Mikrosize®

iBRV-187.5PC/250PC

Digital Universal Hardness Tester

Video

Contact us

Mikrosize Precision Instrument Co.,Ltd
A-4035 RuiFeng Business Expo, Wuhu City, China , 241000.
Web:www.mikrosize.com
Email: mikrosize@mikrosize.com

Feature and Application

Product Feature

- Adopt 8-inch touch screen, rich display content, easy opera-tion.
- Ready to use after power on, no need to install
- weights.
  Electronic loading, closed-loop force control, high precision, toensure the stability and repeatability of
- test results.
  Three methods of Brinell, Rockwell and Vickers
- hardness test.Automatic hardness conversion.
  Equipped with high-precision optical system, can clearly pres-ent the indentation to ensure the accu-
- racy of measurement.
  With large storage space, it can store a large amount of mea-surement data, and can be easily retrieved and printed. Users canview historical test data at any time, conduct data analysis andcom-parison, and provide strong support for quality con-trol andresearch work.

Product Application

- Material research:
- Used to evaluate the hardness characteristics of materials andprovide data support for ma-terial selection, design and devel-opment.
- Production quality control:
- During the manufacturing process, it is used to detect whetherthe hardness of the product meets the standard and ensureproduct quality.
- Failure analysis:
- When equipment or parts fail, by analyzing the change in itshardness, the cause and mech-anism of failure can be inferred.

Product Details

1. Touch Screen 2. Micrometer 3. Mirror Frame 4. Objective Lens
5. External Lighting 6. Indenter 7. Sliding Table 8.Screw 9. Handwheel

1. Micrometer Interface 2. External Lighting Interface
3. Internal Lighting Interface 4. Internal Lighting 5. Emergency Stop Button
6. Printer

Product Details

1. Switch **2. Power Cord Interface** **3. RS232 Computer Interface**
4. USB Interface

1. Left Drum **2. Eyepiece** **3. Encoder Button** **4. Right Drum**

The micrometer is part of the hardness tester's optical system. Its function is to observe the actualindentation and measure the diagonal length.

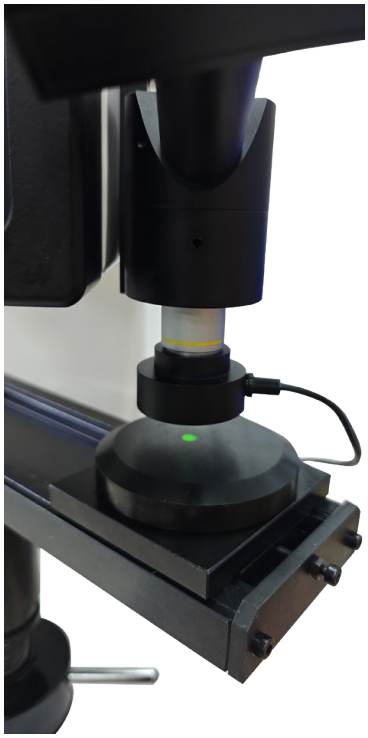
Product Details

Sensor Loading

- The test force loading and unloading mechanism is driven by a stepper motor, cooperates with theload cell and microprocessor control system, and uses a special algorithm to precisely control theoperation of the stepper motor, which significantly improves the test force control accuracy and isgreatly improved compared to previous models.

Objective Syetem

- With two optical lighting modes, internal and external, it can automatically select the appropriate light-ing mode according to the size of the indentation, making the indentation clearer and helping toimprove the accuracy of the measurement. When measuring samples of different hardness and size,you can get the best observation effect.



