



太原重工股份有限公司
TAIYUAN HEAVY INDUSTRY CO., LTD.

太重(天津)滨海重型机械有限公司
TZ (TIANJIN) BINHAI HEAVY MACHINERY CO., LTD.



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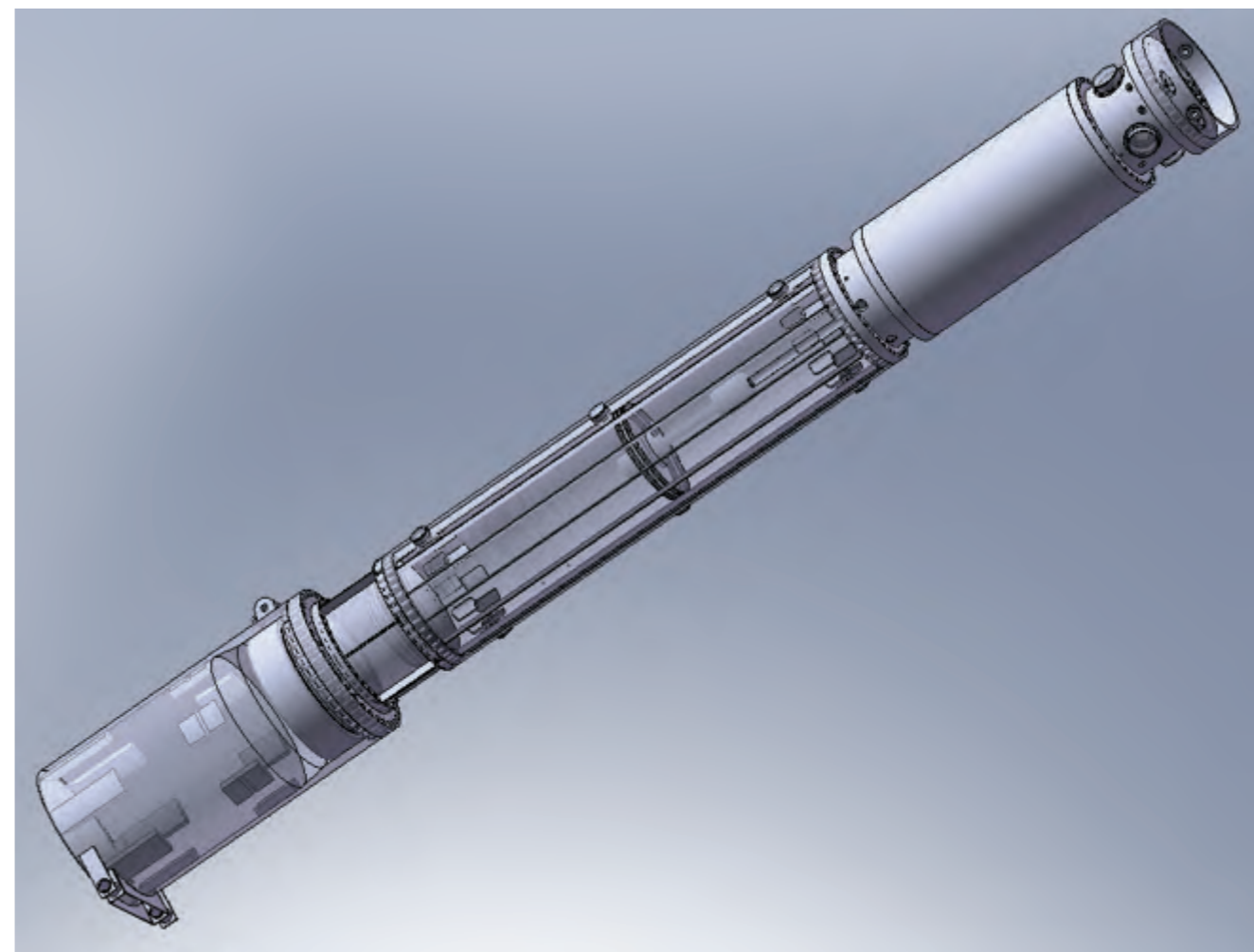
TYHI
TZBH

