



CARBIDE RODS

硬质合金棒材



株洲贝特硬质合金工具有限公司
Zhuzhou Better Tungsten Carbide Co.,Ltd

公司简介 About ZZbetter

株洲贝特硬质合金工具有限公司成立于中国硬质合金发源地，亚洲最大的硬质合金生产基地——湖南株洲。公司始终秉承“工匠”精神，专注于硬质合金硬质合金圆棒、硬质合金长条、硬质合金钻齿、硬质合金模具，及各种非标异形件的生产。我们生产的硬质合金具有高硬度、耐高温、耐腐蚀、高韧性等优点，满足客户不同工况条件下的使用要求。

我们资深的研发技术团队可以为客户提供创新的产品和解决方案，通过与国内国际客户密切合作不断探索未来的产品和技术的发展趋势，研发新的材料和加工的解决方案。

专业高效的24小时销售客服，严谨细致的工作态度，保证了我们的产品在国际市场具有强大的竞争力，远销全球70多个国家和地区。

Zhuzhou Better Tungsten Carbide Co., Ltd. was founded in Zhuzhou, which is the birthplace of tungsten carbide in China and also the largest tungsten carbide production base in Asia. With the spirit of "craftsmanship", we specialize in the production of tungsten carbide tools and offer a one-stop service consisting of purchasing, R&D, production, sales, and after-sales. ZZbetter produces a wide range of tungsten carbide products with various grades, including carbide rods, carbide strips, carbide buttons, carbide dies, and various non-standard shaped parts. ZZbetter tungsten carbide products are of high hardness, high temperature resistance, corrosion resistance, and high toughness, which can meet the requirements of different working conditions.

ZZbetter has a professional and experienced R&D team. Under the process of close collaboration with our customers, we keep learning and innovating, insisting on improving product performance, enriching product categories, and increasing customer satisfaction. ZZbetter owns a professional overseas sales team providing 24-hour online services. With professional technical equipment and a sincere working attitude ensure our products have strong competitiveness in the international market and are exported worldwide.

Driven by the ambition to become a world-class company with international competitiveness, ZZbetter is continuing to explore the possibilities of tungsten carbide tools.

Zhuzhou Better Tungsten Carbide Company strives to be an industry leader towards where our ambition lies.

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生产设备



Production Equipment



Ball Milling Machine

湿磨机



Spray Drying

喷雾塔



HIP Sintered Furnace

烧结炉



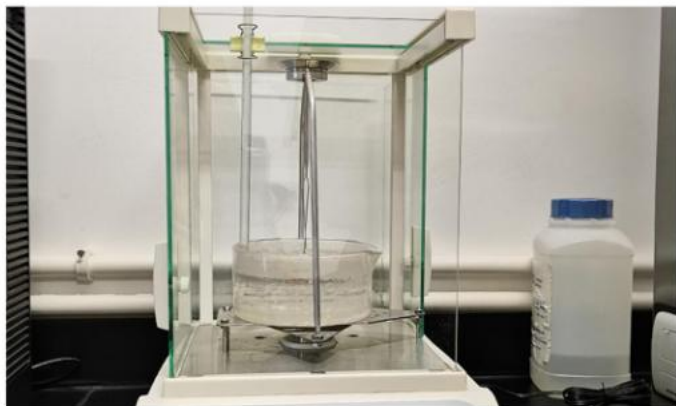
Extruded Machine

挤压机

检测设备



Inspection Equipment



Density Tester

密度测试仪



Hardness Tester

硬度测试仪



Metallurgical Microscope

金像显微镜



Cobalt Magnetic Tester

钴磁测试仪

牌号及应用



Grades and Application

牌号 Grade	晶粒度 Grain Size(um)	钴含量 Cobalt%	密度 Density (g/cm3)≥	硬度 Hardness (HRA)≥	抗弯强度 T.R.S(Mpa)≥	性能及用途 Recommended Application
UBT20	0.8	10	14.4	91.5	3600	用于制作钻头和立铣刀的刀具，特别适用于材质HRC<50的合金钢、灰口铸铁、耐热合金等。 It is used to make tool of drills and end mills, especially for alloy steel which material HRC<50, grey cast iron, heat resistant alloy, etc.
UBT20F	0.7	10	14.45	91.8	3800	用于制作钻头和立铣刀。适用于切割不锈钢、耐热合金和铸铁。 Drill and endmill are recommended. Suitable for cutting stainless steel, heat resistant alloy and cast iron.
UBT25	0.4	12	14.12	92.5	4200	采用超细晶粒，高钴含量，具有优异的硬度和韧性，用于立铣刀和铰刀，适用于切割钢（HRC: 45-55），铝合金和钛合金。 Ultrafine grain size, high cobalt content with excellent hardness and toughness, endmill and reamer are recommended, especially suitable for cutting steel(HRC:45-55), aluminum alloy and titanium alloy.
UBT10Z	0.6	10	14.45	92.2	4000	采用超细晶粒，耐热性好，适用于高速铣、钻，适用于制作整体钻头，加工合金钢、耐热合金、铸铁、有色金属、不锈钢等。 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.
UBT10	0.4	6	14.8	94	3800	采用超细晶粒，具有良好的耐热性，用于制作耐磨的立铣刀和雕刻工具，以及加工PCB和塑料。 Ultrafine grain size, with good wear resistant. Higher wear resistant endmill and engraving tools are recommended. Suitable for cutting PCB and plastic.
UBT30	0.7	15	13.98	89.6	4500	适用于制作模具、工具和防振镗杆等的冲孔。 Suitable for making punching of moulds, tools and anti-vibration boring bar etc.
UBT209	0.2	9	14.45	94	4500	精选优质0.2um超细碳化钨粉体，具有较高的耐磨性和韧性，适用于淬火钢的精加工，石墨、塑料、玻璃纤维增强材料、不锈钢和铝合金的高精度高镜面加工，适用于制作0.25mm立铣刀、钻头、镗刀。 Selected high-quality 0.2um ultra-fine tungsten carbide powder, with high wear resistance and toughness, suitable for finishing of hardened steel, high-precision and high-mirror processing of graphite, plastic, glass fiber reinforced materials, stainless steel and aluminum ally, suitable for making 0.25mm endmill, drills, boring tools.
UBT610	0.6	10	14.45	92.2	4000	采用超细晶粒，耐热性好，适用于高速铣削和钻孔，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, suitable to process alloy steel, heat-resistant alloy, cast iron, non-ferrous metals, stainless steel and other material.
UBT508	0.5	8	14.5	93.2	4000	适用于加工硬化钢、铝合金、玻璃纤维增强材料、高耐磨材料不锈钢、复合石墨、PCB、塑料。 Suitable for processing hardened hard steel, aluminum alloy, glass fiber reinforced materials, high wear resistant material stainless steel, composite graphite, PCB, plastic.
UBT05	1	6	14.95	92	3000	用于制作钻孔、立铣刀和旋转锉。特别适用于切割有色金属和石墨（需要涂层）。 Drill, endmill and burr are recommended. Especially suitable for cutting non-ferrous metal and graphite (coating is needed).

