

HUISMAN PRODUCT BROCHURE

CRANES



CRANES



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ABOUT HUISMAN

Huisman is a worldwide operating company delivering step changing technical solutions to world's leading companies in the oil & gas, renewables, leisure and civil industries. Founded in 1929 - and originally a steel construction company - Huisman joined forces with engineering company ITREC in 1987 to develop products entirely under own management. Our product range can be divided into six main categories: Cranes, Pipelay Equipment, Drilling Equipment, Winches, Vessel Designs and Specials. Our projects range from stand-alone components to highly engineered, integrated systems, from concept to installation and lifetime support.

GLOBAL OPERATIONS

A global market requires global and local solutions. Therefore, Huisman expanded its engineering and production capacity in 1997 from Schiedam, The Netherlands, to Sviadnov, Czech Republic, in 2007 to Fujian, China, and in 2015 to Santa Catarina, Brazil. The Huisman production locations together generate a total production surface of over 115,000m². For additional local sales, engineering and service support, Huisman holds offices in Houston (USA), Bergen (Norway) and Singapore.

QUALITY

The equipment delivered by Huisman is often the critical main equipment and its reliability is of utmost importance to our clients. Delivering high quality products has therefore been

a key company value since our establishment. As a result, our equipment is internationally known for its high quality and reliability during operations. It meets the most stringent performance criteria and is certified by recognised authorities such as Lloyd's, DNV, ABS, TÜV, API, etc.

INNOVATIVE SOLUTIONS

We are constantly working on new solutions and systems, which we believe add value to the market's existing technologies. These innovations have been implemented into many of our products. As we have extensive operational experience with a wide variety of heavy construction equipment, we are able to use the best solutions for new products and projects. Our internal disciplines include Mechanical, Structural, Naval, Hydraulical, Electrical and Software Engineering.

OUR MISSION Delivering Step Changing Technical Solutions



SERVICE

A dedicated worldwide operating service team of skilled professionals is on stand-by to provide advice, training and service support before, during and after installation and delivery. These services are offered for both Huisman equipment and third party equipment. Our service network is managed from Huisman Global Services in The Netherlands, our local service offices are on stand-by to provide service support, on location, as well as by remote access.

SAFETY, HEALTH AND ENVIRONMENT

We have high values on being a responsible company. Therefore, the safety, the safety, environmental and health impact of our operations is a priority within all stages of the project including product design.

TURNKEY DELIVERY

Our in-house design and engineering expertise, in combination with our production, testing, commissioning and installation facilities, enable us to deliver custom designed equipment on a turnkey basis.

RELIABLE PARTNER

Due to our strong belief in long lasting partnerships with our clients, our commitment to finding new technical solutions and our dedication to delivering them as turnkey projects, we are internationally valued as a solid, reliable partner. Our extensive track record and the large number of long lasting client relationships prove that we deliver state-of-the art equipment, fully tested, within schedule and ready for commercial operation.

TRAINING

From various locations worldwide, Huisman services facilitates the training of knowledge and skills to safely and efficiently use heavy construction equipment.

HUISMAN PRODUCTS

CRANES

PIPELAY SYSTEMS

DRILLING EQUIPMENT

WINCHES

VESSEL DESIGNS

SPECIALS



Huisman location in Schiedam, the Netherlands, with the Huisman Innovation Tower (HIT) at the quayside.

CRANES

GENERAL INTRODUCTION





Huisman's in-house developed and manufactured cranes have been used within the industry for 35 years and have become the standard in the design and construction of heavy lift cranes. Our commitment to work on continuous product improvement and finding new technical solutions for increasing demands is reflected in our pioneering and innovative way of working. We pride ourselves on our reputation as a reliable partner as evidenced by our extensive track record and the number of long-lasting client relationships.

We develop and build a wide range of both on- and offshore cranes, varying in size and type. Our crane designs are characterised by a small footprint, low centre of gravity, low own weight and increased workability and functionality for the owner. Increased vessel stability, extended weather window and larger free deck space are examples of the advantages our cranes have to offer. Besides an existing range of cranes with options, we have extensive experience in providing tailor-made cranes. In either case, our solutions have proven to be cost effective in total cost of ownership.

