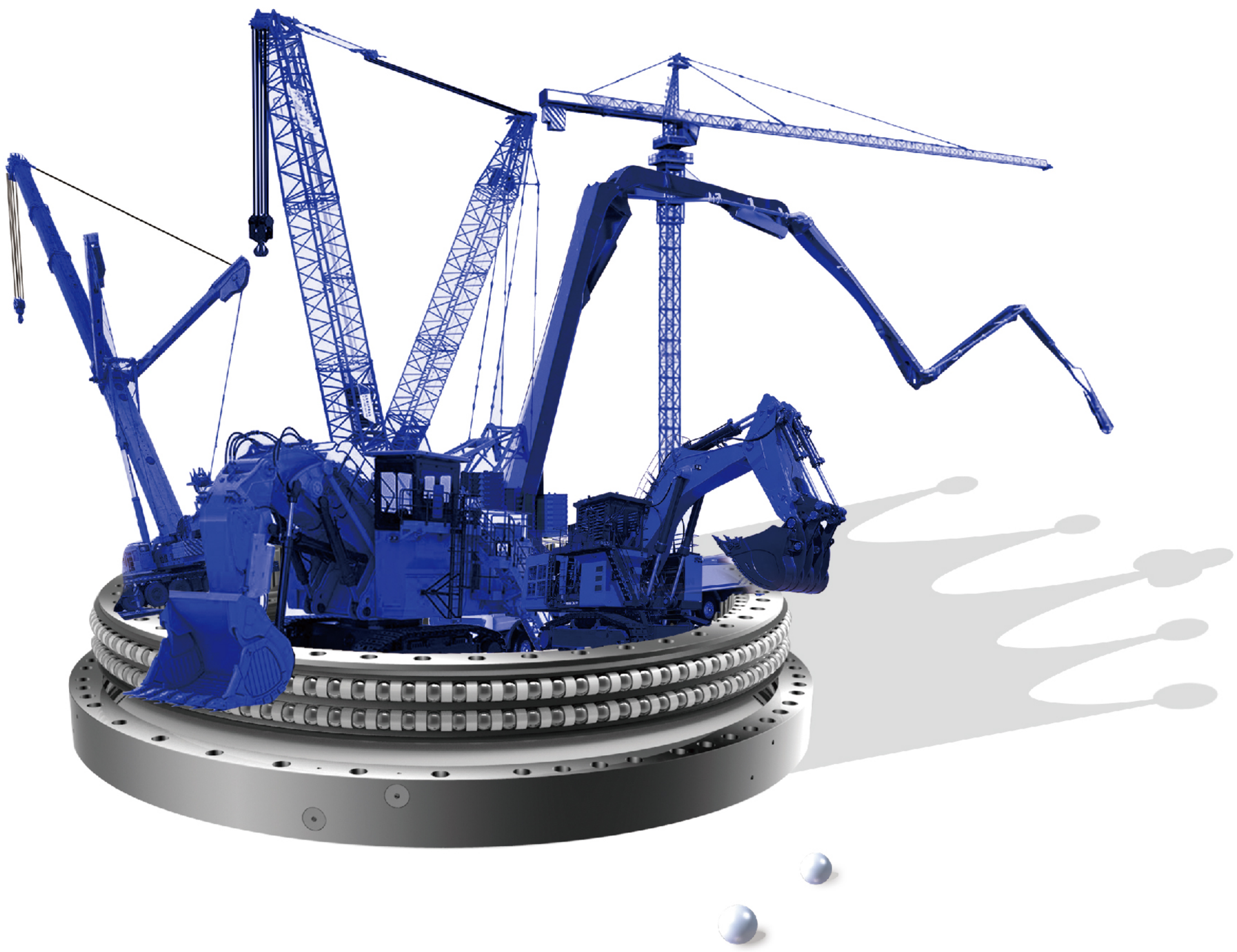
统力回转支承
TongLi slewing ring

印象统力
Tongli Impression



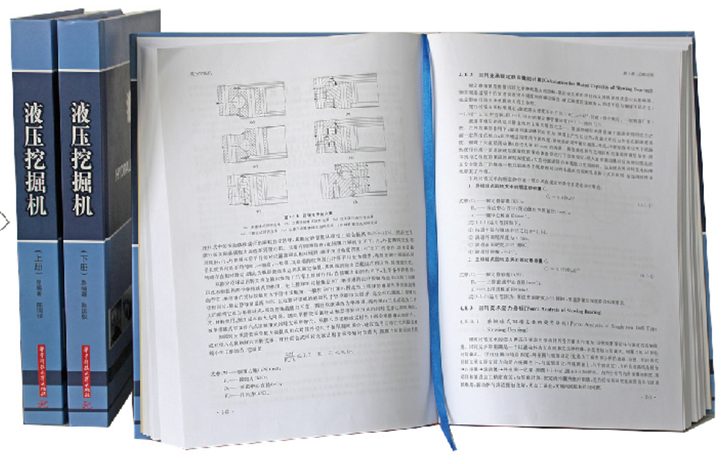
马鞍山统力回转支承有限公司
TongLi slewing ring co.,Ltd.

