

# 4" Litho-density Tool

Product Reference: 050-FA300-1000

The Litho-density Tool is designed to measure the density and lithology of open-hole formations.

The tool measures density and lithology of the formation through the analysis of the photoelectric absorption cross section of the formation. The formation adjacent to the well bore is bombarded with gamma rays from a cesium source. The resultant scattering is analysed from two detectors mounted on a skid, pressed against the borehole wall. The two detectors compensate for the effects of hole rugosity and mud-cake thickness while the bulk density and Pe (photoelectric) measurement is made.

The tool can be provided with a 1:1 arm linkage for operation with a centralized tool body or with a 6:1 arm linkage for use with an in-line compensated neutron tool. In addition, the bottom sub is equipped with a rotatable bottom connector for orientation of tools hung below the tool as part of a stack (e.g. Micro Electric Log or X-Y Caliper).

This instrument is configured to either run with a sonic tool within the stack, or with a built-in temperature probe.

## SPECIFICATIONS - 4 LITHO-DENSITY TOOL

<b>Diameter:</b>	4"	10.2 cm	<b>Mechanical:</b>	
<b>Length:</b>	114"	2.9 m	Top Connection	10 or 17 pin GOI type
<b>Weight</b>	275 lbs	125 kg	Bottom Connection	10 or 17 pin GOI type
<b>Operating Voltage</b>	100 VDC			Up to 12 feed-thrus for tool stacks
<b>Operating Current</b>	55 mA. DC		<b>Measurements:</b>	
<b>Caliper Operating Voltage</b>	150 VDC		Density measurement range	1.50-3.00 g/cc
<b>Caliper Operating Current</b>	50-200 mA. DC		Pe measurement range	1-10 Barns
<b>Limitations:</b>			Caliper measurement range	4-16" 25-75 cm
Maximum Pressure	15,000 psi	103 MPa		
Maximum Temperature	325 °F	162 °C		

## RELATED PRODUCTS

- 050-FA300-4000 4" Litho-density Tool 10 pin GO w/1:1 linkage
- 050-FA300-2000 4" Litho-density Tool 17 pin GO w/1:1 linkage
- 050-FA300-1000 4" Litho-density Tool 10 pin GO w/6:1 linkage
- 050-FA300-5000 4" Litho-density Tool 17 pin GO w/6:1 linkage
- 055-IND01-0000 Caliper Calibration Fixture
- SOU-CS137-2000 2.0 Ci CS137 Logging Source
- 035-FA318-0000 Source Collimator Assembly
- 050-HCS00-0000 Litho Source Transport/Storage Container
- 035-FA300-1001 Source Handling Tool
- 060-MS024-1209 Magnesium Calibration Block
- 060-AL024-1209 Aluminium Calibration Block
- 035-FA302-0000 Limestone Simulation Plate
- 035-AS000-0021 Vertical make up plate

At Probe, we design, manufacture and service specialized modular downhole tools and systems. Our tools are used in formation evaluation, well integrity assessment and well productivity determination across the global energy industry.

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