Product Details

Priner

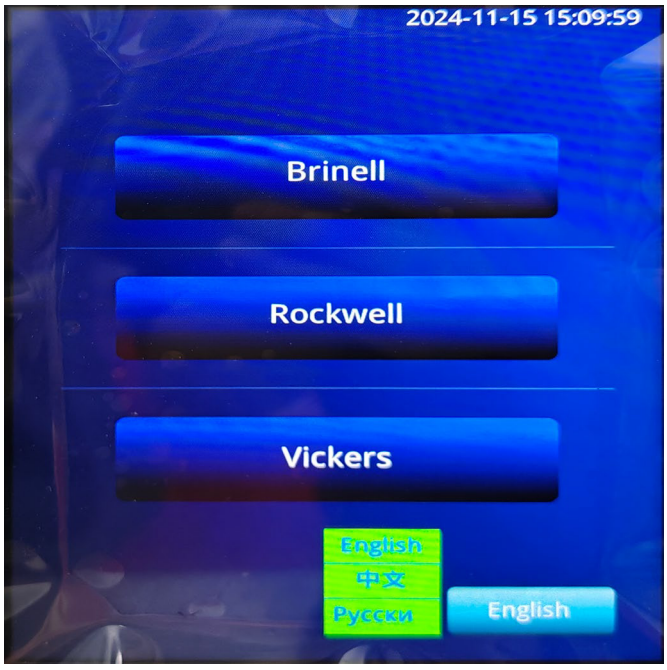
- This device has a built-in thermal printer, so users can print out the required data at any time, which is convenient and fast.

Emergency Stop Button

- There is an emergency stop button on the right side of the device. In case of emergency, you can pressit to stop the device quickly, thus avoiding accidents or reducing the degree of harm caused by acci-dents. To restart the device, you must release the emergency stop button, that is, rotate it clockiseabout 45° and then release it. The pressed part will pop up and the device can restart.

Screen Interface

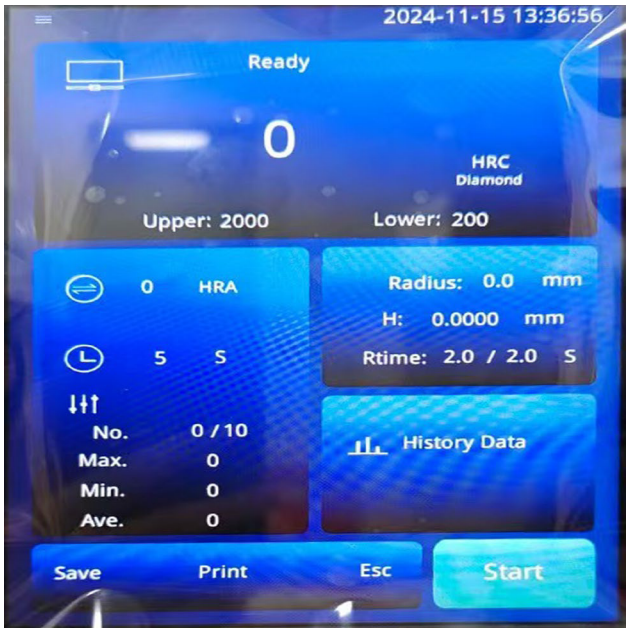
Emergency Stop Button



- After powering on, the user can enter this interface and select the required method from three hard-ness test methods (Brinell measurement, Rockwell measurement, Vickers measurement) At the sametime, this interface can also select the display screen language. This device supports Chinese, Englishand Russian.

