标订制;
Accept customization from D3 to D16 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

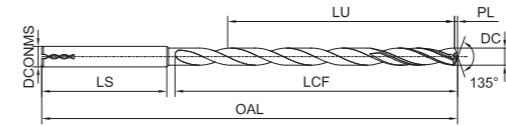
工件材料 Workpiece Material													
P			M	K		N			S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A12C

普通钢加工12D内冷麻花钻
12D Internal Coolant Twist Drills for Steel



》续前

订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A12C-0660	6.60	110	148	8	36	100.1	1.37	○
D938-A12C-0670	6.70	110	148	8	36	100.0	1.39	○
D938-A12C-0680	6.80	110	148	8	36	99.8	1.41	●
D938-A12C-0690	6.90	110	148	8	36	99.7	1.43	○
D938-A12C-0700	7.00	110	148	8	36	99.5	1.45	●
D938-A12C-0710	7.10	110	148	8	36	99.4	1.47	○
D938-A12C-0720	7.20	110	148	8	36	99.2	1.49	○
D938-A12C-0730	7.30	110	148	8	36	99.1	1.51	○
D938-A12C-0740	7.40	110	148	8	36	98.9	1.53	○
D938-A12C-0750	7.50	110	148	8	36	98.8	1.55	○
D938-A12C-0760	7.60	110	148	8	36	98.6	1.57	○
D938-A12C-0770	7.70	110	148	8	36	98.5	1.59	○
D938-A12C-0780	7.80	110	148	8	36	98.3	1.62	○
D938-A12C-0790	7.90	110	148	8	36	98.2	1.64	○
D938-A12C-0800	8.00	110	148	8	36	98.0	1.66	●
D938-A12C-0810	8.10	138	180	10	40	125.9	1.68	○
D938-A12C-0820	8.20	138	180	10	40	125.7	1.70	○
D938-A12C-0830	8.30	138	180	10	40	125.6	1.72	○

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D16刀具接受非标订制;
Accept customization from D3 to D16 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

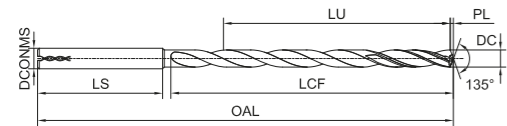
工件材料 Workpiece Material													
P			M	K		N			S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A12C

普通钢加工12D内冷麻花钻
12D Internal Coolant Twist Drills for Steel



》续前

订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A12C-1030	10.30	158	206	12	45	142.6	2.13	○
D938-A12C-1050	10.50	158	206	12	45	142.3	2.17	●
D938-A12C-1060	10.60	158	206	12	45	142.1	2.20	○
D938-A12C-1080	10.80	158	206	12	45	141.8	2.24	○
D938-A12C-1100	11.00	158	206	12	45	141.5	2.28	●
D938-A12C-1120	11.20	158	206	12	45	141.2	2.32	○
D938-A12C-1150	11.50	158	206	12	45	140.8	2.38	○
D938-A12C-1160	11.60	158	206	12	45	140.6	2.40	○
D938-A12C-1180	11.80	158	206	12	45	140.3	2.44	●
D938-A12C-1190	11.90	158	206	12	45	140.2	2.46	○
D938-A12C-1200	12.00	158	206	12	45	140.0	2.49	●
D938-A12C-1210	12.10	182	230	14	45	163.9	2.51	○
D938-A12C-1220	12.20	182	230	14	45	163.7	2.53	○
D938-A12C-1240	12.40	182	230	14	45	163.4	2.57	○
D938-A12C-1250	12.50	182	230	14	45	163.3	2.59	●
D938-A12C-1270	12.70	182	230	14	45	163.0	2.63	○
D938-A12C-1280	12.80	182	230	14	45	162.8	2.65	○
D938-A12C-1300	13.00	182	230	14	45	162.5	2.69	●

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D16刀具接受非标订制;
Accept customization from D3 to D16 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

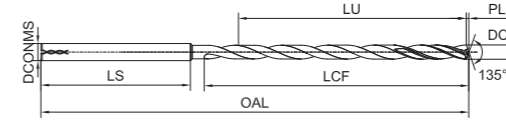
工件材料 Workpiece Material													
P			M	K		N			S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A15C

