Mikrosize®

iBRRV-187.5/250

Digital Universal Hardness Tester

Video

Contact us

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Features and Applications

Product Features

- Adopt 8-inch touch screen, rich display content, easy operation.
- 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 present the indentation to ensure the accuracy 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 andcomparison, and provide strong support for quality control andresearch work.

Product Applications

- Material research:
  Used to evaluate the hardness characteristics of materials andprovide data support for material 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 its hardness, the cause and mechanism of failure can be inferred

Instrument Appearance

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		

Instrument Appearance

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 actual indentation and measure the diagonal length.

Product Details

Sensor Loading

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

Objective System

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

Product Details

Printer

- 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 press it 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 clockwise about 45° and then release it, The pressed part will pop up and the device can restart.

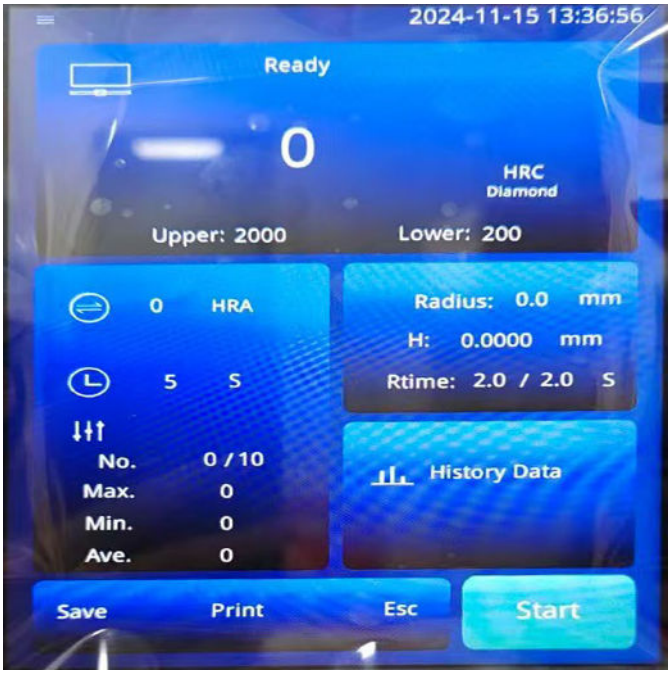
Operation Interface

Select Test Method/ Language

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

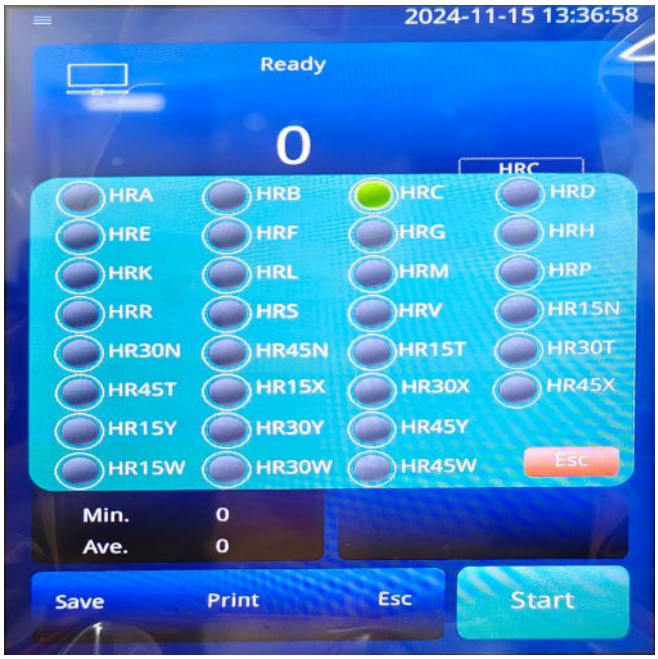
Rockwell Interface

- Click "Rockwell easurement" 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.



