

# Nusonix Evaluate — *Ultra high-fidelity Ultrasonics.*



A compact, small-diameter casing and tubing inspection tool, featuring significantly improved resolution and accuracy compared to standard, first-generation ultrasonic tools.

Based on Ultra-high fidelity Ultrasonic transducers and the Cereus Engine processing techniques, this tool delivers the optimum acoustic signal at the target, allowing the tool directly to measure the internal diameter and thickness of casing and tubing and provides a 360° high resolution cement bond evaluation image.

Capable of high accuracy measurements in casing and tubing having thickness between <3mm and more than 40 mm. Using the Cereus Engine in the time domain and Acoustic Resonance Technology (ART) in the frequency domain at frequencies between 100KHz and more than 3MHz.

The Nusonix tool has been engineered to be smaller and lighter than existing ultrasonic tools, making it both quicker to use and more cost-effective to run than any other tool in the market.

A complete report of the processed CBL, internal radius and wall thickness can be available on site within 2 hours.

## Applications

- Identify downhole leaks and integrity issues.
- Determine high precision casing and tubing wear.
- Positioning of subsequent casing
- Corrosion inspection – internal and external
- Cement bond imaging

## Features and Benefits

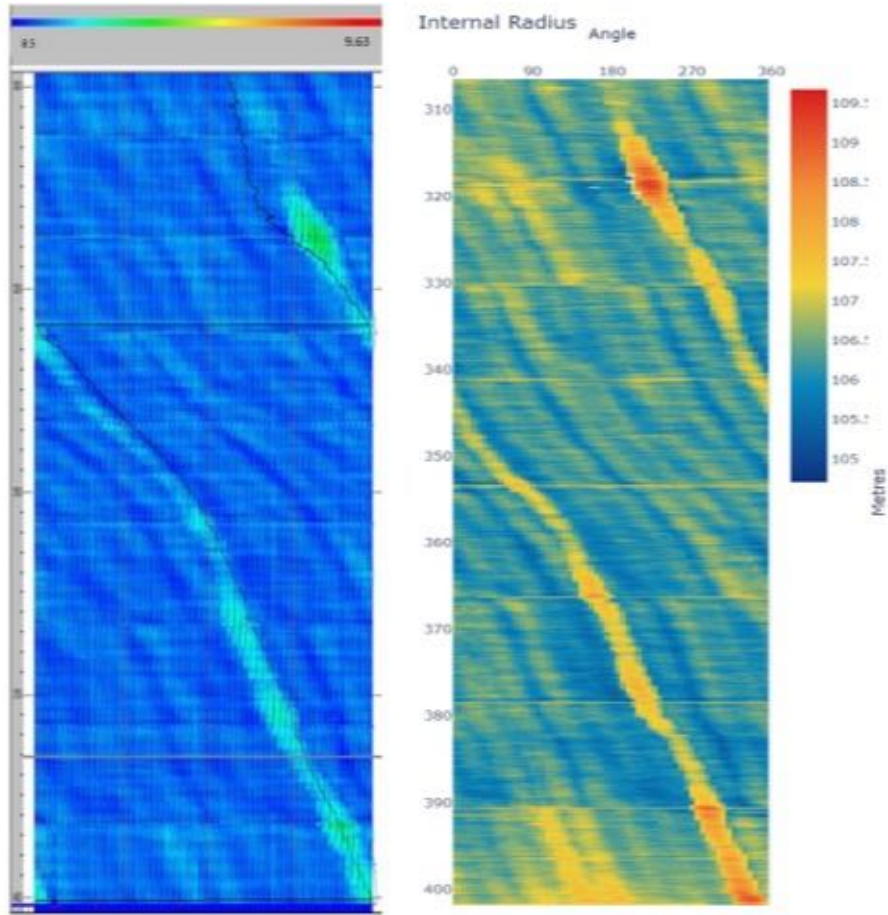
- Slickline conveyed 2.285" or 2.756" diameter memory logging tool
- Capable of measuring layered composites (GRE lined liners and flexible lines/hoses)
- Contactless sensor – No tubing/casing damage
- 360°, high resolution, high accuracy measurements
- Capable of measuring in pressured Gas (>35 bar), as well as liquids (oil/water/brine)
- Logging speed 20m/min (low resolution) 10m/min Normal and 5m/min (High resolution)
- PC based data and report processing
- Output data to industry standard well integrity (2D/3D) visualization packages
- Complete download of processed data 90 mins.