普通钢加工15D内冷麻花钻
15D Internal Coolant Twist Drills for Steel



订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A15C-0300	3.00	55	95	6	36	50.5	0.62	●
D938-A15C-0310	3.10	67	106	6	36	62.4	0.64	○
D938-A15C-0320	3.20	67	106	6	36	62.2	0.66	○
D938-A15C-0330	3.30	67	106	6	36	62.1	0.68	●
D938-A15C-0340	3.40	67	106	6	36	61.9	0.70	○
D938-A15C-0350	3.50	76	116	6	36	70.8	0.72	○
D938-A15C-0360	3.60	76	116	6	36	70.6	0.75	○
D938-A15C-0370	3.70	76	116	6	36	70.5	0.77	○
D938-A15C-0380	3.80	76	116	6	36	70.3	0.79	○
D938-A15C-0390	3.90	76	116	6	36	70.2	0.81	○
D938-A15C-0400	4.00	76	116	6	36	70.0	0.83	●
D938-A15C-0410	4.10	93	133	6	36	86.9	0.85	○
D938-A15C-0420	4.20	93	133	6	36	86.7	0.87	●
D938-A15C-0430	4.30	93	133	6	36	86.6	0.89	○
D938-A15C-0440	4.40	93	133	6	36	86.4	0.91	○
D938-A15C-0450	4.50	93	133	6	36	86.3	0.93	○
D938-A15C-0460	4.60	93	133	6	36	86.1	0.95	○
D938-A15C-0470	4.70	93	133	6	36	86.0	0.97	○

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D14刀具接受非标订制;
Accept customization from D3 to D14 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

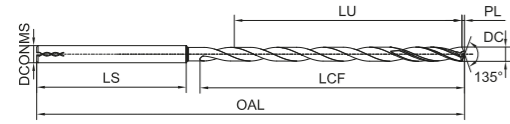
工件材料 Workpiece Material													
P			M	K		N			S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A15C

普通钢加工15D内冷麻花钻
15D Internal Coolant Twist Drills for Steel



》续前

订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A15C-0660	6.60	127	167	8	36	117.1	1.37	○
D938-A15C-0670	6.70	127	167	8	36	117.0	1.39	○
D938-A15C-0680	6.80	127	167	8	36	116.8	1.41	○
D938-A15C-0690	6.90	127	167	8	36	116.7	1.43	○
D938-A15C-0700	7.00	127	167	8	36	116.5	1.45	●
D938-A15C-0710	7.10	143	183	8	36	132.4	1.47	○
D938-A15C-0720	7.20	143	183	8	36	132.2	1.49	○
D938-A15C-0730	7.30	143	183	8	36	132.1	1.51	○
D938-A15C-0740	7.40	143	183	8	36	131.9	1.53	○
D938-A15C-0750	7.50	143	183	8	36	131.8	1.55	○
D938-A15C-0760	7.60	143	183	8	36	131.6	1.57	○
D938-A15C-0770	7.70	143	183	8	36	131.5	1.59	○
D938-A15C-0780	7.80	143	183	8	36	131.3	1.62	○
D938-A15C-0790	7.90	143	183	8	36	131.2	1.64	○
D938-A15C-0800	8.00	143	183	8	36	131.0	1.66	●
D938-A15C-0810	8.10	160	204	10	40	147.9	1.68	○
D938-A15C-0820	8.20	160	204	10	40	147.7	1.70	○
D938-A15C-0830	8.30	160	204	10	40	147.6	1.72	○

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D14刀具接受非标订制;
Accept customization from D3 to D14 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

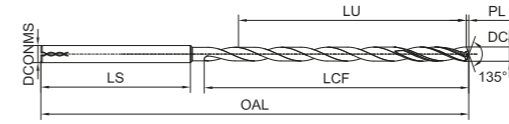
工件材料 Workpiece Material													
P		M		K		N			S		H		
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A15C

