公司介绍

上海振华重工（集团）股份有限公司（ZPMC）是重型装备制造行业的知名企业，为国有控股A、B股上市公司，控股方为世界500强之一的中国交通建设股份有限公司。

公司总部设在上海，于上海本地及南昌、江阴等地设有8个生产基地，占地总面积1万亩，总岸线10公里。特别是长江口的长兴基地有深水岸线5公里，承重码头3.7公里，是全国也是世界上最大的重型装备制造企业。

公司具有强大的资源优势——“场地车间加工实力雄厚、运输有船、停泊有岸线、起重有浮吊”，南通传动机械有限公司是世界知名的减速箱生产企业，因此我们的产品具有可靠性高、质量好、交货期短的特点。ZPMC有信心为用户提供最优的产品。
Shanghai Zhenhua Heavy Industry Co., Ltd. (ZPMC) is a famous heavy-duty equipment manufacturer, and a state holding company listed on A and B shares in Shanghai Stock Exchange. The major shareholder is China Communication Construction Co., Ltd. (CCCC), which is one of top 500 companies in the world.

ZPMC headquarters is located in Shanghai. ZPMC also has 8 production bases located in Shanghai, Nantong and Jiangyin, with total area of 6670 hectares and 10 kilometer coastline, (especially Changxing Base has 5 kilometer deep water coastline), and including heavy-duty dock of 3.7 kilometer. ZPMC is the largest heavy-duty equipment manufacturer in the world.

Relying on ZPMC’s resource advantages—“Large-scale workshops, great working capability, vessels for transportation, long deep water coastline and heavy-load floating cranes for lifting”, the Nantong transmission Machinery Co., Ltd. is one of the most famous gear-box manufacturer. We can provide products with high reliability and good quality in short delivery time. ZPMC has the confidence to supply jacking system products as custom-made.
Core Competitive Strength

升降系统是典型的机、电、液一体化作业系统。ZPMC拥有2000余名专业工程师从事机械、电气、液压方面的工作。ZPMC自成立以来一直从事于机械装备的设计和制造，积累了丰富的实践经验，也为ZPMC对升降系统的研发打下了非常扎实的基础。振华重工于09年开始研发升降系统，截止目前，已出口600套升降装置，以及20套平台的电控系统。另外还有风电安装船和钻井平台等项目使用。

Jacking system is the typical system of mechanical, electrical, hydraulic integration operating. ZPMC has more than 2,000 professional engineers engaged in the work of the mechanical, electrical, hydraulic. ZPMC since its inception has been engaged in the design and manufacture of machinery and equipment, and accumulated a wealth of practical experience and also laid a very solid foundation for the research and development of the jacking system for ZPMC. ZPMC in 2009, began the development of the jacking system, until now, Up to now, Up to now, have been exported 12 sets of platform jacking system, a total of 650 sets of jacking unit, as well as 20 sets of platform electronic control system, in addition to Wind-farm Installation Platform and Self-Elevating Rubble Slab Barge.

1. 钢结构均在大跨度室内车间制作冲砂、成型、消除表面缺陷，及油漆打磨、焊接、涂装等。均能在大车间内完成，可保证精度和质量。
2. 钢结构的吊装和预拼装。减少了焊接工作量和吊装难度。
3. 钻机底座的组装和试验台。确保了系统的精度和质量。

The successful development of ZPMC jacking system not only fills the domestic gap, and main technical performance indicators have reached the international advanced level, but also the main technical performance indicators have reached the international advanced level, and the following is the most important key technology and innovation points:
Jacking System

升降系统概述

- 公司生产的升降系统主要包括：升降装置，锁紧装置，高度检测装置，升降结构，电控系统，齿条等整套系统。驱动方式、结构形式和功能设定等可根据用户实际情况和要求进行最优方案设计。
- 目前公司生产的升降系统负载能力有多种选择，单套装置的额定提升荷从200吨~500吨之间可供用户选择，并可提供CCS，ABS，DNV等各国船级社的证书。
- The Jacking system manufactured by ZPMC mainly includes: jacking unit, fixation unit, leg height + RPD, jack-case, control system, rack and etc. We can supply optimized design (different drives, structures, function and etc.) to meet different customer's requirements.
- As present, there are a lot of choices for the load of jacking system, and the capacity for the normal jacking can be 200 ~ 500 t. We also can provide certificates (of CCS, ABS, DNV etc.) as required.

主要功能：
1) 抬升平台
2) 固定平台
3) 抬升腿
4) 预压
5) 风暴下支撑

main function:
1)Lifting platform
2)Fixed platform
3)Lifting legs
4)Pre-machining
5)Survive from storm

ZPMC has successfully developed jacking units of 3 types and specifications, applied for 300-feet, 350-feet and 400-feet platforms respectively. The normal jacking load is 200-385 tons, and the maximum normal holding load is 454-646 tons. The jacking units adopt frequency control, which can realize the stepless speed adjustment with the jacking speed from 0 to 2m per min.

