



# 太原重工股份有限公司

TAIYUAN HEAVY INDUSTRY CO., LTD.

## 海洋工程装备

Offshore Equipment



太原重工股份有限公司

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中国·天津  
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太重（天津）滨海重型机械有限公司  
临港重型装备研制基地 鸟瞰图

## 立足海工装备高端制造

Based on High-end Manufacturing of Offshore Equipment

## 打造太重海工自主品牌

Creating TZ Independent Brand of Offshore Equipment

## 核心价值观

CORE VALUES

## 诚信 创新 精益 卓越

Integrity Innovation Refinement Excellence





## 太 重 滨 海 公 司 概 况

### TZBH Introduction

太原重工是中国重型机械行业第一家上市公司，实际控制人为太重集团，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。成立60多年来创造了360项国内外第一，累计为国家重点建设项目提供了1000余种，两万多台（套）装备，被誉为“国之瑰宝”和“国民经济的开路先锋”。为实现转型发展，公司于2008年成立了太重(天津)滨海重型机械有限公司(以下简称“太重滨海公司”)，进军海洋装备领域。

太重滨海公司是太原重工股份有限公司的全资子公司，位于天津滨海新区临港经济区，占地1500亩（100万平方米），拥有1000米码头岸线，码头泊位水底标高-13.5米。在保持传统产品（锻压设备、煤化工、港口机械）优势的基础上，公司围绕海洋工程装备领域，建有分段制造、加工装配、管舾装、电气配套、一喷二涂、1个起吊能力1500吨的一万吨级重件出运泊位、4个五万吨级的舾装泊位、出运滑道（30000吨、15000吨和3000吨）、船台合拢等设施，满足海洋工程装备的生产研制要求。公司主要产品有自升式钻井平台、多功能辅助作业平台、风电安装平台、自升式修井平台、模块建造、液压打桩锤、海工起重机等。

太重滨海公司的发展紧紧依托太重集团的雄厚实力，实现跨越和转型，形成具有自身特色的海工装备产品，公司将为太重实施“蓝海”战略做出应有的贡献，并为国家实施“海洋强国”战略奉献自己的力量。

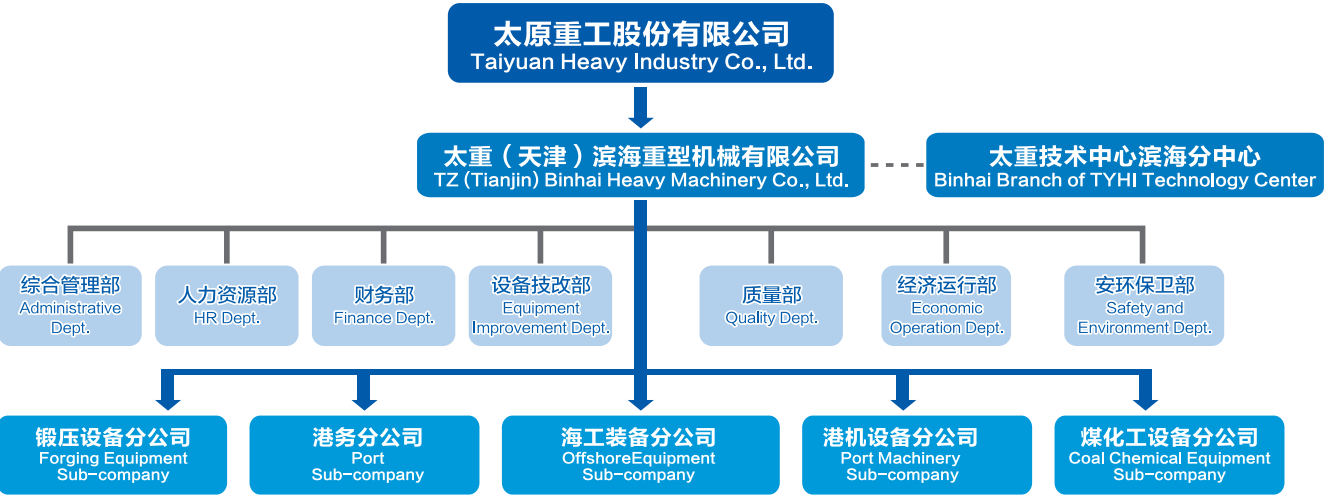
Taiyuan Heavy Industry is the first listed company in heavy machinery industry in China, its actual controller is Taiyuan Heavy Machinery Group, and its predecessor is Taiyuan Heavy Machinery Plant, which was founded in 1950 as the first heavy machinery manufacturing enterprise independently designed and constructed in China. Over more than 60 years since its establishment, Taiyuan Heavy Industry has created 360 No. 1s at home and abroad and supplied more than 20,000 sets of equipment in more than 1,000 kinds for major construction projects in China, so that it has been recognized as "national treasure" and "pioneer of national economy". In order to realize the transformation and development, the company established Taizhong (Tianjin) Binhai Heavy Machinery Co., Ltd. (hereinafter referred to as "TZBH") in 2008, entering into the offshore engineering equipment field.

