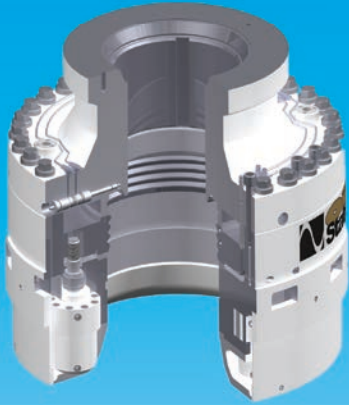




RISER & DRILLING SYSTEMS

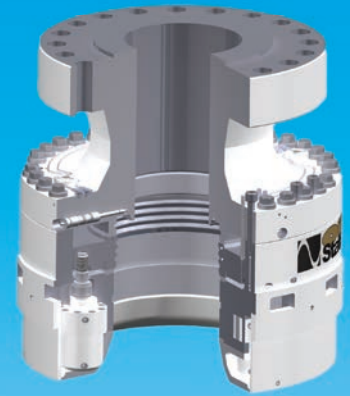
LynxGrip™ Connector



LynxGrip™ Hubbed Connector



LynxGrip™ Studded Connector



LynxGrip™ Flanged Connector

Introduction

Oil States Industries is a world leader in the design and manufacture of advanced connection systems for offshore tubulars. Our connectors provide fast make-up and high performance and are 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, completion, drilling, subsea and surface equipment to complement our field-proven connector technologies.

Oil States' wellhead connectors come in three different configurations; hubbed, flanged and studded offering simplified operating characteristics and maintenance without sacrificing reliability. Pistons are connected to a cam ring that pulls down to lock the dog segments onto the well head profile. Field-replaceable cylinders enable quick reinstallation of the connector.

LynxGrip™ Connector

The LynxGrip™ connector is a standard wellhead connector that latches to a conventional 18 $\frac{3}{4}$ " profiled wellhead. These connectors are used primarily for:-

- BOP stack to wellhead connection
- BOP connection
- Subsea Xmas tree to wellhead connection
- Production riser assembly to subsea manifold, and other applications

The LynxGrip™ connector is available in two sizes and the differences in the connector ratings are shown in the Operating Capacity table overleaf. They have been designed, tested and qualified to withstand extreme bending and tension loads in deep-water applications.

The connector seals onto the wellhead by means of industry-standard metal-to-metal seals.



LynxGrip™ Connector





RISER & DRILLING SYSTEMS

LynxGrip™ Connector

LynxGrip™ Operating Capacity Chart

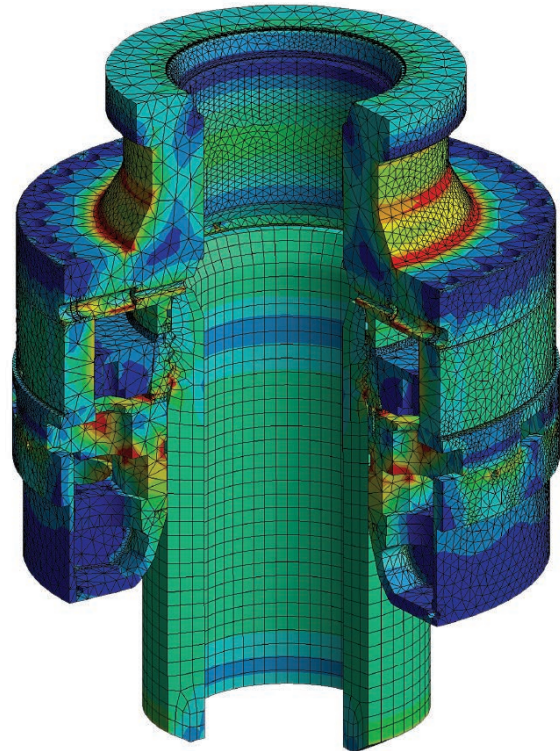
Operating Capacity	LynxGrip™ 15/31	LynxGrip™ 10/20
Bending Load Capacity	3.1x106 ft.lbs.	2.0x106 ft.lbs.
Preload (max 12 pistons x 2000 psi)	2.51x106 lbs.	2.1x106 lbs.
Maximum Tension	1,000 kips	1000 kips
Operation Temperature Range	-20°C to 120°C	-20°C to 120°C
Operating Depth	10,000 ft.	10,000 ft.
No. of Hydraulic Cylinders	12	16
Outside Diameter	51.5 in.	46.88 in.
Weight	13,900 lbs.	11,500 lbs.
Swallow	27.5 in.	27.5 in.
Maximum Bore	18.75 in.	18.75 in.
Maximum Working Pressure	15,000 psi	10,000 psi
Maximum Cylinder Pressure	3,000 psi	3,000 psi

Features

- Suitable deepwater applications
- Self-locking cam ring
- Visual indicator rod
- Primary and back-up hydraulic activation and release circuits
- 45° dog profiled, offering positive mechanical release
- Hydrate seal option
- Field serviceable

Qualification

Certified DNV in accordance with ISO 13628-4/ISO 10423 PR2



FEA of LynxGrip™ Connection

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