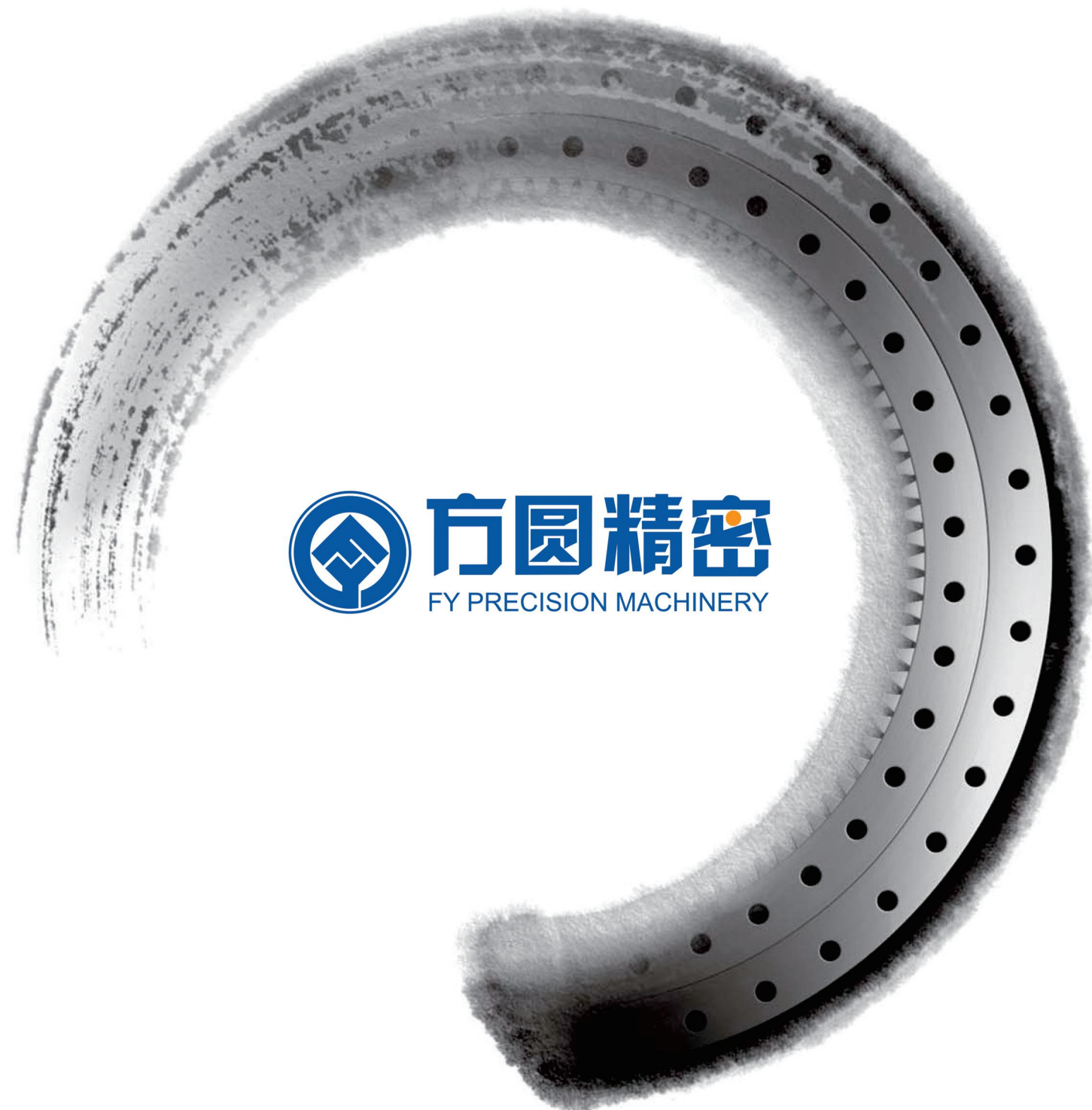


- 地址: 安徽省马鞍山市经济技术开发区超山西路399号
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- 邮箱: sales@masfy.com
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Maanshan Fangyuan Precision Machinery Co.,Ltd.
马鞍山方圆精密机械有限公司

FY PRECISION MACHINERY

TABLE OF CONTENTS 目录

01/

COMPANY PROFILE

公司简介

02/

OUR ADVANTAGES

我们的优势

03/

PRODUCTS AND APPLICATIONS

产品及应用场景

04/

OUR CLIENTS

我们的客户

05/

OUR SERVICES

我们的服务



COMPANY PROFILE

公司简介

方圆精密 · 转动世界的核心力量

Fangyuan Precision · The Core Force Driving the World



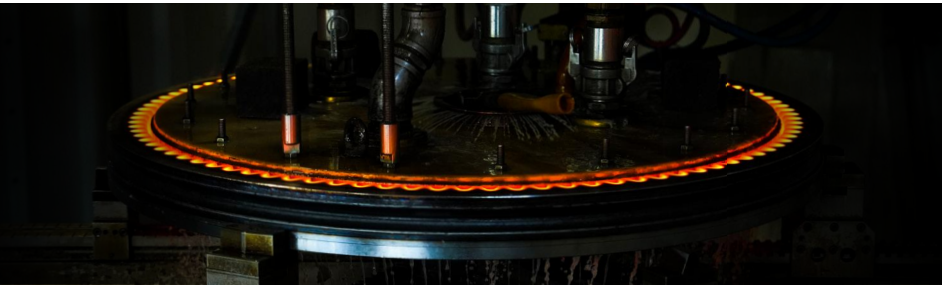
专业专注，匠心传承！马鞍山方圆精密机械有限公司，新中国首批回转支承制造者，四十余年深耕不辍。我们是中国回转支承领域的核心供应商，集研发、设计、制造、检测于一体，拥有省级企业研发中心、回转支承工程技术研究中心，具备CNAS资质认证。

Professionalism and Dedication, Craftsmanship and Inheritance. Maanshan Fangyuan Precision Machinery Co., Ltd. is one of China's first manufacturers of slewing bearings, with over 40 years of unwavering dedication to the industry.

