



株洲坤锐硬质合金有限公司
ZHUZHOU KUNRUI CARBIDE CO., LTD.



专业生产硬质合金棒材

SPECIALIZING IN PRODUCTION OF CEMENTED CARBIDE RODS

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企业简介

COMPANY PROFILE

株洲坤锐硬质合金有限公司(下称坤锐公司)于2011年成立,是一家专业生产硬质合金圆棒、枪钻、长条等合金制品企业。集研发、生产、销售于一体的民营高新技术企业。位于中国硬质合金之都—株洲。公司拥有专业的研发团队和先进的生产检测设备,完整、科学的质量管理体系,并长期聘用国内外专家作顾问,为企业的快速发展提供了可靠的技术保证,公司拥有多项自主知识产权专利。被评为:湖南省专精特新“小巨人”企业、省级企业技术中心、湖南省知名商标品牌、国家级科技型中小企业。产品畅销国内外,深受客户的一致好评!

公司2024年建成年产能1000吨高端数控刀具棒材产业园,并获得国家发改委关于“株洲坤锐硬质合金有限公司高端数控刀具材料项目”的审批,为公司发展注入了新

Zhuzhou Kunrui Carbide Co., Ltd. (hereinafter referred to as KUNRUI) was established in 2011. It is a company specializing in the production of cemented carbide rods, gun drills, tungsten carbide strips, and other alloy products. KUNRUI is a private high-tech enterprise integrating R&D, production, and sales, which is located in Zhuzhou, the capital of cemented carbide in China. The company has a professional R&D team, advanced production testing equipment, a complete and scientific quality management system, and long-term employment of domestic and foreign experts as consultants, providing reliable technical guarantees for the rapid development of the company. The company has several independent intellectual property patents. It has been rated as Hunan Province's specialized and innovative "Little Giant" Enterprise, provincial enterprise technology center, Hunan Province's famous trademark brand, and national-level technology SMEs. The products sell well at home and abroad and are highly praised by customers!

KUNRUI will build a high-end carbide rods industrial park with an annual production capacity of 1,000 tons in 2024, and received approval from the National Development and Reform Commission for the

的活力及可靠保障。

坤锐公司重点进行纳米硬质合金棒材与高端数控刀具研究与应用,新兴纳米刀具材料属于国家战略材料产业。作为精密工业加工的牙齿,新一代高性能纳米新材料,能显著提高和改善整体刀具强度、韧性等综合机械性能及切削性能,提升高精度加工品质。

“坤元载物,锐意进取”为坤锐公司企业核心文化!围绕“专”、“精”、“特”、“新”发展理念,以产品为平台,为客户提供专业技术解决方案和技术服务方案。“追求卓越,永无止境;以精立业,以质取胜”是我们企业的立身之本!我们努力实现进口刀具材料国产化,为客户提供最优的质量和最好的服务。

"Zhuzhou Kunrui Carbide Co., Ltd. high-end CNC tool material project", injecting new vitality and reliable guarantee into the company's development.

KUNRUI focuses on the research and application of nano-carbide rods and high-end CNC tools. Emerging nano-tool materials belong to the national strategic materials industry. As teeth for precision industrial processing, the new generation of high-performance nano materials can significantly enhance and improve the overall tool strength, toughness, and other comprehensive mechanical properties and cutting performance, and improve the quality of high-precision processing.

"Eager to progress, active in innovation" is the core culture of KUNRUI! Focusing on the development concepts of "professional", "precision", "special" and "innovation", and using products as a platform, we provide customers with professional technical solutions and service plans. "pursuit excellence, never-ending; win with precision, win with quality" is the foundation of our enterprise! We strive to provide customers with the high quality products and the excellent service.



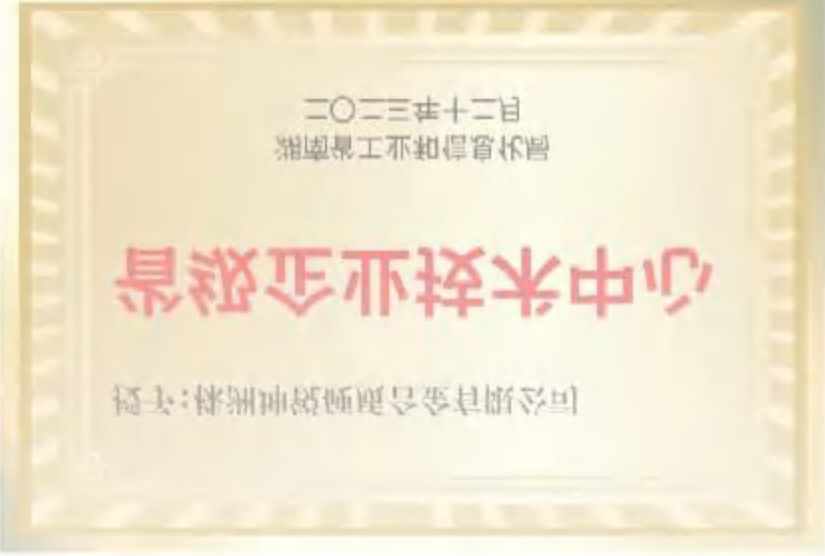
生产检测设备

PRODUCTION AND TESTING EQUIPMENT





企业荣誉
ENTERPRISE HONOR



发明专利

PATENT FOR INVENTION



牌号及特性和用途

GRADES/FEATURES AND USES

牌号 Grade	晶粒度 Grain size	钴含量 Cobalt content	密度 Density	硬度 Hardness	强度 TRS	断裂韧性 KIC
	μm	wt-%	g/cm ³	HRA	N/mm ²	MPa.m ^{1/2}
KU20	0.7	10	14.45	91.8	3800	10.5
KU25	0.4	12	14.12	92.5	4200	10.2
KU25T	0.7	12	14.12	91.2	4200	12.8
KU209	0.2	9	14.45	94	4200	9.2
KU409	0.4	9	14.5	93.2	4000	9.6
KU10	0.4	6	14.8	94.0	3800	8.7
KU10C	1.2	6	14.95	92.3	3600	9
KU30	0.7	15	13.98	89.6	4500	13.8
KU30C	1.2	15	14	88	4600	15
KR10Z	0.6	10	14.45	92.2	4000	10.7
KR10S	0.7	10	14.45	91.8	4000	10.8
KR12S	0.6	12	14.15	91.5	4200	12.2

注：表中数据为典型值, 仅供参考

牌号 Grade	用途 Application
KU20	亚细晶粒, 中速加工, 通用性能好, 推荐制作加工钻头, 立铣刀, 适合加工普通合金钢、铝合金、耐热合金、铸铁等。 Sub-fine grain size, processing by medium speed, good general performance, drill bits and end mills are recommended, suitable for cutting ordinary alloy steel, aluminum alloy, heat resistant alloy, cast iron, etc.
KU25	超细晶粒, 兼容了良好的耐磨性和韧性, 特别适合于精加工以及加工合金钢、铝合金、钛合金等。适用于做立铣刀和铰刀。 Ultra-fine grain size, with good wear resistant and toughness, especially suitable for finishing and processing alloy steel, aluminum alloy, titanium alloy etc. Suitable for making end mills and reamer.
KU25T	亚细晶粒, 具有高红硬性和韧性, 适用于不锈钢、钛合金及高温合金的粗加工, 推荐制作立铣刀、钻头。 Sub-fine grain size, high hot hardness and toughness, suitable for rough machining of stainless steel, titanium alloys, and high-temperature alloys, recommended for making end mills and drill bits.
KU209	纳米晶粒, 具有极高的耐磨性和韧性, 可用于淬火钢的精加工、石墨、塑料、碳纤维增强塑料及不锈钢、铝合金的高精度高镜面加工, 适用于制作0.3-0.5mm 的钻头。 Nano grain size, with high wear resistance and toughness, suitable for finishing of hardened steel, high-precision and high-mirror processing of graphite, plastic, CFRP, stainless steel and aluminum alloy. Suitable for making 0.3-0.5mm drills.
KU409	超细晶粒, 适合于加工淬火硬钢、铝合金、碳纤维增强塑料、高耐磨材料不锈钢、复合材料石墨、PCB、塑胶。 Ultra-fine grain size, Suitable for processing hardened hard steel, aluminum alloy, CFRP, high wear resistant material stainless steel, composite graphite, PCB, plastic.
KU10	超细晶粒, 具有较好的耐磨性, 推荐制作具有高耐磨性要求的铣刀, 雕刻刀, 高光刀。适合于加工铝镁合金、复合板材、PCB、塑料、碳纤维增强塑料等。 Ultra-fine grain size, with good wear resistance, high wear-resistant end mills, engraving tool and high mirror polished cutting tool are recommended, suitable for processing Aluminum-magnesium alloy, composite sheet, PCB, plastic, CFRP etc.
KU10C	细颗粒, 适用于制作金刚石涂层刀具, 是金刚石涂层刀具的理想基体材料, 特别适用于加工石墨、有色金属、复合材料。 Fine grain size, suitable for making diamond-coated tools, is an ideal matrix material for diamond-coated tools, especially suitable for processing graphite, non-ferrous metals, and composite materials.
KU30	亚细晶粒, 具有较好的耐磨性和极佳的韧性, 适用于制作冲压整体模具、抗震刀杆及加工低硬度材料的重切削刀具。 Sub-fine grain size, with good wear resistance and toughness, suitable for making punching of mould anti-vibration boring bar and machining low-hardness material with deep cutting tools.
KU30C	细颗粒, 具有优异的抗冲击能力和较好的耐磨性, 适用于制作耐磨耐冲击工具、冲压整体模具, 特别适用于低转速重切削刀具、高效切削刀具。 Fine grain size, with excellent impact resistance and good wear resistance, suitable for making wear-resistant and impact-resistant tools, stamping integral molds, especially suitable for low-speed deep cutting tools and high-efficiency cutting tools.
KR10Z	超细晶粒, 耐热性极佳, 适合于高速铣削和钻孔, 重点应用于整体合金钻头制作。适用于加工合金钢、耐热合金、铸铁、有色金属、不锈钢等材料。 Ultra-fine grain size, excellent heat resistance, suitable for high-speed milling and drilling, especially suit for making overall drill bits. Suitable to process alloy steel, heat-resistant alloy, cast iron, non-ferrous metals, stainless steel and other materials.
KR10S	亚细晶粒, 物理性能十分均衡, 通用性强, 推荐制作深钻孔, 整体硬质合金铣刀、钻头, 适用于加工合金钢、铝合金、有色金属、耐热合金、碳钢、铸铁等。 Sub-fine grain size, very balanced physical properties, strong versatility, recommended for deep drilling, solid carbide milling cutters, drills, suitable for processing alloy steel, aluminum alloy, non-ferrous metals, heat-resistant alloys, carbon steel, cast iron, etc.
KR12S	亚细晶粒, 具有优异的抗冲击能力和极高抗崩刃能力, 适用于制作铣刀、钻头, 特别适用于不锈钢及钛合金的粗加工和半精加工。 Sub-fine grain size, with excellent impact resistance and high chipping resistance, suitable for making milling cutters and drills, especially for rough machining and semi-finishing of stainless steel and titanium alloy.

牌号应用推荐

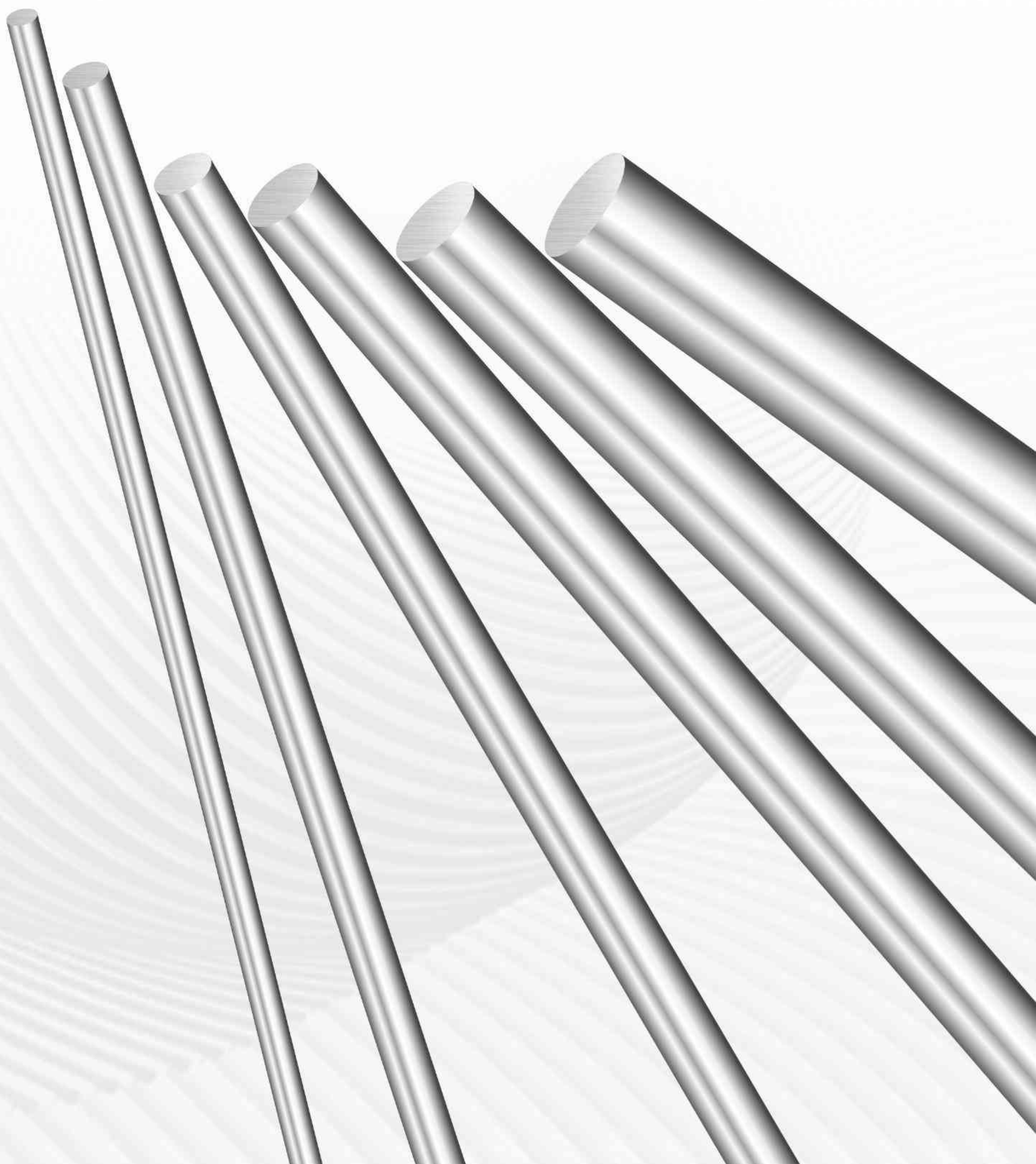
GRADE SELECTION GUIDE

加工材料 Workpiece		刀具种类 Type of cutting tools		KU20	KU25	KU25T	KU209	KU409	KU10	KU10C	KU30	KU30C	KR10Z	KR10S	KR12S
P	钢 Steel	立铣刀 Endmill	粗加工 Roughing	★									★	★	
			精加工 Finishing	●	★			★					★	●	
		钻头 Drill		★										★	★
M	不锈钢 Stainless steel	立铣刀 Endmill	粗加工 Roughing	★		★							●	★	★
			精加工 Finishing		★		●						●		
		钻头 Drill		★										★	★
K	铸铁 Cast iron	立铣刀 Endmill	粗加工 Roughing	★									★	★	
			精加工 Finishing	●				★		▲			●	●	
		钻头 Drill		★										★	★
N	有色金属 Nonferrous material	立铣刀 Endmill	粗加工 Roughing	★									●	★	
			精加工 Finishing	●	★		●			▲			●	●	
		钻头 Drill		★										★	★
S	耐热合金 Heat resistance Material	立铣刀 Endmill	粗加工 Roughing	●		★							★	●	★
			精加工 Finishing	●	★								●	●	★
		钻头 Drill		●										★	●
H	高硬材料 Hard Material	立铣刀 Endmill	粗加工 Roughing	●	●			★					●	●	
			精加工 Finishing				★	●	●						
		钻头 Drill		●					●					★	●
其他 others	印刷电路板 PCB						●	●	★						
	石墨 Graphite									▲					
	碳纤维增强塑料 CFRP						●	●	●	▲					
	冲针、抗震刀杆及低硬度材料重切削 Punching、anti-vibration boring bar and machining low-hardness material with deep cutting tool.														
											★	★			

★是首选First chioce ●备选Second choice ▲金刚石涂层 Diamond coating

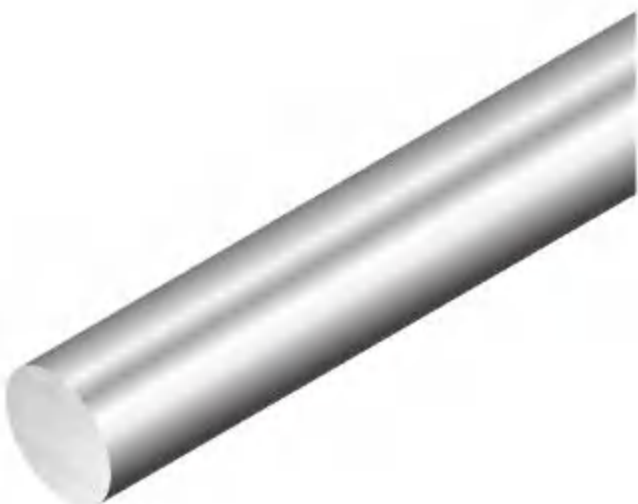
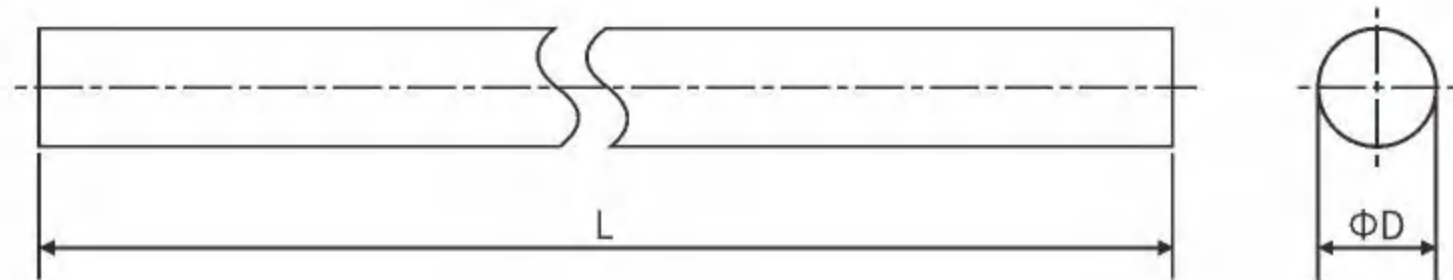
实心硬质合金圆棒

SOLID CARBIDE RODS



实心硬质合金毛坯棒-公制

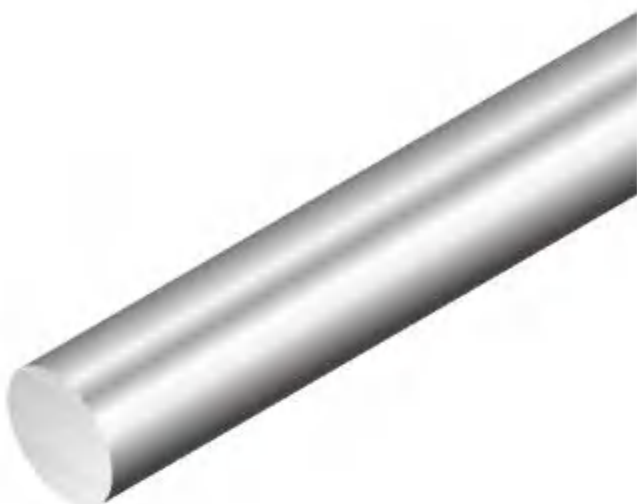
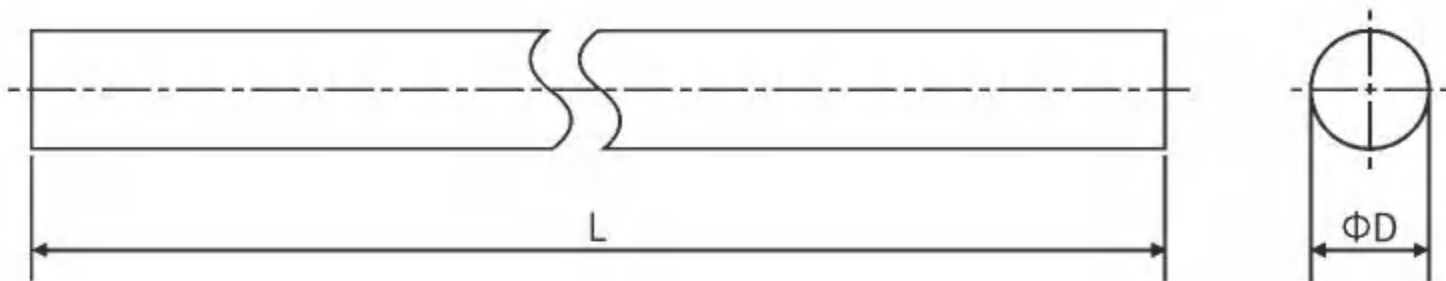
UNGROUND SOLID CARBIDE RODS-METRIC