As a wholly-owned subsidiary of Taiyuan Heavy Industry Co., Ltd., TZBH is located in Lingang Economic Zone in Binhai New Area of Tianjin, occupies an area of 1,500mu (1 million square meters), and possesses 1,000m dock shoreline, with the bottom elevation of berth at dock being -13.5 meters. While maintaining the advantages in traditional products (forging equipment, coal chemical equipment and port machinery), the company has also set up the segmented manufacturing facilities, processing & assembling facilities, outfitting facilities, electrical facilities, coating & painting facilities, one berthing space with 1,500-ton lifting capacity and capable of 10,000-ton heavy part shipment, four 50,000-ton outfitting berthing spaces, shipment sliding tracks (30,000-ton, 15,000-ton and 3,000-ton) and ship building berth, so as to meet the needs of research and production of offshore engineering equipment. The main products of the company include jack-up drilling platform, liftboat, offshore wind turbine installation vessel, jack-up workover platform, module fabrication, hydraulic pile driving hammer and offshore-engineering crane.

By virtue of the strength of Taiyuan heavy Machinery Group, TZBH has realized the leap-forward development and transformation, and formed the offshore engineering equipment products with unique characteristics. The company will make due contribution to the blue sea strategy implemented by Taiyuan Heavy Machinery Group, and will do its bit for the ocean-based development strategy implemented by China.

## 太 重 滨 海 公 司 组 织 机 构 图

### TZBH Organization Chart



## 研 发 中 心

### Research & Development Center

太重滨海公司在天津滨海新区CBD——响螺湾中心商务区建有15000m<sup>2</sup>研发中心。中心拥有一流的海洋工程研发团队100余人，其中从美国休斯敦外聘海工专家1名，从国内知名海工企业引进资深海工设计师数十人。几年来该团队先后与大连理工大学、哈尔滨工程大学、天津大学、中集海工研究院、辽宁陆海石油装备研究院等科研院所建立良好的合作机制，通过新产品研制、关键技术攻关，最终将科研成果转化为新产品。

太重滨海研发中心主要从事自升式钻井平台、多功能辅助作业平台、风电安装平台、修井平台、水下机器人、液压打桩锤、海洋工程起吊设施及海洋平台关键配套设备的研究，通过自主创新与引进、消化、吸收，再创新相结合的方式，已经开发完成了自升式钻井平台、多功能辅助作业平台、风电安装平台、修井平台、大中型液压打桩锤、伸缩臂钻井船吊机、折叠臂海洋平台吊机、海工重型吊机等海上起吊设施，产品突破核心技术并打破国外公司的垄断。

TZBH has set up a 15,000m<sup>2</sup> R&D Center in Xiangluowan Central Business District, namely the CBD in Binhai New Area of Tianjin. The center has a first-class offshore engineering R&D team composed of more than 100 employees, including one offshore engineering expert employed from Houston USA and dozens of experienced offshore engineering designers employed from renowned offshore engineering enterprises at home and abroad. Over past several years, the team has set up good cooperation mechanisms with universities and scientific research institutions such as Dalian University of technology, Harbin Engineering University, Tianjin University, CIMC RAFFLES Research Institute and Liaoning Petroleum Equipment Research Institute, and converted the results of scientific research into new products through research of new products and overcoming of key technical difficulties.

