Non-Destructive Testing Catalogue

Magnetic Particle Testing Materials, Equipment, & Accessories

Magnetic Yokes

Penetrant Testing Materials, Equipment, & Accessories

UV Lamps
Introducing the Lightweight, Heavy Duty, and Durable Y-2 Yoke

New ergonomic design features swappable cord and a sealed trigger.

magnaflux.eu/Y-2
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* Representative of the number of indications on a tool steel ring as defined in ASTM E1444.

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14A
Wet Method Fluorescent Magnetic Particles
A highly sensitive magnetic particle powder, 14A fluorescent mag particles are engineered to locate very fine discontinuities in critical parts and applications.

Designed with strong fluorescent properties, 14A magnetic powder is made with a carefully optimised range of particle sizes and shapes to ensure particles move quickly and easily to indications, while minimising background and particle clumping. The result is faster inspections with better reliability and greater confidence.

Benefits
Increases indication detection
• Find smaller, finer indications in critical applications with these highly sensitive, strong ferromagnetic particles
• Optimised particle size and shape help particles move freely and stick to a wide variety of discontinuities with less particle clumping

Minimises inspection time
• Clear, bright fluorescent indications form quickly due to the highly fluorescent, highly mobile particles
• Minimal background fluorescence helps indications stand out more so inspectors spend less time examining each part

Improve inspection consistency and reliability
• Maintain magnetic particle system performance over greater periods of time due to the highly durable, easily dispersed 14A particles
• Reduced particle clumping helps maintain particle concentration in the suspension bath, for dependable inspections

Features
• Can be suspended in water or petroleum distillate (oil) vehicle
• High sensitivity
• Excellent fluorescent contrast
• Excellent particle mobility
• Optimised particle size and shape distribution
• Easily dispersed

Part Numbers
059C025: 1 kg (P)
059C026: 5 kg
**MG 410**

**Wet Method Fluorescent Magnetic Particles**

MG 410 is a highly sensitive fluorescent powder concentrate for detecting very fine to fine surface and slightly subsurface discontinuities.

MG 410 can be mixed with either water or oil for wet method inspection of metal parts. Conditioners for water baths - such as WA-1 - should be used for anti-foaming and corrosion inhibiting, as a wetting agent, and to facilitate particle suspension.

**Benefits**
- Increases indication detection
- Minimises inspection time
- Improves inspection consistency and reliability

**Features**
- Provides excellent discontinuity detection
- Can be suspended in water or oil
- Minimal background
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimised particle size distribution
- Durable particles
- Easily dispersed

**Part Numbers**
- **057C036**: 1 kg

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**MG 601**

**Wet Method Fluorescent Magnetic Particles**

MG 601 is a highly sensitive powder concentrate for detecting very fine to fine surface and slightly subsurface discontinuities.

MG 601 is a top-up for MF-655 WB ink concentrate.

**Benefits**
- Increases indication detection
- Minimises inspection time
- Improves inspection consistency and reliability

**Features**
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimised particle size distribution
- Durable particles
- Easily dispersed

**Part Numbers**
- **061C026**: 1 kg
Magnetic Particle Testing Materials
Fluorescent Magnetic Particle Inks

14HF
Oil-based Fluorescent Magnetic Particle Ink
14HF is a ready-to-use fluorescent mag particle ink for locating medium-fine discontinuities in critical parts. 14HF is an ideal choice for high-performance inspections of precision safety-critical or high-stress components, and to extend the life of valuable mag particle equipment. It is widely regarded as the test material of choice for aerospace applications.

Benefits
Increases indication detection
- Find smaller, finer indications in critical applications with these highly sensitive, strong ferromagnetic particles
- Optimised particle size and shape help particles move freely and stick to a wide variety of discontinuities with less particle clumping

Minimises inspection time
- Clear, bright fluorescent indications form quickly due to the highly fluorescent, highly mobile particles
- Minimal background fluorescence helps indications stand out more so inspectors need to spend less time examining each part

Improve inspection consistency and reliability
- Maintain magnetic particle system performance over greater periods of time thanks to the highly-durable, easily-dispersed 14A particles

Features
- Ready-to-use, low maintenance, oil-based suspension
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Good dispersion stability
- Protects parts and equipment against corrosion
- Great concentration consistency
- Superior surface wetting
- Even surface coverage for better detection

Part Number
- 008A105: Aerosol can (case of 10) (P)
- 058C006: 5 litres (case of 4) (P)
- 058C007: 25 litres (P)

410HF
Oil-based Fluorescent Magnetic Particle Ink
410HF is a ready-to-use fluorescent ink for locating medium-fine discontinuities in critical parts. It provides clear, bright, fluorescent green indications for excellent inspection quality and accuracy.

Benefits
- Increases indication detection
- Minimises inspection time

Features
- Ready-to-use, low maintenance, oil-based suspension
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Good dispersion stability
- Protects parts and equipment against corrosion
- Great concentration consistency
- Superior surface wetting
- Even surface coverage for better detection

Part Number
- 008A106: Aerosol can (case of 10)
101
Oil-based Fluorescent Magnetic Particle Ink
101 is a ready-to-use fluorescent ink for locating medium-fine discontinuities in critical parts. It provides clear, bright, fluorescent green indications for excellent inspection quality and accuracy.

Features
• Ready-to-use
• Low maintenance, oil-based suspension
• High sensitivity
• Excellent fluorescent contrast
• Excellent particle mobility
• Good dispersion stability
• Great concentration consistency
• Superior surface wetting.

Part Numbers
008A170: Aerosol can (case of 10)

690.1
Oil-based Fluorescent Magnetic Particle Ink
690.1 is a ready-to-use fluorescent ink for locating medium-fine discontinuities in critical parts. It provides clear, bright, fluorescent green indications for excellent inspection quality and accuracy.

Features
• Ready-to-use
• Low maintenance, oil-based suspension
• High sensitivity
• Excellent fluorescent contrast
• Excellent particle mobility
• Good dispersion stability
• Protects parts and equipment against corrosion
• Great concentration consistency
• Superior surface wetting
• Even surface coverage for better detection

Part Numbers
008A185: Aerosol can (case of 10)

622.1
Oil-based Fluorescent Magnetic Concentrate
622.1 is an oil-based fluorescent ink concentrate for locating medium-fine discontinuities in critical parts. It must be suspended in a petroleum-based vehicle (oil), such as Carrier II.

Features
• Excellent fluorescent contrast
• Excellent particle mobility
• Optimised particle size distribution
• Durable particles
• Easily dispersed

Part Numbers
061C068: 1 litre bottles (case of 6)
**WB-12**

*Water-based Fluorescent Magnetic Concentrate*

WB-12 is a highly-sensitive liquid concentrate for locating fine surface and slightly subsurface discontinuities. The ultra-sensitive particles provide unbeatable inspection quality and accuracy, and the water conditioners provide enhanced corrosion protection.

**Features**
- High sensitivity
- Easy post-testing clean-up
- Excellent fluorescent contrast for quick identification
- Excellent particle mobility
- Good dispersion stability
- Great concentration consistency
- Superior surface wetting
- Non-foaming
- Even surface coverage for better detection
- Good corrosion protection

**Part Number**

058C033: 1 litre bottles (case of 6) (P)

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**MF-655 WB**

*Water-based Fluorescent Magnetic Concentrate*

MF-655 WB is a highly-sensitive liquid concentrate for locating fine surface and slightly subsurface discontinuities. The ultra-sensitive particles provide clear, bright, fluorescent green indications under UV light for unbeatable inspection quality and accuracy, and the water conditioners provide enhanced corrosion protection.

**Features**
- High sensitivity
- Easy post-testing clean-up
- Excellent particle mobility
- Good dispersion stability
- Great concentration consistency
- Superior surface wetting
- Non-foaming
- Even surface coverage for better detection
- Enhanced corrosion protection – meets Corrosion Level 0 according to DIN 51360
- Free from silicone, chromates and nitrates
- Non-hazardous

**Part Numbers**

061C063: 1 litre bottle (case of 12) (P)
061C064: 5 litres (case of 4) (P)
Magnetic Particle Testing Materials
Visible Magnetic Particles for Dry Method

1 Grey
Coloured Non-fluorescent Magnetic Particles
Use 1 Grey for visible light flaw detection of surface and slightly subsurface discontinuities during dry method mag particle testing. This off-white/grey powder provides sharp colour-contrast contrast on most metal surfaces; it is particularly effective on highly-reflective surfaces.

Features
• Good particle buildup for quick detection
• Highly refined for optimal particle shape and size combination
• Minimal dust build-up
• Does not require a UV light or darkened inspection area

Part Numbers
057C005: 5 kg

8A Red
Coloured Non-fluorescent Magnetic Particles
Use 8A Red for visible light flaw detection of surface and slightly subsurface discontinuities during dry method mag particle testing. This red powder provides sharp colour-contrast contrast on most metal surfaces and coloured backgrounds.

Benefits
• Good particle buildup for quick detection
• Highly refined for optimal particle shape and size combination
• Minimal dust build-up
• Does not require a UV light or darkened inspection area

Part Numbers
057C067: 5 kg
7HF
Oil-based Visible Magnetic Particle Suspension
A highly-sensitive oil-based mag particle aerosol for visible wet method magnetic particle testing, 7HF locates fine and medium discontinuities on finished parts.

7HF provides clear, strong indications due to the heavy buildup of the highly magnetic particles. The convenient aerosol packaging is ideal for field testing, spot inspections and places where bulk processing is impractical, and the wide spray pattern makes it easy to cover large areas for faster processing during remote inspections of tubing, piping and large structures.

Benefits
Maximise indication detection
- Find indications of all shapes and sizes due to the smallest particle on the market
- Heavy buildup of highly magnetic particles around all leakage fields make for high-contrast indications, especially when used with WCP-2 white contrast paint

Convenient to use
- Inspect in all conditions without the need for darkness or UV lights
- The visible particles come in a convenient, aerosol format that is easy tp carry and use in the field

Wide application versatility
- Inspect a wide range of components without fear of corrosion or specification non-conformance

Features
- Heavy particle buildup
- Great particle mobility
- Protects parts and equipment against corrosion
- Superior surface wetting
- Very small particle size
- Oil-based formula
- Very low toxicity
- Low odour

Part Number
008A103: Aerosol can (case of 10) (P)

WB-27
Water-based Visible Magnetic Particle Suspension
A highly-sensitive water-based liquid concentrate for visible wet method magnetic particle testing, WB-27 locates fine and medium discontinuities on finished parts. It provides clear, strong indications due to the heavy buildup of the highly magnetic particles.

