H110
Portable Hardness Tester

Standard Configuration

Main unit	1	Small support ring	1
D type impact device(With cable)	1	Software	1
Standard test block	1	Manual	1
Cleaning brush (I)	1	Instrument package case	1

Features

- Compact plastic case， suitable for use under poor working conditions. Test at any angle, even upside down.
- Wide measuring range. It can measure the hardness of all metallic materials. Direct display of hardness scales HRA, HRB, HRC, HV, HB, HS, HL.
- Large screen (segment LCD), showing all functions and parameters. With EL background light.
- Large capacity memory could store 100 groups information
- Datapro Software to connect with PC via RS232 port.
- Software calibration function.

Main Application

- 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.
- Material identification in the warehouse of metallic materials.
- Rapid testing in large range and multi-measuring areas for large-scale work piece.

Technical Specification

Model	H110
Measuring range	(170-960)HLD,(17-68.5)HRC,(19-651)HB, (80-976)HV,(30-100)HS,(59-85)HRA, (13-100)HRB
Measuring direction	360° (↓↖↗↘↙→←↑)
Accuracy	±6HLD
Hardness Scale	HL、HB、HRB、HRC、HRA、HV、HS
Display	Segment LCD
Data memory	Max. 100 groups (relative to impact times 32~1)
Working voltage	3V (2 AA size alkaline battery)
Continuous working period	About 100 hours (With backlight off)
Communication interface	RS232

Impact Devices for Portable Hardness Tester

Our hardness tester series products can be equipped with the following devices

Measuring Range Of JIMTEC Leeb Hardness Tester

Material	Hardness Scale	Impact Device					
		D/DC	D+15	C	G	E (imported)	DL
Steel and cast steel	HRC	17.9~68.5	19.3~67.9	20.0~69.5	--	22.4~70.7	20.6~68.2
	HRB	59.6~99.6	--	--	47.7~99.9	--	37.0~99.9
	HRA	59.1~85.8	--	--	--	61.7~88.0	--
	HB	127~651	80~638	80~683	90~646	83~663	81~646
	HV	83~976	80~937	80~996	--	84~1042	80~950
	HS	32.2~99.5	33.3~99.3	31.8~102.1	--	35.8~102.6	30.6~96.8
Steel	HB	143~650	--	--	--	--	--
CWT. steel	HRC	20.4~67.1	19.8~68.2	20.7~68.2	--	22.6~70.2	--
	HV	80~898	80~935	100~941	--	82~1009	--
Stainless steel	HRB	46.5~101.7	--	--	--	--	--
	HB	85~655	--	--	--	--	--
	HV	85~802	--	--	--	--	--
GC. iron	HRC	--	--	--	--	--	--
	HB	93~334	--	--	92~326	--	--
	HV	--	--	--	--	--	--
NC. iron	HRC	--	--	--	--	--	--
	HB	131~387	--	--	127~364	--	--
	HV	--	--	--	--	----	--
C. Alum	HB	19~164	--	23~210	32~168	--	--
	HRB	23.8~84.6	--	22.7~85.0	23.8~85.5	--	--
Brass	HB	40~173	--	--	--	--	--
	HRB	13.5~95.3	--	--	--	--	--
Bronze	HB	60~290	--	--	--	--	--
Copper	HB	45~315	--	--	--	--	--

Tolerance and repeatability

No.	impact device	Hardness value of Leeb standard hardness block	Accuracy of displayed value	Repeatability of displayed value
1	D	790±40HLD 530±40HLD	±6 HLD ±10 HLD	6 HLD 10 HLD
2	DC	790±30HLDC 530±40HLDC	±6 HLDC ±10 HLDC	6 HLDC 10 HLDC
3	DL	894±40HLDL 736±40HLDL	±12 HLDL	12 HLDL
4	D+15	795±40HLD+15 544±40HLD+15	±12 HLD+15	12 HLD+15
5	G	590±40HLG 500±40HLG	±12 HLG	12 HLG
6	E	755±40HLE 508±40HLE	±12 HLE	12 HLE
7	C	851±40HLC 590±40HLC	±12 HLC	12 HLC

