



## 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<br>H2S Levels Norsok M710 compliant<br>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                         |

