

APC High Resolution Metal Loss MFL Pigging

Pipeline integrity is affected by corrosion, pitting, erosion, lamination, gouging and other metal loss features. These threats are a concern during the complete lifecycle from commissioning to phase out.

APC utilizes ROSEN's RoCorr MFL-A service as an important basis to ensure that your high-value assets maintain their structural integrity.

THE SOLUTION

RoCorr MFL-A Magnetic Flux Leakage Technology is the right choice to reliably and effectively detect and characterize internal and external metal loss features. Our inspection tools embody robust and multi-faceted technology with a proven record of sensitivity and accuracy, ensuring the best possible results in every performance category.



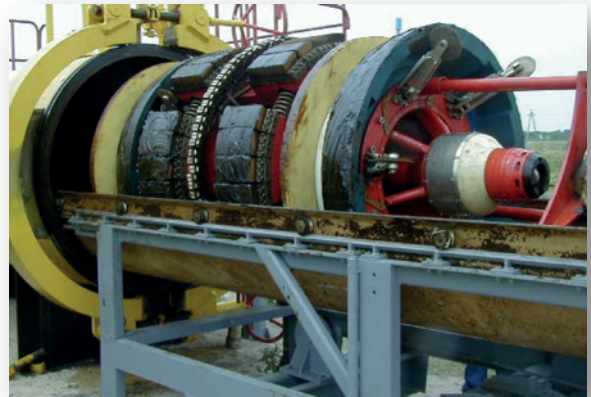
SERVICE OPTIONS

All aspects from the inspection request to the final report are covered with the flexibility to choose from various service options.

- Cleaning – operational and pre inspection
- Speed Control – inspection at high flow rates
- XYZ – route mapping and strain analysis
- Multi-Diameter – pipelines with varying diameter
- Combo – multiple inspection technologies in one run
- BiDi – single entry pipelines
- Offshore – long distance and high pressure
- Post ILI – data alignment and combined evaluation
- Integrity – RBI, FFP, CGA
- Versatile asset integrity software suite

KEY FEATURES

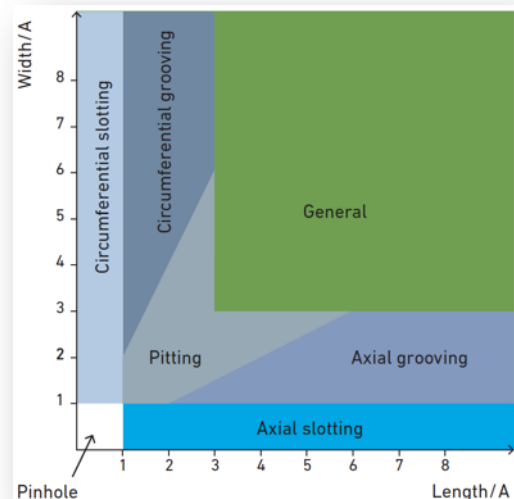
- Accurate and precise feature classification and sizing by magnetic saturation, high sensor density, high sampling rates and triaxial magnetic field analysis.
- Lifetime integrity management supported by full recording of the inspection raw data.
- High availability and a wide range of proven tool configurations addressing individual operational pipeline requirements.
- High quality service with certified processes (API 1163), personnel qualification (ASNT) and equipment (CE, ATEX).



METAL LOSS FEATURE CLASSIFICATION

All reported metal loss features are classified according to the dimensions shown in the following Pipeline Operators' Forum (POF) specification graph.

$A = \text{wall thickness or } 10 \text{ mm } (0.39'')$, whichever value is greater



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TECHNICAL SPECIFICATIONS

Standard Operating Specifications

Tool Sizes Available	3" – 56"
Pipeline Product	Gas, liquids or multiphase
Product Temperature Range	0 °C – 65 °C (14 °F – 149 °F)
Maximum Operating Pressure	15 MPa (2175 psi) / Optional 25 MPa (3625 psi)
Operating Speed Range	Up to 5.0 m/s (11.2 mph)
Product Flow Range*	Up to 12 m/s (26.8 mph)
Minimum Pipeline Bend Radius	1.5 D
Wall Thickness Range	4 – 32 mm (0.15" – 1.26")
Maximum Operating Time	400 hours
Maximum Inspection Length	800 km (500 miles)

*Fitted with optional speed control system (gas line only)

Location and Orientation Capabilities

Axial position accuracy from reference marker 1 m on 1000 m (3.2 ft on 0.62 mile) marker distance	1:1000
Axial position from closest weld	±0.1 m (±3.9")
Circumferential position accuracy	±5°

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

Wall Thickness Detection

± 1 mm (± 0.04") or ± 0.1t, whichever value is greater at 80 % certainty

t = wall thickness

Performance Specifications

	General	Pitting	Axial Grooving	Circumferential Grooving
Depth at POD = 90 %	0.10t	0.10t	0.10t	0.10t
Depth sizing accuracy at 80 % certainty	± 0.10t	± 0.10t	± 0.10t	± 0.10t
Length sizing accuracy at 80 % certainty	± 15 mm (0.59")	± 10 mm (0.39")	± 10 mm (0.39")	± 10 mm (0.39")
Width sizing accuracy at 80 % certainty	± 15 mm (0.59")	± 12 mm (0.47")	± 12 mm (0.47")	± 12 mm (0.47")

Abbreviations: POD = Probability of Detection; t = wall thickness

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