



洛阳金鹭硬质合金工具有限公司

地 址：河南省洛阳市国家高新技术产业开发区滨河北路68号

电 话：+0379-61101002

传 真：+86-379-61101766

网 址：www.xtcgtl.com

邮 箱：liu.qingeng@cxtc.com

LUOYANG GOLDEN EGRET GEOTOOLS CO.,LTD.

ADD : No.68,North Road,National High&New Tech Industry Zone,Luoyang,Henan,China

TEL : +0379-61101002

Fax : +86-379-61101766

Http : en.xtcgtl.com

Email : liu.qingeng@cxtc.com



股票代码 厦门钨业 600549
STOCK CODE OF XTC 600549
——2023 VERSION



掘进刀具产品册

TUNNELING CUTTERS PRODUCT CATALOGUE

 洛阳金鹭硬质合金工具有限公司
Luoyang Golden Egret Geotools Co.,Ltd.

>>> 目录 CATALOG

公司简介 COMPANY PROFILE 01

产业链 INDUSTRIAL CHAIN 03

掘进刀具系列 SERIES OF TUNNELING CUTTERS 05

软土刀具 SOFT SOIL CUTTING TOOLS 06

硬岩刀具 CUTTERS FOR HARD ROCKS 10

研发与生产 R & D and production 13

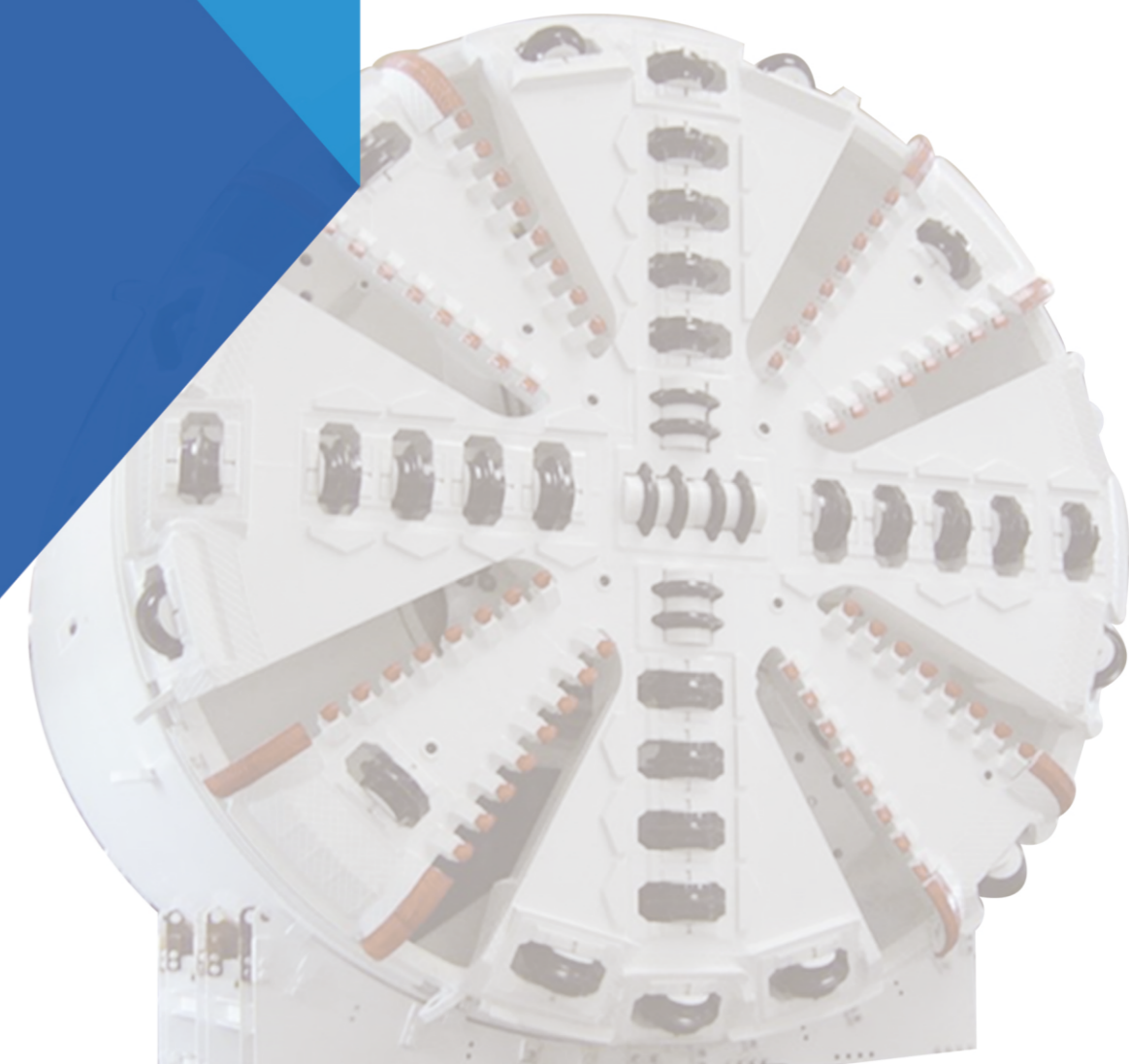
产品应用 Product applications 14

检测系统 INSPECTION SYSTEM 15

质量控制 QUALITY CONTROL 17

营销网络 SALES DISTRIBUTION NETWORK 19

产品介绍
PRODUCT
INTRODUCTION





洛阳金鹭

XTC LUOYANG PLANT

洛阳金鹭硬质合金工具有限公司，成立于2012年，是国有上市公司厦门钨业股份有限公司100%投资的“金鹭”系硬质合金骨干企业。公司注册资金10.5亿元人民币，一期投资13亿元人民币。主要从事钨粉末产品、硬面材料产品、硬质合金顶锤、硬质合金辊环、凿岩工程工具等钨系列产品的生产与销售。自公司成立以来，公司坚持走专业化、精细化发展道路，生产的“金鹭”系列产品以安全可靠的品质、完善的售后服务体系迅速赢得市场；客户遍布全球二十多个工业发达国家和地区。公司以“使员工实现价值，让用户满意，实现共赢发展”为使命，以技术创新和管理创新为引领，专注解决耐磨、破碎、压制等工业难题，努力打造世界一流的凿岩工程工具、硬质合金、硬面材料制造商和服务商。