牌号推荐



Grade Selection Guide

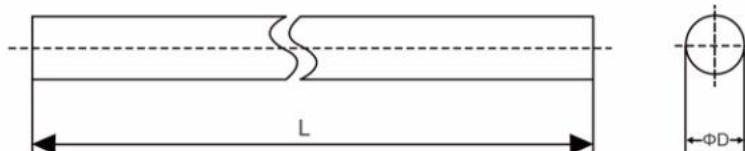
加工材料 Workpiece	刀具种类 Type of Cutting Tools		UBT209	UBT10	UBT409	UBT25	UBT10Z	UBT20	UBT30
钢 Steel	立铣刀 Endmill	粗加工 Roughing					★	★	
		精加工 Finishing			★	★	★	●	
	钻头 Drill						★	★	
不锈钢 Stainless Steel	立铣刀 Endmill	粗加工 Roughing					●	★	
		精加工 Finishing	●			★	●		
	钻头 Drill						★	★	
铸铁 Cast Iron	立铣刀 Endmill	粗加工 Roughing					★	★	
		精加工 Finishing					●	●	
	钻头 Drill						★	★	
有色金属 Nonferrous Material	立铣刀 Endmill	粗加工 Roughing					●	★	
		精加工 Finishing	●			★	●	●	
	钻头 Drill						★	★	
耐热合金 Heat Resistance Material	立铣刀 Endmill	粗加工 Roughing					★	●	
		精加工 Finishing				★	●	●	
	钻头 Drill						★	●	
高硬材料 Hard Material	立铣刀 Endmill	粗加工 Roughing			★	●	●	●	
		精加工 Finishing	★	●	●				
	钻头 Drill				●		★	●	
印刷电路板PCB			●	★	●				
碳纤维增强塑料CFRP			●	●	●				
冲针及抗震刀杆、低硬度材料重切削刀具 Punching anti-vibration boring bar machining low-hardness material with cleep cutting tool									★

★ 首选 First Choice ● 备选 Second Choice

实心硬质合金毛坯棒



Unground Solid Carbide Rod

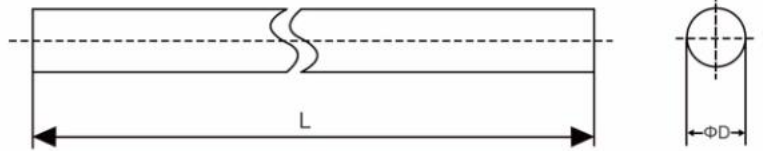


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø0.7x330	0.7	+0.40/+0.15	330/310	-0~+5.0
Ø0.9x330	0.9	+0.40/+0.15	330/310	-0~+5.0
Ø1.0x330	1.0	+0.40/+0.15	330/310	-0~+5.0
Ø1.2x330	1.2	+0.40/+0.15	330/310	-0~+5.0
Ø1.5x330	1.5	+0.40/+0.15	330/310	-0~+5.0
Ø1.6x330	1.6	+0.40/+0.15	330/310	-0~+5.0
Ø1.8x330	1.8	+0.40/+0.15	330/310	-0~+5.0
Ø2.0x330	2.0	+0.40/+0.15	330/310	-0~+5.0
Ø2.3x330	2.3	+0.40/+0.15	330/310	-0~+5.0
Ø2.5x330	2.5	+0.40/+0.15	330/310	-0~+5.0
Ø2.8x330	2.8	+0.40/+0.15	330/310	-0~+5.0
Ø3.0x330	3.0	+0.50/+0.20	330/310	-0~+5.0
Ø3.5x330	3.5	+0.50/+0.20	330/310	-0~+5.0
Ø4.0x330	4.0	+0.50/+0.20	330/310	-0~+5.0
Ø4.5x330	4.5	+0.50/+0.20	330/310	-0~+5.0
Ø5.0x330	5.0	+0.50/+0.20	330/310	-0~+5.0
Ø5.5x330	5.5	+0.50/+0.20	330/310	-0~+5.0
Ø6.0x330	6.0	+0.50/+0.20	330/310	-0~+5.0
Ø6.5x330	6.5	+0.50/+0.20	330/310	-0~+5.0
Ø7.0x330	7.0	+0.60/+0.20	330/310	-0~+5.0
Ø7.5x330	7.5	+0.60/+0.20	330/310	-0~+5.0
Ø8.0x330	8.0	+0.60/+0.20	330/310	-0~+5.0
Ø8.5x330	8.5	+0.60/+0.20	330/310	-0~+5.0
Ø9.0x330	9.0	+0.60/+0.20	330/310	-0~+5.0
Ø9.5x330	9.5	+0.60/+0.20	330/310	-0~+5.0

