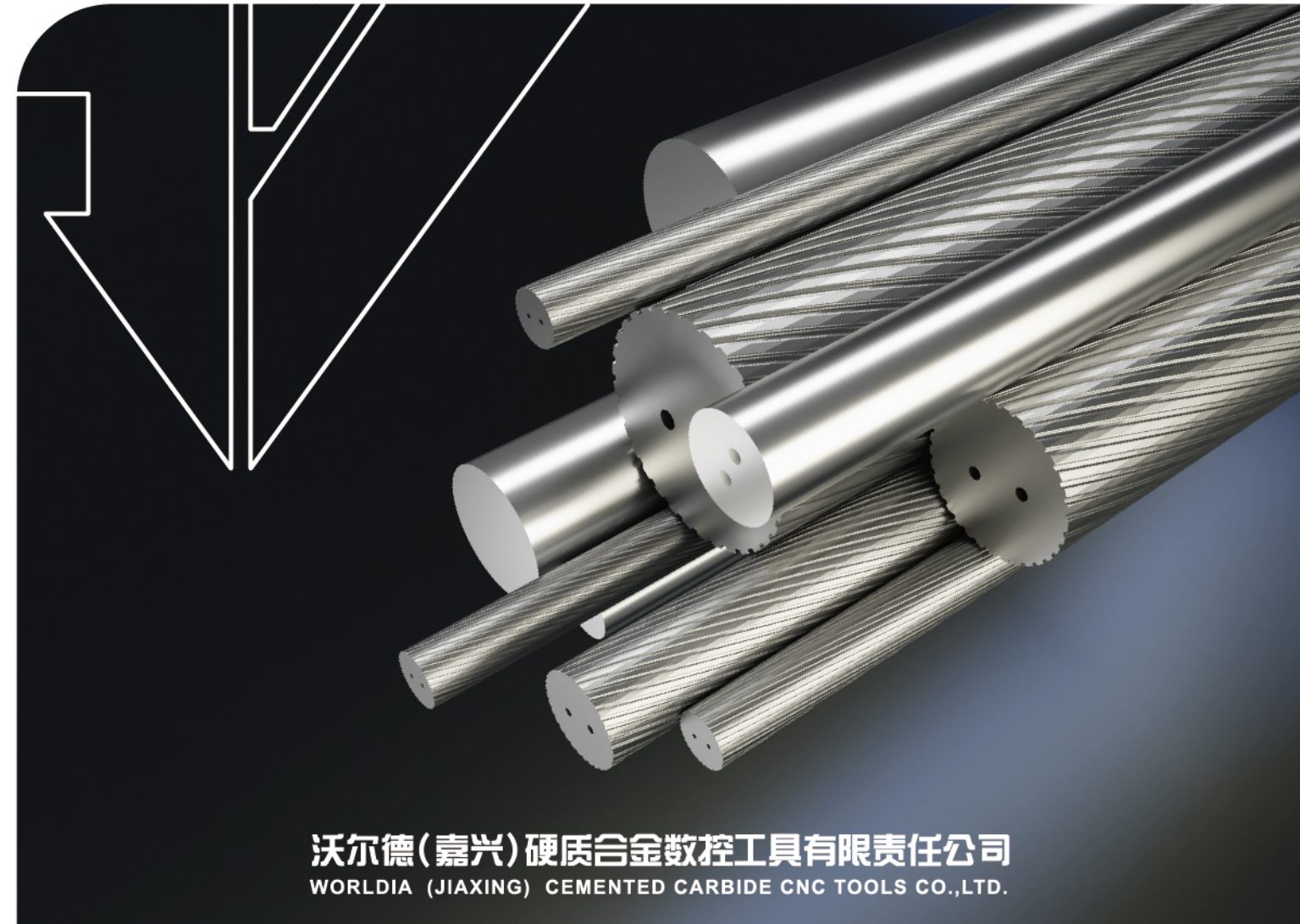




2023 产品简介 硬质合金棒材

CATALOGUE OF CEMENTED CARBIDE RODS



沃尔德(嘉兴)硬质合金数控工具有限责任公司
WORLDIA (JIAXING) CEMENTED CARBIDE CNC TOOLS CO.,LTD.

