



UniWest[®]

Tough Challenges. Critical Solutions.

Sensors & Accessories Catalog

- Eddy Current Probes
- Ultrasonic Transducers
- Reference Standards
- Accessories

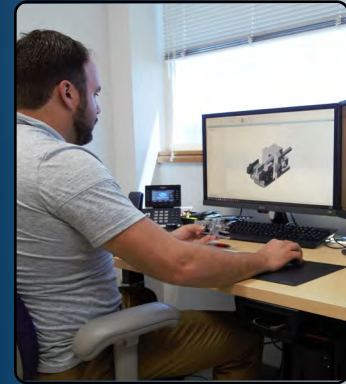
Introduction

Welcome to UniWest, and to a tradition of leadership in the Non-Destructive Testing industry. We make some of the world's most innovative NDT products, including eddy current instruments & probes, ultrasonic transducers, and reference standards.

All UniWest sensors are engineered and manufactured within rigid quality control parameters that meet or exceed certification standards and MIL-I-45208, AS9100 and ISO9001. We monitor and confirm our eddy current probe performance by measuring the mechanical and electrical parameters of each probe. The electrical parameters measured include dynamic impedance measurements of the probe in ohms. These measurements are independent of the type of instrument. If you're unsure of your existing probe performance, UniWest also provides probe evaluation on competitors probes to insure they conform to certified standards.

UniWest builds several broad categories of probes that are uniquely suited to budgets and applications. The most important requirement of an eddy current probe is that it couple its magnetic field to the item being tested. If it fails to do this, the test can not be performed. This is the reason for so many types of probes. A surface probe is generally easy and inexpensive to make. By contrast, a probe for complex shapes, such as a jet engine blade, can be expensive due to the cost of manufacturing the fixture. We are particularly proud of our Special Applications capabilities. If you have a unique problem, our engineers and applications team are noted for their innovative problem solving.

One last thing; this catalog won't answer all your questions. We'd have to write a book to get you all the information that we have accumulated over the years. So, when you have questions about eddy current applications, give us a call or send us an email.



UniWest

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Connectors

The pictures below show many of the different types of connectors used for probes, transducers and instrumentation in the NDT industry. We have included this chart to aid our customers in selecting the proper connectors for their requirements. Please note that by no means is this a fully comprehensive listing of all the connectors used in the industry, only some of the most common. If you have an application that requires a connection, (cable or adapter), that is not shown, please contact us.

NOT TO SCALE

Connectors: Instrument



8-pin Burndy



4-pin Amphenol



16-pin Lemo



27-pin Fischer



00 Lemo



BNC

Connectors: Cable, to instrument



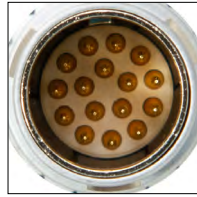
8-pin Burndy
Bridge



8-pin Burndy
Reflection



4-pin Amphenol



16-pin Lemo



27-pin Fischer



00 Lemo

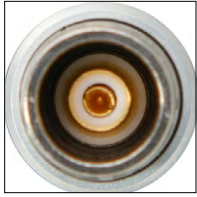


BNC

Connectors: Cable, to probe/transducer



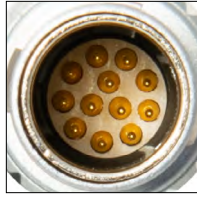
4-pin Fischer
Reflection



Fischer Triax
Bridge



4-pin Fischer
URB probe



12-pin Lemo



Microdot



00 Lemo



BNC

Connectors: Probe/transducer



4-pin Fischer
Reflection



Fischer Triax
Bridge



4-pin Fischer
URB probe



12-pin Lemo



Microdot



00 Lemo



BNC

Glossary of Coil Terminology

Eddy Current probes are offered in a wide variety of shapes, sizes, types, and modes of coil configurations. The following pages of this catalog sort the various probes by type (pencil probe, surface probe, sliding probe, etc). Each type often has options for how the coils could be wired. Each of these coil configurations are discussed below.

Absolute Probes:

Absolute probes generally have a single test coil that is used to generate the eddy currents and sense changes in the eddy current field. When these probes are used, a balance coil is also required which may be set from within the eddy current instrument or is commonly found within the probe housing, the cable connector or in a separate adapter.

Absolute coils can be used for flaw detection, conductivity measurements, lift-off measurements and thickness measurements. They are widely used due to their versatility. Since absolute probes are sensitive to things such as conductivity, permeability liftoff and temperature, steps must be taken to minimize these variables when they are not important to the inspection being performed.

Bridge Probes:

In the bridge configuration, the coils are located in an electrical “bridge”. The instrument balances the bridge and any change in balance is displayed as a signal. In this arrangement, the same coil produces the eddy currents and detects the impedance changes caused by the defects (or any other variables).

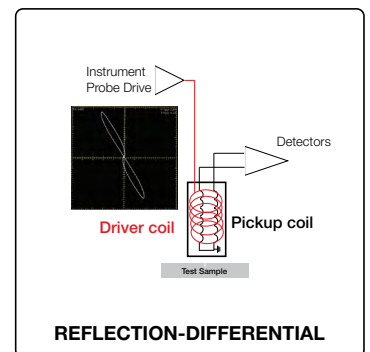
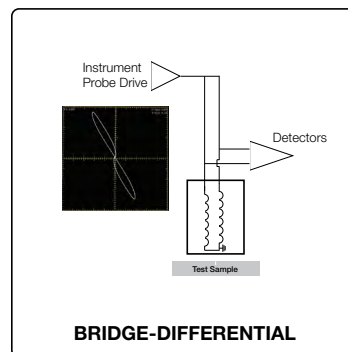
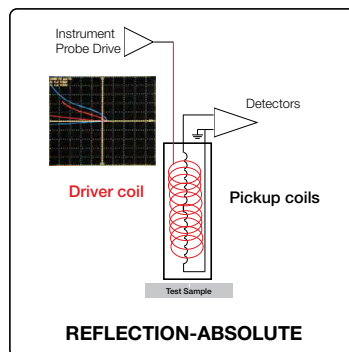
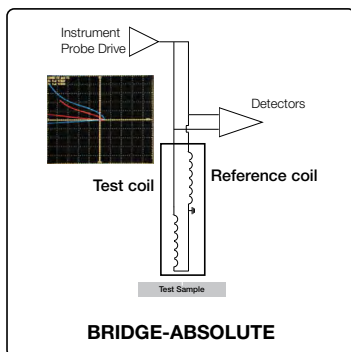
Reflection Probes:

These probes are also known as “driver-pickup” or “send-receive”. In the reflection configuration, eddy currents are produced by a coil connected to the instrument’s oscillator. The received signals are detected by a separate “pickup” coil.

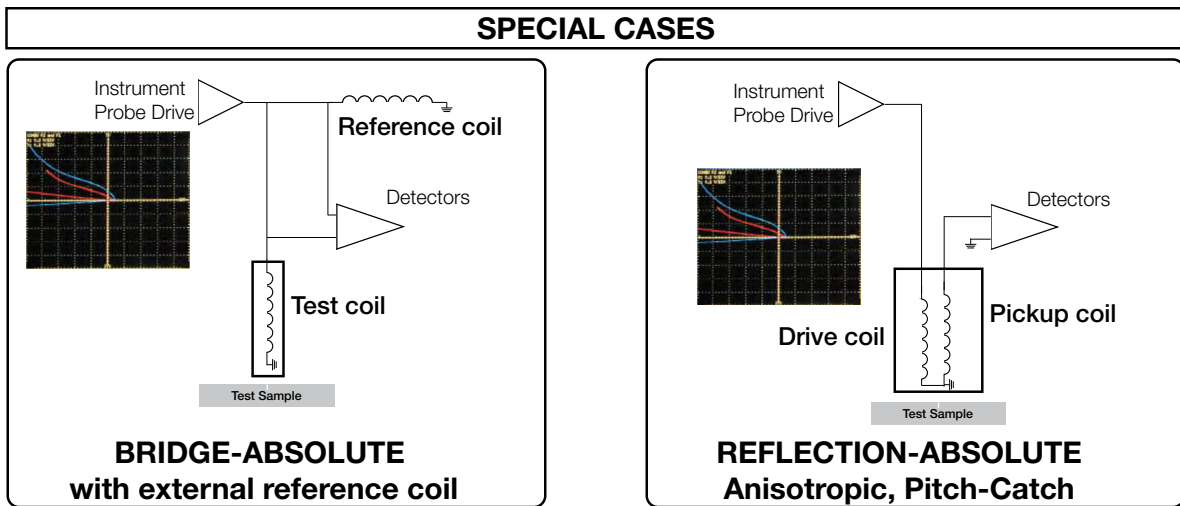
Differential Probes:

Differential probes have two active coils either wound in opposition or in addition. When the two coils are over a flaw-free area of test sample, there is no differential signal developed between the coils since they are both inspecting identical material. When one coil is over a defect and the other is over good material, a differential signal is produced.

They have the advantage of being very sensitive to defects yet relatively insensitive to slowly varying properties such as gradual dimensional or temperature variations. Probe wobble signals are also reduced with this probe type.



Glossary of Coil Terminology



Shielded and Unshielded Probes:

Probes are normally available in both shielded and unshielded versions. Shielding limits the magnetic field (produced by the coils) to the physical size of the probe. A shield can be made of various materials, but the most common is ferrite.

Shielding has several advantages:

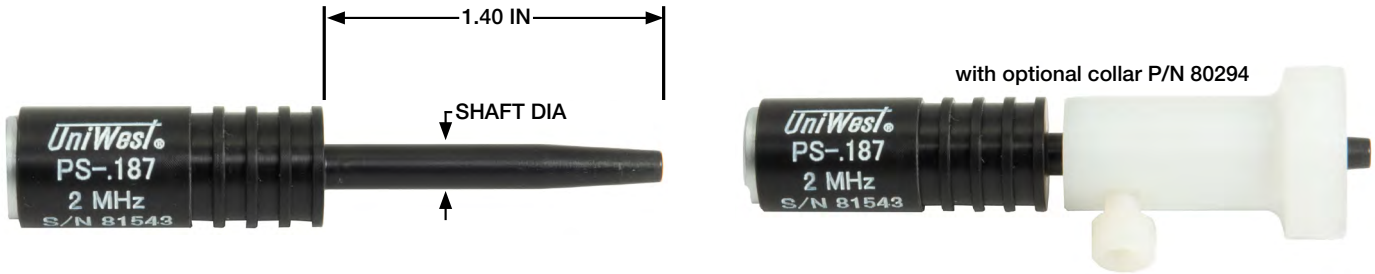
1. It allows the probe to be used near geometry changes, such as edges, without giving false indications.
2. It allows the probe to touch ferrous fastener heads with minimal interference
3. It allows the detection of smaller defects due to the stronger magnetic field concentrated in a smaller area.

Unshielded probes provide slightly larger coverage due to the larger magnetic field. They are also slightly more tolerant to lift-off. Unshielded probes are recommended for the inspection of ferrous materials (steel) for surface cracks.

Pencil Probes

Pencil Probes are used for general NDT surface inspection. These eddy current sensors are available in either absolute or differential modes. Shielded or unshielded coils are available in several frequencies.

An optional collar may be used to stabilize the probe on flat surfaces.



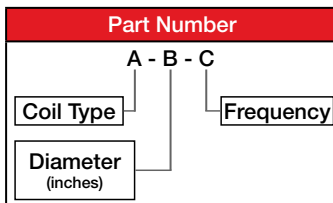
| A | B | C | | |
|-------------------------------|---------------------|----------------------------|------------------------------|----------------------|
| Coil Type | Shaft Ø inches (mm) | Frequency | | |
| Bridge | Ø .187 (4.7) | 100 kHz (100 - 500 kHz) | 500 kHz (500 kHz - 1 MHz) | 2 MHz (1 - 3 MHz) |
| P- (Absolute Unshielded) | ✓ | ✓ | ✓ | ✓ |
| PS- (Absolute Shielded) | ✓ | ✓ | ✓ | ✓ |
| PD- (Differential Unshielded) | ✓ | ✓ | ✓ | ✓ |
| PDS- (Differential Shielded) | ✓ | ✓ | ✓ | ✓ |

All bridge configurations are fitted with Triax connectors.



| A | B | C | |
|-------------------------------|---------------------|------------------------------|----------------------|
| Coil Type | Shaft Ø inches (mm) | Frequency | |
| Reflection | Ø .187 (4.7) | 500 kHz (500 kHz - 1 MHz) | 2 MHz (1 - 3 MHz) |
| PSR- (Absolute Shielded) | ✓ | ✓ | ✓ |
| PDSR- (Differential Shielded) | ✓ | ✓ | ✓ |

All reflection configurations are fitted with 4-socket Fischer connectors.