Benefits
- Maximise indication detection
- Convenient to use
- Wide application versatility

Features
- Heavy particle buildup
- Great particle mobility
- Protects parts and equipment against corrosion
- Superior surface wetting
- Very small particle size
- Oil-based formula
- Very low toxicity
- Low odour

Part Number
058C036: 1 litre bottle (case of 6)
103
Oil-based Visible Magnetic Particle Suspension
A highly-sensitive oil-based magnetic particle aerosol for visible wet method magnetic particle testing, 103 locates fine and medium discontinuities on finished parts. It provides clear, strong indications due to the heavy buildup of the highly magnetic particles.

Benefits
- Maximise indication detection
- Convenient to use
- Wide application versatility

Features
- Heavy particle buildup
- Great particle mobility
- Protects parts and equipment against corrosion
- Superior surface wetting
- Very small particle size
- Oil-based formula
- Very low toxicity
- Low odour

Part Number
008A171: Aerosol can (case of 10)
WCP-2
White Contrast Paint

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

This fast-drying paint aerosol sprays on evenly, without flaking, so when coloured magnetic particles are applied, the indications appear clearly against the opaque white background.

WCP-2 can be used with all types of coloured and visible mag particles, and is suitable for use in both dry method and wet method magnetic particle inspection.

Benefits
Maximise indication detection
• See indications more easily against a bright white, opaque surface, which highlights indications while minimising glare and reflections

Increase inspection speed
• Speed up inspections by applying a clean coat on the first pass, without bubbles or flakes
• Dries evenly and quickly to create an optimal surface for faster indication formation

Application versatility
• Comes in a convenient aerosol to take it with you wherever you go
• Can be used with wet or dry method magnetic particles on virtually any part
• Conforms to ISO 9934 specifications

Features
• Bright white colour
• High opacity
• Provides good background contrast
• Fast drying
• Convenient, ready-to-use formula
• Controlled application
• Strong surface adhesion
• Matte coating
• Very low toxicity
• Low in sulphur and halogens
• Contains no chlorinated hydrocarbons

Part Number
008A009: Aerosol can (case of 10) (P)
055C027: 5 litres (case of 4)

104A and 104plus
White Contrast Paints

These bright white, opaque NDT contrast paints provide a high contrast background to enhance visible indications on dark-coloured test surfaces, and improve detection and sensitivity during visible magnetic particle inspections.

104A and 104plus can be used with all types of coloured and visible mag particles, and are suitable for use in both dry method and wet method magnetic particle inspection.

Features
• 104A is ethanol-based; 104plus is acetone-based
• High opacity
• Fast drying
• Convenient, ready to use formula
• Controlled application
• Strong surface adhesion
• Matte coating
• Very low toxicity
• Low in sulphur and halogens
• Contains no chlorinated hydrocarbons

Part Number
008A172: 104A, aerosol can (case of 10)
008A173: 104plus, aerosol can (case of 10)
Carrier II
NDT-approved Petroleum-based Suspension Vehicle

Carrier II is a high-purity, NDT-approved suspension vehicle developed specifically for wet method magnetic particle testing. This petroleum distillate carrier oil provides excellent particle mobility, good suspension stability and enhanced corrosion protection for reliable, spec-compliant mag particle inspections.

Carrier II contains special additives to minimise background fluorescence when using fluorescent materials.

Benefits
Faster, more reliable inspections
• Increases inspection speed and reliability by quickly wetting the entire test surface
• Helps 14A particles move quickly to discontinuities

Reduces maintenance
• Magnetic particle baths last longer due to slow evaporation, and are less susceptible to contamination from bacteria or fungus
• Protects magnetic particles like 14A from wear and tear and keeps them evenly dispersed throughout the bath

Improves operator comfort
• Made with a highly-refined oil to reduce skin irritation and eliminate strong odours for a nicer work environment

More inspection flexibility
• Conforms to all major international magnetic particle testing specifications
• Prevents corrosion of most alloys and eliminates post-inspection processing for corrosion protection

Safer to use
• Reduces EHS concerns with high flash point and low toxicity

Increases equipment life-span
• Protects magnetic particle equipment from internal rust and corrosion, helping to keep expensive machines running longer with less downtime

Features
• Provides excellent particle mobility
• Protects parts and equipment against corrosion
• Provides superior wetting and surface coverage
• Low maintenance oil-based suspension
• Very low toxicity
• High flash point
• Low volatility
• Odourless
• Wide temperature stability

Part Numbers
058C024: 25 litres (P)
058C028: 200 litres (P)
WA-1
Water Conditioner
WA-1 is a general-purpose water-conditioning liquid, designed specifically to enhance surface wetting and magnetic particle dispersion stability in water-based magnetic particle suspensions.

As a liquid, WA-1 is easier to mix into a bath than powder conditioners, especially when mixing into hard water. Its unique blend of wetting agents, corrosion inhibitors and anti-foaming agents eliminates the need for additional water conditioning agents.

**Features**
- Great for use with hard water
- Provides excellent surface wetting
- Disperses quickly in water
- Easy to prepare and use

**Part Number**
064C002: 1 litre

WA-2
Silicone-free Anti-foam
WA-2 is an excellent general-purpose defoaming additive, formulated to eliminate and prevent foaming in water-based magnetic particle suspensions. WA-2 can be sprinkled onto the surfaces of baths to eliminate foaming; it is not intended to remove fine lather which may occur in recirculating baths where there is excessive air intake in the recirculation pump.

**Features**
- Easy to use
- Effective, concentrated formula
- Excellent defoaming characteristics
- Silicone free

**Part Number**
064C005: 1 litre
Magnetic Particle Testing Equipment
D-2060
Magnetic Wet Benches with 3-Phase FWDC Capability
The D-2060 is one of our most powerful wet magnetic benches, providing 6,000 amps RMS of 3-phase FWDC and an optional 6,000 amps RMS of AC. This magnetic particle inspection bench provides magnetisation to find surface and subsurface defects with clear indications while using minimal power.

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

Features
• Meets aerospace specifications
• Faster part processing
• Real-world dependability for minimal downtime
• Easy to use and maintain
• Siemens PLC provides reliable controls and off-the-shelf replacements
• Simple touch-screen operator interface
• External pump system for particle bath agitation, circulation and application
• Integrated ultra-low frequency, reversing, step-down DC demagnetisation with 1-touch control

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.

MAG 40 Series
Magnetic Wet Benches with AC and HWDC Magnetisation
The MAG 40 test benches are self-contained, low-cost units that detect and locate fatigue cracks and processing defects during wet method magnetic particle inspection. These medium-duty machines are ideal for machine shops, tool rooms, foundries and similar plants where low-volume testing of ferrous components is required.

Features
• Can inspect components up to 1 m in length.
• Thyristor controlled
• 2,500 Amp output
• AC and HWDC
• MAG 40 HFD model includes DC flux 20,000 ampere turn
• Stainless steel tank

Ordering Information
007E241: MAG 40 HD
007E243: MAG 40 HFD
MAG 50 Series
Magnetic Wet Benches with AC and HWDC Magnetisation
The MAG 50 series of test bench units are heavy-duty machines designed for the inspection of ferrous components. There are numerous options in both ranges and all units come with separate power packs and stainless steel tanks.

Features
- Can inspect components up to 2.5 m in length
- 3,000 or 5,000 Amp output
- AC and HWDC
- Stainless steel tank

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.

Ferroflux 400
Magnetic Wet Bench
Our Ferroflux benches detect longitudinal and transversal cracks in two separate sequential steps. The standard systems are suitable for testing work pieces with clamping lengths of 400 mm up to a maximum of 3615 mm; we can also supply special clamping lengths if you need them.

Ferroflux benches are supplied with external power packs to feed the magnetisation circuits and, if required, can be equipped with darkening cabins, an exhaust fan and a light fixture.

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.

Universal SW
Magnetic Wet Bench
The Universal SW magnetic wet benches are equipped with two AC circuits, allowing the detection of longitudinal and transversal cracks at the same time. Universal SW benches are suitable for testing work pieces with clamping lengths from 1,200 mm to 3,200 mm, and a maximum weight of 300 kg (standard) or 1,000 kg (option).

Features
- pneumatic clamping of the test pieces
- infinitely variable clamping length adjustment
- manually movable magnetisation coil
- stainless steel test liquid drip tray and tank
- separate dust-proof switch cabinet with display and operating elements
- command box with control keys and emergency-off at the front of the test bench
- demagnetisation for both magnetisation circuits

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
Universal WE
Multi-Directional Magnetic Wet Bench
The Universal WE is a multi-direction magnetic wet bench designed to completely magnetise the surface of parts up to 90 cm long in a single shot. This can potentially cut inspection time in half because the part can 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.

Benefits
Faster part processing
- Double your inspection speed by magnetising parts in a single shot
- Fully inspect longer parts, up to 90 cm, without requiring an auxiliary coil
- Speed up part processing with a large automated surface shower

Advanced process control
- Maximise consistency between tests with 500 customer-programmable techniques
- Prevent accidental and unauthorised alterations with multiple user profiles and varying tiers of control for a range of operator experience levels
- Receive visual alerts when produced amperage is 90% or less than set amperage

Real-world dependability for minimal downtime
- Siemens PLC provides reliable controls and off-the-shelf replacements
- Minimise downtime with standard spare parts package

Easy to use and maintain
- Make quick operational adjustments using the simple, user-friendly operator interface with touch-screen controls
- External pump system provides fast access for easy cleaning and service

Features
- 60% duty cycle at 50% power output with a max of 6 seconds on and 4 seconds off
- Large surface shower to bathe entire part automatically with mag shot
- Advanced touch-screen operator interface

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
Ferrotest
Mobile Power Packs
The high-current Ferrotest mobile power packs provide maximum AC magnetising currents from 1000 Amps up to 7100 Amps. The Ferrotest GWH mobile power packs provide both AC and HWDC; they generate test currents from 1050 Amps to 7100 Amps.

Features
- Constant current magnetisation
  Constant current is initiated upon operating a foot or hand switch. An electronic system regulates the test current from 0 to maximum in approx. 200 ms, which avoids unnecessary peak loading of the mains supply.
- Impulse magnetisation
  When the impulse operation is selected, a sequence of single impulses is produced according to a factory-set on/off duty cycle of (1 s/1 s).
- Demagnetisation
  After selecting the demagnetisation setting, the test current is regulated from the set maximum value to 0 in approximately 600 ms.

