

# 太原重工股份有限公司

TAIYUAN HEAVY INDUSTRY CO., LTD.

# 起重设备

**Cranes Lifting Equipments** 



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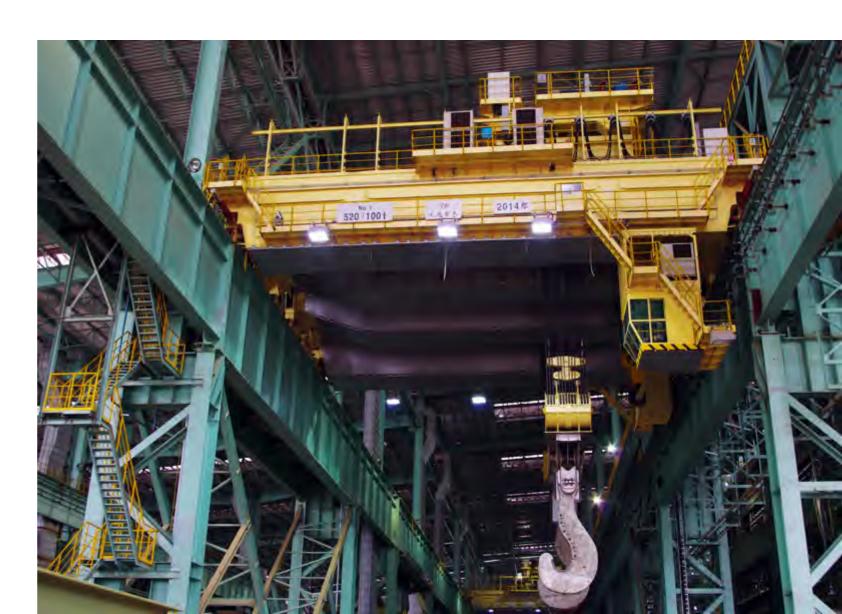
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### 人才队伍是成功的保证 Talent Team is success for Guarantee

### Introduction 公司简介



太原重工股份有限公司是中国重型机械行业第一家上市公司,实际控制人为太原重型机械集团有限公司,其前身为太原重型机器厂,始建于1950年,是新中国自行设计建造的第一座重型机械制造企业。截止2011年,公司占地面积291万平方米,总资产187亿元,员工8000余人,属国家特大型骨干企业,创造了420多个国内外第一,产品出口到50多个国家和地区,被誉为"国之瑰宝"和"国民经济的开路先锋"。

太原重工起重机分公司是我国大型、特种起重运输设备最大研制基地。

自1955年试制成功我国首台50/10t桥式起重机至今,共研制各类大型起重运输设备4000多台,产品广泛应用于冶金、能源(水电、核电、火电、风电)、航天、装备制造(机械、化工、汽车、海工、船舶)、工程机械、铁路、环保、港口码头、物料搬运等领域;产品遍及亚洲、美洲、欧洲、大洋洲、非洲等20多个国家和地区,得到用户的连续采购。为国民经济建设做出了突出贡献。

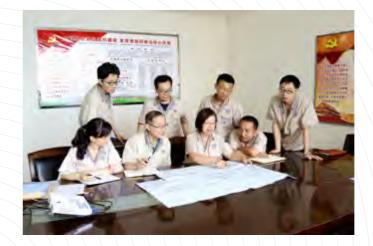
Taiyuan Heavy Machinery Industry Co., Ltd is the first listed corporation in the field of heavy machinery in China, which actually controls over Taiyuan Heavy Machinery Group Ltd. Co., i.e. the former Taiyuan Heavy Machinery Plant. It was the first heavy machinery enterprise which was designed and constructed by itself since the founding of new China, with its starting to be established in 1950. This corporation with covered area of 3.7 million m³, 1.87 billion yuan of total assets, over 8,000 employees, over 10 billion yuan of sales income belongs to the state's special large key enterprise, creating over 420 Nos. 1 at home and abroad. Its products have been exported to over 50 countries and regions. It has been known as "national treasure" and "trailblazer of national economy".