EXAMPLE:

PS-.187-500 kHz:

Bridge probe, absolute shielded coil, 0.187 inch shaft diameter, 500 kHz frequency.

CABLES:

P/N 92836 (NSN: 5995-01420-3422) for bridge probes, 8-pin Burndy/Triax

P/N 94032 (NSN: 5995-01-518-4366) for reflection probes, 8-pin Burndy/4-pin Fischer

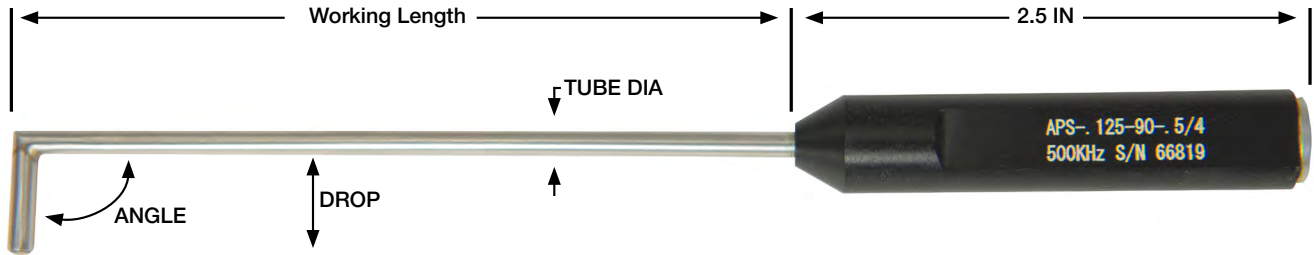
P/N 72871 for bridge probes, 27-pin Fischer/Triax

P/N 72872 for reflection probes, 27-pin Fischer/4-pin Fischer

Angled Pencil Probes

Angled Pencil Probes are used for surface inspection in limited-access areas. They are available in a variety of working lengths, tip angles and drops.

In addition, these eddy current probes are available in either absolute or differential modes. Shielded or unshielded coils are available in several frequencies.



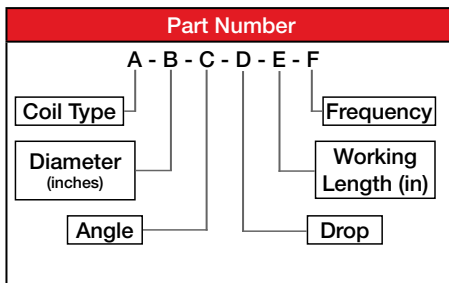
| A Coil Type | B Tube Ø inches (mm) | C Angle - deg | | D Drop inches (mm) | | | E Working Length inches (mm) | | | | F Frequency | | |
|--------------------------------|----------------------------|------------------|-----|--------------------------|--------------|---------------|------------------------------------|------------|------------|------------|----------------------------|------------------------------|----------------------|
| Bridge | Ø .125 (3.2) | 45° | 90° | .10 (2.5) | .25 (6.4) | .50 (12.7) | 3 (76) | 4 (102) | 5 (127) | 6 (152) | 100 kHz (100 - 500 kHz) | 500 kHz (500 kHz - 1 MHz) | 2 MHz (1 - 3 MHz) |
| AP- (Absolute Unshielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| APS- (Absolute Shielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| APD- (Differential Unshielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| APDS- (Differential Shielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

All bridge configurations are fitted with Triax connectors.



| A Coil Type | B Tube Ø inches (mm) | C Angle - deg | | D Drop inches (mm) | | | E Working Length inches (mm) | | | | F Frequency | |
|--------------------------------|----------------------------|------------------|-----|--------------------------|--------------|---------------|------------------------------------|------------|------------|------------|------------------------------|----------------------|
| Reflection | Ø .125 (3.2) | 45° | 90° | .10 (2.5) | .25 (6.4) | .50 (12.7) | 3 (76) | 4 (102) | 5 (127) | 6 (152) | 500 kHz (500 kHz - 1 MHz) | 2 MHz (1 - 3 MHz) |
| APSR- (Absolute Shielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| APDSR- (Differential Shielded) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

All reflection configurations are fitted with 4-socket Fischer connectors.



EXAMPLES:

APS-.125-90-.5/6 500 kHz:

Bridge probe, absolute shielded coil, .125 tube diameter, 90° angle, 1/2 inch drop, 6 inch working length, 500 kHz frequency.

APDSR-.125-45-.25/3 2 MHz:

Reflection probe, differential shielded coil, .125 tube diameter, 45° angle, 1/4 inch drop, 3 inch working length, 2 MHz frequency.

CABLES:

P/N 92836 (NSN: 5995-01420-3422) for bridge probes, 8-pin Burndy/Triax

P/N 94032 (NSN: 5995-01-518-4366) for reflection probes, 8-pin Burndy/4-pin Fischer

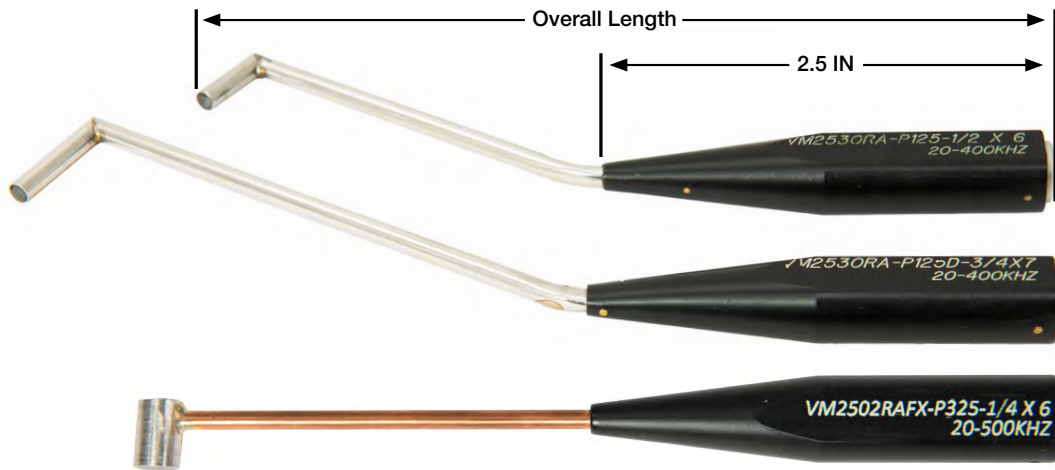
P/N 72871 for bridge probes, 27-pin Fischer/Triax

P/N 72872 for reflection probes, 27-pin Fischer/4-pin Fischer

VM Predator Angled Pencil Probes

The Predator probe is a multi-coil arrangement that acts as a self-balancing system which greatly reduces the unwanted signal created by probe movement, uneven inspection surfaces and varying thickness coatings. This design creates a directional probe that gives optimum results when scanned in a specific direction.

It has also been found that this self-balancing advantage allows the operator to go from one material to another without significant changes in the instrument settings; one probe can be used for crack detection on various material such as Aluminum, Steel & Titanium without time consuming instrument set-up adjustments.



| Part Number | |
|-----------------------|---------------------|
| VM2530RA-P125-1/2 x 6 | |
| | Overall Length (in) |
| | Drop (in) |
| | Predator Probe |
| | Drop Angle |
| | Handle Angle |

- Operate Predator Probes in Reflection mode
- Frequency Range: 50 - 500 kHz (optimum at 100 kHz)
- Optional tip drop available by request
- Optional overall length available by request
- Fischer Triaxial connector 

CABLES:

- P/N 94051 8-pin Burndy/Triax reflection
- P/N VM99L16R-102F 16-pin Lemo/Triax reflection

| Part Number | Coil Ø | | Tube Ø | Handle Angle | | | Drop Angle | | Drop inches (mm) | | | Overall Length inches (mm) | | |
|-------------------------|-------------|-------------|--------|--------------|----|-----|------------|----|------------------|-----------|------------|----------------------------|---------|---------|
| | inches (mm) | inches (mm) | | Flexible | 0° | 30° | 45° | 0° | 90° | 1/4 (6.4) | 1/2 (12.7) | 3/4 (19.0) | 5 (127) | 6 (152) |
| VM2530RA-P125-3/4 x 7 | ✓ | | ✓ | | | ✓ | | ✓ | | | ✓ | | | ✓ |
| VM2530RA-P125-1/2 x 6 | ✓ | | ✓ | | | ✓ | | ✓ | | ✓ | | | ✓ | |
| VM2500-P125-1/2 x 6 | ✓ | | ✓ | | ✓ | | | ✓ | | | | | ✓ | |
| VM2502RAFX-P325-1/4 x 6 | | ✓ | | ✓ | | | | ✓ | ✓ | | | | ✓ | |
| VM2502RAFX-P325-1/4 x 7 | | ✓ | | ✓ | | | | ✓ | ✓ | | | | ✓ | |

Surface Probes

Surface Probes are used for a variety of surface and subsurface inspection. These probes are built with a flat bottom to offer better stability on the surface being inspected. These eddy current sensors are available in absolute mode and in bridge or reflection configurations. All surface probes are shielded and available in several frequencies.



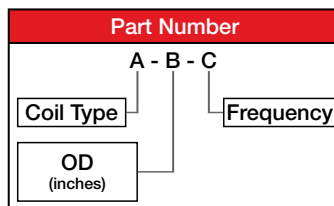
| A Coil Type | B Size inches (mm) | C Frequency | | | | |
|----------------|--------------------------|---------------------------|-----------------------------|-----------------------------|------------------------------|--------------------------------|
| | | 1 kHz (1 kHz - 10 kHz) | 10 kHz (10 kHz - 20 kHz) | 20 kHz (20 kHz - 50 kHz) | 50 kHz (50 kHz - 100 kHz) | 100 kHz (100 kHz - 500 kHz) |
| Bridge | OD | | | | | |
| SS | Ø .375 (9.5) | ✓ | ✓ | ✓ | ✓ | ✓ |
| SS | Ø .500 (12.7) | ✓ | ✓ | ✓ | ✓ | ✓ |
| SS | Ø .750 (19.0) | ✓ | ✓ | ✓ | ✓ | ✓ |

All bridge configurations are fitted with Triax connectors.



| A Coil Type | B Size inches (mm) | C Frequency | | | | |
|----------------|--------------------------|---------------------------|-----------------------------|-----------------------------|------------------------------|--------------------------------|
| | | 1 kHz (1 kHz - 10 kHz) | 10 kHz (10 kHz - 20 kHz) | 20 kHz (20 kHz - 50 kHz) | 50 kHz (50 kHz - 100 kHz) | 100 kHz (100 kHz - 500 kHz) |
| Reflection | OD | | | | | |
| SSR | Ø .375 (9.5) | ✓ | ✓ | ✓ | ✓ | ✓ |
| SSR | Ø .500 (12.7) | ✓ | ✓ | ✓ | ✓ | ✓ |
| SSR | Ø .750 (19.0) | ✓ | ✓ | ✓ | ✓ | ✓ |

All reflection configurations are fitted with 4-socket Fischer connectors.



EXAMPLES:

SS-.750-50 kHz: Bridge probe, .750 OD, 50 kHz, absolute shielded coil.

SSR-.750-50 kHz: Reflection probe, .750 OD, 50 kHz, absolute shielded coil.