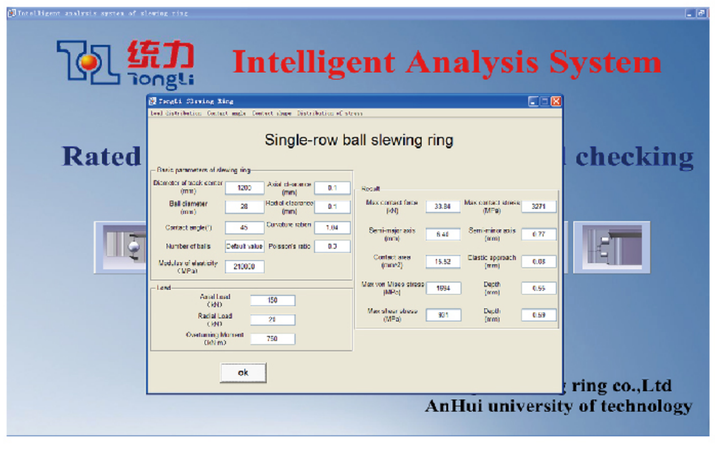
研究 Research

只要您提供外负荷和限制条件，其他的事由我们来做。
Provide us with your loading and requirements, we will achieve the else.

- 行业标准起草单位
- 《液压挖掘机》回转支承章节编写
- 《起重机设计手册》回转支承章节编写
- 十余篇专业论文发表于国家核心期刊
- 开发回转支承智能分析系统软件
- 为主机厂做《合理选用回转支承》技术培训

- **Drafting industrial standards**
- **Compiling of Chapter Slewing Ring in Hydraulic Excavator**
- **Compiling of Chapter Slewing Ring in Crane Design Manual**
- **Published more than ten articles of slewing ring in national core journals**
- **Developing intelligent analysis system for slewing ring**
- **Offering technical seminars on how to choose applicable slewing rings for construction machinery OEMs**





椭圆滚道双排球式回转支承 | 大型工程机械累计销售 13016 例（截至2024.11.15）

Double-Row Ball Elliptical Raceway Slewing Ring

13016 Cases of Verification on Large Construction Machinery (Till Nov. 15, 2024)

代表机型
Representative Model

No:1

2011.4

徐工大型履带起重机原配套三排柱式改用椭圆滚道双排球式

XCMG Group adopted double-row ball elliptical raceway slewing ring to replace original triple-row roller slewing ring in large crawler cranes.

客户数量：7
应用：挖掘机、履带起重机
Quantity of customers: 7
Application: Excavator, Crawler Crane

No:100

2011.10

抚挖重工大型履带起重机原配套三排柱式改用椭圆滚道双排球式

FUWA Machinery adopted double-row ball elliptical raceway slewing ring to replace original triple-row roller slewing ring in large crawler cranes.

客户数量：12
应用：挖掘机、履带起重机、随车起重机、强夯机
Quantity of customers: 12
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor

2012.5

日立住友大型履带起重机选用椭圆滚道双排球式，负载试验后，拆解检验合格

Hitachi Sumitomo employed double-row ball elliptical raceway slewing ring in heavy tonnage crawler crane, has passed overloading test and destructive inspection with excellent performance.

No:200

2013.6

COLMAR公铁两用车改用椭圆滚道双排球式

COLMAR adopted double-row ball elliptical raceway slewing ring in railroad equipment.

客户数量：15
应用：挖掘机、履带起重机、随车起重机、强夯机、汽车起重机、公铁两用车
Quantity of customers: 15
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor, Truck-Mounted Crane, Railroad Equipment

No:500

2014.1

宇通重工大型强夯机原配套三排柱式改用椭圆滚道双排球式

Yutong Heavy Industries adopted double-row ball elliptical raceway slewing ring to replace original triple-row roller slewing ring in large dynamic compactors.

客户数量：30
应用：挖掘机、履带起重机、随车起重机、强夯机、汽车起重机、公铁两用车、海底成缆机、塔式起重机、旋挖钻机
Quantity of customers: 30
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor, Truck-Mounted Crane, Railroad Equipment, Submarine Cabling Machine, Tower Crane, Rotary Drilling

No:1000

2015.5

海螺集团大型进口挖掘机原配套三排柱式改用椭圆滚道双排球式

Conch Group adopted double-row ball elliptical raceway slewing ring to replace original triple-row roller slewing ring in imported excavators.

客户数量：57
应用：挖掘机、履带起重机、随车起重机、强夯机、汽车起重机、公铁两用车、海底成缆机、塔式起重机、旋挖钻机、游乐设备
Quantity of customers: 57
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor, Truck-Mounted Crane, Railroad Equipment, Submarine Cabling Machine, Tower Crane, Rotary Drilling, Amusement Equipment

No:2000

2017.9

浙建大型塔式起重机原配套三排柱式改用椭圆滚道双排球式

Zhejian Construction Group adopted doublel-row ball elliptical raceway slewing ring to replace original triple-row roller slewing ring in large tower cranes.

客户数量：83
应用：挖掘机、履带起重机、随车起重机、强夯机、汽车起重机、公铁两用车、海底成缆机、塔式起重机、旋挖钻机、游乐设备、泵车、叉装车、卸船机、冶金设备
Quantity of customers: 83
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor, Truck-Mounted Crane, Railroad Equipment, Submarine Cabling Machine, Tower Crane, Rotary Drilling, Amusement Equipment, Pump Truck, Fork Lift Truck, Ship Unloader, Metallurgical Machinery

No:5000

2020.10

三一大型挖掘机、汽车起重机批量改用椭圆滚道双排球式

Sany Group adopted double-row ball elliptical raceway slewing ring in heavy tonnage excavators and truck cranes.

客户数量：103
应用：挖掘机、履带起重机、随车起重机、强夯机、汽车起重机、公铁两用车、海底成缆机、塔式起重机、旋挖钻机、游乐设备、泵车、叉装车、港口设备、卸船机、冶金设备、消防车
Quantity of customers: 103
Application: Excavator, Crawler Crane, Lorry Mounted Crane, Dynamic Compactor, Truck-Mounted Crane, Railroad Equipment, Submarine Cabling Machine, Tower Crane, Rotary Drilling, Amusement Equipment, Pump Truck, Fork Lift Truck, Ship Unloader, Metallurgical Machinery, Fire Engine

2022.8

徐工大型泵车选用椭圆滚道双排球式

XCMG Group adopted double-row ball elliptical raceway slewing ring in large pump trucks.

