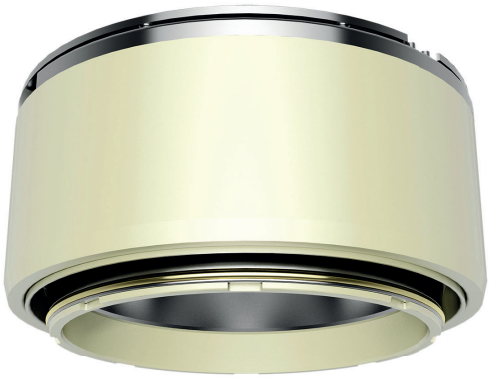
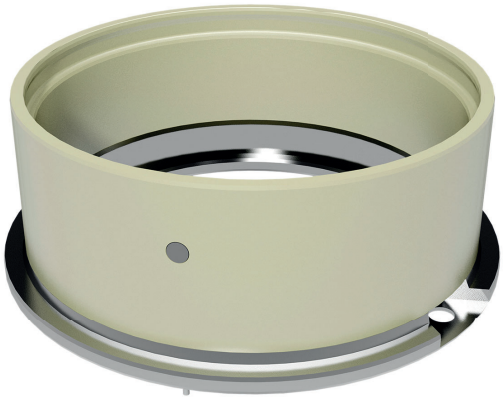
RMS pumptools

WellConnect™

Subsea Electrical Concentric Connector - HP Series

The Concentric Instrument Wet Mateable Electrical Connector is designed to provide continuous electrical connection between the Tubing Hanger and the X-Tree, providing long term electrical connection for DHPT applications. The connector is designed to fit a non-orientated Tree and provide electrical connection in all feasible orientation arrangements. The system also uses a THRT Connection to allow checks prior to the X-Tree landing.





Operational Requirements

Design Life:	15 years
Location within Completion:	Vertical X-Tree TH, THRT
Rated Pressure:	6,666 Psi
Test Pressure:	10,000 Psi
Working Temperature Range:	0ºF to 250ºF (-18ºC to 121ºC)
Storage Temperature Range:	-40ºF to 158ºF (-40ºC to 70ºC)
Deployment Water Depth:	0-6,000ft (0-1,803m)

Mechanical Requirements

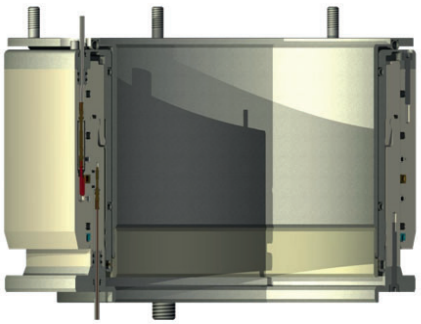
Mate/De-mate Cycle Life:	100 mates (turbid sand, salt and water)
Sealing Elastomeric and M-M	
Non orientated design.	
Interface Tolerant of debris during normal mating.	
Maximum Radial Misalignment:	+/- 0.04" (1.0mm)
Maximum Axial Misalignment:	+/- 0.2" (5.1mm)
Maximum Mating Speed:	0.3m/sec

Electrical Specification

Maximum Working Voltage:	1,000Vdc
Test Voltage:	2,400Vdc
Maximum Working Current:	5A
Maximum Contact Resistance:	<30 mohms with 2.0A load

Material Specification

Housing:	316 Stainless Steel or SAF 2205
Contact:	Gold plated Copper Alloy
Insulation:	PEEK 450G or Equivalent
Chemical / Corrosion Considerations to application environments.	



Design Philosophy

Seal Philosophy:	Elastomeric Wet Mate Seals
Electrical Insulation:	Thermoplastic or Elastomer

Cable

Tree Connector:	1/8" Hydraulic Tube
TH Connector:	1/4" or 1/8" Permanent Downhole Cable

Qualification Testing

Hydrostatic Withstand Pressure Test
Functional Mate/Demate Test in Turbid Conditions
Maximum Misalignment Test
Thermal Shock Test
Individual Seal Hydrostatic Pressure Test
Shell Continuity Test
Turbid Tank Mate/De-mate Cycle Test

Key Performance Features

Unique Latch Return Machanism
No Hydraulic Return required, utilises Latch Mechanism
Cable field Serviceable
High Pressure Application
Shell Continuity
Sealing Elastomeric
Interface Tolerant of Debris During Normal Mating