

Scorpion2 Remote-Access Crawler

Battery-powered, remote-access crawler with dry-coupled ultrasonic wheel probe

The Silverwing Scorpion2 dry-coupled, remote-access ultrasonic crawler system significantly improves the efficiency of completing inspection of topside ferromagnetic structures. The Scorpion2 system is used to collect thickness readings, and benefits from a higher probability of detection (POD) by using data and post-inspection analysis.

The performance advantages of the Scorpion2 system include faster data collection, efficient scanning patterns, higher POD, and the ability to collect valuable measurements in critical locations, thus enhancing risk-based inspection (RBI) programs.



FEATURES

Fully integrated, ultrasonic B-scan crawler

Dry-coupled probe for ease of use

Inspection speed up to 7 in/sec (180 mm/sec)

Scorpion2 Remote-Access Crawler

Applications

- » Vertical storage tanks (shell, roof, internal support stanchions)
- » Horizontal storage tanks (shell)
- » Pipelines
- » Pressure vessels
- » Spherical tanks
- » Tank trucks
- » Offshore structures
- » Marine vessels



The system has two operating modes and can record thickness measurements at a speed of up to 5 in/sec (125 mm/sec) in programmable mode and up to 7.1 in/sec (180 mm/sec) in manual mode. This expedited inspection capability offers users an effective, cost-saving solution.

Traditional techniques of random tank shell thickness measurements can be misleading due to the low POD and may lead to incomplete corrosion rate calculations. The Scorpion2 system records thickness measurements along a vertical line, even in the critical heat-affected zone (HAZ), resulting in a higher POD and a more accurate corrosion assessment.

The system's dry-coupled ultrasonic wheel probe eliminates the need for a traditional couplant or a constant water supply. The wheel probe performs like a standard twin ultrasonic probe, and can measure material thickness from 0.2 in to 4 in (5 mm to 100 mm), including through paint.

Scorpion2 B-scan software features several powerful data review, reporting, and printing tools. Saved data can be reviewed at any time with active A-scan and B-scan displays. Placing the cursor over any part of the B-scan profile shows the A-scan trace for that section of the scan.

Technical Data

Dimensions (WxHxD)	19.5 x 11.6 x 5.1 in / 494 x 274 x 130 mm	
Weight	With batteries	23 lb / 10.5 kg
	Without batteries	22 lb / 10 kg
Umbilical cable length and weight	164 ft / 50 m, 9.4 lb / 4.25 kg	
Power requirements	Lithium-ion, rechargeable, DOT compliant	
Power supply	Onboard battery	
Batteries	Type	Lithium-ion, rechargeable, DOT compliant
	Typical life	4 hr
Maximum scan speed	7 in/sec (180 mm/sec)	
Drive	Active steer 4 independent 12V DC motor drive	
Adhesion	4 x neodymium iron boron magnetic wheels	

Transducer	5-Mhz twin element, dry-coupled
Near-surface resolution	0.1 in / 2.5 mm
Probe normalization	Self-normalizing probe
IP rating	Designed for IP62
Operating temperature	32–104°F / 0–40°C

Scorpion2 Capabilities

External longitudinal diameter	10 ft / 3 m
External circumferential diameter	10 ft / 3 m
Internal longitudinal diameter	17 ft / 5 m
Internal circumferential diameter	10 ft / 3 m
Minimum material thickness	0.18 in / 4.7 mm
Maximum material thickness	4 in / 100 mm
Maximum paint thickness	0.04 in / 1 mm
Maximum step weld	.5 in / 12.7 mm

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