



15 年致力于 钻井钻头的研发和生产

DEDICATED TO THE DEVELOPMENT AND PRODUCTION
OF DRILLING BITS FOR 15 YEARS

产品手册

PRODUCT MANUAL

河北中兴宏力钻头制造有限公司

Hebei Zhongxing Hongli Drills Manufacturing Co., Ltd.

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APPLICATION 应用

01

油气井钻采
Oil/Gas well drilling

02

水井钻探
Water well drilling

03

非开挖
HDD (Trenchless)

04

基础桩基
Foundation piling

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PDC bits

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Mud motor & Sonde housing

19 其他热门产品
Drilling tools etc.

降低每米钻井成本
实现最大的成本效益

REDUCE DRILLING COST PER METER ACHIEVE MAXIMUM COST-EFFECTIVENESS

ABOUT US

公司简介

河北中兴宏力钻头制造有限公司位于首都北京附近的历史名城河间。河间市是著名的华北油田所在地之一，丰富的资源和技术支持推动了我公司 SXBITS 的建立和发展。

本公司致力于钻头的研究设计与生产，主要生产牙轮掌片、三牙轮钻头、PDC 钻头、HDD 扩孔器及相关钻具，可用于油气井钻井、地热井钻井、采矿、地质调查、水文调查、水井钻井、HDD 管道工程、基础桩基等。

凭借高端设备和严格遵守石油学会规范和国际标准化组织 9001:2015 标准，我们已经出口到很多个国家和地区。我们拥有专业的技术和营销团队，致力于为各种应用和需求提供优化的解决方案，针对特定项目的优化解决方案是我们的工作方向，“降低每米钻井成本，实现最大的成本效益”是我们与客户的共同的目标。

Hebei Zhongxing Hongli Drills Manufacturing Co., Ltd. locates in Hejian City, a historical city nearby Capital Beijing. Hejian city is one of locations of the well known Oilfield Huabei, rich resources and technical supports propelled the establishment and development of our SXBITS.

We specialize in researching and production of rock drilling bits, mainly includes tricone bits, PDC bits, HDD hole opener, foundation roller cutters and related tools, application fields includes oil well drilling, gas well drilling, geothermal well drilling, mining, geological survey, hydrographic survey, water well drilling, HDD pipelines projects, foundation projects.

With high-end equipment in the world, all of our activities are strictly complying with ISO 9001:2015 standards. We have exported to more than 30 countries and areas with professional technical and marketing team, we devote ourselves to provide optimized solutions for various of applications and requirement, optimized solutions for specific projects is our working direction, we have same aim with customers--"Lower the cost of drilling per meter, achieve the most cost effective".



ROLLER CONE 牙轮掌片

牙轮掌片是三牙轮钻头和扩孔器的组装零件，是钻进工程中的“坚实臂膀”。

牙轮掌片采用高强度高韧性的硬质合金材料加工制作而成的，是构成牙轮钻头和组合钻具的关键部位，是钻头赖以支撑、旋转并高效破碎岩石的基础与核心载体。

Roller cone bits are assembly parts of Tricone bit and hole opener, its the main cutting structure of a bit. The advanced metal seal package is composed by two metal seals and two elastic rubber energizers. The energizer and back-up ring will support the pushing force to make the two metal faces tightly contact. In the drilling, the metal seals are relevant moving, and the energizers are static. This will increase the bearing seal reliability and durability. The compensation system and the high quality bit grease can limit pressure differential, and greatly increase the lubricating reliability.

掌片推荐参数及适用地层

Roller cone bits Recommended Parameter and Formation

IADC	Recommended Parameter		Formation
	WOB kN/mm	RPN r/min	
517	0.3~0.7	120~50	Very soft with low compressive strength, such as mudstone, gypsum, salt, soft shale, soft limestone, etc. 具有低抗压强度的极软地层，例如泥岩，石膏，盐，软页岩，软石灰石等。
537	0.3~0.7	100~40	Medium hard with hard streaks and low compressive strength, such as medium soft shale, limestone and sandstone as well as thick and hard streaks, etc. 中硬地层，抗压强度低，例如中软页岩，石灰岩和砂岩，以及厚硬条纹等。
617	0.4~0.8	90~50	Medium hard with hard streaks and high compressive strength such as hard shale, sands, limestone, etc. 中硬地层，具有硬质岩石分层和高抗压强度，例如硬页岩，沙子，石灰石等。
637	0.4~0.8	90~50	Medium hard with higher compressive strength as well as thick and hard streaks, such as hard shale, sands, limestone, dolomite, etc. 具有较高抗压强度的中等硬度，以及厚而硬的分层，例如硬页岩，沙子，石灰石，白云岩等。

注意：请勿同时使用最大钻压和最大转速。尺寸可接受预定定制。

Note: Do not use the maximum WOB and maximum RPM at the same time! Special size is available by given sample or drawings.

▶ 8 1/2 120°牙轮掌片



▶ 9 1/2 直板型牙轮掌片



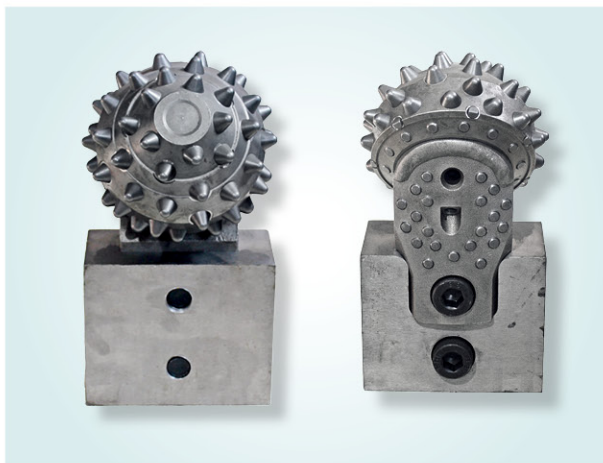
▶ 8 1/2 直板牙轮掌片



▶ 12 1/4 直板型牙轮掌片



▶ 可拆卸牙轮掌片



核心制造要求

强度、耐磨与精度的极致搭配

Core manufacturing requirements: The ultimate combination of strength, wear resistance and precision

鉴于其恶劣的工作环境（高温、高压、高磨损、强冲击、腐蚀性钻井液），掌片的制造对材料性能和加工工艺提出了极高要求：

Given its harsh working conditions (high temperature, high pressure, high wear, strong impact, and corrosive drilling fluid), the manufacturing of the shank requires extremely high demands on material properties and processing techniques:

01 高强度高韧性材料 High-strength and high-toughness materials

通常选用特殊硬质合金钢，经过严格的热处理，使其具备极高的抗拉强度、屈服强度和冲击韧性，以承受巨大的钻压、扭矩和井下复杂应力。

Special hard alloy steel is usually selected and undergoes strict heat treatment to achieve extremely high tensile strength, yield strength, and impact toughness, enabling it to withstand huge drilling pressure, torque, and complex downhole stresses.

