



2022 PRODUCT CATALOG





MIZ-21C PROBE AND ACCESSORY GUIDE



Recommended Probe Capability Matrix for Surfaces, Welds, Holes

Flaw Type / Probe Type (Model)	Surf-X (XPSC)	Pencil (DPT/DPTU)	Blade (BLD)	Slide (SLD)	Ring (RNG)	Spot (SPT)	Weld (WSPPP, WSPXP)	Conductivity (T/D)	Bond Tester (1) (SP3L)	Rotating (AFRTP, ARTP, CRTP, RTP)	Manual Bolt Hole / Countersink (MBHP, MCSP)
Crack detection and characterization	✓	✓	✓	✓	✓	✓	✓	—	—	✓	✓
Corrosion	✓	✓	✓	✓	✓	✓	✓	—	—	✓	✓
Pitting	✓	✓	✓	✓	✓	✓	✓	—	—	✓	✓
Ferrous Weld	✓	—	—	—	—	—	✓	—	—	—	—
Nonferrous Weld	✓	○	○	—	—	—	✓	—	—	—	—
C-Scan / 3D Resolution	✓	—	—	—	—	—	—	—	—	✓	✓
Countersinks	—	—	—	—	—	—	—	—	—	✓	✓
Paint Thickness	✓	○	○	—	—	○	○	✓	—	—	—
Conductivity	—	—	—	—	—	—	—	✓	—	—	—

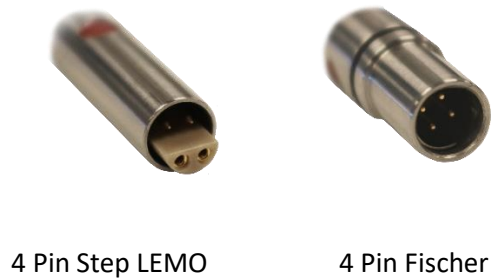
(1) Bond tester probes currently supported only for MIZ-21SR already in the field.

-  Best method for speed and flaw characterization
-  The test method has proven results for the specific application
-  The test results obtained from the test method can be interpreted reasonably
-  Test method is not suitable or non-reliable in terms of repeatability

Probe Connector Pictures

 <p>Microdot</p>	 <p>Triax</p>	 <p>3 Pin</p>	 <p>4 pin Amphenol</p>
 <p>4 Pin LEMO</p>	 <p>4 Pin Fischer Large (MIZ-1 A/B)</p>	 <p>4Pin Fischer (102) Small 4 female</p>	 <p>5 Pin Cannon</p>
 <p>12 Pin Lemo</p>	 <p>BNC Male</p>		

Rotating scanner probe connectors



Rotating scanner to MIZ-21C connectors

		
MIZ-21C 18Pin to Zetec 18Pin PN 111A810-00	MIZ-21C 18Pin to GE 12Pin PN 111A802-00	MIZ-21C 18Pin to Olympus 16Pin PN 111A803-00

MIZ-21C Instrument Connectors



26 pin surface array

18Pin for Handheld and rotating scanners

MIZ-21C Instruments / ZM-5 Rotating Scanner

Sales Part No	Sales Part Description	Comments
	Instruments/Scanner	
111A901-00	ZES-HHT-MIZ-21C-SF	Single Frequency
111A902-00	ZES-HHT-MIZ-21C-DF	Dual Frequency. Supports ZM-5 Rotating Scanner
111A903-00	ZES-HHT-MIZ-21C-ARRAY	Supports Surf-X array probes
111A904-00	ZES-HHT-MIZ-21C-SF WIRELESS-LOCKED	
111A905-00	ZES-HHT-MIZ-21C-DF WIRELESS-LOCKED	
111A906-00	ZES-HHT-MIZ-21C-ARRAY WIRELESS-LOCKED	
169A000-00	ZES-SCN-ZM-5 HIGH SPEED ROTATING SCANNER	
169A901-00	ZES-SCN-ZM-5 HIGH SPEED ROTATING SCANNER KIT	
	Instruments Upgrades	
10057306	ZES-HHT-MIZ-21C UPGRADE C TO ARRAY	
10057307	ZES-HHT-MIZ-21C UPGRADE SF TO ARRAY	
10057305	ZES-HHT-MIZ-21C UPGRADE SF TO C	



Probe Handles / Cables for MIZ-21C Array Surf-X Probe

Part Number	MIZ-21C Array connector	Cable Length	Probe Head / Scanner Connector
111A801-00	26-PIN	6ft (1.8m)	26-PIN_SURF-X_ARRAY_PROBES
111A837-00	26-PIN	13ft (4m)	26-PIN_SURF-X_ARRAY_PROBES
111A826-00	26-PIN	33ft (10m)	26-PIN_SURF-X_ARRAY_PROBES
111A825-00	26-PIN	65ft (20m)	26-PIN_SURF-X_ARRAY_PROBES

Probe Handles / Cables for MIZ-21C for Probe Heads

Part Number	MIZ-21C connector	Handle Length	Cable Length	Probe Head Connector
111A804-00	18-PIN	No Handle	6ft (1.8m)	MICRODOT
111A805-00	18-PIN	No Handle	6ft (1.8m)	Male TRIAX (LEMO or Fischer)
111A806-00	18-PIN	2.5in (63mm)	6ft (1.8m)	3-PIN
111A807-00	18-PIN	No Handle	1ft (0.3m)	4-PIN FISCHER Large
111A814-00	18-PIN	No Handle	6ft (1.8m)	4-PIN FISCHER Large
111A815-00	18-PIN	No Handle	1ft (0.3m)	BNC female and cable Probe has BNC male connector
111A816-00	18-PIN	No Handle	1ft (0.3m)	4-PIN Amphenol and cable
111A817-00 ^u	18-PIN	No Handle	6ft (1.8m)	5-Pin Cannon
111A820-00	18-PIN	No Handle	6ft (1.8m)	4-PIN Female LEMO (GE Probes)
111A822-00 ^u	18-PIN	No Handle	6ft (1.8m)	4 PIN MICROTECH
111A824-00	18-PIN	No Handle	6ft (1.8m)	Dual (2) MICRODOT
111A827-00 ^u	18-PIN	No Handle	6ft (1.8m)	2 PIN ONDT Conductivity probe
111A828-00 ^u	18-PIN	No Handle	6ft (1.8m)	16 PIN ONDT Conductivity probe
111A830-00 ^u	18-PIN	No Handle	1ft (0.3m)	GE / Hocking probes with 12-PIN Male LEMO and cable. May need different adapters for reflection and differential / absolute probes.
111A831-00	18-PIN	No Handle	1ft (0.3m)	LEMO 00 and cable
TBD ^u	18-PIN	No Handle	1.5ft (0.5m)	16 PIN ONDT Conductivity probe and cable
111A829-00 ^u	18-PIN	No Handle	6ft (1.8m)	7 PIN LEMO "Powerlink"
111A832-00	18-PIN	No Handle	6ft (1.8m)	4-PIN FISCHER Small 102 (4 female)

^u Under review for compatibility

Probe Cables for MIZ-21C for Rotating Scanners

Part Number	MIZ-21C connector	Cable Length	MIZ-21C to Scanner Connector
111A810-00	18-PIN	6ft (1.8m)	18-PIN ZETEC SCANNER (PN: 169A901-00)
111A802-00	18-PIN	6ft (1.8m)	12-PIN Male LEMO GE SCANNER (MiniDrive); Hocking (33A100); Ether (ARD002)
111A803-00	18-PIN	6ft (1.8m)	16-PIN OLYMPUS SCANNER (MiniMite); 16-PIN OLYMPUS (SpitFire 2000); RA 2000
111A818-00	18-PIN	6ft (1.8m)	8-PIN LEMO. For use with Zetec 2000-02-01 or 10013082 (Rotating Scanner); 2000-02-05 or (Indexing Scanner)
111A819-00	18-PIN	6ft (1.8m)	12-PIN LEMO For use with Zetec 2100-02-10 or 10015217 (ZS-4)
111A821-00 Not supported	18-PIN	6ft (1.8m)	16-PIN UniWest ECS-1; UniWest JF-15 (Keyed different than 111A803-00 and 24V)
111A823-00	18-PIN	6ft (1.8m)	8 PIN Rohmann (MR3-MF) and (MR3-HF);

Probe Handles / Cables for Other Zetec Instruments

Instrument	Cable Part Number	Handle Length	Cable Length	Instrument connector	Probe Head Connector
MIZ-21A/B/SR	10025251	2in (51mm)	6ft (1.8m)	4 pin Fischer	3 PIN
MIZ-20/22/40/50	10026386	2in (51mm)	6ft (1.8m)	4 pin Amphenol	3 PIN
MIZ-21 A/B/SR	999A800-00 ^u	No Handle	6ft (1.8m)	4 pin Fischer	MICRODOT
MIZ-20/22/40/50	999A801-00 ^u	No Handle	6ft (1.8m)	4 pin Amphenol	MICRODOT
MIZ-21 A/B/SR	999A802-00 ^u	No Handle	1ft (1.8m)	4 pin Fischer	BNC
MIZ-21 A/B/SR	TBD ^u	No Handle		4 pin Fischer	(2) BNC
MIZ-20/22/40/50	999A803-00 ^u	No Handle	1ft (1.8m)	4 pin Amphenol	BNC
MIZ-21 A/B/SR	10003552-1	No Handle	6ft (1.8m)	4 pin Fischer	TRIAx
MIZ-20/22/40/50	TRIAx4PMA-001	No Handle	6ft (1.8m)	4 pin Amphenol	TRIAx
MIZ-27	10007562-1	No Handle		12P Bendix	TRIAx
MIZ-21 A/B/SR	999A806-00 ^u	N/A	6ft (1.8m)	4 pin Fischer	4 PIN Fischer
MIZ-20/22/40/50	999A807-00 ^u	N/A	6ft (1.8m)	4 pin Amphenol	4 PIN Fischer
MIZ-21 A/B/SR	999A810-00 ^u	N/A	6ft (1.8m)	4 pin Fischer	5-Pin Cannon
MIZ-21 A/B/SR	999A811-00 ^u	N/A	6ft (1.8m)	4 pin Fischer	4 PIN LEMO (GE Probes)
MIZ-20/22/40/50	999A812-00 ^u	N/A	6ft (1.8m)	4 pin Amphenol	4 PIN MICROTECH