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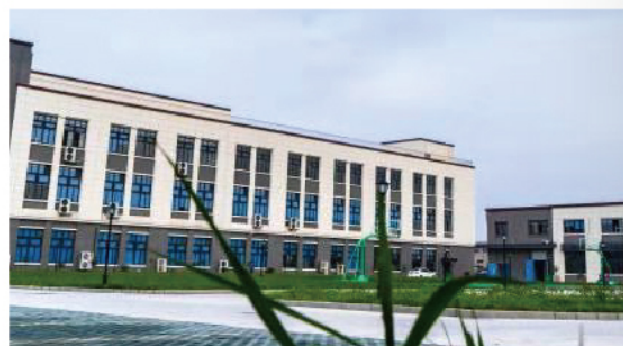
沃尔德(嘉兴)硬质合金数控工具有限责任公司
WORLDIA (JIAXING) CEMENTED CARBIDE CNC TOOLS CO.,LTD.



沃尔德(嘉兴)公司介绍 Company introduction

COMPANY INTRODUCTION

沃尔德(嘉兴)硬质合金数控工具有限责任公司, 2021年在浙江嘉兴注册成立,注册资本5000万元,是首批科创板上市企业--北京沃尔德金刚石工具股份有限公司(股票代码:688028)旗下的全资子公司。主营产品为硬质合金数控刀片,金属陶瓷数控刀片和硬质合金棒材等。产品广泛应用于汽车工业、航空工业、能源行业、轨道交通、工程机械、模具制造、仪器仪表等产品的加工制造。



Worldia (Jiaxing) Cemented Carbide CNC Tools Co.,Ltd.established in Jiaxing, Zhejiang Province in 2021, with a registered capital of 50 million yuan, is a wholly-owned subsidiary of Beijing Wold Diamond Tools Co., LTD. (stock code :688028)--one of the first listed enterprises on the Science and Technology Innovation Board. The main products are carbide insert, cermet insert and carbide rod. These tools are applicated in automotive industry, aerospace, rail transit, energy equipment, engineering machinery, mold industry, instrumentation, general machinery and other industries of product processing and manufacturing.



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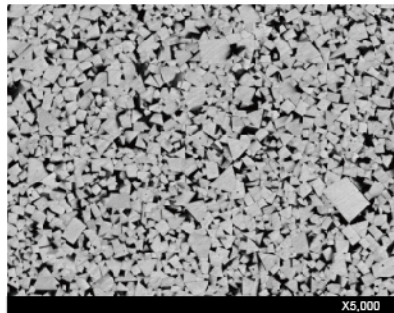
牌号介绍

Grade Introduction

牌号(Grade)		WR10	WR12A	WR10A
ISO牌号(ISO grade)		K20-K50	K10-K30	K05-K10
碳化钨+其他碳化物 (Wc+Other carbides)	%	90	88	90
钴(Co)	%	10	12	10
碳化钨颗粒(WC grain size)		亚细微(Submicron)	超细(Ultrafine)	超细(Ultrafine)
密度(Density)	g/cm ³	14.45	14.1	14.4
硬度(Hardness)	Hv30	1540	1620	1660
	HRa	91.5	92.2	92.5
横断裂强度 (Transverse rupture strength)	N/mm ²	4253.2	4047.4	3944.5
	kpsi	620	590	575
韧性(Fracture toughness)	Mpa.m ^{1/2}	14.7	13.8	12.8
	1/2			
杨氏模量(Young's modulus)	kpsi	80000	82860	85360
抗压强度(Compressive strength)	kpsi	870	900	1015

各牌号特性和用途

PROPERTIES AND APPLICATION



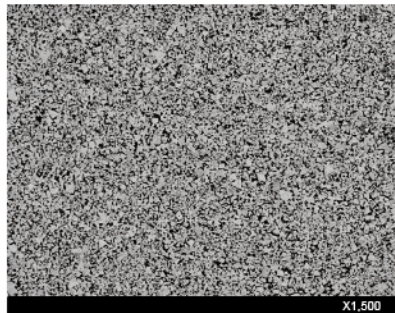
WR10

特性 Properties

- 亚细微碳化钨颗粒, 钴含量10%
Submicron grain WC with 10% Co
- 耐磨, 有韧性
High toughness and wear resistance