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液压打桩锤设备

HYDRAULIC PILE DRIVING HAMMER



中国·天津
CHINA·TIANJIN

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



立足港机设备精品制造

Based on Supply High-class Port Machinery

打造太重港机自主品牌

Creating TZ Independent Brand of Port Machinery

核心价值观

CORE VALUES

诚信 创新 精益 卓越

Integrity Innovation Refinement Excellence

公司简介

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”），进军港口设备领域。

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，建有1个重件出运码头（起吊能力1500T），4个5万吨级泊位，水底标高-13.5米。在保持传统产品优势的基础上，公司围绕港口机械设备领域，建有原材料处理、焊接成型、零部件加工、一喷二涂、装配成套、整体发运等设施，满足港口机械的生产研制要求。公司主要产品有门座式起重机、岸边集装箱式起重机、轨道集装箱龙门起重机、卸船机、堆取料机、造船门机、装船机、甲板起重机、甲板浮式起重机、甲板液压起重机、甲板折臂回转起重机等。

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。

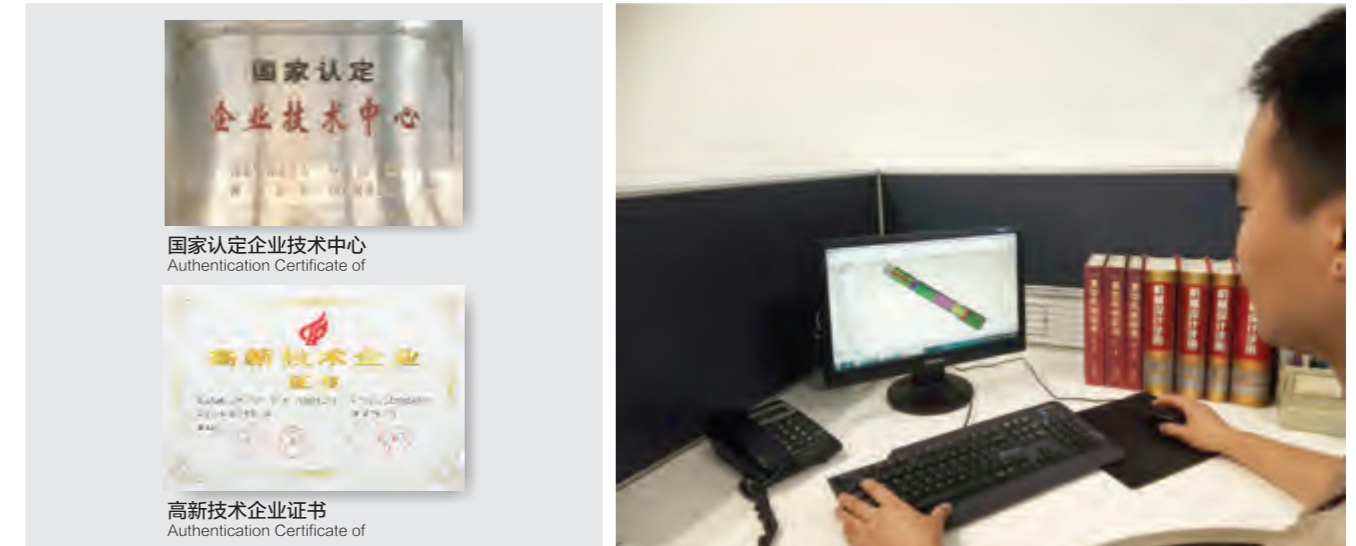
Taiyuan Heavy Industry is the first listed company in heavy machinery industry in China, its actual controller is Taiyuan Heavy Machinery Group, and its predecessor is Taiyuan Heavy Machinery Plant, which was founded in 1950 as the first heavy machinery manufacturing enterprise independently designed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

