QUALITY ASSURANCE

豪氏威马中国质量保证宣传册

HUISMAN CHINA

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HUISMAN CHINA
豪氏威马中国

Huisman is a global operating company with extensive experience in the design and manufacturing of heavy construction equipment for the world's leading on and offshore companies. Huisman expanded its operations to Zhangzhou (Xiamen area) in China to facilitate customers in Asia and to increase its overall production capacity. The Huisman China facility has been fully operational since April 2007 and delivers a significant contribution to the overall Huisman engineering and production capacity. Over the years, Huisman China has manufactured a fair share of Huisman products, including the two largest offshore mast cranes (4,000mt and 5,000mt) built by Huisman so far.

豪氏威马是一家全球化的企业。在为全球顶级的陆上和海上工程公司提供设计和建造先进的重型设备方面有着丰富的经验。为了满足企业不断发展壮大的需要和更好的服务于亚太区的客户，豪氏威马在中国漳州（厦门地区）建立了工厂。豪氏威马中国于2007年4月开始全面投入运营，她的全面投产和运营极大地增强了豪氏威马集团的工程设计和建造能力。经过多年的发展，豪氏威马中国承建了集团中相当份额的订单，包括迄今为止Huisman集团承建的两台世界上最大的桅杆式起重机（4000吨和5000吨）。

TOTAL YARD AREA	总面积	284,000M²
TOTAL COVERED PRODUCTION AREA	厂房面积	58,000M²
MAXIMUM HOISTING CAPACITY IN SHOP	厂内最大起升能力	2,000M²
QUAY LENGTH	码头全长	380M
QUAY SIDE CRANE (SKYHOOK)	擎天吊	2,400MT @ 30M
QAUY SIDE WATER DEPTH	码头水深	17M
YARD CRANE	外厂起重机	100MT @ 25M
		30MT @ 25M
OFFICE AREA	办公区域面积	12,980M²

PRODUCTION

生产设施与基地

Huisman China has excellent production facilities at its disposal. With the new quayside in place the facility is easily accessible for seagoing vessels, allowing for fast installation, commissioning, and testing of the Huisman designed and built offshore equipment onboard. Besides the installation of Huisman products, the new quay and the 2400mt quayside crane (named: Skyhook) can also serve commercial purposes for companies throughout China. In addition to the 16 production halls, shot blasting and painting hall, a movable painting shop, a material laboratory and a maintenance facility which also accommodates the Welding Training School, we have a production hall of 205m long, 54m wide and 62m high which opened in 2011. The internal assembly of products improves the efficiency and the quality which importantly adds to our international market position.

FACILITY

豪氏威马中国拥有完全自主的杰出设施，基于新码头的落成，海船可以直接抵达豪氏威马中国生产基地，从而实现豪氏威马自主设计和建造的海上工程设备，在船上更快捷地进行现场安装、调试和测试。除了安装豪氏威马产品，新建成的2400吨移动式码头起重机（擎天吊）同样可以用于商业运营，为其他企业提供服务。除了现有的17个生产车间以外， 我们还拥有喷砂车间、油漆车间、移动式油漆车间、材料实验室、维修车间及焊接培训学校，以及于2011年投入使用的205米长，54米宽和64米高的超级总装测试车间。设备的厂内总装提高了生产效率和产品的质量，更加巩固了我们作为国际海工设备市场领导者的地位。

ONE QUALITY

GENERAL INTRODUCTION

统一的质量标准
简介

STANDARD

The equipment delivered by Huisman is often the critical main equipment onboard, so its reliability is of utmost importance to our clients. For this reason, delivering high quality products has been a key company value since the establishment of our company. Consequently, our equipment is internationally known for its high quality and operational reliability.

All Huisman production facilities work according the same strict quality standards. Therefore they meet the most stringent performance criteria as set by recognized authorities. Huisman China is certified according to ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 and recently obtained the API Q1,2C certification. All Huisman China employees have received solid and professional training to guarantee the high corporate quality standards.

豪氏威马所交付的产品通常都是船舶上最为关键的设备，产品的可靠性对客户有着极其重要的意义。因此自豪氏威马成立之初，交付高质量的产品就成为我们的核心价值观。而今我们产品卓越的质量和出色的可靠性得到了国际市场广泛一致的认可。

豪氏威马集团的所有生产基地都遵照严格统一的质量标准，因此可以满足国际知名认证机构设定的最严格的运行标准。目前豪豪氏威马中国通过了ISO9001:2008, ISO14001:2004, OHSAS 18001:2007 and API Q1, 2C 认证豪氏威马中国的所有员工都接受过系统和专业的培训，从而确保了企业的高质量标准。

ONE QUALITY

统一的质量标准

QUALITY MANAGEMENT SYSTEM

Quality is a core value at Huisman. Everyone within the Huisman organisation, from the Management Team members to the Operators, pay serious attention to our quality system. The quality system defines all quality control related aspects to achieve a self-evolving ecological system.