No:10000

2023.1

临工大型挖掘机批量改用椭圆滚道双排球式

SDLG Group adopted double-row ball elliptical raceway slewing ring in heavy tonnage excavators.

No:12000

2024.5

柳工超大型挖掘机批量改用椭圆滚道双排球式

LiuGong Group adopted double-row ball elliptical raceway slewing ring in heavy tonnage excavators.

应用 Application

高承载 High loading

每公斤可承载2t轴向载荷

2t axial load per kilogram can be carried

椭圆滚道球式回转支承为高承载而设计，结构紧凑，高精度，每公斤可承载2t轴向载荷。

Ball type elliptical raceway slewing ring is designed for high loading capacity with compact structure and high precision, 2t axial load per kilogram can be carried.

耐高温 150℃ 耐低温 -40℃

Performance in temperature

通过坚固的结构型式和高品质组件，确保满足其使用领域中高达150℃的热负荷要求。

With robust structure and high quality components, ensure to meet the requirements up to 150℃ in working.

QNC1100.25 @钢包回转台
Ladle turret

通过高品质原材料和组件，确保使用领域中极寒天气下的正常运转。

With high quality raw materials and components, ensure smooth operation in extremely cold weather.

DQNA1815.45 @90t挖掘机
Excavator

耐腐蚀 Corrosion resistance C5-M

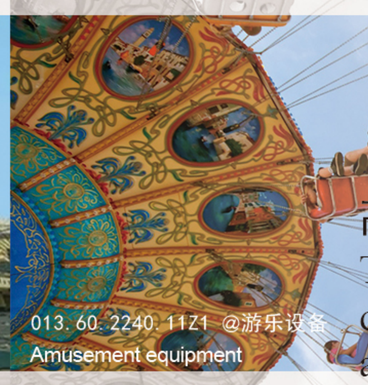
特殊的材料与处理工艺，保障设备在高盐度的沿海或海洋地区更耐腐蚀，为设备可靠运转保驾护航。

Special materials and processing technology ensure that the equipment is more corrosion-resistant in coastal or marine areas with high salinity, which ensure the reliable operation of the equipment.

DQND3520.50T @船吊
Marine crane

安全 Safety

安全系数3.0起 Safety factor≥3.0



013.60.2240.11Z1 @游乐设备
Amusement equipment

游乐、高空作业车等设备的安全性是重中之重，通过量体裁衣式设计和高精度制造，可达到不低于3.0的安全系数，确保主机安全运转。

The safety of amusement and aerial working platform is the key priority. With tailored design and high-precision manufacturing, the safety factor of no less than 3 can be achieved to ensure safe operation of the machine.

稳定 Stability

通过量体裁衣式设计与可靠组件，可保障特定领域应用中全年不停机，可靠连续运行。

With tailored design and reliable components, year-round uninterrupted and reliable continuous operation can be guaranteed in specific applications.

QND2769.50 @水处理设备
Water treatment equipment

013.45.1800.02Z @饮料灌装机
Beverage filling machine

高转速 Velocity

线速度150m/min Linear speed 150m/min

在医疗设备、灌装设备等高转速应用中，保障设备持续稳定回转。

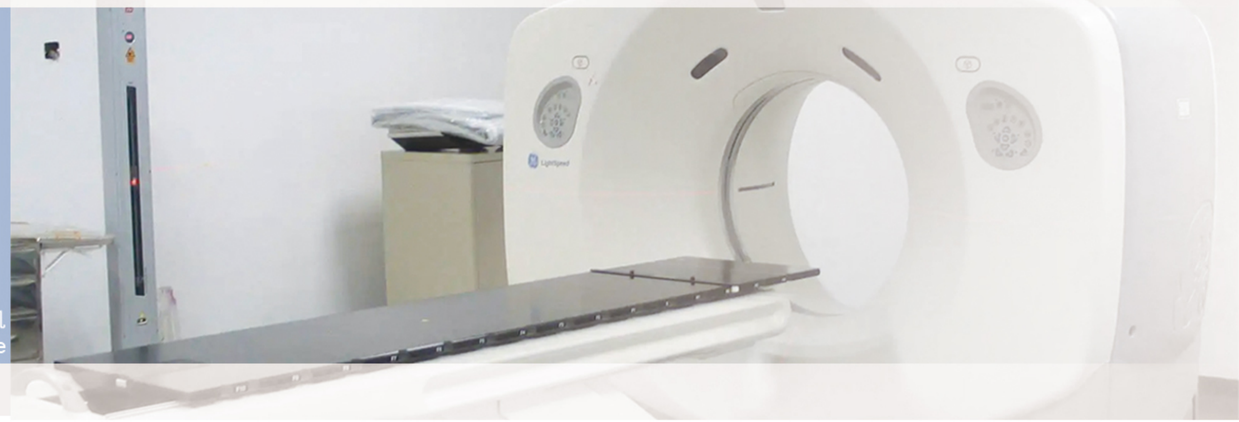
In medical equipment, bottling equipment and other high speed applications, continuous and stable rotation can be ensured.

低噪 Silence

为医疗设备开发的产品，确保低噪音运行。

Products developed for medical devices can ensure low noise operation.

