



Drilling Tools



ZHUZHOU BETTER TUNGSTEN CARBIDE CO., LTD



关于我们

About Us

公司简介

株洲贝特硬质合金工具有限公司自2012年开始从事超硬材料业务，我们致力于为客户提供提高生产力、盈利能力和可持续性的解决方案和服务。

株洲贝特专注于提高产品质量，并提供不同的等级复合片，确保每一件都能满足客户的需求，在性能和经济成本方面都尽量达到最严苛的要求。

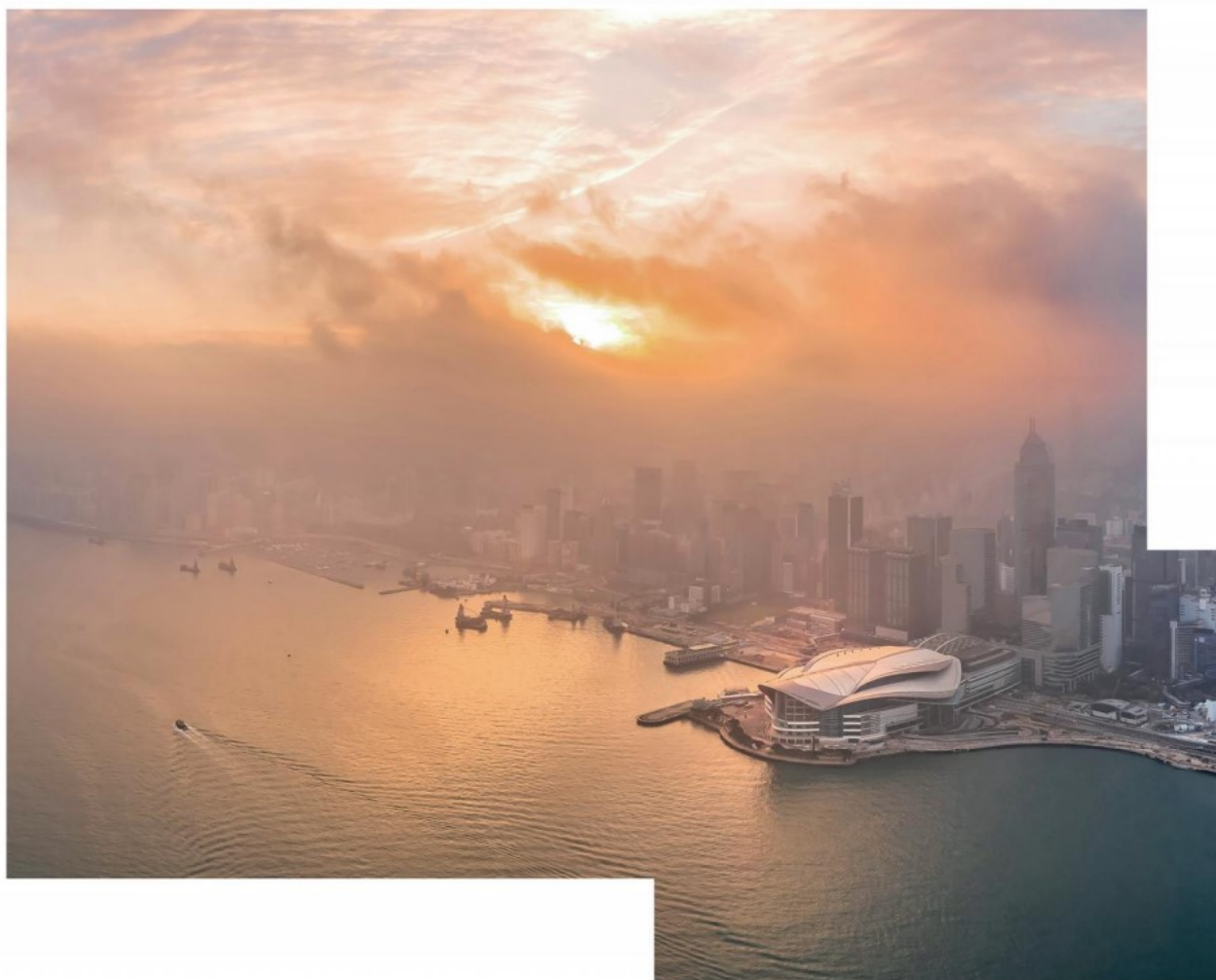
Company Profile

ZZbetter has been in line of super hard material since year of 2012, which is committed to offering solutions and services that enhance customers' productivity, profitability, and sustainability.

ZZbetter focus on improving quality to ensure every piece of PDC cutter fills customer's need and offers different grades to reach the most demanding requirements whether the performance or economically cost.