Founded in 2012 with a registered capital of 1.05 billion RMB, Luoyang Golden Egret Geotools Company, as one of the cemented carbide backbones of “Golden Egret” and wholly-owned by its parent company XTC, is dedicated to the production and marketing of the high quality tungsten products including tungsten powders, hard-facing materials, carbide anvils, carbide roll rings, carbide substrates for PDC bit, mining and earth work drilling tools. 1.3 billion RMB was invested into the first phase of its construction.

Since the establishment of XTC Luoyang, the company has adhered to the path of professional and refined development. The “Golden Egret” series of products have quickly won the market with its safe and reliable quality and complete after-sales service system, obtaining customers all over the world in more than 20 industrial developed countries and areas.

We take “to realize staff's self-worth, to satisfy the users, to achieve win-win development” as our mission. Being guided by the innovations of technology and management, we focus on solving industrial problems such as wear resistance, crushing and pressing, striving to build a world-class manufacturer and service provider in the fields of mining and earth work drilling tools, carbide alloys and hard-facing materials.

厦门钨业

XTC

厦门钨业是在上海证券交易所上市的集团型股份公司，中国上市公司500强、国家重点高新技术企业、国家火炬计划钨材料产业基地、国家首批发展循环经济示范企业。

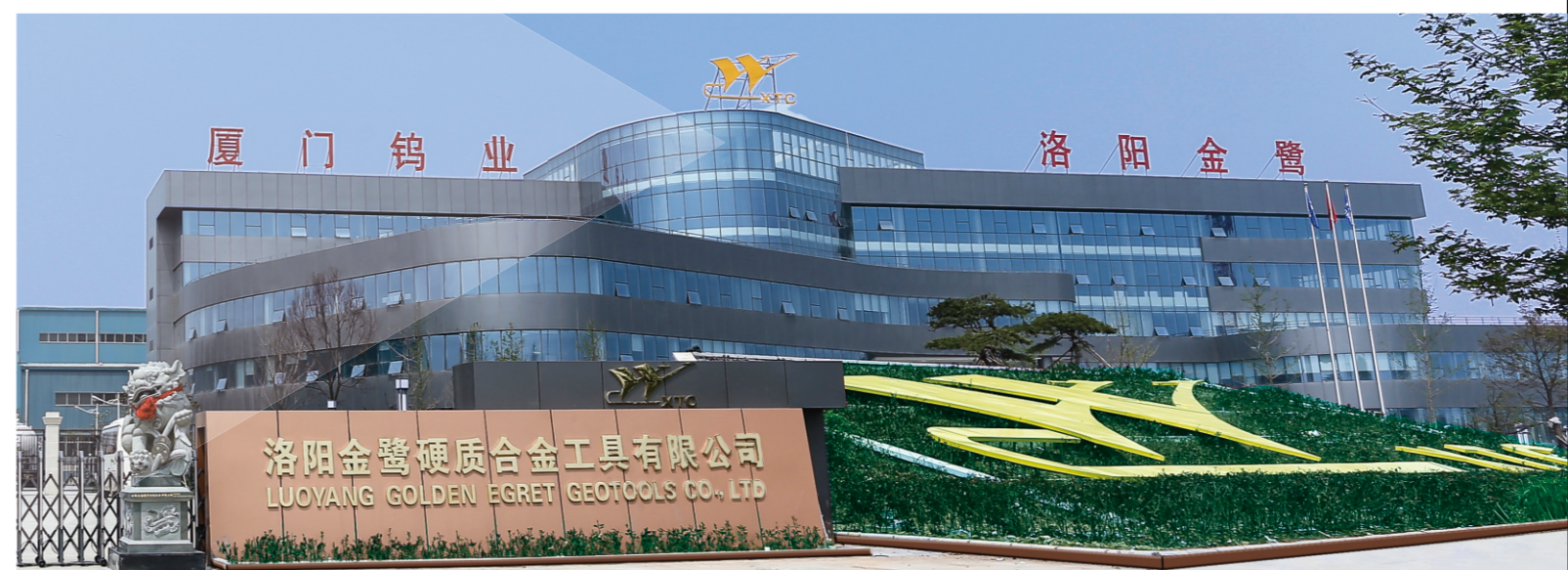
厦门钨业主要从事钨精矿、钨钼中间制品、粉末产品、丝材板材、硬质合金、切削工具等各种钨系列产品；稀土氧化物、稀土金属、稀土发光材料、磁性材料和稀土贮氢、系列锂电池材料等各种稀土材料和能源新材料的生产、销售与研发。公司拥有从钨钼矿山→冶炼→深加工→钨钼二次资源回收的完整的钨产业链，以及稀土矿山开发、冶炼加工、稀土新材料、科研应用等完整的稀土产业体系。依托厦门设有“国家钨材料工程技术研究中心”和“能源新材料研究中心”。