Huisman cranes are designed and built with safety as number one priority, in accordance with international standards and are certified by recognised classification societies such as LR, DNV and ABS.

4,000mt Sheerleg Crane, Gulliver, Scaldis

CRANES

PEDESTAL MOUNTED CRANES

Huisman delivers a wide range of Pedestal Mounted Cranes (PMC) which can be used for various tasks including unloading of supply vessels, offshore installation work, pipe transfer, deck handling and subsea installation.

The PMC comprises a steel crane house, bolted to the pedestal via the slew bearing, a lattice or box girder type boom and various hoist tackles to control the boom and the lower blocks. All main equipment - winches, electrical cabinets and / or hydraulic power units - is located inside the crane house to protect it from the harsh marine environment, to increase reliability and to reduce required maintenance. The boom hoist runs from the top of the crane house to the boom tip and controls the radius of the lower blocks.

The compact design of the PMC results in a small tail swing, saving deck space. For heavy duty tasks, like pipe transfer, Huisman builds PMC with special attention to fatigue issues, for example by installing large diameter drums and sheaves and high mechanism groups for critical components.

By outfitting the PMC with an active and passive heave compensation system or ultra-deep water hoist system the vessel's functionality can be extended even further.

The cranes are either electro-hydraulically driven or full electrically driven. On our electric-hydraulic cranes, redundancy is provided by installing an emergency diesel generator inside the crane. On our fully electric driven cranes redundancy is provided with the electric drive system. The crane can always remain operational by installing two independent power supplies or an emergency supply.

Our extensive experience in building and designing PMC, the growing demand for higher capacities and our pioneering attitude make that we are constantly exploring new and heavier applications for this crane type.

FEATURES PEDESTAL MOUNTED CRANES

- Drive system installed in enclosed crane house, protected from marine environment
- Small tail swing, optimising available deck space
- Special attention for fatigue in heavy duty applications
- Ultra-deep water installation system (optional)
- Active & passive heave compensation system (optional)





Technip

Huisman

MAIN HOIST:
SWL 500 mt @ 30 m
SWL 400 mt @ 26 m
SWL 350 mt @ 40 m
AUX. HOIST:
SWL 90 mt @ 92 m

500mt Pedestal Mounted Crane

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SUBSEA CRANES

SUBSEA CRANES

In order to provide reliable solutions for subsea installation in increasingly deeper water and severe weather conditions, Huisman has developed a full range of Subsea Cranes. This range of Pedestal Mounted Cranes (PMC), suitable for subsea installation work, is based on the extensive experience gained with the deep water Offshore Mast Cranes, used in the same application.

All building on proven key components, a full range of Subsea Cranes from 250mt up to 1,200mt have been developed. The PMC type is suitable for handling large sized loads such as subsea templates and manifolds and high lifting height is provided.

Besides the PMC type, the patented Hybrid Boom Crane has been developed. The Hybrid Boom Crane provides unparalleled performance in combining the best of a Pedestal

Mounted Crane and a Knuckle Boom Crane. A high lifting capacity at large outreach for a large coverage of working deck handling of heavy components is provided. In addition, using the high-lift mode, tall objects like piles, suction anchors, jumpers or lifting loads on high platforms can be handled in a controlled manner.

HEAVE COMPENSATION

To maximise vessel and crane operability in harsh weather conditions, a high speed and large compensation stroke, a combined active and passive heave compensation system is incorporated in all Subsea Cranes. The passive heave compensator is a failsafe and mechanical compensator. Real time position control is achieved using the active heave compensation part. Substantial reduction of the dynamic forces on the crane and the lifted object when passing the splash zone is achieved using the passive heave compensator as a shock absorber.

400mt Hybrid Boom Crane



Using a traction and storage winch type arrangement and large diameter high loaded sheaves significantly extend the lifetime of the wire rope compared to single drum main hoist systems. In addition, a traction and storage winch type arrangement for the main hoist and multiple possible wire routings, spooling devices, horizontal and vertical heave compensation units, provide a high level of flexibility in the positioning of these winches and the heave compensation system. This allows for optimal use of available space, vessel layout and results in a low own center of gravity.

