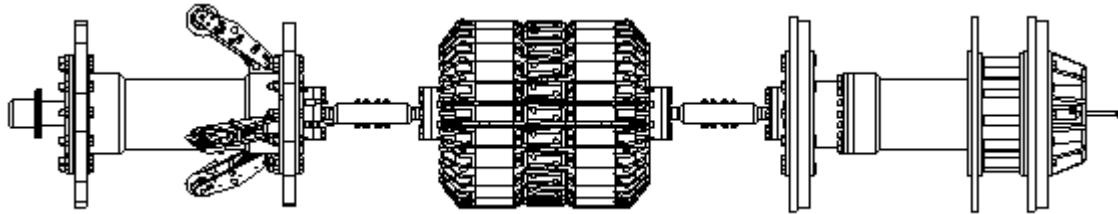


18" Magnetic Flux Leakage Inspection Tool



General			Measurement specifications					
Pipeline size	18	inch	Direction of magnetisation	axial				
Tool length	2695	mm	Measurement type	tri-axial hall				
Weight	422	kg	Maximum wall thickness for accurate measurement	19	mm			
Number of bodies	3		Magnetisation level at maximum wall thickness	10	kA/m			
Inertial unit	3d mapping standard accuracy ¹		Axial sampling frequency, variable	1600	Hz			
Maximum runtime	20 ^(expandable)	hrs	Circumferential hall sensor spacing	5	mm			
Transmitter time	180	hrs	Internal/External discrimination	Eddy current based				
Pipeline specifications			Pressure measurement accuracy	N.A.				
			Temperature measurement accuracy	Internal reference only				
			Location accuracy					
			Marker System ^(optional)	Time benched GPS				
Maximum pipe length	288 ^(expandable)	km	Odometers	3 channels				
Minimum bore	365	mm	Location accuracy ⁵	1	%			
Minimum bend radius	1.5D		Accuracy to girth weld	0.1	m			
Velocity range ²	0.1-4	m/s	Clock position resolution	± 5	°			
Temperature range ³	0 - 60	°C						
Maximum pressure ⁴	200	bar						
Minimum back pressure	5	bar						
Required differential launch pressure	2	bar						

¹ refer to 3D & inertial datasheet, GPS mapping available on request

² recommended operating range is 0.2-1.5 m/s

³ higher temperatures available on request

⁴ higher pressures available on request

⁵ relative to closest above ground marker

Technical Data Sheets

Sizing accuracy is dependent on external factors, such as contamination of pipeline and operational conditions or heavily patterned seamless pipe. The following tables specify the sizing tolerances with 80% certainty for both welded and seamless pipe.

Sizing accuracy in welded pipe

<i>Feature</i>	<i>Minimum depth at 90% POD</i>	<i>Depth sizing accuracy(% of t)</i>	<i>Length sizing accuracy</i>	<i>Width sizing accuracy</i>
General metal loss	10%	± 10%	± 10mm	± 10mm
Pitting	10%	± 10%	± 10mm	± 10mm
Axial grooving	10%	± 10%	± 10mm	± 10mm
Circumferential grooving	10%	± 10%	± 10mm	± 10mm
Axial slotting	20%	± 10%	± 10mm	± 10mm
Circumferential slotting	10%	± 10%	± 10mm	± 10mm
Corrosion near girth welds	20%	± 20%	± 10mm	± 20mm

Sizing accuracy in seamless pipe

<i>Feature</i>	<i>Minimum depth at 90% POD</i>	<i>Depth sizing accuracy(% of t)</i>	<i>Length sizing accuracy</i>	<i>Width sizing accuracy</i>
General metal loss	15%	± 10%	± 10mm	± 10mm
Pitting	15%	± 10%	± 10mm	± 10mm
Axial grooving	15%	± 10%	± 10mm	± 10mm
Circumferential grooving	15%	± 10%	± 10mm	± 10mm
Axial slotting	20%	± 20%	± 10mm	± 10mm
Circumferential slotting	15%	± 10%	± 10mm	± 10mm
Corrosion near girth welds	20%	± 20%	± 10mm	± 20mm

The minimum defect sizing for internal and external discrimination at 80% probability of identification is given in the following table

Internal/External discrimination minimum defect sizing

Detection threshold	2 mm
Minimum Defect length L	24 mm
Minimum Defect width W	30 mm

Technical Data Sheets

Identification of features			
<i>Feature</i>	<i>Yes POI >90%</i>	<i>No POI <50%</i>	<i>Possibly 50%<POI<90%</i>
Metal loss feature in body of pipe	■		
Metal loss feature in weld area	■		
Metal loss pipe mill feature	■		
Mid wall feature			■
Grinding	■		
Gouging	■		
Dent / Dent with metal loss	■		
Spalling			■
Axial crack		■	
Circumferential crack			■
Eccentric pipeline casing	■		
Fitting	■		
Sleeve	■		
Valve	■		
Tee	■		
Bends (5D or less)	■		
Close metal object	■		
Clock position of longitudinal seam weld			■
Girth weld	■		
Patch Repair	■		