As a leading supplier in China's slewing bearing sector, we integrate R&D, design, manufacturing, and testing. Our facilities include a provincial-level enterprise R&D center and a slewing bearing engineering technology research center, certified by CNAS.

以精密制造，驱动无限可能！

Precision Manufacturing Driving Infinite Possibilities!



核心产品

Core Products

自主研发单排球式、双排球式、交叉滚柱式、三排柱式等八大类、3000多种规格的高品质回转支承。

Independently develop high-quality slewing bearings, including single-row ball, double-row ball, cross roller, and three-row roller types, covering eight major categories and over 3,000 specifications.



应用广泛

Wide Applications

产品赋能建筑机械、工程机械、港口冶金、清洁能源（风电/太阳能）、高端医疗（CT）、军工等众多领域，是国内外知名企业的可靠伙伴。

Products are applied in industries such as construction machinery, engineering machinery, port and metallurgy, clean energy (wind/solar), high-end medical equipment (CT), and defense, serving as a reliable partner for renowned enterprises all over the world.



全球信赖

Global Trust

畅销全国，远销美国、加拿大、日本、意大利、俄罗斯等国际市场，品质享誉全球。

Products are sold nationwide and also exported overseas including the U.S., Canada, Japan, Italy, and Russia, earning worldwide acclaim for their quality.

OUR ADVANTAGES

我们的优势

FY PRECISION MACHINERY

P.03/04

行业标准领导者与技术创新

Industry Standard Leadership and Technological Innovation

行业标准制定

Standard Setting

我们是回转支承行业的标准领导者，主持参与制定了5项国家标准、5项行业标准以及4项团体标准。

We lead the slewing bearing industry, having participated in formulating 5 national standards, 5 industry standards, and 4 association standards.

技术支持与优化

Technical Support and Optimization

有限元分析

Finite Element Analysis (FEA)

采用有限元法对产品的关键部位进行强度、刚度及疲劳强度的校核，确保产品性能。

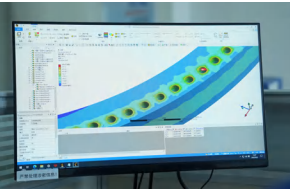
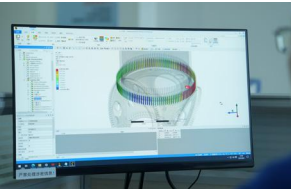
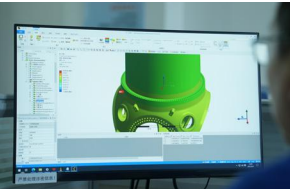
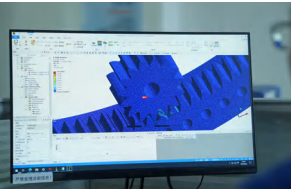
Perform strength, stiffness, and fatigue checks on critical components to ensure product performance.

自主知识产权

Intellectual Property

拥有92项自主知识产权，其中包括12项发明专利、1项外观专利和3项软件著作权。多次获得安徽省专利优秀奖和中国专利优秀奖。

Hold 92 independent intellectual property rights, including 12 invention patents, 1 design patent, and 3 software copyrights. Multiple awards include the Anhui Province Patent Excellence Award and China Patent Excellence Award.



试验工作台

Test Workbench

开发专门的试验工作台，验证有限元分析结果，确保理论与实践的一致性。

Develop specialized test benches to validate FEA results, ensuring alignment between theory and practice.



结构优化

Structural Optimization

根据客户的实际工况，提供细致的产品核算与优化，降低成本，提升市场竞争力。

Provide detailed product calculations and optimizations tailored to customer operating conditions, reducing costs and enhancing competitiveness.

OUR ADVANTAGES

现代化的智能制造

Modern Intelligent Manufacturing

600 余台 Units
拥有各类加工设备
Various Equipments

20 万套 Ten Thousand
回转支承年产能
Annual Capacity

精密的加工设备

Precision Equipment

公司拥有各类加工设备600余台，包括业界领先的利勃海尔成型滚齿、铣齿机，东芝成型铣齿机，意大利SEAT全自动整体淬火机床，台湾油机高精度立车，国产高精度立磨，KUKA自动送料装置，等先进的制造、检测、辅助数控设备。回转支承年产能20万套。