实心硬质合金毛坯棒



Unground Solid Carbide Rod

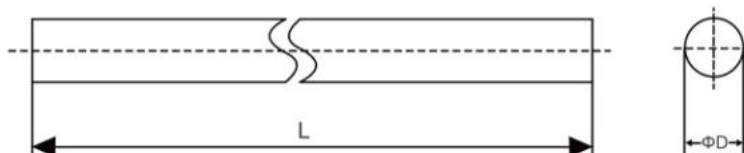


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø10.0x330	10.0	+0.60/+0.20	330/310	-0~+5.0
Ø10.5x330	10.5	+0.60/+0.20	330/310	-0~+5.0
Ø11.0x330	11.0	+0.60/+0.20	330/310	-0~+5.0
Ø11.5x330	11.5	+0.60/+0.20	330/310	-0~+5.0
Ø12.0x330	12.0	+0.60/+0.20	330/310	-0~+5.0
Ø12.5x330	12.5	+0.70/+0.30	330/310	-0~+5.0
Ø13.0x330	13.0	+0.70/+0.30	330/310	-0~+5.0
Ø14.0x330	14.0	+0.70/+0.30	330/310	-0~+5.0
Ø15.0x330	15.0	+0.70/+0.30	330/310	-0~+5.0
Ø16.0x330	16.0	+0.70/+0.30	330/310	-0~+5.0
Ø17.0x330	17.0	+0.80/+0.30	330/310	-0~+5.0
Ø18.0x330	18.0	+0.80/+0.30	330/310	-0~+5.0
Ø19.0x330	19.0	+0.80/+0.30	330/310	-0~+5.0
Ø20.0x330	20.0	+0.80/+0.30	330/310	-0~+5.0
Ø21.0x330	21.0	+0.80/+0.30	330/310	-0~+5.0
Ø22.0x330	22.0	+0.80/+0.30	330/310	-0~+5.0
Ø23.0x330	23.0	+0.80/+0.30	330/310	-0~+5.0
Ø24.0x330	24.0	+0.80/+0.30	330/310	-0~+5.0
Ø25.0x330	25.0	+0.80/+0.30	330/310	-0~+5.0
Ø26.0x330	26.0	+0.80/+0.30	330/310	-0~+5.0
Ø27.0x330	27.0	+0.80/+0.30	330/310	-0~+5.0
Ø28.0x330	28.0	+0.80/+0.30	330/310	-0~+5.0
Ø29.0x330	29.0	+0.80/+0.30	330/310	-0~+5.0
Ø30.0x330	30.0	+0.80/+0.30	330/310	-0~+5.0
Ø31.0x330	31.0	+1.20/+0.60	330/310	-0~+5.0

实心硬质合金毛坯棒



Unground Solid Carbide Rod



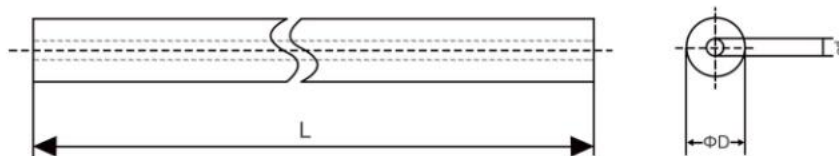
型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø32.0x330	32.0	+1.20/+0.60	330/310	-0~+5.0
Ø33.0x330	33.0	+1.20/+0.60	330/310	-0~+5.0
Ø34.0x330	34.0	+1.20/+0.60	330/310	-0~+5.0
Ø35.0x330	35.0	+1.20/+0.60	330/310	-0~+5.0
Ø36.0x330	36.0	+1.20/+0.60	330/310	-0~+5.0
Ø37.0x330	37.0	+1.20/+0.60	330/310	-0~+5.0
Ø38.0x330	38.0	+1.20/+0.60	330/310	-0~+5.0
Ø39.0x330	39.0	+1.20/+0.60	330/310	-0~+5.0
Ø40.0x330	40.0	+1.20/+0.60	330/310	-0~+5.0
Ø41.0x330	41.0	+1.20/+0.60	330/310	-0~+5.0
Ø42.0x330	42.0	+1.20/+0.60	330/310	-0~+5.0
Ø43.0x330	43.0	+1.20/+0.60	330/310	-0~+5.0
Ø44.0x330	44.0	+1.20/+0.60	330/310	-0~+5.0
Ø45.0x330	45.0	+1.20/+0.60	330/310	-0~+5.0
Ø46.0x330	46.0	+1.20/+0.60	330/310	-0~+5.0
Ø47.0x330	47.0	+1.20/+0.60	330/310	-0~+5.0
Ø48.0x330	48.0	+1.20/+0.60	330/310	-0~+5.0
Ø49.0x330	49.0	+1.20/+0.60	330/310	-0~+5.0
Ø50.0x330	50.0	+1.20/+0.60	330/310	-0~+5.0

★直径和长度可以定制
★Customized Sizes Available

单直孔棒



Rods with Central Coolant Hole

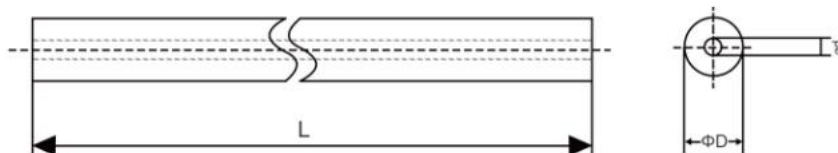


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	孔径 D (mm)	孔径公差 Tol.of.d (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø2.0xØ0.2x330	2.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Ø2.0xØ0.3x330	2.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Ø2.0xØ0.4x330	2.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Ø2.0xØ0.5x330	2.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Ø2.0xØ0.6x330	2.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Ø2.0xØ0.8x330	2.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Ø2.0xØ1.0x330	2.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Ø3.0xØ0.1x330	3.0	+0.50/+0.25	0.1	±0.10	330	-0~+5.0
Ø3.0xØ0.2x330	3.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Ø3.0xØ0.3x330	3.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Ø3.0xØ0.4x330	3.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Ø3.0xØ0.5x330	3.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Ø3.0xØ0.6x330	3.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Ø3.0xØ0.7x330	3.0	+0.50/+0.25	0.7	±0.10	330	-0~+5.0
Ø3.0xØ0.8x330	3.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Ø3.0xØ0.9x330	3.0	+0.50/+0.25	0.9	±0.10	330	-0~+5.0
Ø3.0xØ1.0x330	3.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Ø3.0xØ1.1x330	3.0	+0.50/+0.25	1.1	±0.15	330	-0~+5.0
Ø3.0xØ1.2x330	3.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Ø3.0xØ1.3x330	3.0	+0.50/+0.25	1.3	±0.15	330	-0~+5.0
Ø3.0xØ1.4x330	3.0	+0.50/+0.25	1.4	±0.15	330	-0~+5.0
Ø3.0xØ1.5x330	3.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Ø3.0xØ1.6x330	3.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0