The crane sub-corporation of Taiyuan Heavy Machinery Co.

Ltd is the largest research and manufacture base for heavy and special crane handling equipments.

From 1955 in which the first 50/10t bridge crane was trial-produced in our country up to now it has totally developed over 4000 sets of various heavy lifting handling equipments. Its products have been widely applied in the fields of metallurgy, energy (hydropower, nuclear, thermal power and wind power), spaceflight, installation and manufacture (machinery, chemical, automobile, marine engineering and shipping industries), engineering machinery, railway, environment protection, harbor and port and material handling, etc. Its products have been found over 20 countries and regions such as Asia, Africa, Europe, Oceania and Africa, etc, with its customers continuously purchasing the same in this regard.

### Technical Actual Force 研发能力









国家级企业技术中心(2016年全国排名第2位,重型机械行业第一名);

博士后流动工作站(2012年有博士及博士后6人);

中心从事起重设计的人员共87人,其中: 教授级高工8名,国家级专家3名,高级工程师19名,工程师52名;

负责了15项国家标准的制定和20多项行业标准的制修订。

State-Level Enterprise Technical Center (nationally ranking No. 2 and ranking No. 1 in heavy machinery);

Postdoctoral Flow Workstation (6 for doctor and postdoctor available in 2012);

The crane designers at this center total 87, including processor-level senior engineers 8, state-level experts 3, senior engineers 19 and engineer 52;

Responsible for working out 15 national standards and a lot of trade standards.

太重技术中心是大型、特种起重机设备的专业设计单位。还有包括自动化、交流传动、直流传动、计算机与网络等电气实验室7间(230㎡)和装配车间(300㎡)。

计算机室与网络中心从事全院计算机应用的系统支持。CAE室现有 HP工作站3台,小型SGI工作站2台,微机1台,可进行各种产品设 计造型、应力分析、计算机仿真,虚拟设计等工作。

测控室可对各种设备的现场使用情况进行实测检验,同时具有山西省采掘、冶金、起重设备质量监督检测站的职能。标信室、传动所、液压室等可承担起重机设计中的各种传动和标准件中的非标设计,冷焊研究所、热加工研究所从事配套冷热加工及焊接工艺研究工作。

TZ Technical Center is a specialized design department for designing heavy and special cranes. It also includes the laboratories with 7 rooms such as automation, A.C. & D.C. drive, computer and network, etc, and a assembly shop with 300m. The computer room and the network center undertake support of computer application of the whole TZ Technical Center. The CAE is equipped with 3 sets of currently available HP workstations, 2 sets of small SGI workstations and 1 set of microcomputer, which undertake work such as stress analysis, computer simulation and virtual design, etc.

The measurement & control room carries out actual measurements to operation conditions of various equipments in the shop, with functions of the Test Station for Quality Supervision of Shanxi Excavating & Metallurgical & Lifting Equipments. The standard & information room, drive institute and hydraulic room, etc. undertake nonstandard design for various drive and standard parts among the cranes' design, and the cold welding research institute and the hot work research institute undertake the work relating to matching cold and hot work, and research for welding procedures.

## Qualification 资质荣誉

太原重工是中国唯一一家三大类产品获得中国名牌产品称号的重型装备企业。

Taiyuan Heavy Industry Co., Ltd is the unique heavy installation enterprise which has won the title of China Famous Brand for thee big varieties of products.



