Veto™ 6 Subsea Safety Tree

PRIMARY WELL CONTROL BARRIER FOR COMPLETIONS AND INTERVENTIONS

OVERVIEW

As part of Halliburton’s premiere Veto™ 6 Subsea Safety System, the Veto 6 Subsea Safety Tree is a hydraulically operated dual ‘fail-safe closed’ valve system designed as a primary well-control barrier combined with a passively orienting latch mechanism. The Subsea Safety Tree is a critical part of any Completion Landing String (CLS) flowing back hydrocarbons to a semisubmersible or dynamically positioned drilling vessel.

Deployed within the drilling blowout preventer stack, the Subsea Safety Tree provides dual-barrier well isolation along with a means of disconnecting the landing string. It leaves the well with dual safety barriers until relatch and recommence with required operations – a critical safety requirement in the offshore environment.

FEATURES

» Dual ‘fail-safe closed’ independently operated ball valves
» Dual secondary unlatch feature
  – Hydraulic secondary unlatch ability utilizing the annulus’ applied pressure
  – Mechanical secondary unlatch ability post-shear utilizing an overshot Latch Retrieval Tool
» Passively orienting latch system
» Ball valves provide full working pressure well isolation from below
» Upper ball valve testable to full working pressure from above
» Low-pressure pump-through capability from above
» Coiled tubing cutting capability
» Chemical injection point between ball valves with dual-check protection
» 16 pass-through ports to operate TH / THRT and downhole functions
» Short robust design
» Dual-sealing barrier from bore for well isolation
» Halliburton high-integrity tool joints
» Design verified by third-party certifying authority

BENEFITS

» Passive latch system provides positive latching, removing the need to rotate the landing string to achieve engagement, thereby eliminating potential issues with landing weights and string torsion
» Significantly shorter design enables space out within a greater number of rig BOPs
» Latch position indicator provides easily visible indicator to confirm latch status when passing through the rotary
» Provides ability to pump fluids through closed balls from above for well access, if required
» Increased number of hydraulic pass-throughs for SMART well controls
» Upper seat assembly may be easily accessed without the need to disassemble the whole assembly
» Dual-sealing elements installed in critical areas of well isolation increase reliability
» All connections are locked from rotation with the Halliburton lock mechanism, which allows each connection to be fully shouldered out, thus increasing overall strength without the need to back off connections to get alignment
» High tensile capacity can enable safe deployment of heavy completions
## Equipment Specifications

<table>
<thead>
<tr>
<th></th>
<th>Level 1 Capability</th>
<th>Level 2 Capability (if applicable)</th>
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<tbody>
<tr>
<td><strong>Nominal Tool Inner Diameter in (cm)</strong></td>
<td>6.375 (16.2)</td>
<td>6.375 (16.2)</td>
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<tr>
<td><strong>Major Diameter in (cm)</strong></td>
<td>18.625 (47.3)</td>
<td>18.625 (47.3)</td>
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<tr>
<td><strong>Overall Length c/w Integral Slick Joint in (cm)</strong></td>
<td>87.45 (222.1)</td>
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<tr>
<td><strong>Approximate Weight lb (kg)</strong></td>
<td>4,290 (1,946)</td>
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<td><strong>End Connections</strong></td>
<td>9-in. 4 TPI Stub Acme</td>
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<tr>
<td><strong>Maximum Working Pressure psi (bar)</strong></td>
<td>15,000 (103)</td>
<td>10,000 (69)</td>
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<tr>
<td><strong>Maximum Bore Test Pressure psi (bar)</strong></td>
<td>22,500 (155)</td>
<td>15,000 (103)</td>
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<tr>
<td><strong>Service Temperature °F (°C)</strong></td>
<td>35 to 250 (2 to 121)</td>
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<tr>
<td><strong>Tensile Capacity @ 0 psi lbF (kN)</strong></td>
<td>2,000,000 (8,896)</td>
<td>1,300,000 (5,783)</td>
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<tr>
<td><strong>Tensile Capacity @ Working Pressure lbF (kN)</strong></td>
<td>1,350,000 (6,005)</td>
<td>850,000 (3,781)</td>
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<td><strong>Service</strong></td>
<td>Non H₂S</td>
<td>H₂S</td>
</tr>
<tr>
<td><strong>Coiled-Tubing Cutting Capability</strong></td>
<td>2” .203WT 110Ksi</td>
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<tr>
<td><strong>Wire Cutting</strong></td>
<td>Up to 1/2” Braided Line</td>
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### Applicable Standards

- **API 6A**: Specification for Wellhead and Christmas Tree Equipment
- **API 14A**: Specification for Surface-Controlled Subsurface Valves

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

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