^u Under review for compatibility

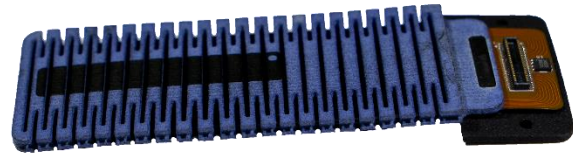
Probe Cables for MIZ-xxx for Rotating Scanners

Instrument	Part Number	Instrument connector	Cable Length	Scanner Connector
MIZ-21B	10013790-6	16 pin Fischer and 4 pin Fischer	6ft (1.8m)	ZS-4 (12 pin LEMO)
MIZ-21B	10055354		6ft (1.8m)	GE Hocking Minidrive
			6ft (1.8m)	

Eddy Current Surface Array Probes

Eddy current surface array probes allow for fast inspection of surfaces with varying materials and geometries utilizing the eddy current technique. Surface preparation is not necessary as compared to penetrant inspection methods. Additionally, there are no chemical usage or environmental concerns as compared to Magnetic Particle or penetrant inspection methods.

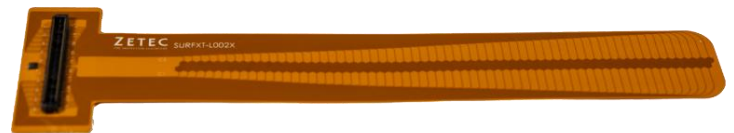
XPSC Surf-X™ Flexible Array Probe Family



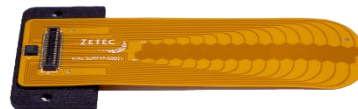
32 Coil Flexible Array Probes



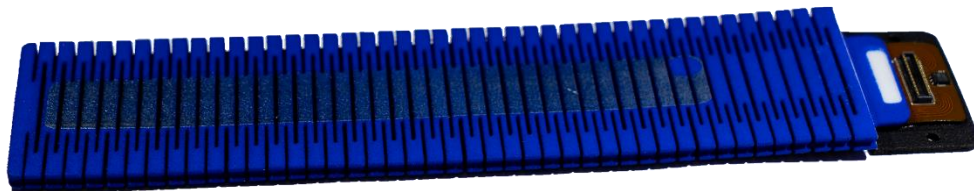
32 Coil Weld Array Probes



32, 64 and 128 Coil Tape Array Probes



Optional Encoder



32 Coil Flexible Low Frequency Array Probe

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

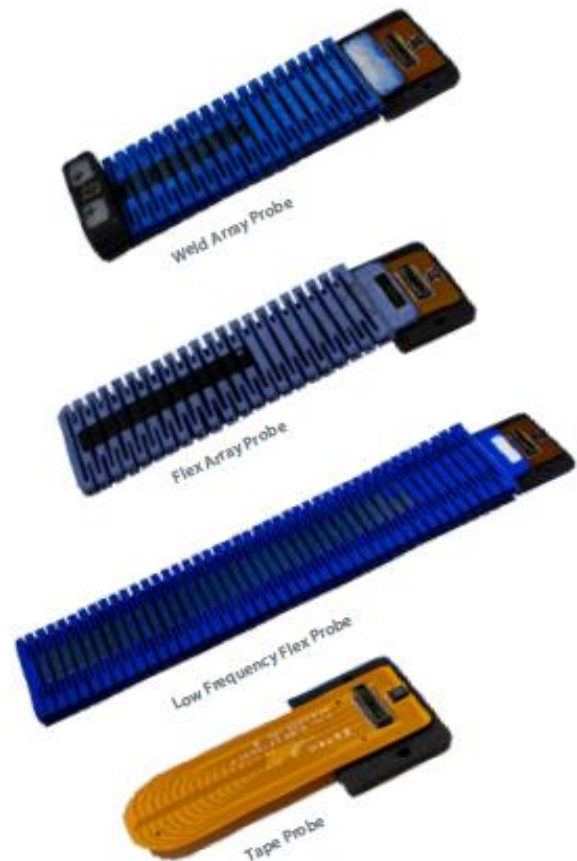
A key advantage of the Surf-X array probe family is the highly flexible design featuring interchangeable multiple coil sets. With Surf-X array probes, users in the field can change a coil set in less than a minute enabling the probe to easily adapt to different materials and surface geometries at the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

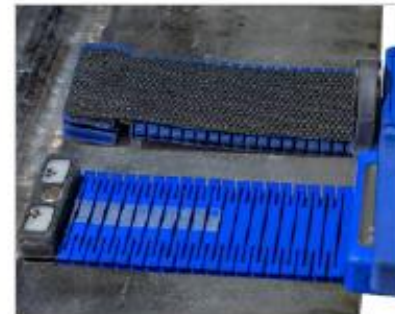
For cost efficiency, the encoder can be used and re-used interchangeably with all Surf-X array probe coil sets.



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)

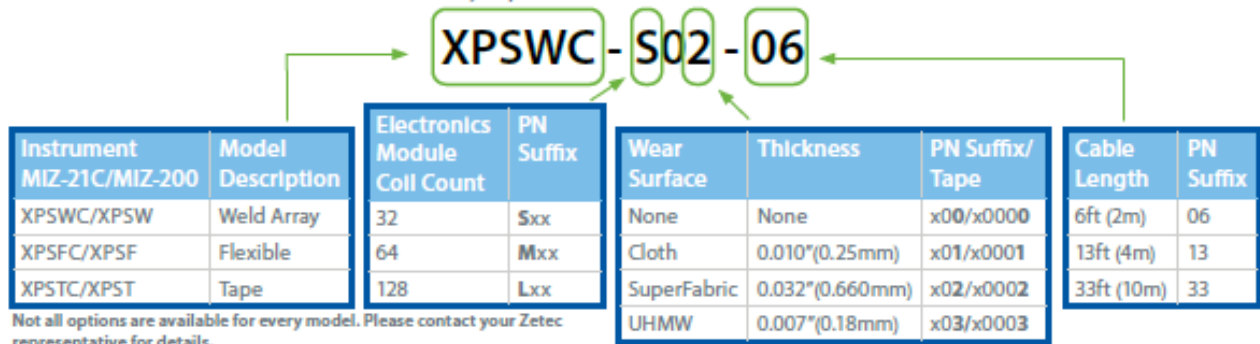
*measurements do not include electronics module cover attached to probes. ** includes limiter in length and width measurement.



Ordering Information

Complete Probe Electronics Module, Encoder & Coil Set

Generate your part number from the individual tables below



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-S00-06	NA	NA	NA
13ft (4m)	SURFXCEM-S00-13	SURFXEM-S00-13	SURFXEM-M00-13	SURFXEM-L00-13
33ft (10m)	SURFXCEM-S00-33	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

Surf-X™ Array Probe

Improve Inspection Quality, Safety and Speed while Reducing Total Cost

Introducing the Zetec Surf-X line of surface array probes. Featuring a unique flexible circuit design and proprietary X-Probe™ technology, Surf-X probes can lower total cost, provide excellent data quality, and significantly reduce inspection time compared with other inspection methods.

FEATURES & BENEFITS

Fast Inspections, No Chemicals

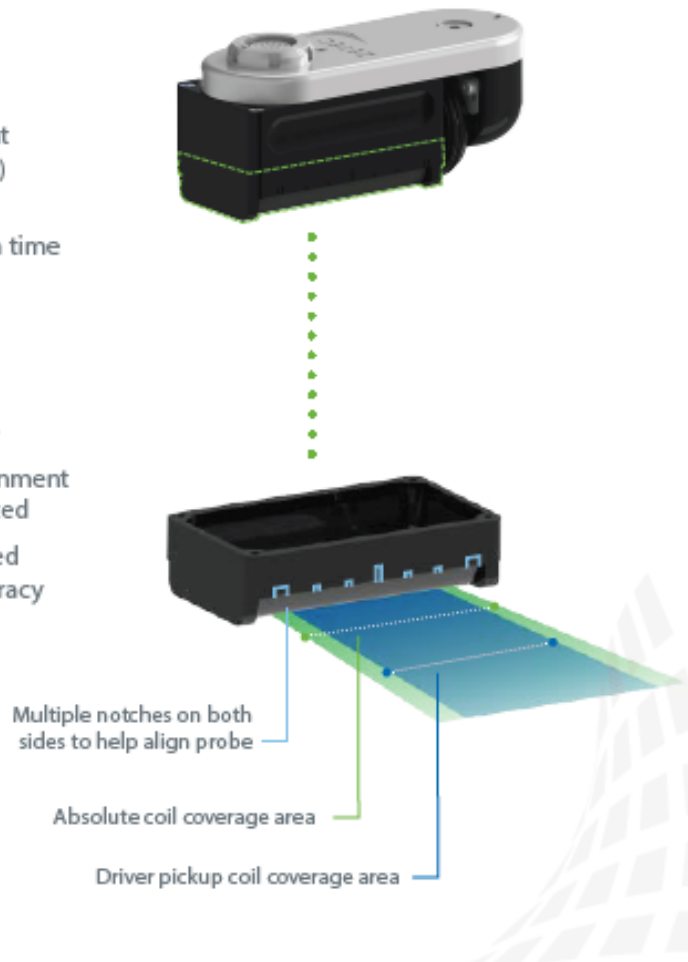
- ▶ **Chemical Testing Replacement:**
Surface array probes are a cost-effective, chemical free replacement for Liquid Penetrant Testing (PT) and Magnetic Particle Testing (MT)
- ▶ **Single Sensor Probe Replacement:**
The surface array option can reduce inspection time by up to 95% versus traditional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