单直孔棒



Rods with Central Coolant Hole

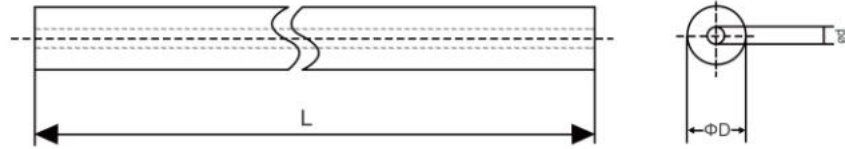


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	孔径 D (mm)	孔径公差 Tol.of.d (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø3.0xØ1.7x330	3.0	+0.50/+0.25	1.7	±0.15	330	-0~+5.0
Ø3.0xØ1.8x330	3.0	+0.50/+0.25	1.8	±0.15	330	-0~+5.0
Ø3.0xØ2.0x330	3.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Ø4.0xØ0.1x330	4.0	+0.50/+0.25	0.1	±0.10	330	-0~+5.0
Ø4.0xØ0.2x330	4.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Ø4.0xØ0.3x330	4.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Ø4.0xØ0.4x330	4.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Ø4.0xØ0.5x330	4.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Ø4.0xØ0.6x330	4.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Ø4.0xØ0.8x330	4.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Ø4.0xØ1.0x330	4.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Ø4.0xØ1.2x330	4.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Ø4.0xØ1.3x330	4.0	+0.50/+0.25	1.3	±0.15	330	-0~+5.0
Ø4.0xØ1.4x330	4.0	+0.50/+0.25	1.4	±0.15	330	-0~+5.0
Ø4.0xØ1.5x330	4.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Ø4.0xØ1.6x330	4.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Ø4.0xØ1.9x330	4.0	+0.50/+0.25	1.9	±0.15	330	-0~+5.0
Ø4.0xØ2.0x330	4.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Ø4.0xØ2.5x330	4.0	+0.50/+0.25	2.5	±0.25	330	-0~+5.0
Ø5.0xØ0.3x330	5.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Ø5.0xØ0.4x330	5.0	+0.50/+0.25	0.4	±0.10	330	-0~+5.0
Ø5.0xØ0.5x330	5.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Ø5.0xØ0.6x330	5.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0

单直孔棒



Rods with Central Coolant Hole

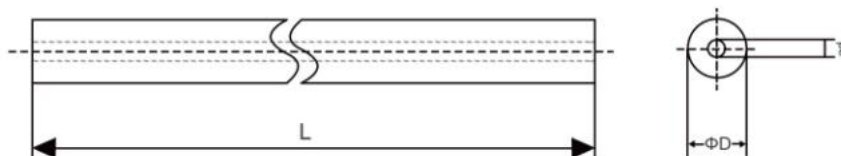


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	孔径 D (mm)	孔径公差 Tol.of.d (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø5.0xØ0.8x330	5.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Ø5.0xØ0.9x330	5.0	+0.50/+0.25	0.9	±0.10	330	-0~+5.0
Ø5.0xØ1.0x330	5.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Ø5.0xØ1.1x330	5.0	+0.50/+0.25	1.1	±0.15	330	-0~+5.0
Ø5.0xØ1.2x330	5.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Ø5.0xØ1.5x330	5.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Ø5.0xØ1.6x330	5.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Ø5.0xØ2.0x330	5.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Ø6.0xØ0.2x330	6.0	+0.50/+0.25	0.2	±0.10	330	-0~+5.0
Ø6.0xØ0.3x330	6.0	+0.50/+0.25	0.3	±0.10	330	-0~+5.0
Ø6.0xØ0.5x330	6.0	+0.50/+0.25	0.5	±0.10	330	-0~+5.0
Ø6.0xØ0.6x330	6.0	+0.50/+0.25	0.6	±0.10	330	-0~+5.0
Ø6.0xØ0.8x330	6.0	+0.50/+0.25	0.8	±0.10	330	-0~+5.0
Ø6.0xØ1.0x330	6.0	+0.50/+0.25	1.0	±0.15	330	-0~+5.0
Ø6.0xØ1.2x330	6.0	+0.50/+0.25	1.2	±0.15	330	-0~+5.0
Ø6.0xØ1.5x330	6.0	+0.50/+0.25	1.5	±0.15	330	-0~+5.0
Ø6.0xØ1.6x330	6.0	+0.50/+0.25	1.6	±0.15	330	-0~+5.0
Ø6.0xØ1.8x330	6.0	+0.50/+0.25	1.8	±0.15	330	-0~+5.0
Ø6.0xØ2.0x330	6.0	+0.50/+0.25	2.0	±0.20	330	-0~+5.0
Ø7.0xØ0.5x330	7.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Ø7.0xØ0.6x330	7.0	+0.60/+0.25	0.6	±0.10	330	-0~+5.0
Ø7.0xØ1.0x330	7.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Ø7.0xØ1.5x330	7.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Ø7.0xØ3.0x330	7.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0