Mainly engaged in the research and development of jack-up drilling platform, liftboat, offshore wind turbine installation vessel, jack-up workover platform, underwater robot, hydraulic pile driving hammer and offshore-engineering crane and key equipment of offshore platform, and by means of independent innovation, introduction, digestion, absorption and re-innovation, the R&D Center of TZBH has developed jack-up drilling platform, liftboat, offshore wind turbine installation vessel, workover platform, large/medium-sized hydraulic pile driving hammer, telescopic-boom crane for drilling ship, folded-boom crane for offshore platform, and offshore-engineering heavy-duty crane, making breakthrough in core technologies and breaking the monopoly of foreign companies.

State award for invention	4	国家发明奖	■
National prize for progress in science and technology	15	国家科技进步奖	■
Science and technology achievement award	10	科技成果奖	■
Equipment development achievement	7	装备研制成果奖	■
Authorization for a patent for invention	349	授权发明专利	■
The patent for utility model	436	实用专利	■
Provincial science and technology progress prize	134	省部级科技进步奖	■
National gold prizes for quality products	3	国家优质产品金奖	■



质量管理

今天的质量和服務就是明天的市場  
Today's high quality and excellent service bring tomorrow's rewards.

Quality Control

公司建立运行了严格完善的质量管理及控制体系，获得了ISO9001、国家实验室等国际质量管理体系认证证书，并与CCS、ABS船级社建立了良好的合作关系。

TZBH sets up a strict quality control and management system, has got the certification of ISO 9001 and National Laboratory, and builds good cooperative relations with CCS and ABS.



环境管理体系认证证书  
Authentication Certificate of  
Environment Management System



职业健康安全管理体系认证证书  
International Standards Certification of  
Vocational Health and Safety Management System



国际焊接证书  
International Welding Certificate



国际焊接证书  
International Welding Certificate



安全生产许可证  
Safety Production License



ISO9001质量管理体系认证证书  
ISO9001 Quality Management System Certificate



ISO9001质量管理体系认证证书  
ISO9001 Quality Management System Certificate



ISO9001质量管理体系认证证书  
ISO9001 Quality Management System Certificate



测量管理体系认证证书  
Measurement Management System Certificate



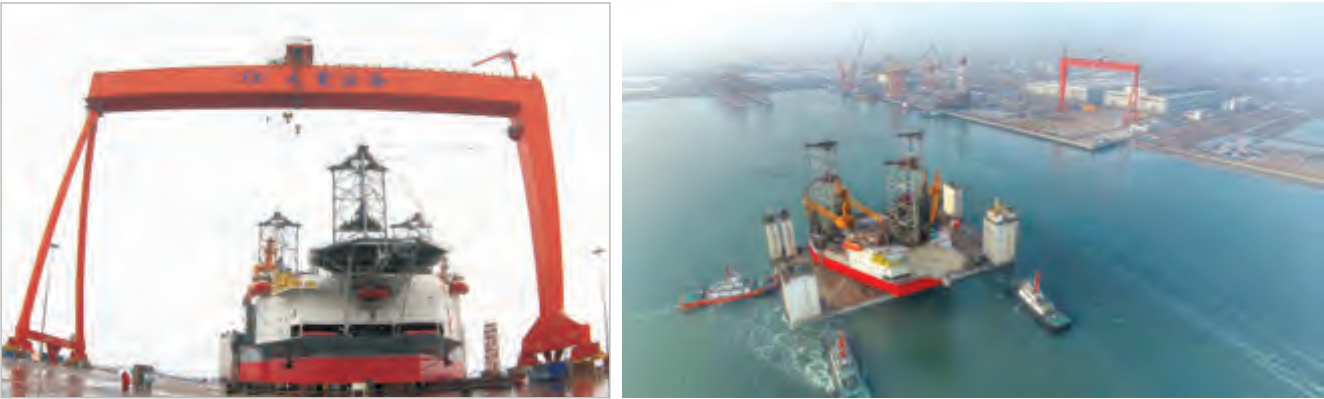
海洋石油工程承包贰级证书  
Contractor Qualification for Offshore Oil Engineering (Class II)



国家实验室认可证书  
National Laboratory Accreditation Certificate

# 自升式钻井平台

## Jack-up Drilling Rig



公司可设计制造自升式钻井平台，用于海上石油天然气勘探开发。它是钢制非自航钻井平台，作业水深从12-14ft直至450ft，具备深井探井和大位移丛式井、固井及水平井钻井功能及试油辅助功能。

TZBH has the ability to design and manufacture Jack-up drilling rig. It is a non-self-propelled, self-elevating drilling rig used for offshore oil and natural gas exploitation and development operation. It is intended for operation in water depth from 12-14ft up to 450ft provided with such functions as drilling of deep well, cluster well, horizontal well, cementation and auxilliary oil test.