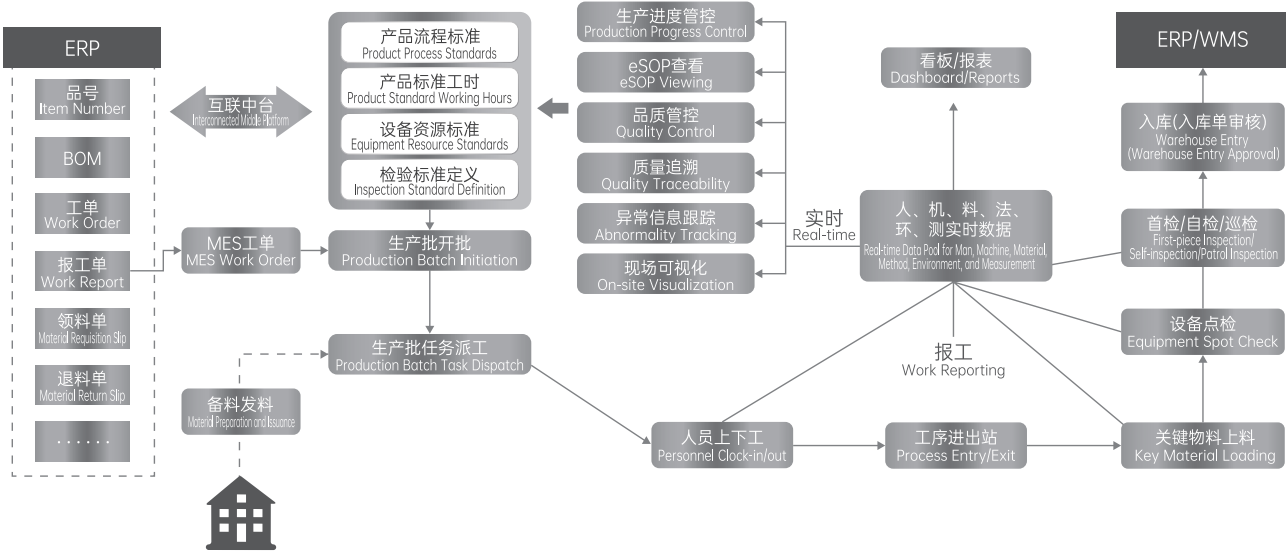
Operate over 600 advanced machines, including Liebherr gear forming and milling machines, Toshiba gear milling machines, SAET EMMEDI fully automated quenching machines, and KUKA automated feeding systems. Annual production capacity: 200,000 sets of slewing bearings.

透明化的车间

Transparency Workshop

以数字化生产、柔性制造、智能制造为建设目标，利用传感技术、无线通信技术、计算机网络技术、智能数字化技术、物联网应用服务平台技术等多种现代化技术，打造基于物联网的智能工厂管理体系，建立起一个具有示范效应的数字化、网络化、智能化、智慧化的现代工厂。

Taking digital production, flexible manufacturing and intelligent manufacturing as the construction target, build an intelligent plant management system based on Internet of Things by using sensor technology, wireless communication technology, computer network technology, intelligent digital technology, Internet of Things application service platform technology and other modern technologies, and establish a digital, networked, intelligent and intelligent modern plant with demonstration effect.



卓越、全面、细致的质量保证

Excellent Comprehensive Quality Assurance

定期审核和公司内部标准

Regular Audit and Rigorous Standards

回转支承的每个零部件都有严格的质量要求。并对供应商开展定期审核。对关键原材料采用高于行业标准的内部标准。

Enforce strict quality requirements for every component and conduct regular supplier audits. Key raw materials adhere to internal standards exceeding industry norms.

现代化的检测能力

Advanced Testing

公司具备专业的回转支承相关检测试验能力，建有检测试验中心，占地面积约2168平方米，拥有先进的龙门式三坐标测量机、回转支承综合试验台、风电综合试验台、产品环境试验设备(振动、高低温、密封)、材料万能试验机、冲击试验机、斯派克直读光谱仪、蔡司显微镜等40余台检测试验设备，涵盖了回转支承产品、零部件、原辅材料等各项检测能力，并于2015年成为CNAS认可实验室。

Our 2,168 m² testing center features 40+ advanced devices, including gantry CMMs, slewing bearing test benches, wind power test benches, environmental test equipment (vibration, high/low temperature, sealing), and material testing machines. Certified as a CNAS-accredited lab in 2015.



2168 平方米
Square Meter

检测试验中心，占地面积约
Testing center, land area

40 余台
Units

检测试验设备
Testing experimental equipment



三坐标测量仪(6米)
Three-coordinate measuring instrument (6m)



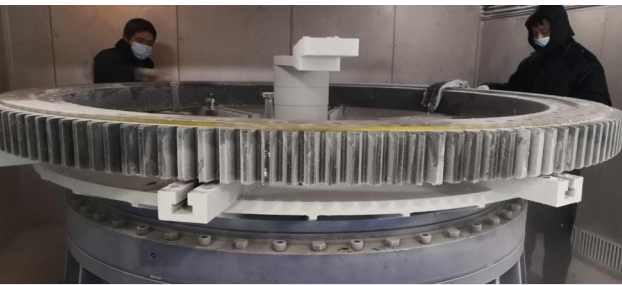
金相试验
Metallographic test



喷淋试验
Spraying test



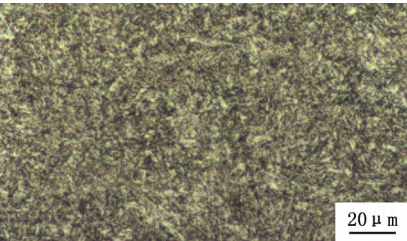
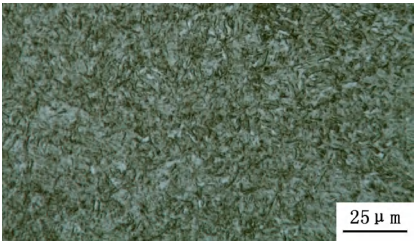
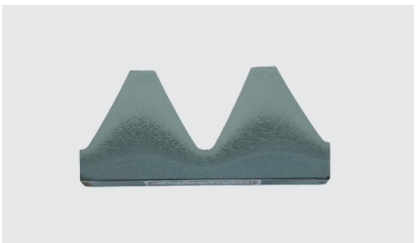
振动试验
Vibration test



