RoCD UT-A Service

In-line High-Resolution Circumferential Crack Analysis

Full wall thickness extended depth sizing

Extended sizing for small diameter tools from 6"-12"

Post-ILI crack assessment and a final report in 90 days or less



External factors such as corrosion, stresses, pipeline movements and fatigue cycling may lead to the formation of axial and circumferential cracks in pipelines. Safe pipeline operation and avoiding performance and eventual containment loss demands a complete understanding of cracks and crack progression.
Our RoCD suite of technologies offers comprehensive detection, characterization and analysis of axial and circumferential cracks in your pipeline. RoCD technologies provide superior sensitivity and resolution backed by tailored probe production and industry-leading carrier systems. Our understanding and experience of crack analysis and detection is supported by an in-house crack database that enhances identification and characterization accuracy.

Our RoCD UT-A service offers the greatest sensitivity and spatial resolution when detecting and sizing circumferential cracks. These pipeline anomalies, along with fatigue cracking, are exacerbated by demanding loading conditions and exterior movements such as landslides, earthquakes, expansion loop torsion, offshore free span and sagging.

- Full wall thickness extended depth sizing
- Ultrasonic wave technology applied in crack detection
- Reliable service backed by technology and experience
- High availability and wide range of tool configurations

Benefits

- Special probe design and high-resolution features deliver enhanced anomaly characterization
- Robust, flexible sensor carriage gives exceptional precision and resolution
- Versatility of tool configurations addresses varying operating requirements of individual pipelines
- Team of technical and data evaluation experts for a successful Post-ILI crack assessment and a final report in 90 days or less
- Crack inspection service for extended sizing helps to reduce the need for dig ups by suppling reliable data
- Robust and reliable service

ROSEN
empowered by technology

Remarks and Features

- Other tool sizes are available on request
- Other operating times and inspection lengths 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	4"–56"
Pipeline product	Liquids
Product temperature range	Up to 65 °C (149 °F)
Maximum operating pressure	15 MPa (2175 psi)
Operating speed range	Up to 2.0 m/s (4.5 mph)
Minimum pipeline bend radius	1.5D
Wall thickness range	4-40mm (0.16"-1.57")
Maximum operating time	50 hours
Maximum inspection length	300 km (186 miles)

Location and Orientation Capabilities

Axial position accuracy from reference marker	1:1000 (1 m on 1000 m marker distance) (1 ft. on 1000 ft. marker distance)
Axial position from closest weld	±0.1 m (±4")
Circumferential position accuracy	±5°

Detection and Extended Sizing Accuracy for Isolated Cracks, Crack Like Anomalies and Crack Colonies

	Isolated radial cracks with circumferential orientation		**Crack colonies with circumferential orientation**
	In pipe body	**In circumferential girth weld area**	**In pipe body**
Minimum length[1]	25 mm (0.98")		
Minimum depth at POD 90 %	1 mm (0.04")	2 mm (0.08")	1 mm (0.04")
Depth sizing[2] accuracy at 80% certainty	for depth < 4 mm (0.16"): ±1 mm (0.04") for depth ≥ 4 mm (0.16"): ± 1.3 mm (0.06")		
Length sizing accuracy at 80 % certainty	±10 mm (±0.39")		
Width sizing accuracy at 80 % certainty	n/a		±30 mm (±1.18")
Orientation to pipe axis	Detection: -15° < 0° < +15° Detection and sizing: -5° < 0° < +5°		n/a
Inclination to pipe surface	Detection: 40° to ≤ 90° Detection and sizing: 90°		

1 Minimum length is referring to the crack profile length at a depth of 1 mm.
2 The depth sizing accuracy presented for depth ≥ 4 mm (0.16") is valid for anomalies with a remaining wall thickness ≤ 6 mm (0.24").
The depth sizing refers to the peak depth of the anomaly exceeding at least 10 mm (0.39") in length.

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