CABLES:

P/N 92836 (NSN: 5995-01420-3422) for bridge probes, 8-pin Burndy/Triax

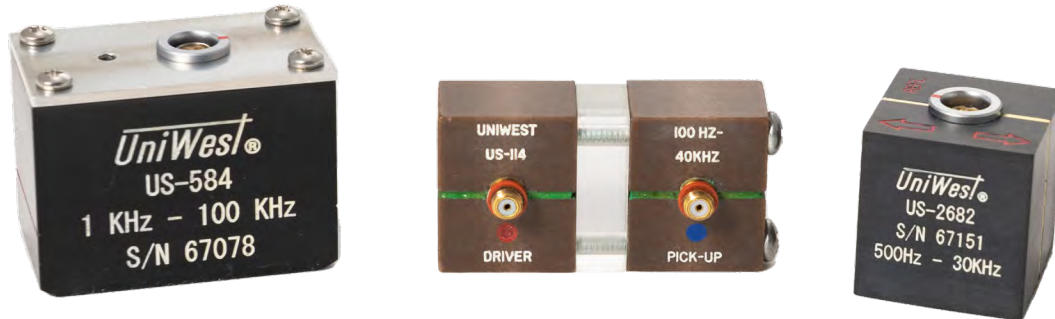
P/N 94032 (NSN: 5995-01-518-4366) for reflection probes, 8-pin Burndy/4-pin Fischer

P/N 72871 for bridge probes, 27-pin Fischer/Triax

P/N 72872 for reflection probes, 27-pin Fischer/4-pin Fischer

Sliding Probes

Sliding probes are specifically designed to inspect rows of fasteners. They are used on airframe structures for finding surface or subsurface flaws located near or between fasteners. They operate in reflection mode and are available in various frequency ranges depending on the application.



| Part Number | Frequency | | | | Removable Sightglass | Connector |
|-------------|-----------------------------|-----------------------------|------------------------------|----------------------------|----------------------|-----------|
| | 100 Hz (100 Hz - 40 kHz) | 500 Hz (500 Hz - 30 kHz) | 500 Hz (500 Hz - 100 kHz) | 1 kHz (1 kHz - 100 kHz) | | |
| US-114 | ✓ | | | | ✓ | Dual M/D |
| US-158 | | | ✓ | | | Dual M/D |
| US-584 | | | | ✓ | | Triax |
| US-2419 | ✓ | | | | ✓ | Dual M/D |
| US-2682 | | ✓ | | | | Triax |
| US-2907 | ✓ | | | | | Dual M/D |
| US-2942 | | | | ✓ | | Triax |

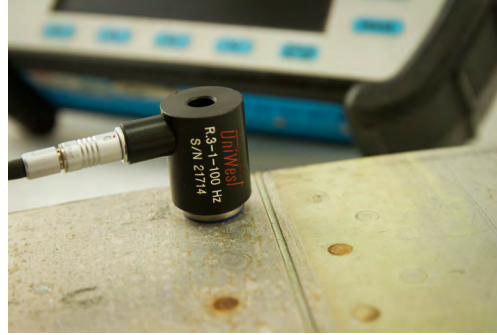
CABLES:

- P/N 94051 8-pin Burndy/Triax, Reflection
- P/N 94012 8-pin Burndy/Dual Microdot, Reflection



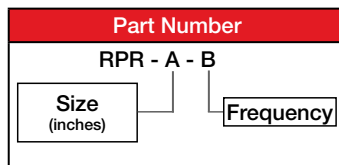
Ring Probes

Ring probes are used for finding cracks around fasteners or corrosion on aerospace structures. These types of probes are typically manufactured with low frequency capability for deep inspection penetration into a structure. Ring probes type coils are available in Reflection Absolute configurations.



| Probe Style | A Size inches (mm) | B Frequency | | | | |
|-------------|-------------------------------------|-----------------------------|----------------------------|---------------------------|-----------------------------|------------------------------|
| | | 100 Hz (100 Hz - 500 Hz) | 500 Hz (500 Hz - 1 kHz) | 1 kHz (1 kHz - 10 kHz) | 10 kHz (10 kHz - 50 kHz) | 50 kHz (50 kHz - 100 kHz) |
| RPR | Ø .250 / Ø .600 (6.4) / (15.2) | | | ✓ | | |
| RPR | Ø .300 / Ø .650 (7.6) / (16.5) | | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .350 / Ø .700 (8.9) / (17.8) | ✓ | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .400 / Ø .750 (10.2) / (19.1) | ✓ | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .450 / Ø .800 (11.4) / (20.3) | ✓ | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .500 / Ø .850 (12.7) / (21.6) | ✓ | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .550 / Ø .900 (14.0) / (22.9) | ✓ | ✓ | ✓ | ✓ | ✓ |
| RPR | Ø .600 / Ø .950 (15.2) / (24.1) | ✓ | ✓ | ✓ | ✓ | |
| RPR | Ø .650 / Ø 1.000 (16.5) / (24.5) | ✓ | ✓ | ✓ | | |

Ring Probes are fitted with 4-socket Fischer connectors.



EXAMPLE:

RPR-.250/.600 50kHz: Ring Probe, .250 ID/.600 OD, 50 kHz.

CABLES:

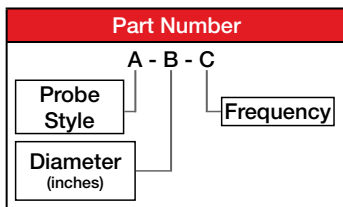
P/N 94032 (NSN: 5995-01-518-4366) for reflection probes, 8-pin Burndy/4-pin Fischer
P/N 72872 for reflection probes, 27-pin Fischer/4-pin Fischer

Surface Following Probes

Surface Following Probes are fitted with a unique patented swivel head which allows the coil to follow curvilinear surfaces without the need to keep the handle perpendicular to the inspection zone. The 1.00 inch head diameter also allows the operator to inspect under minimal clearance features.



| A Probe Style | B Head Ø inches (mm) | | C Frequency | | | Connector |
|--------------------------------|----------------------------|-------------|----------------|---------|-------|------------------|
| | .625 (15.9) | 1.00 (25.4) | 20 kHz | 200 kHz | 2 MHz | |
| SFA- (Reflection Absolute) | ✓ | ✓ | ✓ | ✓ | ✓ | 4-Socket Fischer |
| SFD- (Reflection Differential) | ✓ | ✓ | | ✓ | ✓ | 4-Socket Fischer |
| SFX- (Cross Wound) | ✓ | ✓ | | | ✓ | Triax |



EXAMPLES:

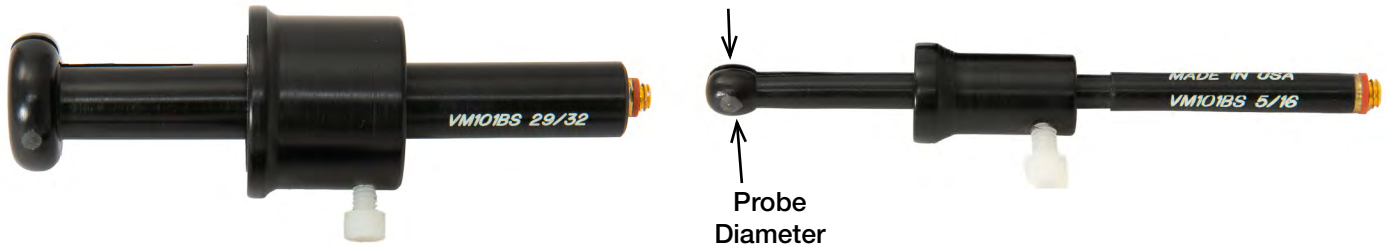
SFA-1.00-20 kHz
SFX-.625-2 MHz

CABLES:

- P/N 92836 (NSN: 5995-01420-3422) for bridge probes, 8-pin Burndy/Triax
- P/N 94032 (NSN: 5995-01-518-4366) for reflection probes, 8-pin Burndy/4-pin Fischer
- P/N 72871 for bridge probes, 27-pin Fischer/Triax
- P/N 72872 for reflection probes, 27-pin Fischer/4-pin Fischer

Manual Bolt Hole Probes

Manual bolt hole probes are most often used in hole or bore inspections. These bolt hole probes are rotated and indexed manually. Typically scanner bolt-hole probes are utilized in aerospace structural inspection after removal of fasteners, bushings, or other open hole type inspection applications. These probes can be built with various connector options, frequencies and diameters.



- Select Microdot, Fischer Triaxial or BNC Connector
- Probes with Fischer Connector have built in reference coils
- 50 – 500 kHz or 200 kHz – 2 MHz / Specify other frequencies
- Probes Include Swivel Collars
- BNC Connector Includes 6 Feet of Coax Cable
- Overall length: 4”

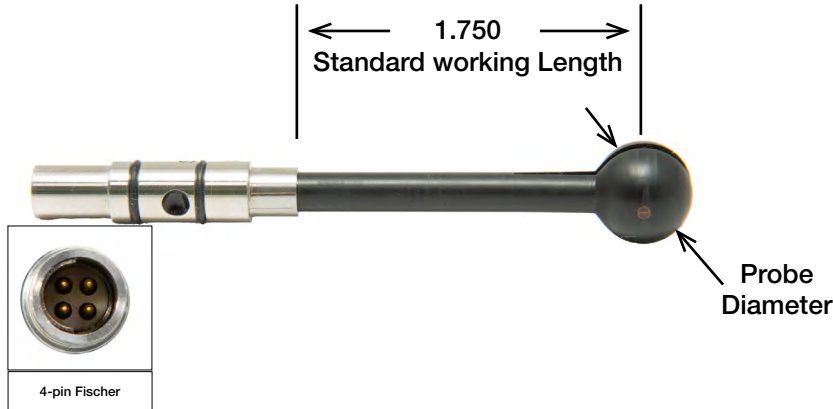
Diameters:

- Select Diameters from 1/8” to 1.0”
- Probes ≤ 0.25 diameter” have 1” working length

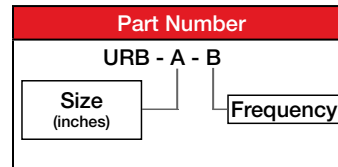
| Part Number | Shielding | | Connector | | | Frequency | |
|-----------------------|-------------------------|------------------|-----------|----------|--------------|--------------|-----------------|
| | Unshielded | Ferrite Shielded | Microdot | Triaxial | Integral BNC | 50 - 500 kHz | 200 kHz - 2 MHz |
| x/xx = Probe Diameter | | | | | | | |
| VM101B-X/XX | ✓ | | ✓ | | | ✓ | /H |
| VM1501B-X/XX | ✓ | | | ✓ | | ✓ | /H |
| VM101BS-X/XX | | ✓ | ✓ | | | ✓ | /H |
| VM1501BS-X/XX | | ✓ | | ✓ | | ✓ | /H |
| VM101BC-X/XX | ✓ | | | | ✓ | ✓ | |
| VM101BCS-X/XX | | ✓ | | | ✓ | ✓ | |
| VM101BDC-X/XX | Split Core Differential | | | ✓ | | | ✓ |
| VM101BR-X/XX | Split Core Reflection | | | ✓ | | | ✓ |

Universal Rotating Bolt Hole Probes

Universal Rotating Bolt Hole Scanner Probes (URB) are most often used in hole or bore inspections. These bolt hole probes can be used with high speed scanners, increasing inspection speed and accuracy in finding flaws. Typically scanner bolt-hole probes are utilized in aerospace structural inspection after removal of fasteners, bushings, or other open hole type inspection applications. Standard URB probes are designed with a differential reflection coil configuration.



| Probe Style | A | B | |
|-------------|-------------------------------|----------------------------|----------------------------------|
| | Probe Diameter inches (mm) | Frequency | |
| | OD | 2 MHz (500 kHz - 3 MHz) | LF (Low Freq) (100 - 500 kHz) |
| URB | Ø .125 (3.18) | ✓ | ✓ |
| URB | Ø .156 (3.96) | ✓ | ✓ |
| URB | Ø .187 (4.76) | ✓ | ✓ |
| URB | Ø .250 (6.35) | ✓ | ✓ |
| URB | Ø .312 (7.93) | ✓ | ✓ |
| URB | Ø .375 (9.53) | ✓ | ✓ |
| URB | Ø .437 (11.13) | ✓ | ✓ |
| URB | Ø .500 (12.70) | ✓ | ✓ |
| URB | Ø .562 (14.28) | ✓ | ✓ |
| URB | Ø .625 (15.88) | ✓ | ✓ |
| URB | Ø .687 (17.46) | ✓ | ✓ |
| URB | Ø .750 (19.05) | ✓ | ✓ |



EXAMPLES:

URB-.125-2 MHz
URB-.125-LF

Custom sizes available upon request.

