

PENETRANT INSPECTION EQUIPMENT



LPI Equipment

"MAGNAFLUX® penetrant testing equipment has significantly advanced the productivity of our NDT operations. We couldn't be more satisfied."

improve



Magnaflux® Penetrant Inspection Equipment is designed to enhance the quality inspection of critical parts and is widely used within the automotive, aerospace and energy markets to increase NDT productivity.

Boosting Productivity

LIQUID PENETRANT INSPECTION EQUIPMENT

Magnaflux Liquid Penetrant Inspection (LPI) Systems are designed for testing everything from small, high volume automotive parts and tolerance critical surgical implants, to large turbine blades. Offered in a variety of configurations and supported with materials and accessories to meet the most demanding applications, they are among the most flexible and accurate NDT equipment available today.

Our ZA-1227 Series LPI system offers sequenced processing capabilities and versatility in the inspection of high volume, extremely small parts and low to moderate volume, small to mid-size parts. With all stations welded into a single uni-frame body, its compact design helps to minimize floor space for easy production line integration. The ZA-1633 Series system comes with a larger penetrant tank to accommodate a greater volume and variety of parts, drain racks for increased productivity, and a standalone inspection booth.

Both series offer three models designed to accommodate different inspection methods; Water Wash, Post Emulsified Lipophilic and Post Emulsified Hydrophilic. The Water Wash method is the simplest unit as water can be used directly to wash excess penetrant from parts without additional steps. The Lipophilic method can locate extremely shallow flaws but requires an extra processing step, applying an emulsifier to make the penetrant washable. The Hydrophilic method delivers the highest inspection sensitivity but also requires the application of an emulsifier, and an additional processing station for pre-rinsing parts.

Should you have a special need not met by any of our standard units detailed in the following pages, our engineering group will happily design a custom LPI system to meet your exact requirements and application. Simply contact a Magnaflux Customer Service Representative at (847) 657-5300 to discuss your system needs.

PENETRANT INSPECTION EQUIPMENT

Magnaflux® Liquid Penetrant Inspection (LPI) Systems are engineered for critical part testing in industries with high inspection tolerances that require easy-to-operate equipment built tough enough to stand up to years of use. Offering outstanding design flexibility and proven performance advantages over less technologically advanced systems, Magnaflux® LPI equipment remains the leading choice among global automotive, aerospace and energy parts manufacturers who trust in their outstanding repeatability to uphold their rigid quality standards.

ZA-1227 SERIES LIQUID PENETRANT INSPECTION EQUIPMENT



ZA-1227 Water Wash System shown with optional lid for penetrant tank and developer upgrade kit.

Zyglo® ZA-1227 Method A, Water Wash Fluorescent Penetrant Inspection System

The Zyglo® ZA-1227 Water Wash Penetrant Inspection System is a compact, standalone 5-station system designed for batch and low volume fluorescent inspection of small to medium size parts.

Dimensions: 56"L x 28"W x 36"H (142.2cm x 71.1cm x 91.4cm)

Core Features:

- Compact size
- 304 stainless steel tanks (16 gauge)
- Durable welded steel frame
- Adaptable to multiple applications
- 3 year warranty
- Global authorized service centers

General Specifications:

- Elec. Requirements - 115V, 60Hz, single phase
- Tank Size - 12.9"L x 27.65"W x 16"D (32.8cm x 70.1cm x 40.6cm)
- Tank Capacity - 10 gallons (37.9L)
- Dryer - Thermostatically controlled
- Black Light - Zyglo® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Rinse
 - 3) Dryer
 - 4) Developer
 - 5) Inspection



ZA-1227 Lipophilic System shown.

Zyglo® ZA-1227 Method B, Post Emulsified Lipophilic Fluorescent Penetrant Inspection System

The Zyglo® ZA-1227 Post Emulsified Lipophilic Penetrant Inspection System is a compact, standalone 6-station system designed for batch and low volume fluorescent inspection of small to medium size parts.

Dimensions: 70"L x 28"W x 36"H (177.8cm x 71.1cm x 91.4cm)

Core Features:

- Compact size
- 304 stainless steel tanks (16 gauge)
- Durable welded steel frame
- Adaptable to multiple applications
- 3 year warranty
- Global authorized service centers

General Specifications:

- Elec. Requirements - 115V, 60Hz, single phase
- Tank Size - 12.9"L x 27.6"W x 16"D (32.8cm x 70.1cm x 40.6cm)
- Tank Capacity - 10 gallons (37.9L)
- Dryer - Thermostatically controlled
- Black Light - Zyglo® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Emulsifier
 - 3) Rinse
 - 4) Dryer
 - 5) Developer
 - 6) Inspection



ZA-1227 Hydrophilic System shown with optional lid for penetrant tank and developer upgrade kit.