ELECTRIC DRIVEN

Based on decades of experience applying electric driven cranes in harsh and heavy duty offshore applications, this new crane range is fully electric driven. This provides precise control over crane and load movements, with low noise levels, reduced maintenance and no risk of oil spill.

In order to best fit every application and client preference, a high level of customisation in lifting capacity and speed, hook travel, heave compensation and lifting height is possible, using a modular design approach. In addition, several options like anti-twisting device, larger crane cabin, additional tugger winches, etc. are available.

FIBER ROPE SYSTEM

End 2017, Huisman introduced a revolutionary system for the application of fiber rope in subsea deployment crane applications. The system includes a hybrid fiber rope system which combines the advantages of subsea deployment with fiber rope systems, while the heave compensation is done with traditional steel wire rope systems. Early February 2018, Offshore Support Journal (OSJ) awarded this Huisman Fiber Rope Crane design with the OSJ Innovation of the Year Award.

FEATURES SUBSEA CRANES

- Large crane operating window
- Optimised, position controlled heave compensation system
- Low dynamic loading on crane, wire rope and load
- Highly efficient, low noise and low maintenance electric drive system
- Precise and accurate control over load during deck handling
- High redundancy level and DP3 compliant electric drive system
- Extended wire rope lifetime compared to conventional winch systems
- Automatic and manual overload protection system
- Constant tension
- Man riding
- High level of customisation in crane performance and options possible



400mt Offshore Mast Crane

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SUBSEA CRANES

KNUCKLE BOOM CRANES

The Huisman Knuckle Boom Crane (KBC) design is suitable for various applications, including offshore construction work and subsea installation. It is designed to increase safety during deck handling, ship-to-ship transfer and subsea installation, using precise load control.

HYDRAULIC DRIVE SYSTEM

The crane is equipped with a unique in-house developed secondary controlled hydraulic drive system that works with a constant high pressure. This gives the system a much higher stiffness than conventional primary controlled systems. During hoist operations and heave compensation the response of the load is more accurate and much faster. The system operates with a constant power, keeping the speed of the hoist block constant over all layers of the winch. The torque and speed of the winch are controlled by adjusting the displacement of the hydraulic motors on the winch. Vessel motions for heave compensation are measured by motion reference units. This provides more accuracy than systems that use wave prediction. In addition, the crane can provide unrivalled hoisting speeds, significantly reducing the time to lower loads to the seabed.

The accurate and fast hoist system increases the operational weather window and maximises safety during operations.

DURABILITY, REDUNDANCY AND MAINTAINABILITY

Significant attention has been paid to durability, redundancy and maintainability of the KBC. The large diameter of the winch drum substantially increases the lifetime of expensive wire ropes used for deepwater subsea installation applications. The large crane house is designed to provide sufficient space for critical components, increasing their durability and accessibility for inspection and maintenance. Multiple electro-hydraulic power units provide a high redundancy level, keeping the crane operational with only one running power unit. Built-in stainless steel header and drain tanks for hydraulic oil enable easy maintenance. The KBC is equipped with durable ceramic coated luffing cylinders to increase reliability and lifetime. Cylinder reaction forces are well distributed in the crane house, away from the slew bearing to ensure long bearing life time.

Features like automatic and manual overload protection system, constant tension and manriding capability are common practice in our KBC.



FEATURES KNUCKLE BOOM CRANES

- Precise and accurate heave compensation system
- Unrivalled hoisting speeds
- High redundancy level, using multiple electro-hydraulic power units
- Automatic and manual overload protection system
- Constant tension mode
- High durability of critical drive and heave compensation components
- Easy maintenance, using hydraulic header and drain tank inside large crane house
- Increased wire rope lifetime using larger winch drum diameter
- Large comfortable operators cabin
- Large crane house
- Long slew bearing life

HYBRID BOOM CRANES

Building on an extensive track record in the delivery of heavy lift offshore cranes with deep and ultra-deep water subsea construction capabilities, Huisman has developed a novel, patented crane type: the Hybrid Boom Crane. This crane design maintains the advantage of the knuckle boom functionality, which is essential for offshore construction activities, without the disadvantages of conventional Knuckle Boom Cranes, such as the heavy boom that affects the crane load curves and impacts ship stability. The design also provides advantages in workability.

