FORMATION EVALUATION | FORMATION TESTING

# Fluid-identification section

Reservoir Descripton Tool (RDT™) formation tester

Fluid density is the cornerstone of fluid identification and fluid contacts downhole, and a critical measurement for formation testing. The Reservoir Description Tool (RDT™) Fluid-Identification Section (FLID) combines a best-in-class high-resolution density sensor with co-located complementing sensors to accurately measure miscible and immiscible formation fluids.


## High-resolution fluid density

The unique vibrating tube densometer enables high-resolution fluid density measures accurate fluid density and the change in density from filtrate to native fluid.

## Contamination

Density contrast from filtrate to native fluid will indicate the level of contamination and determine when the desired sample purity is reached using Fluid Studio. The high-resolution of the FLID densomenter ensures all changes in fluid density are measured and contamination determined.

## Making sense of immiscible fluids

Using the combination of volume vs. high-resolution sensors allows the FLID to produce a volumetric map of the fluids. This map enable you to see the volumes of all flowing fluids and make real-time sampling decisions. Immiscible maps are a valuable tool in understanding complex fluids that in the past were treated as poor-quality data.

## Co-located sensors

Utilizing multiple sensors of density, capacitance, and resistivity to perform fluid identification allows multiple sensor confirmation of fluids. This is very valuable in the case of free gas or water, which can interfere with the fluid analysis.

DATA SHEET

| DIMENSIONS AND RATINGS | | | | |
|---|---|---|---|---|
| Max Temperature | | 350°F (177°C) | 300°F (149°C) | |
| Max Pressure | | 25,000 psi (172 MPa) | 30,000 psi (207 MPa) | |
| OD | | 4.75 in. (12.07 cm) | | |
| Length | | 3.63 ft (1.106 m) | | |
| Weight | | 140 lb (63.5 kg) | | |
| **BOREHOLE CONDITIONS** | | | | |
| Borehole Fluids | Salt ■ | Fresh ■ | Oil ■ | Air ■ |
| Recommended Logging Speed | | Stationary | | |
| Tool Positioning | Centralized ■ | | Eccentralized ■ | |
| **MEASUREMENTS** | | | | |
| **FLUID DENSITY SENSOR** | | | | |
| Accuracy | | Resolution | | |
| +- 0.01 g/cc | | 0.0001 g/cc | | |
| **STRAIN GAUGE PRESSURE TRANSDUCER** | | | | |
| Accuracy | | Resolution | | |
| +/- 0.1% full scale | | 0.2 psi (1.4 KPa) | | |
| **BULK CAPACITANCE** | | | | |
| Accuracy | | Resolution | | |
| 10% full scale | | 1 pF | | |
| **RESISTIVITY** | | | | |
| Accuracy | | Resolution | | |
| 10% full scale | | 0.02 ohm-m | | |
| **FLUID TEMPERATURE** | | | | |
| Accuracy | | Resolution | | |
| 0.1% full scale | | 0.01°F (-18°C) | | |
| **PHYSICAL STRENGTHS** | | | | |
| Hardware | | Tool Joints | | |
| Tension | | 200,000 lb (90,719 kg)* | | |
| Compression | | 200,000 lb (90,719 kg)* | | |
| Torque | | 600 ft-lb (813 N-m)* | | |

* Strengths apply to new tools at 70°F (21°C) and 0 psi.

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