QND1094.25 @CT机
CT Machine



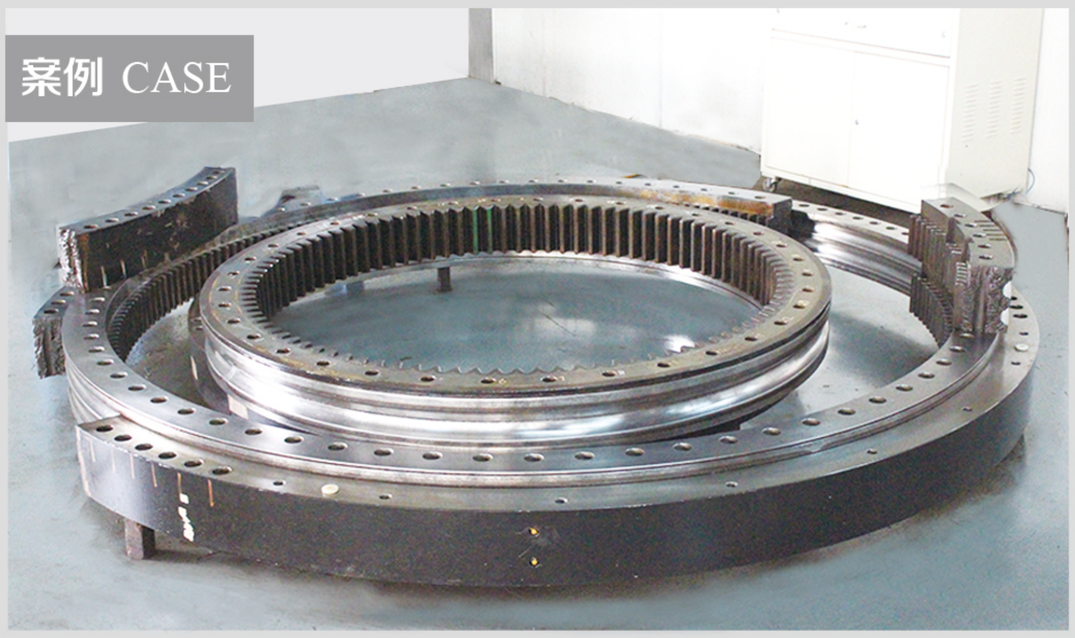
设计 Design

为新机型开发、老机型升级，提供回转支承量体裁衣式设计。

Provide the customers with the most applicable, economical and practical design for both new machine development and old machine optimization according to requirements.

2011年至今， Since 2011, 900 optimized designs

900+ 例选型



日立建机280吨、70吨履带起重机选用椭圆滚道双排球式回转支承，经试验验证及拆解检验，性能良好。

Hitachi Sumitomo has adopted double-row ball elliptical raceway slewing ring for 280-ton and 70-ton crawler cranes, have passed destructive inspections with superior performance.

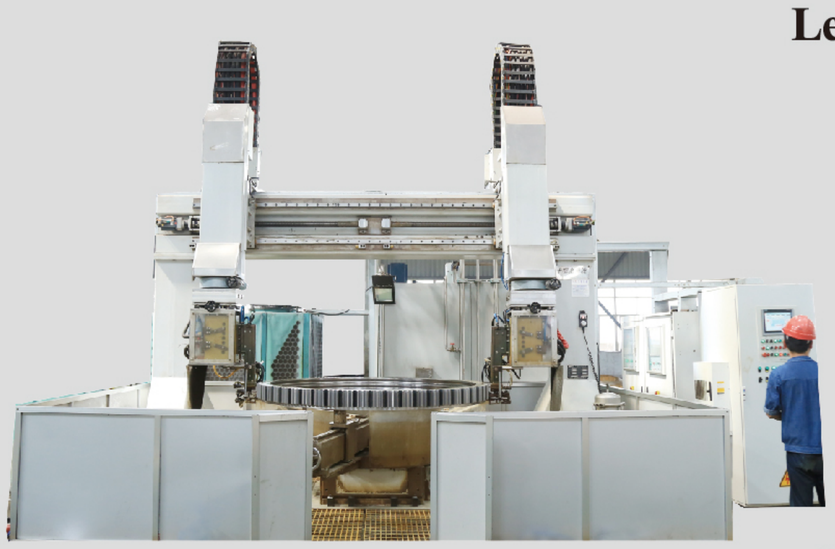
徐工180吨履带起重机改型选用椭圆滚道双排球式回转支承，经试验验证及拆解检验，性能良好。

XCMG Group has adopted double-row ball elliptical raceway slewing ring for 180-ton crawler crane, has passed destructive inspection with superior performance.

工程机械	**739**	Construction Machinery
起重机	300	Crane
挖掘机	200	Excavator
桩工机械	81	Piling Machinery
高空作业车	60	Aerial Working Platform
混凝土机械	45	Concrete Machinery
工业车辆	35	Industrial Vehicle
铲土运输机械	12	Earth Moving Machinery
军用工程机械	4	Military Engineering Machinery
市政与环卫机械	2	Municipal and Sanitation Machinery
水处理设备	**36**	Water Treatment Equipment
污水处理设备	20	Sewage Treatment Equipment
净水设备	16	Water Purification Equipment
灌装设备	**38**	Bottling Equipment
饮料灌装机	28	Beverage Filling Machine
吹瓶机	10	Bottle Blowing Machine
游乐设备	**30**	Amusement Equipment
飞行塔类	12	The Flight Tower
转马类	10	Carousel
观览车类	8	Ferris Whee
海工装备	**25**	Marine Equipment
船吊	18	Marine Crane
船用推进器	7	Ship Propeller
林业机械	**25**	Forestry Machinery
采伐机械	15	Logging Machinery
集材机械	10	Skidding Machinery
港口设备	**20**	Port Equipment
起重机	15	Crane
输送机	5	Conveyor
医疗设备	**8**	Medical Device
X射线诊断设备	8	X-ray Diagnostic Equipment
锂电池设备	**6**	Lithium Battery Equipment
动力锂电池设备	6	Power Lithium Battery Equipment
轨道维修设备	**7**	Railroad Equipment
平板车	7	Platform Lorry
风电设备	**6**	Wind Turbine
钢厂设备	**4**	Steel Mill Equipment
钢包回转台	4	Ladle Turret

