

# UNIVERSAL PORTABLE HARDNESS TESTER



● Universal

● Vickers

● Brinell

● Shore



**TH-170**



**TH-172**



**TH-174**

## **IMPACT®** **TH-170/172/174**

### **Standard delivery**

- Main unit with integrated impact device type D, C or DL
- Test block with HLD-, HLC- or HLDL-value
- Charger
- Cleaning brush
- Coupling paste
- Pocket protection case
- Data cable
- Certificate
- Manual
- Plastic carrying case

### **Optional accessories**

- Test blocks UKAS certified with any hardness parameter
- Support rings for convex and concave surfaces
- Printer TA-220 + cable

**TH-170**  
**TH-172**  
**TH-174**

**Universal type (most commonly used)**  
**Low impact force (for low weight parts)**  
**For narrow or confined spaces**

The world famous **IMPACT®** series, part of the unbeatable series of **TIME** Leeb type dynamic hardness testers offer very affordable but accurate hardness testing solution for on-site testing in workshops and in field operation. The units assure accurate and reliable measurement.

**All results and statistics can be directly printed to the optional compact fast thermal printer.**

**Any metallic products with a minimum solid mass starting from 0.5 kg can be tested according to the Leeb principle. The display shows hardness values in all common scales, such as HRC, HRA, HRB, HV, HB, HS, and HLD. The instrument is equipped with chargeable batteries that provides 16 hours continuous operation.**

### **Conforms to ASTM A 956 & DIN 50156**

- Dynamic rapid hardness test procedure
- Impact device D integrated: no cables! (TH-170)
- Integrated impact device C featuring low impact energy for surface hardened components and thin walled components (TH-172)
- Integrated impact device DL featuring testing in confined spaces
- Wide measuring range
- Direct display of hardness scales  
Rockwell HRB, HRC, Vickers HV, Brinell HB, Shore HS, Leebs HLD (TH-170)/  
Leebs HLC (TH-172)/Leebs HLDL
- For all metallic materials (TH-170), for steel and cast steel (TH-172/174),  
and cold work tool steel (TH-172)
- Provides testing at any angle
- Simple handling and low test expenditure
- High accuracy  $\pm 0.5\%$
- Clear LCD display showing all functions and parameters
- Conforms to ASTM A 956 and DIN 50156
- Optional printer TA-220 available

## TH-170

Material	HLD	HRC	HRB	HRA	HB	HV	HS
Steel and cast steel	300-900	20-68	39-100	59-86	81-654	81-955	32-100
Cold work tool steel	300-840	20-67	-	-	-	80-898	-
Stainless steel	300-800	20-62	46-101	-	85-655	85-802	-
Grey cast iron	360-650	-	-	-	93-334	-	-
Nodular cast iron	400-660	-	-	-	131-387	-	-
Cast aluminium alloys	200-570	-	24-34	-	27-164	-	-
Brass	200-550	-	13-95	-	40-173	-	-
Bronze	300-700	-	-	-	60-290	-	-
Copper	200-690	-	-	-	45-315	-	-

The ranges are stipulated by the application limits of the relevant static procedure

## TH-172

Material	HLC	HB	HRC	HV	HS
Steel and cast steel	350-960	80-683	20-69	80-996	31-102
Cold work tool steel	350-900	-	20-68	100-941	-

The ranges are stipulated by the application limits of the relevant static procedure

## TH-174

Material	HLDL	HB	HRB	HRC	HV	HS
Steel and cast steel	560-950	81-646	37-100	21-68	80-950	30-96

The ranges are stipulated by the application limits of the relevant static procedure

### Technical specifications

Hardness parameter	HRC, HRB, HRA, HV, HB, HS, HLD or HLC or HLDL
Measuring range/metallic materials	See table above
Accuracy	Within $\pm 6$ HLD (TH-170) Within $\pm 12$ HLC (TH-172) Within $\pm 12$ HLDL (TH-174)
Statistics	Average (max. 99)
Output	RS-232
Min. Surface roughness of workpiece	1.6 $\mu$ m (Ra) (TH-170/174), 0.4 $\mu$ m (Ra) (TH-172)
Impact device	D (standard) integrated (TH-170) C integrated (TH-172) or DL integrated (TH-174)
Needle front section of DL-device (TH-174)	Diameter = 4.2mm Length = 50mm
Workpiece max. hardness value	900HLD (TH-170) 960HLC (TH-172) 950HLDL (TH-174)
Workpiece radius (convex/concave)	Rmin = 50mm (with support ring Rmin= 10mm)
Workpiece minimum weight	2kg-5kg on solid support (TH-170/174) 0.5kg-1.5kg on solid support (TH-172) (0.05kg-2kg with couplant paste) (TH-170/174) (0.02kg-0.5kg with couplant paste) (TH-172)
Workpiece min. thickness coupled	5mm (TH-170/134), 1mm (TH-172)
Workpiece min. case hardened depth	0.8mm (TH-170/134), 0.2mm (TH-172)
Indentation depth	See page: Impact devices data
Power	Rechargeable battery NiMH 3.6V, 70mAh
Charger	9V, 200mA (1.8VA)
Charging time	8 hours
Operating temperature	0°C to 40°C
Overall dimensions	155mm x 24mm x 55mm (TH-170/172) 210mm x 24mm x 55mm (TH-174)
Dimensions DL impact device (TH-174)	LxD 50mm x 4mm diameter
Weight	180gr (TH-170/172) or 200gr (TH-174)



### MINI-PRINTER TA-220

Reliable and fast mini-printer with quality EPSON print head and clear LCD display, RS-232 interface. Optional data cable TA-510 to IMPACT series available. Prints all numerical IMPACT hardness test data direct real-time or per batch after testing.

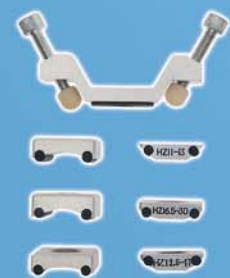


### TEST BLOCK D

For performance tests of IMPACT series a test block D is available (HLD hardness value). Tolerance allowed is  $\pm 6$  units HLD. Values too low: impact device dirty. Value too high: spherical test tip flattened, or test block impacted all over. Optional: similar test block D but UKAS certified according to any hardness scale such as HRC or HV for traceable reference.

### COUPLANT

Light parts can be coupled to a solid base plate using a thin layer of couplant paste. Both contact surfaces must be perfectly flat.



### SUPPORT RINGS

On curved surfaces having a radius of under 30mm, effective positioning on the component is facilitated by the use of support rings. This ring can be screwed on front of the impact device.

### We offer a set of 7 rings:

convex model 10mm-15mm / 14.5mm-30mm / 25mm-50mm, concave model 11mm-13mm / 12.5mm-17mm / 16.5mm-30mm, universal model.

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