ISO9001证书 ISO9001Certificate



OHSAS18001 证书 OHSAS18001 Certificate



ISO14001 证书 ISO14001 Certificate



起重机设备被授予"中国名牌"产品称号 Crane Equipment Were Awarded the Title of Product of "China Famous Brand"



国际焊接师证书 Certificates for International Engineers



特种设备制造许可证 Manufacture License of Special Equipment



国家科技进步二等奖 Having won the Second-Class Having won the First-Class Prize for National Science & Technology Process



中国冶金科技一等奖 Technology Process

时间	项目	获奖
1978	大起重机桥架结构设计及计算理论的试验研究	获全国科技大会成果奖
1978	200t船台门式吊车	获全国科技大会合作完成成果奖
1986	CC1000履带式起重机	部科技进步二等奖
1988	CC1000履带式起重机	石油设备优秀科技成果二等奖
1991	500/300/40吨双向门式起重机	国家科技进步一等奖
1997	25~120吨电动平移式板坯夹钳起重机系列	国家科技进步三等奖
2002	三峡1200/125吨桥式起重机	国家科技进步二等奖
2005	干熄焦提升机	冶金科学技术一等奖
2006	TZ牌门式、桥式起重机	中国名牌

Year	Item	Prize
1978	Experiment and research for structural design and calculation theory of bridge structure of heavy cranes	Having won the achievement prize of National Science & Technology Conference
1978	200t ship-berth gantry crane	Having won the achievement prize for completion of cooperation of National Science & Technology Conference
1986	CC1000 crawler crane	Having won the Ministry-Level Second-Class Prize of Science & Technology Process
1988	CC1000 crawler crane	Having won the Second-Class Prize for Excellent Science & Technology Achievement of Petroleum Equipment
1991	500/300/40t bidirectional gantry crane	Having won the First-Class Prize for National Science & Technology Process
1997	25~120t electric translation-type slab tongs crane series	Having won the Third-Class Prize for National Science & Technology Process
2002	1200/125t bridge crane for three-gorges power station	Having won the Second-Class Prize for National Science & Technology Process
2005	Dry quench coke lifter	Having won the First-Class Technology Process
2006	TZ-brand gantry and bridge cranes	Having won "China Famous Brand"

### Equipment and Process is the Foundation of Success

### Process Equipment 装备能力

太原重工各类设备拥有量达4400余台, 其中主要生产设备1700余台, 重点设备200余台套, 进口设备260余台套。

Taiyuan Heavy Industry Co., Ltd. possesses more than 4400 unit of equipments of various types, in which there are more than 1,700 units of main production equipment, more than 200 sets of key equipment and more than 260 sets of imported equipment.



天桥式数控镗铣机群 NC Machining Centres



Φ9m滚齿机 Φ9m Hobbing Machine



渗碳炉 Cementation Furnace





磨齿机群 Gear Grinders



125MN锻造油压机 125MN Forging Press



Φ10m Vertical Lathe

### **Indoor assembly** 室内装配

太原重工是国家一级计量单位,理化检定中心拥有各类检测设备 180台套,具有理化检验、强度测试、机械振动、电气涂装、焊接 试验等先进检测手段。

Taiyuan Heavy Machinery Industry Co., Ltd is the state's first-class metrological unit. The Physical & Chemical Calibration Center owns 180 sets of various inspection and test equipments, with advanced inspection and test means for physical inspection, strength test, mechanic vibration, electric coating and welding test, etc.





室内装配车间一角 Assembly Workshop



Annealing Furnace for Large-scale Structure

### Crane for Metallurgical Industry 冶金行业用起重机

全球大型先进铸造起重机业绩最多的专业研制公司 承担了国内冶金行业300t以上铸造起重机95%以上的设计、制造任务

Specialized development corporation in the world for heavy-duty advanced ladle cranes

Undertakes over 95% design and manufacture tasks for ladle cranes with over 300t capacity in the metallurgical filed in the country

太原重工起重机分公司具备完成冶金企业从矿山到码头、焦化、烧结、炼铁、炼钢、轧钢再到成品库每一个环节起重运输设备的成套装备能力。

The crane sub-corporation of Taiyuan Heavy Machinery Industry Co. owns complete installation capability for lifting handling equipments in each link from mine to port, coking, sintering, iron making, steel making, steel rolling and up to final product store.