Part Numbers
- 061140: Ferrotest 10
- 061280: Ferrotest 20
- 061400: Ferrotest 40
- 061600: Ferrotest 60
- 061900: Ferrotest 100
- 062150: Ferrotest GWH 15
- 062400: Ferrotest GWH 40
- 062600: Ferrotest GWH 60
- 062900: Ferrotest GWH 100

Isotest
Mobile Power Packs
Isotest mobile power packs are designed for constant or impulse current magnetisation and are suitable for magnetising parts either with AC or FWDC. They are ideal for use in harsh conditions where the highest reliability is essential, for example, the automotive and aeronautical industries, foundries, forging shops, steel production and processing.

Features
- Constant current control and optional current flow detection system for maximum testing safety
- Multi-stage, low-frequency demagnetisation system

Part Numbers
- 065310: Isotest 30 E for test currents up to 3,000 A DC and AC
- 065610: Isotest 60 E for test currents up to 6,000 A DC
- 065910: Isotest 100 E for test currents up to 10,000 A DC
Chain Inspection System
Mobile Crack Detection Unit

It is important to periodically check chain links for surface cracks using magnetic particle inspection. The compact design of our mobile chain inspection system is ideal for use on-site, and it can also be used as a stationary system.

Features
- Foot switch to control the inspection current
- Closed magnetising coil Ø 350 mm (working height of the coil approx. 840 mm)
- Test liquid drip tray with test liquid pump
- High-current cables
- Fixed on a movable trolley
- Two lockable guides and two fixed rollers
- Test liquid pump complies with IP 64
- Spraying device including valve for regulation
- Multiple socket (switchable) for UV light and pump
- Drip tray with coil - easy to disassemble and usable as a stationary system

Part Numbers
094105: Chain Inspection System with Ferrotest 10
094106: Chain Inspection System with Ferrotest GWH 15
Demagnetisation Units
Magnaflux demagnetisation units remove any residual magnetism remaining after conducting magnetic particle inspection. Demagnetisation of ferromagnetic parts and materials is often a requisite to final finishing, or to prepare an item for its ultimate use.

Industrial demagnetising is not an easy task without an effective demagnetising system; it is especially difficult when the magnetic field must be reduced to a very low level. Compact in size and ruggedly built, Magnaflux demagnetising equipment offers a fast and efficient method for demagnetising a broad variety of part types and sizes.

ETT Series
Tabletop Demagnetisation Tunnel
The compact demagnetisation tunnels of the ETT series are designed for tabletop use.

Features
• conforms to IEC Protection Class II (double insulated)
• saturation depth of the 50 Hz alternating field is approx. 2mm
• current is activated by an ON/OFF switch
• available in standard and reinforced models

Part Numbers
101150: ETT 150 AC 230V / 50Hz
101250: ETT 250 AC 230V / 50Hz
101350: ETT 350 AC 230V / 50Hz
101450: ETT 450 AC 230V / 50Hz
101550: ETT 550 AC 230V / 50Hz
101155: ETT 150 AC 400V / 50Hz
101255: ETT 250 AC 400V / 50Hz
101355: ETT 350 AC 400V / 50Hz
101455: ETT 450 AC 400V / 50Hz
101555: ETT 550 AC 400V / 50Hz

ETW Series
Demagnetisation Unit with Trolley
Our ETW demagnetisation units are ideal for demagnetising large, heavy parts which cannot be easily passed through a spool. You place the part onto the trolley and manually push it through the tunnel, where the demagnetisation spools generate a strong magnetic field.

Features
• loading aides, distancers and safety grids available on request.
• available in standard and reinforced models

Part Numbers
102250: ETW 250 AC 230V / 50Hz
102350: ETW 350 AC 230V / 50Hz
102450: ETW 450 AC 230V / 50Hz
102550: ETW 550 AC 230V / 50Hz
102255: ETW 250 AC 400V / 50Hz
102355: ETW 350 AC 400V / 50Hz
102455: ETW 450 AC 400V / 50Hz
102555: ETW 550 AC 400V / 50Hz
ETB Series
Demagnetisation Unit with Conveyor

ETB demag units are used primarily with automated systems, where demagnetisation is carried out externally due to a testing issue, i.e. after a visual check. The test objects can be placed manually on the conveyor or with the aid of manipulators. Optional lateral guides allow for exact alignment along the entire length of the conveyor.

Part Numbers
103255: ETB 250 AC 400V / 50Hz
103355: ETB 350 AC 400V / 50Hz
103455: ETB 450 AC 400V / 50Hz
103555: ETB 550 AC 400V / 50Hz
Magnetic Particle Testing
Yokes
Y-2
AC Electromagnetic Ergonomic Yoke
The Y-2 is an AC electromagnetic yoke, ergonomically designed to improve productivity and reduce operator arm and wrist fatigue. The yoke generates a strong AC magnetic field for the detection of surface indications during magnetic particle testing.

Lightweight with an ergonomic grip and trigger, the Y-2 is designed for the rugged demands of field inspection. Featuring a field swappable cord and isolated trigger switch; the Y-2 is easily serviceable because a severed cord should not stop a job from getting done.

Benefits
Increase inspector productivity and reduce physical fatigue
- Less arm strain, wrist fatigue and physical stress helps operators get more done
- Easily position the yoke in any direction with lightweight, heavy-duty and powerful electronics components

Keep tools in service with a design that's built to last
- Cords and triggers can be easily replaced, so work doesn’t stop and tools aren’t scrapped due to accidental damage.
- Prevent dust and dangerous water damage with an IP54 o-ring sealed housing

Features
- Ergonomic, lightweight design
- IP54 sealed housing resists dust and water
- Field-swappable power cord
- Isolated, replaceable trigger switch
- Steel shields for contact (pole) protection
- Exceeds ASTM lifting specifications
- Supplied with convenient carrying case
- Optional LED yoke light lasts longer and is more intense compared to traditional bulbs

Part Numbers
628554: 110-115 V, US Type B plug (P)
628555: 220-230 V, EU Type F plug / UK Type G adapter (P)

Y6
AC Electromagnetic Yoke
The Y6 is a durable, lightweight, encapsulated AC yoke designed for reliable one-person inspection. It is easy to use single-handed and its articulated legs to contour to any part shape, allowing you to inspect components of different sizes and shapes.

Featuring sealed chemical-resistant construction and a robust strain-relieved power cord for field use, the Y6 is ideal for inspection of welds and other remote testing.

Features
- Sealed, durable construction
- Chemical and abrasion resistant
- Articulated, double-jointed legs
- Demagnetising capability
- Exceeds ASTM lifting specifications

Part Numbers
001Y004: 110 V / 50-60 Hz (P)
001Y020: 230 V / 50-60 Hz (P)

NOTE: the Y6 is NOT supplied with a plug.
Magnetic Yokes

Y7
AC/DC Electromagnetic Yoke
The Y-7 is a durable, high-strength AC/DC magnetic yoke designed to detect surface and sub-surface indications in the most rugged applications. Featuring sealed chemical-resistant construction, articulating legs to contour to any part shape and robust strain-relieved cord for field use, the Y-7 is ideal for inspection of welds and other remote testing.

Solid-state controls allow the operator to use AC magnetic fields for surface indications or DC magnetic fields for sub-surface indications to meet all inspection needs.

**Features**
- Sealed, durable construction
- Chemical and abrasion resistant
- AC and DC operation options
- Exceeds ASTM lifting specifications
- Individual serial number for each yoke

**Part Numbers**
- 625643: Y-7, 115V
- 625644: Y-7, 230V

**NOTE:** The Y-7 yoke does not carry a CE mark and is not labelled to EU standards.

Y-8 Kit
DC Battery-Powered Electromagnetic Yoke
The Y-8 is a battery-powered, DC electromagnetic yoke designed to stand up to the most rugged applications. True portability for inspection in the field and remote locations is achieved through a compact battery pack which provides a full 8-hour shift of inspection power.

**Features**
- Chemical and abrasion resistant
- Exceeds ASTM lifting specifications
- Articulated, double-jointed legs
- Sealed, durable, lightweight construction
- True portability with compact battery pack
- Solid state controls for maximum safety and reliability

**Part Numbers**
- 001Y024: Y-8 yoke with:
  - Dual UK / EU plug
  - Battery
  - Battery charger (220 / 240 V)

TWM
AC Electromagnetic Yokes
TWM yokes are durable AC magnetic yokes designed to detect surface indications. The TWM 42 N operates at 42 V supplied from a separate transformer which is connected to a 230 V AC supply; the TWM 220 N can be directly connected to a 230V AC supply.

**Features**
- Lightweight ergonomic design
- Durable rugged construction
- Oil and abrasion resistant
- The TWM 42 N is ideal for testing inside vessels, tubes and closed containers.
- The TWM 220 N is suited for testing uneven surfaces, tube bends, angle pieces, etc.

**Part Numbers**
- 072301: 42 V / 50 Hz (TWM 42 N)
- 071301: 230 V / 50 Hz (TWM 220 N)
Yoke Light
Add-on Light for Y-2 Yokes
An add-on accessory for the Y-2 AC yoke, the yoke light provides focused, visible light to the inspection area when the yoke is activated. The strong light is designed to enhance visible detection of flaws and discontinuities under low conditions and in difficult-to-reach areas not accessible to a secondary light source.

Features
- No wiring connection necessary
- Automatically activated when yoke is energised
- Snap-on assembly for fast, easy installation - no tools required

Part Number
628840: Y-2 Yoke Light

Yoke Test Weight
Use With AC Electromagnetic Yokes
The yoke test weight is a certified weight designed specifically for AC magnetic yokes to confirm the yoke has sufficient strength to perform magnetic particle inspections. Each yoke test weight has a built-in leg positioning guide to assure balanced distribution and operator safety.

Features
- General purpose
- Balanced weight
- Leg positioning guide
- Serialised and certified
- Dimensions: 23 x 5 x 5 cm

Part Number
624115: 4.5 kg Test Weight
Magnetic Particle Testing
Accessories
Magnetic Particle Testing Accessories

QB2-Plus
Quick Break Tester
The QB2-Plus provides quantitative verification of quick break function and measures the duration of the magnetising shot. The QB2-Plus can verify the correct function of AC, HWDC, and FWDC equipment, and verify quick break function on 3-phase FWDC units. Shot time and quick break voltage are alternately shown on the LCD display after each reading.

