

WellPowerTM Split-Phase Vertical Electrical Connector V1

The ESP connector system consists of three single phase wet-mate power connectors spaced around the production bore. The female connector halves are in the upper section, while the male connector halves are fixed within the lower section. The connector system provides a long term reliable connection in a subsea downhole environment.

Operational Requirements

Design Life: Permanently Installed Connector 10 years

Rated Pressure: 10,000 Psi Test Pressure: 15,000 Psi

Working Temperature Range: -18°C to 93°C (0°F to 200°F)
Storage Temperature Range: -30°C to 40°C (-22°F to 104°F)

Number of Cycles: 100

Mechanical Requirements

 Diameter:
 1.250"

 Length:
 <12.000"</td>

 Stack up Tolerance:
 ± 0.25"

Electrical Specification

 Rated Voltage:
 2.89 / 5.0 kVAC (Uo/U)

 Breakdown Voltage:
 > 8Uo (23.1 kV)

 Ampacity:
 150 A

 Frequency Range:
 30 - 85 HZ

Material Specification

Housing: 316 Stainless Steel, Inconel 625 (nipple)

HS Cupro Nickel Alloy

Contacts: Gold Plated Beryllium Copper

Insulation: PEEK 450G

Design Philosophy

Main Dielectric Filled Body: Pressure Balanced

Sealing: Dual Electrical and Mechanical Barriers

Electrical insulation Primary: Thermoplastic or Elastomer

Cable

Various Cable Options

Lower Connector Pressure Barrier

Qualification TestingStandard Electrical Integrity Tests

Dry Mated Test
Mains Water Mate / Demate Cycle Test
Seawater Mate / Demate Cycle Test
Turbid Tank Test
Helium Leak Test
Cold Water Mate / Demate Cycle Test
Simulated Environment Mate / Demate Cycle Test
Simulated Environment Material Compatibility Test
Rapid Mate / Demate Cycle Test
Temperature Rise (current)
High Voltage

Key Performance Features

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