480t铸造起重机 480t Teeming Crane



80t铸造起重机 480t ladle crane



360t铸造起重机 360t ladle crane

铸造起重机——作为太原重工的拳头产品之一,520吨冶金铸造起重机的诞生,促进了转炉大容量的发展趋势,提高了冶金企业的生产效率;太原重工可根据用户工况针对性设计制造80~520t系列铸造起重机。

Ladle crane, as one of competitive product of Taiyuan Heavy Industry, boasting of 520t ladle crane——Its birth has promoted the developing tendency of converter with big capacity and improved production efficiency in the metallurgical industry. Taiyuan Heavy Industry Co., Ltd has designed and manufactured ladle cranes with 80~520t series as per the customers' working conditions.



460t铸造起重机 460t Teeming Crane

520t铸造起重机 520t Teeming Crane



98t板坯夹钳起重机 98t Slab Tong Crane

板坯夹钳起重机 25t~125t Slab Tong Crane 25t~125t

加料起重机 20+20t~100+100t Charging Crane 20+20t~100+100t



100t+100t 加料起重机 100t+100t Charging Crane



电磁挂梁 Electromagnetic hanging beam



百米钢轨搬运新型起重机 Hundred-meter Rail Handling Crane



干熄焦提升机 Dry Quenching Lift

<mark>冶炼环节</mark> Smelting link	产品及服务 Product and service	规格范围 Range of specification	备注 Remarks
<mark>矿山</mark> Mine	堆取料机及皮带传输系统 Material piling and taking machine and belt conveyor system	6400t/h的堆取料机及以下规格产品 6400t/h piling and taking machine and for handing products below such specifications	皮带运输设备、装船机、卸船机等设备, 成套提供该系统的所有设备。
码头 Mine	卸船机、装船机、堆取料机、皮带传输系统 Ship loader, ship unloader, piling & taking machine and belt conveyor	6400t/h的堆取料机及以下规格产品 6400t/h piling and taking machine and for handing products below such specifications	Belt conveyor, ship loader, ship unloader, etc, providing all the equipments matching such system
焦化厂 Coking plant	干熄焦提升机 Dry quench coke lifter	56t~140t/h与 4.3m、6m、7.63m焦炉规格对应的圆形、方形焦罐形式的提升机 Lifters with round and square pots for corresponding specifications of 56t~140t/h and 4.3m、6m、7.63m coking ovens	处理能力达56t~140t/h与 4.3m、6m、7.63m 焦炉规格对应的圆形、方形焦罐形式的提升机。 Treating capacity may reach 56t~140t/h, as round and square pots for corresponding specifications of 56t~140t/h and 4.3m、6m、7.63m coking ovens
<b>原料厂</b> Raw material plant	堆取料机及皮带传输系统 Material piling and taking machine and belt conveyor system	6400t/h的堆取料机及以下规格产品 6400t/h piling and taking machine and for handing products below such specifications	可成套供货 Complete supply
烧结厂 Sintering plant	皮带传输系统 Belt conveyor system	6400t/h的堆取料机及以下规格产品 6400t/h piling and taking machine and for handing products below such specifications	可成套供货 Complete supply
炼铁厂 Iron making plant	堆取料机及皮带传输系统,采用一罐到底工艺的可提供大型铸造起重机堆取料机及皮带传输系统 Material piling and taking machine and belt conveyor system; for adopting one-pot-process, providing heavy ladle crane, piling and taking machine and belt conveyor system	6400t/h的堆取料机及以下规格产品。 500t及下规格铸造起重机 6400t/h piling and taking machine and for handing products below such specifications	可成套供货 Complete supply
炼钢厂 Steel making plant	铸造起重机、加料起重机、铸造起重机、氧枪吊用起重机、真空精炼卷扬提升装置(或顶升装置) Ladle crane, charging crane, crane for handling oxygen gun lifting, winch lifter for vacuum refining	520t 及以下规格铸造起重机、100t+100t及以下规格加料起重机、480t及以下规格真空精炼炉专用卷扬提升装置。 Ladle cranes with 520t or below such specification; charging cranes with 100t + 100t and below such specifications; special winch lifters below 480t and below such specifications for vacuum refining	300t以上大型铸造起重机,市场占有率达90%以上。具备整个厂房起重机总包供货能力。 The complete supply capability of Taiyuan Heavy Industry Co. may minimize coordinating work amount of the customers and accelerate project construction progress.
连铸车间 Continuous casting shop	铸造起重机、板坯夹钳起重机、 桥式起重机 Ladle crane, slab tongs crane and bridge crane	200t及以下规格铸造起重机、125t及以下规格板坯夹钳起重机、400t及以下桥式起重机。 Ladle cranes with 200t and below such specification, slab tongs cranes with 125t and below such specification and bridge crane with 400t and below such specification	具备整个厂房起重机总包供货能力。 It owns general contract supply capability for shop building cranes.
成品车间 Final product shop	大型桥机、板坯夹钳起重机、钢卷起重机(卧式、立式)、百米轨道挂梁起重机等特种起重机 Special cranes such as heavy bridge crane, slab tongs crane, steel coil crane (horizontal and vertical types) and hanging-beam crane with 100-m rail track, etc.	400t及以下规格铸造起重机、118t及以下规格板坯夹钳起重机、百米轨道挂梁起重机、电磁挂梁起重机、钢卷吊装起重机。 Ladle cranes with 400t and below such specification, slab cranes with 118t and below such specification, hanging-beam cranes with 100-m rail track, electromagnetic hanging-beam crane and crane for lifting and mounting steel coils	shop building cranes.
仓库 Store	钢卷自动化仓储系统 Automation storage system for steel coils	根据厂房要求针对性设计 Design subject to the requirement of shop building	国际合作模式 Mode of international cooperation