Accurate, High Quality Results

- ▶ 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

Low Cost of Ownership

- ▶ Long life wear material tested to 10,000ft. on a weld
- ▶ Field-replaceable components can be swapped out in less than 5 minutes



Standard Configurations

Coverage Width	Coils	Cable Adapter Lengths	Materials	Penetration Depth	Weld Crown	Part Number
Absolute 1.7" (43.2mm) Driver Pickup 1.5" (38.1mm)	2x16 (32)	6ft (1.8m)	<ul style="list-style-type: none"> • Non-Ferrous • Ferrous (surface flaws) 	Up to 0.25" (6.3mm)	Up to 0.25" (6.3mm)	XPSC-001
<i>Other options available upon request</i>						

Applications

- ▶ Turbine blades
- ▶ Fuselage
- ▶ Welds
- ▶ Pressure vessels

General Specifications

- ▶ Shipping Dimensions: 10in. x 8in. x 6in.
(25.4cm x 20.3cm x 15.2cm)
- ▶ Shipping Weight: < 2 lbs (0.9kg)
- ▶ Operational Temperature: 40°F to 113°F (4°C to 45°C)
- ▶ Recommended Storage Temperature: 55°F to 75°F (13°C to 24°C)



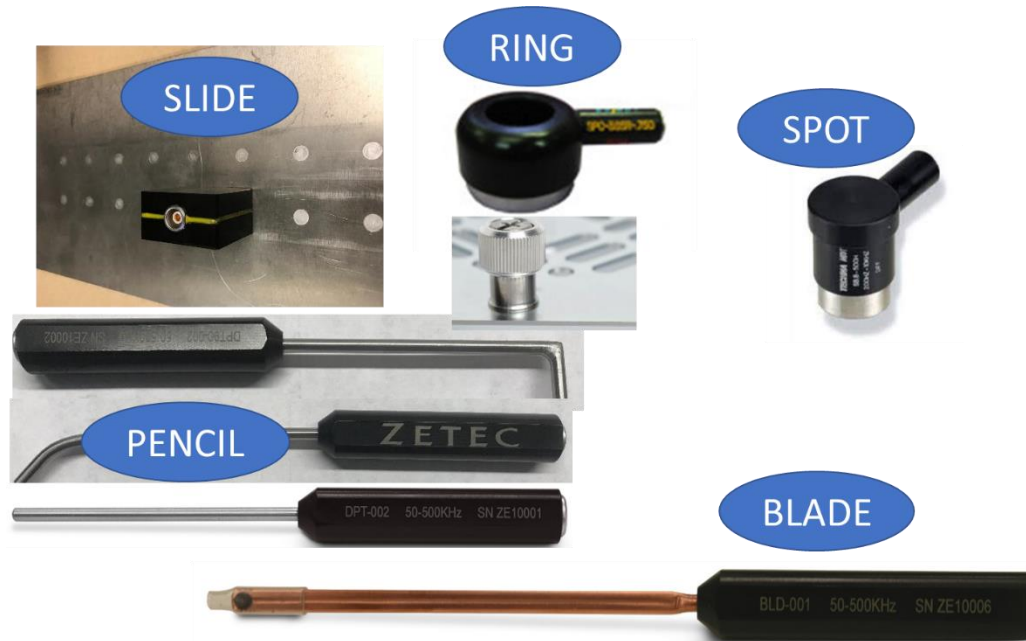
Recommended Instruments and Components

- ▶ MIZ®-21C Array: The Most Advanced Handheld With Surface Array Capability (PN 111A903-00)
- ▶ Cable adapter: MIZ®-21C to array probe 6ft (1.8m) (PN 111A801-00)
- ▶ Replaceable wear surface assembly (PN 126A200-00)
- ▶ Factory replaceable coil set assembly (PN 126A602-00)
- ▶ Replaceable encoder wheel (PN 126A300-00)

Zetec: The largest 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.

Aerospace Probe Starter Kit



Part Number: PROBEKIT-001

Part Number	Full Description
BLD-001	BLD = Detachable Blade Probe Straight (for Blade Probes, Probe Diameter is the blade thickness); Item Diameter: 0.060in (1.5mm); Coil: 250= 50-500 kHz; Length: 6in (152mm); Connector: 1 Pin Female Triaxial Connector Handheld
SLD-001	SLD = Detachable Sliding Probe with Reflection (Driver Pick-up Coils); Item Diameter: 0.500in (12.7mm); Coil: 1-100 kHz; Length: No cable; Connector: 1 Pin Female Triaxial Connector Handheld; MIZiD: No; Coil Diameters 0.500" (12.7mm)
SPT-001	SPT = Detachable Spot Probe with Reflection (Driver Pick-up Coils); Item Diameter: 0.400in (10.2mm); Coil: .5 - 60 kHz; Length: No cable; Connector: 1 Pin Female Triaxial Connector Handheld; MIZiD: No; Coil Diameters 0.400" (10.2mm)
RNG-001	RNG = Detachable Ring Probe with Reflection (Driver Pick-up Coils); Item Diameter: 0.670in (17mm); Coil: 047= .1-100 kHz; Length: No cable; Connector: 1 Pin Female Triaxial Connector Handheld; MIZiD: No; Coil Diameters: 0.670" (25.5mm) Internal Diameter, 1.100" (17.0mm) outer diameter
DPT90-002	DTP90 = Detachable Pencil Tip Probe 90 Degree Shielded; Item Diameter: 0.125in (3.2mm); Coil: 250= 50-500 kHz; Length: 5in (127mm); Connector: 1 Pin Female Triaxial Connector Handheld; MIZiD: No; Drop is 0.5 inch (12.7mm)
DPT45-002	DTP45 = Detachable Pencil Tip Probe 45 Degree Shielded; Item Diameter: 0.125in (3mm); Coil: 250= 50-500 kHz; Length: 5in (127mm); Connector: 1 Pin Female Triaxial Connector Handheld; MIZiD: No; Drop is 0.5 inch (12.7mm)
DPT-002	DTP = Detachable Pencil Tip Probe Straight Shielded; Item Diameter: 0.125in (3mm); Coil: 250= 50-500 kHz; Length: 5in (127mm); Connector: 1 Pin Female Triaxial Connector Handheld
111A805-00	6ft MIZ-21C to Triax Probe Connector

Pencil Probes

DPT DPTR Detachable Tip Pencil Probe Straight Shielded

DPTU Detachable Tip Pencil Probe Straight Unshielded



DPT45 DPT45R Detachable Tip Pencil Probe 45° Degree Shielded

DPT45U Detachable Tip Pencil Probe 45° Unshielded



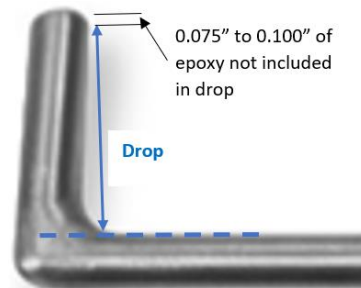
DPT90 DPT90R Detachable Tip Pencil Probe 90° Shielded

DPT90U Detachable Tip Pencil Probe 90° Unshielded



Applications / Standard Features

- Designed for general crack detection.
- **Microdot** connectors are absolute with no internal balance coil
- **Triax** connectors are absolute bridge with internal balance coil
- Models DPTR, DPT45R & DPT90R are **Triax** connectors for reflection mode
- Ferrite Core Pancake Coils with Shielded or Unshielded options
- Standard drop is 0.5" (12.7mm). Other drops upon request.
- Will detect indications down to approximately ½ the coils diameter
- Handle length is 2.5" (63.5mm)



Probe shaft diameter and coil OD for each shaft size	Connector to tip lengths	Frequencies Options	Connector Options
0.125" (3.2mm)* 0.058" (1.47mm)	4" (mm)	*50-500kHz	Microdot
0.093" (2.4mm) 0.050" (1.27mm)	*5" (mm)	500kHz-1MHz	* Triax
0.072" (1.8mm) 0.049" (1.24mm)	6" (mm)	**1-3MHz (0.125 shaft only)	
0.062" (1.6mm) *** 0.049" (1.24mm)	Custom	**1-6MHz (0.125 shaft only)	
* most common Custom options are available for all items			
** Recommend for 1-3 MHz & 1-6 MHz uses unshielded models DPTU, DPT45U and DPT90U for improved response			
*** 0.062" has 0.125" shaft and 0.062" tip at the end of the shaft			

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

DPTTAP Detachable Tip Pencil Probe Tapered Shielded

Applications / Standard Features

- Designed for general crack detection.

Probe Shaft Diameter	Probe Coil Outside Diameter	Connector to tip length options	Frequencies Options	Connector Options
N/A	0.062" (1.6mm)	4" (mm)	*50-500kHz 500kHz-1MHz **1-3MHz (0.125 shaft only)	Microdot Triax
* most common ** 1-3MHz uses unshielded models DPTU, DPT45U and DPT90U to provide a better response				

Pencil probes can detect indications down to approximately ½ the coils diameter.

Pencil Probe Tip Protection

Note: Zetec does not sell the below items for protecting the tips. This is for your reference.

Protect the materials you are inspecting and the probe coils.

