

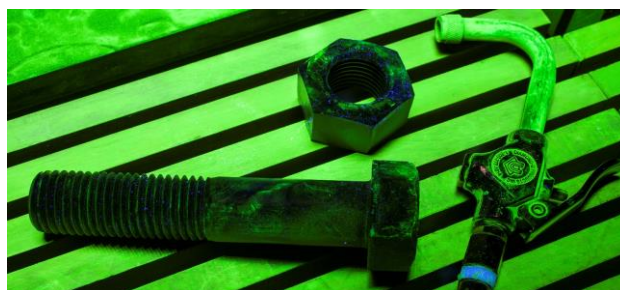


**YOUR COMPLETE SOURCE
FOR NDT EQUIPMENT,
SUPPLIES AND SERVICE**

NDT PRODUCTS CATALOG



RADIOGRAPHY



MAGNETIC PARTICLE



LIQUID PENETRANT



BLACKLIGHTS (UV-A)



ULTRASONIC



VISUAL



LEAK DETECTION



HARDNESS TESTING

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LOCATIONS

BUFFALO, NY

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75 Bank Street
Orchard Park, NY 14127

Telephone: (716) 667-7703
Fax: (716) 667-7702
Email: sales@qeddirect.com

Outside Sales Representative

Tom Sisson
Cell: (716) 907-7045
Email: tsisson@qeddirect.com

HOUSTON, TX

Quality Equipment Distributors, Inc.

4044 Strawberry Road
Pasadena, TX 77504

Telephone: (713) 277-7913
Fax: (713) 588-1804
Email: txsales@qeddirect.com

Outside Sales Representative

CW Collier
Cell: (281) 299-2438
Email: cwcollier@qeddirect.com

QUALITY



"As a business, Quality Equipment Distributors (QED) is committed to excellence by providing superior customer service and support through the sale of QUALITY products to the Non-Destructive Testing industry. This commitment is rooted in the ongoing effort to involve our employees and partner with our suppliers; to continually improve our processes to meet the needs and requirements of our customers."

Certificate is Available for Download on our Website



****Please Contact one of our Distribution Centers for Further Assistance****

RADIOGRAPHY INDUSTREX FILM & CHEMISTRY

Carestream



FILM PRODUCTS

Get the T-Grain Emulsion Advantages

T-GRAIN Emulsion offers a state-of-the-art technology that's specifically designed for industrial radiographic testing applications. What does that mean for you?

Outstanding Image Quality

With a cold, clean image tone and low noise, you get a sharp, clear image every time.

Convenient Processing Flexibility

The films work well in standard process cycles—but they're just as effective in longer or shorter process cycles.

Superb Durability

The films are static resistant, more heat resistant than conventional systems, incredibly sturdy, and you'll get fewer artifacts from handling.

Non-Interleaved Film (NIF)

100 Sheets/Box

| Size | AA400 | T200 | MX125 | M100 | DR50 | HS800 |
|-------------|---------|---------|---------|---------|---------|---------|
| 3.5" x 8.5" | - | 6095772 | 6046916 | 5291406 | - | - |
| 3.5" x 10" | 6046908 | 5284856 | 6041552 | 6041560 | 6041578 | - |
| 3.5" x 17" | 1030295 | 8497711 | 5087283 | 6041354 | 6046619 | - |
| 4.5" x 10" | 8139503 | 8385213 | 5087259 | 5282611 | 6041701 | - |
| 4.5" x 17" | 1447234 | 8328494 | 5087275 | 5258538 | 6041719 | - |
| 5" x 7" | 1543628 | 1921683 | 5245261 | 5258553 | - | - |
| 7" x 17" | 1447655 | 8280745 | 5235890 | 5258504 | 6045090 | - |
| 8" x 10" | 1447853 | 1490606 | 5245287 | 5282629 | 6045082 | - |
| 10" x 12" | 6095988 | 6096002 | 6095970 | 6095962 | 6046635 | - |
| 11" x 14" | 6095996 | 6095863 | 6095848 | 6095855 | 6046601 | - |
| 14" x 17" | 6549471 | 6549463 | 6549455 | 8365728 | 6095533 | 6095558 |

Non-Interleaved Film Roll (NIF Roll)

| Size | AA400 | T200 | MX125 | M100 | HS800 |
|---------------|---------|---------|---------|---------|---------|
| 70mm x 492' | 5230263 | 5073465 | 5058961 | 5268396 | 5291687 |
| 70mm x 1,000' | 6043475 | 6043392 | 6043426 | - | - |
| 90mm x 492' | 5265459 | 5291992 | 5262795 | 8618480 | - |



Ready Pack II

50 Sheets/Box

| Size | AA400 | MX125 | M100 |
|------------|---------|---------|---------|
| 3.5" x 17" | - | 5289434 | - |
| 4.5" x 17" | - | 5245154 | - |
| 5" x 7" | - | 5238118 | - |
| 7" x 17" | 8040552 | 5245147 | - |
| 8" x 10" | 8278137 | 5245139 | - |
| 14" x 17" | 8460636 | 5238134 | 5272844 |

Ready Pack Roll

| Size | AA400 | MX125 | M100 |
|------------|---------|---------|---------|
| 60mm x 90m | - | 6046882 | - |
| 70mm x 90m | - | 6046874 | 6046890 |
| 5" x 60m | - | 5245220 | - |
| 14" x 60m | 5073523 | 5245188 | - |

Lead Contactpak

50 Sheets/Box

| Size | AA400 | T200 | MX125 | M100 |
|------------|---------|---------|---------|---------|
| 4.5" x 10" | - | - | 5245253 | - |
| 4.5" x 17" | 5073507 | 6044978 | 6046940 | 5281241 |
| 5" x 7" | - | - | 5241161 | 5259106 |
| 14" x 17" | 5057740 | - | 5053749 | - |

Lead Pack Roll

| Size | AA400 | T200 | MX125 | M100 |
|------------|---------|---------|---------|---------|
| 60mm x 90m | 6046718 | 6046783 | 6046759 | - |
| 70mm x 90m | 6046726 | 6046791 | 6046767 | 6046734 |
| 10mm x 90m | 6046700 | 6046775 | 6046742 | - |

CHEMICAL PRODUCTS

INDUSTREX Chemicals for manual and automatic processing support the evolving requirements of the non-destructive testing market. Our experience in imaging science spans over one hundred years. But it's an unbreakable commitment to product innovation and customer service that has allowed the INDUSTREX line of products to achieve superiority in the NDT industry.

INDUSTREX Chemicals for use with Automatic Processors

| Item No. | Description | Replenishment Rates (m ³) | Pack/Size | Makes |
|----------|-----------------------------------|---------------------------------------|------------------|-------------|
| 8351413 | Single Part Developer Starter | N/A | Bottle (39.8 oz) | 10 Gallons |
| 5315288 | Single Part Developer Replenisher | 665 mL | Case (2 x 5L) | 10 Gallons |
| 5327903 | Single Part Developer Replenisher | 665 mL | Drum (55 Gallon) | 200 Gallons |
| 5159082 | LO Fixer and Replenisher | 1200 mL | Case (2 x 5L) | 10 Gallons |
| 5327895 | LO Fixer and Replenisher | 1200 mL | Drum (55 Gallon) | 200 Gallons |



INDUSTREX Chemicals for use with Manual Processing

| Item No. | Description | Replenishment Rates (m ³) | Pack/Size | Makes |
|---|-----------------------|---------------------------------------|---------------|------------|
| 5320635 | Manual Developer | 665 mL | Case (2 x 5L) | 10 Gallons |
| 1057009 | Manual Developer Kit | 665 mL | | * |
| *Developer Replenisher (2 x 5L & 1L - Makes 12 Gallons) & Stop Bath (2 x 1L - Makes 10 Gallons) | | | | |
| 1054873 | Manual Stop Bath | N/A | Bottle (1L) | 5 Gallons |
| 5320643 | Manual Fixer | 1200 mL | Case (2 x 5L) | 10 Gallons |
| 1057017 | Manual Fixer Kit | 1200 mL | | * |
| *Fixer Replenisher (2 x 5L & 1L - Makes 12 Gallons) & Rinse Solution (2 x 1L - Makes 10 Gallons) | | | | |
| 1057025 | Manual Rinse Solution | N/A | Bottle (1L) | 5 Gallons |

RADIOGRAPHIC AIDS

FILM VIEWING/ MEASURING DEVICES

LED Film Viewers

LCNDT Viewer Kits Include: LED Film Viewer, External Mask, Foot Pedal, Manual, Test Report, Warranty Card and Carrying Bag depending on Model

| Model | Viewing Window | | Intensity | | Max Viewing Density |
|-------------------------------|----------------|-----------------|-----------------|-----------------|---------------------|
| FV-2008 Plus | 3.2" x 8.7" | | 205,000 Cd/m sq | | 4.3 D |
| FV-2009 Plus FV-2009T | 2.5" x 8" | | 120,000 Cd/m sq | | 4.1 D |
| FV-2010 Plus FV-2010T Plus | 4" x 15.8" | | 130,000 Cd/m sq | | 4.2 D |
| FV-2014 | 13" x 16.1" | | 82,800 Cd/m sq | | 3.8 D |
| FV-2014 Iris | 14" x 17" View | Spot View | 14" x 17" View | Spot View | 14" x 17" / Spot |
| | 13" x 16.1" | 0.2" thru 3.94" | 90,000 Cd/m sq | 280,000 Cd/m sq | |
| FV-2018 Iris | 0.2" thru 4" | | 300,000 Cd/m sq | | 4.5 D |

***Warranty: Models FV-2014 & 2018 - 2 Years Parts / 1 Year Labor**
***Warranty: Models FV-2008, 2009 & 2010 - 5 Years Parts / 1 Year Labor**



FV-2008 PLUS



FV-2010T PLUS



FV-2014



FV-2009 PLUS



FV-2018 IRIS



FV-2014 IRIS

Densitometer & Density Step Tablets

- ▶ Model 301 - Provides highly repeatable and accurate measurement of black and white film densities. Large LED numerals can be read easily in bright or dim light.
- ▶ Model 331C - Designed for black and white film measurement applications where portability is required. Self-contained light table accommodates film up to 11 inches wide.
- ▶ Model SM-10T - Assures instant, accurate, and repeatable results that rival the same high standards of more expensive units. Featuring total accuracy of +/- .02 from 0.00 to 5.00 Optical Density and compliant with ANSI / ISO Standard -5/2.
- ▶ Model SM-12 & SM-14 - Constructed for rugged and durable use, minimal drift and no warm-up time, providing it with fast dependable readings. Reliability and ease of use make the compact "Pocket Pal" the ideal cost-effective choice for film quality assurance. Accurte to +/- .02 from 0.00 to 4.00 Optical Density.

| Item | Mfg. | Measuring/Tablet Range | Description |
|------|-------------------|------------------------|--|
| 301 | X-Rite | 0.00 - 5.00 D | X-Rite Tabletop Densitometer |
| 331C | | 0.00 - 4.00 D | X-Rite Portable Densitometer |
| 5009 | Eseco Speedmaster | 0.00 - 5.00 D | SM-10 Portable B/W Transmission Densitometer |
| 5012 | | 0.00 - 4.00 D | SM-12 Compact Densitometer (Built-in Light Source, Limited to a 3" Film Measuring Depth) |
| 5014 | | 0.00 - 4.00 D | SM-14 Compact Densitometer (Reads Directly from Film Viewers) |
| 5005 | | .08 - 4.00 | 5 Step Transmission Density Tablet (NIST Certified) |
| 5004 | | .15 - 5.00 | 21 Step Transmission Density Tablet (NIST Certified) |

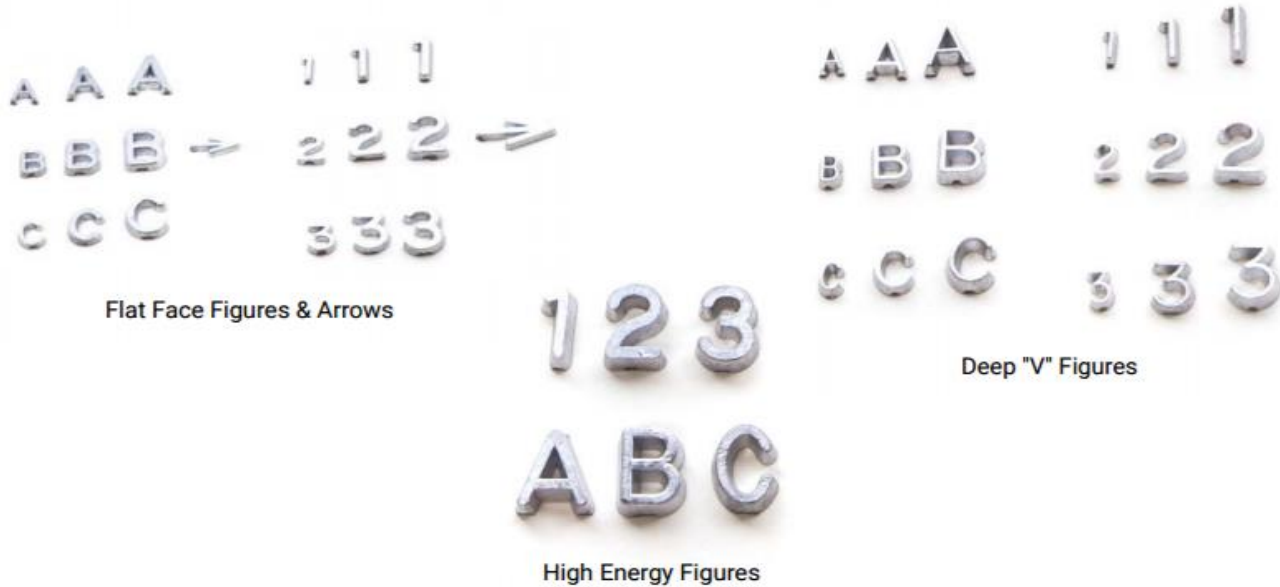


FILM MARKERS

South Lead Figures

Our manufacturing process makes a clean, sharp-edged character, free of flash and porosity. All numbers and letters are pre-packed and sold in quantities as follows:

| Item | Style | Quantity |
|-------------------|-----------------------|---------------------------|
| 1/4" Lead Figures | Deep "V" Flat Face | Pack of 100 |
| 3/8" Lead Figures | Deep "V" Flat Face | Pack of 50 Pack of 100 |
| 1/2" Lead Figures | Deep "V" Flat Face | Pack of 50 Pack of 100 |
| 3/4" Lead Figures | High Energy | Each |



Lead Figure Cases

Designed to hold both numbers and letters. These lead number cases are made of ABS high impact plastic and contain a polyethylene sponge inside the cover which prevents accidental mixing of numbers and letters when the cover is closed.

| Item | Color | Number of Compartments |
|---------|-------|------------------------|
| LL-CASE | Red | 38 |

ID Printer (Film Flasher)

| Item | Description |
|-------|------------------------|
| 17104 | WOLF Manual ID Printer |

1" Reference Standard

Like magic... 1" reference ball attaches itself to any ferromagnetic material, making a radiographers life just a little easier. The ball can be used as a reference for measuring pipe wall.

For accurate measurement, the ball must be put as near as possible to the exact side of the pipe parallel to the image media so that the enlargement of the pipe wall is the same as that of the ball.

If the comparator or ball is not touching the pipe because of insulation, aim the source at the center of the space between the two. This will help insure an equal amount of enlargement to the ball and the pipe wall. (Think of how the source side of an elliptical 2" weld is distorted more than the film side).

| Item | Description |
|-----------|---|
| SP*001201 | 1" OD Magnetic Reference Ball (Includes Certificate of Conformance) |
| SP*001218 | 1" OD Non-Magnetic Reference Ball (Includes Certificate of Conformance) |

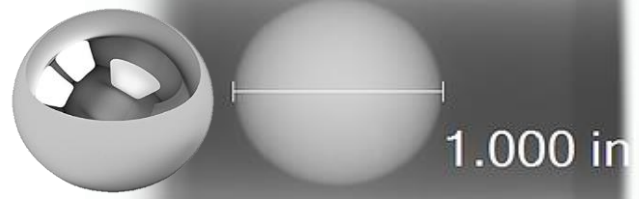


IMAGE QUALITY INDICATORS (IQI's)

South Plaque Type Penetrators (Group 1)

API 1104, ASME Section V, ASTM E-142 (SE-1025) and MIL-STD 271 penetrators up to .050" (thickness) are made from 304 Stainless Steel. Penetrators .060" through .200" (thickness) are made from a high grade Carbon Steel.

| Item | Material | Thickness |
|----------------------|-----------------|--|
| API 1104 | Stainless Steel | #5, #7, #10, #12, #15, #17 and #20 #25, #30, #35, #40, #45 and #50 |
| ASME SECTION V | Stainless Steel | #5, #7, #10, #12, #15, #17 and #20 #25, #30, #35, #40, #45 and #50 |
| ASTM E-142 (SE-1025) | Carbon Steel | #60, #70 and #80 #90, #100, #110, #120, #130, #140 and #160 #180 and #200 |
| MIL-STD 271 | Stainless Steel | .25", .37", .38", .50", .62", .75", .87" and 1.0" 1.2", 1.5", 1.7", 2.0", 2.2" and 2.5" |
| | Carbon Steel | 3.0", 3.5" and 4.0" 4.5", 5.0", 6.0", 7.0" and 8.0" 9.0" and 10.0" |

**Additional Codes, Sizes and Material IQI's are available upon request*

South Plaque Type Penetrators (Group 2)


ASME Section V, ASTM E-142 (SE-1025) and MIL-STD 271 penetrators up to .050" are made from precision rolled Aluminum sheet.


| Item | Material | Thickness |
|--|----------|--|
| ASME SECTION V ASTM E-142 (SE-1025) | Aluminum | #5, #7, #10, #12, #15, #17 and #20 #25, #30, #35, #40, #45 and #50 |
| MIL-STD 271 | Aluminum | .25", .37", .50", .62", .75", .87" and 1.0" 1.2", 1.5", 1.7", 2.0", 2.2" and 2.5" |

**Additional Codes, Sizes and Material IQI's are available upon request*

South Standard Penetrator Shims

Our standard penetrator shims meet all requirements of ASME Sec. V, par. 6.1, ASTM E-142 (SE-1025), par. 6.1 and API-STD-1104, par. 8.41, for use as simulated weld build-up. Tolerance and finish are well within the ranges required by code. They are available in any quantity and at an economical price. Special sizes are also available upon request.

| Item | Size | Thickness | Material |
|----------------|---------------------|-----------|--|
| S-1/64-CS-SHIM | ¾" W | 1/64" |  <p>Carbon Steel</p> |
| S-1/32-CS-SHIM | | 1/32" | |
| S-1/16-CS-SHIM | X | 1/16" | |
| S-1/8-CS-SHIM | | 1/8" | |
| S-3/16-CS-SHIM | 1 ¾" L | 3/16" | |
| S-1/4-CS-SHIM | | 1/4" | |
| S-3/8-CS-SHIM | Specified Thickness | 3/8" | |
| S-1/2-CS-SHIM | | 1/2" | |
| S-1-CS-SHIM | | 1" | |




| Item | Size | Thickness | Material |
|----------------|---------------------|-----------|---|
| S-1/64-SS-SHIM | ¾" W | 1/64" |  <p>Stainless Steel</p> |
| S-1/32-SS-SHIM | | 1/32" | |
| S-1/16-SS-SHIM | X | 1/16" | |
| S-1/8-SS-SHIM | | 1/8" | |
| S-3/16-SS-SHIM | 1 ¾" L | 3/16" | |
| S-1/4-SS-SHIM | | 1/4" | |
| S-3/8-SS-SHIM | Specified Thickness | 3/8" | |
| S-1/2-SS-SHIM | | 1/2" | |
| S-1-SS-SHIM | | 1" | |

**Additional Sizes and Material are available upon request*



South Wire Type IQI's

Wire Image Quality Indicators (IQI's) are inspected with instruments calibrated and traceable to the National Institute of Standards and Technology (NIST).

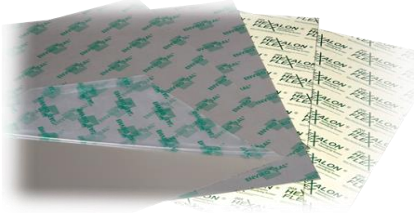

| Item | Length | Material Group |
|---|--------|-------------------------------------|
| SET A  | 2" | 1 (Stainless Steel) 2 (Aluminum) |
| | 3" | 1 (Stainless Steel) 2 (Aluminum) |
| | 4" | 1 (Stainless Steel) |
| SET B  | 2" | 1 (Stainless Steel) 2 (Aluminum) |
| | 3" | 1 (Stainless Steel) 2 (Aluminum) |
| | 4" | 1 (Stainless Steel) |
| SET C  | 2" | 1 (Stainless Steel) 2 (Aluminum) |
| | 3" | 1 (Stainless Steel) |
| | 4" | 1 (Stainless Steel) |
| SET D | 4" | 1 (Stainless Steel) |

**Additional lengths and Material Groups are available upon request*

FILM HOLDERS

Hexalon (FLEX & ULTRA) Intensifying Screens

Hexalon is the popular industry standard lead intensifying screen when performing radiographic testing. The FLEX screen includes a proprietary fiber 90 backing for greater flex and durability. The ULTRA screen is the best production screen available and offers the greatest flexibility and resistance to crimping than any other screen on the market. Hexalon lead is used for reduction of scatter radiation and image intensification. This is radiographic-quality foil. The Hexalon Enviroseal front coating protects from scratching and oxidizing.

| Item | Size | Thickness | |
|---|---------------------------|----------------|----------------|
| FLEX  | 70mm X 10" | .005" .010" | |
| | 70mm X 17" | .005" .010" | |
| | 3.5" X 10" | .005" .010" | |
| | 3.5" X 17" | .005" .010" | |
| | 4.5" X 10" | .005" .010" | |
| | 4.5" X 17" | .005" .010" | |
| ULTRA  | 5" X 7" | .005" .010" | |
| | 7" X 17" | .005" .010" | |
| | 8" X 10" | .005" .010" | |
| | 10" X 12" | .005" .010" | |
| | 11" X 14" | .005" .010" | |
| | 14" X 17" | .005" .010" | |
| | 2.75" (approx. 70mm wide) | 300' 180' | .005" .010" |
| | 3.5" (approx. 90mm wide) | 300' 180' | .005" .010" |
| | 4.5" (approx. 115mm wide) | 300' 180' | .005" .010" |
| | 17" (approx. 432mm wide) | 95' 54' | .005" .010" |

**Cut Screens come standard with 1/2" radius cut corners*

Film Cassettes

- ▶ **SOUTH** - This completely flexible film holder (cassette) is easily molded around irregular shapes to ensure proper contact necessary in direct exposure technique. Made from vinyl treated paper with all edges reinforced with tape for durability, this rugged cassette is available in various sizes. Black Only.
 - ▶ **CLOTH** - Tough, water resistant, and highly durable. Our cloth cassettes are made with the seam in the center, on the back cassette. One end of the cassettes is sealed with gaffers tape and the other includes a rubber band for easy opening and closing of the cassette.
- *Custom Sizes are Available Upon Request*
- ▶ **WARREN** - "Flexible" Type Film Holders: Outer Cover made of tough vinyl impregnated fiber stock but flexible enough to contour around shapes. Comes in two colors (specify when ordering) Blue or Black. Inner film envelope made of black shoe material for light tight protection.

