RMS pumptools

OceanPower™

HV Electrical Penetrator

The HV Power 3-phase Penetrator utilises technology proven in the marine environment providing long term reliability. The Penetrator brings many benefits to tidal stream and wave energy devices, providing innovation to some of the industry's major challenges.

Operational Requirements

Location within Completion:	Subsea Turbine, Hub & Umbilical
Design Life:	25 years
Rated Depth:	1,000+ Metres
Rated Pressure:	1,500 psi
Working Temperature Range:	-20ºC to 60ºC (-4ºF to 140ºF)
Storage Temperature Range:	-30ºC to 40ºC (-22ºF to 104ºF)

Mechanical Requirements

Option 1

Bore Sealing:	Ø76.5mm = 50sqmm Cable
Flange:	Ø130mm = 50sqmm Cable

Option 2

Bore Sealing:	Ø82.7mm = 70sqmm Cable
Flange:	Ø130mm = 70sqmm Cable
Envelope Diameter:	As per Customer Specification

Electrical Specification

Number of Contacts:	3
Contact Method:	Crimped Terminations
Working Voltage:	3.6/6(7.2) kV
Test Voltage (to Earth):	14.4 kVdc
Ampacity:	250 A (cable limiting factor)
Frequency Range:	47 - 52 HZ

Material Specification

Housing:	SS 316 / High Strength CuproNickel
Insulation:	PEEK, EPDM

Design Philosophy

IEC:	60502-2, 60502-4, 60228

Cable and Hose

Siwo-kul 35mm² Cable
Goodyear Gorilla Hose via
Hose Fittings Connection
Oil-filled & Pressure Balanced
Other Cables & Hoses are available

Qualification Testing

Shell Continuity
Proof Voltage
Insulation Resistance
Contact Resistance
Partial Discharge (PD)
Pressure Test
Thermal Short Circuit
Temperature Cycles
Pull Test

Key Performance Features

Energised Seals
Elastomeric Back-up Sealing
Design suits a range of Cables
Flange Seal Test Port