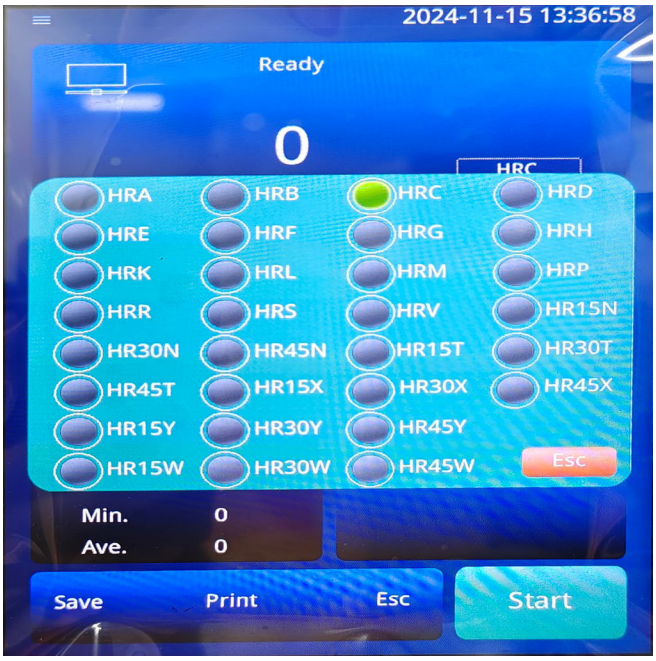
Rockwell Measurement

Rockwell Interface



- Click "Rockwell Measurement" to enter this interface, where you can select the Rockwell measurement scale, adjust the test parameters, start the experiment, and save, view, and print the experimental data.

Rockwell Scale Selection

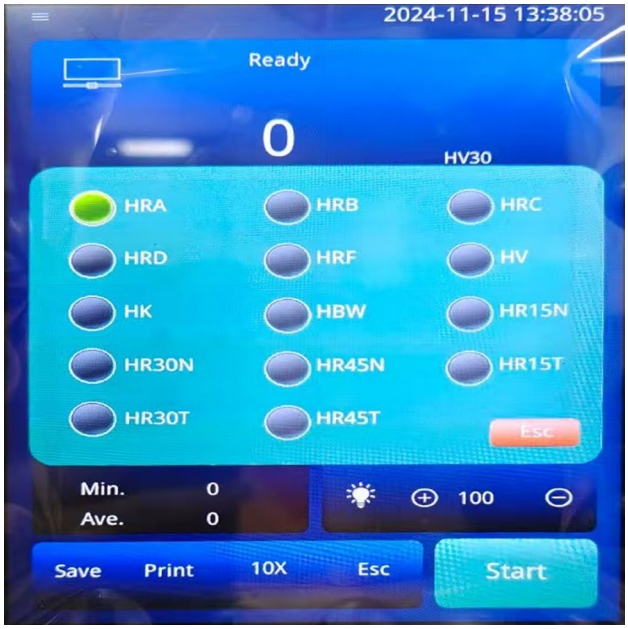


- Before starting the test, you must first select a suitable hardness scale. Click the "HRC" position to popup the test scale selection dialog box. The user can select the required scale from the list.

  Rockwell Scales:
  HRA, HRB, HRC, HRD,HRF, HRE, HRG, HRH,HRK, HRL, HRM, HRP,HRR, HRS, HRV, HR15N,HR30N, HR45N, HR15T,HR30T, HR45T, HR15X,HR30X, HR45X, HR15Y,HR30Y, HR45Y, HR15W,HR30W, HR45W

Rockwell Measurement

Conversion Scale



- Click to pop up the hardness conversion window. Users can select the hardness value to beconverted from the list. The hardness conversion of the three hardness test methods is the same.

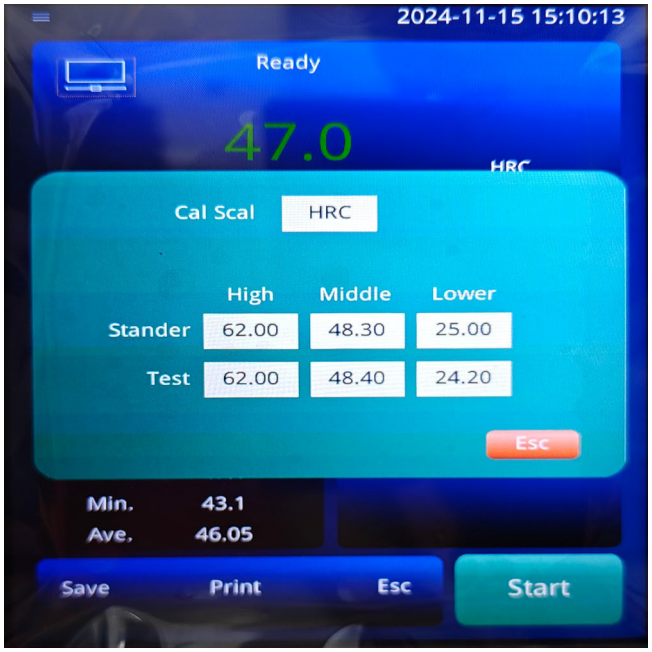
  Hardness Conversion Scales::
  HRA. HRB. HRC. HRD. HRF. HV. HK. HBW.HR15N.
  HR30N. HR45N. HR15T. HR30T. HR45T