02 优异的耐磨性 Excellent wear resistance

轴颈表面、掌片外缘（保径面）以及与井壁、岩石接触的易磨损区域，需要采取强化措施：

表面硬化：如感应淬火、渗碳等，提高表面硬度。

堆焊耐磨层：在关键部位堆焊一层高硬度的碳化钨或其他耐磨合金材料（如“硬面层”），显著提高耐磨寿命。

镶嵌硬质合金齿：在保径面镶嵌圆柱形或球形硬质合金齿（保径齿、修边齿），提供卓越的抗磨能力，防止井眼直径因钻头磨损而缩小，保证井身质量。

Surface of the journal, the outer edge of the shank (reaming surface), and the wear-prone areas in contact with the well wall and rock require enhanced measures:

Surface hardening: Such as induction hardening, carburizing, etc., to increase surface hardness.

Machining of wear-resistant layers: A layer of high-hardness tungsten carbide or other wear-resistant alloy materials (such as "hard surface layer") is welded on key parts, significantly improving wear life.

Embedded hard alloy teeth: Round or spherical hard alloy teeth (reaming teeth, trimming teeth) are embedded on the reaming surface to provide excellent anti-wear capability, preventing the reduction of wellbore diameter due to drill bit wear and ensuring wellbore quality.

03 精密的尺寸与几何精度 Precise dimensions and geometric accuracy

轴颈的直径、圆度、圆柱度、表面光洁度以及各掌片之间的夹角等，都必须经过精密加工和严格检测。这直接关系到轴承的配合精度、牙轮转动的平稳性以及钻头的整体工作性能和使用寿命。

The diameter, roundness, cylindricity, surface finish, and the angle between each shank must undergo precise processing and strict inspection. This directly affects the mating accuracy of the bearing, the smoothness of the tooth wheel rotation, and the overall working performance and service life of the drill bit.

04 可靠的内部水道 Reliable internal water channels

水眼或流道的设计需流畅，内壁需光滑耐磨，确保钻井液顺畅通过，减少压力损失，防止冲蚀和堵塞。

The design of the water channels or flow paths should be smooth, and the inner walls should be smooth and wear-resistant to ensure the smooth passage of drilling fluid, reduce pressure loss, and prevent erosion and blockage.

技术特点与优势

Technical features and advantages



承载核心
Core bearing

作为钻头骨架，将地面施加的巨大钻压和扭矩传递给牙轮，是力量传递的中枢。

As the framework of the drill bit, it transmits the huge drilling pressure and torque exerted by the ground to the tricone, serving as the central point for power transmission.



井眼守护者
Wellbore guardian

掌片的保径设计对于维持井眼尺寸稳定、防止缩径和键槽卡钻至关重要。

The pilot blade's wellbore maintaining design is crucial for maintaining the stability of the wellbore size, preventing coning and keyway stuck drill.



轴承保护者
Bearings protector

坚固的轴颈和内部水道设计，是保护昂贵且精密的轴承系统在恶劣环境下长时间工作的第一道防线。

The sturdy shaft neck and internal water channel design serve as the first line of defense to protect the expensive and precise bearing system from working in harsh environments for a long time.



适应性广
Broad adaptability

通过掌片结构、轴颈设计、保径方式和材料选择的优化，牙轮钻头能适应从极软到极硬、从均质到破碎、研磨性强的各种复杂地层。

Through the optimization of the pilot blade structure, shaft neck design, wellbore maintaining method and material selection, the tricone drill bit can adapt to various complex formations ranging from extremely soft to extremely hard, from homogeneous to fragmented, and with strong grinding properties.



BULLET TEETH 旋挖截齿

旋挖截齿是专为旋挖钻机设计的关键配件，采用高品质合金钢材质，经过精密加工与热处理，具有卓越的切削性能和耐磨性。它能够有效切割各种地质层，如岩石、卵石、黏土等，提高旋挖钻机的工作效率和钻孔质量。采用独特的刀刃设计，能够减少切削阻力，延长使用寿命。

其高硬度的合金钢材质，使得截齿在恶劣工况下仍能保持锋利，减少磨损。此外，截齿安装简便，更换快捷，大大降低了维护成本和时间。

截齿广泛应用于建筑、桥梁、桩基等工程领域，特别是在复杂地质条件下的钻孔施工中表现出色。无论是城市建筑基坑开挖，还是高速公路、铁路等基础设施的桩基施工，都是不可或缺的高效工具。

Bullet teeth are key components specially designed for rotary drilling rigs. Made of high-quality alloy steel and processed precisely with heat treatment, they feature outstanding cutting performance and wear resistance. They can effectively cut through various geological layers such as rocks, pebbles, and clay, enhancing the working efficiency and drilling quality of rotary drilling rigs. With a unique blade design, they can reduce cutting resistance and extend service life.

The high-hardness alloy steel material ensures that the teeth remain sharp and minimize wear even under harsh working conditions. Additionally, they are easy to install and quick to replace, significantly reducing maintenance costs and time.

Bullet teeth are widely used in construction, bridge, and pile foundation projects, especially in drilling operations under complex geological conditions. Whether it is the excavation of foundation pits for urban buildings or the construction of pile foundations for highways and railways, they are indispensable efficient tools.



20 只 / 箱
(20PCS/PLASTIC)

SX30/55-22J—SX30/55-28J
(With Extra Welding)

本款截齿应用于土层，卵石层及 40Mpa-60Mpa 之间比较坚硬的强风化岩石地层，也可用于钻筒配套使用。

The cutter pick is mostly using for soil layer, pebble layer and strong weathered rock conditions of 40Mpa to 60Mpa. It can also be used in combination with barrel core bit.



