



EVO Eclipse UCx

High-Resolution Crack Inspection Advancements



High-Precision Inspection of Axial Cracks in Welds

The NDT Global UCx Enhanced Sizing methodology is capable of sizing the full range of crack depths up to 100% wall thickness. The removal of depth sizing 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 conducted by NDT Global and is reflected in our core values: Accuracy and Precision, Improvement through Innovation and Passion for Excellence.

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.

- Precise crack assessments to include depths above 4 mm (0.16 in)
- Reliable detection of axial cracks in the pipe body and the long seam
- Designed specifically for high-precision inspection of axial cracks in welds






Detection and Sizing of Tilted and Skewed Cracks

NDT Global's EVO Eclipse UCx tools include all the advantages from UCx Enhanced Sizing plus the ability to overcome the tilt and skew limitations.

High-resolution crack inspections provide solutions to operators as it delivers accurate results with tighter depth sizing tolerances. To accomplish this, the physical tool must be modified to increase the number of sensors.

In addition to the benefits delivered by UCx Enhanced Sizing, EVO Eclipse UCx offers a sensor configuration that provides the possibility to identify and accurately size tilted and skewed cracks, e.g. hook cracks or cracks at the bevel of typical DSAW seams.

- Delivers full capabilities of EVO 1.0 UCx
- Detection and sizing of tilted and skewed cracks (hook cracks)
- Supports the replacement of hydrostatic testing with ILI critical feature detection
- Combined crack, metal loss and geometry inspection

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

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Specifications

Key Tool Specifications: EVO Eclipse 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

POD for axial cracks, crack-like anomalies and linear indications $\geq 99\%$

Min. depth of crack with $L \geq 40$ mm (1.60 in) 2.5 mm 0.10 in

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

- 1 ... < 4 mm (0.04 ... < 0.16 in) ±0.8 mm ±0.031 in
- ≥ 4 mm (0.16 in) ±1.0 mm ±0.040 in

Length sizing accuracy at 90% certainty ±10 mm ±0.39 in

Location in pipe wall

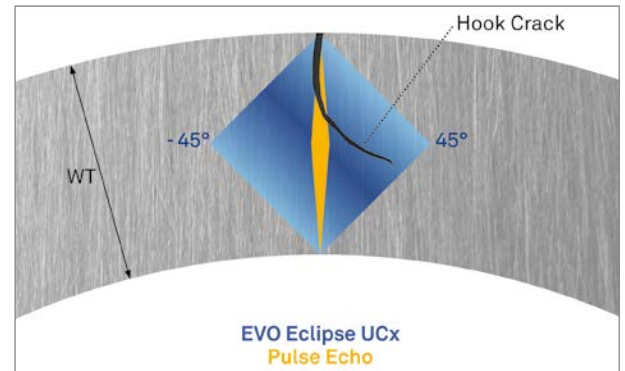
- Internal/external Yes Yes

Flaw orientation for sizing

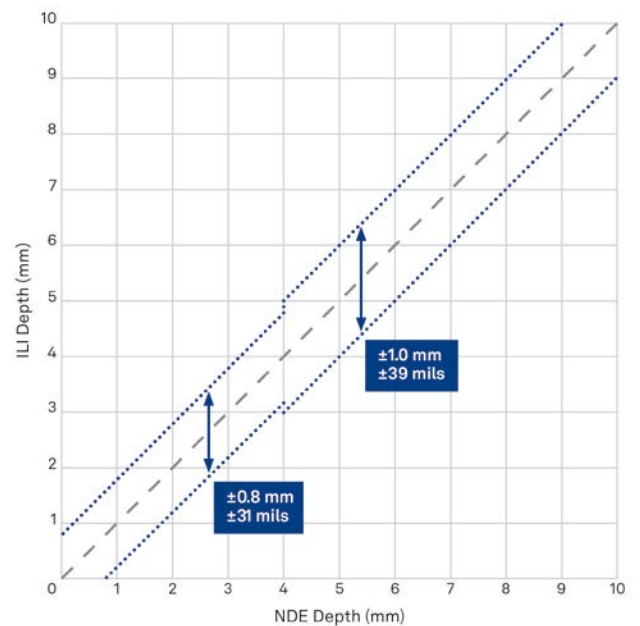
- Maximum skew angle 10° 10°
- Maximum tilt angle 45° 45°

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.

Pipeline Cross Section



Working range for EVO Eclipse UCx



Precise crack assessments to include depths above 4 mm (0.16 in)