The Quality Management System functions through continuous improvement of procedures as stated in the first section of our Quality Manual. It addresses all requirements of ISO 9001:2008 and API Specification Q1. The Huisman China Management System Structure consist of:

- **Policy**
  The policy, as formulated by the Management Team, is the basis of the Management System.
- **Quality Manual**
  The Quality Manual describes the Management System of Huisman China.
- **Procedures**
  The procedures describe how activities within Huisman China are managed and carried out.
- **Supporting Documents**
  These documents support or instruct the execution of activities within Huisman China.

质量管理体系

质量是豪氏威马集团的核心价值观。在豪氏威马中国，从管理层到操作员都十分关注我们的质量体系。

质量体系定义了与质量控制相关的所有环节，从而实现一个良性的质量生态系统。

如手册第一部分所定义，质量管理系统确保了所有的工艺过程持续的改进。她能够满足ISO9001：2008和API Specification Q1的所有要求。

- **政策**
  基于管理体系的政策措施，由管理层团队起草。
- **质量手册**
  描述公司的质量管理系统
- **流程**
  定义管理及执行的操作流程
- **支持文档**
  作业规程的说明及相关支持文档

STANDARD

To continually improve the quality system, Huisman China has established a structure to assure the on-going evolution of the quality system. This assures the quality of our products and a continuous improvement.

The on-going evolution of our quality system starts with the input of our customer requirements. The Management Team supervises the on-going process of daily operations, including internal and external auditing.

We maintain a comprehensive documentation system that covers all stages of our projects and all departments – from the contract to the production manual, from the purchased raw material to the final tests of the product.

为了持续提升我们的质量体系，豪氏威马中国已建立的结构能够保障质量系统持续发展。

在过去的数十年中，在世界范围内提供了大量卓越的解决方案。我们建立了一套健康具有自我发展能力的质量系统，来保证产品的质量及持续性的改进。客户的要求将在公司管理层的直接领导下逐条实现。在日常的运营中，常态化的内部审核和外部审核相结合，通过创新来实现不断地提高。

豪氏威马中国建立涵盖了项目所有环节及相关部门工作的综合文件管理系统——从产品销售合同到生产手册、从原材料采购到产品最后的测试环节。

ONE QUALITY

统一的质量标准

CONTRACT REVIEW AND DESIGN CONTROL

Before Huisman China starts production, we review and assure the client's demands and how these will be achieved. The contract is translated into drawings, specifications, fabrication processes documents, production plans etc. This is executed by Huisman Schiedam. Contracts are reviewed from a multidisciplinary perspective. Project Managers allocate all resources required to move from defined functional requirements to realizing and delivering ready-for-service products.

Huisman China's Engineering Departments (Mechanical Engineering and Electrical Engineering) are part of the Engineering Department at Huisman Schiedam. They execute their tasks under the responsibility of the Engineering Manager and respective Department Heads of Huisman Schiedam.

The Huisman China Engineering Teams are involved in various steps of the overall engineering process to ensure that the product design is in line with the customer's requirements and relevant standards.

合同审查与设计控制

产品生产制造之前，我们会审核合同以确保客户的需求，并明确实现这些需求的思路。豪氏威马荷兰总部会将合同中的要求转变成具体的图纸、技术说明书、生产流程文档和生产计划等。以综合视角对合同进行全方位的审核、诠释。项目经理会合理分配所有的资源，来确保从书面定义的产品功能需求到随时可投入商业运营产品的交付。

豪氏威马中国的工程部门（机械工程、电气工程等）皆隶属于豪氏威马荷兰总部的工程部门。荷兰总部各部门的经理及工程总经理对豪氏威马中国工程团队的工作负责。

豪氏威马中国工程团队积极参与到工程设计过程的各环节工作中，以确保产品的设计符合客户及相关标准的要求。

STANDARD

Huisman China verifies the conformity of purchased material, parts and/or components according to pre-defined purchasing rules.

豪氏威马中国依据预先设定的采购标准进行检验，以确保采购的原材料、部件、元件符合相应标准。

PURCHASING

Our documented procedure for the selection of suppliers and purchasing ensures that projects meet the design and development criteria for purchased materials, parts and components, as well as subcontracted processes and services that might affect conformity of the product. Subcontracting includes product realization, inspection, as well as testing and calibration services. Huisman China retains the responsibility to ensure that outsourced processes are conform the specified requirements.