制造 Production

回转支承制造率先进入4.0+时代
Lead Slewing Ring Production to Era 4.0+



全数控双工位齿轮淬火中心
Dual-Station CNC Gear Hardening Center

高效专用机床 Specialization

全数控双工位滚道淬火中心
Dual-Station CNC Raceway Hardening Center

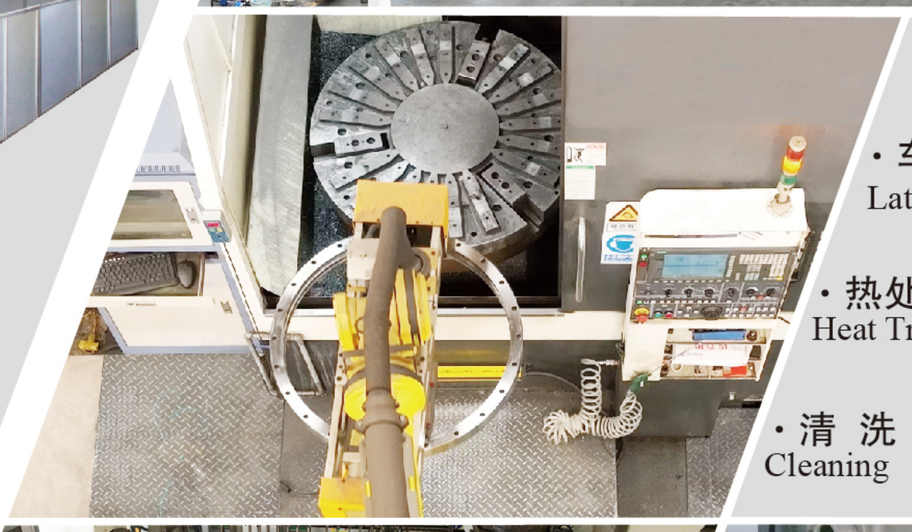
全数控双工位极坐标钻床
Dual-Station CNC Drilling Machine