用途 Application

- 中速加工
Medium cutting speed and feed
- 可用于加工碳钢和合金钢, 不锈钢, 镍基合金, 钛合金和铸铁等
For use on unalloyed engineering steel, stainless steel, nickel based alloys, titanium alloy, cast iron



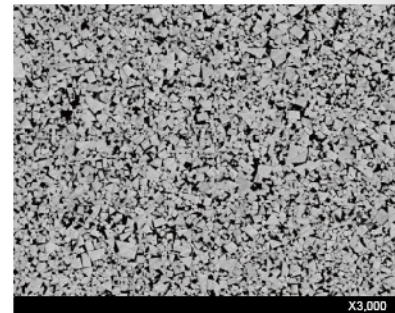
WR12A

特性 Properties

- 超细微碳化钨颗粒, 钴含量12%
Ultrafine grain WC with 12% Co
- 耐磨性和韧性都很出色
Excellent toughness and wear resistance

用途 Application

- 高速切削, 中速进给
High cutting speed and medium feed
- 可用于加工碳钢, 不锈钢, 镍基合金, 钛合金等
For use on carbon steel, stainless steel, nickel based alloys, titanium alloy



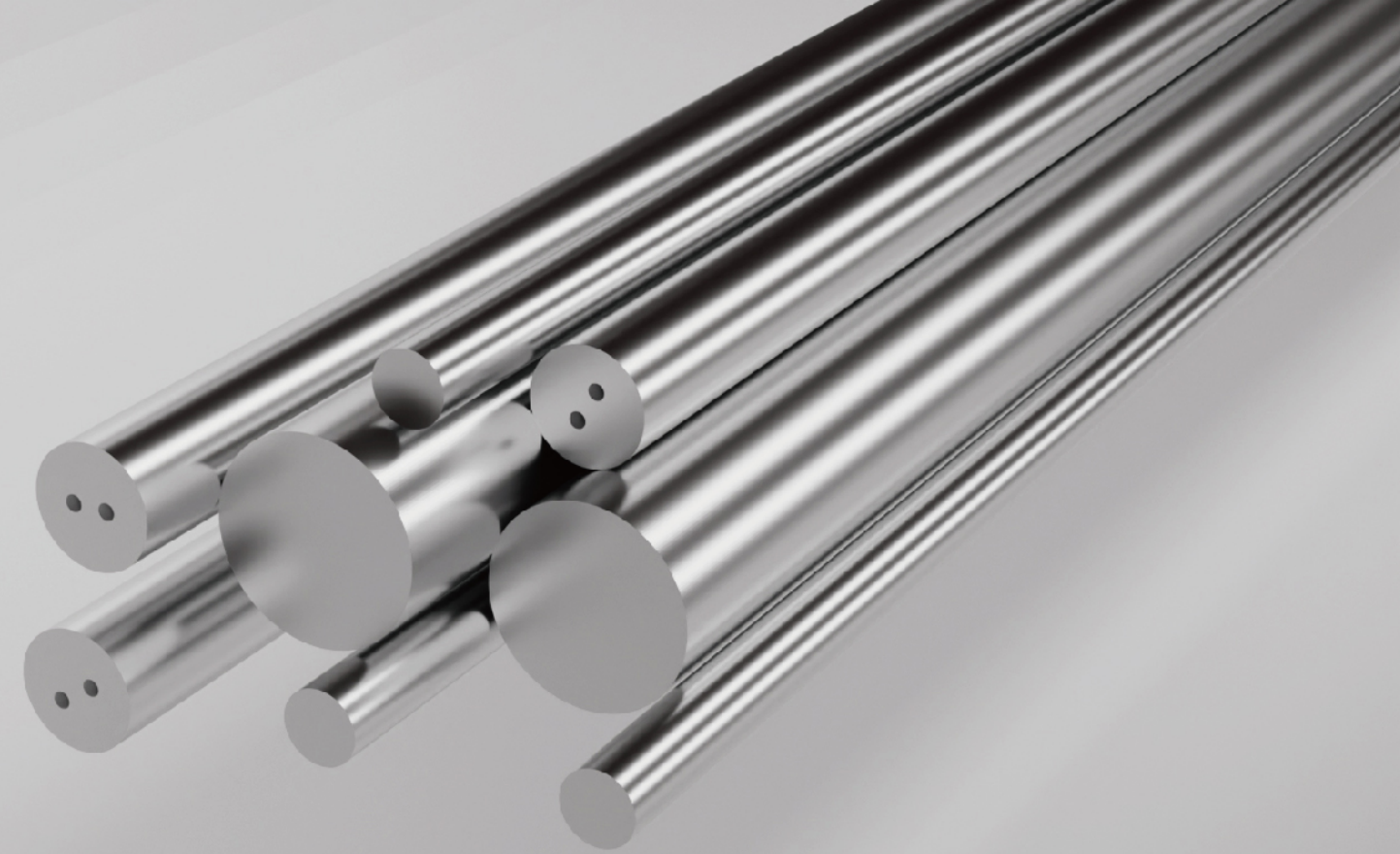
WR10A

特性 Properties

- 超细微碳化钨颗粒, 钴含量10%
Ultrafine grain wc with 10% Co
- 非常耐磨, 很难变形
More excellent toughness and wear resistance

用途 Application

- 高速铣削和钻孔
High milling speed and drilling
- 可用于加工木材和纸, 钛合金, 纤维增强材料和铝合金等