As a wholly-owned subsidiary of Taiyuan Heavy Industry Co., Ltd., TZBH is located in Tanggu Harbor 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 TZBH deployed the equipments, like -13.5 meters. On the basis of maintaining the advantages of traditional products, TZBH deployed the equipment, Like raw material processing, welding molding, parts processing, a spray coating, assembly, the overall delivery and other facilities around port machinery and to meet the requirements of port machinery production development. The main products of TZBH include Portal Crane, Quayside Container Crane, Rail Mounted Gantry Crane, Rubber Tyred Gantry Crane (RTG), Ship Unloader, Stacker-reclaimer, Shipbuilding Gantry Crane, Ship Loader, Offshore Crane, Floating Crane, Hydraulic Slewing Crane, Knuckle 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.

研发中心

Research & Development Center



太原重工拥有较强的自主研发能力，累计创造了420余项中国和世界第一。2011年，太原重工入选国家首批火炬计划重点高新技术企业，拥有国家级企业技术中心（2015年全国排名第2名，重型机械行业第1名）。

太重滨海公司在天津滨海新区CBD——响螺湾中心商务区建有15000m²研发中心。中心拥有一流的研发团队100余人，其中从美国休斯敦外聘专家1名，从国内知名企业引进资深设计师数十人。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液压打桩锤、门座式起重机、岸边集装箱式起重机、轨道集装箱龙门起重机、轮胎式集装箱门式起重机、卸船机、堆取料机、造船门机及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，已经开发完成了门座式起重机、岸边集装箱式起重机、轨道集装箱龙门起重机、卸船机、堆取料机、造船门机，产品突破核心技术并形成自己的产品优势。

TYHI possesses a nationally recognized technology center (ranked 2th in China and 1st in heavy machinery industry in 2015) and has a strong self-research and develop ability. Our company has created over 420 No.1 nationally and internationally. In 2011, TYHI was selected as key hi-tech enterprise in the first period of China Torch Program.

TZBH has set up a 15,000m² R&D Center in Xiangluowan which is the Central Business District (CBD) in Binhai New Area of Tianjin. The center owns first-class R&D teams composed of more than 100 engineers, including one offshore engineering expert employed from Houston USA and dozens of experienced designers employed from renowned enterprises domestically. Over past years, the center has set up good partnership 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 Portal Crane, Hydraulic Quayside Container Crane, Rail Mounted Gantry Crane, Rubber Tyred Gantry Crane (RTG), Ship Unloader, Stacker-reclaimer, Shipbuilding Gantry Crane, and by means of independent innovation, introduction, digestion, absorption and re-innovation, the R&D Center of TZBH has developed Portal Crane, Quayside Container Crane, Rail Mounted Gantry Crane, Bridge Type Grab Ship Unloader, Bucket-wheel Stacker-reclaimer, Shipbuilding Gantry Crane, Products break through the core technology and form their own product advantages..

State award for invention	4	国家发明奖	■
National prize for progress in science and technology	14	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	123	授权发明专利	■
The patent for utility model	202	实用新型专利	■
Provincial science and technology progress prize	114	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 Quality Control

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.

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.



