

# Captured by SPACE®

## Thickness

Visualizing and measuring the well in 3D

SPACE Thickness is a state-of-the-art high-resolution cased-hole ultrasound thickness and caliper tool. Using the established technology applied in medical ultrasound imaging, SPACE is designed and built for the hostile environments encountered downhole. The tool is capable of measuring the internal diameter and wall thickness of tubing or casing in most production fluids. Proprietary software allows detailed mapping and visualization of the tubing or casing, as well as statistical analysis of corrosion and damage.

A circumferential multi-element transducer array is coupled with electronic focusing to optimize the ultrasound beam for different pipe diameters. The transducer array of 288 elements operates in pulse echo mode, with the time of flight of the reflected echoes from the internal and external pipe surfaces providing both inner diameter and wall thickness. Multiple different sizes of tubular (e.g. production casing and tubing) can be logged in a single run in hole.

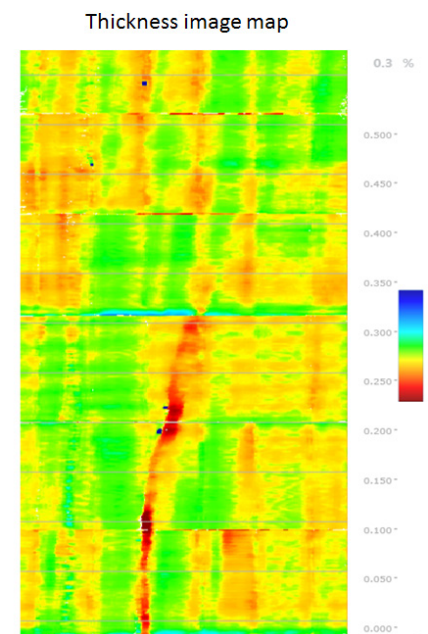
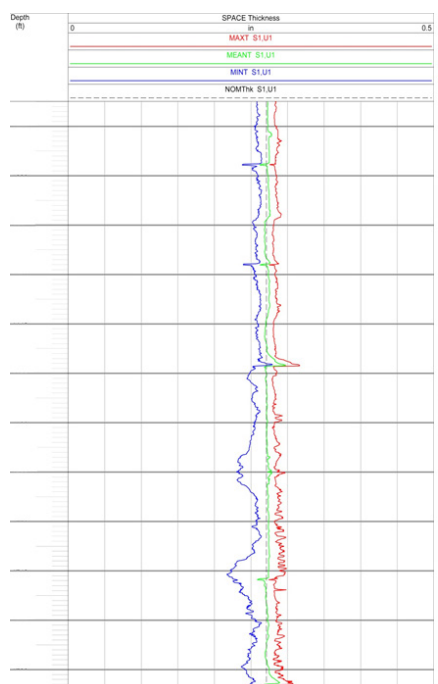
The logging is performed dynamically with detailed 2D measurement of the inner and outer surfaces. Both the numbers of transducer elements used and vertical resolution of the sampling may be adjusted to allow a quick scan or a more detailed inspection. Our proprietary software enables the creation of thickness and diameter plots as well as 3D images.

### Applications

- Tubing and casing measurement and analysis—internal diameter and wall thickness
- Tubular inspection—detection of corrosion, damage and deformation
- General imaging applications with extended features compared to optical camera.

### Benefits

- High accuracy measurements of pipe internal diameter
- Direct measurement of wall thickness, at up to 288 points circumferentially
- Operates on new adaptive high-speed telemetry system



# Captured by SPACE®

## Specifications – SPACE Thickness

### Physical

Outer diameter, in [mm]	3 [76]
Length, ft [cm]	4.4 [134]
Weight, lb [kg]	49.2 [22.3]

### Environmental

Maximum temperature, °F [°C]	221 [105]
Maximum pressure, psi [bar]	7500 [517]

### Electrical

Voltage, VDC	240
Current, mA	200

### Functional

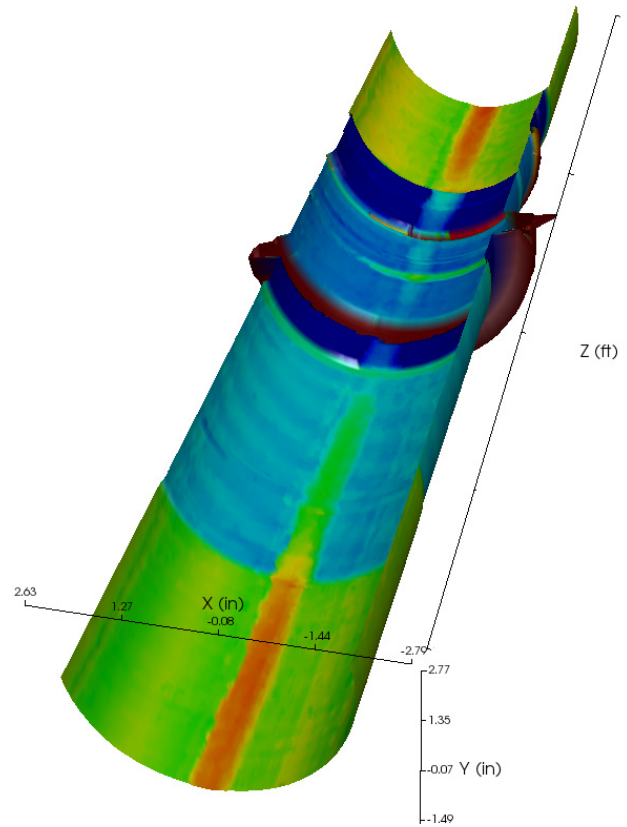
Vertical resolution, in [mm]	0.39 [10]
Precision - ID, in [mm]	±0.008 [±0.2]
Precision thickness, in [mm]	±0.012 [±0.3]
Thickness range, in [mm]	0.2-0.8 [5-21]
Measurement range ID, in [mm]	4-13 [102-330]
Maximum azimuthal resolution, deg	1.25

### Operational

Recommended logging speed, ft/min [m/min]	3-30 [0.9-9.1]
Logging mode	Real time

### Well conditions

Fluid	Water, brine, production liquid
Minimum casing size, in [mm]	4.5 [114.3]
Maximum casing size, in [mm]	13 3/8 [340]



For more information contact

**Duncan Troup**  
**Global Product Champion**

M +47 48 05 41 30

[duncan.troup@archerwell.com](mailto:duncan.troup@archerwell.com)

© Archer SPACE 2016