20 只 / 箱
(20PCS/PLASTIC)

SX30/55-8T22J—SX30/55-8T28J
(With 8 Carbide Strips)

本款截齿采用镶嵌 8 条硬质合金条的设计，增加齿体得抗耐磨性能，适用于土层以及砂岩地层。

The cutter pick is designed with 8 carbide strips to increase the wear resistance of the teeth body, the cutter pick is mostly using for soil layer and sandstone rock conditions.



20 只 / 箱
(20PCS/PLASTIC)

SX30/55-10K22J—SX30/55-10K28J
(With 10 Carbide Tips)

本款截齿采用镶嵌 10 个硬质合金齿的设计，增加齿体的抗耐磨性能，适用于比较坚硬的砂岩地层。

The cutter pick is designed with 10 carbide tips to increase the wear resistance of the teeth body, the cutter pick is mostly using for hard sandstone rock conditions.

BARREL CORE BIT & HOLE OPENER

旋挖筒钻 & 扩孔器

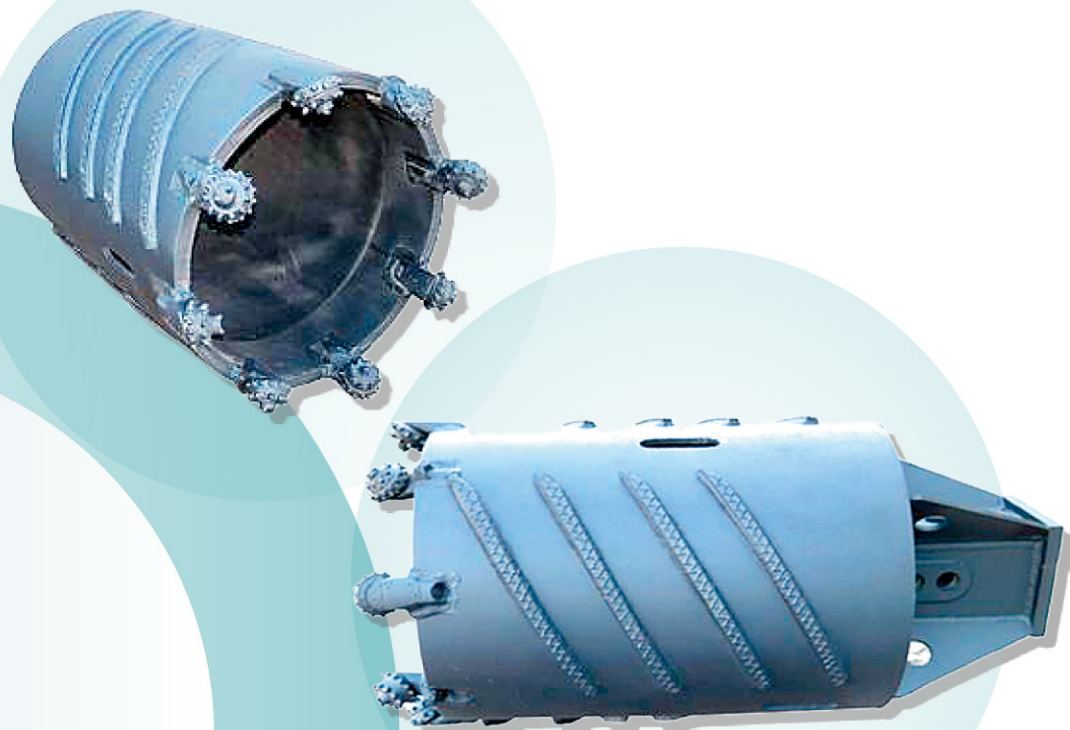
组合钻头搭配高强度牙轮掌片，可以满足水利系统、地道、建筑、开采等多种施工场地的要求，尤其是在地层为强、中、微风化岩石和卵砾石，如花岗岩、片麻岩、砂岩、灰岩、页岩等环境中使用效果更加卓著。是利用水力学的原理进行工作的，可以更加彻底的清除孔底的沉渣，并且具有双支点设计，其防磨损形式更加的稳固，并且改变了传统牙轮的分布形式，让钻头的稳定性和使用寿命进一步增强。

