

EMATScan CD

3rd generation technology raises the bar for crack detection in gas pipelines

Advanced crack detection

EMATScan™ CD applies Electro Magnetic Acoustic Transducer (EMAT) technology to the unique demands of in-line inspection—detecting and measuring a full range of cracking defects in gas pipelines. Our latest EMATScan CD tool incorporates a new design based on lessons learned from many years of operational experience to improve POD, POI, reliability, modularity, range, and speed. The tool is ideally suited to detect a full range of crack-like features, including SCC colonies, sub-critical SCC, longitudinal fatigue cracks, toe and hook cracks, lack-of-fusion cracks, and cracks in or adjacent to the long seam weld. High detection rate of cracks in dents caused by mechanical damage is also provided.

Features and benefits

Unlike conventional ultrasonic methods that require gas pipelines to be filled with a liquid, EMATScan CD performs the inspection with no need for a liquid medium. With EMATScan CD, operators no longer need to subject their gas pipelines to costly pre-inspection preparation or contamination by foreign liquids in order to obtain accurate inspection data. Additionally, the tool is capable of detecting even sub-critical SCC. This capability gives operators the advanced warning essential for initiation of effective SCC management programs—without the high costs and loss of production associated with the inefficient and costly methods of hydrostatic testing.

Enhanced capabilities

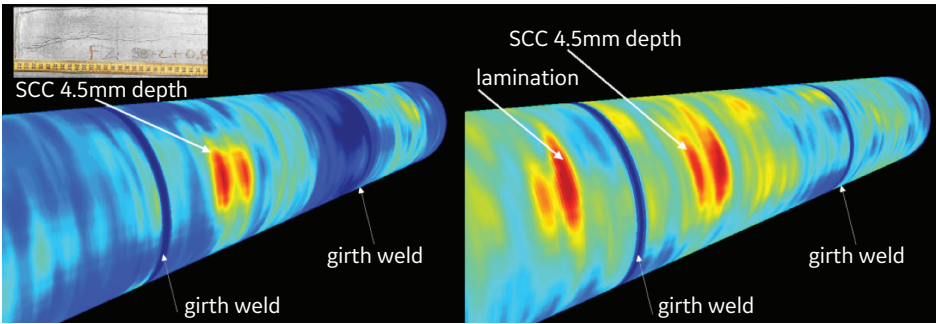
With extensive testing and field validation, and an increasing track record, the new EMATScan CD tool is faster, more reliable, and more versatile than ever before.

Increased range

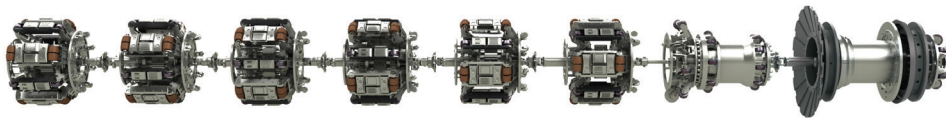
Through advances in materials, electronics, data storage, and batteries, the inspection range of EMATScan CD has been increased to meet the integrity needs of longer pipeline segments.

Improved modularity

The new design enables greater adaptability in configuring tools to specific customer operational needs. The most flexible tool trains, with independent sensor carrier vehicles, can pass 1.5D bends and has exceeded inspection specifications to date in field operations, while also exceeding industry standards. With additional modules, some flexibility is traded for the increased benefits of higher confidence levels.



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Tool specifications

Property	Gen 3
Size range	24 to 36 in.
Inspection range	Up to 220 kilometers (136 miles)
Speed range (at full resolution)	Up to 2.5 m/s (5.5 mph)
Bend passing	1.5D (back-to-back on request)
Minimum defect size*	2 x 50 mm
POI % achieved to date*	>80%
POD % achieved to date*	>90%
Detection redundancy*	Multiple

* base material and seam weld for all coating types