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	长度 L	长度公差 Tol.of Length
	mm	mm	mm	mm
Φ0.7×330	0.7	+0.4/+0.15	330/310	0~+5.0
Φ0.9×330	0.9	+0.4/+0.15	330/310	0~+5.0
Φ1.0×330	1.0	+0.4/+0.15	330/310	0~+5.0
Φ1.2×330	1.2	+0.40/+0.20	330/310	0~+5.0
Φ1.5×330	1.5	+0.40/+0.20	330/310	0~+5.0
Φ1.6×330	1.6	+0.40/+0.20	330/310	0~+5.0
Φ1.8×330	1.8	+0.40/+0.20	330/310	0~+5.0
Φ2.0×330	2.0	+0.40/+0.20	330/310	0~+5.0
Φ2.3×330	2.3	+0.40/+0.20	330/310	0~+5.0
Φ2.5×330	2.5	+0.40/+0.20	330/310	0~+5.0
Φ2.8×330	2.8	+0.40/+0.20	330/310	0~+5.0
Φ3.0×330	3.0	+0.50/+0.20	330/310	0~+5.0
Φ3.5×330	3.5	+0.50/+0.20	330/310	0~+5.0
Φ4.0×330	4.0	+0.50/+0.20	330/310	0~+5.0
Φ4.5×330	4.5	+0.50/+0.20	330/310	0~+5.0
Φ5.0×330	5.0	+0.50/+0.20	330/310	0~+5.0
Φ5.5×330	5.5	+0.50/+0.20	330/310	0~+5.0
Φ6.0×330	6.0	+0.40/+0.20	330/310	0~+5.0
Φ6.5×330	6.5	+0.50/+0.20	330/310	0~+5.0
Φ7.0×330	7.0	+0.60/+0.20	330/310	0~+5.0
Φ7.5×330	7.5	+0.60/+0.20	330/310	0~+5.0
Φ8.0×330	8.0	+0.60/+0.20	330/310	0~+5.0
Φ8.5×330	8.5	+0.60/+0.20	330/310	0~+5.0
Φ9.0×330	9.0	+0.60/+0.20	330/310	0~+5.0
Φ9.5×330	9.5	+0.60/+0.20	330/310	0~+5.0
Φ10.0×330	10.0	+0.60/+0.20	330/310	0~+5.0

实心硬质合金毛坯棒-公制

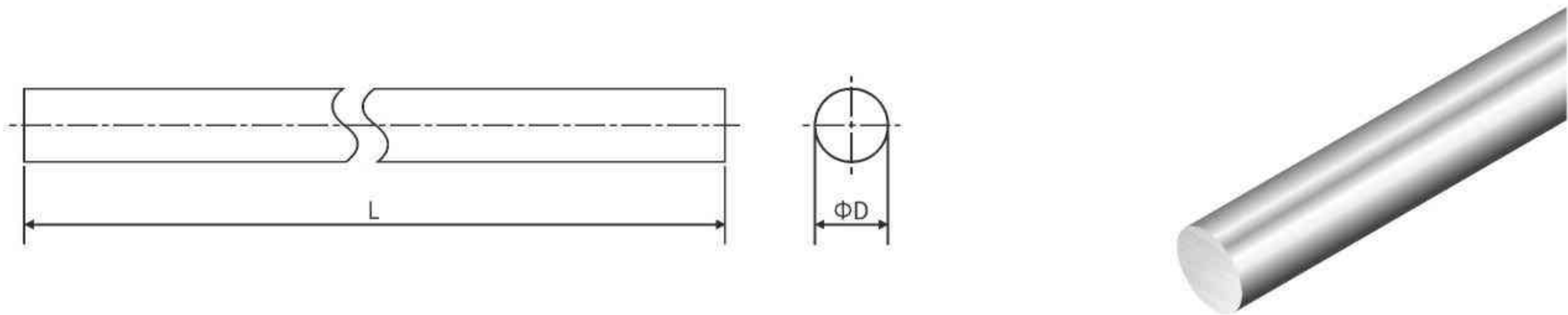
UNGROUND SOLID CARBIDE RODS-METRIC



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm
Φ10.5×330	10.5	+0.60/+0.20	330/310	0~+5.0
Φ11.0×330	11.0	+0.60/+0.20	330/310	0~+5.0
Φ11.5×330	11.5	+0.60/+0.20	330/310	0~+5.0
Φ12.0×330	12.0	+0.60/+0.20	330/310	0~+5.0
Φ12.5×330	12.5	+0.70/+0.30	330/310	0~+5.0
Φ13.0×330	13.0	+0.70/+0.30	330/310	0~+5.0
Φ14.0×330	14.0	+0.70/+0.30	330/310	0~+5.0
Φ15.0×330	15.0	+0.70/+0.30	330/310	0~+5.0
Φ16.0×330	16.0	+0.70/+0.30	330/310	0~+5.0
Φ17.0×330	17.0	+0.80/+0.30	330/310	0~+5.0
Φ18.0×330	18.0	+0.80/+0.30	330/310	0~+5.0
Φ19.0×330	19.0	+0.80/+0.30	330/310	0~+5.0
Φ20.0×330	20.0	+0.80/+0.30	330/310	0~+5.0
Φ21.0×330	21.0	+0.80/+0.30	330/310	0~+5.0
Φ22.0×330	22.0	+0.80/+0.30	330/310	0~+5.0
Φ23.0×330	23.0	+0.80/+0.30	330/310	0~+5.0
Φ24.0×330	24.0	+0.80/+0.30	330/310	0~+5.0
Φ25.0×330	25.0	+0.80/+0.30	330/310	0~+5.0
Φ26.0×330	26.0	+0.80/+0.30	330/310	0~+5.0
Φ27.0×330	27.0	+0.80/+0.30	330/310	0~+5.0
Φ28.0×330	28.0	+0.80/+0.30	330/310	0~+5.0
Φ29.0×330	29.0	+0.80/+0.30	330/310	0~+5.0
Φ30.0×330	30.0	+0.80/+0.30	330/310	0~+5.0
Φ31.0×330	31.0	+1.20/+0.60	330/310	0~+5.0
Φ32.0×330	32.0	+1.20/+0.60	330/310	0~+5.0
Φ33.0×330	33.0	+1.20/+0.60	330/310	0~+5.0

实心硬质合金毛坯棒-公制

UNGROUND SOLID CARBIDE RODS-METRIC

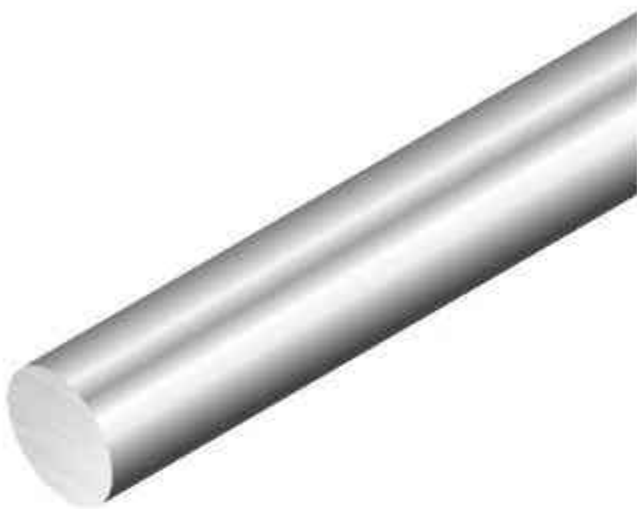
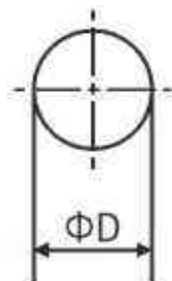
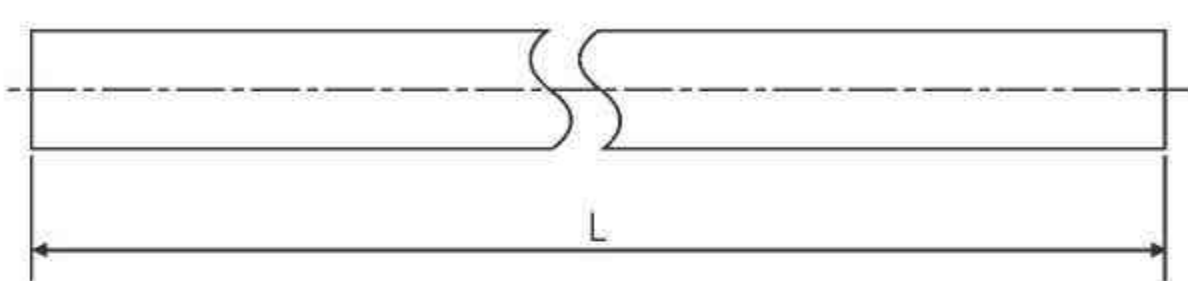


型号 Type	直径 Diameter	外径公差 Tol. of Diameter	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm
Φ34.0×330	34.0	+1.20/+0.60	330/310	0~+5.0
Φ35.0×330	35.0	+1.20/+0.60	330/310	0~+5.0
Φ36.0×330	36.0	+1.20/+0.60	330/310	0~+5.0
Φ37.0×330	37.0	+1.20/+0.60	330/310	0~+5.0
Φ38.0×330	38.0	+1.20/+0.60	330/310	0~+5.0
Φ39.0×330	39.0	+1.20/+0.60	330/310	0~+5.0
Φ40.0×330	40.0	+1.20/+0.60	330/310	0~+5.0
Φ41.0×330	41.0	+1.20/+0.60	330/310	0~+5.0
Φ42.0×330	42.0	+1.20/+0.60	330/310	0~+5.0
Φ43.0×330	43.0	+1.20/+0.60	330/310	0~+5.0
Φ44.0×330	44.0	+1.20/+0.60	330/310	0~+5.0
Φ45.0×330	45.0	+1.20/+0.60	330/310	0~+5.0
Φ46.0×330	46.0	+1.20/+0.60	330/310	0~+5.0
Φ47.0×330	47.0	+1.20/+0.60	330/310	0~+5.0
Φ48.0×330	48.0	+1.20/+0.60	330/310	0~+5.0
Φ49.0×330	49.0	+1.20/+0.60	330/310	0~+5.0
Φ50.0×330	50.0	+1.20/+0.60	330/310	0~+5.0

Φ4~Φ50可定制1500mm长
φ4~φ50 customizd available 1500mm at most

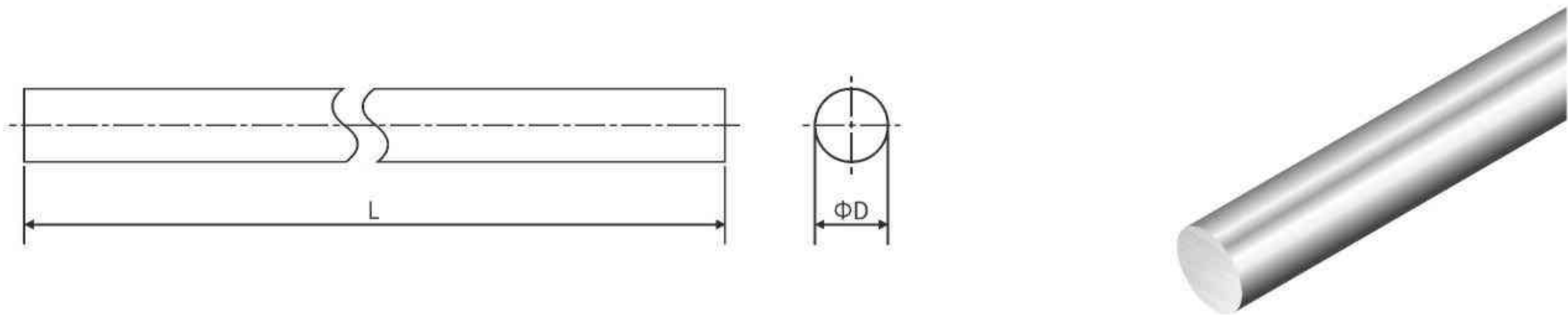
实心硬质合金毛坯棒-英制

UNGROUND SOLID CARBIDE RODS-INCH



型号 Type	直径 Diameter	外径公差 Tol.of Diameter	长度 L	长度公差 Tol. of Length
	inch	inch	inch	inch
Φ1/8×13	0.125	+0.012/+0.002	13	0~3/16
Φ9/64×13	0.1406	+0.012/+0.002	13	0~3/16
Φ5/32×13	0.1563	+0.012/+0.002	13	0~3/16
Φ11/64×13	0.1719	+0.012/+0.002	13	0~3/16
Φ3/16×13	0.1875	+0.012/+0.002	13	0~3/16
Φ7/32×13	0.2188	+0.012/+0.002	13	0~3/16
Φ15/64×13	0.2344	+0.012/+0.002	13	0~3/16
Φ1/4×13	0.2500	+0.012/+0.002	13	0~3/16
Φ9/32×13	0.2813	+0.024/+0.012	13	0~3/16
Φ19/64×13	0.2969	+0.024/+0.012	13	0~3/16
Φ5/16×13	0.3125	+0.024/+0.012	13	0~3/16
Φ21/64×13	0.3281	+0.024/+0.012	13	0~3/16
Φ11/32×13	0.3438	+0.024/+0.012	13	0~3/16
Φ23/64×13	0.3594	+0.024/+0.012	13	0~3/16
Φ3/8×13	0.3750	+0.024/+0.012	13	0~3/16
Φ25/64×13	0.3906	+0.024/+0.012	13	0~3/16

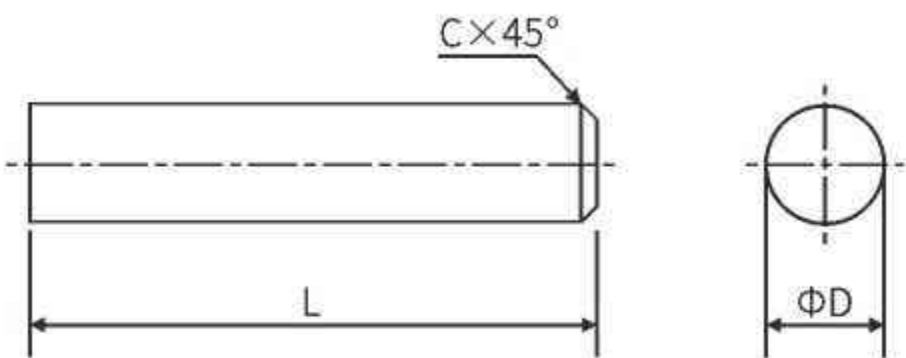
实心硬质合金毛坯棒-英制
UNGROUND SOLID CARBIDE RODS-INCH



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	长度 L	长度公差 Tol. of Length
	inch	inch	inch	inch
Φ27/64×13	0.4219	+0.024/+0.012	13	0~3/16
Φ7/16×13	0.4375	+0.024/+0.012	13	0~3/16
Φ13/32×13	0.4063	+0.024/+0.012	13	0~3/16
Φ29/64×13	0.4531	+0.024/+0.012	13	0~3/16
Φ15/32×13	0.4688	+0.024/+0.012	13	0~3/16
Φ31/64×13	0.4844	+0.024/+0.012	13	0~3/16
Φ1/2×13	0.500	+0.028/+0.012	13	0~3/16
Φ17/32×13	0.5313	+0.028/+0.012	13	0~3/16
Φ9/16×13	0.5625	+0.028/+0.012	13	0~3/16
Φ5/8×13	0.6250	+0.028/+0.012	13	0~3/16
Φ11/16×13	0.6875	+0.032/+0.012	13	0~3/16
Φ3/4×13	0.7500	+0.032/+0.012	13	0~3/16
Φ13/16×13	0.8125	+0.032/+0.012	13	0~3/16
Φ7/8×13	0.875	+0.032/+0.012	13	0~3/16
Φ15/16×13	0.9375	+0.032/+0.012	13	0~3/16
Φ1×13	1	+0.032/+0.012	13	0~3/16

公制精磨倒角短棒 (h5/h6)

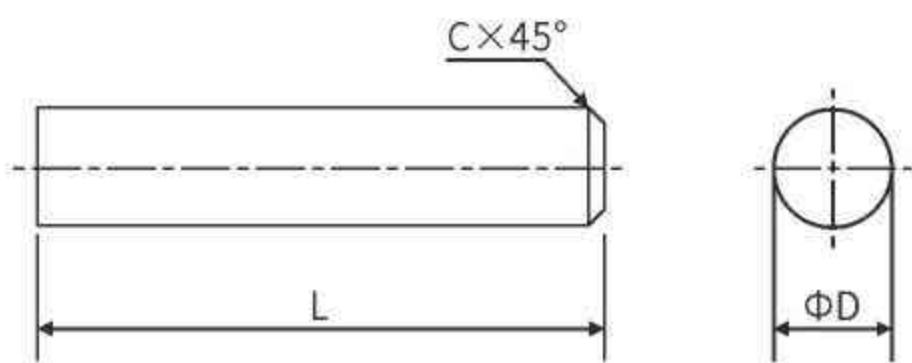
GROUND CARBIDE RODS WITH CHAMFER-METRIC(h5/h6)



规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ3×40	3	40	0.4
Φ3×50	3	50	0.4
Φ3×70	3	70	0.4
Φ3×100	3	100	0.4
Φ3×150	3	150	0.4
Φ4×40	4	40	0.4
Φ4×50	4	50	0.4
Φ4×75	4	75	0.4
Φ4×100	4	100	0.4
Φ4×150	4	150	0.4
Φ5×50	5	50	0.4
Φ5×55	5	55	0.4
Φ5×60	5	60	0.4
Φ5×70	5	70	0.4
Φ5×80	5	80	0.4
Φ5×100	5	100	0.4
Φ5×150	5	150	0.4
Φ6×50	6	50	0.4
Φ6×60	6	60	0.4

标准外径: Φ3~Φ25, 其他直径可定制
标准长度: 公制长度, 其他长度可定制
Standard diameter: Φ3~Φ25
Standard length: metric customizd available

公制精磨倒角短棒 (h5/h6)
GROUND CARBIDE RODS WITH CHAMFER-METRIC(h5/h6)

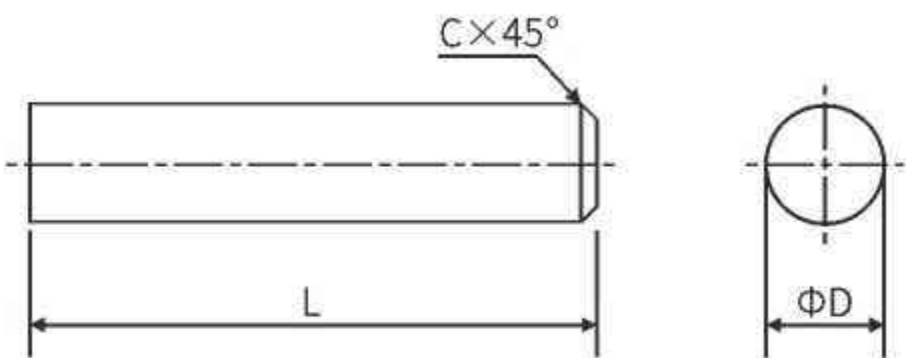


规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ6×75	6	75	0.4
Φ6×100	6	100	0.4
Φ6×150	6	150	0.4
Φ7×55	7	55	0.6
Φ7×60	7	60	0.6
Φ7×100	7	100	0.6
Φ8×60	8	60	0.6
Φ8×75	8	75	0.6
Φ8×80	8	80	0.6
Φ8×90	8	90	0.6
Φ8×100	8	100	0.6
Φ8×150	8	150	0.6
Φ10×70	10	70	0.6
Φ10×75	10	75	0.6
Φ10×90	10	90	0.6
Φ10×100	10	100	0.6
Φ10×125	10	125	0.6
Φ12×75	12	75	0.8

标准外径:Φ3~Φ25, 其他直径可定制
标准长度:公制长度, 其他长度可定制
Standard diameter:Φ3~Φ25
Standard length:metric customizd available

公制精磨倒角短棒 (h5/h6)

GROUND CARBIDE RODS WITH CHAMFER-METRIC(h5/h6)

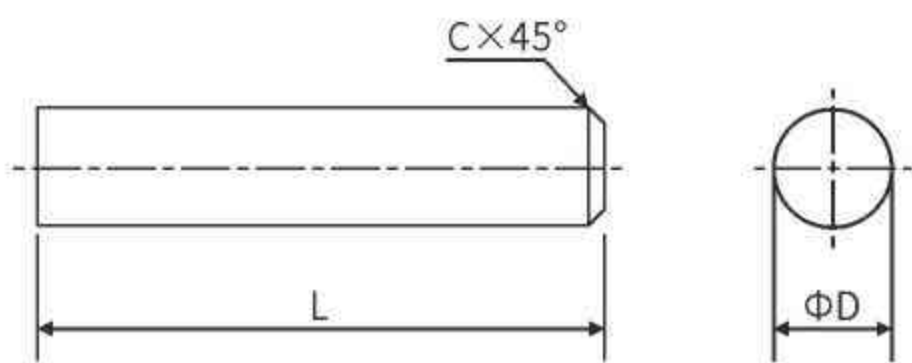


规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ12×90	12	90	0.8
Φ12×100	12	100	0.8
Φ12×110	12	90	0.8
Φ12×120	12	120	0.8
Φ14×75	14	75	0.8
Φ14×100	14	100	0.8
Φ14×110	14	110	0.8
Φ14×125	14	125	0.8
Φ16×100	16	100	0.8
Φ16×125	16	125	0.8
Φ18×100	18	100	0.8
Φ18×150	18	150	0.8
Φ20×100	20	100	1.0
Φ20×120	20	120	1.0
Φ20×125	20	125	1.0
Φ20×150	20	150	1.0
Φ25×125	25	100	1.0
Φ25×150	25	150	1.0

标准外径:Φ3~Φ25, 其他直径可定制
标准长度:公制长度, 其他长度可定制
Standard diameter:φ3~φ25
Standard length:metric customizd available

DIN精磨倒角短棒 (h5/h6)

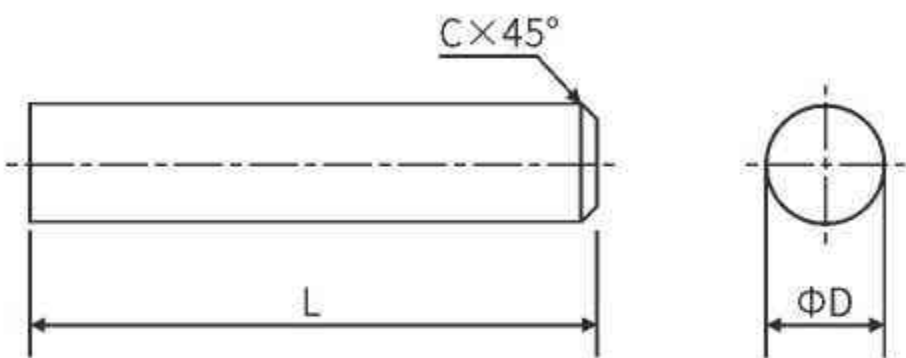
GROUND CARBIDE RODS WITH CHAMFER-DIN (h5/h6)