URB probes are compatible with the following UniWest scanners:



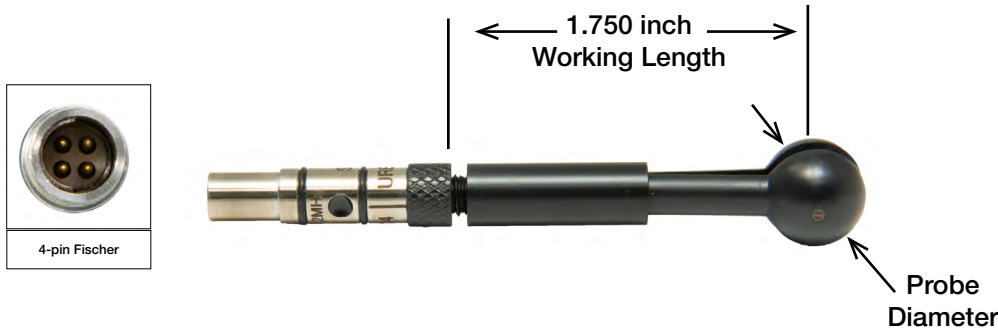
ECS-1 / ECS-1S



JF-15

Adjustable Rotating Bolt Hole Probes

Much like the fixed size URB probes, adjustable URBA probes are most often used in hole or bore inspections. These bolt hole probes can be used with high speed scanners, increasing inspection speed and accuracy in finding flaws. Typically scanner bolt-hole probes are utilized in aerospace structural inspection after removal of fasteners, bushings, or other open hole type inspection applications. Standard URB probes are designed with a differential reflection coil configuration.



| Probe Style | A | B | |
|-------------|-----------------------|----------------------------|----------------------------------|
| | Probe Diameter inches | Frequency | |
| | OD | 2 MHz (500 kHz - 3 MHz) | LF (Low Freq) (100 - 500 kHz) |
| URBA | Ø .125/.156 | ✓ | ✓ |
| URBA | Ø .156/.187 | ✓ | ✓ |
| URBA | Ø .187/.250 | ✓ | ✓ |
| URBA | Ø .250/.312 | ✓ | ✓ |
| URBA | Ø .282/.344 | ✓ | ✓ |
| URBA | Ø .312/.375 | ✓ | ✓ |
| URBA | Ø .375/.437 | ✓ | ✓ |
| URBA | Ø .437/.500 | ✓ | ✓ |
| URBA | Ø .470/.532 | ✓ | ✓ |
| URBA | Ø .500/.562 | ✓ | ✓ |
| URBA | Ø .530/.596 | ✓ | ✓ |
| URBA | Ø .562/.624 | ✓ | ✓ |
| URBA | Ø .573/.635 | ✓ | ✓ |
| URBA | Ø .625/.687 | ✓ | ✓ |
| URBA | Ø .687/.749 | ✓ | ✓ |
| URBA | Ø .750/.812 | ✓ | ✓ |
| URBA | Ø .800/.862 | ✓ | ✓ |
| URBA | Ø .813/.875 | ✓ | ✓ |
| URBA | Ø .813/.937 | ✓ | ✓ |
| URBA | Ø .875/1.00 | ✓ | ✓ |
| URBA | Ø .938/1.062 | ✓ | ✓ |

| Probe Style | A | B | |
|-------------|-----------------------|----------------------------|----------------------------------|
| | Probe Diameter inches | Frequency | |
| | OD | 2 MHz (500 kHz - 3 MHz) | LF (Low Freq) (100 - 500 kHz) |
| URBA | Ø 1.00/1.125 | ✓ | ✓ |
| URBA | Ø 1.063/1.186 | ✓ | ✓ |
| URBA | Ø 1.125/1.250 | ✓ | ✓ |
| URBA | Ø 1.187/1.312 | ✓ | ✓ |
| URBA | Ø 1.250/1.375 | ✓ | ✓ |
| URBA | Ø 1.375/1.500 | ✓ | ✓ |
| URBA | Ø 1.400/1.462 | ✓ | ✓ |
| URBA | Ø 1.480/1.542 | ✓ | ✓ |
| URBA | Ø 1.500/1.625 | ✓ | ✓ |
| URBA | Ø 1.625/1.750 | ✓ | ✓ |
| URBA | Ø 1.750/1.875 | ✓ | ✓ |
| URBA | Ø 1.875/2.000 | ✓ | ✓ |
| URBA | Ø 2.000/2.125 | ✓ | ✓ |
| URBA | Ø 2.125/2.250 | ✓ | ✓ |
| URBA | Ø 2.250/2.375 | ✓ | ✓ |
| URBA | Ø 2.375/2.500 | ✓ | ✓ |
| URBA | Ø 2.437/2.562 | ✓ | ✓ |
| URBA | Ø 2.500/2.625 | ✓ | ✓ |
| URBA | Ø 2.625/2.750 | ✓ | ✓ |
| URBA | Ø 2.750/2.875 | ✓ | ✓ |

Custom sizes available upon request.

URBA probes are compatible with the following UniWest scanners:



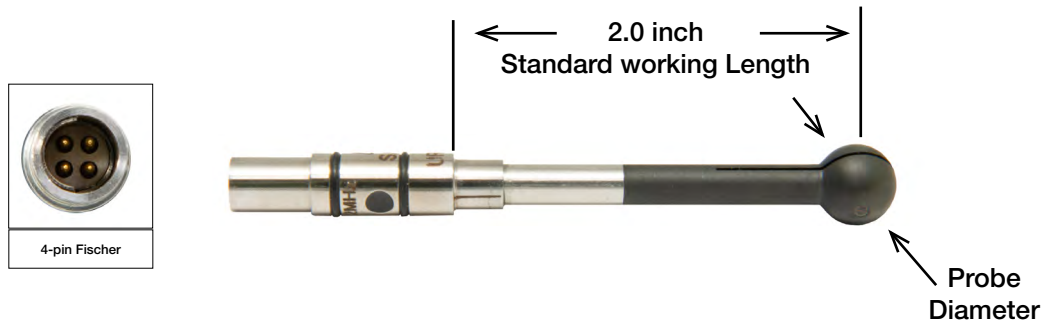
ECS-1 / ECS-1S



JF-15

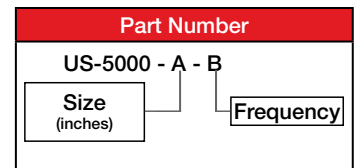
US-5000 Bolt Hole Probes

US-5000 bolt hole scanner probes are GE approved. These probes are very similar to the URB probes, except their coils are precisely balanced and they have a tighter run-out tolerance.



| Probe Style | A Probe Diameter inches | B Frequency |
|-------------|-------------------------------|----------------------|
| | OD | 2 MHz (1 - 3 MHz) |
| US-5000 | Ø .121 | ✓ |
| US-5000 | Ø .170 | ✓ |
| US-5000 | Ø .188 | ✓ |
| US-5000 | Ø .190 | ✓ |
| US-5000 | Ø .207 | ✓ |
| US-5000 | Ø .210 | ✓ |
| US-5000 | Ø .220 | ✓ |
| US-5000 | Ø .239 | ✓ |
| US-5000 | Ø .244 | ✓ |
| US-5000 | Ø .248 | ✓ |
| US-5000 | Ø .250 | ✓ |
| US-5000 | Ø .255 | ✓ |
| US-5000 | Ø .260 | ✓ |
| US-5000 | Ø .265 | ✓ |
| US-5000 | Ø .270 | ✓ |
| US-5000 | Ø .275 | ✓ |
| US-5000 | Ø .276 | ✓ |
| US-5000 | Ø .280 | ✓ |
| US-5000 | Ø .281 | ✓ |
| US-5000 | Ø .290 | ✓ |
| US-5000 | Ø .293 | ✓ |
| US-5000 | Ø .294 | ✓ |
| US-5000 | Ø .308 | ✓ |
| US-5000 | Ø .313 | ✓ |
| US-5000 | Ø .317 | ✓ |
| US-5000 | Ø .318 | ✓ |
| US-5000 | Ø .323 | ✓ |

| Probe Style | A Probe Diameter inches | B Frequency |
|-------------|-------------------------------|----------------------|
| | OD | 2 MHz (1 - 3 MHz) |
| US-5000 | Ø .328 | ✓ |
| US-5000 | Ø .335 | ✓ |
| US-5000 | Ø .345 | ✓ |
| US-5000 | Ø .375 | ✓ |
| US-5000 | Ø .388 | ✓ |
| US-5000 | Ø .395 | ✓ |
| US-5000 | Ø .400 | ✓ |
| US-5000 | Ø .415 | ✓ |
| US-5000 | Ø .435 | ✓ |
| US-5000 | Ø .459 | ✓ |
| US-5000 | Ø .465 | ✓ |
| US-5000 | Ø .475 | ✓ |
| US-5000 | Ø .495 | ✓ |
| US-5000 | Ø .500 | ✓ |
| US-5000 | Ø .514 | ✓ |
| US-5000 | Ø .515 | ✓ |
| US-5000 | Ø .529 | ✓ |
| US-5000 | Ø .574 | ✓ |
| US-5000 | Ø .580 | ✓ |
| US-5000 | Ø .590 | ✓ |
| US-5000 | Ø .595 | ✓ |
| US-5000 | Ø .615 | ✓ |
| US-5000 | Ø .625 | ✓ |
| US-5000 | Ø .630 | ✓ |
| US-5000 | Ø .635 | ✓ |
| US-5000 | Ø .845 | ✓ |
| US-5000 | Ø 1.00 | ✓ |



EXAMPLES:
 US-5000-.250-2 MHz
 US-5000-.293-2 MHz

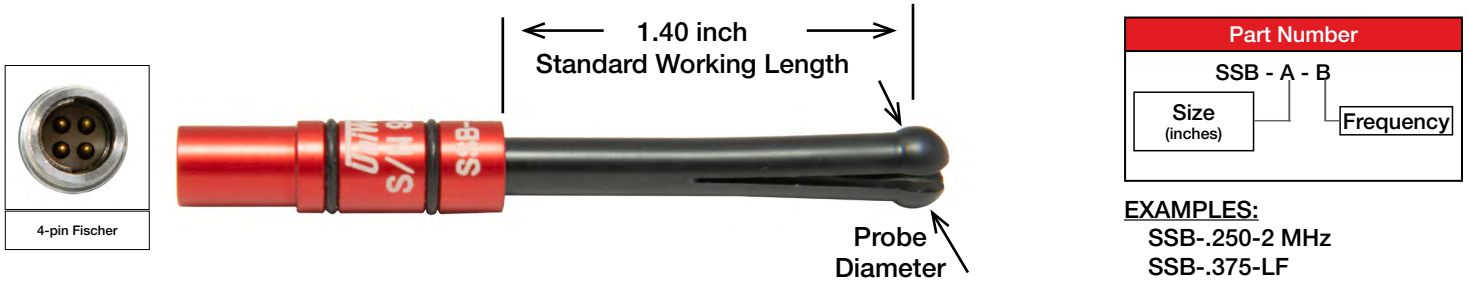
US-5000 probes are compatible with the following UniWest scanners:



SSB Bolt Hole Probes

SSB bolt hole scanner probes are similar to URB probes, with the following unique exceptions:

- Although designed with a differential coil setup, these probes are operated in absolute mode with the ECS-5 scanner and EVi. This unique setup will allow visualizing layer interfaces on a multi-layer part.