Zyglo® ZA-1227 Method D, Post Emulsified Hydrophilic Fluorescent Penetrant Inspection System

The Zyglo® ZA-1227 Post Emulsified Hydrophilic Penetrant Inspection System is a compact, standalone 7-station system designed for batch and low volume fluorescent inspection of small to medium size parts.

Dimensions: 83"L x 28"W x 36"H (210.8cm x 71.1cm x 91.4cm)

Core Features:

- Compact size
- 304 stainless steel tanks (16 gauge)
- Durable welded steel frame
- Adaptable to multiple applications
- 3 year warranty
- Global authorized service centers

General Specifications:

- Elec. Requirements - 115V, 60Hz, single phase
- Tank Size - 12.9"L x 27.6"W x 16"D (32.8cm x 70.1cm x 40.6cm)
- Tank Capacity - 10 gallons (37.9L)
- Dryer - Thermostatically controlled
- Black Light - Zyglo® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Pre-Rinse
 - 3) Remover
 - 4) Final Rinse
 - 5) Dryer
 - 6) Developer
 - 7) Inspection



ZA-1663 Water Wash System shown with stand alone inspection booth.

Zyglo® ZA-1633 Method A, Water Wash Fluorescent Penetrant Inspection System

The Zyglo® ZA-1633 Water Wash Penetrant Inspection System is a standalone 6-station system designed for batch and low volume fluorescent inspection of small to medium size parts. The system comes with a standalone inspection booth with black light, white light, ventilating fan, and digitally calibrated dryer control.

Dimensions: 132"L x 34"W x 36"H (335.3 cm X 86.4 cm X 91.4 cm)

Core Features:

- Stand alone inspection booth
- 304 stainless steel tanks (16 gauge)
- Adaptable to multiple applications
- Durable welded steel frame
- 3 year warranty

- Global authorized service centers

General Specifications:

- Elec. Requirements - 230V or 460V, 60Hz, single phase
- Tank Size - 15.8"L x 33"W x 14.8"D (40.1 cm x 83.8 cm x 37.6 cm)
- Tank Capacity - 27 gallons (102.2L)
- Dryer - Digitally calibrated temperature control
- Black Light - Zyglo® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Drain
 - 3) Rinse
 - 4) Dryer
 - 5) Developer



ZA-1663 Hydrophilic System shown with optional lid for penetrant tank and developer upgrade kit. Stand alone inspection booth not shown.

Zyglo® ZA-1633 Method B, Post Emulsified Lipophilic Fluorescent Penetrant Inspection System

The Zyglo® ZA-1633 Post Emulsified Lipophilic Penetrant Inspection System is a standalone 8-station system designed for batch and low volume fluorescent inspection of small to medium size parts. The system comes with a standalone inspection booth with black light, white light, ventilating fan, and digitally calibrated dryer control.

Dimensions: 165"L x 34"W x 36"H (419.1 cm X 86.4 cm X 91.4 cm)

Core Features:

- Stand alone inspection booth
- 304 stainless steel tanks (16 gauge)
- Adaptable to multiple applications
- Durable welded steel frame
- 3 year warranty
- Global authorized service centers

General Specifications:

- Elec. Requirements - 230V, 60Hz, single phase
- Tank Size - 15.8"L x 33"W x 14.8"D (40.1 cm x 83.8 cm x 37.6 cm)
- Tank Capacity - 27 gallons (102.2L)
- Dryer - Digitally calibrated temperature control
- Black Light - Zyglo® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Drain #1
 - 3) Emulsifier
 - 4) Rinse
 - 5) Drain #2
 - 6) Dryer
 - 7) Developer
 - 8) Inspection



ZA-1663 Hydrophilic System shown with optional lid for penetrant tank and developer upgrade kit. Stand alone inspection booth not shown.

Zygro® ZA-1633 Method D, Post Emulsified Hydrophilic Fluorescent Penetrant Inspection System

The Zygro® ZA-1633 Post Emulsified Hydrophilic Penetrant Inspection System is a standalone 9-station system designed for batch and low volume fluorescent inspection of small to medium size parts. The system comes with a standalone inspection booth with black light, white light, ventilating fan, and digitally calibrated dryer control.