Operation Interface

Rockwell Scale Selection



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

Rockwell Scales:

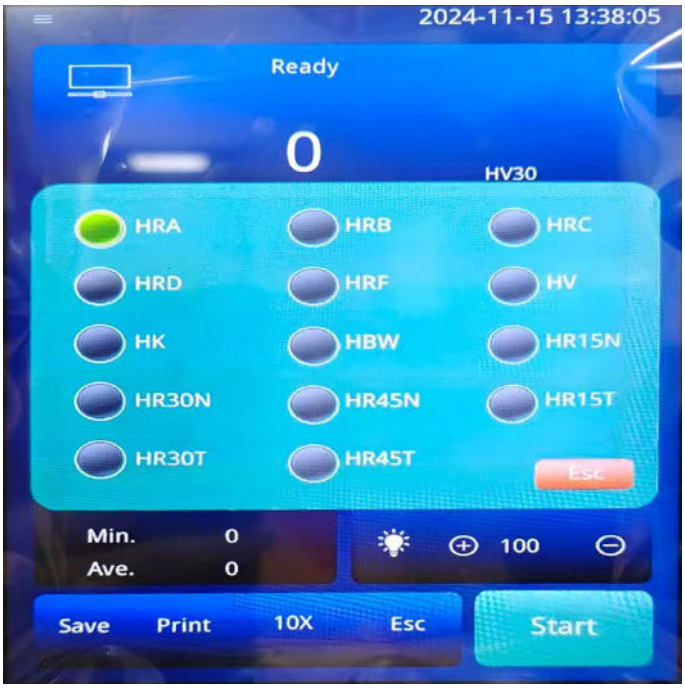
HRA, HRB, HRC, HRD,HRF, HRE, HRG, HRH,HRK, HRL, HRM, HRP,HRR, HRS, HRV, HR15N,HR30N, HR45N, HR15T,HR30T, HR45T, HR15X,HR30X, HR45X, HR15Y,HR30Y, HR45Y, HR15W,HR30W, HR45W

Conversion Scale

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

Rockwell Scales:

HRA. HRB. HRC. HRD. HRF. HV. HK. HBW.HR15N. HR30N. HR45N. HR15T. HR30T. HR45T



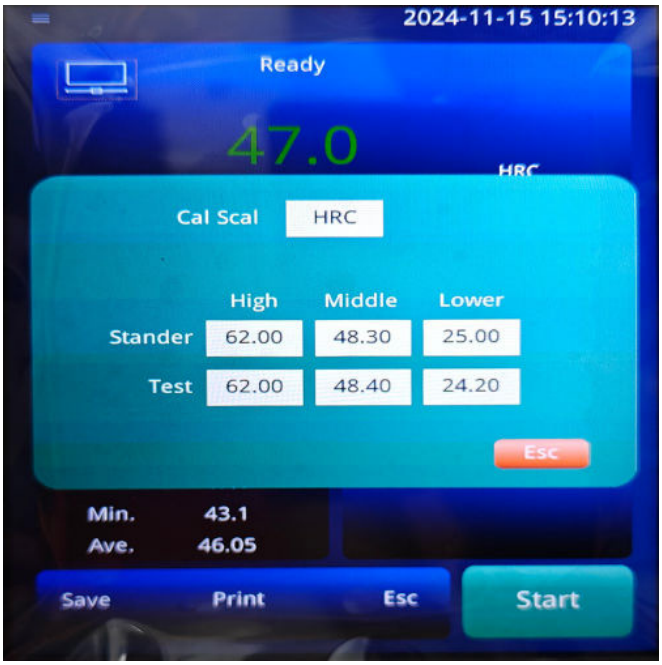
Operation Interface

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.