全数控径向孔加工中心
CNC Radial-Hole Machining Center

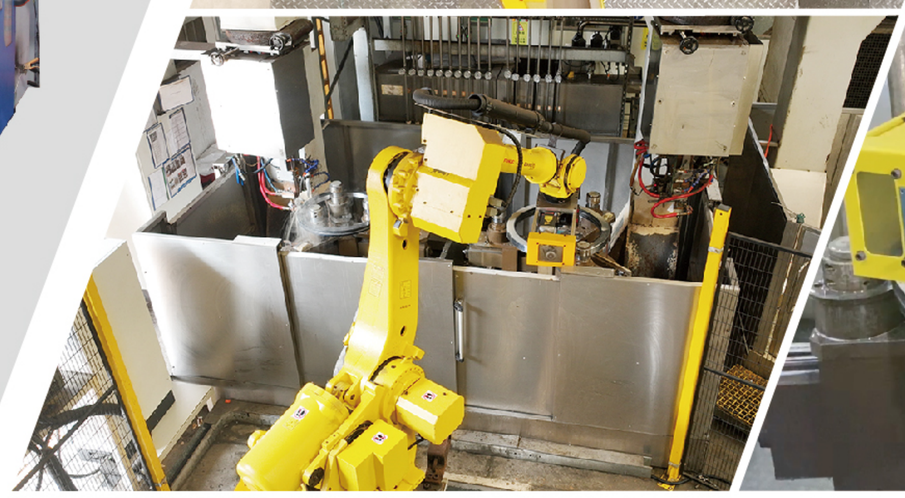
全数控清洗机
CNC Cleaning Machine

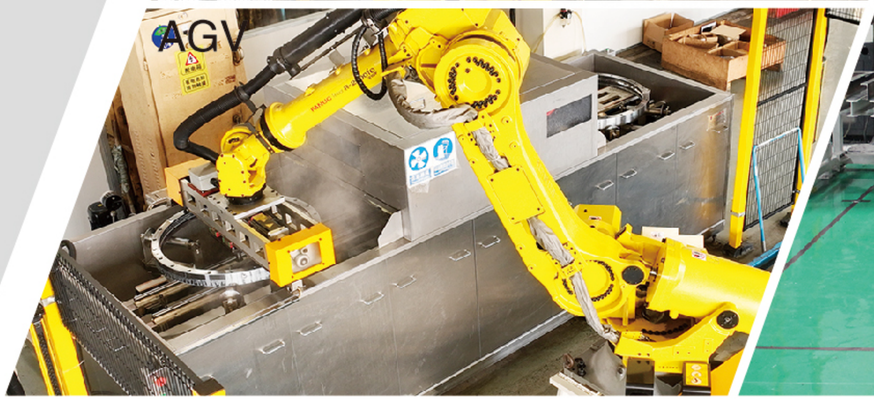
智能制造 Automation

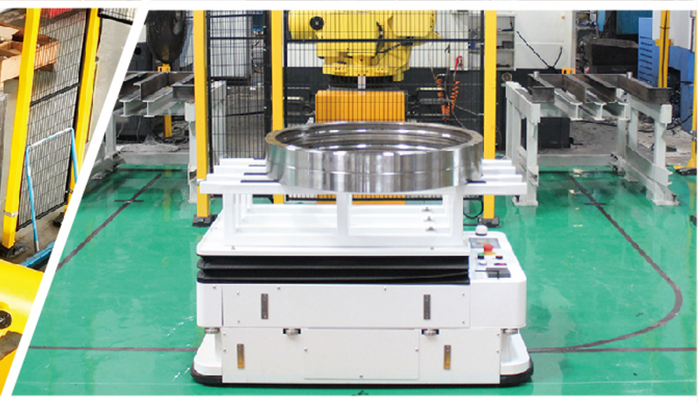
自动化喷漆涂装线
Automatic spraying Line

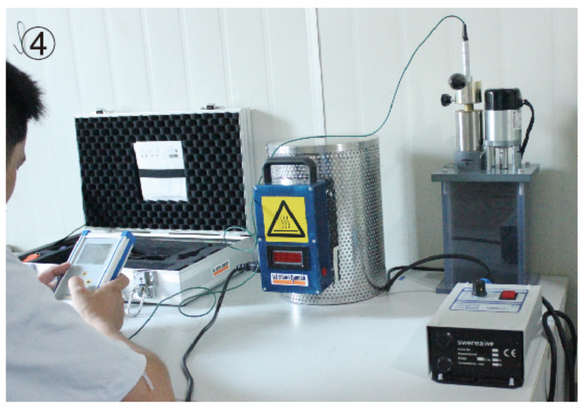


- 车加工 Lathing
- 热处理 Heat Treatment
- 清 洗 Cleaning
- AGV









关键工序控制
Key Process Controlling

①三坐标测量仪 Bridge CMM

②超声波淬火硬化层深度测定仪(神钢)
Ultrasonic quenching and hardening depth tester(KOBELCO)

③多通道淬硬层深度无损测量系统
Multi-channel non-destructive measurement system for testing hardening depth

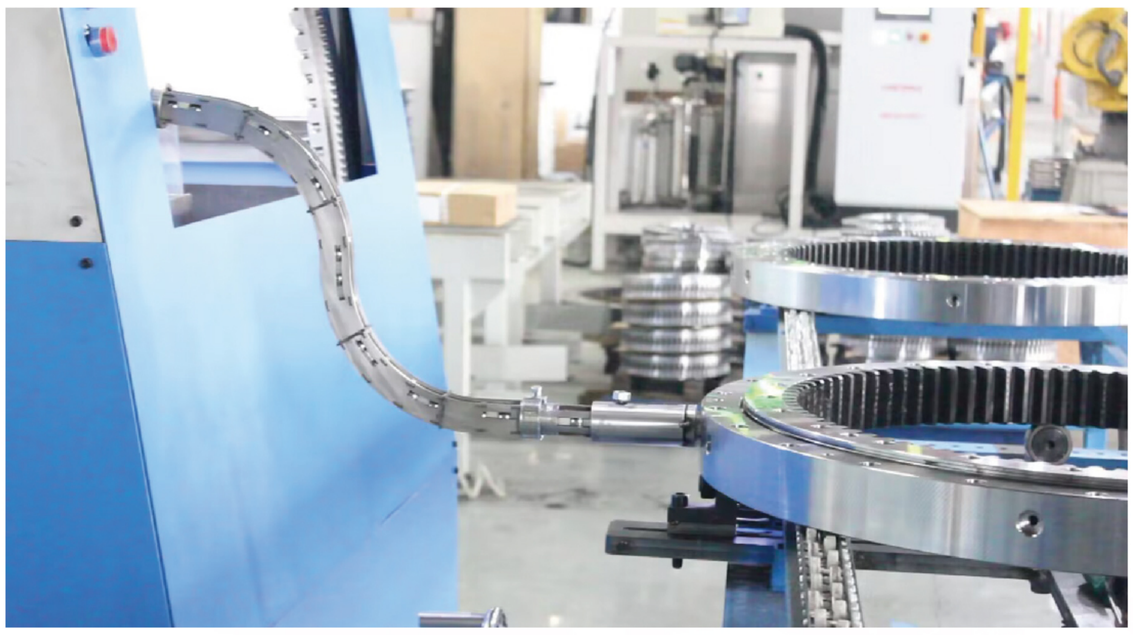
④IVF冷却特性测试仪
Cooling characteristic tester