ABS美国船级社



英国劳氏船级社



核辐射安全许可证证书
Nuclear Radiation and Security Certificate



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



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



安全生产许可证证书
Safety Production License



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



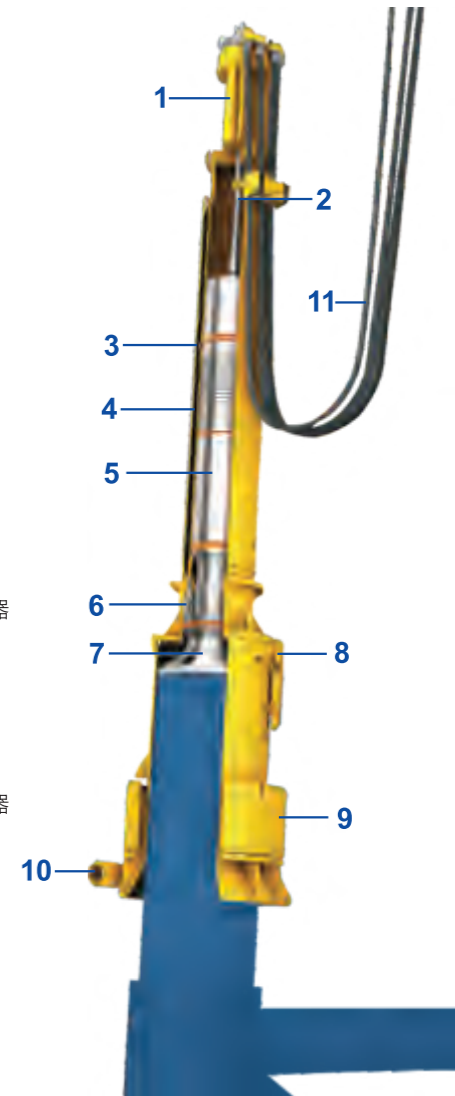
ISO9001质量管理体系认证证书
ISO9001 Quality Management System Certificate



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

技术参数及规格

Technical Parameters and Specifications



1. 液压驱动单元
2. 活塞
3. 锤芯接近传感器
4. 双壁锤壳体
5. 锤芯
6. 减震器
7. 砧铁
8. 水位桩套传感器
9. 备选水下配重
10. 偏心对中耳销
11. 液压管

TZ系列打桩锤产品规格

规格	TZ-200	TZ-500	TZ-800	TZ-1200	TZ-1600	TZ-1900
最小能量 (KJ)	20	50	80	120	160	190
最大能量 (KJ)	200	500	800	1200	1600	1900
油流量 (L/min)	870	1200	1600	2400	3200	3600
最大打击频次 (bl/min)	32	32	32	30	28	25
最大打桩直径 (m)	1.0	1.8	2.2	3.5	5.0	6.0

用途与原理说明

Purpose and Principles

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，未来该产品市场需求量巨大。

TZ系列液压打桩锤由锤体、液压动力站和电气控制系统单元等几个部分组成，其中锤体由储气舱、配油舱、锤筒上锤芯、下锤芯、替打、桩套筒、提升油缸、蓄能器等组成；液压动力站由集装箱、柴油发动机、供油泵组、分动箱、液压油箱、液压控制集成块、冷却循环装置和管路附件等组成；控制系统单元由控制室、控制系统电气单元、撬底座等组成；脐带由进油管、回油管、控制电缆、钢丝绳等组成。体结构紧凑、合理，操作维护简便。相比柴油锤具有安全、可靠、坚固耐用，可抗拒恶劣作业环境，绿色环保，防爆、工作效率高等优点。

液压打桩锤电气控制方式：供电电源采用三相交流380VAC、工频50Hz电源、由船上供电或岸电供电；电气控制采用PLC控制；电控系统设置HMI人机界面，显示设备工作状态、报警信息、相关操作、捶打击数据设定和显示；打击能力采用分级选择工作制，通过HMI或电控器件选定，能量等级可以通过设定的程序自动计算；打桩控制分为手动操作、自动操作、单次循环模式，模式控制可以依据情况由高级向低级操控模式自动切换。

TZ系列液压打桩锤工作原理：以液压能为动力，提升锤芯后使锤芯加速下降，锤击桩帽并将桩体沉入基础中。同时，液压锤通过桩帽这一缓冲装置，直接将能量传给桩体，可以不受限制地对各种形状的钢板桩、混凝土预制桩、木桩等进行沉桩作业。另外，液压锤还可以方便地进行陆上与水上上的斜桩作业，与其它桩锤相比有独到的优越性。

Hydraulic pile driving hammer is extensively used around bridge construction, architecture, portal, offshore wind power, offshore platform foundations, and any other deep sea constructional installations. With the development of deep sea, petroleum resource and mineral resource, this product has unbelievable potentiality.

