

FEATURES

- Compensated for borehole effects (2 transmitters and 3 receivers)
- Electronics mounted in pad, near the antennas, for increased signal-to-noise ratio and higher operating range
- Borehole temperature sensor in pad allows real-time data correction
- Real-time speed correction
- Real-time indication of irregular tool motion, mud-cake build up, pad lift off
- Back up arm can be replaced by an ML sensor

BENEFITS

- Helps to evaluate the amount of movable hydrocarbons
- Aids in the evaluation of thin beds
- Effects of rugosity mudcake and pad contact have been minimized
- Performs in a wide range of borehole conditions
- Real-time temperature and speed corrections

APPLICATIONS

- Measures water saturation in the flushed zone (S_{xo})
- In oil-based mud it measures irreducible water saturation (S_{wIRR})
- Evaluation of thin beds
- Gas indicator
- Evaluation of cementation exponent "m"
- Resistivity (R_{xo}) and dielectric constant of the flushed zone
- Dielectric porosity

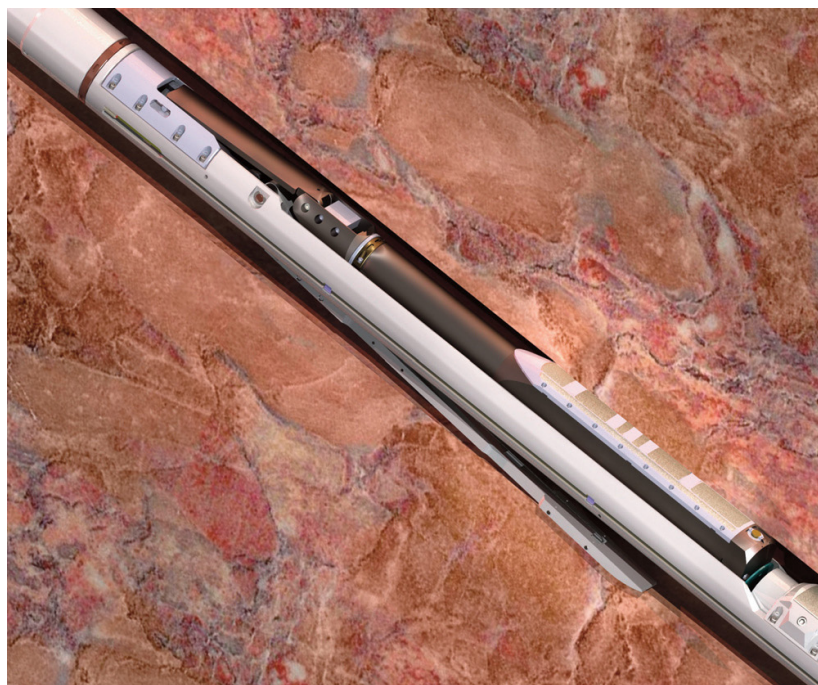
FORMATION EVALUATION

LOGIQ® high-frequency dielectric tool

Resistivity

The LOGIQ® High-Frequency Dielectric Tool is a pad-type device that uses a microwave signal of 1 gigahertz to measure the Bulk Volume of Water (BVW) in the flushed zone. In combination with other porosity devices, the BVW value helps to evaluate the amount of movable hydrocarbons in a reservoir. Also the high vertical tool resolution aids in the evaluation of thin beds.

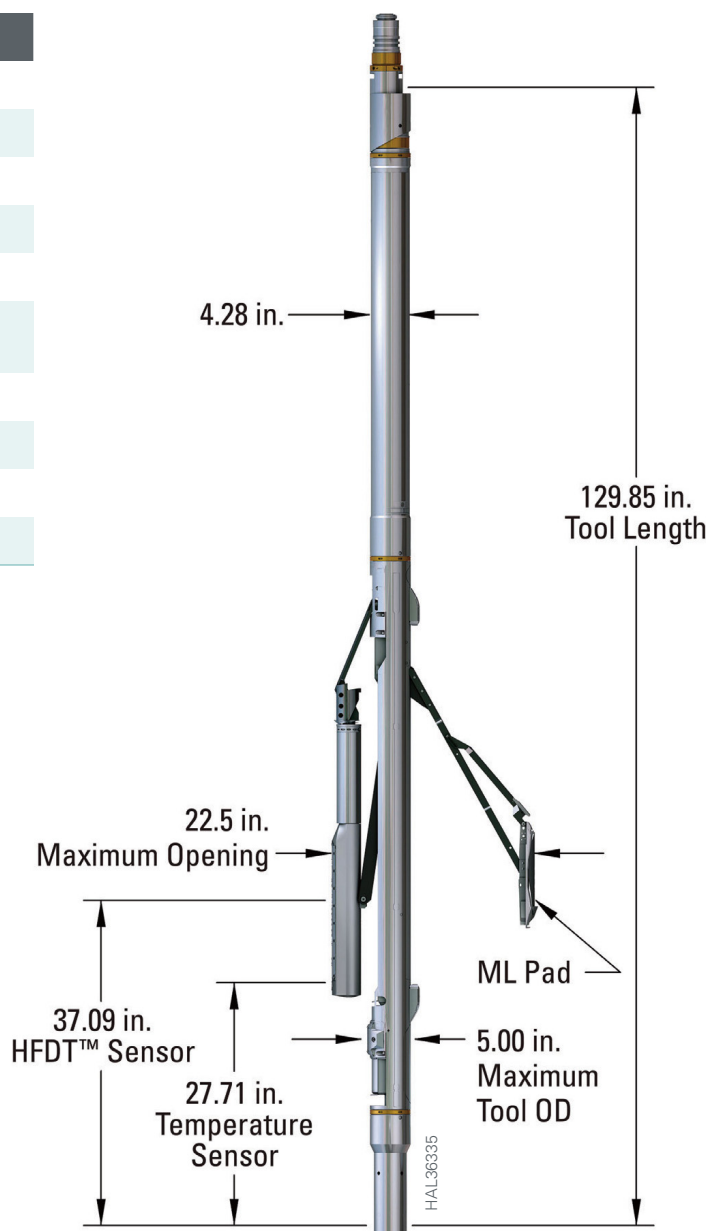
The design of the sensor, with two symmetric transmitters and 3 receivers, helps to minimize the effects of rugosity, borehole, and changes in readings due to pad contact. Also the pivot point is in the center of the pad to have a uniform pressure on the formation.



HAL36338

LOGIQ® HIGH-FREQUENCY DIELECTRIC TOOL

Length (including electronics)	16.14 ft (4.91 m)
Weight	435 lb (197 kg)
Maximum Pressure	20,000 psi (1,379 bar)
Maximum Temperature	350°F (177°C)
Operating Frequency	1 Ghz
Logging Speed (recommended) (maximum)	30 fpm (9 mpm) 60 fpm (18 mpm)
Combinability	LOGIQ Tools
Minimum Hole	5.5 in. (14 cm)
Maximum Hole	18.5 in. (47 cm)
Mud Type	Salt/Fresh/Oil



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