INSPECTION INTELLIGENCE NDT GLOBAL

UT METAL LOSS MEASUREMENTS FOR GAS PIPELINES

ART Scan™

ACOUSTIC RESONANCE TECHNOLOGY (ART)

ART is an ultra-wideband acoustic measurement technology that delivers highly accurate pipeline wall thickness data. Like other ultrasonic technologies, the direct nature of the measurement provides a significant improvement over magnetic inline inspection (ILI) technologies, when compared in terms of defect detection, classification, and sizing. This applies to internal, external and mid-wall defects and equally for metal loss as well as deformation, which is collected in the same run. With this data, pipeline operators have all the information they need to take precise corrective action to maintain their asset integrity.

The ART Scan tool provides an ultrasonic ILI of pipelines using gas or liquid as a coupling medium. Although initially optimized for use in gas pipelines, the ART technology operates in liquid lines with the same measurement specifications.

Using acoustic resonance technology, the ART Scan tool provides sub-millimeter accuracy wall thickness measurements in both gas and liquid pipelines. Beyond wall thickness the non-contact sensors also provide a full ultrasonic geometry survey of dents, buckles, out-of-straightness and ovality.

ART Scan is a short, light-weight inspection tool, with the capacity to inspect even the longest pipelines in a single run. The tool is available in dual-module design for multi-diameter capability and in single module set up for bi-directional operations. ART Scan tool is unquestionably the “go-to” platform for challenging pipelines.

KEY BENEFITS OF ART INLINE INSPECTION

- Direct wall thickness measurement in gas lines, with sub-millimeter accuracy
- Inspection of heavy-wall gas pipelines up to 75 mm (2.95 in) at full production without compromising measurement specifications
- Single inspection run to collect metal loss, ID/OD, geometry and inertial measurement unit (IMU) data
- Multi-diameter and bi-directional options available in all sizes
- Accurately inspects through paraffin (wax) and rough surfaces in liquid lines

ART Scan™

ULTRASONIC METAL LOSS MEASUREMENTS

SPECIFICATIONS

Key tool specifications: ART Scan

Tool sizes	10" to 48"	10" to 48"
Pipeline medium	Gas/Liquid	Gas/Liquid
Bidirectional configurations	16" to 48"	16" to 48"
Single body options	16" to 48"	16" to 48"
Existing multi-diameter set-ups	16"x24", 20"x24", 24"x30", 30"x36", 28"x42"	
Maximum diameter change	Up to 50%	Up to 50%
Max. operation speed	5 m/s	11 mph
Temperature range	-10 to +60 °C	14 to 140 °F
Max. pressure	250 bar	3600 psi

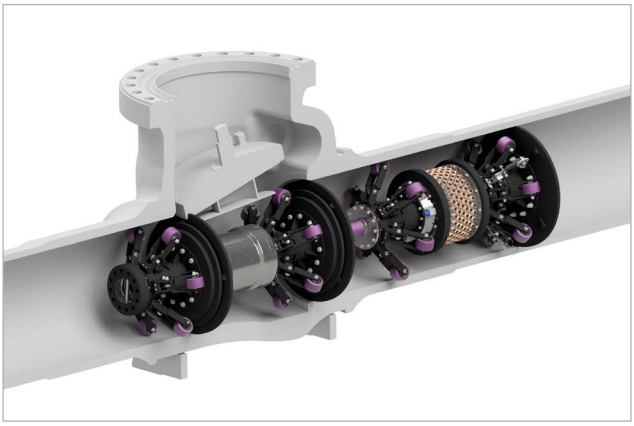
Special configurations for high pressure are available. An extensive range of multi-diameter tools is available upon request.

Defect location accuracy

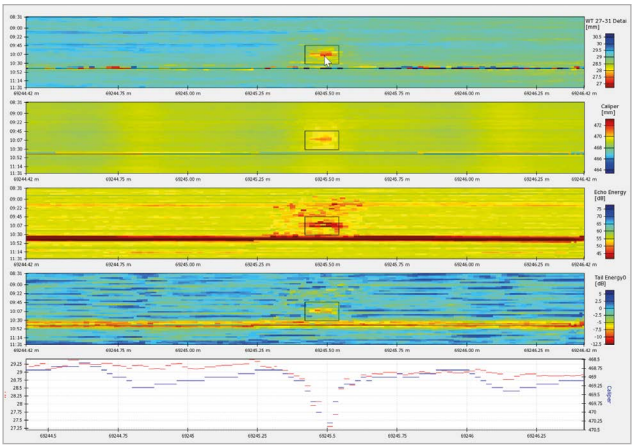
Axial from nearest girth weld	±0.1 m	±3.94 in
Circumferential	±3°	±3°

Key performance specifications (referring to API 1163)

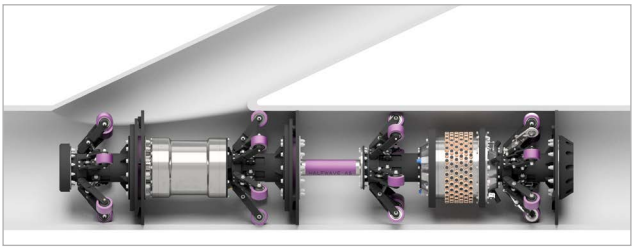
POD for corrosion and metal loss features ≥ 90%		
Min. depth	0.8 mm	0.03 in
Depth sizing accuracy	±0.4 mm	±0.02 in
Wall thickness determination	±0.4 mm	±0.02 in
Location in pipe wall Internal/external/mid-wall	Yes	Yes



ART Scan tool navigating 30" non-return valve



ART Scan inspection data screenshot



ART Scan tool navigating wye connection

Please note: Tool and performance specifications depend on inspection and pipeline conditions. Please contact your local NDT Global representative for further information.

NDT Global reserves the right to introduce modifications and changes without prior notice.

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