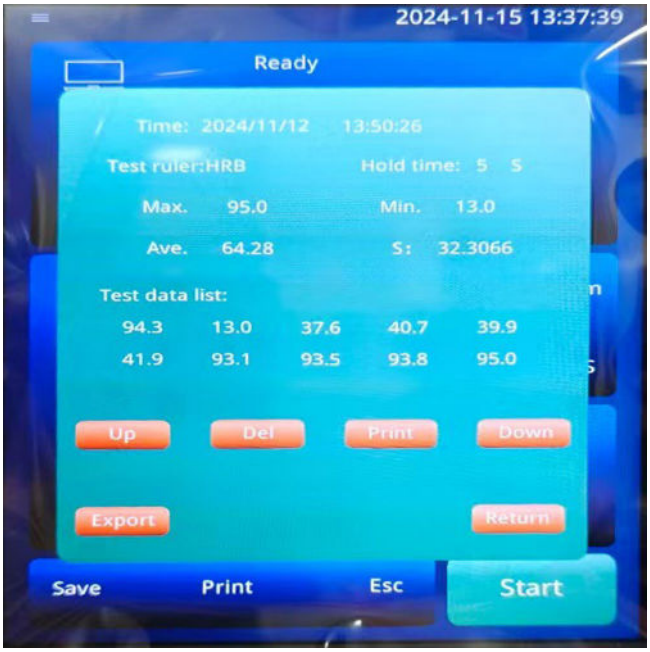
Calibration

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



Operation Interface

View Results



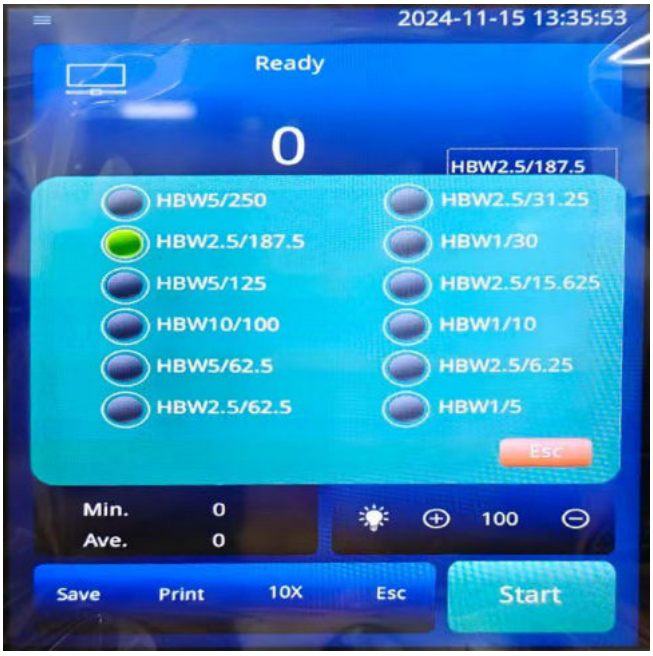
- Click the historical data button to pop up the window, where you can flip pages, search historical records, delete and print test data.

Brinell 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 can choose 2.5X; 5X; 10X three different magnification objective lenses by clicking. The magnification selection must be consistent with the lens magnification installed on the actual device. Otherwise, the measurement result will be wrong.
  Click the plus and minus buttons on the left and right sides to control the brightness of the light.

Operation Interface

Brinell Scale Selection



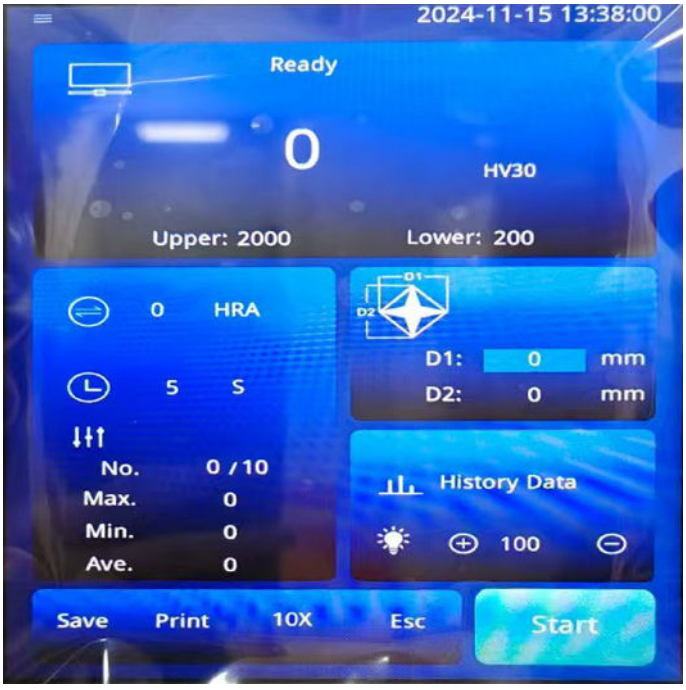
- Similarly, select a hardness scale before starting the test.