The crane is designed to execute projects in deep and ultra-deep waters and is able to handle large and heavy loads in hostile environmental conditions. The Hybrid Boom Crane is the subsea crane of the future, enabling operations further offshore and enabling subsea installation of larger modules, both in a more efficient manner.

Real-time heave compensation increases the operational weather window for safe and accurate installation of subsea infrastructure components.

In 2015, Huisman's Hybrid Boom Crane was awarded with the OSJ Innovation of the Year Award.

FEATURES HYBRID BOOM CRANES

- Combines advantages of Pedestal Mounted Cranes and Knuckle Boom Cranes
- Superior loadcurve compared to conventional Knuckle Boom Cranes
- High maximum lifting height
- Full electric driven



CRANES

MAST CRANES

In 1984 Huisman introduced the Mast Crane in the heavy lifting industry. Ever since, this innovative crane design has had a leading position in this field, particularly for the use onboard heavy lift vessels. Over the years we have delivered Mast Cranes with a lifting capacity up to 5,000mt, and concept designs with even higher capacities have been developed. Our capabilities and extensive experience in design and construction have resulted in a strong reputation for two specific types of Mast Cranes: Heavy Lift Mast Cranes and Offshore Mast Cranes.

Our Mast Crane is based on the mast derrick principle. It consists of a fixed mast fitted with a rotating slew platform, supporting the boom and a mast head. The boom hoist tackle runs from the mast head to the top of the boom and controls the boom angle. This allows the different hoists to be positioned at the preferred radius. The mast construction gives an inherent safety feature; the load moment is carried by the mast and not by the slew bearings.

The major components of the Mast Crane are installed inside the crane, well protected from the harsh marine environment. The rotating parts of the crane are provided with totally enclosed slew bearings, making maintenance limited.

Today's Mast Cranes are driven by variable frequency controlled electric motors, allowing for higher energy efficiency, less maintenance and fewer components.

Our Mast Cranes with a lifting capacity up to 3,000mt can be assembled fully in our production facilities and then delivered. This reduces delivery and installation time and makes installation easier. Larger Mast Cranes are delivered in only three or four pieces, considering fast and easy installation.

Although standard designs are available, past experience proves that this crane type lends itself perfectly for tailoring to client-specific requirements. Our extensive experience in the delivery of cranes for this application is incorporated in all our crane designs, resulting in safe, outstanding and reliable performance during heavy lift crane operations.



2x 1,500mt Heavy Lift Mast Crane

FEATURES MAST CRANES

- Superior load curve
- Small rectangular footprint
- Low own construction weight
- Minor tail swing, optimising available deck space
- Low position of the centre of gravity
- Major equipment inside crane
- Completely electric driven
- Limited maintenance



Single lift installation 3,000mt Offshore Mast Crane

CRANES

MAST CRANES

HEAVY LIFT MAST CRANES

Our Heavy Lift Mast Crane (HLMC) is a compact and powerful crane with high lifting capacities up to 1,500mt. The HLMC is equipped with state-of-the-art technology, that is focused on improved safety and operational flexibility. It is designed for heavy lift vessels that are used for oversea transport of large and heavy equipment. Most of the HLMCs are installed in a tandem configuration. Their capacity, range and structure are well suited for this specialised use.

All hoist winches are installed inside the wing section of the vessel. As a result, the centre of gravity of HLMCs is located on a low elevation, which ensures a higher variable deck load and is beneficial for vessel stability. The steel structure, built from high tensile steel, and the ballast free design contribute to a low own weight of the crane, improved vessel stability and increased loading capacity. The omission of ballast weight and the compact design of the HLMC result in a

small foundation and allow for a very small tail swing. This provides more free deck space and clearance between the crane and the load. The superior load curve is the result of the load moment being carried by the mast and not by the slew bearings. This enables the handling of large objects and contributes to increased lifting capacity.

Today's HLMCs are operated by wireless remote control units, which can also be used from the vessel's bridge, making an operator cabin redundant. All HLMCs are delivered with a full, electric variable frequency controlled drive system. Electric driven cranes require fewer components and are more reliable than hydraulically driven cranes. In addition, a high redundancy level can be achieved. Features like trolley hoists, load tuggers and sling hoists are common practice on our HLMCs. Additional features on the boom and a super fly-jib can be provided, making the crane suitable for offshore construction work.



