

MH660

- Professional manufacturer, best quality with competitive price ●
- Recommended by the world UT NDT inspection association for training and examination ●
- Core technology with independent intellectual property rights, certificate of CE, GOST and etc.. ●

Portable Leeb hardness tester



Product Overview

MH660 portable Leeb hardness tester is Mittech latest upgrade model, it focuses on user experience and innovative features. Using 320 × 240 color LCD display, can also present clear measurement results in dim light and strong sunlight environment , greatly enhance the visual experience; sealed metal case compact design, smaller, better quality, designed to withstand harsh field environment of the oil, dust ,more original point calibration function is used to do multi-point calibration for convert curve to reduce errors;during measurement instrument can automatically identify the measuring direction, automatically alarm when out of range, to meet the inspection requirements with high precision and multi-angle material collected, support free conversion between hardness type; low-power design powered by two AA batteries, support multiple languages.Blue-tooth printer. It is widely used in metal processing and manufacturing, special equipment or permanent component failure analysis in service, inspection and other fields. Particularly suitable for large non-removable part of the site hardness testing. It is to improve the pass rate of production and cost savings necessary professional precision instrument.

Technical Specifications

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Measuring Range	(170 ~ 960) HLD Impact device D 760±30HLD : ±6HLD , 530±40HLD : ±10HLD Impact device DC 760±30HLDC : ±6HLDC , 530±40HLDC : ±10HLDC Impact device DL 736±40HLDL : ±12HLDL , 878±30HLDL : ±12HLDL Impact device D+15 766±30HLD+15 : ±12HLD+15 , 544±40HLD+15 : ±12HLD+15 Impact device G 590±40HLG : ±12HLG , 500±40HLG : ±12HLG Impact device C 822±30HLC : ±12 HLC , 590±40HLC : ±12 HLC
Error And Repeatability Impact Direction	Vertically downward, oblique, horizontal, oblique, vertical upward, automatically identify. 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.
Material	
Hardness Scale	HL、HB、HRB、HRC、HRA、HV、HS
Display	Color TFT LCD , 320×240 dots, adjustable backlight
Built - in	Built - in conversion table from(to) HLD to(from) HLC、HLG、HLDL、HLD+15
Integrated Data Memory	500 measurement series.(Relative to average times 32 ~ 1)
Battery	3V,two (AA size alkaline batteries)
Standby Time	About 300 hours (with default brightness)
Communication Interface	Blue tooth/USB1.1

Features

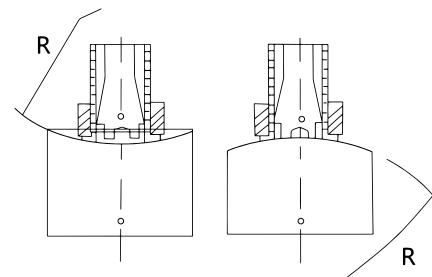
- Based on the principle of Leeb hardness testing theory. It can measure the Leeb hardness of all metallic materials.
- One main unit can match to 6 impact devices Automatically identify the type without calibration.
- Automatically identify the state of impact devices(connect,disconnect,error ,etc.)
- Automatically identify the direction of impact devices.(except G),360°,comprehensive free measurement.
- 320 × 240 TFT LCD screen. information-rich, intuitive, clear display, adjustable brightness, easy to use in dimly lit environments and intense sunlight.
- Basic (single-point) calibration and multi-point calibration function for convert curve,to reduce the test error.
- Hardness scales can to convert to HL,HRB, HRC,HRA, HV,HS.
- Built-in Leeb hardness conversion function to converse HLD to HLC,HLG,HLDL,HLD+15,which is convenient for calibration and value conversion.
- Preset up and low limit of hardness value , it will alarm automatically if out of range alarm, convenient for batch testings.
- Chinese-English converting, menu operation, easy and convenient.
- It can store 500 groups (impact times 32 ~ 1) hardness values, each data includes single testing value, average value,measurement date / time, impact direction, frequency, material, hardness and other information.
- Two ordinary AA batteries, it can work for not less than 100 hours; automatic screen standby , automatic sleep, automatic shutdown and other power-saving features.
- With field-portable mini-printers with Bluetooth communication, convenient to generate data reports.
- USB interface can do transmission measurements, value storage management, value statistical analysis ,printing the value report and batch setting the instrument parameters through the PC data-pro software, to meet the higher demand for quality.
- Sealed aluminum-magnesium alloy metal shell, compact, high portability, reliability, designed for harsh field environments, rugged, unique seal design allows it to resist wet , sand, dust, oil and other contaminants of harsh environments from the ocean to the desert.
- Dimension:120mm×67mm×31mm