厦钨以“让员工实现自我价值，使用户得到满意服务，为股东取得丰厚回报，与社会共谋和谐发展”为宗旨，将继续发展资金、技术、设备和人才等优势，持续创新，占领技术制高点，为打造最具竞争实力的国际性一流公司而不懈奋斗。

Xiamen Tungsten Company (XTC), a group corporation went public in Shanghai, is one of the top 500 listed companies in China. It is also the key Hi-Tech enterprise of China, Tungsten Material Industrial Base of National Torch Program, and the first batch of national model enterprise in developing circular economy.

Having a complete tungsten industrial chain and a complete rare earth industrial system, XTC is committed to doing R&D, producing and selling different series of tungsten products and diverse rare earth materials as well as new energy materials. The tungsten fruits include tungsten concentrates, tungsten and molybdenum intermediate products, powder products, wires, plates, cemented carbide products, cutting tools and others. The fruits of the rare earth materials and new energy materials are rare earth oxides, rare earth metals, rare earth luminescent materials, magnetic materials, rare earth hydrogen storage materials and lithium battery materials.

With the aim of “achieving self-value of employees, satisfying customers by service, cheering up stockholders by profits, building up harmony society by enterprise development”, XTC always managed to be the most competitive international enterprise with sustainable innovation, sufficient capital, advanced equipment and talented employees.



产业链

INDUSTRIAL CHAIN

厦钨集团拥有从矿石开采到硬质合金深加工产品的一体化钨产业链：
从钨源头上控制原材料，保证原料供应及成品品质的稳定；
有效整合资源，降低生产成本，维持价格稳定，增强下游行业的竞争力；
厦钨掌控全球约30%高品味钨资源，年产超3万吨钨冶炼产品，为世界最大的钨品生产和供应商。



