

# INNOVATEST®

Advanced Materials Testing Solutions



## TH-110

Portable Hardness Tester



The completely new -entry level- TH-110, part of the unbeatable series of TIME Leeb type dynamic hardness testers offers a very affordable but accurate hardness testing solution for on-site testing in workshops and in field operation. The unit assures accurate and reliable measurement. All results and statistics can be directly printed on the compact –built on- fast thermal printer. Any metallic products with a minimum solid mass of 2 kg can be tested according to the Leeb principle and directly converted to any common hardness scale. All test results appear immediately on the display, while you easily can toggle between scales and conversions.

To avoid constant change of batteries and pollution, the TH-110 is equipped with long life chargeable batteries that provide over 16 hours of continuous operation.

**FEATURES**

- Test results appear directly on the large display
- According to ASTM and DIN standards
- Display scales HRC, HRB, HRA, HV, HB, HS and conversion to tensile strength
- Highly accurate readings  $\pm 0.5\%$  at 800 HL
- Correction for impact direction 360 degrees
- Chargeable battery pack to ensure many hours of undisturbed testing and printing
- Direct keys for easy set up of testing parameters
- Thermal mini-printer installed on the main unit
- Ridged ABS anti-shock casing with sealed keypad



## TECHNICAL SPECIFICATIONS

• Hardness parameter	HL, HRA, HRB, HRC, HV, HB, HS
• Tensile strength U.T.S. range (steel only)	$\sigma_b$ from 374 to 2652
• Accuracy	Within $\pm 0.5\%$ at 800HL, $\pm 6\text{HLD}$ ( $760 \pm 30\text{HLD}$ )
• Printer	Thermal printer showing all test results, settings and histogram
• Statistics	Average value, min-max, upper-lower limits
• Impact device	D (standard)
• Optional impact devices	DC/D+15/DL/G/C/E
• Workpiece max. hardness value	900HLD
• Workpiece radius (convex/concave)	R <sub>min</sub> = 50mm (with support ring) R <sub>min</sub> = 10mm
• Min. Workpiece weight	2~5kg on stable support 0.05~2kg with compact coupling
• Workpiece min. thickness coupled	5mm (except with impact device G: 10mm, C: 1mm)
• Workpiece min. case hardened depth	0.8mm
• Power	Rechargeable Li battery, 6V (1 pc)
• Charger	6V, 500mA (1.8VA)
• Charging time	2.5 - 4 hours
• Operating temperature	0 to 40°C
• Overall dimensions	230mm x 90mm x 47mm
• Weight	495 gr (incl. impact device and printer)

## IMPACT DEVICES FOR SPECIAL APPLICATIONS

Hardness testing devices for models TH-110/120/160

Impact Device E	Impact Device G	Impact Device D	Impact Device C	Impact Device DC	Impact Device D+15	Impact Device DL
<i>Special feature:</i> Synthetic diamond test tip (approximately 5000 HV).	<i>Special feature:</i> Enlarged test tip, increased energy (approximately 9 times that of type D)	<i>Special feature:</i> Universal standard unit.	<i>Special feature:</i> Reduced impact energy (approximately 1/4 of type D).	<i>Special feature:</i> Extremely short impact device. Spring loaded with a special loading stick.	<i>Special feature:</i> Particularly slim front section and with measuring coil moved back.	<i>Special feature:</i> Needle front section diameter 4.2mm, length 50mm.
<i>Application:</i> For measurements in the extremely high hardness range (always in excess of 50 HRC/650 HV). Tool steels with high carbide content inclusions. For measurements up to 1200 HV.	<i>Application:</i> For measurements in the Brinell range only (max. 650 HB)	<i>Application:</i> For the majority of hardness testing assignments.	<i>Application:</i> Surface hardened components, coatings, thin walled or impact sensitive components (small measuring indentation).	<i>Application:</i> Otherwise as for type D. Use in very confined spaces, e.g. in holes, cylinders or for internal measurements on assembled machines.	<i>Application:</i> Hardness measurements in grooves and on recessed surfaces.	<i>Application:</i> Measurements in extremely confined spaces

## STANDARD DELIVERY

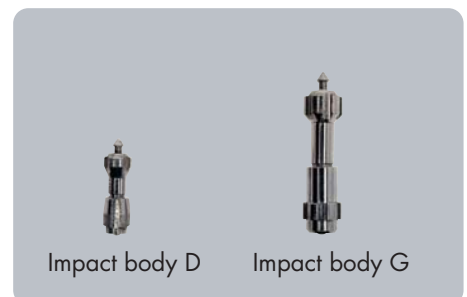
- Main unit with impact device type D
- Printer (on top)
- Test block with HLD-value
- Charger
- Cleaning brush
- Coupling paste
- Table support for main unit
- Certificate
- Manual
- Plastic carrying case

## OPTIONAL ACCESSORIES

- Special impact devices
- Test blocks UKAS certified in any hardness parameter
- Support rings for convex and concave surfaces

## ORDER DETAILS

### • TH-110/D



Represented by:

IN09-030



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