

**Leeb®**  
Testing Instrument

# BENCH HARDNESS TESTER



CHONGQING LEEB INSTRUMENT CO.LTD

# DIGITAL BRINELL HARDNESS TESTER



## Main Features

- Closed-loop sensor loading
- Electronic control system
- 10-level Test force range 62.5kgf to 3000kgf
- Hardness scale conversion function
- Digital display, Large LCD multi-function screen
- Built-in printer for data output
- Optional high-definition CCD camera and system



Φ10mm Indenter



## Application

- Suitable for the precision testing of parallel plane
- Stable and reliable for the curved surface testing
- Ferrous metals, nonferrous metals and bearing alloy material



φ10, φ5, φ2.5mm Indenter



φ200mm Table



φ50mm Table



10x Eyepiece

## Technical Specifications

Model	LHB-3000D
Brinell Scale	HBW2.5/62.5 HBW2.5/187.5 HBW5/62.5 HBW5/125 HBW5/250 HBW5/750 HBW10/100 HBW10/250 HBW10/500 HBW10/1000 HBW10/1500 HBW10/3000
Testing Force	62.5kgf (612.9N) 100kgf (980.7N) 125kgf (1226N) 187.5kgf (1839N) 250kgf 250kgf (2452N) 500kgf (4903N) 750kgf (7355N) 1000kgf (8907N) 1500kgf 1500kgf (14710N) 3000kgf (29420N)
Testing Range	(8 ~ 650) HBW
Max Height of Specimen	220mm
Min Measuring Unit	0.0625 um
Duration time	5~60s
Magnification of Microscope	20X
Carried Standard	EN, ISO 6507, EN ISO 6506, ASTM E-384, ASTM E-10-08, ASTM E-384 GB/T231.2, JJG150
Distance of Indenter to outer wall	145mm
Power supply	AC220±5%,50~60Hz
Overall Dimension (mm)	550*250*780mm
Standard Accessories	Indenter*3, Hardness Block*3, Testing platform*3, 20x Microscope*1, 2A Fuse*1, ect. (Please see Packing list)

## Optional Models



LHBS-62.5MD

- Digital LCD screen
- Test force: 1Kgf to 62.5Kgf
- D1 and D2 automatic input
- Built-in printer & Optional automatic system
- Motorized turret function
- Magnification: 100x



LHB-300A

- Closed loop loading, electric system
- 10 Test forces: 62.5Kgf to 3000Kgf
- Min measuring unit:0.05μm
- Portable Microscope, Magnification: 20x

# DIGITAL ROCKWELL HARDNESS TESTER



Digital LCD Display



Built-in Printer



Φ58mm Table



Φ150mm Table

## Main Features

- Traditional weight system
- Digital, multi-function LCD display
- Electric load. Automatic loading & unloading
- 12 Rockwell Scales, Conversion to Vickers, Brinell
- Meets or exceeds GB/T230.2, ISO 6508-2 ASTM E18 standards
- Optional Accessories for Plastic Rockwell test

- PC connectivity & Built-in printer for data output

## Application Fields

- Industrial production, Inspection of product quality on processing technology.
- Test the hardness of Ferrous and nonferrous metals, such as Hardened steel, tempered steel, annealed steel, carbide materials, Aluminum alloy, copper, bearing steel, etc.

## Technical Specifications

Model	LHRS-150					
Hardness measuring range	HRA:20~88 HRB:20~100 HRC:20~70 HRD:40~77 HRF:60~100 HRG:30~94					
Preliminary Testing force	HRH:80~100 HRK:40~100 HRL:50~115 HRM:50~115 HRR:50~115					
Testing force	10kgf(98.07N)	60kgf(588N)	100kgf(980N)	150kgf(1471N)		
Resolution	0.1 HR					
Duration time	0~60s					
Data output	Built-in Printer, RS232					
Max Height of Specimen	170mm					
Distance of Indenter to wall	165mm					
Power supply	AC220V±5%, 50~60Hz					
Overall Dimension (mm)	520*240*700mm					
Net weight	About 80Kg					
Standard Accessories	Indenter*2, Hardness Block*3, Testing platform*3, Weights*3, Power Cable *1, RS232 Cable *1 Paper of printer*1, Manual, Certificate, Guaranty card					

## Optional Models



LHR-150A

- Traditional weight system
- Dial display & Manual load
- Precision hydraulic load damper