钨矿拥有全球32%钨矿，全球占比第一

钨粉市场占有率20%，全球排名第一

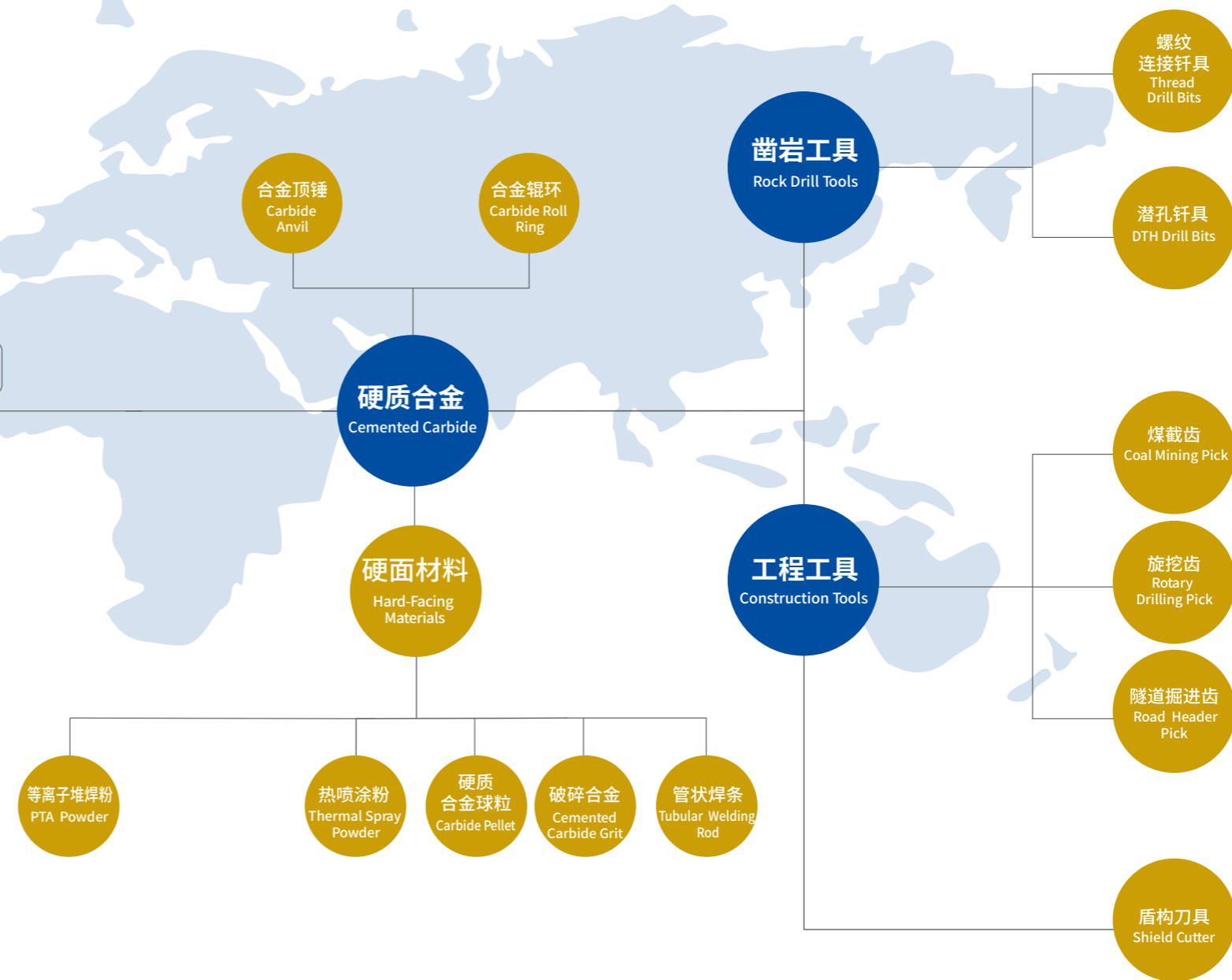
碳化钨粉：市场占有率28%，全球排名第一

厦钨是世界最大的钨粉、碳化钨粉、棒材和矿用合金供应商，也致力于成为世界级凿岩工程工具供应商。

XTC has an integrated industrial chain from ore to deep processing on cemented carbide:
We can ensure adequate raw materials and stable product quality from controlling the very beginning raw materials.

Our price can be kept stable and enhance competitiveness for the downstream industry by effectively integrating resources and lowering the cost.

XTC is the biggest tungsten production and supply base. It controls almost 30% high grade of tungsten resource in the world and produces more than 30,000tons tungsten products annually.



制粉车间
Powder Process Workshop



RTP车间
RTP Workshop



硬面材料车间
Hard-Facing Materials Workshop



合金制品车间
Alloy Products Workshop



凿岩工具车间
Rock Drill Tools Workshop



工程工具车间
Construction Tools Workshop

掘进刀具系列

SERIES OF TUNNELING CUTTERS

洛阳金鹭掘进刀具产品是“金鹭”硬质合金的延伸产品。洛阳金鹭在三十多年的冶炼以及二十多年的硬质合金技术累计基础上,采用耐冲击、耐磨损的盾构合金,结合优质、精锻钢体,采用先进的焊接技术,先进的热处理设备,打造具有高起点、超稳定的“金鹭”掘进刀具。

Our excavation cutter is an extension of “Golden Egret” carbide products. We have taken more than 30 years on carbide smelting and R&D. With the technological accumulation, we could offer high quality carbide products with impact resistant and wear-resistant to excavation cutter. And “Golden Egret” excavation cutter under the help of high-quality and precision forged steel body, advanced welding and heat treatment equipment and process, has high and stability quality.



软土刀具

SOFT SOIL CUTTING TOOLS

软土刀具类型 Type

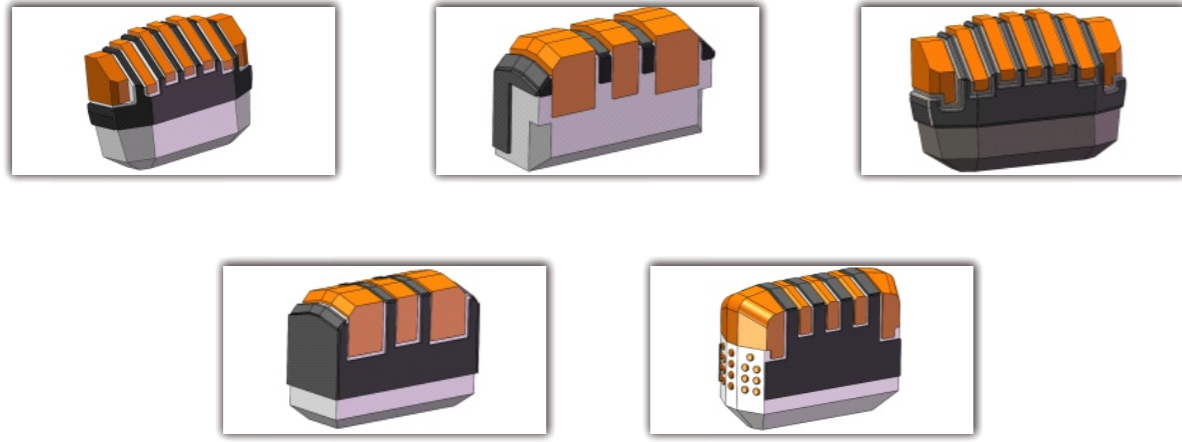
软土刀具包括刮刀、边刮刀、撕裂刀、先行刀等,适用于单轴抗压强度<30MPa的岩土层、砂层等施工工况。“金鹭”掘进刀具采用先进的中频钎焊设备、高性能的优质合金及自主开发的耐磨堆焊材料提高产品的质量,能有效提高刀具掘进距离,减少换刀次数,降低施工成本。

Soft soil cutters, such as scraper, edge scraper, tear scraper and first-move scraper, are suitable for the construction state like rock layer and sand layer, whose uniaxial compressive strength are less than 30MPa. “Golden Egret” tunneling cutters, using advanced medium frequency brazing equipment, high performance quality alloy and self-developed hardfacing materials, can increase tunneling distance effectively, reduce tool changings, the construction cost can be lowered as well.

