

Testing for concealed cracks in bolted connections with thick walls

The ARK 31-2 is a toroidal core probe in an absolute circuit. It is designed for low-frequency tasks in the range from 30 Hz to 5 kHz. Its ring-shaped, focused eddy current field makes it less sensitive to interference from iron bolts or iron rivets. Its high penetration depth enables it to identify cracks in aluminum at depths of up to 10 mm.

The signal image above shows the crack between two bores at a depth of 6 mm in the medium layer of a bolted connection. To do so, the probe is positioned above the head of the ferritic bolted connection. The signal in the middle of the image shows a non-defective connection, while the signal above it is the crack.

A test piece with a defined defect is required in order to adjust the device parameter settings.

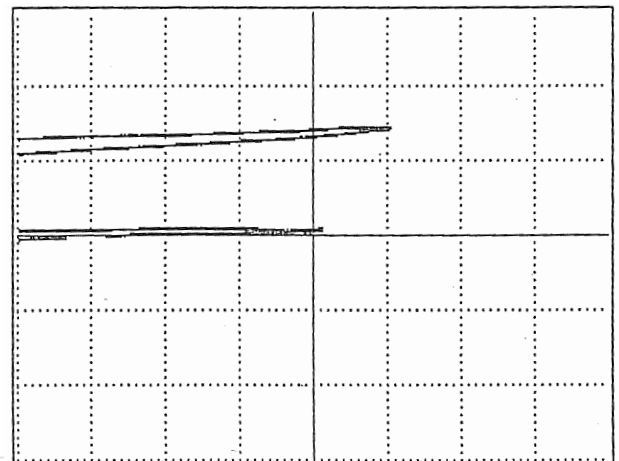


ARK 31-2 absolute probe

Application:

Crack detection in multi-layered bolted or riveted sheets.
Low interference from iron bolts and rivets due to the focused, ring-shaped eddy current field.

Probe system: Absolute ferrite core, transformer-like
Frequency range: 30 Hz - 5 kHz
Active range: Depending upon the diameter
Penetration depth: Approx. 4 - 10 mm
(depending upon the diameter)



Technical data

Cable: EK-X-HF
Housing: Plastic (Delrin), stainless steel
Diameter: 8 - 26 mm
Weight: 30 - 50 g
Order data: A00xxxx6 (Please inform us about the diameter)

Frequency: 220 Hz	Band Width Limit:Low Freq.
Phase: 102.0 °	X-Offset: 0
Amplitude: 100 %	Y-Offset: 0
Preamplifier: 1 dB*	Probe Input: Universal
MainAmp.: 21 dB	Display: y/x center
Y-Spread 0 dB	Record: on
Total Gain: 22/22 dB	RecordTime: 20s
Lowpass: 10.0 Hz	GridWidth: 40 dots
Highpass: static	Intensity: 5
HD-Filter: 0	GateMode: Circle
HF-Attenuator: off	Timebase: 5ms
	Persistence: 0.2s/200kHz
	Dotjoin: off
	Audio Alarm: off

* additional Preamp. + 20 dB