LHR-150DT

- Traditional weight system
- Dial display & Electric load
- Automatic testing process



LHRMS-45

- Superficial Rockwell Scales
- Digital LCD display
- Electric load
- Hardness scales conversion
- PC connectivity & Built-in printer

# DIGITAL VICKERS HARDNESS TESTER



Turret



LCD Display



10x, 20x Objectives



HV Indenter



10x Eyepiece

## Main Features

- Automatic measuring process
- 4-inch LCD multi-function display
- Corner length D1 and D2 automatically input
- High-definition optical system: 20 levels adjustable
- Test force range 0.3kgf to 50kgf
- Hardness scale conversion function

- Automatic Turret (LHVS-5Z/10Z/30Z/50Z)
- Optional high-definition CCD camera and system

## Application Fields

- Surface coating, steel, non-ferrous metals, ceramics, alloys, etc.
- Heat treatment, carbonization, quenched hardened layer, nitrided layer
- Small and thin parts
- Depth and gradient of the carbonized or quenched hardened layers.

## Technical Specifications

Model	LHVS-5/10/30/50
Test force	LHVS-5 : 0.3Kgf (2.94N)、0.5Kgf(4.9N)、1Kgf (9.8N)、2Kgf (19.6N)、3Kgf(29.4N)、5Kgf (49N) LHVS-10: 0.3Kgf (2.94N)、0.5Kgf(4.9N)、1Kgf (9.8N)、3Kgf(29.4N)、5Kgf (49N)、10Kgf (98N) LHVS-30: 1Kgf (9.8N)、3Kgf(29.4N)、5Kgf (49N)、10Kgf (98N)、20Kgf (196N)、30Kgf (294N) LHVS-50: 1Kgf (9.8N)、5Kgf (49N)、10Kgf (98N)、20Kgf (196N)、30Kgf (294N)、50Kgf (490N)
Measuring Range	8~2900HV
Conversion Scale	Rockwell, Superficial Rockwell, Brinell
Indication of Hardness Value	Large LCD screen display
Min measuring unit	0.0625μm (with objective lens)
Test microscope magnification	200X(Measuring), 100X (observation)
Data output	Built-in Printer,
Load control (force applied)	Automatic (Loading, Dwell, Unloading.)
Max Height of Specimen	165mm
Distance of Indenter to wall	130mm
Power supply	AC220V±5%, 50~60Hz
Carried Standard	GB/T4340.2 Chinese Standard, JJG151 Inspection Rule
Net weight	About 45Kg
Standard Accessories	Indenter*1, Hardness Block*2, Testing table*1, Testing platform*3, Objectives*2, Eyepiece*1 Light bulb*1, ect. (Please see Packing list)

## Optional Models



LHV-5-50Z

- Digital LCD display
- Min measuring unit:0.5μm
- Test force 0.3Kgf to 50Kgf (Optional)
- Optional Automatic turret function
- D1 and D2 manual input



LMHVS-5Z-50Z

- All functions of LHVS-5-50Z
- Touch screen, full color display
- Min measuring unit:0.0625μm
- D1 and D2 Automatic input
- Printer & Optional automaticsysterm

# DIGITAL MICRO VICKERS HARDNESS



Turret



OLED Touch Screen



10x, 40x Objectives



Small Cylinder Table (φ58)



Flat Clamp Table (80x125mm)



Slice Clamp Table (80x80mm)



10x Eyepiece

## Main Features

- Touch Screen, full color multi-function OLED display
- Automatic measuring process
- Corner length D1 and D2 automatically calculate and input
- High-definition optical system: 20 levels adjustable
- Hardness scale conversion function
- Built-in printer for data output
- Optional: Knoop indenter, high-definition CCD camera & system

- Automatic turret function

## Application

- Surface coating, steel, non-ferrous metals, ceramics, alloys, etc.
- Heat treatment, carbonization, quenched hardened layer, nitrided layer.
- Small and thin parts.