For use on wood, paper, titanium alloy, fiber reinforced materials, aluminium alloy



棒材编号规则

IDENTIFICATION SYSTEM

实心棒料

Solid Rod

R

形状
Shape

R: 圆形
R: Round

S

表面情况
Surface condition

S: 烧结毛坯
S: Sintered
G: 精磨到h6
G: Ground to h6
F: 半精磨不到h6
F: Semi-finished ground (not to h6)

ø8.0 * 330

直径
Diameter

ø8.0mm

长度
Length

330mm

带孔棒料

Rod With Holes

R

形状
Shape

R: 圆形
R: Round

S

表面情况
Surface condition

S: 烧结毛坯
S: Sintered
G: 精磨到h6
G: Ground to h6
F: 半精磨不到h6
F: Semi-finished ground (not to h6)

2

孔数
Coolant hole

1: 单孔
1: One hole
2: 双孔
2: Two holes

S

冷却孔类型
Hole type

S: 直孔
S: Straight hole
H: 30°螺旋孔
H: 30°helix hole
J: 40°螺旋孔
J: 40°helix hole

1.2 / 4.0

孔径
Hole diameter

1.2mm

孔距
Hole distance

4.0mm

ø8.0 * 330

直径
Diameter

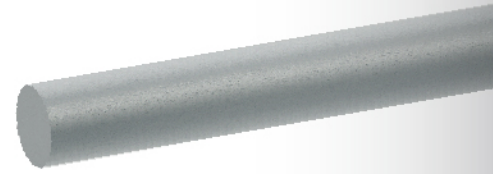
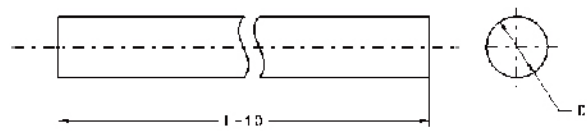
ø8.0mm

