

Encoded Hand-scanner

Applications

- Ultrasonic thickness profiles
- Corrosion mapping
- Low cost, portable, B-scan imaging
- Ultrasonic Corrosion mapping on pipes, pressure vessels and storage tanks
- In-field inspection

Features

- Wheeled, encoded hand-scanner
- 5MHz dual-element transducer included
- B-scan and C-scan imaging capability
- Magnetic knurled wheels
- Adaptive hardened steel probe holder for improved probe contact and wear
- 6ft (1.8m) cable and liquid feed



Armadillo- Wheeled hand-scanner for B-scan ultrasonic thickness profiling and corrosion inspection

Introduction

Corrosion on pipes, pressure vessels and storage tanks can lead to unscheduled shutdowns and failures. Ultrasonic thickness measurements only require access from one side and can detect remaining wall thickness from the outside. Conventional systems are based on point to point measurements but imaging systems can provide a surface map or cross-sectional profiles of the object.

Cross-sectional B-scan Profile

The Armadillo encoded hand-scanner has a built-in dual-element probe with liquid feed system that is ideal for corrosion mapping. By rolling the scanner along the object surface, a real-time cross-section of the thickness profile can be generated. A profile of the result is significantly easier to interpret than point to point data and can be stored as an archive for each inspection. The hand-scanner can work on pipes, flat or curved surfaces and has the option of magnetic feet for added safety.

Compatible with Standard Instruments

The Armadillo is fully compatible with the **TG-210** and **TG-410** thickness gauges, the **Avenger EZ** flaw detector and the **Raptor imaging flaw detector** to generate B-scan profiles. With the Raptor, there is the added capability of a fast survey mode, where a full-field C-scan can be generated by scanning the hand-scanner back and forth across a large area. With the 5000Hz PRF, the speed can be as fast as the operator is capable of manually scanning.

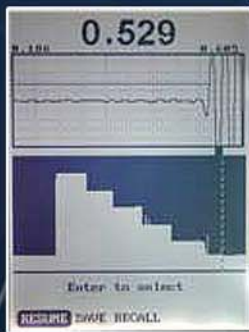
The Armadillo hand-scanner combined with a thickness gauge or flaw detector gives unmatched performance for a very low price and is a perfect way to enter the world of imaging and speed up inspection processes.

Robust and Field-ready

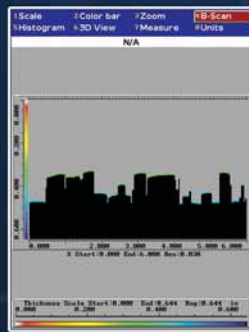
The scanner is a peripheral to the TG-210, TG-410, Avenger EZ and Raptor instrument. Built with aluminium and steel construction, it is lightweight and portable. A hardened steel mushroom probe holder is built-in which is ideal for rough surfaces, typically found in corrosion inspection, and is also spring loaded with a liquid feed to ensure that the transducer contacts the surface efficiently. The scanner comes complete with a standard 6ft (1.8m) cable and magnetic wheels are optional. A 5MHz dual-element transducer is included.

Fast Survey Mode

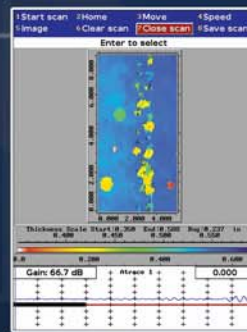
The Fast Survey Mode uses an encoded hand-held scanner to cover large areas quickly to identify areas of interest. The results are presented in a C-scan style format showing thickness changes or flaws with a defined X increment and an arbitrary Y increment. Fast survey mode is only available with the Raptor Imaging Flaw detector where the scanner can be used to build a full-field C-scan of an area.



Typical B-scan result
(TG-210, TG-410, Avenger EZ)



Typical B-scan result
(Raptor only)



Fast Survey Mode
(Raptor only)



Hardened probe holder

TECHNICAL SPECIFICATIONS	
Package Includes	Armadillo encoded hand-scanner (AEHS), 6ft (1.8m) cable, 5MHz dual-element transducer 0.375" (9.75mm) diameter element, hardened steel mushroom probe holder, Pelican shipping case
Physical Dimensions (WxLxD)	4.6in. x 2.8in. x 2.5in. (117mm x 71mm x 64mm)
Physical Weight	1.6lb (0.73kg)
Cable Length	6ft (1.8m) standard
Scan Length	User definable
Scan Resolution	User definable
Scan Speed	>30in./s (>0.76m/s) with Raptor
Operating Temperature	15 °F to 105 °F (-10 °C to 40 °C)
Minimum Measurable Radius	4in. (102mm) diameter to flat
OPTIONS	Magnetic wheels Cable lengths up to 25ft (7.6m)

The specifications in this document are subject to change without notice.

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