TZ hydraulic pile driving hammer is consist of hammer structure, hydraulic power station, and electric control unit, etc. The hammer structure is consist of gas storage bin, oil distribution bin, upper hammer core, lower hammer core, lifting snag or power storage. Hydraulic power station consist of container, diesel power station and pump group, transfer box, hydraulic oil box or hydraulic control, cooling circulating device and etc. Electric control unit consist of control cabin, electric unit. Oil pipe consist of in and out oil pipe, cable control, and rope. The structure is more convenient and reasonable. Compared to diesel hammer, it is much security and reliable, even environmental friendly.

Electric control principle of Hydraulic pipe driving hammer: Power supply: 3 phase 380VAC, 50Hz it would be supplied by ship or shore power. Electric control is PLC; HMI control screen will clearly show working status, and alarming information, operating instruction and data of hammer. Hammer capacity of different working levels will be selected by HMI. Energy Degree could be automatically calculated by insert procedure. Piling control consist of manual or automatic operation and single circulate system. It is changed automatically from superior to primary.

TZ hydraulic pile driving working logic: with the hydraulic power, lifting hammer core and accelerating and moving of hammer core, finally hammer pile cap will help pile submerged under the foundation. At the same time, with help of pile cap cushion effect, it could transfer energy directly to pile. It will not restricted by surrounding steel pile, concrete pile or wood pile. The other unique advantageous is land-water inclined pile work.

产品

Product



TZ系列打桩锤
TZ-Series Pile Driving Hammer



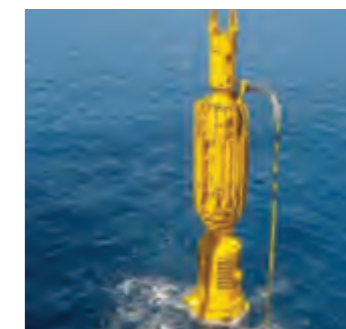
大桩变径段
Sectional Changes of Big Pile



偏心对中系统
Eccentric System



可替换插入式锤套
Replaceable inserted Hammer Set



深水勘探
Deep-water Investigation

生产设备

Production Equipment

公司拥有冷热加工设备3300余台套。针对港机产品，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。

TZBH owns cold and hot processing facilities up to 3300 sets. For port machinery products, 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 and etc.



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



125MN 锻造液压机
125MN Forging Press



25x6.5x6.5m 热处理炉
25x6.5x6.5m Heat-treat Furnace



φ9m 滚齿机
φ9m Gear Hobbing Machine



φ6m 立式车床
φ6m Vertical Lathe



磨齿机群
Gear Grinders



数控天桥铣机群
NC Overbridge Milling Machines



一喷二涂
Painting and Blasting



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



320t 分段运输车
320t Block Carrier



40x85m 门座起重机
40x85m Portal 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 in which 10 sets are imported from abroad. The overall detection level keeps leading in the heavy machinery 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



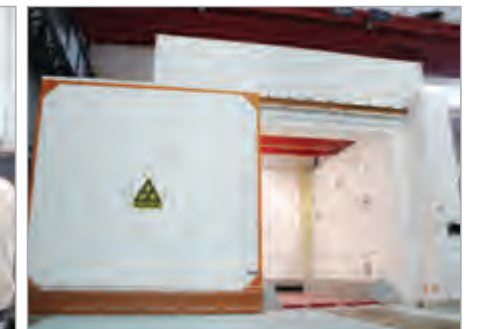
超高压胀管机
Ultrahigh Hydraulic Pipe Expander



材料性能检测
Material Property



力学检测
Mechanical Property Testing



太重天津滨海探伤室
X-ray Test Room