长度
Length

330mm

毛坯实心长棒330mm

Unground Solid Rod - 330mm

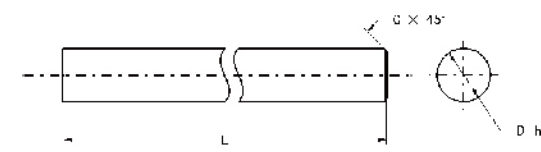


规格 Type	尺寸 Dimension			牌号 Grade		
	直径 øD(mm)	公差 Tol. (mm)	长度 L(mm)	WR10	WR12A	WR10A
RS ø1.0*330	1.0	+0.20~+0.50	330.0	●	△	
RS ø2.0*330	2.0	+0.20~+0.50	330.0	●	△	
RS ø3.0*330	3.0	+0.20~+0.50	330.0	●	△	
RS ø4.0*330	4.0	+0.20~+0.50	330.0	●	△	
RS ø5.0*330	5.0	+0.20~+0.50	330.0	●	△	
RS ø6.0*330	6.0	+0.30~+0.60	330.0	●	△	
RS ø7.0*330	7.0	+0.30~+0.60	330.0	●	△	
RS ø8.0*330	8.0	+0.30~+0.60	330.0	●	△	
RS ø9.0*330	9.0	+0.30~+0.60	330.0	●	△	
RS ø10.0*330	10.0	+0.30~+0.60	330.0	●	△	
RS ø12.0*330	12.0	+0.30~+0.60	330.0	●	△	
RS ø14.0*330	14.0	+0.30~+0.60	330.0	●	△	
RS ø15.0*330	15.0	+0.30~+0.60	330.0	●	△	
RS ø16.0*330	16.0	+0.30~+0.60	330.0	●	△	
RS ø18.0*330	18.0	+0.30~+0.80	330.0	●	△	
RS ø20.0*330	20.0	+0.30~+0.80	330.0	●	△	
RS ø22.0*330	22.0	+0.30~+0.80	330.0	●	△	
RS ø24.0*330	24.0	+0.30~+0.80	330.0	●	△	
RS ø25.0*330	25.0	+0.30~+1.00	330.0	●	△	
RS ø26.0*330	26.0	+0.30~+1.00	330.0	●	△	
RS ø28.0*330	28.0	+0.30~+1.00	330.0	●	△	
RS ø30.0*330	30.0	+0.30~+1.00	330.0	●	△	
RS ø32.0*330	32.0	+0.30~+1.00	330.0	●	△	

● 库存产品 In stock △ 有限库存或按需求供应 Limited stock or make-to-order ◆ 新产品 New product

精磨短棒h6带倒角

Ground Solid Rod (h6) With Chamfer - Short Length



长度 L(mm)	公差 Tol.(mm)
L≤50	+0.8
50<L≤100	+1.5
100<L≤160	+2.0
160<L≤250	+3.0

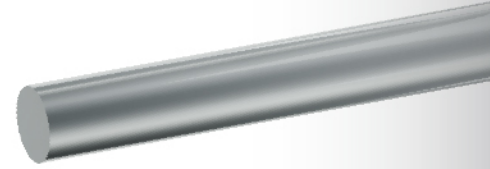
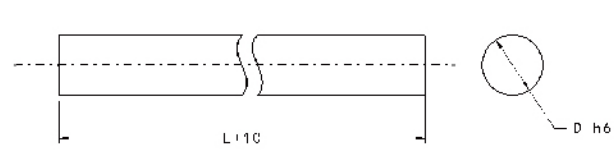


规格 Type	尺寸 Dimension			牌号 Grade		
	直径 øD(mm)	长度 L(mm)	倒角 C(mm)	WR10	WR12A	WR10A
RG ø3.0*40	3.0	40	0.3	●	△	
RG ø3.0*50	3.0	50	0.3	●	△	
RG ø3.0*75	3.0	75	0.3	●	△	
RG ø3.0*100	3.0	100	0.3	●	△	
RG ø4.0*50	4.0	50	0.5	●	△	
RG ø4.0*60	4.0	60	0.5	●	△	
RG ø4.0*75	4.0	75	0.5	●	△	
RG ø4.0*100	4.0	100	0.5	●	△	
RG ø5.0*50	5.0	50	0.5	●	△	
RG ø5.0*75	5.0	75	0.5	●	△	
RG ø6.0*50	6.0	50	0.5	●	△	
RG ø6.0*55	6.0	55	0.5	●	△	
RG ø6.0*60	6.0	60	0.5	●	△	
RG ø6.0*75	6.0	75	0.5	●	△	
RG ø6.0*100	6.0	100	0.5	●	△	
RG ø7.0*50	7.0	50	0.5	●	△	
RG ø7.0*60	7.0	60	0.5	●	△	
RG ø7.0*100	7.0	100	0.5	●	△	
RG ø8.0*60	8.0	60	1.0	●	△	
RG ø8.0*75	8.0	75	1.0	●	△	
RG ø8.0*100	8.0	100	1.0	●	△	
RG ø8.0*150	8.0	150	1.0	●	△	
RG ø10.0*70	10.0	70	1.0	●	△	
RG ø10.0*75	10.0	75	1.0	●	△	
RG ø10.0*100	10.0	100	1.0	●	△	
RG ø10.0*150	10.0	150	1.0	●	△	
RG ø12.0*75	12.0	75	1.0	●	△	
RG ø12.0*100	12.0	100	1.0	●	△	
RG ø12.0*150	12.0	150	1.0	●	△	
RG ø14.0*75	14.0	75	1.0	●	△	
RG ø14.0*100	14.0	100	1.0	●	△	
RG ø16.0*100	16.0	100	1.5	●	△	
RG ø16.0*125	16.0	125	1.5	●	△	
RG ø20.0*100	20.0	100	1.5	●	△	
RG ø20.0*150	20.0	150	1.5	●	△	
RG ø25.0*100	25.0	100	1.5	●	△	
RG ø25.0*140	25.0	140	1.5	●	△	
RG ø25.0*180	25.0	180	1.5	●	△	