高低温试验
High and low temperature test



拉伸实验
Tensile test

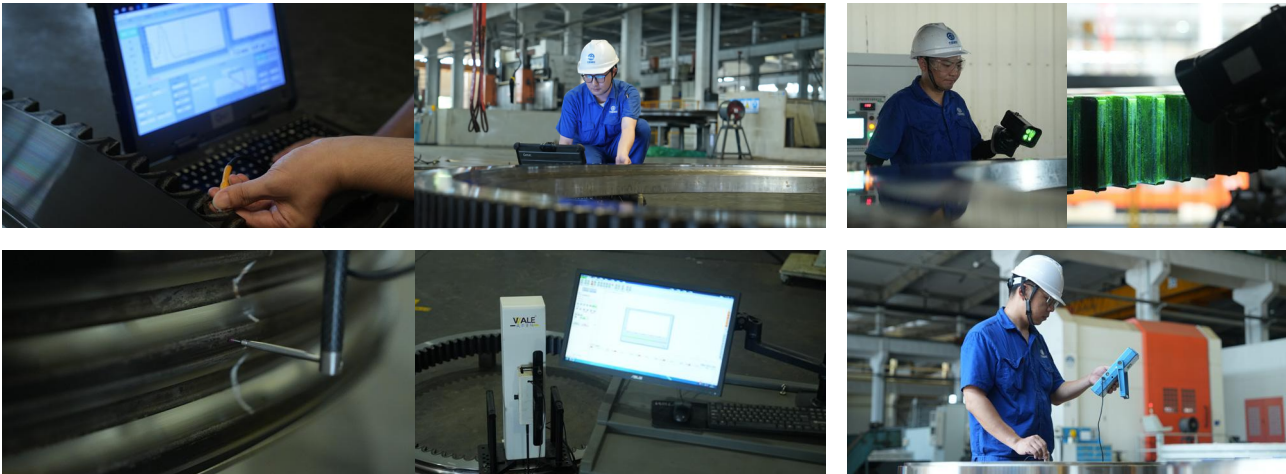


关键过程控制

Key Process Control

实施滚道淬硬层深度在线测量、滚道形状在线测量、超声波和磁粉探伤等关键过程控制，确保产品质量。

Implement online measurements (raceway hardening depth, raceway shape), ultrasonic and magnetic particle inspections to ensure quality.



认证和检验

Certification and Test

获得机构认可和颁发的认证证书和评级是方圆品牌品质的外部标杆。对于客户定制的特殊规格，我们可以提供材料检验证明书，明确表明材料的化学成分和力学特性。

Provide material test certificates for custom specifications, detailing chemical composition and mechanical properties.



PRODUCTS AND APPLICATIONS

产品及应用场景

球式回转支承

Ball Slewing Bearing

FY PRECISION MACHINERY

P.11/12

单排球式回转支承

Single-Row Ball Slewing Bearings

- 钢球直径在8mm至100mm之间
- Ball diameter: 8mm to 100 mm

- 在恶劣的应用条件下可稳定运行
- Stable in harsh conditions

- 滚道中心直径100mm至5000mm之间
- Raceway center diameter ranges from 100mm to 5,000 mm

- 对于支架结构的形态变形不敏感
- Insensitive to structural deformation

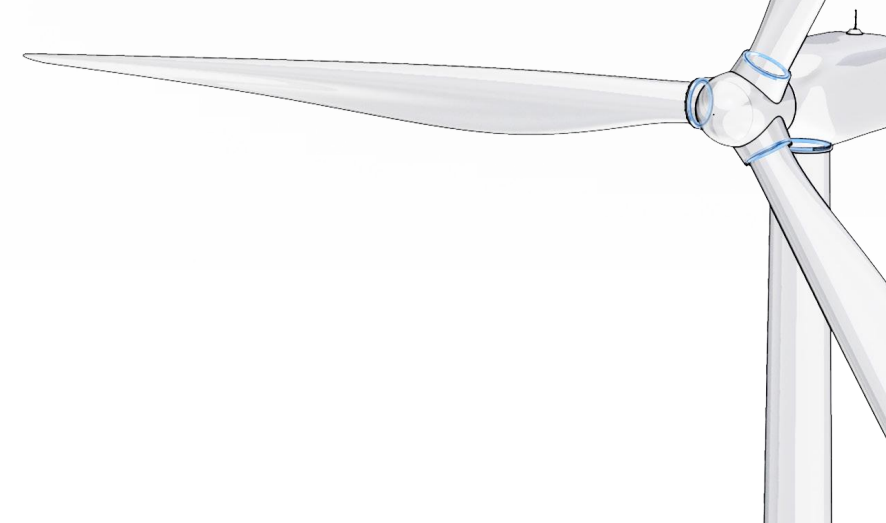
- 单排四点接触滚道几何设计
- Single-row four-point contact raceway geometric design

- 可以提供特殊设计类型产品满足客户需求
- Custom design solutions are available to meet specific customer requirements

应用领域

Applications

挖掘机、起重设备等工程机械、风力发电机及专用设备
Excavators, cranes, wind turbines, etc.