Depending on the situation, parts of the purchasing process such as supplier selection, evaluation, purchase order generation, delivery control, and re-evaluation, are controlled by the Purchase Department or the Work Preparation Department at Huisman Schiedam. The decision to subcontract a purchase is mostly done for critical components that have a long lead time to purchase and for components that are not available on the local market, in order to guarantee the correct quality requirements for the final product and/or to meet delivery times. Our Purchase Department checks and controls the progress, status, delivery time and quality of the subcontracted purchases through the use of a continuous data exchange between Huisman China and Huisman Schiedam.

采购

豪氏威马中国的采购及供应商管理系统确保了采购的原材料、部件、其它元器件及可能影响产品一致性的分包业务等，满足设计和供应商准入标准。分包（外协）业务涉及到产品的生产、检查、测试和校验服务。豪氏威马中国监督并保证外协过程与相应的质量及具体要求相符。

依据情况，部分的采购环节，例如供应商的选择、评估，采购订单的生成、交付控制及再评估环节都受到豪氏威马荷兰采购及工作准备部的严格把关。为了保证满足产品生产的质量要求及按时交付需求，对那些采购周期较长的关键部件或在当地市场上无法购置的部件，采购部也会适时安排外协工作。通过使用在豪氏威马中国及豪氏威马荷兰采购部之间设立的连续数据交换系统，豪氏威马中国采购部可监督、控制外包采购的过程、状态、交付时间及质量。

ONE QUALITY

统一的质量标准

IDENTIFICATION AND TRACEABILITY

A system of identification and traceability of materials, parts and components for all stages of the manufacturing process has been developed at Huisman China. The traceability markings on the product are identical to the records for in-process documentation.

The product is marked by hard stamping, paint, or chalk throughout all product manufacturing phases in accordance with the appropriate Inspection & Test Plan (ITP) which is prepared by the QC Manager at Huisman Schiedam for each individual project. Traceability is maintained both by indicating the drawing number and item position number on to the steel.

Each completely welded structure (weldment) is identified by a label. The front of the label contains item description information such as drawing number, revision, title and quantity. All steps are listed chronologically on the back of the label. This helps to avoid skipping production steps. The date of inspection and signatures of responsible persons are also indicated.

In case of loss or damage, the Production Department is responsible for replacing identification marks according to the same rules as defined above.

标识与可追溯性

豪氏威马中国已建立一套对生产全过程中使用到的材料、部件、元件等进行标识及追溯的系统。产品上的追溯性标识与生产过程记录文档相一致。

豪氏威马荷兰的质量控制经理为每个项目设定检测和测试计划（ITP）。在生产的全过程，产品都将依据ITP通过印章、喷漆或粉笔等方式进行标识。通过两方面的措施来保证产品的可追溯性：其一，通过使用白色喷漆以标识图纸编号和项目位置号；其二，把项目特殊的追溯编号和级别以钢印的形式冲压于产品结构上。

每一个完成的焊件都有可追溯识别标签。标签的正面包含诸如图纸编号、版本、名称、数量等描述信息。所有的步骤皆顺序地列于标签背面。这有效地避免生产步骤的遗漏。质检日期及检查责任人的名字也同样标记在标签上。

如果出现丢失或损坏的问题，生产部也会依据前文定义的原则更换产品的识别标志。

STANDARD

PROCESS CONTROL

Manufacturing at Huisman China is performed under controlled conditions and a documented procedure describes the process control. The control areas are translated into a product realization planning where the quality objectives, product characteristics and requirements are defined. The control areas include, but are not limited to, engineering, project management, work preparation, fabrication, performing final tests, management of installation, product release, delivery and post-delivery, use of suitable equipment and ensuring availability of necessary work instructions.

The customer expectations and product requirements are translated into written procedures and technical documentation, quality plans, inspection and test plans, drawings, quality assurance tools, suitable work environment, quality control procedures, welding specifications, qualification of personnel and suitable equipment requirements. The methodologies and criteria for workmanship, as well as the acceptance criteria are defined in the above mentioned documentation.

