



EVO 1.0 UCx Enhanced Sizing

Ultrasonic High-resolution Crack Inspection








Detecting and Sizing of Cracks and Crack-like Anomalies

Cracks and crack-like features can occur during pipe manufacture, construction or operation. Whatever the origin, these flaws can seriously compromise the integrity of a pipeline.

Most cracks are invisible to the naked eye, and can weaken a pipeline causing catastrophic failure. NDT Global's range of ultrasonic ILI tools ensure the accurate detection and identification of cracks and crack-like anomalies in the base material and in the weld area of pipes. Our high-resolution ultrasonic crack detection tools use the proven 45° shear wave methods for crack detection.

NDT Global's Enhanced Sizing solution for UT crack inspection provides precise crack assessments for depths above 4 mm (0.16 in). It delivers depth sizing beyond the previous limitation of 4 mm (0.16 in). This breakthrough is the major improvement in crack inspection since the introduction of absolute depth sizing.

-  Axial Cracks
-  Circumferential Cracks
-  Metal Loss
-  Geometry Ovalities
-  Mapping

EVO 1.0 UCx - Depth Sizing Accuracy

The NDT Global Enhanced Sizing methodology is capable of sizing a full range of crack depths up to 100% wall thickness. The removal of limitations provides operators with more accurate data for better informed decisions regarding pipeline operations. Enhanced Sizing is an example of the ongoing research and development achievements conducted by NDT Global.

NDT Global's UCx technology improves the depth sizing accuracy of cracks by 20%. This advancement further enhances the data operators rely on for the safe operation of their pipeline assets.

- Reliable detection of axial cracks in the pipe body and the long seam
- Designed for high-precision inspection of axial cracks in long seamed welds and base material
- Inspection diameters from 6" to 48"

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Specifications

Key Tool Specifications: EVO 1.0 UCx

Tool sizes	6" to 48"	6" to 48"
Pipeline medium	Liquid	Liquid
Max. operation speed	4 m/s	9 mph
Temperature range	-10 to +50 °C	14 to 122 °F
Max. pressure	120 bar	1740 psi
Min. bend radius	1.5 D 90°	1.5 D 90°
Min. axial sampling distance	0.75 mm	0.03 in
Circumferential sensor spacing	5 mm	0.20 in

Max. operating speed and min. axial sampling distance depend on specific ILI tool set-up. Special configurations for high-temperature, high-pressure, multi-diameter and bi-directional inspections available upon request.

Defect Location Accuracy

Axial from nearest girth weld	±0.1 m	±3.94 in
Circumferential		
• for $\varnothing < 20"$	±10°	±10°
• for $\varnothing \geq 20"$	±5°	±5°

Key Performance Specifications (referring to API 1163)

POD for axial cracks, crack-like anomalies and linear indications $\geq 90\%$

Min. depth of crack with $L \geq 20$ mm (0.79 in)

• Base material & at weld	1 mm	0.04 in
• In weld	2 mm	0.08 in

Depth sizing accuracy at 80% certainty in ERW and base material

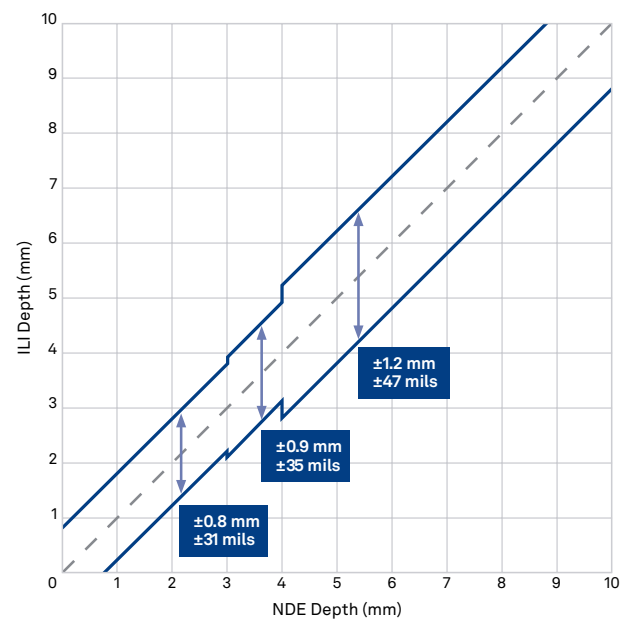
• 1... < 3 mm (0.04 ... < 0.12 in)	±0.8 mm	±0.031 in
• 3... < 4 mm (0.12 ... < 0.16 in)	±0.9 mm	±0.035 in
• ≥ 4 mm (0.16 in)	±1.2 mm	±0.047 in

Length sizing accuracy at 90% certainty

Location in pipe wall		
• Internal/external	Yes	Yes



High-resolution inspection tool – EVO 1.0 UCx



Enhanced sizing

Please note: Tool and performance specifications depend on inspection and pipeline conditions. Please contact your local NDT Global representative for further information. NDT Global reserves the right to introduce modifications and changes without prior notice.