



FAST.
PRECISE.
EFFORTLESS.

Produce smooth, artifact-free surfaces in minutes with a safe, cooled automatic electrolytic polisher/etcher for homogeneous metals and alloys up to 10 cm²

Key Features:

- Automatic electrolytic polisher / etcher
- Polished surfaces up to 10 cm²
- Quick polishing results
- Effective cooling of the electrolyte
- Safety features when electrolyte becomes too hot
- Can be used for most homogeneous metals and alloys
- Highly polished, distortion-free surfaces, ideal for microscopic examination
- No deformation layers
- Ease of operation



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about the PoliMat 2

PoliMat[®] 2

Electrolytic polishing profits by the following process: If two electrodes are submerged in an electrically conducting liquid under direct current, a flow of ions takes place from the anode to the cathode. Thus the metal atoms of the anode dissolve in the electrolyte or deposit on the cathode. With electrolytic polishing, this process allows the raised areas of the sample surface, switched as anode, to be removed so that a polished surface will be obtained under certain conditions.

The polishing process usually takes not more than 30 seconds thus saving considerable time compared with mechanical preparation. Electrolytic polishing is suitable for most homogeneous metals and alloys. Due to the varying potential differences between individual phases and/or components, heterogeneous alloys and compound materials are less suitable for electrolytic polishing/etching operations.

Ordering Information

| Part Number | Description |
|-------------|---|
| 511000 | PoliMat 2 (220V) |
| 512000 | PoliMat 2 (110V) |
| 510010 | Electrolysis cell (complete/polishing cell) |
| 510011 | Electrolyte container only |
| 510012 | Top cover with anode for etching/polishing cell |
| 510100 | Set of Masks (1cm ² , 2cm ² , 10cm ² , and blind mask) |

Technical Specifications

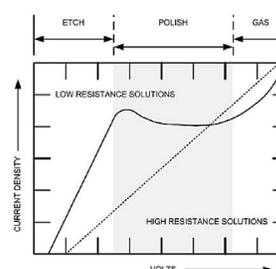
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|---------------|--|
| Machine Size | 19.7in (500 mm) H X 11.8in (300 mm) D X 9.8in (250 mm) W |
| Polishing | 0-60 V at 0-20 A and/or 0-120 V at 0-10 A |
| Etching | 0-15 V at 0-2.5 A |
| Voltage | 230 VAC/ 50-60 HZ, Single Phase |
| Wattage (MAX) | 1200 W |
| Weight | 51 Lbs (23 kg) |



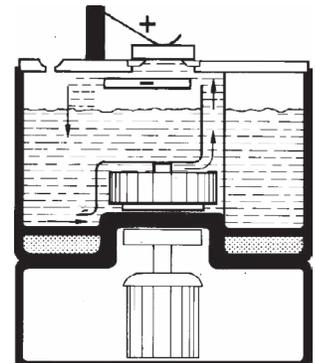
The PoliMat 2 consists of two components, the controller and power supply unit and the electrolytic cell. The controller is built into a robust metal housing. Preparation parameters can be adjusted separately.



The tank mount serves as a platform for the specimen. Easily exchangeable masks allow the preparation of differently sized specimen-areas.



Influence of current density and voltage on the sample. The efficient polishing range is marked grey. At low voltage the sample will be etched. Higher voltage results in vapor locks within the electrolyte and irregular current flow which itself leads to pittings.



The electrolyte flows by means of a pump between cathode (-) and anode (+). The regular flow of the electrolyte removes dissolved particles and wets the specimen surface steadily. An integrated cooling-water hose protects the electrolyte from getting to extreme temperature.



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