规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ3×38	3	38	0.4
Φ3.5×50	3.5	50	0.4
Φ4×50	4	50	0.4
Φ4.5×50	4.5	50	0.4
Φ5×50	5	50	0.4
Φ5.5×57	5.5	57	0.4
Φ6×50	6	50	0.4
Φ6×57	6	57	0.4
Φ6×54	6	54	0.4
Φ6.5×60	6.5	60	0.6
Φ7×60	7	60	0.6
Φ8×58	8	58	0.6
Φ8×63	8	63	0.6
Φ8.5×67	8.5	67	0.6
Φ9×67	9	67	0.6
Φ9.5×72	9.5	72	0.6
Φ10×66	10	66	0.6
Φ10×72	10	72	0.6
Φ11×83	11	83	0.8
Φ12×73	12	73	0.8

DIN精磨倒角短棒 (h5/h6)

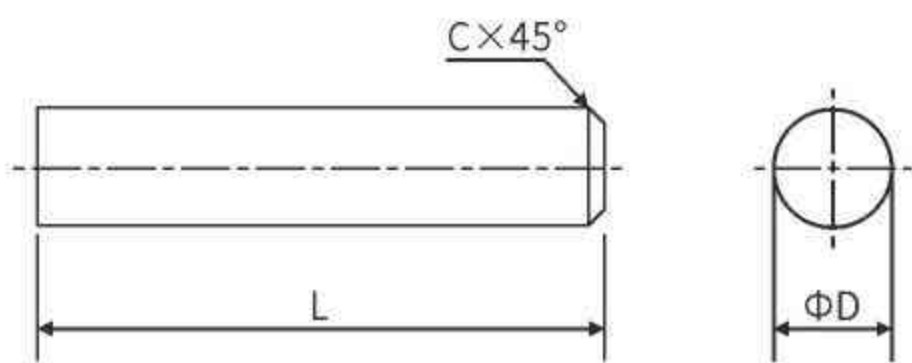
GROUND CARBIDE RODS WITH CHAMFER-DIN (h5/h6)



规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ12×83	12	83	0.8
Φ13×83	13	83	0.8
Φ14×75	14	75	0.8
Φ14×83	14	83	0.8
Φ15×92	15	92	0.8
Φ16×82	16	82	0.8
Φ16×92	16	92	0.8
Φ18×84	18	84	0.8
Φ18×92	18	92	0.8
Φ20×92	20	92	1.0
Φ20×104	20	104	1.0
Φ3×47	3	47	0.4
Φ4×56	4	56	0.4
Φ5×63	5	63	0.4
Φ6×63	6	63	0.4
Φ6×67	6	67	0.4
Φ6×75	6	75	0.4
Φ6×83	6	83	0.4
Φ7×75	7	75	0.6
Φ8×80	8	80	0.6

DIN精磨倒角短棒 (h5/h6)

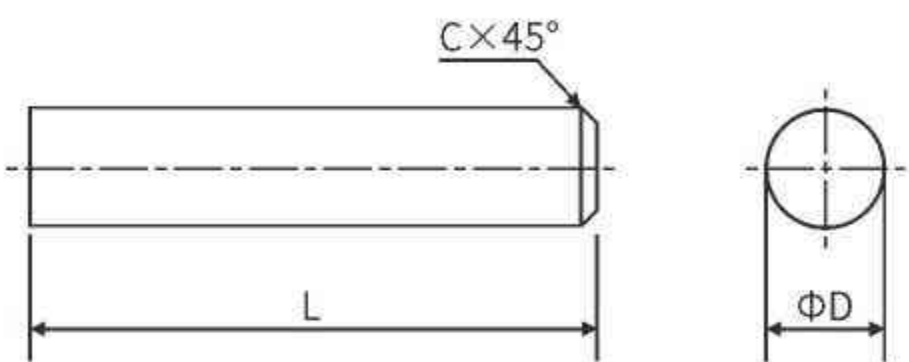
GROUND CARBIDE RODS WITH CHAMFER-DIN (h5/h6)



规格 Type	尺寸 Dimension(mm)		
	直径ΦD	长度L	倒角尺寸C
Φ8×92	8	92	0.6
Φ9×85	9	85	0.6
Φ10×90	10	90	0.6
Φ10×104	10	104	0.6
Φ11×96	11	96	0.8
Φ12×103	12	103	0.8
Φ12×119	12	119	0.8
Φ13×103	13	103	0.8
Φ14×108	14	108	0.8
Φ14×125	14	125	0.8
Φ15×112	15	112	0.8
Φ16×116	16	116	0.8
Φ16×134	16	134	0.8
Φ17×120	17	120	0.8
Φ18×124	18	124	0.8
Φ18×144	18	144	0.8
Φ19×128	19	128	1.0
Φ20×132	20	132	1.0
Φ20×154	20	154	1.0

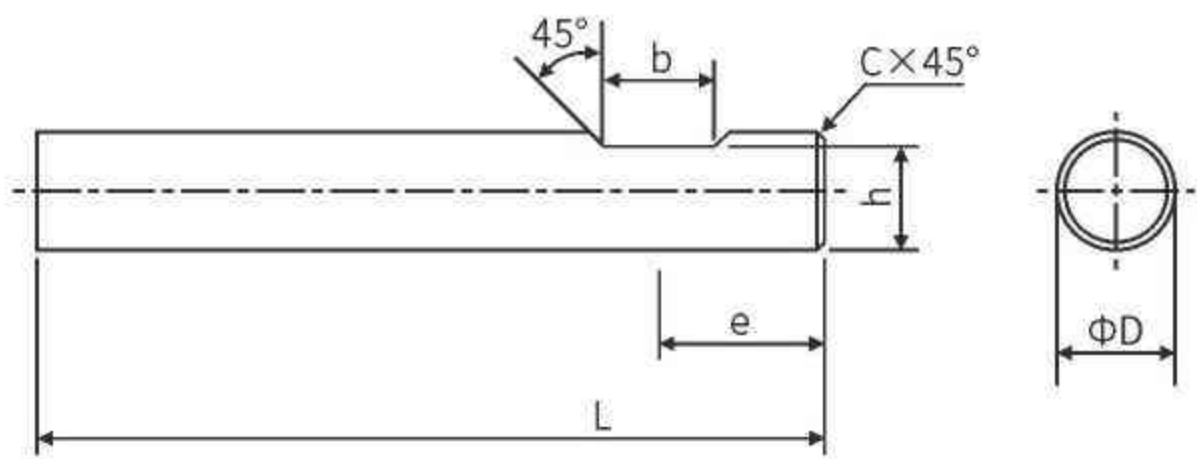
英制精磨倒角短棒 (h5/h6)

GROUND CARBIDE RODS WITH CHAMFER-INCH (h5/h6)



规格 Type	尺寸 Dimension(Inch)		
	直径ΦD	长度L	倒角尺寸C
Φ1/8×1-1/2	1/8	1-1/2	0.015
Φ1/8×2	1/8	2	0.015
Φ1/8×2-1/2	1/8	2-1/2	0.015
Φ1/8×3	1/8	3	0.015
Φ3/16×2	3/16	2	0.015
Φ3/16×3	3/16	3	0.015
Φ1/4×2	1/4	2	0.015
Φ1/4×2-1/2	1/4	2-1/2	0.015
Φ1/4×3	1/4	3	0.015
Φ1/4×4	1/4	4	0.015
Φ5/16×2-1/2	5/16	2-1/2	0.015
Φ3/8×2-1/2	3/8	2-1/2	0.015
Φ3/8×3	3/8	3	0.015
Φ1/2×2-1/2	1/2	2-1/2	0.031
Φ1/2×3	1/2	3	0.031
Φ1/2×4	1/2	4	0.031
Φ5/8×3-1/2	5/8	3-1/2	0.031
Φ5/8×3-1/2	5/8	3-1/2	0.031
Φ5/8×3-1/2	5/8	3-1/2	0.031
Φ3/4×4	3/4	4	0.031
Φ3/4×5	3/4	5	0.031
Φ1×4	1	4	0.031

精磨倒角侧固短棒 (h5/h6)
ENDMILL BLANKS WITH WELDON (h5/h6)



直径 ΦD	长度 L	侧固槽宽 b (Tol./0,+0.5)	端面到侧固槽中心距离e (公差Tol./0,-1)	侧固槽深 h	公差 Tol.	倒角尺寸C (Tol./±0.1)
6	57	4.2	18.0	5.1	+0,-0.075	0.4
8	63	5.5	18.0	6.9	+0,-0.090	0.6
10	72	7.0	20.0	8.5	+0,-0.090	0.6
12	83	8.0	22.5	10.4	+0,-0.110	0.8
14	83	8.0	22.5	12.7	+0,-0.110	0.8
16	92	10.0	24.0	14.2	+0,-0.110	0.8
18	92	10.0	24.0	16.2	+0,-0.110	0.8
20	104	11.0	25.0	18.2	+0,-0.130	1.0

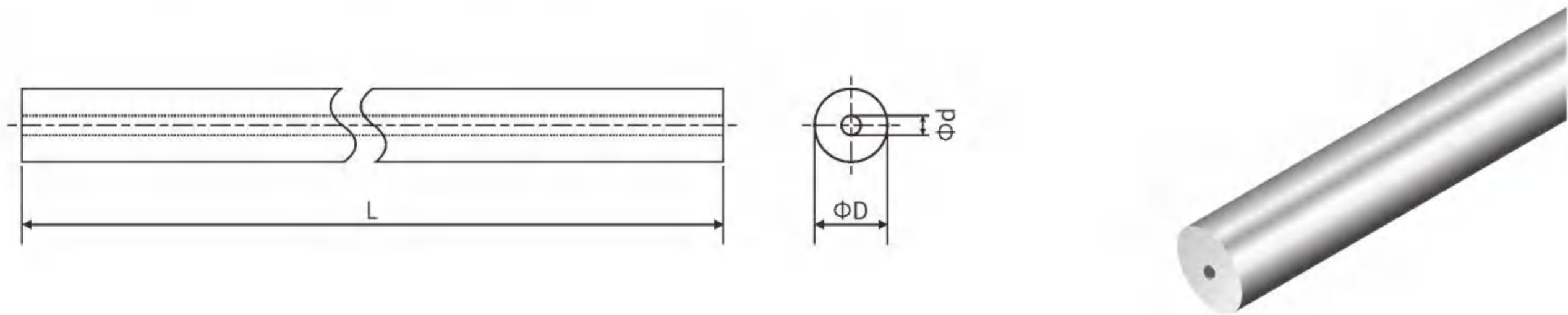
精磨 Ground ΦD(mm)		倒角尺寸 C(mm)	倒角角度Angle of Chamfer (°)	长度 L (mm)
范围 range	公差 Tol	公差 Tol	公差 Tol	公差 Tol
ΦD≤45	h5/h6	±0.1	45°±3°	0,+1.0



内冷孔棒材
RODS WITH COOLANT HOLES

单直孔棒

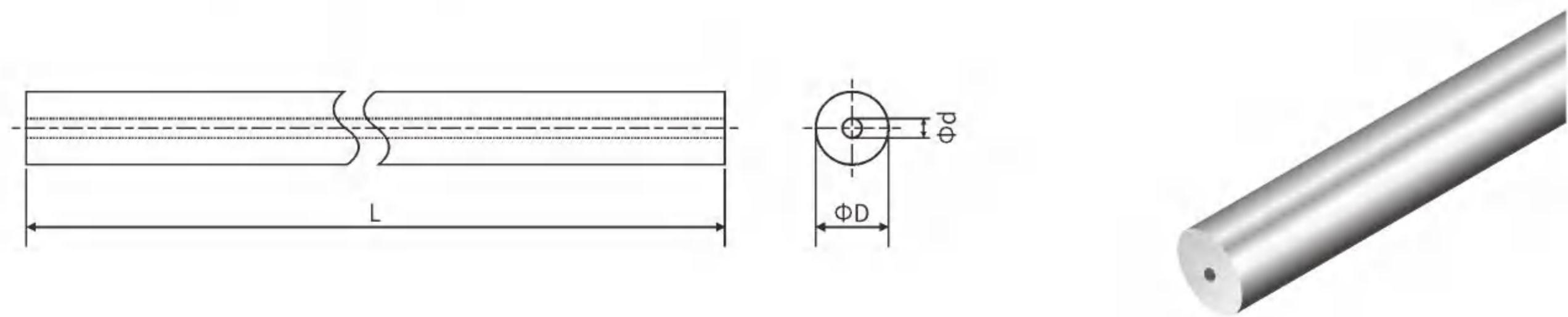
RODS WITH CENTRAL COOLANT HOLE



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	孔径 d	孔径公差 Tol. of d	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm	mm	mm
Φ2.0×Φ0.2×330	2.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Φ2.0×Φ0.3×330	2.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Φ2.0×Φ0.4×330	2.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Φ2.0×Φ0.5×330	2.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Φ2.0×Φ0.6×330	2.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Φ2.0×Φ0.8×330	2.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Φ2.0×Φ1.0×330	2.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Φ3.0×Φ0.1×330	3.0	+0.50/+0.25	0.1	±0.10	330	-0~+5.0
Φ3.0×Φ0.2×330	3.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Φ3.0×Φ0.3×330	3.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Φ3.0×Φ0.4×330	3.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Φ3.0×Φ0.5×330	3.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Φ3.0×Φ0.6×330	3.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Φ3.0×Φ0.7×330	3.0	+0.50/+0.25	0.7	±0.10	330	-0~+5.0
Φ3.0×Φ0.8×330	3.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Φ3.0×Φ0.9×330	3.0	+0.50/+0.25	0.9	±0.10	330	-0~+5.0
Φ3.0×Φ1.0×330	3.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Φ3.0×Φ1.1×330	3.0	+0.50/+0.25	1.1	±0.15	330	-0~+5.0
Φ3.0×Φ1.2×330	3.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Φ3.0×Φ1.3×330	3.0	+0.50/+0.25	1.3	±0.15	330	-0~+5.0
Φ3.0×Φ1.4×330	3.0	+0.50/+0.25	1.4	±0.15	330	-0~+5.0
Φ3.0×Φ1.5×330	3.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Φ3.0×Φ1.6×330	3.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Φ3.0×Φ1.7×330	3.0	+0.50/+0.25	1.7	±0.15	330	-0~+5.0
Φ3.0×Φ1.8×330	3.0	+0.50/+0.25	1.8	±0.15	330	-0~+5.0
Φ3.0×Φ2.0×330	3.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0

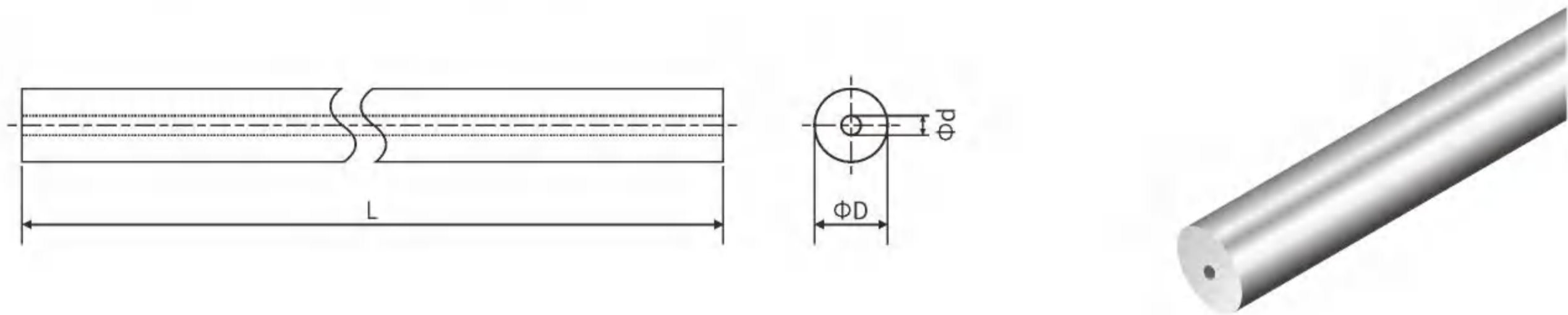
单直孔棒

RODS WITH CENTRAL COOLANT HOLE



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	孔径 d	孔径公差 Tol. of d	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm	mm	mm
Φ4.0×Φ0.1×330	4.0	+0.50/+0.25	0.1	±0.10	330	-0~+5.0
Φ4.0×Φ0.2×330	4.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Φ4.0×Φ0.3×330	4.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Φ4.0×Φ0.4×330	4.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Φ4.0×Φ0.5×330	4.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Φ4.0×Φ0.6×330	4.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Φ4.0×Φ0.8×330	4.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Φ4.0×Φ1.0×330	4.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Φ4.0×Φ1.2×330	4.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Φ4.0×Φ1.3×330	4.0	+0.50/+0.25	1.3	±0.15	330	-0~+5.0
Φ4.0×Φ1.4×330	4.0	+0.50/+0.25	1.4	±0.15	330	-0~+5.0
Φ4.0×Φ1.5×330	4.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Φ4.0×Φ1.6×330	4.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Φ4.0×Φ1.9×330	4.0	+0.50/+0.25	1.9	±0.15	330	-0~+5.0
Φ4.0×Φ2.0×330	4.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Φ4.0×Φ2.5×330	4.0	+0.50/+0.25	2.5	±0.25	330	-0~+5.0
Φ5.0×Φ0.3×330	5.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Φ5.0×Φ0.4×330	5.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Φ5.0×Φ0.5×330	5.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Φ5.0×Φ0.6×330	5.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Φ5.0×Φ0.8×330	5.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Φ5.0×Φ0.9×330	5.0	+0.50/+0.25	0.9	±0.10	330	-0~+5.0
Φ5.0×Φ1.0×330	5.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Φ5.0×Φ1.1×330	5.0	+0.50/+0.25	1.1	±0.15	330	-0~+5.0
Φ5.0×Φ1.2×330	5.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Φ5.0×Φ1.5×330	5.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0

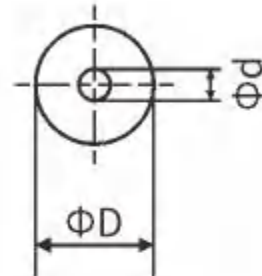
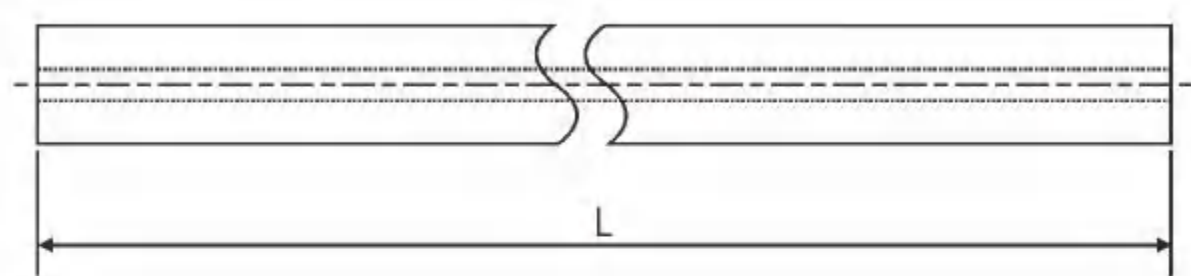
单直孔棒
RODS WITH CENTRAL COOLANT HOLE



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	孔径 d	孔径公差 Tol. of d	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm	mm	mm
Φ5.0×Φ1.6×330	5.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Φ5.0×Φ2.0×330	5.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Φ6.0×Φ0.2×330	6.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Φ6.0×Φ0.3×330	6.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Φ6.0×Φ0.5×330	6.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Φ6.0×Φ0.6×330	6.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Φ6.0×Φ0.8×330	6.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Φ6.0×Φ1.0×330	6.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Φ6.0×Φ1.2×330	6.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Φ6.0×Φ1.5×330	6.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Φ6.0×Φ1.6×330	6.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Φ6.0×Φ1.8×330	6.0	+0.50/+0.25	1.8	±0.15	330	-0~+5.0
Φ6.0×Φ2.0×330	6.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Φ7.0×Φ0.5×330	7.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Φ7.0×Φ0.6×330	7.0	+0.60/+0.25	0.6	±0.10	330	-0~+5.0
Φ7.0×Φ1.0×330	7.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Φ7.0×Φ1.5×330	7.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Φ7.0×Φ3.0×330	7.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0
Φ8.0×Φ0.5×330	8.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Φ8.0×Φ0.6×330	8.0	+0.60/+0.25	0.6	±0.10	330	-0~+5.0
Φ8.0×Φ0.8×330	8.0	+0.60/+0.25	0.8	±0.10	330	-0~+5.0
Φ8.0×Φ1.0×330	8.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Φ8.0×Φ1.2×330	8.0	+0.60/+0.25	1.2	±0.15	330	-0~+5.0
Φ8.0×Φ1.5×330	8.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Φ8.0×Φ1.8×330	8.0	+0.60/+0.25	1.8	±0.15	330	-0~+5.0
Φ8.0×Φ2.0×330	8.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0