过程控制

在豪氏威马中国，所有的生产环节都在受控的条件下，严格依据生产流程定义文件执行。受控的范围被转换成生产实现计划，此计划包括了对质量目标、产品规格和要求的定义。控制范围包括但不限于工程、项目管理、工作准备、生产、最终测试、安装管理、产品的交付及之后的服务，正确设备的使用和相关作业规程的执行。

客户的期望及产品要求将被翻译成书面的流程和技术文档、质量/检查/测试计划、图纸、质量保证工具、适当的工作环境、质量控制流程、焊接说明书、生产资质、相关的设备要求。生产工艺及方法、标准以及验收标准都将在上述提及的文档中得到定义

ONE QUALITY

统一的质量标准

RAW MATERIALS STORAGE

Raw materials such as plates, pipes, profiles etc. are stored in accordance with appropriate storage procedures. Each individual item has its own code and can easily be transported to the production line for further processing. In addition, Huisman China has set up a pre-treatment line to protect raw materials from rust.

CUTTING

Raw materials are cut by modernized flame cutting machines. Highly automated cutting machines produce high-precision parts for the next steps.

原材料存储

诸如钢板、圆管、等原材料皆依据相应的贮存流程存储。每一个单独的小部件都有其编码，可被轻松地传输到生产线做进一步加工。此外，豪氏威马中国已设立了预处理线，可有效预防原材料生锈。

切割

原材料下料由现代化的火焰切割工具完成。高度自动化的切割工具可切割出高精密的部件，以备下一道工序使用。

STANDARD

WELDING

Huisman China has its own welding school where every welder undergoes welding training and an L&R welding test before being allocated to a working position.

All workers have their special operation certificates issued by the relevant Chinese safety or quality inspection bureau and all our welders own a qualification certificate of Lloyd's. All certificates are controlled to ensure that they are kept up to date according to requirements.

Besides qualified workers, all welding equipment and procedures are regularly inspected and tested by the Huisman China QC Department.

焊接

豪氏威马中国拥有自己的焊接学校。所有的焊工在分配到各自的岗位之前都必须参加焊接培训并通过劳氏注册的焊接测试。

所有特种设备操作人员都拥有安全或质量监督局认可的特种设备操作证件，同时我们所有的焊工都拥有合格的劳氏焊接证书。所有的证书都有专人负责检查、审核以保证其在有效期内。

除了拥有资质合格的技术工人，豪氏威马中国质量控制部定期会对所有的焊接设备和工序开展检查和测试工作

ONE QUALITY

统一的质量标准

MACHINING

Huisman China has two Machining Workshops with a size of 90x24 meters. The first Machining Workshop has two 40mt overhead cranes. The second Machining Workshop has two 60mt overhead cranes.

The Machining Workshops have an excellent CNC Machining Center (Mazak), Heavy Boring and Milling Machines and CNC Lathe Machines at their disposal. The qualified Operators and strict procedures ensure the quality of our end product.

Calibration of machines and tools are regulary carried out according the scheduled program by an authorized third party. This controls and guarantees the quality of our deliverables.

COMMISSIONING AND TESTING

All manufactured equipment is thoroughly tested throughout the production process and prior to delivery, to allow for faster installation, commissioning and testing on board. Up to a certain capacity, the products can be load tested at our own test facilities. After installation, and before it is released to our clients for operation, the equipment is tested during harbor trials.

机加工

豪氏威马中国拥有两个机加工生产车间，每个车间的面积达到90*24平方米。每个车间各装备有2台行车，起升能力分别为2x40吨和2x60吨。

豪氏威马中国还投资引进了大量的先进设备,如数控加工中心(Mazak)，重型镗磨床，数控车床等，这些先进的设备及严格的质量控制流程，配合上经验丰富操作人员，确保了我们最终产品的质量。

机床和工具的校验由第三方权威机构按照设备的维护计划定期严格执行。从而保障了机加工作业的质量。

测试和调试

为了实现我们的产品在船上进行快速的安装、测试和调试，在产品出运前，所有的设备、部件都经过充分地测试。在一定的能力范围内，产品可以在我们自己的测试设备下开展载荷测试实验。我们的产品在安装完毕交付至客户正式投入使用之前，设备都将在船舶上完成现场试验。

STANDARD

INSPECTION AND TESTING

The inspections and testing cover the fill progress of production. This starts with the inspection of the incoming raw materials, followed by the inspection during production. During production there are two kinds of inspections: 'In progress Inspection' and the 'Testing Surveillance Inspection'. When the product is finished, the final inspection and testing takes place.

Huisman China maintains work instructions (WI) where tasks and responsibilities are defined to ensure that inspection is carried out throughout the entire fabrication cycle. The Inspection & Test Plan (ITP) is a scheme for verification of product characteristics against project acceptance criteria:

- ITP establish controls on compliance to assure the product is in line with Huisman, client, and/or third party requirements.
- Work Instructions (WI) specify procedures that will be executed under supervision.
- Process control documents include drawings, welding procedure specifications (WPS), Non Destructive Test (NDT) instructions, painting, and other specific documents. These documents define all aspects of a product, set up the requirements and specify the operations.