**Also Available Upon Request - WARREN - "Semi-Rigid" or "Rigid" Film Holders. Ideal for Heavy Castings*

| Item | Size | SOUTH | CLOTH | WARREN |
|----------------|------------|-------|-------|--------|
| FILM CASSETTES | 70mm X 10" | X | X | X |
| | 70mm X 17" | X | X | X |
| | 3.5" X 10" | X | X | X |
| | 3.5" X 17" | X | X | X |
| | 4.5" X 10" | X | X | X |
| | 4.5" X 17" | X | X | X |
| | 5" X 7" | X | N/A | X |
| | 7" X 17" | X | | X |
| | 8" X 10" | X | | X |
| | 10" X 12" | X | | X |
| | 11" X 14" | X | | X |
| | 14" X 17" | X | | X |

Cloth Cassette Material

This product is constructed by bonding a sheet of neoprene rubber between two high grade duct cloths of the finest quality durable fabrics. The combination of our dual chain stitch construction and the rugged light-proof material makes a product that has proven reliable for many years.

| Item | Size |
|---------|-----------|
| BELTING | 70mm x 1' |
| | 3.5" x 1' |
| | 4.5" x 1' |

Backing Material

Our .050" and .062" nylon backing is available in rolls, or cut to specified lengths with corners radiused. This flexible material will not buckle or deteriorate under normal use. Therefore, it can be used as support in new cassettes many times.

| Item | Size | Thickness |
|---------|------------|-----------|
| BACKING | 70 mm x 1' | .050" |
| | | .062" |
| | 3.5" x 1' | .050" |
| | | .062" |
| | 4.5" x 1' | .050" |
| | | .062" |



EXPOSURE AIDS

Cassette Holders

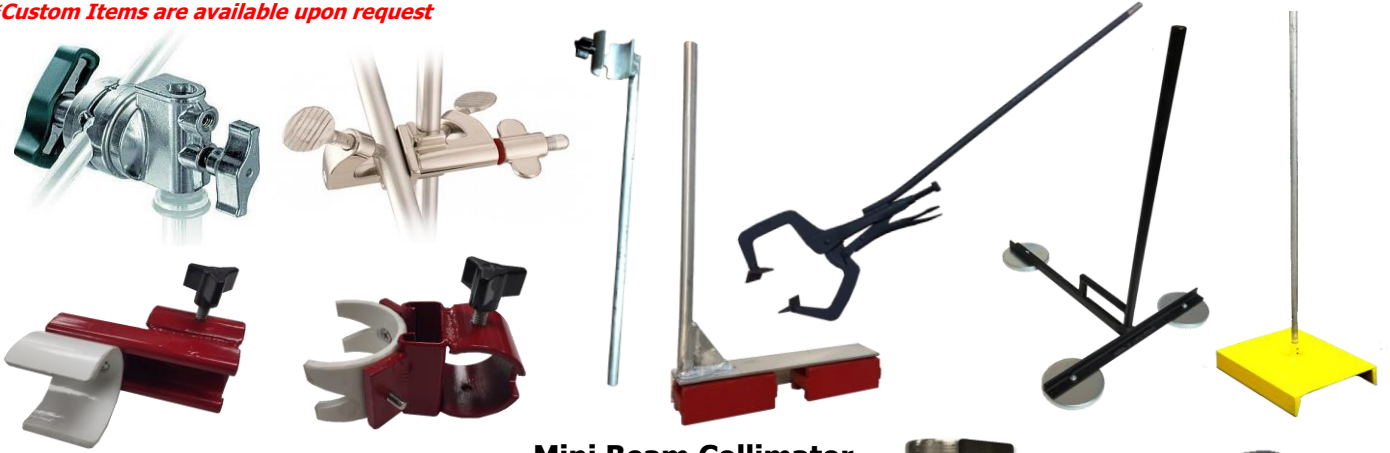
| Item | Description |
|-----------|---|
| SP*001312 | Nylon RT Clamp with Rubber Molded Tips, 9 1/2" Length x 5" Opening |
| SP*001002 | Magnetic Film Holders are made of a spring steel arc with a forty (40) lb. pull magnet attached through center of arc. Quick release mechanism allows the cassette to be changed without removing magnet from vessel. Holder end of spring steel is equipped with lead rubber to prevent back scattering exposure of the cassette |
| PM | Paddle magnets are made of a high-impact plastic with a circular ring magnet at one end and a 3" x 4" flap at the other end |
| SP*001085 | 1/4" Black Bungee Cord, 100' Roll |



Swivel Clamps, Pipe Jigs & Source Stands

| Item | Description |
|-----------|---|
| D200 | Avenger 2 1/2" Grip Head with "T" Top and 5/8" Socket |
| SP*001153 | Swivel Clamp Holder |
| SP*001305 | 2" Contact Jig (Standard) |
| SP*001306 | 2" Fitting to Fitting Contact Jig |
| SP*001268 | 18" Aluminum Source Stick with Built-In Collimator Holder |
| SP*001575 | RT Jig - 11" C-Clamp with Welded Angle Iron and an 18" CS Rod Welded and Painted Black |
| SP*001577 | RT Magnetic Source Stand with (3) 90lb pull magnets including handle and crossbar painted black |
| SP*001559 | Aluminum Magnetic Source Stand with (2) 225lb pull magnets and a 18" x 5/8" rod |
| SP*001082 | Source Stand 8" x 10" Carbon Steel U-Channel Base with Threaded 5/8" Diameter x 36" Long Aluminum Rod |

**Custom Items are available upon request*



Mini Beam Collimator

High density collimator machined from solid tungsten bars, supplies a three (3) to five (5) half value layer (HVL) of shielding for IR 192. Customer machined to fit standard source tubes. Beam collimator has an 82 degree cone window that eliminates film cut-off even on short source to film distances.



| Item | Size |
|-----------|-------------------------------|
| SP*001313 | 1.875" Length x 1.5" Diameter |

Collimator Clamp

| Item | Description |
|---------|---|
| C-CLAMP | Designed to fit 1.5" diameter Collimator. Made of .062" stainless spring steel with slotted ears to accommodate a 6 foot web belt (included) for securing to the pipe |

Industrial Tapes

| Item | Description | Size | UOM |
|----------------|---|---------------|------------|
| PM2 | Intertape Tan Kraft Flatback Paper Tape | 1" x 60 Yards | Case of 36 |
| PC 600 | Shurtape Silver Cloth Duct Tape | | Case of 48 |
| TAPE-GAFFERS-1 | ProTapes Black Cloth Gaffers Tape | 1" x 55 Yards | Roll |
| TAPE-GAFFERS-2 | | 2" x 55 Yards | |



Paint Markers

- ▶ Sakura Solid Marker (Low Halogen/ Low Chloride) - This marker is a low chloride and low halogen solidified paint formula ideal for environments where corrosion and metal fatigue are a concern. Low Halogen Marker contains less halogens (Br, Cl, F, I) and metal ingredients (Zn, Pb, Hg, Cu, Fe, S) meeting RDT F-7-3T requirements and is certified non-toxic.
- ▶ Markal Valve Action (Low Corrosion) - This marker is a fast-drying liquid paint marker that provides long-lasting wear- and weather-resistant marks and is engineered to contain low levels of chlorides, halogens, low melting point metals, and sulfur. Available in 10 colors, the low corrosion paint formula is safe for use on stainless steel, alloys and other superalloy metals and will not contribute to unwanted corrosion, degradation, or pitting from use.

| Brand | Item | Type | Color |
|--------|------------|-----------------------------|--------|
| Sakura | 42500 | Pen-Touch | White |
| | XPFKA-3 | (Medium Point) | Yellow |
| | SAKSLD-WHI | Solid Marker | White |
| | SAKSLD-YEL | | Yellow |
| | XSC-LH#50 | Solid Marker | White |
| Markal | XSC-LH#3 | (Low Halogen/ Low Chloride) | Yellow |
| | 96820 | Valve Action Low Corrosion | White |
| | 96821 | | Yellow |

**Additional Brands, Makes and Colors are Available Upon Request / Markers are Sold per Box of 12*



FILM STORAGE

South Interleave Paper

Interleaves (Yellow in Color) are produced using the alkaline paper making process.

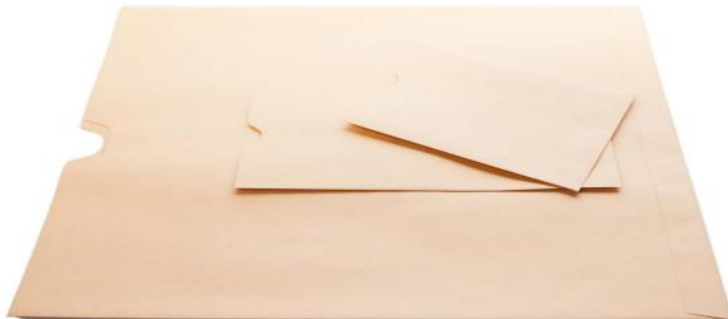
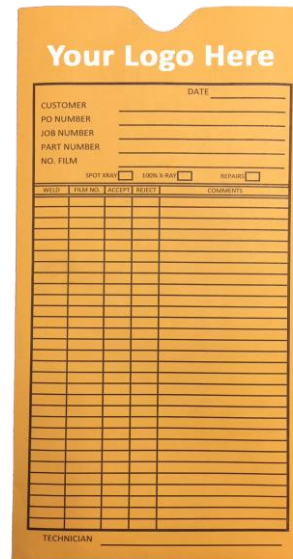
| Item | Size | UOM |
|---------------|------------|--|
| INT3.5X10-200 | 3.5" x 10" |  <p>PACK OF 200</p> |
| INT3.5X17-200 | 3.5" x 17" | |
| INT4.5X10-200 | 4.5" x 10" | |
| INT4.5X17-200 | 4.5" x 17" | |
| INT5X7-200 | 5" X 7" | |
| INT7X17-200 | 7" X 17" | |
| INT8X10-200 | 8" X 10" | |
| INT10X12-200 | 10" X 12" | |
| INT11X14-200 | 11" X 14" | |
| INT14X17-200 | 14" x 17" | |

Film Storage Envelopes

High Grade 32 oz. Brownkraft Exposed Film Storage Envelopes. Available in both Unprinted and PRINTED.

| Size | UOM |
|------------|------------------------------|
| 4.5" x 10" | Pack of 100 Case of 500 |
| 4.5" X 17" | Pack of 100 Case of 500 |
| 5" X 7" | Pack of 100 Case of 1,000 |
| 7" X 17" | Pack of 100 Case of 500 |
| 8" X 10" | Pack of 100 Case of 500 |
| 11" X 14" | Pack of 100 Case of 500 |
| 14" X 17" | Pack of 100 Case of 500 |

****Printed Envelopes are Customized as per your Company Design or our Standard Layout****

****One time Set-Up Fee for all Printed Envelopes for the cost of the Metal Imprint Plate****

70mm Film Storage Boxes (100 Count)

| Item | Description |
|------------------------|--|
| 70mm x 100 Compartment | <p>The top and bottom of our one-hundred (100) cell film storage box is constructed of heavy (200 BP) white corrugated cardboard. The die cut design with locking tabs is easily assembled by hand without the use of tape or staples. The pre-assembled one-hundred (100) cell divider sets in the bottom of the box, over a numbered grid that automatically denotes a space for each of the one-hundred (100) film.</p> <p>The separate lid is die cut design and printed with spaces allowing for all pertinent information as to the pipeline owner, engineering company, contractor, radiography contractor, job numbers, film numbers, etc. The lid also has a printed grid that allows space to record the disposition of each weld x-rayed. This 17" x 17" x 3" storage container allows an inventory of radiographs to be taken without calculating how many odd number films each box contains.</p> |

**Sold in Lots of 25 Only*

70mm Film Storage Boxes (25 or 49 Count)

| Item | Description |
|-----------------------------|---|
| 70mm x 25 or 49 Compartment | 12" x 12" x 3" corrugated cardboard storage box with a pre-assembled forty-nine (49) or twenty five (25) cell egg crate divider can be assembled with tape or a box stapling machine. |

**Sold in Lots of 10 Only*

100mm Film Storage Boxes (100 Count)

| Item | Description |
|-------------------------|---|
| 100mm x 100 Compartment | 15 9/16" x 15 9/16" x 100mm (4") corrugated cardboard box with a pre-assembled 100 cell egg crate divider can be assembled with tape or a box stapling machine. |

**Sold in Lots of 10 Only*



70mm x 100 Compartment Box



70mm x 49 Compartment Box



100mm x 100 Compartment Box

RADIATION SAFETY WARNING SIGNS & LABELS



Radiation Signs

Our radiation signs, sun fast and sealed in two sheets of .016" vinyl, are manufactured in a variety of types. Our most popular are:

- ▶ DANGER – High Radiation Area
- ▶ CAUTION - Radiation Area Authorized Personnel Only

Available with Velcro for securing to a barrier rope or grommets on the corners of attachment to a flat surface.

| Item | Sign Reads |
|-----------------|--|
| Radiation Signs | Danger - High Radiation Area Caution - Radiation Area Authorized Personnel Only |

Barricade Rope & Reel

- ▶ SP*001212 - Sun-fast, non-conductive, and reusable, yellow/magenta polypropylene barricade rope is a safe and easy method for marking off radiation areas. Ideal for hanging Velcro secured signs on.
- ▶ RR - Made of high impact polyethylene with ABS handle and knob.

| Item | Description |
|-----------|---|
| SP*001212 | Radiation Barricade Rope, 5/16" diameter x 1' |
| RR | 13" Polyethylene Reel (holds both Barricade Rope and Tape) |
| SP*001261 | Storage Wheel with Side-Mounted Handle Allowing you to Quickly Wind and Unwind Barricade Tape or Rope |

**Barricade Rope is Sold in 600' Rolls*



Barricade Tape

Yellow/magenta barricade tape is safe, economical, and an easy method of marking a large radiation area quickly. The nylon reinforced tape is sun-fast, non-conductive, and reusable. Available in the following:

| Item | Size | Strength |
|-------|--------------------|--------------------------|
| BT-¾" | ¾" X 150 ft. Roll | 100 lb. Tensile Strength |
| BT-2" | 2" X 150 ft. Roll | 300 lb. Tensile Strength |
| BT-3" | 3" X 1000 ft. Roll | 500 lb. Tensile Strength |

Adhesive Signs & Cones

- ▶ Adhesive Backed Vinyl Signs - 7" x 10" made with Outdoor Durable Vinyl.

| Item | Description |
|-----------|---|
| H1418-AB | Caution Radiation Area Keep Out Sign, 7" x 10", Outdoor Durable Vinyl (Adhesive Backed) |
| H1402-AB | Caution High Radiation Area Sign, 7" x 10", Outdoor Durable Vinyl (Adhesive Backed) |
| SP*001252 | Caution Radioactive Materials Sign, 7" x 10", Outdoor Durable Vinyl (Adhesive Backed) |
| OC-18 | 18" Orange Premium PVC Safety Cones - No Reflective Collar |



Transport Labels

| Item | Description | UOM |
|-----------|--|----------|
| SP*001073 | 1½" Diameter RQ Circle Labels | 500/Roll |
| SP*001074 | 4" x 4" Radioactive II D.O.T. Class 7 Hazard Labels | |
| SP*001078 | 4" x 4" Radioactive III D.O.T. Class 7 Hazard Labels | |



PERSONAL DOSIMETRY

Electronic Dosimeters



MIRION
TECHNOLOGIES

RAD-60 ELECTRONIC DOSIMETER

RAD-60 Personal Alarm Dosimeter is a precise radiation measuring instrument for reliable detection and registration of radiation in order to ensure the personal safety of the user. It is suitable for a broad range of everyday radiation monitoring purposes in stand alone conditions.



KEY FEATURES:

- ▶ Solid state Detector
- ▶ Compact (3.1" x 2.6" x 0.8") and Lightweight (2.8 oz)
- ▶ Standard AAA Alkaline Battery (1800 Hours of Operation)
- ▶ Digital Display for Integrated Dose or Alternatively Dose Rate
- ▶ User Selectable Alarm Levels for Both Dose and Dose Rate
- ▶ Increased Buzzer Volume
- ▶ Ruggedized Clip Fixing / -4 °F to 122 °F operational, humidity up to 90% RH
- ▶ Measurement Range: Dose (0.1 mrem - 999 rem) / Dose Rate (0.5 mrem/hr - 300 rem/hr)

ADR-1 DOSIMETER READER

The ADR-1 Reader Head is designed to read and manage RAD-60 series electronic dosimeters in modern PC environment. The Reader can be used with Dose Control I Dosimetry System as well as with ADR-1/50 Dosimeter Configuration software.

DOSIMETER CONFIGURATION SOFTWARE

- ▶ Dose and Dose Rate reset
- ▶ Dosimeter configuration set-up
- ▶ Alarm levels set-up
- ▶ ID, Work code and Memo set-up



| Item | Description |
|----------|---|
| 1233-218 | RAD-60R Personal Alarm Dosimeter |
| 1233-156 | ADR-1 Dosimeter Reader. Includes: RS-232 cable and 12V power supply (No Software) |
| 1233-163 | ADR-1/50 Dosimeter Configuration Kit for RAD-60. Includes: ADR-1 Reader, ADR-1/50 Dosimeter Configuration Software, RS-232 cable and 12V power supply |

DMC 3000 PERSONAL ELECTRONIC DOSIMETER

Our DMC 3000 Electronic Dosimeter represents over 25 years of real-world electronic dosimetry experience, continually refined through customer feedback.

The unique, high contrast and backlit LCD display provides a clear indication of wearer's dose and ambient dose rate for deep dose equivalent. More importantly, multiple methods (audible, visual, and tactile) are utilized to alert the wearer of alarm conditions.

The DMC 3000 provides all of this protection, for over 2500 hours of continuous use, with a single AAA alkaline battery.



KEY FEATURES:

- ▶ Loud, vibrating and dual ultrabright LED alarm
- ▶ Highly visible backlit display
- ▶ Simple 2-buttons navigation
- ▶ Additional modules (Beta, Neutron, telemetry and PRD)
- ▶ Superior X-ray and gamma energy response
- ▶ Exceeds applicable IEC and ANSI standards
- ▶ Excellent immunity to electromagnetic interference
- ▶ Designed for ruggedness and durability

MEASUREMENT RANGE:

- ▶ Dose: 0.1 mrem to 1000 rem
- ▶ Rate: 0.01 mrem/hr to 2000 rem/hr
- ▶ Saturation Indication: above 1000 rem or 1000 rem/hr

MECHANICAL CHARACTERISTICS:

- ▶ Case: Rugged, high impact polycarbonate-ABS
- ▶ Dimensions: 3.4 x 2.3 x 0.8 in max. without clip
- ▶ Weight: 3.1 oz with alkaline battery and clip

ENVIRONMENTAL CHARACTERISTICS:

- ▶ Temperature range: 14°F to 122°F
- ▶ Relative humidity: < 90% at 108°F
- ▶ Storage: -4°F to 160°F
- ▶ Shock, vibration and drop resistant (5 feet on concrete)
- ▶ Waterproof IP67

ALARM FEATURES:

AUDIBLE & TACTILE

- ▶ Alarming speaker with level of 85 dB at 12 in, frequency < 4800 Hz
- ▶ Vibrating alarm

VISUAL

- ▶ High efficiency red flash LED on front
- ▶ 3 top LEDs for Alarming (Red), gamma counting (Green), and Hp (0.07) or Neutron counting (Blue)

HANDS-FREE DOSIMETER READER - LDM 320D & LDM 320W

The LDM 320D and LDM 320W readers operate using software packages installed on computer (PC) and communicate with DMC 3000 dosimeter in hands-free data exchange mode.

When used with the DMC User software, it functions as an interface to read and write the internal data of the DMC 3000 dosimeters.



LDM 320D

LDM 320W

CUSTOMIZE

- ▶ Adjustable dose and dose rate alarms
- ▶ Adjustable and acknowledgeable dose and dose rate warnings
- ▶ Configurable visual and audible alarm chirp



Nuclear Power



Healthcare



Homeland Security & Defense



Labs and Education



Industrial and Manufacturing

| Item | Description |
|--------|--|
| 153503 | DMC 3000 Electronic Dosimeter for Gamma Radiation and X-Rays |
| 150534 | LDM 320D Dest Top Reader with USB Connection |
| 150517 | LDM 320W Wall Mounted Reader with USB Connection |

Survey Meter, Rate Alarm and Pencil Type Dosimeter

| Item | Description |
|---------|---|
| ND-2000 | NDS Products 3 Range (0-1000, 0-100, 0-10 mR/hr) Survey Meter |
| RA-500 | NDS Products 500 mR/hr Audible Rate Alarm |
| 4329 | W138, Pencil Type Dosimeter, 0-200 mR |



Dosimeter Chargers and Pouches

► 750-6 Piezoelectric Dosimeter Charger can zero a variety of quartz or carbon fiber dosimeters by simply squeezing the lever of the piezoelectric generator. The charger requires absolutely no batteries...ever! By pulling the trigger, a dosimeter is easily placed in or removed from the Charger. The clamping action automatically holds the dosimeter for you. Ideal for using in Field Operations.

► 909B Dosimeter Charger - Easier charging, viewing, dosimeter protection and improved accuracy... these are the biggest reasons that the 909B Dosimeter Charger is the best value on the market today!

| Item | Description |
|-----------|---|
| 750-6 | Pistol Grip Piezoelectric Dosimeter Charger |
| 909B | Battery Powered Dosimeter Charger |
| SP*001221 | Multi-Purpose Poly Holder, Fits Rate Alarms, Pencil Type Dosimeters & other Small Tools |
| RACASE | NDS Products Black Mesh Rate Alarm/Dosimeter Holder |



750-6



909B



*SP*001221*



RACASE

DARKROOM PROCESSING AIDS

Safelights

| Item | Description |
|-----------|--|
| PTP760U | Paterson Dome Safelight, with its 4.5" diameter, is designed to stand on a bench, hang on a wall or suspend from the ceiling. |
| SP*001535 | 18' LED Rope Safelight, Red (Lasts up to 50,000 hours); Easy to install; Hardware included |
| 19198 | The Swivel Safelight is perfect for direct spotlighting. This wall mounted unit swivels to any position. Easy to install via 2 keyholes, the Swivel Safelight includes a GBX Type filter, light bulb, and a 6' cord with a three prong plug. |
| SP*001674 | 24" Fixture and LED Tube Safelight (Lasts up to 50,000 hours) |
| SP*001675 | 24" LED Tube Safelight Only (Lasts up to 50,000 hours) |



PTP760U



*SP*001535*



19198



*SP*001674*

WOLF Developing Hangers (Clip-Type)

Clip-type hangers for tank development of sheet films. Four clips are attached to a stainless steel frame; the upper two are mounted on a bow string to keep the film taut. The interlock design of the clip results in accurate alignment of pin and hole and permits better washing in the clip areas. Larger sized have loop guides to hold the bow string and top clips in line to maintain proper tension. Hangers hold two film - Made in the USA!

| Item | Description |
|---------|---|
| 16317 | WOLF Industrial Developing Hanger, Two Film, Clip/Tension Type, Stainless Steel Construction, 4.5" x 10" |
| 16317-S | WOLF Industrial Developing Hanger, Two Film, Clip/Tension Type, Stainless Steel Construction, 4.5" x 10" with 3" Spacer |
| 16319 | WOLF Industrial Developing Hanger, Two Film, Clip/Tension Type, Stainless Steel Construction, 4.5" x 17" |

Developing Reels and Rod

- ▶ Developing Reels are made of durable ABS plastic, designed for the developing of 70mm roll film. Each Developing Reel will hold 13 feet of roll film.
- ▶ Developing Rod is constructed with a 24" x 3/4" PVC pipe to ensure minimum contamination of chemicals; not fancy, but effective.

| Item | Description |
|-----------|--|
| SP*001309 | 70mm Developing Reel |
| 90MM-DR | 90mm Developing Reel |
| 100MM-DR | 100mm Developing Reel |
| 4.5"-DR | 4.5" Developing Reel |
| ROD-PVC | Developing Rod, 24"L x 3/4" Diameter PVC |



Miscellaneous Darkroom Supplies

- ▶ MD-1 is a pocket-sized plastic scale to aid radiographers in the correct size identification of internal gas porosity and rounded indications in welds. Can be used in conjunction with the ASME codes dealing with rounded indications characteristics.
- ▶ MD-2 is a pocket-sized plastic scale to aid radiographers in the correct size identification of indications in pipe welds with outside diameters greater than or equal to 60.33 mm (2-3/8 in.). Can be used in conjunction with API 1104.
- ▶ Radiation Dose / Distance Calculator - This is a companion tool to the Radiation Exposure Calculators. This calculator estimates the hazard area associated with isotope radiographic operations. Can be used to assist auditors and radiation safety officers when checking the accuracy of radiation survey reports.
- ▶ Exposure Calculator - Available in durable plastic, exposure calculators are designed to provide rapid and precise exposure times for gamma radiography of both Cobalt 60 and Iridium 192.
- ▶ Carestream NDT Image Guide - This guide is designed to help you identify and understand a wide variety of casting and welding defects that appear on images obtained during Non-Destructive Testing (NDT).

| Item | Description |
|------------|---|
| SP*001237 | 14" x 17" Processor Clean-Up Film, 100/Pack |
| MD-1 | Model-1 (ASME) Film Image Scale w/certs |
| MD-2 | Model-2 (API 1104) Film Image Scale w/certs |
| DDC | Radiation Dose/ Distance Calculator |
| EXPCALC-EN | Carestream Film Exposure Calculator, Iridium 192 (Same as JEM & other brands) |
| 8924177 | Carestream NDT Image Guide |
| 300 | GRALAB Model 300 Timer |
| Squeegee | Squeegee, 4.75" Wiper Length |
| 3150SS | Immersion Heater |
| SP*001326 | 28" Plastic Stirring Paddle |
| SP*001072 | 7 1/4" Floating Thermometer w/ String Cord & F/C Display (30°F-120°F/ 0°C-50°C) |



MOBILE DARKROOMS

BWS Aluminum Darkrooms

Standard Darkrooms Items INCLUDE the following:

- ▶ Sprayed with Closed Cell Foam Insulation
- ▶ Outside Marking Lights
- ▶ 7" Adjustable LED Light Bar with Aluminum Housing (Anti-Corrosion, Anti-Wind, Shock-proof, Water-proof and Dust-proof)
- ▶ Fourteen (14) 120V Wall Sockets - Two (2) Power Strips with Six (6) Sockets/Each and AC Unit has its own Outlet (2) Sockets
- ▶ Custom Built-in Wood Cabinetry with Formica Counter-tops
- ▶ The Largest Nose Over the Cab with Shelving for Storage (Specify Open or Closed)
- ▶ Exterior Awning off Back of Darkroom
- ▶ Bedliner Covering the Floor and Side Walls for a Rough Anti-slip Surface which also helps Prevent Scratching and Chemical Contamination



| Item | Description |
|---------|--|
| AD-6 | 6' Aluminum Darkroom |
| AD-8 | 8' Aluminum Darkroom |
| AD-8-GC | 8' Aluminum Darkroom with Generator Cutout |

***Custom Darkrooms are Available Upon Request**

BWS Aluminum Darkroom Options

| Item | Description |
|----------|--|
| SS-DT | Stainless Steel Developing Tank, 5 Compartment (Plumbing Included) |
| SS-DT-NP | Stainless Steel Developing Tank, 5 Compartment (No Plumbing) |
| SS-DB | Stainless Steel Dryer Box |
| PB | Pass Through Box for Pipeline Film |
| RM-AC | Rear Mount 5,000 BTU A/C Unit with Mounting Bracket |

Darkrooms are coated with a DuPont Imron Paint System. This paint system is used on aircraft, heavy duty trucks, specialty vehicles and automobiles. It is considered the best coating system for this application on the market. It provides a long lasting appearance which will prolong your Darkrooms life and create the most brilliant shine.



Darkrooms are constructed using various Aluminum alloys such as 3xxx, 5xxx, and 6xxx. These alloys offer exceptional formability, corrosion resistance, and weldability. Typical ultimate tensile strength ranges between 18 to 58 ksi. These materials are typically used in automotive, transportation, construction, and marine applications. The structural integrity of our units are second to none on the market today!

Our Units are fully Insulated with Closed Cell Foam Insulation both inside the room and in the Nose over the Truck Cab.



