FSR Radial Fluid Loss Isolation Valve

LOWER ZONE ISOLATION WITH EXTENDED DEBRIS SUMP

OVERVIEW

The FSR radial fluid loss isolation valve provides a reliable and debris-tolerant means of isolating the formation of the lower zone in a multizone sand control completion.

Installing an FSR radial fluid loss isolation valve in the lower zone allows for extension of the sump area to prevent severe debris accumulation, which could be a risk on top of a closed ball valve. In addition, the radial concentric design prevents debris accumulation inside the FSR valve.

The FSR radial fluid loss isolation valve is a single-use remote opening tool with mechanical contingency opening and closing functionality. It is run in the closed position and remotely cycled open in a manner similar to the field-proven FS2 fluid loss isolation barrier valve using the same liquid spring indexing technology.

FEATURES AND BENEFITS

- Reduces total cost of ownership, intervention and cost of contingency tooling options and standby rates.
- Remotely opened by applying pressure cycles, eliminating the need for well intervention.
- No debris accumulation on top of the valve.
- Bi-directional sealing mechanism provides downhole isolation.
- Design provides for mechanical opening/closing with slickline, if deviation allows.
- Debris-tolerant tested design with differential opening capability.
- Indexing system unaffected by changes in hydrostatic pressure. Unlike nitrogen pre-charged systems, the liquid spring indexing mechanism eliminates well-specific setup.
- Valve opens on pressure bleed down, minimizing surging to the formation.
- Annular flow area maximized for production.

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HCT1944-001

HOW IT WORKS

The FSR radial fluid loss isolation valve contains a sliding sleeve designed to hold pressure internally and externally to enable a full surface and downhole equipment integrity test. The valve is run in hole closed. This allows an inflow test externally or a positive pressure test internally.

In frac pack, gravel pack, and standalone screen applications, the valve provides a means of isolating the formation above the sump packer before the upper zones and upper completion are installed. The upper completion is then installed while the FSR valve remains in a fully closed position within the lower completion, isolating the formation and providing a fully tested downhole isolation valve.

The FSR valve allows completion fluid change out and provides a means of setting interventionless packers when installing the upper completion.

Once the upper completion is installed, the well can be suspended and the FSR valve remotely opened later from a host vessel or platform. Alternatively, it can be opened while the completion rig remains on location. The valve is cycled by applying hydraulic pressure cycles to the tubing in the same manner as the field-proven FS2 isolation barrier valve.

No well intervention is required to open the valve to bring the well onto production. The sleeve opens when applied pressure is removed, therefore reducing surging to the formation. Opening is facilitated by the valve's power springs and boost piston, which provide the necessary force to fully open the valve in applications where extreme debris conditions might exist. Pre and post-remote open, the valve can be manipulated as necessary by locating a suitable positioning tool at the upper profile for reclosing and the lower profile for reopening.

FSR Radial Fluid Loss Isolation Valve Specifications

Casing Size in.	OD in.	ID in.	Temperature °F	Burst psi	Collapse psi	Frac Rating psi	Elastomers
7	5.500	2.313	350	7,500	12,000	12,500	FFKM

Other ID sizes and elastomer options available.

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