双列球式回转支承

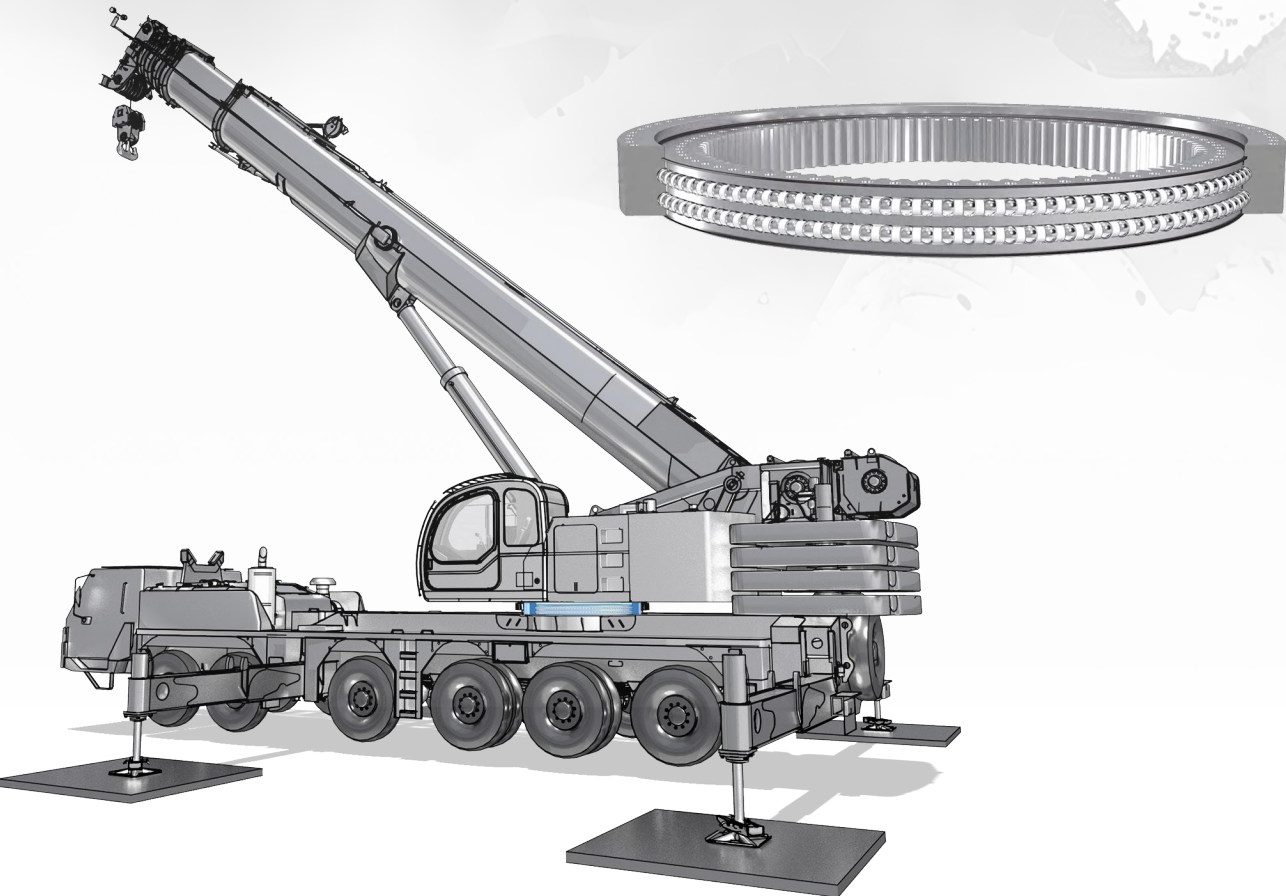
Double-Row Ball Slewing Bearing

- 钢球直径在20mm至70mm之间
 - Ball diameter: 20mm to 70mm
- 滚道中心直径500mm至4000mm之间
 - Raceway center diameter ranges from 500mm to 4000mm
- 双排八点接触滚道几何设计
 - Double-row eight-point contact raceway geometric design
- 可以提供特殊设计类型产品满足客户需求
 - Custom design solutions are available to meet specific customer requirements
- 相对于相较于单排球，双列球可承受的载荷更大
 - Compared to single-row ball bearings, double-row designs offer higher load capacity

应用领域

Applications

挖掘机、起重设备等工程机械、风力发电机及专用设备等。
Excavators, lifting equipment, wind turbines, and other engineering machinery and specialized equipment.