2x 900mt Heavy Lift Mast Crane, 700mt Super Fly-Jib

FEATURES HEAVY LIFT MAST CRANES

- Superior load curve
- Small foundation required
- Very small tail swing, optimising available deck space
- Low own construction weight
- Low elevation of centre of gravity
- Vertical sea lashing of boom is possible
- Wireless remote controlled
- Improved visibility for the operator (increasing safety)
- Overall improved safety and operational flexibility
- Completely electric driven



2x 1,100mt Heavy Lift Mast Crane

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MAST CRANES

OFFSHORE MAST CRANES

Our Offshore Mast Crane (OMC) is a compact design heavy lift crane using state-of-the-art technology, resulting in a lifting capacity up to 12,500mt. The OMC is designed for the use on offshore construction vessels or semi-submersibles. Our commitment to find new technical solutions for increasing technical demands drives us to increase the lifting capacity, the safety and operational flexibility of the OMC even further.

Many of the OMCs are suitable for ultra-deep water operations up to 5,000m water depth. The rectangular footprint allows for easy integration with the vessels steel structure and direct installation of the crane on the stern of the vessel, achieving a large effective outreach and reducing costs for integration with the vessel. The compact design of the OMC requires a small foundation providing more available deck space.

Our OMC has a low weight as the crane is built up from high tensile steel and doesn't require ballast weight. The absence of ballast weight and the crane's compact design reduce the tail swing, providing more available deck space and increased vessel stability. The height of the mast provides a superior load curve compared to traditional cranes, especially on bigger radii.

The cranes make use of a deep water hoist system with a single line capacity up to 300mt. The deep water hoist system consists of a traction winch and a storage winch. The vessel functionality can be extended by outfitting the OMC with an ultra-deep water hoist system. When the crane is outfitted with a deep water hoisting system the traction winch is either installed inside the crane or in the hull of the vessel.



2x 1,800mt Offshore Mast Crane

FEATURES OFFSHORE MAST CRANES

- Superior load curve
- Large effective outreach
- Small rectangular footprint
- Simple integration with vessel structure
- Low own construction weight
- Minor tail swing, saving deck space
- Low position of centre of gravity
- Ultra-deep water installation system (optional)
- Active and passive heave compensation system (optional)
- Full electric driven
- Stinger suspension from mast base (optional)

The main winches are usually installed inside the crane pedestal, which also provides housing for the electrical room and elevates the boom pivot to the requested level. The larger OMCs are fully revolving and are therefore equipped with a rotating winch column. The heavy storage of the deep water hoist system winch is usually installed on the tank top. For a completely controlled and inherently safe load transfer an active and passive heave compensation system can be installed.

Technology in electronics is constantly improving, leading to state-of-the-art cranes with a higher redundancy level. Today's OMCs are therefore delivered with electric frequency controlled inverter drives. Features like load tuggers, block tuggers and sling hoists are common practice on the Huisman Offshore Mast Cranes. Additional features such as splittable blocks, dual main hoist and trolley hoists can be provided.



400mt Offshore Mast Crane



3,000mt Offshore Mast Crane

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TUB MOUNTED CRANES

Based on decades of proven track record in delivering high capacity Heavy Lift Offshore Cranes, Huisman offers a range of Tub Mounted Cranes with lifting capacities up to 12,000mt. Proven technology for essential crane components is used in the design of the Tub Mounted Cranes.