BOSS Fiberglass Darkrooms



All of our Darkrooms INCLUDE the following:

- ▶ Five (5) 120V Wall Plugs
- ▶ Interior and Exterior 120V Lighting
- ▶ Interior and Exterior 12V Lighting
- ▶ Build In Side Cabinets
- ▶ Shelving in Nose Over Cab
- ▶ Generous Storage Throughout
- ▶ Awning off Back of Darkroom

| Item | Description |
|-----------|--|
| SP*001244 | 6' Standard Fiberglass Darkroom (Weighs Roughly 850 lbs.) |
| SP*001243 | 8' Standard Fiberglass Darkroom with Generator Cutout (Weighs Roughly 1,100 lbs.) |
| SP*001240 | 8' Standard Fiberglass Darkroom without Generator Cutout (Weighs Roughly 1,100 lbs.) |

***Custom Darkrooms are Available Upon Request**

BOSS Fiberglass Darkroom Options

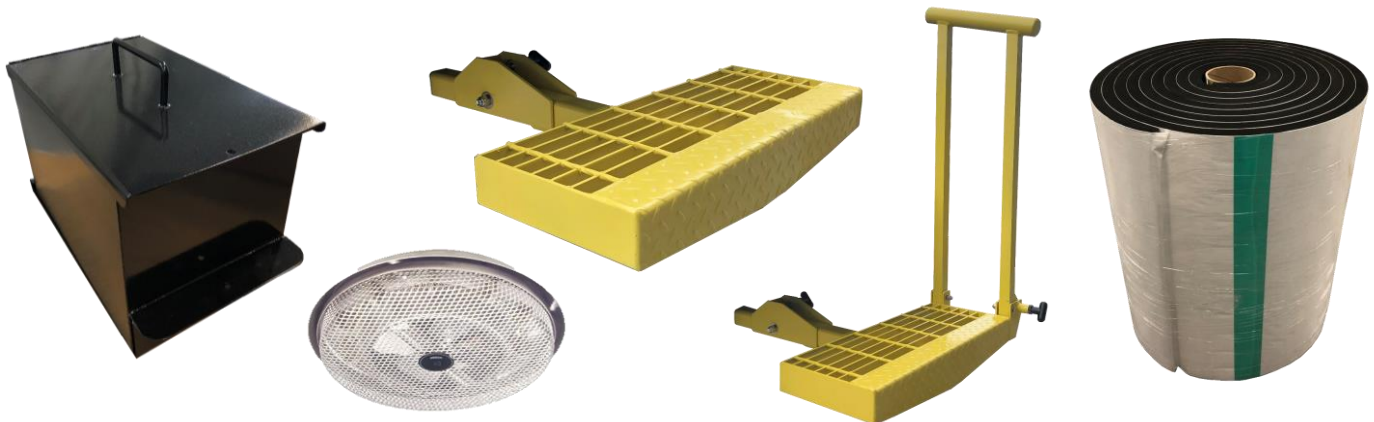
| Item | Description |
|-----------|--|
| SP*001234 | Fiberglass Developing Tank with 5 Even (10 Gallon) Compartments (Includes PVC Plumbing) |
| SP*001496 | Fiberglass Developing Tank with 5 Even (10 Gallon) Compartments (No Plumbing) - Includes Submersible Pump |
| SP*001265 | Film Shoot Box for Pipeline |
| SP*001245 | 13,000 BTU A/C Roof Top |
| SP*001246 | 5,000 BTU A/C Rear Mount |
| SP*001241 | Dryer Box (Fits 24 Film Hangers) with Low-Profile Heater/Blower (66" Long x 17.5" Deep x 22" Tall) - Sold with Darkroom |
| SP*001247 | Dryer Box (Fits 24 Film Hangers) with Low-Profile Heater/Blower (66" Long x 17.5" Deep x 22" Tall) - Sold without Darkroom |

***Custom Tanks are Available Upon Request**



Miscellaneous Mobile Darkroom Items

| Item | Description |
|-----------|---|
| SP*001581 | Source Overpack Box with Mounting Bracket Fits all OEM's Gamma Ray Projectors (ID: 16"L x 10"W x 10.5"H) |
| SP*001235 | Darkroom Truck Step without Hand Rail, Yellow |
| SP*001236 | Darkroom Truck Step with Hand Rail, Yellow |
| SP*001053 | Replacement Low-Profile Darkroom Heater/Blower |
| SP*001499 | 21" Wide x 3/4" Thick x 1" Long Developing Tank Replacement Seal with Peel off Adhesive (Specify Required Length When Ordering) |



AUTOMATIC FILM PROCESSORS

Carestream

INDUSTREX PROCESSORS

Quality Images, Efficient Output, Energy and Water Savings

INDUSTREX M37 Plus for space-saving design and mid-volume output or the INDUSTREX M43iC for high-volume output

M37 Plus Film Processor



The tabletop INDUSTREX M37 PLUS is ideal for automatic processing in mid-volume facilities. While compact, it offers the output you need and the excellent image quality and reliability you demand.

The new INDUSTREX M37 Plus film processor incorporates all the experience and features you've come to expect from the INDUSTREX line of products for NDT applications. The processor ensures totally automatic film handling and supports nine programmable-controlled processing channels that allows for flexibility in your day-to-day NDT film production.

Features Include:

- Ease of operation with nine programmable-controlled processing channels
- 17" processing width
- Capacity of 33 sheets/hour (14" x 17") in recommended processing cycle
- Intermediate rinse rack bath system
- Automatic replenishment system for developer and fixer
- Automatic anti-oxidation and anti-crystallization cycles
- Enhanced cold water cooling system
- Unit pre-configured with connection fittings to simplify installation of optional external chiller

Standard Accessories Include:

- Two 8 gallon replenishment storage tanks
- Light tight feed-tray cover
- Table stand
- Re-locatable controller unit for operator convenience
- Spare part kit

M43iC Film Processor

Designed to meet the needs of high-volume Non-Destructive Testing customers, the INDUSTREX M43iC provides multiple processing cycles and dry-to-dry processing in as little as five minutes.

This processor also comes standard with an integrated closed-loop chiller to ensure consistent temperature in hot environments or when water supply is not temperature controlled to further enhance capability and image quality in harsh NDT environments.

Features Include:

- Up to nine programmable-controlled processing channels for maintaining preferred settings such as processing speed, developer temperature, fixer temperature, dryer temperature and replenishment rates
- High processing capacity of up to 58 sheets/hour (14" x 17") in the recommended processing cycle for improved productivity
- An intermediate fix rinse system that enhances process uniformity to both sides of the film
- Feed-tray cover that allows for room light operation
- Integrated chiller unit that maintains developer temperature uniformity in hot environments
- Low level monitoring of all tank solutions

Standard Accessories Include:

- Replenishment storage tanks
- Light tight feed-tray cover
- Re-locatable controller unit for operator convenience
- Spare part kit



COMPUTERIZED RADIOGRAPHY (CR)

Carestream



HPX-PRO Portable Digital CR System

The HPX-PRO CR system is built for high image quality, improved productivity and extreme portability. This next-generation system is lightweight (35 lbs.), portable CR imaging solution that is quick to deploy and rapidly produces high-quality images utilizing a new single-pass scan/erase protocol. The HPX-PRO's software incorporates a new user interface designed to get you set-up and imaging fast, with batch mode

capacity to keep in pace with extreme process conditions like pipeline imaging. The new software tools also provide quick image analysis and customized reporting for generating unique customer reports in seconds. From hardware to software, to deep in the field and instant image sharing, the HPX-PRO is a complete system, designed to improve productivity.

HPX-PRO

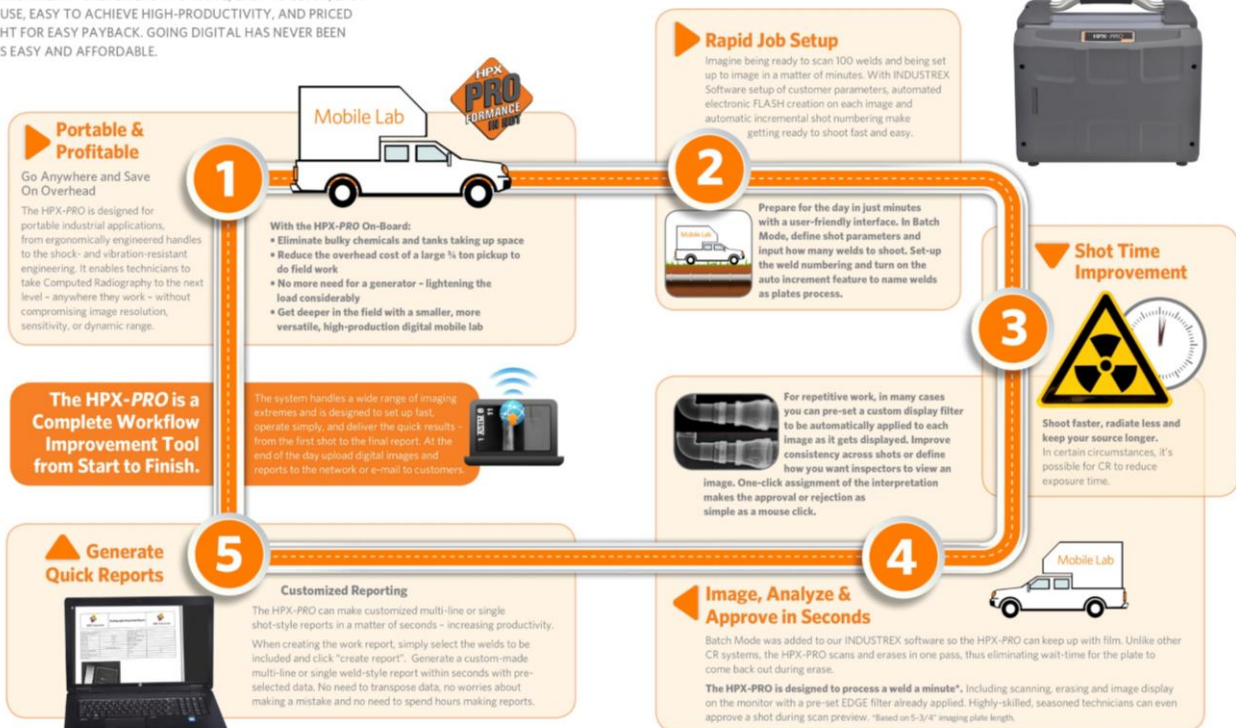


Carestream spent a considerable amount of time working in the field with mobile x-ray technicians to help improve workflow. The HPX-PRO is only one piece of the total imaging solution. From shot time to final reporting, everything had room for improvement. And we met the NDT industries challenge.

- Weighing in at just 35 lbs. and with a less than 12" width can be hand-held with ease.
- Can be operated by using a common 24v power tool battery (4 hour standby/ 45 minutes active scanning and erasing per battery)
- INDUSTREX Custom Reporting tool will help you finish your day a lot sooner, and with more productivity. Once you have all your shots done, with the click of a button you can create customer reports in a matter of seconds.

PRO-fessional Workflow for High PRO-ductivity

THE HPX-PRO WILL CHANGE THE WAY YOU WORK IN A MOBILE ENVIRONMENT FOREVER. EASY TO MOVE, EASY TO SETUP, EASY TO USE, EASY TO ACHIEVE HIGH-PRODUCTIVITY, AND PRICED RIGHT FOR EASY PAYBACK. GOING DIGITAL HAS NEVER BEEN THIS EASY AND AFFORDABLE.



HPX-1 Plus Digital CR System

The HPX-1 Plus offers many improvements. Improved optics for better imaging, up to 30% faster throughput on long saturated plates (very high exposure), an improved imaging plate transport system to protect imaging plates, higher mechanical reliability and a more user-friendly DICONDE compliant software for the best experience in digital imaging.

The HPX-1 Plus is a full width CR reader capable of running extra long imaging plates. The system has a wide dynamic range with high sensitivity, making it ideal for almost any type of imaging application. Whether you're using a gamma or X-ray source, the HPX-1 Plus' high sensitivity can help reduce shot time. It shows exceptional performance in weld

applications, delivering weld-quality images consistently and dependably.

Carestream's award-winning HPX family of digital products have improved field reliability and enhanced the capabilities in the NDT marketplace. Long plate and multi-plate scanning combined with SmartErase boosts output productivity so you can get more done in a day than ever before. Our exclusive positive pressure filtered air system keeps dust and dirt out for cleaner images in both the laboratory and in remote operations. With a shock and vibration resistant design your team can image in the harshest of environments bringing a new level of confidence to digital imaging in the field.



HPX-1 Plus



Ultra High Image Quality

Pixel Pitch: 25µm, 35µm, 50µm and 100µm operation

Spatial Resolution: 50 microns or better (12 lp/mm)

Laser Spot Size: 20µm (measured at 85% of peak)



Positive Pressure Fans for Dirty NDT Environments

Let's face it, NDT environments can be dirty. Drum and flat bed style scanners collect contaminants on the surface where they can be transported into the system or into the optical path and be imaged. HPX-1 Plus is the only CR system on the market that has positive airflow to keep contaminants outside the unit.



Dual Air Filters (including HEPA)

Clean air is critical to keeping the equipment cool and the imaging areas clean. The HPX-1 Plus is the only system outfitted with dual filters to make sure the environment is kept outside.



Image Plate Flexibility

HPX systems are one of the most flexible CR systems on the market capable of handling raw imaging plates, multiple plates at one time, custom cut sizes (with Plate Carrier), hard cassettes and long Plates (up to 60") without special feed guides.



Plate Transportation System

The HPX-1 Plus plate transport system has always minimized contact with the imaging plate. Unlike magnetic plate drive systems that require uniquely designed imaging plates (which can be costly) or drum systems that advise using plate protective covers to avoid plate damage, the HPX-1 Plus run plates phosphor side up with a proven transport system that won't damage your imaging plates.



Improved Imaging

HPX-1 Plus' improved PMT's improve its sensitivity and reduce unwanted artifacts. CR systems often also make it possible to lower your exposure while still achieving the required sensitivity. Our adjustable PMT and Laser Power allow you fine tune every image for optimum capture every time.



Powerful Software

HPX-1 Plus is operated using our powerful INDUSTREX software that includes a host of features for measurement, custom designed EDGE Image Filters, full DICONDE compliance, and many other tools designed specifically for NDT.



CR IMAGING PLATES

Carestream

The Carestream INDUSTREX improved Flex GP, HR and XL Blue Digital Imaging Plates are:

- Flexible – Wrap around most shapes
- Sharp – Better resolution than high-speed films, and a suitable replacement for many applications
- Available in Multiple Sizes – To cover a wide range of applications
- Versatile – Use in a rigid or flexible cassette
- Efficient – Phosphor plates can be erased and reused thousands of times, require less exposure than film, and provide faster image access
- Certified – All plates meet requirements for the highest system class per EN 14784-1 and ASTM E 2446



General Purpose (GP)

The general purpose imaging plate is ideal for shots where fine detail is not required. Good for profile shots. It requires the lowest dose, which helps productivity. This plate is best utilized for high energy X-ray or Gamma applications. Typical industries are security, military, and castings.

| Item | Size |
|---------|-----------|
| 1008564 | 14" x 17" |

High Resolution (HR)

The high resolution imaging plate is best for applications where the best imaging quality is required. This plate produces weld quality images, and has the best detectability (contrast sensitivity) in the industry. This plate can be used for general X-ray, and Iridium or Selenium applications. Typical industries are oil and gas and aerospace.

| Item | Size |
|---------|------------|
| 8802324 | 70mm x 10" |
| 8348641 | 70mm x 17" |
| 8094922 | 3.5" x 10" |
| 1904267 | 3.5" x 17" |
| 1680214 | 4.5" x 10" |
| 1466945 | 4.5" x 17" |
| 1848688 | 7" x 17" |
| 1775576 | 8" x 10" |
| 1174424 | 10" x 12" |
| 8360521 | 14" x 17" |

HR-PRO (High Resolution - Laminated)

The HR-PRO Plate is designed with improved physical properties for use in HPX-PRO Readers in tough handling environments.

| Item | Size |
|---------|------------|
| 1752955 | 70mm x 10" |
| 1752971 | 70mm x 17" |
| 1753110 | 3.5" x 10" |
| 1753136 | 3.5" x 17" |
| 1753235 | 4.5" x 10" |
| 1753243 | 4.5" x 17" |
| 1753292 | 6" x 17" |

Imaging Plate Cleaner & Wipes

| Item | Description |
|---------|---|
| 8607020 | Carestream X-OMAT Antistatic Cleaning Solution for Intensifying Screens, 8oz Bottle |
| 33390 | KIMTECH Pure 100% Polypropylene W4 Dry Wipers 9" x 9", Pack of 100 |

DIRECT RADIOGRAPHY (DR)

Carestream



HPX-DR Non-Glass DDA Detector

NEW NON-GLASS DR!

Carestream NDT once again introduces breakthrough technology for NDT field imaging with our new non-glass DR detector. The new HPX-DR Non-Glass detector design incorporates a tougher plastic material instead of glass for maximum durability against the rigors of NDT field work.

The HPX-DR Non-Glass detector virtually eliminates costly repairs for broken glass. It comes with a 2-Year warranty and a free loaner program so you can reduce downtime and the expense of purchasing redundant detectors.

The HPX-DR detector is unique in design – coming standard with a rugged, weatherproof enclosure perfect for remote field work. Unlike other panels that claim a weatherproof design when used inside their protective carrying case, this detector has an IP57 enclosure rating without the protective case! With the HPX-DR you can stop wrapping your DDA panel in bags and keep working in rain, snow, mud or whatever Mother Nature throws at you!

- **REDUCED EXPOSURE** - DDA panels are highly sensitive. Combine this with the ability to do frame averaging and you will likely be able to reduce your exposure time and still capture the sensitivity needed for your critical inspection task.

- **FASTER** - Uses no disposable media in the process, eliminating cassette loading and unloading time, developing, processing and reloading for the next shot. The HPX-DR detector offers quick start up and calibration, and rapid image display after acquisition. Produce high quality digital images in seconds for immediate analysis.

- **EASIER** - The HPX-DR detector is lightweight and compact with an all-weather design that is simple to operate. In the lab, it can be operated on a powered tether and in the field it can run 100% on battery. With the 'hot swap' feature the panel can remain on when changing batteries, increasing uptime.

- **WIRELESS** - The HPX-DR detector can operate completely wireless giving the user full freedom of movement and minimizing set-up time on site. This is especially helpful for rope access teams looking for minimal weight, high sensitivity and a powerful wireless connection.



- 139 μ Pixel Pitch
- 139 μ Spatial Resolution
- GOS DRX Standard Scintillator
- Portable at 12.5 lbs (5.7 Kg)
- Heavy Duty Shielding
- Exposure Range up to 3 MeV



HIGH RESOLUTION OUTPUT IN THE LAB OR IN THE FIELD



Protective cover for lab use increases detector load limit up to 340 kg. (750 lbs.).



Mount kit with pipe cleats to reduce stress on the detector for pipeline imaging.



X-RAY SYSTEMS & TUBES



MANUFACTURER OF LIGHTWEIGHT, PORTABLE X-RAY MACHINES

Portable Pulsed X-Ray Generators

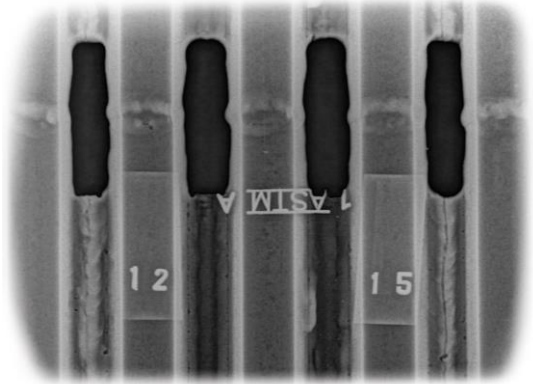
Golden Engineering X-ray generators are based on Pulsed X-ray technology. Pulsed X-rays generate a high intensity X-ray burst (pulse) in a very short period of time (10 to 50 nanoseconds depending on the model). The operator varies the overall dose of each exposure by changing the pulse setting. The pulse rate varies from 10 pulses per second to 25 pulses per second depending on the model. The generators can fire up to 200 pulses before a four-minute rest period.

Pulsed X-ray technology has inherent advantages for field operation compared to conventional constant potential X-ray machines or radioactive sources.

Golden X-ray generators are compatible with Conventional Radiographic Film, Computerized Radiography (CR) or Digital Radiography (DR) inspection systems. This provides users with the flexibility to develop a complete radiographic system best suited to their individual needs.

KEY BENEFITS:

- ▶ Convenience - Minimal disruption to normal on-going operations
- ▶ Portability - Applications often require X-ray be transported and used in remote locations with no access to power
- ▶ Safety - May require inspections within a relatively close proximity to personnel. Golden Engineering Pulsed X-ray generators contain no radioactive material. Minimal leakage to side and rear of the machine and minimal exposure time reduces standoff distance around the machine and reduces the possibility of accidental exposure.
- ▶ Durability - Rugged design can be used in a variety of environmental conditions and temperatures between -10 to 120 Degrees F°



| Model | Weight | kV | Penetration in Steel | Avg. Dose mR/Pulse* | Pulse Width | Pulse Rate per Second | Rear Standoff Distance |
|-------|-----------|-----|----------------------|---------------------|-------------|-----------------------|------------------------|
| XR200 | 11 lbs. | 150 | 0.50" | 2.6 | 50 ns | 10 | 10 Feet |
| XRS3 | 11.8 lbs. | 270 | 1.00" | 2.6 | 25 ns | 15 | 10 Feet |
| XRS4 | 18.3 lbs. | 370 | 1.75" | 4.5 - 7 | 10 ns | 9 | 20 Feet |

**mR per pulse measured 12" from source
**3 pulses per count*



XR200 X-RAY GENERATOR

The XR200 is a 150 kV, single-package, pulsed x-ray generator used by military, law enforcement and industrial personnel for radiographic examination of various items.

| Item | Model | Description |
|---------|-------|--|
| 1220230 | XR200 | XR200 X-Ray (80 Char) 20V Kit 110V - Includes: XR200 Generator, 2 - 20V DeWalt Batteries, 110V Charger, Cable & Case |

XRS3 X-RAY GENERATOR

The XRS-3 is a 270 kV, battery powered, pulsed X-ray generator. The XRS-3 is the most versatile unit because it provides exceptional penetrating ability, up to 1" of steel.

The compact design features a battery pack, sturdy glass tube, high voltage head and electronic controls in a single package that weighs less than 13 pounds.

It can withstand extreme environments including arctic and desert conditions.



| Item | Model | Description |
|---------|-------|--|
| 1320230 | XRS3 | XRS3 X-Ray (80 Char) 20V Kit 110V - Includes: XRS3 Generator, 2 - 20V DeWalt Batteries, 110V Charger, Cable & Case |

XRS4 X-RAY GENERATOR

The XRS4 is a 370 kV, battery powered, pulsed X-ray generator.

Two features unique to the XRS-4 include a robust aluminum housing, and a bellows located in the handle. Both of these features improve the durability and longevity of the generator.

Weighing close to 19 pounds the XRS4 is significantly larger and heavier than other Golden Engineering generators. However, a 370 kV generator that penetrates more than 1.5 inches of steel and weighs less than 25 pounds is still considered extremely portable by industry standards.



| Item | Model | Description |
|---------|-------|---|
| 1410230 | XRS4 | XR4 X-Ray (80 Char) 20V Kit 110V - Includes: XRS4 Generator, 2 - 20V DeWalt Batteries, 110V Charger, Cable & Case |

COMET

Technology with Passion



Portable X-ray generators from Comet are light, of high-quality and have been designed for flexible field inspection, in all types of industrial environments. We build our products with years of experience, skilled engineers and components of the highest quality. The combination of our new PXS EVO tube heads and CONTROL EVO is the key to a significantly improved workflow.

PXS EVO DIRECTIONAL

The combination of our new PXS EVO tube heads and CONTROL EVO is the key to a significantly improved workflow. Because the units are lighter, they are faster to handle and reposition.

PXS EVO PANORAMIC

The panoramic 38° x 360° X-ray beam, and the combination of up to 300 kV and 750 W, makes the PXS EVO a perfect choice for weld seam inspection of cylindrical vessels and pipes.

The re-engineered three-part lead belt is easy to mount and has as standard a 38° x 60° slit option allowing for directional use if required.



PXS EVO Series

BUILT TO LAST

Designed and built in Denmark; the PXS EVO systems are comprised of the best components and assembled with the utmost care – making them reliable, long lasting and a sound investment. They are fitted with a high quality metal ceramic X-ray tube and the robust composite casing now protects all vital parts even better. The systems meet the IP65 standard, making them fully operational in dusty and wet conditions.

SMARTER WORKFLOW

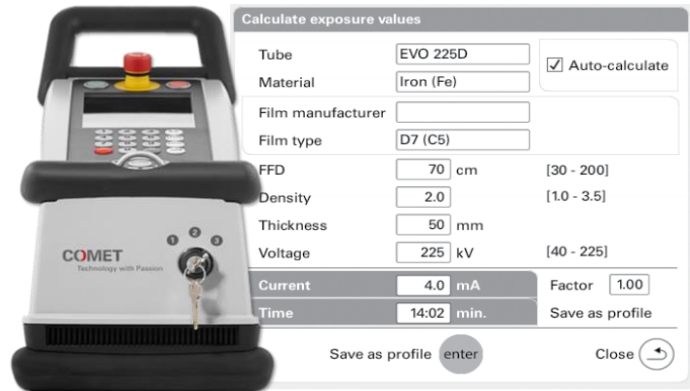
The ergonomic design and the low weight makes the PXS EVO systems easy to handle and re-position. A broad temperature range from -4°F to 122°F makes the EVO systems reliable and ensures smooth operation even in extreme environments. The intuitive interface allows for a smarter workflow.

HIGH PERFORMANCE

Built to meet the highest international safety standards, each unit is individually tested and measured for safety and accuracy. The PXS EVO systems features focal spots from 1.0 mm to 3.0 mm and ranges from 750 W to 900 W constant potential X-ray power ensuring high performance, shorter exposure times and high resolution results.

