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.

Operational Requirements
Design Life: 30 years
Location within completion: Subsea Vertical X-Tree
Rated Pressure: 10,000 Psi
Test Pressure: 15,000 Psi
Working temperature range: -20ºC to 155ºC
Storage temperature range: -18ºC Min
Number of mating cycles: 100

Mechanical Requirements
Envelope diameter: As per Customer Specifications
Stack up tolerance: ± 0.500”
Mechanical Shock: Half sine period at 30g
Angular Misalignment: ± 0.5º
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

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

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