普通钢加工15D内冷麻花钻
15D Internal Coolant Twist Drills for Steel



》续前

订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A15C-1030	10.30	198	247	12	45	182.6	2.13	○
D938-A15C-1040	10.40	198	247	12	45	182.4	2.15	○
D938-A15C-1050	10.50	198	247	12	45	182.3	2.17	○
D938-A15C-1080	10.80	198	247	12	45	181.8	2.24	○
D938-A15C-1100	11.00	198	247	12	45	181.5	2.28	○
D938-A15C-1120	11.20	214	263	12	45	197.2	2.32	○
D938-A15C-1150	11.50	214	263	12	45	196.8	2.38	○
D938-A15C-1160	11.60	214	263	12	45	196.6	2.40	○
D938-A15C-1170	11.70	214	263	12	45	196.5	2.42	○
D938-A15C-1180	11.80	214	263	12	45	196.3	2.44	○

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D14刀具接受非标订制;
Accept customization from D3 to D14 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

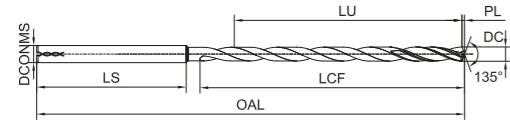
工件材料 Workpiece Material													
P		M		K		N			S		H		
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A20C

普通钢加工20D内冷麻花钻
20D Internal Coolant Twist Drills for Steel



订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A20C-0300	3.00	70	110	6	36	65.5	0.62	○
D938-A20C-0310	3.10	83	123	6	36	78.4	0.64	○
D938-A20C-0350	3.50	96	136	6	36	90.8	0.72	○
D938-A20C-0400	4.00	96	136	6	36	90.0	0.83	●
D938-A20C-0420	4.20	118	158	6	36	111.7	0.87	○
D938-A20C-0450	4.50	118	158	6	36	111.3	0.93	●
D938-A20C-0500	5.00	118	158	6	36	110.5	1.04	●
D938-A20C-0510	5.10	140	180	6	36	132.4	1.06	○
D938-A20C-0550	5.50	140	180	6	36	131.8	1.14	●
D938-A20C-0595	5.95	140	180	6	36	131.1	1.23	○
D938-A20C-0600	6.00	140	180	6	36	131.0	1.24	●

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D12刀具接受非标订制;
Accept customization from D3 to D12 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

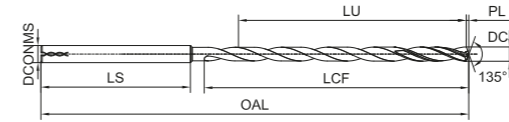
工件材料 Workpiece Material													
P		M	K		N				S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

D938-A25C

普通钢加工25D内冷麻花钻
25D Internal Coolant Twist Drills for Steel



订货号 Ordering code	DC (h7)	LCF	OAL	DCONMS (h6)	LS	LU	PL	库存 Stock
D938-A25C-0300	3.00	85	125	6	36	80.5	0.62	○
D938-A25C-0310	3.10	101	141	6	36	96.4	0.64	○
D938-A25C-0350	3.50	116	156	6	36	110.8	0.72	○
D938-A25C-0380	3.80	116	156	6	36	110.3	0.79	○
D938-A25C-0400	4.00	116	156	6	36	110.0	0.83	●
D938-A25C-0420	4.20	143	183	6	36	136.7	0.87	○
D938-A25C-0450	4.50	143	183	6	36	136.3	0.93	○
D938-A25C-0500	5.00	143	183	6	36	135.5	1.04	●
D938-A25C-0510	5.10	170	210	6	36	162.4	1.06	○
D938-A25C-0550	5.50	170	210	6	36	161.8	1.14	●

●标准库存 Stock ○需预定 Available upon Order

备注 Note:
D3-D8刀具接受非标订制;
Accept customization from D3 to D8 tool
深孔钻采用D938-A3C相同规格钻头作为引导钻;
Adopt the same specification of D938-A3C as the guide drill

尺寸范围 Dimension Range	DC(h7)	DCONMS(h6)
≥3-6	0.000/-0.012	0.000/-0.008
>6-10	0.000/-0.015	0.000/-0.009
>10-18	0.000/-0.018	0.000/-0.011
>18-20	0.000/-0.021	0.000/-0.013

单位unit (mm)

