

Captured by SPACE®

Forward Viewer

Visualizing wellbore obstructions

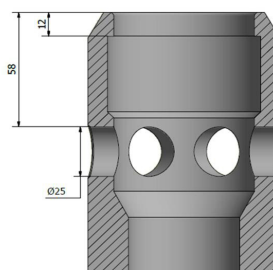
The SPACE forward viewer is a state-of-the-art high-resolution cased-hole ultrasound imaging tool optimized for looking ahead of the sensor. This makes it ideal for inspection and evaluation of fish, collapsed tubing and other wellbore restrictions. Using the established technology applied in medical ultrasound imaging, SPACE is designed and built for the hostile environments encountered downhole. This allows the creation of detailed high-resolution 3D images of fish and tubular deformation profiles in most production fluids.

A multi-element 3 MHz ultrasound transducer array, combined with electronic focusing and signal multiplexing, allows imaging and measurement of items in the borehole. The transducer operates in pulse-echo mode.

Logging is performed dynamically with high-resolution 2D images obtained in real-time. Precise measurements and 3D images may be made within seconds of data acquisition.

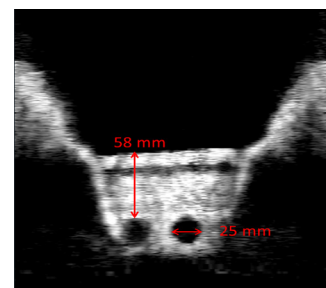
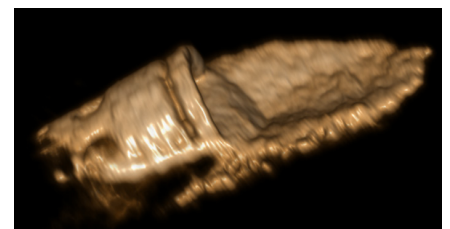
Applications

- Inspection and evaluation of collapsed or otherwise deformed tubing or casing
- Inspection and measurement of fish and other wellbore restrictions.
- General imaging applications with extended features unavailable to optical cameras.



Benefits

- Works in all production liquids - does not need to be optically clear.
- High accuracy measurements in three dimensions.
- Real-time high resolution 2D images, 3D rendering created within seconds.
- Operates on new adaptive high-speed telemetry system.



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Specifications – SPACE Forward Viewer

Physical

Outer diameter, in [mm]	3.2 [81.3]
Length, ft [cm]	4.35 [132.6]
Weight, lb [kg]	49.2 [22.3]

Environmental

Maximum temperature, °F [°C]	221 [105]
Maximum pressure, psi [bar]	4350 [300]

Electrical

Voltage, VDC	240
Current, mA	200

Functional

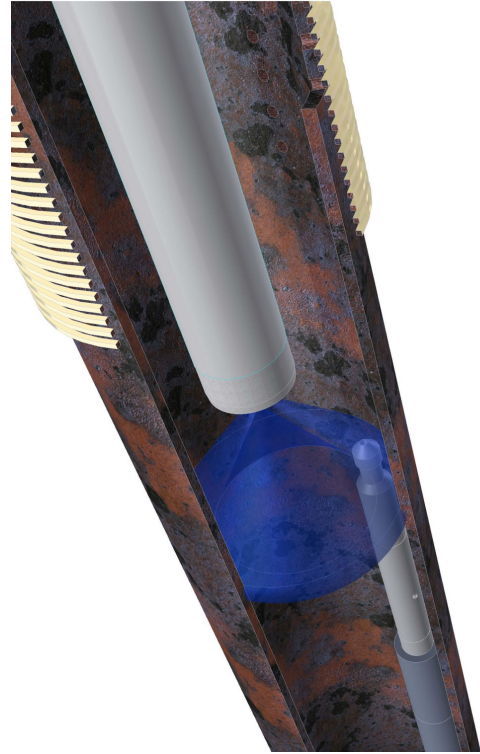
Maximum azimuthal resolution, deg	188
Accuracy, in [mm]	± 0.08 [± 2]
Precision - ID, in [mm]	± 0.02 [± 0.5]

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]	3.5 [89]
Maximum casing size, in [mm]	9 5/8 [244.5]



For more information contact

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