- **Features**
  - Simultaneous measurement of shot time and quick break
  - Can be used with coils and cable wraps over 64 cm diameter
  - Quantitative results provide true verification of equipment

- **Part Number**
  - Part Number: 628989: QB-2 Plus (P)

FSM-2
Magnetic Field Strength Meter
The FSM-2 is used for tangential measuring of the magnetic field strength in DC and AC fields. A tangential field probe is attached to the workpiece’s surface during magnetisation, and the hall sensor measures the voltage change produced by the magnetic field. The FSM-2 measures the true RMS of asymmetric magnetic fields.

- **Features**
  - Equipped with a RS 232 interface and background display lighting
  - With closed cover, the housing meets protection class IP65
  - Supplied with a mains adapter and a tangential field probe
  - A factory calibration certificate is included

- **Part Number**
  - Part Number: 133033: FSM-2 (P)

MP-1
Residual Field Strength Meter
The MP-1 meter detects residual fields up to 20 A/cm in ferro-magnetic parts, and shows polarity.

- **Features**
  - Analogue display
  - Supplied with a bag and one probe
  - A factory calibration certificate is included

- **Part Numbers**
  - 133010: MP-1
  - 133011: Calibration block for MP-1
Digital Ammeter Calibration Kit
Digital Amperage Meter
Our lightweight and fully-portable digital amperage meter is specifically designed for NDT applications and can be used to certify amperage on MPI equipment up to 10,000 Amps.

**Features**
- Checks AC, HWDC, 1 Phase FWDC, and 3 Phase FWDC
- Accurate to + 3% at level
- Meets ASTM E1444 and ANSI Z-540 specifications
- Supplied with certificate.

**Part Number**
005M133: Digital Ammeter Calibration Kit

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Test Kit
For Magnetic Particle Inspection
Supplied in a carry case with:
- FSM-2 meter with tangential field probe and mains adapter
- reference block for FSM-2 (optional)
- non-calibrated magnetic field indicator
- UV intensity meter
- reference block type 2
- centrifuge tube
- calibration certificate (annual factory calibration recommended).

**Part Number**
135057: Test Kit with FSM-2
QQIs
Quantitative Quality Indicator Test Piece Shims
Quantitative Quality Indicators (QQIs) are artificially-flawed, low-carbon steel specimens used during inspection to verify your MPI procedures. They provide a quantitative method of establishing the correct field direction and strength that are needed to produce clear indications of flaws.

Part Numbers
625551: Standard QQI, KSC-230 (flaw depth 30% of shim thickness). set of 5
625552: Miniature QQI, KSC4-230 (flaw depth 30% of shim thickness - four circles per sheet). set of 5
625554: Variable QQI, KSCT-234 (flaws 20% / 30% / 40% of shim thickness). set of 5

Magnetic Flux Indicator Strips
Magnetic Field Verification Test Pieces
Flexible laminated strips used to verify the presence and direction of magnetic fields during the testing process. Brass cladding on both sides of the strip provides protection against corrosion and allows the strips to be re-used multiple times. Supplied in packs of five.

Part Number
008M004: Type G (I) for general use

AS 5282 Test Ring (Ketos Ring)
Magnetic Particle System Performance Test Piece
This tool steel ring is manufactured to AS-5282 requirements to check 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. Formerly known as a Ketos test ring.

Part Number
159999: AS 5282 Test Ring

Reference Block Type 1 (MTU Test Block Nr. 3)
Magnetic Particle System Performance Test Piece
Use this test block to test the concentration of your magnetic powder suspensions, and ensure optimal error indication while carrying out magnetic particle inspection. Tested in accordance with EN ISO 9934-2, and supplied with certificate and reference picture.

Part Number
135012: Reference Block Type 1
Reference Block Type 2
Magnetic Particle System Performance Test Piece
Use the reference block type 2 to evaluate the sensitivity of your magnetic ink. Tested in accordance with EN ISO 9934-2, and supplied with certificate and reference picture.

**Part Number**
135013: Reference Block Type 2

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Magnetic Particle Test Bar
Magnetic Particle System Performance Test Piece
This test bar contains coarse and fine surface and subsurface defects in both directions. It meets or exceeds most industrial and military standards for artificial test specimens and complies with MIL-STD-271.

**Part Number**
189838: Magnetic Particle Test Bar

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Centrifuge Tubes
For Magnetic Particle Inspection
Designed in accordance with ASTM E 709-80 standard, our centrifuge tubes are individually calibrated to measure the precise concentration of magnetic particles in suspensions, as well as contamination levels of the bath. Use as part of your regular system performance checks for ASTM E709, ASTM E1444 or ASME BPVC.

**Part Numbers**
044C003: Centrifuge tube for visible magnetic ink (0 - 15 ml)
044C005: Centrifuge tube for fluorescent magnetic ink (0 - 1 ml)
044C004: Centrifuge tube stand
Magnetic Particle Testing Accessories

Field Indicator (Uncalibrated)
Magnetic Field Indicator Gauge / Magnetometer
Rugged, pocket-size meter used to indicate residual magnetism remaining in the part after magnetisation, or to verify demagnetisation. Inexpensive and disposable with no certification to maintain.

Part Number
2480: 10 Gauss Field Meter, uncalibrated

Calibrated Field Indicators
Magnetic Field Indicator Gauge / Magnetometer
Rugged, pocket-size meters used to indicate residual magnetism remaining in part after magnetisation, or to verify demagnetisation. Supplied with certification.

Part Numbers
505056: Calibrated 10 Gauss Field Indicator; accurate to +/- 0.3 gauss with scale range of 10-0-10
105645: Calibrated 20 Gauss Field Indicator; accurate to +/- 0.5 gauss with scale range of 20-0-20

ASME Pie Field Indicator
Magnetic Field Indicator
The ASME Field Indicator is used to gauge the strength and direction of the magnetic field in accordance with ASME Boiler and Pressure Vessel Code Section V, Article 7.

Part Number
008M003: ASME Field Indicator

Twin-Core Threaded Bars
For Internal Conductor-Current Induction Method
Laminated twin-core threaded bars for internal conductor/current induction method, according to ISO 9934-1:2016. Available as plastic covered or steel covered.

Part Numbers
030C035: Adapter that fits our MAG 40 bench units
030C009: Adapter that fits our MAG 50 bench units
Magnetic Particle Testing Accessories

Magnet Electrodes
For Connection to High Current Cables

Part Numbers
129102: Type DIX PM 70 with lug connector - for power packs with a test current up to 6,000 A
129103: Magnet cross contact with lug connector (12 pieces required)

Melt-Off Magnet Electrodes
For Connection to High Current Cables
To be fixed at handles and connected to high current cables.

Part Numbers
129110: Type A (up to 1500 A)
129111: Type B (1500 - 3000 A)
129112: Type C (3100 - 8000 A)
056200: Handles for installation of the melt-off electrodes, consisting of one handle with control cable and one handle without control cable.

Small Parts Adapters
For Magnetic Particle Inspection Benches
Our auxiliary adapters enable our standard bench units to test small parts. Mounted directly to either the headstock or tailstock, the solid copper adapters maintain adequate clearance to proper clamping action.

Part Numbers
030C035: Adapter that fits our MAG 40 bench units
030C009: Adapter that fits our MAG 50 bench units

Steady-Rests
For Magnetic Particle Inspection Benches
Steady-rests support and stabilise long or heavy parts, such as crankshafts, during the inspection process. Our rail and headstock-mounted roller-style steady-rests support a variety of part lengths and make the loading of heavy and long parts easier. Our tailstock steady-rest mounts directly onto the tailstock shelf and is designed to work with either headstock or rail-mounted steady-rests. Its twin rollers enable components to be rotated.

Part Numbers
20955A3: Movable Steady-Rest
20978A1: Headstock Steady-Rest
Contact Pads
For Magnetic Particle Inspection Benches
Our range of 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. Magnaflux contact pads prevent arc burning, and ensure good, reliable electrical contact between the headstock and part.

Part Numbers
031C003: Double braided contact pad - copper braid and neoprene (145 x 125 mm)
031C010: Copper braid contact pad for MAG II & MAG II H, MAG 20 (45 x 65 mm)
031C012: Brass mesh contact pad for MAG II F & MAG II HF, MAG 20F (60 x 65 mm)
031C016: Brass mesh contact pad for MAG 40 Series (all versions; 100 x 120 mm)
031C020: Copper braid contact pad for MAG 50 Series (145 x 125 mm) (P)

Copper Contact Plates
For Magnetic Particle Inspection Benches
Our copper contact plates are designed for use with Universal systems types 100, 150, 200, etc. They are made from spirally-inserted copper braid cord with a tinned contact area.

Part Numbers
129150: Standard contact sheet for Universal 600/900 WE since 1986
129151: Contact sheet for Universal 35/50/85 W built 1979-1985. Ø 140 mm.
129153: Standard contact sheet for Universal 900 WE II
129155: Copper contact sheet with integrated copper pad for Universal WE. Ø 80 mm.
129160: Copper contact sheet for divided headstock vertical on Universal WE
129162: Copper contact sheet for divided headstock horizontal on Universal WE
129205: Copper contact pad, Ø 80 mm
129207: Copper contact pad, Ø 120 mm

Copper Contact Braid
For Magnetic Particle Inspection Benches
Copper braid to make special contacts. Available in different widths and thicknesses, and sold by the metre.

Part Numbers
129250: Fine copper braid, 30 x 2 mm | 25 mm²
129251: Fine copper braid, 45 x 3 mm | 60 mm²
129253: Fine copper braid, 75 x 5 mm | 185 mm²
129252: Raw copper braid, 45 x 3 mm | 50 mm²
129254: Raw copper braid, 57 x 7 mm | 125 mm²
129252: Raw copper braid, 75 x 8 mm | 180 mm²
L-10 Coil
Portable Magnetic Coil For Magnetic Particle Inspection
The L-10 electromagnetic coil is specifically designed to detect transverse defects in shafts, spindles and similar components. It can inspect parts up to 250 mm diameter.

The L-10 has a wear-resistant resin coating and is supplied with a foot switch to energise the coil and 10 metres of flexible supply cable.