工件材料 Workpiece Material													
P		M	K		N				S	H			
1 2 3 4	5	6 7	1 2 3	1 2	3	1 2	3	4	5	1 2 3	4	1	2
碳钢、合金钢 Carbon Steel, Alloy Steel	合金钢、工具钢 Alloy Steels, Tool Steels	PH与铁素体/马氏体不锈钢 PH and Ferritic/Martensitic Stainless Steel	不锈钢 Stainless Steel	灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron	高合金铸铁 High Alloy Cast Iron	锻造铝合金、铸造铝合金 Forged Aluminium Alloys, Cast Aluminium Alloys	铸造铝合金 Cast Aluminium Alloys	铜合金 Copper Alloys	复合材料 Compound 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	35-45HRC	Si<12%	Si>12%	<HB200		<HB450	<HB400	45-55HRC	55-60HRC
○	○	○	○	○	○								

○最适合 Most Suitable ○适合 Suitable

推荐切削参数 ※P142-143
Recommended Cutting Data ※P142-143

推荐切削参数

Recommended Cutting Datas

D938 深孔加工麻花钻 12D/15D/20D/25D

D938 Deep Hole Twist Drill of 12D/15D/20D/25D

工件材料 Workpiece	切削速度 Cutting Speed Vc (m/min)	进给量 Feed Rate fn (mm/rev)			
		Φ3	Φ4	Φ6	Φ10
P 低碳钢, 长切屑 Low Carbon Steel, Long Chip (<125HB)	140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32
	140-100-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.32
	120-80-60	0.10-0.15-0.20	0.10-0.15-0.20	0.14-0.19-0.25	0.16-0.22-0.30
	110-80-60	0.09-0.13-0.16	0.09-0.13-0.16	0.12-0.17-0.23	0.14-0.20-0.28
	90-60-35	0.08-0.11-0.14	0.08-0.11-0.14	0.08-0.14-0.20	0.09-0.16-0.25
	90-60-30	0.05-0.08-0.11	0.05-0.08-0.11	0.07-0.12-0.17	0.08-0.14-0.20
	80-50-30	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.10-0.14	0.08-0.13-0.18
M 奥氏体不锈钢 Austenitic Stainless Steel (130-200HB)	60-50-40	0.04-0.08-0.10	0.04-0.08-0.10	0.06-0.10-0.12	0.06-0.10-0.12
	60-50-40	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.08-0.10	0.06-0.08-0.10
	50-40-30	0.04-0.06-0.08	0.04-0.06-0.08	0.06-0.08-0.10	0.06-0.08-0.10
K 灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron (<28HRC)	160-120-60	0.13-0.17-0.20	0.15-0.20-0.23	0.17-0.25-0.30	0.20-0.27-0.35
	140-100-60	0.11-0.15-0.18	0.13-0.17-0.20	0.15-0.20-0.25	0.17-0.25-0.32
	100-80-50	0.06-0.09-0.11	0.08-0.10-0.13	0.10-0.13-0.16	0.12-0.16-0.20

【注意】【Note】

- 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
Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
- 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
Make sure total indicated run-out(TIR) is less than 0.02mm.
- 此标准切削条件表适用于水溶性切削液
The recommended cutting condition is suitable for apply water soluble.
- 对于表中没有的刀具刃径规格, 请参照表中最接近的刃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
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.