单直孔棒

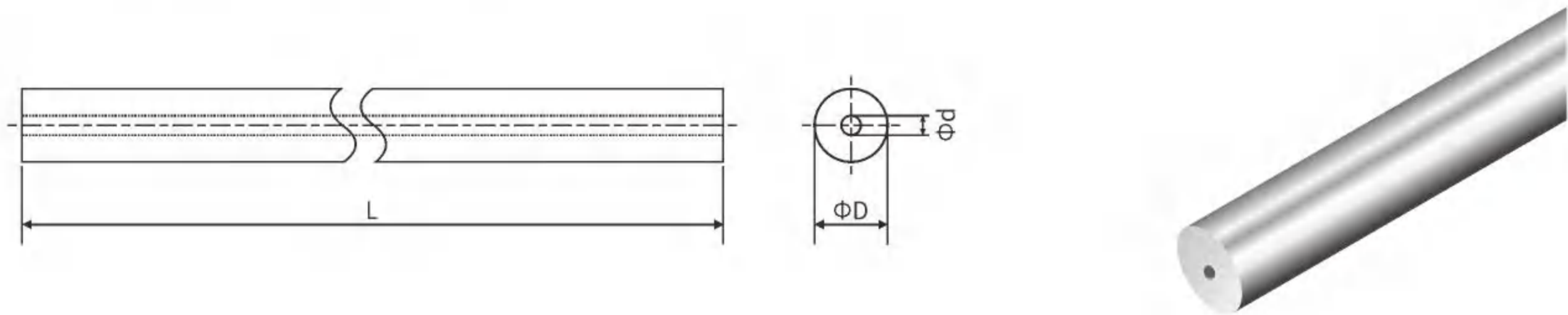
RODS WITH CENTRAL COOLANT HOLE



型号 Type	直径 Diameter	外径公差 Tol. of Diameter	孔径 d	孔径公差 Tol. of d	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm	mm	mm
Φ8.0×Φ2.5×330	8.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Φ8.0×Φ3.0×330	8.0	+0.60/+0.25	3.0	±0.25	330	-0~+5.0
Φ8.0×Φ3.5×330	8.0	+0.60/+0.25	3.5	±0.25	330	-0~+5.0
Φ8.0×Φ4.0×330	8.0	+0.60/+0.25	4.0	±0.30	330	-0~+5.0
Φ9.0×Φ0.5×330	9.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Φ9.0×Φ1.5×330	9.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Φ9.0×Φ2.0×330	9.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Φ9.0×Φ2.5×330	9.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Φ10.0×Φ0.5×330	10.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Φ10.0×Φ1.0×330	10.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Φ10.0×Φ1.2×330	10.0	+0.60/+0.25	1.2	±0.15	330	-0~+5.0
Φ10.0×Φ1.5×330	10.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Φ10.0×Φ1.8×330	10.0	+0.60/+0.25	1.8	±0.15	330	-0~+5.0
Φ10.0×Φ2.0×330	10.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Φ10.0×Φ2.5×330	10.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Φ10.0×Φ3.0×330	10.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0
Φ10.0×Φ6.0×330	10.0	+0.60/+0.25	6.0	±0.40	330	-0~+5.0
Φ12.0×Φ1.5×330	12.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Φ12.0×Φ2.0×330	12.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Φ12.0×Φ2.5×330	12.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Φ12.0×Φ3.0×330	12.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0
Φ12.0×Φ6.0×330	12.0	+0.60/+0.25	6.0	±0.40	330	-0~+5.0
Φ12.0×Φ6.5×330	12.0	+0.60/+0.25	6.5	±0.40	330	-0~+5.0
Φ13.0×Φ3.5×330	13.0	+0.70/+0.25	3.5	±0.20	330	-0~+5.0
Φ14.0×Φ3.0×330	14.0	+0.70/+0.25	3.0	±0.30	330	-0~+5.0
Φ15.0×Φ1.3×330	15.0	+0.70/+0.25	1.3	±0.15	330	-0~+5.0

单直孔棒

RODS WITH CENTRAL COOLANT HOLE

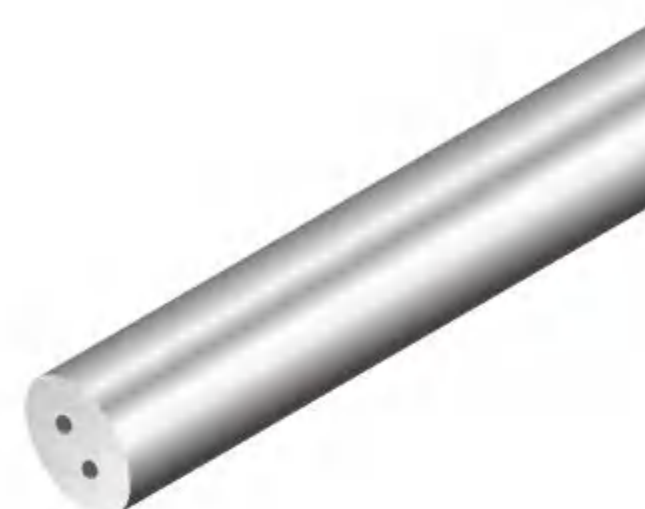
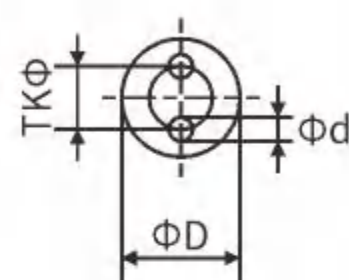
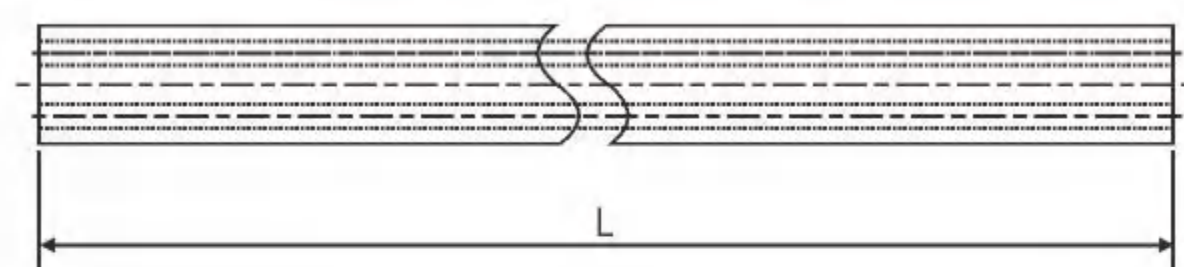


型号 Type	直径 Diameter	外径公差 Tol. of Diameter	孔径 d	孔径公差 Tol. of d	长度 L	长度公差 Tol. of Length
	mm	mm	mm	mm	mm	mm
Φ15.0×Φ1.5×330	15.0	+0.70/+0.25	1.5	±0.15	330	-0~+5.0
Φ16.0×Φ1.0×330	16.0	+0.70/+0.25	1.0	±0.15	330	-0~+5.0
Φ16.0×Φ2.0×330	16.0	+0.70/+0.25	2.0	±0.20	330	-0~+5.0
Φ16.0×Φ3.0×330	16.0	+0.70/+0.25	3.0	±0.30	330	-0~+5.0
Φ18.0×Φ3.0×330	18.0	+0.80/+0.30	3.0	±0.30	330	-0~+5.0
Φ20.0×Φ3.0×330	20.0	+0.80/+0.30	3.0	±0.30	330	-0~+5.0
Φ20.0×Φ4.0×330	20.0	+0.80/+0.30	4.0	±0.30	330	-0~+5.0
Φ22.0×Φ3.0×330	22.0	+0.80/+0.30	3.0	±0.30	330	-0~+5.0
Φ24.0×Φ4.0×330	24.0	+0.80/+0.30	4.0	±0.30	330	-0~+5.0
Φ25.0×Φ3.0×330	25.0	+0.80/+0.30	3.0	±0.30	330	-0~+5.0
Φ26.0×Φ4.0×330	26.0	+0.80/+0.30	4.0	±0.30	330	-0~+5.0
Φ28.0×Φ4.0×330	28.0	+0.80/+0.30	4.0	±0.30	330	-0~+5.0
Φ32.0×Φ5.0×330	32.0	+1.20/+0.50	5.0	±0.40	330	-0~+5.0

标准外径:Φ2-Φ32, 其他规格可接受定制
标准长度:330mm,其他长度可接受定制
standard diameter:Φ2~Φ32
standard length:330mm, customizd available

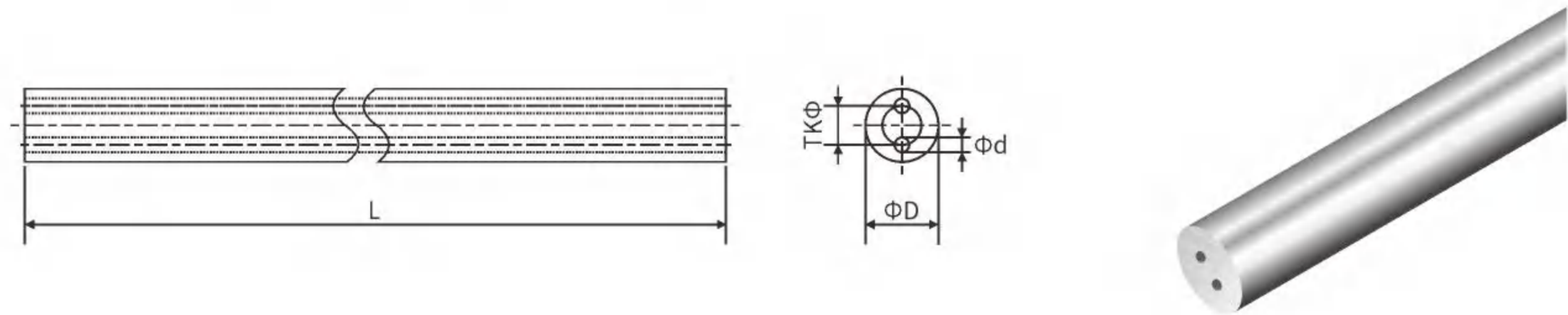
双直孔棒

RODS WITH TWO STRAIGHT COOLANT HOLES



型号 Type	直径及公差 Diameter and Tol. (mm)		内孔公差 d and Tol. (mm)		孔间距及公差 TKΦ and Tol. (mm)		长度及公差 Length and Tol. (mm)	
	直径ΦD	公差Tol	直径Φd	公差Tol	孔间距TK	公差Tol	长度L	公差Tol
Φ4.0×2Φ0.8×1.8×330	4.0	+0.5/+0.3	0.8	±0.10	1.8	+0/-0.15	330	-0~+5.00
Φ5.0×2Φ0.8×2.0×330	5.0	+0.5/+0.3	0.8	±0.10	2.0	+0/-0.15	330	-0~+5.00
Φ6.0×2Φ1.0×3.0×330	6.0	+0.5/+0.3	1.0	±0.15	3.0	+0/-0.20	330	-0~+5.00
Φ7.0×2Φ1.0×3.5×330	7.0	+0.6/+0.3	1.0	±0.15	3.5	+0/-0.20	330	-0~+5.00
Φ8.0×2Φ1.0×4.0×330	8.0	+0.6/+0.3	1.0	±0.15	4.0	+0/-0.30	330	-0~+5.00
Φ9.0×2Φ1.4×4.0×330	9.0	+0.6/+0.3	1.4	±0.15	4.0	+0/-0.30	330	-0~+5.00
Φ10.0×2Φ1.4×5.0×330	10.0	+0.6/+0.3	1.4	±0.15	5.0	+0/-0.30	330	-0~+5.00
Φ11.0×2Φ1.4×5.0×330	11.0	+0.6/+0.3	1.4	±0.15	5.0	+0/-0.30	330	-0~+5.00
Φ12.0×2Φ1.75×6.0×330	12.0	+0.6/+0.3	1.75	±0.15	6.0	+0/-0.30	330	-0~+5.00
Φ13.0×2Φ1.75×6.0×330	13.0	+0.7/+0.3	1.75	±0.15	6.0	+0/-0.30	330	-0~+5.00
Φ14.0×2Φ1.75×7.0×330	14.0	+0.7/+0.3	1.75	±0.15	7.0	+0/-0.30	330	-0~+5.00
Φ15.0×2Φ2.0×7.0×330	15.0	+0.7/+0.3	2.0	±0.20	7.0	+0/-0.30	330	-0~+5.00
Φ16.0×2Φ2.0×8.0×330	16.0	+0.7/+0.3	2.0	±0.20	8.0	+0/-0.30	330	-0~+5.00
Φ17.0×2Φ2.0×8.0×330	17.0	+0.8/+0.3	2.0	±0.20	8.0	+0/-0.30	330	-0~+5.00
Φ18.0×2Φ2.0×9.0×330	18.0	+0.8/+0.3	2.0	±0.20	9.0	+0/-0.30	330	-0~+5.00
Φ19.0×2Φ2.0×9.0×330	19.0	+0.8/+0.3	2.0	±0.20	9.0	+0/-0.30	330	-0~+5.00
Φ20.0×2Φ2.5×10.0×330	20.0	+0.8/+0.3	2.5	±0.25	10.0	+0/-0.40	330	-0~+5.00
Φ21.0×2Φ2.5×10.0×330	21.0	+0.8/+0.3	2.5	±0.25	10.0	+0/-0.40	330	-0~+5.00
Φ22.0×2Φ2.5×11.0×330	22.0	+0.8/+0.3	2.5	±0.25	11.0	+0/-0.40	330	-0~+5.00
Φ23.0×2Φ2.5×11.0×330	23.0	+0.8/+0.3	2.5	±0.25	11.0	+0/-0.40	330	-0~+5.00
Φ24.0×2Φ3.0×12.0×330	24.0	+0.8/+0.3	3.0	±0.25	12.0	+0/-0.50	330	-0~+5.00
Φ25.0×2Φ3.0×12.0×330	25.0	+0.8/+0.3	3.0	±0.25	12.0	+0/-0.50	330	-0~+5.00
Φ26.0×2Φ3.0×13.0×330	26.0	+0.8/+0.3	3.0	±0.25	13.0	+0/-0.50	330	-0~+5.00

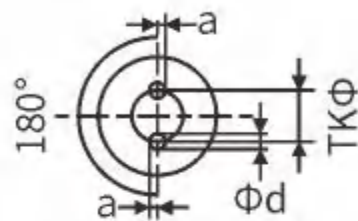
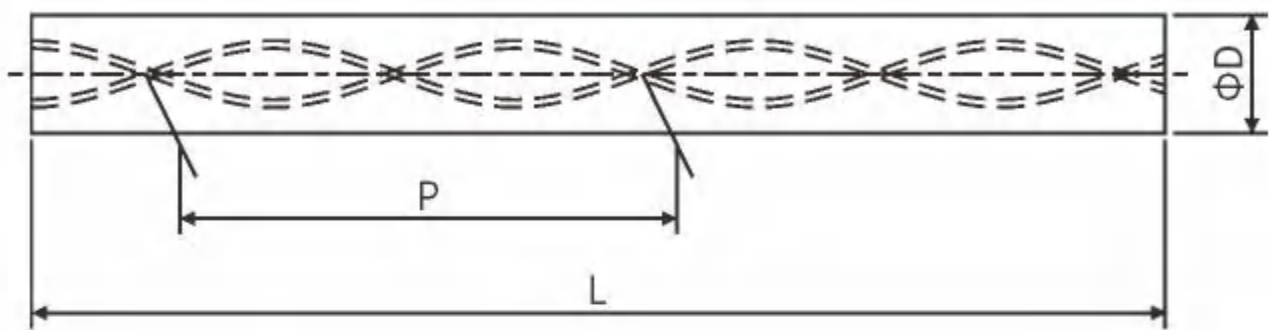
双直孔棒
RODS WITH TWO STRAIGHT COOLANT HOLES



型号 Type	直径及公差 Diameter and Tol. (mm)		内孔公差 d and Tol. (mm)		孔间距及公差 TKΦ and Tol. (mm)		长度及公差 Length and Tol. (mm)	
	直径ΦD	公差Tol.	直径Φd	公差Tol.	孔间距TK	公差Tol.	长度L	公差Tol.
Φ6.0×2Φ0.8×1.5×330	6.0	+0.5/+0.3	0.8	±0.10	1.5	+0/-0.20	330	-0~+5.00
Φ7.0×2Φ0.8×1.5×330	7.0	+0.6/+0.3	0.8	±0.10	1.5	+0/-0.20	330	-0~+5.00
Φ8.0×2Φ1.0×1.5×330	8.0	+0.6/+0.3	1.0	±0.15	1.5	+0/-0.30	330	-0~+5.00
Φ9.0×2Φ1.0×2.6×330	9.0	+0.6/+0.3	1.0	±0.15	2.6	+0/-0.30	330	-0~+5.00
Φ10.0×2Φ1.0×2.6×330	10.0	+0.6/+0.3	1.0	±0.15	2.6	+0/-0.30	330	-0~+5.00
Φ11.0×2Φ1.2×3.6×330	11.0	+0.6/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Φ12.0×2Φ1.2×3.6×330	12.0	+0.6/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Φ13.0×2Φ1.2×3.6×330	13.0	+0.7/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Φ14.0×2Φ1.5×5.0×330	14.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Φ15.0×2Φ1.5×5.0×330	15.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Φ16.0×2Φ1.5×5.0×330	16.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Φ17.0×2Φ2.0×6.2×330	17.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Φ18.0×2Φ2.0×6.2×330	18.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Φ19.0×2Φ2.0×6.2×330	19.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Φ20.0×2Φ2.0×6.2×330	20.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.40	330	-0~+5.00
Φ21.0×2Φ2.0×6.2×330	21.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.40	330	-0~+5.00
Φ22.0×2Φ2.0×6.2×330	22.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.40	330	-0~+5.00
Φ23.0×2Φ2.0×7.5×330	23.0	+0.8/+0.3	2.0	±0.20	7.5	+0/-0.40	330	-0~+5.00
Φ24.0×2Φ2.0×7.5×330	24.0	+0.8/+0.3	2.0	±0.20	7.5	+0/-0.50	330	-0~+5.00
Φ25.0×2Φ2.0×7.5×330	25.0	+0.8/+0.3	2.0	±0.20	7.5	+0/-0.50	330	-0~+5.00
Φ26.0×2Φ2.0×7.5×330	26.0	+0.8/+0.3	2.0	±0.20	7.5	+0/-0.50	330	-0~+5.00

30°双螺旋孔棒材

RODS WITH 2 HELICAL COOLANT HOLES(30°)

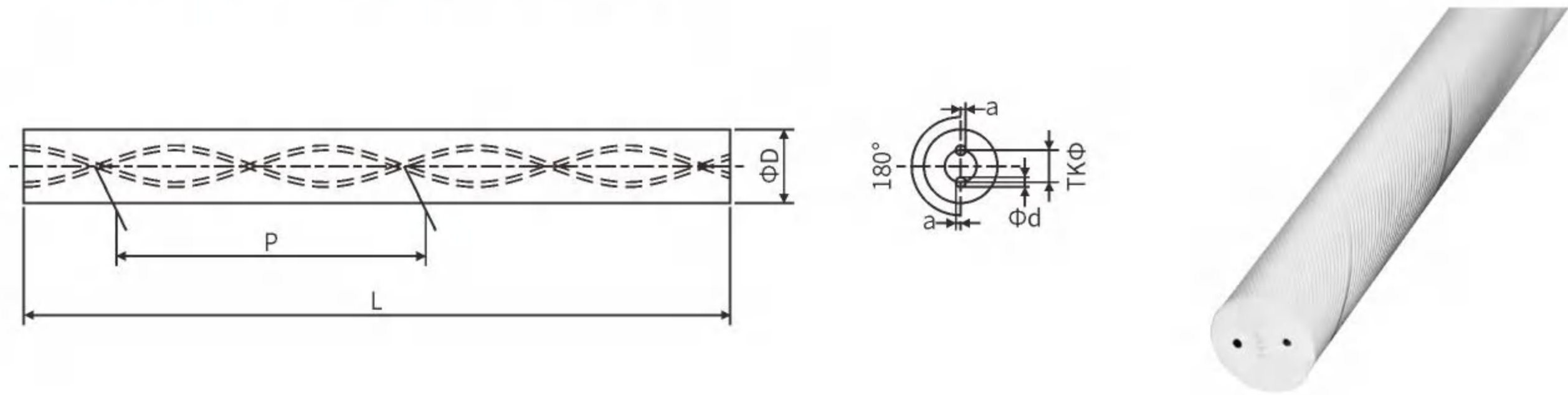


直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 (±0.5°) pitch			孔中心偏离 Hole Deviation
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a
3	330	0.4	1.7	16.32	-0.32	+0.33	0.15
4	330	0.6	2.2	21.77	-0.43	+0.45	0.15
5	330	0.7	2.6	27.21	-0.54	+0.56	0.15
6	330	0.7	2.6	32.65	-0.65	+0.67	0.15
7	330	1.0	3.7	38.09	-0.76	+0.78	0.15
8	330	1.0	4.0	43.53	-0.86	+0.89	0.15
9	330	1.4	4.8	48.97	-0.97	+1.00	0.2
10	330	1.4	4.8	54.41	-1.08	+1.11	0.2
11	330	1.4	5.3	59.86	-1.19	+1.22	0.3
12	330	1.4	6.25	65.3	-1.3	+1.34	0.3
13	330	1.75	6.5	70.74	-1.4	+1.45	0.37
14	330	1.75	7.1	76.18	-1.51	+1.56	0.4
14	330	1.9	6.7	76.18	-1.51	+1.56	0.4
15	330	1.75	7.7	81.62	-1.62	+1.67	0.4

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
3≤ΦD≤6	+0.6/+1.0	3≤ΦD≤25	h5/h6
6<ΦD≤24	+0.7/+1.1		
ΦD=25	+0.8/+1.2		
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.9	±0.1	TKΦ≤4	+0/-0.4
0.9≤Φd≤1.7	±0.15	4<TKΦ≤5	+0/-0.6
Φd=1.75	±0.2	5<TKΦ≤10.1	+0/-0.8
Φd=2.0	±0.25	10.1<TKΦ≤13.3	+0/-0.8

