Bonnet EFS for Horizontal Wellhead Completions

For Downhole Sensor Communications

This Electrical Feedthrough System design provides a high-reliability circuit for transmitting electrical signals from downhole gauges through the wellhead and Subsea Tree to the Subsea Control Module (SCM) for topside monitoring. The system incorporates Teledyne DGO's high integrity glass-seal technology in three critical pressure barriers for maximum long-term reliability. The feedthrough system creates a permanent connection to the Subsea Control Module when the tree is installed onto the wellhead. In addition, a permanent rig-based DHG cable termination is completed to connect the control line to the feedthrough system. The DHG connector is available with a variety of sealing packages, including fully testable, dual metal-to-metal sealing of all downhole tubing hanger interfaces.

Designed for long-term reliability in the subsea and downhole environments containing aggressive production and packer fluids as well as sour well (H2S) conditions, 6 years of rigorous system, component, and material qualification tests have successfully been completed on the design, verifying its robust capability.

API 6A, 16D & 17D Compliant:

- *HH Material class (sour service)*
- *Exceeds U Temperature class*
- *Product Specification Level 3 – PSL 3 / 3G below the TH*
- *Performance Requirement Level 2 – PR2*

Key Features:

- Underwater, high pressure wet-mateable connections
- Rig testable interface seals
- ISO 10423 (API-6A) compliant
- PSL3 and PSL3G compliant

PRIMARY BENEFITS

- **Modular design to suit varying installation envelopes**
- **Simple, fast, proven DHG Connector rig terminations**
- **Dual-barrier philosophy**
- **Oil filled, pressure compensated wet-mate connection systems and SCM harnesses**

TELEDYNE MARINE
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TECHNICAL SPECIFICATIONS*

ENVIRONMENTAL	
Operational Pressure	15,000 psig/103MPa
Temperature Range	0°F to 302°F (-18°C to 150°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Deployment depth	14,764 ft/4,500 m
Mating Durability	100 cycles min.
MECHANICAL SPECIFICATIONS	
Axial Misalignment	±.062" (±1.57mm)
Angular Misalignment	±0.5°
Radial Misalignment	±.03" (.76mm)
Actuation Speed	5in/sec (12 5mm/sec)
ELECTRICAL SPECIFICATIONS	
Voltage Rating, working	600 VDC
Test Voltage	2400 VDC
Current Rating, working	2.0 A
Insulation Resistance	> 1G Ω @ 500 VDC (20°C)
Contact Resistance	< 30 mΩ
Shell resistance	< 10mΩ

*Performance values generally based on historical application requirements

Single Pin Horizontal EFS Detail

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