

OFFSHORE

SYSTEMS & EQUIPMENT



Keppel

**Offshore Technology
Development**

OFFSHORE SYSTEMS

At Offshore Technology Development (OTD), we understand the importance of meeting tight budgets and deadlines to effective technical solutions. We work towards customer's wants and needs in providing cost effective solutions to you in both Offshore and Marine industries, optimising your vessels' safety and capabilities.

OTD OFFERS A FULL LINE OF OFFSHORE SYSTEMS AND COMPONENTS including elevating systems, fixation systems, skidding systems, tubular handling systems and etc. Our expert engineers, inspectors, and project managers possess the necessary skills to deliver the components of highest quality design you require on specification, on time, and on budget.

With over 3,000 Jacking units supplied worldwide to Offshore & Marine vessels to date and over 1,000 units to be delivered for on-going projects, we are the specialist in designing & delivering CUSTOMISED SYSTEMS/ PRODUCTS to various clients with ANY specific/ special requirement.

ELEVATING SYSTEM



- **ELECTRIC RACK & PINION JACKING SYSTEM**
- **HYDRAULIC RACK & PINION JACKING SYSTEM**
- **HYDRAULIC CYLINDER JACKING SYSTEM**

We offer a cost effective and reliable system solutions on 100 over vessels worldwide, OTD elevating systems are electric/hydraulic driven rack and pinion or hydraulic cylinders elevating system designed and built in compliance with ABS/ DNV rules for self-elevating platforms/vessels. Capable of lifting loads up to and above 93,600 kips, they are suitable for elevating decks/structures of the world's largest vessels.

TENSIONER SYSTEM



- **CONDUCTOR TENSIONER UNIT (PUSH)**
- **CONDUCTOR TENSIONER UNIT (PULL)**

OTD offers the latest innovation in Conductor Tensioning Units, customised to suit the our units to suit clients requirements. CTU provides an independent vertical tension to the conductor string provided by four Hydraulic Tensioning Cylinders which compensate the loading on the conductor string caused by the weight of the BOP stack. The CTU is provided with a dedicated Hydraulic Power Unit (HPU) with an integrated control panel.

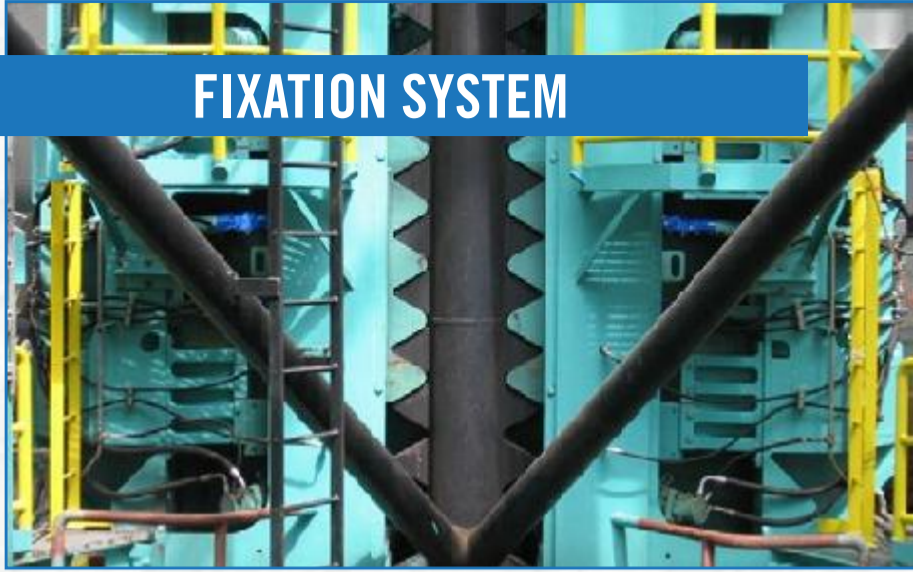
TUBULAR HANDLING SYSTEM



- **CATWALK**

Seeing the benefits of automation on a rig, the OTD-Forum Catwalks are totally self-contained and designed for jack-up drilling rigs operating in the offshore environment. Being the latest technology advancement of its class, the Catwalk automatically conveys drilling and completion tubulars from the cantilever pipe storage area to the mouse-hole and well centre pick-up positions on the drill floor. These revolutionary customised systems improve rig safety & capabilities.

FIXATION SYSTEM



- **SELF-POSITIONING FIXATION SYSTEM**

Being able to hold up to 25,000 kips/leg chord, OTD Self Positioning Fixation Systems are electro-hydraulically driven hull-to-leg rack locking systems designed and built in compliance with ABS/ DNV rules for self-elevating jack-up rigs. The system is capable of automatically positioning the rack chocks for engagement/ disengagement operation. This feature minimises human intervention and reduces operation time.