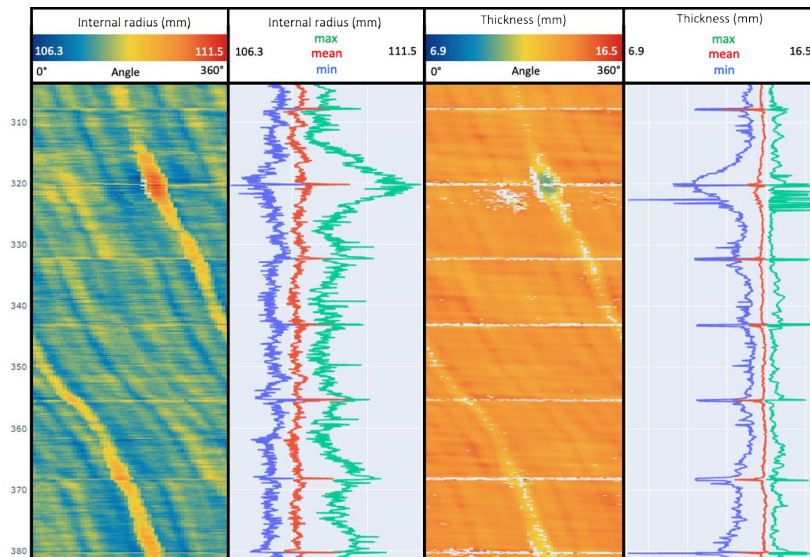
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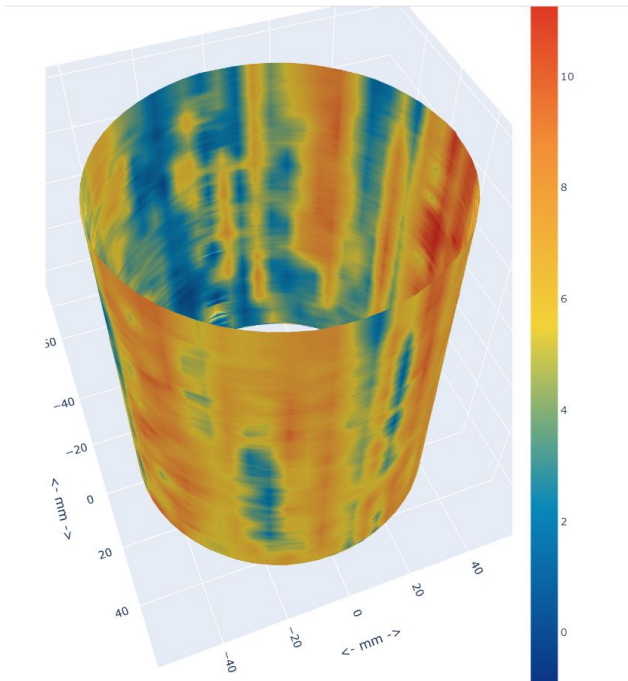