推荐切削参数

Recommended Cutting Datas

D938 深孔加工麻花钻 12D/15D/20D/25D

D938 Deep Hole Twist Drill of 12D/15D/20D/25D

工件材料 Workpiece	切削速度 Cutting Speed Vc (m/min)	进给量 Feed Rate fn (mm/rev)			
		Φ10	Φ12	Φ14	Φ16
P 低碳钢, 长切屑 Low Carbon Steel, Long Chip (<125HB)	140-100-60	0.16-0.22-0.35	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45
	140-100-60	0.16-0.22-0.35	0.18-0.28-0.40	0.22-0.32-0.45	0.22-0.32-0.45
	120-80-60	0.16-0.22-0.32	0.18-0.28-0.38	0.22-0.32-0.45	0.22-0.32-0.45
	110-80-60	0.14-0.20-0.30	0.15-0.23-0.34	0.18-0.25-0.38	0.18-0.25-0.38
	90-60-35	0.09-0.16-0.28	0.11-0.19-0.30	0.12-0.22-0.32	0.12-0.22-0.32
	90-60-30	0.08-0.14-0.23	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30
	80-50-30	0.08-0.13-0.20	0.10-0.18-0.28	0.12-0.20-0.30	0.12-0.20-0.30
M 奥氏体不锈钢 Austenitic Stainless Steel (130-200HB)	60-50-40	0.08-0.12-0.16	0.08-0.12-0.16	0.10-0.14-0.18	0.10-0.14-0.18
	60-50-40	0.08-0.10-0.12	0.08-0.10-0.12	0.10-0.12-0.14	0.10-0.12-0.14
	50-40-30	0.08-0.10-0.12	0.08-0.10-0.12	0.10-0.12-0.14	0.10-0.12-0.14
K 灰铸铁、球墨铸铁 Gray Cast Iron, Ductile Cast Iron (<28HRC)	160-120-60	0.23-0.30-0.40	0.25-0.33-0.45	0.28-0.36-0.48	0.30-0.40-0.50
	140-100-60	0.20-0.28-0.36	0.22-0.30-0.42	0.24-0.33-0.45	0.25-0.35-0.48
	100-80-50	0.14-0.20-0.26	0.16-0.22-0.28	0.18-0.24-0.30	0.20-0.26-0.32

【注意】【Note】

- 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
Make sure work piece and machine are stable and use a precision holder, use hydraulic chucks, high quality collet chucks.
- 刀具安装时需确保钻头刀尖径向跳动小于0.02mm
Make sure total indicated run-out(TIR) is less than 0.02mm.
- 此标准切削条件表适用于水溶性切削液
The recommended cutting condition is suitable for apply water soluble.
- 对于表中没有的刀具刃径规格, 请参照表中最接近的刃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
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.

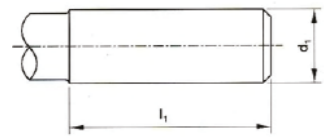
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附录
Appendix工件材料表
Workpiece Material Table

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

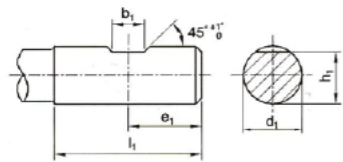
柄部标准 -DIN 标准 The Structure of Shank-DIN Standard

DIN 6535-HA

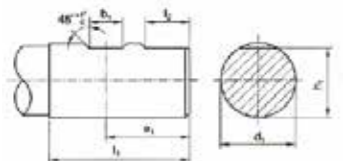


d ₁ h ₆	2	3	4	5	6	8	10	12	14	16	18	20	25	32
l ₁ +2 0	28			36			40	45	48		50	56	60	

DIN 6535-HB



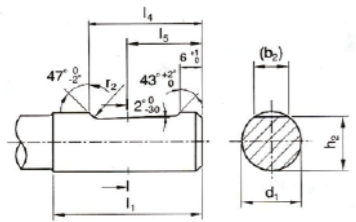
d₁=6~20mm



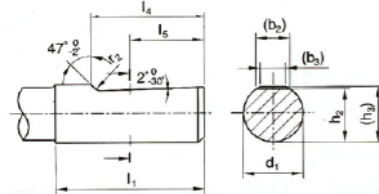
d₁=25~32mm

d ₁ h ₆	b ₁ +0.05 0	e ₁ 0 -1	h ₁ h ₁₁	l ₁ +2 0	l ₂ +1 0
6.0	4.2	18.0	5.1	36.0	
8.0	5.5		6.9		
10	7.0	20.0	8.5	40.0	
12	8.0	22.5	10.4	45.0	
14			12.7		
16	10.0	24.0	14.2	48.0	
18			16.2		
20	11.0	25.0	18.2	50.0	
25	12.0	32.0	23.0	56.0	17.0
32	14.0	36.0	30.0	60.0	19.0