单直孔棒



Rods with Central Coolant Hole

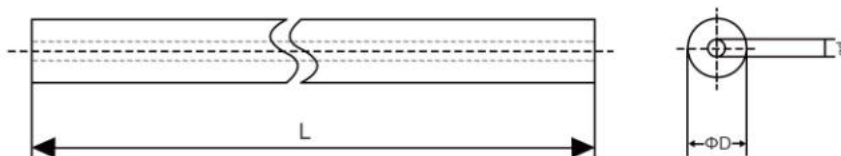


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	孔径 D (mm)	孔径公差 Tol.of.d (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø8.0xØ0.5x330	8.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Ø8.0xØ0.6x330	8.0	+0.60/+0.25	0.6	±0.10	330	-0~+5.0
Ø8.0xØ0.8x330	8.0	+0.60/+0.25	0.8	±0.10	330	-0~+5.0
Ø8.0xØ1.0x330	8.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Ø8.0xØ1.2x330	8.0	+0.60/+0.25	1.2	±0.15	330	-0~+5.0
Ø8.0xØ1.5x330	8.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Ø8.0xØ1.8x330	8.0	+0.60/+0.25	1.8	±0.15	330	-0~+5.0
Ø8.0xØ2.0x330	8.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Ø8.0xØ2.5x330	8.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Ø8.0xØ3.0x330	8.0	+0.60/+0.25	3.0	±0.25	330	-0~+5.0
Ø8.0xØ3.5x330	8.0	+0.60/+0.25	3.5	±0.25	330	-0~+5.0
Ø8.0xØ4.0x330	8.0	+0.60/+0.25	4.0	±0.30	330	-0~+5.0
Ø9.0xØ0.5x330	9.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Ø9.0xØ1.5x330	9.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Ø9.0xØ2.0x330	9.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Ø9.0xØ2.5x330	9.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Ø10.0xØ0.5x330	10.0	+0.60/+0.25	0.5	±0.10	330	-0~+5.0
Ø10.0xØ1.0x330	10.0	+0.60/+0.25	1.0	±0.15	330	-0~+5.0
Ø10.0xØ1.2x330	10.0	+0.60/+0.25	1.2	±0.15	330	-0~+5.0
Ø10.0xØ1.5x330	10.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Ø10.0xØ1.8x330	10.0	+0.60/+0.25	1.8	±0.15	330	-0~+5.0
Ø10.0xØ2.0x330	10.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Ø10.0xØ2.5x330	10.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0

单直孔棒



Rods with Central Coolant Hole

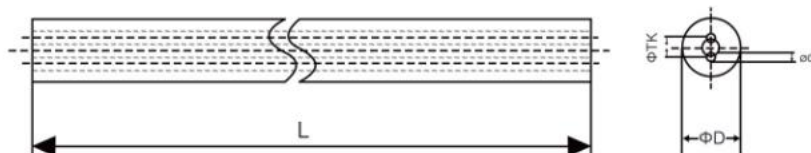


型号 Type	直径 Diameter (mm)	外径公差Tol.of Diameter (mm)	孔径 D (mm)	孔径公差 Tol.of.d (mm)	长度 L (mm)	长度公差Tol.of Length (mm)
Ø10.0xØ3.0x330	10.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0
Ø10.0xØ6.0x330	10.0	+0.60/+0.25	6.0	±0.40	330	-0~+5.0
Ø12.0xØ1.5x330	12.0	+0.60/+0.25	1.5	±0.15	330	-0~+5.0
Ø12.0xØ2.0x330	12.0	+0.60/+0.25	2.0	±0.20	330	-0~+5.0
Ø12.0xØ2.5x330	12.0	+0.60/+0.25	2.5	±0.25	330	-0~+5.0
Ø12.0xØ3.0x330	12.0	+0.60/+0.25	3.0	±0.30	330	-0~+5.0
Ø12.0xØ6.0x330	12.0	+0.60/+0.25	6.0	±0.40	330	-0~+5.0
Ø12.0xØ6.5x330	12.0	+0.60/+0.25	6.5	±0.40	330	-0~+5.0
Ø13.0xØ3.5x330	13.0	+0.70/+0.25	3.5	±0.20	330	-0~+5.0
Ø14.0xØ3.0x330	14.0	+0.70/+0.25	3.0	±0.30	330	-0~+5.0
Ø15.0xØ1.3x330	15.0	+0.70/+0.25	1.3	±0.15	330	-0~+5.0
Ø15.0xØ1.5x330	15.0	+0.70/+0.25	1.5	±0.15	330	-0~+5.0
Ø16.0xØ1.0x330	16.0	+0.70/+0.25	1.0	±0.15	330	-0~+5.0
Ø16.0xØ2.0x330	16.0	+0.70/+0.25	2.0	±0.20	330	-0~+5.0
Ø16.0xØ3.0x330	16.0	+0.70/+0.25	3.0	±0.30	330	-0~+5.0
Ø18.0xØ3.0x330	18.0	+0.80/+0.30	3.0	±0.30	330	-0~+5.0
Ø20.0xØ3.0x330	20.0	+0.80/+0.25	3.0	±0.30	330	-0~+5.0
Ø20.0xØ4.0x330	20.0	+0.80/+0.25	4.0	±0.30	330	-0~+5.0
Ø22.0xØ3.0x330	22.0	+0.80/+0.25	3.0	±0.30	330	-0~+5.0
Ø24.0xØ4.0x330	24.0	+0.80/+0.25	4.0	±0.30	330	-0~+5.0
Ø25.0xØ3.0x330	25.0	+0.80/+0.25	3.0	±0.30	330	-0~+5.0
Ø26.0xØ4.0x330	26.0	+0.80/+0.30	4.0	±0.30	330	-0~+5.0
Ø28.0xØ4.0x330	28.0	+0.80/+0.25	4.0	±0.30	330	-0~+5.0
Ø32.0xØ5.0x330	32.0	+1.20/+0.30	5.0	±0.40	330	-0~+5.0

