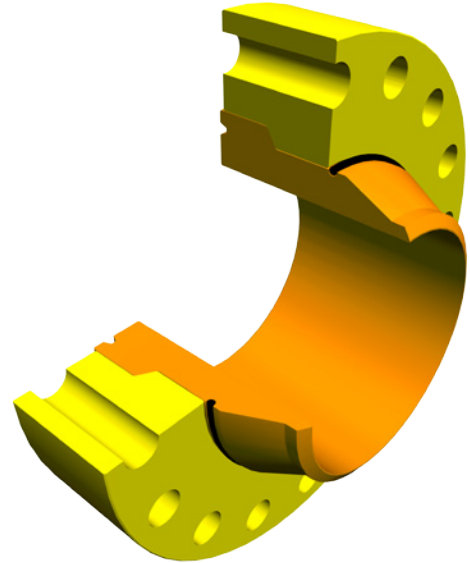


SWIVEL-RING FLANGE



Oceaneering's Swivel-Ring Flange assembly provides easy alignment of the bolt holes during makeup to a common flange such as those defined by ASME B16.5, MSS SP-44 and API 6A.

Alignment is an important and critical feature when bolting subsea pipeline flanges together. The outer ring flange of the Swivel-Ring Flange assembly is held in position by a retainer ring that freely rotates around the inner weld-neck hub for quickly positioning the bolt holes of the two joining flanges.

Design Parameters:

- Nominal Pipe Size (NPS): any API Specification 5L pipe, wall thickness and grade
- Service: Standard (i.e. crude oil, natural gas, hydrocarbons, water or chemical injection, etc.) and Sour (i.e. hydrogen sulfide, carbon dioxide, etc.)
- Design Pressure Rating and Applicable Dimensions: ASME, MSS or API
- Design Temperature Range: -20°F (-29°C) to 250°F (121°C)

Material Specifications:

- Ring Flange: ASTM A105N or ASTM A694 Gr. F52 forging (or otherwise Customer specified)
- Hub: ASTM A694 Gr. F52 forging (or otherwise Customer specified)
- Coating: Phosphate and Oil

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

- OIE/PRS Group Swivel-Ring Flange Drawings, Bill of Materials (Controlled Copies) and Vendor Supplied Material Test Reports
- OIE ISO 9001:2000 Quality Assurance - Quality Control Procedures & PRS Operating Procedures
- ASME Boiler Pressure Vessel Code, Section V Nondestructive Examination
- ASME Boiler Pressure Vessel Code, Section VIII, Division 1 and 2
- ASME B16.5, Pipe Flanges and Flanged Fittings
- ASME B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- API SPEC 5L, Specification for Line Pipe
- API SPEC 6A, Specification for Wellhead and Christmas Tree Equipment
- MSS SP-44, Steel Pipeline Flanges
- NACE Standard MR0175, Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment

Certifications:

- ISO 9001:2008 - World Certification Services Ltd. - Accredited by UKAS Quality Management
- EN 10204 Section 3.1.B (DIN 50049), Inspection Documents for the Delivery of Metallic Products