⑤光谱仪
Spectroport PXC01

改善 Kaizen

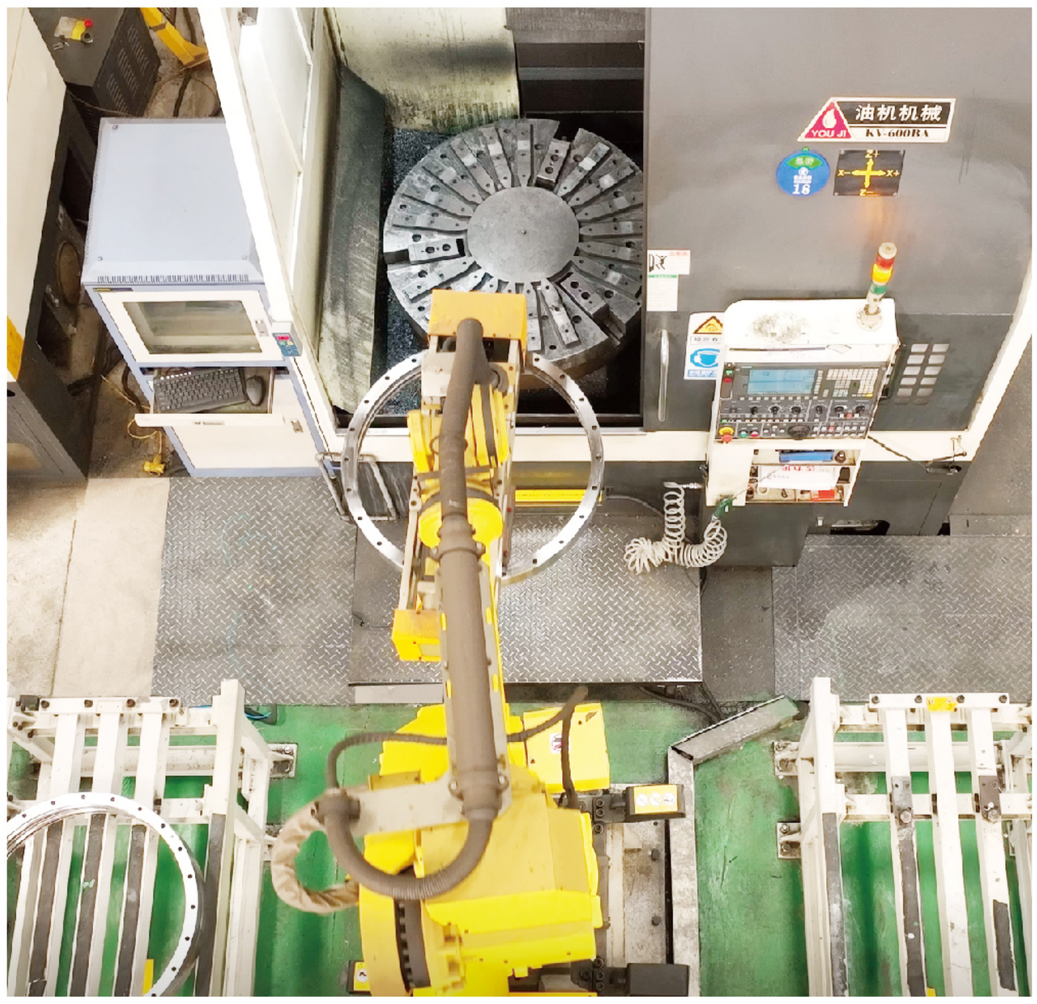
- 十年百项工艺改进
- 人均生产效率提高175%

- **Hundreds of technological improvements in 10 years**
- **Per capita productivity increased by 175%**



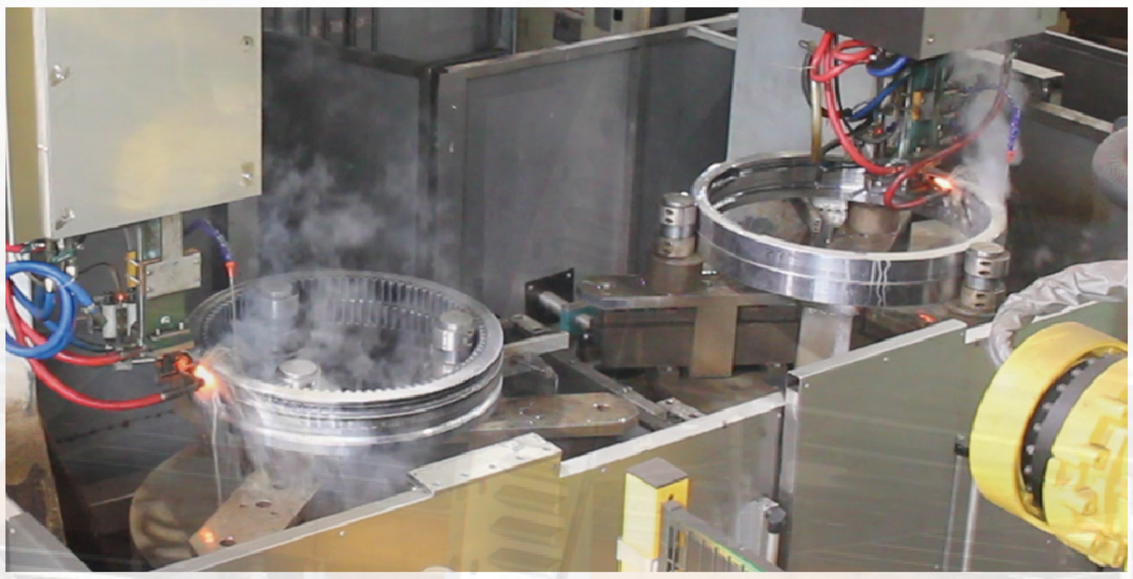
全自动装配机，颠覆传统手工“塞球”装配方式，保障一致性质量，效率倍增

Automatic assembly machine, subvert the traditional manual “stuff ball” assembly mode, ensure quality consistency with double efficieny



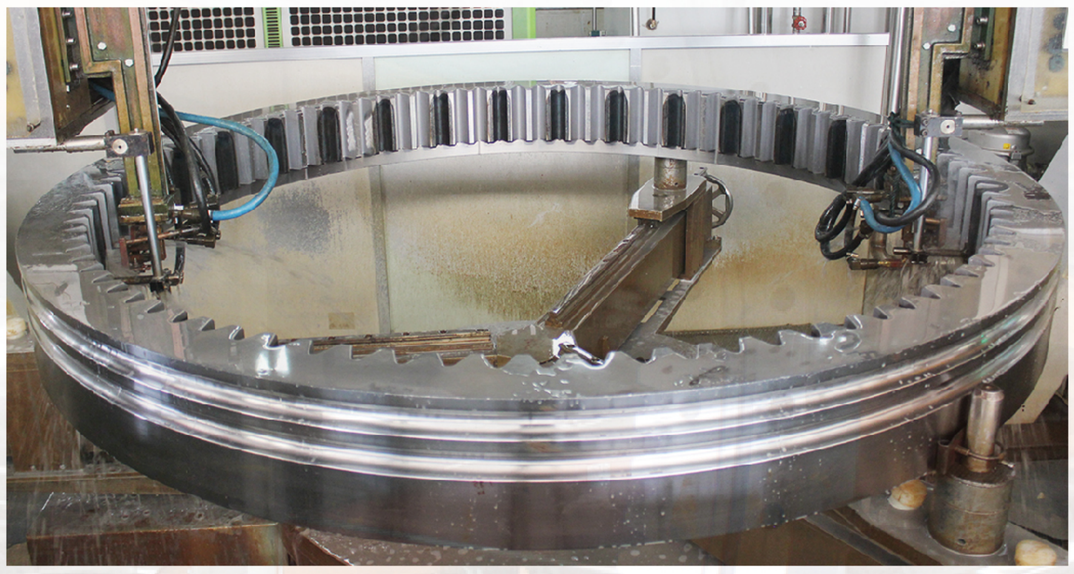
车磨全自动集成系统，机器人上下工件+三爪卡盘自动定心+电磁吸盘自动夹紧+自动清理铁屑+AGV转运，成熟工艺集成，生产标准化，效率倍增