检查和测试

建造过程以原材料为起点，制造出经过充分测试的产品。我们的检测和测试包含了建造的全部过程。检验和测试覆盖了生产的全部过程。这一切从原材料的检验开始，之后是生产过程的检验。生产过程的检验有两类："在线检测"和"第三方检验"。在产品出厂后将完成最终检验和测试。

豪氏威马中国的作业指规程(WI)定义了作业目标、方法、职责，在整个建造过程中WI都将被严格的监督执行。检验和测试计划(ITP)是依据项目验收标准制定的产品检验大纲。

- 对产品的指标进行控制，确保产品符合豪氏威马、客户以第三方检验机构的各项要求
- 作业指导书(WI)定义了作业方法、流程等，确保作业在受控状态下完成
- 工艺控制文档包括图纸，焊接流程说明(WPS)，无损检测明(NDT)，喷漆和其他说明性文档。这些文档定义了产品造的各个方面，明确了建造要求，规范了作业方法。

ONE QUALITY

统一的质量标准

INSPECTION, MEASUREMENT AND TESTING EQUIPMENT

Inspection, measurement and testing (IMT) equipment are maintained, and this maintenance is controlled through a controlling and calibration record system. The assigned Engineer is responsible for IMT equipment maintenance. Documented procedures are used for specification of maintenance and operation.

CONTROL OF NONCONFORMING PRODUCTS

Any nonconformances of Huisman products are inspected and controlled before delivery. In the event that a nonconformance is identified, action will be taken. The Quality Control Department has specific instructions to ensure that the adjustment of a nonconformance is carried out correctly.

CORRECTIVE AND PREVENTIVE ACTION

Corrective and preventive action is very crucial for a healthy evolutionary quality system. Thus Huisman China has specific procedures for those actions:

- Nonconformity Evaluation
- Corrective Action
- Recurrence Monitoring
- Effectiveness Verifying
- Record Keeping

DOCUMENTED PROCEDURES

Documented procedures are established to prevent material deterioration during manufacturing, storage and transportation. This also applies to customer supplied material.

检测、测量和测试设备

检测、测量和测试设备通过完善的控制及校核记录系统来维护，确保工具、仪器和设备始终处在良好的状态。此项工作由专人负责，按照相关文档的要求严格执行相应的维护。

疵品的控制

通过对非一致性的检查，来杜绝产品的非正常使用。如果发现了非一致的情况，首先对非一致性进行评估，之后依据评估结果采取相应措施。豪氏威马的质量部门建立了明确的作业规范，以保证对非一致性的更正工作能够正确执行。

改进及预防措施

改进和预防措施对于一个健康发展的质量体系非常关键。豪氏威马中国对此有着明确的要求：

- 不合格评估
- 改进措施
- 循环监督
- 有效性检验
- 结果归档

标准化的流程

通过建立标准化的流程，来保证制造，存储和运输过程中产品的完整性。这一点对于客户提供的料件同样适用。

STANDARD

INTERNAL AUDITS

We maintain a documented procedure to conduct internal audits. The procedure specifies auditing methods, selection of internal auditors, planning of audits and records derived from the internal audits.

The purpose of this procedure is to meet API Q1, ISO 9001:2008, ISO 14001:2004 and or OHSAS 18001:2007 requirements to ensure that all elements of the Quality Management System are effectively implemented, maintained and incorporated into our day to day business.

TRAINING

Documented systems ensure all work is carried out by qualified and competent employees. Both internal and external training is done. Huisman to organizes professional on the job training covering aspects from design to production and theoretical to practical. In order to keep our leading position, internal training is introduced regularly. External training courses will be chosen based on requirements across all disciplines.

ENGINEERING TEAM

Huisman China has different Engineering Departments, comprising Mechanical, Control System, Electrical, and Commissioning Engineering. All engineers hold bachelor and above degrees. To keep their knowledge up to date, regular relevant training programs are organized and delivered by multi-discipline experts from Huisman Schiedam.