30°双螺旋孔棒材

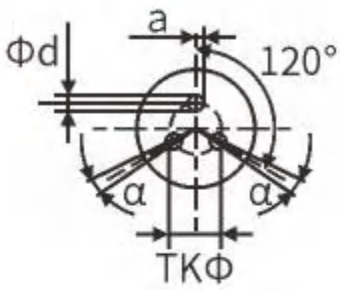
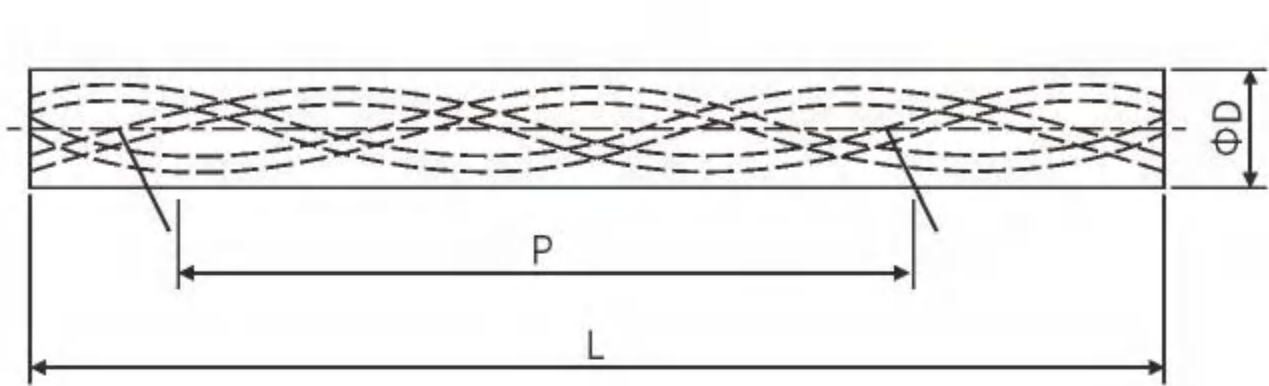
RODS WITH 2 HELICAL COOLANT HOLES(30°)



直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 (±0.5°) pitch			孔中心偏离 Hole Deviation
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a
16	330	1.75	8.3	87.06	-1.73	+1.78	0.4
16	330	2.1	8.0	87.07	-1.73	+1.78	0.45
16	330	2.5	8.8	87.06	-1.73	+1.78	0.45
17	330	1.75	8.9	92.5	-1.84	+1.89	0.45
18	330	2.00	9.55	97.95	-1.94	+2.00	0.5
18	330	2.8	9.9	97.95	-1.95	+2.00	0.5
19	330	2.00	10.1	103.39	-2.05	+2.12	0.5
20	330	2.00	10.4	108.83	-2.16	+2.23	0.5
20	330	2.5	10.0	108.83	-2.16	+2.23	0.5
21	330	2.00	11.15	114.27	-2.27	+2.34	0.5
22	330	2.00	11.6	119.71	-2.38	+2.45	0.5
23	330	2.00	12.2	125.15	-2.48	+2.56	0.5
24	330	2.00	12.8	130.59	-2.59	+2.67	0.5
25	330	2.00	13.3	136.03	-2.7	+2.78	0.5

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
3≤ΦD≤6	+0.6/+1.0	3≤ΦD≤25	h5/h6
6<ΦD≤24	+0.7/+1.1		
ΦD=25	+0.8/+1.2		
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.9	±0.1	TKΦ≤4	+0/-0.4
0.9≤Φd≤1.7	±0.15	4<TKΦ≤5	+0/-0.6
Φd=1.75	±0.2	5<TKΦ≤10.1	+0/-0.8
Φd=2.0	±0.25	10.1<TKΦ≤13.3	+0/-0.8

30°三螺旋孔棒材
RODS WITH 3 HELICAL COOLANT HOLES(30°)

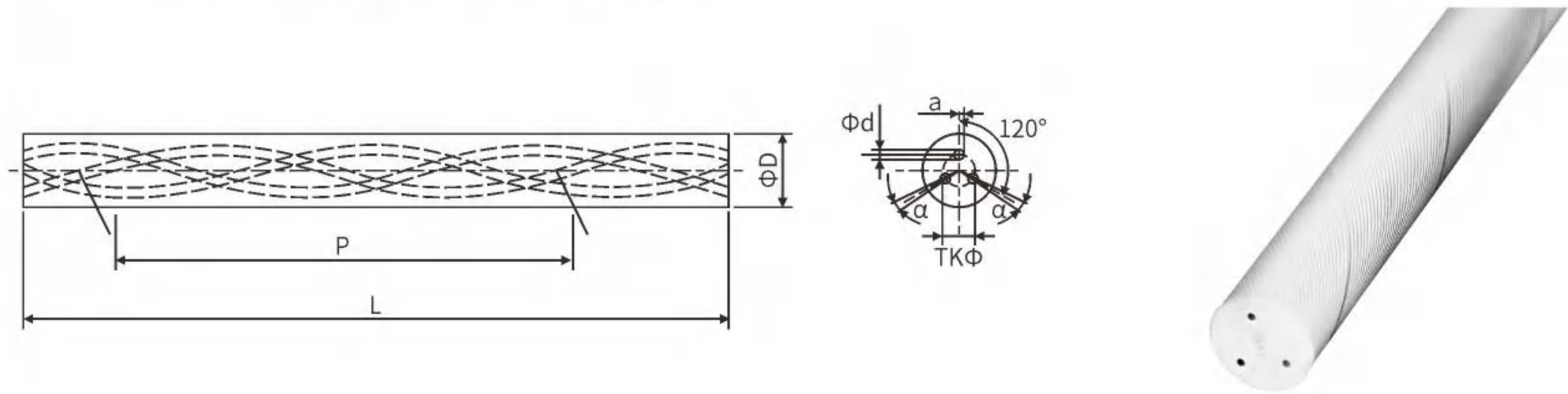


直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 (±0.5°) pitch			孔中心偏离 Hole Deviation	
				P(mm)	Tol.(mm)		a	α
6	330	0.7	2.75	32.65	-0.65	+0.67	0.15	±4°
6	330	0.5	2.9	32.65	-0.65	+0.67	0.15	±4°
8	330	1.0	4.0	43.53	-0.86	+0.89	0.15	±4°
8	330	0.7	4.0	43.53	-0.86	+0.89	0.15	±4°
10	330	1.4	5.0	54.41	-1.08	+1.11	0.2	±4°
10	330	0.85	5.1	54.41	-1.08	+1.11	0.2	±4°
12	330	1.4	6.0	65.30	-1.3	+1.34	0.3	±4°
12	330	1.1	6.3	65.30	-1.3	+1.34	0.3	±4°
14	330	1.75	7.0	76.18	-1.51	+1.56	0.4	±4°
14	330	1.4	7.3	76.18	-1.51	+1.56	0.4	±4°

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
ΦD=6	+0.6/+1.0	6≤ΦD≤20	h5/h6
6<ΦD≤20	+0.7/+1.1		
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.9	±0.1	TKΦ≤4	+0/-0.4
0.9≤Φd≤1.7	±0.15	4<TKΦ≤6	+0/-0.6
Φd=1.75	±0.2	6<TKΦ≤9.55	+0/-0.8
Φd=2.0	±0.25	TKΦ=10.0	+0/-1.0

30°三螺旋孔棒材

RODS WITH 3 HELICAL COOLANT HOLES(30°)

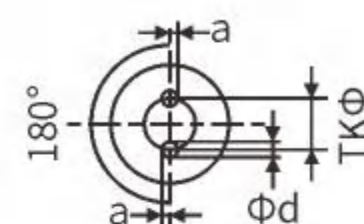
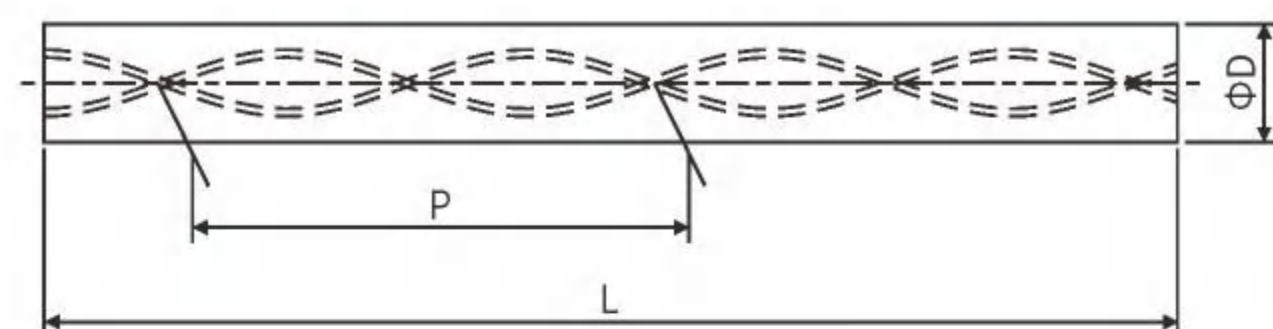


直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距(±0.5°) pitch			孔中心偏离 Hole Deviation	
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a	α
16	330	1.75	8.0	87.06	-1.73	+1.78	0.4	±4°
16	330	1.6	8.3	87.06	-1.73	+1.78	0.4	±4°
18	330	2.0	9.55	97.95	-1.94	+2.00	0.5	±4°
18	330	1.7	9.5	97.95	-1.94	+2.00	0.5	±4°
20	330	2.0	10.0	108.83	-2.16	+2.23	0.5	±4°
20	330	1.9	10.2	108.83	-2.16	+2.23	0.5	±4°
25	330	2.0	13.3	136.03	-2.70	+2.78	0.5	±4°

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
ΦD=6	+0.6/+1.0	6≤ΦD≤20	h5/h6
6<ΦD≤20	+0.7/+1.1		
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.9	±0.1	TKΦ≤4	+0/-0.4
0.9≤Φd≤1.7	±0.15	4<TKΦ≤6	+0/-0.6
Φd=1.75	±0.2	6<TKΦ≤9.55	+0/-0.8
Φd=2.0	±0.25	TKΦ=10.0	+0/-1.0

30°双螺旋孔非标准棒材

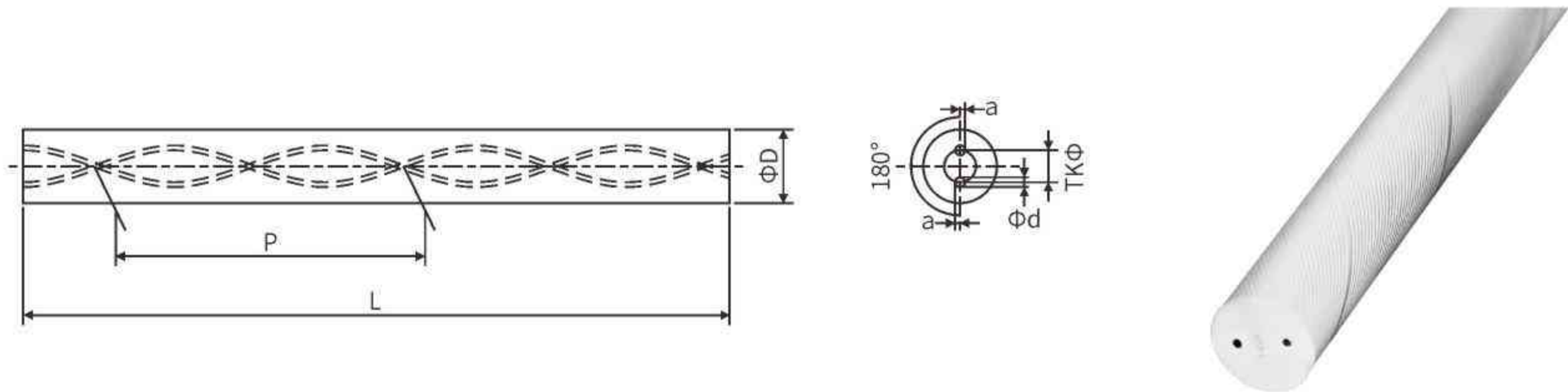
RODS WITH 2 HELICAL COOLANT HOLES(30°)-NONSTANDARD



直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距(±0.5°) pitch			孔中心偏离 Hole Deviation
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a
6	330	0.3	1.4	32.65	-0.65	+0.67	0.15
6	330	1.0	2.6	32.65	-0.65	+0.67	0.15
8	330	0.6	2.8	43.53	-0.86	+0.89	0.15
8	330	1.0	3.5	43.53	-0.86	+0.89	0.15
9	330	1.0	4.0	48.97	-0.97	+1.00	0.20
10	330	0.7	2.6	54.41	-1.08	+1.11	0.20
10	330	1.0	3.0	54.41	-1.08	+1.11	0.20
10	330	1.0	3.8	54.41	-1.08	+1.11	0.20
10	330	1.4	5.0	54.41	-1.08	+1.11	0.20
11	330	0.9	3.0	59.86	-1.19	+1.22	0.30
12	330	1.75	6.0	65.30	-1.30	+1.34	0.30
12	330	0.9	4.2	65.30	-1.30	+1.34	0.30
12	330	1.4	3.8	65.30	-1.30	+1.34	0.30
12	330	1.75	4.5	65.30	-1.30	+1.34	0.30
13	330	1.0	4.4	70.74	-1.40	+1.45	0.37
14	330	0.8	3.5	76.18	-1.51	+1.56	0.40
14	330	1.0	4.7	76.18	-1.51	+1.56	0.40
14	330	1.4	4.5	76.18	-1.51	+1.56	0.40
16	330	2.0	8.0	87.06	-1.73	+1.78	0.45
16	330	2.2	8.2	87.06	-1.73	+1.78	0.45
16	330	1.2	5.5	87.06	-1.73	+1.78	0.45
18	330	1.75	9.15	97.95	-1.95	+2.00	0.5
18	330	1.4	6.3	97.95	-1.95	+2.00	0.5
20	330	1.5	7.1	108.83	-2.16	+2.23	0.5

40°双螺旋孔棒材

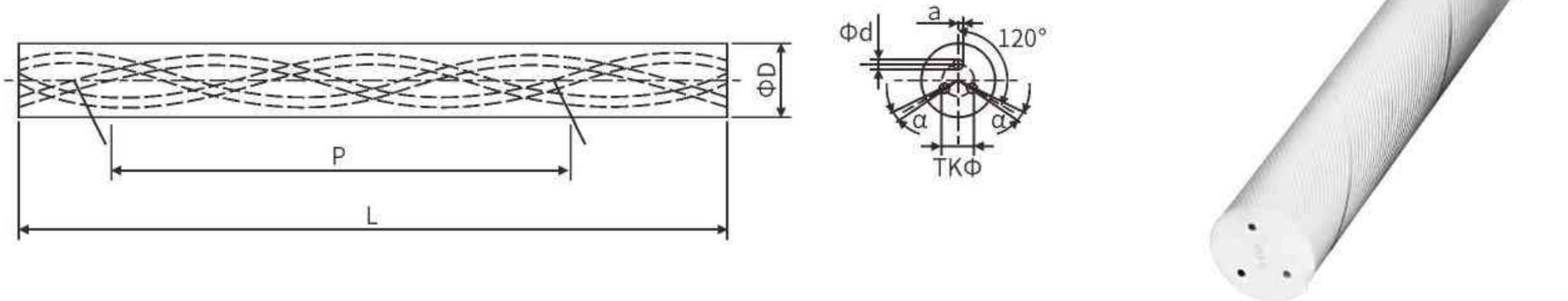
RODS WITH 2 HELICAL COOLANT HOLES(40°)



直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距(±0.5°) pitch			孔中心偏离 Hole Deviation
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a
6	330	0.5	2.2	22.46	-0.39	+0.4	0.15
7	330	0.65	2.4	26.21	-0.46	+0.47	0.15
8	330	0.65	2.7	29.95	-0.53	+0.54	0.15
9	330	0.75	3.2	33.7	-0.59	+0.6	0.2
10	330	0.8	3.5	37.44	-0.66	+0.67	0.2
11	330	0.8	3.7	41.18	-0.72	+0.74	0.3
12	330	0.9	4.2	44.93	-0.79	+0.8	0.3
13	330	0.9	4.4	48.67	-0.85	+0.87	0.37
14	330	1.0	4.7	52.42	-0.92	+0.94	0.4
15	330	1.1	5.1	56.16	-0.99	+1.01	0.4
16	330	1.2	5.5	59.9	-1.05	+1.07	0.4
17	330	1.2	5.9	63.65	-1.12	+1.14	0.45
18	330	1.4	6.3	67.39	-1.18	+1.21	0.5
19	330	1.4	6.7	71.14	-1.25	+1.27	0.5
20	330	1.5	7.1	74.88	-1.31	+1.34	0.5

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
6≤ΦD≤20	+1.1/+1.5	6≤ΦD≤20	h5/h6
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.6	±0.1	TKΦ≤2.2	+0/-0.4
0.6≤Φd≤0.9	±0.15	2.2<TKΦ≤2.7	+0/-0.6
0.9≤Φd≤1.2	±0.2	2.7<TKΦ≤6.3	+0/-0.8
1.2≤Φd≤1.5	±0.25	6.3<TKΦ≤7.1	+0/-1.0

40°三螺旋孔棒材
RODS WITH 3 HELICAL COOLANT HOLES(40°)

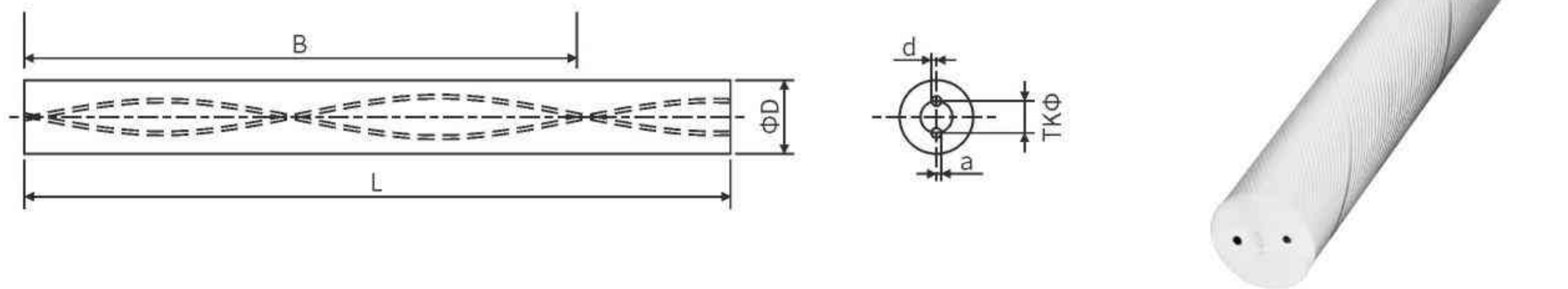


直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 (±0.5°) pitch			孔中心偏离 Hole Deviation	
				P(mm)	Tol.(mm)		a	α
6	330	0.5	2.2	22.46	-0.39	+0.40	0.15	±4°
8	330	0.65	2.7	29.95	-0.53	+0.54	0.15	±4°
10	330	0.8	3.5	37.44	-0.66	+0.67	0.15	±4°
12	330	0.9	4.2	44.93	-0.79	+0.8	0.30	±4°
14	330	1.0	4.7	52.42	-0.92	+0.94	0.40	±4°
16	330	1.2	5.5	59.90	-1.05	+1.07	0.40	±4°
18	330	1.4	6.3	67.39	-1.18	+1.21	0.50	±4°
20	330	1.5	7.1	74.88	-1.31	+1.34	0.50	±4°

毛坯 Unground ΦD(mm)		精磨 Ground ΦD(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
6≤ΦD≤20	+1.1/+1.5	6≤ΦD≤20	h5/h6
内孔径 Φd(mm)		孔间距 TK(mm)	
范围 range	公差 Tol.	范围 range	公差 Tol.
0.4≤Φd≤0.8	±0.15	2.2<TKΦ≤3.5	+0/-0.4
0.8≤Φd≤1.2	±0.15	3.5<TKΦ≤5.5	+0/-0.6
1.2≤Φd≤1.5	±0.25	5.5<TKΦ≤7.1	+0/-1.0

15°双螺旋孔棒材

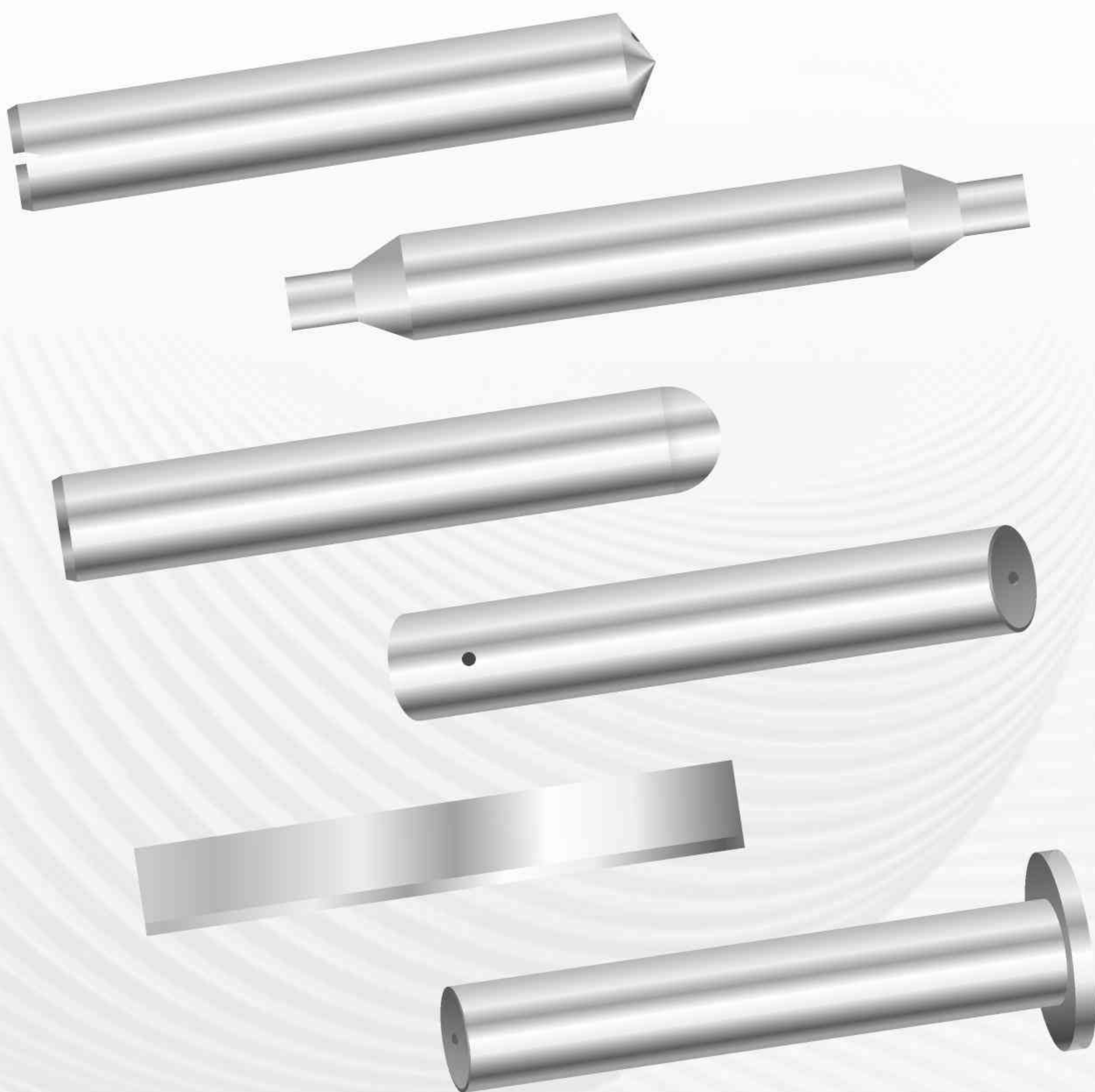
RODS WITH 2 HELICAL COOLANT HOLES(15°)