SKIDDING SYSTEM



- **GRIPPER (HYDRAULIC)**
- **LIFT & ROLL SYSTEM (HYDRAULIC)**
- **HYDRAULIC CYLINDERS SKIDDING SYSTEM**
- **ELECTRIC RACK & PINION SKIDDING SYSTEM (VFD & DOL)**

Having track records of skidding massive structures of weights up to 3,700 tons, the OTD Skidding System is designed to move heavy structures such as the Cantilever structure on Jack-up rigs, A-Frame structures on floating crane vessels, structures for work-over and such.

The systems run on either electrically driven rack and pinion or hydraulic actuated cylinders and were built in compliance with Classification rules.

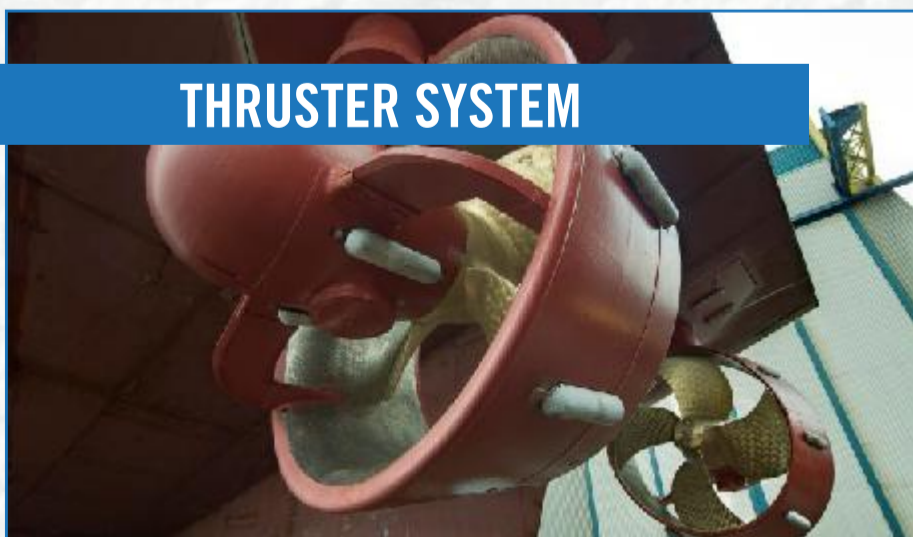
WINCH SYSTEM



- **MOORING WINCH**
- **ANCHOR WINCH**
- **TRACTION & STORAGE WINCH**
- **WATER FALL**
- **RISER-PULLING**
- **CHAIN JACKING**

Having delivered winches since 2005, OTD offers a customised range of winch and fairlead solutions for jack-up rigs and semi-submersible rigs that are designed in accordance to ABS/DNV rules. Employing cost effective solutions, all winches are designed and built with due consideration to five core requirements: Safety, Reliability, Easy Handling, Low Maintenance & Environmental Friendliness.

THRUSTER SYSTEM



- **AZIMUTH THRUSTER**
- **TUNNEL THRUSTER**

To expand the OTD product front in the Offshore Sector, OTD has a joint collaboration with ZF Marine Krimpen to co-develop/ market this thruster technology. We ensure our clients high quality and reliable thruster systems.

PRESSURE VESSEL



- BULK TANK
- SURGE TANK
- AIR RECEIVERS
- CYCLONE SEPARATORS
- DUST COLLECTOR

OTD provides expertise in customised pressure vessel design. Tank designs conform to the latest edition of ASME Boiler and Pressure Vessel Code, to the rules and regulations of American Bureau of Shipping (ABS) and Det Norske Veritas (DNV) as well as to PETROBAS N-13 standards. OTD offers tank designs for operations in harsh environments with design pressures ranging from 45 to 165 psi and operating temperatures from -10°C to 100°C. Tailored to client's commercial & technical requirements, OTD ensures designs of the highest quality.

WEIGHING SYSTEM



- ELECTRONIC TYPE WEIGHING SYSTEM
- HYDRAULIC TYPE WEIGHING SYSTEM

In view of the market's need of precision and immediate data monitoring of tank status, OTD Weighing System is a monitoring system that measures the weight of contents in tanks with the aid of electronic hydraulic load cells.

GREASING SYSTEM



- RACK & PINION GREASING SYSTEM

To ensure hassle free maintenance on critical components on vessels, OTD came up with a semi-automatic greasing system. The Rack Greasing System distributes grease to the rack teeth and pinion teeth during a rack-and-pinion jacking operation. This cost effective system eliminates the need for manual greasing during every rack & pinion movement operation.

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