



METALETCHE RANGE OF ELECTROCHEMICAL MARKING SYSTEMS
NEW GENERATION DIGITAL MARKING TECHNOLOGY



MOVING MARKING TECHNOLOGY FORWARD



Moving marking technology forward

Universal Marking Systems "Metaetch" electrochemical marking provides permanent, stress free marking on metal surfaces. It's a simple and highly cost effective process suited to one off or volume applications.

You can mark flat or curved shapes with serial & part numbers, Data Matrix codes, complex graphics and company logos on to soft or fully hardened metals. The mark can also be applied to small, large or awkward shaped components as well as fabrications where it may be impossible to use alternative systems.

UMS have transformed electrochemical marking technology in almost every respect.

Today, our Metaetch range of electrochemical marking equipment offers a whole range of benefits that make the system virtually unrivalled in speed of application, ease of use, versatility and affordability.

LOW COST SOLUTION TO:

- > High quality permanent mark with no deforming of the surface of the metal whatever the type, shape, thickness and surface finish.
- > Meets ISO16022, ATASpec 2000, MIL130M, JES131, UID.
- > Ultra quick and easy with no setup or fixturing.
- > Uses UMS manufactured water based electrolytes.
- > No noise with little or no maintenance.
- > Light portable small footprint marking kits suit any workshop environment.
- > No cytotoxicity in electrolyte ME6 for stainless steel. In accordance with BSEDIS010993: safe for marking surgical implants and instruments.



So versatile it can mark most components with just the one system



A quick and efficient marking process

STENCIL OPTIONS

The four stencil types available ensure there is a stencil to suit your needs exactly.

1 Print on Demand

- › Produce your own high quality disposable stencils instantly.
- › Easy to use fully featured software, ideal for variable information including Data Matrix codes.
- › Produced using 300dpi thermal printer.
- › Stencils widths of 112mm or 224mm.

2 Photographic Stencils

- › Long life stencils typically used for non variable information.
- › Ideal for logos and fine detail.
- › Hand applied or semi-automatic.
- › Wide range of formats for ease of use.
- › Very high quality resolution up to 2500dpi.

3 P-touch

- › Disposable thermal stencils up to 360dpi.
- › Produced using P-touch electronic stencil/labelling machine.
- › Stencil widths of 18mm, 24mm and 36mm.
- › Suited to variable information such as serial numbers.
- › Mainly suited to oxide marking.

4 Die Impression Stencils

- › Disposable wax paper stencils produced on typewriter or dot matrix printer.
- › Suited to short batch runs or for variable information marking.
- › For simple marks where a higher resolution is not required.



Choose your Stencil, Marking Head Electrolytes and Marking Unit and we create your kit - truly a modular system



A solution for a wide range of components

ELECTROLYTES/NEUTRALISERS

UMS have manufactured their own high quality water based electrolytes for over 40 years which are used in most industries and approved for Aerospace, Nuclear and Medical applications.

- > UMS has the most extensive range of electrolytes available, both commercial and high purity Aerospace & Nuclear grades for most types of metal.
- > UMS quality test each batch manufactured.

A neutraliser is required for some metal types and is applied after marking to balance the pH and to remove any residual salts.

- > Available as liquid or handy Neutrawipes.
- > Immersion neutraliser or spray available for production line marking with inbuilt corrosion inhibitor.

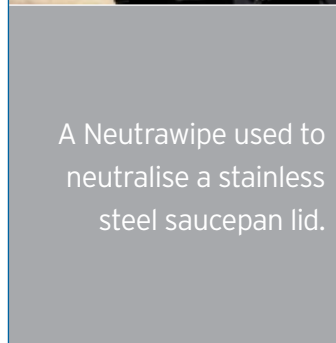
Marking Heads

A wide range of types and sizes of marking heads or electrodes are available depending on the size of the mark, the marking location and the shape of the component.

- > NEW improved **Cartridge marking heads** have a reservoir which is a convenient means of dispensing electrolyte.
- > **HM Hand marking heads** are suited to low or high volume and deep etching.
- > **Carbon marking heads** can be machined to suit the marking area of the component.
- > The **Saddle marking head** is specially designed for marking onto curved surfaces.
- > The **RMT1 Remote timer handle** with reservoir assembly (shown opposite) is fitted with a Saddle marking head for marking pipes and tubes. The handle can also be used with carbon marking heads. The Start button eliminates the need for a footswitch. It has a timer indicator LED and works with the ME3000T or any 8 pin accessory socket on older models.
- > The **Bench fixture** is a device designed for cylindrical items such as centre drills or dowel pins where the component is manually rolled over the marking head.



A carbon marking head with reservoir assembly marking a high speed steel shaft with a batch number.



A Neutrawipe used to neutralise a stainless steel saucepan lid.



A broad range of standard and custom accessories are available from UMS

JAS-604/A4

Metaletch ME3000 Range

A new generation of digital marking units

EQUIPMENT - HAND APPLIED MARKING

Metaletch ME3000T

The most advanced electrochemical marking machine available today. It will produce very high quality, permanent marks simply and efficiently and comes as either hand-operated or a semi-automatic bench top machine. Complete systems can be supplied for Data Matrix Mark and Read Applications.

