Fluid Density Tool

Measures fluid density in the measurement window of the tool

Applications

- Fluid identification
- Fluid holdup

Features and Benefits

- Combinable with all high-speed digital (HD) telemetry tools for comprehensive evaluation
- Long-life Americium source
- Unaffected by deviation or fluid velocity
- Compact, versatile, and robust

Tool Description

The Weatherford fluid density tool uses a double-encapsulated, low-energy AM241 source and scintillation-detector assembly to measure fluid density in the measurement window of the tool.

This measurement is unaffected by well deviation or fluid velocity, making it deployable in a wide range of environments. The fluid density tool is a short, robust, and reliable tool that is easily maintained and well-suited to e-line surface readout operations or memory operations on slickline, coil tubing, or tractor.

High voltage to the PMT is adjusted with temperature to maintain sensitivity over the whole temperature range.

The tool uses a dual-channel receiver. The second channel counts high-energy gamma rays from scale or formation, which correct the main channel.

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Fluid Density Tool

Specifications

Ratings and Dimensions

Maximum temperature	350°F (177°C)
Maximum pressure	15,000 psi (103.4 MPa)
Outside diameter	1.69 in. (43.3 mm)
Length	28.3 in. (719 mm)
Weight	12.7 lb (5.8 kg)
Measure point	6.4 in. (163 mm)

Sensor Characteristics

Measurement range	0 to 1.25 g/cc
Accuracy	±0.03 g/cc
Resolution	0.01 g/cc

Hardware Characteristics

Materials	Corrosion-resistant materials used throughout
Combinability	All HD tools (RADii®, iQ™, PL, RAS™, etc.)
Acquisition mode	Real time with telemetry control unit (TCU) Memory with memory logging tool (MLT)