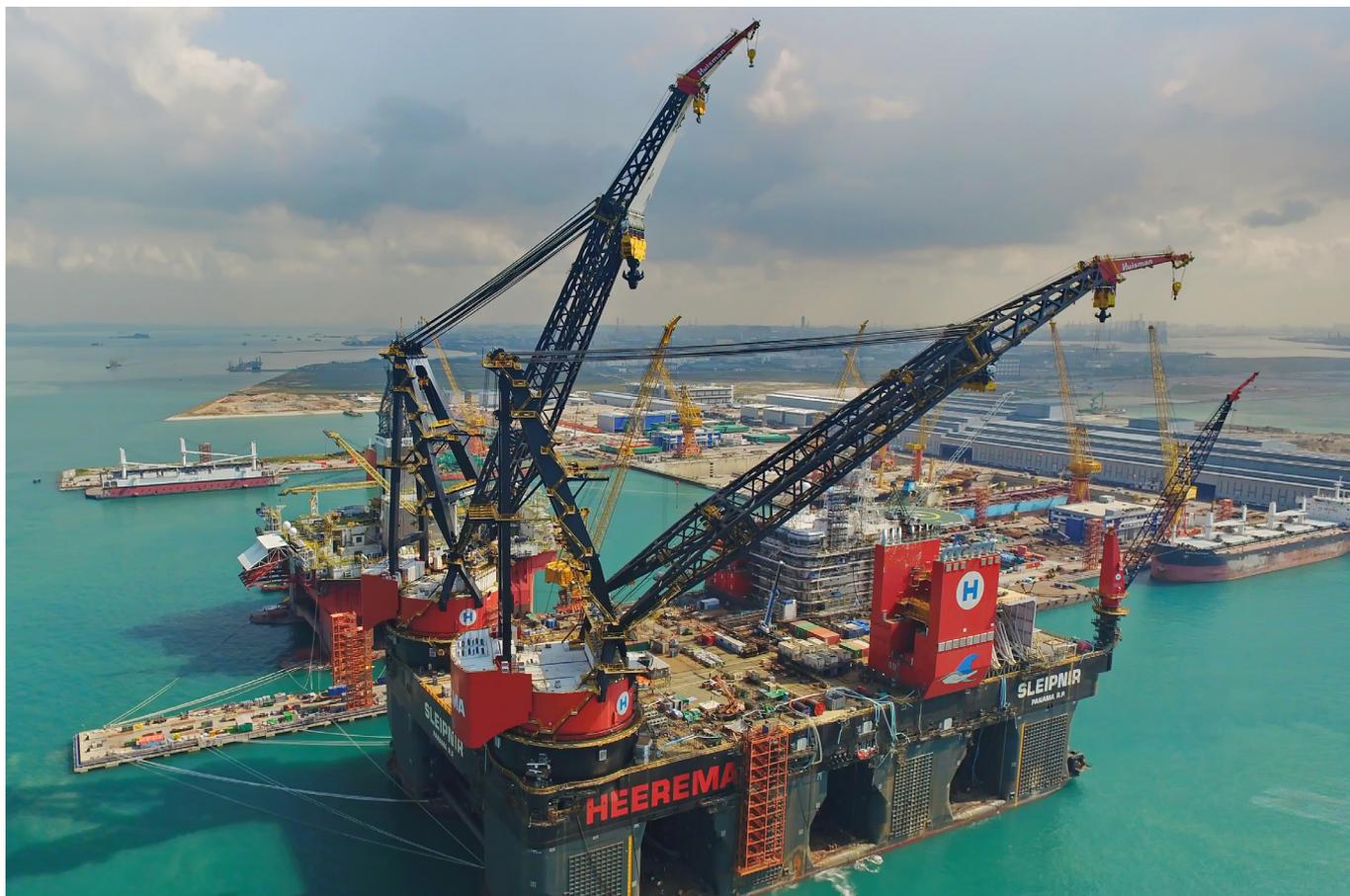
Aiming for a next generation of Tub Mounted Cranes, Huisman developed this crane type based on a slew bearing principle instead of using conventional slewing solutions. Given the experience built-up in the design and in-house production of large size slew bearings, Huisman is able to

provide a reliable and durable slewing solution. This provides several benefits. The own weight of the crane is 10-15% lower and the center of gravity of the crane is lower as well. A larger free deck space is available by making use of a more load and space efficient crane house and slewing system compared to conventional Tub Cranes. In addition, deck space is saved since the crane has no tail swing as the uplift forces are taken by the slew bearing. Internal bearing parts can be physically inspected using a patented inspection method. Maintenance required is low since all rotating parts are enclosed.