EVO CONTROL

The ergonomic design and shoulder strap makes the CONTROL EVO easy to handle and re-position. All information is clearly displayed on the 6.5" LCD color screen. The unit features an exposure calculator and has an intuitive interface with a wide range of advanced functionalities – equalling a smarter workflow.



EXPOSURE CALCULATOR

The advanced built-in exposure calculator ensures fast exposure calculations and uniform results. It can calculate the minimum required film focus distance optimising the exposure time. It accommodates the use of a wide range of films, materials and settings.

PXS EVO WATER-COOLED

Special inspection jobs, may require special solutions. The water-cooled PXS EVO directional X-ray systems, offer 24/7 operation in ambient temperatures up to 86°F.

All directional PXS EVO tube heads are available in a hybrid cooled version, based on a water-cooled anode combined with an air cooled cathode end. The EVO series directional tube heads are available in 160-300 kV versions, all available with 1.0 mm small focal spot and the 225-300 kV variants also with 3.0 mm focal spot, in order to cover a broad range of applications.

| Model | Height | Weight | Focal Spot Size | kV | mA | Beam Angle | Penetration in Steel |
|-----------|--------|---------|-----------------|-------------|--------------|------------|----------------------|
| 160D | 24" | 48 lbs. | 1.0 mm | 20 - 160 kV | 0.5 - 7.0 mA | 40° x 60° | 1.30" |
| 200D | 25" | 50 lbs. | 1.0 mm | 30 - 200 kV | 0.5 - 6.0 mA | 40° x 60° | 1.85" |
| 200P | 26" | 62 lbs. | 0.4 x 4.0 mm | | | 38° x 360° | 1.59" |
| 225D | 28" | 57 lbs. | 3.0 mm | 40 - 225 kV | 0.5 - 5.5 mA | 40° x 60° | 2.15" |
| 225DS | | | 1.0 mm | | | 30° x 60° | |
| 225D/1200 | 32" | 62 lbs. | 3.0 mm | 25 - 225 kV | 0.5 - 10 mA | 40° x 60° | |
| 300D | 30.5" | 64 lbs. | 3.0 mm | 50 - 300 kV | 0.5 - 4.5 mA | 40° x 60° | 2.75" |
| 300DS | | | 1.0 mm | | | 30° x 60° | |
| 300P | 32" | 80 lbs. | 0.5 x 5.5 mm | | | 38° x 360° | 2.60" |

**Penetration Calculations are based upon 27.5" FFD / AA400-Type Film + Pb / Density = 2.0*

COMET Industrial X-Ray develops and manufactures metal/ceramic X-ray sources, and the related components, for the non-destructive examination of materials in the automotive, aviation pipeline and steel industries, and also for the stationary and mobile inspection of baggage and cargo at airports and borders.

COMET constantly works to improve and simplify X-ray technology and is a trusted engineering partner to well-known companies. COMET's innovative technology has become the basis for an unprecedented combination of performance and compactness that offers customers a new realm of possibility in the development of their end systems.



INDUSTRIAL X-RAY TUBES

Comet unipolar and bipolar X-ray tubes are available for different industrial applications. The product range features metal ceramic tubes and ceramic tubes, from the smallest portable unit up to 600kV fixed systems.

UNIPOLAR TUBES

Comet's unipolar tubes are used in demanding industrial applications. The top areas are non-destructive testing, food inspection and thickness gauging.

BIPOLAR TUBES

The advantages of Comet bipolar tubes are high power, small dimensions, low weight, and rugged design.

HIGH VOLTAGE X-RAY GENERATORS

Comet Industrial X-ray generators are built for remarkably stable performance. Our generators are designed to meet the demanding requirements of industrial X-ray applications. They are the ideal workhorse for both film and real-time applications. All generators are factory-configured and pretested.

iVARIO GENERATORS

Our latest future-orientated iVario generators feature an even more flexible, modular design, and have been engineered to serve the tube in the best possible way.

The generator contains the tube library, with optimized tube profiles (ramp-up and ramp-down profiles) that guarantee the longest possible lifespan for the tube and the best module (tube-generator) integration level.

Visualized tube diagrams with power levels allow to actively manage the tube lifetime. The intelligent, fully customizable arc-handling system reacts to the frequency of arcs - this protects the generator, maximizes the tube's lifespan and maximizes potential uptime. In addition, the accurate filament control prevents the filament current overstress.

XRP GENERATORS

COMET Industrial X-ray generators are perfectly matched for highly stable performance. The high-frequency XRP generator has been designed to meet the tough requirements of modern industrial X-ray applications. The XRP generator is the ideal workhorse for both radiographic and real-time applications.



COMET ACCESSORIES

What Comet provides next to main business: Besides tubes and generators, we are pleased to offer all of the necessary components for a customized X-Ray module.

INDUSTRIAL COOLERS / CHILLERS

A top-quality cooler is vital to the safe and reliable operation of your X-ray system. We supply a variety of coolers ideally balanced to work with Comet X-ray tubes.

HIGH-VOLTAGE SPRING LOADED CABLES

Comet supplies high-voltage cables in a variety of rated voltages and lengths. The advantages of the spring-loaded cable are higher up-time, lower installation costs, lower maintenance costs, and reduction in cable failures. The replacement of the elastomeric spring with a mechanical spring ensures constant pressure in the receptacle with a pressure indicator, ease of installation, and a reliable supply of power.

COMET CONTROLLER

The iVario generator can be controlled by the 19" external controller, which communication is based on the newly developed Ethernet Protocol. It comprises touchscreen panel, key switch, buttons and lamps as well as rotary knob. There can be an emergency stop incorporated into the controller.



MAGNETIC PARTICLE MPI CONSUMABLES

MAGNAGLO® / MAGNAFLUX®



Wet Fluorescent Magnetic Particles



| Item | Product | Container Size | Particle Suspension Vehicle |
|------------|---------------|---------------------------|-----------------------------------|
| 01-0130-71 | 14A | 1 lb. Jar | Petroleum Distillate (Oil), Water |
| 01-0130-75 | | 20 lb. Pail | |
| 01-1725-38 | 14A Aqua-Glo | Aerosol, Case of 12 | Water |
| 01-9130-41 | 14A Redi-Bath | 27 oz. Bottles, Case of 6 | Water |
| 01-9130-35 | | 1 Gallon, Case of 4 | |
| 01-0145-78 | 14AM | Aerosol, Case of 12 | Petroleum Distillate (Oil) |
| 01-0145-40 | | 5 Gallon Pail | |
| 01-0179-71 | 20B | 1 lb. Jar | Water |
| 01-0179-70 | | 15 lb. Pail | |
| 01-0179-84 | | 30 lb. Pail | |
| 01-0191-73 | MG-410 | 2 lb. Jar, Case of 6 | Petroleum Distillate (Oil), Water |
| 01-0196-73 | MG-450A | 2 lb. Jar, Case of 6 | Water |

Petroleum Base Suspension Vehicle

This petroleum distillate carrier oil provides excellent particle mobility, good suspension stability and enhanced corrosion protection for reliable, spec-compliant mag particle inspections

| Item | Product | Container Size |
|------------|------------|----------------|
| 01-2122-40 | Carrier II | 5 Gallon Pail |
| 01-2122-30 | | 20 Gallon Drum |
| 01-2122-45 | | 55 Gallon Drum |



Water Conditioners and Additives

| Item | Product | Description | Container Size |
|------------|---------|-----------------------------------|----------------|
| 01-2190-40 | AX-52 | Water-Soluble Corrosion Inhibitor | 5 Gallon Pail |
| 01-2148-63 | WA-2B | Water Conditioner | 5 lb. Pail |
| 01-9410-20 | ZAF-2 | Non-Silicone Antifoam | 1 Gallon Jug |

White Contrast Paint

A bright white, opaque NDT contrast paint, WCP-2 provides a high contrast background to improve probability of detection and sensitivity during visible magnetic particle inspections

| Item | Product | Container Size |
|------------|---------|---------------------|
| 01-2250-78 | WCP-2 | Aerosol, Case of 12 |



Wet Visible Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|------------|----------|---------------------|-----------------------------------|
| 01-1116-81 | 7C Black | 25 lb. Pail | Petroleum Distillate (Oil), Water |
| 01-1580-78 | 7HF | Aerosol, Case of 12 | Petroleum Distillate (Oil) |



Dry Visible Magnetic Particles

| Item | Product | Container Size |
|------------|-----------|----------------|
| 01-1716-69 | #1 Gray | 10 lb. Pail |
| 01-1716-87 | | 45 lb. Pail |
| 01-1732-69 | #2 Yellow | 10 lb. Pail |
| 01-1732-87 | | 45 lb. Pail |
| 01-1780-69 | 8A Red | 10 lb. Pail |
| 01-1780-87 | | 45 lb. Pail |





Circle Systems, Inc

Innovators in the Manufacturing of
Magnetic Particle Inspection Materials



Mi-Glow®

Wet Fluorescent Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|---------|------------------------|---------------------|-----------------------------|
| FG-3125 | Mi-Glow 834 | 2 lb. Jar | Water |
| FG-3126 | | 30 lb. Pail | |
| FG-3231 | Mi-Glow 218X | 2 lb. Jar | Water |
| FG-3238 | | 30 lb. Pail | |
| FG-3321 | Mi-Glow 418 | 2 lb. Jar | Water |
| FG-3320 | | 30 lb. Pail | |
| FG-3590 | CircleSafe 778A | Aerosol, Case of 12 | Water |
| FG-3571 | Mi-Glow 778 | Case of 4-1 Quart | Water |
| FG-3100 | Mi-Glow 800 | 1 lb. Jar | Oil |
| FG-3102 | | 12 lb. Pail | |
| FG-3130 | CircleSafe 800A | Aerosol, Case of 12 | Oil |
| FG-3143 | Mi-Glow 800L | 5 Gallon Pail | Oil |
| FG-3162 | Mi-Glow 920 | 2 lb. Jar | Oil |



CircleSafe®

Odorless Inspection Oils

A high flashpoint, refined petroleum distillate specifically designed for use in magnetic particle inspection with its high clarity, low fluorescence and no odor characteristics

| Item | Product | Container Size |
|---------|--------------------|----------------|
| FG-3883 | CircleSol M | 5 Gallon |
| FG-3880 | | 55 Gallon |



Water Conditioners, Additives & Wetting Agents

| Item | Product | Container Size |
|---------|------------------------------|-------------------|
| FG-2950 | Anti-Foam 3 | Case of 4-1 Quart |
| FG-3851 | Cleaner 500 | 1 Gallon |
| FG-3510 | Corrosion Inhibitor 7 | Case of 4-1 Quart |
| FG-3515 | | 55 Gallon Drum |
| FG-2210 | Wetting Agent 34 | 2 lb. Jar |
| FG-2211 | | 30 lb. Pail |
| FG-3501 | Wetting Agent 771 | Case of 4-1 Quart |
| FG-3506 | | 55 Gallon Drum |

Wet Fluorescent & Visible (Dual) Red Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|---------|------------------------|---------------------|-----------------------------|
| FG-3661 | Mi-Glow 634 | 2 lb. Jar | Water |
| FG-3662 | | 30 lb. Pail | |
| FG-2991 | Mi-Glow 601 | 2 lb. Jar | Oil |
| FG-2992 | | 12 lb. Pail | |
| FG-3630 | CircleSafe 850A | Aerosol, Case of 12 | Water |



Wet Visible (Black) Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|---------|-------------------------|---------------------|-----------------------------|
| FG-2431 | Mi-Glow 106 | 2 lb. Jar | Oil |
| FG-2438 | | 30 lb. Pail | |
| FG-3609 | CircleSafe 820AX | Aerosol, Case of 12 | Oil |
| FG-3600 | CircleSafe 820A | Aerosol, Case of 12 | Water |



Mi-Glow Underwater 1 is red particles pre-mixed with a powdered Wetting Agent for use in underwater inspection. The particles are used with visible light, black light and blue light. Designed to be used for a variety of underwater inspections.

Underwater Magnetic Powdered Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|---------|-----------------------|----------------|-----------------------------|
| FG-2701 | Mi-Glow | 2 lb. Jar | Water |
| FG-2703 | Underwater 1 | 25 lb. Pail | |
| FG-2771 | Mi-Glow | 2 lb. Jar | Water |
| FG-2773 | Underwater 528 | 25 lb. Pail | |

White Contrast Paint

Specially formulated, fast drying white contrast paint, used to create a consistent background on the component surface in a visible magnetic particle inspection

| Item | Product | Container Size |
|---------|--------------------|---------------------|
| FG-3740 | Mi-Glow WCP | Aerosol, Case of 12 |



Dry Visible Magnetic Particle Powder

| Item | Product | Container Size |
|---------|-------------------------------|----------------|
| FG-2551 | Sir-Chem Dry Powder 61 | 10 lb. Jar |
| FG-2555 | Gray | 50 lb. Pail |
| FG-2571 | Sir-Chem Dry Powder 63 | 10 lb. Jar |
| FG-2575 | Red | 50 lb. Pail |
| FG-2621 | Sir-Chem Dry Powder 66 | 10 lb. Jar |
| FG-2625 | Yellow | 50 lb. Pail |
| FG-2631 | Sir-Chem Dry Powder 68 | 10 lb. Jar |
| FG-2635 | Blue | 50 lb. Pail |

Dry Fluorescent & Visible (Dual) Magnetic Particle Powder

| Item | Product | Container Size |
|---------|-------------------------------|----------------|
| FG-2601 | Sir-Chem Dry Powder 73 | 10 lb. Jar |
| FG-2605 | Red | 50 lb. Pail |
| FG-2641 | Sir-Chem Dry Powder 75 | 10 lb. Jar |
| FG-2645 | Green | 50 lb. Pail |





Wet Fluorescent Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|-----------------|------------------|---------------------|-----------------------------|
| M-MPI-1400-bs12 | | Case, 12 Bath Shots | |
| M-MPI-1400-1 | MPI-1400 | 1 lb. Jar | Oil |
| M-MPI-100-12 | | 12 lb. Pail | |
| M-MPI-1400B-16 | MPI-1400B | Aerosol, Case of 12 | Oil |
| M-MPI-1400B-5 | | 5 Gallon Pail | |



Petroleum Bath Vehicle

MPI-Carrier Fluid C2 is a specialty petroleum based magnetic particle bath vehicle designed for high sensitivity fluorescent magnetic particle suspension

| Item | Product | Container Size |
|------------------|---------------------|----------------|
| M-MPI-FluidC2-05 | MPI-Fluid C2 | 5 Gallon Pail |
| M-MPI-FluidC2-55 | | 55 Gallon Drum |

Wet Visible (Black) Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|--------------|----------------|---------------------|-----------------------------|
| M-MPI-80P-4 | MPI-80P | 4.4 lb. Jar | Oil |
| M-MPI-80P-10 | | 10 lb. Pail | |
| M-MPI-80-16 | MPI-80 | Aerosol, Case of 12 | Oil |
| M-MPI-80-5 | | 5 Gallon Pail | |



White Contrast Paint

| Item | Product | Container Size |
|-------------|---------------|---------------------|
| M-WCP-81-16 | WCP-81 | Aerosol, Case of 12 |
| M-WCP-81-1 | | 1 Gallon Pail |
| M-WCP-81-5 | | 5 Gallon Pail |

Dry Visible Magnetic Particle Powder

| Item | Product | Temp. Range | Container Size |
|--------------|----------------|--------------|----------------|
| M-MPI-86B-6 | MPI-86B | Up to 800° F | 6.6 lb. Jar |
| M-MPI-86B-11 | | | 11 lb. Pail |
| M-MPI-86B-50 | | | 50 lb. Pail |
| M-MPI-86G-6 | MPI-86G | Up to 800° F | 6.6 lb. Jar |
| M-MPI-86G-11 | | | 11 lb. Pail |
| M-MPI-86G-50 | | | 50 lb. Pail |
| M-MPI-86R-6 | MPI-86R | Up to 250° F | 6.6 lb. Jar |
| M-MPI-86R-11 | | | 11 lb. Pail |
| M-MPI-86R-50 | | | 50 lb. Pail |
| M-MPI-86Y-6 | MPI-86Y | Up to 800° F | 6.6 lb. Jar |
| M-MPI-86Y-11 | | | 11 lb. Pail |
| M-MPI-86Y-50 | | | 50 lb. Pail |





Wet Fluorescent Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|--------------|-------------------------------------|--------------------|-----------------------------|
| GW-1 | Glo-netic Powder Concentrate | 1 lb. Jar | Oil or Water |
| GLO-NETIC-16 | | Aerosol, Case of 9 | |
| GLO-NETIC-1 | Glo-netic Premix | 1 Gallon Pail | Oil |
| GLO-NETIC-5 | | 2 Gallon Pail | |



Contrast Paint

CP-1 Provides a High Contrast Strippable Background Coating.

CP-2 Provides a High Contrast Non Strippable Background Coating.

| Item | Product | Container Size |
|---------|-------------|--------------------|
| CP-1-16 | | Aerosol, Case of 9 |
| CP-1-1 | CP-1 | 1 Gallon Pail |
| CP-1-5 | | 5 Gallon Pail |
| CP-2-16 | | Aerosol, Case of 9 |
| CP-2-1 | CP-2 | 1 Gallon Pail |
| CP-2-5 | | 5 Gallon Pail |

Wet Visible (Black) Magnetic Particles

| Item | Product | Container Size | Particle Suspension Vehicle |
|----------------|--------------------------|--------------------|-----------------------------|
| BLACK-OXIDE-16 | BLACK-OXIDE NO. 1 | Aerosol, Case of 9 | Oil |



Magnetic Particle Fluid

| Item | Product | Container Size |
|--------|------------|----------------|
| MPF-5 | MPF | 5 Gallon Pail |
| MPF-55 | | 55 Gallon Drum |



MPI CONSUMABLE AIDS MATERIAL ACCESSORIES

Applicators & Centrifuge Tubes

- ▶ Magnaflux Centrifuge Tubes are individually Calibrated to monitor the precise concentration of magnetic particles in suspensions made with Fluorescent and Visible magneticle particles as per ASTM E709, ASTM E1444 or ASME Section V.
- ▶ Type 2000 Magnetic Stripe Card is used for instantly evaluating the performance of the fluorescent wet-method bath as per ASTM E-709 & ASTM E-3024. This card can be used to quantitatively evaluate the performance of the fluorescent materials by displaying the number of indications that can be observed after the material has been applied to the stripe.

| Item | Description |
|-----------|--|
| PB-1 | Magnetic Powder Blower provides reliable and controlled application of magnetic inspection powder to areas previously inaccessible |
| RB-4 | Green Rubber Powder Applicator |
| RB-1 | Powder Removal Bulb, Blue |
| 625773 | Portable Pressure Sprayer - Easy to use, light-weight pressure sprayer for spot application of penetrants, magnetic particles, developers and cleaners |
| 2800 | Type 2000 Magnetic Stripe Card |
| SP*001682 | Centrifuge Tube for Fluorescent Magnetic Particles, 0 - 1.0 ml in 0.05 graduations (Certified) |
| SP*001683 | Centrifuge Tube for Visible Magnetic Particles, 0 - 1.5 ml in 0.10 graduations (Certified) |
| SP*001684 | Centrifuge Tube Stand |



YOKES PARKER RESEARCH/ MAGNAFLUX YOKES

| Item | Description |
|--------|---|
| B-100 | Parker AC Contour Probe, 6.5 lbs. |
| B-200 | Parker AC Contour Probe, 7.0 lbs. *NEW* Slim line Ergonomic Handle and Oversized Operating Switch Provides a Comfortable Grip |
| B-300 | Parker AC Contour Probe, 7.5 lbs. |
| DA-400 | Parker AC/DC Contour Probe, 8.5 lbs. |
| 628554 | Magnaflux Y-2 AC Yoke, 4.8 lbs. (Detachable Cord) |
| 625643 | Magnaflux Y-7 AC/DC Yoke, 7.4 lbs. |



YOKE ACCESSORIES

| Item | Description |
|----------|--|
| TB-10 | Magnetic 10lb Weight Lift Test Bar (Weight is stamped on each bar and is traceable to NIST) |
| TB-10S-4 | Set of 4 10lb Weight Lift Test Bars (Weight is stamped on each bar and is traceable to NIST) |
| Y200-1 | Parker Y-200 Yoke Light (designed to fit B-200 Contour Probe) |
| Y300 | Parker Y-300 Yoke Light (designed to fit B-300 Contour Probe) |
| Y400 | Parker Y-400 Yoke Light (designed to fit B-100 or DA-400 Contour Probe) |
| 628840 | Magnaflux Y-2 LED Yoke Light |



MAGNETIC PARTICLE AIDS

FIELD INDICATORS

| Item | Description |
|-----------|---|
| 133033 | FSM-2, Digital Magnetic Field Strength Meter (Calibrated) |
| SP*001105 | Pie Gauge Magnetic Field indicator with Certification |
| MG-25-10 | Model 25 Magnetic Field Indicator, Range 10-0-10 (Calibrated) |
| MG-25-20 | Model 25 Magnetic Field Indicator, Range 20-0-20 (Calibrated) |
| SP*001548 | Economy Magnetic Field Indicator, Range 10-0-10 (Un-Calibrated) |



QUANTITATIVE QUALITY INDICATORS (QQIs)

Quantitative Quality Indicators (QQI) are magnetic particle test piece shims with artificial defects used to verify field direction and relative strength. QQI's are also used to balance multi-directional fields and to increase productivity by minimizing magnetizing shots.

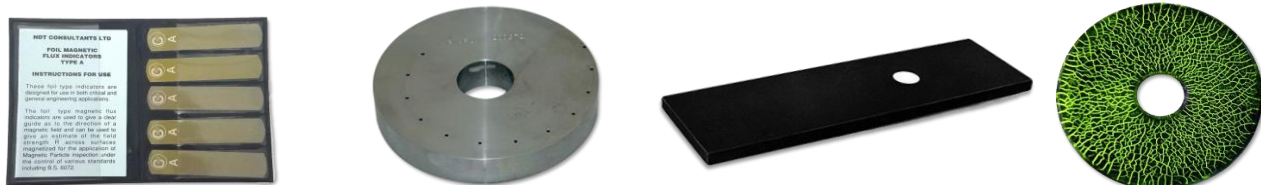
| Item | Description |
|--------|---|
| 625551 | Standard QQI, Model CX-230, Circle-cross 0.002" shim thickness, 30% notch depth |
| 625552 | Miniature QQI, Model CX4-230, Mini circle-cross, 4 per shim, 0.002" shim thickness, 30% notch depth |
| 625553 | Standard QQI, Model CX-430, Circle-cross, 0.004" shim thickness, 30% notch depth |
| 625554 | Variable QQI, Model 3C2-234, Three circles, 0.002" shim thickness, 20% / 30% / 40% notch depth |
| 625555 | Variable QQI, Model 3C4-234, Three circles, 0.004" shim thickness, 20% / 30% / 40% notch depth |



TEST PIECES

- ▶ Magnetic Flux strips should be used to confirm that all required testing parameters including, lighting, field strength and direction, magnetic particle properties and coverage are sufficient to find surface cracks equal or greater in size than those built into the strip. Each indicator contains three milled slots with widths of .0075", .009" and .010" that share a common depth.
- ▶ Ketos Ring - System Performance Test Piece - The tool steel ring is manufactured to AS-5282 requirements to demonstrate magnetic particle system performance. A progressive series of sub-surface holes are used to verify equipment performance at different amperages using HWDC or FWDC waveforms.
- ▶ The Notch Defect Test Bar - System Performance Test Piece - The MPI test bar is a standardized test piece conforming to NAVSEA T907A-AS-GIB-010/271 requirements to demonstrate magnetic particle system performance. The test bar includes both surface and sub-surface defects in two directions to verify both circular and longitudinal fields using AC or DC waveforms.
- ▶ The MTU-3 Test Block is used to check the sensitivity of magnetic particle materials.

| Item | Description |
|-----------|---|
| SP*001676 | Magnetic Flux Indicator Strip (Burma Castrol) Type I (G)eneral, Set of 5 |
| SP*001677 | Magnetic Flux Indicator Strip (Burma Castrol) Type II (A)ircraft, Set of 5 |
| SP*001685 | Ketos Ring (AS-5282 Ring), O-1 Tool Steel including Certification Report |
| NA16 | Notch Defect Test Bar (System Performance Test Piece - NAVSEA T907A-AS-GIB-010/271) |
| MTU-3 | Reference Block Type 1 /MTU-3/ EN ISO 9934-2:2002 Magnetic Particle Test Block |



MPI EQUIPMENT & ACCESSORIES

PORTABLE COIL

Parker Portable Coil

The Parker PL-10 Portable Magnetizing Coil (9 7/8" inside diameter) is designed for magnetic particle inspection of ferrous metal parts. The coil allows for the use of either dry powder or wet fluorescent inspection media and may be used for demagnetizing as well.

The coil is molded in a tough black polyurethane material and comes equipped with the standard foot switch or a optional hand switch and 10' yellow neoprene power cord. The sealed electrical connection box has a 2" x 5" flat base allowing the coil to stand in a vertical position.



| Item | Description |
|--------|--|
| PL-10H | Parker 10" Portable Magnetizing Coil with Hand Switch, 115VAC with Carrying Case |
| PL-10F | Parker 10" Portable Magnetizing Coil with Foot Switch, 115VAC with Carrying Case |



PORTABLE POWER PACK UNITS

The Portable Power Packs are convenient and economical inspection units that are used in a wide range of magnetic particle applications that require only moderate power. They are ideal for large or heavy parts, in-service mobile equipment or job-site welds.

