

# MAGNETIC PARTICLE TESTING

## AC/DC (HWDC) MAGNETIC YOKE: AY-7D

### Description:

Vertex offers both AC and HWDC magnetization, allowing surface and subsurface flaw detection. Independently adjustable output modes and an articulated leg design simplify inspection of varying component shapes.

### Key Features:

- ☑ Dual output: AC for surface flaws, HWDC for subsurface flaws
- ☑ Demagnetization capability integrated
- ☑ Adjustable magnetic field intensity for precise control
- ☑ Articulated and adjustable legs for better surface contact
- ☑ Exceeds ASTM E709 & E1444 lifting standards
- ☑ Rugged and ergonomic build for durability and operator comfort



### Specifications

Parameter	Value
Model	AY-7D
Magnetization Modes	AC & HWDC (independently adjustable)
Power Supply	Single-phase AC
Leg Configuration	Articulated, adjustable
Duty Cycle	2 minutes ON
Demagnetization	Yes (built-in)
Standards Compliance	ASTM E709, ASTM E1444
Typical Applications	Component assembly, weld inspection, maintenance, field jobs

## MPI BATTERY POWERED DC YOKE (DCY)

Experience the pinnacle of flaw detection on subsurface areas with VERTEX MPI Battery-powered DC Yoke. This versatile instrument is tailored for magnetic particle inspection, offering unparalleled efficiency, adaptability, and safety. Powered by a reliable battery, this yoke enables inspections in remote locations where AC supply is not available, ensuring a seamless and portable inspection process.

### Key Features:

- ☑ DC magnetization for deeper flaw detection
- ☑ Lifting capacity: 22.5 kg (meets/exceeds ASTM E1444)
- ☑ Lightweight: Less than 3 kg for operator comfort
- ☑ Adjustable interpole distance up to 12" (300 mm)
- ☑ Battery backup of 2-3 hours for extended use
- ☑ Rugged and spark-safe body design
- ☑ Fully portable — suitable for remote or hazardous locations
- ☑ No risk of hot spots or sparking during operation

## Specifications

Parameter	Value
Model	DCY
Magnetization Mode	DC
Lifting Capacity	22.5 kg
Yoke Weight	Less than 3 kg
Interpole Distance	Adjustable up to 300 mm
Battery Backup	2-3 hours
Leg Type	Articulated for surface conformance
Application	Remote inspection, pipeline welds, fabrication sites

## PERMANENT MAGNETIC YOKE – WIRE TYPE

### Description:

The Wire-Type Permanent Magnetic Yoke (MF PY W) is a compact, durable, and highly portable solution for magnetic particle inspection in the absence of power. With a high-strength magnetic field and excellent flexibility, it allows precise inspection of flat or contoured surfaces across fabrication, process industries, and construction sites.

### Key Features:

- ☑ No power supply required – purely magnetic
- ☑ Impressive lifting power over 18 kg
- ☑ Lightweight and compact (2-3 kg)
- ☑ Ideal for field, offshore, or inflammable environments
- ☑ Built to endure rugged use and continuous inspection cycles
- ☑ Suitable for dry or wet method testing



## Specifications

Parameter	Value
Model	MF PY W
Magnet Type	Permanent
Lifting Capacity	>18 kg
Power Requirement	None
Yoke Weight	2-3 kg
Suitable Methods	Dry/Wet
Typical Applications	Tanks, pipelines, shutdowns, in-service inspections

## PORTABLE MPI POWER SOURCE: PROD TYPE & CRACK DETECTOR MACHINES

### Description:

Portable, high-output MPI machines for on-site MPT work. Designed for easy mobility with wheeled chassis and convenient controls, supporting both prod and cable wrap methods.

### Key Features:

- ▣ Stepless thyristorized current control (1200 to 8000 Amps)
- ▣ Dual output: AC for surface flaws, HWDC for subsurface detection
- ▣ Inbuilt AC decay auto-demagnetization for post-inspection ease
- ▣ Suitable for both prod and cable wrap techniques
- ▣ Rugged, mobile construction with heavy-duty wheels
- ▣ LED digital current display with fan cooling for continuous duty
- ▣ Designed for production, shutdowns, or yard applications

### Specifications

Parameter	Value
Voltage Input Options	220V / 230V / 415V, 50/60 Hz
Output Range	1200 A to 8000 A (AC / HWDC)
Models Available	PS 1000 / 1500 / 2000 / 3000 / 4000 / 6000 / 8000 A
Control Type	Thyristor – Stepless
Operation Modes	Prod / Cable Wrap
Demagnetization	AC Decay (automatic)
Display	LED Current Readout
Cooling	Forced Air / Fan Cooled
Application	Mobile NDT for tanks, structures, large forgings, welds

## UNIVERSAL MULTI-DIRECTIONAL MAGNETIC WET BENCH

The Universal WE magnetic wet bench is multi-direction magnetic wet bench designed to completely magnetize the surface of parts up to 35 inches long in a single shot. Potentially cutting inspection time in half because the part can be inspected in both directions at once.