Features
- AC output
- Ideal for transverse defect location
- Demagnetisation capability
- AC/DC operation
- Hands-free control via a foot switch
- Completely portable

Part Numbers
008C020: 110 V / 50 Hz AC

Closed Coil
Magnetic Coil for Magnetic Particle Inspection Benches
Number of turns: 3

Part Numbers
129001: Ø 200mm
129002: Ø 350mm

Hinged Coil
Magnetic Coil for Magnetic Particle Inspection Benches
Hinged coil with easy-to-operate locking handle. Number of turns: 3

Part Numbers
129020: Ø 200mm
129021: Ø 350mm
129022: Ø 500mm
Spray Pumps
For Magnetic Particle Ink
Our magnetic particle applicators provide a convenient method for applying an even, adjustable flow of magnetic particles across large test parts, or in situations where only spot particle application is required. The coverage speed and consistency provided by these applicators can dramatically improve application uniformity and part processing time.

Portable Spray Pump
Features
• Complete with container and hand hose
• Power supply: 3 x 400 V (circuit breaker), 230 V available on request.
• Output quantity: 25 litres per minute at 3 m throughput height or 40 litres per minute at 2 m throughput height.

Part Number
129410: Portable Test Liquid Spray Pump

Mobile Spray Pump
Features
• Includes metal drip tray to re-collect test liquid to container.
• Spraying via hand hose
• Power supply: 3 x 400 V (circuit breaker), 230 V available on request.
• Output quantity: 25 litres per minute at 3 m throughput height or 40 litres per minute at 2 m throughput height.

Part Number
129415: Mobile Test Liquid Spray Pump

Stationary Spray Pump
Features
• Stainless steel container
• Removable cover
• Spraying via hand hose
• Power supply: 3 x 400 V (circuit breaker)
• Output quantity: 25 litres per minute at 8 m throughput height.

Part Number
129420: Stationary Test Liquid Spray Pump
MAGNAGLO® Applicator
For Magnetic Particle Ink
Replacement nozzle for bath applications; easily attaches to a ½” (13 mm) bore hose.

Part Numbers
004G006: MAGNAGLO® Applicator

Powder Bulb Dispenser
For Magnetic Particle Powder
A lightweight powder “puffer” for applying dry magnetic particles. Removable cap for easy refilling.

Part Numbers
008D003: Powder Bulb Dispenser
### Fluorescent Penetrants (Type 1)

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* WW = water-washable  PE = post-emulsifiable  WB = water-based

** water absorbency 6.10, requirement of >5% not met

### Visible (Red) Penetrants (Type 2)

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* WW = water-washable  SR = solvent-removable
### Developers

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**ZL-15B**

**Level ½ (0.5) Water-washable Fluorescent Penetrant**

ZL-15B is a low-sensitivity, water-washable penetrant that features excellent washability. It is used to find open surface flaws such as cracks and porosity in seams, laps, cold shuts, laminations on castings, forgings, extrusions, and parts with rough surfaces.

**Features**
- Excellent washability
- Bright indications

**Part Numbers**
- 056C061: 25 litres
- 056C062: 200 litres

**Product Properties**

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<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Methods</th>
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**ZL-19**

**Level 1 Water-washable Fluorescent Penetrant**

A water-removable Level 1 penetrant, ZL-19 is designed for use on rough or unmachined surfaces, such as castings and forgings, to find larger discontinuities. It is ideal for inspecting automotive and general industrial components such as engine cylinder blocks, powertrain components, rocker arms, pistons, steering knuckles, etc.

**Benefits**
- Increased indication detection
  - Increase detection of defects in cast parts, such as hot tears, laps, or cold shuts, and on rough surfaces
  - Indications stand out more because of reduced background fluorescence, even on rough cast surfaces
- Speed up your inspection process
  - Quickly apply and remove penetrant due to high surface wetting and easy washability
  - ZL-19 is spray-friendly and will not clog nozzles in automated lines, for less maintenance downtime
- Performance value
  - Use less penetrant per part, thanks to lower drag out
  - Penetrant can be reused from the dwell cycle, so more of it stays in your tank instead of getting carried away on parts.

**Features**
- Excellent rough surface washability
- Bright, high contrast indications
- Clean rinsing on cast parts
- Good surface wetting
- High flash point
- Easy washability

**Part Numbers**
- 056C185: 25 litres
- 056C186: 200 litres

**Product Properties**

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<td>Method A, Method C</td>
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**ZL-60C**

**Level 2 Water-washable Fluorescent Penetrant**

Developed for testing rough machined surfaces, ZL-60C is ideal for finding indications in castings, forgings, extrusions and rough surfaces.

This medium-sensitivity penetrant washes off parts quickly and easily, leaving less fluorescent background - even on rough surfaces - for clearer indications and better inspection reliability. Broad specification compliance further increases this penetrant’s flexibility.

ZL-60C has excellent alloy compatibility and is safe to use on most engineering and aerospace materials, including aluminium, steel, nickel and titanium.

**Benefits**

**Improve indication detection**
- Indications stand out more, as excess penetrant washes off easily with water
- Reduces background fluorescence, even on rough surfaces

**Maximise application versatility**
- Ideal for an extensive variety of part types due to Level 2 sensitivity
- Universal specification conformance and fast, even surface wetting

**Affordable performance**
- High surface wetting enables quick application
- Easily washes off with water
- Use less penetrant over time because of lower drag-out and slower evaporation

**Maximise operator comfort and safety**
- Reduces discomfort from strong odours, providing the operator with a more comfortable work environment

**Features**
- Bright, high-contrast indications
- Good removability
- Excellent rough surface washability
- High flash point
- Very low odour
- Better surface wetting
- Alloy compatibility
- Very low toxicity

**Part Numbers**
- 008A008: Aerosol can (case of 10)
- 056C205: 25 litres (P)
- 056C206: 200 litres (P)

**Product Properties**

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ZL-60D
Level 2 Water-washable Fluorescent Penetrant

Developed for testing rough machined surfaces, ZL-60D is ideal for finding indications in castings, forgings, extrusions and rough surfaces. This medium-sensitivity penetrant washes off parts quickly and easily, leaving less fluorescent background for clearer indications and better inspection reliability.

ZL-60D is one of the most versatile ‘work-horse’ penetrants; customers use this penetrant for a wide range of applications on a range of parts to find many different types of defects, including cracks, seams, laps, cold shuts, laminations and porosity. Broad specification compliance further increases this penetrant’s flexibility.

ZL-60D has excellent alloy compatibility and is safe to use on most engineering and aerospace materials, including aluminium, steel, nickel and titanium.

Benefits
Improve indication detection
- Indications stand out more, as excess penetrant washes off easily with water
- Reduces background fluorescence, even on rough surfaces

Maximise application versatility
- Ideal for an extensive variety of part types due to Level 2 sensitivity
- Universal specification conformance and fast, even surface wetting

Affordable performance
- High surface wetting enables quick application
- Easily washes off with water
- Use less penetrant over time because of lower drag-out and slower evaporation

Maximise operator comfort and safety
- Reduces discomfort from strong odours, providing the operator with a more comfortable work environment

Features
- Bright, high-contrast indications
- Good removability
- Excellent rough surface washability
- High flash point
- Very low odour
- Better surface wetting
- Alloy compatibility
- Very low toxicity

Part Numbers
056C010: 25 litres (P)
056C011: 200 litres (P)

Product Properties
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<td>UV light source</td>
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(P) = Preferred Product
ZL-67B
Level 3 Water-washable Fluorescent Penetrant
A high-sensitivity Level 3 penetrant, ZL-67B is designed to find smaller, finer indications in safety-critical components common to aerospace and engineering applications. ZL-67B is often used to find flaws in investment castings, jet engine components, and highly machined surfaces.

ZL-67B is specially formulated for strong capillary action, which allows it to penetrate defects quickly and bleed out into developer faster and more completely than other penetrants. This results in stronger, higher contrast indications that are easier for inspectors to identify, even when the defects are very fine.

Benefits
Improve indication detection
- Clear, bright, indications appear every time due to high UV and thermal stability
- Higher contrast indications form due to strong capillary action, making them easier to spot

More reliable, consistent inspections
- Maintain penetrant system performance over longer periods of time thanks to low volatility and high water tolerance.

Wide range of inspections
- Inspect a wide range of high-value components without fear of corrosion or specification non-conformance

Features
- Bright, high-contrast indications
- High flash point
- Wide range of application methods
- Controlled washability
- Low odour
- Very low toxicity
- Alloy compatibility
- Optimised capillary action

Part Numbers
056C034: 25 litres (P)
056C035: 200 litres (P)

Product Properties
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</table>

ZL-56
Level 4 Water-washable Fluorescent Penetrant
An ultra-high sensitivity penetrant (Level 4), ZL-56 is designed for non-porous and highly machined components. It is safe for use on alloys in engineering and aerospace use, including aluminium, steel, nickel, and titanium.

Benefits
- Bright, high-contrast indications
- Ideal for critical part inspection
- Ultra-high sensitivity for aerospace inspections

Part Numbers
056C201: 25 litres
056C202: 200 litres

Product Properties
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ZL-2C
Level 2 Post-emulsifiable Fluorescent Penetrant
A medium sensitivity penetrant (Level 2), ZL-2C is designed to be removed from the part surface by emulsifiers or solvent. ZL-2C has a high flash point, and is ideal for use in open dip tanks.

Benefits
- Improve indication detection
- Maximise inspection process control
- Wide range of inspections
- Maximise operator comfort and safety

Features
- Bright indications
- Minimal background fluorescence
- High flash point

Part Numbers
056C079: 25 litres
056C080: 200 litres

Product Properties
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</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>Level 2 - Medium Sensitivity</td>
<td>Method B Method C Method D</td>
<td>Post-emulsifiable</td>
<td>UV light source</td>
</tr>
</tbody>
</table>

ZL-27A
Level 3 Post-emulsifiable Fluorescent Penetrant
ZL-27A is a Level 3, high-sensitivity penetrant designed for inspections which require maximum process control and reliability, such as safety-critical aerospace testing.

ZL-27A has a high flash point and provides long tank life when used in open dip tanks. It can also be applied in a variety of other ways, including electrostatic spray.