货商。

#### 惠泽民生 Helping the People's Livelihood

## Crane for Hydropower Station 水电站用起重机

水电站发电厂房大吨位桥式起重机业绩最多公司 水电站大坝门式启闭机及金属结构最优秀的供货商三 峡升船机安全保障系统设备优秀供货商 水电站厂房桥式起重机、大坝门式启闭机设计、制 造、运输、安装、取证、交付使用一条龙服务最优供

A corporation with maximum achievements for big-tonnage cranes for power plants at hydropower stations.

The most outstanding supplier for gantry hoists and metallic structures at the dams of hydropower stations.

The outstanding supplier for safety guarantee system equipments of three-gorges ship lift.

The most outstanding supplier for one-package service of design, manufacture, transportation, erection, certification, and putting into service of bridge cranes and dam gantry hoists in the shop buildings of hydropower stations.



1300t桥式起重机 1300t Overhead Crane

1300吨桥式起重机的诞生,使水电机组大型化有了安全高 效安装设备的保证,同时也促进了装备企业的设备大型化的 发展趋势; 太原重工可根据用户工况针对性设计制造 100~1350t、50t+50t~650t+650t系列桥式起重机。

The birth of 1300t bridge crane is the guarantee for equipments of hydropower generator sets, promoting upsizing developing tendency of equipments in the



1200t桥式起重机 1200t Overhead Crane



坝顶门式起重机群 Gantry Cranes on Dam Crest



500+500t 桥式起重机 500+500t Bridge Crane



500t 门式起重机 500t Gantry Crane

500t门式启闭机解决了当时水电站建设中多圆心轨道运行、 150米水深抓区闸门、大型起重机轮压合理分布等技术难题。 1991年荣获国家科技进步一等奖。太原重工可根据用户工况 针对性设计制造80~1600t系列门式启闭机。

With the help of this crane the difficult technical problems such as multi-center-of-circle track travel, grabbing-zone gate at 150m water depth and distribution of wheel load of heavy crane, etc, for which it won the First-Class Prize for National Science and Technology Process. TYHI may design and manufacture gantry hoists with 80~1600t series as per the customers' requirements.



