



RISER & DRILLING SYSTEMS

OR-6C Connector

Introduction

Oil States Industries is a world leader in the design and manufacture of advanced connection systems for off-shore use. Our connectors provide fast make-up and high performance ideal for SCRs, TLPs, tethers, conductors, casing, new and replacement caissons, HP risers, pipelines and jacket piles. Oil States is a proven provider of riser components for deep water, production, drilling and completion risers. We also offer comprehensive riser system design services for completion, drilling, subsea and surface equipment to complement our field-proven connector technologies.

Marine Drilling Riser System

Marine drilling risers provide a conduit from the drilling vessel to the subsea BOP. Drilling operations and fluids pass through the riser to the subsea well, with drilling mud and returns traveling back to the vessel. Risers typically include a riser main pipe; box and pin connectors; choke and kill (C&K) lines; and auxiliary lines.

OR-6C Connector

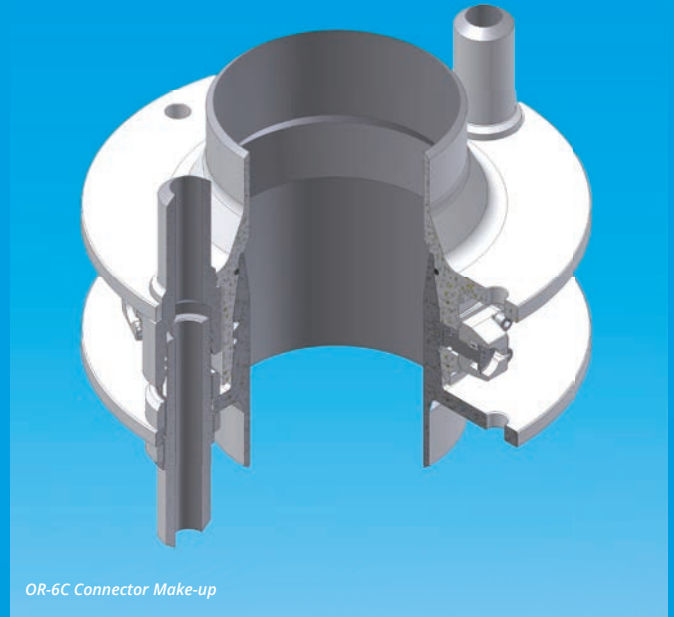
Oil States' OR-6 riser connectors are designed in-house and are lab tested in accordance with API 16R, and certified by DNV. These dog-type connectors are simple to operate and field proven to provide high pre-load and fast makeup of the riser connection.

Features

- Simple, lightweight design
- Low make-up torque: 1,000 ft.-lbs
- Highly pre-loaded connection
- 1.25M lbs. tensile load rating in accordance with API 16R

OR-6 Risers

OR-6 risers run 'pin up' and 'box down' with make-up being achieved by way of a spider, gimbal sized to suit the vessel

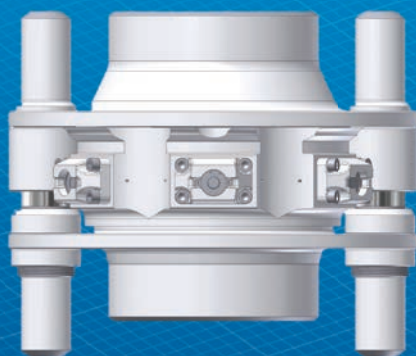


OR-6C Connector Make-up

supplied rotary table. The riser's main tube is supplied in 5 ft. pup joints up to 90 ft. long, and can be configured for slick or full joint buoyancy fit out.

OR-6 riser connectors are mounted on the riser connector box. When actuated, these 6 dogs mate with a profile machined into the OD of the riser pin. Once made-up, this connection supports all tensile bending and fatigue loads.

C&K, booster, auxiliary and hydraulic lines are attached to the riser connector's pin and box with lock and jam nuts. All lines are interchangeable with the C&K lines being designed for working pressures of either 10,000 or 15,000 PSI. Booster and hydraulic lines are designed for working pressure of 3,000, 5,000 or 6,000 PSI.



OR-6C Connector Assembly





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The seal grooves of the female stab boxes in the C&K and booster lines are inlaid when required with Inconel to prevent corrosion.

The male stab pins of all lines are inlaid with Stellite to increase wear resistance during stabbing.

Handling/Tooling

Manual riser handling and test tools are available for flanged risers. Horizontal lifting/handling attachments, such as spreader bars and shackle lifting tools are also available.

Qualification

- OR-C risers are designed and manufactured in accordance with API 16R (riser connectors) and API 16F (main risers)
- C&K and booster lines are designed to meet H2S (sour gas) service per NACE MR-01 75
- Design verification review packages are reviewed and approved by DNV
- DNV/ABS certification is available

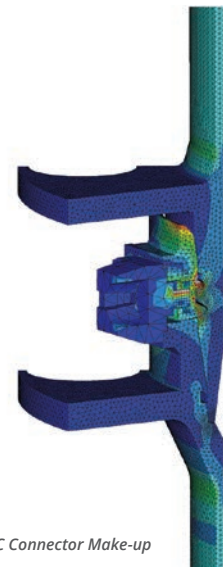
Testing

Finite element analysis has been performed on the riser connector/locking dogs.

Prototype testing of the riser connectors are carried out at Oil States' UKAS- accredited test laboratory; witnessed and approved by DNV.

Oil States Capital Drilling Equipment includes the following:

- Spider Assembly
- Gimbal Assembly
- Diverter System
- FlexJoints™
- Telescopic Joints
- TJ Support Ring Assembly
- Termination Joint
- LMRP and Wellhead LynxGrip™ Connector



OR-6C Connector Make-up

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