★ 直径和长度可以定制
★ Customized Sizes Available

双直孔棒

Rods with Two Straight Coolant Holes

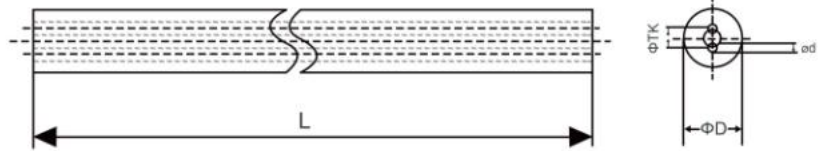


型号 Type	直径及公差 Diameter and Tol (mm)		外径公差 D and Tol (mm)		孔间距及公差 TK and Tol (mm)		长度及公差 Length and Tol (mm)	
	直径ØD	公差Tol	直径Ød	公差Tol	孔间距TK	公差Tol	长度L	公差Tol
Ø4.0x2Ø0.8x1.8x330	4.0	+0.5/+0.3	0.8	±0.10	1.8	+0/-0.15	330	-0~+5.00
Ø5.0x2Ø0.8x2.0x330	5.0	+0.5/+0.3	0.8	±0.10	2.0	+0/-0.15	330	-0~+5.00
Ø6.0x2Ø1.0x3.0x330	6.0	+0.5/+0.3	1.0	±0.15	3.0	+0/-0.20	330	-0~+5.00
Ø7.0x2Ø1.0x3.5x330	7.0	+0.6/+0.3	1.0	±0.15	3.5	+0/-0.20	330	-0~+5.00
Ø8.0x2Ø1.0x4.0x330	8.0	+0.6/+0.3	1.0	±0.15	4.0	+0/-0.30	330	-0~+5.00
Ø9.0x2Ø1.4x4.0x330	9.0	+0.6/+0.3	1.4	±0.15	4.0	+0/-0.30	330	-0~+5.00
Ø10.0x2Ø1.4x5.0x330	10.0	+0.6/+0.3	1.4	±0.15	5.0	+0/-0.30	330	-0~+5.00
Ø11.0x2Ø1.4x5.0x330	11.0	+0.6/+0.3	1.4	±0.15	5.0	+0/-0.30	330	-0~+5.00
Ø12.0x2Ø1.75x6.0x330	12.0	+0.6/+0.3	1.75	±0.15	6.0	+0/-0.30	330	-0~+5.00
Ø13.0x2Ø1.75x6.0x330	13.0	+0.7/+0.3	1.75	±0.15	6.0	+0/-0.30	330	-0~+5.00
Ø14.0x2Ø1.75x7.0x330	14.0	+0.7/+0.3	1.75	±0.15	7.0	+0/-0.30	330	-0~+5.00
Ø15.0x2Ø2.0x7.0x330	15.0	+0.7/+0.3	2.0	±0.20	7.0	+0/-0.30	330	-0~+5.00
Ø16.0x2Ø2.0x8.0x330	16.0	+0.7/+0.3	2.0	±0.20	8.0	+0/-0.30	330	-0~+5.00
Ø17.0x2Ø2.0x8.0x330	17.0	+0.8/+0.3	2.0	±0.20	8.0	+0/-0.30	330	-0~+5.00
Ø18.0x2Ø2.0x9.0x330	18.0	+0.8/+0.3	2.0	±0.20	9.0	+0/-0.30	330	-0~+5.00
Ø19.0x2Ø2.0x9.0x330	19.0	+0.8/+0.3	2.0	±0.20	9.0	+0/-0.30	330	-0~+5.00
Ø20.0x2Ø2.5x10x330	20.0	+0.8/+0.3	2.5	±0.25	10	+0/-0.40	330	-0~+5.00
Ø21.0x2Ø2.5x10x330	21.0	+0.8/+0.3	2.5	±0.25	10	+0/-0.40	330	-0~+5.00
Ø22.0x2Ø2.5x11x330	22.0	+0.8/+0.3	2.5	±0.25	11	+0/-0.40	330	-0~+5.00
Ø23.0x2Ø2.5x11x330	23.0	+0.8/+0.3	2.5	±0.25	11	+0/-0.40	330	-0~+5.00
Ø24.0x2Ø3.0x12x330	24.0	+0.8/+0.3	3.0	±0.25	12	+0/-0.50	330	-0~+5.00
Ø25.0x2Ø3.0x12x330	25.0	+0.8/+0.3	3.0	±0.25	12	+0/-0.50	330	-0~+5.00
Ø26.0x2Ø3.0x13x330	26.0	+0.8/+0.3	3.0	±0.25	13	+0/-0.50	330	-0~+5.00