Technical specification

Types of impact device		DC(D)/DL	D+15	C	G	E(imported)	
Impact energy		11mj		11mj	2.7	90mj	11mj
Mass of impact body		5.5g/7.2g		7.8g	mj	20.0g	5.5g
Test tip hardness		1600HV		1600HV	3.0g	1600HV	5000HV
Diameter of test tip		3mm		3mm	1600HV	5mm	3mm
Material of test tip		Tungsten carbide		Tungsten carbide	3mm	Tungsten carbide	Diamond
Impact device diameter		20mm		20mm	Tungsten carbide	30mm	20mm
Impact device length		86(147)/ 75mm		162mm	20mm	254mm	155mm
Impact device weight		50g		80g	141mm	250g	80g
Max. hardness of sample		940HV		940HV	75g	650HB	1200HV
Roughness of sample surface		1.6μm		1.6μm	1000HV	6.3μm	1.6μm
Minimum weight of sample	Measure directly	>5kg		>5kg	0.4μm	>15kg	>5kg
	Need support firmly	2~5kg		2~5kg	>1.5kg 0.5~1.5kg	5~15kg	2~5kg
	Need coupling tightly	0.05~2kg		0.05~2kg	0.02~0.5kg	0.5~5kg	0.05~2kg
Min. thickness of sample coupling tightly		5mm		5mm	1mm	10mm	5mm
Min. depth of layer thickness for surface		≥0.8mm		≥0.8mm	≥0.2mm	≥1.2mm	≥0.8mm

Size of tip indentation

Hardness 300HV	Indentation diameter	0.54mm	0.54mm	0.38mm	1.03mm	0.54mm
	Depth of indentation	24μm	24μm	12μm	53μm	24μm
Hardness 600HV	Indentation diameter	0.54mm	0.54mm	0.32mm	0.90mm	0.54mm
	Depth of indentation	17μm	17μm	8μm	41μm	17μm
Hardness 800HV	Indentation diameter	0.35mm	0.35mm	0.35mm	--	0.35mm
	Depth of indentation	10μm	10μm	7μm	--	10μm

D: General test. DC : Testing hole or inner of cylinder. DL : Test slender narrow groove or hole.	D+15 : Test groove or reentrant surface.	C :Test small, light, thin parts and surface of hardened layer.	G :Test large, thick, heavy and rough surface cast steel.	E :Test super high hardness Material.

H130
Portable Hardness Tester

Standard Configuration

Main Unit	1	Paper for printing	1
D type impact device	1	Manual	1
Standard test block	1	Data Pro software	1
Cleaning brush (I)	1	Communication cable	1
Small support ring	1	Instrument case	1
Battery Charger	1		

Introduction

H130 Portable Leeb hardness tester, host and printer integrated design, convenient for users to print test results, especially suitable for hardness testing outside, high cost performance.

The instrument adopts streamlined ergonomic structure design, equipped with standard bracket and large color screen 320x240 display, which is convenient for operation and reading.

Features

- Large screen(240*320 TFT display), showing all functions and parameters.
- Test at any angle, even upside down.
- Support "forged steel (Steel)" material, when using the
- D/DC impact device test "forged" sample, can read HB value directly, without the need for manual checking table.
- Wide measuring range. It can measure the hardness of all metallic materials. Direct display of hardness scales HRB, HRC, HRA, HV, HB, HS, HL and three types of strength values immediately.
- Seven impact devices are available for special application. Automatically identify the type of impact devices.
- Large capacity memory could store 600 groups (Relative to average times32～1) information including single measured value, mean value, testing data, impact direction, impact times, material and hardness scale etc.
- Upper and lower limit can be preset. It will alarm automatically when the result value exceeding the limit.
- Battery information indicates the rest capacity of the battery and the charge status.
- User calibration function.
- Original imported high speed thermal printer support the immediate printing function. It can save data permanently.
- Li rechargeable battery as the power source. Charge circuit integrated inside the instrument. Continuous working period of no less than 150 hours (EL off and no printing).
- Auto power off to save energy.
- Industrialized housing design, sturdy, compact, portable, high reliability, suitable for harsh operating environment, vibration, shock and electromagnetic interference.
- Excellent after-sale service system for high quality products-two years' guarantee and all life maintenance.
- Easy to buy and comfortable to use.