Automatic integrated grinding system (workpieces up and down by robot + automatic centering by three-jaw chuck +auto clamping by electromagnetic chuck + automatic cleaning of iron scraps +AGV transferring). Mature process integration, standardized production with double efficiency



双工位双感应器双圈淬火，效率倍增

Dual-station, dual-inductor and dual workpieces hardening, double efficiency



齿轮花式淬火工艺，

有效解决齿圈径向变形问题，保障精度

Fancy gear hardening process effectively solve the radia deformation problem of gear ring to ensure the accuracy

探索工艺科学化 坚持操作标准化

Exploring Scientific Technology Adhering to Standard Operation

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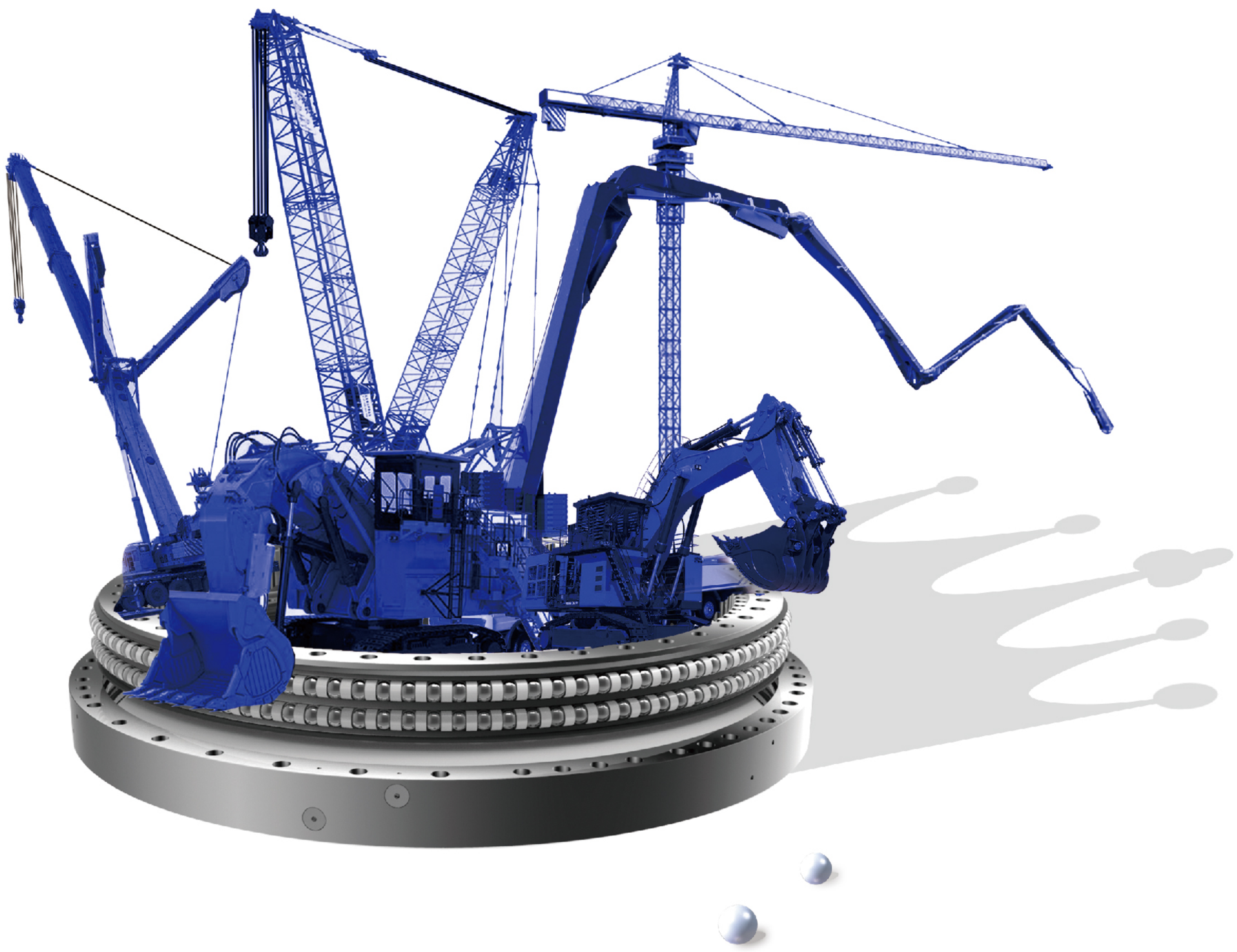
TongLi slewing ring

印象统力
Tongli Impression



马鞍山统力回转支承有限公司
TongLi slewing ring co.,Ltd.