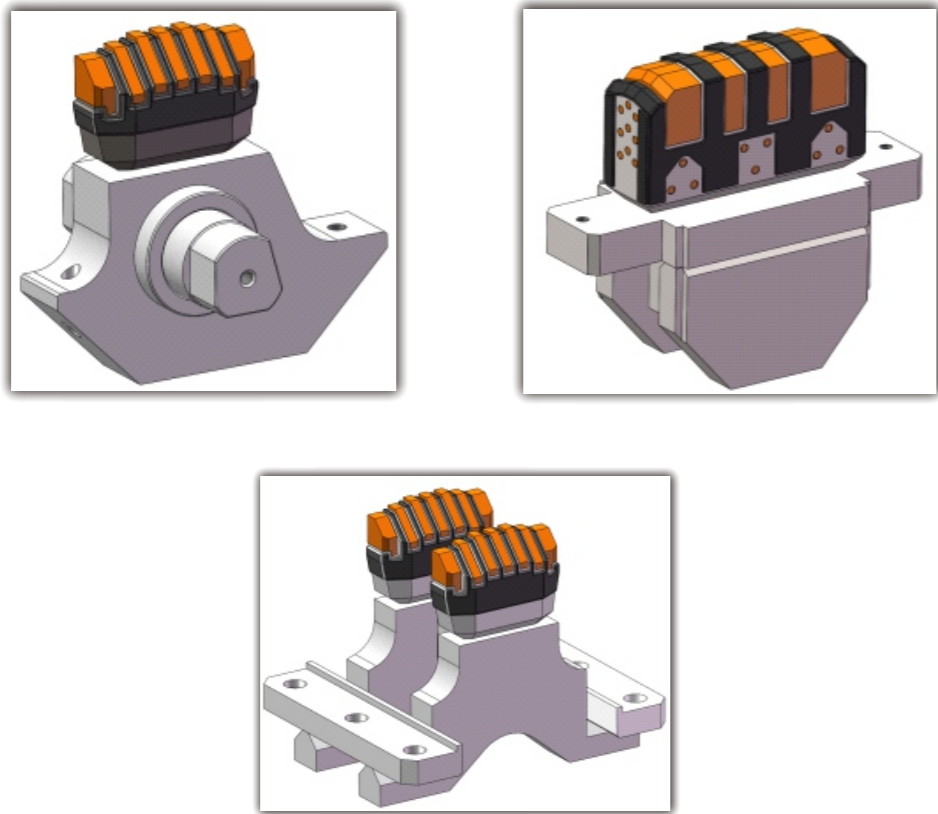
刮刀 Scraper



● 焊接撕裂刀 Welding Tear Scraper



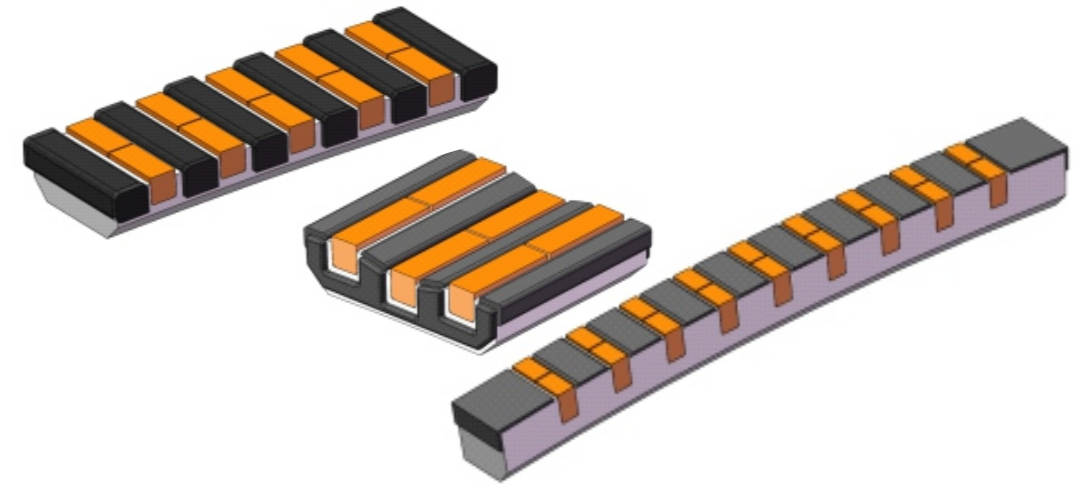
● 可更换撕裂刀 Replaceable Tear Scraper



● 仿形刀 Overbreak Scraper



● 耐磨保护刀 Wear Resistant Protective Scraper



▶▶ 软土刀具加工工艺 Processing Technology

● 先进的中频钎焊技术及装备
Advanced intermediate frequency brazing technology and equipment

软土刀具采用先进的中频钎焊技术, 实现合金与刀体的高强度连接, 人为及环境影响因素小, 质量稳定。

We have advanced intermediate frequency brazing technology to achieve high-strength connection between the carbide and the tool body. Automation Equipment helps our soft soil cutting tools to have stable quality by decreasing human and environmental factors.

● 高性能优质合金

High performance and high-quality carbide

金鹭盾构合金具有硬度高、高温耐磨性好、抗弯强度高、抗冲击能力强等优点,发生疲劳破坏崩裂的几率低,能有效的提高刀具掘进距离,减少换刀次数,降低施工成本。

"Golden Egret" carbide for TBM has high hardness, better wear resistance in high temperature environment, high bending strength and impact resistant to achieve low probability of fatigue damage and reduce construction cost by improving the working life and the replacement intervals.

