

SMART FLANGE PLUS CONNECTOR

Thousands of Smart Flange Plus Connectors have been installed worldwide in shallow to deepwater applications with some exceeding 5,000 fsw. Oceaneering developed the unique mechanical end connectors for various offshore oil and gas applications including:

- Pipeline Spool Piece Repairs
- Pipeline Reroutes
- Pipeline Abandonments
- Riser Repairs
- Structural Repairs
- Valve Installations
- Tee Installations

Features:

- Can be Seal-tested
- Easy to Install
- Subsea or Topside Use
- Fully Mechanical
- Accepts External Loading

The Smart Way To Connect:

Permanent subsea pipeline repairs are easier, safer and take less time with Smart Flange Plus Connectors. The product offers pipeline and riser repairs without the need for hyperbaric welding and can be installed in diverless applications. Available worldwide, the end connectors are stocked in a variety of sizes to accommodate from 2 inch up to 24 inch pipeline diameters. End connectors up to 48 inches have been delivered and installed.

The Smart Flange Plus Connectors can be installed by commercial divers as well as by utilizing Oceaneering's Atmospheric Diving Systems (ADS). Hydraulic Smart Flange Connectors are installed by Remotely Operated Vehicles (ROVs). No other special equipment or trained personnel is required.



Benefits:

- Hotwork Permits Not Required
- Straight Pipe Cuts Unnecessary
- Minimal Pipe Preparation
- Cost-Effective



SMART FLANGE PLUS CONNECTOR SPECIFICATIONS



Design Parameters:

- Nominal Pipe Size (NPS): any API Specification 5L pipe and wall thickness
- Service: Standard (i. e. crude oil, natural gas, hydrocarbons, water or chemical injection, etc.)
- Design Pressure Rating: up to ASME Class 2500, up to API 10,000
- Hydrostatic Test Pressure (min): 1.5 times Design Pressure Rating rounded up to nearest 25 psig
- Design Temperature Range: 25° F (-4° C) to 250° F (121° C)
- Design Life: 25 years

Material Specifications:

- Housing with Weld Neck Flange (RTJ): ASTM A105, ASTM A694 F60 forging
- End Cap: ASTM A105, ASTM A694 F60 forging
- Piston, Slip Anchor, Cone: AISI 4140 forging
- Elastomer Seals: Viton-B or Buna Nitrile
- Studs & Nuts: ASTM A193 Gr. B7 studs and ASTM A194 Gr. 2H heavy hex nuts, all XYLAN coated (i.e. PTFE, dark blue)
- External Coating: Carboline 890 Marine Epoxy Paint System, Safety Yellow Color

Applicable Design Codes, Standards & Specifications (latest editions):

- Oceaneering Intervention Engineering (OIE) ISO 9001:2000 Quality Assurance – Quality Control Procedures & Oceaneering PCRS Operating Procedures
- ASME Boiler & Pressure Vessel Code, Section VIII, Division 1 and 2
- ASME B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- ASME B31.8, Gas Transmission and Distribution Systems
- ASME B18.2.1, Square and Hex Bolts and Screws Inch Series
- API SPEC 5L, Specification for Line Pipe
- API SPEC 6A, Specification for Wellhead and Christmas Tree Equipment
- API SPEC 6H, Specification on End Closures, Connectors and Swivels
- NACE MR0175, Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment

Certifications:

- Bureau Veritas (BV) Oil & Gas Type Approval Certificate
- ISO 9001:2008 – World Certification Services Ltd. – Accredited by UKAS Quality Management