根据钻具尺寸可搭配不同尺寸和数量的牙轮掌片，扣型可接受定制。

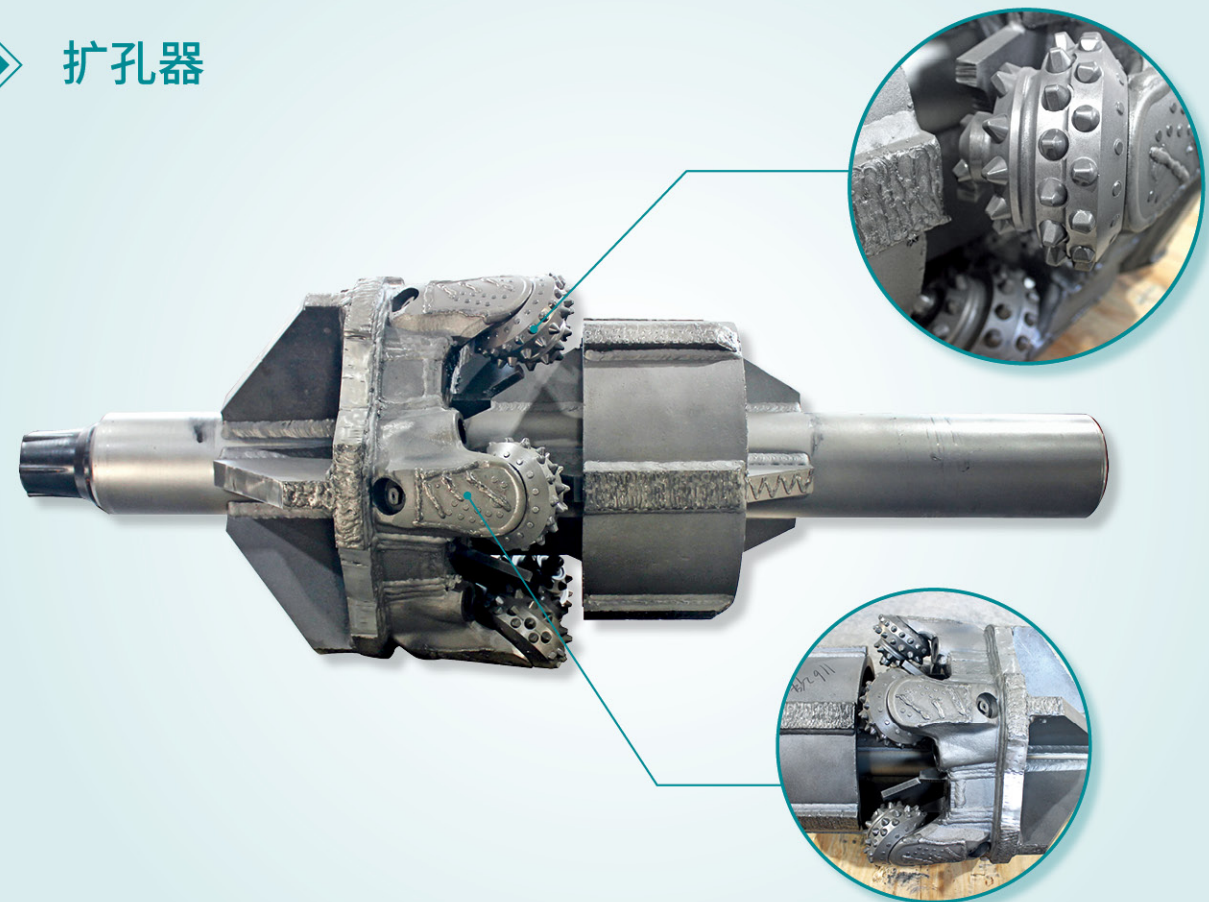
The assembly bit can meet the requirements of water conservancy system, tunnel, construction, mining and other construction sites, especially in the formation of strong, medium, breezy rock and oosite, such as granite, gneisses, sandstone, limestone, shale and other environments use effect is more outstanding.It is operated by using the principle of hydraulics, which can more thoroughly remove the sediment at the bottom of the hole, and has the design of double fulcrum, which makes the anti-wear form more stable, and changes the distribution form of the traditional roller, so that the stability and service life of the bit can be further enhanced.

According to the size of the drill tool, different sizes and quantities of cone palm plates can be matched, and the thread type can be customized.

旋挖筒钻



扩孔器



扩孔器规格 / Specification of the SX TOOLS' HDD Rock Reamer

Rock Reamer inch	Roller cone cutters Size and Teeth Type	No.of Cones	Rock Reamer inch	Roller cone cutters Size and Teeth Type	No.of Cones
310mm	8 1/2"Milled teeth or TCI insert	3	450mm	12 1/4"Milled teeth or TCI insert	4
350mm	8 1/2"Milled teeth or TCI insert	3 or 4	500mm	9 1/2"Milled teeth or TCI insert	5
350mm	9 1/2"Milled teeth or TCI insert	3	500mm	8 1/2"Milled teeth or TCI insert	5
380mm	9 1/2"Milled teeth or TCI insert	3 or 4	500mm	12 1/4"Milled teeth or TCI insert	4 or 5
400mm	9 1/2"Milled teeth or TCI insert	4	530mm	12 1/4"Milled teeth or TCI insert	4
400mm	8 1/2"Milled teeth or TCI insert	4	550mm	9 1/2"Milled teeth or TCI insert	5
450mm	8 1/2"Milled teeth or TCI insert	5	550mm	12 1/4"Milled teeth or TCI insert	4 or 5
450mm	9 1/2"Milled teeth or TCI insert	5	600mm	9 1/2"Milled teeth or TCI insert	6

Rock Reamer inch	Roller cone cutters Size and Teeth Type	No.of Cones
550mm	8 1/2"Milled teeth or TCI insert	6
600mm	8 1/2"Milled teeth or TCI insert	6
600mm	12 1/4"Milled teeth or TCI insert	5 or 6
630mm	9 1/2"Milled teeth or TCI insert	6
650mm	9 1/2"Milled teeth or TCI insert	7
650mm	12 1/4"Milled teeth or TCI insert	5 or 6
700mm	9 1/2"Milled teeth or TCI insert	7
700mm	12 1/4"Milled teeth or TCI insert	6
730mm	9 1/2"Milled teeth or TCI insert	7
750mm	9 1/2"Milled teeth or TCI insert	8
750mm	12 1/4"Milled teeth or TCI insert	6 or 7
800mm	9 1/2"Milled teeth or TCI insert	8
800mm	12 1/4"Milled teeth or TCI insert	7
850mm	9 1/2"Milled teeth or TCI insert	9
850mm	12 1/4"Milled teeth or TCI insert	7 or 8
900mm	9 1/2"Milled teeth or TCI insert	9
900mm	12 1/4"Milled teeth or TCI insert	7 or 8
930mm	12 1/4"Milled teeth or TCI insert	9
950mm	12 1/4"Milled teeth or TCI insert	8 or 9
950mm	9 1/2"Milled teeth or TCI insert	9 or 10
1000mm	9 1/2"Milled teeth or TCI insert	10
1000mm	12 1/4"Milled teeth or TCI insert	9 or 10
1050mm	12 1/4"Milled teeth or TCI insert	9 or 10
1050mm	9 1/2"Milled teeth or TCI insert	10
1070mm	9 1/2"Milled teeth or TCI insert	11
1100mm	9 1/2"Milled teeth or TCI insert	10
1100mm	12 1/4"Milled teeth or TCI insert	10 or 11

