RFID-Operated Circulating Toe Sleeve

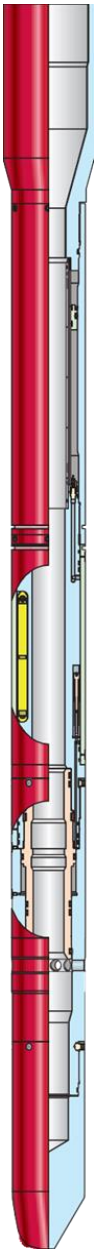
Intervention-less remote toe isolation

Applications

- In extended reach drilling wells where the use of conventional equipment around the toe section of the well may not provide a reliable solution.
- Offshore / subsea applications.
- Well control.
- Circulation.
- Fluid displacement.
- Lower zone stimulation.
- Completion testing.
- With downhole equipment required to be set via applied tubing pressure

Features and Benefits

- Provides a workshop testable seal arrangement.
- Remote close operation via radio frequency identification (RFID) tag or timer.
- Provides a flow path to facilitate well control and to allow the effective circulation and displacement of fluids while the tool is open.
- The optional bullnose attached to the RFID CTS acts as a guide for the liner assembly to reach total depth.
- Shrouded and non-shrouded designs available to allow float shoes below if required.
- Industry-standard shifting profile is built as contingency.
- Reduces the amount of equipment and personnel required to complete the well.
- Reduces the number of hours required to restore communication between the liner system and the reservoir.
- Remote intervention-less operation saving operating costs and time. Improving health, safety, and environment concerns.



The Weatherford RFID-operated circulating toe sleeve Interventionless Remote Toe Isolation

Weatherford®

RFID-Operated Circulating Toe Sleeve

Tool Description

The Weatherford RFID-operated Circulating Toe Sleeve (CTS) uses RFID technology to close and operate the tool remotely to provide an intervention-less solution delivering value in terms of reducing completion time, cost, and risk. The RFID CTS is a single shot activated system and can be run at the toe of a liner or on the tail of a completion string.

Primarily designed for lower completion applications, the RFID CTS is run open to allow circulation / fluid displacement while running the assembly. When the RFID CTS tool is at the desired depth, it is activated either by circulating passive RFID tags within the flow path or by a timer or a combination of both actuation options. The tags are programmed by the operator at surface with a unique identification number. This unique number is identified by the antenna — located within the RFID CTS tool — and activates the tool's actuation system. The tool does not rely on any debris-sensitive springs, check valves or complex piston arrangements during operation.

When the RFID CTS is closed it permanently prevents communication between the liner / completion string and the reservoir, acting as a barrier and allowing the liner / completion string to be pressure tested.

Specifications

Size in. (mm)	Max. OD in. (mm)	Min. ID in. (mm)	Top Sub Thread Connection in. (mm)	Pressure Rating psi (MPa)	Absolute Pressure Rating psi (MPa)	Temperature °F (°C)
4.500 (114.3)	5.625 (142.9)	2.312 (58.7)	4.500 (114.30)	7,500 (51.71)	15,000 Internal (103.42) 10,000 External (68.94)	39-302 (4-150)
4.500 (114.3)	6.925 (175.9)	2.312 (58.7)	6.625 (168.27)	7,500 (51.71)	15,000 Internal (103.42) 10,000 External (68.94)	39-302 (4-150)