| Probe Style | A Probe Diameter inches OD | B Frequency | |
|-------------|-------------------------------------|----------------------------|----------------------------------|
| | | 2 MHz (200 kHz - 2 MHz) | LF (Low Freq) (100 - 500 kHz) |
| SSB | Ø .125 | ✓ | ✓ |
| SSB | Ø .150 | ✓ | ✓ |
| SSB | Ø .156 | ✓ | ✓ |
| SSB | Ø .171 | ✓ | ✓ |
| SSB | Ø .187 | ✓ | ✓ |
| SSB | Ø .203 | ✓ | ✓ |
| SSB | Ø .218 | ✓ | ✓ |
| SSB | Ø .234 | ✓ | ✓ |
| SSB | Ø .243 | ✓ | ✓ |
| SSB | Ø .249 | ✓ | ✓ |
| SSB | Ø .250 | ✓ | ✓ |
| SSB | Ø .265 | ✓ | ✓ |
| SSB | Ø .280 | ✓ | ✓ |
| SSB | Ø .281 | ✓ | ✓ |
| SSB | Ø .296 | ✓ | ✓ |
| SSB | Ø .303 | ✓ | ✓ |
| SSB | Ø .312 | ✓ | ✓ |
| SSB | Ø .327 | ✓ | ✓ |
| SSB | Ø .328 | ✓ | ✓ |
| SSB | Ø .343 | ✓ | ✓ |
| SSB | Ø .344 | ✓ | ✓ |
| SSB | Ø .359 | ✓ | ✓ |
| SSB | Ø .366 | ✓ | ✓ |
| SSB | Ø .374 | ✓ | ✓ |
| SSB | Ø .375 | ✓ | ✓ |

| Probe Style | A Probe Diameter inches OD | B Frequency | |
|-------------|-------------------------------------|----------------------------|----------------------------------|
| | | 2 MHz (200 kHz - 2 MHz) | LF (Low Freq) (100 - 500 kHz) |
| SSB | Ø .390 | ✓ | ✓ |
| SSB | Ø .406 | ✓ | ✓ |
| SSB | Ø .420 | ✓ | ✓ |
| SSB | Ø .429 | ✓ | ✓ |
| SSB | Ø .437 | ✓ | ✓ |
| SSB | Ø .468 | ✓ | ✓ |
| SSB | Ø .484 | ✓ | ✓ |
| SSB | Ø .500 | ✓ | ✓ |
| SSB | Ø .531 | ✓ | ✓ |
| SSB | Ø .560 | ✓ | ✓ |
| SSB | Ø .562 | ✓ | ✓ |
| SSB | Ø .594 | ✓ | ✓ |
| SSB | Ø .625 | ✓ | ✓ |
| SSB | Ø .656 | ✓ | ✓ |
| SSB | Ø .687 | ✓ | ✓ |
| SSB | Ø .719 | ✓ | ✓ |
| SSB | Ø .750 | ✓ | ✓ |
| SSB | Ø .781 | ✓ | ✓ |
| SSB | Ø .813 | ✓ | ✓ |
| SSB | Ø .844 | ✓ | ✓ |
| SSB | Ø .875 | ✓ | ✓ |
| SSB | Ø .906 | ✓ | ✓ |
| SSB | Ø .937 | ✓ | ✓ |
| SSB | Ø .969 | ✓ | ✓ |
| SSB | Ø 1.00 | ✓ | ✓ |

SSB probes are designed for UniWest's ECS-5 scanner. They are backwards compatible with ECS-1 and JF-15 in standard differential mode.



ECS-3S-2 Scanner / Probes

The ECS-3S-2 is UniWest's EVI-compatible, hand-held surface scanner. This scanner provides a constant speed circular scanning pattern.

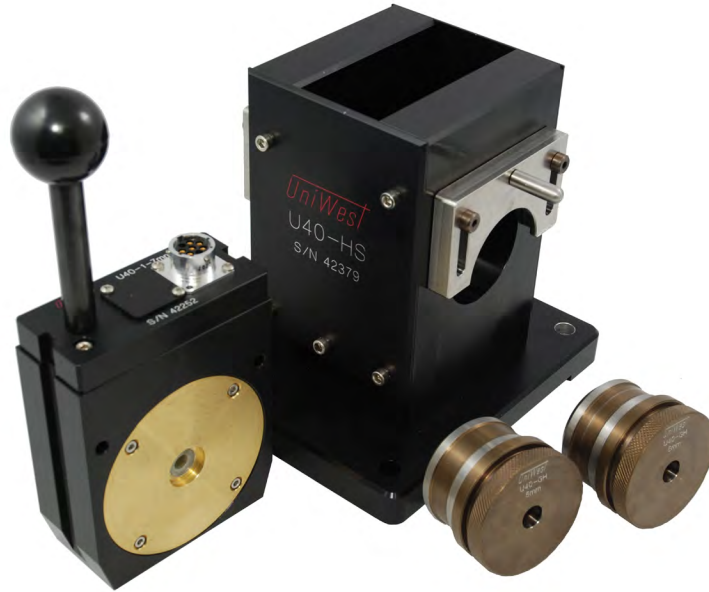
The ECS-3S-2 scanner is ideal for surface scanning applications requiring highly accurate inspections, such as the military, commercial airlines, bridges, and some manufacturing plants. Application examples include lap joints, various flat flush fasteners, flat bars and flat-plate bar stock.



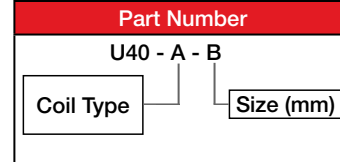
| | Head Ø inches | | Frequency | | | |
|------------------------------|---------------|------|-----------|--------|---------|-------|
| | 0.82 | 1.50 | 1-10 kHz | 20 kHz | 200 kHz | 2 MHz |
| US-3316 Removable probe head | ✓ | | | | | |
| US-3317 Removable probe head | | ✓ | | | | |
| US-3318 Bobbin assembly | | | ✓ | | | |
| US-3319 Bobbin assembly | | | | ✓ | | |
| US-3320 Bobbin assembly | | | | | ✓ | |
| US-3321 Bobbin assembly | | | | | | ✓ |

Encircling Coils

Encircling Coils are typically used for on-line inspection of tubes, bars and wires. These specialty coils are typically used for detecting manufacturing-related flaws such as inclusions, porosity, cracks, laps, seams, etc. Encircling coils are also used when testing for correct heat treatment. Frequency range: 10 kHz - 100 kHz.



| Probe Style | A Coil Type | B Coil Size mm (in) |
|-------------|----------------------------|---------------------------|
| | 1 Differential/Absolute | |
| U40 | ✓ | 1.2 (0.047) |
| U40 | ✓ | 2.2 (0.087) |
| U40 | ✓ | 3.2 (0.126) |
| U40 | ✓ | 4.2 (0.165) |
| U40 | ✓ | 5.2 (0.205) |
| U40 | ✓ | 7.0 (0.276) |
| U40 | ✓ | 9.0 (0.354) |
| U40 | ✓ | 11.0 (0.433) |
| U40 | ✓ | 13.0 (0.512) |
| U40 | ✓ | 15.0 (0.591) |
| U40 | ✓ | 17.0 (0.669) |
| U40 | ✓ | 20.0 (0.787) |
| U40 | ✓ | 23.0 (0.906) |
| U40 | ✓ | 26.0 (1.024) |
| U40 | ✓ | 29.0 (1.142) |
| U40 | ✓ | 32.0 (1.260) |
| U40 | ✓ | 35.0 (1.378) |
| U40 | ✓ | 38.0 (1.196) |
| U40 | ✓ | 11.0 (1.732) |



EXAMPLE:

U40-1-4.2mm

CABLE:

P/N 99176 8-pin Burndy/8-pin Burndy

NOTES:

- Frequency range: 10 kHz - 100 kHz
- Holder P/N: U40-HS
- Guides are available in steel, plastic or carbide materials.
- Also available: diverse rectangular coils for flat-stock and other products as well as different coil configurations for inspecting small-diameter wires or for sorting materials.

HVAC Tubing Probes

UniWest offers a variety of sizes of eddy current probes that are commonly used to inspect the finned tubes used in air conditioner chillers. The TIP series of probes contain a differential bobbin and X-Axis coils. This is the most commonly used probe for inspecting chillers and can be used to inspect both the finned and the skipped fin portion of these chiller tubes.

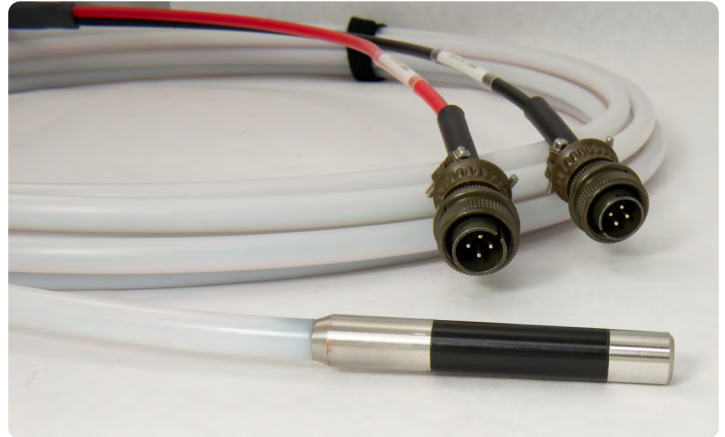
Tubing Inspection Probes (TIP-xxxx) series of probes:

Frequency Ranges:

- Ultra Low Frequency (ULF) 1 – 150 kHz

Diameters:

- 0.450" (11.5mm) - 2.500" (63.5mm)
in increments of 0.010" (0.25mm)



Shaft:

- Standard length is 35 feet (10 meters), Available lengths to 100 feet 30 meters)
- Standard 7/16" (11mm) HDPE

Connector:

- Standard 4-pin Amphenol

Commonly Ordered:

- TIP-2004 0.525" dia for common 3/4" chiller tubing
- TIP-2010 0.800" dia for common 1" chiller tubing
- Other diameters available. Please consult with our technical team for more details.

Heat Exchanger Tubing Probes

TIP series of ID probes:

Frequency Ranges:

- Ultra Low Frequency (ULF) 1 – 150 kHz
- Low Frequency (LF) 10 – 500 kHz
- Mid Range Frequency (MR) 40 – 800 kHz
- High Frequency (HF) 500 kHz – 1 MHz

Diameters:

- 0.450" (11.5mm) - 2.500" (63.5mm)
in increments of 0.010" (0.25mm)

Shaft:

- Standard length is 50 feet (15 meters), Available lengths to 150 feet (46 meters)
- Standard 7/16" (11mm) HDPE
- Optional 3/8" (9.5mm) Type H nylon available for use with mechanical probe pushers

Connector:

- Standard 4-pin Amphenol

Probe body:

- Unique, Titanium Coil Cover for Greater Wear Resistance and Protection on Ferritic Bobbin, Mag Bias & High Mag Bias probes



| Part Number | |
|-----------------------------|--------------------------------------|
| TIP- .XXX X X X X - X X - X | |
| MS | 4p Amphenol |
| BDY | 8p Burndy |
| L16 | 16p Lemo |
| T 5/16 | 5/16 Type T Nylon |
| T | 3/8 Type T Nylon |
| H 5/16 | 5/16 Type H Nylon |
| H | 3/8 Type H Nylon |
| PE | 7/16 Polyethylene |
| Shaft length (ft) | |
| F | Ferritic Bobbin (Higher Sensitivity) |
| D | Delrin Bobbin |
| N | No Magnet |
| M | Mag Bias |
| H | High Mag Bias |
| B | Barnacle Scraper |
| C | Chamfered Barnacle Scraper |
| F | Flexible |
| H | 500 kHz – 1 MHz |
| MR | 40 – 800 kHz |
| LF | 10 – 500 kHz |
| ULF | 1 - 150 kHz |
| Probe diameter (in) | |

Part Number Examples:

- **TIP-.720MRFMF-110T-MS:** .720" Diameter, Mid Range Frequency (40-800 kHz), Flexible, Mag Bias, Ferritic Bobbin, 110 Foot Long Shaft, 3/8" Type T Nylon, 4p Amphenol. Typically used for u-bend stainless steel tubing application.
- **TIP-.830MRFBNF-83PE-MS:** .830" Diameter, Mid Range Frequency (40-800 kHz), Barnacle Scraper, Non Magnetic, Ferritic Bobbin, 83 Foot Long Shaft, 7/16" Polyethylene, 4p Amphenol. Typically used for straight Admiralty Brass tubing application.

Conductivity Probe US-2982

Electrical conductivity measurements are commonly used in the aerospace field for non-ferrous metal verification and detecting heat treatment or damage. UniWest's EddyView Pro and Premium are capable of performing digital conductivity readings (% IACS or MS/m) as well as non-conductive coating thickness (lift-off) in inches or millimeters.