双排异径球式回转支承

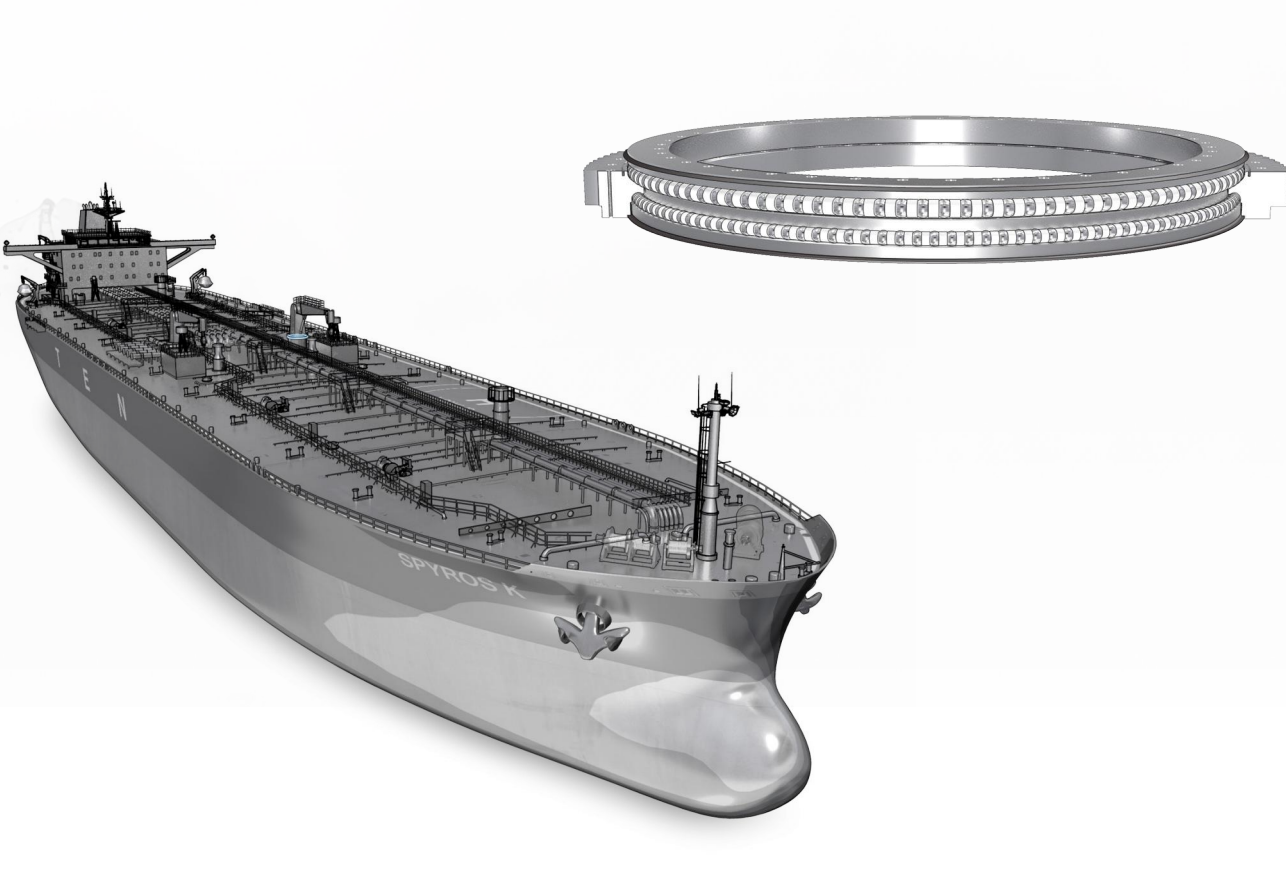
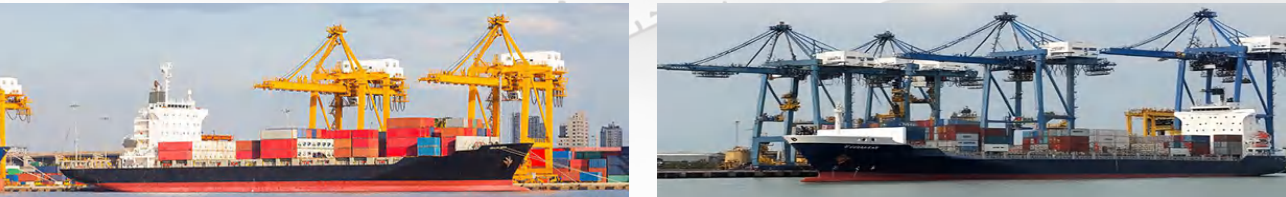
Double-Row Non-Equal Diameter Ball Slewing Bearing

- 钢球直径在25mm至50mm之间
 - Ball diameter: 25mm to 50mm
- 滚道中心直径500mm至2800mm之间
 - Raceway center diameter ranges from 500mm to 2800mm
- 双排设计，主承载钢球直径较大，辅承载钢球直径较小
 - Double-row design with larger diameter balls for primary load-bearing and smaller diameter balls for secondary load-bearing
- 所有滚道采用两点接触几何设计
 - Double-row design with two-point contact geometric configuration for all raceways
- 在新设计通常以双列球回转支承代替
 - Typically superseded by double-row ball slewing bearings in new designs
- 可以提供特殊设计类型产品满足客户需求
 - Custom design solutions are available to meet specific customer requirements

应用领域

Applications

船用设备等
Marine equipment and related fields.



柱式回转支承

Roller Slewing Bearing

交叉滚柱式回转支承

Cross Roller Slewing Bearing

- 滚柱直径在12mm至70mm之间
- Roller diameter: 12mm to 70mm

- 滚动体交替排列
- Alternating roller arrangement

- 与球类回转支承相比，具有较高的刚性及较长的动态使用寿命
- Offers higher rigidity and longer dynamic service life compared to ball-type slewing bearings

- 滚道中心直径在400mm至4000mm之间
- Raceway center diameter: 400mm to 4000mm

- 对于不同负荷保持恒定的摩擦力矩
- Maintains consistent friction torque under varying loads

- 可以提供特殊设计类型产品满足客户需求
- Custom-engineered solutions available to meet specific operational requirements

应用领域

Applications

机器人，医疗器械，定位装置，机床等。
Robotics, medical equipment, positioning devices, machine tools, etc.



