# Veto™ 7 Subsea Safety Tree

## PRIMARY WELL-CONTROL BARRIER FOR COMPLETIONS AND INTERVENTIONS

### OVERVIEW

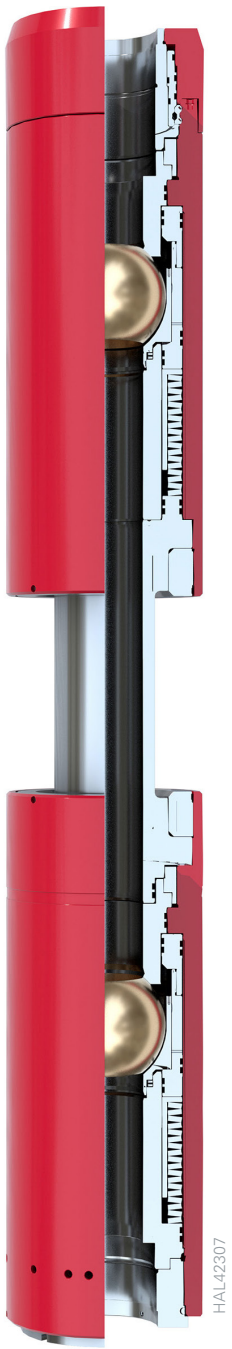
As part of Halliburton's premiere Veto™ 7 Subsea Safety System, the Veto 7 Subsea Safety Tree is a hydraulically operated dual 'fail-safe closed' valve system designed as a primary well-control barrier combined with a passively orienting latch mechanism. The Subsea Safety Tree is a critical part of any 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 re-latch 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 above and below
- Low-pressure pump-through capability from above
- Common ball design ensures positive valve closure and barrier with capability to shear coiled tubing or wireline at both valves
- Chemical injection point between ball valves with dual-check protection
- 16 pass-through ports to operate TH/THRT and downhole functions
- Dual-sealing barrier from bore for well isolation
- Halliburton high-integrity tool joints
- Design verified by third-party certifying authority
- Integral slick joint

### BENEFITS

- Passive latch system provides positive latching, removing the need to rotate the landing string to achieve engagement.
- Shorter design and integral slick joint enables space out within a greater number of rig BOPs
- Coiled tubing cutting validated to API 17G cut and seal requirement
- Latch position indicator provides easily visible indicator to confirm latch status when passing through the rotary
- 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
- Provides reconnection of electrical power through the latch in an operational environment
- High tensile capacity can enable safe deployment of heavy completions



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## Equipment Specifications

| | |
|---|---|
| Nominal Tool Inner Diameter in (cm) | 7.375 (18.7) |
| Outer Diameter in. (cm) | 18.63 (47.30) |
| Inner Diameter in. (cm) | 7.38 (18.73) |
| Overall Length in (cm) | 129.40 (328.70) |
| Approximate Weight lb (kg) | 6500 (2,950) |
| End Connections | 10-3/8 in. Stub Acme |
| Maximum Working Pressure psi (bar) | 10,000 (689) |
| Maximum Bore Test Pressure psi (bar) | 15,000 (1,034) |
| Service Temperature °F (°C) | 35 to 250 (2 to 121) |
| Tensile Capacity @ 0 psi ibF (kN) | 1,200,000 (5,538) |
| Tensile Capacity @ Working Pressure ibF (kN) | 500,000 (2,224) |
| Coil Tubing Cutting | 2" 0.203 WT 110 Ksi (Dual Cut and Seal) |
| Wire Cutting | Up to 1/2" Braided Line |
| **Applicable Standards** | |
| API 6A | Specification for Wellhead and Christmas Tree Equipment |
| API 14A | Specification for Surface-Controlled Subsurface Valves |

**Notes:**

[1] The values of tensile, burst, and collapse strength are calculated with new tool conditions, Lame's formulas with Von-Mise's Distortion Energy Theory for burst and collapse strength, and stress area calculations for tensile strength.

» Meets NACE MR0175 requirements for all temperatures

» These ratings are guidelines only. Refer to the equipment data book for individual equipment specifications.

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



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