The Universal WE offers 200 - 2,000 Amps AC for contact shots and 1,500 - 15,000 Amp-turns AC for coil shots. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal



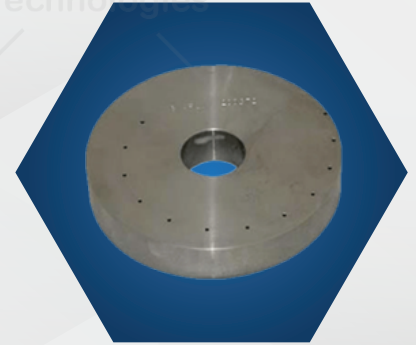
## ACCESSORIES

### KETOS RING

Ketos ring is test gauge with subsurface discontinuities is an excellent tool that provides a quick way to confirm your DC output machine is working properly.

#### Salient Features

- ☑ Compact and handheld
- ☑ Compatible with axial & transverse probe
- ☑ Clear 7 segment display for less battery consumption
- ☑ Comes with optional reference magnets for verification



### PIE GAUGE

Pie Gauge is used to verify direction of magnetic flux on a surface. It is produced from eight ferrous segments, braised into a single piece, providing a star pattern of non-ferrous discontinuities.

#### Salient Features

- ☑ Eight linear discontinuities to provide indications in all directions
- ☑ Non-ferrous handle with spindle
- ☑ Compliance to ASTM A275, E709, E1444, E3024 & ASME BPVC Section V Article 7

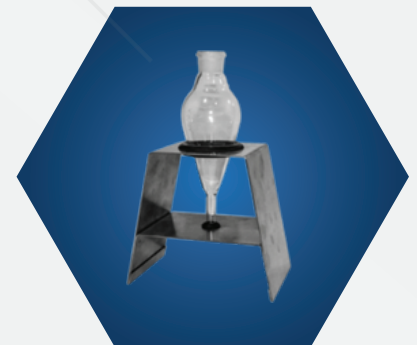


### CENTRIFUGAL TUBE

Centrifuge Tube is used for the determination of content of solid particles in inspection medium for Magnetic Particle Examination.

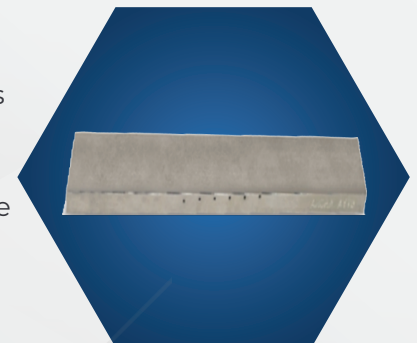
#### Salient Features

- ☑ Easy and accurate measurement
- ☑ Monitor contamination level of the both
- ☑ All our tubes are individually calibrated
- ☑ We have different centrifugal tubes for visible & fluorescent



### ASTM TEST BAR

ASTM yoke test block for magnetic particle test performance verification, test bar included subsurface flaw contains coarse and fine subsurface defects Meets or exceeds most industrial and military standards for artificial test specimens. The ASTM test block, also referred to as an MPT test bar in Magnetic Particle Inspection, contains 7 artificial flaws (side-drilled holes). It's convenient for onsite use and compact. To assess the magnetism strength of the yoke, the yoke test bar plays a crucial role. When examining the AC yoke, a minimum of three visible lines should be observed on the test bar, while for the DC yoke, a minimum of five visible lines is required.



## QUANTITATIVE QUALITY INDICATORS

Quantitative Quality Indicators (QQI) are magnetic particle test pieces with artificial defects used to verify field direction and relative strength.