### 技术参数

#### Specifications

平台型号 Product Model	TZ300自升式钻井平台 TZ300 Jack-up Drilling Rig	TZ375自升式钻井平台 TZ375 Jack-up Drilling Rig	TZ400自升式钻井平台 TZ400 Jack-up Drilling Rig	TZ450自升式钻井平台 TZ450 Jack-up Drilling Rig
型长 Molded Length	60.96m	68.05m	70.27m	78m
型宽 Molded Breadth	55.78m	66.m	72.0m	78m
型深 Molded Depth	7.62m	8.2m	9.5m	10m
最大作业水深 Max. Operating Water Depth	300ft	375ft	400ft	450ft
钻机最大钻井深度 Max. Drilling Depth	9000m	9000m	9000m	9000m
桩腿总长 Length of Leg	125.3m	167m	167m	182.9m
悬臂梁最大纵向延伸 Max. Vertical Outreach of Cantilever	15.24m	22.5m	22.5m	24.4m
钻台左右横向移动 Horizontal Movement of Drill Floor	±4.57m	±4.5m	±4.57m	±6.1m
设计环境温度 Ambient Temperature	0℃~50℃	0℃~50℃	0℃~50℃	-20℃~45℃
平台定员 Accommodation	120	130	150	180

# 多功能辅助作业平台

## TZ Liftboat



多功能辅助作业平台是一种多功能的海上服务平台：拥有宽阔的甲板面积，可运输多功能模块，也可独立地或其他海上平台合作完成连续油管修井、油田增产等海上作业。

TZ Liftboat is a kind of multifunctional offshore service platform with spacious deck. It can freight and transport multi-funtional module, and is able independently or in conjunction with the offshore platform to complete offshore operations coiled tubing workover, oilfield stimulation, etc.

### 技术参数

#### Specifications

平台型号 Product Model	TZ300多功能辅助作业平台 TZ300 LIFTBOAT	TZ375多功能辅助作业平台 TZ 375 LIFTBOAT	TZ425多功能辅助作业平台 TZ 425 LIFTBOAT
型长 Molded Length	72.0m	70.9m	70.9m
型宽 Molded Breadth	42.0m	43.3m	43.3m
型深 Molded Depth	7.0m	7.1m	7.1m
最大作业水深 Max. Operating Water Depth	76.2m	80m	100m
桩腿长度 Leg Length	96m (300ft)	114.3m (375ft)	129.5m (425ft)
主吊机 Main Crane	50t@28m	250t@9.5m/30t@40m	250t@9.5m/30t@40m
定员 Accommodation	110	300	300



风电安装平台

Wind Turbine Installation Vessels



公司完成了新一代自航自升式海上风电安装平台（船）的研发，该平台主要用于海上风电安装等功能，最大起重能力为1500t，满足5—8MW风机分体和整体安装。

TZBH has finished the development of the new generation wind turbine installation vessels. The vessels are designed with self-propelling and self jacking-up system and mainly used for installation of wind turbines. The serial products are capable of erection of wind turbines ranging from 5MW to 8MW. Wind turbines erected as one piece or part by part are possible with the maximum lifting capacity of 1500t.