内部审核

豪氏威马中国的内部审核依据定义的规程执行。对审核方法、审核人员、审核计划和审核报告等都有着明确的定义。

我们建立的内部审核完全符合API Q1, ISO 9001:2008, ISO 14001:2004 和(或)OHSAS 18001:2007的要求，这保证了我们质量管理体系的所有要求，都能够有效地贯彻到企业的日常运营中。

培训

完善的质量体系需要由高素质的合格人员来保证。豪氏威马中国为员工提供了大量的内部和外部培训。作为全球顶级的海洋工程解决方案供应商，我们能够提供专业的在职培训，培训注重理论与实践相结合，范围覆盖了设计和生产相关的各个方面。为了确保我们在行业内的领导地位，公司还组织常态化的多领域外部培训。

工程团队

豪氏威马中国的工程团队包括了机械、控制系统、电气、液压和调试等。所有的工程师都拥有本科及以上学历。丰富的实践经验以及大量来自荷兰总部设计团队的培训，让我们的工程团队不断前进，逐步走向世界一流。

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GENERAL INTRODUCTION

已交付项目简介

ROJECTS

Huisman develops and builds a large range of on- and offshore cranes, varying in size and type. Our products include Mast Cranes, Pedestal Cranes, Knuckle Boom Cranes, Floating Cranes and Land Based Crane. The lifting equipment is widely used in heavy cargo transportation. Especially our in-house developed and manufactured Mast Lift Crane has become the standard in the industry. Furthermore, Huisman is the world market leader in deepwater pipe lay systems. We are experienced in delivering state-of-the-art Flex-lay systems, J-lay systems, Reel-lay systems, S-lay systems and Multi-lay systems which combine several pipelay methods onboard. Huisman offers complete drilling packages and is dedicated to explore and realize new solutions to improve drilling operations. Our in-house capabilities for vessel design allow us to provide solutions in which both vessel and equipment are fully integrated, leading to radically different designs for drilling units. At Huisman, we consider it a challenge to apply our heavy lifting, drilling and pipelay experiences to design and deliver tailor made special equipment for new markets. Our special projects experience is extensive and includes custom built solutions for deepwater lowering, skidding, salvage, rock dumping, mooring & anchor handling winches.

豪氏威马设计、制造了大量不同型号的陆上、海上起重机。起重机产品类型主要包括：桅杆式起重机、基座式起重机、折臂式起重机、浮吊、陆地起重机等。起重设备广泛地运用于重型货物的起吊运输。尤其是我们自主研发设计制造的桅杆式起重机已然成为业内的标准。豪氏威马同时是世界深水铺管系统市场的领军者，在为客户提供顶级的铺管系统领域拥有丰富的经验，包括柔性铺管系统、J 型铺管系统、卷式铺管系统、S型铺管系统以及集各型铺管系统功能与一身的综合型铺管系统。不仅如此，豪氏威马还能够提供完整的钻井包，她专注于开发和实现新的解决方案从而提高钻井作业能力。我们的自主船舶设计能力，使我们能够将船舶与设备完美结合在一起，设计出完全颠覆传统的钻井单元。在豪氏威马，我们乐于接受挑战，把应用在起重、钻井、铺管系统上的丰富工程经验，用来为新的市场提供定制化产品。在特殊项目上，我们同样拥有丰富的经验，包括客户定制的深水下放系统，滑移系统，打捞系统，深海抛石和锚泊及操锚绞车。

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豪氏威马中国已交付的项目

Huisman China has built over 100 cranes, as well as other numerous pieces of equipment, such as; S-lay Stingers, pipelay ramps, the crown of drilling towers and deepwater winches. The largest project delivered so far was a 5,000mt Offshore Mast Crane with a maximum deepwater hoist capacity of 1,200mt. Equipment delivered by Huisman China is in operation all around the world. The excellent performance of the equipment confirms Huisman China's reputation of quality and reliability.

REFERENCE LIST

This reference list (dated February 2014) of Huisman China is divided over two tables. The first table contains all projects that are currently part of the Huisman China order portfolio. The second table contains all equipment that has been delivered by Huisman China since the production facility became operational in 2007.

豪氏威马中国已经建造交付了超过100套各型海上工程项目，包括复杂的海上深水起重机，铺管系统托管架，钻井塔和深水绞车系统等。在已交付的项目中，最大的是5,000吨海上桅杆式起重机，最大深水作业能力达1200吨。这些产品已经在全球各地的海上运行作业。他们卓越的表现，为豪氏威马中国树立了建造高品质和高可靠性产品的企业形象。

