

# Tension Leg Scanner

## Tethered ultrasonic inspection tool

The Tension Leg Scanner is custom built for onsite inspection of columns in tension legs, which are critical structural components used for the mooring of floating platforms.

The high-resolution tethered ultrasonic inspection process provides full circumferential coverage of welds and heat-affected zones. The automated inspection system utilizes time of flight diffraction (ToFD) and phased array (PA) ultrasonic techniques, which are configured to provide optimum detection and sizing accuracy of fatigue cracks.



### FEATURES

**High-resolution tethered ultrasonic inspection process**

**ToFD and PA probes**

**Advanced video capabilities**

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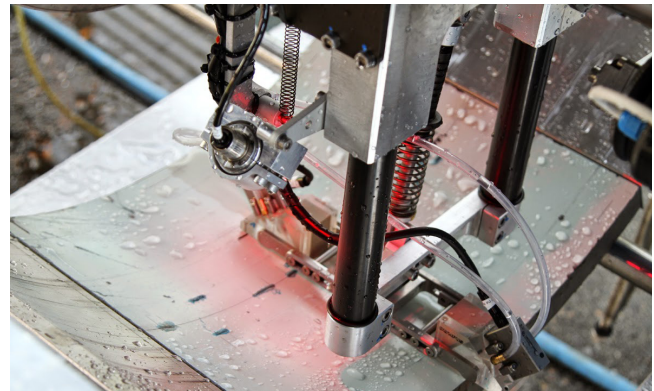
## Tethered ultrasonic inspection tool

The scanner has two identical scanning arms for the purpose of scanning two welds at the same time. For a pin box weld, it simultaneously scans both the connection between the pipe and pin, and between the pipe and box. Each scan arm has four ToFD probes, two PA probes, water supply, cameras, and lasers for positioning.

The tool's video feature has an advanced color camera of 444,000 pixels, a 10x optical zoom and a 4x digital zoom, with integrated LED lamps. The video capabilities provide valuable information with regard to the tool's position and surface conditions.

The tool is gravity driven, and moves vertically by the use of a winch and an axial motor for fine-tuned positioning in a range of 0 in to 2 in (0 mm to 50 mm).

A built-in fail-safe system retracts the scan arms and, in case of emergencies, allows easy retrieval without damage to either the tension leg column or the tool.



### Technical points include:

- » Inside diameter (ID): 25.6–29.5 in / 650–750 mm
- » Weight: 661 lb / 300 kg
- » Transducers are immersed and the water is recycled through a built-in water reservoir
- » Umbilical winch that is used for power and fiber-optic communications
- » Customized operation container for live operations

Tension Leg Scanner Features	Dimensions/Information
Tension leg scanner size range	ID: 25.6–29.5 in / 650–750 mm
Ultrasonic inspection	Time of flight diffraction (ToFD) and phased array (PA)
Wall thickness range	> .08 in / 2.0 mm and upward
Depth rating	Ambient
Weight	661 lb / 300 kg
Accuracy of positioning along axis	+/- .04 in / 1 mm
Inspection coverage	360°
Surface communication	Fiber optic/ethernet – umbilical
Applications	Vertical tubular structures
Benefits	Designed for critical defect sizing

**Note:** Every tool is built to order according to the client's detailed drawings and other relevant information. Therefore, please enquire for further information regarding tool dimensions and application-specific information.