

I-Flex™ ECA Probes

The Swiss Army Knife of Surface Eddy Current Array Inspection



We believe that *I-Flex* probes are the all-around best flexible, plug-and-play ECA probes in the NDT industry — flexibility without any compromise on performance.

I-Flex probes are specifically designed to adapt to complex geometries which makes them perfect for one-pass examinations of pipes, nozzles, turbine blades, wheels, and any other smooth, curved surface. *I-Flex* also use real pancake coils, not PCB equivalents, which give them good sensitivity to subsurface defects and excellent signal quality.

Best Versatility

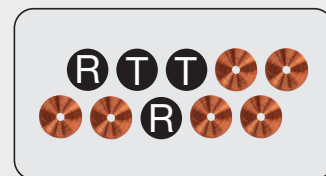
I-Flex probes are equipped with three built-in, adaptorless topologies. Topologies are the combination of how the coils are organized inside a probe and how they are activated.

Benefits and Features

- Flexible PCB offers high flexibility to adapt to tight radius and curved surfaces
- Multiple built-in topologies address various types of flaws, including subsurface flaws
- Real pancake coils for better penetration compared to other flexible ECA probes on the market
- Rugged, perfect for challenging applications and trials
- Streamlined design — array aligned with cable exit
- Three sizes — S, M, L
- Compatible with our standard, click-on encoder

I-Flex probes are equipped with the following topologies:

- **Impedance.** Offers a high level of sensitivity. It is capable of detecting discontinuities of any orientation (absolute and differential modes).
- **Single driver.** Uses one coil as the transmitter. This topology offers high channel density because of the higher number of coils in the probe.
- **Short, double driver.** Uses two coils excited simultaneously, acting as a single transmitter. This topology makes it possible to detect typically small axial and transverse defects. It is most often used in high-resolution probes.



Short, double driver topology

Specifications

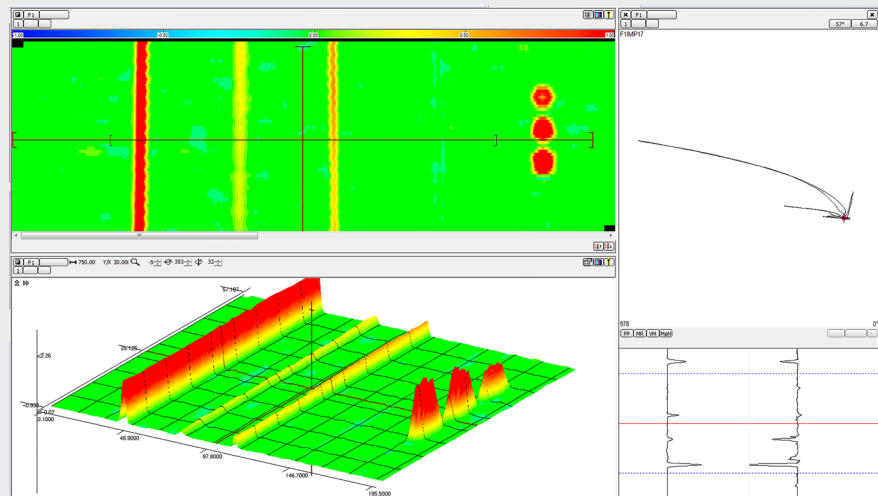
All *I-Flex* probes can use the impedance, single driver, and short, double driver topologies. We can also develop customized versions of *I-Flex* probes. Inquire for details.

Select from these three standard models, depending on your inspection requirements:

	Maximum Coverage	Balanced Coverage & Resolution	Super-High Resolution
Model	ECA-IFG-079-250-048-N03S	ECA-IFG-056-250-048-N03S	ECA-IFG-034-500-048-N03S
Casing	Large	Medium	Small
Coverage	79 mm (3.11 in.)	56 mm (2.21 in.)	34 mm (1.34 in.)
Central frequency	250 kHz	250 kHz	500 kHz
Frequency range	50–525 kHz	50–525 kHz	100–800 kHz
Coils (diameter × number)	5 mm × 48	3.5 mm × 48	2 mm × 48
Penetration (stainless steel/aluminum)	Up to 3 mm (0.118 in.)	Up to 2 mm (0.079 in.)	Surface-breaking defects only
Minimum detectable crack length	1.5 mm (0.059 in.)	1 mm (0.039 in.)	0.5 mm (0.020 in.)

Optional Encoder

High-precision, high-resolution (16.12 counts/mm) encoder for Eddyfi's entire standard surface probe series, equipped with an 18-pin connector compatible with *Ectane*™ and a 3 m (9.8 ft) cable. The click-on design of the encoder makes it extremely simple to install without any tools. Model: ENC-STD-1-18P-N03S.



Magnifi® I-Flex calibration data