Main Application

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

Technical Specification

Model	H110
Measuring range	HLD (170-960), HRC (17.9-69.5),HB (19-683), HV (80-1042), HS (30.6-102.6), HRA(59.1-88), HRB (13.5-101.7)
Impact directions	360° (↓↖↗↘↙→←↑)
Measuring daterials	Steel and cast steel, alloy tool steel, stainless steel, gray cast iron, nodular cast iron, cast aluminum alloy, copper zinc alloys (brass), an alloy of copper and tin, copper (bronze), forged steel
Standards	ASTM A956、DIN50156-1、GB/T17394-1998
Hardness scales	HL、HB、HRB、HRC、HRA、HV、HS
Tensile strenght	374 to 2652 N/m 2
Display	240*320 TFT display
Memory	600 groups max. (relative to impact times 32~1)
Work voltage	9V/500mA.
Interface port	USB2.0
Dimensions	210 * 85 * 45mm (host)
Weight	0.6kg (host)
Continuous working period	about 150hours (With backlight off, no printing)

H120
Portable Hardness Tester

Standard Configuration

Main body	1	Small supporting ring	1
D type impact device	1	Screwdriver	1
Test block with HLD value	1	Certificate of conformity	1
Cleaning brush (I)	1	Instrument box	1
Instruction manual	1	Software	1
Warranty card	1		

Features

- LCD display of 128×64 matrix is used.
- Converts to all common hardness scales(HV,HB,HRC,HR-
- B,HRA,HS)
- Hermetically sealed metal shell, solid and durable, has excellent resistance to vibration, shock and electromagnetic interference ability.
- With USB2.0 interface, multiple communication modes are adopted to meet customized requirements of various users
- Equipped with a data processing software, through the USB interface, can exchange data with computer printing and parameter setting.
- Equipped with 7 types of impact devices which need not to be recalibrated when changing them, the system can identify the type of impact device automatically.
- Max 600 groups（impact times:32～1）of data can be stored at internal non volatile data storage.
- Upper and lower limit of hardness can be preset; When the tested value exceeds the limits, alarm will send out automatically to make convenient for the requirements of batch measurements.
- Back light display has been used to make convenient for the use in poor light.
- Test values software calibration function.
- Material of “cast steel” is added; HB values can be read out directly when D/DC impact device is used to measure “cast steel” work piece.
- Failure analysis of pressure vessel, steam turbo generator set and other equipment.

Main Application

- The assembled machinery and permanently installed parts.
- Die cavity of molds.
- Heavy work piece.
- Bearings and other parts.
- Cases which require the test result with normalized original
- recording.
- Material identification of the metal material warehouse.
- Quick tests of large range and multipoint measuring posi.
- tions for heavy Workpiece.

Technical Specification

Model	H120
Measuring range	(170-960)HLD, (19-651)HB, (13-100)HRB, (17-68.5)HRC，(59-85)HRA, (80-976)HV, (30~110)HS
Impact directions	360°（↓↖↗↘↙→←↑）
Tensile strenght	374 to 2652 N/m²
Hardness scales	HL,HB,HRB,HRC,HRA,HV,HS.
Display	128*64 digital matrix LCD
Memory	600group(32 every group)
Interface port	USB2.0
Dimensions	125mm*71mm*27mm
Weight	0.3KG
Continuous working period	200 hours (with backlight off)
Measuring materials	Steel and cast steel, alloy tool steel, stainless steel, gray cast iron, nodular cast iron, cast aluminum alloy, copper zinc alloys (brass), an alloy of copper and tin, copper (bronze), forged steel