坝顶门式起重机群 Gantry Cranes on Dam Crest

#### 奉献中国清洁能源 Contribution to China's cleaner energy

### Crane for Nuclear Power Industry 核电站用起重机

中国核电领域起重运输设备研制最早的专业公司具备核电站全系列起重运输设备供货能力的专业公司

太原重工是核电起重机的主要供货商,拥有二代改进型、三代CAP1000和CAP1400型、三代ACP1000型、华龙一号、俄罗斯VVEF型环形起重机的自主知识产权,可为30万千瓦、100万千瓦、125万千瓦、175万千瓦的核电站提供环形起重机,目前已为秦山核电、江苏田湾、海南昌江、辽宁红沿河、山东海阳、广西防城港、山东石岛湾等核电项目提供了环形起重设备。核电起重设备产品类型已覆盖了反应堆厂房起重机、燃料厂房起重机、汽轮机厂房起重机、泵房起重机、码头重载大件吊装固定起重机等核岛和常规岛起重设备。



CPR1000堆型环吊场地试车



VVER堆型360吨环吊场地试车

the earliest specialized corporation for developing the lifting and handling equipments in the field of nuclear power in China

the specialized corporation with supply capability for lifting and handling equipments with whole series at the nuclear power station

TYHI is the dominant crane supplier for nuclear power station cranes. We have proprietary intellectual property rights of polar cranes for improved second generation, the third generation CAP1000 & CAP1400, the third generation ACP 1000, Hualong One, Russia VVER. We can supply polar cranes for 300 thousand KW nuclear power stations, 1 million KW nuclear power stations, 1.25 million KW nuclear power stations, 1.75 million KW nuclear power station. Till now, TYHI has supplied polar cranes for Qinshan nuclear power project, Jiangsu Tianwan nuclear power project, Hainan Changjiang nuclear power project, Liaoning Hongyanhe nuclear power project, Shandong Haiyang nuclear power project, Guangxi Fangchenggang nuclear power project, Shandong Shidaowan nuclear power project etc. The nuclear power cranes include cranes in reactor plant, spend fuel houses, turbine houses, pump houses and the slewing cranes for plant wharves.



核电站环吊







四代核电乏燃料装卸装置 High Temperature Gas Cooled Reactor Spent Fuel Loading

太原重工参与了高温气冷堆示范工程乏燃料贮存系统起重机及 其屏蔽功能的研发制造,研制了首台高温气冷堆乏燃料贮存系统地车及其屏蔽罩成套设备。

针对核电站的非标设备,太重具备自主研发能力。

TYHI has participated in researching & developing and manufacturing high -temperature gas-cooled reactor spent fuel storage system crane and shielding function, researched and developed the first high temperature gas-cooled reactor spent fuel ground trolley and shielding case complete.

TYHI has proprietary intellectual property rights for non standard equipment in nuclear power station.

		<u> </u>		
核电工程部位 Location for nuclear project	产品及服务 Product and service	规格范围 Specification and range	备注 Remarks	
码头 Port	码头桥机 Port bridge crane	1200t桥机及以下规格产品 2000t履带吊及以下规格产品 1200t全路面起重机及以下规格产品 bridge crane with 1200 and below such specification、crawler crane with 2000t and below such specification、Full-road-surface crane with 1200t and below such specification	皮带运输设备、装船机、卸船机等设备, 成套提供该系统的所有设备	
核岛 Nuclear island	环形起重机、装卸料机、 人桥吊、燃料转运装置 Polar crane, loader & unloader, man bridge crane and fuel transfer	360t及以下规格环行起重机,服务于百万干 瓦级机组的核燃料转运装卸系统 Polar crane with 360t and below such specification, serving the transfer loading & unloading system for nuclear fuels of one million kwunit	可对华龙一号\AP1000\ACPR1000\CNP1000\CNP1000\EPR等二代、二代加、三代核电机组针对性设计制造专用起重运输设备  Special lifting and handling equipments may be designed and manufactured as per the nuclear power sets of second generation, second + generation and third generation of Hualong One\AP1000\ACPR1000\CNP1000\EPR.	
核岛外部 Outside of nuclear island	高跨小车、低跨小车、电动平板车 High-bay car, low-bay car and electric flat car	380t及以下规格 380t and below such specification		
乏燃料厂房 Shop building for spent fuels	乏燃料吊、辅助吊 Spent fuel crane and auxiliary crane	130t及以下规格 130t and below such specification		
核废料桶核素厂房 Shop building for nuclide of nuclear waste cask	遥控吊车 Remote control crane	16t及以下规格 16t and below such specification		
汽轮机厂房 Shop building of steam turbine	桥式起重机 Bridge crane	300t及以下规格 300t and below such specification		
BOP厂房 BOP shop building	给类桥式、门式起重机 Classification bridge and gantry cranes	100t及以下规格 100t and below such specification		
高温堆 High-temperature reactor	乏燃料贮存系统——地车 Storage system for spentfuelground car	用于核废料的自动收集及转运 Used for automatically collecting and transferring nuclear wastes		

