B-CON
Misalignment Ball Connector

The B-CON is designed for piping and pipeline systems where the connector must compensate for misalignment of the pipe. The B-CON significantly reduces the time required to install subsea pipeline connections by providing a leak-tight metal seal with performance characteristics and versatility that exceed those of welded pipe or conventional flanges. While primarily intended for subsea piping operations, the B-CON is a valuable piece of equipment in any application—topside or subsea—where misalignment of the pipeline is a problem.

FEATURES

- Metal-to-metal seal allows +/-10° of misalignment
- Meets all applicable codes and standards
- Sizes range from 4 in to 24 in (NPS)
B-CON
Misalignment Ball Connector

The unique design of the B-CON connector’s metal seal allows for up to +/-10º of misalignment in any axial plane from the centerline of the adjoining pipe (20º total misalignment). The metal sealing criteria is the same as specified by ASME for ring-joint flanges. Sealing integrity is maintained at any angle of misalignment, with the seal being resistant to externally applied bending loads at all operating pressures. Tightening the bolts locks the ball member into the socket flange, creating a rigid, static, leak-tight seal.

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: per ASME, MSS, or API
Design temperature range: 25°F to 250°F (-4°C to 121°C)

Material Specifications
Retaining, RTJ flange and ball: ASTM A694 F52 and F60 weldless forging, normalized or to customer specifications
Metal seal ring: AISI C1008 or 316 stainless steel, cadmium plated
Mating studs and nuts: ASTM A193 B7 studs and ASTM A194 2H heavy hex nuts, all Xylan coated
External coating: Carboline® Carboguard® 890 Marine Epoxy Paint System, Safety Yellow Color

Applicable Design Codes, Standards, and Specifications (latest editions)
ASME BPVC V (2010): Boiler Pressure Vessel Code, Section V, Nondestructive Examination
ASME BPVC, Section VIII, Division 1 and 2
ASME B16.5 & B16.47, 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
API SPEC 6H, Specification on End Closures, Connectors, and Swivels
MSS SP-44, Steel Pipeline Flanges
ASME B18.2.1, Square and Hex Bolts and Screws Inch Series
ASME B16.20, Metallic Gaskets for Pipe Flanges - Ring Joint, Spiral Wound and Jacketed (Latest Edition)
NACE MR0175, Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment

Certifications
ISO 9001:2008 - World Certification Services Ltd. - Accredited by UKAS Quality Management
EN10204 Section 3.2 (DIN 50049), Inspection Documents for the Delivery of Metallic Products

© 2018 Oceaneering International, Inc. All rights reserved.