FEATURES TUB MOUNTED CRANES

- 10-15% weight reduction compared to conventional Tub Cranes
- Low center of gravity using proven slew bearing technology
- Bridge passage possible using foldable back frame
- More free deck space available compared to conventional Tub Mounted Cranes
- Slewing system lifetime up to 30 years
- Low maintenance required
- Physical inspection of internal bearing condition possible
- Replacement (if needed) of slew bearing does not require crane lifting
- Highly efficient, low noise and low maintenance electric drive system
- Precise and accurate control of slewing and crane hoists
- Full revolving crane up to maximum crane capacity increases operational flexibility
- Highly redundant crane hoists
- Optional deep water lowering system can be added
- High level of customisation in crane performance and options possible



Due to an efficient load distribution, fatigue in the slewing system is substantially less than in conventional slewing systems, resulting in a longer lifetime of the slewing system. In case needed, replacement of the slew bearing and other critical components is easier using a segmented slew bearing and using a patented method that does not require lifting of the crane.

From an operational standpoint, the Tub Mounted Cranes are characterised by a low own height using a foldable back frame which allows for bridge passage and thus increases the workability. In addition, the Huisman Tub Mounted Crane is full revolving up to its maximum lifting capacity, which improves operational flexibility. Using a full, highly responsive electric drive system and having a mechanical clearance free slewing system, crane movements are very precise and accurate. Maintenance required, energy consumption and noise level are substantially reduced compared to conventional Tub Mounted Cranes and

there is no risk of hydraulic fluid or oil spill. The electric drive system of the crane is highly redundant since multiple separate load paths are used on each crane hoist.

Taking a modular design approach in the Tub Mounted Cranes allows for crane designs that can be highly tailored to client preferences. As one of the options available, a deep water lowering system can be incorporated.

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OFFSHORE WIND CRANES

Building on the successful operation of the existing Huisman cranes for the installation of offshore wind turbines, Huisman has introduced a range of cranes tailored to wind turbine installation. These cranes are a result of many years of design and operational experience and based on the company's drive to design and deliver new solutions that add value to the market's existing technologies.

Huisman's Wind Turbine Installation Cranes can be provided for application on jack-up units and floating vessels. In addition to the standard Huisman crane features, like low construction weight, small footprint and minor tail swing, the crane for this application also features increased lifting heights, small operational minimum radius and the possibility to install the crane around the jack-up leg, saving valuable deck space. Our cranes are provided with a full electric or electro-hydraulic drive system.

We have built a solid track record in the delivery of cranes to renowned companies active in wind turbine installation. With our range of tailored cranes for wind turbine installation, we are even better able to serve this market.



230mt Pedestal Mounted Crane



The photo is provided by Penta-Ocean.

FEATURES OFFSHORE WIND CRANES

- Low construction weight
- Minor tail swing
- Extensive lifting height
- Small operational minimum radius
- Full electric drive system
- Crane installed around jack-up (vessel) leg (optional)



600mt Pedestal Mounted Crane

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LEG ENCIRCLING CRANES

Huisman developed an innovative Leg Encircling Crane range for the installation of increasingly larger offshore wind turbines and turbine foundations. As offshore wind is still fighting a battle to reduce cost and become a competitive source of energy, wind turbines keep on increasing in size to reap the benefits of economies of scale and increase efficiency.

From a contractor's perspective, this trend requires larger cranes in both lifting capacity and available hook height. As weight efficiency is highly important for jack-up vessels, a lightweight crane is paramount to achieve the most efficient installation vessel design possible. For high-capacity cranes, it is beneficial to build the crane around one of the jack-up legs. A so-called Leg Encircling Crane has a relatively low own weight, it optimally transfers forces into the vessel structure and optimises the available deck space. In addition, Huisman's Leg Encircling Crane features a very small tail swing, further optimising free deck space.

LIGHTWEIGHT DESIGN

To achieve an own weight that is approximately equal or less than its lifting capacity, Huisman utilised a design philosophy that has proven its value in the offshore oil and gas industry.

By using high grade steel, a low construction weight is achieved. Allowing an increased remaining payload on the jack-up vessel compared to conventional Leg Encircling Cranes.

In addition, Huisman is one of the few companies worldwide to have the experience to successfully construct large diameter slew bearings. By applying Huisman's segmented slew bearing, the overturning moment is transferred into the vessel structure in a highly homogeneous way. This allows further reduction of the steel structure as peak forces are omitted.

