ELECTROLYTIC POLISHER/ETCHER LAB MODEL

DESCRIPTION

In-situ metallography has become one of the important **NDT** tools for industrial inspection systems. Over the years demand is observed in developing countries like India. In the current scenario, in-situ metallography is widely accepted in many areas of industries from quality control to life prediction of operating plant structures. In-situ metallography is useful where microstructures are prepared to minimize the damage to the material being analyzed and at the same time derive metallurgical information.

To meet these demands, we are delighted to introduce **INSIPOL-2000**.

A unique electrolytic polisher/etcher with an advanced control system and ease of operation. The INSIPOL-2000 is designed to help practicing metallurgists overcome practical difficulties.

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Website : www.hopesmluckyenterprises.in / www.hsmleindia.com (Under Construction)

PRINCIPLE OF ELECTROLYTIC POLISHING/ETCHING: -

Electrolytic polishing produces a highly polished distortion-free surface that is ideal for microscopic examination. The main advantage is that there are no deformation layers to observe the microstructure view as no abrasives are used. When an electrolyte is flown between the anode (a metal to be polished) and cathode, the micro protruding metal will dissolve to get a uniform polished surface at a particular current. The flow of electrolytes ensures the removal of metal products accumulated due to dissolution. The quantity of polishing also depends on lamella flow, which removes uniform metal. Etching generally occurs at a lower current than polishing, when only the grain boundary is attacked preferentially. INSIPOL-2000 is designed to get single-stage polishing/etching on a variety of metals. Single-phase alloy/metals are easy to polish with electrolytic polishing whereas multiphase alloys/metals it poses certain difficulties.

IMPORTANT AREAS OF IN-SITU METALLOGRAPHIC

- Quality control checks for metallurgical industries.
- Life assessment of process plant components, subjected to high-temperature damages.
- Recommendation of the component.
- Risk-based assessment of process plant.
- Damage identification audit.
- Weld quality evaluation for critical application

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SPECIFICATIONS OF INSIPOL – 2000 LAB MODEL: -

Model No.	INSIPOL – 2000
Supply Voltage	230V AC, 50 HZ
Power Consumption	280W maximum while operating
Polishing Voltage	0 - 60V
Polishing Current	0 - 3 Amp
Polishing Timer	0 - 90 Sec.
Etching Voltage	0 - 18V (To be set with sample)
Etching Current H Range	0 - 750 milliamps
Etching Current L Range	5 - 30 milliamps.
Etching Timer	0 - 90 Sec. Pump
Speed Control	Electronic
Dimensions	430mm X 330mm X 235mm(LHW)
Weight	11 kg. (Approx.) Without electrolyte

PORTABLE METALLURGICAL MICROSCOPE with Chargeable Battery Pack (Model No: PMM)	
It is compact in size, light in weight & easy to carry around. This microscope permits examination on the desk & also on the post-examination of an object in its original size & shape in factories, laboratories & pipelines. The microscope unit is fitted with an incident and light through an epi-illuminator, slot for dropping filter supplied with the variable light control, facility for Chargeable Battery Pack. Two filters in mount (Green & Blue) & following optical combination in Wooden box.	
Eyepieces: 10x	
Objectives: 5x ,10x, 20 X & 40x	
Magnification: Up to 400X	

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High-Resolution Camera

This is a high-resolution camera, which can display the image immediately on a computer or notebook. Pc attached with micro-image analysis software (scope Photo) can provide support for detailed image demonstration and analysis/ application, including the following.

FUNCTION:-

take photos and save pictures into the computer.

take a video and save it on the computer.

TECHNICAL SPECIFICATION

- Scan Mode: Progressive
- Image Sensor: 1.3 mega Pixel CMOS Chips
- Sensor Size: 1/3 (4.60mm(H) x 3.70mm(V), Diagonal
- 5.9mm) Max Resolution: 1280 X 1024
- Pixel Size: 3.6µm x 3.6µm
- Responsivity: 1.0v/lux-sec
- (550nm) Dynamic Range: 71dB
- A/D Converter: 10-bit, 8-Bit R.G.B
- to PC SN Ratio: 44dB
- Spectral Range: 400-650nm (with IR-filter)
- Color Rendering Technique: Ultra FineTM Color Engine
- White Balance: One Push ROI White Balance/ Manual Temp-Tint
- Adjustment
- Saved Picture File format: BMP & JPG
- Operating System: Microsoft® Windows® XP / Vista / 7 (32 & 64 bit) / MAX(OS) / Linux

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