双直孔棒



Rods with Two Straight Coolant Holes



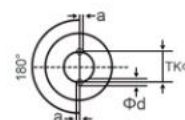
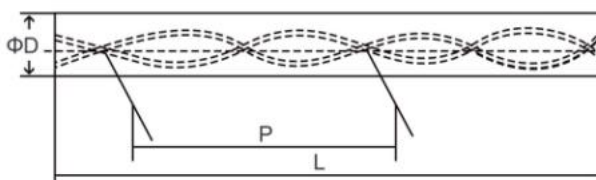
型号 Type	直径及公差 Diameter and Tol (mm)		外径公差 D and Tol (mm)		孔间距及公差 TK and Tol (mm)		长度及公差 Length and Tol (mm)	
	直径ΦD	公差Tol	直径Φd	公差Tol	孔间距TK	公差Tol	长度L	公差Tol
Ø6.0x2Ø0.8x1.5x330	6.0	+0.5/+0.3	0.8	±0.15	1.5	+0/-0.20	330	-0~+5.00
Ø7.0x2Ø0.8x1.5x330	7.0	+0.6/+0.3	0.8	±0.15	1.5	+0/-0.20	330	-0~+5.00
Ø8.0x2Ø1.0x1.5x330	8.0	+0.6/+0.3	1.0	±0.15	1.5	+0/-0.30	330	-0~+5.00
Ø9.0x2Ø1.0x2.6x330	9.0	+0.6/+0.3	1.0	±0.15	2.6	+0/-0.30	330	-0~+5.00
Ø10.0x2Ø1.0x2.6x330	10.0	+0.6/+0.3	1.0	±0.15	2.6	+0/-0.30	330	-0~+5.00
Ø11.0x2Ø1.2x3.6x330	11.0	+0.6/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Ø12.0x2Ø1.2x3.6x330	12.0	+0.6/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Ø13.0x2Ø1.2x3.6x330	13.0	+0.7/+0.3	1.2	±0.15	3.6	+0/-0.30	330	-0~+5.00
Ø14.0x2Ø1.5x5.0x330	14.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Ø15.0x2Ø1.5x5.0x330	15.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Ø16.0x2Ø1.5x5.0x330	16.0	+0.7/+0.3	1.5	±0.15	5.0	+0/-0.30	330	-0~+5.00
Ø17.0x2Ø2.0x6.2x330	17.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Ø18.0x2Ø2.0x6.2x330	18.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Ø19.0x2Ø2.0x6.2x330	19.0	+0.8/+0.3	2.0	±0.20	6.2	+0/-0.30	330	-0~+5.00
Ø20.0x2Ø2.0x6.2x330	20.0	+0.8/+0.3	2.0	±0.25	6.2	+0/-0.40	330	-0~+5.00
Ø21.0x2Ø2.0x6.2x330	21.0	+0.8/+0.3	2.0	±0.25	6.2	+0/-0.40	330	-0~+5.00
Ø22.0x2Ø2.0x6.2x330	22.0	+0.8/+0.3	2.0	±0.25	6.2	+0/-0.40	330	-0~+5.00
Ø23.0x2Ø2.0x7.5x330	23.0	+0.8/+0.3	2.0	±0.25	7.5	+0/-0.40	330	-0~+5.00
Ø24.0x2Ø2.0x7.5x330	24.0	+0.8/+0.3	2.0	±0.30	7.5	+0/-0.50	330	-0~+5.00
Ø25.0x2Ø2.0x7.5x330	25.0	+0.8/+0.3	2.0	±0.30	7.5	+0/-0.50	330	-0~+5.00
Ø26.0x2Ø2.0x7.5x330	26.0	+0.8/+0.3	2.0	±0.30	7.5	+0/-0.50	330	-0~+5.00

★ 直径和长度可以定制
★ Customized Sizes Available

30°双螺旋孔棒



Rods with Two Helical Coolant Holes (30°)



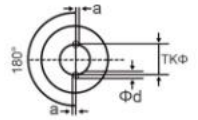
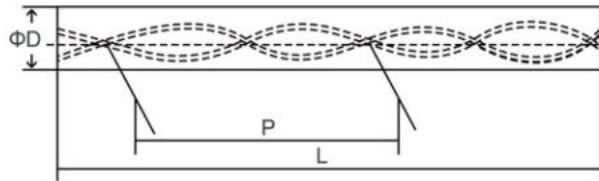
直径 ØD	长度 L (公差 Tol0/+5)	内孔径 Ød	孔间距 Bolt Circle TK	螺距 (±0.5°) Pitch		空中心偏差 Hole Deviation a
				P	Tol	
3	330	0.4	1.7	16.32	-0.32/+0.33	0.15
4	330	0.6	2.2	21.77	-0.43/+0.45	0.15
5	330	0.7	2.6	27.21	-0.54/+0.56	0.15
6	330	0.7	2.6	32.65	-0.65/+0.67	0.15
7	330	1.0	3.7	38.09	-0.76/+0.78	0.15
8	330	1.0	4.0	43.53	-0.86/+0.89	0.15
9	330	1.4	4.8	48.97	-0.97/+1.00	0.20
10	330	1.4	4.8	54.41	-1.08/+1.11	0.20
11	330	1.4	5.3	59.86	-1.19/+1.22	0.30
12	330	1.4	6.25	65.30	-1.30/+1.34	0.30
13	330	1.75	6.5	70.74	-1.40/+1.45	0.37
14	330	1.75	7.1	76.18	-1.51/+1.56	0.40
14	330	1.9	6.7	76.18	-1.51/+1.56	0.40
15	330	1.75	7.7	81.62	-1.62/+1.67	0.40

毛坯 Unground ØD (mm)		内孔径 Ød (mm)		孔间距 Bolt Circle TK (mm)	
范围 Range	公差 Tol	范围 Range	公差 Tol	范围 Range	公差 Tol
3 ≤ ØD ≤ 6	+1.0/+0.6	0.4 ≤ Ød ≤ 0.9	±0.10	TK ≤ 4	+0/-0.4
6 ≤ ØD ≤ 16	+1.1/+0.7	0.9 ≤ Ød ≤ 1.7	±0.15	4 < TK ≤ 5	+0/-0.6
16 ≤ ØD ≤ 24	+1.1/+0.7	Ød = 1.75	±0.20	5 < TK ≤ 10.1	+0/-0.8
ØD = 25	+1.2/+0.8	Ød = 1.75	±0.25	10.1 < TK ≤ 13.3	+0/-1.0

30°双螺旋孔棒



Rods with Two Helical Coolant Holes (30°)



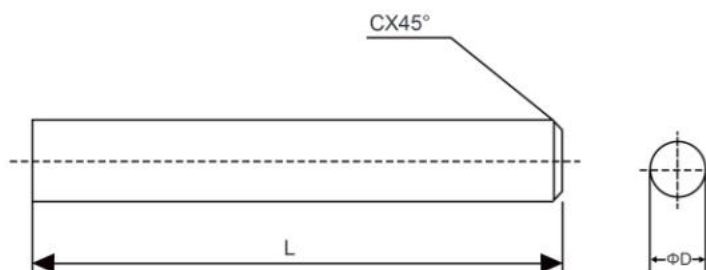
直径 ØD	长度 L (公差 Tol0/+5)	内孔径 Ød	孔间距 Bolt Circle TK	螺距 (±0.5°) Pitch		空中心偏离 Hole Deviation a
				p	Tol	
16	330	1.75	8.3	87.06	-1.73/+1.78	0.40
16	330	2.1	8.0	87.07	-1.73/+1.78	0.45
16	330	2.5	8.8	87.06	-1.73/+1.78	0.45
17	330	1.75	8.9	92.50	-1.84/+1.89	0.45
18	330	2.0	9.55	97.95	-1.94/+2.00	0.50
18	330	2.8	9.9	97.95	-1.95/+2.00	0.50
19	330	2.0	10.1	103.39	-2.05/+2.21	0.50
20	330	2.0	10.4	108.83	-2.16/+2.23	0.50
20	330	2.5	10.0	108.83	-2.16/+2.23	0.50
21	330	2.0	11.15	114.27	2.27/+2.34	0.50
22	330	2.0	11.6	119.71	-2.38/+2.45	0.50
23	330	2.0	12.2	125.15	-2.48/+2.56	0.50
24	330	2.0	12.8	130.59	-2.59/+2.67	0.50
25	330	2.0	13.3	136.03	-2.70/+2.87	0.50