BENEFITS

- ▶ Find surface defects with AC current; switch cable connection to half wave DC (HWDC) for near-surface flaws
- ▶ Locate defects in any direction using prods, central conductor, coil (wrap part with 3-5 turns of cable)
- ▶ Infinitely variable current control

FEATURES

- ▶ Demagnetize your parts in AC mode by slowly turning the current dial to zero
- ▶ Built-in automatic-reset circuit breaker
- ▶ May be used as the main power source for the Magnaflux MAG Kit modular bench inspection system

SPECIFICATIONS

| | UNIT | |
|-----------------------------------|--|--|
| Model | P-70 | P-1500 |
| Foot Print | 17.5"L x 9"W x 8"H | 22"L x 9.5"W x 9.5"H |
| Weight | 35 lbs. | 93 lbs. |
| Maximum Output* | 750 Amps AC or HWDC | 1500 Amps AC or HWDC |
| Current Output* (single phase) | 115 VAC 50/60 Hz 230 VAC 50/60 Hz | 230 VAC 50/60 Hz 460 VAC 50/60 Hz |
| Line Current | 26 Amps @ 115 VAC 13 Amps @ 230 VAC | 42 Amps @ 230 VAC 21 Amps @ 460 VAC |
| Max Dut Cycle | 2 Minutes ON 2 Minutes OFF | 2 Minutes ON 2 Minutes OFF |

**Current ratings based on use of two 15-foot lengths of 4/0 cable. *Other voltages available.*



Magnaflux P-70



Magnaflux P-1500



M-SERIES MOBILE POWER PACKS

The M-Series mobile power pack portable current generators facilitate testing of large and abnormally heavy parts with magnetic particle inspection. Magnaflux understands some parts cannot be moved so the magnetizing station needs to be brought to the part. The M-Series offers a solution by providing an adaptable mobile unit. These units feature AC or Half Wave DC output.

M-Series magnetic power packs are available in three configurations:

M-2030, M-2040 & M-2060

| | UNIT | | |
|-----------------------|--------------------------|---------------------------|-----------------------------------|
| Model | M-2030 | M-2040 | M-2060 |
| Foot Print | 46"L x 23"W x 39"H | | |
| Weight | 780 lbs. | | |
| Maximum Output | 3,000 Amps AC or HWDC | 4,000 Amps AC or HWDC | 6,000 Amps AC or HWDC |
| Available Voltages | 380, 415, 460, 575 V | 230, 380, 415, 460, 575 V | 380, 415, 460, 575 V |
| Rated With | 90' of 4/0 Cables | 30' of 4/0 Cables | Two 30' of 4/0 Cables in parallel |
| Available Frequencies | 50 or 60 Hz | | |

STANDARD FEATURES:

- ▶ Digital Meter Display
- ▶ 2 Bus bars for connection
- ▶ Push button switch for AC output
- ▶ Push button switch for HWDC output
- ▶ Push button switch for mag
- Momentary - mag as long as button is pushed*
- ▶ Push button switch for demag
- One touch auto cycle*
- Switches to decaying AC automatically*
- ▶ Push button switch for pulse
- 1/2 second on, 3 seconds off for 30 seconds*
- ▶ Infinitely variable current control
- ▶ 2 Fixed / 2 Swivel (with locks) Heavy-duty casters
- ▶ 115 Volt convenience Outlet (10 amp)
- ▶ PLC circuitry and thermal overload for circuitry protection
- ▶ Flow through cooling for heat dissipation
- ▶ Solid state switching (AC to HWDC)
- ▶ 7% Duty cycle (maximum output with 1/2 minute ON time)



MAGNAFLUX WET BENCH



AD-Series Magnetic Wet Benches w/ AC and DC Magnetization

The AD-Series magnetic benches provide 4,000 amps of Alternating Current and 5,000 amps of Direct Current magnetization for finding surface and sub-surface defects during wet method magnetic particle inspection. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

Features:

- ▶ 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- ▶ Allen-Bradley PLC
- ▶ Simple touch-screen operator interface
- ▶ External pump system for particle bath agitation, circulation and application



MD-Series Multi-Directional Magnetic Wet Benches for AC, HWDC or 1-Phase FWDC Magnetization

The MD-Series multi-directional magnetic bench offers Alternating Current, Half Wave Direct Current and 1-phase Full Wave Direct Current for time-saving multidirectional magnetization which can find defects in all orientations with one mag-cycle.

The two outputs (contact and Flux Flow coil) each offer AC, HWDC or 1-Phase FWDC, and are independently adjustable to balance the magnet field intensity.

Features:

- ▶ 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- ▶ Allen-Bradley PLC
- ▶ Advanced touch-screen operator interface
- ▶ External pump system for particle bath agitation, circulation and application
- ▶ 1,000 customer-programmable techniques



A-Series Magnetic Wet Benches w/ AC Magnetization

The A-Series magnetic benches provide Alternating Current magnetization for finding surface defects during wet method magnetic particle inspection. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

Features:

- ▶ 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- ▶ Allen-Bradley PLC
- ▶ Simple touch-screen operator interface
- ▶ External pump system for particle bath agitation, circulation and application



D-Series Magnetic Wet Benches w/ 3-Phase FWDC Capability

The D-Series is one of our most powerful wet magnetic benches. Providing 3-phase Full Wave Direct Current, this MPI equipment offers maximum magnetization for finding surface and sub-surface defects with clearer indications while using minimal power.

The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

Features:

- ▶ Allen-Bradley PLC
- ▶ Simple touch-screen operator interface
- ▶ External pump system for particle bath agitation, circulation and application
- ▶ Integrated ultra-low frequency, reversing, step-down DC demagnetization 1-touch control



Universal WE Multi-Directional Magnetic Wet Bench

The Universal WE magnetic wet bench is multi-direction magnetic wet bench designed to completely magnetize the surface of parts up to 35 inches long in a single shot. Potentially cutting inspection time in half because the part can be inspected in both directions at once. The Universal WE offers 200 - 2,000 Amps AC for contact shots and 1,500 - 15,000 Amp-turns AC for coil shots. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

EQUIPMENT ACCESSORIES

4/0 Cables & Connectors

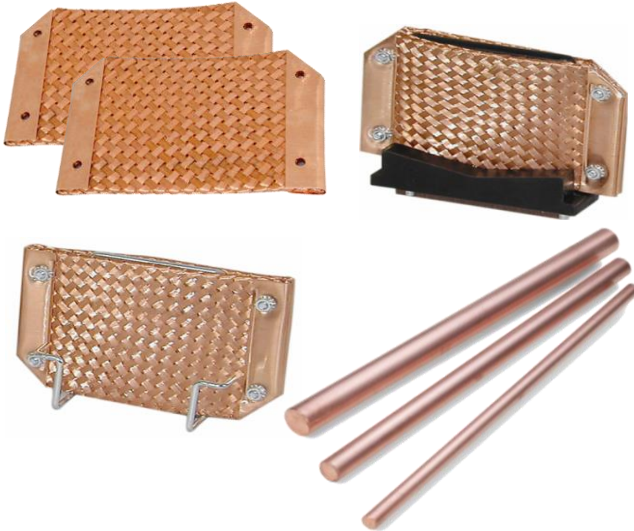
We offer a range of cables and connectors to allow you to outfit your magnetic bench or electromagnetic current generator to suit your specific parts and process. Whether you are testing a large investment casting or doing mag particle inspection in a difficult to reach location, these heavy-duty cables and connectors will help you set-up your MPI machine just the way you need.

4/0 cables are essential for P-series, M-series, and CSV-series power packs. Cables can be used to flow magnetizing current through a large part or structure, or wrapped around pipes and long weldments for longitudinal magnetization. QED 4/0 cables are available in standard welding grade or heavy-duty grade with extra insulation and tinned conductors. Cables are factory terminated in a variety of lengths and a choice of standard lug connections or heavy-duty quick connect fittings.



Prods & Clamps

These handheld electrodes and contact clamps are convenient for conducting sectional magnetic particle inspections, like welds, castings or forgings, or testing parts that cannot be inspected on a wet horizontal bench, such as large fabrications, tubing, bars and tubular assemblies like aircraft mounts and fuselage sections.



Copper Contact Pads & Conductors

Copper contact pads come in a variety of shapes, sizes and types to make sure your magnetic bench is outfitted correctly for the parts you inspect.

Copper braided contact pads prevent arc burn by helping maintain proper electrical contact between test parts and contact heads. Choose a solid pad if you are inspecting parts with flat ends, pick a braided pad if your parts have rounded or irregular shaped ends.

Central Conductors - Solid Copper Bar Rods provide circular magnetization of hollow parts. Three standard sizes are available and custom sizes are available upon request.

Available Copper Contact Pads Include:

- ▶ Replacement Copper Braid Contact Pad - 4.75" x 7.50"
- ▶ Copper Braid Contact Pad - 4.75" x 10.50"
- ▶ Copper Double-Braided Contact Pad with V-Block. Heavy braid provides contact over greater surface area. Built with neoprene, the V-Block base centers and supports test parts. The pad can be reversed to provide two wear faces. Fits all standard sized MPI units.
- ▶ Copper Double-Braided Contact Pad with Clip. Same performance as the V-Block but clips over headstock of smaller MPI units.

Lead Contact Pads

This range of copper and lead contact pads come in a variety of shapes, sizes and types to make sure your magnetic bench is outfitted correctly for the parts you inspect. Contact pads prevent arc burning, and ensure good, reliable electrical contact between the headstock and part.

Choose a solid pad if you are inspecting parts with flat ends, pick a braided pad if your parts have rounded or irregular shaped ends.

Available Lead Contact Pads Include:

- ▶ Lead Contact Plate - Duplicates original headstock/tailstock contact plates. The soft lead provides excellent contact with test part - 6.75" x 6.625" x .25" Thick
- ▶ Lead Copper Braid Contact Plate - Copper impregnated lead contact plate that lasts 10 times longer than lead contact plates - 6.75" x 6.625" x .25" Thick



Equipment Adapters

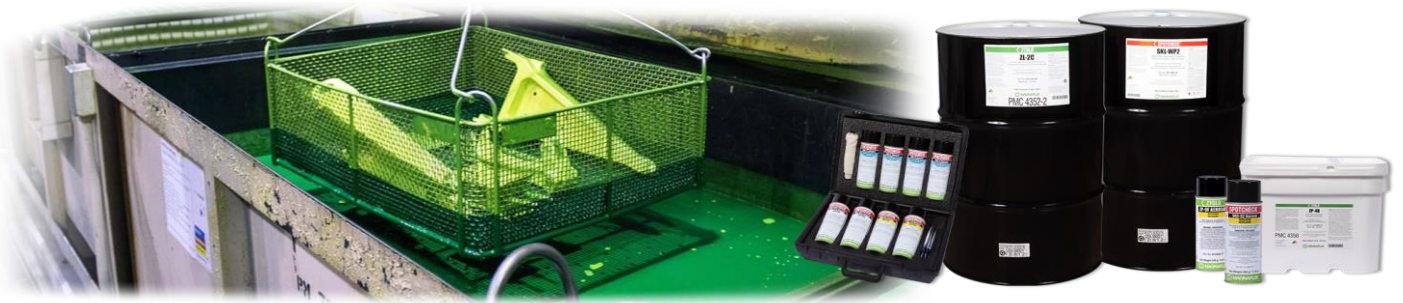
Make sure your MPI bench works with every part you need to inspect with this range of equipment adapters. From large, heavy parts to small pieces like bolts, screws, and pins, QED equipment adapters help you get more out of your magnetic bench by helping you make it work for a wide variety of parts.

▶ Steady Rests - Used to support and stabilize long or heavy parts such as crankshafts during the inspection process.

▶ Contact Block - Permits remote testing of parts that are too heavy or too large for processing on unit. When clamped between head and tailstock, the block supplies magnetizing current to remote prods or clamps through flexible cable.

▶ Small Parts Adapters - Permit the use of standard wet horizontal test units for inspection of small parts such as bolts, screws, pins, etc. Mounted directly to either the head or tail stock the solid copper adaptors maintain adequate clearance to proper clamping action.

LIQUID PENETRANT LPI CONSUMABLES



ZYGLO® PENETRANTS

Fluorescent Penetrant - Type 1

Methods A (Water Washable) & Method C (Solvent Removable)

| Item | Product | Sensitivity | Container Size |
|------------|---------|----------------------|---------------------|
| 01-3159-40 | ZL-15B | Level ½ (Ultra Low) | 5 Gallon Pail |
| 01-3159-30 | | | 20 Gallon Drum |
| 01-3159-45 | | | 55 Gallon Drum |
| 01-3263-40 | ZL-19 | Level 1 (Low) | 5 Gallon Pail |
| 01-3263-45 | | | 55 Gallon Drum |
| 01-3272-78 | ZL-60D | Level 2 (Medium) | Aerosol, Case of 12 |
| 01-3272-40 | | | 5 Gallon Pail |
| 01-3272-30 | | | 20 Gallon Drum |
| 01-3272-45 | | | 55 Gallon Drum |
| 01-3274-40 | ZL-67 | Level 3 (High) | 5 Gallon Pail |
| 01-3274-30 | | | 20 Gallon Drum |
| 01-3274-45 | | | 55 Gallon Drum |
| 01-3267-40 | ZL-56 | Level 4 (Ultra High) | 5 Gallon Pail |
| 01-3267-45 | | | 55 Gallon Drum |



Fluorescent Penetrant - Type 1

Method B (Post-Emulsifiable, Lipophilic), Method C (Solvent Method D (Post-Emulsifiable, Hydrophilic))



| Item | Product | Sensitivity | Container Size |
|------------|---------|----------------------|---------------------|
| 01-3123-40 | ZL-2C | Level 2 (Medium) | 5 Gallon Pail |
| 01-3123-45 | | | 55 Gallon Drum |
| 01-3187-78 | ZL-27A | Level 3 (High) | Aerosol, Case of 12 |
| 01-3187-40 | | | 5 Gallon Pail |
| 01-3187-30 | | | 20 Gallon Drum |
| 01-3187-45 | | | 55 Gallon Drum |
| 01-3188-78 | ZL-37 | Level 4 (Ultra High) | Aerosol, Case of 12 |
| 01-3188-40 | | | 5 Gallon Pail |
| 01-3188-30 | | | 20 Gallon Drum |
| 01-3188-45 | | | 55 Gallon Drum |

Fluorescent Penetrant (Water-Based) - Type 1

Methods A (Water Washable)

No petroleum distillates allowing direct drain disposal

| Item | Product | Sensitivity | Container Size |
|------------|---------|---------------------|-----------------|
| 01-3137-40 | ZL-4C | N/A | 5 Gallon Pail |
| 01-3137-45 | | | 55 Gallon Drum |
| 01-3405-45 | ZL-405 | Level ½ (Ultra Low) | 55 Gallon Drum |
| 01-3405-67 | | | 275 Gallon Tote |
| 01-3425-45 | ZL-425 | Level 1 (Low) | 55 Gallon Drum |
| 01-3425-67 | | | 275 Gallon Tote |
| 01-3440-45 | ZL-440 | Level 2 (Medium) | 55 Gallon Drum |
| 01-3440-67 | | | 275 Gallon Tote |



SPOTCHECK® PENETRANTS



Visible Penetrant - Type 2



| Item | Product | Method | Container Size |
|------------|---------|------------------------------|---------------------|
| 01-5155-78 | SKL-SP2 | <i>C (Solvent Removable)</i> | Aerosol, Case of 12 |
| 01-5155-35 | | | 1 Gallon Pail |
| 01-5155-40 | | | 5 Gallon Pail |
| 01-5155-45 | | | 55 Gallon Drum |
| 01-5190-78 | SKL-WP2 | <i>A (Water Washable)</i> | Aerosol, Case of 12 |
| 01-5190-35 | | | 1 Gallon Pail |
| 01-5190-40 | | | 5 Gallon Pail |
| 01-5190-45 | | | 55 Gallon Drum |

Visible/Fluorescent Penetrant (Water-Based)

Specially designed for chemically sensitive plastic parts

| Item | Product | Method | Container Size |
|------------|---------|------------------------------|----------------|
| 01-5125-40 | SKL-4C | <i>A (Water Washable)</i> | 5 Gallon Pail |
| 01-5125-45 | | <i>C (Solvent Removable)</i> | 55 Gallon Drum |



Remover & Emulsifiers



| Item | Product | Method / Class | Container Size |
|------------|---------|----------------|---------------------|
| 01-5750-78 | SKC-S | <i>Class 2</i> | Aerosol, Case of 12 |
| 01-5750-35 | | | 1 Gallon Pail |
| 01-5750-40 | | | 5 Gallon Pail |
| 01-5750-45 | | | 55 Gallon Drum |
| 01-3550-40 | ZE-4E | <i>B</i> | 5 Gallon Pail |
| 01-3550-30 | | | 20 Gallon Drum |
| 01-3550-45 | | | 55 Gallon Drum |
| 01-3625-40 | ZR-10E | <i>D</i> | 5 Gallon Pail |
| 01-3625-30 | | | 20 Gallon Drum |
| 01-3625-45 | | | 55 Gallon Drum |

Developer

| Item | Product | Form | Container Size |
|------------|---------|---|---------------------|
| 01-3328-69 | ZP-4B | <i>Form a</i> | 10 lb. Pail |
| 01-3328-75 | | <i>(Dry Powder)</i> | 20 lb. Pail |
| 01-3381-75 | ZP-14A | <i>Form b</i> | 20 lb. Pail |
| 01-3381-89 | | <i>(Water Soluble)</i> | 50 lb. Pail |
| 01-3341-81 | ZP-5B | <i>Form c</i> <i>(Water Suspensible)</i> | 25 lb. Pail |
| 01-3354-78 | ZP-9F | <i>Form d/e</i> <i>(Nonaqueous Type 1 & 2 - Solvent based)</i> | Aerosol, Case of 12 |
| 01-5352-78 | SKD-S2 | <i>Form d/e</i> <i>(Nonaqueous Type 1 & 2 - Solvent based)</i> | Aerosol, Case of 12 |
| 01-5352-35 | | | 1 Gallon Pail |
| 01-5352-40 | | | 5 Gallon Pail |
| 01-5352-45 | | | 55 Gallon Drum |





McGean

Fluorescent Penetrant - Type 1

Methods A (Water Washable) & Method C (Solvent Removable)



| Item | Product | Sensitivity | Container Size |
|-------------|---------|------------------|---------------------|
| M-FP-921-1p | | | 1 Pint |
| M-FP-921-01 | FP-921 | Level 1 (Low) | 1 Gallon Pail |
| M-FP-921-05 | | | 5 Gallon Pail |
| M-FP-921-55 | | | 55 Gallon Drum |
| M-FP-922-1p | | | 1 Pint |
| M-FP-922-01 | FP-922 | Level 2 (Medium) | 1 Gallon Pail |
| M-FP-922-05 | | | 5 Gallon Pail |
| M-FP-922-55 | | | 55 Gallon Drum |
| M-FP-923-16 | | | Aerosol, Case of 12 |
| M-FP-923-1p | FP-923 | Level 3 (High) | 1 Pint |
| M-FP-923-01 | | | 1 Gallon Pail |
| M-FP-923-05 | | | 5 Gallon Pail |
| M-FP-923-55 | | | 55 Gallon Drum |

Fluorescent Penetrant - Type 1

Method B (Post-Emulsifiable, Lipophilic), Method C (Solvent Removable), Method D (Post-Emulsifiable, Hydrophilic)

| Item | Product | Sensitivity | Container Size |
|-----------------|-----------|----------------------|---------------------|
| M-FP-93A(M)-1pt | | | 1 Pint |
| M-FP-93A(M)-01 | FP-93A(M) | Level 2 (Medium) | 1 Gallon Pail |
| M-FP-93A(M)-05 | | | 5 Gallon Pail |
| M-FP-93A(M)-55 | | | 55 Gallon Drum |
| M-FP-95A(M)-16 | | | Aerosol, Case of 12 |
| M-FP-95A(M)-1pt | FP-95A(M) | Level 3 (High) | 1 Pint |
| M-FP-95A(M)-01 | | | 1 Gallon Pail |
| M-FP-95A(M)-05 | | | 5 Gallon Pail |
| M-FP-95A(M)-55 | | | 55 Gallon Drum |
| M-FP-97A(M)-1pt | | | 1 Pint |
| M-FP-97A(M)-01 | FP-97A(M) | Level 4 (Ultra High) | 1 Gallon Pail |
| M-FP-97A(M)-05 | | | 5 Gallon Pail |
| M-FP-97A(M)-55 | | | 55 Gallon Drum |



Visible Penetrant - Type 2



| Item | Product | Method | Container Size |
|-------------|---------|--|---------------------|
| M-VP-30-16 | | | Aerosol, Case of 12 |
| M-VP-30-1p | | | 1 Pint |
| M-VP-30-01 | VP-30 | A (Water Washable) C (Solvent Removable) | 1 Gallon Pail |
| M-VP-30-14 | | | Case, 4-1 Gallon |
| M-VP-30-05 | | | 5 Gallon Pail |
| M-VP-30-55 | | | 55 Gallon Drum |
| M-VP-31A-16 | | | Aerosol, Case of 12 |
| M-VP-31A-1p | VP-31A | B (Post-Emulsifiable, Lipophilic) C (Solvent Removable) | 1 Pint |
| M-VP-31A-01 | | | 1 Gallon Pail |
| M-VP-31A-14 | | | Case, 4-1 Gallon |
| M-VP-31A-05 | | | 5 Gallon Pail |
| M-VP-31A-55 | | | 55 Gallon Drum |

Visible Penetrant (Bio Degradable) - Type 2

| Item | Product | Method | Container Size |
|--------------|---------|---|----------------|
| M-VBP-300-1p | | | 1 Pint |
| M-VBP-300-01 | VBP-300 | A (Water Washable) C (Solvent Removable) | 1 Gallon Pail |
| M-VBP-300-05 | | | 5 Gallon Pail |
| M-VBP-300-55 | | | 55 Gallon Drum |





Visible High (125° - 350° F) Temperature Penetrant - Type 2

| Item | Product | Method | Container Size |
|-------------|---------|------------------------------|----------------|
| M-VP-302-1p | | | 1 Pint |
| M-VP-302-01 | VP-302 | <i>C (Solvent Removable)</i> | 1 Gallon Pail |
| M-VP-302-05 | | | 5 Gallon Pail |

Emulsifiers

| Item | Product | Type | Method | Container Size |
|------------|---------|-----------------|---|----------------|
| M-E-50-01 | | | <i>B</i> | 1 Gallon Pail |
| M-E-50-05 | E-50 | 2 (Visible) | <i>(Post-Emulsifiable Lipophilic)</i> | 5 Gallon Drum |
| M-E-50-55 | | | | 55 Gallon Drum |
| M-E-57-05 | E-57 | 1 (Fluorescent) | <i>B (Post-Emulsifiable Lipophilic)</i> | 5 Gallon Drum |
| M-E-57-55 | | | | 55 Gallon Drum |
| M-E-58D-01 | | | <i>D</i> | 1 Gallon Pail |
| M-E-58D-05 | E-58D | 1 (Fluorescent) | <i>(Post-Emulsifiable Hydrophilic)</i> | 5 Gallon Drum |
| M-E-58D-55 | | | | 55 Gallon Drum |



Cleaners & Removers

| Item | Product | Type | Method | Class | Container Size |
|------------|--|-----------------|----------------------------|----------------------------|---------------------|
| M-E-59-16 | | | | | Aerosol, Case of 12 |
| M-E-59-01 | E-59 | 1 (Fluorescent) | <i>C</i> | 2 | 1 Gallon Pail |
| M-E-59-14 | <i>Remover Only</i> | 2 (Visible) | <i>(Solvent Removable)</i> | Nonhalogenated (flammable) | Case, 4-1 Gallon |
| M-E-59-05 | | | | | 5 Gallon Drum |
| M-E-59-55 | | | | | 55 Gallon Drum |
| M-E-59A-16 | | | | | Aerosol, Case of 12 |
| M-E-59A-01 | E-59A | 1 (Fluorescent) | <i>C</i> | 2 | 1 Gallon Pail |
| M-E-59A-14 | <i>Cleaner & Remover</i> | 2 (Visible) | <i>(Solvent Removable)</i> | Nonhalogenated (flammable) | Case, 4-1 Gallon |
| M-E-59A-05 | | | | | 5 Gallon Drum |
| M-E-59A-55 | | | | | 55 Gallon Drum |
| M-R-502-1p | R-502 | | <i>C</i> | 3 | 1 Pint |
| M-R-502-01 | <i>High Temperature Remover</i> | 2 (Visible) | <i>(Solvent Removable)</i> | Special Application | 1 Gallon Pail |
| M-R-502-05 | | | | | 5 Gallon Drum |
| M-R-503-16 | | | | | Aerosol, Case of 12 |
| M-R-503-01 | R-503 | 1 (Fluorescent) | <i>C</i> | 2 | 1 Gallon Pail |
| M-R-503-14 | <i>Cleaner & Remover (Petroleum Free)</i> | 2 (Visible) | <i>(Solvent Removable)</i> | Nonhalogenated (flammable) | Case, 4-1 Gallon |
| M-R-503-05 | | | | | 5 Gallon Drum |
| M-R-503-55 | | | | | 55 Gallon Drum |
| M-R-504-16 | | | | | Aerosol, Case of 12 |
| M-R-504-01 | R-504 | 1 (Fluorescent) | <i>C</i> | 2 | 1 Gallon Pail |
| M-R-504-14 | <i>Cleaner & Remover (Non Halogenated)</i> | 2 (Visible) | <i>(Solvent Removable)</i> | Nonhalogenated (flammable) | Case, 4-1 Gallon |
| M-R-504-05 | | | | | 5 Gallon Drum |
| M-R-504-55 | | | | | 55 Gallon Drum |

