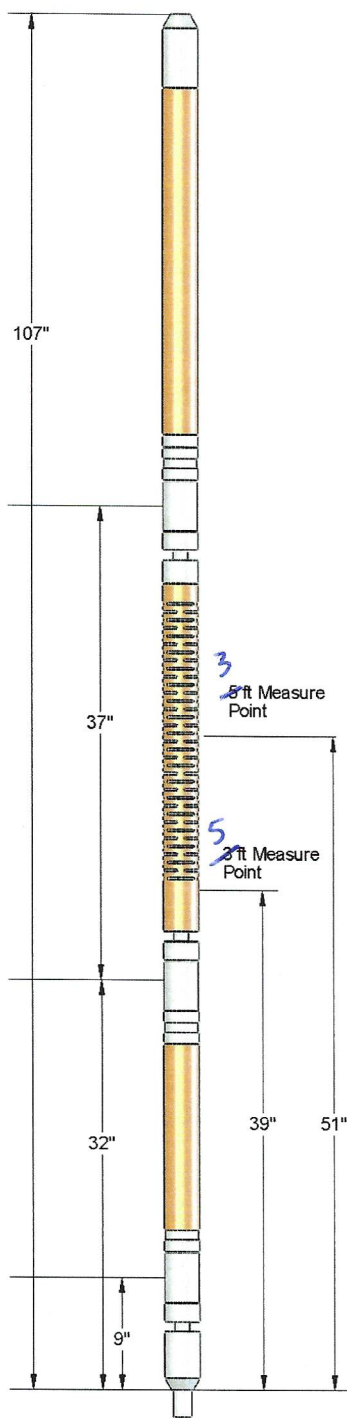


2.75 in. Digital Cement Bond Tool

Tool Part Number: 050-CB275-1350D



DIMENSIONS AND RATINGS

Max Temp: 350°F (177°C)	Max Press: 20,000 psi (137,895 Kpa)
Max OD: 2.75 in. (6.98 cm)	Min Csg/Tbg ID: 4.5 in (11.5 cm)
Length*: 8.92 ft (2.72 m)	Max Csg/Tbg OD: 11.6 in (29.5 cm)
Weight: 98 lb. (59.1 kg)	

* The length does not include centralizers. Two inline centralizers are required when running the CBT. One centralizer is placed at each end. Add approx. 2.2 ft. (.67 m) for each centralizer.

BOREHOLE CONDITIONS

Borehole Fluids: Salt ☒ Fresh ☒ Oil ☒ Air ☐
Recommended Logging Speed: 60 ft (18.2m)/min: max. 100ft (30.5m)/min.at 0.08 ft (.02 m)sample rate
Tool Positioning: Centralized ☒ Eccentered ☐

HARDWARE CHARACTERISTICS

Source Type:	One piezoelectric crystal fired at 20 kHz, 50 msec interval
Sensor Type:	Omni Receivers = Piezoelectric
Sensor Spacings:	Omni Receivers = 5 ft (1.5 m); 3.00 ft. (.9 m)
Firing Rate:	20/sec
Waveform:	Analog; 3ft (.9 m), 5ft (1.5 m) Digital; Telemetry Data
Recording Time:	1300µs for each receiver
Combinability:	GR, CCL, Single or Dual Spaced Neutron, Temperature

MEASUREMENT

	E ₁ Peak Amplitude	Sonic Waveform
Principle	Sonic Wavetrain Attenuation	
Range	200 to 1500µs	200 to 1500µs
Vertical Resolution	3 ft. (.9 m)	5 ft. (1.5 m)
Depth of Investigation	na	na
Precision (1 SD)	< 1mV	na
Primary Curves	Amplitude (3ft (.9 m), TT (3ft) (.9 m), VDL(5ft) (1.5 m)	
Secondary Curves	Head Voltage, Internal Temperature	

CALIBRATION

Primary:	5.5 in.(13.97 cm) – Pressurized Calibration Tank
Wellsite Verifier:	Free Pipe, Stored Calibration Tank Waveforms on Demand

PHYSICAL STRENGTHS*

Hardware	Tension	Compression	Torque
Tool Joints	Na	na	na
Other	Na	na	na

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

MEASURE POINTS

Measurement	Measure Point (Referenced from bottom of tool)
Amplitude, TT	4.3 ft. (1.3 m)
VDL, Signature	3.3 ft. (1.0 m)