我们的愿景

OUR VISION



面对复杂多变的世界，株洲贝特仍将不断探索硬质合金工具的更多可能，立志成为具有国际竞争力的世界一流企业。

Driven by the ambition to become a world-class company, ZZbetter is continuing to explore the possibilities of tungsten carbide tools. ZZbetter strives to be an industry leader.

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No.1 潜孔钎具

DTH Drilling Tools



公司生产潜孔钎具包括高压、低压两大系列，冠部形状以两翼型至多翼型为主，端面设计主要包括平面及凹凸面。其中，平面结构能最大程度利用切削面；凸面对井壁具有自修性，稳定的同时，对地层产生冲击功更大，适合硬岩；凹面则防斜效果佳。

The DTH drilling tools produced by company include two series of high wind pressure and low wind pressure. The shape of crown is mainly two-airfoil or multi-airfoil, and the end surface design mainly includes planar and concave-convex surfaces.

Among them, the planar structure can make maximum use of the cutting surface; the convex face is self-repairing and stable, and has greater impact on the formation, which is suitable for hard rock; the concave side has a good anti-skew effect.

潜孔钻头

DTH Drilling Bits



头部形状: 平面, 凹面, 凸面
 Head shape: planar, concave, convex

齿类型: 球齿, 抛物线齿, 弹头齿, 尖齿
 Cutter type: dome cutter, parabolic cutter, bullet cutter, sharp cutter

钻头型号 No.	钻头直径 Diameter (mm)	齿型 Button profile	边齿 Gauge button	芯齿 Front buttons	齿倾角 Button angle	排气孔 No. of Flushing holes Dia. (no.*mm)
ZD45A-Φ115	Φ115	球齿 Dome cutters	7*Φ16	6*Φ14	38°	2*Φ18
ZD45A-Φ140	Φ140		8*Φ16	7*Φ14		2*Φ20
ZD55A-Φ152	Φ152		8*Φ18	8*Φ15		2*Φ20
ZD65A-Φ165	Φ165		8*Φ18	8*Φ16		2*Φ22
ZD65A-Φ178	Φ178		8*Φ18	6*Φ16		2*Φ26
ZD65A-Φ190	Φ190		10*Φ18	8*Φ16		2*Φ26
ZD85A-Φ203	Φ203		10*Φ18	8*Φ16		2*Φ30
ZD85A-Φ245	Φ245		12*Φ19	12*Φ16		2*Φ30

反循环钻头

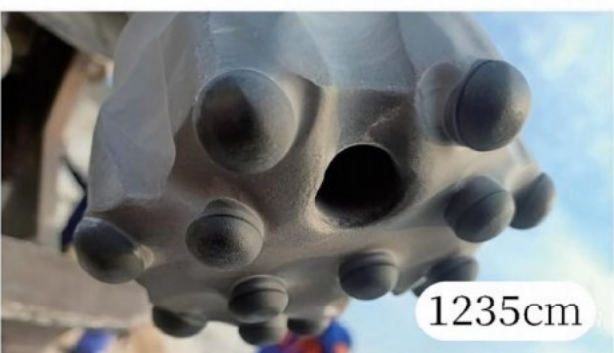
Reverse Circulation Bits



中心下陷型钻头主要用于应对松散的土质、硬岩和井下含水等特殊地质

The center sinking type drilling bit is mainly used to deal with special geology such as loose soil, hard rock, and underground water content.

钻头杆柄 Bit shank	钻孔直径 Hole size (mm)	适用气压 Pressure (MPa)	推荐转速 Speed (r/min)	头部形状 Shape	花键 Spline	齿型 Button type
RE004	112-127	1.2-2.5	30-60	中心下陷型 Center sinking type	8	球齿 Dome cutters
RE542	113-130	1.2-2.5				
PR52	130-146	1.5-3.0				
PR54R	135-150	1.5-3.0				



金刚石复合球齿钻头在碎石场进尺1200多米实像磨损状态

PDC dome cutter bits in the gravel field, footage of more than 1200 meters, real image wear status.

使用案例

Use cases

公司产品应用于某碎石场，钻进地层为花岗岩，硬质合金潜孔锤平均进尺100-150米，复合齿潜孔锤平均进尺是1200米，是硬质合金潜孔锤的5-10倍，效率比硬质合金提高30%-40%，综合性价比优势突出。

ZD系列和普通系列布齿在同一个钻头上，可以看到普通系列有崩齿、断齿的现象，磨损较小；ZD系列无崩齿，磨损比较明显。

The company's product is applied to a gravel field, drilling into granite formations. The average footage of the carbide DTH hammer is 100-150 meters, and the average footage of the PDC cutter DTH hammer is 1200 meters, which is 5-10 times that of the tungsten carbide DTH hammer. The efficiency is improved by 30% -40% compared to the carbide, and the comprehensive cost-effectiveness advantage is outstanding.