Rock Reamer inch	Roller cone cutters Size and Teeth Type	No.of Cones
1200mm	12 1/4"Milled teeth or TCI insert	11 or 12
16"	8 1/2"Milled teeth or TCI insert	4 or 5
16"	9 1/2"Milled teeth or TCI insert	4
18"	8 1/2"Milled teeth or TCI insert	5
18"	9 1/2"Milled teeth or TCI insert	4 or 5
18"	12 1/4"Milled teeth or TCI insert	4
20"	8 1/2"Milled teeth or TCI insert	5
20"	9 1/2"Milled teeth or TCI insert	5
20"	12 1/4"Milled teeth or TCI insert	4
22"	12 1/4"Milled teeth or TCI insert	5
22"	9 1/2"Milled teeth or TCI insert	5 or 6
24"	9 1/2"Milled teeth or TCI insert	6
24"	12 1/4"Milled teeth or TCI insert	5
26"	9 1/2"Milled teeth or TCI insert	7
26"	12 1/4"Milled teeth or TCI insert	5
28"	9 1/2"Milled teeth or TCI insert	7
28"	12 1/4"Milled teeth or TCI insert	6 or 7
32"	12 1/4"Milled teeth or TCI insert	7
32"	9 1/2"Milled teeth or TCI insert	8
34"	12 1/4"Milled teeth or TCI insert	8
36"	12 1/4"Milled teeth or TCI insert	8
36"	17 1/2" Milled teeth or TCI insert	6
40"	12 1/4"Milled teeth or TCI insert	9 or 10
42"	12 1/4"Milled teeth or TCI insert	11
42"	17 1/2" Milled teeth or TCI insert	7
48"	17 1/2" Milled teeth or TCI insert	9
56"	17 1/2" Milled teeth or TCI insert	10

TRICONE BITS 三牙轮钻头

镶齿牙轮钻头适用于具有较高抗压强度的坚硬地层，如砂岩，较硬的页岩，白云岩，硬石膏，花岗岩等。钢齿牙轮钻头适用于抗压强度低，可钻性高的软地层，如泥岩，石膏，软质灰岩等。

TCI tricone bits are suitable for use with hard formation with high compressive strength ,such as sandstone,harder shale, dolomite,hard gypsum,chert, granite,etc.

Mill teeth tricone bits are suitable for use with Soft formation with low compressive strength ,and high drillability ,such as mudstone,gypsum,salt,soft limestone, etc.

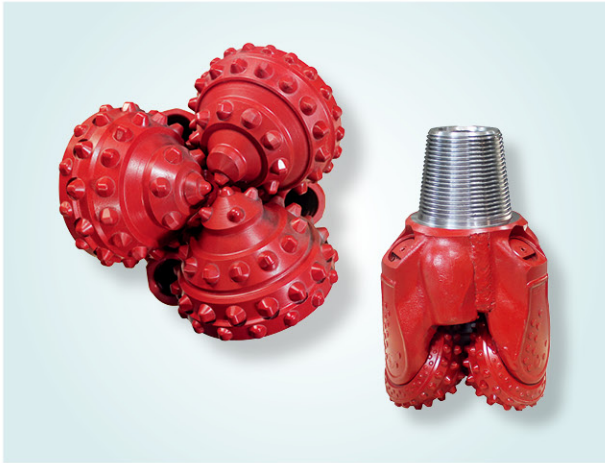
8 1/2 镶齿三牙轮钻头 8 1/2 TCI Tricone Bit



9 1/2 镶齿三牙轮钻头 9 1/2 TCI Tricone Bit



12 1/4 镶齿三牙轮钻头 12 1/4 TCI Tricone Bit



钢齿三牙轮钻头 Steel (Mill) Tooth Tricone Bit



我公司生产的牙轮钻头采用先进的密封技术，具有良好的密封性能，可在高速钻井、定向井、水平井等钻进工具中稳定使用。镶齿钻头采用高强度高韧性合金齿，可选偏顶勺形齿、勺形齿、楔形齿和锥球齿等多种高效合金齿，充分发挥了镶齿钻头高耐磨性和优异切削能力。钢齿钻头增加敷焊层厚度和齿的露高，并敷焊新型耐磨材料，延长了钻头使用寿命，具有较高的使用价值。

Our drill bit has good structural characteristics and advantages. The three diffused nozzles and three diffused nozzles not only meet the cleaning requirements of the roller, but also meet the cleaning requirements of the step bottom hole. It can improve the drilling speed and energy conversion rate, increase the construction efficiency and quality, and ensure the smooth completion of the work.

The broken bottom of the stepped shaft increases the free surface of the rock at the bottom of the well, reduces the crushing work required for the rock of the unit volume, and greatly improves the drilling rate of the machine under the condition of the same mechanical crushing work;Compared with the cone bit of the same size, in terms of cutting teeth, the number of cutting teeth is increased and the size of cutting teeth is reduced, which is more conducive for cutting teeth to eat into the formation.

三牙轮钻头规格 / Specification

Regular Models of Tricone Bits			
Regular Sizes	Regular IADC	API Reg Pin	Make-up Torque(N.m)
3 7/8" (98.4mm)	126/216/637	2 3/8	4100~4700
4 5/8" (117.4mm)	126/216/517/537/637	2 7/8	6100~7500
5 1/4" (133.3mm)	126/216/517/537/637	3 1/2	9500~12200
5 5/8" (142.8mm)	126/216/517/537/637	3 1/2	9500~12200
5 7/8" (149.2mm)	126/216/517/537/637	3 1/2	9500~12200
6" (152.4mm)	126/127/216/517/537/617/637	3 1/2	9500~12200
6 1/4" (158.7mm)	126/127/216/517/537/617/637	3 1/2	9500~12200
6 1/2" (165mm)	126/127/216/517/537/617/637	3 1/2	9500~12200
7 1/2" (190mm)	126/216/517/537	4 1/2	16300~21700
7 5/8" (193mm)	126/216/517/537	4 1/2	16300~21700
7 7/8" (200mm)	126/216/517/537	4 1/2	16300~21700
8 1/2" (215.9mm)	117/127/217/437/517/537/617/637	4 1/2	16300~21700
9 1/2" (241.3mm)	117/127/217/437/517/537/617/637	6 5/8	38000~43400
9 7/8" (250.8mm)	117/127/217/437/517/537/617/637	6 5/8	38000~43400
10 5/8(269.8mm)	117/127/137/217/517/537/617/637	6 5/8	38000~43400
11 5/8(295.3mm)	117/127/137/217/517/537/617/637	6 5/8	38000~43400
12 1/4" (311.1mm)	114/127/217/437/517/537/617/637	6 5/8	38000~43400
13 5/8" (346.0mm)	127/217/517/537/617/637	6 5/8	38000~43400
14 3/4" (374.6mm)	127/217/517/537/617/637	7 5/8	46100~54200
17 1/2" (444.5mm)	114/115/125/215/515/535/615/635	7 5/8	46100~54200
26" (660.4mm)	114/115/125/215/515/535/615	7 5/8	46100~54200