Benefits
- Improve indication detection
- Clear, bright, indications are easier to detect due to high UV and thermal stability – even for small flaws and discontinuities.
- Wide range of inspections
- Inspect a wide range of high-value components without fear of corrosion or specification non-conformance
- Meets all major industry and NDT specification requirements, including AMS 2644 and ISO 3452.
- Maximise operator comfort and safety
- Reduces discomfort from strong odours, providing the operator with a more comfortable work environment

Features
- Bright indications
- Resists over-washing and over-removal
- High flash point
- Wide range of application methods
- Low odour
- Very low toxicity
- Alloy compatibility

Part Numbers
008A002: Aerosol can (case of 10)
066C017: 25 litres (P)
066C016: 200 litres (P)

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
<th>Required Equipment</th>
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<tr>
<td>Fluorescent Penetrant Testing</td>
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<td>Level 3 - High Sensitivity</td>
<td>Method B Method C Method D</td>
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<td>UV light source</td>
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</tbody>
</table>
ZL-37
Level 4 Post-emulsifiable Fluorescent Penetrant

Essential for critical component applications, ultra-high sensitivity ZL-37 post-emulsifiable penetrant is designed for detecting fine, tight discontinuities in safety-critical components, such as titanium turbine components, and in high-stress parts, such as investment castings.

Benefits
Improve indication detection in the most critical applications

• Creates the clearest, brightest indications for the finest flaws due to very strong UV and thermal stability
• Highest fluorescent brightness of any Level 4 penetrant for high-contrast indications that are easy for inspectors to see – even when the indications are very small
• Indications stand out more since background fluorescence is minimised; emulsifiers only remove surface penetrant without the risk of over-washing

Maximise penetrant inspection process control

• Prevents over-washing since ZL-37 cannot be removed with water (unless combined with an emulsifier)
• Post emulsifiable penetrant system is less susceptible to human error since only surface penetrant is removed in the final rinse stage

Wide range of inspections

• Inspect a wide range of high-value components without fear of corrosion or specification non-conformance
• Meets all major industry and NDT specification requirements

Maximise operator comfort and safety

• Reduces discomfort from strong odours, providing the operator with a more comfortable work environment

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
<th>Required Equipment</th>
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<td>Fluorescent Penetrant</td>
<td>Type 1</td>
<td>Level 4 - Ultra-High Sensitivity</td>
<td>Method B Method C Method D</td>
<td>Post-emulsifiable</td>
<td>UV light source</td>
</tr>
</tbody>
</table>

Features

• Bright, high-contrast indications
• Resists over-washing and over-removal
• High flash point
• Wide range of application methods
• Low odour
• Very low toxicity
• Alloy compatibility

Part Numbers

066C020: 25 litres (P)
066C019: 200 litres (P)
Penetrant Testing Materials
Water-Based Fluorescent Penetrants

**ZL-400 series**
**Water-based Fluorescent Penetrants**
The ZL-400 series is a range of water-based, water-washable fluorescent penetrants used for finding indications in castings, forgings, extrusions and other materials with rough surfaces, commonly found in automotive part applications.

These penetrants offer an ideal solution when waste water produced during the inspection process is a concern for the operation. They are water-based and contain no petroleum distillates, which may allow the rinse water to be disposed of directly into the sewage system depending on local regulations.

ZL-400 series penetrants feature excellent rinse removability and are self-developing, which means that separate developer may not be necessary (depending on the application). They are designed to be environmentally sensitive while meeting EN ISO 3452-2, and can be used in place of any conventional water-washable fluorescent penetrant.

**Benefits**
- Reduce environmental footprint and waste-water pollutants
  - Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
  - Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
  - Support a healthy environment with water-based penetrants that have minimal occupational health and safety impacts.
- Reliably speed up inspection and wash processes
  - Identify bright indications with superior sensitivity and low fluorescent background interference.
  - Increase throughput and reduce costs by eliminating the developer step of inspection (depending on procedures and requirements).
  - Rapid rinse and post-inspection washing of parts due to excellent washability properties.

**Features**
- Available in three sensitivity levels: very low (0.5), low (1) and medium (2)
- Hydrocarbon-free
- Biodegradable
- Excellent water wash removability

**Part Numbers**
- 056C212: ZL-405, Level ½ (0.5), 200 litres
- 056C214: ZL-405, Level ½ (0.5), 1000 litres
- 056C217: ZL-425, Level 1, 25 litres
- 056C218: ZL-425, Level 1, 200 litres
- 056C219: ZL-425, Level 1, 1000 litres
- 056C229: ZL-440, Level 2, 25 litres
- 056C230: ZL-440, Level 2, 200 litres
- 056C231: ZL-440, Level 2, 1000 litres

**Product Properties**

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<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Method</th>
<th>Removal Type</th>
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<td></td>
<td>Level 2 - Medium Sensitivity</td>
<td></td>
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</tbody>
</table>
SKL-SP2
Solvent-removable Visible Dye Penetrant

Developed for preventative maintenance, control checks and weld inspection, SKL-SP2 is a rich, vivid red dye penetrant for Type 2 penetrant testing in visible white light. This colour-contrast penetrant meets all NDT specifics for dye penetrant testing and can be used on a wide variety of metals, including non-ferrous and ferrous, and on non-porous ceramics.

SKL-SP2 is designed to provide complete coverage with minimal product for an optimal balance of reliability, performance and value. It reliably locates surface flaws and discontinuities with a simple three-step process (cleaner, developer, penetrant) that is ideal for basic industrial NDT.

**Benefits**

**Fastest inspection processing**
- Reliable, simple 3-step process is a convenient and easy-to-use solution for preventative maintenance and control checks
- Quickly and completely covers the entire test surface due to high surface wetting
- Remove excess penetrant without water to eliminate the need to dry parts before applying developer

**Reliable and convenient to use**
- Easy to carry and use in the field with the convenient aerosol cans, which are carefully designed for consistent, even coverage and maximum test area coverage
- Use in all conditions without the need for darkness or UV lights

**Maximum indication detection**
- Produces strong indications due to its bright, vibrant red colour, especially when used with SKD-S2 solvent-based developer

**Wide application versatility**
- Inspect a wide range of components without fear of corrosion or specification non-conformance
- Meets AMS 2644 and is NDT-approved for professional industrial applications

**Features**

- Outstanding penetrating characteristics
- Vivid, high-contrast red colour
- Superior flaw resolution
- Excellent reliability
- Wide range of applications
- Good surface wetting
- Optimised capillary action
- Works in visible light
- Very low toxicity
- Low odour

**Part Numbers**

008A016: Aerosol can (case of 10) (P)
055C076: 5 litres (case of 4)
008A038: SK-3 Kit
- 3 x Aerosol SKC-S Cleaner
- 2 x Aerosol SKL-SP2 Penetrant
- 3 x Aerosol SKD-S2 Developer
- Cloth
- Soft carry case

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetant Type</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
</tr>
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<tbody>
<tr>
<td>Visible Penetant Testing</td>
<td>Type 2</td>
<td>Method C</td>
<td>Solvent-removable</td>
</tr>
</tbody>
</table>
SKL-WP2
Water-washable Visible Dye Penetrant
SKL-WP2 is a water-removable red dye penetrant for Type 2 penetrant testing in visible white light. It is designed for large surface areas and rough surfaces where excess penetrant is difficult to remove with a solvent-removable cleaner or emulsifier.

SKL-WP2 washes off parts with ease, leaving less background for clearer indications, even on rough surfaces. The quick rinsing reduces water usage in the inspection process, and the rinse water is easily treatable for simple disposal, for a reliable NDT process with less cost per part.

Benefits
Reliable and convenient to use
- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage
- Use in all conditions without the need for darkness or UV lights
- Quickly and completely covers the entire test surface due to high surface wetting

Maximum indication detection
- Produces strong, vibrant indications thanks to the bright, vibrant red colour, especially when used with a developer

Wide application versatility
- Meets AMS 2644 and is NDT-approved for professional industrial applications
- Reduces processing cost per part due to excellent washability, which is especially useful for large parts and cast components

Features
- Outstanding penetrating characteristics
- Easy water-wash removal
- Vivid high-contrast colour
- Superior flaw resolution
- Excellent reliability
- Wide range of applications
- Can be used on ferrous and non-ferrous materials
- Excellent controlled washability over a wide temperature range and variable dwell times

Part Numbers
008A163: Aerosol can (case of 10)
055C071: 5 litres (case of 4) (P)
055C072: 25 litres
055C073: 200 litres (P)

Benefits
Reliable and convenient to use
- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage
- Use in all conditions without the need for darkness or UV lights
- Quickly and completely covers the entire test surface due to high surface wetting

Maximum indication detection
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- Vivid high-contrast colour
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- Excellent reliability
- Wide range of applications
- Can be used on ferrous and non-ferrous materials
- Excellent controlled washability over a wide temperature range and variable dwell times

Part Numbers
008A163: Aerosol can (case of 10)
055C071: 5 litres (case of 4) (P)
055C072: 25 litres
055C073: 200 litres (P)
Penetrant Testing Materials
Visible (Red) Penetrants

RP20
Water-washable / Post-emulsifiable Visible Dye Penetrant

RP20 visible penetrant is both water-washable and post-emulsifiable for greater resolution of flaw indications. It features outstanding penetrating characteristics for Type 2 penetrant testing in visible light.

This bright red penetrant is designed to wash off parts with ease, leaving less background for clearer indications, even on rough surfaces. The quick rinsing reduces water usage in the inspection process, and the rinse water is easily treatable for simple disposal, for a reliable NDT process with less cost per part.

RP20 offers maximum reliability in locating surface-open flaws and discontinuities, and can be used on non-porous ceramics and similar materials.

Benefits
Dependable and convenient to use
- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage and maximum test area coverage
- Use in all conditions without the need for darkness or UV lights
- Quickly and completely covers the entire test surface due to high surface wetting

Maximum indication detection
- Produces strong indications due to its bright, vibrant red colour, especially when used with SKD-S2 solvent-based developer

Features
- Outstanding penetrating characteristics
- Vivid high-contrast colour
- Superior flaw resolution
- Excellent reliability
- Wide range of applications
- Excellent controlled washability over a wide temperature range and variable dwell times

Part Numbers
008A178: Aerosol can (case of 10)
060C078: 5 litres

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible Penetrant Testing</td>
<td>Type 2</td>
<td>Method B</td>
<td>Water-washable</td>
</tr>
<tr>
<td></td>
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<td>Method C</td>
<td>Solvent-removable</td>
</tr>
</tbody>
</table>

RP20 visible penetrant is both water-washable and post-emulsifiable for greater resolution of flaw indications. It features outstanding penetrating characteristics for Type 2 penetrant testing in visible light.

This bright red penetrant is designed to wash off parts with ease, leaving less background for clearer indications, even on rough surfaces. The quick rinsing reduces water usage in the inspection process, and the rinse water is easily treatable for simple disposal, for a reliable NDT process with less cost per part.