Curve Radius

- When the sample to be tested is cylindrical or other curved, you need to enter the curve radius of the sample before testing.

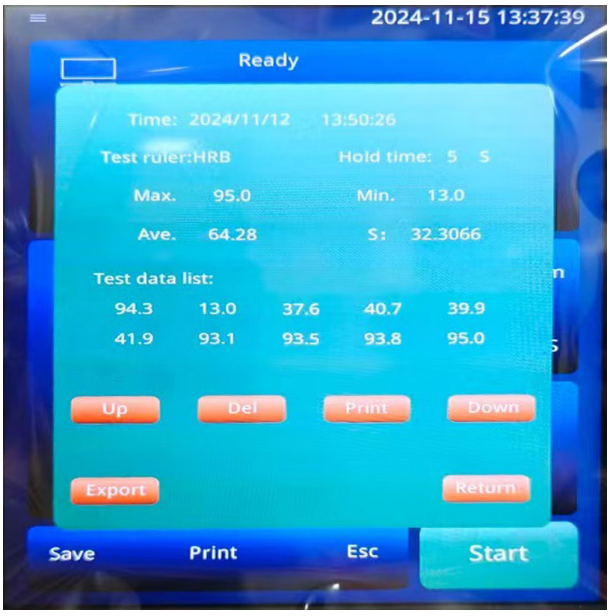
Software Function

Calibration



- Click the upper left corner of the interface to enter the calibration window. If the hardness value testeddeviates from the hardness value of the standard block by no more than 3 degrees, you can calibrate itthrough hardness calibration.

View Results



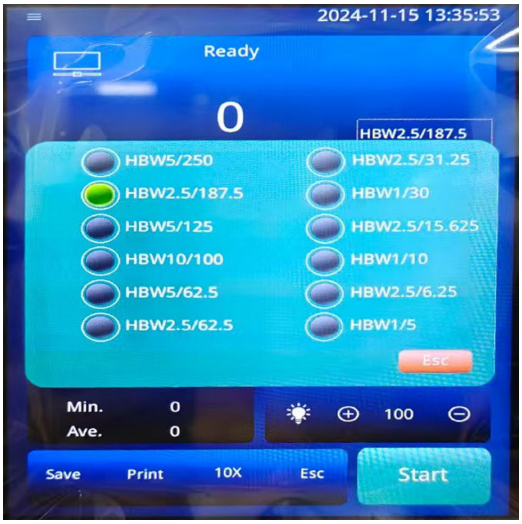
- Click the historical data button to pop up the window, where you can flip pages, search historical records, delete and print test data.

Brinell Measurement

Brinell Interface

- Click "Brinell measurement" to enter this interface. Compared with Rockwell measurement interface, thisinterface has more objective lens magnification selection and light adjustment at the bottom. You canchoose 2.5X; 5X; 10X three different magnification objective lenses by clicking. The magnification selec-tion must be consistent with the lens magnification installed on the actual device. Otherwise, the mea-surement result will be wrong.
  Click the plus and minus buttons on the left and right sides to control the brightness of the light.

