

EcoStar™ Electric Tubing-Retrieveable Safety Valve

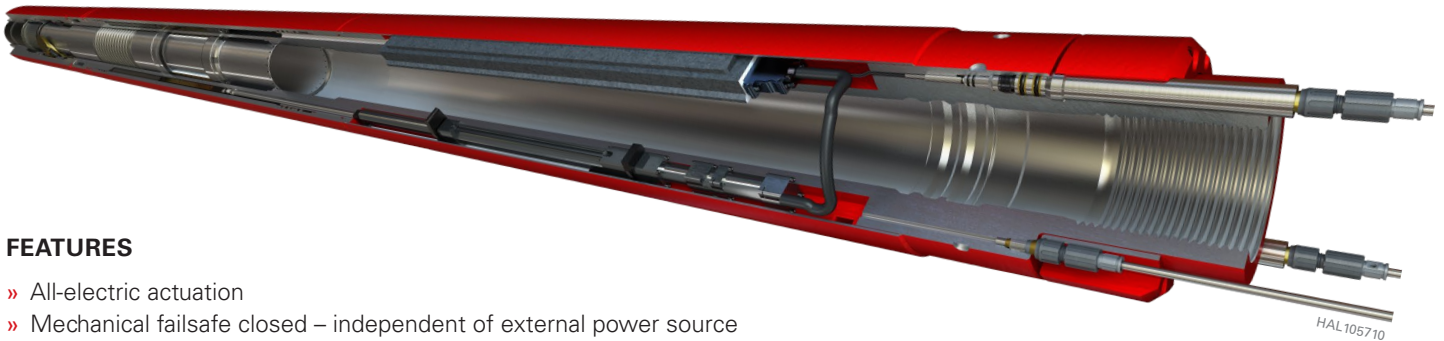
SAFETY VALVE FOR ALL-ELECTRIC SYSTEMS

OVERVIEW

The Halliburton EcoStar™ valve is the world's first electric tubing-retrieveable safety valve (eTRSV) and the first to be installed (2016). The EcoStar eTRSV solves a 30-year industry challenge to remove hydraulic actuation and its limitations.

This breakthrough in electric actuation is made possible through a unique magnetic coupling mechanism between the actuator and the safety valve. The design and construction of the valve creates a chamber for the downhole electronics and electric actuator outside of the wellbore.

This enables a fully electric completion system with zero risk of exposing electronics to produced wellbore fluids and the added benefit of also serving as a conventional safety valve with the same trusted failsafe mechanisms.



FEATURES

- » All-electric actuation
- » Mechanical failsafe closed – independent of external power source
- » Depth insensitive
- » Fully independent and redundant actuation and control systems

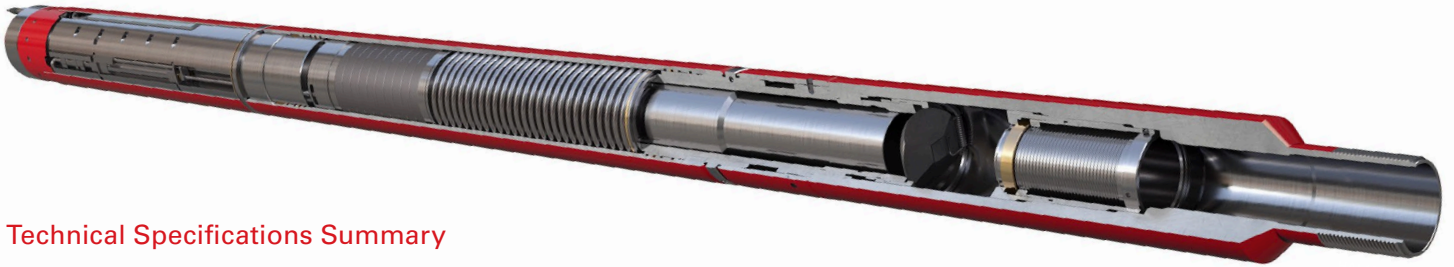
BENEFITS

- » Compatible with Halliburton All-Electric portfolio sensors and flow controls
- » Complete isolation from wellbore fluids, removing risk of gas and or fluid ingress into the valve control line
- » Operates under IWIS medium power standards
- » Permanent real-time health monitoring
- » Reduces potential environmental impact due to loss or spills of control fluids over the long-term field life

HOW ECOSTAR™ eTRSV WORKS

The actuating piston (linear actuator) of the EcoStar eTRSV is connected to the outer sleeve of the magnetic coupler located in an isolated chamber of the eTRSV outside of the wellbore. The inner sleeve of the magnetic coupler is incorporated into the flow tube within the wellbore of the eTRSV. Separating and isolating the inner and outer sleeves of the magnetic coupler is a pressure-containing housing made of a nonmagnetic metallic tubular material.

When an electrical command is sent to the eTRSV, the actuator acts on the inner sleeve, which in turn shifts the outer sleeve via the magnetic coupler. This motion of the outer sleeve translates to the flow tube within the wellbore, which opens the safety valve flapper and places the eTRSV into well production mode. With the release of electrical power on the actuator system, either intentionally or in an emergency condition, the mechanical spring automatically returns the eTRSV to the failsafe closed position.



Technical Specifications Summary

- » 5.5-in. ID 4.562-in., OD 8.62-in.
- » 7.0-in. ID 5.182-in., OD 9.88-in
- » Working pressure: 10,000 psi (5.5-in.); 7.5K psi (7.0-in.)
- » Temperature: 4° to 150° Deg C
- » Non self-equalizing
- » Power requirement: <96W, IWIS medium power
- » IWIS medium power compatible (API 17F)
- » Position sensor feedback
- » Temperature sensing
- » Voltage and current monitoring

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

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