



MH320 Portable Leeb Hardness Tester



Product Overview

MH320 portable Leeb hardness tester is based on Leeb hardness measurement principle, it can be quickly and easily used for on-site testing hardness of metallic materials and support free conversion between Leeb, Brinell, Rockwell hardness and other scales. It uses 128 × 64 dot matrix LCD screen, rich information, intuitive, stable performance and integrated high-speed thermal printer, which enables printing with instant measurement results. It can be widely used in metal processing and manufacturing, special equipment, permanent component failure analysis, inspection and other fields. It is particularly suitable for large parts and non-removable part of the on-site hardness testing. It is to improve production efficiency and pass rate and is a wise choice to save the cost of production.

Technical Specifications

Error and repeatability of displayed value showed in Table below.

No.	Type of impact device	Hardness value of Leeb standard hardness block	Error of displayed value	Repeatability

1	D	760±30HLD 530±40HLD	±6 HLD ±10 HLD	6 HLD 10 HLD
2	DC	760±30HLDC 530±40HLDC	±6 HLDC ±10 HLDC	6 HLD 10 HLD
3	DL	878±30HLDL 736±40HLDL	±12 HLDL	12 HLDL
4	D+15	766±30HLD+15 544±40HLD+15	±12 HLD+15	12 HLD+15
5	G	590±40HLG 500±40HLG	±12 HLG	12 HLG
6	E	725±30HLE 508±40HLE	±12 HLE	12 HLE
7	C	822±30HLC 590±40HLC	±12 HLC	12 HLC

- Measuring range: HLD (170~960) HLD
- Impact direction: vertically downward, oblique, horizontal, vertical upward, automatically identify
- Material: steel and cast steel, cold work tool steel, stainless steel, Grey cast iron, Nodular cast iron, cast aluminum alloys, BRASS(copper-zinc alloys), BRONZE(copper-aluminum/tin alloys), Wrought copper alloys
- Hardness Scale: HL、HB、HRB、HRC、HRA、HV、HS
- Paper Roll: Width (57.5±0.5)mm, diameter: 30mm, imported paper to ensure long-term data storage
- Display: 128X64 dots, adjustable backlight
- Data memory: 500 measurement series.(relative to impact times 32~1)
- Battery : 6V,(Ni-MH battery pack)
- Power Supply: 9V/500mA
- Recharge Time: 2.5~3.5hours
- Standby Time: About 150hours (with default brightness)
- Communication interface: USB1.1

Features

- Based on the principle of Leeb hardness testing theory. It can measure many metallic material
- One main unit can match to 6 impact devices
- Support Steel ,when using D/DC sensor to test steel,it can show HB directly,no need to check manually.
- High-contrast Segment LCD , easy to use
- Software calibration automatically.
- 500 groups (impact times 32 ~ 1) hardness measurements, each set of data includes single testing value, average value, measurement date / time, impact direction, frequency, material, hardness, and other information.
- Built-in Ni-MH , it can work for not less than 150 hours; automatic screen standby, automatic sleep, automatic shutdown and other power-saving features
- Real-time display the remaining battery power, charging progress is displayed while charging.

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- USB interface can do transmission measurements, the measured value storage management, statistical analysis of the measured value, the measured value of the print report and batch set the instrument parameters through the PC data-pro software to meet the higher demand for quality assurance and management.
 - Small size, portable, stable and reliable performance, suitable for harsh environment field operations, prevent from vibration, shock and electromagnetic interference.
 - Dimension:212mm×80mm×32mm

Application fields

- Die cavity of molds
- Bearings and other parts
- Failure analysis of pressure vessel, steam generator and other equipment
- Heavy work piece
- The installed machinery and permanently assembled parts
- Testing surface of a small hollow space
- Requirements of formal original record for test results
- Material identification In the warehouse of metallic materials
- Rapid testing in large range and multi-measuring areas for large-scale work piece

Application conditions

- Surface temperature can't be overheat less than 120°
- Surface roughness should not to be too large, otherwise it will cause errors. The surface of the work piece must be exposed metallic luster, smoothing and polish without Oil
- The specimens with 2-5kg or thin walled specimens overhangs should be supported with some object in order to avoid the specimen deformation ,bending and movement caused by impact for medium-sized work piece ,it shall be placed on a flat and hard surface, the sample must be placed absolutely smoothly,without any shake, for heavy samples more than 5kg, it can be measured dire without any support.
- Portable Leeb hardness tester has strict requirements for sample thickness , the minimum thickness shall comply with regulatory a(see instructions).
- For work piece with hardened layer on surface,the depth of hardened layer should conform to regulatory
- For lighter parts, please make it tightly coupled with support ,two coupled surface layer should must be conform flat and to smooth, the coupling gel should not to be too much. The direction of the test shall be perpendicular to the coupling plate; if the work piece is a large plate, pole or bending material , even the weight and thickness is okay ,it may still cause deformation and instability, resulting in test values error, it should be reinforced or supported at the back of the test points.
- Magnetic of work piece should be less than 30 gauss.
- For artifact-surface : The work piece surface is preferably flat. When the curvature radius R of measured surface is less than 30mm,the.work pieces should be tested with the small support ring the shaped support rings.

Working Conditions

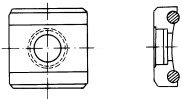
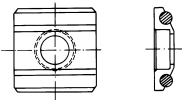

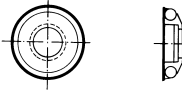
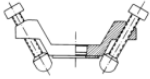
- Working temperature:-10°C~+50°C,
- Storage temperature -30°C ~ + 600°C,

- Relative humidity : $\leq 90\%$,
- The surrounding environment should avoid of vibration, strong magnetic field, corrosive medium and heavy dust.

Impact Devices

- D: Stand configuration, for normal testing
 DC: Test hole or hollow cylindrical
 DL: Test slender narrow groove or hole
 D+15: Test groove or concave surface
 G: Test large, thick, heavy and rough surface steel
 C: Test small, light, thin parts and surface of hardened layer

Other Supporting Rings

No.	Type	Sketch	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 R10~∞

Configuration

	No.	Item	Quantity	Remarks
Standard Configuration	1	Main unit	1	
	2	D type impact device	1	
	3	Standard test block	1	
	4	Power adapter	1	
	5	Cleaning brush (A)	1	
	6	Small support ring	1	
	7	Ni-MH battery pack	1	In the product
	8	Printer paper roll	1	
	9	Manual	1	
	10	ABS instrument package case	1	
Optional Configuration	1	Cleaning brush (B)	1	For G sensor
	2	Other type of support rings		
	3	Other type of impact devices		
	4	Data-Pro software	1	
	5	Communication cable	1	

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