橡胶密封镶齿钻头推荐参数和适用地层

Rubber sealing tungsten carbide insert bit Recommended Parameter and Formation

IADC	Recommended Parameter		Formation
	WOB kN/mm	RPN r/min	
417、427	0.3~0.9	150~70	Very soft with low compressive strength and high drillability, such as clay, soft mudstone, shale, salt, loose sands, etc. 极软地层，抗压强度低，可钻性高，例如粘土，软泥岩，页岩，盐，松散的沙子等。
437、447	0.35~0.9	150~70	Very soft with low compressive strength and high drillability, such as clay, soft mudstone, shale, salt, loose sands, etc. 极软地层，抗压强度低，可钻性高，例如粘土，软泥岩，页岩，盐，松散的沙子等。
515、525	0.35~0.9	180~60	Very soft with low compressive strength and high drillability, such as mudstone, salt, soft limestone, sands, etc. 极软地层，具有低抗压强度和高可钻性，例如泥岩，盐，软石灰石，砂土等。
517、527	0.35~1.0	140~50	Very soft with low compressive strength and high drillability, such as mudstone, salt, soft limestone, sands, etc. 极软地层，具有低抗压强度和高可钻性，例如泥岩，盐，软石灰石，砂土等。
535、545	0.35~1.0	150~60	Medium soft with harder, more abrasive streaks, such as hard shale, mudstone, soft limestone, etc. 中度软地层，具有较硬，更具磨蚀性的岩石分层，例如硬页岩，泥岩，软石灰石等。
537、547	0.4~1.0	120~40	Medium soft with harder, more abrasive streaks, such as hard shale, mudstone, soft limestone, etc. 中度软地层，具有较硬，更具磨蚀性的分层，例如硬页岩，泥岩，软石灰石等。
617、627	0.45~1.1	90~50	Medium hard with higher compressive strength as well as thick and hard streaks, such as hard shale, sands, limestone, dolomite, etc. 具有较高抗压强度的中等硬度地层，以及厚而硬的分层，例如硬页岩，沙子，石灰石，白云岩等。
637	0.5~1.2	80~40	Medium hard with higher compressive strength as well as thick and hard streaks, such as hard shale, sands, limestone, dolomite, etc. 具有较高抗压强度的中等硬度，以及厚而硬的分层，例如硬页岩，沙子，石灰石，白云岩等。
737	0.7~1.2	70~40	Hard with high abrasiveness such as hard limestone, dolomite, firm sands, etc. 具有高磨蚀性的硬质地层，例如硬质石灰石，白云石，硬砂等。
827、837	0.7~1.2	70~40	Very hard with high abrasiveness, such as quartzite, quartzitic sand, chert, basalt. 极硬地层，具有高磨蚀性，例如石英岩，石英砂、，石，玄武岩。

注意：请勿同时使用最大钻压和最大转速。

Note: Do not use the maximum WOB and maximum RPM at the same time!

金属密封镶齿牙轮钻头推荐参数和适用地层

Metal sealing tungsten carbide insert bit Recommended Parameter and Formation

IADC	Recommended Parameter		Formation
	WOB kN/mm	RPM r/min	
417、437、447	0.35~0.8	240~60	Very low compressive strength and high drillability, such as clay, soft mudstone, shale, salt, loose sands, etc. 具有极低的抗压强度和较高的可钻性地层, 例如粘土, 软泥岩, 页岩, 盐, 疏松砂土等。
517、527	0.35~1.0	220~50	Very soft with low compressive strength and high drillability, such as mudstone, salt, soft limestone, sands, etc. 极软地层, 抗压强度低, 可钻性高, 例如泥岩, 盐, 软石灰石, 沙子等。
537、547	0.45~1.0	220~50	Medium soft with harder, more abrasive streaks, such as hard shale, mudstone, soft limestone, etc. 中软地层, 具有较硬, 更具磨蚀性的岩石分层, 例如硬页岩, 泥岩, 软石灰石等。
617、627	0.45~1.1	200~50	Medium hard with higher compressive strength as well as thick and hard streaks, such as hard shale, sands, limestone, dolomite, etc. 具有较高抗压强度的中等硬度地层, 以及厚而硬的分层, 例如硬页岩, 沙子, 石灰石, 白云岩等。
637	0.45~1.1	180~40	Medium hard with higher compressive strength as well as thick and hard streaks, such as hard shale, sands, limestone, dolomite, etc. 具有较高抗压强度的中等硬度地层, 以及厚而硬的分层, 例如硬页岩, 沙子, 石灰石, 白云岩等。
737	0.7~1.2	180~40	Hard with high abrasiveness such as hard limestone, dolomite, firm sands, etc. 具有高磨蚀性的硬质地层, 例如硬质石灰石, 白云石, 硬砂等。
827、837	0.7~1.2	150~60	Very hard with high abrasiveness, such as quatzitic sand, chert, basalt, granite, etc. 极硬地层, 具有高磨蚀性, 例如四方砂, 燧石, 玄武岩, 花岗岩等。

注意: 请勿同时使用最大钻压和最大转速。

Note: Do not use the maximum WOB and maximum RPM at the same time!

