

R-Theta Scanning Arm

Generate C-scan Images from Portable NDT Test-Sets

Non-destructive testing (NDT) using portable test-sets typically involves an operator monitoring a signal and observing shifts in the signal to indicate sub-surface features, such as defects. Small changes in the signal are difficult to see, and structural features make interpretation difficult. QinetiQ's R-Theta Scanning Arm provides the imaging capability required to enhance and record NDT assessments.

- Generate C-scan images using conventional test-sets
- In-service and production NDT C-scanning
- Accurate feature mapping and defect sizing
- Compatible with ultrasonic, eddy current and low-frequency vibration systems

R-THETA SCANNING ARM

Designed for use with QinetiQ's ANDSCAN® software, the R-Theta Scanning Arm provides unrivalled data-mapping performance in a wide range of non-destructive testing applications. From in-service to production NDT, from ultrasonics to eddy currents, the data-mapping provided by the Arm allows operators to see more, and do more, with conventional NDT.

In-Service and Production NDT Scanning

The Scanning Arm is suitable for a variety of environments, from in-service inspection to production-line scanning, making it a versatile tool for any NDT operator. Featuring high-performance vacuum feet, the Arm can be operated in both inclined and inverted positions, making under-wing and aircraft fuselage inspections possible.

Accurate Feature Mapping and Sizing

Using high-performance quadrature encoders, scans can be acquired with a resolution of 0.5 mm. Software corrections allow accurate feature mapping on cylindrical and inclined-plane surfaces.

The ANDSCAN software interface allows measurements to be performed on the NDT image, including lengths, widths and areas.

Rapid Deployment

Connection to a PC or Laptop is via a single USB cable, making deployment quick and easy. The USB lead transfers the position and NDT data to the ANDSCAN software in preparation for off-line analysis.

Modality Independent

The R-Theta Scanning Arm can be used to map data from a variety of NDT test-sets. Typically it is used with ultrasonic, low-frequency vibration or eddy-current systems, but others are possible. Two channels of NDT data can be mapped, providing the capability to

image amplitude and time-of-flight from ultrasonic data, or phase and amplitude from eddy-current data.

Large Area Coverage

With an arc of rotation of 340 degrees and an inspection radius of over 1 metre, the R-Theta Scanning Arm can generate NDT C-scan images from large inspection areas. The maximum scan speed of 1 metre per second allows these areas to be scanned rapidly and accurately.

Compatibility with Diagnostic Sonar's FlawInspecta ultrasonic array system makes large-area, full-waveform data acquisition possible.



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