Dimensions: 182"L x 34"W x 36"H (462.3 cm X 86.4 cm X 91.4 cm)

Core Features:

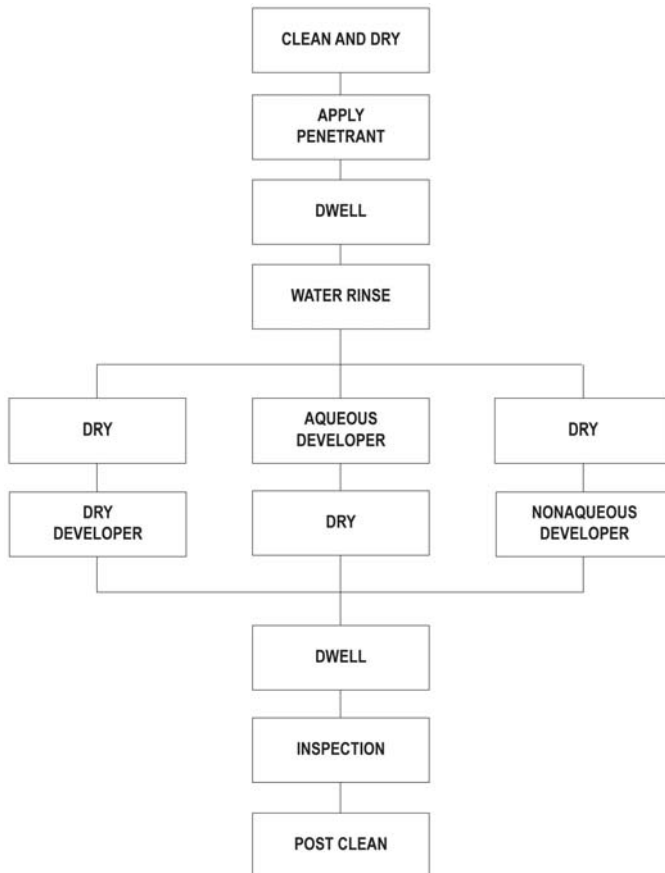
- Stand alone inspection booth
- 304 stainless steel tanks (16 gauge)
- Adaptable to multiple applications
- Durable welded steel frame
- 3 year warranty
- Global authorized service centers

General Specifications:

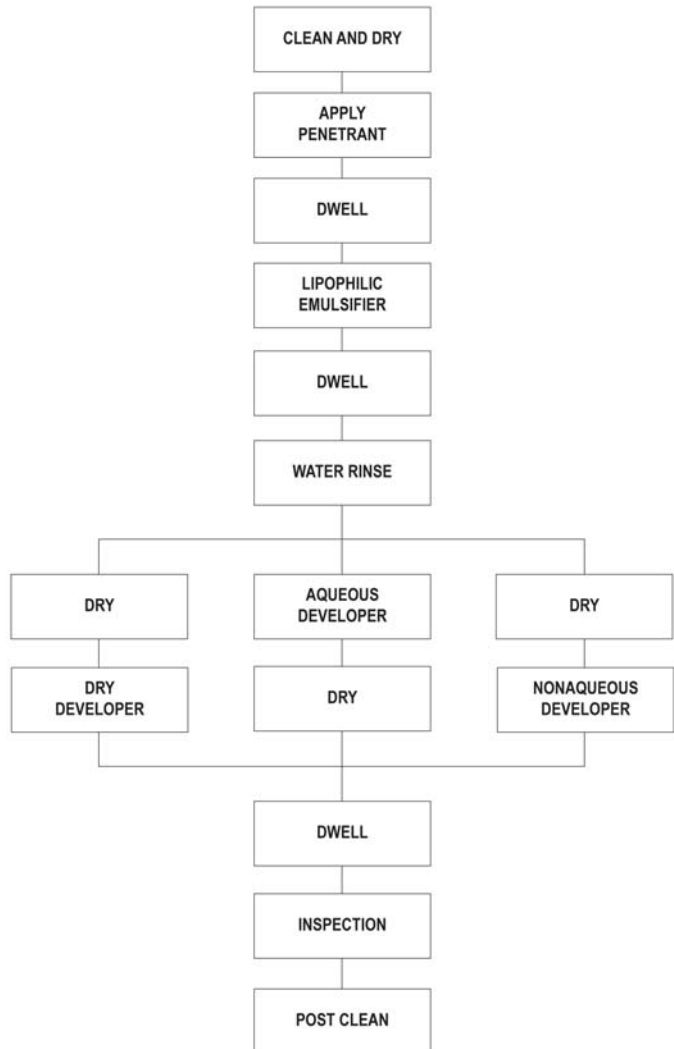
- Elec. Requirements - 230V or 460V, 60Hz, single phase
- Tank Size - 15.8"L x 33"W x 14.8"H (40.1 cm x 83.8 cm x 37.6 cm)
- Tank Capacity - 27 gallons (102.2L)
- Dryer - Digitally calibrated temperature control
- Black Light - Zygro® ZB-100F handheld, 100 Watt fan-cooled
- Stations:
 - 1) Penetrant
 - 2) Drain #1
 - 3) Pre-Rinse
 - 4) Drain #2
 - 5) Remover
 - 6) Final Rinse
 - 7) Dryer
 - 8) Developer
 - 9) Inspection

PROCESS FLOW FOR PENETRANT INSPECTION METHODS

METHOD A, WATER-WASHABLE



METHOD B, LIPOPHILIC



METHOD C, SOLVENT REMOVABLE



METHOD D, HYDROPHILIC