豪氏威马中国业绩表

下表列出了截至2014年2月，所有豪氏威马中国交付和正在建造的项目，包括起重机，铺管系统模块和钻井系统模块等。

ROJECTS

UNDER CONSTRUCTION 正在建造的项目

YEAR 拟交付	TYPE 类型	DESTINATION 船舶名称	OWNER 项目业主	COUNTRY 国别
2015	Multi Purpose Tower	Q7000	Helix Energy Solutions	USA
2015	160mt PMOC	Q7000	Helix Energy Solutions	USA
2015	150mt KBC	Q7000	Helix Energy Solutions	USA
2015	325mt VLS Subassembly	New build vessel	Subsea 7	United Kingdom
2015	900mt RL-KBC	New build vessel	Subsea 7	United Kingdom
2015	200/400mt OMC (2x)	Ceona Amazon	Ceona Offshore	United Kingdom
2015	50mt PMC (2x)	Seajacks Scylla	Seajacks	United Kingdom
2015	1500mt Leg Crane	Seajacks Scylla	Seajacks	United Kingdom
2015	300mt PMC	New build vessel	Pacific Radiance	Singapore
2015	100mt PMC	New build vessel	Eastern Navigation	Singapore
2015	450/900mt PMC	New build vessel	DOF	Norway
2015	150mt KBC	New build vessel	DOF	Norway
2014	400mt PMC	New build vessel	Gulf Marine Services	UAE
2014	300mt PMC	New build vessel	Nam Cheong	Malaysia
2014	2200mt OMC	Lewek Champion	EZRA	Singapore
2014	1500mt HLMC (2x)	Fairmaster	Jumbo Shipping	The Netherlands
2014	200/400mt OMC	Q5000	Helix Energy Solutions	USA
2014	160mt PMOC	Q5000	Helix Energy Solutions	USA
2014	900mt HLMC (2x)	Happy Star	BigLift Shipping	The Netherlands
2014	1500mt HLMC (2x)	Jumbo Kinetic	Jumbo Shipping	The Netherlands
2014	1800mt OMC	Jascon 18	Sea Trucks	Nigeria
2014	300mt PMC	New build vessel	Nam Cheong	Malaysia
2014	300mt PMC	New build vessel	Nam Cheong	Malaysia

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豪氏威马中国已交付的项目

DELIVERED 已经交付的项目

YEAR 已交付	TYPE 类型	DESTINATION 船舶名称	OWNER 项目业主	COUNTRY 国别
2013	300mt PMC	New build vessel	Nam Cheong	Malaysia
2013	300mt PMC	New build vessel	Nam Cheong	Malaysia
2013	200/400mt PMC	New build vessel	COOEC	P.R. China
2013	3000mt OMC	Lewek Constellation	EZRA	Singapore
2013	1x 2000mt Reel + Reel Cradle	Aegir	Heerema	The Netherlands
2013	2 x Distance Pontoons	Huisman China	Huisman China	P. R. China
2013	Deck reeving beam	Aegir	Heerema	The Netherlands
2013	950mt (2x) Spreaders beams	Big lift	BigLift Shipping	The Netherlands
2013	2x 2000mt Reel + Reel Cradle	Aegir	Heerema	The Netherlands
2013	850mt OMC	Solitaire	Allseas	The Netherlands
2013	900mt HLMC (2x)	Happy Sky	BigLift Shipping	The Netherlands
2012	2x 600mt A&R Traction Winch	Lewek Constellation	EZRA	Singapore
2012	2x20mt A&R Storage Winch	Lewek Constellation	EZRA	Singapore
2012	A&R Equalizer	Lewek Constellation	EZRA	Singapore
2012	2x1250mt Carousels	Lewek Constellation	EZRA	Singapore
2012	Moonpool skid cart	Globetrotter 2	Noble Drilling	USA
2012	4000mt OMC	Aegir	Heerema	The Netherlands
2012	1800mt OMC (2x)	Explorer Lifter	CIMC Raffles	P.R. of China
2012	100mt PMOC	Globetrotter 2	Noble Drilling	USA
2012	300mt PMC	New build vessel	PT Meindo	Indonesia
2012	300mt PMC	Endurance	Gulf Marine Services	UAE
2012	300mt PMOC	Eastern WB300	Eastern Navigation	Singapore
2012	300mt PMC	Caballo Azteca	Oceanografia	Mexico
2012	2400mt Skyhook	Huisman China Quayside	Huisman China	P. R. China
2011	138mm Storage winch	Seven Borealis	Subsea 7	United Kingdom
2011	Landing unit (Bridge) etc.	Seven Borealis	Subsea 7	United Kingdom
2011	Rollerbox workfloor + S-lay workstation	Seven Borealis	Subsea 7	United Kingdom
2011	MPT Crown section / steel only	Globetrotter 2	Noble Drilling	USA
2011	Substruc Fr 92-102 / steel only	Globetrotter 2	Noble Drilling	USA
2011	Well structure	Globetrotter 2	Noble Drilling	USA
2011	Landing unit (Aft) etc.	Seven Borealis	Subsea 7	United Kingdom
2011	Moonpool skid cart	Globetrotter 1	Noble Drilling	USA
2011	Handing Winch Drums	Seven Borealis	Subsea 7	United Kingdom
2011	Drawworks Drums	Globetrotter 2	Noble Drilling	USA
2011	350mt fly jib (connection piece)	Happy Buccaneer	Big lift	The Netherlands
2011	Rollerbox workfloor + S-lay workstation	Seven Borealis	Subsea 7	United Kingdom
2011	3x Thruster cans	Globetrotter 2	Noble Drilling	USA
2011	Stinger section(1,2&3)	Seven Borealis	Subsea 7	United Kingdom
2011	2 x 20mt A&R Storage Winch	Aegir	Heerema	The Netherlands
2011	2 x 550mt A&R Traction Winch	Aegir	Heerema	The Netherlands
2011	850mt OMC	Caballo Maya	Coastline Maritime	Panama
2011	5000mt OMC	Seven Borealis	Subsea 7	United Kingdom
2011	300mt PMC	Don Daniel	Oceanografia	Mexico