On the same drill bit, the ZD series and ordinary series have cutters arranged, and it can be seen that the ordinary series has cutters chipping and breakage, resulting in less wear and tear; The ZD series has no cutter breakage and obvious wear.

No.2 PDC 钻头 PDC Bits



我们的优势

ZZbetter's advantages

- 1、采用特定弧度的螺旋刀翼及规径结构，钻进过程中能提高钻头周向与井底及井壁的瞬时接触范围，保持钻头的稳定
- 2、复合齿基底设计成特殊减震控制结构，利用减震基底减缓钻头在井底的跳动、涡动现象，缩小了扭矩差，保证吃入地层深度、明显改善受力状况
- 3、外保径采用硬质合金短节，保障钻头切削和井眼尺寸。

1. Using a spiral blade with a specific arc and a gauge diameter structure can improve the instantaneous contact range between the drilling bit circumferential direction and the bottom and wall of the well during drilling, and maintain the stability of the drilling bit

2. The PDC cutter base is designed as a special damping control structure, which uses the damping base to slow down the jumping and whirling phenomenon of the drilling bit at the bottom of the well, reduce the torque difference, ensure the depth of penetration into the formation, and significantly improve the stress condition

3. Tungsten carbide tips are used for external diameter protection to ensure bit cutting and borehole size

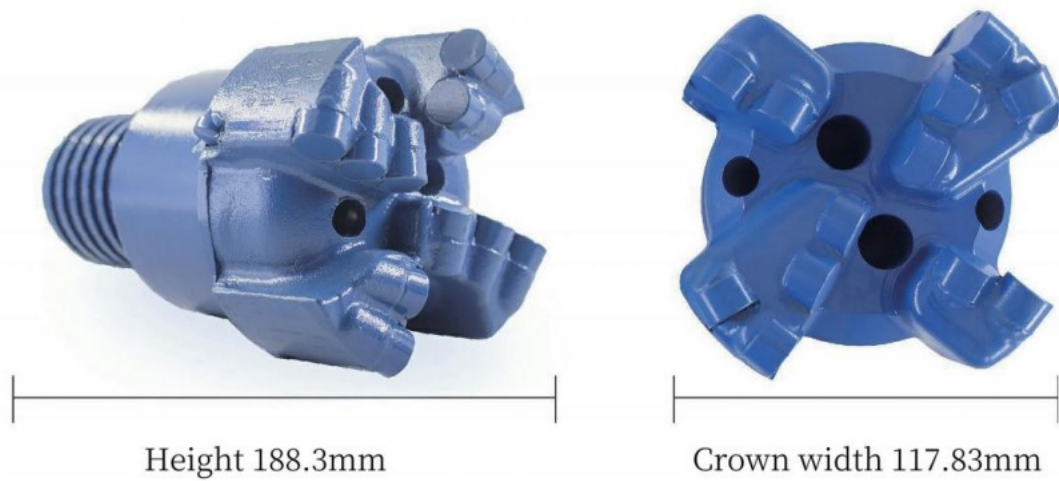
定向钻头

Directional Drilling Bits

产品名称 Name	定向钻头 Directional drilling bit
主要规格 Specification	Φ89mm-Φ152mm
钻头形状 Bit shapes	平底/圆弧 Flat/arc base
颜色 Colour	蓝色或按要求定制 Blue or customized as required
刀翼 Blade	3/4/5
复合片规格 Cutters specification	Φ13mm-Φ16mm
复合片类型 Cutters type	平面齿（特殊处理） Planar cutter (special treatment)
扣型 Buckle type	锥扣/平扣 Tapered/flat buckle