直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距(±0.5°) pitch			孔中心偏离 Hole Deviation
mm	公差 Tol. 0/+5mm	mm	mm	P(mm)	Tol.(mm)		a
6	330	0.7	2.8	70.35	-2.38	+2.54	0.15
8	330	1.25	3.8	93.8	-3.17	+3.38	0.15
10	330	1.4	5.1	117.25	-3.96	+4.23	0.2
12	330	1.55	6.55	140.7	-4.76	+5.08	0.3
14	330	1.9	7.1	164.14	-5.55	+5.92	0.4
16	330	2.1	8.4	187.59	-6.34	+6.77	0.4
18	330	2.3	9.4	211.04	-7.13	+7.61	0.5
20	330	2.5	10.5	234.49	-7.93	+8.46	0.5

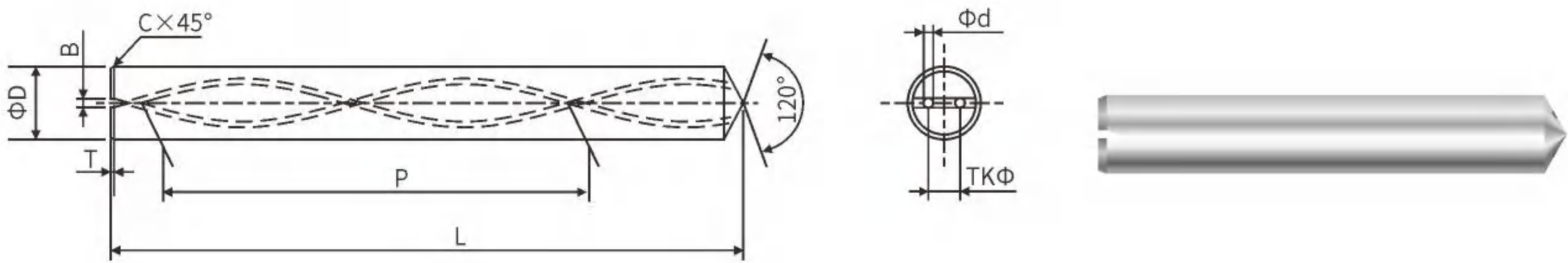
异型棒

PREFORMS



精磨油槽尖锥螺旋孔棒材

GROUND DRILL BLANK WITH POINT,SLOT AND HELICAL COOLANT HOLES(30°)



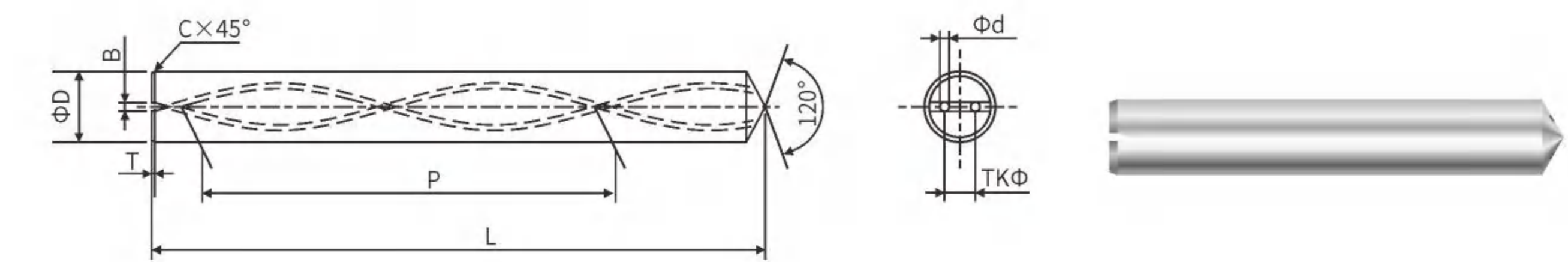
系列 Series	直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 pitch		槽宽 B	槽深 T	倒角尺寸 C
mm	mm	mm	mm	mm	P(mm)	Tol.(mm)	mm	mm	mm
3XD	6	67.0	0.7	2.60	32.65	-0.65/+0.67	1.5	0.9	0.4
	8	80.5	1.0	4.0	43.53	-0.86/+0.89	2.0	1.4	0.6
	10	90.5	1.4	4.8	54.41	-1.08/+1.12	2.5	1.65	0.6
	12	104.0	1.4	6.25	65.30	-1.30/+1.33	2.5	1.75	0.8
	14	109.0	1.75	7.1	76.18	-1.51/+1.56	3.0	2.15	0.8
	16	117.5	1.75	8.3	87.06	-1.73/+1.78	3.0	2.3	0.8
	18	125.5	2.0	9.55	97.95	-1.95/+2.00	3.5	2.5	0.8
	20	134.0	2.0	10.4	108.8	-2.16/+2.22	3.5	2.7	1.0
5XD	6	83.0	0.7	2.6	32.65	-0.65/+0.67	1.5	0.9	0.4
	8	92.5	1.0	4.0	43.53	-0.86/+0.89	2.0	1.4	0.6
	10	104.5	1.4	4.8	54.41	-1.08/+1.12	2.5	1.65	0.6
	12	120.0	1.4	6.25	65.30	-1.30/+1.33	2.5	1.75	0.8

精磨 Ground ΦD(mm)		长度 L(mm)		槽宽B	槽深T
范围 range	公差 Tol.	范围 range	公差 Tol.	公差 Tol.	公差 Tol.
6≤ΦD≤20	h5/h6	L<120	0,+1.50	±0.2	0,+0.40
		120≤L	0,+2.00		
内孔径 Φd(mm)		孔间距 TK(mm)			
范围 range	公差 Tol.	范围 range	公差 Tol.		
Φd≤0.70	±0.10	TKΦ≤4.00	+0,-0.40		
0.70<Φd≤1.40	±0.15	TKΦ≤4.80	+0,-0.60		
Φd=1.75	±0.20	4.80<TKΦ≤9.55	+0,-0.80		
Φd=2.0	±0.25	TKΦ=10.40	+0,-1.00		

尖锥角度可选择120°~150°
Drill point angle available from 120° to 150°

精磨油槽尖锥螺旋孔棒材

GROUND DRILL BLANK WITH POINT,SLOT AND HELICAL COOLANT HOLES(30°)



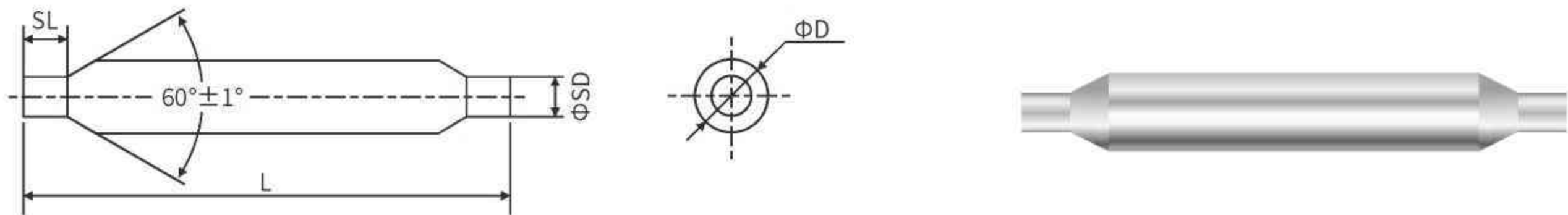
系列 Series	直径 ΦD	长度 L	内孔径 Φd	孔间距 Bolt Circle TKΦ	螺距 pitch		槽宽 B	槽深 T	倒角尺寸 C
mm	mm	mm	mm	mm	P(mm)	Tol.(mm)	mm	mm	mm
5XD	14	126.0	1.75	7.1	76.18	-1.51/+1.56	3.0	2.15	0.8
	16	135.5	1.75	8.3	87.06	-1.73/+1.78	3.0	2.3	0.8
	18	145.5	2.0	9.55	97.95	-1.95/+2.00	3.5	2.5	0.8
	20	156.0	2.0	10.4	108.8	-2.16/+2.22	3.5	2.7	1.0
7XD	6	98.0	0.7	2.6	32.65	-0.65/+0.67	1.5	0.9	0.4
	8	107.5	1.0	4.0	43.53	-0.86/+0.89	2.0	1.4	0.6
	10	132.5	1.4	4.8	54.41	-1.08/+1.12	2.5	1.65	0.6
	12	157.0	1.4	6.25	65.30	-1.30/+1.33	2.5	1.75	0.8
	14	184.0	1.75	7.1	76.18	-1.51/+1.56	3.0	2.15	0.8
	16	206.5	1.75	8.3	87.06	-1.73/+1.78	3.0	2.3	0.8
	18	225.5	2.0	9.55	97.95	-1.95/+2.00	3.5	2.5	0.8
	20	247.0	2.0	10.4	108.8	-2.16/+2.22	3.5	2.7	1.0

精磨 Ground ΦD(mm)		长度 L(mm)		槽宽B	槽深T
范围 range	公差 Tol.	范围 range	公差 Tol.	公差 Tol.	公差 Tol.
6≤ΦD≤20	h5/h6	L<120	0,+1.50	±0.2	0,+0.40
		120≤L	0,+2.00		
内孔径 Φd(mm)		孔间距 TK(mm)			
范围 range	公差 Tol.	范围 range	公差 Tol.		
Φd≤0.70	±0.10	TKΦ≤4.00	+0,-0.40		
0.70<Φd≤1.40	±0.15	TKΦ≤4.80	+0,-0.60		
Φd=1.75	±0.20	4.80<TKΦ≤9.55	+0,-0.80		
Φd=2.0	±0.25	TKΦ=10.40	+0,-1.00		

尖锥角度可选择120°~150°
Drill point angle available from 120° to 150°

精磨台阶棒

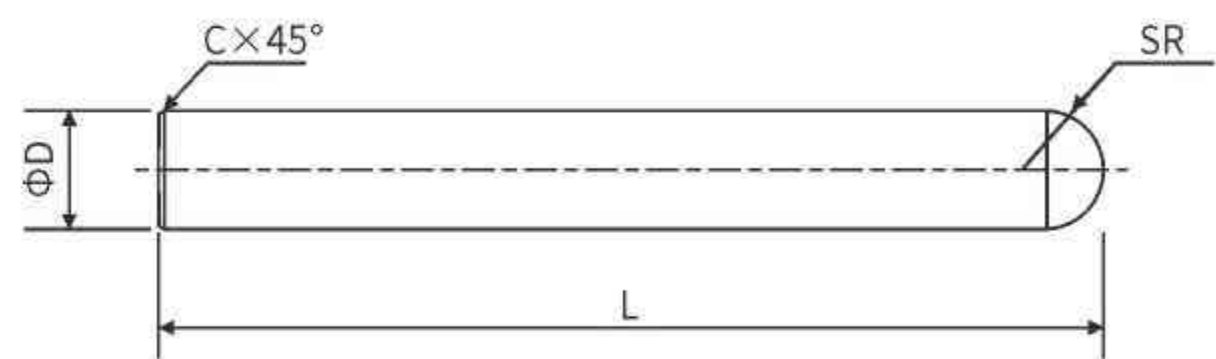
COMBINED DRILL AND COUNTERSINK BLANKS



直径 (h5/h6) ΦD(h5/h6)	长度 Length		台阶直径 Step diameter		台阶长度 Step length	
	L(mm)	Tol.(mm)	ΦSD(mm)	Tol.(mm)	SL(mm)	Tol.(mm)
4.763	47.75	0/+0.79	3.12	±0.13	2.54	0/+0.41
6.350	50.8	0/+0.79	3.91	±0.13	3.56	0/+0.41
7.938	53.85	0/+0.79	4.32	±0.13	4.06	0/+0.41
11.113	69.85	0/+0.79	5.89	±0.13	6.10	0/+0.41
12.700	76.20	0/+0.79	6.68	±0.13	7.24	0/+0.41

精磨球头棒

GROUND BALLNOSE ENDMILL BLANKS

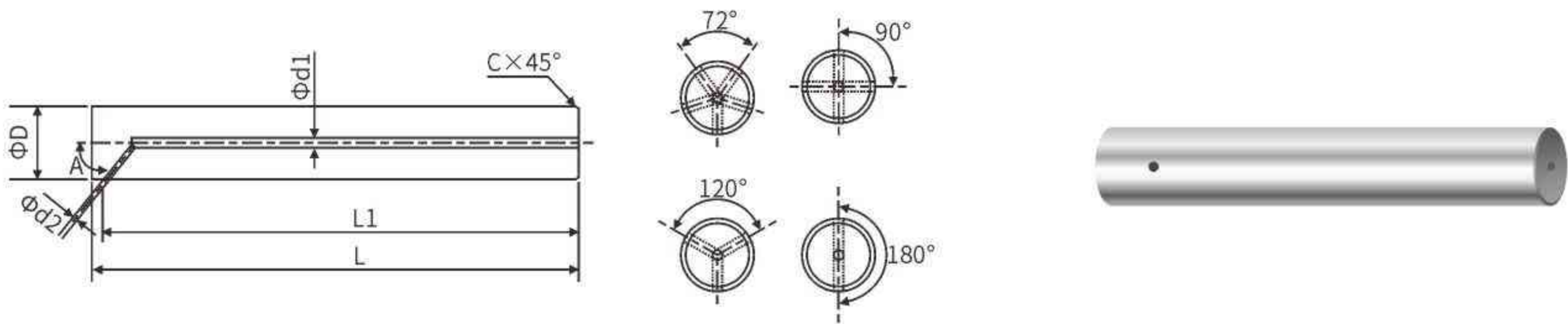


直径 ΦD(h5/h6)	长度L (公差Tol:0/+1)	球头半径SR (公差Tol:0/+0.38)
mm	mm	mm
6	58	3.15
6	80	3.15
8	64	4.19
8	100	4.19
10	73	5.24
10	100	5.24
12	84	6.29
12	120	6.29
14	84	7.34
14	120	7.34
16	93	8.39
16	140	8.39
18	93	9.44
18	160	9.44
20	105	10.49
20	160	10.49

直径 ΦD(h5/h6)	长度L (公差Tol:0/+0.04)	球头半径SR (公差Tol:0/+0.015)
Inch	Inch	Inch
0.2500	2.0	0.13
0.2500	2.5	0.13
0.3125	2.0	0.16
0.3125	2.5	0.16
0.3750	2.5	0.20
0.3750	3.0	0.20
0.3750	4.0	0.20
0.4375	2.8	0.23
0.5000	3.0	0.26
0.5000	4.0	0.26
0.6250	3.5	0.33
0.7500	4.0	0.39
1.0000	4.0	0.52

精磨Y形孔棒材

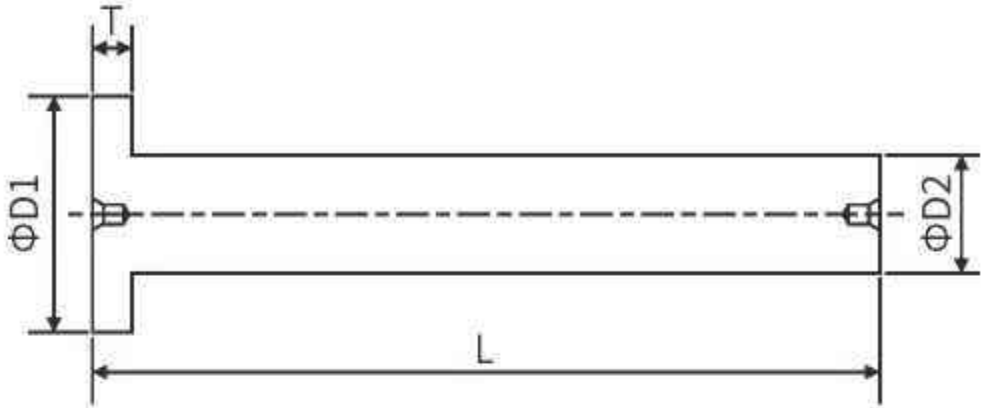
GROUND MILLING CUTTER BLANKS WITH AXIAL COOLANT HOLE AND LATERAL EXITS



直径 ΦD	长度 L	内孔径 Φd1	其他尺寸 L1	斜孔径 Φd2	倒角尺寸 C
mm	mm	mm	mm	mm	
6	58.0	1.75	55.0	1.0	0.5
6	65.0	1.75	62.0	1.0	0.5
8	64.2	1.75	60.0	1.2	1
8	79.0	1.75	74.8	1.2	1
10	73.2	2.00	68.0	1.2	1
10	101.2	2.00	96.0	1.2	1
12	84.2	2.00	78.0	1.5	1
12	101.1	2.00	95.0	1.5	1
16	93.2	4.00	85.0	1.5	1.5
16	128.0	4.00	119.8	1.5	1.5
16	133.2	4.00	125.0	1.5	1.5
20	110.0	4.00	99.8	2.0	1.5
20	151.5	4.00	141.0	2.0	1.5
20	161.2	4.00	151.0	2.0	1.5
25	130.0	4.00	117.5	2.0	1.5
25	185.0	4.00	172.5	2.0	1.5
25	186.0	4.00	173.5	2.0	1.5

毛坯T形棒

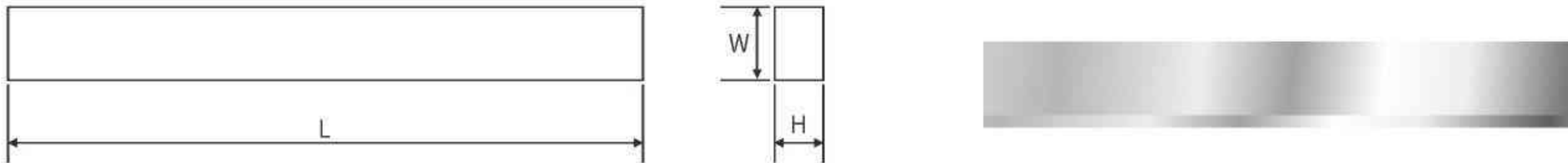
T-SHAPE ENDMILL BLANKS



直径 Diameter		长度 Length		台阶长度 Step length		台阶直径 Step diameter		
ΦD1	Tol.	L	Tol.	T	Tol.	ΦD2	公差Tol.	
							毛坯 Unground	精品 Ground
17.0	0/+0.4	104	0/+2	4.0	±0.3	10	+0.6/0.3	0/-0.009
21.0	0/+0.4	108	0/+2	8.0	±0.3	10	+0.6/0.3	0/-0.009
27.0	0/+0.4	110	0/+2	10.0	±0.3	12	+0.6/0.3	0/-0.011
33.0	0/+0.4	154	0/+2	4.0	±0.3	16	+0.6/0.3	0/-0.011
37.0	0/+0.4	158	0/+2	8.0	±0.3	16	+0.6/0.3	0/-0.011
41.3	0/+0.4	160	0/+2	10.0	±0.3	20	+0.6/0.3	0/-0.013

硬质合金长条

TUNGSTEN CARBIDE STRIPS



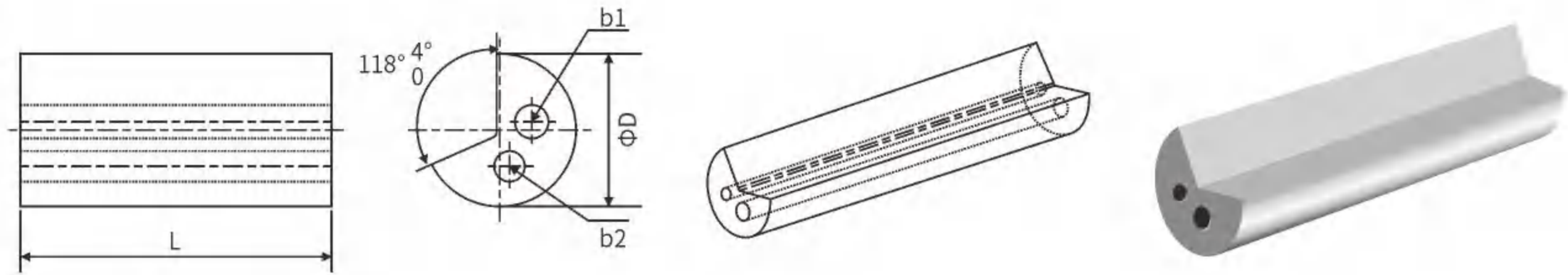
规格 Type	尺寸 Dimension(mm)		
	L	W	H
2.0×330×(2-5)	330	2	2-5
4.0×330×(2-5)	330	4	2-5
6.0×330×(2-5)	330	6	2-5
8.0×330×(2-5)	330	8	2-5
10.0×330×(2-5)	330	10	2-5
12.0×330×(3-5)	330	12	3-5
14.0×330×(3-6)	330	14	3-6
16.0×330×(3-6)	330	16	3-6
18.0×330×(3-6)	330	18	3-6
20.0×330×(3-6)	330	20	3-6
22.0×330×(3-6)	330	22	3-6
24.0×330×(3-6)	330	24	3-6
26.0×330×(3-6)	330	26	3-6
28.0×330×(3-6)	330	28	3-6
30.0×330×(3-6)	330	30	3-6



