



— **SURF-X™** —  
Flexible Eddy Current Array Probes

**ULTIMATE  
FLEXIBILITY**



# Ultimate Probe Flexibility

The Surf-X family of flexible Eddy Current array probes features unique multiple coil sets and proprietary X-PROBE™ technology. Surf-X array probes can quickly and accurately test a wide range of materials and geometries saving valuable inspection time, while delivering high quality results.

With interchangeable electronics module, cable, detachable encoder and coil sets, Surf-X array probes provide flexibility and cost efficiencies like never before.

## FEATURES & BENEFITS

### Save Time and Money

- ▶ Electronics module, cable and detachable encoder can be used interchangeably and re-used with any subsequent Surf-X array probe coil sets (two types available: MIZ-21C and MIZ-200)
- ▶ Field interchangeable coil sets easily adapt to different materials and surface geometries at the inspection site
- ▶ Detachable handles to accommodate different applications and complex geometries
- ▶ Preset test configurations
- ▶ Ability to revise filters to optimize results

### Fast Inspection, No Chemicals

- ▶ **Chemical Testing Replacement:**  
Surface array probes are a cost-effective, chemical free replacement for Liquid Penetrant Testing (PT) and Magnetic Particle Testing (MT)
- ▶ **Single Sensor Probe Replacement:**  
The surface array option can reduce inspection time by up to 95% versus traditional pencil probes/conventional handheld surface probes

### Accurate, High Quality Results

- ▶ Faster and more complete coverage vs. traditional handheld probes
- ▶ Rotatable Encoder is standard, providing easy identification of flaw locations and dimensions
- ▶ Position indicators on the probe help with alignment and ensure the entire area of interest is inspected
- ▶ Patented and proven X-PROBE technology-based coil set delivers added dependability and accuracy
- ▶ Operates in absolute and multiple modes of driver pickup

For a lower total cost, excellent data quality and reduced inspection time compared to other methods, consider Surf-X array probes from Zetec.

# Smart Options

## Interchangeable Surf-X Coil Sets

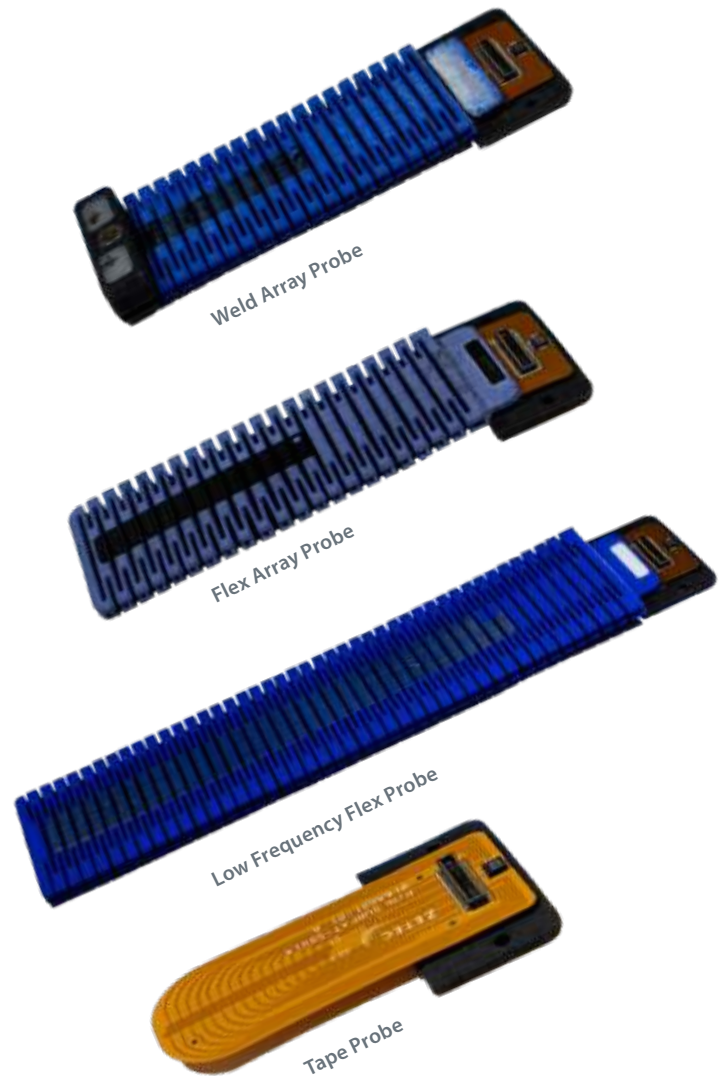
A key advantage of the Surf-X array probe family is the highly flexible design featuring interchangeable multiple coil sets. With Surf-X array probes, users in the field can change a coil set in less than a minute enabling the probe to easily adapt to different materials and surface geometries at the inspection site.