具体尺寸可根据客户的需求定制设计

Specific dimensions can be customized and designed according to customer needs



扩孔钻头

Reaming Bits

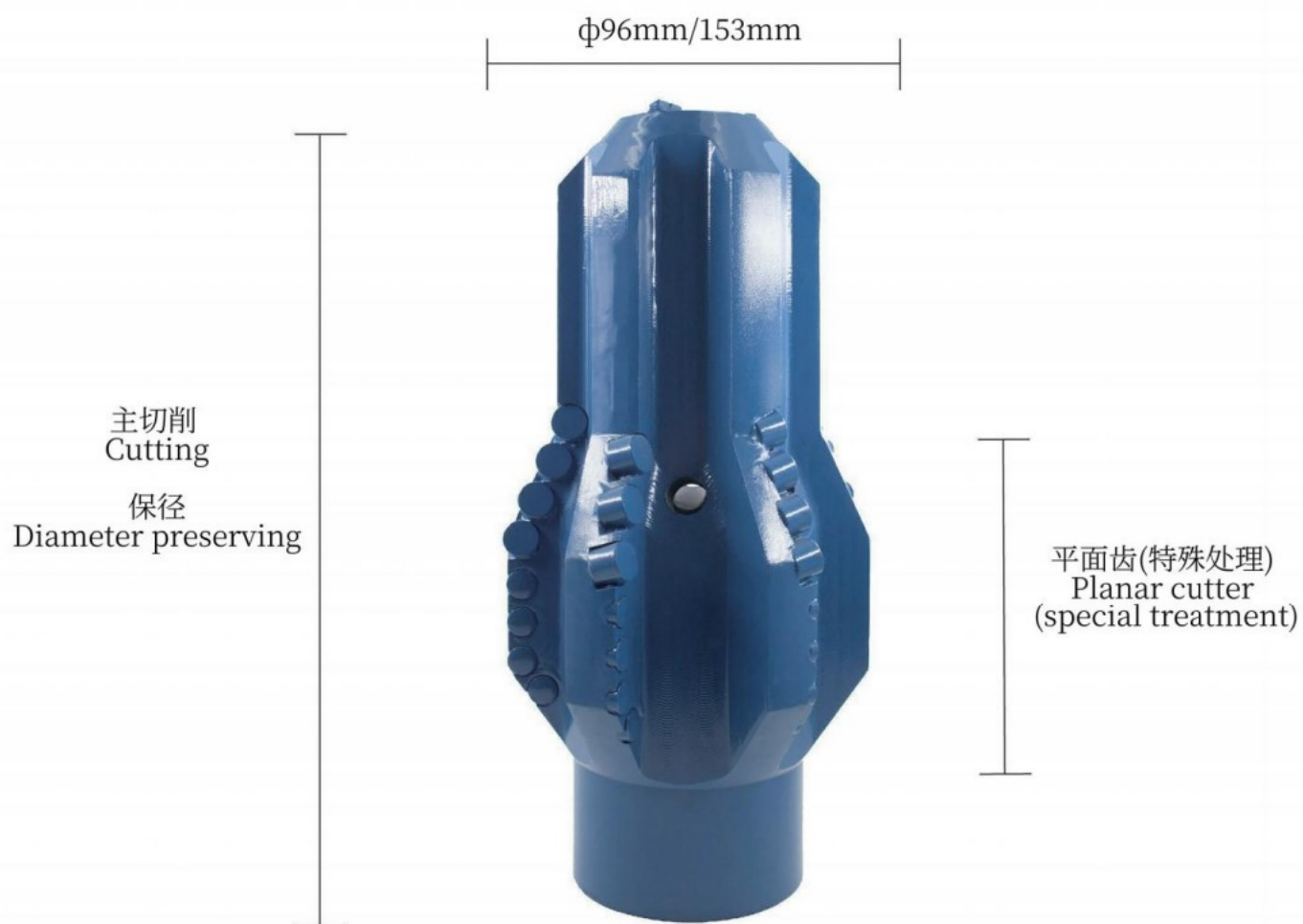
产品名称 Name	扩孔钻头 Reaming bit
主要规格 Specification	Φ96mm/Φ153mm Φ120mm/Φ153mm Φ120mm/Φ245mm Φ153mm/Φ193mm Φ153mm/Φ275mm Φ193mm/Φ253mm
颜色 Colour	蓝色或按要求定制 Blue or customized as required
刀翼 Blade	4/6/8
复合片规格 Cutters Specification	主切削 Cutting: Φ13mm 保径 Diameter preserving: Φ16mm
复合片类型 Cutters type	平面齿（特殊处理） Planar cutter (special treatment)

扩孔钻头通过钻头设计优化刀翼/排屑槽的形状，使井底流场具有流畅流线形态，尽可能消除刀翼表面附壁涡流，形成合理的井底压力分布和足够的井底漫流层

The reaming bit optimizes the shape of the blade/chip removal groove through the design platform of the drilling bit, resulting in a smooth streamline shape of the bottom hole flow field, eliminating the wall attached vortex on the blade surface as much as possible, forming a reasonable bottom hole pressure distribution and sufficient bottom hole overflow layer