L型回转支承

L-Type Slewing Bearing

- 钢球直径20mm至30mm
- Ball diameter: 20mm to 30mm

- 单排四点接触滚道几何设计
- Single-row four-point contact raceway geometric design

- 同滚道中心直径下，相比其它结构形式，重量较轻
- Lighter weight compared to other structural types with the same raceway center diameter

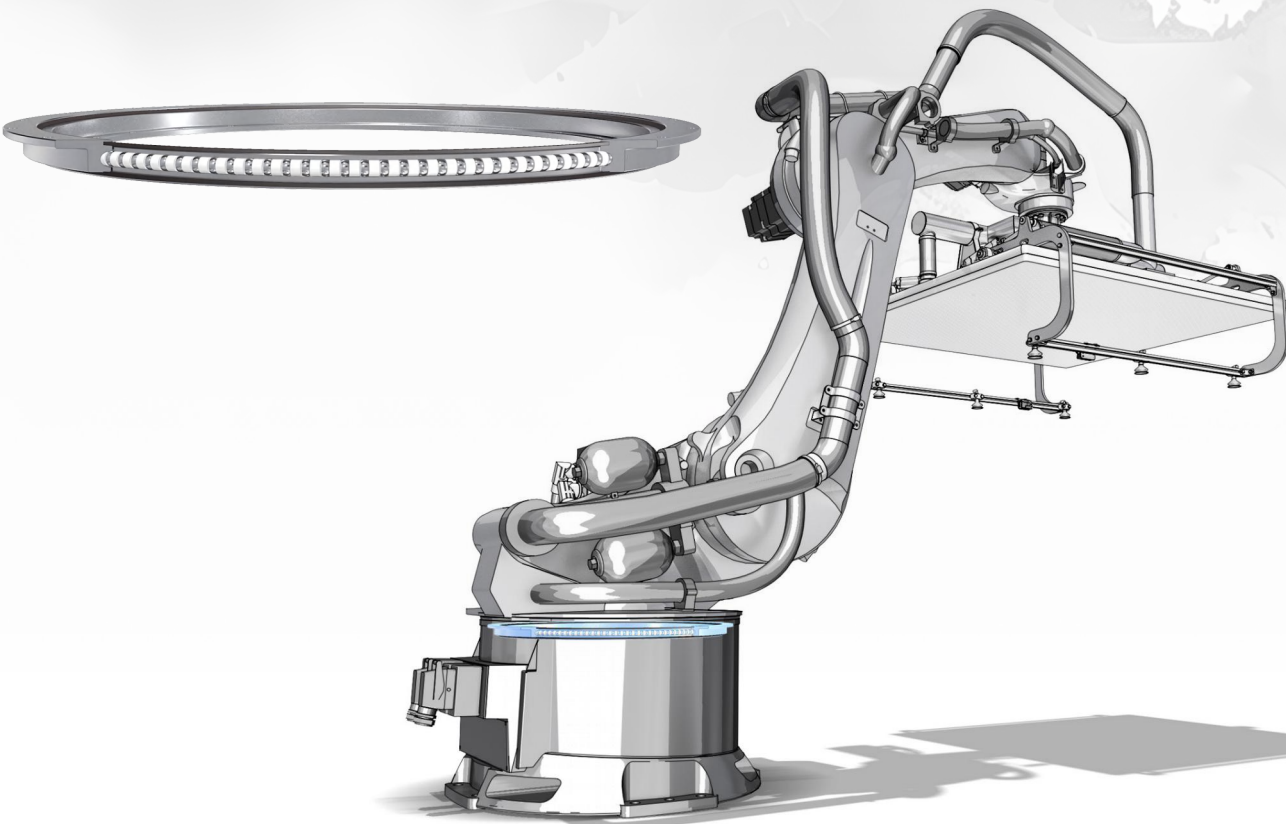
- 滚道中心直径414mm至1455mm之间
- Raceway center diameter ranges from 414mm to 1455mm

- 可以提供特殊设计类型产品满足客户需求
- Custom design solutions available to meet specific customer requirements

应用领域

Applications

装卸机械，人工升降平台，机器人，转台、环保设备等。
Material handling equipment, personnel lifts, robotics, turntables, environmental protection equipment, etc.