DIN 6535-HE



d₁=6~20mm



d₁=25~32mm

d ₁	(b ₂)	(b ₃)	(h ₂)	(h ₃)	l ₁	l ₄	l ₅	r ₂			
6.0	4.3		5.1		36.0	25.0	18.0	1.2			
8.0	5.5		6.9								
10	7.1		8.5						40.0	28.0	20.0
12	8.2		10.4		45.0	33.0	22.5				
14	8.1		12.7								
16	10.1		14.2		48.0	36.0	24.0				
18	10.8	16.2									
20	11.4	18.2	50.0	38.0	25.0	1.6					
25	13.6	9.3					23.0	24.1	56.0	44.0	32.0
32	15.5	9.9					30.0	31.2	60.0	48.0	35.0

切削定义及计算 Cutting Calculations and Definitions

常用参数及其单位
Parameter and Unit

D 刀具直径 D Diameter	(mm) (mm)	f _n 每转进给量 (mm/rev) f _n Feed per Revolution (mm/rev)
a _p 切削深度 a _p Cutting Depth	(mm) (mm)	f _z 每刃进给量 (mm/tooth) f _z Feeding per Teeth (mm/tooth)
a _e 切削宽度 a _e Cutting Width	(mm) (mm)	Z 刀刃数 Z Number of Teeth
V _f 进给速度 V _f Feed Rate	(mm/min) (mm/min)	n 主轴转速 (rev/min) N Spindle Speed (rev/min)
V _c 切削速度(工件长度+铣刀直径: l+D) V _c Cutting Speed	(m/min) (m/min)	L 工作台总进给长度 (mm) L Length (mm)
Q 金属切削率 Q Rate of Metal Removal	(cm ³ /min) (cm ³ /min)	T _c 加工时间 (min) T _c Processing Time (min)

通用计算公式
General Formula

n 主轴转速 n Spindle Speed	$n = \frac{V_c \cdot 1000}{\pi \cdot D}$ (rev/min)
V _c 切削速度 V _c Cutting Speed	$V_c = \frac{\pi \cdot D \cdot n}{1000}$ (m/min)
V _f 进给速度 V _f Feed Rate	$V_f = f_z \cdot z \cdot n$ (mm/min)
f _z 每刃进给量 f _z Feed per Teeth	$f_z = \frac{V_f}{z \cdot n}$ (mm)
Q 金属切削率 Q Rate of Metal Removal	$Q = \frac{a_e \cdot a_p \cdot V_f}{1000}$ (cm ³ /min)
T _c 加工时间 T _c Processing Time	$T_c = \frac{L}{V_f}$ (min)

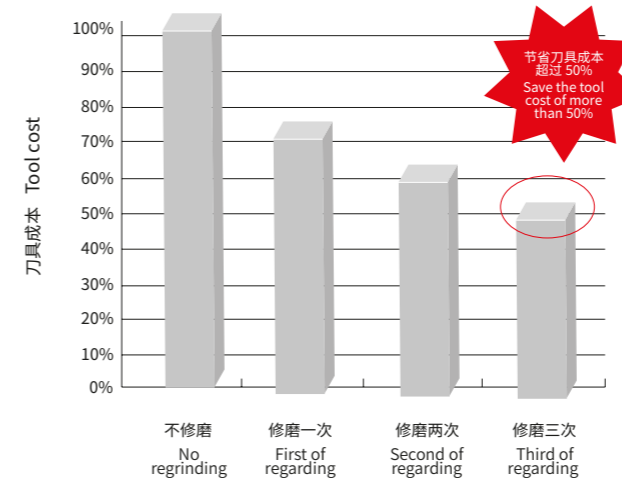
抗拉强度、布氏硬度、洛氏硬度对照表 Comparison Table for Tensile Strength, Brinell Hardness and Rockwell