技术参数

Specifications


平台型号 Product Model	TZ30M—650T	TZ40M—1000T	TZ50M—1500T
最大工作水深（m） Max.Operating Water Depth	30m	40m	50m
主吊类型 Main crane	绕桩式全回转 Rotary	绕桩式全回转 Rotary	绕桩式全回转 Rotary
主吊起吊能力（t） Main crane lifting capacity	650	1000	1500
辅吊起吊能力（t） Auxiliary hanging lifting capacity	50	250	50
升降系统类型 Jacking system	液压插销升降 Hydraulic bolt lifting	液压插销升降 Hydraulic bolt lifting	齿轮齿条 Pinion and rack
升降速度（m/min） Jacking speed	0.4	0.4	1
桩腿结构 Leg type	圆桩式 Circular pile type	圆桩式 Circular pile type	桁架式 Truss
航速（kn） Speed	5	5	5
安装方式 Installation way	分体式 Part by part	叶轮式 Blade rotor type	兔耳式 Rabbit ear type
打桩架 Pile driving frame	无 No	有 Yes	无 No
搭载能力 Carrying capacity	3套5MW 5MW wind turbine x 3	2套5MW或1套7MW 5MW wind turbine x 2 or 7MW wind turbine x 1	3套5MW或2套8MW 5MW wind turbine x 3 or 8MW wind turbine x 2

自升式修井平台

Self-elevating Workover Unit

TZ300W 自升式修井平台是一艘带有 DP1 动力定位，具有自航能力的用于海上油气井修井、侧钻，恢复油气田能力和勘探开发作业的自升式钻修井装置，钻井能力 5000 米（16400英尺），修井能力 9000 米（30000 英尺），具备钻井、固井和辅助试油等功能。

As a self-propelled self-elevating workover platform with DP1 dynamic positioning system, TZ300W self-elevating workover unit is used for offshore workover operation, deviational drilling, oil & gas field recovering, and oil & gas exploration & development operations, with drilling capacity of 9,000 meters (30,000 ft), and with features of drilling, cementing, and oil testing.



技术参数

Specifications

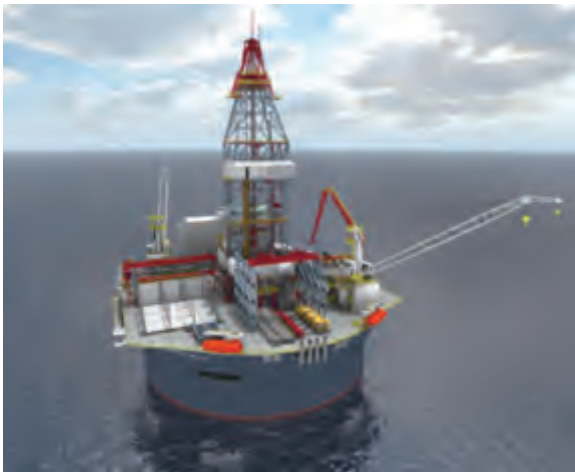
产品 Product	TZ300W自升式修井平台 TZ300W Self-elevating Workover Unit
入级 Classification	ABS/CCS
设计定员 Accommodation	100 Persons
作业水深 Operating Water Depth	300ft
设计环境温度 Design Ambient Temperatures	0℃~50℃ / -20℃~45℃
修井能力Workover Depth	9000m (30000ft)
钻井能力 Drilling Depth	5000m (16400ft)
型长 Molded Length	67.11m (220ft)
型宽 Molded Width	55.78m (183ft)
型深 Molded Depth	7.62m (25ft)
纵向桩腿中心距 Longitudinal Leg Spacing	35.055m (115ft)
横向桩腿中心距 Transverse Leg Spacing	36.6m (120ft)
桩腿总长 Leg Length Overall	135.6m (444.9ft)
桩靴直径 Spud Can Diameter	13.8m (45.3ft)
拖航最大可变载荷 Towing Maximum Variable Load	2000t
风暴自存可变载荷 Storm Survival Variable Load	2000t
钻井作业可变载荷 Operational Variable Load	3500t
悬臂梁最大外伸 Cantilever Maximum Longitudinal Outreach	21.3m (70ft)
钻台横向最大移动距离 Drill floor Maximum Transverse Movement Of Centre Line	± 4.57m ( ± 15ft)
舱室存储能力 Storage Capacity	
燃油 Fuel Oil	451m3
淡水 Potable Water	434m3
钻井水 Drilling Water	1420m3
预压载 Preload Water	~6200t
液体泥浆/洗井液 Liquid Mud/ Liquid Washing	350m3
热海水 Hot Seawater	269m3
井下污液舱 Well Dirty Liquid	210m3
基油 Base oil	107m3
盐水 Brine	107m3
土粉/重晶石 Bentonite / Barite	70m3
水泥 Cement	140m3
袋装舱 Sack Storage	2000 sacks

# 海洋工程起重机

## Offshore Crane

公司研发的海洋工程起重机主要包括船用起重机、海洋平台起重机、海工重型起重机等，技术性能基本达到国际先进水平。

Offshore Crane developed by TZBH includes ship crane, offshore platform crane, offshore heavy duty crane, etc. Technical performance of these cranes has reached to the international advanced level.