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

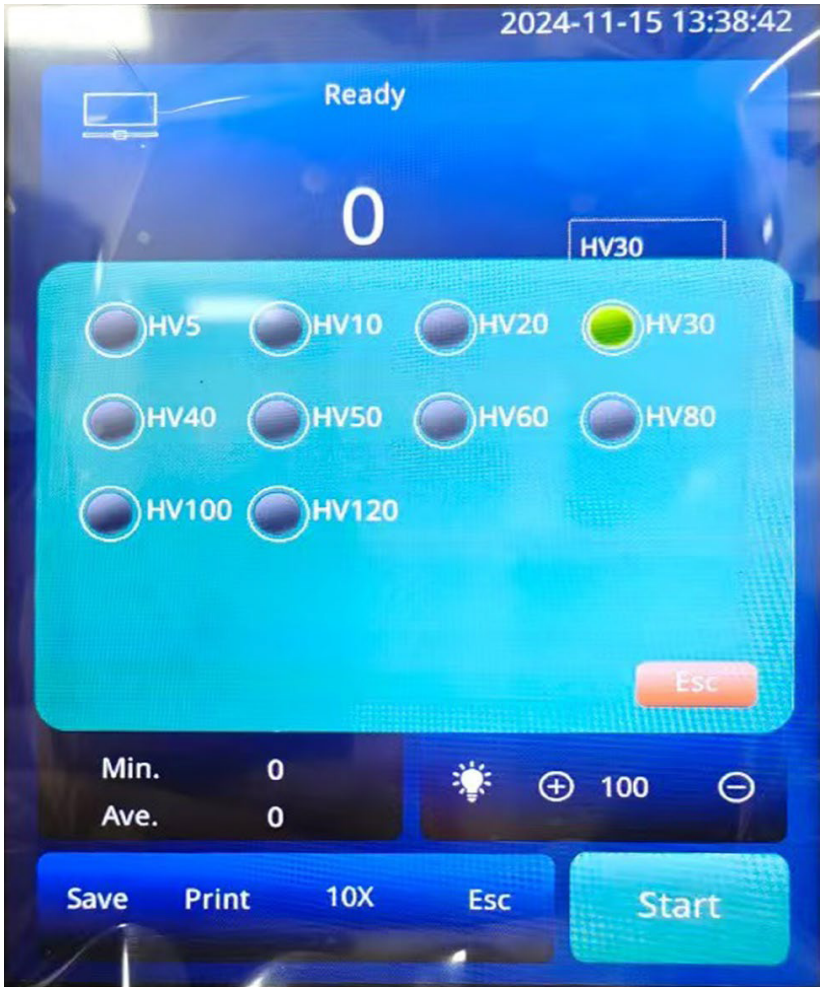
Vickers Main Interface

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



Operation Interface

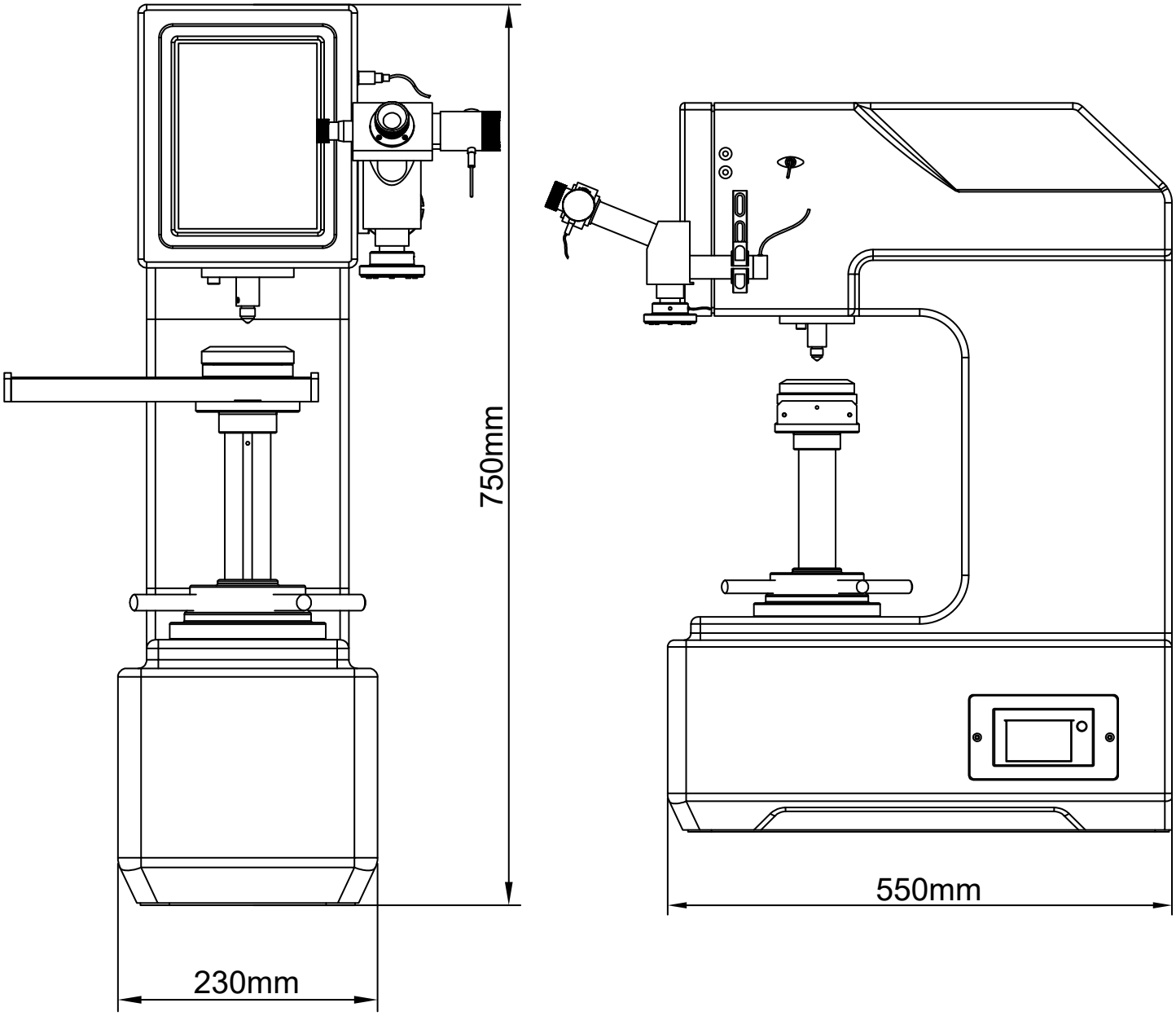
Vickers Scale Selection



- Choose a suitable scale before testing.

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

Instrument Dimension



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Technical Specification

Name	Digital Universal Hardness Tester	
Model	iBRRV-187.5	iBRRV-250
Initial Test Force	Rockwell: 10kgf(98.07N) , Superficial Rockwell: 3kgf(29.4N)	
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, 120 Kgf）	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
	Superficial Rockwell: HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y, HR15W, HR30W, HR45W	Superficial Rockwell: HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y, HR15W, HR30W, HR45W
	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 HBW5/250 HBW10/100
	Vickers：HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120	Vickers：HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120

Mikrosize®

Technical Specification

