



## UNIVERSAL HARDNESS TESTER

SM1017 MKIII

An educational instrument designed to industrial standards for accurate measurements of Vickers, Brinell and Rockwell hardness.



THE DISPLAY OF THE HARDNESS TESTER



### KEY FEATURES

- Industrial instrument specifications
- Fully automatic, load cell, closed loop, Universal hardness tester 1kgf - 250kgf
- Setting of hardness tolerance and statistics for a range of experiments
- Industrial 6.5" touchscreen
- Simple operation including:
  - Automatic load application and removal
  - Automatic evaluation of hardness value

### LEARNING OUTCOMES

Hardness testing of a range of different materials, using three different methods:

- Vickers (HV) DIN EN ISO 6507, ASTM E92
- Brinell (HB) DIN EN ISO 6506, ASTM E10
- Rockwell (HR) DIN EN ISO 6508, ASTM E18

### KEY SPECIFICATIONS

- Screen display of hardness to 0.1 unit resolution for Vickers and 0.5 unit resolution for Brinell
- Depth reading tolerance 0.05µm
- Electronic digital eyepiece with 15x magnification
- Variable test sequence timing from 1 to 50 s
- Loads available: 1 kgf - 250 kgf



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SM1017 MKIII

## DESCRIPTION

The SM1017 MKIII performs Vickers, Brinell and Rockwell tests in accordance with established specifications:

- Vickers: ISO 6507, ASTM E92
- Brinell: ISO 6506, ASTM E10
- Rockwell: ISO 6508, ASTM E18

The instrument features a backlit LCD display which is used to display measured hardness results, to monitor the progress of the test and to display information that may be required when setting up the machine for a variety of parameters.

Conversions of the results are also possible, according to ASTM E140 and ISO 18625

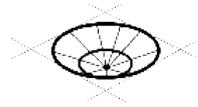
The SM1017 MKIII is an industrial instrument and if used in accordance with the following instructions, and given reasonable care and attention, it will maintain accurate and reliable hardness scales.

## STANDARD FEATURES

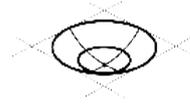
- Supplied with a comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives



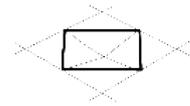
## HARDNESS SCALES



ROCKWELL



BRINELL



VICKERS

## ACCESSORIES (INCLUDED AS STANDARD)

- 60HRC Rockwell Reference Block
- 90HRB Rockwell Reference Block
- 400HV Vickers Reference Block
- 300HB Brinell Reference Block
- Electronic Digital Eyepiece
- 2.5x Objective
- 5x Objective
- 10x Objective
- Sliding Test Table
- V-Anvil 60mm
- Flat Anvil 60mm
- Machine Cover

## INDENTERS:

- Rockwell C Diamond Indenter
- Rockwell Ball Indenter 1/16"
- Brinell Indenter
- Macro Vickers Indenter

## RECOMMENDED ANCILLARY

- Hardness Tester Table (SM101X-A)
- V-Anvil 6-60 mm (SM101X-B)
- V-Anvil 10-100 mm (SM101X-C)
- V-Anvil 3.3-20 mm (SM101X-D)
- Knoop Indenter (SM1017 MKIII-F)
- HK2 Knoop Reference Block (HTB-K)

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## OPERATING CONDITIONS

### OPERATING ENVIRONMENT:

Laboratory

### OPERATING TEMPERATURE:

10°C to 35°C

### HUMIDITY:

10% to 90%, non-condensing

### SOUND LEVELS:

Less than 70 dB(A)

## ESSENTIAL SERVICES

### BENCH SPACE REQUIRED:

700 x 700 x 800 mm

### ELECTRICAL SUPPLY:

3 A single-phase, 240/120 V switchable

## DETAILED SPECIFICATIONS

TecEquipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

### NET DIMENSIONS AND WEIGHT:

- Height 770 mm x width 325 mm x depth 640 mm
- 115 kg

### APPROXIMATE PACKED DIMENSIONS AND WEIGHT:

- Height 1010 mm x width 540 mm x depth 880 mm
- 0.47 m<sup>3</sup>
- 166 kg

### STANDARD SPECIMEN ACCOMMODATION VERTICAL:

- 240 mm (9.45")
- Throat: 150 mm (6")