

Magnetic Wheeled X-Y Cantilever Scanner



Applications

- Ultrasonic corrosion mapping on pipes, pressure vessels and storage tanks
- Low cost imaging solution (C-scan)
- Bondline flaw detection in lined pipes
- Curved or flat ferrous panels

Features

- Automatic X-Y Scanner
- Scan length up to 18in. (457mm)
- 360 degrees pipe inspection
- Magnetic knurled wheels
- Liquid feed
- Battery operated or AC powered



RCA-10 and RCA-18 Precision wheeled scanners for metal pipes and storage tanks

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 of the corrosion.

360° C-Scan Imaging

By automatically scanning the object surface with a conventional ultrasonic probe, a full-field image of the results can be generated mapping out the surface. An image of the result is significantly easier to interpret than point to point data and can be stored as an archive for each inspection. The portable, battery operated RCA scanner enables automatic surface mapping of pipes, curved and flat ferrous surfaces.

Raptor Imaging Flaw Detector

Powered by the unique Raptor Imaging Flaw Detector, the RCA scanner can be used to generate full-field color C-scan images of a surface. The Raptor is a fully functional thickness gauge and flaw detector and, in addition, controls the scanner. It can define the scan area, spatial resolution and speed and displays the resulting images as they are generated. A full suite of software functions is included for further analysis of the results, including B-scan sections, 3D images, statistical tools for defect sizing and much more. The scanner can also be positioned back to any point of interest.

The combined imaging system boasts an unmatched performance and ease of use for a very low price and is a perfect way to enter the world of corrosion mapping.

RCA-10, RCA-18

Field-Ready Portable Scanner

The scanner is a peripheral to the Raptor instrument. Built with aluminium and steel construction, it is lightweight and portable and is fixed to the surface with the magnetic wheels. A spring loaded gimbal mount and different probe holders ensure that the transducer contacts the surface with a constant force. A water feed system provides efficient signal transfer into the test object. Two scan lengths are available.

A hardened steel mushroom probe holder is available for rough surfaces, typically found in corrosion inspection. Positional control is done either through the software or manual buttons on the scanner or Raptor.

The scanner and Raptor can be powered by mains power or battery for the ultimate in lightweight and portable imaging systems.



Raptor Imaging Flaw Detector



Mushroom probe holder



RBCU-1 Battery Control Unit

TECHNICAL SPECIFICATIONS	
Package Includes	RCA-10 or RCA-18 Scanner, 15ft (4.6m) cable, RBCU-1 battery control unit with battery, AC-charger, mushroom probe holder, Pelican shipping case
Scan Length	RCA-10: 10" (254mm) RCA-18: 18" (457mm)
Physical Dimensions (WxLxD)	RCA-10: 22.0in. x 4.0in. x 5.5in. (559mm x 102mm x 140mm) RCA-18: 30.0in. x 4.0in. x 5.5in. (762mm x 102mm x 140mm)
Physical Weight	RCA-10: 9.5lb (4.3kg) RCA-18: 11lb (5.0kg)
Construction Type	Aluminum Body with magnetic knurled wheels
Cable Length	15ft (4.6m) standard. Optional cable lengths to 150ft (45m)
Scan Resolution	X-axis: 0.040in. (1.0mm), Y-axis: 0.020in (0.5mm)
Scan Speed	Y-axis: 8in./s, X-axis: 0.25in./s (Y-axis: 203mm/s, X-axis: 6.35mm/s)
Minimum Radius	4in. (102mm) diameter to flat. Optional 2in (51mm) diameter to flat
Power Source	Battery (10hrs) or AC mains via RBCU-1 Battery Control Unit
Operation	Motorized Directional control (software and scanner mounted keypad)
Operating Temperature	15 °F to 105 °F (-10 °C to 40 °C)
OPTIONS	Alternative probe holders, Optional cable lengths, Various Transducers

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

Version: PI-RCA-X-14v1

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