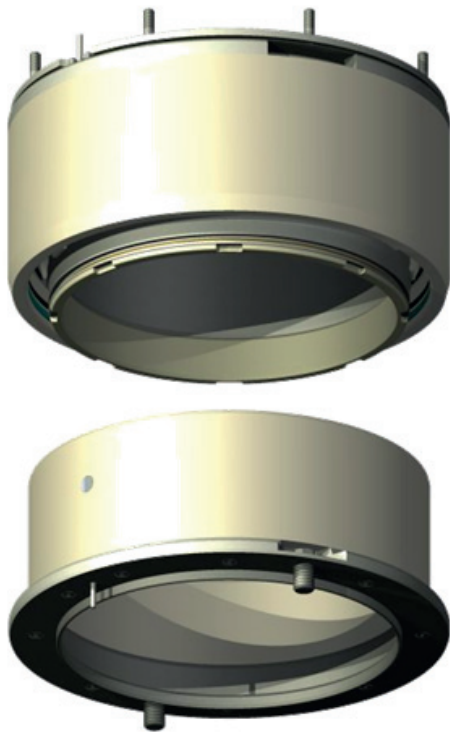


WellConnect™ Subsea Electrical Concentric Connector - HP Series

The Concentric Instrument Wet Mateable Electrical Connector is designed to provide continuous electrical connection between the Tubing Hanger and the X-Tree, providing long term electrical connection for DHPT applications. The connector is designed to fit a non-orientated Tree and provide electrical connection in all feasible orientation arrangements. The system also uses a THRT Connection to allow checks prior to the X-Tree landing.



Key Performance Features

- Unique Latch Return Mechanism
- No Hydraulic Return required, utilises Latch Mechanism
- Cable field Serviceable
- High Pressure Application
- Shell Continuity
- Sealing Elastomeric and M-M
- Interface Tolerant of Debris During Normal Mating

Qualification Testing (to IWIS specification)

- Hydrostatic Withstand Pressure Test
- Functional Mate/Demate Test in Turbid Conditions
- Maximum misalignment Test Specification
- Thermal Shock Test
- Individual Seal Hydrostatic Pressure Test
- Shell Continuity Test
- Wet Mate/Demate Cycle Test
- Turbid Tank Mate/De-mate Cycle Test
- Thermal Cycle test Vibration Test

Operational Requirements

- Design Life: 10 years
- Location within completion : Vertical X-Tree TH, THRT
- Rated Pressure: 10,000 Psi
- Test Pressure: 15,000 Psi
- Working temperature range: 0°F to 250°F (-18°C to 121°C)
- Storage temperature range: -40°F to 158°F (-40°C to 70°C)
- Deployment Water Depth: 0-6,000ft (0-1,803m)

Mechanical Requirements

- Mate/demate cycle life: 100 mates (turbid sand, salt and water)
- Sealing Elastomeric and M-M
- Non orientated design
- Interface Tolerant of debris during normal mating
- Maximum Radial Misalignment: +/- 0.04" (1.0mm)
- Maximum Axial Misalignment: +/- 0.2" (5.1mm)
- Maximum Mating Speed: 0.3m/sec

Electrical Specification

- Maximum Working Voltage: 100Vdc
- Test Voltage: 500Vdc
- Maximum Working Current: 100 mA
- Maximum contact resistance: <30 mohms with 2.0A load

Material Specification

- Housing: 316 Stainless Steel or SAF 2205
- Contact: Gold plated Copper Alloy
- Insulation: PEEK 450G or Equivalent
- Chemical / Corrosion Considerations to application environments

Design Philosophy

- Seal Philosophy: Elastomeric Wet Mate Seals
- Electrical insulation: Thermoplastic or Elastomer

Cable

- Tree Connector: 1/8" Hydraulic Tube
- TH Connector: 1/4" or 1/8" Permanent Downhole Cable

