

RFID-Enabled Hydraulic Communication Sub

Applies tubing pressure to hydraulic devices on demand

Applications

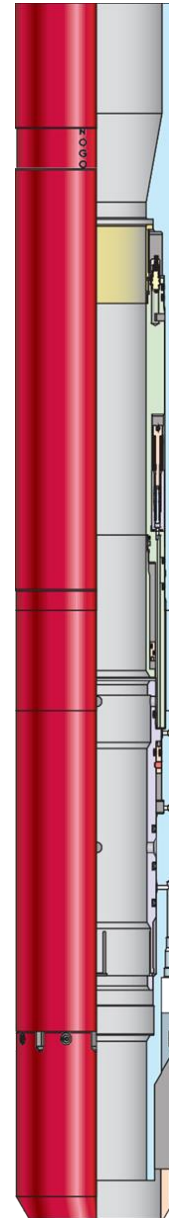
- The hydraulic communication sub (HCS), is used to apply tubing pressure to hydraulic devices on command, providing control line slot efficiencies and surface management efficiencies in terms of costs, personnel, and safety.
- A typical application is the setting of the Weatherford Annular Safety Valve (ASV) system. The ASV is typically set shallow, an isolation valve is closed, and well and surface facility integrity testing is completed before setting the ASV. When the ASV is ready to be set, a predefined frequency modulated pressure signature is applied to prompt the tool to open the communication path from the tubing to the ASV via the HCS.
- Contingency is provided remotely via a global time-out or via industry standard wireline tools.

Features and Benefits

- Diverts applied tubing pressure to control line set devices on command, facilitating control line slot efficiency.
- Remote intervention-less operation eliminates the need for intervention services and crew, improving health, safety, and environment concerns while saving operating costs.
- Robust, reliable, straightforward design.
- Metal to metal tubing to annulus sealing.
- Testable control line interface.
- The HCS facilitates well testing with no risk of premature actuation, accurately delivering the completion system to the correct location in the wellbore.
- Onboard clean hydraulic reservoir, built in as standard, is debris-tolerant, providing operational reliability.
- Simple, user-friendly, transferable operation provides operational efficiency.
- Mechanical contingency built-in as standard.
- No Limit to the number of devices that can be run in a single completion.

Tool Description

The Weatherford RFID-enabled hydraulic communication sub is an intervention-less means of diverting tubing pressure to initiate and set hydraulic devices such as control line set production packers or annular safety valves within the wellbore. The HCS can interface to any control line, eliminating the need for intervention or unreliable burst-disc technologies, reducing completion time and risk.



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Tool Description (continued)

The HCS is pre-programmed to operator-specific applications and provides sealing integrity between the device and the applied tubing pressure. The HCS is opened per the operator’s preferred logic by frequency-modulated pressure signatures, timers, or a combination of the two.

The HCS facilitates control line slot savings and the removal of hazardous intervention activities that present risks for both personnel and operations. In the case of a subsea installation, downtime associated with severe weather is significant. The loss of productive time far outweighs the modest cost of the downhole tool.

Specifications

Size in. (mm)	Max OD in. (mm)	Min ID in. (mm)	Pressure Rating psi (MPa)	Absolute Pressure Rating psi (MPa)	Temperature °F (°C)
5.50 (139.7)	7.76 (197.1)	4.72 (119.9)	6,000 (41.4)	10,000 (68.9)	39 to 302 (4 to 150)

Note: Client specific specification variants are available on request.

