

# India Tools & Instruments Co.

PRECISION IS EVERYTHING



India Tools >> Our Products >> Hardness Testers

## New Portable Digital Hardness Tester - ITI - 160 (BMI)



- Hardness systems: Leeb (HL), Brinell (HB), Rockwell A (HRA), Rockwell B (HRB), Rockwell C (HRC), Vickers (HV), and Shore (HS)
- Measuring range HLD (170~960), HRA (59~85), HRB (13~100), HRC (18~68), HB (19~655), HV (80~976), HS (32~100)
- Accuracy: +/- 5 HLD (0.63% at 800 HLD)
- Measuring direction 360 ° (vertically downward, obliquely downward, horizontally, obliquely upward, vertically upward)
- Measuring materials: steel and cast steel, alloy tool steel, stainless steel, gray cast iron, ductile iron, cast aluminum alloy, copper zinc alloy (brass), copper tin alloy (bronze), pure copper and forged steel
- Display TFT, 320 × 240 TFT LCD screen COLOUR DISPLAY Data storage 510 files, 46 to 215 groups (impact times 32 to 1) Communication interface standards USB2.0 (RS232, RS485)
- Charging power supply 5VDC220VAC
- Charging time 2-3hour
- Battery 7.4VLi2000mAhBattery
- Ambient temperature 040
- Storage temperature -2570
- The continuous working time is about 20 hours, and the standby time is 80 hours;
- Standard: ASTM A956, DIN 50156-1, GB/ T-17294



#### Functional features:

- Multiple language switching between Simplified/Traditional English, and German, with menu based operation.
- Adopt a proprietary dual bin dustproof design to ensure that the main engine bin is not affected by dust;
- Type-c USB and RS485 communication interfaces can easily connect PCs, industrial control computers, or PLCs;
- The main interface displays two hardness scales.
- There are three modes switching on the main interface (histogram mode, full hardness mode, and curve mode).
- The production batch number setting function allows for self-numbering of measured workpieces, facilitating statistical recording.
- Browse for any hardness scale conversion of status measurement data, which is convenient and fast.
- It can be equipped with 7 different impact devices, which do not require recalibration during replacement and can automatically identify the type of impact device.
- Support the measurement of multiple hardness systems and three strength values.
- Built-in domestic and foreign hardness conversion tables to meet the different needs of customers.
- It can store 510 files, with 46 to 215 groups of single measurement values, average values, measurement dates, impact directions, times, materials, hardness system, and other information for each file (32 to 1 impact times).
- The upper and lower limits of hardness values can be set in advance, and automatic alarm will be given when the limit is exceeded, facilitating the needs of users for batch testing.

- Indication software calibration function.
- Built-in high-performance lithium battery and charging control circuit, with a battery capacity of 2000mA.
- Computer software can be equipped to support data query, storage, statistics, histogram display, and other functions, and stored in Excel format.



#### Standard configuration:

- Instrument with Built in MINI Printer – 1
- D-type impact device – 1
- Small support ring – 1
- Nylon brush (I) – 1
- High value Leeb hardness block – 1
- Charger – 1
- Software (By Email)

#### Options:

- Various special-shaped impact devices.

#### Main technical indicators: Indication error and repeatability.

##### ● D-Probe: – Model No. ITI-D

Universal standard unit. Will handle the majority of hardness testing applications.

##### ● D+15 -Probe: – Model No. ITI-D+15

Very narrow contact area with a set back measurement coil. This device is used to measure hardness in grooves and recessed surfaces.

##### ● DL -Probe: – Model No ITI-DL

This model features a needle front section with a diameter of 4mm and a length of 50mm. It is suitable for testing in extremely confined spaces, the base of grooves and on special components such as gear wheels. For use on steel and cast steel only!

##### ● DC-Probe: – Model No. ITI-DC

Very short impact device for those confined areas, i.e. inside bores for internal measurements. Conforms to the D measuring range.

##### ● G-Probe: – Model No. ITI-G

This device has an enlarged test tip, and an increased impact energy range (approx. 9 times the D, 72 ft-lb.). Can be used on lower quality finishes for measuring hardness in the Brinell range only (max. 650 HB). Designed to be used with heavy components such as heavy castings and forgings.

##### ● C-Probe: – Model No. ITI-C

A reduced impact energy impact device-width (approximately ¼ of the D Type 2 ft-lb.) for measuring the hardness of surface hardened components, coatings, thin wall or impact sensitive components. Applies a small superficial indentation.

##### ● E-Probe: – Model: ITI-E

Diamond tip ensures longer operation life, for measurements in extreme hardness ranges. Tool steels with high carbide content.

Number	Impact device type	Standard Leeb hardness block hardness value	Indication error	Indication repeatability
1	D	760±30HLD	±5 HLD	5 HLD
		530±40HLD	±8 HLD	8 HLD
2	DC	760±30HLDC	±5 HLDC	5 HLDC
		530±40HLDC	±8 HLDC	8 HLDC
3	DL	878±30HLDL	±10 HLDL	10 HLDL
		736±40HLDL		
4	D+15	766±30HLD+15	±10 HLD+12	10 HLD+12
		544±40HLD+15		
5	G	590±40HLG	±10 HLG	10 HLG
		500±40HLG		
6	E	725±30HLE	±10 HLE	10 HLE
		508±40HLE		
7	C	822±30HLC	±10 HLC	10 HLC
		590±40HLC		

### Various special-shaped support rings

This set is designed to let the user confidently test on round (Concave or Convex) parts. Simple threaded design for quick change in the shop or out in the field.

12pc Universal Support Ring Set.



No.	Type	Remarks
1	Z10-15	For testing cylindrical outside surface R10~R15
2	Z14.5-30	For testing cylindrical outside surface R14.5~R30
3	Z25-50	For testing cylindrical outside surface R25~R50
4	HZ11-13	For testing cylindrical inside surface R11~R13
5	HZ12.5-17	For testing cylindrical inside surface R12.5~R17
6	HZ16.5-30	For testing cylindrical inside surface R16.5~R30
7	K10-15	For testing spherical outside surface SR10~SR15
8	K14.5-30	For testing spherical outside surface SR14.5~SR30
9	HK11-13	For testing spherical inside surface SR11~SR13
10	HK12.5-17	For testing spherical inside surface SR12.5~SR17
11	HK16.5-30	For testing spherical inside surface SR16.5~SR30
12	UN	For testing cylindrical outside surface, radius adjustable R10~?

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