Brinell Scale Selection

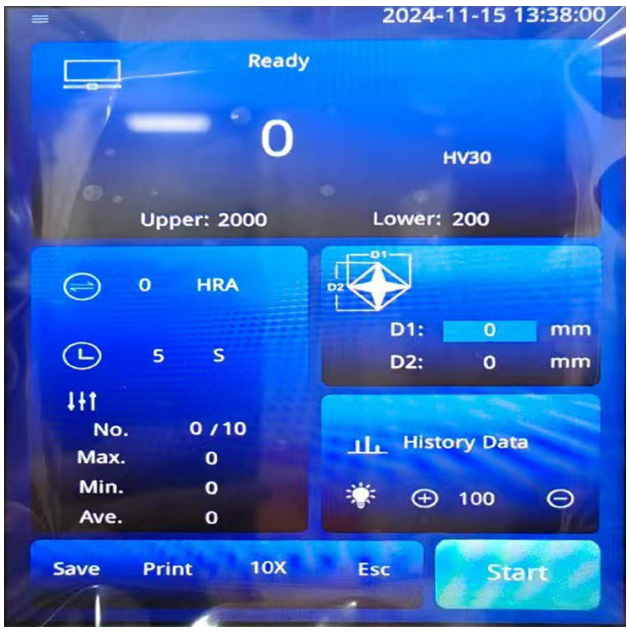


- Similarly, select a hardness scale before starting the test.

  Brinell Scale:
  HBW1/5、HBW1/10、HBW1/30;
  HBW2.5/15.625; HBW2.5/31.25; HBW2.5/62.5;
  HBW5/62.5; HBW5/125; HBW5/250
  HBW10/100; HBW2.5/187.5

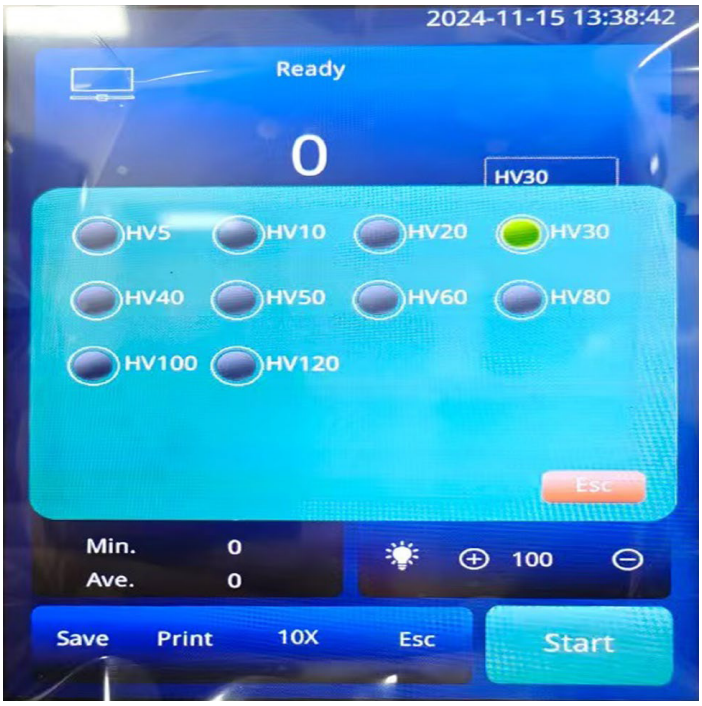
Vickers Measurement

Vickers Main Interface



- Click "Vickers measurement" to enter this interface. The interface layout and operation are the same as Brinell. The following is a brief introduction to the selection of Vickers scale.

Vickers Scale Selection



- Choose a suitable scale before testing.