钢齿钻头推荐参数和适用地层

Rubber sealing steel tooth bit Recommended Parameter and Formation

IADC	Recommended Parameter		Formation
	WOB kN/mm	RPN r/min	
114、115	0.3~0.75	180~50	Very soft with low compressive strength and high drillability, such as clay, mudstone, chalk, etc. 极软地层, 抗压强度低, 可钻性高, 如粘土、泥岩、白垩岩等。
116、117	0.3~0.8	150~70	Very soft with low compressive strength and high drillability, such as clay, mudstone, chalk, etc. 极软地层, 抗压强度低, 可钻性高, 如粘土、泥岩、白垩岩等。
124、125	0.3~0.85	180~60	Soft with low compressive strength and high drillability, such as clay, mudstone salt, loose stands, soft limestone, etc. 软质地层, 抗压强度低, 可钻性高, 如粘土、泥岩盐、疏松物、软石灰岩等。
126、127	0.3~0.9	150~60	Soft with low compressive strength and high drillability, such as clay, mudstone salt, loose stands, soft limestone, etc. 软质地层, 抗压强度低, 可钻性高, 如粘土、泥岩盐、疏松物、软石灰岩等。
134、135	0.35~0.95	150~50	Soft to medium with low compressive strength or soft with harder streaks, such as shale, mudstone, soft limestone, sands, etc. 软至中软地层, 抗压强度低或软而有较硬纹理, 如页岩、泥岩、软石灰岩、砂体等。
136、137	0.35~1.0	120~60	Soft to medium with low compressive strength or soft with harder streaks, such as shale, mudstone, soft limestone, sands, etc. 软至中软地层, 抗压强度低或软而有较硬纹理, 如页岩、泥岩、软石灰岩、砂体等。
214、215	0.4~0.95	150~60	Medium hard with hard streaks and high compressive strength, such as medium soft shale, anhydrite, medium soft limestone, medium soft sandstone as well as thick and hard streaks, etc. 高抗压强度的中硬地层, 具有硬纹理, 如中软页岩、硬石膏、中软石灰岩、中软砂岩及厚硬条带等。
216、217	0.4~1.0	100~60	Medium hard with hard streaks and low compressive strength, such as medium soft shale, limestone and sandstone as well as thick and hard streaks, etc. 中硬地层, 具有硬条纹, 抗压强度低, 如中软页岩、石灰岩、砂岩等, 也有厚硬纹理等。
244	0.35~0.95	150~50	Medium hard with hard streaks and high compressive strength such as hard shale, sands, limestones, etc. 中硬地层, 抗压强度高, 如硬页岩、砂、石灰石等。
246、247	0.4~1.0	80~50	Medium hard with hard streaks and high compressive strength such as hard shale, sands, limestones, etc. 中硬地层, 抗压强度高, 如硬页岩、砂、石灰石等。
324、325	0.4~1.0	120~50	Hard with high strength and abrasiveness such as hard limestone, hard sands, dolomite, hard shale, etc. 具有高强度和磨蚀性的硬质地层, 例如硬质石灰石, 硬质砂土, 白云石, 硬质页岩等。

PDC BITS

金刚石钻头

胎体 PDC 钻头因其优异的抗研磨性和耐腐蚀性，特别适用于侵蚀性环境中的钻探作业。同时，胎体钻头的碳化钨合金材质也使得它在承受压缩载荷方面表现出色。

钢体 PDC 钻头则凭借其高强度和高韧性的特点，在需要承受高冲击力的钻探场景中表现出众。此外，由于钢体钻头的设计通常具有更大的刀片支撑空间，因此它在流体和切屑移除方面也具有优势，从而有助于提高机械钻速。

胎体 PDC 钻头和钢体 PDC 钻头各自适用的场景：胎体钻头更适用于需要高抗研磨性和耐腐蚀性的地层，如含有研磨性颗粒的岩石层或腐蚀性流体环境。而钢体钻头则更适合于需要承受高冲击力或追求高机械钻速的钻探作业，如硬岩地层或需要快速钻进的情况。我们需要根据客户具体的钻探需求和地层条件来进行综合考虑钻头选型。

Matrix PDC bits are especially suitable for drilling in aggressive environments due to their excellent abrasion and corrosion resistance. At the same time, the tungsten carbide alloy material of the tire body bit makes it excellent in bearing compressive loads.

Steel-body PDC bits, with their high strength and toughness, excel in drilling scenarios where high impact forces are required. Additionally, as steel-body bits are typically designed with greater blade support space, they also offer advantages in terms of fluid and chip removal, thereby contributing to increased ROP.

Matrix PDC bit and steel PDC bit are suitable for their own scenarios. The matrix bit is more suitable for those formations that require high abrasion and corrosion resistance, such as rock layers containing abrasive particles or corrosive fluid environments. Steel-body bits are more suitable for drilling operations that require high impact forces or high ROP, such as hard rock formations or where rapid drilling is required. We need to consider the drill bit selection according to the customer's specific drilling requirements and formation conditions.



产品介绍 / Products specification

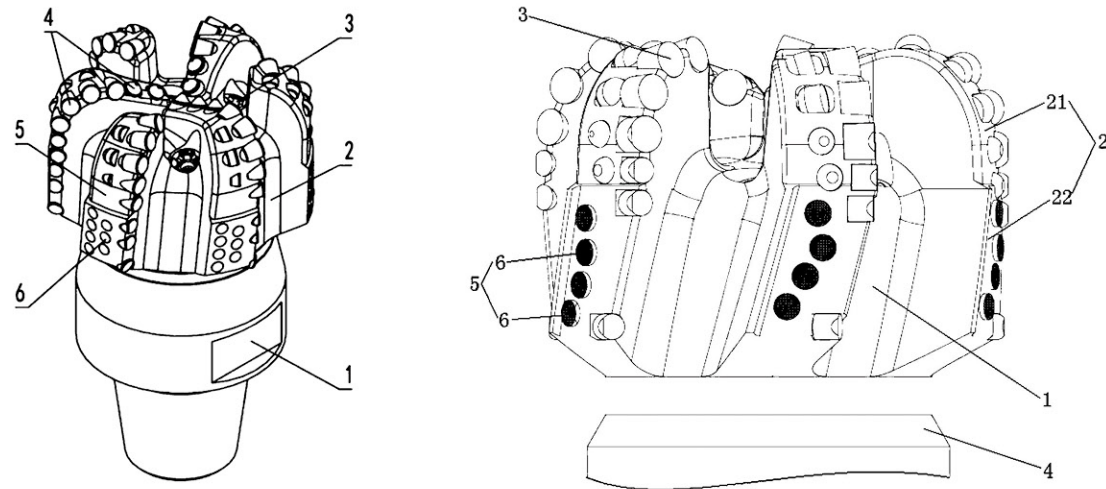
主体 Material	胎体 Matrix / 钢体 Steel
尺寸 Size	6 ~ 17 1/2 INCH
刀翼数 Number of Blades	3 ~ 6
复合片规格 Primary Cutter Size	13mm 16mm 19mm
喷嘴数量 Nozzle Qty.	4 ~ 8 NZ
测量长度 Gauge Length	55 ~ 150mm
连接螺纹 Connection	3 1/2 ~ 7 5/8 API REG