具体尺寸可根据客户的需求定制设计

The specific size can be customized and designed according to customer needs



$\Phi 120\text{mm}/\Phi 153\text{mm}$



$\Phi 120\text{mm}/\Phi 153\text{mm}$

打捞钻头

Fishing Bits

产品名称 Name	打捞钻头 Fishing bit
主要规格 Specification	Φ89mm-Φ115.5mm
颜色 Colour	蓝色或按要求定制 Blue or customized as required
复合片规格 Cutters specification	Φ10/13
复合片类型 Cutters type	平面齿（特殊处理） Planar cutter (special treatment)

打捞工具主要用于打捞钻井、修井工程中掉落或折断的部分钻具，它可根据钻头和钻杆外径尺寸设计，配合钻具组合从而捞起掉落物

Fishing tools are mainly used to salvage parts of drilling tools that have fallen or broken during drilling and work over projects, They can be designed based on the outer diameter of the drilling bit and drilling pipe, and combined with drilling tools to pick up fallen objects

具体尺寸可根据客户的需求定制设计

The specific size can be customized and designed according to customer needs



取芯钻头

Coring Bits

产品名称 Name	取芯钻头 Coring bit
主要规格 Specification	Φ75-Φ173
切削齿数量 Number of cutting cutters	5-16
适应岩层 Adapt to rock formations	F≤12
钻头类型 Bit type	PDC复合片/孕镶单晶金刚石 PDC cutters/Impregnated monocrystal diamond
岩芯管参数 Parameters of core tube	Φ73-Φ168

金刚石取芯钻头广泛应用于地质勘探、水利电力工程、水文地质勘探和建筑施工等领域。孕镶金刚石取芯钻头采用高质量的单晶金刚石制造，钻进时胎体磨损，金刚石不断出露克取岩石

Diamond core drilling bits are widely used in geological exploration, water conservancy and power engineering, hydrogeological exploration, and construction fields. The impregnated diamond core drilling bit is made of high-quality monocrystal diamond, which causes wear and tear on the matrix during drilling, and the diamond continuously emerges to extract rocks

孕镶单晶金刚石
Impregnated
monocrystal
diamond



PDC复合片
PDC cutters



具体尺寸可根据客户的需求定制设计
The specific size can be customized and designed according to customer needs



贵州某县金矿定向钻井工程

In the directional drilling project of a gold mine in Guizhou, China

使用案例 Use cases

贵州某县金矿定向钻井工程，由于孕镶金刚石凹面定向钻头进尺缓慢，在447.35-609.95m井段采用株洲贝特PDC定向钻头用于定向增斜使用。

使用效果: 较孕镶/表镶定向钻头而言，复合齿正常出刃，无损坏。平角型钻头进尺量增加4.28倍，刀翼钻头进尺量增加2.75倍，机械钻速平均增加2-3倍。

In the directional drilling project of a gold mine in Guizhou, due to the slow footage of the impregnated diamond concave directional drilling bit, the ZZbetter PDC directional drilling bit was used for directional deviation enhancement in the 447.35-609.95m well section.

Usage effect: Compared with impregnated/surface set directional drills, the PDC cutter are normal and undamaged. The footage of the flat angle bit increased by 4.28 times, the footage of the blade bit increased by 2.75 times, and the average mechanical penetration rate increased by 2-3 times.

No.3 锚杆钻头

Anchor Bits



型号 No.	压力 Pressure (kg)	转速 Speed (r/m)	复合片 PDC cutters	丝扣 Thread	适应岩层 Rock formation
Φ25	300-700	150-200	半片/整片 平底复合片 Half/whole flat PDC cutter	M14×1.5	半片普通PDC： f<6的岩层 Half piece ordinary PDC： f<6 rock stratum
Φ28	300-700	150-200		M16×2	整片普通PDC： f=6~10的较完整中硬岩层 Whole piece ordinary PDC： Relatively complete medium hard rock stratum with f=6-10
Φ30	300-700	150-200		M14×2	整片高密度PDC： f=10~12的较完整岩层 Whole piece of high-density PDC： Relatively complete rock stratum with f=10-12
Φ32	300-700	150-200		M12×2	

No.4 截齿

Pick Series



类型 Type		型号 Model	齿头尺寸 Cutter size (mm)	保径方式 Wear protection
综采截齿 Fully mechanized minin pick	普通型 Common type	LP-UP84	19	敷焊 Cladding protection 硬质合金齿保径 Tungsten carbide tip protection
		LP-UP94		
		LP-UP170		
	加强型 Enhanced type	LP-UJ84	22	
		LP-UJ94		
		LP-UJ170		
	定制型 Specialized type	LP-UD84	25	
		LP-UD94		
		LP-UD170		
巷道掘进截齿 Roadheader pick		LP-S135	25	
旋挖截齿 Rotary pick		LPL-X3060-22	22	



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