ROJECTS

DELIVERED 已经交付的项目

YEAR 已交付	TYPE 类型	DESTINATION 船舶名称	OWNER 项目业主	COUNTRY 国别
2011	100mt PMOC	Globetrotter 1	Noble Drilling	USA
2011	600mt PMOC	PLB-648	NPCC	UAE
2011	15mt (4x) Overhead Crane	Globetrotter 1 / Globetrotter 2	Noble Drilling	USA
2010	MPT Crown + Top	Globetrotter 1	Noble Drilling	USA
2010	Substruc Fr 92-126	Globetrotter 1	Noble Drilling	USA
2010	3x Truster cans	Globetrotter 1	Noble Drilling	USA
2010	440 mt (10x) Spreaders beams	Big lift	BigLift Shipping	The Netherlands
2010	750mt OMC (2x)	Teras Sunrise	Teras Offshore	Singapore
2010	600mt OMC	Castor One	Saipem	Italy
2010	300mt PMOC	Endeavour	Gulf Marine Services	UAE
2010	300mt PMOC	PTSC Offshore 1	PTSC	Vietnam
2010	55mt PMOC (2x)	Castor One	Saipem	Italy
2010	300mt PMOC	Crest Station 2	Swiber	Singapore
2010	400mt PMOC	Zhong You Hai 101	CPOE	P.R. of China
2009	Carousels	Seven Pacific	Subsea 7	United Kingdom
2009	Drawworks Drums	Globetrotter 1	Noble Drilling	USA
2009	400mt PMOC	Lewek Crusader 1	EZRA	Singapore
2009	100mt PMOC (2x)	Bully 2	Frontier Drilling	USA
2009	300mt PMOC	Crest Station 3	Pacific Radiance	Singapore
2009	300mt PMOC	Jaya Installer 9	Jaya Shipbuilding	Singapore
2009	300mt PMOC	Kuber	Punj Lloyd	India
2009	300mt PMOC	Acergy Antares	Subsea 7	France
2009	300mt PMOC	Crest Station 1	Pacific Radiance	Singapore
2009	300mt PMOC	Leighton Eclipse	Leighton Contractors	Singapore
2009	100mt PMOC (2x)	Bully 1	Frontier Drilling	USA
2009	300mt PMOC	Beau Geste	Japaul Oil & Maritime Serv.	P.R. of China
2009	300mt PMOC	SARKU 300	Sapura	Malaysia
2009	300mt PMC	Seajacks Leviathan	Seajacks	United Kingdom
2009	300mt PMOC	Swiber Victorious	Swiber	Singapore
2009	500mt (4x) Overhead Crane	Workshop B1A (60m high)	Huisman China	P. R. China
2008	800mt OMC	Enterprise 3	Superior Energy Services	USA
2008	800mt OMC	Jascon 25	Sea Trucks	Nigeria
2008	300mt PMOC	Jascon 2	Sea Trucks	Nigeria
2008	300mt PMC	Seajacks Kraken	Seajacks	United Kingdom
2008	300mt PMOC	African Worker	African Offshore Services	Cyprus
2008	300mt PMOC	African Installer	African Offshore Services	Cyprus
2007	Stinger	Sapura 3000	SapuraCrest-Acergy	Malaysia
2007	40mt (16x) Overhead Crane	Huisman China	Huisman China	P. R. China
2007	60mt (4x) Overhead Crane	Huisman China	Huisman China	P. R. China
2007	120mt (2x) Overhead Crane	Huisman China	Huisman China	P. R. China

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