The US-2982 Conductivity Probe is used with UniWest's EddyView Pro and Premium for digital measurement of electrical conductivity. This probe is specifically designed for conductivity measurements with consideration given to thermal stability and repeatability.

| | |
|----------------|---|
| Frequency: | 60 kHz / 480 kHz |
| Head Diameter: | 0.50 in |
| Height: | 1.00 in |
| Connector: | 8-pin Burndy |
| Note: | Cable is integrated into the probe body at a right angle. |



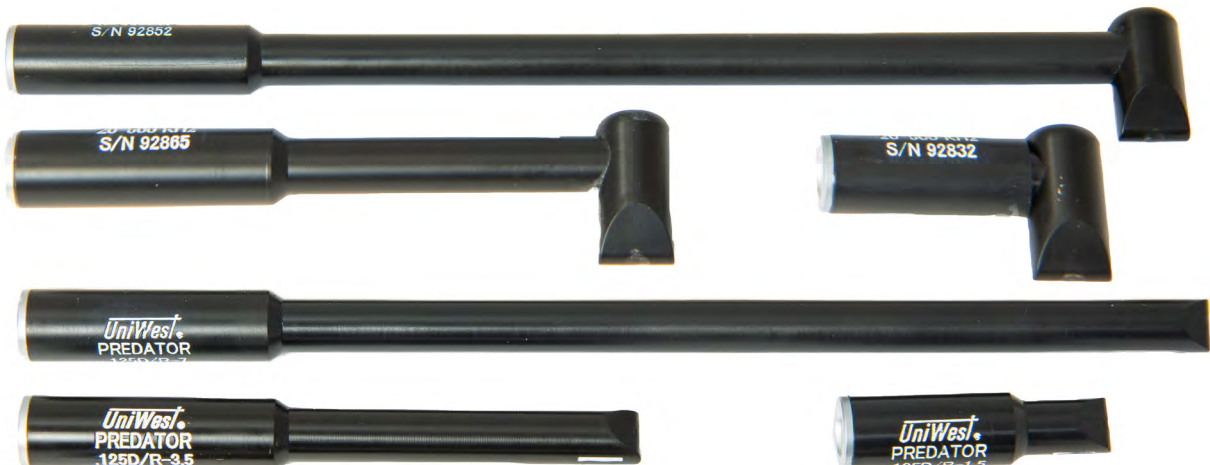
Weld Probes

Weld inspection probes are used to detect surface breaking defects in ferrous welds. These welds can be covered with a non-conductive coating such as paint which only affects the test results depending on the thickness of the coating versus the sensitivity needed to find the minimum flaw size.

Probe tips are made of hardened nonmetallic material that will not scratch the surface but has longer wear characteristics than normal eddy current probes. To help prevent wear and improve the scanning process the probe is covered with Teflon tape which is replaced by the operator when needed.

| Part Number | Crosswound coil | Ceramic tip | Tip Radius inches | | | | Frequency |
|--------------|-----------------|-------------|-------------------|-------|-------|-------|-----------------|
| | | | 0.125 | 0.187 | 0.188 | 0.250 | |
| | | | 0.125 | 0.187 | 0.188 | 0.250 | 500 kHz - 1 MHz |
| US-4149-.125 | | | ✓ | | | | ✓ |
| US-4149-.187 | | | | ✓ | | | ✓ |
| US-4149-.250 | | | | | | ✓ | ✓ |
| US-3716 | ✓ | | | | ✓ | | ✓ |
| US-3716C | ✓ | ✓ | | | ✓ | | ✓ |

Other coil and head configurations are available, such as the below pictured Predator probes. Please consult with our technical team for more details.



Eddy Current Array (ECA) Probes

An Eddy Current Array (ECA), in its fundamental form, is a series of single coils arranged in a row or rows, allowing much larger single-pass coverage than a conventional single-coil eddy current probe. Because of the larger coverage, inspection times are significantly improved.

Multiplexing is used to enable/disable the coils in a specific sequence. UniWest's RCAT array probes feature a miniature multiplexer built right into the probe.

Below are examples of "basic" ECA probes, but as you can imagine, most applications demand a somewhat custom probe to accommodate specific part geometry and required coverage demands. Please contact our ECA experts to discuss your specific application.

Advantages compared to conventional probes:

- Larger single-pass coverage
- Faster inspection times
- C-scan imaging & encoding improves flaw detection and visualization
- Complex shapes can be efficiently inspected using custom probes matching the part profile



RCAT-24X-CONFORM-1.2" IM

- 24 differential orthogonal (cross wound) coils
- Frequency range: 500kHz - 2MHz
- Built-in multiplexer
- Coverage: 1.2"
- Encoder for C-scan display of coverage

RCAT-24P-CONFORM-2.4" IM

- 24 absolute pancake coils
- Frequency range: 100kHz - 500kHz
- Built-in multiplexer
- Coverage: 2.4"
- Encoder for C-scan display of coverage



RCAT-16X

- 16 differential orthogonal (cross wound) coils
- Frequency range: 500kHz - 2MHz
- Built-in multiplexer
- Coverage: 0.75"
- Pivoting head

RCAT-16P

- 16 absolute pancake coils
- Frequency range: 500kHz - 2MHz
- Built-in multiplexer
- Coverage: 0.75"
- Pivoting head

CABLES:

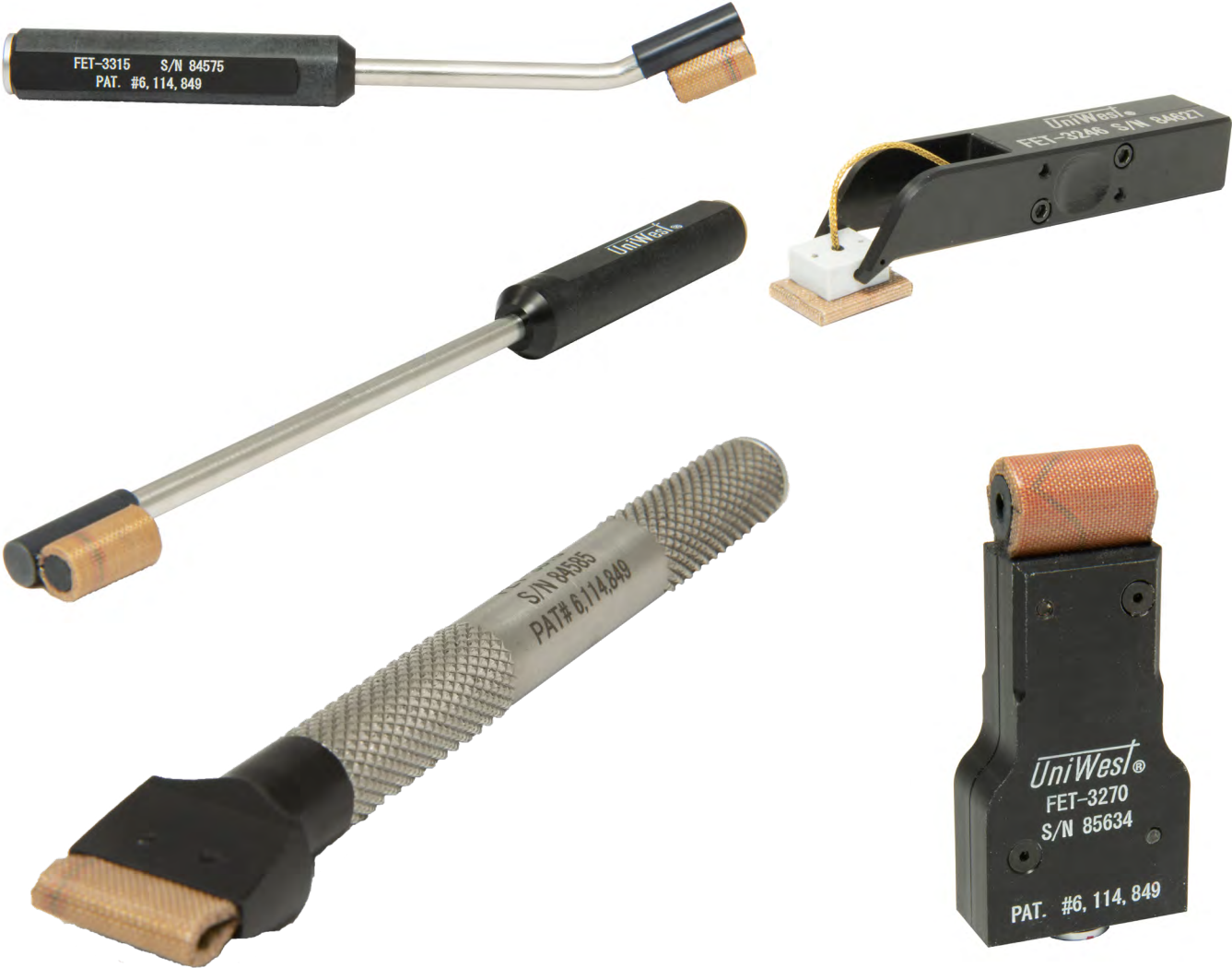
- P/N: 75915-6 6' cable, 12-pin Lemo to 27-pin Fischer (UniWest EVI)
P/N: 75915-10 10' cable, 12-pin Lemo to 27-pin Fischer (UniWest EVI)
P/N: 75915-20 20' cable, 12-pin Lemo to 27-pin Fischer (UniWest EVI)

FET Probes

Flexible Eddy Current Technology (FET) probes are made in a variety of shapes and sizes, but the common design element is that the probe head is flexible, thus allowing the coil assembly to better conform to the test part.

FET probes include a drive coil and a receive coil positioned in close proximity to each other to maximize inductive coupling. The coil assembly is formed on a flexible membrane. The flexible membrane allows the coil assembly to contour to the test part. By doing so, surface coupling is not only maintained but maximized between the test part and the coil assembly which, in turn, improves the induced electromagnetic field. A wear resistant film is formed around the outside of the compliance membrane enclosing the coil assembly.

The images below are just a small example of the special application FET probes UniWest has designed. If you think an FET probe might help solve your unique application, please contact our FET experts to discuss your specific application.



Tie Bolt Probe & Fixture

The US-1779 Tie Bolt System enables complete inspection of aircraft wheel bolt threads as well as inspection under the bolt head for highly accurate eddy current testing.

- Twin-roller flatbed for quick inspection cycles
- Specialty probe US-1839 purchased separately
- Smaller footprint (2' x 3') than other NDT equipment in wheel and brake shops
- No chemicals to dispose of
- Operator-independent go/no-go alarm set
- Detects smaller flaws than other NDT methods
- Bolts need not be free of grease
- Probe connector: 4-socket Fischer



Edge Probes

UniWest edge probes are designed for inspecting edges and/or following a tight contour geometry. The coil is housed in a spring loaded swivel head in order to maintain compliance to the part. The probe head also has a guide to maintain compliance the length of an edge while scanning. Various edge probes have been designed to meet specific applications. Please contact our technical team to help you choose the best edge probe for your application.



US-2103 (NSN: 6635-01-548-4603)

US-2472 (NSN: 6635-01-609-6207)

The specialty US-2103 / 2472 edge probes are designed for difficult inspections on lower edge geometries. The shoe allows for the coil compliance to be at a 45-degree angle to the edge being inspected and a horizontal scan direction. The shoe also swivels between the fork assembly to maintain compliance and move through a radius geometry's. The probe also has an articulating pivot design so the probe can be manually set from a straight "0" degree to a "90" degree angle depending on the inspection needs. This probe works exceptionally well for tracking lower skin areas commonly found in airframe inspection.

Frequency range: 100 kHz - 2MHz



US-2610 (NSN: 6635-01-642-3161)

US-2127 (NSN: 6635-01-548-4606)

The US-2610 / 2127 is a probe designed for an edge type geometry. The probe head can swivel to maintain compliance to the part for the length of the scan.

Frequency range: 100 kHz - 2MHz

Bulkhead Probes

US-3515 and US-3516 probes are designed for inspecting aerospace bulkhead inside corner/edge for surface-breaking cracks. The probe head pivots to help maintain constant contact with the surface. The short handle version is ideal for hard to reach locations.



EDM Notches: 0.040" long x 0.020" deep



US-3515 (NSN: 6635-01-630-2763)

Radius surface bulkhead probe, long handle.

Overall length: 6.3 inches

Frequency range: 50 kHz - 500 kHz

4-pin Fischer connector.



US-3517 (NSN: 6635-01-630-2769)

Calibration standard (AI) for US-3515 and US-3516 probes. This standard includes two (2) notches, both 0.040" long x 0.020" deep.

US-3516 (NSN: 6635-01-630-2765)

Radius surface bulkhead probe, short handle.

Overall length: 5.0 inches

Frequency range: 50 kHz - 500 kHz

4-pin Fischer connector.