毛坯枪钻(深孔钻)

GUN DRILLS BLANKS(DEEP HOLE DRILLS)

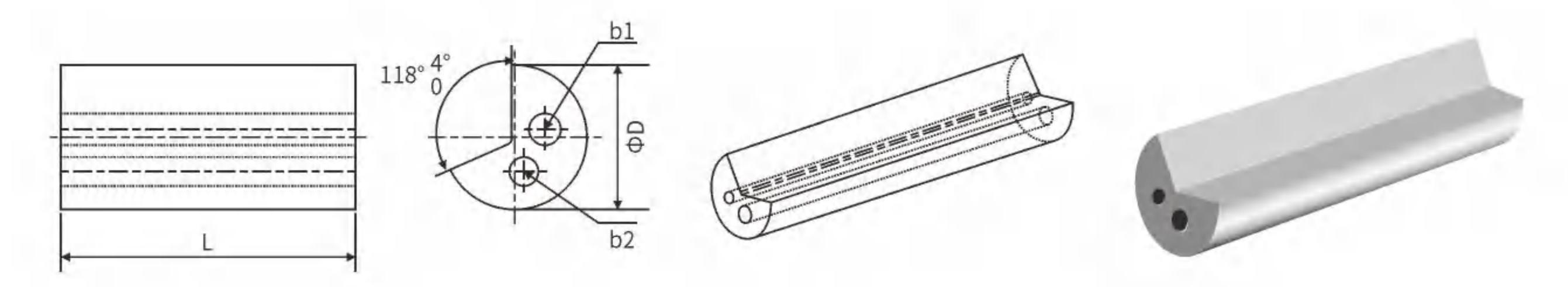
枪钻材料系列- I
GUN DRILLS SERIES- I



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ8.0×Φ1.8×Φ1.5×340	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ8.5×Φ1.9×Φ1.5×340	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ9.0×Φ2.1×Φ1.65×340	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ9.5×Φ2.1×Φ1.65×340	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ10.0×Φ2.3×Φ1.9×340	+0.45/+0.70	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ10.5×Φ2.3×Φ1.9×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ11.0×Φ2.4×Φ2.0×340	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ11.5×Φ2.4×Φ2.0×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ12.0×Φ2.5×Φ2.2×340	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ12.5×Φ2.5×Φ2.2×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ13.0×Φ3.2×Φ2.6×340	+0.45/+0.80	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ13.5×Φ3.2×Φ2.6×340	+0.35/+0.70	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ14.0×Φ3.5×Φ2.8×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ14.5×Φ3.5×Φ2.8×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ15.0×Φ3.8×Φ3.0×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ15.5×Φ3.8×Φ3.0×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ16.0×Φ4.0×Φ3.2×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ16.5×Φ4.0×Φ3.2×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ17.0×Φ4.2×Φ3.4×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ17.5×Φ4.2×Φ3.4×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ18.0×Φ4.5×Φ3.6×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ18.5×Φ4.5×Φ3.6×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ19.0×Φ4.8×Φ3.8×340	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ19.5×Φ4.8×Φ3.8×340	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+6
BΦ20.0×Φ5.0×Φ4.0×340	+0.45/+0.80	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ20.5×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6

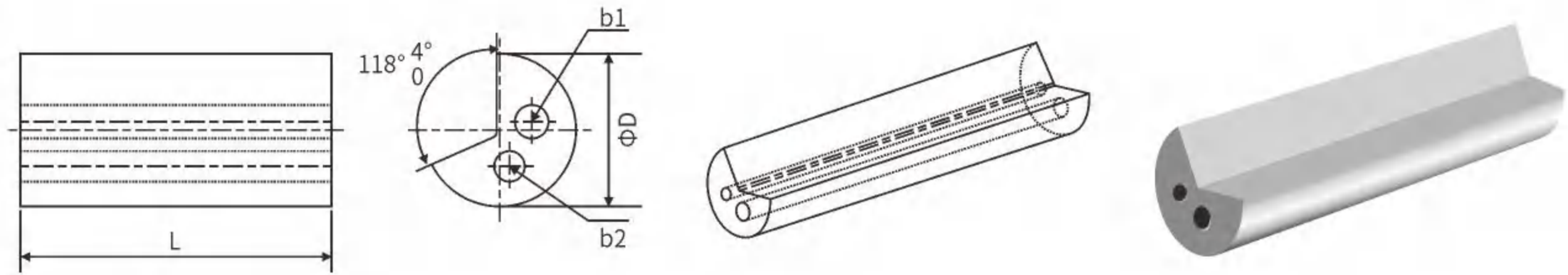
枪钻材料系列- I

GUN DRILLS SERIES- I



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ21.0×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ21.5×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ22.0×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ22.5×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ23.0×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ23.5×Φ5.0×Φ4.0×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ24.0×Φ5.2×Φ4.2×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ24.5×Φ5.2×Φ4.2×340	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+6
BΦ25.0×Φ5.5×Φ4.4×340	+0.50/+0.90	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ25.5×Φ5.5×Φ4.4×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ26.0×Φ5.8×Φ4.5×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ26.5×Φ5.8×Φ4.5×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ27.0×Φ6.0×Φ4.8×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ27.5×Φ6.0×Φ5.0×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ28.0×Φ6.5×Φ5.0×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ28.5×Φ6.5×Φ5.0×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ29.0×Φ6.8×Φ5.5×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ29.5×Φ6.8×Φ5.5×340	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ30.0×Φ7.0×Φ5.5×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ30.5×Φ7.0×Φ5.5×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ31.0×Φ7.1×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ31.5×Φ7.1×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ32.0×Φ7.2×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ32.5×Φ7.2×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ33.0×Φ7.2×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ33.5×Φ7.2×Φ5.8×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6

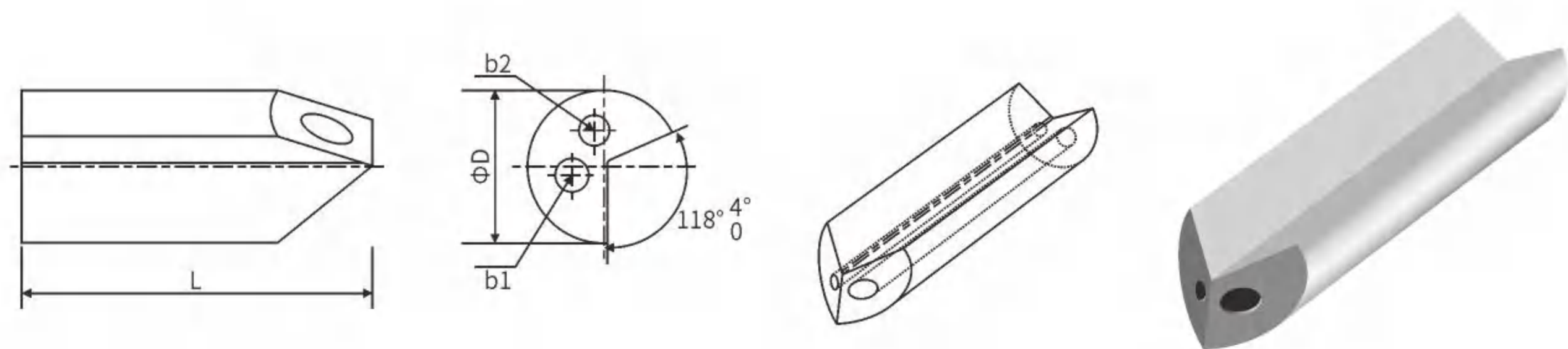
枪钻材料系列- I
GUN DRILLS SERIES- I



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ34.0×Φ7.5×Φ6.0×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ34.5×Φ7.5×Φ6.0×340	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ35.0×Φ7.5×Φ6.0×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ35.5×Φ7.5×Φ6.0×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ36.0×Φ7.5×Φ6.0×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ36.5×Φ7.5×Φ6.0×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ37.0×Φ7.5×Φ6.2×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ38.0×Φ7.6×Φ6.5×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ39.0×Φ8.0×Φ6.8×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ40.0×Φ8.5×Φ7.0×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ41.0×Φ8.6×Φ7.1×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ42.0×Φ8.8×Φ7.2×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ43.0×Φ9.0×Φ7.3×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ44.0×Φ9.2×Φ7.4×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6
BΦ45.0×Φ9.5×Φ7.5×340	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+6

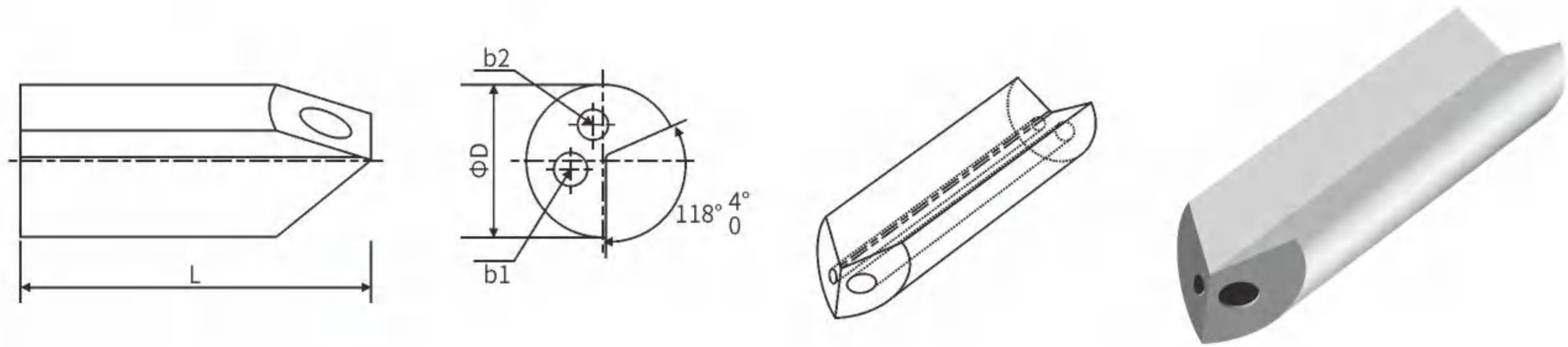
枪钻材料系列- II

GUN DRILLS SERIES- II



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ8.0×Φ1.8×Φ1.5×35	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+3
BΦ8.5×Φ1.9×Φ1.5×35	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+3
BΦ9.0×Φ2.1×Φ1.65×35	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+3
BΦ9.5×Φ2.1×Φ1.65×35	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+3
BΦ10.0×Φ2.3×Φ1.9×40	+0.45/+0.70	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ10.5×Φ2.3×Φ1.9×40	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ11.0×Φ2.4×Φ2.0×40	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ11.5×Φ2.4×Φ2.0×40	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ12.0×Φ2.5×Φ2.2×40	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ12.5×Φ2.5×Φ2.2×40	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ13.0×Φ3.2×Φ2.6×40	+0.45/+0.80	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ13.5×Φ3.2×Φ2.6×40	+0.35/+0.70	-0.20/+0.20	-0.20/+0.20	0/+3
BΦ14.0×Φ3.5×Φ2.8×40	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ14.5×Φ3.5×Φ2.8×40	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ15.0×Φ3.8×Φ3.0×40	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ15.5×Φ3.8×Φ3.0×40	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ16.0×Φ4.0×Φ3.2×42	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ16.5×Φ4.0×Φ3.2×42	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ17.0×Φ4.2×Φ3.4×42	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ17.5×Φ4.2×Φ3.4×42	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ18.0×Φ4.5×Φ3.6×48	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ18.5×Φ4.5×Φ3.6×48	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ19.0×Φ4.8×Φ3.8×48	+0.45/+0.80	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ19.5×Φ4.8×Φ3.8×48	+0.35/+0.70	-0.25/+0.25	-0.25/+0.25	0/+3
BΦ20.0×Φ5.0×Φ4.0×50	+0.45/+0.80	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ20.5×Φ5.0×Φ4.0×50	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3

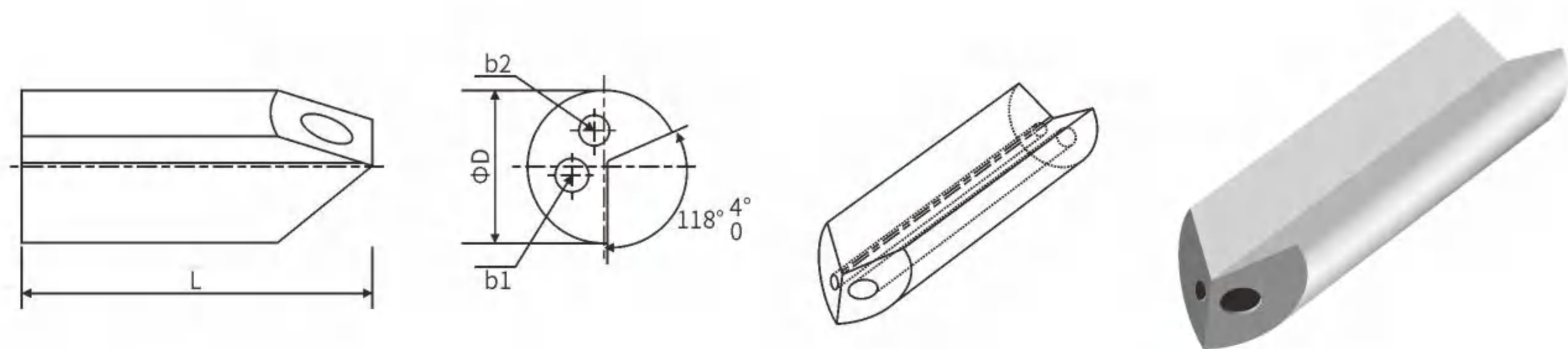
枪钻材料系列- II
GUN DRILLS SERIES- II



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ21.0×Φ5.0×Φ4.0×50	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ21.5×Φ5.0×Φ4.0×50	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ22.0×Φ5.0×Φ4.0×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ22.5×Φ5.0×Φ4.0×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ23.0×Φ5.0×Φ4.0×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ23.5×Φ5.0×Φ4.0×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ24.0×Φ5.2×Φ4.2×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ24.5×Φ5.2×Φ4.2×55	+0.50/+0.90	-0.30/+0.30	-0.30/+0.30	0/+3
BΦ25.0×Φ5.5×Φ4.4×60	+0.50/+0.90	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ25.5×Φ5.5×Φ4.4×60	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ26.0×Φ5.8×Φ4.5×60	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ26.5×Φ5.8×Φ4.5×60	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ27.0×Φ6.0×Φ4.8×60	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ27.5×Φ6.0×Φ5.0×60	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ28.0×Φ6.5×Φ5.0×65	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ28.5×Φ6.5×Φ5.0×65	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ29.0×Φ6.8×Φ5.5×65	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ29.5×Φ6.8×Φ5.5×65	+0.5/+1.0	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ30.0×Φ7.0×Φ5.5×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ30.5×Φ7.0×Φ5.5×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ31.0×Φ7.1×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ31.5×Φ7.1×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ32.0×Φ7.2×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ32.5×Φ7.2×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ33.0×Φ7.2×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ33.5×Φ7.2×Φ5.8×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3

枪钻材料系列- II

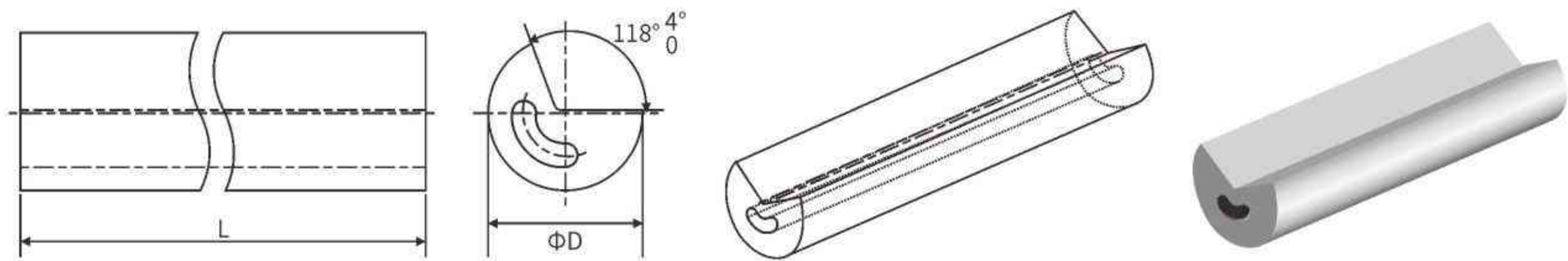
GUN DRILLS SERIES- II



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ34.0×Φ7.5×Φ6.0×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ34.5×Φ7.5×Φ6.0×65	+0.5/+1.1	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ35.0×Φ7.5×Φ6.0×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ35.5×Φ7.5×Φ6.0×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ36.0×Φ7.5×Φ6.0×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ36.5×Φ7.5×Φ6.0×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ37.0×Φ7.5×Φ6.2×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ38.0×Φ7.6×Φ6.5×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ39.0×Φ8.0×Φ6.8×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ40.0×Φ8.5×Φ7.0×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ41.0×Φ8.6×Φ7.1×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ42.0×Φ8.8×Φ7.2×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ43.0×Φ9.0×Φ7.3×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ44.0×Φ9.2×Φ7.4×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3
BΦ45.0×Φ9.5×Φ7.5×65	+0.5/+1.2	-0.35/+0.35	-0.35/+0.35	0/+3

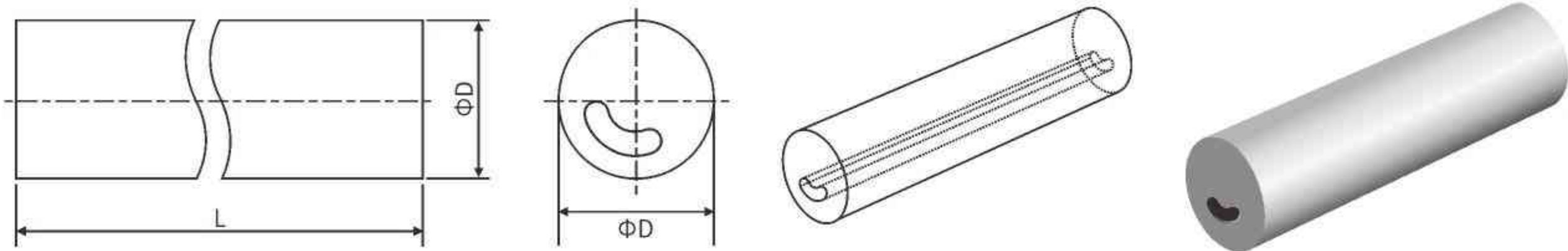
枪钻材料系列-III

GUN DRILLS SERIES-III



型号 Type	D公差 Tol. of D	L公差 Tol. of L
	mm	mm
BΦ2.0×L	+0.4/+0.65	L≤220, Tol:0/+3mm L>220, Tol:0/+6mm
BΦ2.5×L	+0.4/+0.65	
BΦ2.75×L	+0.4/+0.65	
BΦ3.0×L	+0.4/+0.65	
BΦ3.5×L	+0.4/+0.65	
BΦ4.0×L	+0.4/+0.65	
BΦ4.5×L	+0.4/+0.65	
BΦ5.0×L	+0.4/+0.65	
BΦ5.5×L	+0.4/+0.65	
BΦ6.0×L	+0.4/+0.65	
BΦ6.5×L	+0.4/+0.65	
BΦ7.0×L	+0.4/+0.65	
BΦ7.5×L	+0.4/+0.65	
BΦ8.0×L	+0.45/+0.70	
BΦ8.5×L	+0.35/+0.60	

枪钻材料系列-IV
GUN DRILLS SERIES-IV



型号 Type	D公差 Tol. of D	b1公差 Tol. of b1	b2 公差 Tol. of b2	L公差 Tol. of L
	mm	mm	mm	mm
BΦ2.0×340	+0.4/+0.65	-	-	0/+6
BΦ2.5×340	+0.4/+0.65	-	-	0/+6
BΦ2.75×340	+0.4/+0.65	-	-	0/+6
BΦ3.0×340	+0.4/+0.65	-	-	0/+6
BΦ3.5×340	+0.4/+0.65	-	-	0/+6
BΦ4.0×340	+0.4/+0.65	-	-	0/+6
BΦ4.5×340	+0.4/+0.65	-	-	0/+6
BΦ5.0×340	+0.4/+0.65	-	-	0/+6
BΦ5.5×340	+0.4/+0.65	-	-	0/+6
BΦ6.0×340	+0.4/+0.65	-	-	0/+6
BΦ6.5×340	+0.4/+0.65	-	-	0/+6
BΦ7.0×340	+0.4/+0.65	-	-	0/+6
BΦ7.5×340	+0.4/+0.65	-	-	0/+6
BΦ8.0×340	+0.45/+0.70	-	-	0/+6
BΦ8.0×Φ1.8×Φ1.5×340	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ8.5×Φ1.9×Φ1.5×340	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ9.0×Φ2.1×Φ1.65×340	+0.45/+0.70	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ9.5×Φ2.1×Φ1.65×340	+0.35/+0.60	-0.15/+0.15	-0.15/+0.15	0/+6
BΦ10.0×Φ2.3×Φ1.9×340	+0.45/+0.70	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ10.5×Φ2.3×Φ1.9×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ11.0×Φ2.4×Φ2.0×340	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ11.5×Φ2.4×Φ2.0×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ12.0×Φ2.5×Φ2.2×340	+0.45/+0.75	-0.20/+0.20	-0.20/+0.20	0/+6
BΦ12.5×Φ2.5×Φ2.2×340	+0.35/+0.65	-0.20/+0.20	-0.20/+0.20	0/+6

公差等级

CARBIDE ROD TOLERANCE

精磨外径公差

TOL.OF GROUND RODS' S DIAMETER

直径 ΦD	公差 Tol.			
	h4	h5	h6	h7
0-3.0mm 0-0.1181in	0.003mm 0.00012in	0.004mm 0.00015in	0.006mm 0.00024in	0.01mm 0.00039in
3.001-6.0mm 0.1182in-0.2362in	0.004mm 0.00015in	0.005mm 0.0002in	0.008mm 0.00031in	0.012mm 0.00047in
6.001-10.0mm 0.2362in-0.3937in	0.004mm 0.00015in	0.006mm 0.00024in	0.009mm 0.00035in	0.015mm 0.00059in
10.001-18.0mm 0.3937in-0.7086in	0.005mm 0.0002in	0.008mm 0.00031in	0.011mm 0.00043in	0.018mm 0.00071in
18.001-30.0mm 0.9086in-1.1811in	0.006mm 0.00024in	0.009mm 0.00035in	0.013mm 0.00051in	0.021mm 0.00083in
30.001-50.0mm 1.1811in-1.9685in	0.007mm 0.00028in	0.011mm 0.00043in	0.016mm 0.00063in	0.025mm 0.00098in

“h”的公差均为+0.0/-
“h”Tolerance is +0.0/-

棒材表面粗糙度

SURFACE ROUGHNESS OF RODS

类型 Type	精度Accuracy (Ra μm)
镜面棒材 Polished Rods	0.00-0.05μm
精磨棒料 Ground Rods	0.00-0.10μm
亚光洁度 Dull Finished	0.10-0.20μm

圆度

ROUNDNESS TOLERANCE

不论外径、长度,精磨圆棒圆度标准均为0.002mm。
The standard roundness tolerance of the ground rod is 0.002mm.