The mark can take 3 forms:

- > The "OXIDE" mark where a stable black mark is produced or a white oxide on chemical black steel or aluminium alloy.
- > The "ETCH" mark where the image is etched away beneath the surface to a small depth.
- > The "COMBINED" or compound mark where the image is etched followed by an oxide mark in one operation.

MAIN FEATURES:

- > 11 preset programs plus 4 blank (all programs can be edited).
- > 0.25 to 29.75 secs timer function and dual timer function meeting aerospace applications using the combined function and also marking carbide. New oxide delay function to give even higher quality oxide mark on some specialised metals.
- > USB connectivity with FREE utility program which allows programs to be created/edited via PC and stored for backup and bulk downloading. USB also used with our E2DM Dynamic Database program for advanced programming for Data Matrix applications.
- > Clear twin line angled LCD display for easy viewing.
- > Multi-lingual - available in 6 languages.

Metaletch ME3000S

The ME3000S can be used for hand applied marking for small to medium batch runs. The timer function allows for repeatability and placement of the marking head onto the component prior to the marking cycle.

Metaletch ME2000B

The ME2000B has no timer function, ideal for low volume batch marking and inspection as the output is on continuously.



Front panel layout for the ME3000T displaying one of the easy to use preset programs.

ME3000S
Timer Controlled
Marking Unit.



ME3000T Kit



As easy as 1, 2, 3...
Expect typical marking speeds
of 0.25 secs to 4 secs



Metaletch ME3000 Range

A new generation of digital marking units

EQUIPMENT AUTOMATED & SPECIALIST APPLICATIONS

Metaletch ME3000P Semi-Automatic

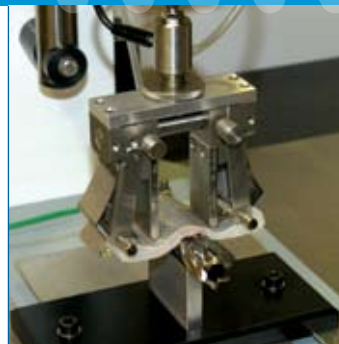
- > The ME3000P is designed for small to medium components.
- > Guided air cylinder with 50mm stroke to give consistency with the placement of the mark and accommodates different sized components with minimum setup.
- > Electronically controlled electrolyte pump delivers exactly the correct amount of electrolyte for production marking.
- > Can mark onto convex surfaces with SMV head.
- > Integrated version to make it fully automated.
- > "T" slot base to ease component fixing and workholding.

Metaletch ME96 Strain Grid

- > Strain grid marking is the standard method for analysing stress in sheet metal forming. Our large capacity strain grid unit is favoured for its ease of marking, speed of operation and clarity of mark.
- > 100amp max output.
- > 280mm wide stainless steel roller marker with pistol control and output trigger.
- > Volt and ammeter.
- > Supplied with accessories to get started.

Automated Applications

The semi-automatic versions can easily be fully automated or we can manufacture bespoke equipment to integrate into a machine or production line.



Semi-automatic machine fitted with SMV marking head applying a black oxide mark to the shank of a cutting tool.



Stencil cap fitted to a bespoke con rod marking machine.

ME3000P





Technical specification and application examples

TECHNICAL SPECIFICATION FOR HAND APPLIED KITS

Technical Features	ME3000T	ME3000S	ME2000B
Programmable	✓		
Pre-Set programs	✓		
Oxide output	✓	✓	✓
Etch output	✓	✓	✓
Etch + oxide output	✓		
10 Amp model	✓	✓	✓
20 Amp model	✓		
Voltage output settings	6	3	3
Timer	**	***	
LCD display	✓		
Resettable usage counter	✓		
Audible buzzer indicates end of cycle	****		
Multi-lingual	✓		
Rear accessory socket	✓		
USB Interface	✓		
110-230V mains input voltage	✓	✓	✓
Output delay function for curved surfaces	✓		
Use with Metaetch Air Jigs (ME3000P & semi-automatic marking)	✓		
Electronic overload/reset function	✓	✓	✓
Continuous output	✓	✓	✓
Timed output	✓	✓	

	ME3000TK	ME3000SK	ME2000BK
Complete kit weight	12kg	11kg	10kg
Marking unit weight	5.5kg	4.7kg	5kg
Kit dimensions with lid down	45cm x 26cm x 35cm	Same as ME3000TK	35cm x 27cm x 27cm
Kit dimensions with lid up	45cm x 34cm x 54cm	Same as ME3000TK	35cm x 30cm x 48cm

** Dual Programmable

*** Variable 0-10 secs

**** Programmable length & on or off



A permanent black oxide mark was applied to this die-cast mazac electric motor part in 1 second. No post marking treatment needed.

A high contrast Data Matrix code was applied in 0.75 secs to this Titanium aerospace component using UMS's POD system.



All "Metaetch" equipment range guaranteed for 2 years



A **BRITISH COMPANY**, Universal Marking Systems has over 40 years experience in the design, manufacture and supply of industrial marking systems, with representation worldwide. We are committed to technical innovation and service excellence. As well as providing standard systems, UMS are specialists in bespoke applications. UMS also manufacture and supply a range of other marking technologies including dot peen and dot paint.



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