**Surf-X Weld Array Probe:** Innovative and patent pending mix of array and +point™ coils. The +point coils find indications in the hard to inspect weld toes while the array coils quickly inspect the remaining weld and heat affected zones. Handles have been designed to make inspecting butt and t-welds a breeze.

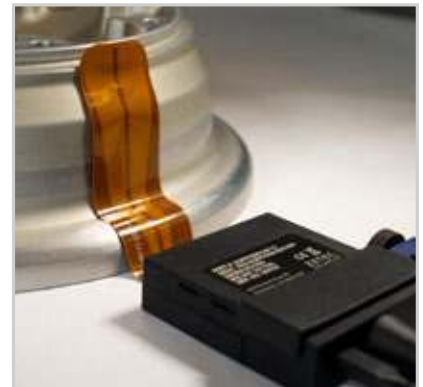
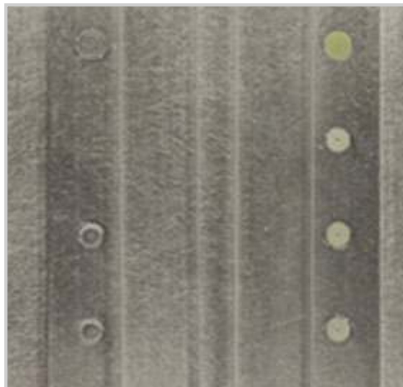
**Surf-X Flex Array Probe:** Flexible probe allowing detailed inspection on all materials and many geometries. Ideal for testing rows of flush rivets, replacing handheld probes. Replace your die penetrant testing on helicopter spars, train wheels or mining drums.

**Surf-X Low Frequency Flex Probe:** Ideal for testing thicker plates to find both near and far side indications. Can be used with a bend radius of 2 inches or larger.

**Surf-X Tape Probe:** Ideal for testing smooth surfaces and complex geometries such as turbine dovetails. Capable of finding very tiny surface flaws.



## Inspect Complex Geometries with Ease



# New Levels of Probe Versatility

## Versatile Electronics Module and Cable

The Surf-X array probe's electronics module and cable design offers breakthrough inspection efficiencies. These components can be used interchangeably across probe coil sets delivering material cost savings after initial purchase.

With subsequent Surf-X array probe purchases, the module and cable can be re-used saving time and money.



## Rotatable and Detachable Encoder

Surf-X array probes come with a highly versatile, detachable encoder that can connect in multiple locations on both the handle and electronics module providing maximum versatility when it comes to dealing with multiple positions as you probe.

For cost efficiency, the encoder can be used and re-used interchangeably with all Surf-X array probe coil sets.



## Wear Surface Options

Surf-X interchangeable coil sets come with wear surface options:

- **UHMW** for inspecting small indications on smoother materials.
- **Cloth wear surface** for protecting the array coils on smooth or polished surfaces. Ideal for airplane skins or smooth curved surfaces.
- **SuperFabric** for protecting array coils on rough surfaces like Butt and T-Welds.



SuperFabric

## Complete Eddy Current Array Solutions

### Highly Mobile.

The MIZ-21C Eddy Current handheld instrument used with the Surf-X array probe and software is the most cost-effective, portable surface array solution in the market.

### High Performance.

The rugged MIZ-200 Eddy Current array instrument combined with the Surf-X array probe and software deliver fast and accurate surface inspections.