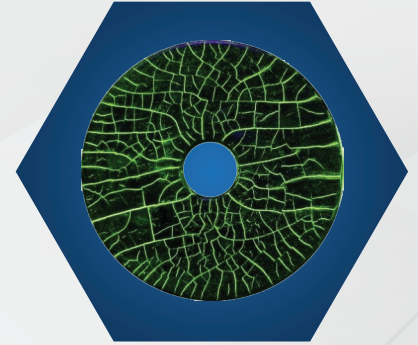
The slim nature of these shims enables them to conform to curved part surfaces, typically secured in place through the application of permanent adhesives. The QQI indicator shims are packaged in sets of five.



## MTU TEST BLOCK

MTU Test Block (EN-ISO 9934-2), commonly referred to as reference block type 1 used to evaluate the concentration of your magnetic powder suspensions.

This test is essential for ensuring accurate error indication during magnetic particle inspection. The purpose of using this disc is to assess the performance and sensitivity of the magnetic particle materials. It enables you to evaluate material degradation and potential bath contamination, ensuring the optimal functionality of the inspection process.

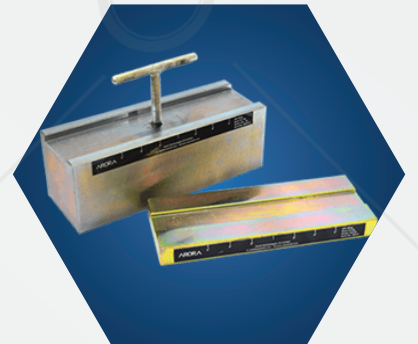


## LIFTING BLOCKS

Lifting block is used for Electromagnetic yokes to confirm the yoke has sufficient strength to perform magnetic particle inspections.

### Salient Features

- ☑ Balanced weight
- ☑ Leg positioning guide
- ☑ Serialized and certified
- ☑ Removable handle provided for 18.1Kg
- ☑ Dimensions (LXWXH): 4.5kg or 10lbs :- 260X98X25 18.1kg or 40lbs :- 280X65X95 mm



## BURMAH CASTROL STRIPS

Laminated Magnetic Flux Strips, alternatively recognized as Type G Burmah-Castrol Strips, feature a high-permeability steel core enveloped in 0.002-inch (0.05 mm) thick brass cladding on both sides.

The core incorporates three slots of varying widths, introducing deliberate discontinuities that manifest as linear indications within a magnetic field. Distinguished by their structural rigidity in comparison to QQIs, Laminated Magnetic Flux Strips exhibit limited flexibility around curved surfaces. Notably, unlike QQIs, these strips lack permanent affixation to a component, allowing for their reuse across multiple applications. It is imperative to note that due to their propensity to generate linear indications solely in one direction, Laminated Magnetic Flux Strips are not conducive to deployment in scenarios requiring multi-directional magnetization.



## COPPER BRAIDED PADS

Arora copper braided contact pads are crafted to offer a diverse range of shapes, sizes, and types, ensuring optimal compatibility with your magnetic bench inspection requirements.

These contact pads are instrumental in preventing arcing and guaranteeing consistent, dependable electrical contact between the headstock and the part under inspection. Their braided construction aids in preserving proper electrical contact, thereby enhancing the efficiency and accuracy of the inspection process.



## POWDER BLOWER / PUFFER BULB

### Description

VERTEX Powder Blower (also known as a Puffer Bulb), is a versatile tool designed for dry powder flaw detection in non-destructive testing applications. This lightweight and user-friendly spray bulb is essential for professionals engaged in the precise application of dry magnetic powder during inspections.

### Product Features:

- ☑ Efficient Dry Powder Application
- ☑ User-Friendly Design
- ☑ Cap Removal for Easy Filling



## MPI RESIDUAL FIELD STRENGTH INDICATOR / GAUSS METER

Residual Field Strength Indicator for MPI Meter to check field strength on Demagnetization Range -Gauss -3 to +3

A Dial Type Residual Magnetic Field Indicator, of Range 0 to 3 Gauss, for measurement of effectiveness of demagnetizing operation during Magnetic Particle Inspection Method.

### Specifications:

- ☑ Operating Range: up to 3 Gauss.
- ☑ This is a handy product for checking strength of magnetic field after demagnetization.



## UV PROTECTION GOGGLES

UV Safety Glasses and Goggles provide effective protection for the eyes against harmful ultraviolet radiation. Brief exposure to UV radiation may result in eye redness and burning, while prolonged or continuous exposure can lead to permanent damage.



## UVA METER

VERTEX is a battery powered handheld UV-A meter / photometer used to measure ultraviolet -A light, used for Fluorescent inspection (non-destructive testing). The Acumen365 includes dual wavelength sensor detector used to measure both Ultraviolet and Visible light.

