

RFID Reservoir Isolation Valve

Isolates the toe of the completion and eliminates the need for a deep-set plug

Applications

- Enhancing circulation path and providing well control and fluid changeout
- Remotely setting hydraulic devices, such as packers, the ROK-ANKOR® openhole whipstock anchor system, and circulating valves
- Remotely delivering injection, production, or intervention operations

Features and Benefits

- Eliminates the need for intervention services and crew through remote intervention-less operation.
- Reduces health, safety, and environmental concerns by reducing intervention requirements.
- Improves operating costs by eliminating the need for additional completions.
- Interfaces with any hydraulic-set device.
- Releases any fill and leaves a flush bore when remotely opened through fall-through-flapper technology.
- Provides simple, programmable operating logic.
- Available in "close only" configuration if the RIV does not need to be re-opened.

Tool Description

The Weatherford RFID-operated reservoir isolation valve (RIV) is an intervention-less barrier device that isolates the toe of the completion, which eliminates the need for a deep-set plug and reduces completion time and risk. Qualified according to the International Organization for Standardization (ISO) 28781 V1, the RIV is a cost-effective and safe means of isolating completion systems.

The robustly constructed RIV is designed with debris, mud solids, and cement in mind; the internal operating mechanism is contained within the flow path. The debris-tolerant RIV does not rely on debris-sensitive springs, check valves, or complex piston arrangements. Built on patented fall-through-flapper technology, any debris fill is relieved and released as the flapper opens down into its housing to leave a flush bore. The flapper also provides a bidirectional barrier against which the completion system can be tested and hydraulically set. The tool also features a ceramic flapper option, as applicable. The RIV is run in the open position and is closed by circulating RFID tags via a preprogrammed timer. The RIV can be reopened by a frequency modulated pressure signature.



The Weatherford RFID RIV provides intervention-less isolation in the toe of the completion without using a deep-set plug.



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Specifications

Dual-Cycle RIV

Size in. (mm)	Max. OD in. (mm)	Min. ID in. (mm)	Flapper Pressure Rating psi (MPa)	Absolute Pressure Rating psi (MPa)	Temperature °F (°C)
4.50 (114.3)	5.63 (143.0)	2.50 (63.5)	7,500 (51.7)	10,000 (69.9)	39 - 302 (4 - 150)
4.50 (114.3)	6 (152.4)	2.25 (57.2)	10,000 (69.9)	15,000 (103.4)	

Single-Cycle RIV

Size in. (mm)	Max. OD in. (mm)	Min. ID in. (mm)	Flapper Pressure Rating psi (MPa)	Absolute Pressure Rating psi (MPa)	Temperature °F (°C)
4.50 (114.3)	5.63 (143.0)	2.50 (63.5)	10,000 (69.9)	10,000 (69.9)	39 - 302 (4 - 150)