N/mm2	HV10	HB	HRC	N/mm2	HV10	HB	HRC	
240	75	71		920	287	273	28	
255	80	76		940	293	278	29	
270	85	81		970	302	287	30	
285	90	86		995	310	295	31	
305	95	90		1020	317	301	32	
320	100	95		1050	327	311	33	
335	105	100		1080	336	319	34	
350	110	105		1110	345	328	35	
370	115	109		1140	355	337	36	
385	120	114		1170	364	346	37	
400	125	119		1200	373	354	38	
415	130	124		1230	382	363	39	
430	135	128		1260	392	372	40	
450	140	133		1260	403	383	41	
465	145	138		1330	413	393	42	
480	150	143		1360	423	402	43	
495	155	147		1400	434	413	44	
510	160	152		1440	446	424	45	
530	165	157		1480	458	435	46	
545	170	162		1530	473	449	47	
560	175	166		1570	484	460	48	
575	180	171		1620	497	472	49	
595	185	176		1680	514	488	50	
610	190	181		1730	527	501	51	
625	195	185		1790	544	517	52	
640	200	190		1845	560	532	53	
660	205	195		1910	578	549	54	
675	210	199		1980	596	567	55	
690	215	204		2050	615	584	56	
705	220	209		2140	639	607	57	
720	225	214				655	622	58
740	230	219				675	637	59
755	235	223				698	653	60
770	240	228				720	670	61
785	245	233				745	687	62
800	250	238	22			773	705	63
820	255	242	23			800	724	64
835	260	247	24			829	744	65
860	268	255	25			864	766	66
870	272	258	26			900	790	67
900	280	266	27			940	817	68

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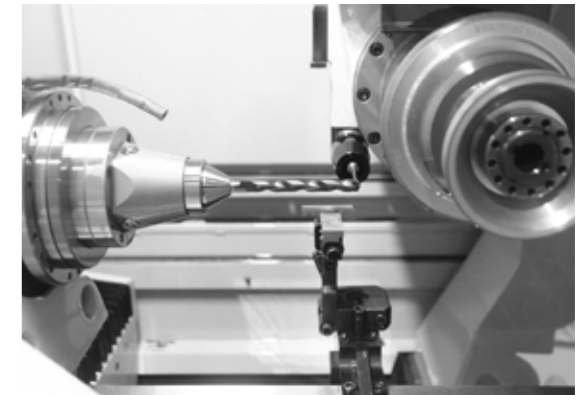
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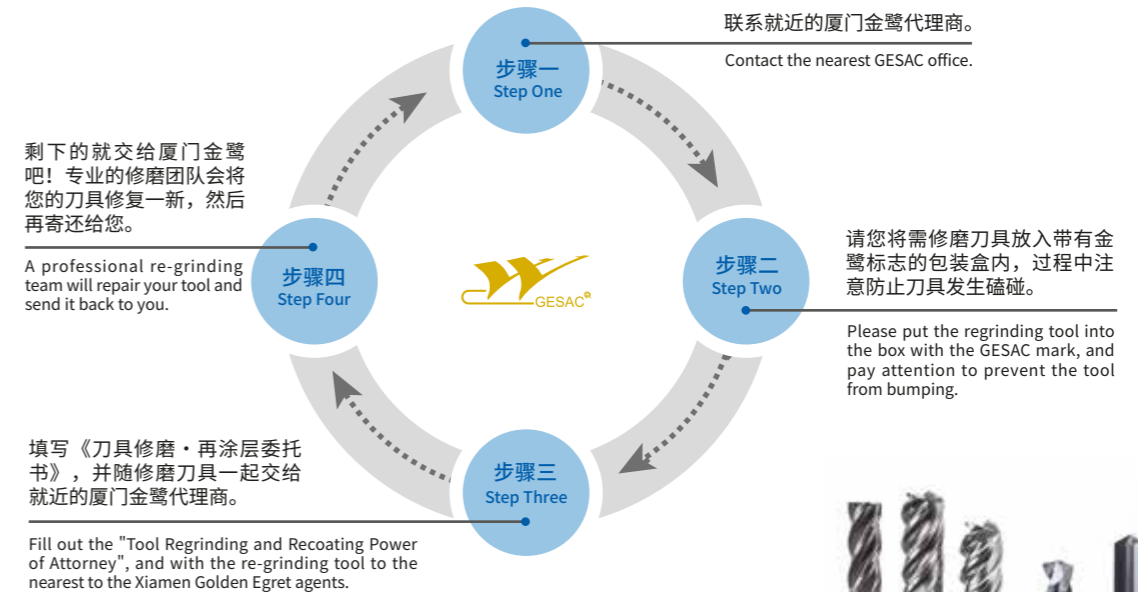
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