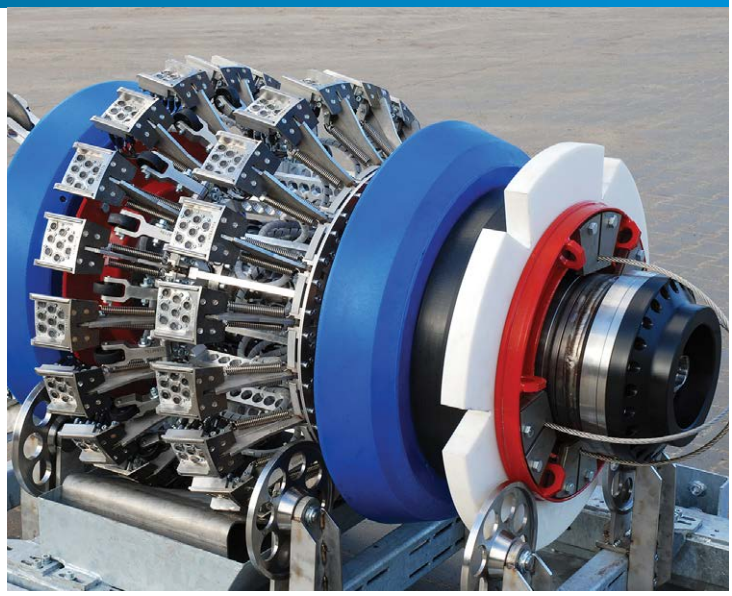
RoCorr UTWM Service

In-line High-Resolution Metal Loss Detection and Sizing

Detect pipeline corrosion before it impacts performance

Direct measurement technology allows for accurate river bottom profiles

Assess the integrity of your onshore and offshore pipeline assets



Undetected and untreated corrosion within your pipeline assets will lead to performance loss and containment failure. Making in-line inspection (ILI) services a part of your integrated pipeline threat management strategy will help you manage this risk. Our RoCorr service suite is designed to detect, evaluate and locate metal loss due to corrosion and associated threats. This allows you to take remedial action before your pipeline integrity suffers. Drawing on the largest ILI tool fleet in the world, our RoCorr features multiple and flexible options to suit your inspection needs while minimizing impact on pipeline operations. This includes a wide range of sensors that incorporate leading technologies to address your pipeline threats. The data gathering is supported by our unique data analysis and reporting tools, delivered by a dedicated team of experts. RoCorr reduces your corrosion and metal loss threat risk.

Liquid pipelines are susceptible to corrosion, lamination, pitting, seam weld corrosion and other metal loss anomalies. Our RoCorr UTWM technology, which uses industry-leading and accepted ultrasound technology, is ideally suited for detecting the incidence and breadth of these anomalies as part of a structural integrity management program.

- Accurate classification and sizing of corrosion anomalies
- Raw data forms basis of lifetime integrity management
- High-quality service offered in line with API 1163

Benefits

- Highly accurate data regardless of defect orientation
- Reliable assessment of mid-wall defects and laminations, even in extra heavy wall pipelines
- High-resolution measurement delivers RSTRENG-compliant river bottom analysis
- Unique combination of UTWM and MFL technologies on one ILI tool has additional benefits (e.g. less sensitive to wax or debris, improved POD, POI and sizing accuracy)

Remarks and Features

- Other tool sizes are available on request
- Higher pressure rating available on request
- Tailored solutions with different specifications available
- API 1163 certified services
- CE and ATEX certification available
- Contact ROSEN for more detailed information about the presented service
- Specifications are subject to change, depending on specific requirements or tool configurations

Technical Specifications

Standard Operating Specifications

Tool sizes available	6"–56"
Pipeline product	Liquids
Product temperature range	Up to 65 °C (149 °F)
Maximum operating pressure	15 MPa (2175 psi) 25 MPa (3625 psi) optional
Operating speed range	Up to 2.5 m/s (5.6 mph)
Minimum pipeline bend radius	1.5D
Wall thickness range	5–45 mm (0.19–1.77")

Note: Contact ROSEN for more detailed information.

Location and Orientation Capabilities

Axial position accuracy from reference marker 1 m on 1000 m (1 ft on 1000 ft) marker distance	1:1000
Axial position from closest weld	±0.1 m (±4")
Circumferential position accuracy	±10°

The axial positioning accuracy specified is based on following criteria: Distance between upstream and downstream marker/reference point < 2000 m (1.2 miles)
Actual above ground distance to both upstream and downstream marker/reference points to be measured and correlated. Negligible difference between pipeline and soil contour

Performance Specifications

Axial sampling distance		2 mm (0.08")
Circumferential sensor spacing		8 mm (0.31")
Discrimination int./ext.		Yes
Detection of metal loss at POD = 90 %	Minimum diameter Minimum depth	10 mm (0.39") 0.8 mm (0.03")
Depth sizing accuracy	At 90 % certainty	±0.4 mm (±0.016")
Length sizing accuracy	At 90 % certainty	±7 mm (±0.27")
Width sizing accuracy	At 90 % certainty	±8 mm (±0.31")
Accuracy of wall thickness measurement	At 90 % certainty	±0.2 mm (±0.008")

Other Features with POI > 90 %

Mid-wall features	**Laminations and inclusions minimum diameter**	10 mm (0.39")
Deformations	**Dents[1], wrinkles**	Yes
Weld detection	**Girth weld, spiral weld, longitudinal weld**	Yes
Installations	**Minimum diameter**	25 mm (1.0")
Bends	**Bend radius < 5D/90°**	Yes
Repair areas (welded)	**Sleeves, patches, attachments**	Yes

[1] POI above 90% only reached in combination with geometry inspection, which is usually performed to assure proper tool passage. Without any geometry tool, dents are only identified with a probability between 50% and 90% (maybe).

Note: Specifications are subject to change according to specific requirements.
Abbreviations: POD = Probability of Detection; POI = Probability of Identification

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