Hardness Scale	Knoop: HK3, HK5, HK10, HK20, HK30, HK40, HK50, HK60, HK80, HK100, HK120	Knoop: HK3, HK5, HK10, HK20, HK30, HK40, HK50, HK60, HK80, HK100, HK120
Initial Test Force	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：20-95HRA、10-100HRBW、20-70HRC Brinell:5-650HBW;Vickers:5-3000HV	
Hardness Resolution	0.1HBW, 0.1HR,0.1HV	
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	
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	1 set	
Digital Micrometer Eyepiece	1 pc	
Microscope Stand (including internal lighting)	1 pc	
External Lighting	1 pc	
2.5X, 5X, 10X Objectives	each 1	
Large Test Anvil, Medium Test Anvil, V-shape Test Anvil	3 pcs	
Slide Test Anvil	1 set	
Diamond Rockwell Indenter	4 pcs	

Standard Delivery

Name	Qty	Photo
Diamond Vickers Indenter	1 pc	
Φ1.5875mm Carbide Ball Indenter	1 pc	
Φ2.5mm,Φ5mm Carbide Ball Indenter	2 pcs	
Φ5mm Hard Alloy Ball	5 pcs	
Standard Rockwell Hardness Block	5 pcs	
Standard Vickers Hardness Block（HV30）	1 pc	
Standard Brinell Hardness Block（HBW/2.5/187.5）	1 pc	
Gradienter	1 pc	

Standard Delivery

Name	Qty	Photo
Level Adjustment Screw	4 pcs	
Hexagon Wrench 1.5MM	1 pc	
Power Cord	1 pc	
Fuse 2A	2 pcs	/
Screwdriver	1 pc	/
Anti-dust Cover	1 pc	/
Instruction Manual, Product Certificate, Warranty Card	each 1 copy