Developer

| Item | Product | Form | Container Size |
|------------|---------|--|---------------------|
| M-D-72A-1p | | <i>Form a</i> | 1 Pint |
| M-D-72A-10 | D-72A | <i>(Dry Powder)</i> | 10 lb. Pail |
| M-D-72A-25 | | | 25 lb. Pail |
| M-D-76B-10 | | <i>Form b</i> | 10 lb. Pail |
| M-D-76B-25 | D-76B | <i>(Water Soluble)</i> | 25 lb. Pail |
| M-D-76B-50 | | | 50 lb. Pail |
| M-D-78B-10 | | <i>Form c</i> | 10 lb. Pail |
| M-D-78B-25 | D-78B | <i>(Water Suspendible)</i> | 25 lb. Pail |
| M-D-78B-50 | | | 50 lb. Pail |
| M-D-70-16 | | | Aerosol, Case of 12 |
| M-D-70-01 | | <i>Form d/e</i> | 1 Gallon Pail |
| M-D-70-14 | D-70 | <i>(Nonaqueous Type 1 & 2 - Solvent based)</i> | Case, 4-1 Gallon |
| M-D-70-05 | | | 5 Gallon Pail |
| M-D-70-55 | | | 55 Gallon Drum |
| M-D-702-1p | | <i>Form f</i> | 1 Pint |
| M-D-702-01 | D-702 | <i>(Special Application)</i> | 1 Gallon Pail |
| M-D-702-05 | | | 5 Gallon Pail |



Fluorescent Penetrant - Type 1 Level ½ (Ultra Low) thru Level 2 (Medium)
Methods A (Water Washable) & Method C (Solvent Removable)

| Item | Product | Sensitivity | Container Size |
|--|---------|---------------------|---|
| HM-1-1 HM-1-5 HM-1-55 | HM-1 | Level ½ (Ultra Low) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-2D-1 HM-2D-5 HM-2D-55 | HM-2D | Level 1 (Low) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-220-1 HM-220-5 HM-220-55 | HM-220 | Level 1 (Low) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-3A-1 HM-3A-5 HM-3A-55 | HM-3A | Level 2 (Medium) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-406-16 HM-406-1 HM-406-5 HM-406-55 | HM-406 | Level 2 (Medium) | Aerosol, Case of 9 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-412-1 HM-412-5 HM-412-55 | HM-412 | Level 2 (Medium) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-440-1 HM-440-5 HM-440-55 | HM-440 | Level 2 (Medium) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |



Fluorescent Penetrant - Type 1 Level 3 (High) thru Level 4 (Ultra High)
Methods A (Water Washable) & Method C (Solvent Removable)

| Item | Product | Sensitivity | Container Size |
|-----------------------------------|---------|----------------------|---|
| HM-430-1 HM-430-5 HM-430-55 | HM-430 | Level 3 (High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-604-1 HM-604-5 HM-604-55 | HM-604 | Level 3 (High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-607-1 HM-607-5 HM-607-55 | HM-607 | Level 3 (High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-704-1 HM-704-5 HM-704-55 | HM-704 | Level 4 (Ultra High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| HM-707-1 HM-707-5 HM-707-55 | HM-707 | Level 4 (Ultra High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |

Fluorescent Penetrant - Type 1
Method B (Post-Emulsifiable, Lipophilic), Method C (Solvent Removable) & Method D (Post-Emulsifiable, Hydrophilic)

| Item | Product | Sensitivity | Container Size |
|--|---------|----------------------|---|
| RC-29-1 RC-29-5 RC-29-55 | RC-29 | Level 1 (Low) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| FP-22B-1 FP-22B-5 FP-22B-55 | FP-22B | Level 2 (Medium) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| RC-50-1 RC-50-5 RC-50-55 | RC-50 | Level 2 (Medium) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| RC-65-16 RC-65-1 RC-65-5 RC-65-55 | RC-65 | Level 3 (High) | Aerosol, Case of 9 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| RC-77-16 RC-77-1 RC-77-5 RC-77-55 | RC-77 | Level 4 (Ultra High) | Aerosol, Case of 9 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |
| RC-88-1 RC-88-5 RC-88-55 | RC-88 | Level 4 (Ultra High) | 1 Gallon Can 5 Gallon Pail 55 Gallon Drum |





Visible Penetrant - Type 2

| Item | Product | Method | Container Size |
|----------|---------|---|--------------------|
| DP-40-16 | DP-40 | <i>C (Solvent Removable)</i> | Aerosol, Case of 9 |
| DP-40-1 | | | 1 Gallon Can |
| DP-40-5 | | | 5 Gallon Pail |
| DP-40-55 | | | 55 Gallon Drum |
| DP-50-16 | DP-50 | <i>A (Water Washable)</i> <i>C (Solvent Removable)</i> | Aerosol, Case of 9 |
| DP-50-1 | | | 1 Gallon Can |
| DP-50-5 | | | 5 Gallon Pail |
| DP-50-55 | | | 55 Gallon Drum |
| DP-51-16 | DP-51 | <i>A (Water Washable)</i> <i>C (Solvent Removable)</i> | Aerosol, Case of 9 |
| DP-51-1 | | | 1 Gallon Can |
| DP-51-5 | | | 5 Gallon Pail |
| DP-51-55 | | | 55 Gallon Drum |
| DP-54-1 | DP-54 | <i>A (Water Washable)</i> <i>C (Solvent Removable)</i> | 1 Gallon Can |
| DP-54-5 | | | 5 Gallon Pail |
| DP-54-55 | | | 55 Gallon Drum |
| KO-17-16 | KO-17 | <i>A (Water Washable)</i> <i>C (Solvent Removable)</i> | Aerosol, Case of 9 |
| KO-17-1 | | | 1 Gallon Can |
| KO-17-5 | | | 5 Gallon Pail |

Removers/ Cleaners

| Item | Product | Method / Class | Container Size |
|----------|---------|---|--------------------|
| DR-60-16 | DR-60 | <i>Class 2</i> <i>Nonhalogenated</i> <i>(Flammable)</i> | Aerosol, Case of 9 |
| DR-60-1 | | | 1 Gallon Can |
| DR-60-5 | | | 5 Gallon Pail |
| DR-60-55 | | | 55 Gallon Drum |
| DR-62-16 | DR-62 | <i>Class 2</i> <i>Nonhalogenated</i> <i>(Flammable)</i> | Aerosol, Case of 9 |
| DR-62-1 | | | 1 Gallon Can |
| DR-62-5 | | | 5 Gallon Pail |
| DR-62-55 | | | 55 Gallon Drum |
| DR-63-1 | DR-63 | <i>Class 2</i> <i>Nonhalogenated</i> <i>(Flammable)</i> | 1 Gallon Can |
| DR-63-5 | | | 5 Gallon Pail |
| DR-63-55 | | | 55 Gallon Drum |
| DR-64-1 | | | 1 Gallon Can |
| DR-64-5 | DR-64 | <i>Class 2</i> <i>Nonhalogenated</i> <i>(Flammable)</i> | 5 Gallon Pail |
| KO-19-16 | KO-19 | <i>Class 2</i> <i>Nonhalogenated</i> <i>(Flammable)</i> | Aerosol, Case of 9 |
| KO-19-1 | | | 1 Gallon Can |
| KO-19-5 | | | 5 Gallon Pail |



Emulsifiers

| Item | Product | Method / Class | Container Size |
|-----------|---------|---|----------------|
| ER-85-1 | ER-85 | <i>B</i> <i>(Post-Emulsifiable)</i> <i>Lipophilic)</i> | 1 Gallon Can |
| ER-85-5 | | | 5 Gallon Pail |
| ER-85-55 | | | 55 Gallon Drum |
| ER-83A-1 | ER-83A | <i>D</i> <i>(Post-Emulsifiable)</i> <i>Hydrophilic)</i> | 1 Gallon Can |
| ER-83A-5 | | | 5 Gallon Pail |
| ER-83A-55 | | | 55 Gallon Drum |
| ER-83B-1 | ER-83B | <i>D</i> <i>(Post-Emulsifiable)</i> <i>Hydrophilic)</i> | 1 Gallon Can |
| ER-83B-5 | | | 5 Gallon Pail |
| ER-83B-55 | | | 55 Gallon Drum |
| ER-83C-1 | ER-83C | <i>D</i> <i>(Post-Emulsifiable)</i> <i>Hydrophilic)</i> | 1 Gallon Can |
| ER-83C-5 | | | 5 Gallon Pail |
| ER-83C-55 | | | 55 Gallon Drum |



Developer

| Item | Product | Form | Container Size |
|-------------|----------|---|--------------------|
| D-90G-15 | D-90G | <i>Form a</i> <i>(Dry Powder)</i> | 15 lb. Pail |
| D-113G.1-25 | D-113G.1 | <i>Form b</i> <i>(Water Soluble)</i> | 25 lb. Pail |
| D-110A.1-25 | D-110A.1 | <i>Form c</i> <i>(Water Suspending)</i> | 25 lb. Pail |
| D-100-16 | D-100 | <i>Form d/e</i> <i>(Nonaqueous Type 1 & 2 -</i> <i>Solvent based)</i> | Aerosol, Case of 9 |
| D-100-1 | | | 1 Gallon Can |
| D-100-5 | | | 5 Gallon Pail |
| D-100-55 | | | 55 Gallon Drum |
| D-106-16 | D-106 | <i>Form d/e</i> <i>(Nonaqueous Type 1 & 2 -</i> <i>Solvent based)</i> | Aerosol, Case of 9 |
| D-106-1 | | | 1 Gallon Can |
| D-106-5 | | | 5 Gallon Pail |
| D-106-55 | | | 55 Gallon Drum |
| D-350-16 | D-350 | <i>Form d/e</i> <i>(Nonaqueous Type 2 -</i> <i>Solvent based)</i> | Aerosol, Case of 9 |
| D-350-1 | | | 1 Gallon Can |
| D-350-5 | | | 5 Gallon Pail |



LPI ACCESSORIES

MATERIAL ACCESSORIES

LPI Applicators & Sprayers

► DEMA Injector Kit - For spraying Hydrophilic Emulsifier. The emulsifier is drawn into the water stream by the Dema valve, emitting an emulsifier/water spray. The Dema Injector allows the penetrant user to process parts with the Hydrophilic method without adding large dip tanks.

| Item | Description |
|-----------|--|
| 625773 | Portable Pressure Sprayer - Easy to use, light-weight pressure sprayer for spot application of penetrants, magnetic particles, developers and cleaners |
| SP*001693 | Dry Developer Sprayer, One Quart Capacity |
| SP*001694 | NDT Rinse/Spray Gun Complete |
| 520090 | Magnaflux Water Spray Gun w/ Hose Adapter |
| SP*001695 | 244CT DEMA Injector Kit - for emitting an Hydrophilic Emulsifier/Water Spray |



Monitoring Devices & Wiping Cloths

► Refractometer - Easy to use device to measure the concentration of the Hydrophilic Emulsifier remover in water and is required to meet Pratt and Whitney and GE concentration specifications for Hydrophilic removers.

► Hydrometer - Water Based Developers are designed for optimum performance within a specific concentration range. To control the concentration, the specific gravity is measured using the Hydrometer. If the reading is high, the concentration is high and water is generally added. If the reading is low, developer is added to the bath.

| Item | Description |
|---------|---|
| 300 | GRALAB Model 300 Timer |
| 513829 | Refractometer |
| 5857 | Hydrometer (for monitoring developer concentration) |
| RAGS-50 | White Lint Free Rags, 50 lb. Box |



TAM PANEL & CLEANING UNIT

Hoffman Precision Star TAM Panels

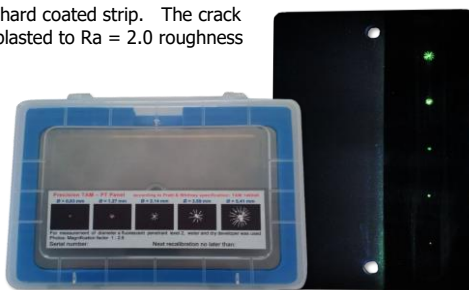
The Panel is made from a 0.100" stainless steel plate. Half of the test surface is hard coated with 0.003" hard alloy chrome. Five crack centers are evenly spaced in the hard coated strip. The crack centers are circular patterns forming a star. The un-plated side is grit blasted to Ra = 2.0 roughness for washability / background tests.

Kit Includes:

- Hoffman TAM Panel with Transparent Storage Box
- Calibration Certificate (includes measurements and 5 photos)
- Foil print, glued on the storage box (includes measurements and 5 photos)

TAM Panel Approvals:

- Pratt & Whitney TAM 146060
- Delta Air Lines / MTU Maintenance
- Rolls Royce / General Electric



| Item | Description |
|-----------|--|
| SP*001637 | Hoffmann Polished Precision TAM Panel Standard Kit |
| SP*001638 | Hoffmann Polished Precision TAM Panel Standard Kit plus full size panel photo in Certificate |
| SP*001639 | Hoffmann Grit Precision TAM Panel Standard Kit |
| SP*001640 | Hoffmann Grit Precision TAM Panel Standard Kit plus full size panel photo in Certificate |

Ultrasonic Cleaning Unit & Solution

Quickly and professionally clean your test panels with the desktop ultrasonic cleaning unit. It completely removes excess penetrant from indications as well as the surface of the panel. We recommend using Met-L-Chek 300LF or equivalent for proper cleaning.

Includes: Normal Frequency, Sweep & Degas Functions, Operator Temperature Controls, Digital Ultrasonic Timer, Basket, Cover and Side Handles

Specifications: Ultrasonic Frequency - 40,000Hz, Tank Material - Stainless Steel, Temperature Controlled Heat for best cleaning performance, Unit Size - 10" L x 6"W x 9.5"H, Tank Dimensions - 9"L x 5.5"W x 4"H, Tank Capacity - 3/4 Gallon

| Item | Description |
|------------|--|
| SP*001696 | Heated Ultrasonic Cleaning Unit |
| M-300LF-01 | Met-L-Chek 300LF Aqueous Alkaline Concentrate, 1 Gallon Pail |

ADDITIONAL LPI PANELS/BLOCKS

NiCr Twin Cracked Test Panels

NiCr Panels are used to compare new and used penetrants and can also be used for comparing performance of different penetrant materials or different processing techniques. Each set consists of a pair of identical panels marked A and B with manufacturer's Certification and Crack photograph.

These panels are made by plating hard Nickel Chromium alloy on a 2mm thick brass substrate and stressing the panel in tension. The hard NiCr coating is brittle in comparison to the brass substrate so that the cracks created in the plated layer are limited to the thickness of the NiCr layer. The panel is then cut in half perpendicular to the direction of the cracks thus creating a matching pair of virtually identical cracks of controlled depth.

Specification Compliance: ASTM E1417, AMS 2647D, ISO 3452-3 & JIS Z 2343-3

| Sensitivity* (Unofficial) | | <ul style="list-style-type: none"> Fluorescent Penetrant Sensitivity Levels are established by the USAF Laboratory at Wright Patterson AFB under highly controlled conditions. Sensitivity testing is not something the penetrant manufacturer or user can do. What you can do is compare samples using appropriate NiCr Cracked Panels. |
|---------------------------|------------|--|
| Crack Depth | Level | |
| 50 µm | 1, 2, 3, 4 | |
| 30 µm | 2, 3, 4 | |
| 20 µm | 3, 4 | |
| 10 µm | 4 | |



| Item | Description |
|---------|---|
| NiCr-10 | NiCr Test Panels, 10µm (0.0004") Flaw Depth |
| NiCr-20 | NiCr Test Panels, 20µm (0.0008") Flaw Depth |
| NiCr-30 | NiCr Test Panels, 30µm (0.0012") Flaw Depth |
| NiCr-50 | NiCr Test Panels, 50µm (0.002") Flaw Depth |

Additional LPI Test Panels & Blocks

- ▶ WTP-1 SHERWIN Wash Test Panel is used to run monthly removability testing as required by ASTM E1417 and MIL-STD-6866. The panel is made of stainless steel measuring 4" x 6" and 0.090" thick with two parallel, "medium rough" strips, each 6" x 1.5" separated by a smooth 1" strip.
- ▶ WTP-2 SHERWIN Wash Test Panel is used to run removability tests. The 1.5" x 2" panel is made from 16 gauge 301 or 302 stainless steel, by grit blasting with 80 mesh aluminum oxide grit and 60 psi of air pressure. The roughened surface that is produced is free of scratches and blemishes.
- ▶ ADP-1 SHERWIN Aqueous Developer Test Panel is used to check the fluorescence and coverage of soluble and suspendable aqueous developers as per ASTM E1417. The panel is made of aluminum measuring 3" x 10".
- ▶ Cracked Aluminum Test Blocks compare sensitivity of different penetrants or sensitivity of new and used penetrants. This is done by processing one half of the block with used penetrant and the other half with fresh penetrant. A 1/8" wide groove separates the blocks two sides to facilitate side-by-side penetrant comparison.

| Item | Description |
|-------|---|
| WTP-1 | SHERWIN Wash Test Panel (Removability as per ASTM E1417 & MIL-STD-6866) |
| WTP-2 | SHERWIN Wash Test Panel (Removability) |
| ADP-1 | SHERWIN Aqueous Developer Test Panel (as per ASTM E1417) |
| CAB | Cracked Aluminum Test Block |

**Cracked Aluminum Test Blocks are meant for one-time use as once the penetrant gets in the crack it is very difficult to completely clean.*

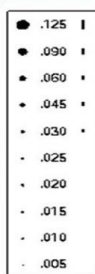


LPI MEASURING AIDS

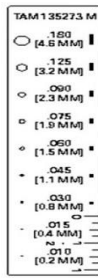
Crack Comparators

Crack comparators are used to measure the actual size of indications identified during the liquid penetrant inspection process.

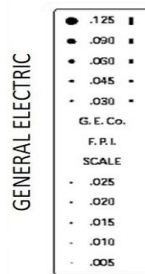
| Item | Description |
|-----------|--|
| 514048 | Fluorescent Green General Purpose Crack Comparator, measured in increments 0.005" to 0.125" |
| 514050 | Fluorescent Green Pratt & Whitney (TAM 135273) Crack Comparator, measured in increments 0.010" to 0.180" |
| SP*001697 | Fluorescent Green General Electric Crack Comparator, measured in increments 0.005" to 0.125" |
| SP*001698 | Fluorescent Green Fractional Size Crack Comparator, measured from 1/64" to 1/4" |
| SP*001699 | Fluorescent Green Swing Away General Purpose Crack Comparator, measured in increments 0.005" to 0.125" |
| SP*001481 | Fluorescent Green Swing Away (TAM 190466) Crack Comparator, measured in increments 0.005" to 0.180" |



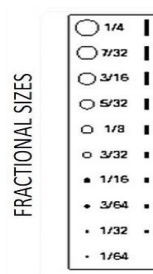
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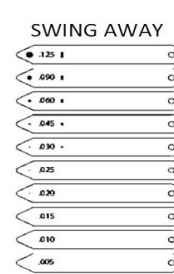
514050



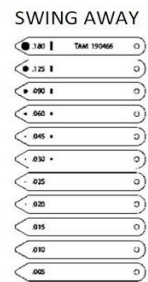
*SP*001697*



*SP*001698*



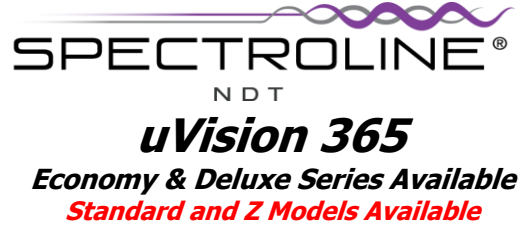
*SP*001699*



*SP*001481*

BLACKLIGHTS

HANDHELD LED UV-A LAMPS



| | | EV6000 | UV-365EH | UV-365HC | UV-365SBLC |
|----------------------------------|------------------|--------|----------|----------|------------|
| Specification Compliance | ISO 3059 | X | X | X | X |
| | ASTM E3022 | X | | X | X |
| | RRES 90061 | X | | | X |
| Penetrant Testing | ASME V | X | | X | X |
| | ASTM E165 | X | | X | X |
| | ASTM E1417 | X | | X | X |
| Magnetic Particle Testing | ASME V | X | | X | X |
| | ASTM E3024 | X | | X | X |
| | ASTM E1444 | X | | X | X |
| Product Properties (15") | Max UV Intensity | 5,000 | 7,000 | 6,000 | <5,000 |
| | UV Coverage Area | 9" | 7" | 6.4" | 6" |

MAGNAFLUX HANDHELD

EV6000 NDT Inspection Lamp

The EV6000 is certified to NDT standards for LED UV lamps and certified for Aerospace Prime and OEM specifications for emission spectrum and beam profile. Each unit is shipped with a manufacturer's certificate of conformance which meets or exceeds all current specifications for use with fluorescent liquid penetrant and magnetic particle testing.

| Item | Description |
|--------|------------------------------|
| 625784 | EV6000 Hand-held LED UV lamp |

SPECTROLINE HANDHELD

UVISION 365 Series NDT Inspection Lamps

These lightweight, yet rugged lamps boast an IP65 rating, making them dust-tight and water resistant. Using a state-of-the-art heat sink, the uVision is mechanically cooled without the need for fans. In addition to the three powerful UV-A (365 nm) LEDs, it has a convenient white light LED for illuminating work areas. Compliant versions have embedded microprocessors to keep lamps within specifications. There are multiple power-source options as well.

| Item | Series | Model | Description |
|-------------|--|----------|--|
| UV-365EH | ECONOMY | Standard | uVision, High intensity, (3) UV-A LEDs, (1) white light LED with FP-600 borofloat filter protector, heavy-duty 8 foot AC cord, UVS-30 spectacles and soft carrying case (100-120V/50-60Hz) |
| UV-365ZEH | Meets ISO 3059 Specifications | Z | uVision, High intensity, (3) UV-A LEDs, (1) white light LED with FP-600 borofloat filter protector, In-handle Lithium-ion Battery, 130448 Charger, 8' AC cord, UVS-30 spectacles & Protective Case (100-120V/50-60Hz) |
| UV-365HC | DELUXE | Standard | uVision, High Intensity, (3) UV-A LEDs, (1) White Light LED w/ 128196 Faceplate w/ UV-A Pass Filters, FP-600 Borofloat Filter Protector, 8' AC Cord, UVS-30 Spectacles & Protective Case (100-120V/50-60Hz) |
| UV-365ZHC | Meets ISO 3059 & ASTM E3022 Specifications | Z | UVision, High Intensity, (3) UV-A LEDs, (1) White Light LED with 128196 Faceplate w/ UV-A Pass Filters, In-Handle Lithium-ion Battery, 130448 Charger, FP-600 Filter Protector, 8' AC Cord, UVS-30 Spectacles & Protective Case (100-120V/50-60Hz) |
| UV-365SBLC | DELUXE | Standard | uVision, Standard Intensity, (3) UV-A LEDs, (1) White Light LED w/ 128196 Faceplate w/ UV-A Pass Filters, FP-600 Borofloat Filter Protector, 8' AC Cord, UVS-30 Spectacles & Protective Case (100-120V/50-60Hz) |
| UV-365ZSBLC | Meets ISO 3059, ASTM E3022 & RRES 90061 Specifications | Z | uVision, Standard Intensity, (3) UV-A LEDs, (1) White Light LED w/ 128196 Faceplate w/ UV-A Pass Filters, In-handle Lithium-ion Battery, 130448 Charger, FP-600 Filter Protector, 8' AC Cord, UVS-30 Spectacles & Protective Case (100-120V/50-60Hz) |



FLASHLIGHT LED UV-A LAMP

SPECTROLINE FLASHLIGHT

Available in both Lithium Ion & Alkaline Battery Models



WHY CLARITY™?

- LONGEST BATTERY LIFE ON THE MARKET**
- AUTO SHUT-OFF**
Keeps Intensity Above Minimum Output
- WATER-PROOF, DUST-PROOF**
IP68 RATED
- WIRELESS CHARGER***
Induction Charger Kit Included
*Lithium Ion model only

CLARITY Spray Mount Accessory

RP-SM-01

Specially crafted lamp attachment permits lamp and spray can to be mounted together for convenient, single-handed fluorescent yoke inspection.

SPRAY & INSPECT IN ONE SIMPLE STEP!

CLARITY 365 Series Kits

LITHIUM-ION



ALKALINE



Flashlight w/ battery, induction charging dock, AC power cord, USB power cord, belt holster, UV-absorbing glasses & carrying case

Flashlight with 3 C-Cell alkaline batteries, belt holster, UV-absorbing glasses and carrying case

| Item | Model | Battery Type | UV-A Intensity | Visible Light | UV-A Coverage |
|---------------|--------------------|--------------|---------------------------------|--------------------------|---------------|
| SPN-CLR365-SC | Standard Intensity | Lithium-Ion | 4,500 $\mu\text{W}/\text{cm}^2$ | < 1 foot-candle (11 lux) | 4 Inches |
| SPN-CLR-BA | | Alkaline | | | |

FLASHLIGHT ACCESSORIES

| Item | Battery Type | Description |
|----------|------------------------|---|
| RP-SM-01 | Lithium-Ion & Alkaline | Spray Can Mount for CLARITY Flashlight |
| RP-FL-01 | | Optical Assembly for CLARITY Flashlight |
| RP-B-01 | Lithium-Ion | Li-ion Battery for CLARITY Flashlight |
| RP-BC-01 | | Induction Battery Cap for CLARITY Flashlight |
| RP-C-01 | | Induction Charging Kit for CLARITY Flashlight |
| RP-BC-03 | Alkaline | Battery Cap for CLARITY (Alkaline) Flashlight |



UV-A SAFETY GLASSES

| Item | Description |
|--------|--|
| 506249 | UV-Absorbing Scratch Resistant Safety Glasses with Purple/Green Lens |

**Safety Glasses are pictured Above*

OVERHEAD LED UV-A LAMPS

MAGNAFLUX OVERHEAD

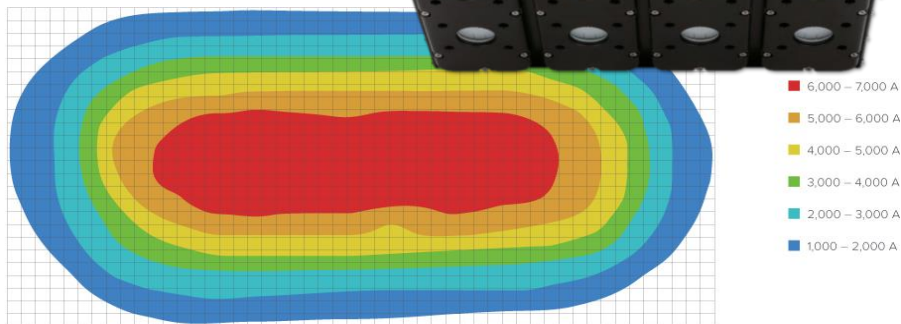
ST700 Stationary Inspection LED UV Lamp

The ST700 projects an ultra-wide, even beam of UV-A light straight onto the inspection area, allowing for quick examination of parts with minimal part handling. The high intensity beam makes indications stand out bright and clear, speeding up the inspection process. The ST700 is certified to NDT standards for LED UV lamps and certified for Aerospace Prime and OEM specifications for emission spectrum and beam profile.