操作参数 / Operating parameters

钻进转速 RPM (r/min)	60 ~ 350
钻压 WOB(KN)	300 ~ 2500
泵流量 Flow Rate (lps)	100 ~ 500
适应岩层 Application	软 ~ 中硬地层 Soft ~ Medium hard formation

更多推荐 / More recommendations

类型 Type	岩层推荐 Formation Recommendation
普通 PDC 钻头 Common PDC bit	F < 10 的软 ~ 中硬度岩层 Soft ~ Medium hard formation
加强 PDC 钻头 Reinforced PDC bit	F=10~12 的中硬度岩层 Medium hard formation
高强 PDC 钻头 High strength PDC bit	F > 18 的硬度岩层 Hard formation



● 高耐磨复合片及保径结构 High wear-resistant composite sheet and gage structure



双排金刚石复合片排列增加了钻头钻进过程中破岩性和耐用性，另外根据不同地层和不同钻井需求可选择不同PDC复合片，使PDC钻头更合理的穿透地层，减少径向震动和磨损，将钻井效率和经济性能最大化。

The double row diamond composite arrangement increases the rock breaking and durability of the bit during drilling. In addition, different PDC composite pieces can be selected according to different formation and drilling requirements, so that the PDC bit can penetrate the formation more reasonably, reduce radial vibration and wear, and maximize drilling efficiency and economic performance.

MUD MOTOR&SONDE HOUSING 螺杆钻具 & 探棒仓

▶ 螺杆钻具



▶ 探棒仓

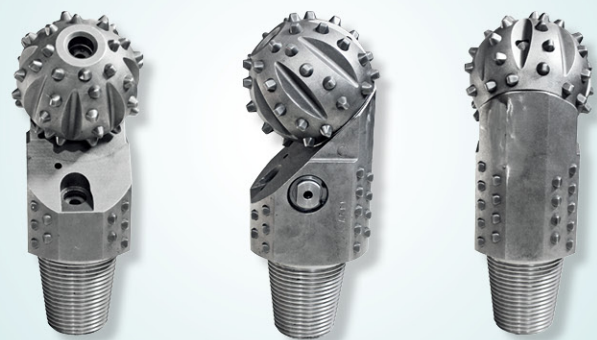


钻具参数 / Pump motor parameters

马达规格 Specification		5LZ95x7.0-4	7LZ102x7.0-5	5LZ120x7.0-4	7LZ127x7.0-5	5LZ165x7.0-5	7LZ172x7.0-5
井眼尺寸 Bit Size	mm	118 ~ 152	118 ~ 152	149 ~ 200	149 ~ 200	213 ~ 270	213 ~ 311
	in	4 ⁵ / ₈ ~6	4 ⁵ / ₈ ~6	5 ⁷ / ₈ ~7 ⁷ / ₈	5 ⁷ / ₈ ~7 ⁷ / ₈	8 ³ / ₈ ~10 ⁵ / ₈	8 ³ / ₈ ~12 ² / ₄
头数	Lobe	5:6	7:8	5:6	7:8	5:6	7:8
级数	Stages	4	5	4	5	5	5
马达压降 Pressure	Mpa	4.8	5	5.4	6.0	6.6	6.0
	Psi	696	725	783	870	957	870
连接螺纹 Connection	前端 Front end	3 ¹ / ₂ REG.Box	3 ¹ / ₂ REG.Box	3 ¹ / ₂ REG.Box	3 ¹ / ₂ REG.Box	4 ¹ / ₂ ~6 ⁵ / ₈ REG	4 ¹ / ₂ ~6 ⁵ / ₈ REG
	后端 rear-end	NC31.Pin	NC31.Pin	NC38.Pin	NC38.Pin	NC50.Pin	Nc50/5 ¹ / ₂ FH
流量范围 Flow Rate	LPM	300 ~ 720	350 ~ 750	600~1080	600 ~ 1140	1080 ~ 1680	1200 ~ 2160
	GPM	80 ~ 190	93 ~ 198	159 ~ 285	159 ~ 301	285 ~ 444	320 ~ 576
钻头转速 Bit Speed	r/min	110 ~ 260	92~210	126 ~ 227	100~189	106~165	85 ~ 160
工作扭矩 Torque	N.m	1428	2620	3100	4380	9360	10400
	Ft-lbs	1054	1934	2288	3232	6908	7675
最大扭矩 Max.Torque	N.m	2142	4080	4650	6445	13210	15600
	Ft-lbs	1579	3011	3430	4756	9749	11505
推荐钻压 Weight on Bit	KN	25	25	40	50	100	100
	Lb	5500	5500	8800	11000	22000	22000
输出功率 Output power	Kw	18 ~ 64.8	28.8 ~ 67	30.2 ~ 53.8	49.2 ~ 97.2	108 ~ 168	122 ~ 182
	HP	24.1 ~ 86.8	38.6 ~ 89.7	40.4 ~ 72	65.9 ~ 130.2	145 ~ 225	164 ~ 244
钻具长度 Length	1.75° /mm	3700	4300	5600	6300	7800	8200
重量 Weight	Kg	182	216	420	450	987	1100

DRILLING TOOLS ETC. 其他热门产品

► 独轮钻头 Single roller cone bit



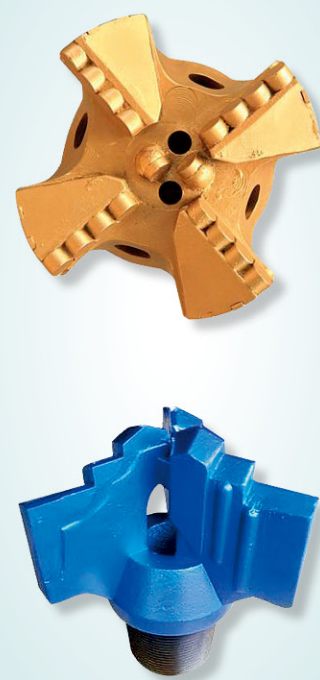
► PDC 扩孔器 PDC hole opener



► 取芯钻头 PDC core bits



► 刮刀钻头 Drag bit



► 喷嘴 Nozzle



► 接头 Joint



► 截齿座 Bullet teeth holder