Probe Kits

UniWest Eddy Current probe kits combine multiple tools used in different NDT applications into one kit. Each kit provides all the probes you need for adequate testing.

If you require a probe with specific dimensions or other characteristics, we'll work with you to make sure you receive the right tool for the job. Following are just a few examples of our probe kits.



Yes, we can create custom probe kits to meet your inspection needs!

Airframe surface inspection kit (P/N 99788) for eddy current inspection of challenging airframe geometries, such as edges, flats, cutouts, and tight radii.



Airframe Surface Inspection Kit, P/N 99788

Contains:

- US-2471 (NSN: 6635-01-609-6209) Probe, Edge Swivel
- US-2472 (NSN: 6635-01-609-6207) Probe, Articulating Swivel
- US-2052 (NSN: 6635-01-609-6217) Probe, Right Angle Swivel, Edge Radii
- US-2492 (NSN: 6635-01-609-6203) Probe, Fuel Hole Inspection
- US-2494 (NSN: 6635-01-609-6120) Probe, Swivel 200KHz Diff/Refl
- US-2493 (NSN: 6635-01-609-6123) Probe, Inside Angle 200KHz Diff/Refl
- FET-3290 (NSN: 6635-01-609-4679) Probe, Flexcoil Flat Short Handle
- FET-3294 (NSN: 6635-01-609-4684) Probe, Rigid Flexcoil, 400-Degree Swivel
- FET-3295 (NSN: 6635-01-609-4690) Probe, Flexcoil w/ 8" Shaft
- 99073 (NSN: 6635-01-609-4427) Calibration Standard Radius AL 7075
- 71190 Carry Case
- 94186 (NSN: 6635-01-548-4604) Qty 2: Cbl Assy, 16p Lemo/4p Fischer, Refl (6 ft)
- 92820 Tape- Teflon 0.25" 4mil Thick
- 94847 Tape- Teflon 0.75" 4mil Thick

NOTE:

Kit P/N 99788-1 is identical except it contains 2ea P/N 94032 Cbl Assy, 8p Burndy/4p Fischer, Reflection, (NSN: 5995-01-518-4366) in place of 2ea P/N 94186.

Probe Kits



Airframe Surface Inspection Kit, P/N 99861

Surface Inspection Kit 99861 includes a number of special application probes to effectively inspect hard to access airframe inspection geometry. The specialty probes allow for inspections of 1/8th and 1/4 inch radii and effectively allow for inspections between fastener rows. In addition a US-2596 probe allows for variable inspection adjustment on edges and the “nut plate” probes allow of inspecting around nut plate fastener holes and for highly effective inspection around common airframe fastener holes. The kit also includes a general-purpose standard for calibration of common airframe structure.

Contains:

- US-2596 (NSN: 6635-01-609-6115) Probe with guide
- US-2597-.325 (NSN: 6635-01-609-6107) Probe, Nut Plate
- US-2681-.250 (NSN: 6635-01-609-6081) Probe, Nut Plate
- FET-3312 (NSN: 6635-01-609-4692) Probe, .125 Flexcoil 30 degree
- FET-3315 (NSN: 6635-01-609-4698) Probe, .250 Flexcoil 30 degree
- FET-3313 (NSN: 6635-01-609-4696) Probe, .125 Flexcoil Straight
- FET-3316 (NSN: 6635-01-609-4703) Probe, .250 Flexcoil Straight
- FET-3317 (NSN: 6635-01-609-4708) Probe, .125 Flexcoil Right Angle
- FET-3318 (NSN: 6635-01-609-4711) Probe, .250 Flexcoil Right Angle
- 9859 Reference Standard, Air Force, AL 7075
- 99108 (NSN: 5996-01-560-1217) Amplifier
- 94847 Tape- Teflon 0.75” 4mil Thick
- 92820 Tape- Teflon 0.25” 4mil Thick
- 94186 (NSN: 6635-01-548-4604) Qty 2: Cbl Assy, 16p Lemo/4p Fischer, Refl (6 ft)
- 71780 Qty 2: Velcro Tie Wrap 3/4” #S-17102
- 71477 Carry Case

Airframe inspection kit (P/N 99954, NSN: 6635-01-616-9408) for eddy current inspection of raised-head fasteners commonly found on airframe structures.

Contains:

- URR-.270 (NSN: 6635-01-609-6704) Probe, Raised Head Fastener
- URR-.330 (NSN: 6635-01-609-6726) Probe, Raised Head Fastener
- URR-.390 (NSN: 6635-01-609-6735) Probe, Raised Head Fastener
- URR-.540 (NSN: 6635-01-609-6771) Probe, Raised Head Fastener
- URR-.570 (NSN: 6635-01-609-6778) Probe, Raised Head Fastener
- 99834 (NSN: 6635-01-609-4450) Cal Standard, Aluminum URR
- 71625 (NSN: 5975-01-610-2908) Wear Face Kit, Small Diameter
- 71123 (NSN: 5995-01-609-4328) Cable, Manual
- 71738 Carry Case



Raised-Head Fastener Probe Kit, P/N 99954

Probe Kits

URB Bolt Hole Kit 100153 includes the 14 URB probes described below.

Contains:

- URB-.125 Probe, Bolt Hole .125 Dia
- URB-.156 Probe, Bolt Hole .156 Dia
- URB-.187 Probe, Bolt Hole .187 Dia
- URB-.218 Probe, Bolt Hole .218 Dia
- URB-.250 Probe, Bolt Hole .250 Dia
- URB-.281 Probe, Bolt Hole .281 Dia
- URB-.312 Probe, Bolt Hole .312 Dia
- URB-.343 Probe, Bolt Hole .343 Dia
- URB-.375 Probe, Bolt Hole .375 Dia
- URB-.437 Probe, Bolt Hole .437 Dia
- URB-.500 Probe, Bolt Hole .500 Dia
- URB-.562 Probe, Bolt Hole .562 Dia
- URB-.625 Probe, Bolt Hole .625 Dia
- URB-.750 Probe, Bolt Hole .750 Dia
- 95683 Carry Case



URB Bolt Hole Probe Kit, P/N 100153

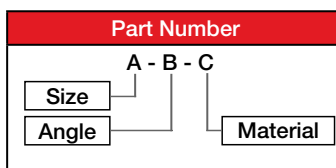
Quick Change Angle Beam Transducers

The Quick Change Transducer (QCT) and Quick Change Wedge (QCW) series are extremely versatile and can be used in many different applications and in a wide variety of industries and environments.

This series of ultrasonic transducers makes changing wedge angle and transducer frequency rapid and easy, saving both time and money. The QC transducer connects straight into the wedges allowing for many combinations all within one kit. All QC transducers are fitted with top mounted microdot connectors allowing for seamless transition from one transducer to the next. The stainless steel transducer housing will resist even the harshest working conditions. The emphasis of the Quick Change Transducer is general purpose with a balance of power and resolution, a high resolution version is available upon request.

The Quick Change Wedge (QCW) is simple to setup and operate, utilizing incorporated noise dampening material on the wedge. Offered in steel, aluminum and titanium refracted angle. Custom contours, radii and wear pins available upon request.

| Element Size (in) | Frequency (MHz) | Part Number |
|-------------------|-----------------|--------------|
| 1/4 | 2.25 | QCT-1/4-2.25 |
| 1/4 | 5 | QCT-1/4-5 |
| 1/4 | 7.5 | QCT-1/4-7.5 |
| 1/4 | 10 | QCT-1/4-10 |
| 3/8 | 2.25 | QCT-3/8-2.25 |
| 3/8 | 5 | QCT-3/8-5 |
| 3/8 | 7.5 | QCT-3/8-7.5 |
| 3/8 | 10 | QCT-3/8-10 |
| 1/2 | 2.25 | QCT-1/2-2.25 |
| 1/2 | 5 | QCT-1/2-5 |
| 1/2 | 7.5 | QCT-1/2-7.5 |
| 1/2 | 10 | QCT-1/2-10 |



CABLES

P/N UT-1134: BNC/Microdot 6'
 P/N UT-1134-10: BNC/Microdot 10'
 Custom cables upon request

Add HR at the end of the part number for high resolution.
 All transducers are fitted with Microdot style connectors.

| Wedge | Part Number |
|-----------|---------------|
| 1/4-35-AL | QCW-1/4-35AL |
| 1/4-45-AL | QCW-1/4-45AL |
| 1/4-60-AL | QCW-1/4-60-AL |
| 1/4-70-AL | QCW-1/4-70-AL |
| 1/4-90-AL | QCW-1/4-90-AL |
| 1/4-35-ST | QCW-1/4-35-ST |
| 1/4-45-ST | QCW-1/4-45-ST |
| 1/4-60-ST | QCW-1/4-60-ST |
| 1/4-70-ST | QCW-1/4-70-ST |
| 1/4-90-ST | QCW-1/4-90-ST |

| Wedge | Part Number |
|-----------|---------------|
| 3/8-35-AL | QCW-3/8-35AL |
| 3/8-45-AL | QCW-3/8-45AL |
| 3/8-60-AL | QCW-3/8-60-AL |
| 3/8-70-AL | QCW-3/8-70-AL |
| 3/8-90-AL | QCW-3/8-90-AL |
| 3/8-35-ST | QCW-3/8-35-ST |
| 3/8-45-ST | QCW-3/8-45-ST |
| 3/8-60-ST | QCW-3/8-60-ST |
| 3/8-70-ST | QCW-3/8-70-ST |
| 3/8-90-ST | QCW-3/8-90-ST |

| Wedge | Part Number |
|-----------|---------------|
| 1/2-35-AL | QCW-1/2-35AL |
| 1/2-45-AL | QCW-1/2-45AL |
| 1/2-60-AL | QCW-1/2-60-AL |
| 1/2-70-AL | QCW-1/2-70-AL |
| 1/2-90-AL | QCW-1/2-90-AL |
| 1/2-35-ST | QCW-1/2-35-ST |
| 1/2-45-ST | QCW-1/2-45-ST |
| 1/2-60-ST | QCW-1/2-60-ST |
| 1/2-70-ST | QCW-1/2-70-ST |
| 1/2-90-ST | QCW-1/2-90-ST |

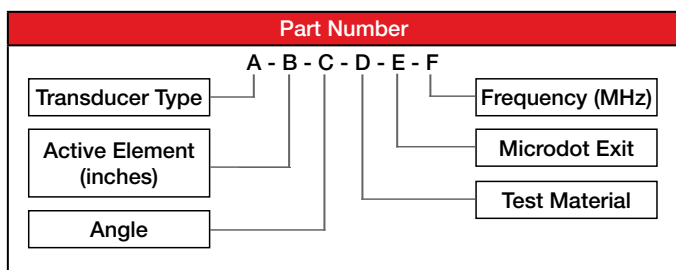
Angle Beam Potted Transducers

Potted Angle Beam transducers are single element shear wave transducers in a non-marring plastic housing. The high sensitivity and good resolution of these transducers allow them to be widely used and make them a popular choice for many NDT applications. They are found in diverse applications in industries employing NDT such as weld inspection and flaw detection on airframes and other such applications. Custom designs available upon request.



| A Transducer Type | B Active Element inches (mm) | C Angle | | | D Test Material | | E Microdot Exit | | F Frequency (MHz) | | | | |
|----------------------|------------------------------------|------------|----|----|--------------------|-------|--------------------|-----|----------------------|-----|-----|----|---|
| | | 45 | 60 | 70 | Aluminum | Steel | Side | Top | 2.25 | 5.0 | 7.5 | 10 | |
| Angle Beam Potted | Dimensions | | | | | | | | | | | | |
| ABP | 3/16 x 3/16 (4.7) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| ABP | 1/4 x 1/4 (6.4) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ABP | 3/8 x 3/8 (9.5) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

All transducers are fitted with Microdot style connectors.