★ 直径和长度可以定制
★ Customized Sizes Available

毛坯 Unground ØD (mm)		内孔径 Ød (mm)		孔间距 Bolt Circle TK (mm)	
范围 Range	公差 Tol	范围 Range	公差 Tol	范围 Range	公差 Tol
3 ≤ ØD ≤ 6	+1.0/+0.6	0.4 ≤ Ød ≤ 0.9	±0.10	TK ≤ 4	+0/-0.4
6 ≤ ØD ≤ 16	+1.1/+0.7	0.9 ≤ Ød ≤ 1.7	±0.15	4 < TK ≤ 5	+0/-0.6
16 ≤ ØD ≤ 24	+1.1/+0.7	Ød = 1.75	±0.20	5 < TK ≤ 10.1	+0/-0.8
ØD = 25	+1.2/+0.8	Ød = 1.75	±0.25	10.1 < TK ≤ 13.3	+0/-1.0

公制精磨倒角短棒 (h5/h6)

Ground Carbide Rods with Chamfer-Metric



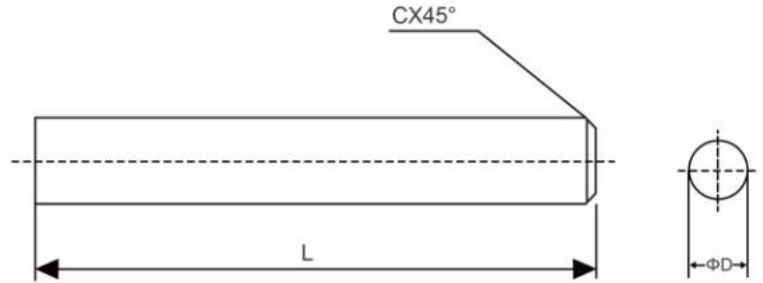
型号Type	尺寸Dimension (mm)		
	直径ØD	长度L	倒角尺寸C
Ø3x50	3	50	0.4
Ø3x100	3	100	0.4
Ø4x50	4	50	0.4
Ø4x75	4	75	0.4
Ø4x100	4	100	0.4
Ø5x50	5	50	0.5
Ø5x100	5	100	0.5
Ø6x50	6	50	0.5
Ø6x75	6	75	0.5
Ø6x100	6	100	0.5
Ø7x100	7	100	0.6
Ø8x60	8	60	0.6
Ø8x75	8	75	0.6
Ø8x100	8	100	0.6
Ø10x75	10	75	0.6
Ø10x100	10	100	0.6
Ø12x75	12	75	0.8
Ø12x100	12	100	0.8
Ø14x75	14	75	0.8
Ø14x100	14	100	0.8
Ø16x100	16	100	0.8
Ø18x100	18	100	0.8
Ø18x150	18	150	0.8
Ø20x100	20	100	1.0
Ø20x150	20	150	1.0

★ 直径和长度可以定制
★ Customized Sizes Available



DIN精磨倒角短棒 (h5/h6)

Ground Carbide Rods with Chamfer-DIN



型号Type	尺寸Dimension (mm)		
	直径ØD	长度L	倒角尺寸C
Ø3.0x39	3	39	0.4
Ø3.5x51	3.5	51	0.4
Ø4.0x51	4	51	0.4
Ø4.5x51	4.5	51	0.4
Ø5.0x51	5	51	0.5
Ø5.5x58	5.5	58	0.5
Ø6.0x51	6	51	0.5
Ø6.0x55	6	55	0.5
Ø6.0x58	6	58	0.5
Ø6.5x61	6.5	61	0.6
Ø7.0x61	7	61	0.6
Ø8.0x59	8	59	0.6
Ø8.0x64	8	64	0.6
Ø8.5x68	8.5	68	0.6
Ø9.0x68	9	68	0.6
Ø10x67	10	67	0.6
Ø10x73	10	73	0.6
Ø11x84	11	84	0.8
Ø12x74	12	74	0.8
Ø12x84	12	84	0.8
Ø13x84	13	84	0.8
Ø14x76	14	76	0.8
Ø14x84	14	84	0.8
Ø15x93	15	93	0.8
Ø16x83	16	83	0.8
Ø16x93	16	93	0.8
Ø18x85	18	85	0.8
Ø18x93	18	93	0.8
Ø20x93	20	93	1.0
Ø20x105	20	105	1.0

精磨外径公差



Tol.of Ground Rods' Diameter

直径ØD	公差Tol	
	h5	h6
0-3.0 mm 0-0.11811"	0.004 mm 0.00015"	0.006 mm 0.00024"
3.001-6.0 mm 0.118212-0.23622"	0.005 mm 0.00020"	0.008 mm 0.00031"
6.001-10.0 mm 0.23623-0.3937"	0.006 mm 0.00024"	0.009 mm 0.00035"
10.001-18.0 mm 0.39371-0.70866"	0.008 mm 0.00031"	0.011 mm 0.00043"
18.001-30.0 mm 0.90867-1.1811"	0.009 mm 0.00035"	0.013 mm 0.00051"
30.001-50.0 mm 1.18111-1.9685"	0.011 mm 0.00043"	0.016 mm 0.00063"

"h"的公差均为+0.0/-
"h" Tolerance is +0.0/-



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