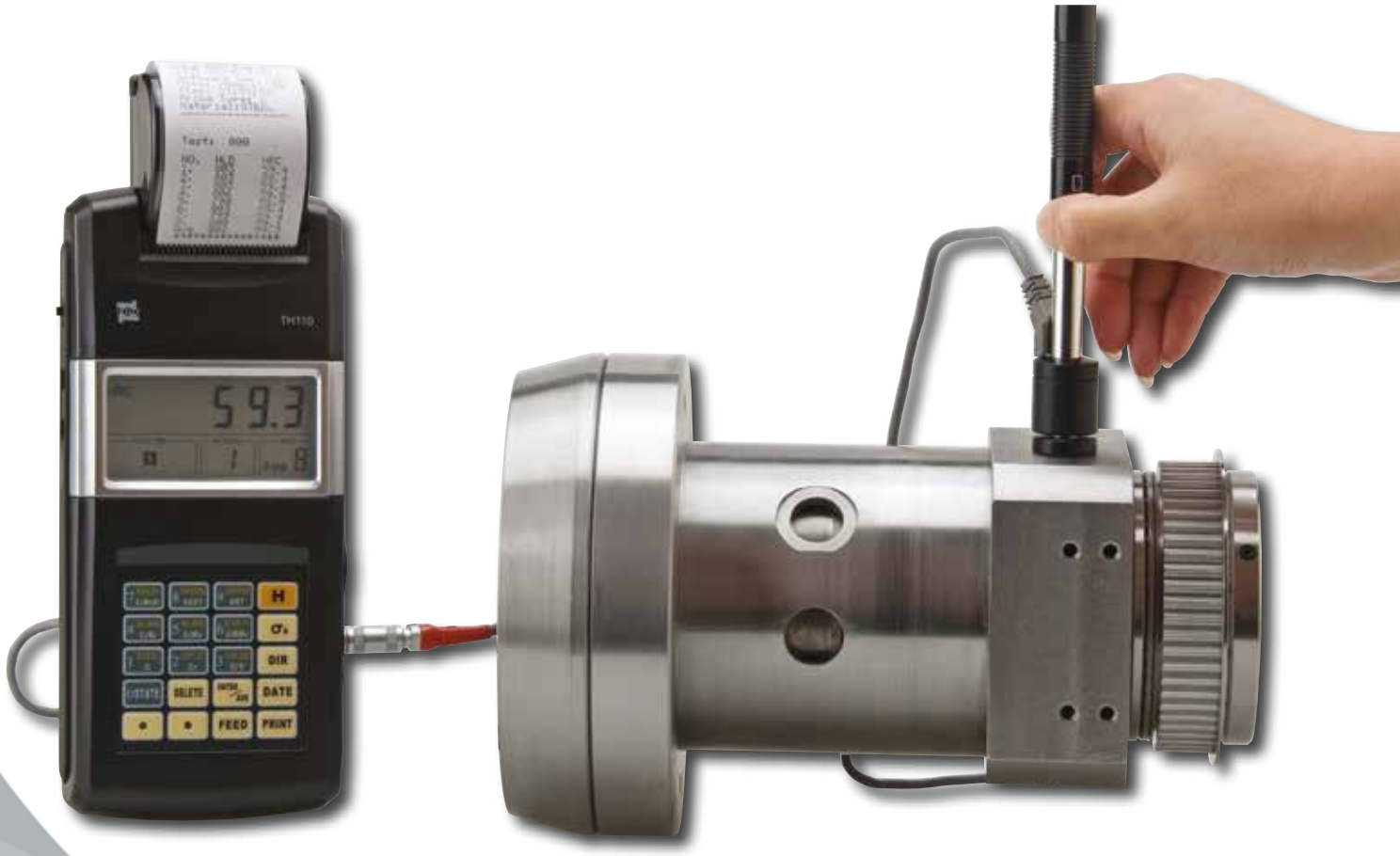
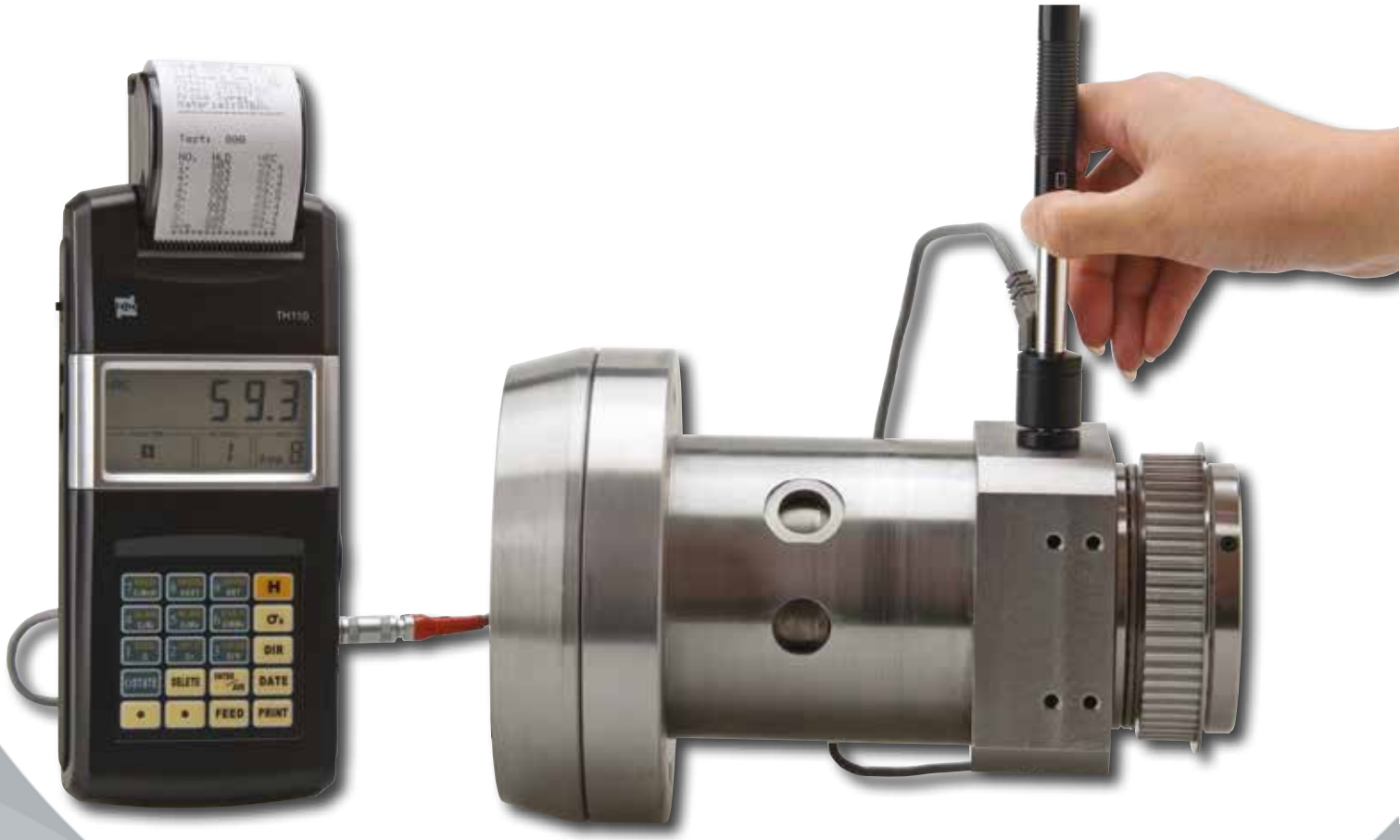
INNOVATEST®
Advanced Materials Testing Solutions

