

DIGITAL HARDNESS TESTER

TABLE OF CONTENTS

1. FEATURES	1
2. SPECIFICATIONS	1
3. FRONT PANEL DESCRIPTIONS	3
4. MEASURING PROCEDURE	4
5. CALIBRATION CHECK	6
6. BATTERY REPLACEMENT	6

3.FRONT PANEL DESCRIPTIONS



- | | |
|----------------------|---------------------------------|
| 3-1 Sensor | 3-8 CAL key |
| 3-2 Display | 3-9 Indicator of Max.Value |
| 3-3 Power key | 3-10 Indicator of Average value |
| 3-4 Max hold key | 3-11 State of average value |
| 3-5 Zero key | 3-12 Number of measurements |
| 3-6 N/Average key | in the state of average value |
| 3-7 RS232C interface | |

4.MEASURING PROCEDURE

- 4.1 Specimen
Specimen surface should be flat and parallel to allow the presser face to contact to the specimen over an area which has a minimum radius of 40mm.
The specimen may be constructed with layered pieces to achieve the necessary thickness requirements, however the measurements taken on these specimens may not agree with those made on solid specimens due to the surface faces between layers not being in complete contact.
- 4.2 Depress and release the power key to power the tester on.
- 4.3 Depress the 'MAX' key till the mark MAX shows on the display.
- 4.4 Hold the durometer vertically with the point of the indenter at least 12 mm from any edge. Place the tester onto the object to be measured. Hold for 1 or 2 seconds, the maximum reading can be obtained automatically.
- 4.5 To take the next measurement, just depress the 'ZERO' key and repeat 4.4. On the other hand, you can depress the 'MAX' key till the mark MAX disappears from the display. And then repeat the step 4.3 and 4.4.

1.FEATURES

- * Durometer Type MF is an exclusive design for testing memory foam. The large diameter presser foot and cylindrical indenter configuration allow measurement by direct application to the test specimen.
- * Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.
- * Digital display gives exact reading with no guessing or errors.
- * Can communicate with PC for recording, printing and annualizing by the optional software and cable for RS232C interface.
- * Automatic power off to conserve power.
- * Use operation stand of optional parts can get good accuracy and repetitiveness due to constant measurement force to eliminate the errors caused by artificially applied different force.

2.SPECIFICATIONS

Display: 4 digits, 10 mm LCD
 Display Range: 0~100 HMF
 Measurement Range: 10~90 HMF
 Resolution: 0.1 HMF
 Presser foot: 80mm diameter
 Indenter: Extension 2.54mm
 25.2mm Cylinder

Spring force: 228gf
 Measurement deviation: $\leq \pm 1$
 Power supply: 4x1.5v AAA (UM-4) battery
 Operating condition: Temp. 0~50°C
 Humidity <80%
 Size: 162x80x80mm (6.4x3.1x3.1inch)
 Weight: about 250g
 (not including batteries)
 PC interface: RS232C interface
 Power off: 2 modes
 Manual off at any time by depressing the power key till OFF shows on the display or Auto power off after 2 minutes from last key operation.
 Accessories:
 Carrying case.....1 pc.
 Operation manual.....1 pc.
 Optional accessory:
 Cable and software for RS232C

- 4.6 If other than a maximum reading is needed, no need to set the mark MAX showing on the display. In such case, the reading on the display is an instant value. Just hold the durometer in place without motion and obtain the reading after the required time interval (Normally less than 1 second).
- 4.7 How to take average value
 4.7.1 To take the average value of many times of measurements, just depress and release the 'N/AVE' key to make the symbol 'N' showing on the display, followed by a digit between 1~9 with the prefix 'No.'. Here the digit is the times of measurements used to calculate the average value. Every time depress and release the 'N/AVE' key, the digit will increase 1. And the digit will become '1' while depressing the 'N/AVE' key at '9'.
- 4.7.2 Adjust the digit to the number needed and depress 'MAX' key or 'ZERO' key to return to the measurement state or wait for several seconds till '0' on the display.
- 4.7.3 Take measurements as per steps from 4.3 to 4.5. Be sure that every test should be 6 mm apart. Every time take a measurement, the reading and the times of measurements show on the display. When the times of measurements is equal to the number set, the unit first displays the reading of the last, and then display the average value of

- last 'N' measurements, followed by 2 beeps, with a symbol 'AVE' indicating on the display.
- 4.7.4 To take the next average value, just repeat 4.7.3.
- 4.7.5 To release from average measurement, just depress the 'N/AVE' till 'N' disappears.
- ### 5. CALIBRATION CHECK
- 5.1 Zero calibration
 Hold the durometer vertically with the point of the indenter hanging in the air, the reading on the display should be '0'. If not, depress the 'ZERO' key to make the tester display '0'.
- 5.2 High end calibration
 Just place the indenter onto a flat glass, apply enough force to make firm contact between the glass and the presser foot. The readings on the display should lie between 99.5 and 101. If not, press CAL key to carry out high end calibration.
- ### 6.BATTERY REPLACEMENT
- 6.1 When the battery symbol appears on the display, it is time to replace the batteries.
- 6.2 Slide the Battery Cover away from the tester and remove the batteries.
- 6.3 Install batteries paying careful attention to polarity.