海洋平台起重机  
Offshore Platform Crane



转盘式海洋平台起重机  
Offshore Rotary Crane



折臂起重机  
Knuckle Crane

# 模块建造

## Module Fabrication

依靠高标准的制造基地，太重通过整合海上和陆地项目的建造能力和经验，可为海上设施提供具有竞争力的模块制造整体交钥匙解决方案。同时还可为大型油气处理和陆地大型化工厂提供高性价比的模块制造服务。

产品包括：陆地工厂模块、海上钻井模块；油气处理模块、海上生活模块及FLNG、FSRU、FPSO的上件模块等。

Based on the manufacture experience and capability both onshore and offshore, TZ can provide competitive turn-key project for marine modules, refinery plant modules, and onshore modules for large chemical plant.

Products include: onshore factory modules; offshore drilling modules; refinery plant; living quarters and upper modules for FLNG, FSRU and FPSO.



# TZ系列液压打桩锤

## TZ Series Hydraulic Pile Driving Hammer



水面上打桩



深水作业



TZ-200液压打桩锤样机试验



液压打桩锤广泛应用于桥梁、建筑、港口码头、海上风电、海洋平台基础打桩及深水海洋结构物的安装。随着深海矿产、油气资源的开采，未来20年该产品市场需求量巨大。

Hydraulic Pile Driving Hammer is widely used in the installation of bridge, building, wharf, offshore wind power equipment, pile foundation of offshore platform and marine structures in deep water. With the exploitation of deep-sea mineral resources and oil and gas resources, the market demand is huge over the next 20 years.



## 海工配套设备及模块

### Offshore Auxiliary Equipment and Module



升降系统  
Jacking System



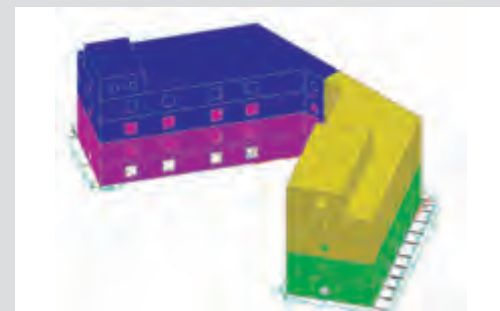
升降单元外形  
Jacking Unit Outline



电气控制系统  
Electrical Control System



海洋平台钻井模块  
Drilling Rig of Offshore Platform



生活楼  
Living Quarter



直升机平台  
Helicopter Deck

## 生产设备

### Production Equipment

公司拥有冷热加工设备3300余台套。针对海工产品，配有数控切割、数控镗铣、数控加工中心、热处理、铸造、焊接、钢材预处理、零部件加工装配、喷砂涂装、起吊设备、分段运输车等先进专业化设备。

Our company owns cold and hot processing facilities up to 3300 sets. For offshore equipment, we have numerical control cutting machine, CNC boring and milling machine, CNC machining center, heat treating machine, casting machine, welding machine, steel pretreatment machine, parts processing and assembly, sand-blasting and coating, lifting equipment, block carrier vehicle, etc.



