ELECTROCHEMICAL MARKING SYSTEMS
NEW GENERATION PROGRAMMABLE MARKING TECHNOLOGY
Universal Marking Systems 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 Programmable 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, MIL130, 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 BSEDISO10993: safe for marking surgical implants and instruments

UMS provide a range of Windows based software applications used for stencil production. Not all electrochemical marking applications require software for stencil production but the software options provide a high degree of functionality for variable marking applications including data matrix applications. For advice on the most suitable software for your application please give us a call and we will be happy to discuss your requirements with you.
 ME30000 Range
A new generation of digital marking units

**EQUIPMENT - HAND APPLIED MARKING**

**ME3000T Advanced Marking Kit**
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
- Can utilise UMS stencil software range for creating stencil layouts & full software control over the marking unit & other third party devices
- Clear twin line angled LCD display for easy viewing
- Multi-lingual - available in 6 languages
- Audible buzzer on completion of mark

**ME3000S Standard Marking Kit**
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.

**ME3000B Basic Marking Kit**
The ME3000B has no timer function, ideal for low volume batch marking and inspection as the output is on continuously.

As easy as 1, 2, 3...
Expect typical marking speeds of 0.25 secs to 4 secs
ME3000 Range
A new generation of digital marking units

EQUIPMENT
AUTOMATED & SPECIALIST APPLICATIONS

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

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 ampmeter
> Supplied with accessories to get started

ME3000PC Semi-Automatic
Utilising the ME3000T Advanced Marking Unit the ME3000PC can mark serial numbers, part numbers, date/batch codes, datamatrix codes and even logos all in one operation. Ideal for nameplates and other flat surfaced components. Plus now available with cylindrical component fixture.

> Used with PC and UMS Stencil Software
> Pump fed electrolyte delivery which is clean and mess free
> Auto winds the stencil material directly from the printer and rewinds automatically after marking
> An automatic timer ensures the marking cycle time is correct giving consistent marks
> Only manual intervention to place the part
> System footprint is 700 x 550mm
**STENCIL OPTIONS**

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

1. **Print On Demand High Resolution Disposable Stencils**
   - 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 2”, 4” and 8”

2. **BRSK High Resolution Disposable Stencils**
   - Disposable thermal stencils up to 360dpi
   - Produced using BRSK stencil printer
   - Stencil widths of 18mm, 24mm and 36mm
   - Suited to variable information such as serial numbers
   - Mainly suited to oxide marking

3. **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

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

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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 50 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.

- **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 **Remote start handle** is a marking handle which integrates the timer start button, earth connection and reservoir assembly enabling the complete marking operation to be carried out with one simple press of the button. Can be used on the ME3000T/ME3000S and removes the need for a footswitch. Uses standard M series carbon marking heads or the Saddle Marking Head for marking curved surfaces

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A broad range of standard and custom accessories are available from UMS.
A high contrast Data Matrix code was applied in 0.75 secs to this Titanium aerospace component using UMS’s POD stencil.

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

**TECHNICAL SPECIFICATION FOR HAND APPLIED KITS**

<table>
<thead>
<tr>
<th>Technical Features</th>
<th>ME3000T</th>
<th>ME3000S</th>
<th>ME3000B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmable</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Set programs</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxide output</td>
<td>✓ ✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Etch output</td>
<td>✓ ✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Etch + oxide output</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Amp model</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10 Amp model</td>
<td>✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Amp model</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage output settings</td>
<td>6 3 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td>++ ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LCD display</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resetable usage counter</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audible buzzer indicates end of cycle</td>
<td>****</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-lingual</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear accessory socket</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB Interface</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110-230V mains input voltage</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output delay function for curved surfaces</td>
<td>✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use with Metaletch Air Jigs</td>
<td>✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic overload/reset function</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous output</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed output</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Technical Features**

- Programmable
- Pre-Set programs
- Oxide output
- Etch output
- Etch + oxide output
- 5 Amp model
- 10 Amp model
- 20 Amp model
- Voltage output settings: 6, 3, 3
- Timer: ++ ***
- LCD display
- Resetable 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 Metaletch Air Jigs: ✓ ✓
- Electronic overload/reset function: ✓ ✓ ✓
- Continuous output: ✓ ✓ ✓
- Timed output: ✓ ✓ ✓

**Complete kit weight**

<table>
<thead>
<tr>
<th>Kit Type</th>
<th>ME3000TK</th>
<th>ME3000SK</th>
<th>ME3000BK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete kit</td>
<td>12kg</td>
<td>11kg</td>
<td>Same as ME3000SK</td>
</tr>
<tr>
<td>Marking unit</td>
<td>5.5kg</td>
<td>4.7kg</td>
<td>Same as ME3000SK</td>
</tr>
</tbody>
</table>

**Kit dimensions**

- Kit dimensions with lid down:
  - 45cm x 26cm x 35cm
  - Same as ME3000TK
  - Same as ME3000TK

- Kit dimensions with lid up:
  - 45cm x 34cm x 54cm
  - Same as ME3000TK
  - Same as ME3000TK

**“Electrochemical” equipment range guaranteed for 2 years**
A BRITISH COMPANY, Universal Marking Systems has over 50 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, laser, dot paint and manual marking.