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# HTX-02

# Leeb Hardness Tester

User Manual

Please read this manual carefully before using and reserve it for reference.

## I. Product Introduction

The HTX-02 detects hardness based on the Leeb hardness measurement principle and can measure the hardness of a variety of metal materials. The tester adopts advanced dual coil technology for good repeatability and measurement accuracy. The probe has a built-in direction sensor, which automatically compensates for the measurement error in different impact directions. The instrument has a variety of built-in hardness systems, which can be converted between Leeb (HL), Vickers (HV), Brinell (HB), Shore (HS), Rockwell (HRA), Rockwell (HRB), Rockwell (HRC). The instrument adopts an impact device D suitable for assessing the hardness of common metal materials.

## II. Parameters

<b>Probe</b>	Impact device D
<b>Hardness Scales</b>	HL, HV, HB, HS, HRA, HRB, HRC
<b>Measurement Range</b>	HLD: (170-960), HV: (83-976), HB: (30-651), HRC: (17.6-68.5), HS: (26.4-99.5), HRB: (13.5-100), HRA: (60-85.8)
<b>Resolution</b>	1HL
<b>Accuracy</b>	±6 HL
<b>Repeatability</b>	6HL
<b>Display</b>	240 * 16 dot matrix LCD
<b>Power Supply</b>	Rechargeable Lithium Battery
<b>Size</b>	148 * 34 * 24 mm
<b>Weight</b>	68g
<b>Working Temperature Range</b>	-10~50°C, 0~85%RH (no condensation)
<b>Storage Temperature Range</b>	-10~60°C, 0~85%RH (no condensation)


## III. Features

1. The tester uses advanced dual coil technology to increase repeatability and measurement accuracy.
2. A Built-in direction sensor automatically compensates for the measurement error of different impact directions.
3. Integrated handheld design makes the instrument compact and portable.
4. Provides a variety of interchangeable hardness scales.
5. Users can calibrate the standard parts to eliminate the error.
6. Low power consumption means it can work continuously for more than 100 hours.


## IV. Operation

### 1. Power on/off

#### Power on:

A short press of the  Enter button and the serial number of the tester is displayed on the screen. The instrument will then enter the measurement interface.

#### Power off:

A long press of the  Enter button will shut down the tester or click the “Shutdown” option in the menu.

### 2. Measurement

#### Loading:

Push down the loading sleeve of the probe to lock the impact body.




#### Positioning:

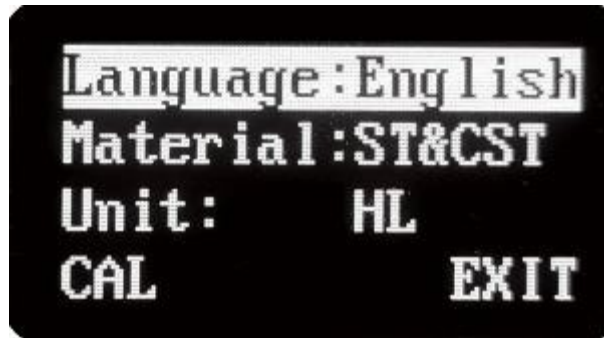
Press the probe firmly against the surface of the object to be measured and keep it still.












#### Measurement:

Press the release button on the top of the probe to measure the hardness of the object.


### 3. Setup and Calibration



Press and hold the  Enter button for 3 seconds when off or press the  Enter button briefly when in the measurement state to enter the Main Menu. There are five sub-options, press the ▼ briefly to select [Language, Hardness, Material, Unit, Calibration, Exit, Shutdown]. A short press of the  Enter button will confirm the selection.





- **Language:** Short press  button to enter the language option and press  button to select the right language, then press  button to confirm your selection.
- **Material:** Short press the  button to enter the material selection interface, short press the  button to select the corresponding material, then press the  button to confirm the option.
- **Hardness Unit:** The hardness unit is only displayed in the measurement mode. Press the  button briefly to enter the unit selection interface, press the  to select then press the  button to confirm.
- **Calibration:** Short press the  button to enter the calibration interface, the screen prompts [Please measure the standard hardness block], then you can measure the standard hardness block (single or multiple times). After measurement, the cursor moves to the actual value area, then press the  button to adjust the actual value to the standard value of the hardness block.

## 4. History Records

In the measurement mode, press  briefly to view the historical data in the browse interface. The instrument stores 9 sets of data, with the oldest recorded value automatically deleting when there are more than 9 sets of data. Record 1 is the earliest test data. Recorded data is not lost when the instrument is turned off.

When pressing  button to view the data, the data record number is increasing from the first one to the last one; when pressing  button to view the data, the data record number decreases from the maximum to the minimum.

In the history view mode or measurement mode, press  button briefly and the screen will show a data deletion prompt, press  button briefly to select [Yes] to delete all recorded data.

## V. Notes

1. The surface of the material must not be too rough. It needs to be flat, smooth, free of oil and grease.
2. The minimum mass of the test object is 5Kg, and the minimum thickness is 25mm. For objects whose weight and thickness do not meet the requirements, the test must be coupled with solid bracing.
3. After use, the impact body should be loosened.
4. The use of various lubricants is strictly prohibited in the impact device.
5. When measuring, the distance between any two indentations should not be less than 3mm, and the distance between the centre of the indentation and the edge of the object to be measured should not be less than 5mm.

## VI. Packing list

No.	Product Name	Quantity	Unit
1	Leeb Hardness Tester	1	Set
2	Nylon Brush	1	pcs
3	Small support ring	1	pcs
4	USB Data Cable	1	pcs
5	User Manual	1	pcs
6	Certificate / Warranty card	1	pcs

### Standards for the product:

- GB/T 13794.1 Metallic materials-Leeb hardness test-Part 1: Test method
- GB/T 13794.2 Metallic materials-Leeb hardness test-Part 2: Verification and calibration of hardness tester
- GB/T 13794.2 Metallic materials-Leeb hardness test-Part 3: Calibration of reference blocks
- GB/T 13794.4 Metallic materials-Leeb hardness test-Part 4: Tables of hardness values conversion
- JB/T 9378-2001 Industry standard of Leeb hardness tester
- JJG 747-1999 Verification regulation of Leeb hardness tester