Φ260双立柱落地镗铣床  
Φ260 Double Column Boring & Milling Machine



125MN 锻造液压机  
125MN Forging Press



25 X 6.5 X 6.5m 热处理炉  
25 X 6.5 X 6.5m Annealing Furnace



52.5米x8米x8米 数控龙门镗铣床  
52.5mx8mx8m Digital Control Gantry Boring & Milling Machine



φ9m 滚齿机  
φ9m Hobbing Machine



## 生产设备 Production Equipment



φ 6m 立式车床  
φ 6m Vertical Lathe



磨齿机群  
Gear Grinders



数控天桥铣机群  
NC Machining Centers



一喷二涂  
Painting and Blasting



Shipbuilding Crane 造船门机  
MU520/420/260/30t-121m



320t 分段运输车  
320t Block Carrier Vehicle



150t × 85m 门座起重机  
150t × 85m Portable Crane



350t+350t-43m 双小车桥机  
350t+350t-43m Overhead Crane

## 检测设备 Testing Equipment

公司理化中心是专门的检测计量机构，具有无损检测、工业化学分析、金相检测分析、力学性能试验、试样制备等先进的检测手段。中心拥有各类先进检测设备30余台，其中从国外引进10台世界水平的检测设备，整体检测能力处于同行业领先水平。

The physical and chemical testing center is a specialized measurement base of TZBH. The center has various instruments, like nondestructive detection, industry chemistry analyzers, metallographic analyzers, mechanical property testing instruments, sample preparation instruments and other advanced testing methods. More than 30 testing equipments are equipped and 10 sets are introduced from abroad. The overall detection level keeps leading in the same industry.



全谱直读光谱仪  
The Full Spectrum of Direct Reading Spectrometer



UTM5105X型微机控制电子万能试验机  
UTM5105X Floor-Standing Electromechanical Universal Testing Machine



Ni500型金属摆锤冲击试验机  
NI500 Metal Pendulum Impact Testing Machine



全站仪 Leica TS11  
Electronic Total Station Leica TS11



涂层测厚仪 456 CFSS  
Coating Thickness Gauge 456 CFSS



超声波探伤仪HS610E  
Ultrasonic Flaw Detector HS610E



# 国际市场与合作

## International Market and Cooperation

公司将秉承“为我先锋”的企业理念和“自力图强，求实创新，团结奉献”的企业精神，按照“诚信、创新、精益、卓越”的核心价值观，一如既往为客户创造价值、为社会创造财富、为合作伙伴创造回报，为成为世界一流的海工装备制造企业而努力。

公司先后成立了印度分公司、香港分公司，在德国、秘鲁、蒙古、俄罗斯、中亚、东南亚、西亚等国家和地区设立了办事处和产品服务站，保证了出口产品的售后服务和备件供应。

In the future, by upholding the enterprise idea of “Being Pioneers”, the enterprise spirit of “Self-reliance and hard struggle, Realistic and innovative, Unity and dedication”, and the enterprise core value of “Integrity, Innovation, Refinement and Excellence”, TZBH will continue to create value for customers, wealth for society, and profit for partners, in the aim to become a world-class offshore equipment manufacturing enterprise.

TZ has established subsidiaries in India and Hongkong. Regional office and service station are available to ensure the after-sells service and spare part supply in countries like Germany, Peru, Mongolia and Russia as well as regions like Middle Asia, West Asia and South-east Asia.

太原重工产品出口国家地区分布图  
Distribution map of countries and regions that import TYHI products

- 出口国家 Exported Countries
- 服务公司 Service Sub Co.,

太原重工产品出口国家 TYHI products are exported to the following countries:				
阿富汗 / Afghanistan	捷克 / Czech Republic	意大利 / Italy	俄罗斯 / Russia	荷兰 / Netherlands
阿根廷 / Argentina	埃及 / Egypt	日本 / Japan	沙特 / Saudi Arabia	土耳其 / Turkey
澳大利亚 / Australia	法国 / France	哈萨克斯坦 / Kazakhstan	新加坡 / Singapore	阿联酋 / United Arab Emirates
奥地利 / Austria	德国 / Germany	马来西亚 / Malaysia	南非 / South Africa	乌克兰 / Ukraine
巴西 / Brazil	印度 / India	蒙古 / Mongolia	韩国 / South Korea	英国 / UK
加拿大 / Canada	印度尼西亚 / Indonesia	缅甸 / Myanmar	西班牙 / Spain	美国 / USA
智利 / Chile	伊朗 / Iran	巴基斯坦 / Pakistan	突尼斯 / Tunisia	越南 / Vietnam
哥伦比亚 / Colombia	伊拉克 / Iraq	秘鲁 / Peru	泰国 / Thailand	……
按英文字母排序 In alphabetical order				

