

Primary Shifting Tool

For the FORTRESS premium isolation valve

APPLICATIONS

- Mechanical opening and closing of the FORTRESS* premium isolation valve

ADVANTAGES

- Suitable for various valve IDs and operating conditions
- Valve opening even under differential pressure conditions
- Valve closure even under high-loss conditions
- Deployable on washpipe, perforating string, or coiled tubing
- Adjustable centralizers to ensure uniform holding force
- Maximized ID for high pump-through rates
- Stronger collet design to withstand high-fluid-loss conditions
- Specially designed shifting profile to minimize risk of interference or engagement with profiles of other completion products
- Emergency release mechanism

The FORTRESS isolation valve is a bidirectional barrier valve that isolates reservoir fluids in the lower completion. The valve can be opened and closed multiple times, as required, with the primary shifting tool (PST) run on the end of washpipe, a perforating string, or coiled tubing.

When the PST passes through the valve, it engages the shifting profile, opening the valve or closing it and creating a gas-tight seal. The washpipe and PST are then retrieved.

Wide operating range

The tool's modular design allows it to fit through different completion IDs and operate in a range of conditions. The design profile of the mechanical interface and an adjustable centralizer ensure a uniform holding force, improved shifting engagement, and a more predictable emergency release force. The PST collet design was created to maximize the ID for improved flow without increasing the OD.

Emergency release feature

The PST features an emergency release mechanism that requires a high, consistent release load, minimizing the possibility of accidental emergency release. The mechanism ensures that the valve shifting profile is protected at the expense of the retrievable PST.

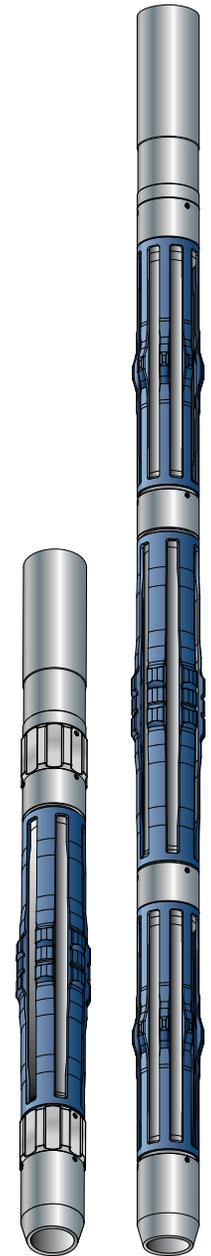
Alternative tool options

If circumstances necessitate, a hydraulically actuated contingency shifting tool (CST) can be deployed on slickline, braided line, or coiled tubing to open the valve.

In addition, the ReSOLVE* instrumented wireline intervention service features a universal shifting tool (UST) that can be used to open and close the FORTRESS valve. The service provides real-time monitoring, dynamic tool control, and verified downhole actuation.

Primary Shifting Tool Specifications

Size, in [mm]	Max. collapsed OD with solid/collapsible centralizer, in [mm]	ID, in [mm]	Completion drift ID for solid/collapsible centralizer, in [mm]
2.940 x 0.750 [74.7 x 19.05]	2.880/2.580 [73.2/65.5]	0.750 [19.05]	2.940/2.640 [74.7/67.1]
3.700 x 2.100 [94.0 x 53.34]	3.640/3.440 [92.5/87.4]	2.100 [53.34]	3.700/3.500 [94.0/88.9]
4.250 x 2.575 [108.0 x 65.41]	4.190/3.915 [106.4/99.4]	2.575 [65.41]	4.250/3.975 [99.6/101.0]
4.600 x 2.900 [116.8 x 73.66]	4.540/4.218 [115.3/107.1]	2.900 [73.66]	4.600/4.278 [116.8/108.7]



PST with solid centralizer (left) and collapsible centralizer (right).

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