RP20 offers maximum reliability in locating surface-open flaws and discontinuities, and can be used on non-porous ceramics and similar materials.

Benefits
Dependable and convenient to use
- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage and maximum test area coverage
- Use in all conditions without the need for darkness or UV lights
- Quickly and completely covers the entire test surface due to high surface wetting

Maximum indication detection
- Produces strong indications due to its bright, vibrant red colour, especially when used with SKD-S2 solvent-based developer

Features
- Outstanding penetrating characteristics
- Vivid high-contrast colour
- Superior flaw resolution
- Excellent reliability
- Wide range of applications
- Excellent controlled washability over a wide temperature range and variable dwell times

Part Numbers
008A178: Aerosol can (case of 10)
060C078: 5 litres

Product Properties

<table>
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<tr>
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<td></td>
<td>Method C</td>
<td>Solvent-removable</td>
</tr>
</tbody>
</table>
SKD-S2
Solvent-based Developer
A bright white, non-aqueous developer, SKD-S2 creates an opaque white background for high-contrast penetrant testing. It quickly draws penetrant out to create stronger, clearer indications for better inspection reliability and sensitivity.

Noted for its compatibility with special alloys, such as stainless steel, aluminium, magnesium and titanium, SKD-S2 is non-halogenated and can be used with Type 1 and Type 2 penetrants.

SKD-S2 helps speed up the inspection process by going on easily, drying quickly, promoting faster indication formation and minimising post-inspection cleaning. It is ideal for machine shops, weld testing and field applications.

Benefits
Increases indication visibility
- Improves indication detection by creating an optimal surface for penetrant indication formation
- Bright white, opaque coverage blocks all underlying surface color and quickly draws penetrant to the surface for stronger, clearer indications

Application versatility
- Can be used with a variety of Type 1 and Type 2 penetrants in many different situations without measuring or diluting

Faster cleaning
- Reduces inspection process time by minimising post-inspection cleaning
- Easy-to-apply formula goes on cleanly, dries quickly and promotes faster indication formation to shave time off each step of the inspection process

Features
- Fast drying
- Convenient, ready-to-use formula
- Easy to apply
- Very low toxicity
- Easy to clean
- Maximum sensitivity
- Low in sulphur and halogens
- Contains no chlorinated hydrocarbons
- Suitable for use at low temperatures
- ISO 3452 conformance

Part Numbers
008A007: Aerosol can (case of 10) (P)
055C014: 5 litres (case of 4) (P)

Product Properties

<table>
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<th>NDT Type</th>
<th>Penetrant Type</th>
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<tbody>
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<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form d, Form e</td>
</tr>
</tbody>
</table>

(P) = Preferred Product

magnaflux.eu
Penetrant Testing Materials

Developers

ZP-9F
Solvent-based Developer
ZP-9F is a non-aqueous developer made of organic particles. It produces a fast-drying, opaque white coating and contrasting background for fluorescent and visible penetrant inspections.

ZP-9F is used extensively to test metalwork in the automotive, aircraft, marine, construction, and maintenance sectors. It is ideal for testing welds, castings and forgings on pressure vessels, petroleum pipelines, power plant components, off-highway equipment and farm machinery.

Benefits
Increases indication visibility
- Improves detection by creating an optimal surface for penetrant indications to form
- Bright white, opaque coverage blocks all underlying surface color and quickly draws penetrant to the surface for stronger, clearer indications

Application versatility
- Can be used with a variety of Type 1 and Type 2 penetrants in many different situations without measuring or diluting

Faster cleaning
- Reduces inspection process time by minimising post-inspection cleaning

Features
- Fast drying
- Convenient, ready-to-use formula
- Easy to apply
- Very low toxicity
- Easy to clean

Part Numbers
008A010: Aerosol can (case of 10)

Product Properties

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<th>Developer Type</th>
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</thead>
<tbody>
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<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form d, Form e</td>
</tr>
</tbody>
</table>

D30A and D30plus
Solvent-based Developers
These bright white, non-aqueous developers create an opaque white background for high-contrast penetrant testing and quickly draw penetrant out to create stronger, clearer indications. Noted for their compatibility with special alloys, such as stainless steel, aluminium, magnesium and titanium, D30A and D30plus can be used with Type 1 and Type 2 penetrants.

Features
- D30A is ethanol-based; D30plus has an isopropanol and acetone base
- Fast drying
- Convenient, ready-to-use formula
- Easy to apply
- Very low toxicity
- Easy to clean
- Maximum sensitivity
- Low in sulphur and halogens
- Contains no chlorinated hydrocarbons

Part Numbers
008A176: D30A, aerosol can (case of 10)
008A177: D30plus, aerosol can (case of 10)
060C043: D30plus, 5 litres

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
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<th>Developer Type</th>
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</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form d, Form e</td>
</tr>
</tbody>
</table>
**ZP-4B**  
**Dry Powder Developer**  
ZP-4B is a free flowing, white, fluffy powder used as a high sensitivity dry powder developer. It is supplied ready-to-use and forms a thin white film on parts, which enables enhanced indications of ultra-fine discontinuities.

**Features**  
- Even, thin developer coverage  
- Enhances visibility of ultra-fine discontinuities

**Product Properties**

<table>
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<th>NDT Type</th>
<th>Penetrant Type</th>
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<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>Form a</td>
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</table>

**Part Numbers**

- 055C022: 1 kg
- 055C023: 5 kg (P)

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**ZP-5B**  
**Water-suspendible Developer**  
ZP-5B is a free flowing white powder which dissolves in water to form an opaque white suspension. ZP-5B can be used to enhance fluorescent indications during Type 1 testing or used at higher concentrations to form an opaque white background for Type 2 penetrant inspections.

**Features**  
- Higher concentration of powder gives a more opaque coating  
- Good colour contrast with red penetrants  
- Non-flammable

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
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<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form c</td>
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</table>

**Part Numbers**

- 055C002: 5 kg

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**ZP-14A**  
**Water-soluble Developer**  
ZP-14A is free-flowing white powder which dissolves in water to form a developer solution. It produces a uniform white porous coating when dry which is easily removed with a water spray in post-inspection cleaning.

**Features**  
- Bright, highly-defined indications  
- Can be cleaned off with water  
- Even, uniform coverage  
- Chromate and nitrite free

**Product Properties**

<table>
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<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Type</th>
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<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
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</tr>
</tbody>
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**Part Numbers**

- 055C010: 5 kg

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(P) = Preferred Product
Penetrant Testing Materials
Cleaners / Removers

SKC-S
NDT Cleaner and Remover
SKC-S is an NDT-approved solvent cleaner/remover for pre-cleaning before testing, and for removing excess surface penetrant from an inspection area before applying developer.

This non-halogenated remover can be used on a wide range of substrates to remove oils, greases and other contaminants. SKC-S dries quickly without leaving a residue, and meets the low-residue requirements for NDT and aerospace penetrant testing.

Benefits
Maximise range of inspections
- Inspect a wide range of components without worry
- Conforms to AMS 2644 Class 2, ASME BPVC and all major aerospace requirements

Application versatility
- Use a single cleaner throughout the entire penetrant testing process
- Comes in both bulk and aerosol forms, or as part of a kit for convenience

Minimise risk of missing a flaw
- Inspect reliably by cleaning only the surface without flushing penetrant out of discontinuities
- Dries quickly without leaving residue to prevent false indications

Features
- Fast drying
- Leaves no residue
- Suitable for use at low temperatures
- Alloy compatibility
- Doesn’t over clean
- Non-halogenated

Part Numbers
008A100: Aerosol can (case of 10) (P)
054C007: 5 litres (case of 4) (P)
054C008: 25 litres

C5 and C10
NDT Cleaners/Removers
C5 and C10 are solvent cleaners/removers for pre-cleaning before testing, for removing excess surface penetrant before applying developer, and for post-inspection cleaning of parts. They can be used on a wide range of substrates to remove oils, greases and other contaminants.

Benefits
C5:
- An effective in-process cleaner
- Good at removing oil-based inks
- Removes excess penetrant without overwashing during the penetrant process

C10:
- Good at removing contrast paints
- Very fast drying
- Suitable for use at low temperatures

Features
- Minimal residue
- Doesn’t over clean
- Suitable for use with all of our penetrant and mag particle products

Part Numbers
008A174: C5, aerosol can (case of 10)
008A175: C10, aerosol can (case of 10)
060C031: C10, 5 litres

(P) = Preferred Product
Penetrant Testing Materials

**Emulsifiers**

### ZR-10C
**Hydrophilic Emulsifier**
Designed to remove excess surface penetrant, ZR-10C minimises surface background during Method D fluorescent penetrant testing, while protecting indication integrity in critical component inspections. It provides long tank life and excellent solution consistency for dependable, long-lasting performance in a variety of applications.

ZR-10C reduces fluorescent background on rough surfaces and minimises penetrant bleed-out from hollow parts. It works with Magnaflux penetrants ZL-2C, ZL-27A and ZL-37 for verified system reliability.

**Benefits**
- Maxime penetrant inspection process control
  - Post-emulsifiable system is less susceptible to human error since ZR-10C only works with rinse water to remove excess surface penetrant.
  - Maintains solution consistency for dependable performance with minimal agitation

**Features**
- Reduces bleed-out on hollow parts
- Reliable results
- Usable in a wide range of concentrations
- Excellent control over removability
- Biodegradable

**Part Numbers**
- 065C002: 25 litres (P)
- 065C003: 200 litres (P)

### ZE-4B
**Lipophilic Emulsifier**
A Method B lipophilic emulsifier, ZE-4B diffuses into the penetrant to clear it from the surface of the part being inspected. It is rinsed from the part by water, carrying penetrant off the part surface. Designed to be used with post-emulsifiable penetrants ZL-2C, ZL-27A and ZL-37.

**Features**
- Low volatility
- High flash point
- Can be used in open immersion tanks
- Fast acting for quick processing times
- Supplied ready to use
- Biodegradable
- Safe to use on all aerospace alloys, e.g. aluminium, steel, nickel, titanium

**Part Numbers**
- 065C025: 25 litres
Penetrant Testing Equipment
ZA-28
Fluorescent Penetrant Testing Equipment System

ZA-28 is a high-performance, integrated processing/inspection system for fast and reliable manual penetrant testing. It is suitable for processing components up to 350 mm x 350 mm x 820 mm in size.

