

OceanPower™

HV Split-Phase Connector

The HV Power Wet-Mate system is a Split-Phase connector allowing a single or 3-phases to be applied, utilising technology proven in the marine environment ensuring long term reliability. The connectors bring many benefits to tidal stream and wave energy devices, providing innovation to some of the industry's major challenges.

Operational Requirements

Design Life:	25 years
Rated Pressure:	5,000 psi
Test Pressure:	7,500 psi
Design Pressure:	9,000 psi
Working Temperature Range:	0°C to 120°C (32°F to 300°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"
Stack up Tolerance:	± 0.25"

Electrical Specification

Rated Voltage:	2.89 / 5.0 kVAC (Uo/U)
Breakdown Voltage:	> 8Uo (16.1 kV)
Ampacity:	80 A - 168 A
Frequency Range:	30 - 85 HZ

Material Specification

Housing:	Stainless Steel, Inconel 625 and Superduplex to ISO15156
Contacts:	Gold Plated Beryllium Copper
Insulation:	PEEK 450G
Non Metallic Material Specification:	Norsok M710 H2S Levels Norsok M710 compliant CO2 Levels Norsok M710 compliant

Design Philosophy

Main Dielectric Filled Body:	Pressure Balanced
Sealing:	Dual Electrical and Mechanical Barriers
Electrical insulation Primary:	Thermoplastic or Elastomer

Cable

Various Types

Qualification Testing

Standard 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

Key Performance Features

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