The IP65 aluminum case stands up to harsh environments and a range of mounting and angling options allow it to be set up anywhere in the inspection process; from mag benches to wash stations.

KEY BENEFITS:

- ▶ High intensity compliant UV-A illumination
- ▶ 20" x 26" wide, uniform beam profile at 36"
- ▶ IP65 sealed construction prevents damage from water, vapor or dust
- ▶ Angled mounting brackets
- ▶ No internal fan necessary
- ▶ No hot-spots in the beam profile
- ▶ Aerospace prime and OEM certified
- ▶ Certified to ASTM (E2297 & E3022), Airbus (AITM6-1001), Rolls Royce (RRES 90061) & NADCAP



| Item | Description | UV-A Intensity | Visible Light | UV-A Coverage |
|--------|---------------------------------------|---|-----------------|---|
| 628243 | ST700 Stationary overhead LED UV lamp | 15" - 7,000 $\mu\text{W}/\text{cm}^2$ 36" - 3,000 $\mu\text{W}/\text{cm}^2$ 46" - > 1,000 $\mu\text{W}/\text{cm}^2$ | < 1 fc / 10 lux | 15" - 13" x 25" 36" - 20" x 26" 46" - 22" x 25" |

SPECTROLINE OVERHEAD

EDGE 13 SERIES UV-A LED Panel Lamps

UV-A LED PANEL LAMPS

The first overhead LED UV-A lamp to guarantee an IP65 rating, compliance, and gang-ability.

KEY FEATURES:

- ▶ Gangable – link lamps together using single power source for greater coverage area
- ▶ IP 65 rating: the lamp is dust-proof and water-resistant
- ▶ Wide areas of coverage for optimal fluorescent response
- ▶ Integral black-light filters (EDG-13SBLC and EDG-13HC)
- ▶ Long-lasting UV-A lenses protect against solarization
- ▶ Versions Available Certified to ISO 3059, ASTM E3022, Airbus (AITM6-1001) & Rolly Royce (RRES 90061)



| Item | Description | Certified to | UV-A Intensity | Visible Light | UV-A Coverage |
|----------|-------------|-----------------------------------|----------------------------------|-----------------|---------------|
| EDG-13T | EDGE 13 | ISO 3059 | 6,500 $\mu\text{W}/\text{cm}^2$ | < 1 fc / 11 lux | 17" x 15" |
| EDG-13H | | | 15,000 $\mu\text{W}/\text{cm}^2$ | < 2 fc / 22 lux | 18" x 16" |
| EDG-HC | | ISO 3059 & ASTM E3022 | 8,500 $\mu\text{W}/\text{cm}^2$ | < 1 fc / 11 lux | 24" x 22" |
| EDG-SBLC | | ISO 3059, ASTM E3022 & RRES 90061 | 4,700 $\mu\text{W}/\text{cm}^2$ | | 14.5" x 13" |

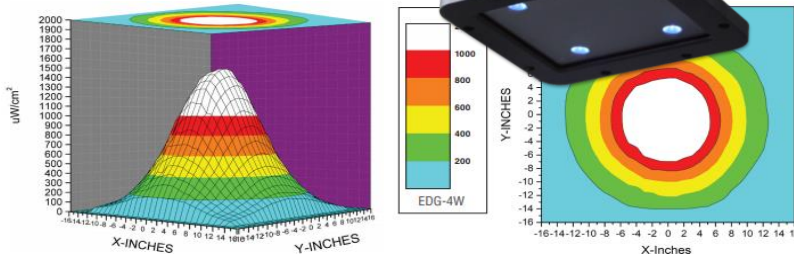
**UV-A Intensity, Visible Light and UV-A Coverage ratings are all measurements at 15" from light source*

EDGE 4 Wash Station Lamp

The EDGE 4 is a flood lamp engineered specifically for wash stations. It provides a very wide area of coverage without a high intensity. The IP65-rated housing allows the lamp to work in wet and dirty environments. Heat sinks keep the lamp cool without the need for a fan, so no dust or water can enter. Four UV-A LEDs provide a wide, uniform beam that is highly consistent and reliable.

KEY FEATURES:

- ▶ Ideal for Wash Stations
- ▶ IP65 rated – rugged housing is dust-proof and water resistant
- ▶ Heat-dissipating housing. Fan-less and cool running
- ▶ 4 UV-A LEDs with long-lasting UV-A lens
- ▶ Adjustable mounting bracket
- ▶ Meets EN ISO 3059 on UV-A output for the removal of excess penetrant



| Item | Description | Certified to | UV-A Intensity | UV-A Coverage |
|--------|-------------|--------------|---------------------------------|---------------|
| EDG-4W | EDGE 4 | ISO 3059 | 1,400 $\mu\text{W}/\text{cm}^2$ | 22" x 22" |

**UV-A Intensity, Visible Light and UV-A Coverage ratings are all measurements at 48" from light source*

LIGHT METERS

SPECTROLINE LIGHT METERS

AccuPRO Series

The AccuPRO (XP-2000) readout unit features a single dual-wavelength sensor detector designed to measure both ultraviolet and visible light and is compliant with ASTM E2297.

KEY FEATURES:

- ▶ Accurate readouts for UV-A irradiance as well as visible illuminance
- ▶ Overall accuracy greater than $\pm 5\%$ per NIST standards
- ▶ One-touch PEAK with reset functions
- ▶ User-defined power save and automatic shutoff
- ▶ Multi-wavelength sensor directly attached to meter
- ▶ Convenient on-board recharging
- ▶ Powered by four rechargeable "AAA" nickel-metal hydride batteries (Included)
- ▶ Comes complete with AC charger and padded carrying case



SPECTROLINE®

| Item | Description |
|---------|---|
| XP-2000 | AccuPRO Dual Sensor (UV-A/VIS), Complete with (4) Rechargeable "AAA" Nickel-Metal Hydride Batteries, AC Charger and Carrying Case |

AccuMAX Series

The MOST Advanced, Microprocessor-Controlled Readout System

The AccuMax XRP-3000 is compact, lightweight and battery-operated for convenient use in the factory, field or any other location where measurements need to be taken. Measures both ultraviolet and visible light. Complies with ASTM specifications for MPI and FPI. Specially engineered for NDT applications.

KEY FEATURES:

- ▶ Microprocessor-controlled readout unit with dual-wavelength sensor detector
- ▶ Superior bandpass interference filter
- ▶ Choice of direct or USB connection between sensor detector and readout unit
- ▶ Excellent cosine response
- ▶ Sealed sensor housing and USB connection with water-resistant adapter

XS-555/L Luminance Sensor

The perfect accessory for the AccuMAX Series meter. Ideal for technicians performing radiographic examinations. Meets ASTM E1742 standard.



The AccuMAX XS-555/L luminance sensor detector measures the brightness of a visible light source and, unlike many competitive units, allows the user the choice of displaying the results in three distinct units of measure: candelas per square meter (cd/m^2), candelas per square foot (cd/ft^2) and footlamberts (fL).

SPECIFICATIONS

Luminance Range
 0 - 1,000,000 cd/m^2
 0 - 90,000 cd/ft^2
 0 - 285,000 fL



| Item | Description |
|----------|--|
| XRP-3000 | AccuMAX NDT Meter Kit, Complete with Digital Readout Unit (XR-1000) and Protective Rubber Boot (XRB-100), Dual UV-A/VIS Sensor (XDS-1000), Water-Resistant USB Connector Cable (XCB-100) and Carrying Case (XCC-100) |
| XR-1000 | Digital Readout Unit for AccuMAX |
| XDS-1000 | Dual UV-A/VIS Sensor detector for AccuMAX |
| XS-555/L | Luminance Sensor Detector, Visible (555nm) |

ECONOMICAL UV-A & VISIBLE LIGHT METERS

| Item | Description | Measuring Range |
|-----------|---|-------------------------------------|
| SP*001477 | LX1330B Digital Light Meter with Calibration | 0 - 20,000 Fc (200,000 Lux) |
| SP*001197 | UV513AB Digital UV-A/B Light Meter with Calibration | 0 - 9,999 $\mu\text{W}/\text{cm}^2$ |

SP001477



SP001197



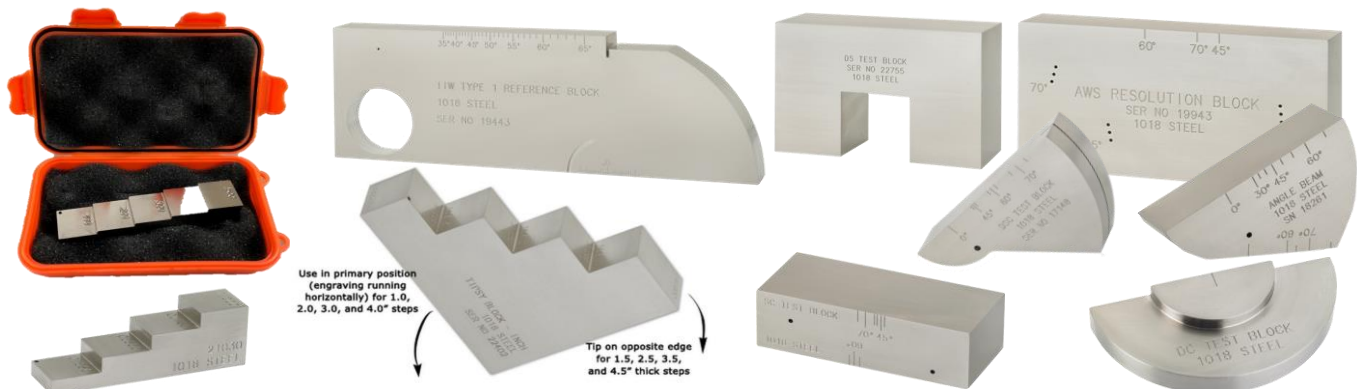
ULTRASONIC CALIBRATION BLOCKS



PH TOOL REFERENCE STANDARDS

| Item | Test Block Type | Alloy |
|--|---|--|
| IIW1.II018 IIW1.ISS IIW1.WC | IIW-Type 1 Block Wooden Case | 1018 Steel 304 Stainless Steel |
| IIW2.II018 IIW2.ISS IIW2.WC | IIW-Type 2 Block Wooden Case | 1018 Steel 304 Stainless Steel |
| MIIW2.ICS MIIW2.ISS MIIW2.WC | Mini IIW-Type 2 Block Size: 1" x 2" x 6" Wooden Case | 1018 Steel 304 Stainless Steel |
| DCBLOCK.ICS DCBLOCK.ISS DSCLOCK.WC | DC Block Wooden Case | 1018 Steel 304 Stainless Steel |
| SCBLOCK.ICS SCBLOCK.ISS SCBLOCK.WC | SC Block Wooden Case | 1018 Steel 304 Stainless Steel |
| DSCBLOCK.ICS DSCBLOCK.ISS DSCLOCK.WC | DSC Block Wooden Case | 1018 Steel 304 Stainless Steel |
| DSBLOCK.CS DSBLOCK.SS DSBLOCK.WC | DS Block Wooden Case | 1018 Steel 304 Stainless Steel |
| 4STEP.ICS 4STEP.ISS 4STEP.WC | 4-Step Block .250", .500", .750" & 1.00" Wooden Case | 1018 Steel 304 Stainless Steel |
| TIPSY.ICS TIPSY.ISS TIPSY.WC | Tipsy Step Block 1", 2", 3" & 4" 1.5", 2.5", 3.5" & 4.5" Wooden Case | 1018 Steel 304 Stainless Steel |
| SP*001440 SP*001441 SP*001356 | QED 5-Step Block .100", .200", .300", .400" & .500" Plastic Case | 1018 Steel 304 Stainless Steel NEW Blocks Include Free Case |
| MAB.ICS MAB.ISS MAB.WC | Miniature Angle Beam Calibration Block Wooden Case | 1018 Steel 304 Stainless Steel |
| IOW.ICS IOW.ISS IOW.WC | IOW Beam Profile Block Wooden Case | 1018 Steel 304 Stainless Steel |
| AWS.CS AWS.SS AWS.WC | AWS Resolution Block Wooden Case | 1018 Steel 304 Stainless Steel |
| NAV.ICS NAV.ISS NAV.WC | NAVSHIPS Test Block Wooden Case | 1018 Steel 304 Stainless Steel |
| MINIRB.ICS MINIRB.ISS MINIRB.WC | Miniature Resolution Block Wooden Case | 1018 Steel 304 Stainless Steel |
| BASIC4.5.A51670 BASIC4.5.SS BASIC.5.WC | ASME Section V Basic Calibration Block 1/2" Thick Wooden Case | A516-70 Steel 304 Stainless Steel |
| BASIC4.75.A51670 BASIC4.75.SS BASIC.75.WC | ASME Section V Basic Calibration Block 3/4" Thick Wooden Case | A516-70 Steel 304 Stainless Steel |
| BASIC41.5.A51670 BASIC4.1.5.SS BASIC1.5.WC | ASME Section V Basic Calibration Block 1 1/2" Thick Wooden Case | A516-70 Steel 304 Stainless Steel |

***Additional Blocks and/or Custom Standards are Available Upon Request**



ULTRASONIC COUPLANT



GENERAL PURPOSE

Echogel® 20 is an economical, basic-use couplant in medium-thick gel viscosity for ultrasonic inspections, like flaw detection/sizing and thickness gauging, where salt cake or metal corrosion salts are present. It provides good corrosion inhibition and resists viscosity breakdown on salt-caked boilers and other corroded materials.

Ultragel® II is an industry-leading, high-performance, ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing. This general-purpose medium viscosity gel is known for its outstanding performance, excellent corrosion protection, thixotropic properties and comprehensive range of specifications and approvals.

UT-X® Powder is a cost-effective couplant powder for flaw detection and thickness gaging applications where ferrous corrosion inhibition is required. UT-X Powder retains viscosity on salt caked boiler tubes, corroded pipe, structural steel, steel billets, welds and ship plate. Mixed with water at the inspection site, its compact and lightweight packets are easy to transport to a job site or to store as an emergency couplant for unanticipated shortages.

NDT technicians trust Magnaflux to supply couplant for ultrasonic testing that enhance sound transmission from the transducer to the test part to produce reliable non-destructive inspection results in flaw detection, thickness gauging, flow metering and acoustic emission testing.



| Item | Product | Temperature Range | Container Size |
|--------|-------------|-------------------|---------------------|
| 48-901 | Echogel 20 | 27 to 140°F | 1 Gallon Cubitainer |
| 48-905 | | | 5 Gallon Cubitainer |
| 48-955 | | | 55 Gallon Drum |
| 25-901 | Ultragel II | -10 to 210°F | 1 Gallon Cubitainer |
| 25-905 | | | 5 Gallon Cubitainer |
| 25-955 | | | 55 Gallon Drum |
| 62-110 | UT-X Powder | 32 to 120°F | 1 Gallon Packet |
| 62-510 | | | 5 Gallon Packet |

HIGH TEMPERATURE

Sono 600 is a versatile, multi-purpose couplant with a wide operating temperature range for flaw detection, thickness gauging and acoustic emission testing in petrochemical, power generation, automotive, aerospace, food processing equipment and pharmaceutical manufacturing.

Sono 1100 provides coupling for high-temperature thickness gauging and will maintain acoustic coupling at high temperatures beyond 15 seconds to give ample time to obtain thickness readings. In most cases, the signal strength increases with time to the point of the couplant's thermal decomposition.



| Item | Product | Temperature Range | Container Size |
|--------|-----------|-------------------|---------------------|
| 45-T04 | Sono 600 | 700 to 775°F | 4 oz Tube |
| 45-901 | | | 1 Gallon Cubitainer |
| 30-T04 | Sono 1100 | 0 to 700°F | 4 oz Tube |
| 30-901 | | | 1 Gallon Pail |

***Additional Couplant Options are Available Upon Request**



| | Echogel | Ultragel II | UT-X Powder | Sono 600 | Sono 1100 |
|-------------------|-------------|--------------|-------------|--------------|--------------|
| Form | Gel | Gel | Powder | Thick Gel | Medium Paste |
| Viscosity* | 5.5 | 5 | Variable | N/A | N/A |
| Silicone | | | | X | X |
| Glycerin | | X | | | |
| Propylene Glycol | X | X | | X | |
| Temperature Range | 27 to 140°F | -10 to 210°F | 32 to 120°F | 700 to 775°F | 0 to 700°F |

SPECIFICATION COMPLIANCE

| | | | | | |
|-----------------|----------|----------|--|----------|----------|
| API | X | X | | X | X |
| ASME BPVC | X | X | | X | X |
| ASTM F519 | X | X | | | |
| ASTM F945 | | X | | | |
| AWS | X | X | | X | X |
| Pratt & Whitney | | X | | | |
| PWA 36604 | | X | | | |

**Subjective measure on a 0 - 10 scale where 0 = water, 5 = medium gel, 10 = very thick paste*

COUPLANT ACCESSORIES

| Item | Description |
|-----------|---|
| SP*001453 | White Cylindrical 8 oz. Couplant Bottle with Flip Top Cap |
| SP*001537 | Translucent 1 Gallon Couplant Jug with Handle & Pump |
| SP*001492 | 55 Gallon Drum Pump |



INSPECTION POINT SEALS

IPS's patented Inspection Port, is the cost-effective way to access piping and vessels when performing CU/I inspections. Our silicone and EPDM rubber ports are made with exacting standards and deliver the quality and craftsmanship you deserve.

Our patented locking ridges keep the sealing flanges secure and keep moisture out. We provide a watertight seal without screws, O-rings or caulk significantly reducing installation time. Unlike some of our competitors, the fastening mechanism does not require bending or subsequent compromising of the fastening materials. Our seals fit smooth, embossed or corrugated jacketing without the use of special tools. Even our caps are well thought out, attaching to the seal flange with a high quality stainless steel, crimped sleeved lanyard to prevent cap loss.



INSPECTION PLUGS

| Item | Size | Material | Temp. Rating | Recommended Minimum Pipe Diameter |
|-------|------|-------------------------|-----------------|-----------------------------------|
| 95E15 | 1.5" | EPM Rubber Construction | -67°F to 340°F | Small Bore Insulated Piping |
| 95E25 | 2.5" | | | Minimum 5" |
| 95E35 | 3.5" | | | Minimum 7" |
| 95E50 | 5" | | | Large Diameter Piping & Vessels |
| 95S15 | 1.5" | Silicone Construction | -130°F to 500°F | Small Bore Insulated Piping |
| 95S25 | 2.5" | | | Minimum 5" |
| 95S35 | 3.5" | | | Minimum 7" |
| 95S50 | 5" | | | Large Diameter Piping & Vessels |

**Additional Plug Options are Available Upon Request*

INSPECTON LABELS

Inspection labels are specially designed to identify Thickness Measurement Locations (TML's) on non-insulated piping and vessels. Our UTL-2 and 3 inspection labels have protected write-on areas for recording TML numbers, line numbers, etc. All labels are UV stable and resistant to most solvents, oils and household chemicals.

| Item | Description | UOM |
|-------|--|-------------|
| UTL-1 | 1 3/4" Elipse with 3/4" Diameter Holes | Roll of 200 |
| UTL-2 | 3" x 3" Label, 1" Diameter Hole, 1" x 3" Legend Area | Box of 100 |
| UTL-3 | 1 3/4" x 3" Label, 1" x 3" Write on Legend Area | |
| UTL-5 | 1 1/4" Circular with 3/4" Diameter Holes | Roll of 200 |



UTL-1



* UTL-2*



UTL-3



UTL-5

MANDREL AND HOLE SAWS

The fastest and easiest way to cut accurate holes for installation of inspection plugs is with powered hole saws, and QED supplies the best. These aren't cheap hardware store saws, but heavy-duty industrial saws by Greenfield Industries. The mandrel separates from the cutting cup so you don't have to throw out the whole thing when the edge wears out; simply thread on a new cup and you're back in business.

- ▶ Blu-Mol Bi-Metal Hole Saws are of heavy-duty bi-metal construction for longer service life. 4/6 variable tooth provides faster, smoother cuts. Recommended for aluminum jacketing.
- ▶ RemGrit Carbide Grit Edge Hole Saws are made of tungsten carbide particles bonded to alloy steel for cutting extremely hard and abrasive materials. Recommended for stainless steel jacketing. Resists snagging.



| Item | Description |
|-------|--|
| ARBOR | 1/2" Arbor with mandrel and high speed drill bit |

| Item | Size | Type |
|------|------|--|
| BM15 | 1.5" | Blue-Mol Bi-Metal Hole Saw Cup (Uses Arbor) |
| BM25 | 2.5" | |
| BM35 | 3.5" | |
| BM50 | 5" | |
| RG15 | 1.5" | RemGrit Tungsten Carbide Hole Saw Cup (Uses Arbor) |
| RG25 | 2.5" | |
| RG35 | 3.5" | |

UT EQUIPMENT THICKNESS GAUGES

EHC-09 "Monochrome" Series Thickness Gauges



Danatronics most popular thickness gauges are those in our EHC-09 series. With thousands of units in the field, our durable, custom molded case with raise rubber keypad is IP54 rated and has proven it can handle your toughest jobs (this is bad help fix). The EHC-09 series is available in 6 models to suit every budget and application. What's best is our simple upgrade path where all gauges are capable of quickly and easily (directly from the keypad) adding any software options. Features include a graphic display with multiple languages, vibrate on alarm, fast minimum, echo to echo to ignore coatings, 100K reading Datalogger with export to excel, B-scan and live A-scan with waveform adjust.

Standard EHC-09 Wave Series includes: Ultrasonic thickness gauge, DKS-537, 5 MHz 0.375 inch diameter potted cable, operational manual, Data XL interface program, couplant, and transport case. See chart below for standard inclusions for each gauge.

***Limited 2 Year Warranty on Parts & Labor**



| Item | Specification | EHC-09DLW | EHC-09DL | EHC-09 | EHC-09B | EHC-09A |
|------------------------|---|-----------|----------|--------|---------|---------|
| Thickness Range: | 0.020 - 20" in Steel | X | X | X | X | X |
| Hold Mode: | Holds display to retain last thickness reading with reverse video display | X | X | X | X | X |
| Freeze Mode: | Freezes display | X | X | X | X | X |
| Fast Mini/Max Mode: | Simultaneously displays minimum or maximum and actual thickness value at 20 measurements per second | X | X | X | X | O |
| Units: | Inches/Millimeters/Microseconds | X | X | X | X | X |
| Alarms: | Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination and vibration | X | X | X | N/A | O |
| Illuminating keypad: | F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing | X | X | X | X | O |
| Gain: | Variable adjustment of gain | X | X | X | O | O |
| Differential Mode: | Displays the difference from the actual thickness measurement and a user entered reference value | X | X | X | O | O |
| Velocity Mode: | Displays acoustic sound speed | X | X | X | O | O |
| Non-Encoded B-Scan: | Displays a cross section of the test piece | X | X | O | O | O |
| Echo to Echo: | Measures the metal thickness only (ignore paint and coatings) | X | X | X | O | O |
| Datalogger: | Upgrade to Data Logger Version, 100,000 readings in linear, 2D, 3D grid or boiler alphanumeric files, 20 character file name, file compare, grid review and export to excel via Data XL interface program, also compatible with Ultrapipe | X | X | O | O | O |
| Carrying Pouch: | Custom molded with belt clip and elastic strap | X | X | O | O | O |
| Live Waveform (A-Scan) | Full adjustments, for gain in 1db step or AGC, main bang blank, blank after first received echo, range including zoom auto tracking to center echoes independent of material and rectification | X | O | O | O | O |

O = Software options that are field upgradeable, no need to return the unit to the factory

| Model | Description |
|-----------|---|
| EHC-09A | Hand-Held Digital Ultrasonic thickness gage including, NIST Traceable calibration certificate |
| EHC-09B | Hand-Held Digital Ultrasonic thickness gage including, NIST Traceable calibration certificate |
| EHC-09 | Hand-Held Digital Ultrasonic thickness gage including: Echo to Echo software, NIST Traceable calibration certificate |
| EHC-09DL | Hand-Held Digital Ultrasonic thickness gage including: Echo to Echo & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| EHC-09DLW | Hand-Held Digital Ultrasonic thickness gage including: Echo to Echo, Datalogger w/ B-Scan & Live Waveform/A-scan software, NIST Traceable calibration certificate |

EHC-09 "Color Series" Thickness Gauges

Danatronics offers our EHC-09 Color Wave series as the top of the line gages for corrosion applications. The EHC-09 Color Wave offers many standard and practical features including a sunlight readable color display with live A-Scan, echo to echo to ignore coatings, B-Scan, 100K thickness reading datalogger with interface to Microsoft excel. The Color Wave is available in 4 models including the EHC-09C, EHC-09DLC, EHC-09CW and EHC-09DLCW. The vibrate on alarm is a world's first and is great for loud environments!

| Item | Specification | EHC-09DLCW | EHC-09DLC | EHC-09CW | EHC-90C |
|----------------------------------|---|------------|-----------|----------|---------|
| Thickness Range: | 0.020 - 20" in Steel | X | X | X | X |
| Delay line zero measurement: | Auto at power up with listed numeric value. Ideal for correcting delay line wear/curvature and for transducer acoustic drift at elevated temperatures | X | X | X | X |
| Scan Mode: | Simultaneously displays minimum or maximum and actual thickness value at 20 measurements per second | X | X | X | X |
| Differential Mode: | Displays the difference from the actual thickness measurement and a user entered reference value | X | X | X | X |
| Alarms: | Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination and vibration | X | X | X | X |
| Illuminating keypad: | F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing | X | X | X | X |
| Velocity Mode: | Displays acoustic sound speed | X | X | X | X |
| Echo to Echo: | Measures the metal thickness only (ignore paint and coatings) | X | X | X | X |
| Range: | Adjustment of manual range control or auto zoom tracking to center echoes independent of selected range | X | O | X | O |
| Rectification Modes: | RF, Half Wave Positive, Half Wave Negative and Full Wave Rectification | X | O | X | O |
| Live Waveform (A-Scan): | Full adjustments, for gain in 1db step or AGC, main bang blank, blank after first received echo, range including zoom auto tracking to center echoes independent of material and rectification | X | O | X | O |
| B-Scan (Encoded or Non-Encoded): | Displays a cross section of the test piece with optional encoder and factory upgrade | X | X | O | O |
| Datalogger: | Upgrade to Data Logger Version, 100,000 readings in linear, 2D, 3D grid or boiler alphanumeric files, 20 character file name, file compare, grid review and export to excel via Data XL interface program, also compatible with Ultrapipe | X | X | O | O |

O = Software options that are field upgradeable, no need to return the unit to the factory

| Model | Description |
|-------------|--|
| EHC-09-C | Hand-Held Digital Ultrasonic thickness gage with Color Display including: Echo to Echo software, NIST Traceable calibration certificate |
| EHC-09-CW | Hand-Held Digital Ultrasonic thickness gage with Color Display including: Echo to Echo & Live waveform/A-Scan software, NIST Traceable calibration certificate |
| EHC-09DLC | Hand-Held Digital Ultrasonic thickness gage with Color Display including: Echo to Echo & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| EHC-09DL-CW | Hand-Held Digital Ultrasonic thickness gage with Color Display including: Echo to Echo, Datalogger w/ B-Scan & Live waveform/A-Scan software, NIST Traceable calibration certificate |

ECHO 9, 8 & 7 Thickness Gauges



The perfect size of fit and function! Hold the ECHO in your hand and you will agree no detail has been overlooked and the ergonomics are unmatched by any thickness gage in the industry! The new ECHO series comes in 3 configurations; ECHO 9, ECHO 8 and ECHO 7. ECHO 9 is our corrosion gauge using dual transducers, ECHO 7 is our precision gauge with 1 micron resolution using single element transducers and ECHO 8 is the ultimate unit combining both dual and single element transducers.