三排滚柱式回转支承

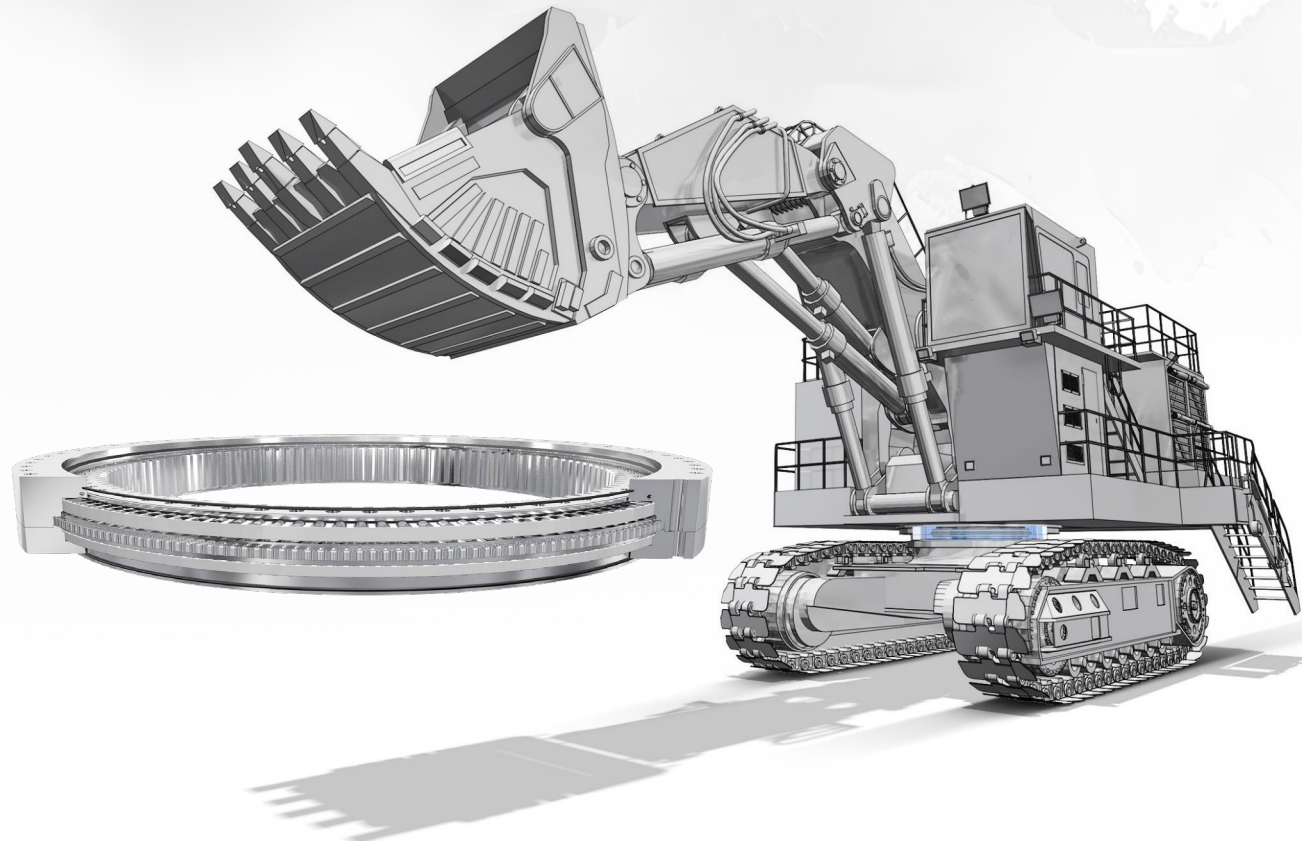
Three-Row Roller Slewing Bearing

- 滚柱直径在12mm至64mm之间
 - Roller diameter: 12mm to 64mm
- 滚道中心直径在500mm至5000mm之间
 - Raceway center diameter: 500mm to 5000mm
- 根据应用场景不同，可采用尼龙、钢、铝、黄铜等保持器
 - Retainers available in various materials (nylon/steel/aluminum/brass) for different applications
- 可以提供特殊设计类型产品满足客户需求
 - Customizable engineering solutions for specialized operational requirements
- 与其他结构回转支承相比(相同滚道中心直径)，具有更大的承载能力，更高的刚性和稳定的摩擦力矩
 - Delivers superior load capacity, enhanced rigidity and more stable friction torque than other slewing bearing types at equivalent raceway diameters

应用领域

Applications

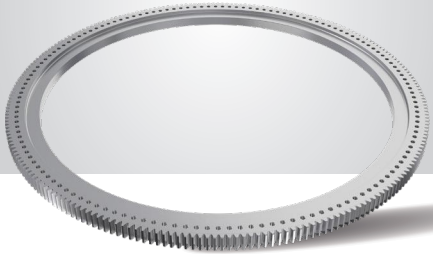
挖掘机、风力发电机、港口机械等
Excavators, wind turbines, port machinery and heavy-duty equipments.



设计多元化、各种要求的解决方案

Design diversified and various required solutions

齿圈和齿环
Gear Rings & Gear Races



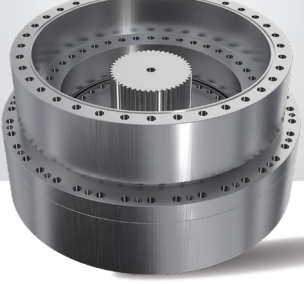
侧面销孔大型回转支承
Large Slewing Bearings with Side Pin Holes



剖分式回转支承
Split-Type Slewing Bearings



关节球轴承
Spherical Joint Bearings



多排柱式回转支承
Multi-Row Roller Slewing Bearings



双回转式回转支承
Dual-Rotation Slewing Bearings



OUR CLIENTS

我们的客户

“方圆”牌回转支承为中国工程机械、建设机械、风电机组的主要生产厂家——徐工集团、三一重工、中联重科、铁建重工、广西柳工、山东临工、山河智能、龙工、雷沃、远景能源等配套，批量出口美国、加拿大、法国、意大利、印度、韩国等国家和地区。

The "Fangyuan" brand slewing bearings serve as core components for China's leading construction machinery, engineering equipment and wind turbine manufacturers - including XCMG, SANY, Zoomlion, China Railway Construction Heavy Industry (CRCHI), Liugong, Shandong Lingong (SDLG), Sunward, Lonking, Lovol and Envision Energy. Our products are exported in bulk to the United States, Canada, France, Italy, India, South Korea and other countries and regions



OUR SERVICES

我们的服务

售后电话/After-sales service hotline: 400-800-2147

回转支承技术咨询、计算、设计和绘图
Technical consultation, calculations, design, and drafting for slewing bearings

集成您的FE（有限元）计算
Integrated Finite Element (FE) analysis services

涵盖复杂相邻结构的FE（有限元）计算
FE analysis for complex adjacent structures

回转支承的安装、使用、维护保养和技术指导
Installation guidance, operational maintenance, and technical support

对您的回转支承进行评估和优化
Performance evaluation and optimization of your slewing bearings

维修和重新调整您的回转支承
Repair and recalibration services

接到您的质量反馈，国内24小时内，国外72小时内给予答复
Guaranteed response within 24 hours (domestic) or 72 hours (international) for quality feedback

公司对服务质量进行监督
Corporate-monitored quality assurance for all services

FY PRECISION MACHINERY