

TIME 5310

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 equaled, the Time 5310 is the 4th generation of Time 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 20 hours continuous operation.

- New design with built-in mini thermal printer
- Easy to operate menu
- Test results appear directly on the large display
- 8 inch color TFT LCD screen, 240 x 320 dot matrix, 262K color display, with adjustable LED backlight
- Data storage for 1000 groups of data including single measurement, average value, date, impact direction, measuring times, material and hardness scales

- Meet or exceed ASTM and DIN standards
- Display scales HRC, HRB, HV, HB, HS and conversion to tensile strength
- Display shows information for storage, battery level, electronic column, type of impact device and help function.
- Upper and lower limit settings, alarm for exceeding values , especially suitable for batch testing
- Highly accurate readings $\pm 6\text{HLD}$
- Correction for impact direction 360 degrees
- 7 different Impact devices available for different applications
- Impact devices recognized automatically, no need for recalibration
- Chargeable Li battery pack to ensure many hours of undisturbed testing and printing
- USB connection for transfer of Data to PC into MS office applications
- Automatic switch off after 5 minutes idle time
- Ridged ABS anti-shock casing with sealed keypad

Changes in products and/or product specifications can emerge due to new technologies and continuous development.

We reserve the right to change or modify specifications of the products without prior notice. We recommend you to contact our sales office for up-to-date information.

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TECHNICAL SPECIFICATION

Measuring Range	170-960 HLD
Tolerance and repeatability	Tolerance: ± 6 Repeatability: 6
Measuring direction	360
Hardness scale	HL, HB, HRA, HRB, HRC, HV, HS
Display	2.8 inch TFT LCD Screen
Data Storage	1000 Groups of data
Working voltage	3.7V
Charging time	6 hours
Power	12V/500mA
Continuous working time	20 hours
Interface	USB 2.0

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

OPTIONAL ACCESSORIES

- Special impact devices (see overview)
- DKD Reference hardness blocks
- Support rings for convex, concave and spherical surfaces
- DataView software for the transfer of Data to PC into MS office applications (Word/Excel).

ORDER DETAILS

- **TIME 5310** Portable Hardness Tester with built-on printer and external D probe

SUPPORT RINGS



HARDNESS TEST BLOCK



IMPACT DEVICE FOR SPECIAL APPLICATIONS TIME 5310 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 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).

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 $\varnothing 4.2\text{mm}$, length 50mm.
- Application:
Measurements in extremely confined spaces.

IMPACT BODY D



IMPACT BODY G



TECHNICAL SPECIFICATION

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	7.8gr	3.0gr	20gr
	DL : 7.2			
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 layer	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	-

Kapcsolat, bővebb információ:



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