

# MECHANICAL TESTING EQUIPMENT

## PORTABLE HARDNESS TESTER



- Hardness scale HL, HRC, HRB HV, HB, HS
- Tensile strength 374~1999 Mpa
- Accuracy  $\pm 6\text{HLD}(760\pm 30\text{HLD})$
- Working Temp. 0~40°C
- Min. Workpiece 25kg on stable support, 0.05~2kg with compact weight coupling
- Overall Dimensions 268x86x50mm

## SALT SPRAY/CASS/CYCLIC CORROSION CHAMBERS



- Temperature Range Ambient to 55° C.
- Temperature Accuracy  $\pm 2^\circ$  C.
- Temperature Control Digital PID Indicator cum controller with zero corrosion PT-100 sensor.
- Panel: A separate user-friendly control panel provided with the following:-
  - Digital PID temperature controller (microprocessor based) With

## SPECTRO POLISHING MACHINE (SLE-PM2)

Polishing machine developed specially for flat & parallel finish for high precision spectrometer analysis.

- Suitable for 360mmx40mm Diahole.
- 1400 RPM/2800 RPM speeds Available.
- Built in Dust Collector.

## UNIVERSAL TESTING MACHINE



- Hydraulic Servo Utm (WAW-1000C)
- Computer Display Manual Hydraulic Utm (WEW-1000D)
- Electronic Utm (WDW-100 E)
- UTM available in Models from 100KN to 1000KN variable speed.
- Computer Controlled with window based software.

## ROCKWELL HARDNESS TESTER (SLE-550)



- Test Force 588.4N(60kgf), 980.7N(100kgf), 147N(150kgf)
- Rockwell Scale 1~100HRA, 0~130HRB, 0~100HRC
- Testing Resolution 0.1 Rockwell unit
- Vertical/Horizontal space 200mm/160mm
- Dimensions 580x270x740mm
- Preload 1N (10 kgf)

## VICKER HARDNESS TESTER



- Measuring Range 10HV2~2500HV30 $\pm 2.0\%$
- Test Force 19.6N(2kgf), 29.4N(5kgf), 98.0N(10kf), 294N(30kgf), 490N(50.0kgf)
- Max. Height of sample 150mm
- Magnification 100X
- Min. Measurable Unit 1 micron
- Power supply AC 220V/110V, 50Hz/60Hz
- Hardness Value Hv2, Hv3, Hv5, Hv10, Hv20 Hv30.

## IMPACT TESTING MACHINE



- Pendulum Impact Tester is designed for conducting Izod and Charpy test.
- The energy utilized to break Izod or Charpy specimen is directly indicated by the pointer.
- Confirms IS: 1598, 1757, 1499, BS: 131
- Models ASTM or BS Type Available compact weight coupling.
- Overall Dimensions:- 268x86x50mm

## SURFACE ROUGHNESS TESTER (SLE-220)



- Measuring range Ra:0.025 $\mu\text{m}$ ~12.5 $\mu\text{m}$
- Resolution 0.01 $\pm$
- Cutoff Length 0.25mm, 0.8mm, 2.5mm, Auto
- Accuracy  $\leq \pm 10\%$
- Repeatability  $< 6\%$

## COATING THICKNESS METERS (SLE-6156)



- Thickness Range 0-1000 Microns/ 0-40 mil (switch selectable)
- Accuracy Resolution  $\pm 1\sim 3\%$  n or 2.5 $\mu\text{m}$  (0.1 (<100Micron)/1(>100 Micron))
- Min Base Thickness 0.3mm
- Min Measuring Area 6mm Dia
- Cable & Software Optional rs-232 output provided

## COATING THICKNESS METERS (SLE-6151)



- Display 4 digit 10mm LCD
- Thickness Range 0- 2000 Microns
- Accuracy resolution  $\pm 0.5 +1$  Digit (0.1(<100Micron)/1 (>100 Micron))
- Sensor Magnetic
- Sampling time 1 Sec

## STANDARD SAMPLES



Standards of makes : BAS, BNF, MBH, ALCAN, NIST, Secondary Standards & References Material are also available.

## PROFILE PROJECTOR (SLE-PP 05)



This profile projector features a 200/300mm diameter screen, 10x and 25x magnification lens mounted on turret for easy interchangeability and safety of the lenses, A rotary protractor screen for angular measurement, two one micron micrometer heads and a quartz halogen lamp.

# METALLOGRAPHY EQUIPMENTS

## METALLURGICAL MICROSCOPE (SLE-001)



Trinocular Observation Head

- Eye Piece 10x (Paired)
- Objective 10x,20x,40x,80x
- Mechanical Body Co-axial focusing with large knobs, tension adjustment ring. Reverse angle quadruple nose piece on ball bearing. Mechanical stage is 150mmx200mm.
- Illuminator The reflected light illuminator has 6V-20W halogen lamp, various model available.

## MOUNTING MACHINE (SLE-MM-11)



- Permanent mounting of Metallography specimen for correct polishing results.
- Reliable hydraulic jack with pressure gauge.
- Mould header, fast cooling (Air/Water).
- Timer: Buzzer facilities, automatic cycles.

## IMAGE ANALYSIS SOFTWARE (SLE-003)



Measure and Analysis the Image for Metallurgical

- ASTM Grain size calculation as per E-112, Grain size estimation- Comparison with standard graticule's- fast, time saving approach for routine analysis.
- Nodularity Measure for of Cast Iron calculated as per JIS 5502.
- Inclusion rating in steel, Phase, Decarburisation depth, Coating Thickness, Porosity.

Others models for biological application also available.

## IN SITU METALLOGRAPHIC KIT



- Portable Electrical Polisher.
- Portable electro Polisher/Etcher.
- Replica Kit/ Camera Mount.
- Digital Camera.

## SECTIONING MACHINE (SLE-SM-12)



- Effective for cutting Fragile/ hard/soft material with minimal surface deformation.
- Precision job positioning by micrometer.
- Diamond Impregnated blades: 0.15, 0.30, 0.40mm.

## JOMINY END QUENCH APPARATUS



- Special Furnace with DTC, Thyristor controlled panel avoids temp. Overshooting.
- At a time three Jominy tests can be carried.
- Quick transfer of specimen to quenching fixture within specific time with the special tong.
- Quenching Fixture designed strictly as per BS / SAE with specifications like 45 degree angle of top plate, quenching distance, jet stopper release just before quenching etc.
- Motorised Water Circulation with storage & test.

## PORTABLE MICROSCOPE (SLE-002)



- Excellent Optics with 10x, 20x, 50x Objective.
- Magnetic holder 10x Eyepiece.
- This instrument is applicable in laboratory & also in Situ Application.
- It is equipped with micro-camera which is directly connected with metallography microscope, and camera can take photograph on site.

## FIELD MICROSCOPE



- Objective Lenses 2x, 4x, 6x or 10x
- Eyepieces 10x eyepiece with direct reading reticle
- Total Magnification 20x, 40x, 60x or 100x.
- Focusing Rack & pinion focusing with dual focusing knobs.
- Illumination Penlight illuminator in swivel mount. Requires 2 AA batteries.

## OTHER ACTIVITIES

☞ Calibration:-

- Thermal
- Mechanical
- Electrotechnical Hepa Filters

☞ Clean Room Validations

☞ ETP Design & Maintenance

☞ Clean Room Designing Projects

☞ Complete Laboratory Setup & Training



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