ROCKY TH-110



ROCKY TH-110
Portable hardness tester



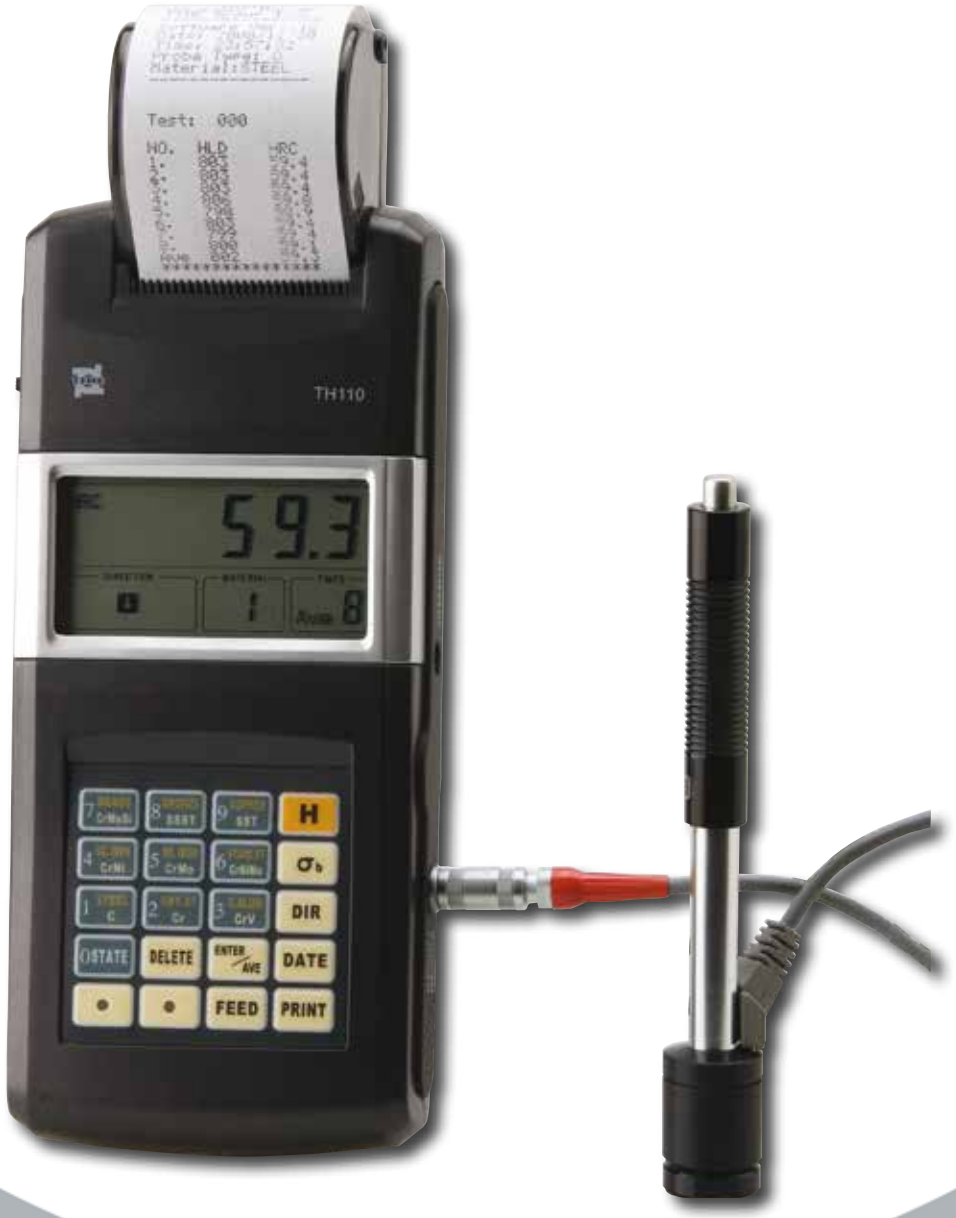
Features

The year 1989, the first TIME Leeb portable hardness tester ROCKY HLN11A was presented to the market. Yet, the new generation of this high quality, popular hardness tester is still the best selling Leeb tester world wide.
Often copied, but never equalled, the TH-110 is the 3rd generation of the ROCKY dynamic Leeb hardness testers. (standardized according to ASTM A956)
Most metallic products with a minimum solid mass starting from 0.5kg can be tested according to the Leeb principle. The display shows hardness values in all common hardness scales.

The instrument is equipped with re-chargeable batteries providing over 16 hours continuous operation.

- Easy to operate, no menu
- Test results appear directly on the large display
- According to ASTM and DIN standards
- Display scales HRC, HRB, HV, HB, HS and conversion to tensile strength
- Highly accurate readings ±6HLD
- 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
- Mini-printer installed on the instrument
- Ridged ABS anti-shock casing with sealed keypad

ROCKY TH-110
Portable hardness tester



Technical specifications

Hardness parameter	HL, HRB, HRC, HV, HB, HS
Tensile strength U.T.S.	sb from 374 to 2652 range (steel only)
Accuracy	Within ±6HLD
Printer	Printer showing all test results and settings
Statistics	Average value
Impact device	D (standard)
Optional impact devices	DC/D+15/DL/G/C
Max. hardness value	940HV-1000HV
Workpiece radius (convex/concave)	Rmin = 50mm (with support ring Rmin= 10mm)
Min. Workpiece weight	2-5kg on stable support 0.05-2kg with compact coupling except impact deviceC and impact device G
Workpiece min. thickness coupled	5mm, except impact device G 10mm and impact device C 1mm)
Workpiece min. case hardened depth	0.8mm, except impact device C 0.2mm and impact device G 1.2mm
Power	Rechargeable NiMh battery pack
Charger	12V, 600mA (1.8VA)
Charging time	2.5 - 4 hours
Operating temperature	0°C to 40°C
Overall dimensions	235mm x 90mm x 47mm
Weight	615gr (incl. impact device and printer)

