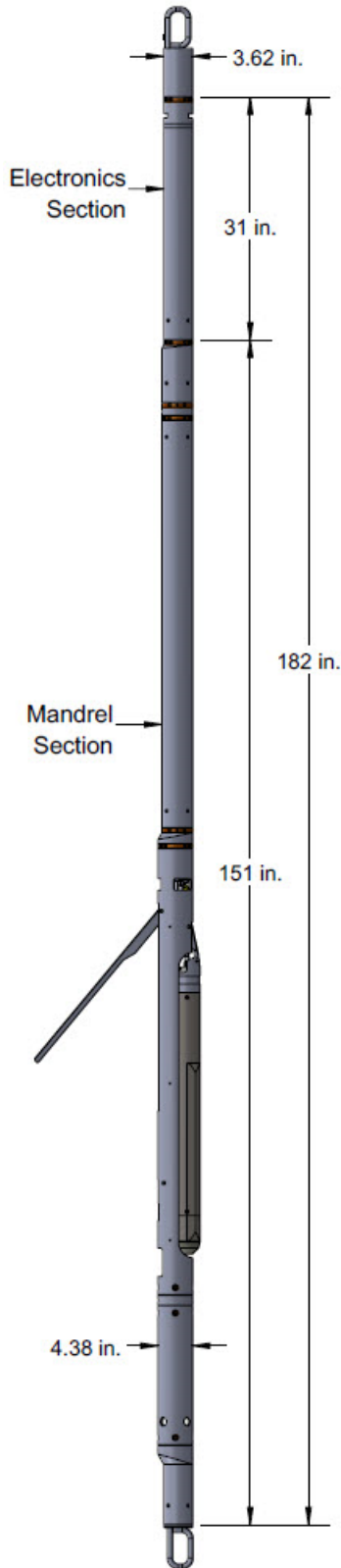


PICO Compensated Spectral Density Logging Tool (CSDL)



DIMENSIONS AND RATINGS

Max Temp:	350°F (175°C)	Max Press:	20,000 psi
Max OD:	4.5 in. (11.43 cm)	Min Hole:	5 in. (12.7 cm)
Length:	15.21 ft	Max Hole:	22 in. (55.9 cm)
Pad Length:	43 inches	Weight:	428 lb
Pad Width:	3.28 inches		

BOREHOLE CONDITIONS

Borehole Fluids:	Salt <input checked="" type="checkbox"/>	Fresh <input checked="" type="checkbox"/>	Oil <input checked="" type="checkbox"/>	Air <input checked="" type="checkbox"/>
Recommended Maximim Logging Speed:	60 ft/min			
Tool Positioning:	Centralized <input type="checkbox"/>	Eccentralized <input checked="" type="checkbox"/>		

HARDWARE CHARACTERISTICS

Source Type:	1.5 Ci Cesium-137
Sensor Type:	NaI Scintillation
Sensor Spacings:	Proprietary
Sample Rate:	4 or 10 samples/ft
No. Channels:	128
Full Spectrum:	Full
Combinability:	PTEL

MEASUREMENT

	Bulk Density	P _e	P _e (High-Res.)
Principle	Gamma attenuation		
Range	1.0 to 3.1 gm/cc	0 to 5	0 to 5
Vertical Resolution (90%)	33 in. (standard) 5.5 in. (enhanced)	4 in.	2 in.
Depth of Investigation (50%)	1.5 in.	0.5 in.	0.5 in.
Precision (1SD) at 2.70 g/cc at 60 ft/min at 30 ft/min	(Bulk Density) ±0.015 g/cc ±0.01 g/cc	(P _e) ±0.07 ±0.05	(P _e High-Res.) ±0.15 ±0.10
Accuracy	±0.01 gm/cc, no standoff		

PHYSICAL STRENGTHS*

Hardware	Tension	Compression	Torque
Tool Joints	130,000 lb (59,000 Kg)	130,000 lb (59,000 Kg)	600 ft-lbs (850 n-m)
Other	75,000 lb (34,020 Kg)	75,000 lb (34,020 Kg)	na

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

MEASURE POINTS

Measurement	Measure Point (Referenced from bottom of tool)
Density	3.02 ft (0.92 m)
Caliper (min)	3.22 ft (0.98 m)
Caliper (max)	3.59 ft (1.09 m)