EXAMPLES:

ABP-1/4x1/4-45-AL-S-5
ABP-1/4x1/4-60-ST-T-5

CABLES:

P/N UT-1134: BNC/Microdot 6'
P/N UT-1134-10: BNC/Microdot 10'
Custom cables upon request

Contact Transducers

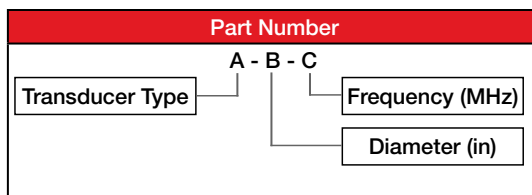
Single element longitudinal wave transducers are used for flaw detection, material thickness measurements and feature mapping. The Standard Contact (SC) configurations use a rugged stainless steel housing coupled with an aluminum oxide wear face. The Replaceable Delay Line (RDL) transducers have a 0.200 inch long replaceable plastic tip.



| A Transducer Type | B Active Element inches (mm) | F Frequency (MHz) | | | | |
|---------------------------|------------------------------------|----------------------|-----|-----|----|----|
| | | 2.25 | 5.0 | 7.5 | 10 | 15 |
| Replaceable Delay Line | Diameter | | | | | |
| RDL | 1/4 (6.4) | | ✓ | ✓ | ✓ | ✓ |
| RDL | 3/8 (9.5) | ✓ | ✓ | ✓ | ✓ | |
| RDL | 1/2 (12.7) | ✓ | ✓ | | | |

| A Transducer Type | B Active Element inches (mm) | F Frequency (MHz) | | | | |
|----------------------|------------------------------------|----------------------|-----|-----|----|----|
| | | 2.25 | 5.0 | 7.5 | 10 | 15 |
| Standard Contact | Diameter | | | | | |
| SC | 1/4 (6.4) | | ✓ | ✓ | ✓ | ✓ |
| SC | 3/8 (9.5) | ✓ | ✓ | ✓ | ✓ | ✓ |
| SC | 1/2 (12.7) | ✓ | ✓ | | ✓ | |

All transducers are fitted with Microdot style connectors.



EXAMPLES:

RDL-3/8-5.0
SC-1/2-7.5

CABLES:

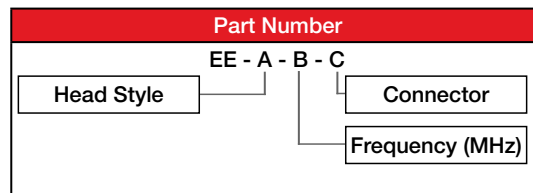
P/N UT-1134: BNC/Microdot 6'
P/N UT-1134-10: BNC/Microdot 10'
Custom cables upon request

Pencil Transducers

EE Pen replaceable delay line pencil type transducers feature a single element and rugged construction for tough working conditions. The compact design allows for the ability to access hard to reach areas or curved surfaces such as turbine blades. With high sensitivity and excellent resolution, these transducers have wide variety of applications, making them a popular choice for various inspections. Replaceable tips are available in 0.070", 0.090" and 0.125" tip diameter.



| A Head Style | B Frequency (MHz) | | C Connector | |
|-----------------|-------------------------|----|----------------|------|
| | 10 | 15 | Microdot | Lemo |
| 00 | ✓ | ✓ | ✓ | ✓ |
| 45 | ✓ | ✓ | ✓ | ✓ |
| 90 | ✓ | ✓ | ✓ | ✓ |
| MM | ✓ | ✓ | ✓ | ✓ |



EXAMPLES:

- EE-00-10-M Straight head, 10MHz, Microdot connector
- EE-90-15-M 90° head, 15MHz, Microdot connector
- EE-MM-10-L Mini fingertip body, 10MHz, Lemo connector

CABLES:

- P/N UT-1134: BNC/Microdot 6'
- P/N UT-1134-10: BNC/Microdot 10'
- P/N UT-1217 BNC/Lemo 6'
- P/N UT-1217-10 BNC/Lemo 10'
- Custom cables upon request

Reference Standards

UniWest builds both custom and generic NDT reference calibration standards for all your nondestructive testing needs. We can CNC and EDM notch your specific primary or master reference standard with all needed documentation; or notch your customer supplied material needed for your special application.

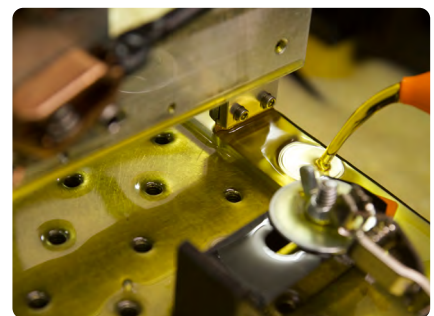
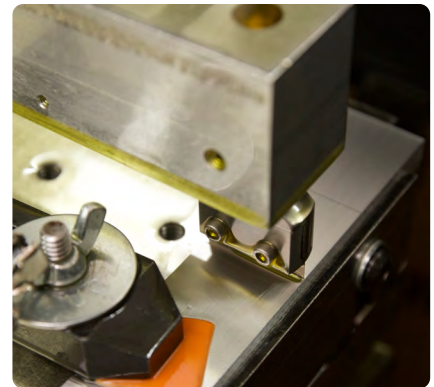
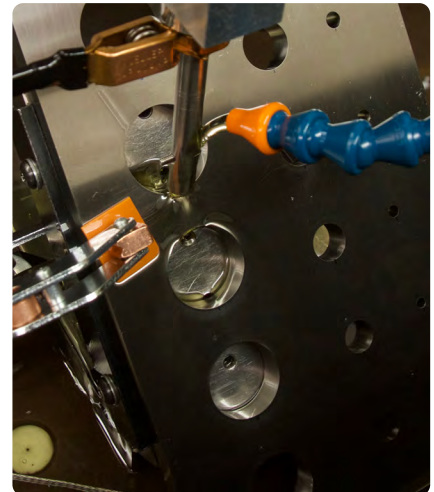
Highlighted below are commonly ordered standards. Please contact us for specific reference standards.



| Part Number | National Stock Number | Description |
|----------------|-----------------------|---|
| 83973 | | Conductivity Set (29.3, 59.9, 100 %IACS) |
| 99859 | | Standard, USAF, AL 7075 |
| 74499 | | Standard, 12 Hole (AL 7050-T7) |
| 93558A | | Standard- Surface AL 7075 Notches=.010,.020,.030,.040 |
| 99834 | 6635-01-609-4450 | Standard, Calibration, Aluminum URR |
| VM30889-C1A | 6635-01-092-5129 | Standard, 7075 AL Bolt Hole and Surface Notches |
| VM30889-C1A/AB | | Standard, 7075 AL Bolt Hole and Surface Notches (Airbus Version) |
| VM30889-C1A/AF | 6635-01-092-5129 | Standard, 7075 AL Bolt Hole, Air Force |
| VM30889-C1I | 6635-01-512-4953 | Standard, Inconel Bolt Hole and Surface Notches |
| VM30889-C1S | 6635-01-512-4952 | Standard, 4130 Steel Bolt Hole and Surface Notches |
| VM30889-C1SS | 6635-01-548-6559 | Standard, 304 SS Bolt Hole and Surface Notches |
| VM30889-C1T | 6635-01-390-1768 | Standard, Titanium Bolt Hole and Surface Notches |
| VM89A | | Standard, AL 7075-T6, 12-Hole, Corner Surface Notches |
| VM96A | | Reference Standard, AL 7075-T6, 13 Holes, Tapered Surface Notches |

EDM Notching

Electrical Discharge Machining (EDM) is an integral part of UniWest's machining capabilities. UniWest has added two new machines, as well as doubling the size of the machine shop. The new CNC controlled machines have been modified to hold large jet engine components (up to 40" diameter), allowing UniWest to handle even the most challenging parts. Electrically discharge machined notches, in a variety of sizes, shapes and locations, can be placed in almost all metals. The width of the notch can be tightly held and gives a fair representation of cracks typically found in the field. Calibration of eddy current measurement systems is an important factor for attaining the accuracy and precision of measurements required for quantitative nondestructive evaluation. UniWest's unique and sophisticated EDM skills are called upon to do custom EDM work that others cannot perform. UniWest can CNC and EDM notch specific primary or master reference standards with all needed documentation; or notch customer supplied material for your specific application. UniWest builds both custom and generic reference standards for all your Ultrasonic and Eddy Current testing needs.



Accessories

CABLES (probe cables)

EVi compatible

| | | |
|--------------|------------|---------------------------------------|
| P/N 72871 | Bridge | 27-pin Fischer/Triax |
| P/N 72872 | Reflection | 27-pin Fischer/4p Fischer |
| P/N 75915-6 | RCAT Array | 6' cable, 27-pin Fischer/12-pin Lemo |
| P/N 75915-10 | RCAT Array | 10' cable, 27-pin Fischer/12-pin Lemo |
| P/N 75915-20 | RCAT Array | 20' cable, 27-pin Fischer/12-pin Lemo |

EddyView Prime/Pro/Premium compatible

| | |
|-----------|------------|
| P/N 92836 | Bridge |
| P/N 94032 | Reflection |

Nortec 2000/600/500 compatible

| | | |
|-----------|------------|--|
| P/N 99146 | Bridge | 16-pin Lemo/Triax |
| P/N 94186 | Reflection | (NSN: 6635-01-548-4604) 16-pin Lemo/4p Fischer |

Burndy

| | | |
|-----------|------------|--|
| P/N 92836 | Bridge | (NSN: 5995-01-420-3422) 8-pin Burndy/Triax |
| P/N 98838 | Bridge | 8-pin Burndy/Triax |
| P/N 94051 | Reflection | Burndy/Triax (Drive-to-Ring) |
| P/N 94012 | Reflection | 8-pin Burndy/Dual Microdot |
| P/N 94032 | Reflection | (NSN: 5995-01-518-4366) 8-pin Burndy/4-pin Fischer |
| P/N 99176 | Reflection | 8-pin Burndy/8-pin Burndy -Reflection (12 ft) |

CABLES (scanner cables)

| | |
|------------|---|
| P/N 74191 | ECS-3S-2 / ECS-5 to EVi (27-pin Fischer to 27-pin Fischer) |
| P/N 71670 | JF-15 / ECS-1 to US-454A/EddyView (16-pin Fischer to 19-pin Lemo) |
| P/N 98483 | JF-15 / ECS-1 to US-454 (16-pin Fischer to 16-pin Fischer) |
| P/N 100211 | JF-15 / ECS-1 to EVi (16-pin Fischer to 27-pin Fischer) |
| P/N 74714 | ECS-1s to EVi (24-pin Fischer to 27-pin Fischer) |
| P/N 100949 | ECS-1s to Nortec (24-pin Fischer to 16-pin Lemo) |

CABLES (transducer cables)

| | |
|----------------|-------------------|
| P/N UT-1134 | BNC-Microdot, 6' |
| P/N UT-1134-10 | BNC-Microdot, 10' |
| P/N UT-1217 | BNC/Lemo 6' |
| P/N UT-1217-10 | BNC/Lemo 10' |

CABLES (power/charger)

| | |
|-----------|--|
| P/N 92374 | Power cord-Standard/US, 7.5 ft: EVi, EddyView Prime, Pro, Premium, US-454A |
|-----------|--|

Accessories

ADAPTERS

| | |
|------------|-----------------------------------|
| P/N 74678 | 8-pin Burndy - 16-pin Fischer |
| P/N 72306 | EVi 27-pin Fischer - 8-pin Burndy |
| P/N 100384 | EVi 27-pin Fischer - 16-pin Lemo |

AMPLIFIERS

| | |
|-----------|--|
| P/N 99108 | NSN: 5996-01-560-1217 Pre-Amp, 16-pin Lemo - 16-pin Lemo |
|-----------|--|

MULTIPLEXERS

| | |
|------------|--|
| P/N 100345 | Multiplexer, 2-Ch Configurable for Tubing Inspection |
| P/N 100346 | Multiplexer, 4-Ch Configurable for Tubing Inspection |

TEFLON TAPE

| | |
|-----------|--------------------------------------|
| P/N 92820 | Teflon Tape, 0.25" wide x 4mil thick |
| P/N 94847 | Teflon Tape, 0.75" wide x 4mil thick |

BATTERIES

| | |
|-----------|--|
| P/N 96384 | Li-Ion battery, EVi, EddyView Prime, Pro, Premium, US-454A |
|-----------|--|

CHARGERS

| | |
|-----------|---|
| P/N 96574 | Battery Charger w/ AC adapter, EVi, EddyView Prime, Pro, Premium, US-454A |
|-----------|---|

COUPLANT

| | |
|-----------|-------------|
| P/N 71573 | 12oz bottle |
|-----------|-------------|



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