



VOLTA - EMAT MRUT

Corrosion presents everyday issues in our industry where we rely on piping and pipelines to transport products. Due to increased regulations and liabilities as a result of environmental events and public awareness, solutions for these everyday problems are constantly sought after. Although there is an abundance of tools to detect and classify many of these issues, effectiveness varies based on specific needs, access restrictions, geometry and environmental conditions.

Electro Magnetic Acoustic Transducer (EMAT) has come to prominence as a valuable tool for its ability to assess shorter distances with increased resolution where previous inspection tools have had limitations. EMAT MRUT fulfills both a void and an inspection niche that is present in industry today.

VOLTA is a high-frequency two-channel system, consisting of the MRUT-SH (Circumferential Scanner) and the MRUT-LAMB (Axial Scanner). Both channels provide sound direction control and advanced signal processing, providing increased sensitivity and resolution. Key advantages of VOLTA technology are:

- Elevated frequency compared to traditional long range guided wave allows the ability to detect smaller isolated defects down to 1/10th wall thickness
- Rapid screening of exposed surfaces for corrosion, isolated pitting, wall loss and other defects
- Soundwaves unique to EMAT can penetrate through viscous coatings and concrete interfaces



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MRUT-SH (CIRCUMFERENTIAL SCANNER):

- Ability to inspect up to 3m in each direction (12cm dead zone)
- Generation of 2D image showing location of defects in relation to sensor and circumferential position
- Minimum diameter of 2", encoded scans of 4" diameter pipe up to flat plate
- Permanent installation allows for monitoring of identified features

APPLICATIONS:

- Soil to air riser interfaces, compliment to long range GWUT, short piping runs (eg. dead legs), detection near flanges/tees/branches/welds and other piping features, CUPS (corrosion under pipe supports), vessel walls/flat plate...



MRUT-LAMB (AXIAL SCANNER):

- Axial scanning inspection for corrosion between 2 sensor probes based on sound attenuation as scanner moves along pipe or plate in an axial direction
- Circumferential inspection from 2" up to 36" NPS by accessing only one point around diameter (>36" requires multiple passes)
- Does not require access to full circumference of pipe
- Requires bare or thin coated pipe (<4mm)
- Provides inspection on rough and corroded surfaces and when covered with thin wraps and coatings
- Detection of small isolated

APPLICATIONS:

- CUPS (corrosion under pipe supports), rapid screening of uninsulated lightly coated piping, Inspection of uninsulated piping where full circumference access is not possible, quick screening of large diameter vessels/flat plate for internal wall loss...



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