● 库存产品 In stock △ 有限库存或按需求供应 Limited stock or make-to-order ◆ 新产品 New product

精磨长棒 h6 330mm

Ground Solid Rod (h6) - 330mm

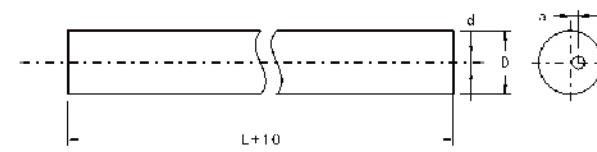


规格 Type	尺寸 Dimension		牌号 Grade		
	直径 øD(mm)	长度 L(mm)	WR10	WR12A	WR10A
RG ø3.0*330	3.0	330	●	△	
RG ø4.0*330	4.0	330	●	△	
RG ø5.0*330	5.0	330	●	△	
RG ø6.0*330	6.0	330	●	△	
RG ø7.0*330	7.0	330	●	△	
RG ø8.0*330	8.0	330	●	△	
RG ø9.0*330	9.0	330	●	△	
RG ø10.0*330	10.0	330	●	△	
RG ø11.0*330	11.0	330	●	△	
RG ø12.0*330	12.0	330	●	△	
RG ø13.0*330	13.0	330	●	△	
RG ø14.0*330	14.0	330	●	△	
RG ø15.0*330	15.0	330	●	△	
RG ø16.0*330	16.0	330	●	△	
RG ø17.0*330	17.0	330	●	△	
RG ø18.0*330	18.0	330	●	△	
RG ø19.0*330	19.0	330	●	△	
RG ø20.0*330	20.0	330	●	△	
RG ø21.0*330	21.0	330	●	△	
RG ø22.0*330	22.0	330	●	△	
RG ø23.0*330	23.0	330	●	△	
RG ø24.0*330	24.0	330	●	△	
RG ø25.0*330	25.0	330	●	△	
RG ø26.0*330	26.0	330	●	△	
RG ø28.0*330	28.0	330	●	△	
RG ø30.0*330	30.0	330	●	△	
RG ø32.0*330	32.0	330	●	△	

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毛坯单直孔棒材330mm

Unground Rod With One Straight Coolant Hole - 330mm

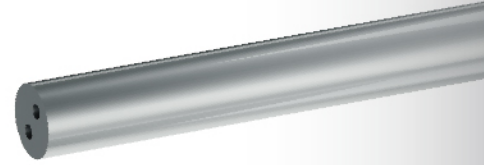
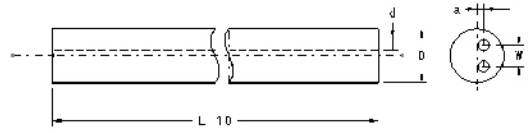