From 33B-1-2: NONDESTRUCTIVE INSPECTION GENERAL PROCEDURES AND PROCESS CONTROLS

4.1.1.4: Teflon tape: It is required that teflon tape be applied to the contact surface of the probes to protect the probe tip from excessive wear and damage and to reduce probe noise. P/N 3M 5480 or equivalent, maximum thickness 0.005".

or

TapeCase ¾-5-423-x UHMW Tape Roll ¾ in. (W) x 15 ft. (L) - Abrasion Resistant High Tack Acrylic Adhesive.

Part Number	Thickness
¾-5-423-3	0.005"
¾-5-423-5	0.007"
¾-5-423-10	0.010"

Blade Probes

BLD Detachable Tip Pencil Probe Straight Shielded



BLD45 Detachable Tip Blade Probe 45 degree Shielded

BLD60 Detachable Tip Blade Probe 60 degree Shielded

BLD90 Detachable Tip Blade Probe 90 degree Shielded

Applications / Standard Features

- Designed for surface detection in narrow slots or gaps. Both sides of the probe will detect defects.
- **Shielded
- Drop is 0.5" (12.7mm) for any angled probes. Other drops upon request.

Shaft Thickness (Width of the shaft)	Connector to tip length Options	Frequencies Options	Connector Options
0.030" (0.8mm) 0.045" (1.1mm) *0.060" (1.5mm) 0.090" (2.3mm)	6" (mm)	*50-500kHz **1-3MHz (0.125 coil only)	Triax
* most common Custom options are available for all items ** 1-2MHz uses unshielded models BLDU, BLD45U, BLD60U, BLD90U to provide a better response Note: Microdot connectors are not used because Triax provides a better response			

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Slide Probes

SLD Detachable Tip Sliding Probe with Reflection (Reflection / Driver Pick-up Coils)

For detection of near side to far side indications near fasteners. For faster inspections ask about Zetec's Surf-X probes.



Probe Coil outside diameter	Frequencies Options	Connector Options
Customer recommended coil diameter or coverage width	Provide Frequency	Triax
Custom options are available for all items		

Coil diameter should be sized to find flaws of interest.

Applications / Standard Features

- Inspecting rows of flush fasteners

Example of commonly used probe

Part Number	Description	Probe Coil Outside Diameter	Coil operation	Frequencies	Connector
SLD-001	ZHHD-SLD-E00.500-0049-00Z0000	0.500" (12.7mm)	Reflection (Driver Pick-up)	1-100 kHz	Triax

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Adjustable Slide Probes

SLDADJ Detachable Tip Adjustable Sliding Probe with Reflection (Reflection / Driver Pick-up Coils)

For detection of near side to far side indications over protruding fasteners.



Probe Coil outside diameter	Frequencies Options	Connector Options
Customer recommended coil diameter or coverage width	Provide Frequency	Triax
Custom options are available for all items		

Coil diameter should be sized to find flaws of interest.

Applications / Standard Features

- Inspecting rows of protruding fasteners
- Includes 0.10" and 0.05" spacers

Example of commonly used probe

Part Number	Description	Probe Coil Outside Diameter	Coil operation	Frequencies	Connector
SLDADJ-001	ZHHD-SLDADJ-E00.500-#-00D0000	0.500" (12.7mm)	Reflection (Driver Pick-up)	1.0-20 kHz	Triax

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Ring Probes

RNG Detachable Tip Ring Probe with Reflection (Driver Pick-up Coils)

RNGB Detachable Tip Ring Probe with Reflection (Bridge / Differential)

For examination the body surface of protruding fasteners



Probe Coil inside diameter	Frequencies Options	Connector Options
Customer recommended coil inside diameter or coverage width	Provide Frequency	Triax
Custom options are available for all items		

Applications / Standard Features

- Inspecting protruding fasteners for surface and subsurface cracks in the material or multilayer structure

Example of commonly used probe

Part Number	Description	Probe Coil Inside / Outside Diameter	Coil operation	Frequencies	Connector
RNG-001	ZHHD-RNG-E00.670-047-00Z0000	0.670" (17.0mm) / 1.100" (27.9mm)	Reflection (Driver Pick-up)	100Hz – 100 kHz	Triax
RNGB-001	ZHHD-RNGB-E00.330-#-00Z0000	0.330" (8.5mm) / 0.830" (21.4mm)	Bridge / Differential	100Hz - 1kHz	Triax

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Spot Probes

SPT Detachable Tip Spot Probe with Reflection (Driver Pick-up Coils)

SPTU Detachable Tip Spot Probe with Reflection (Driver Pick-up Coils) Unshielded



Probe Coil outside diameter	Frequencies Options	Connector Options
Customer recommended coil diameter or coverage width	Provide Frequency	Triax
Custom options are available for all items		

Applications / Standard Features

- Inspecting deep and far side flaws
- Spot probes typically have ferrite cores

Example of commonly used probe

Part Number	Description	Probe Coil Outside Diameter	Coil operation	Frequencies	Connector
SPT-001	ZHHD-SPT-E00.400-049-00Z0000	0.400" (10.2mm)	Reflection (Driver Pick-up)	0.5-60 kHz	Triax
SPTU-001	ZHHD-SPTU-E00.250-#-00Z0000	0.250" (6.4mm)	Reflection (Driver Pick-up)	100-500 kHz	Triax

Minimum outside coil diameter is 0.250"

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Weld Probes

WSPPP Weld Scan Probe with Differential Plus Point Coil



Applications / Standard Features

- Inspection of Raised Weld Beads
- Operating in Differential Mode

WSPXP Weld Scan Probe with Driver Pickup Cross Point Coil



Applications / Standard Features

- Inspection of Flush Ground Welds (better for flat surfaces)
- Operating in Driver-Pickup Mode

Part Numbers	Coil Diameter Options	Probe Tip Diameter Options	Handle Length	Frequencies	Connector
WSPPP-001	0.245" (6.22mm)	0.312" (7.92mm)	5.0" (127mm)	30-300kHz +point	Triax
10025177			NA	30-300kHz +point	3 Pin
WSPXP-001			5.0" (127mm)	30-300kHz Xpoint	Triax
10025328			NA	30-300kHz Xpoint	3 Pin

Custom options are available for all items

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

T/D (New SPT) Conductivity Probe



SPT-015 / 017

Example of commonly used probe

Part Numbers	Description	Cable Length	Adapter to MIZ-21C	Frequency	Connector
10025934	ZHHP-T/D-375-SP-6-4PA	6ft	111A816-00	60kHz	4 pin Amphenol
10025171	ZHHP-T/D-375-SP-6-4PF	6ft	111A807-00	60kHz	4 pin Fischer
SPT-015	ZHHD-SPT-E00.329-#-00Z0000	None	111A805-00	60 +/- 10kHz	Triax
SPT-017	ZHHD-SPT-E00.329-#-00Z0000	None	111A805-00	500 +/- 20kHz	Triax

Applications / Standard Features

- Frequency Selection: The thickness of the test material should be thicker than 3 standard depths of penetration for the selected frequency. For thinner materials select the higher frequency probe. **(Selected frequency should allow for at least 3 standard depths of penetration)**
- Determining conductivity of metals and thickness of coatings
- Probe receive coil is 0.329" (8.4mm). The probe body at the coil is 0.500" (12.7mm)
- MIZ-21C is set up to run conductivity with these probe coils.

Supporting Instruments

MIZ-21C (all Versions)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Probes for Rotating Scanners

RTP Rotating Probe for Mini Scanners, Reflection D coils (Driver Pick-up)



Hole Size	Frequencies Options	Connector Options
Customer recommended hole diameter range	Provide Frequency Range	4 Pin Fischer (Zetec / GE Scanners) 4 Pin Step LEMO (Most Olympus Scanners)
Custom options are available for all items		

Applications / Standard Features

- Inspecting flaws on the ID of a fastener hole
- Reflection (Driver Pick-up D coils)
- 50 – 500 kHz range also available

Commonly used probes

Part Number	Hole Diameter Range	Working Length	Connector type	Frequency Range
RTP-040	0.093-0.125in (2.36-3.18mm)	1.10" (28mm)	4 Pin Fischer	100-2000 kHz
RTP-013	0.125-0.156in (3.18-3.96mm)	1.75" (44mm)	4 Pin Fischer	100-2000 kHz
RTP-014	0.156-0.187in (3.96-4.75mm)	1.75" (44mm)	4 Pin Fischer	100-2000 kHz
RTP-001	0.187-0.218in (4.75-5.54mm)	1.75" (44mm)	4 Pin Fischer	100-2000 kHz
RTP-003	0.218-0.250in (5.54-6.35mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-004	0.250-0.281in (6.35-7.14mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-005	0.281-0.312in (7.14-7.92mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-006	0.312-0.375in (7.92-9.53mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-002	0.375-0.437in (9.53-11.1mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-007	0.437-0.500in (11.1-12.7mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-008	0.500-0.562in (12.7-14.27mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-009	0.562-0.625in (14.27-15.88mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-010	0.625-0.687in (15.88-17.45mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-011	0.687-0.750in (17.45-19.05mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz
RTP-012	0.750-0.812in (19.05-20.62mm)	2.0" (51mm)	4 Pin Fischer	100-2000 kHz

Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

ARTP Adjustable Rotating Probe for Mini Scanners, Reflection D coils (Driver Pick-up) Y-Type



Hole Size	Frequencies Options	Connector Options
Customer recommended hole diameter range	Provide Frequency Range	4 Pin Fischer (Zetec / GE Scanners) 4 Pin Step LEMO (Most Olympus Scanners)
Custom options are available for all items		

Applications / Standard Features

- Inspecting flaws on the ID of a fastener hole. Adjustable probe tips coverage a large range of diameters than non-adjustable probe tips.
- Reflection (Driver Pick-up D coils) Y-Type
- 50 – 500 kHz range also available