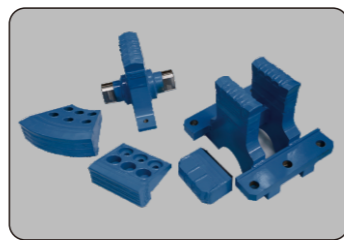
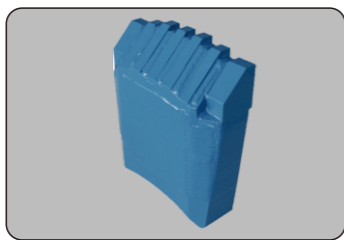
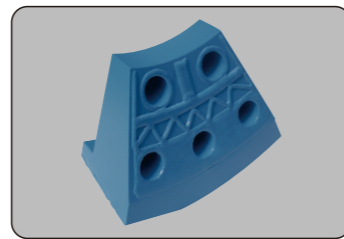
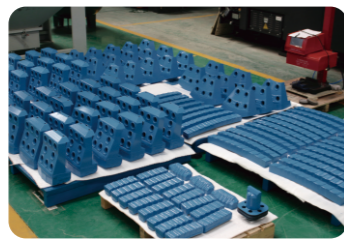
合金牌号 Carbide Grade	硬度 (HRA)	钴含量 Co%	密度 (g/cm ³)	磁力 (Oe)	WC 平均晶 粒度 (μm)	抗弯强度 (N/mm ²)
市场主流合金 Conventional Carbide	85	13	14.22	68	5.0	≥2600
厦钨 GD40 XTC GD40	86.8	12	14.30	84	3.5	≥2800
厦钨GD40G XTC GD40G	85.2	13	14.22	63	5.3	≥2650

● 自主研发高耐磨堆焊材料

Wear-resistant overlay material

钢基体关键部位采用专门为盾构研发的GPF_e1200高耐磨材料进行覆盖,刀具整体耐磨性更高,寿命更长。

The key parts of the steel substrate are covered by our special GPF_e1200 material to increase wear resistant of the cutting tools to have longer work life.



硬岩刀具

Hard rock cutting tools

▶▶ 硬岩刀具类型 Type

硬岩刀具包括滚刀、钢制刀圈、镶齿刀圈等,适用于单轴抗压强度大于40MPa的硬岩、超硬岩等岩层。公司与中南大学、北京科技大学等高校展开联合研究,开发了JLDQ001、JLDQ002、JLDQ003三种材质的钢制刀圈,通过先进的真空热处理工艺以及梯度热处理工艺,刀圈适用于岩石强度40MPa~240MPa之间的硬岩、超硬岩地层以及软硬不均的复合地层;针对中风化以下复合地层,开发翼型齿镶齿刀圈以及镶块刀圈,可以保证长距离掘进不换刀,提高施工效率。

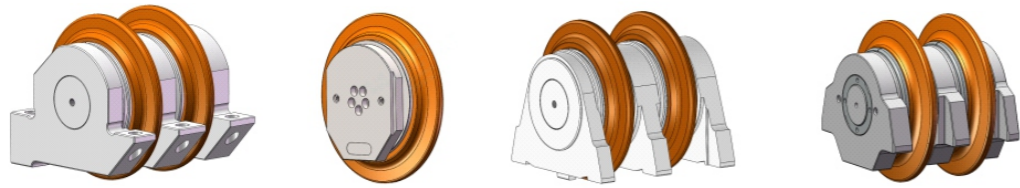
滚刀轴承以及浮动密封均采用世界一流进口品牌,无尘化装配车间以及精确的装配工艺最大限度提高了产品质量。

Hard rock cutting tools include hobs, steel cutting rings, toothed cutting rings, etc. These tools are suitable for hard rock, superhard rock, and other rock formations with uniaxial compressive strength greater than 40MPa. The company has conducted joint research with Central South University, Beijing University of Science and Technology, and other universities to develop steel cutting rings made of JLDQ001, JLDQ002, and JLDQ003 materials. Through advanced vacuum heat treatment and gradient heat treatment processes, the cutting rings are suitable for hard rock, superhard rock formations with rock strength between 40MPa and 240MPa, as well as composite formations with uneven hardness and softness; For composite formations below moderate weathering, the development of wing shaped toothed insert ring and insert block ring can ensure long-distance data entry without tool replacement and improve construction efficiency.

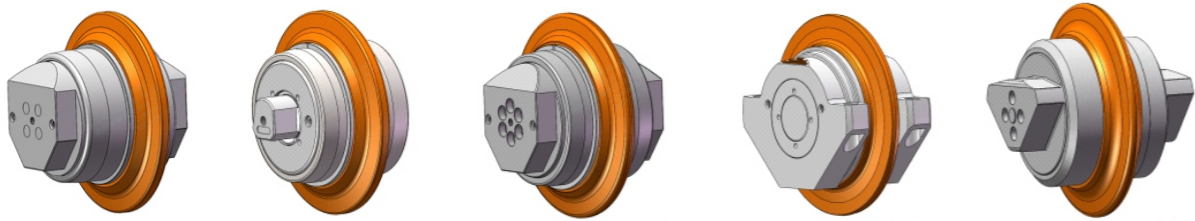
The roller bearings and floating seals are all made of world-class imported brands, and the dust-free assembly workshop and precise assembly process maximize product quality.