Applications 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 °C.
- Surface roughness should not 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 directly without any support.
- Portable Leeb hardness tester has strict requirements for sample thickness , the minimum thickness shall comply with regulatory(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 must be flat and smooth, the coupling gel should not 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 if the weight and thickness is ok ,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 or the shaped support rings.

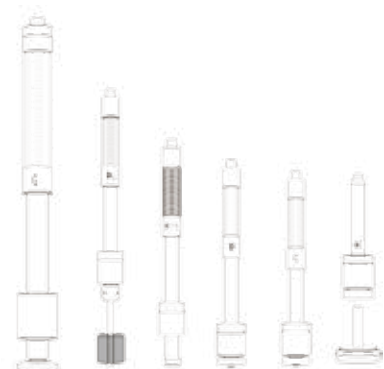


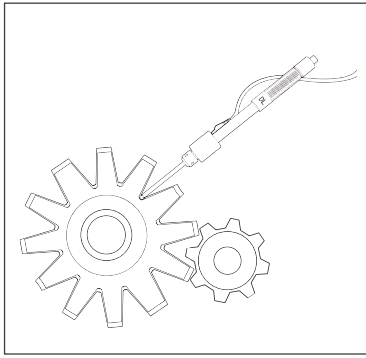
Working Conditions

- Working temperature : -10°C ~ + 50°C ,
- Storage temperature : -30°C ~ + 60°C ,
- Relative humidity : ≤90% ,
- The surrounding environment should avoid of vibration, strong magnetic field, corrosive medium and heavy dust.

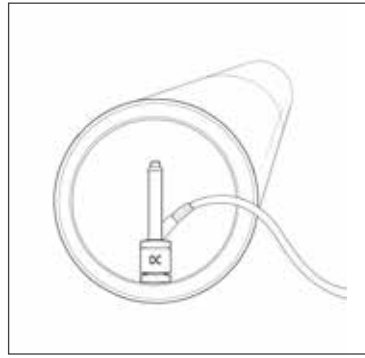
Impact Devices

- D : Stand configuration,for normal testing
- D C : Test hole or hollow cylindrical
- D L : 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

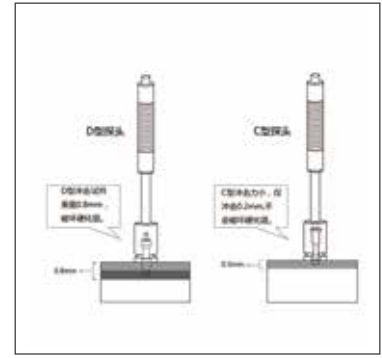




DL for testing gear



DC for inner wall of pipe



C for hardened layer

Other Supporting Rings

No	Type	Remarks	Sketch
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 adjustable R10 ~ ∞	

Configurations

	NO.	Item	Quantity	Remarks
Standard Configuration	1	Main unit	1	
	2	D type impact device	1	
	3	Standard test block	1	
	4	Cleaning brush (A)	1	
	5	Small support ring	1	
	6	AA size Alkaline battery	2	
	7	Manual	1	
	8	ABS instrument package case	1	
	9	Datapro software	1	
	10	Communication cable	1	On PC
	11	Screw driver	1	Mini USB-B to USB-A
Optional Configuration	1	Cleaning brush (B)		For use with G type impact device
	2	Other type of impact devices and support rings		