Commonly used probes

4Pin Fischer PN	4 Pin Step LEMO PN	Hole Diameter Range	Working Length	Frequency Range
ARTP-002	ARTP-016	0.125-0.156in (3.18-3.96mm)	1.75" (44mm)	100-2000 kHz
ARTP-003	ARTP-017	0.156-0.187in (3.96-4.75mm)	1.75" (44mm)	100-2000 kHz
ARTP-001	ARTP-018	0.187-0.218in (4.75-5.54mm)	1.75" (44mm)	100-2000 kHz
ARTP-004	ARTP-019	0.218-0.250in (5.54-6.35mm)	2.0" (51mm)	100-2000 kHz
ARTP-005	ARTP-020	0.250-0.281in (6.35-7.14mm)	2.0" (51mm)	100-2000 kHz
ARTP-006	ARTP-021	0.281-0.312in (7.14-7.92mm)	2.0" (51mm)	100-2000 kHz
ARTP-007	ARTP-022	0.312-0.375in (7.92-9.53mm)	2.0" (51mm)	100-2000 kHz
ARTP-008	ARTP-023	0.375-0.437in (9.53-11.1mm)	2.0" (51mm)	100-2000 kHz
ARTP-009	ARTP-024	0.437-0.500in (11.1-12.7mm)	2.0" (51mm)	100-2000 kHz
ARTP-010	ARTP-025	0.500-0.562in (12.7-14.27mm)	2.0" (51mm)	100-2000 kHz
ARTP-011	ARTP-026	0.562-0.625in (14.27-15.88mm)	2.0" (51mm)	100-2000 kHz
ARTP-012	ARTP-027	0.625-0.687in (15.88-17.45mm)	2.0" (51mm)	100-2000 kHz
ARTP-013	ARTP-028	0.687-0.750in (17.45-19.05mm)	2.0" (51mm)	100-2000 kHz
ARTP-014	ARTP-029	0.750-0.875in (19.05-22.23mm)	2.0" (51mm)	100-2000 kHz
ARTP-015	ARTP-030	0.875-1.000in (22.23-25.4mm)	2.0" (51mm)	100-2000 kHz

Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

Rotating Probe Kits for RTP and ARTP Probes



Kit Includes

Carrying case

21 RTP (rotating bolt hole) or 21 ARTP (adjustable rotating bolt hole) probes for the ZM-5 rotating scanner

All 21 probes have 4 pin Fischer connectors and will work with other scanners using this connector

Probe sizes run in 1/32" (0.794mm) increments from 1/8" (3.175mm) to 3/4" (19.050mm). Sizes match holes on the NRK standards.

Part Number	Description	Sizes	Working Length	Connector type	Frequency Range
RTP-KIT01	21 RTP (rotating bolt hole probes)	1/8" (3.175mm)			
ARTP-KIT01	21 ARTP (Adjustable rotating bolt hole probes)	to 3/4" (19.050mm)	1.75" (44mm) to 2.00" (51mm)	4 Pin Fischer	100-2000 kHz

Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

ARTPX Adjustable Rotating Probe for Mini Scanners, Reflection D coils (Driver Pick-up) X-Type



Hole Size	Frequencies Options	Connector Options
Customer recommended hole diameter range	Provide Frequency Range	4 Pin Fischer (Zetec / GE Scanners) 4 Pin Step LEMO (Most Olympus Scanners)
Custom options are available for all items		

Applications / Standard Features

- Inspecting flaws on the ID of a fastener hole. Adjustable probe tips coverage a large range of diameters than non-adjustable probe tips.
- Reflection (Driver Pick-up D coils) X-Type Adjustable version of the Y-Type probe. Better accuracy than other adjustable probes.

Commonly used probes

4Pin Fischer PN	4 Pin Step LEMO PN	Hole Diameter Range	Working Length	Frequency Range
ARTPX-002	ARTPX-016	0.125-0.156in (3.18-3.96mm)	1.75" (44mm)	100-2000 kHz
ARTPX-003	ARTPX-017	0.156-0.187in (3.96-4.75mm)	1.75" (44mm)	100-2000 kHz
ARTPX-001	ARTPX-018	0.187-0.218in (4.75-5.54mm)	1.75" (44mm)	100-2000 kHz
ARTPX-004	ARTPX-019	0.218-0.250in (5.54-6.35mm)	2.0" (51mm)	100-2000 kHz
ARTPX-005	ARTPX-020	0.250-0.281in (6.35-7.14mm)	2.0" (51mm)	100-2000 kHz
ARTPX-006	ARTPX-021	0.281-0.312in (7.14-7.92mm)	2.0" (51mm)	100-2000 kHz
ARTPX-007	ARTPX-022	0.312-0.375in (7.92-9.53mm)	2.0" (51mm)	100-2000 kHz
ARTPX-008	ARTPX-023	0.375-0.437in (9.53-11.1mm)	2.0" (51mm)	100-2000 kHz
ARTPX-009	ARTPX-024	0.437-0.500in (11.1-12.7mm)	2.0" (51mm)	100-2000 kHz
ARTPX-010	ARTPX-025	0.500-0.562in (12.7-14.27mm)	2.0" (51mm)	100-2000 kHz
ARTPX-011	ARTPX-026	0.562-0.625in (14.27-15.88mm)	2.0" (51mm)	100-2000 kHz
ARTPX-012	ARTPX-027	0.625-0.687in (15.88-17.45mm)	2.0" (51mm)	100-2000 kHz
ARTPX-013	ARTPX-028	0.687-0.750in (17.45-19.05mm)	2.0" (51mm)	100-2000 kHz
ARTPX-014	ARTPX-029	0.750-0.875in (19.05-22.23mm)	2.0" (51mm)	100-2000 kHz
ARTPX-015	ARTPX-030	0.875-1.000in (22.23-25.4mm)	2.0" (51mm)	100-2000 kHz

Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

AFRTP Adjustable Flexible Rotating Probe for Mini Scanners, Reflection D coils (Driver Pick-up)



Hole Size	Frequencies Options	Connector Options
Customer recommended hole diameter range	Provide Frequency Range	4 Pin Fischer (Zetec / GE Scanners) 4 Pin Step LEMO (Most Olympus Scanners)
Custom options are available for all items		

Applications / Standard Features

- Inspecting flaws on the ID of a fastener hole where a slight bend occurs for entering the hole
- Reflection (Driver Pick-up D coils)

Commonly used probes

Part Number	Hole Diameter Range	Working Length	Connector type	Frequency Range
AFRTP-001	0.187-0.250in (4.75-6.35mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-002	0.250-0.312in (6.35-7.92mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-003	0.312-0.375in (7.92-9.53mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-004	0.375-0.437in (9.53-11.1mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-005	0.437-0.500in (11.1-12.7mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-006	0.500-0.625in (12.7-15.88mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-007	0.625-0.687in (15.88-17.45mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-008	0.687-0.750in (17.45-19.05mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz
AFRTP-009	0.750-0.875in (19.05-22.23mm)	6.0" (152mm)	4 Pin Fischer	100-2000 kHz

Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

C RTP Counter Sink Rotating Probe for Mini Scanners, Reflection D coils (Driver Pick-up)



Hole Size	Frequencies Options	Connector Options
Customer recommended hole diameter range	Provide Frequency Range	4 Pin Fischer (Zetec / GE Scanners) 4 Pin Step LEMO (Most Olympus Scanners)
Custom options are available for all items		

Applications / Standard Features

- Inspecting counter sinks
- Standard probes are for 100 degree counter sink.
- Reflection (Driver Pick-up D coils)

Example of commonly used probe

Part Number	Hole Diameter	Countersink Angle	Connector type	Frequency Range
CRTP-003	0.156in (4mm)	100°	4 Pin Fischer	100-2000 kHz
CRTP-001	0.187in (5mm)	100°	4 Pin Fischer	100-2000 kHz
CRTP-002	0.250in (6mm)	100°	4 Pin Fischer	100-2000 kHz

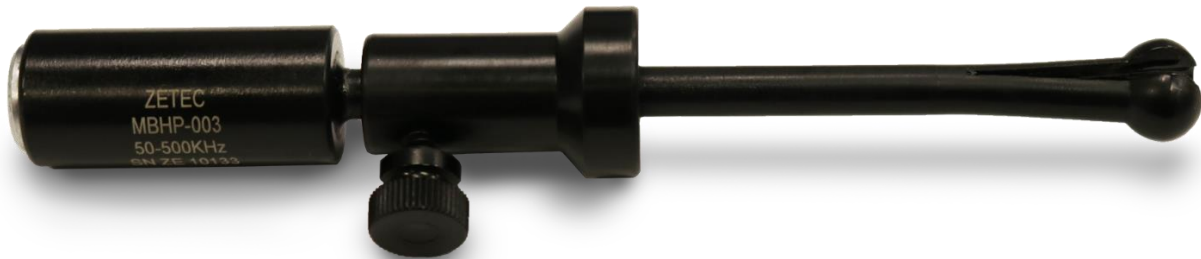
Supporting Instruments

MIZ-21C (PN: 111A902-00) and MIZ21C Array (PN: 111A903-00)

Rotating Scanners: Zetec (PN: 169A901-00), GE or Olympus

Scanner Cable Adapters: Match scanner connector to applicable adapter. [Quick Link](#)

MBHP Manual Bolt Hole Probe, Absolute Coils



<p>Applications / Standard Features</p> <ul style="list-style-type: none"> • Inspecting flaws on the ID of a fastener hole • Absolute coils • 0.125" is smallest size available 	<p>Frequency Selection</p> <p>50kHz-500kHz for aluminum 200kHz-1MHz for steel 1MHz-3MHz for titanium</p>
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Example of commonly used probe

Part Number	Hole Diameter Range	Working Length	Connector type	Frequency Range
MBHP-010	0.093-0.125in (2.36-3.18mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-007	0.125-0.156in (3.18-3.96mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-004	0.125-0.156in (3.18-3.96mm)	1.0in (25.4mm)	Triax	200-1000 kHz
MBHP-008	0.156-0.187in (3.96-4.75mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-005	0.156-0.187in (3.96-4.75mm)	1.0in (25.4mm)	Triax	200-1000 kHz
MBHP-009	0.187-0.250in (4.75-6.35mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-006	0.187-0.250in (4.75-6.35mm)	1.0in (25.4mm)	Triax	200-1000 kHz
MBHP-001	0.250-0.281in (6.35-7.14mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-002	0.281-0.312in (7.14-7.92mm)	1.50" (38mm)	Triax	50-500 kHz
MBHP-003	0.312-0.375in (7.92-9.53mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-011	0.375-0.437in (9.53-11.1mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-012	0.437-0.500in (11.1-12.7mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-013	0.500-0.562in (12.7-14.27mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-014	0.562-0.625in (14.27-15.88mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-015	0.625-0.687in (15.88-17.45mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-016	0.687-0.750in (17.45-19.05mm)	2.0" (51mm)	Triax	50-500 kHz
MBHP-017	0.750-0.812in (19.05-20.62mm)	2.0" (51mm)	Triax	50-500 kHz

Supporting Instruments

MIZ-21C

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

MCSP Manual Counter Sink Probe, Absolute Coils

Applications / Standard

Features

- Inspecting counter sinks
- Standard probes are for 100 degree counter sink.

