Dash® Large Bore Electrohydraulic Control Module

NEW GENERATION ELECTROHYDRAULIC SYSTEM FOR LARGE BORE SUBSEA WELL INTERVENTION APPLICATIONS

OVERVIEW
The Dash® Large Bore electrohydraulic control module was developed on industry-proven products and is customizable to meet individual customer requirements. While in field development, the system connects the user with the subsea safety system, tubing hanger and completion system, providing critical well control during flow back and production well clean up. The Dash system can utilize smart, redundant electronic controls to perform the emergency well shut-in and landing string disconnect in less than 10 seconds.

The Dash system is a technology that challenges the status quo. It employs the EH features where they really matter most—core safety functions and provides full direct hydraulic control of all safety and intervention functions. Not only does this increase reliability, but offers a simplistic design built for efficient, cost-effective operation and field maintenance.

Through linking with downhole and surface read-out control systems, the Dash system enables calculation of optimal performance to help avoid nonproductive time and offer efficiency during deepwater developments. Safety and reliability are paramount in deepwater subsea completions and field development; the Dash system can deliver both.

FEATURES
» Integrates with 6 3/8-15K and 7 3/8-10K ID equipment
» 10-second emergency shut-in and disconnect
» Under 6-second emergency shut-in
» Direct hydraulic controls of safety and intervention functions
» Full redundant electrical controls
» Real-time monitoring
» Compact reconfigurable design
» Designed per ISO13628-4, -6, and -7

BENEFITS
» Full direct hydraulic redundancy increases reliability
» Simplistic design built for efficient, cost-effective operation, and in-field maintenance
» Modular design enables adaptability to customer-specific
» Interchangeable bore (6 3/8 and 7 3/8) creates a flexible system
» Shorter length equates to reduced rig-up time and ease of handling
» Uses the Halliburton exclusive, field-proven Kernel software for real-time data acquisition and active tool simulation
» Built on field-proven technology platform
» Highest external working pressure at 8,000 psi or 10,000 ft at 15.60 lb/gal
» Integrated surface and sub-surface flow meters enable redundant diagnostic capability and help reduce uncertainty of safety functionality
» Real-time, design-of-service, digital validation testing
## Equipment Specifications

<table>
<thead>
<tr>
<th></th>
<th>6 ⅜ in.</th>
<th>7 ⅜ in.</th>
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</thead>
<tbody>
<tr>
<td><strong>Nominal Tool Inner Diameter</strong></td>
<td>6.375 (16.19)</td>
<td>7.375 (18.73)</td>
</tr>
<tr>
<td><strong>Outer Diameter in. (cm)</strong></td>
<td>18.625 (47.31)</td>
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<tr>
<td><strong>Inner Diameter in. (cm)</strong></td>
<td>6.375 (16.19)</td>
<td>7.375 (18.73)</td>
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<tr>
<td><strong>Overall Length in. (cm)</strong></td>
<td>271 (680)</td>
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</tr>
<tr>
<td><strong>Weight lb (kg)</strong></td>
<td>13,753 (6238)</td>
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<tr>
<td><strong>End Connections</strong></td>
<td>10 ⅜ in. Stub Acme</td>
<td>10 ⅜ in. Stub Acme</td>
</tr>
<tr>
<td><strong>Tensile Load(^1) @ 0 psi lbf (kN)</strong></td>
<td>2,000,000 (8896)</td>
<td>1,000,000 (4448)</td>
</tr>
<tr>
<td><strong>Tensile Load(^1) @ Working Pressure lbf (kN)</strong></td>
<td>850,000 (3781)</td>
<td>400,000 (1779)</td>
</tr>
<tr>
<td><strong>Service Temperature °F (°C)</strong></td>
<td>Bore 32-350 (0-177) Electronics 32-275 (0-135)</td>
<td>Bore 32-350 (0-177) Electronics 32-275 (0-135)</td>
</tr>
<tr>
<td><strong>Working Pressure psi (bar)</strong></td>
<td>15,000 (1034)</td>
<td>10,000 (689)</td>
</tr>
<tr>
<td><strong>Bore Test Pressure psi (bar)</strong></td>
<td>22,500 psi (1551 bar)</td>
<td>15,000 psi (1034 bar)</td>
</tr>
<tr>
<td><strong>Maximum Torque Load ft-lb (N-m)</strong></td>
<td>20,000 (27,116)</td>
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<tr>
<td><strong>Maximum Annulus Hydrostatic psi (bar)</strong></td>
<td>8,000 (551)</td>
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</table>

### Applicable Design Standards

- **ISO13628-6 / API 17F**: Design and Operation of Subsea Production Systems
- **ISO13628-7 / API 17G**: Completion Workover Riser Systems
- **ISO13628-4 / API 17D**: Design and Operation of Subsea Production Systems Wellhead and Tree Equipment
- **API 6A**: Specification for Wellhead and Christmas Tree Equipment

**Notes:**

1. The values of tensile, burst, and collapse strength are calculated with new tool conditions, Lame’s formulas with Von-Mises’ Distortion Energy Theory for burst and collapse strength, and stress area calculations for tensile strength.
2. Meets NACE MR0175 requirements for all temperatures.
3. These ratings are guidelines only. Refer to the equipment data book for individual equipment specifications.

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For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com