## Probe Options to Meet Your Specific Needs

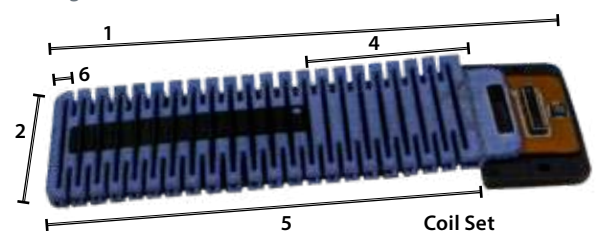
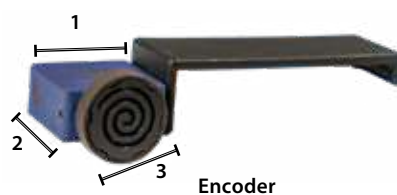
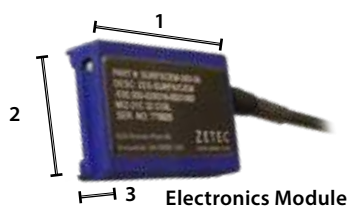
	Surf-X Weld Array	Surf-X Flex Array	Surf-X Low Frequency Flex	Surf-X Tape
Model (MIZ®-21C/200*)	XPSWC/XPSW	XPSFC/XPSF	XPSFC/XPSF	XPSFTC/XPSFT
Applications	Machine welds	Rows of airplane rivets. Mining equipment, train wheels	Multi-layer airplane skins and thick wall pipes	Surface cracks on smooth surfaces. Turbine roots
Materials	Ferrous, non-ferrous	Ferrous, non-ferrous	Ferrous, non-ferrous	Ferrous, non-ferrous
Subsurface	Non-ferrous	Non-ferrous	Non-ferrous	Non-ferrous
Surface	Ferrous, non-ferrous	Ferrous, non-ferrous	Ferrous, non-ferrous	Ferrous, non-ferrous
Min. Crack Length	0.026" (0.67mm)	0.026" (0.67mm)	0.082" (2.00mm)	0.021" (0.53mm)
Freq Range Driver Pickup	50 - 2800kHz	50 - 2800kHz	1 - 85kHz	1 - 4 MHz
Penetration	0.16" (4mm)	0.16" (4mm)	0.25" (6.35mm)	Surface
Coverage 32 coil 2x16 Coverage 64 coil 2x32* Coverage 128 coil 2x64*	1.7" (43mm)	1.7" (43mm)	4.0" (101.6mm)	1.1 / 2.2" (28 / 56mm) 2.2 / 4.4" (56 / 112 mm)* 4.4 / 8.8" (112 / 224 mm)*
Coil diameter	0.079" (2mm) 2+points	0.079" (2mm)	0.25" (6.35mm)	0.063" (1.60mm) 0.126" (3.20mm)
Bend radius with wear surface	0.5" (12.7mm)	0.5" (12.7mm)	2.0" (50.8mm)	0.25" (6.3mm)

## Component Measurements

†EM = Electronics Module

Electronics Module & Encoder	(1) Length	(2) Width	(3) Height			
Electronics Module 32 Coil	2.34" (59.4mm)	1.57" (39.9mm)	0.51" (13mm)			
Electronics Module 64 Coil	3.43" (87.1mm)	2.91" (73.9mm)	0.9" (22.9mm)			
Electronics Module 128 Coil	3.43" (87.1mm)	2.91" (73.9mm)	0.9" (22.9mm)			
Encoder (Height is wheel)	1.23" (31.2mm)	1.16" (29.5mm)	1" (25.4mm)			
Coil Sets	(1) Length	(2) Width	(3) Height	(4) EM† to Coil 1	(5) EM† to Tip	(6) Last Coil to Tip
SURF-X Flex*, **	3.01" (76.5mm)	1.26" (32mm)	NA	1.2" (30.5mm)	3.09" (78.5mm)	0.18" (4.6mm)
SURF-X Weld*, **	3.74" (95mm)	1.26" (32mm)	NA	1.2" (30.5mm)	3.01" (76.5mm)	0.03" (0.8mm)
SURF-X Low Freq*, **	6.81" (173mm)	1.57" (39.9mm)	NA	1.1" (27.9mm)	6.08" (154.4mm)	0.24" (6.1mm)
SURF-X Tape 32 coil 1.6mm*	2.15" (54.6mm)	0.95" (24.1mm)	NA	0.35" (8.9mm)	1.42" (36.1mm)	0.04" (1mm)
SURF-X Tape 32 coil 3.2mm*	3.15" (80mm)	0.95" (24.1mm)	NA	0.31" (7.9mm)	2.42" (61.5mm)	0.03" (0.8mm)
SURF-X Tape 64 coil 1.6mm	4.38" (111.3mm)	1.5" (38.1mm)	NA	1.05" (26.7mm)	3.16" (80.3mm)	0.07" (1.7mm)
SURF-X Tape 64 coil 3.2mm	6.4" (162.6mm)	1.5" (38.1mm)	NA	1.02" (25.9mm)	5.18" (131.6mm)	0.07" (1.7mm)
SURF-X Tape 128 coil 1.6mm	6.4" (162.6mm)	1.5" (38.1mm)	NA	1.05" (26.7mm)	5.18" (131.6mm)	0.07" (1.7mm)
SURF-X Tape 128 coil 3.2mm	10.43" (264.9mm)	1.5" (38.1mm)	NA	1.02" (25.9mm)	9.21" (233.9mm)	0.07" (1.8mm)