Frequency Selection

50kHz-500kHz for aluminum

500kHz-1MHz for steel

1MHz-3MHz for titanium



Example of commonly used probe

Part Number	Hole Diameter	Countersink Angle	Connector type	Frequency Range
MCSP-003	0.093in (2mm)	100°	Triax	50-500 kHz
MCSP-004	0.125in (3mm)	100°	Triax	50-500 kHz
MCSP-005	0.156in (4mm)	100°	Triax	50-500 kHz
MCSP-006	0.187in (5mm)	100°	Triax	50-500 kHz
MCSP-001	0.250in (6mm)	100°	Triax	50-500 kHz
MCSP-002	0.312in (8mm)	100°	Triax	50-500 kHz
MCSP-007	0.375in (10mm)	100°	Triax	50-500 kHz
MCSP-008	0.437in (11mm)	100°	Triax	50-500 kHz
MCSP-009	0.500in (13mm)	100°	Triax	50-500 kHz
MCSP-010	0.562in (14mm)	100°	Triax	50-500 kHz
MCSP-011	0.625in (16mm)	100°	Triax	50-500 kHz
MCSP-012	0.687in (17mm)	100°	Triax	50-500 kHz
MCSP-013	0.750in (19mm)	100°	Triax	50-500 kHz

Supporting Instruments

MIZ-21C

Cable adapters: Match connector to applicable adapter. [Quick Link](#)

Shims



Set of 13 shims

Part Number: SHIM-001

- 5" long by 1/2" wide
- Contains 1 of each thickness: 0.001", 0.0015", 0.002", 0.003", 0.004", 0.005", 0.0075", 0.010", 0.0125", 0.015", 0.020", 0.025", and 0.030"
- Made of the highest quality plastic material: 0.001" to 0.005" - polyester, 0.0075" to 0.030" - vinyl
- Color indicates thickness
- Noncorrosive, nonconductive, nonsparking, and nonmarring

Calibration Standards

Navy Reference Kits



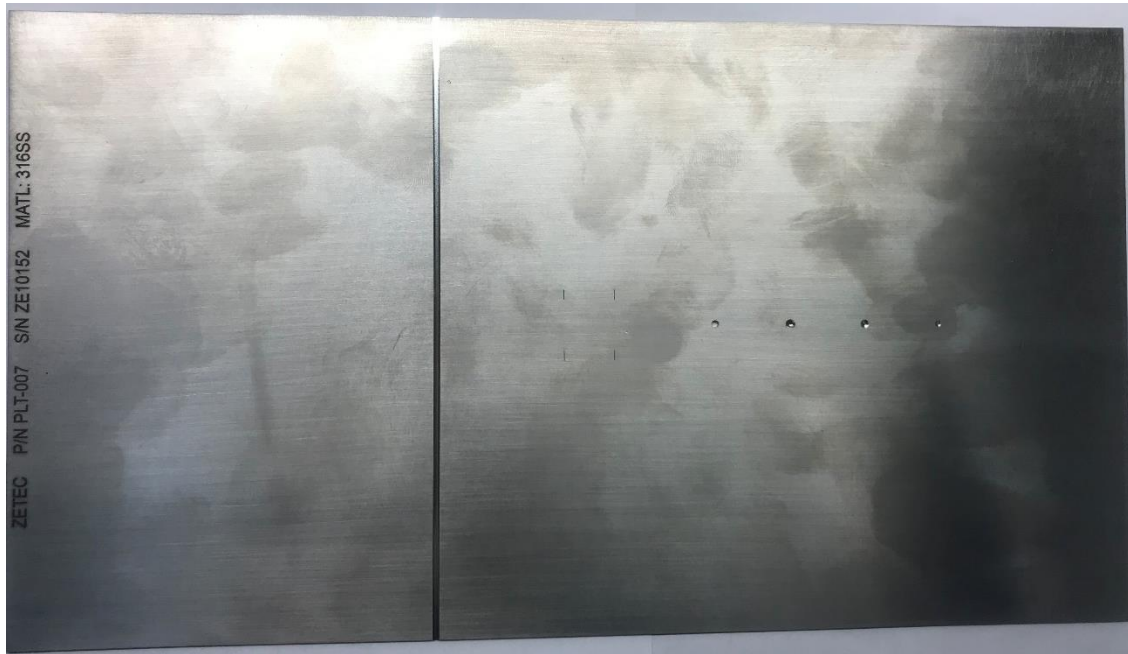
Navy Eddy Current Reference Standard Kit. Contains 20 fasteners holes (.156-.750) with a total of 71 EDM notches. Includes Test Report and Certificate of Conformance.

Price is material dependent

PN	Material
NRK-001	400 STAINLESS STEEL
NRK-002	17-4PH STAINLESS STEEL
NRK-003	17-7PH STAINLESS STEEL
NRK-004	304 STAINLESS STEEL
NRK-005	6526 Nickel Cobalt Steel
NRK-006*	7075-T6 Aluminum for top and middle layer. 7075-T7 for bottom layer (same as NRK-3A)
NRK-007	6AL-4V Titanium (same as NRK-3T)
NRK-008	718 Inconel
NRK-009	AZ 31 Magnesium
NRK-010	4340 Cres Steel (same as NRK-3S)
NRK-011	2024-T3 Aluminum

* Most common

Surf-X Calibration Plate



PN	Material	Plate Thickness
PLT-007	Stainless Steel 316	0.048"
PLT-009	ALUMINUM 7075-T6	0.050"
PLT-012	Customer Provided 11" x 6" Plate	Customer Provided

Reference Plate for Surf-X Probe

Plate Size: 11.00" long x 6.00" wide x approximately 0.050" deep

Ⓐ Calibration groove (6.00" +/- 0.050" long x 0.0625" +/- .0050" wide x 40% deep)

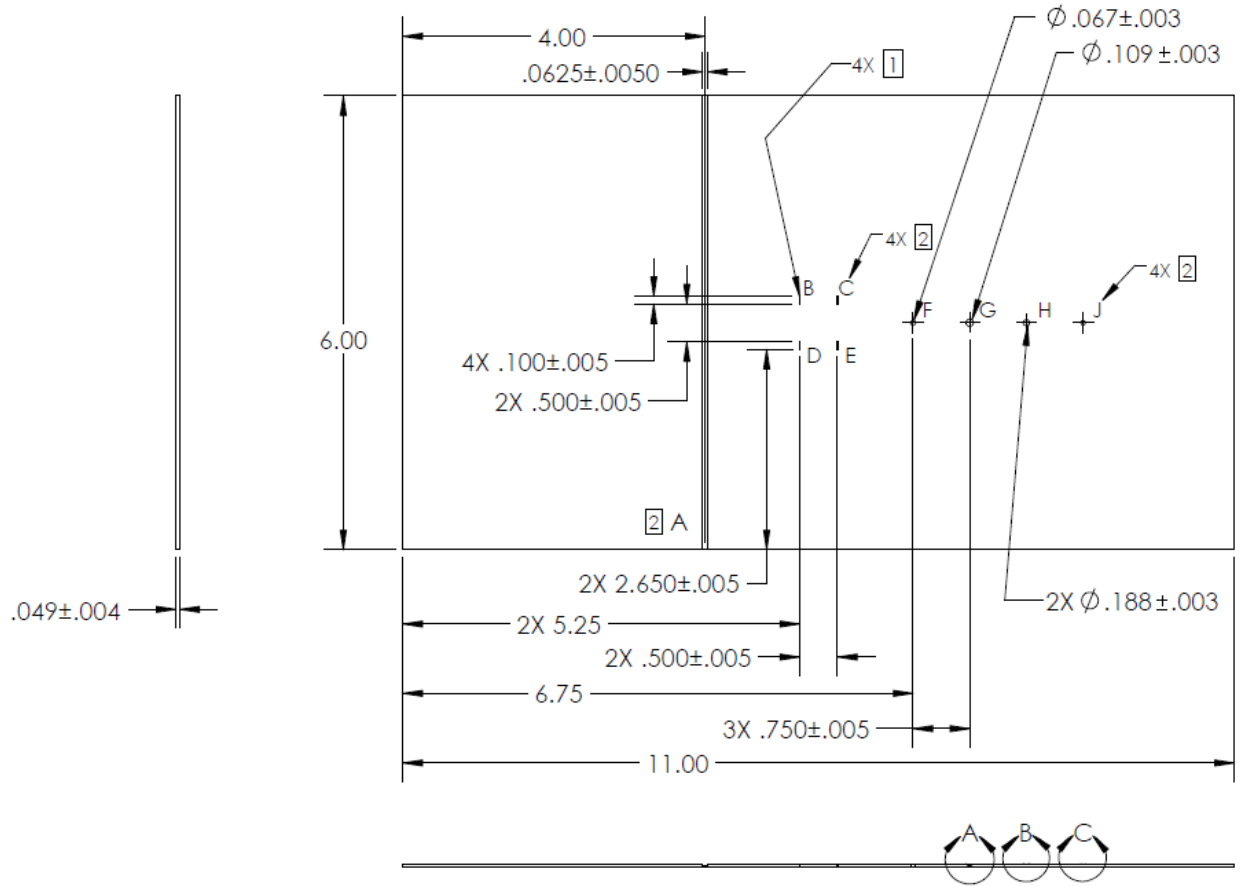
4 EDM notches at varying depths Ⓑ100%, Ⓒ60%, Ⓓ20%, Ⓔ10% (all 0.100" +/- 0.005" long and 0.005" +/- 0.002" wide)