Direct comparison with a 40 fingered Multi-fingered calliper



High resolution direct measurements of internal radius and wall thickness

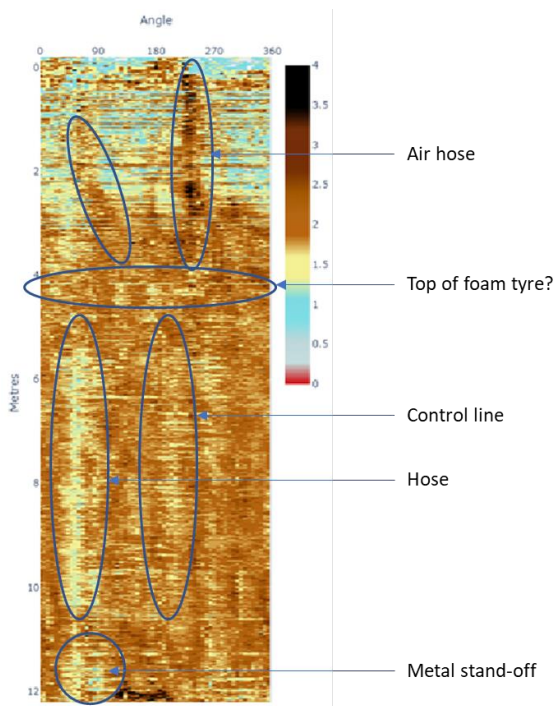
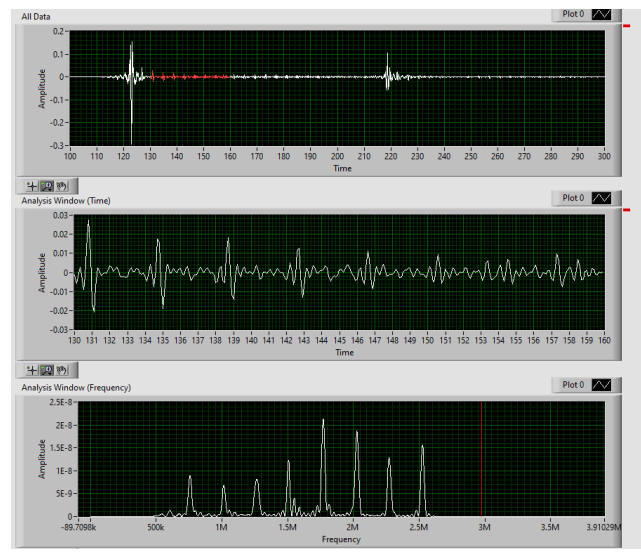




### Cement Bond Imaging

High resolution, **direct measurement** of acoustic impedance of the contact between the outer face of the casing with the material beyond.

Blue – Bad bond  
Red – Good bond



Yard test of CBL capability in 26mm thick casing

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On-site data processing and reporting



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## Technical specifications

Slickline Conveyed	Top connection 15/16" or 1 1/16" SR
Transducer configuration	Single rotating
Tool OD	2.285" (58 mm) or 2.756" (70mm)
Max operating pressure	8000 psi (550 Bar)
Max operating temperature	115°C
Service	Sour service compatible
Tool length	4.04m (1 battery) 5m (2 batteries)
Tool Weight (1 & 2 battery)	42 kg – 50kg
Tubing operating range	3 1/2" – 9 5/8"
Stand-off range (Fluid)	30 mm – 100 mm
Stand-off range (Gas)	22 mm – 100 mm
Well fluid compatibility	water/oil/brine/gas (calliper only in gas < 35 Bar)
Battery/memory life	4000m Hi resolution, 8000m Low resolution
Logging speed	Hi resolution: 5m/min, Norm resolution: 10m/min
Angular detection	60 samples/revolution @ 180 RPM
Detection resolution	Down to Ø 2.0 mm defects
Wall thickness resolution	< 0.1mm
Calliper Accuracy	< 0.1mm
Communication interface	USB 2+
Data Processing	Onsite PC
Download duration	+/- 90mins (Depending on run length)
Centralised	Integrated centraliser (rollers)
Integrated Sensor	Pressure, Temperature, IMU
Environment Correction	Wellbore medium (speed of sound detection)

Note: Other sizes, configurations and pressure ratings are available to meet most applications, for more information contact Cereus Ultrasonics directly