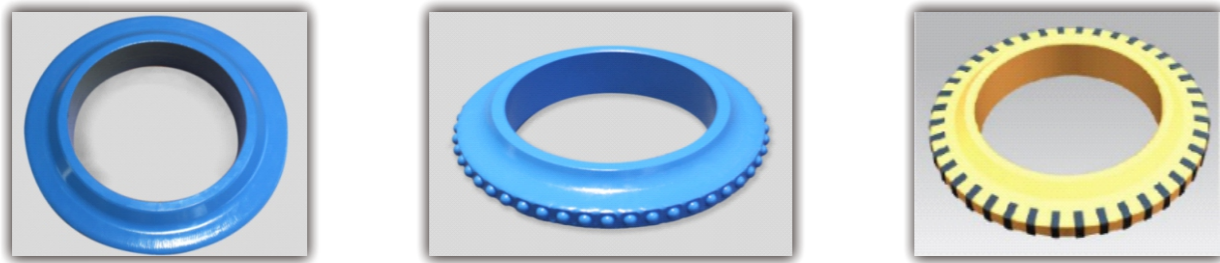
● 中心滚刀 Center Cutter



● 正面滚刀 Front Cutter



● 滚刀刀圈 Cutter Ring



▶▶ 高性能钢制刀圈
High performance steel cutting ring

联合知名材料研发院、高校及特钢厂开发的JLDQ001、JLDQ002和JLDQ003刀圈，适用于岩石强度40MPa~240MPa之间的各种工况。

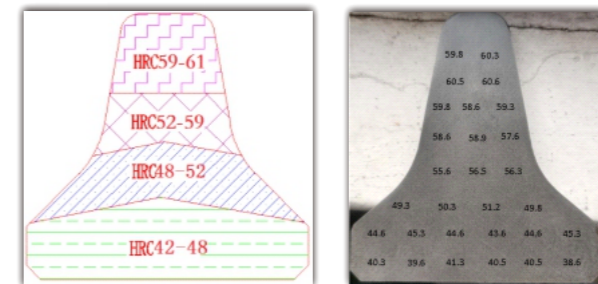
We work with well-known material research and development institutes and universities to increase material performance, which make our steel cutting ring has different grade JLDQ001, JLDQ002, and JLDQ003 for various working conditions in rock hardness range from 40MPa to 240MPa.

钢制刀圈材质 Material Quality	硬度 Hardness (HRC)	冲击韧性 Impact Toughness AKu (J/cm ²)	适用工况 Applicable working conditions
JLDQ001	56~59	20~24	适用于岩石强度 40~150MPa 的中硬岩层以及软硬不均的复合地层 Suitable for medium hard rock formations with rock strength of 40-150MPa and composite formations with uneven hardness and softness
JLDQ002	58~61	24~28	适用于岩石强度 180~240MPa 的全断面极硬岩层 Suitable for full section extremely hard rock formations with rock strength of 180-240MPa
JLDQ003	57~60	28~32	适用于岩石强度 40~200MPa 的硬岩地层以及软硬不均的复合地层 Suitable for hard rock layers with rock strength of 40-200MPa and composite layers with uneven hardness and softness

▶▶ 先进的梯度热处理工艺
Advanced gradient heat treatment process

对强冲击的特殊地层，采用梯度热处理工艺的刀圈具有外硬内软的特性，在保证耐高温的同时，抗冲击性是普通产品的两倍以上。

For special strata with strong impact, we have gradient heat treatment technology to guarantee our cutting ring has the characteristics of hard outer and soft inner, which help our cutting ring to achieve more than twice high impact resistance of ordinary products.



▶▶ 镶齿以及镶块刀圈
Carbide button inserted cutter ring

适用于中风化以下复合地层，刀圈采用合金粒子堆焊技术，高性能的优质合金可以保证更长的掘进距离，减少换刀次数。

Carbide button inserted cutting ring is suitable for moderately weathered composite formations. The high-performance and high-quality carbide button ensure longer excavation distance and replacement intervals.

研发与生产

R & D and production

▶ 生产能力 Production Capacity



真空淬火炉
Vacuum quenching furnace



真空回火炉
Tempering vacuum furnace



梯度热处理设备
Gradient heat treatment equipment



中频钎焊设备
Intermediate frequency brazing equipment



等离子耐磨堆焊设备
Plasma wear-resistant surfacing equipment



数控加工中心
CNC machining center



井式退火炉
Well type annealing furnace



渗碳炉
Carburizing furnace

公司拥有先进的数控加工设备、等离子堆焊设备、中频钎焊设备以及热处理设备，拥有多名熟练的操作人员以及技术人员，可以保证产品的质量以及交期。

Our advanced CNC, plasma surfacing equipment, medium frequency brazing equipment and heat treatment equipment, as well as multiple skilled operators and engineers, guarantee the stable quality and delivery time of products.

