



TECHNICAL DATA SHEET

ABI-43 Integrity Mode Acoustic Borehole Imager

The ABI-43 is an ultra-compact scanning solution for borehole casing and cement evaluation. This state-of-the-art technology provides 360° data coverage and 3D imaging of the casing/tubing wall, delivering accurate ID, OD and thickness measurements. The tool employs ultrasonic pulses that are generated from within the 1 11/16 (43mm) tool body and directed using a rotating internal mirror, therefore no moving parts are exposed to the well environment.

The ABI-43 emits an ultrasonic beam towards the casing, and records the amplitude and travel time of the reflected signal. The amplitude record is representative of the impedance contrast between casing and fluid. The travel time is used to determine accurate borehole diameter data, which makes the tool ideal for casing inspection. For integrity/corrosion mode logging, the corresponding Acoustic Sensor, employing sophisticated algorithms and real time processing, is implemented to extend the tool's application for casing thickness measurement and corrosion evaluation.

Applications

- Internal inspection of casing and tubing to detect various forms of damage, including scale deposits, holes and drilling wear
- Accurate and direct measurement of casing or tubing thickness
- External evaluation of the casing and tubing condition, detecting external corrosion originating from the formation or annuli
- Casing and tubing deformation analysis

Benefits

- Most compact tool of its kind currently available
- Extensive measurement range from 2 7/8 in to 15 in tubulars
- Deployable on electric line with mono, multi or coax cables
- Suitable for all well deviations, including horizontal
- Comprehensive range of log analysis and report services available from READ ANSA





Specifications

Temperature rating*	170°C (338°F)
Pressure rating	10,000 psi (700 Bar)
Tool diameter	1 11/16 in (43 mm)
Tool length	248 in (6.3 m)
Tool weight	65 lb (29.5 kg)
Logging speed**	Nominal 30 ft/min (9 m/min)
Azimuthal resolution	Thickness standard 36 ppt post processing RADI standard 72 ppt post processing
Caliper resolution	0.003 in (0.08 mm)
Casing thickness resolution	0.03 mm
Vertical resolution	Standard 1 in
Inclination accuracy	±0.5°
Frequency	1.2 MHz
Ultrasonic Acoustic sensor	Fixed transducer and rotating focusing mirror
Collimated Acoustic beam	Focal distance diameter 0.12 in (3 mm)
Output***	Internal radius; Amplitude
Borehole fluid	Water, water based mud, brine, oil (oil based mud not applicable)
Materials	Corrosion resistant throughout

*With Gamma Ray - CCL reduced to 125° (257°F).

**When combined with DDS (memory sub).

***Primary curves: 360° unwrapped internal radius and amplitude images; internal radius min-max-average; 360° unwrapped thickness image; thickness min-max-average.