The compact size, shape and its lightweight make this device ideal to use for applications in industrial plant or in the research labs, where the intensity measurement of UV-A and visible lights is required.

The sensor part of Acumen365 includes digital UV-A sensor with UV-A pass Filter which passes only UV-A wavelength and blocks other wavelengths, unit also includes digital white light sensor with visible light pass Filter which passes 420-760 nm visible wavelength only.

### Salient Features

- ✓ Big and colourful LCD screen Display
- ✓ Compact & light weight
- ✓ Rechargeable Li-Ion Battery
- ✓ Continues 8 hours of battery back up in single charge
- ✓ Able to measure both UV-A and visible illuminance
- ✓ Visible light measurement in LUX as well as in foot-Candle
- ✓ Kit Contains
  - ✓ Acumen 365 UV-A meter with integrated sensors
  - ✓ DC Charger
  - ✓ Certificate Of Conformance
  - ✓ Operating manual



## DIGITAL GAUSS METER

VERTEX is a battery powered handheld UV-A meter / photometer used to measure ultraviolet -A light, used for Fluorescent inspection (non-destructive testing). The Acumen365 includes dual wavelength sensor detector used to measure both Ultraviolet and Visible light.

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### Salient Features

- ✓ Big and colourful LCD screen Display
- ✓ Compact and handheld
- ✓ Compatible with axial & transverse probe
- ✓ Rechargeable Li-Ion Battery
- ✓ Comes with optional reference magnets for verification
- ✓ Kit Contains
  - ✓ Gaussmeter main Unit
  - ✓ Hall Effect Sensor probe (Axial or Transverse)
  - ✓ Operating Manual
  - ✓ Reference magnets (optional)
  - ✓ Carrying case



## ULTRABEAM UV LED TORCH

Experience cutting-edge technology with Magnafield's UV LED Inspection Torches. Engineered to excel in NDT inspections such as Magnetic Particle Inspections and Dye Penetrant Testing using a fluorescent technique, these torches offer a range of benefits that set them apart. With a UV-LED lifespan of approximately 50,000 hours and true 365 nm wavelength, these torches outshine conventional UV bulbs, providing consistent and powerful performance. Versatile and lightweight, they can be used indoors and outdoors, making them an ideal choice for various applications. Moreover, these torches come with UV protection goggles, NABL traceable calibration certification, and a standard 18-month warranty, ensuring precision and reliability.

### Product Features:

- ☑ UV-LED Lifespan: Approximately 50,000 Hours
- ☑ Wavelength: True 365 nm
- ☑ Models with variable intensities up to 15,000  $\mu\text{W}/\text{cm}^2$  available
- ☑ Power Supply: 230 VAC or Battery Operated
- ☑ Visible Light: < 2 Foot Candle
- ☑ Power Consumption: < 10W
- ☑ Surface Temperature of Lamp Housing: < 40°C
- ☑ Suitable for NDT inspections, leak detection, and cleaning applications
- ☑ Generates no UVB or UVC radiation for safety
- ☑ Toggle between UV and White light for versatility
- ☑ Lightweight, ergonomic design for indoor and outdoor use
- ☑ NABL traceable calibration certification for accuracy
- ☑ Includes UV protection goggles
- ☑ Backed by a standard 18-month warranty for peace of mind.

### SPECIFICATIONS

- ☑ Number of LED's: 1
- ☑ Wavelength: 365nm
- ☑ Intensity at 15 inches (38 cms): 4000  $\mu\text{W}/\text{cm}^2$
- ☑ Beam Coverage Diameter: 4 inches
- ☑ Power Input Options: Battery Operated
- ☑ White Light: No
- ☑ Working Hours: 1.5 to 2 Hours On Battery
- ☑ Weight: 170 gms (with Battery)
- ☑ Set Includes: Torch + 2 Rechargeable Batteries + 1 Battery Charger + 1 UV Protection Goggle + Carry Case provided free of charge
- ☑ SKU: ULTRABEAM



## ULTRABEAM UV LED TORCH

SIMS – UV 100FL with its tough aluminium housing, is designed for rugged use. It gives optimum performance. The safety bezel prevents accidental damage to the Protection Glass and LEDs. A silent fan for force cooling is provided to keep the housing and handle cool. It has a comfortable grip and concealed cable connection.