## Technical Specifications

Model	LHVS-1000Z (Touch Screen)							
Test force	10gf (0.098N)	25gf (0.245N)	50gf (0.49N)	100gf (0.98N)	200gf (1.96N)	300gf (2.94N)	500gf(4.9N)	1000gf (9.8N)
Min measuring unit	0.03125 μm							
Data output	LCD screen display							
Carried Standard	GB/T4340.1, GB/T4340.2, ISO6507-2, ASTM_E384, JJG151							
Max Height of Specimen	90mm							
Distance of Indenter to wall	120mm							
X-Y Testing table	Dimension: 100*100mm Max mobile: 25*25mm							
Conversion Scale	HRA HRC HRB HRD HRF HV HK HBW HR15N HR30N HR45N HR15T HR30T HR45T							
Measuring Range	8~2900HV							
Method of testing force applied	Automatic (Loading, Dwell, Unloading)							
Test microscope magnification	400X(Measuring), 100X (observation)							
Duration time	0~60s (Adjustable)							
Power supply	AC220V±5%, 50~60Hz							
Overall Dimension	405*290*480mm							
Net weight	About 40 Kg							
Standard Accessories	Indenter*1, Hardness Block*2, Testing table*1, Testing platform*3, Objectives*2, Eyepiece*1, Light bulb*1, ect. (Please see Packing list)							

## Optional Models



**LHV-1000**

- LCD display & Automatic measuring process
- Test force 10gf to 1000gf
- Min measuring unit: 0.25μm
- Optional Automatic turret
- D1 and D2 manual input



**LHV-1000D**

- All functions of LHV-1000
- Min measuring unit: 0.03125μm
- D1 and D2 Automatic input
- Built-in printer
- Optional CCD camera



**LHVS-1000**

- All functions of LHVS-1000D
- 4-inch large LCD screen
- Rotating wheel of Z axis
- D1 and D2 Automatic input
- Built-in printer & Optional CCD camera

# IVISION-HV/HB HARDNESS MEASUREMENT SOFTWARE CCD

The software is mainly used for automatic testing, automatic hardness value calculation, report generation and data management.

It realized automatically test the indentation, calculate hardness value by software instead of by eyepiece, which reduce artificial errors during the measurement, and get a more effective & accurate test.

Easy, Fast & Accurate for Vickers/Micro Vickers/Brinell hardness test.



## Main Functions

- 1.3 megapixel microscope measurement camera. (optional: 3 megapixel camera)
- Automatically calculate the hardness value : Automatically capture & test the indentation, and calculate the hardness values
- Automatically Test: control the test and turret by software ( optional)
- Automatically generate the hardness curves
- Conversion, Verification and Compensation: converse the hardness value to other scales; verify the test results by sample size; compensation of cylindrical/spherical diameter test results
- Statistics: Automatically update statistics- Average, Min and Max values, standard deviation, Cp and Cpk
- Auto-alarm: Automatically mark the unqualified hardness
- Test report: automatically generate WORD or EXCEL report
- Data storage: Measurement data and images can be saved in a file for later retrieval
- Optional: Knoop Scale hardness test, fracture toughness measurement
- Other functions: Including image capture, camera calibration, image processing, dimensional measurement, document annotation, photo album management, and printing with specified magnification.

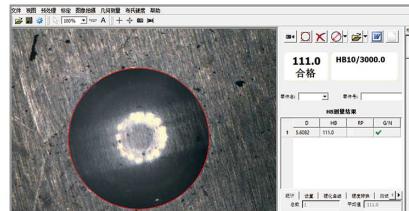
## Technical Specifications

Model	Manual capture indentation	Automatic capture indentation	Automatic calculate indentation & hardness value	Control Test & Turret	Applicable Models
CCD-A	•	-	•	-	All HV/HB models (Except touch screen models)
CCD-B	•	•	•	-	All HV/HB models (Except touch screen models)
CCD-C	•	-	•	•	Only for Touch screen models
CCD-D	•	•	•	•	Only for Touch screen models

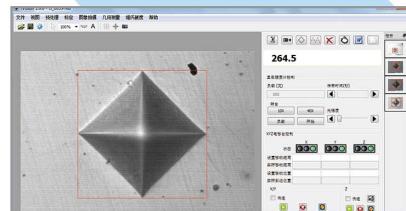
## Standard Delivery

1.3 megapixel camera	Dongle	CCD connecting rod	RS232 cable	Software (CD)	CCD cap	USB cable	Operation Manual
1	1	1	1	1	1	1	1

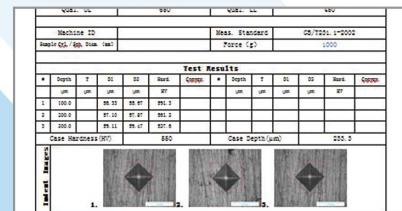
## Picturer



HB CCD Interface



HV CCD Interface



Report