#### 自主创造成就经济强国

Independent Innovation makes ecnomic powerful nation

## Crane for Equipment Industry 装备行业用起重机

#### 装备及加工行业全系列起重机国内最大的成套供货公司

The largest supply corporation for providing series complete cranes for installation and processing trades in China.

### 锻造起重机 **Forging Crane**



锻造起重机——装备行业为了适应核电、水电、火电、造船、 石化、国防等行业设备大型化对于大型锻件的需求,必须具备 大件锻压能力,550t锻造起重机是确保锻造质量的关键设备

太原重工可根据用户工况针对性设计制造80~750t锻造起重 机及装备行业用的各类起重机, 具备设计、制造、运输、安 装、取证一条龙的服务能力。



650t/160t 桥式起重机 650t/160t Bridge Crane







货场用门式起重机 Gantry Crane for Goods Yard

### 造船门机 Gantry Crane for Ship Building



太原重工是中国最早研制造船门机的企业之一,可以为造船、 海洋工程等行业用户提供150~1200t系列造船门式起重机、 5~800t厂房桥式起重机、1000t~30000t液压复式起重 机,具备为造船、海洋工程等行业提供厂房、船坞全套起重机 运输设备的成套供货能力。

TYHI is the one of the earliest enterprises for developing the gantry cranes for ship building, which may provide the customers in the trades of ship buildings and marine projects, etc. with 150~1200t series gantry cranes for ship building, 5~800t bridge cranes for shop building and 1000t~30000t hydraulic duplex cranes. It owns complete supply capability for complete set of crane handling equipment for ship buildings and docks in the trades such as ship building and marine project, etc.

## Typical Customers & Services 典型客户与服务

太原重工不仅提供优质设备,更能提供为您创造价值的全方位服务!

基石, "TZ" 牌大型、特种起重机广受国内外用户好评。 太重起重机远销印度、韩国、沙特、伊朗、越南、印尼、马来西亚、 澳大利亚、哥伦比亚、孟加拉、巴基斯坦等20多个国家和地区。

太原重工起重机产品的性能和质量是如今我们取得成功和提高信誉的 太原重工秉承"诚信开拓市场,质量创造品牌"的经营理念,与兄 弟企业、社会各界和国际友人保持良好的交往与合作。在追求卓 越、创建世界太重过程中始终以"产品一流、素质一流、服务一 流"得到用户的认可和信赖。



The performances and quality of TYHI's crane products are the core stones for obtaining success and improving reputation. "TZ" brand heavy and special crane has received good appraisal at home and abroad.

TZ cranes have been sold to 20-odd countries and regions such as India, South Korea, Iran, Vietnam, Indonesia, Malaysia, Australia, Colombia, Bangladesh and Pakistan, etc.

TYHI will adhering to the management concept of "sincerely expanding market, quality creates famous brand" have keep good exchange and cooperation with its brother enterprises, all sectors of society and international friends. It has obtained customers' approval and trust by always adhering to "first-class product, first-class quality and firstclass service" during the process of creating the World TZ.