OPTIMISED FREE DECK SPACE

Jack-up vessels use their deck to transport wind turbine components. Increasing the available deck space increases the number of components that can be transported at once, reducing installation cost by reducing the number of harbour calls.

The Huisman Leg Encircling Crane optimises the free deck space by integrating the crane with the jack-up leg structure. Furthermore, the design focuses on reducing the tail swing of the crane as much as possible. For example, the 1,600mt Leg Encircling Crane has a required leg opening of 11m and a tail swing of only 14.5m at operator cabin level. In order to allow storage of the boom over the forward leg, the Leg Encircling Crane can be outfitted with Huisman's parallel boom to further optimise the available deck space.



FEATURES

- Lifting capacity up to 2,500mt
- Lightweight crane design allows for larger payload on jack-up vessels
- Small tail swing allows for optimised utilisation of free deck space



1,540mt Leg Encircling Crane

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VARIOUS CRANES

Besides the aforementioned cranes, Huisman delivers a wide range of fully tailor-made cranes for various applications. These cranes are designed and built in close consultancy with our clients in order to meet their specific operational needs. This product range includes Mobile, Compact Ringer, Floating and Special Purpose Cranes.

MOBILE CRANES

Huisman has delivered six Mobile Ringer type Cranes with lifting capacities up to 2,000mt and lifting heights up to 236m. All these ringer type cranes are equipped with a modular main boom and fly-jib to achieve the best configuration for each specific lifting operation.

The Heavy Lift Ringer Crane is a mobile crane which is mounted on a ring construction. Once assembled, the crane can move on location using its own crawlers. So far, two of these cranes have been delivered.

In addition, Huisman has delivered four Containerised Ringer Cranes that can be completely disassembled in elements that comply with the ISO rules for standard shipping containers. This allows for a very economic relocation of the crane, either by truck, train or vessel. These cranes feature twin booms for larger lateral stability. The crane is mounted on a large diameter twin ring, supported by hydraulic jacks for an optimal load distribution.

COMPACT RINGER CRANES

Based on the proven design of the Mobile Ringer Cranes delivered so far, Huisman has now developed a full range of Compact Ringer Cranes. The range comprises seven models with lifting capacities ranging from 2,400mt to 5,000mt. This crane type is developed with compactness and low own weight in mind. Compared to a conventional crawler type crane, the Compact Ringer Crane requires only 25% of the footprint, which substantially increases its area of application. An important benefit of this crane is its scalable modular design. Components including boom and jib sections, ring

2,600mt Gantry Mounted Crane



Compact Ringer Crane



with lifting capacities ranging from 2,400mt to 5,000mt. Just adding more of the same parts increases the lifting capacity and height, making the crane very flexible in its areas of application.

Another significant contribution in operational advantages is made by powering this crane 100% electric, based on proven AC electric drive technology. Besides a precise control over the crane movements, the lower power consumption due to higher efficiency and the cleaner installation and operation, this also solves the issue of strict exhaust emission regime that exists in some markets and areas on conventional driven cranes.

SHEERLEG CRANES

In 1981, the first joint Huisman and ITREC project, the design and construction of the 1,600mt sheerleg 'Taklift 4' for Boskalis Offshore, became a huge success. The design included a unique 'ocean-passage' configuration. The crane was retrofitted and upgraded to a lifting capacity of 2,200mt in 2010. Since that

first success, several sheerleg orders have been awarded to our company with capacities running up to 4,400mt.

SPECIAL PURPOSE CRANES

For the quayside of our production facility in China, we have developed a 2,600mt Gantry Mounted Crane called Skyhook. The crane can travel along the quayside with full load in its hoisting system. This crane is unique in its kind with lifting capacities of 2600mt @ 30m with super-ballast and 1,200mt at 23m in standard configuration.

In 2007 Saipem awarded us a contract for the delivery of a set of three cranes for their pipelaying vessel 'Castorone'. The scope of work consisted of the delivery of one 600mt Offshore Mast Crane with its winches installed below deck and two 55mt Gantry Mounted Cranes. The Gantry Mounted Cranes consist of heavy duty Pipe Transfer Cranes mounted on a gantry which can travel in the longitudinal direction of the vessel.



4,000mt Sheerleg Crane

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