规格 Type	尺寸 Dimension					牌号 Grade		
	直径		孔径		孔中心偏距 a(mm)	WR10	WR12A	WR10A
	øD(mm)	Tol.(mm)	ød(mm)	Tol.(mm)				
RS1S 0.8 ø3*330	3.0	+0.20~+0.60	0.80	±0.15	0.10	●	△	
RS1S 0.8 ø4*330	4.0	+0.20~+0.60	0.80	±0.15	0.10	●	△	
RS1S 0.8 ø5*330	5.0	+0.20~+0.60	0.80	±0.15	0.15	●	△	
RS1S 1.0 ø6*330	6.0	+0.30~+0.70	1.00	±0.15	0.15	●	△	
RS1S 1.0 ø7*330	7.0	+0.30~+0.70	1.00	±0.15	0.15	●	△	
RS1S 1.0 ø8*330	8.0	+0.30~+0.70	1.00	±0.15	0.15	●	△	
RS1S 1.4 ø9*330	9.0	+0.30~+0.70	1.40	±0.15	0.20	●	△	
RS1S 1.4 ø10*330	10.0	+0.30~+0.70	1.40	±0.15	0.20	●	△	
RS1S 1.75 ø12*330	12.0	+0.30~+0.70	1.75	±0.20	0.30	●	△	
RS1S 1.75 ø14*330	14.0	+0.30~+0.70	1.75	±0.20	0.37	●	△	
RS1S 2.0 ø15*330	15.0	+0.30~+0.70	2.00	±0.20	0.40	●	△	
RS1S 2.0 ø16*330	16.0	+0.30~+0.70	2.00	±0.20	0.45	●	△	
RS1S 2.0 ø18*330	18.0	+0.30~+0.70	2.00	±0.20	0.50	●	△	
RS1S 2.5 ø20*330	20.0	+0.30~+0.90	2.50	±0.20	0.50	●	△	
RS1S 2.5 ø22*330	22.0	+0.30~+0.90	2.50	±0.20	0.50	●	△	
RS1S 3.0 ø24*330	24.0	+0.30~+0.90	3.00	±0.25	0.50	●	△	
RS1S 3.0 ø25*330	25.0	+0.30~+0.90	3.00	±0.25	0.50	●	△	
RS1S 3.0 ø26*330	26.0	+0.30~+0.90	3.00	±0.25	0.50	●	△	
RS1S 3.0 ø28*330	28.0	+0.30~+0.90	3.00	±0.25	0.50	●	△	
RS1S 3.0 ø30*330	30.0	+0.30~+0.90	3.00	±0.25	0.50	●	△	

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毛坯双直孔棒材330mm

Unground Rod With Two Straight Coolant Holes - 330mm

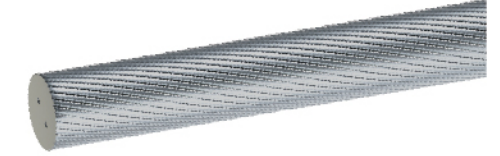
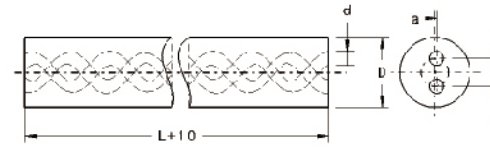


规格 Type	尺寸 Dimension							牌号 Grade	
	直径		孔径		孔间距		孔中心偏距	WR10	WR12A
	øD(mm)	Tol.(mm)	ød(mm)	Tol.(mm)	W(mm)	Tol.(mm)	a(mm)		
RS2S 0.8/1.8 ø4*330	4.0	+0.20~+0.60	0.80	±0.15	1.80	±0.15	0.10	●	△
RS2S 0.8/2.0 ø5*330	5.0	+0.20~+0.60	0.80	±0.15	2.00	±0.15	0.13	●	△
RS2S 1.0/3.0 ø6*330	6.0	+0.30~+0.70	1.00	±0.15	3.00	±0.20	0.15	●	△
RS2S 1.0/4.0 ø8*330	8.0	+0.30~+0.70	1.00	±0.15	4.00	±0.30	0.15	●	△
RS2S 1.4/5.0 ø10*330	10.0	+0.30~+0.70	1.40	±0.15	5.00	±0.30	0.20	●	△
RS2S 1.75/6.0 ø12*330	12.0	+0.30~+0.70	1.75	±0.15	6.00	±0.25	0.30	●	△
RS2S 1.75/7.0 ø14*330	14.0	+0.30~+0.70	1.75	±0.15	7.00	±0.25	0.37	●	△
RS2S 2.0/7.0 ø15*330	15.0	+0.30~+0.70	2.00	±0.15	7.00	±0.25	0.40	●	△
RS2S 2.0/8.0 ø16*330	16.0	+0.30~+0.70	2.00	±0.15	8.00	±0.25	0.45	●	△
RS2S 2.0/9.0 ø18*330	18.0	+0.30~+0.70	2.00	±0.15	9.00	±0.30	0.50	●	△
RS2S 2.5/10.0 ø20*330	20.0	+0.30~+0.70	2.50	±0.20	10.00	±0.30	0.50	●	△
RS2S 2.5/11.0 ø22*330	22.0	+0.30~+0.90	2.50	±0.20	11.00	±0.30	0.50	●	△
RS2S 2.8/12.0 ø24*330	24.0	+0.30~+0.90	2.80	±0.25	12.00	±0.40	0.57	●	△
RS2S 2.8/12.0 ø25*330	25.0	+0.30~+0.90	2.80	±0.25	12.00	±0.40	0.57	●	△
RS2S 3.0/13.0 ø26*330	26.0	+0.30~+0.90	3.00	±0.25	13.00	±0.40	0.57	●	△
RS2S 3.0/14.0 ø28*330	28.0	+0.30~+0.90	3.00	±0.25	14.00	±0.40	0.57	●	△
RS2S 3.0/15.0 ø30*330	30.0	+0.30~+0.90	3.00	±0.25	15.00	±0.40	0.57	●	△
RS2S 3.0/16.0 ø32*330	32.0	+0.30~+0.90	3.00	±0.25	16.00	±0.40	0.57	●	△