Three types of the jacking units produced by the company have passed the prototype test, and gained the ABS and CCS Certificate of Approval, of which the jacking units of the F&G project gained the ABS first certificate of ocean platform jacking system which issued in China mainland region.

ZPMC the next step is to develop a new generation super large platform jacking system suitable for 500-feet platforms, to complete the types and specifications of the products. The project was also listed as one of the important projects for industrialization of Shanghai and has received 7 national patents.

制表单元
Fixation System
平台
Platform
Jacking Unit

固定单元

### 简介
升降系统用于自升式平台的升降，常规配备32～72套，额定载荷从200～500MT不等。

### ZPMC研制的升降系统主要应用：
- 各类自升式钻井平台，如：Super M2，JU2000E等；
- 各类特种工程船，如：风电安装船、抛石整平船等。

### ZPMC配套开发了提升系统试验台，可用于各种船级社认证所需，同时
也可对产品进行疲劳、破坏等试验，为后续产品取得更多有利数据。

### Introduction
The jacking system is designed for elevating and lowering the platform. Conventional equipped with 32~72 sets per rig and the normal jacking capacity is 200~500 MT.

### Main application:
- The drilling platforms such as Super M2, JU 2000 etc.
- Wind farm installation platform, self-elevating rubble leveling barge etc.

### ZPMC developed jack up system prototype test platform to meet the requirements from different classification societies. It can run fatigue test and destructive test to get more available data for further improvements.

### 升降系统产品系列表

<table>
<thead>
<tr>
<th>系列号</th>
<th>正常抬升载荷(t)</th>
<th>预压载荷(t)</th>
<th>速度(m/min)</th>
<th>暴风载荷(t)</th>
<th>功率(kW)</th>
<th>路面压强比</th>
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### 钢结构升降系统
Self-elevating rubble leveling barge

### 平台升降系统原型试验台
Jack Up Prototype Test Platform

### 固定系统

### ZPMC自主开发的固定系统有如下特点：
1. 结构简单、操作方便；
2. 锁定可靠，完成锁定后，对动力的要求不再是必需的，安全性高；
3. 设备方向调整能力强，不再受累积误差的影响；
4. 承载能力范围广，每套锁紧系统的垂直承载力从6000t～10000t；水平承载能力从2000t～5000t；
5. 环境适应能力强，-20度～+50度。

### ZPMC's fixation device has the following features:
1. Simple structure and easy operation;
2. High reliability and safety. No drive is required once the fixation operation is finished;
3. Great rack direction adjustment eliminates the effects caused by accumulated rack pitch deviation.
4. Large load capacity. Each fixation system has vertical load capacity of 6000~10000 ton and horizontal load capacity of 2000~5000 ton.
5. Great adaptability to the environment. The temperature range from -20℃~+50℃.

### 锁紧系统关键设备——螺旋蜗杆顶升器试验台，确保
每台螺旋蜗杆顶升器安全可靠、符合设计预期，同时
也可满足各船级社认证所需。

### Key equipment of fixation system is test platform of screw jack, which ensures the reliability and high performance, and meets requirements of classification society.

### 锁紧系统业绩
Achievement

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<thead>
<tr>
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<td>抛石整平</td>
<td>顶升器与模块组合式</td>
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Electrical control system

• 高度检测装置
  • 简介：用于检测桩柱的沉降深度和平台的实际高度，通过多套装置可监测桩柱的相对高度差。简介：用于检测桩柱的沉降深度和平台的实际高度，通过多套装置可监测桩柱的相对高度差。
  • Introduction: To measure and detect the insert leg depth in the mud and the actual height of the platform. It can detect relative height difference of chords by multiple Leg Height devices.

• ZPMC 提供多型号规格的成形齿条以及各种形式断齿的设计与制造。
  • Introduction: ZPMC provides various types of rack, and design and fabrication of all types of leg.

Rack

齿条的精密切削技术
The high-precision processing technology of racks

焊接完成的齿条
The racks and chords after welding

船级社在检查齿条
Authority is checking the racks
**RPD+ Leg height**

设计输入参数表

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<td>4</td>
<td>驱动类型</td>
<td>☐电机 Motor ☐液压马达 Hydraulic motor</td>
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<td>5</td>
<td>船级社认证</td>
<td>☐ABS ☐ CCS ☐其他 other</td>
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**Main achievement**

成果及业绩

专利情况 Patent situation

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升降系统性能 Lifting system performance

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