RFID-Operated Advanced Reservoir Isolation Device

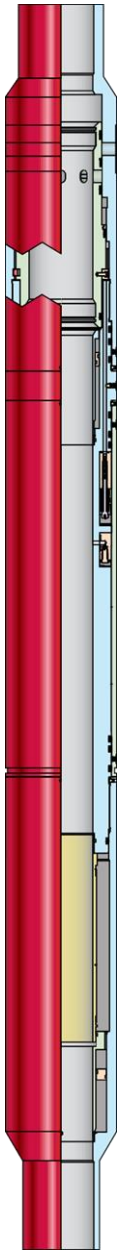
Enable circulating, fracturing, stimulation or staged well startup across a horizontal reservoir

Applications

- Well startup across a horizontal reservoir.
- Frac / stimulation sleeve
- Toe sleeve
- Sand control system with inflow control

Features and Benefits

- Remote intervention-less operation eliminates the need for wash pipe, intervention services and crew, improving health, safety and environment concerns whilst saving operating costs.
- Facilitates the ability to run the reservoir completion closed. The lower completion becomes the reservoir barrier and fluid loss device omitting the need for an intermediate completion.
- Facilitates staged start-up and optimized clean up.
- Sequential remote opening via radio frequency identification (RFID), pressure modulation and/or timer.
- Onboard clean hydraulic reservoir built in as standard, is debris tolerant, providing operational reliability.
- Set up in the factory to customer requirements minimizing non-productive time.
- A remotely operated multi-application device providing inventory efficiency.
- Simple, user friendly, transferable operation provides operational efficiency.
- Robust, reliable, straightforward design.
- Mechanical contingency built in as standard.
- Reverts to a standard mechanical sliding sleeve on completion of remote operations.



The Weatherford RFID Advanced Reservoir Isolation Device enables circulating, fracturing, stimulation or staged well startup across a horizontal reservoir

Weatherford®

RFID-Operated Advanced Reservoir Isolation Device

Tool Description

Weatherford's RFID-operated Advanced Reservoir Isolation Device (ARID) is an intervention-less well-management device that is used to enable circulating, fracturing, stimulation or staged well startup across a horizontal reservoir. The ARID provides efficient reservoir cleanup, delays recovery from high payload zones, optimizes recovery from minor zones, improves shutoff of unwanted fluids, and extends well life. The ARIDs are run open or closed, eliminating the need for wash pipe, intervention, wires, or control lines, thereby delivering value in terms of reduced completion time and risk.

The ARID, or a series of ARIDs, are pre-programmed to client specific applications. The ARIDs are opened / closed as per the operator's preferred logic by either circulating RFID tags, frequency modulated pressure signatures, timers, or a combination of the actuation options.

Primarily designed for lower completion applications, the ARID has been designed to deal with debris, mud solids, and cement. The internal operating mechanism is contained out with the flow path. The tool does not rely on any debris-sensitive springs, check valves, or complex piston arrangements during operation. The reliability is not compromised by the need for any pre-charged or well-sensitive piston chambers.

Specifications

Size in. (mm)	Max. OD in. (mm)	Min. ID in. (mm)	Pressure Rating psi (MPa)	Absolute Pressure Rating psi (MPa)	Temperature °F (°C)
4.50 (114.3)	5.625 (142.9)	2.50 (63.5)	7,500 (51.7)	16,200 (111.7)	39 to 302 (4 to 150)
4.50 (114.3)	6.200 (142.9)	3.50 (88.9)	7,500 (51.7)	10,000 (68.9)	39 to 302 (4 to 150)
4.50 (114.3)	5.625 (142.9)	2.50 (63.5)	7,500 (51.7)	10,000 (68.9)	39 to 302 (4 to 150)
5.50 (139.7)	8.00 (203.2)	4.56 (115.8)	7,500 (51.7)	10,000 (68.9)	39 to 302 (4 to 150)

Note: 6.200" OD ARID provides slot for 1 x 11mm x 11mm encapsulated cable to bypass for protection in the openhole.