● 库存产品 In stock △ 有限库存或按需求供应 Limited stock or make-to-order ◆ 新产品 New product

毛坯双螺旋孔棒材30° 330mm

Unground Rod With Two Helix(30°) Coolant Holes - 330mm



规格 Type	尺寸 Dimension								牌号 Grade	
	直径		孔径		孔间距		孔中心偏距	螺距	WR10	WR12A
	øD(mm)	Tol.(mm)	ød(mm)	Tol.(mm)	W(mm)	Tol.(mm)	a(mm)	Lead(mm)		
RS2H 0.6/2.1 ø4.0*330	4.0	+0.50~+0.90	0.60	±0.15	2.1	+0.1/-0.3	0.10	21.77	●	△
RS2H 0.6/2.2 ø5.0*330	5.0	+0.50~+0.90	0.60	±0.15	2.2	+0.1/-0.3	0.13	27.21	●	△
RS2H 0.9/2.8 ø6.0*330	6.0	+0.50~+0.90	0.90	±0.15	2.8	+0.1/-0.3	0.15	32.65	●	△
RS2H 1.2/4.0 ø8.0*330	8.0	+0.60~+1.10	1.20	±0.15	4.0	+0.1/-0.3	0.15	43.53	●	△
RS2H 1.5/5.0 ø10.0*330	10.0	+0.60~+1.10	1.50	±0.20	5.0	+0.1/-0.4	0.20	54.41	●	△
RS2H 1.6/6.0 ø12.0*330	12.0	+0.60~+1.10	1.60	±0.20	6.0	+0.1/-0.4	0.30	65.30	●	△
RS2H 1.6/7.0 ø14.0*330	14.0	+0.60~+1.30	1.60	±0.20	7.0	+0.1/-0.5	0.37	76.18	●	△
RS2H 1.75/7.5 ø15.0*330	15.0	+0.60~+1.30	1.75	±0.20	7.5	+0.1/-0.5	0.40	81.62	●	△
RS2H 1.75/8.0 ø16.0*330	16.0	+0.60~+1.30	1.75	±0.20	8.0	+0.1/-0.6	0.40	87.06	●	△
RS2H 2.4/9.0 ø18.0*330	18.0	+0.60~+1.30	2.40	±0.30	9.0	+0.1/-0.6	0.50	97.95	●	△
RS2H 2.6/10.0 ø20.0*330	20.0	+0.60~+1.30	2.60	±0.30	10.0	+0.1/-0.6	0.50	108.83	●	△
RS2H 2.6/11.1 ø22.0*330	22.0	+0.60~+1.50	2.60	±0.30	11.1	+0.1/-0.6	0.50	119.71	●	△
RS2H 2.6/12.5 ø25.0*330	25.0	+0.60~+1.50	2.60	±0.30	12.5	+0.1/-0.6	0.50	136.03	●	△

● 库存产品 In stock △ 有限库存或按需求供应 Limited stock or make-to-order ◆ 新产品 New product