

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:	-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:	± 0.500"
Mechanical Shock:	Half sine period at 30g
Angular Misalignment:	± 0.5°
Radial Misalignment:	0.1"

Electrical Specification

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

Material Specification

Housing:	Inconel 625/Superduplex to ISO 15156-3
Contact:	Gold Plated Beryllium Copper
Insulation:	PEEK HT

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

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

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

