Compact™ Array Induction Tool

Delivers accurate formation resistivity measurements regardless of wellbore geometry

Applications

- Determining formation conductivity
- Determining water saturation (S_w)
- Providing well-to-well correlation
- Identifying moveable fluids
- Identifying fluid contacts
- Creating an invasion profile
- Providing thin-bed analysis

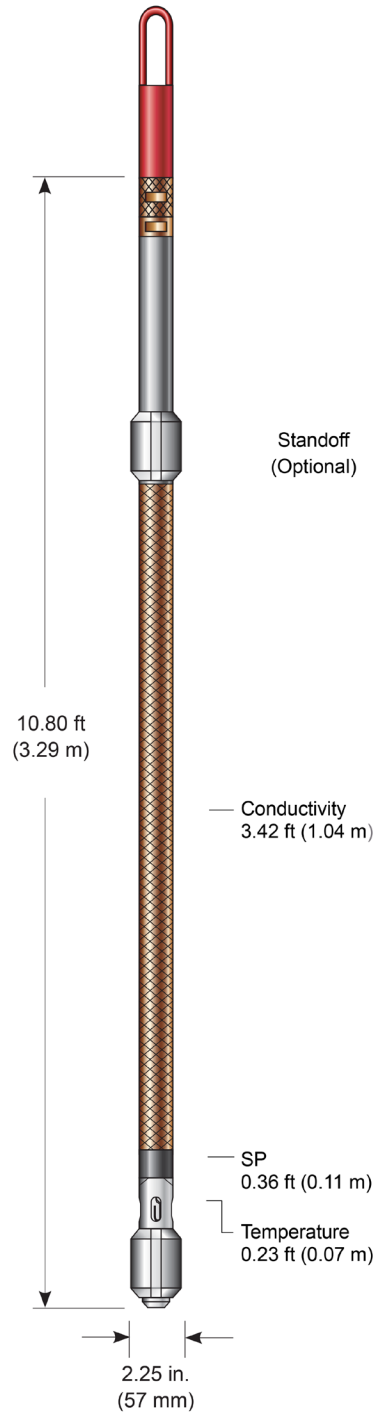
Features and Benefits

- The enhanced vertical resolution and radial profiling improve accuracy in formation resistivity (R_t) determination, resulting in more accurate reserve estimates.
- The unique profile of the tool facilitates deployment in wireline or memory mode to mitigate the risk of bridging events and reduce nonproductive time.

Tool Description

The Weatherford Compact array induction (MAI) tool acquires and records data that determines true R_t in openhole environments. The MAI tool provides raw data from multiple subarrays, which are integrated vertically and radially with environment-dependent processing to produce five depths of investigation over a broad range of borehole environments.

When the MAI tool is run with a high vertical-resolution-proximity device, such as the Compact shallow-focused electric (MFE) tool, a mandrel-type tool, RtAP advanced processing includes true formation resistivity and enhances vertical resolution to 6 in. (152 mm).



When combined with the shallow-focused electric (MFE) tool, the Compact array induction (MAI) tool can provide vertical resolution of 4 in. (10 cm).

Weatherford®

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Specifications

Measurement

Data	Resistivity at multiple depths of penetration, R_t, SP, temperature
Logging speed	3,600 ft/hr (18 m/min)
Measurement range	0.1 to 2,000 ohm-m
Vertical resolution	24 in. (610 mm); with MFE: 6 in. (152 mm)
Accuracy	0.00075 s/m or 2% (whichever is greater)
Depth of investigation	12 to 85 in. (0.3 to 1.2 m)
Borehole fluids	WBM, OBM, air

Mechanical

Maximum outer diameter	2.25 in. (57 mm)
Length	10.80 ft (3.29 m)
Weight (air)	47 lb (21.3 kg)
Maximum temperature	320°F (160°C)
Maximum pressure	15,000 psi (103 MPa)
Maximum borehole diameter	22 in. (559 mm)
Minimum borehole diameter	2.8 in. (70 mm)