

Dependability Quality



TECHINCO

CORROSION & NDT MANAGEMENT

Technical Inspection &
Corrosion Control Company
Since 1994

ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, IMS

Other Asset Integrity Management Tools

- Risk-Based Inspection (RBI)
- Reliability Centered Maintenance (RCM)
- Hazard and Operability Study (HAZOP Study) and Safety Integrity Level (SIL Study)
- Fitness For Service (FFS)
- Failure Mode, Effect and Criticality Analysis (FMECA)
- Fault Tree Analysis (FTA)
- Material and Coating Selection
- Corrosion Monitoring and Controlling System
- Cathodic Protection

Certified By:



Membership of:



RMS



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WHEN YOU NEED

HIGH SPEED CORROSION MAPPING

Address: No. 18, Kooh-e-Noor St., Motahari Ave., Tehran, Iran



The **RMS** (Rapid Motion Scanner) system provides in service high speed remote access ultrasonic corrosion and defect mapping. Utilizing a combination ultrasonic pulser/receiver with a built in high speed A/D converter, sampling at 50MHz, the **RMS** is capable of operating at a scanning speed of 730mm per second.

Ultrasonic data is captured via a single crystal water immersion transducer, which utilizes a stainless steel wear plate to prevent damage when scanning over rough surfaces. The transducer is mounted in a gimbaled probe holder, ensuring it remains perpendicular to the surface when transversing uneven surfaces.



The low profile tractor units utilize high torque stepper motors combined with magnetic drive wheels that have a combined magnetic pull of 100Kg, which is 5 times the unit weight of 20Kg. Therefore, it remains attached to the structure no matter what angle it is driven at.



Technical Specifications

Dimensions	505 mm x 976 mm x 220 mm
Adhesion	Magnetic wheels
Drive	1 off stepper motor per tractor unit
Scan Width	450 mm
Minimum Pipe Diameter	254mm
Transducer	Single short pulse 5MHz

Scanning Speeds

Area	Resolution	Time (min)
1000 x 450 mm	10 x 10 mm	2.12
1000 x 450 mm	5 x 5 mm	4.30
1000 x 450 mm	2 x 2 mm	11

Measurement Tools

The **RMS** has extensive gating capability and an advanced Dynamic Peak Selection mode which enhances detection of low amplitude reflectors near back wall signals, making detection of small pits and corrosion easier.

With full A-scan capture, all gating can be adjusted in post processing, reducing the need to have a perfect set up on site. This saves time and simplifies the scanning process, while skilled inspectors can examine the data off line. Statistical measurements on selected areas are useful for identifying minimum and maximum thickness on large scans.

Data Acquisition Software

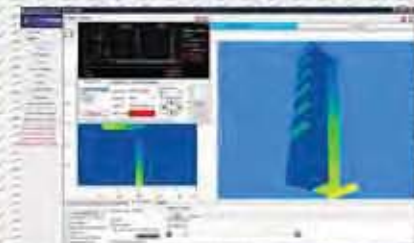
The **RMS** can display amplitude as well as depth based C-scans and B-scans, which enhance the detection of pitting, porosity and other defects reducing the back wall echo amplitude.

As a result of the immersion type probe arrangement the **RMS** can map both top surface and back wall corrosion, which is easily visualized using the 3D C-scan presentation; something unachievable is contact probe solutions.

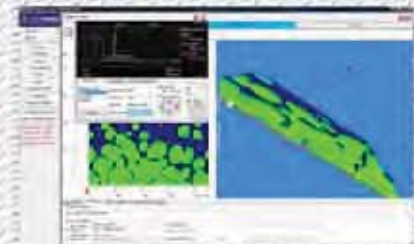
With a production rate of 1.7 sq meters per hour whilst scanning at a 2 x 2mm resolution, the **RMS** is one of the fastest high resolution C-scan imaging systems on the market today.

RMS Software Key Features

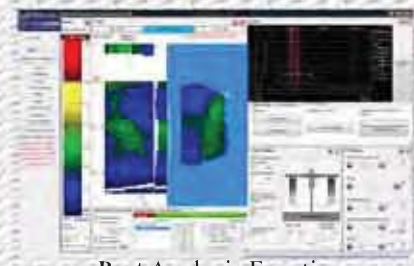
- Seamlessly integrated scanner control, data acquisition, analysis and reporting tools
- Adjustable Scanning resolution in both X & Y axis from 1 x 1mm
- Real-time A-scan and C-scan display during scan
- Interface triggering or Echo to Echo measurement options
- Multiple A-scan gates – (Peak, Flank, Fixed & Amplitude)
- Fully captured A-scan and gate configuration for accurate post inspection analysis
- Full scan replay with multiple gates:
 - Near side (external) defect sizing
 - Far side (internal) defect sizing
 - Composite analysis
- Save C-scan data, with optional A-scan and gates
- Export A-scan, B-scan, C-scan and 3D views as digital images
- Export C-scan data as .CSV files for MS excel



Test Plate with 3D Image



Hydrogen Blistering



Post Analysis Function

Dependability Quality