材质性能名词解释

DEFINITIONS OF PHYSICAL PROPERTIES

● 硬度 Hardness

金属材料抵抗其它更硬物体压入表面的能力称为硬度,主要采用洛氏或维氏硬度测量法,两种硬度值转换时需要注意换算。

The Hardness of material is defined as the ability to fight against the hard pressed into surface of the object, mainly using measurements of Rockwell and vickers. As the principles of the vickers and Rockwell tests are different, care must be taken when converting from one system to the other.

● 矫顽磁力 Coercive Field Strength

矫顽磁力测量的是合金试样完全去磁化所需的反向磁场大小,它可用来评定合金的组织状况,矫顽力随钴含量降低而增大,当钴含量一定时,碳化钨晶粒越细,钴相分散程度越高,矫顽力也越大。

Coercive Field Strength is a measure of the residual magnetism in the hysteresis loop when the Cobalt (Co) binder in grade of cemented carbide is magnetized and then demagnetized. It can be used to assess the status of alloy organization. The finer the grain size of the carbide phase the higher will be the coercive force value.

● 磁饱和 Magnetic Saturation

磁饱和是最大磁化强度与质量的比值,通过测定硬质合金中具有磁性的钴(Co)粘结相的磁饱和,可以评定合金组份。低磁饱和值表示合金含碳量低,或者含有 η 相碳化物,高磁饱和值表示存在“游离碳或石墨”。

Magnetic Saturation: is the ratio of magnetic intensity to quality. Magnetic Saturation measurements on the Cobalt (Co) binder phase in cemented carbide are used by the industry to evaluate its composition. Low Magnetic Saturation values indicate a low carbon level and/or the presence of Eta-Phase Carbides. High Magnetic Saturation values indicate the presence of 'free-carbon' or Graphite.

● 密度 Density

材料的密度(比重)是材料质量与其体积的比率,使用液体置换法进行测定,硬质合金密度随WC-Co相中钴含量增加而减小。

The Density (specific gravity) of a material is the ratio of its mass to its volume. It is measured using a water displacement technique. Cemented carbide density decreases linearly with increasing Cobalt content for the WC-Co grades.

● 抗弯强度 Transverse Rupture Strength

抗弯强度是表征材料抵抗弯曲不断裂的能力,即试样跨距中点加载负荷至断裂时,单位面积上所受的力大小。

Transverse Rupture Strength (TRS) is the ability of material to resist bending, measured at the breaking point of a material in a standard three point bend test.

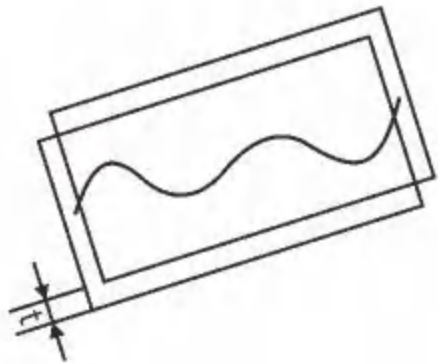
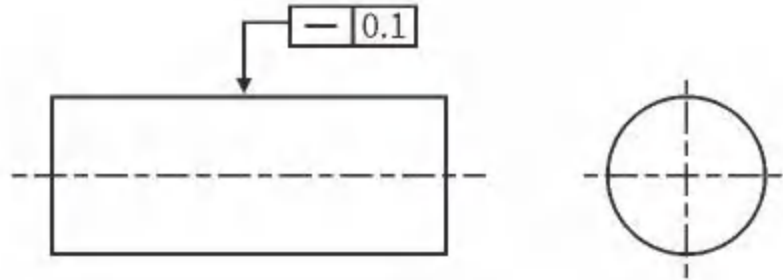
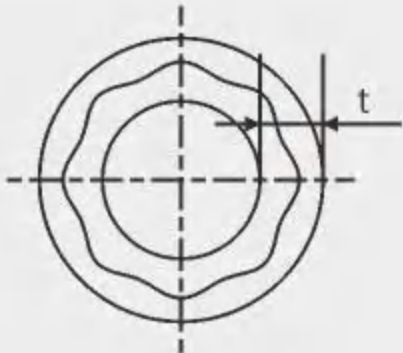
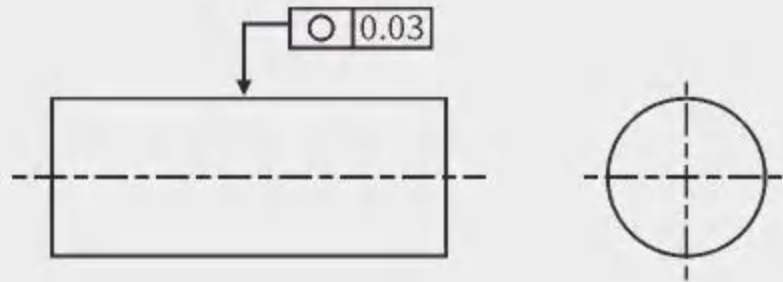
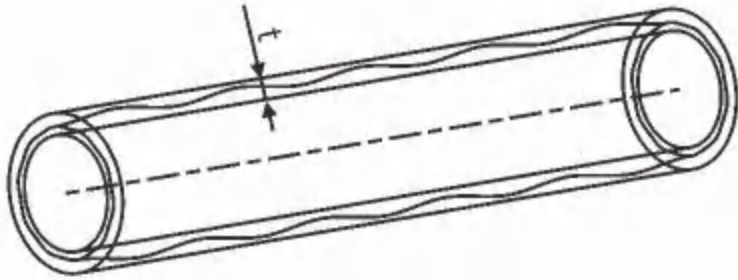
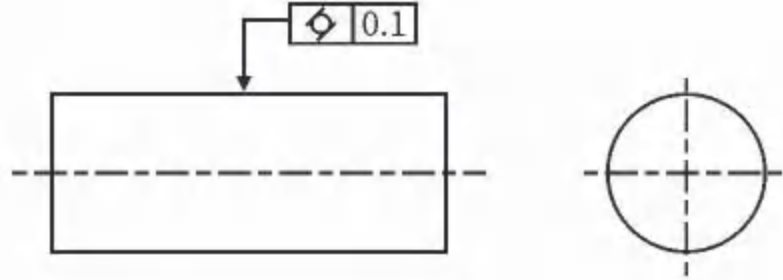
● 金相 Metallographic Analysis

硬质合金烧结钴相粘结后,过量钴可能在某些结构区域中存在,形成“钴池”;而当粘结相不完全粘结,则将形成一些少量残余孔隙,合金中钴池及孔隙率使用金相显微镜检验得到。

Cobalt Lakes will bond after sintering, excess cobalt may exist in certain area of the structure, forming the cobalt pool; If bonding phase is incompletely adhesive, there will form some residual pores. Cobalt pools and porosity can be detected by using metallographic microscope.

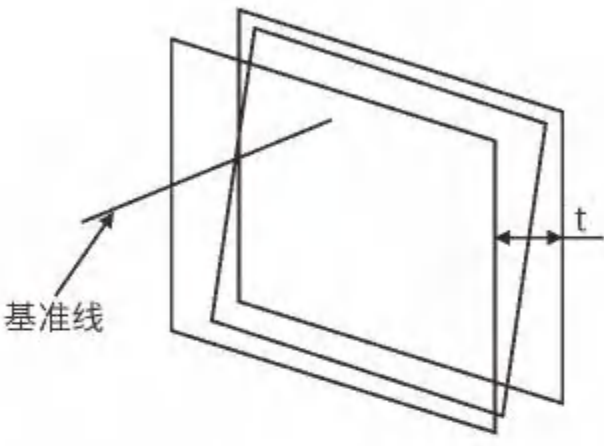
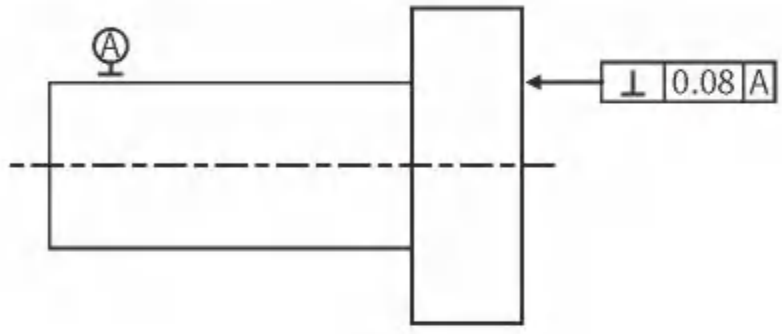
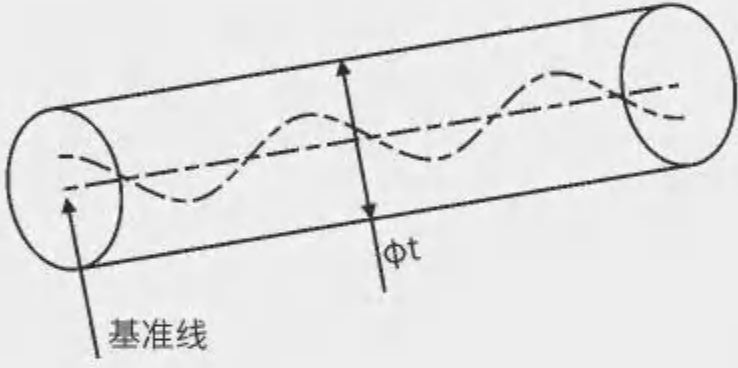
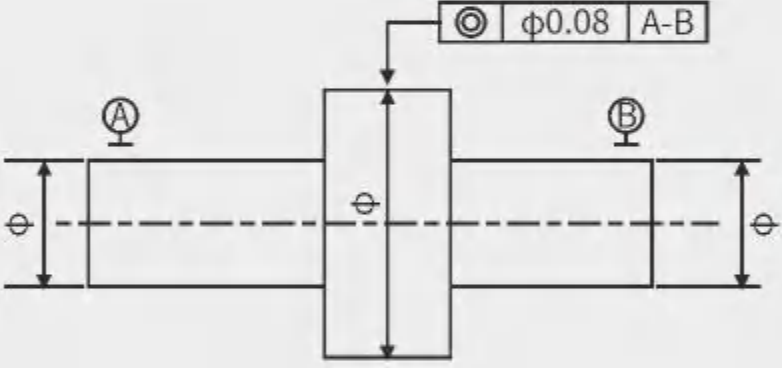
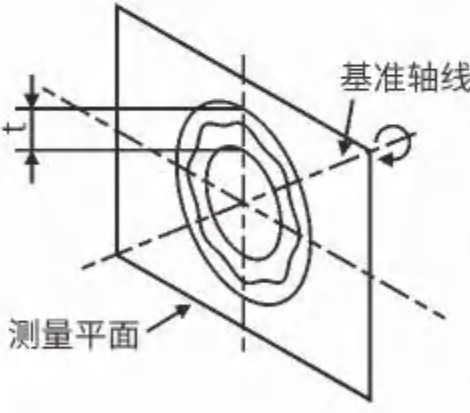
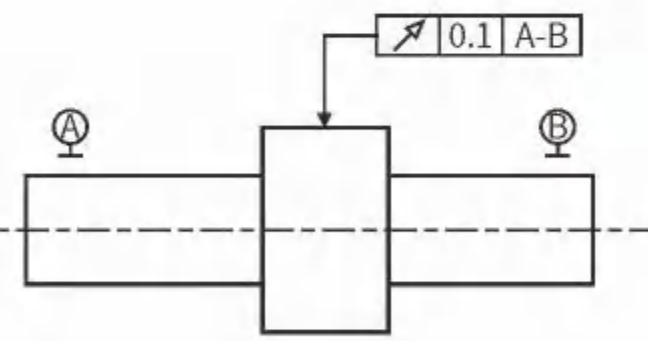
尺寸项目名词

DEFINITIONS OF GEOMETRICAL TOLERANCE

名词 Denomination	公差带定义 Definition of Tolerance Zone	标注和解释 Indication and Explanation
直线度 Straightness Tolerance	 在给定方向上公差带是距离为公差值t的两平行平面之间的区域 The tolerance zone, in the considered plane, is limited by two parallel straight lines a distance t apart and in the specified direction only.	 被测圆柱面的任一素线必须位于距离为公差值0.1的两平行平面之内 Any extracted (actual) line on the upper surface, parallel to the plane of projection in which the indication is shown, shall be contained between two parallel straight lines 0.1 apart.
圆度 Roundness Tolerance	 是在同一正截面上, 半径值差为公差值t的两同心圆之间的区域 The tolerance zone, in the considered cross-section, is limited by two concentric circles with a difference in radii of t.	 被测圆柱面任一正截面的圆周必须位于半径差为公差值0.03的两同心圆之间 The extracted (actual) circumferential line, in any cross-section of the cylindrical and conical surfaces, shall be contained between two co-planar concentric circles, with a difference in radii of 0.03.
圆柱度 Cylindricity	 是半径差为公差值t的两同轴圆柱面之间的区域 The tolerance zone is limited by two coaxial cylinders with a difference in radii of t.	 是在同一正截面上, 半径值差为公差值t的两同心圆之间的区域 The tolerance zone, in the considered cross-section, is limited by two concentric circles with a difference in radii of t.

尺寸项目名词

DEFINITIONS OF GEOMETRICAL TOLERANCE

名词 Denomination	公差带定义 Definition of Tolerance Zone	标注和解释 Indication and Explanation
垂直度 Perpendicularity Tolerance of a Surface	 是距离为公差值t且垂直于基准线的两平行平面之间的区域 The tolerance zone is limited by two parallel planes a distance apart and perpendicular to the datum.	 被测面必须位于距离为公差值0.08且垂直于基准线A(基准轴线)的两平行平面之间 The extracted (actual) surface shall be contained between two parallel planes 0.08 apart that is perpendicular to datum axis A.
同轴度 Concentricity Tolerance of a Point	 是直径为公差值ϕt的圆柱面内区域, 该圆柱面的轴线与基准轴线同轴 The tolerance zone is limited by a circle of diameter t; the tolerance value shall be preceded by the symbol ϕ. The centre of the circular tolerance zone coincides with the datum point.	 大圆柱面的轴线必须位于直径为公差值$\phi 0.08$且与公共基准线A-B(公共基准轴线)同轴的圆柱面内 The extracted (actual) median line of the tolerance cylinder shall be within a cylindrical zone of diameter 0.08 the axis of which is the common datum straight line A-B.
圆跳动 Circular run-out Tolerance	 是在垂直于基准轴线的任一半径位置的测量平面内、半径差为公差值t且圆心在基准轴线上的两同心圆之间的区域 The tolerance zone is limited within any cross-section perpendicular to the datum axis by two concentric circles with a difference in radii of t, the centers of which coincide with the datum.	 当被测要素围绕公共基准线A-B(公共基准轴线)旋转一周时, 在任一测量平面内的径向圆跳动均不得大于0.1 The extracted (actual) line in any cross-section plane perpendicular to common datum straight line A-B shall be contained between two coplanar concentric circles with a difference in radii of 0.1.

硬度换算表
HARDNESS CONVERSION TABLE

布氏硬度 10mm球 荷重3000kg			洛氏硬度 (3R)				维氏硬度HV 荷重30kg
标准球	Hult Green球	碳化钨球	HRA 荷重60kg 金刚石	HRB 荷重100kg 1/6"球	HRC 荷重150kg 金刚石	HRD 荷重100kg 金刚石	
-	-	-	92.5	-	80.5	-	1700
-	-	-	92.0	-	80.0	-	1600
-	-	-	91.5	-	79.0	-	1550
-	-	-	91.0	-	78.0	-	1500
-	-	-	90.5	-	77.0	-	1450
-	-	-	90.0	-	76.0	-	1400
-	-	-	89.5	-	75.0	-	1350
-	-	-	89.0	-	74.0	-	1300
-	-	-	88.5	-	73.0	-	1250
-	-	-	88.0	-	72.0	-	1200
-	-	-	87.5	-	71.5	-	1150
-	-	-	87.0	-	71.0	-	1140
-	-	-	86.5	-	70.0	-	1076
-	-	-	86.0	-	69.0	-	1004
-	-	-	85.6	-	68.0	76.9	940
-	-	-	85.3	-	67.5	76.5	920
-	-	-	85.0	-	67.0	76.1	900
-	-	767	84.7	-	66.4	75.7	880
-	-	757	84.4	-	65.9	75.3	860
-	-	745	84.1	-	65.3	74.8	840
-	-	733	83.8	-	64.7	74.3	820
-	-	722	83.4	-	64.0	73.8	800
-	-	710	93.0	-	63.3	73.3	780
-	-	698	82.6	-	62.5	72.6	780
-	-	684	82.2	-	61.8	72.1	740
-	-	670	81.8	-	61.0	71.5	720
-	615	656	81.3	-	60.1	70.8	700
-	610	647	81.1	-	59.7	70.5	690
-	603	638	80.8	-	59.2	70.1	680
-	597	630	80.6	-	58.8	69.8	670
-	590	620	80.3	-	58.3	69.4	660
-	585	611	80.0	-	57.8	69.0	650
-	578	601	79.8	-	57.3	68.7	640
-	571	591	79.5	-	56.8	68.3	630
-	564	582	79.2	-	56.3	67.9	620
-	557	573	78.9	-	55.7	67.5	610
-	550	564	78.6	-	55.2	67.0	600
-	542	554	78.4	-	54.7	66.7	590

硬度换算表

HARDNESS CONVERSION TABLE

布氏硬度 10mm球 荷重3000kg			洛氏硬度 (3R)				维氏硬度HV 荷重30kg
标准球	Hult Green球	碳化钨球	HRA 荷重60kg 金刚石	HRB 荷重100kg 1/6"球	HRC 荷重150kg 金刚石	HRD 荷重100kg 金刚石	
-	535	545	78.0	-	54.1	66.2	580
-	527	535	77.8	-	53.0	65.8	570
-	519	525	77.4	-	53.0	65.4	560
505	512	517	77.0	-	52.3	64.8	550
496	503	507	76.7	-	51.7	64.4	540
488	495	497	76.4	-	51.1	63.9	530
480	487	488	76.1	-	50.5	63.5	520
476	479	479	75.7	-	49.8	62.9	510
465	471	471	75.3	-	49.1	62.2	500
456	460	460	74.9	-	48.4	61.6	490
448	452	452	74.5	-	47.7	61.3	480
441	442	442	74.1	-	46.9	60.7	470
433	433	433	73.6	-	46.1	60.1	460
425	425	425	73.3	-	45.3	59.4	450
415	415	425	72.8	-	44.5	58.8	440
405	405	405	72.3	-	43.6	58.2	430
397	397	397	71.8	-	42.7	57.7	420
388	388	388	71.4	-	41.8	56.8	410
379	379	379	70.8	-	40.8	56.0	400
369	369	369	70.3	-	39.8	55.2	390
360	360	360	69.8	-	38.8	54.4	380
350	350	350	69.2	(110.0)	37.7	53.6	370
341	341	341	69.7	-	36.6	52.8	360
331	331	331	68.1	(109.0)	35.5	51.9	350
322	322	322	67.6	-	34.4	51.1	340
323	313	313	67.0	(108.0)	33.3	50.2	330
303	303	303	66.4	-	32.2	49.4	320
294	294	294	65.8	(107.0)	31.0	48.4	310
284	284	284	65.2	-	29.8	47.5	300
280	280	280	64.8	(105.5)	28.5	47.1	295
275	275	275	64.5	-	27.8	46.5	290
270	270	270	62.4	(104.5)	27.1	46.0	285
265	265	265	63.8	-	26.4	45.3	280
261	261	261	63.5	(103.5)	25.6	44.9	275
256	256	256	63.1	-	24.8	44.3	270
252	252	252	62.7	(102.0)	24.0	43.7	265
247	247	247	62.4	-	23.1	43.1	260
243	243	243	62.0	(101.0)		42.2	255

硬度换算表
HARDNESS CONVERSION TABLE

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标准球	Hult Green球	碳化钨球	HRA 荷重60kg 金刚石	HRB 荷重100kg 1/6"球	HRC 荷重150kg 金刚石	HRD 荷重100kg 金刚石	
238	238	238	61.6	99.5	21.3	41.7	250
233	233	233	61.2	-	20.3	41.1	245
228	228	228	60.7	98.1	(18.0)	40.3	240
219	219	219	-	96.7	(15.7)	-	230
209	209	209	-	95.0	(13.4)	-	220
200	200	200	-	96.4	(11.0)	-	210
190	190	190	-	91.5	(8.5)	--	200
181	181	181	-	89.5	(6.0)	-	190
171	171	171	-	87.1	(3.0)	--	180
162	162	162	-	85.0	(0.0)	-	170
152	152	152	-	81.7	-	-	160
143	143	143	-	78.7	-	-	150
133	133	133	-	75.8	-	-	140
124	124	124	-	71.2	-	-	130
114	114	114	-	66.7	-	-	120
105	105	105	-	62.3	-	-	110
95	95	95	-	56.2	-	-	100
90	90	90	-	52.0	-	-	95
86	86	86	-	48.0	-	-	90
81	81	81	-	41.0	-	-	85



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