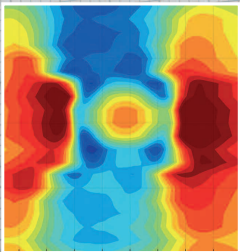


# MFL PIPELINE INSPECTION



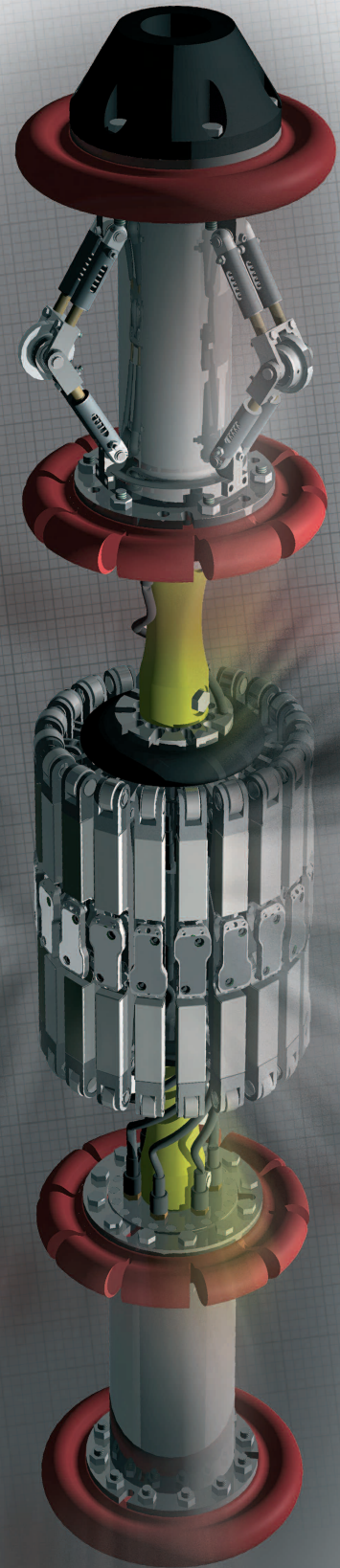
- Bidirectional operation
- 25% diameter reduction
- Tri-axial measurement
- 1.5 D radius bends



- XHR resolution
- Gapless sensor arrangement
- ID/OD discrimination
- XYZ mapping



- Powerful user-friendly software
- Fitness-for-purpose calculations
- AMSE B31G / DNV / R-streng
- P.O.F. / NACE standards





# MFL Inspection from Pipesurvey International

Pipesurvey International is an internationally operating company offering services to the pipeline industry. The company was raised in order to meet with a growing demand of latest technology pipeline integrity tools. Pipesurvey International employs a team of highly qualified experts in the field of mechanical engineering and electronics, physics and software engineering, NDT technology, data analysis and operational pigging.

## New trends in MFL inspection

MFL tools have proven to be reliable instruments for the assessment of pipeline integrity. Based on the Magnetic Flux Leakage principle, internal and external metal loss in the Pipe wall can be accurately detected. As a result of complete in-house development, Pipesurvey International now offers MFL inspection tools. These respond to the very latest standards of resolution, accuracy and reporting, and in addition hold a unique combination of tool capabilities.

The Pipesurvey International MFL tool is designed with the highest density of Hall sensors (radial, axial and tangential) in a true gapless sensor arrangement. Each sensor pad is of integrated rugged design,



incorporating ID/OD sensors and quality sensors for lift-off and magnetization level. At the same time the design of the measuring system offers sufficient flexibility to scan the near weld zone as accurate as possible. The sensor pads are combined on low friction magnetic yokes, which are arranged in such way that the tool is able to pass through 1.5D radius bends and 25% diameter reductions.

## Bidirectional Inspection

The Pipesurvey International MFL tool distinguishes itself from other tools in the market in that it is a versatile tool. The tool can be equipped with cups for long distance operation in transmission lines; it can also be equipped with special design discs for bidirectional operation, which opens new frontiers in MFL inspection. Sub-sea pipelines ending in well heads or sub sea manifolds, jetty lines, tank-farm lines, flow lines, unpiggable lines can be inspected using the same tool.

The MFL tool is equipped with three odometers for the determination of distance in the pipeline. Above Ground Markers, which incorporate GPS technology, accurately detect and record the pig location.

Optionally, the MFL pig can be equipped with an Inertial Measurement Unit (IMU) for pipeline mapping purposes.

## DATsurvey ® Powerful software

DATsurvey ® is Pipesurvey's data representation and analysis software. It allows the user to look into all the recorded data in A-scan, B-scan or C-scan, contour plot, 3-D view and event view. Assessment of each defect can be made using various methods such as ASME B31G (stand/modified), DNV and R-STRENG. Pipe tally, feature list, pipeline histograms and dig sheets are generated in accordance with NACE and POF standards.

Feature	Yes POI>90%	No POI<50%	Possibly 50%<POI<90%
Internal/external discrimination	<input type="radio"/>		
Metal loss feature in body of pipe	<input type="radio"/>		
Metal loss feature in weld area	<input type="radio"/>		
Metal loss pipe mill feature	<input type="radio"/>		
Mid wall feature			<input type="radio"/>
Grinding	<input type="radio"/>		
Gouging	<input type="radio"/>		
Dent	<input type="radio"/>		
Dent with metal loss	<input type="radio"/>		
Spalling			<input type="radio"/>
Axial crack		<input type="radio"/>	
Circumferential crack			<input type="radio"/>
Eccentric pipeline casing	<input type="radio"/>		
Fitting	<input type="radio"/>		
Sleeve	<input type="radio"/>		
Valve	<input type="radio"/>		
Tee	<input type="radio"/>		
Bends (5D or less)	<input type="radio"/>		
Close metal object	<input type="radio"/>		
'o clock position of longseam weld	<input type="radio"/>		
Girthweld	<input type="radio"/>		
Patch	<input type="radio"/>		



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