\*measurements do not include electronics module cover attached to probes. \*\* includes limiter in length and width measurement.



# Ordering Information

## Complete Probe Electronics Module, Encoder & Coil Set

Generate your part number from the individual tables below

**XPSWC - S02 - 06**

Instrument	Model Description
MIZ-21C/MIZ-200	
XPSWC/XPSW	Weld Array
XPSFC/XPSF	Flexible
XPSTC/XPST	Tape

Electronics Module	PN Suffix
Coil Count	
32	Sxx
64	Mxx
128	Lxx

Wear Surface	Thickness	PN Suffix/Tape
None	None	x00/x0000
Cloth	0.010"(0.25mm)	x01/x0001
SuperFabric	0.032"(0.660mm)	x02/x0002
UHMW	0.007"(0.18mm)	x03/x0003

Cable Length	PN Suffix
6ft (2m)	06
13ft (4m)	13
33ft (10m)	33

Not all options are available for every model. Please contact your Zetec representative for details.

### Electronics Module

Cable Length	MIZ-21C 32 Coil	MIZ-200 32 Coil	MIZ-200 64 Coil	MIZ-200 128 or 64 Coil
6ft (2m)	SURFXCEM-500-06	NA	NA	NA
13ft (4m)	SURFXCEM-500-13	SURFXEM-S00-13	SURFXEM-M00-13	SURFXEM-L00-13
33ft (10m)	SURFXCEM-500-33	SURFXEM-S00-33	SURFXEM-M00-33	SURFXEM-L00-33

### Detachable Encoder

Component	PN	Description
Detachable Encoder	SURFXEN-001	Detachable Encoder with 18" USBM Cord

### Interchangeable Coil Sets

Wear Surface	Weld	Flex	Low Frequency	Tape 3.2mm	Tape 1.6mm	Tape 3.2mm	Tape 1.6mm	Tape 3.2mm	Tape 1.6mm
	32 coil	32 coil	32 coil	32 coil	32 coil	64 coil	64 coil	128 coil	128 coil
None	NA	NA	NA	SURFXT-S0020	SURFXT-S0010	SURFXT-M0020	SURFXT-M0010	SURFXT-L0020	SURFXT-L0010
Cloth	SURFXW-S01	SURFX-S01	SURFX-SA1	NA	NA	NA	NA	NA	NA
SuperFabric	SURFXW-S02	SURFX-S02	SURFX-SA2	NA	NA	NA	NA	NA	NA
UHMW	NA	SURFX-S03	SURFX-SA3	SURFXT-S0023	SURFXT-S0013	SURFXT-M0023	SURFXT-M0013	SURFXT-L0023	SURFXT-L0013

### General Surf-X Probe Specifications

Shipping Dimensions: 10in x 8in x 6in (25.4cm x 20.3cm x 15.2cm)

Shipping Weight: < 2 lbs (0.9kg)

Operating Temperature: -10°C to 50°C (14°F to 122°F)

Storage Temperature: -20°C to 70°C (-4°F to 158°F)

For more information  
visit [zetec.com](http://zetec.com) or contact us at  
[customerservice@zetec.com](mailto:customerservice@zetec.com)

### Zetec: A Leading Supplier of Probes Worldwide

For 50 years, Zetec has manufactured over 10,000 probe designs to meet the changing needs of the nondestructive testing (NDT) market. We are a leading supplier of probes worldwide covering most applications and techniques. With world-class manufacturing facilities, Zetec probes deliver the best results for our customers.



Zetec holds ISO 9001 and ISO/IEC 17025 certifications



Zetec, Inc.  
8226 Bracken Pl. SE | Suite 100  
Snoqualmie, WA 98065  
Toll Free: 800.643.1771  
P: 425.974.2700