The ZA-28 system comes in three models, each designed for a specific testing method. Its modular design varies with different penetrant materials:

- **ZA-28W** - Water-Washable Method - These are the simplest units because water can be used directly to wash excess penetrant from parts without additional steps.
- **ZA-28E** - Post-Emulsified Method - These units can locate extremely shallow flaws, but they require an extra processing step - applying an emulsifier - to make the penetrant washable.
- **ZA-28H** - Hydrophilic Method - These units deliver the highest sensitivity, but require an additional processing station for pre-rinsing parts.

**Features**
- Modular design
- Thermostatically-controlled recirculating hot-air dryer
- Dry developer storm cabinet

**Part Numbers**
Magnaflux penetrant testing equipment is built to order: Please contact us for a detailed quote.

ZA-37
Fluorescent Penetrant Testing Equipment System

ZA-37 is a high-performance, integrated processing/inspection system for fast and reliable manual penetrant testing. It is suitable for processing components up to 300 mm x 350 mm x 650 mm in size.

The ZA-37 system comes in three models, each designed for a specific testing method. Its modular design varies with different penetrant materials:

- **ZA-37W** - Water-Washable Method - These are the simplest units because water can be used directly to wash excess penetrant from parts without additional steps.
- **ZA-37E** - Post-Emulsified Method - These units can locate extremely shallow flaws, but they require an extra processing step - applying an emulsifier - to make the penetrant washable.
- **ZA-37H** - Hydrophilic Method - These units deliver the highest sensitivity, but require an additional processing station for pre-rinsing parts.

**Features**
- Modular design
- Thermostatically-controlled recirculating hot-air dryer
- Dry developer storm cabinet

**Part Numbers**
Magnaflux penetrant testing equipment is built to order: Please contact us for a detailed quote.
Penetrant Testing Equipment

ZA-915
Fluorescent Penetrant Testing Equipment System
The ZA-915 system is one of the most popular penetrant testing systems on the market. As a multi-station process for components up to 850 mm x 850 mm x 750 mm in size, it offers the flexibility of modular construction and has the added advantage of simple tank additions to meet your specific requirements.

Designed to operate from the left or the right, the system can, when arranged in a straight line configuration, be used either as a manual unit or in conjunction with a linear robot for fully automatic applications. Alternatively, where space is limited, the ZA-915 can be arranged in a ‘U’ or ‘L’ configuration to suit the area available.

Features
• Flexible modular construction
• Manual or automatic applications
• Conforms with most required testing specifications
• Incorporates all the necessary equipment for fluorescent penetrant testing

Part Numbers
Magnaflux penetrant testing equipment is built to order: Please contact us for a detailed quote.

S200SA
Semi-automatic Carbon Filtration Unit
Our carbon filtration units are designed to remove penetrants from post-rinsewater. Once clean, the rinsewater can be pumped to drain/waste (subject to local authority requirements) or recycled to another process.

The S200SA consists of a unique activated carbon filter unit through which penetrant rinsewater is circulated. A pump circulates the rinsewater from the holding tank through the carbon filter, and then back to the holding tank. This process is repeated until the rinsewater is clean.

Features
• Low-cost and economical to run
• Self-contained and portable
• Easy to use

Part Numbers
009Z014: S200SA

S500
Carbon Filtration Unit
The S500 unit comprises a pressure vessel fitted with inlet and outlet control valves. The pump, operated by float switches, forces contaminated water to the top of the vessel, which then passes down through the activated carbon filter bed, where the contaminants are removed.

The S500 can also be used in conjunction with a coalescing filter (S500C) to remove post-emulsifiable penetrant from pre-rinsewater.

Features
• Low-cost and economical to run
• Self-contained and portable
• Easy to use

Part Numbers
009Z001: S500
009Z002: S500C
Penetrant Testing
Accessories

(P) = Preferred Product
Penetrant Testing Accessories

NiCr Test Panels
For Liquid Penetrant Testing
Our NiCr test pieces will help you maintain your testing process by verifying penetrant sensitivity and performance. Use to check for penetrant deterioration, to compare different penetrants or to verify sensitivity or visibility.

NiCr test panels are supplied in pairs, with panel set crack depths available in 20 microns.

**Part Number**
506252: Pair of 20µ panels

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Refractometer
Measures the concentration of hydrophilic remover in water
An easy-to-use, hand-held optical instrument for measuring the concentration of hydrophilic remover in water. Apply a small sample of solution to the prism face and take the reading by looking at the built-in scale.

Meets Pratt and Whitney and GE concentration specifications for hydrophilic removers.

**Part Number**
008M009: Refractometer

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Dual-channel Timer
Digital Penetrant Process Timer
Our dual-channel process timer allows simultaneous programming of two different activities. Each channel has a distinct electronic alarm and visual indicator when zero is reached. For repetitive timing, microcomputer chip memory permits two countdown times; for normal timing, memory recalls last countdown time set.

**Part Numbers**
004T087: Dual-channel process timer, including batteries and certificate
Penetrant Applicators
Fast, consistent and even application of penetrant or water

These product applicators and water sprayers will help you speed up your penetrant inspection process by offering fast, consistent and even application of penetrant or water to the part surface. Manufactured from high-quality materials and components, these sprayers will deliver years of trouble-free performance for all liquid penetrant testing applications.

Air/Water Gun
A combined air and water spray gun for washing parts during the penetrant process. Trigger-controlled water spray.

Part Number
004G003: Air/Water Gun

Water Only Gun
A spray gun with trigger action for washing parts during the penetrant process.

Part Number
520090: Water Only Gun

Powder Spray Bulb
Lightweight powder ‘puffer’ for applying dry developer powder. Removable cap for easy refilling.

Part Number
008D003: Powder Spray Bulb
UV Lamps
EV6000
Hand-Held LED UV Lamp
The EV6000 is a portable, hand-held UV lamp for fluorescent penetrant testing and fluorescent magnetic particle inspection.

The EV6000 features a uniform beam that is 23 cm wide, 33% wider than the next widest hand-held UV lamp in the industry. Custom-designed optics provide intense and even UV-A coverage to easily identify indications, and an integrated filter ensures minimal visible light emission to improve inspection reliability.

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.

Benefits
Minimises time to inspect parts
- Speeds up inspection time with one of the widest, most even beams on the market
- Indications are clearly visible even at the edge of the 23 cm beam, thanks to the high intensity LEDs

Maximise range of inspections
- Use for virtually any fluorescent penetrant or mag particle inspection
- Inspect a wide range of components, including aerospace parts, without worry
- Full NDT specification compliance, including ASTM E3022, RRES 90061 and AITM6-1001

Improves operator comfort
- 30% lighter than a mercury-vapour lamp, the EV6000 helps inspectors work more comfortably by reducing arm strain
- Keeps inspection booths from heating up by using cool-running LEDs

Increases real-world reliability
- Reduces on-the-job downtime with dependable, reinforced construction
- Fully sealed IP65 rated housing will stand up to the elements, along with a fan-less cooling system and non-clouding lens for reliable, consistent inspections

Features
- 5,000 μW/cm² maximum irradiance at 38 cm
- 23 cm wide, uniform circular beam with no hot spots
- Lightweight at only 0.9 kg
- IP65 rated, rugged, durable design
- No internal fan
- Low energy consumption
- Aerospace prime and OEM certified
- Improved operator and environmental safety
- Certified to ASTM / RRES / AITM / NADCAP

Part Numbers
628000: EV6000 (P)
UV Lamps

ST700
LED UV Lamp for Stationary Inspection

The ST700 is an inspection-grade overhead LED UV flood lamp with high-intensity UV-A illumination, designed for fluorescent penetrant and magnetic particle testing.

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 aluminium 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.

Benefits

Speed up the inspection process
• Inspect more of the part at once thanks to the ultra-wide beam
• Eliminate additional steps and equipment involved with using a secondary handheld lamp

Minimise risk of missing indications
• Indications stand out bright and clear due to high intensity LED technology
• Mount the light out of the way, up to 117 cm above the inspection surface while still maintaining inspection level intensity

Real-world reliability
• Fully sealed construction prevents dust and water damage
• Maintain UV intensity and coverage over time with non-clouding, proprietary lenses
• Rugged, impact resistant metal construction designed for NDT environments

Work in comfort
• Keeps inspection booths cool thanks to the fan-less, LED technology
• Eliminates hazardous mercury vapour for safer working conditions and better EHS compliance
• Easily maintain and changeover equipment with built-in white light

Features
• High intensity compliant UV-A illumination
• 50 x 66 cm wide beam on standard model at 90 cm
• IP65 sealed construction prevents damage from water, vapour or dust
• Angled mounting brackets
• No hot-spots in the beam profile
• Aluminium body in a rugged, durable design
• No internal fan necessary
• Aerospace prime and OEM certified
• Certified to ASTM, AITM, RRES and Nadcap

Part Number
628244: ST700 (P)
629257: ST700 low intensity (5,000 μW/cm²)
Mounting Adapters

Our mounting hardware allows the EV6000 and EV6500 to be permanently or temporarily mounted in the inspection or testing station for hands-free inspection, while still allowing the light to be continuously repositioned to illuminate all areas of a test part.

Part Numbers
023A008: Adjustable bracket for mag bench mounting
023A008B: Adjustable bracket for table mounting
023A008M: Bracket mounting to the lamp

UVM3059
Digital Light Meter for UV-A Light

The UVM3059 is designed for measuring ultraviolet radiation, primarily for use in non-destructive material testing. It was developed according to the specifications of EN ISO 3059. The housing is dust and splash-proof according to protection class IP54.

Features
- LCD colour display with wide viewing angle (320 x 240 pixel, 7cm)
- Rechargeable battery via mains or USB
- Dust/splash proof case protected to IP65
- Calibration expiry alarm

Part Number
017B012: UVe-Lux meter

Luxmeter
Digital Light Meter for Visible Light

The Luxmeter is a high-resolution instrument that measures the irradiance of daylight sources or the daylight environment. The measurement is made by a sensor connected to the instrument by a flexible cable. Metering range: 0,01...199,99 x 10³ (automatic switch-over).

Part Number
134056: Luxmeter

J221
UV Intensity Meter

The J 221 meter measures the irradiance of UV lights. By attaching the perforation filter, the metering range can be extended to approx. 5000 - 30,000 µW/cm². The sensor can be taken off and can be used for external measurement by wire connection. Metering range A: 0 - 1200, B: 1000 - 6000

Part Number
134001: J221 UV intensity meter