Ⓕ1 Through Wall Hole 100% x 0.067" diameter,

3 Round Bottom Holes at varying depths and diameter Ⓖ60% x 0.109", Ⓗ20% x 0.188", Ⓙ10% x 0.188"
% depths have a tolerance of +/-0.003"

Includes as built indications report and serialized plate

Surf-X Calibration Plate Details



LOCATION	A	B	C	D	E	F	G	H	J
DEPTH OF FLAW	▽ 40%	▽ 100%	▽ 60%	▽ 20%	▽ 10%	▽ 100%	▽ 60%	▽ 20%	▽ 10%
LENGTH/DIA. OF FLAW	.0625 W.	.100 Lg.	.100 Lg.	.100 Lg.	.100 Lg.	φ.067	φ.109	φ.188	φ.188
DESCRIPTION	GROOVE	EDM	EDM	EDM	EDM	TWH	RBH	RBH	RBH

Boeing Reference Standard (NDT1087-X)

“-X” are for varying plate thicknesses.

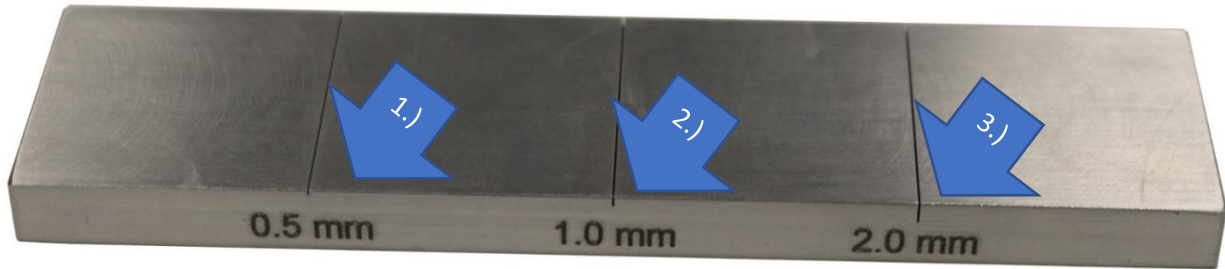
- BOEING REFERENCE STANDARD 737 PT 6 53-30-00 & 777 PT6 53-30-09
- FASTENER (NAS1097D6-6DM NAS1097D5-6D, ALL ALDORIZED) (BACR15GF6D7, BACRGF5D6, ALL ALODINED).
- Includes Test Report and Certificate of Conformance.



Part Numbers

Part Number	Top Plate Thickness (inch)	Bottom Plate Thickness (inch)	EDM Notch Length (inch)
NDT1087-1	0.050	0.040	0.200
NDT1087-2	0.071	0.040	0.200
NDT1087-3	0.080	0.040	0.180
NDT1087-4	0.090	0.040	0.200
NDT1087-5	0.100	0.050	0.200
NDT1087-6	0.071	0.063	0.250
NDT1087-7	0.090	0.080	0.250
NDT1087-8	0.100	0.900	0.250
NDT1087-9	0.036	0.036	

Crack Flaw Standards



Block Size: 4.0"(101.6mm)L x 1.0"(25.4mm)D x 0.25"(6.35mm)H.

Includes 3 EDM Flaws of the following sizes:

- 1.) 0.02" (0.5mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L
- 2.) 0.04" (1.0mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L
- 3.) 0.08" (2.0mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L

Includes Test Report and Certificate of Conformance.

Price is material dependent

PN	Sales Note
NDT-3025CS	Eddy Current 3 Crack Surface Standard 4340 Carbon Steel
NDT-3025INC	Eddy Current 3 Crack Surface Standard 718 Inconel
NDT-3025AL	Eddy Current 3 Crack Surface Standard 7075-T6 Aluminum
NDT-3025SS	Eddy Current 3 Crack Surface Standard 304 Stainless Steel
NDT-3025TI	Eddy Current 3 Crack Surface Standard 6Al 4V Titanium

Block Size: 4.0"(101.6mm)L x 1.0"(25.4mm)D x 0.25"(6.35mm)H.

Includes 3 EDM Flaws of the following sizes:

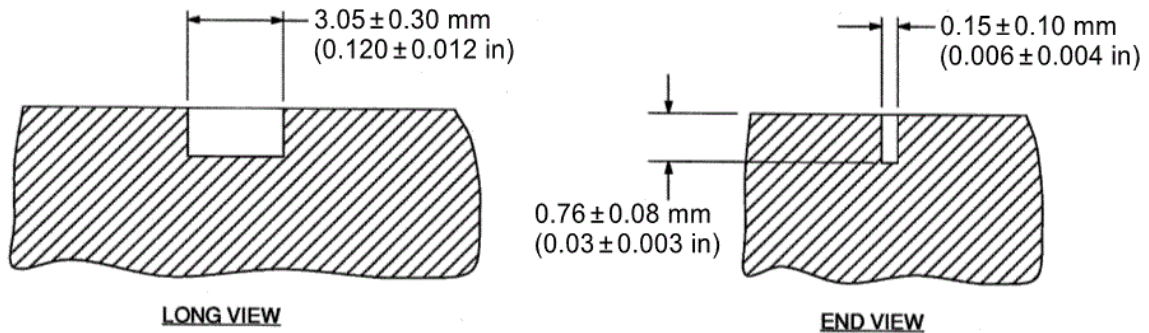
- 1.) 0.01" (0.25mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L
- 2.) 0.02" (0.5mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L
- 3.) 0.04" (1.0mm)D x 0.01" (0.25mm)W x 1.0" (25mm)L

Includes Test Report and Certificate of Conformance.

Price is material dependent

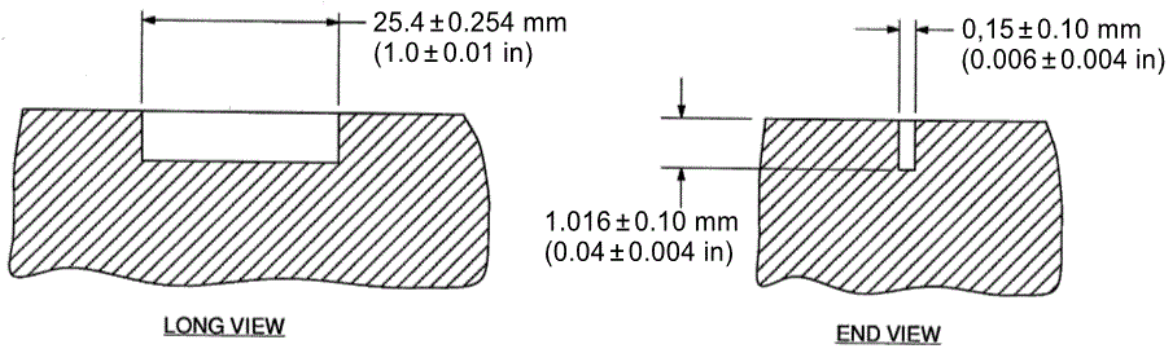
PN	Sales Note
NDT-3311CS	Eddy Current 3 Crack Surface Standard 4340 Carbon Steel
NDT-3311INC	Eddy Current 3 Crack Surface Standard 718 Inconel
NDT-3311AL	Eddy Current 3 Crack Surface Standard 7075-T6 Aluminum
NDT-3311SS	Eddy Current 3 Crack Surface Standard 304 Stainless Steel
NDT-3311TI	Eddy Current 3 Crack Surface Standard 6Al 4V Titanium
NDT-3311MAG	Eddy Current 3 Crack Surface Standard Magnesium
NDT-2030/7075-T6	Eddy Current 3 Crack Surface Standard Aluminum 7075-T6 Indication 1.) is 0.008" (0.20mm) deep; not 0.01".
NDT-2030/MAG	Eddy Current 3 Crack Surface Standard Magnesium Indication 1.) is 0.008" (0.20mm) deep; not 0.01". All widths are 0.007"; not 0.01"
NDT-2030/2014-T6	Eddy Current 3 Crack Surface Standard Aluminum 2014-T6 or 2014-T651
NDT-2030/2014-T651	Indication 1.) is 0.008" (0.20mm) deep; not 0.01". All widths are 0.004"; not 0.01"
NDT-2030/TI	Eddy Current 3 Crack Surface Standard 6Al-4v TITANIUM NOTCHES .008", .020", .040" (.004"W +/- .002, MAX .006"),

Aircraft Braking Systems Reference Standard



MAIN WHEEL
(FORGED ALUMINIUM ALLOY)