产品应用

PRODUCT APPLICATIONS



检测系统 INSPECTION SYSTEM

电感耦合等离子发射光谱仪作用：
主要用于检测WC中杂质含量

ICP: to inspect the impurity of WC

能谱仪作用：
主要用于检测合金中元素含量

EDS: to test the metal elements in the alloy



电感耦合等离子发射光谱仪
INDUCTIVE COUPLED PLASMA EMISSION SPECTROMETER(ICP)



能谱仪
ENERGY SPECTROMETER



扫描电子显微镜
SCANNING ELECTRON MICROSCOPE



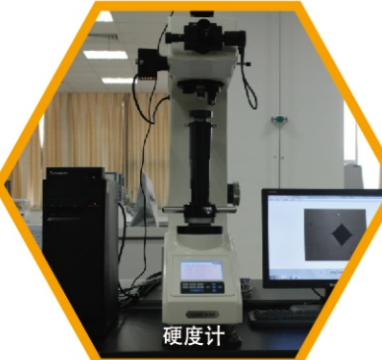
金相显微镜
METALLOGRAPHIC MICROSCOPE

金相显微镜/扫描电子显微镜作用：
主要用于观察合金显微组织

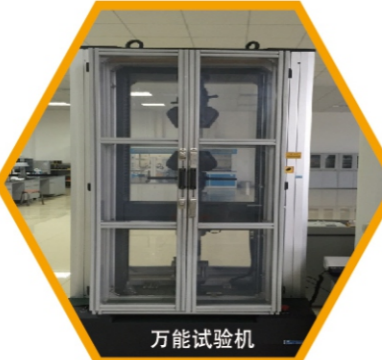
SEM: to test the metallurgical structure of the alloy

▶▶ 材质方面检测
MATERIAL INSPECTION

▶▶ 性能检测
FUNCTIONAL INSPECTION



硬度计
MICRO VICKERS



万能试验机
UNIVERSAL TESTER



线切割设备
WIRE-ELECTRODE CUTTING EQUIPMENT



产品剖面图
CROSS-SECTION DRAUN

▶▶ 硬度计万能试验机作用：
主要用于检测合金硬度及抗弯强度、抗压强度等性能。
Hardness meter: to test and hardness, bending strength, compressive strength.

▶▶ 线切割设备作用：
主要用于检测焊缝填充。
Wire-Electrode Cutting Equipment: Used for detecting weld padding

磁力仪
MAGNETOMETER



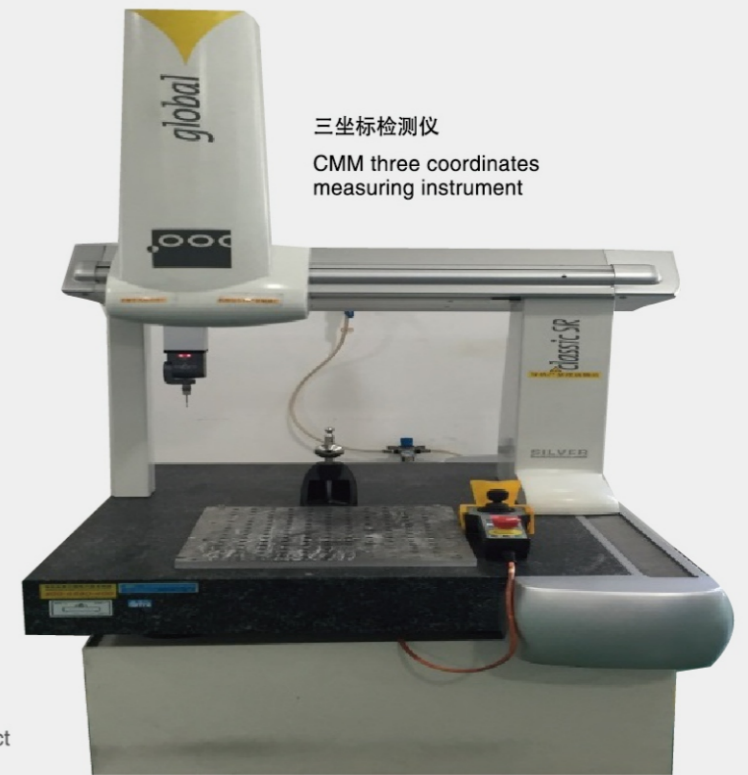
▶▶ 磁力仪磁饱和检测仪作用：
主要通过检测材质磁性能来反馈合金内部晶粒大小及渗、脱碳现象。
Magnetometer: to react grain size, carburization and de-carburization by test the magnetism of the material.

磁饱和检测仪
MAGNETIC SATURATION DETECTOR



▶▶ 尺寸及形位公差检测
SIZE AND SHAPE TESTER

▶▶ 三坐标检测仪尺寸及形位公差检测作用：
主要用于检测成品尺寸及形位公差
CMM (Coordinate measuring machine): to test the final size and tolerance of the final product



质量控制

QUALITY CONTROL

质量是产品生存的根本是企业发展的立足点。洛阳金鹭是厦门金鹭一脉相承的全新开始，有多年粉末及钨系列生产经验和完备的质量控制体系。发展之初就将优异的产品质量作为起点，稳定的产品质量为发展的保证。洛阳金鹭拥有先进完善的检测设备，完善的过程质量体系(监控)及最终质量检测控制体系，保证出厂产品品质。

Quality is the life of product and foothold of the enterprise development. XTC Luoyang, as the successive & new beginning of GESAC which depending on years of powder and tungsten series producing experience and complete quality control system, also take excellent and steady product quality as assurance of development. XTC Luoyang Utilizes the state of art testing equipment and thorough process control system and final quality control system to ensure the quality of finished goods.



00116E32587R0M/4100



营销网络

SALES DISTRIBUTION NETWORK