  Vickers Scales:
  HV5;HV10;HV20;HV30;
  HV40;HV50;HV60;HV80;
  HV100;HV120

Mikrosize®

Technical Specification

Product Name	Digital Universal Hardness Tester	
Model	iBRV-187.5PC	iBRV-250PC
Initial Test Force	Rockwell: 10kgf(98.07N)	
Total Test Force	Rockwell： 588.4, 980.7, 1471N (60, 100, 150Kgf)	Rockwell： 588.4, 980.7, 1471N (60, 100, 150Kgf)
	Brinell:49, 98, 153.2, 306.5,612.9, 1226, 1839, 2452N(5, 10, 15.625, 30, 31.25, 62.5, 125, 187.5Kgf)	Brinell:49, 98, 153.2, 306.5, 612.9, 1226, 1839, 2452N（5, 10, 15.625, 30, 31.25, 62.5, 125, 187.5, 250Kgf）
	Vickers： 49.03, 98.07, 196.1, 294.2, 490.3, 980.7N（5, 10, 20, 30, 50, 100, 120Kgf）	Vickers： 49.03, 98.07, 196.1, 294.2, 490.3, 980.7N（5, 10, 20, 30, 50, 100, 120Kgf）
Force Error	＜0.5%	
Hardness Scale	Rockwell:HRA, HRB, HRC,HRD, HRF, HRE, HRG, HRH,HRK, HRL, HRM, HRP, HRR,HRS, HRV	Rockwell:HRA, HRB, HRC,HRD, HRF, HRE, HRG, HRH,HRK, HRL, HRM, HRP, HRR,HRS, HRV
	Brinell:HBW1/5 HBW1/10; HBW1/30;HBW2.5/15.625; HBW2.5/31.25; HBW2.5/62.5;HBW2.5/6.25 HBW2.5/187.5;HBW5/62.5 HBW5/125;HBW10/100	Brinell:HBW1/5 HBW1/10; HBW1/30;HBW2.5/15.625 HBW2.5/31.25;HBW2.5/62.5; HBW2.5/6.25;HBW2.5/187.5; HBW5/62.5;HBW5/125; HB;W5/250;HBW10/100
	Vickers:HV5, HV10, HV20,HV30, HV40, HV50, HV60, HV80, HV100, HV120	Vickers:HV5, HV10, HV20,HV30, HV40, HV50, HV60, HV80, HV100, HV120
	Knoop: HK3, HK5, HK10, HK20, HK30, HK40, HK50,HK60, HK80, HK100, HK120	Knoop: HK3, HK5, HK10, HK20, HK30, HK40, HK50,HK60, HK80, HK100, HK120

Technical Specification

Hardness Conversion Scale	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Hardness Range	Rockwell：20-88HRA, 20-100HRB, 20-70HRC	
Hardness Resolution	Brinell：5-650HBW；Vickers：8-2900HV	
Indication Accuracy	0.1HBW, 0.1HR,0.1HV	
Repeatability	Brinell: ±2.5HB, Rockwell:±0.1HR, Vickers:±2 HV	
	Brinell: ≤3.0HB, Rockwell:0.5HR, Vickers:≤2.5 HV	
Magnification	Eyepiece: 15X,	
	Objective:2.5X(for Brinell), 5X(for Brinell and Vickers)10X(-for Vickers)	
Total Magnification	Brinell:37.5X, 75X	
	Vickers: 75X,150X	
Dwelling Time	0~90s Adjustable	
Test Throat	160mm	

Technical Specification

Test Height	Rockwell 180mm;Brinell, Vickers165mm
Data Output	LCD display, U disk, Built-in mini printer
Executive Standards	ISO 6508, ASTM E-18, JIS Z2245, GB/T 230.2
	ISO 6506, ASTM E10-12, JIS Z2243, GB/T 231.2
	ISO 6507, ASTM E92, JIS Z2244, GB/T 4340.2
Power	AC110V/220V+5%, 50-60Hz
Machine Dimension	550×230×750mm
Net Weight	80kg
Gross Weight	130kg

Standard Delivery

Name	Qty	Photo
Machine Mainframe	1set	
Digital Micrometer Eyepiece	1pc	
Microscope Stand (including internal lighting)	1pc	
External Lighting	1pc	
2.5X, 5X, 10X Objectives	1pc ea.	

Standard Delivery

Name	Qty	Photo
Large Test Anvil, Medium Test Anvil, V-shape Test Anvil	3pcs	
Slide Test Anvil	1set	
Diamond Rockwell Indenter	1pc	
Diamond Vickers Indenter	1pc	
o1.5875mm Carbide Ball Indenter	1pc