

WellConnect™ Subsea Vertical Electrical Connector

The Vertical Instrument Wet Mateable Electrical Connector is designed to provide continuous electrical connection between the Tubing Hanger and the X-Tree. The purpose of the Vertical Single Contact Mated Connector is to provide a long term reliable electrical connection for DHPT Applications. The system also uses a THRT Connection to allow system checks prior to the X-Tree landing.



Design Philosophy

Main Dielectric Filled Body: Pressure Balanced
 Seal Philosophy: Dual Electrical and Mechanical Barriers
 Electrical Insulation Primary Thermosplastic or Elastomer
 Secondary Dielectric Fluid

Operational Requirements

Design Life: 25 years
 Location within completion: Subsea Vertical X-Tree
 Rated Pressure: 15,000 Psi
 Test Pressure: 22,500 Psi
 Working temperature range: -20°C to 155°C
 Storage temperature range: -18°C Min
 Number of mating cycles: 100

Mechanical Requirements

Envelope diameter: As per Customer Specifications
 Stack up tolerance: $\pm 0.500''$
 Mechanical Shock: Half sine period at 30g
 Angular Misalignment: $\pm 0.5^\circ$
 Radial Misalignment: 0.1''

Electrical Specification

Number of contact: 1
 Contact Method: Multi-contact
 Working Voltage: 500 Vdc
 Test Voltage (to Earth): 1000Vdc
 Ampacity: 5 A

Key Performance Features

Unique Dielectric Oil Treatment System
 Protective Contact on Male/Female Halves
 HPHT Application Materials
 Energised Seals
 Metal to Metal Sealing
 Gold-plated Contacts
 Crimp Technology

Material Specification

Housing: Inconel 625/Superduplex to ISO 15156-3
 Contact: Gold plated beryllium copper
 Insulation: PEEK HT

Qualification Testing

Proof Voltage
 Insulation Resistance
 Contact Resistance
 Pressure Test
 Long Term & Life Test
 Temperature Limit
 Vibration Test
 Shock (Drop) Test
 Gas Seal (Helium) Test
 Misalignment Test

Cable

Plug Termination 1/8" Metal Tube with Alpha Cable
 Receptacle Termination 1/4" Metal Clad Monocable

