Continuous Flowmeter Spinner (CFS)

PROVIDES ACCURATE FLUID VELOCITY MEASUREMENTS IN COMPLEX WELL COMPLETIONS

OVERVIEW

The Halliburton Continuous Flowmeter Spinner (CFS) is ideal for measuring fluid velocity in difficult wellbore conditions. Run at the bottom of the tool string, the CFS spins with the direction of flowing liquid and sends the spin-rate information back to the surface. Since the CFS has a very low tool threshold and requires very little fluid movement to spin, it is perfectly suited for low-flow well environments. Customization options are also available, giving an operator the flexibility to monitor fast-flow operations with a different model section.

The spinner is mounted on precision roller bearings, and turns as fluid moves past it. This rotation is converted to signal pulses by zero-drag Hall-effect sensors. The pulses are then used to calculate fluid velocity and fluid direction (up or down flow). The flowmeter requires very little energy to initiate motion, and is ideal for low flow-rate surveys. The design and mechanical construction of the spinner assembly are optimized to cope with very fast flow, sand production, and high-viscosity liquids. Each model has a different size housing and impeller, and should be chosen to suit the well completion and flow regime.

BENEFITS

- Provides accurate fluid velocity measurements in complex well completions and flow regimes
- Offers flexibility to monitor wells with varying ranges of velocity

FEATURES

- Rugged spinner housing protects against debris
- Fully combinable with all Ultrawire™ production-logging tools
- Spinner shroud available in a range of sizes: 1⅜ in., 1½ in., 1$^{11}/_{16}$ in., 2⅛ in., and 3⅛ in. (35 mm, 38 mm, 43 mm, 54 mm, and 79 mm)
- Surface readout or memory-logging operations

HAL24530

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Temperature Rating	350°F (177°C)
Pressure Rating	15,000 psi (103.4 MPa)
Tool Diameter	1⅜ in. (35 mm) and 1 11/16 in. (43 mm)
Tool Length (depends on CFS model)	± 8 in. (± 203 mm)
Tool Weight (depends on CFS model)	± 1.7 lb (± 0.77 kg)
Sensor Measure Point (from the bottom of the tool)	2.5 in. (64 mm)
Materials	Corrosion resistant throughout
Spinner Shroud OD (depends on CFS model)	1⅜ in., 1½ in., 1 11/16 in., 2⅛ in., and 3⅛ in. (35 mm, 38 mm, 43 mm, 54 mm, and 79 mm)
Output	10 pulses/revolution (directional)
Spinner Threshold	5 ft/min (0.03 m/s)
Maximum Fluid Velocity	>2,500 ft/min (>12.7 m/s)

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