### TECHNICAL SPECIFICATIONS

- ☑ UV Intensity: >7000 $\mu\text{W}/\text{cm}^2$  @ distance of 15 inch (38cm)
- ☑ UV Coverage Area:  $\varnothing$ 8 inch (200mm) @ distance of 15 inch (38cm)
- ☑ Wavelength Peak: 365nm
- ☑ Power Supply: 230VAC / 50Hz, 1Ph,  $\pm$ 10%
- ☑ Power Consumption: 20W
- ☑ White Light Part of UVA: < 20Lux
- ☑ Working Temperature: 5 – 30
- ☑ Storage Temperature: -5 – 50(0-95%RH)
- ☑ Dimensions: Cone Shape Light Shade 280mm (L) x Front 155mm x Back 89mm
- ☑ Weight: 1.4Kg / 3.0 lbs (Approx)



## ULTRABEAM UV LED TORCH

### UNIQUE FEATURES:

- ☑ LED Operation with Long Operation Life (No Warm-up time).
- ☑ With 2 UV LED's and 1 White Light LED- Light and Compact.
- ☑ Single Selector Switch for Ultraviolet & White Light.
- ☑ Meets UV and White Light inspection criteria for NDT Application.
- ☑ High UV Output.
- ☑ Low Power Consumption.
- ☑ Built in Heavy Duty Cooling Fan for cool touch in working.
- ☑ One Year Warranty for all kind of manufacturing defects.
- ☑ 50 Thousand Working hours for LEDs.
- ☑ Meets or Surpasses ASTM – E 709 Standards.



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## UVA METER WITH EXTERNAL SENSOR

A UVA Meter with External Sensor is a precision instrument designed to measure the intensity of ultraviolet (UV-A) radiation in the wavelength range of 320–400 nm. It is widely used in industries and laboratories for monitoring UV exposure levels in curing systems, material testing, environmental studies, and sterilization applications.

### Specifications

- ☑ UV Light type Measured: UVA
- ☑ Display Type: LED Display with Backlight
- ☑ Display Size: 30 x 15 mm
- ☑ Sensor: External
- ☑ UV Spectrum Range: 300 to 390 nm
- ☑ UV Peak Wavelength: 365nm
- ☑ Measurement Range: Up to 20,000  $\mu\text{W}/\text{cm}^2$
- ☑ Measurement Accuracy:  $\pm 4\%$  of FS + 2 Digits
- ☑ Resolution/ Least Count: 1  $\mu\text{W}/\text{cm}^2$
- ☑ Operating Temperature: 0°C to 60°C
- ☑ Sample Time: Approx. 1 sec
- ☑ Power Supply: 2 AA Batteries
- ☑ Probe Wire Length: 1 meter
- ☑ Weight (grams): ~250 (including battery)
- ☑ Dimension (mm): 115 x 69 x 28
- ☑ SKU: UAV-365-ES



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## MAGNETIC PARTICLE INSPECTION (MPI) CHEMICALS & ACCESSORIES

RVS Globe supplies a complete range of Magnetic Particle Inspection (MPI) consumables designed for high-sensitivity detection of surface and near-surface discontinuities in ferromagnetic materials. All our products meet ASTM E1444, IS 6410, and ISO 9934 standards, ensuring dependable results for both field and laboratory inspections.

### **Black & Fluorescent Magnetic Inks**

Black Magnetic Ink (Oil / Water Based) – Ideal for visible light inspection using white contrast paint.

Fluorescent Magnetic Ink (Oil / Water Based) – Provides bright green-yellow indications under UV-A light.

Ready-to-Use & Concentrate Forms available for bath make-up.

Complies with ASTM E709, E1444.

### **White Contrast Paint**

High-opacity, quick-dry background paint for visible inspection.

Resistant to high magnetizing currents and over-spray.

Ensures sharp, high-contrast indications for black particles.

### **Cleaner / Remover (Solvent Cleaner)**

Fast-evaporating, non-chlorinated solvent for pre- and post-cleaning of test surfaces.

Removes oil, grease, and contaminants without residue.

### **Aerosol Systems (Ready-Mix Sprays)**

Convenient 3-can system for field inspection:

Cleaner → Contrast Paint → Black Ink / Fluorescent Ink

Portable and ideal for on-site NDT applications.

### **Carrier Oil & Wet Suspension Concentrates**

Specially formulated carrier oils with high flash point and low odor.

Ensures uniform particle suspension and extended bath life.

Available in 1 L, 5 L, and 20 L packs.