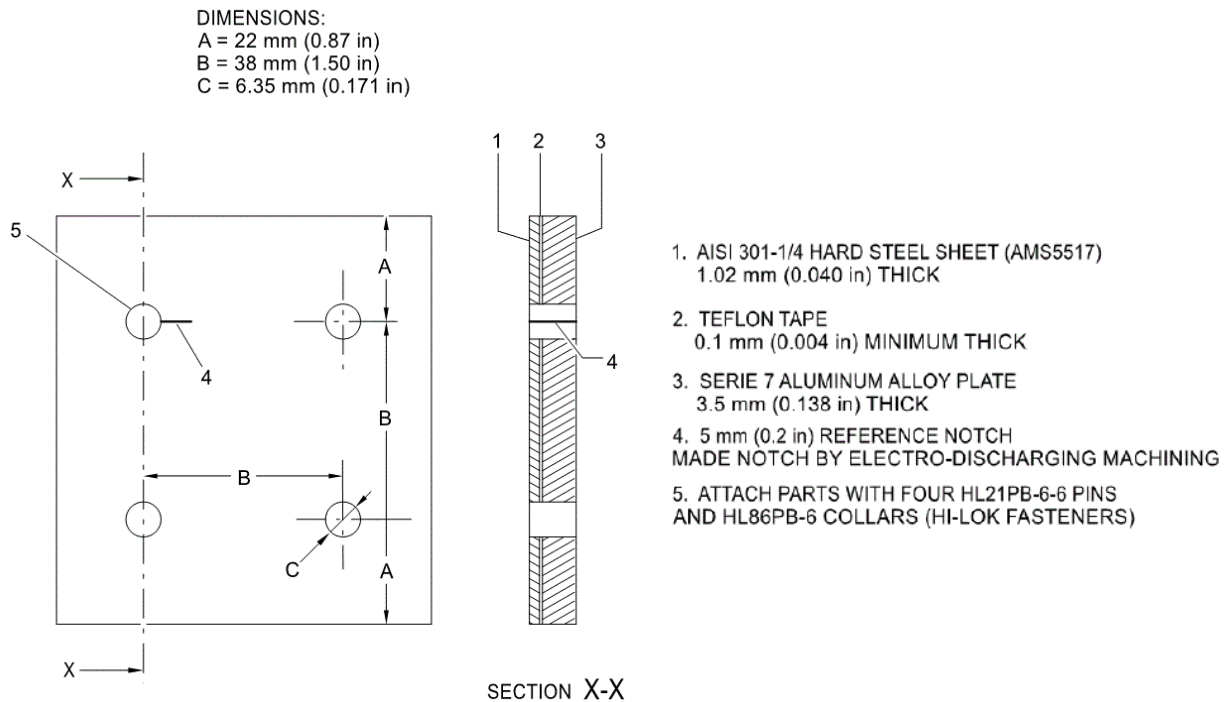
PN	Sales Note
NDT-2008F	AIRCRAFT BRAKING SYSTEMS REFERENCE STANDARD PT 3 32-42-05, PROCEEDURE 1, FIGURE 11, PAGE 15 ALUMINUM 2014-T6 CONDUCTIVITY RANGE 35-40 IACS.



NOSE WHEEL
(CAST ALUMINIUM ALLOY)

PN	Sales Note
NDT-2008C	AIRCRAFT BRAKING SYSTEMS REFERENCE STANDARD PT 3 32-42-05, PAGES 1-7 FIGURE 2 and 3 CAST ALUMINUM

Main landing gear backup structures calibration block



PN	Sales Note
	AIRCRAFT BRAKING SYSTEMS REFERENCE STANDARD PT 3 32-42-05, PROCEEDURE 1, FIGURE 11, PAGE 15 ALUMINUM 2014-T6 CONDUCTIVITY RANGE 35-40 IACS.
	AIRCRAFT BRAKING SYSTEMS REFERENCE STANDARD PT 3 32-42-05, PAGES 1-7 FIGURE 2 and 3 CAST ALUMINUM

Conductivity Standards



- Includes serialized coupon and letter of certification.
- Zetec does not provide a service to re-certify conductivity standards.

PN	Description
CONDSTD-01.0-TI	Conductivity Standard Titanium 1.0% IACS
CONDSTD-03.4-AL	No Longer Available Conductivity Standard 3.4% IACS
CONDSTD-04.0-MA	Conductivity Standard Manganin 4.0% IACS
CONDSTD-06.8-CUNIAG	Conductivity Standard Alloy Copper, Nickel, Silver 6.8% IACS
CONDSTD-08.1	No Longer Available Conductivity Standard 8.1% IACS
CONDSTD-15.5-BRO	Conductivity Standard Bronze 15.5% IACS
CONDSTD-16.5-NG	Conductivity Standard Nordic Gold 16.5% IACS
CONDSTD-26.0-BRA	Conductivity Standard Brass 26.0% IACS
CONDSTD-29.0	No Longer Available Conductivity Standard 29.0% IACS
CONDSTD-30.0-AL	Conductivity Standard Aluminum 30.0% IACS
CONDSTD-39.0-AL	Conductivity Standard Aluminum 39.0% IACS
CONDSTD-43.0-ALMGSi	Conductivity Standard Alloy Aluminum, Magnesium, Silicon 43.0% IACS
CONDSTD-58.6-AL	Conductivity Standard 99% Pure Aluminum 58.6% IACS
CONDSTD-100-CU	Conductivity Standard Copper 100.0% IACS
CONDSTD-KIT01	No longer available. Must order individual standards Conductivity Standard Kit of 5, 1%, 3.4%, 8.1%, 29%, 100% IACS
CONDSTD-KIT02	No longer available. Must order individual standards Conductivity Standard Kit of 3, 8.1%, 29%, 100% IACS





Supporting Instruments

MIZ-21C

Recommended Probe: SPT-015 with 6ft cable 111A805-00

Bond Testers

Requirements (MIZ-21SR)	Sondicator Pitch-Catch (SP3L)	Resonance (TBD)
Couplant required for testing	No	Yes
Typical minimum detectable flaw size	>0.5" (12.7mm)	>0.25" (6.4mm)
Applications		
Flaw Depth determination in multi-layered bonding	—	✓
Far-side flaws or core damage on sandwich constructions	✓	○
Metal to metal bonded skins (Disbonds)	○	✓
Multi-layer carbon laminate (Delaminations, voids, porosity)	○	✓
Metal skin to metal honeycomb (Disbonds, crushed core)	✓	✓
Carbon skin to metal or Nomex® honeycomb (Disbonds, delaminations crushed core)	✓	✓
Carbon skin to foam core (Disbonds, delaminations)	✓	○
Multi-core sandwich structures (Inter-core disbonds, core damage)	✓	○
Bonded Stiffeners (Disbonds)	✓	✓
Glass fiber skin to foam or wood core (Disbonds, delaminations)	✓	✓
Perforated metal skin to honeycomb core, used for acoustic liners (Disbonds)	✓	—
Carbon-Carbon, used for heat shields (Delaminations)	✓	—
Carbon or Glass reinforced pipes or pressure vessels (Disbonds, delaminations)	✓	—
Carbon Overwrapped Pressure Vessels (COPV) (Disbonds, delaminations)	✓	—
Composite Repair Validation (Disbonds, delaminations)	✓	✓

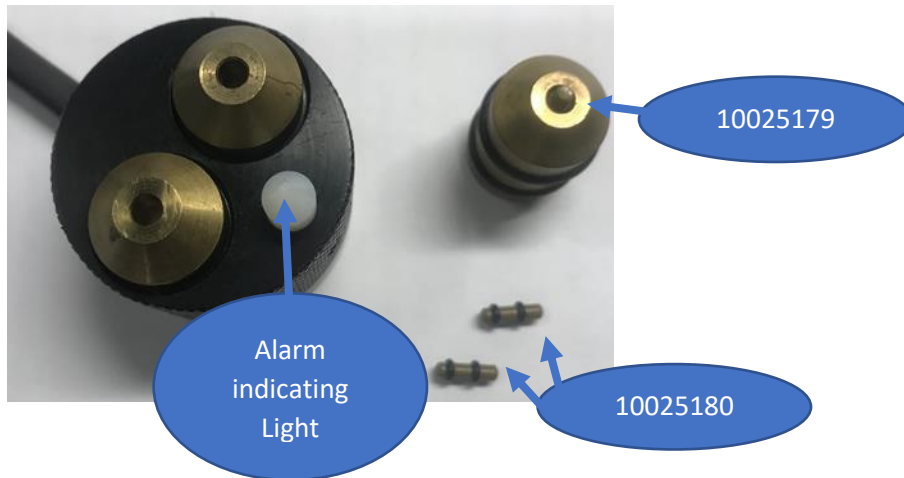
-  Best method for speed and flaw characterization
-  The test method has proven results for the specific application
-  The test results obtained from the test method can be interpreted reasonably
-  Test method is not suitable or non-reliable in terms of repeatability

MIZ-21SR (MIZ-21C does not support)

MIZ-21SR (MIZ-21C does not support)

SP3L Sondicator Probe 3 Point w/Light (Tap Test Probe)

Examination of disbonds and delaminations in metallic, carbon and composite materials



Example of commonly used probe

Part Number	Space between replaceable tips	Cable Length	Connector
10022626	0.5" (12.7mm)	8ft	4 Pin Fischer
10026144	0.75" (19.0mm)	8ft	4 Pin Fischer

Material is Torlon. Brass versions available upon request.

Applications / Standard Features

- Examination of disbonds and delaminations in metallic, carbon and composite materials

Replacement Parts

Part Number	Description
10025180	ZHHA-SP/DTE-TIP SET-TR (2 pieces)
10025179	ZHHA-SP/DTE-PE ELEMENT-NY (1 Piece, 2 required per probe)

Supporting Instruments

MIZ-21SR (MIZ-21C does not support)

Cable adapters: Match connector to applicable adapter. [Quick Link](#)