Standard delivery

- Instrument with impact device type D
- Printer (on top)
- Hardness test block with HLD-value
- Charger
- Cleaning brush
- Coupling paste
- Support ring small
- INNOVATEST® certificate
- Manual
- Carrying case

SUPPORT RINGS

HARDNESS TEST BLOCK

Optional accessories

- Special impact devices (see overview)
- DKD Reference hardness blocks
- Support rings for convex, concave and spherical surfaces

Order details

TH-110/D Portable hardness tester with built-on printer and external D probe

IMPACT DEVICE for special applications TH110/160/180 Series

Impact device G

- Special feature:
  Enlarged test tip, increased impact energy (approximately 9 times that of type D) Low demands on measuring surface finish.
  For measurements in the Brinell range only (max. 650 HB)
- Application:
  Solid components, e.g. heavy castings and forgings.

Impact body D | Impact body G

Impact device D

- Special feature: Universal standard unit.
- Application: For the majority of hardness testing assignments.

Impact device C

- Special feature:
  Reduced impact energy (approximately 1/4 of type D).
- Application:
  Surface hardened components, coatings, thin walled or impact sensitive components (small measuring indentation).

D | C | DC

Impact device DC

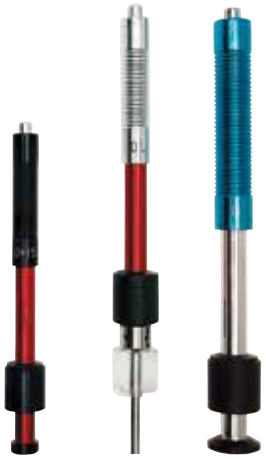
- Special feature:
  Extremely short impact device. Spring loaded with a special loading stick. Otherwise as for type D.
- Application:
  Use in very confined spaces, e.g. in holes, cylinders or for internal measurements on assembled machines.

Impact device D+15

- Special feature:
  Particularly slim front section and with measuring coil moved back.
- Application:
  Hardness measurements in grooves and on recessed surfaces.

Impact device DL

- Special feature:
  Needle front section ø4.2mm, length 50mm.
- Application:
  Measurements in extremely confined spaces



D+15 | DL | G

Technical specifications

Impact devices	D/DC/DL	D+15	C	G
• Impact energy	11 Nmm	11 Nmm	3 Nmm	90 Nmm
• Mass of impact body	5.5gr DL: 7.2	7.8gr	3.0gr	20gr
Test tip				
• Hardness	1600HV	1600HV	1600HV	1600HV
• Diameter	3mm	3mm	3mm	5mm
• Material	Tungsten carbide	Tungsten carbide	Tungsten carbide	Tungsten carbide
Impact device				
• Diameter	20mm	20mm	20mm	30mm
• Length	147/86mm	162mm	141mm	254mm
• Weight	75/50gr	80gr	75gr	250gr
Max. hardness of sample	940HV	940HV	1000HV	650HB
Preparation of surface				
• Roughness class ISO	N7	N7	N5	N9
• Max. roughness depth Rt	10μm	10μm	2.5μm	30μm
• Average roughness Ra	2μm	2μm	0..4μm	7μm
Min. weight of sample				
• Of compact shape	5kg	5kg	1.5kg	15kg
• On solid support	2kg	2kg	0.5kg	5kg
• Coupled on plate	0.05kg	0.05kg	0.02kg	0.5kg
Min. thickness of sample				
• Coupled	5mm	5mm	1mm	10mm
• Min. thickness of hardened layers	0.8mm	0.8mm	0.2mm	1.2mm

Indentation of test tip

Impact devices	D/DC/DL	D+15	C	G
With 300 HV				
• Diameter	0.54mm	0.54mm	0.38mm	1.03mm
• Depth	24μm	24μm	12μm	53μm
With 600 HV				
• Diameter	0.54mm	0.54mm	0.32mm	0.90mm
• Depth	17μm	17μm	8μm	41μm
With 800 HV				
• Diameter	0.35mm	0.35mm	0.35mm	-
• Depth	10μm	10μm	7μm	-

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