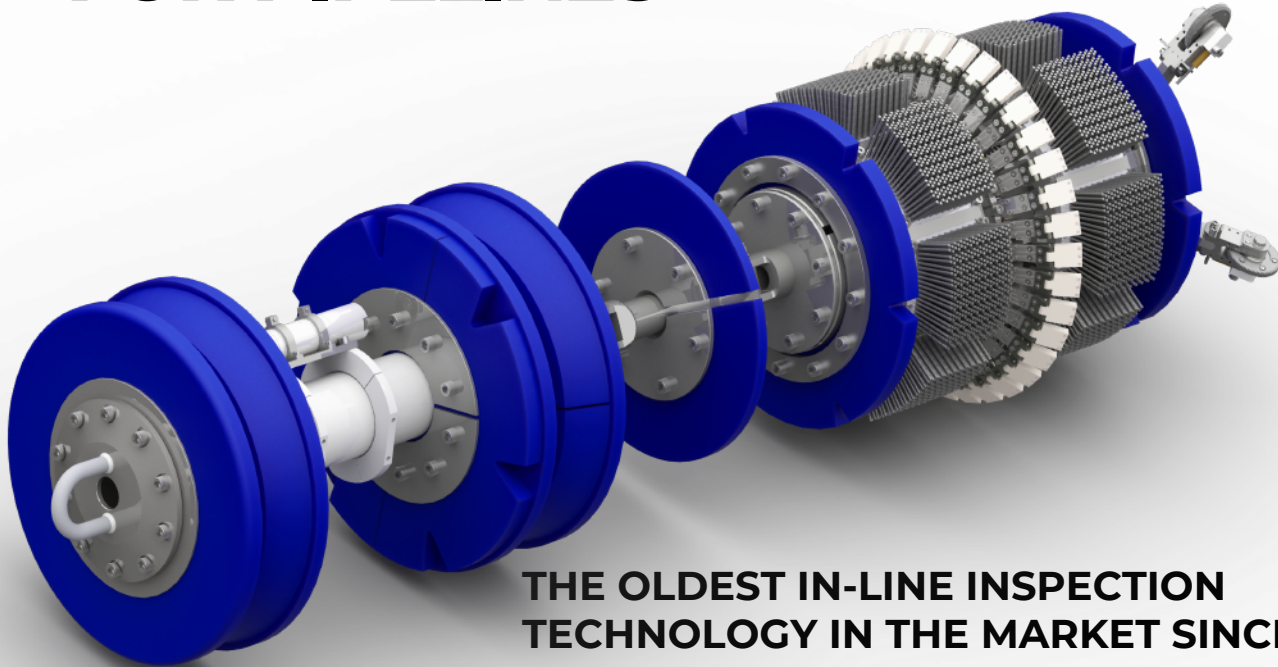


MAGNETIC FLUX LEAKAGE (MFL) INSPECTION FOR PIPELINES



**THE OLDEST IN-LINE INSPECTION
TECHNOLOGY IN THE MARKET SINCE 1969**

VERSATILE PIPELINE ILI TOOLS

RELIABLE, SIMPLE, AND EFFICIENT

MFL Technology based In-Line Inspection Tools for Detection and Measurement of Metal Loss Features, such as General-, Pitting- and Pinhole Corrosion as well as Scratches, Gouges and Features in Girth- and Long-Seam Welds

Utilizes Triaxial Hall Effect Sensors with the highest Circumferential Sensor Resolution available in the market

Can be Utilized in any Pipeline Medium

We use MFL for detection and sizing of general corrosion and other metal loss anomalies, especially circumferentially oriented. MFL tools have limited capability of detection and sizing of girth weld anomalies.

Over the years several generations of the MFL systems have been subsequently developed involving significant improvement of their performance specifications.

To clients who operate pipelines that are difficult to inspect, we offer our customized solutions for the following pipeline conditions:

- Low pressure
- Low flow
- High temperature
- Heavy wall thickness
- Sour product
- No pig traps or single-point entry

For more information on how PIPECARE's TFI Technology can help detect threats in pipelines, contact PIPECARE at the below information. Our team of experts is ready to help.

MAGNETIC FLUX LEAKAGE (MFL) INSPECTION

DETECTION AND SIZING ACCURACY FOR METAL LOSS ANOMALIES

	General metal-loss	Pitting	Axial Grooving	Circumf. Grooving	Pinhole	Axial Slotting	Circumf. Slotting
Depth at POD=90%	0.1†	0.1†	0.15†	0.1†	N/A see below	0.2†	0.1†
Depth sizing accuracy at 90% certainty	±0.1†	±0.1†	±0.15†	±0.1†	±0.2†	±0.2†	±0.1†
Width sizing accuracy at 90% certainty [mm]	±20	±15	±15	±20	±10	±8	±20
Length sizing accuracy at 90% certainty [mm]	±12	±10	±15	±10	±8	±20	±5
Minimum pinhole diameter at POD=90% if depth=50%† [mm]					3		
Minimum pinhole diameter at POD=90% if depth=20%† [mm]					4		

Max. length of axial slottings: 30 mm.

DETECTION AND SIZING ACCURACY FOR CRACKS OR CRACK-LIKE ANOMALIES

	Circumf. Crack Pipe body/ weld	Spiral weld Crack
Depth at POD=90% [%nwt] of crack with L25 mm	0.3†	0.3†
Minimum crack opening [mm]	0.15	0.25
Depth sizing accuracy at 90% certainty	±0.25†	±0.25†
Length sizing accuracy at 90% certainty	±25	±20
Orientation limits (in degrees) for detectability	±45°	n.a.

LOCATION ACCURACY

Accuracy of distance to upstream girth weld at 90% certainty	+/- 0.05 m
Accuracy of distance from trap valve at 90% certainty	+/- 0.2%
Accuracy of circumferential position at 90% certainty	+/- 8°

GENERAL SPECIFICATIONS

Tool sizes	2" to 56"
Pipeline product	All Media (gas, liquids, multiphase)
Operating pressure range	0 to 12 MPa
Operating temperature range	-20 to +85° C
Wall thickness range	3 to 25.4 mm
Tool velocity range	0.2 to 5.0 m/sec
Min. pipeline bend radius	1.5D (6' and above size)
Min. passage bore	80% / 85% of OD