



Selective Cement Inflation Tool (SCIT)

Weatherford's selective cement inflation tool (SCIT) is a hydraulically activated tool specifically designed to locate and inflate Weatherford's ACP™ annulus casing packers with cement in a single trip. The tool features spring-loaded locating dogs that help locate ACP packers, once engaged in the locator sub, and an integral inflation port that provides cement a direct path to inflate the ACP packers without contaminating the liner.

The SCIT is run on the work string that is deployed inside a screened, slotted, or predrilled liner, running ACP packers. The tool is lowered to just above the lowest ACP packer, until the locator dogs engage into the locator sub just above the ACP packer, confirming location. A reset dart is then pumped from the surface down through the work string until the dart is seated inside the dart-landing plug seat. Surface pressure actuates the setting of the two packing elements integrated on the SCIT. Additional surface pressure opens the integral inflation port, which directs surface pressure to act on the ACP inflation port, opening the valve to begin the inflation sequence. Upon inflation, surface pressure is released and the integral inflation port closes, the packing elements relax, and the SCIT is picked up above the next ACP packer and lowered, repeating the process until all ACP packers on the liner are inflated.

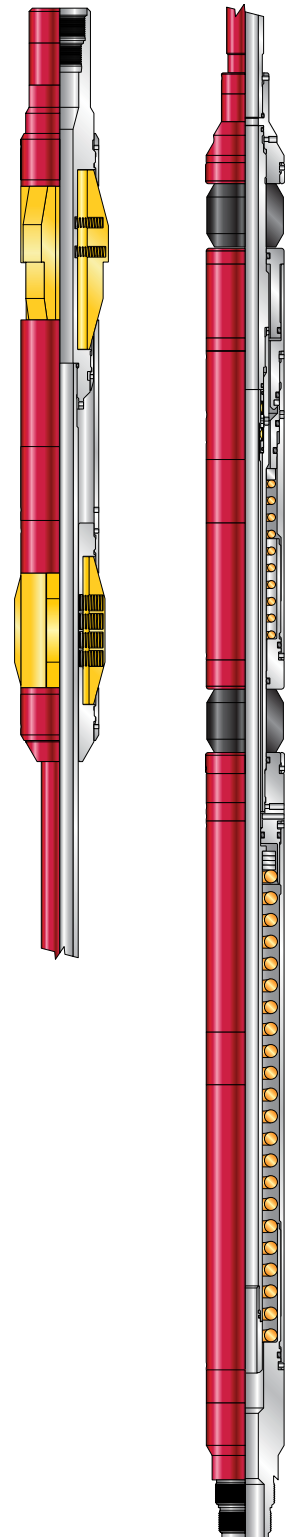
When used with Weatherford's selective rotating cementing packer (SRCP), the SCIT can reverse circulate excessive inflator cement out of the work string to prevent pulling a wet string to surface.

Applications

- Openhole completions that require zonal isolation
- Inflating single or multiple ACP packers in a single trip
- Inflating the ACP packer in slotted, perforated, or sand-screen liners
- Wells using inner washdown systems

Features, Advantages and Benefits

- The design of the spring-loaded locating dogs matches a profile that is machined into the wall of the locating sub, enabling the dogs to extend fully into the sub, preventing further work-string movement and providing a positive indication of the ACP packer location.
- The integral inflation port is positioned near the inflation port of the ACP packer, which provides the cement a direct path to inflate the ACP packer, reducing liner contamination.





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Features, Advantages and Benefits (Continued)

- Dual seal elements reduce the run-in OD, which eliminates the need for a bypass area, providing operational flexibility.
- The SCIT is hydraulically activated, enabling the ACP packer to be located and inflated without requiring work-string weight, providing application flexibility in most wellbore geometries.
- Hydraulic pressures are field-adjustable, enabling the pressures to be based on real time wellbore hydrostatics to meet specific well requirements.
- Locating dogs can recess to allow bidirectional movement, enabling the tool to return downhole after the inflation process has begun.

Specifications

Size (in.)	4-1/2	5-1/2	7
Thread type	2 3/8-in. PH-6	2 7/8-in. PH-6	3 1/2-in. PH-6
Maximum OD (in./mm)	3.69 93.6	4.00 101.6	5.75 146.0
Minimum ID (in./mm)	1.12 28.5	1.43 36.3	1.82 46.2
OAL (in./mm)	198.00 5,029.2	203.00 5,156.2	203.00 5,156.2
Tensile yield (lb/kg)	56,000 25,401.0	88,000 39,916.0	327,000 148,325
Maximum working pressure (psi/MPa)	5,000 34.4	5,000 34.4	5,000 34.4