The ECHO series has a remarkable sunlight readable 3.5" color display, up to 32 Gb of micro SD memory, built-in rechargeable high capacity Li Ion battery all packaged in a custom case designed for IP67 rating. Not sure which model to choose? Don't worry, the ECHO series is fully capable of field upgrades directly from the keypad so you will never be stuck with an obsolete product or experience any downtime. ECHO Series can measure from .020" to 23" in steel in corrosion mode or as thin as .006" in steel when configured as a precision gauge.

Standard Inclusions: ECHO series ultrasonic thickness gauge, DKS-537, transducer up to 10 MHz, LM-06 cable, 2oz bottle of couplant, operation manual, Data XL interface program, USB cable, Charger Adapter, Transport Case *A transducer is included with each model.

***Limited 2 Year Warranty on Parts & Labor**

Environmentally Tough!

The ECHO series was designed from the ground up. With more than 85 combined years in designing, manufacturing and using hand held ultrasonic thickness gauges, Danatronics left no detail uncovered. From its new case designed for IP67, to its easy to read sunlight readable 3.5" color display, you will find the ECHO series combines practical features with a simple, clean design built for years of field service and durability.

Ergonomically Superior!

With its new 3.5" sunlight readable display, The ECHO series offers many display formats to suit any age operator and reduce fatigue. So whether you want to view the largest possible numbers or would prefer more text on screen, ECHO has you covered. ECHO is also perfectly balanced and makes holding it in one hand possible and simple... no clumsy joy sticks or second functions needed. There is even a world's first vibrate on alarm to inform the operator any pre-set thickness threshold has been tripped which is great for tired operators and testing in loud environments.



ECHO 9 - Corrosion Thickness Gauge

| Model | Description |
|-----------|---|
| ECHO 9 | Hand-Held Digital Ultrasonic CORROSION thickness gage including: Echo to Echo software, NIST Traceable calibration certificate |
| ECHO 9W | Hand-Held Digital Ultrasonic CORROSION thickness gage including: Echo to Echo & Live Waveform/A-Scan software, NIST Traceable calibration certificate |
| ECHO 9DL | Hand-Held Digital Ultrasonic CORROSION thickness gage including: Echo to Echo & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 9DLW | Hand-Held Digital Ultrasonic CORROSION thickness gage including: Echo to Echo, Datalogger w/ B-Scan & Live Waveform/A-Scan software, NIST Traceable calibration certificate |

ECHO 8 - Corrosion and Precision Thickness Gauge

| Model | Description |
|-----------|---|
| ECHO 8 | Hand-Held Digital Ultrasonic CORROSION AND PRECISION thickness gage including: Echo to Echo software, NIST Traceable calibration certificate |
| ECHO 8W | Hand-Held Digital Ultrasonic CORROSION AND PRECISION thickness gage including: Echo to Echo & Live Waveform/A-Scan software, NIST Traceable calibration certificate |
| ECHO 8DL | Hand-Held Digital Ultrasonic CORROSION AND PRECISION thickness gage including: Echo to Echo & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 8DLW | Hand-Held Digital Ultrasonic CORROSION AND PRECISION thickness gage including: Echo to Echo, Datalogger w/ B-Scan & Live Waveform/A-Scan software, NIST Traceable calibration certificate |

ECHO 7 - Precision Thickness Gauge

| Model | Description |
|-----------|---|
| ECHO 7 | Hand-Held Digital Ultrasonic PRECISION thickness gage including: Echo to Echo software, NIST Traceable calibration certificate |
| ECHO 7W | Hand-Held Digital Ultrasonic PRECISION thickness gage including: Echo to Echo & Live Waveform/A-Scan software, NIST Traceable calibration certificate |
| ECHO 7DL | Hand-Held Digital Ultrasonic PRECISION thickness gage including: Echo to Echo & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 7DLW | Hand-Held Digital Ultrasonic PRECISION thickness gage including: Echo to Echo, Datalogger w/ B-Scan & Live Waveform/A-Scan software, NIST Traceable calibration certificate |

FLAW DETECTOR

ECHO FD Portable Flaw Detector

ECHO FD is a portable, hand-held ultrasonic flaw detector capable of performing the majority of your flaw detection needs at an extremely low price.

ECHO FD is capable of being your everyday flaw detector for weld inspections, delaminations, disbonds and more.

ECHO FD comes standard with 2 independent gates, DAC, AWS, API 5UE, B-scan software and 2 Gb of datalogging memory, 13 hour battery life with internal rechargeable batteries. ECHO FD also allows for one hand operation with a simple, intuitive user interface all for the price of equal or less than you are paying for your high end thickness gauges.

Mechanically the ECHO FD has been designed from the ground up to offer the latest in ergonomic design. ECHO FD has a convenient rubber boot with stand, 4 point chest harness, padded strap and even a finger hole for the ultimate in instrument balance. We even designed in the ability to use a magnetic pipe stand. All keys can easily be reached with your thumb and the keys are raised rubber keypad with superior tactile feedback. The "F" keys light up for alarm and charging conditions.

ECHO FD also allows for one hand operation with a simple, intuitive user interface and long battery life (13 Hours).

Standard Inclusions: ECHO FD including 2 GB SD card, li-ion battery, battery charger, transport case, manual with Data XL, USB cable, DAC, AWS software, API 5U, 2 gates, B-Scan, 2oz bottle of couplant and rubber booth with padded wrist strap and stand.

***Limited 2 Year Warranty on Parts & Labor**



| Model | Description |
|----------|--|
| ECHO FD | Hand-Held Digital Ultrasonic FLAW DETECTOR including: 2 Independent Gates, DAC, AWS & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 9FD | Hand-Held Digital Ultrasonic FLAW DETECTOR with CORROSION thickness gage mode including: 2 Independent Gates, DAC, AWS & Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 7FD | Hand-Held Digital Ultrasonic FLAW DETECTOR with PRECISION thickness gage mode including: 2 Independent Gates, DAC, AWS, Datalogger w/ B-Scan software, NIST Traceable calibration certificate |
| ECHO 8FD | Hand-Held Digital Ultrasonic FLAW DETECTOR with CORROSION AND PRECISION thickness gage modes including: 2 Independent Gates, DAC, AWS, Datalogger w/ B-Scan software, NIST Traceable calibration certificate |

TRANSDUCERS AND WEDGES

Brands Include: Dakota, Danatronics, Olympus, Sonatest and Technisonic

QED offers a complete range of high performance, high technology ultrasonic transducers for thickness measurement, general flaw detection and Phased Array applications. Each transducer is made to exact standards regarding acoustical, electronic and mechanical properties. Our transducers are tested thoroughly, typically at three stages of manufacture. A complete range of transducer types are available with a variety of connector styles, case configurations, frequencies and element sizes.



| Item | Manufacturer | Description |
|-------------|--------------|---|
| D790-SM | OLYMPUS | Dual Transducer, 5 MHz, 0.434" Tip Diameter, Straight Microdot Connector, to be used with the LCMD-316-5B Cable |
| LCMD-316-5B | | Dual Molded LEMO 00 to Microdot cable, 5 ft, for use with D790-SM |

CABLES

We offer a complete line of transducer cables. These cables are designed for optimum performance and durability.

| Item | Description | Cable Type | Length |
|-----------|-----------------------|------------|--------|
| MB-6 | Microdot/BNC | RG 174 | 6' |
| ML00-6 | Microdot/Lemo 00 | RG 174 | |
| DML00-6 | Dual Microdot/Lemo 00 | RG 174 | |
| DMB-6 | Dual Microdot/BNC | RG174 | |
| BB-58-6 | BNC/BNC | RG 58 | |
| SP*001647 | BNC/BNC | RG 174 | |
| BL1-6 | BNC/Lemo 1 | RG 58 | |
| BL00-6 | BNC/Lemo 00 | RG 174 | |

**Custom Configurations and Lengths are Available Upon Request*

VISUAL MEASURING DEVICES WELDING GAUGES



- ▶ Hi-Lo Welding Gauge - Measures root weld space, eliminates rejects - improves productivity
- ▶ Bridge Cam Gauge - Angle of preparation, 0-60 degree. Measuring: excess weld capping, depth of undercut, pitting, fillet weld length & throat size and misalignment
- ▶ V-WAC - Undercuts/Pits to 1/4 Inch, Crowns to 1/4 Inch by 1/64 Inch Increments (Tolerance .006")
- ▶ Pipe Pit Gauge - Range is 0 to 1/2" in 1/64" & .010 Increments. Arm can be locked in place at any dimension
- ▶ Automatic Weld Size Gauge - for accurate measurement of butt fillet type welds. Check reinforcement, throat and determine the leg size of the fillet weld
- ▶ 7-Piece Fillet Weld Gauge Set - Check Fillet Leg and Throat size, 1/8" to 1"

| Item | Description |
|-----------|---|
| SP*001144 | Economy Single Purpose Hi-Lo Welding Gauge (Inch) |
| SP*001145 | V-WAC Welding Gauge (Inch) |
| SP*001146 | Bridge Cam Gauge Welding Gauge (Inch & Metric) |
| SP*001147 | Pipe Pit Welding Gauge (Inch) |
| SP*001148 | Automatic Weld Size Welding Gauge (Inch) |
| SP*001149 | 7-Piece Fillet Weld Gauge Set (Inch & Metric) |



VIDEO INSPECTION SYSTEM WOHLER VIS 350 Series Inspection System & Accessories

The Wohler VIS 350 Push Camera Inspection System helps users analyze and inspect internal pipe damage and corrosion.

With a variety of applications, inspectors can use the VIS 350 push camera to visually inspect hard to reach areas such as pipelines, waste water lines, ventilation systems, hollow spaces and shafts. With years of proven development, the VIS 350 is an essential tool to identify problems before they occur.

A number of useful features are included such as a home function that will align the camera automatically, an indicator of the camera head's position, and built-in wireless location transmitter. Users can control the camera eye with 360° pan, and 180° tilting camera eye.

The VIS 350 push camera inspection system is waterproof and can flexibly negotiate 90° bends in pipes 2" in diameter. It also comes with video recording, save and output capabilities and provides 1.5 hours of continuous battery operation.

Kits Include:

Wohler VIS 350 NTSC Service Camera with digital meter counter in heavy duty carrying case, video recording function, either attached or detachable pan and tilt color camera head 1.5" dia V2 NTSC, 4 GB SD card and mini USB cable, 7" TFT color monitor, 6' connection cable (removable monitor), 100' push rod 0.26" dia., 5 plastic domes, 1 anti-slide mat, 2 NiMH batteries with charger.



| Item | Description | Kit Difference |
|------|---|---|
| 7354 | VIS 350 Service Camera | Permanently Attached 1.5" Camera Head |
| 6352 | VIS 350 Service Camera | Detachable 1.5" Camera Head |
| 8927 | VIS 350PLUS Service Camera | Detachable 1.5" & 1" Camera Head |
| 8931 | VIS 350 Service Camera with L 200 Locator | Detachable 1.5" & 1" Camera Head w/ Locator |

| Item | Description |
|------|-------------------------------------|
| 8926 | 1.5" Pan and Tilt Color Camera Head |
| 8934 | 1" Color Camera Head |
| 3675 | Replacement Plastic Domes (10 pcs.) |
| 4715 | Battery 12V NiMH 2600 mAh |
| 4798 | Power Supply for VIS 3XX |



LEAK DETECTION VACUUM BOX TESTING VACUUM BOXES, ACCESSORIES & SOLUTION

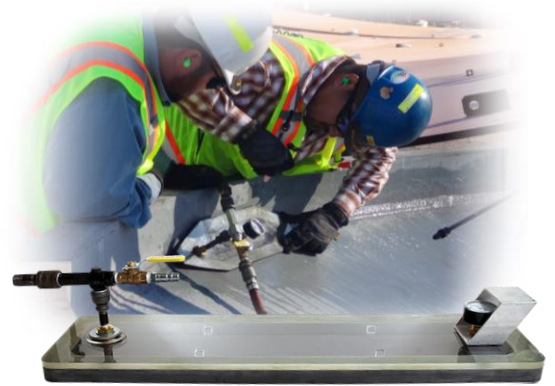


Used for leak testing in building of ships, barges, tanks, or any seal weld application. All Vacuum Boxes come with a complete Venturi and Non-Certified Gauge.

| Item | Design | Size |
|--------|---------------------|---|
| VB18 | Flat | 18" |
| VB30 | | 30" |
| VB18C | Corner | 18" |
| VB30C | | 30" |
| VB30FX | Flexible | 30" |
| VB3WIC | 3 Way Inside Corner | Triangle - 9.9" x 8.6" with .25" Radius |
| VB24BT | Boat Tail Flat | 24" |

**Pricing is Based off a Non-Certified Gauge, Call for Pricing if a Certified Gauge is Required*

| Item | Design |
|------------|--|
| VB-PUMP | Vacuum Pump - Air Flow 26.5" Mercury; 110 Volt; 13 PSI |
| VB-Venturi | Venturi made of steel with inlet thread of 3/8" NPT outlet and vacuum ports are 1/2" NPT able to Vacuum up to 23 Hg (Used with Compressed Air) |
| VB-Gauge | 2" Steel gauge with brass 1/4" NPT range is 0-30 Hg VAC (Non-Certified) |
| VB-Gauge-C | 2" Steel gauge with brass 1/4" NPT range is 0-30 Hg VAC (NIST Certified) |
| SP*001550 | Type 1 SHERLOCK 5-Second Leak Detector, 1 Gallon |



HARDNESS TESTING TELEWELD

BRINELL HARDNESS TESTING

Telebrineller hardness measurements are a direct comparison to a known physical reference and therefore, measurements are not subject to inaccuracies due to; alloy, thickness, geometry, position, etc., that are common with many other portable testers.

| Item | Description |
|--------|--|
| BHNTS | Telebrineller Complete Set; Includes five (5) bars of selected hardness; Microscope; Computer; Bar Holder; Calculation Pad, all inside Carrying Case |
| BHNXXX | Telebrineller Test Bars (Available in 145-350 Hardness) |
| 239-24 | Halteman Filletester (Designed for Brinell Hardness Testing of fillet welds and other hard to reach areas) |

PHASE II

PORTABLE HARDNESS TESTER

State of the art, digital portable hardness tester is designed to test the hardness of large hard metal parts. Loaded with useful functions only found on high priced models the PHT-1800 portable hardness tester is clearly setting a new industry standard by being the most accurate, economically priced portable hardness tester on the market today. Fast test speeds coupled with memory and output, this unit is a hand's down winner whether you are out in the field or in the QC shop.

| Item | Description |
|----------|---|
| PHT-1800 | Digital Portable Hardness Tester which can perform tests that easily convert to the most popular hardness scales (Rockwell, Brinell, Vickers, Shore, etc.). Includes: Base instrument, Impact device D, Calibrated test block, Custom carry case, Cleaning brush and Operation manual |



FLAWED TEST SPECIMENS



STANDARD SPECIMEN KITS

FlawTech Standard Kit Specimens are designed to enhance the training and development of new and veteran technicians. Kits will assist with basic flaw detection and sizing of real flaws found in common weld geometries.

| Item | NDT Method | Specimens/Kit | Discontinuities |
|------|--|---------------------------------|-------------------------------------|
| DK-1 | NDT Demonstration Kit (Includes x-ray film for RT pipe specimen) | 5 (3 Plates, 1 Tee and 1 Pipe) | 11 (2 each plates & tee, 3 in pipe) |
| RK-1 | Radiography Kit (Includes x-ray film for each specimen) | 10 (8 Plates, 1 Pipe and 1 Tee) | 20 (2 each specimen) |
| VK-1 | Visual Kit | 10 (7 Plates and 3 Tees) | |
| UK-1 | Ultrasonic Kit | 10 (8 Plates, 1 Pipe & 1 Tee) | |
| MK-1 | Magnetic Particle/ Liquid Penetrant Kit | 10 (8 Plates and 2 Tees) | |
| RR-1 | Reference Radiograph Set | 16 Radiographs | 20 (Incl. 6 Processing Defects) |



PRACTICAL EXAM SPECIMENS

- ▶ Practical exam specimens are larger than our "standard" kit specimens
- ▶ 12 UT and 12 MT / PT specimens to choose from
- ▶ Each specimen will contain 3 randomly placed "real" flaws
- ▶ Designed to enhance the training and qualification of level I & II personnel with regards to ISO9712, PCN & TC - 1A
- ▶ Purchase any combination of specimens to make your set
- ▶ Custom specimens are available upon request



UT THICKNESS SPECIMENS

Corrosion, Erosion, and Lamination UT Thickness Training & Certification Plates

| Specimen Type | Plate Size - 8" x 8" | Thickness | Discontinuities |
|----------------------------|----------------------|-----------|-----------------|
| Four (4) Section Plate | | 0.25" | 2 |
| | | 0.375" | |
| | | 0.50" | |
| | | 0.75" | |
| | | 1.0" | |
| Sixteen (16) Section Plate | | 0.25" | 4 |
| | | 0.375" | |
| | | 0.50" | |
| | | 0.75" | |
| | | 1.0" | |

SERVICE

QED provides comprehensive repair services for equipment across all NDT modalities and manufacturers. Our team of qualified technicians will restore your equipment to working order in accordance with manufacturer standards quickly and efficiently, saving you time and money. We also provide onsite repairs, calibrations, and installations.

EQUIPMENT EVALUATION & REPAIR

WHAT WE REPAIR

- ▶ UV Lights
- ▶ Magnetic Particle Machines
- ▶ Yokes
- ▶ LED Film Viewers
- ▶ Densitometers
- ▶ X-Ray Controllers, Generators & Tubes
- ▶ Radiation Survey Equipment
- ▶ Film Processors
- ▶ UT Flaw Detectors (Call for specific brands)



| Item | Description |
|-----------|--|
| SP*001437 | In-House Equipment Evaluation Fee |
| ROC | Rush Order Charge for Laboratory Service Repair or Calibration |
| ISTL | In-House Service Technician Labor (Hour) |
| SP*001512 | Manufacturer Equipment Evaluation Fee |
| MSTL | Manufacturer Service Technician Labor (Hour) |

**In-House Evaluation Fee (Per piece of Equipment) will be waived if Equipment is Repaired or New Equipment is Purchased*

EQUIPMENT CALIBRATION/CERTIFICATION

QED provides professional calibration services in compliance with the National Institute of Standards and Technology (NIST) for a wide range of meters, gauges, and other NDT equipment used in various industries. Implementing a scheduled calibration program for your company's testing equipment ensures that you continue to operate according to manufacturer standards and provides consistent and accurate data when evaluating the quality and safety of a product or machine component.

RADIOGRAPHY

| Item | Code | Frequency | Description |
|-----------|-------------|-------------|---|
| SP*001263 | State & NRC | 6 Months | Radiation Survey Meters |
| SP*001264 | State & NRC | 12 Months | Alarming Rate Meters |
| SP*001353 | | | Pocket Dosimeters |
| SP*001580 | State & NRC | 12 Months | Tracerco PED |
| SP*001709 | | | Mirion PED (DMC 3000 & RAD-60R) |
| SP*001503 | ASME Sec. V | 90 Days | Densitometer |
| SP*001557 | ASTM E1390 | Upon Repair | Certification of Light Intensity on Film Viewers per ASTM E1390 |
| SP*001504 | ASME Sec. V | 12 Months | Certification of Density Step Tablet (All Brands) |

BLACKLIGHTS & LIGHT METERS

| Item | Code | Frequency | Description |
|-----------|--------------------------------|-----------|---|
| SP*001650 | Customer | 6 Months | Certification of UV-A Light Intensity |
| SP*001335 | ASTM E1444 & E1417 | 6 Months | Calibration of a Dual Sensor Light Meter (Non-Programmable) |
| SP*001336 | | | Calibration of a Single Sensor Light Meter (Non-Programmable) |
| SP*001527 | ASME Sec. V, ASTM E3024 & E165 | 12 Months | Calibration of a Dual Sensor Light Meter (Non-Programmable) |
| SP*001528 | | | Calibration of a Single Sensor Light Meter (Non-Programmable) |

**Call for Pricing on Calibration of Spectroline (AccuMAX & AccuPRO) Programmable Light Meters and Sensors*

MAGNETIC PARTICLE

| Item | Code | Frequency | Description |
|-----------|--------------------|-----------|--|
| SP*001026 | ASTM E1444 & E3024 | 6 Months | Yokes (All Makes & Models) |
| SP*001262 | Customer | 12 Months | Certification of 10 lb. Test Weight |
| SP*001021 | ASTM E1444 & E3024 | 6 Months | Magnetic Particle Calibration (Bench or Portable Unit) |
| SP*001529 | ASME Sec. V | 12 Months | |
| SP*001154 | ASTM E1444 & E3024 | 6 Months | Analog Magnetometer/Gaussmeter Calibration |
| SP*001645 | ASTM E1444 | 6 Months | Electronic (Digital) Gaussmeter Calibration |
| SP*001646 | ASTM E3024 | 12 Months | |

**Pricing does not include applicable travel expenditures if Calibration is required at Customer's location*

ULTRASONIC

| Item | Code | Frequency | Description |
|-----------|-----------|-----------|---|
| SP*001500 | ASTM E317 | 12 Months | Calibration of an Ultrasonic Thickness Gauge |
| SP*001562 | | | Calibration of an Ultrasonic Flaw Detector |
| SP*001505 | ASTM E797 | | Certification of Ultrasonic Thickness Step Wedges |

SPECIAL SERVICES



Water and Dust Resistant

LED FILM VIEWER MODIFICATION

| Item | Description |
|-----------|---|
| SP*001710 | Weather Resistant (Water & Dust) Modification to FV-2009 Plus LED Film Viewer |

**Modification is only available for LCNDT Film Viewers*

PREVENTATIVE MAINTENANCE (PM)

QED offers customized Preventative Maintenance Services to minimize downtime and ensure quality inspections. Our detailed electronic PM records allow us to not only identify unusual machine wear but also operator misuse that could cause premature equipment failure or safety concerns.

FILM PROCESSORS

| Item | Brand | Model | Description |
|--|------------|----------------------------------|---|
| SP*001510 SP*001455 | CARESTREAM | M37 Plus M43iC | *Clean Racks/Tanks with Systems Cleaners and Replace Filters - Check Racks, Drive, Dryer and Pumps for Missing or Worn Parts* |
| SP*001359 SP*001337 SP*001348 SP*001454 | GE (AGFA) | NOVA M-ECO NDT-U NDT-Si | |

**Above pricing is based upon PM being performed at Customer's location and does not include applicable travel expenditures*



FIELD SERVICE

CALL-OUT RATES

QED also provides on-site Field Repairs and Calibration services. Please call your local branch for more details.

| Item | Description |
|------|---|
| STT | Service Technician Travel |
| STL | Service Technician Labor |
| ESTL | Emergency (Rush) Service Technician Labor |

**The above rates are based off work being performed Monday - Friday (8AM-5PM). If work is needed to be performed outside of this time, then an Estimate will be provided*

**A Four (4) Hour Labor (On-Site) Minimum applies for all local call-outs in addition to applicable Travel Time*

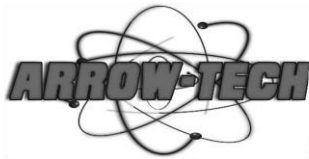


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