

MBrin-3000SA

Semi-Automatic Brinell 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



Features And Applications

Product Features

- Closed loop loading, ready to use upon startup. 12.1-inch touch screen, user-friendly and easy to operate. Cmos directly captures indentation images. Equipped with 11 test forces and 15 brinell hardness test scales for arbitrary selection. Automatic turret simultaneously holds 3 sets of ball indenters, all capable of automatic participation in testing. Two objective lenses and indenters are installed on the same turret, and both can participate in indentation diameter measurement. Based on the selected scale, the objective lens and indenter are automatically switched. Pre-set dwell time and adjustable measurement indentation light source intensity functions. Loading time displayed in real-time. Display measured indentation length, hardness value, number of measurements, etc. Test results can be converted between various hardness scales. Hardness test results can be printed and output. Equipped with multiple communication interfaces: USB, RS232, WLAN, RJ45LAN.



Product Applications

- During mechanical processing, the brinell hardness tester can be used to detect the hardness of raw materials to select suitable processing techniques and tools.
- Can be used to detect the hardness of mechanical parts (such as gears, bearings, bolts, etc.) To ensure they meet design requirements and performance standards.
- Can be used to detect the hardness of forgings to judge the effectiveness of the forging process and the quality of the forgings.

Instrument Appearance



1. Display Screen

2. Automatic Turret

3. Indenter

4. Objective Lens

5. Test Anvil

6. Lifting Screw

7. Handwheel

8. Emergency Stop Button

Instrument Appearance



1.Power Switch

2.USB Interface

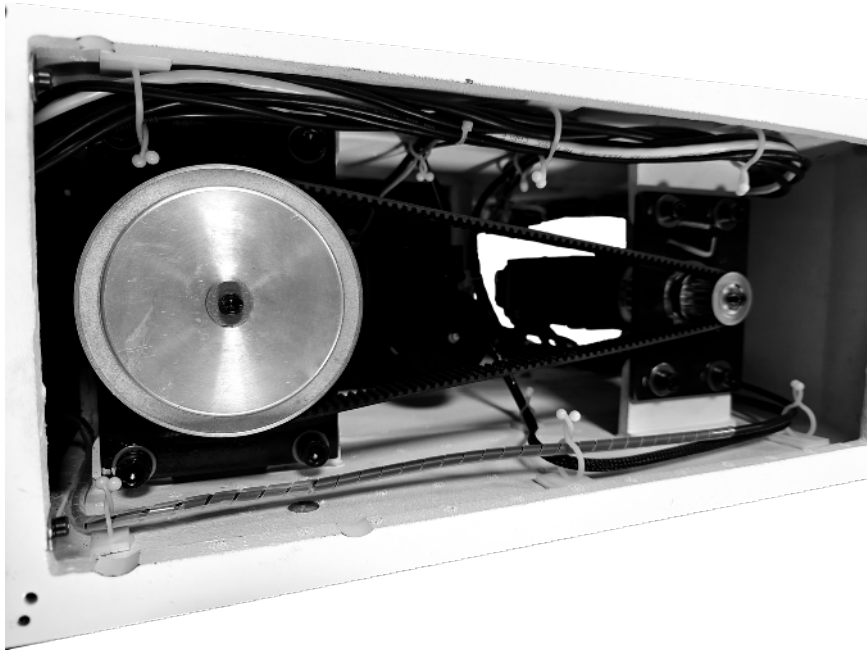
3.Start Key

4.Power Cord Interface

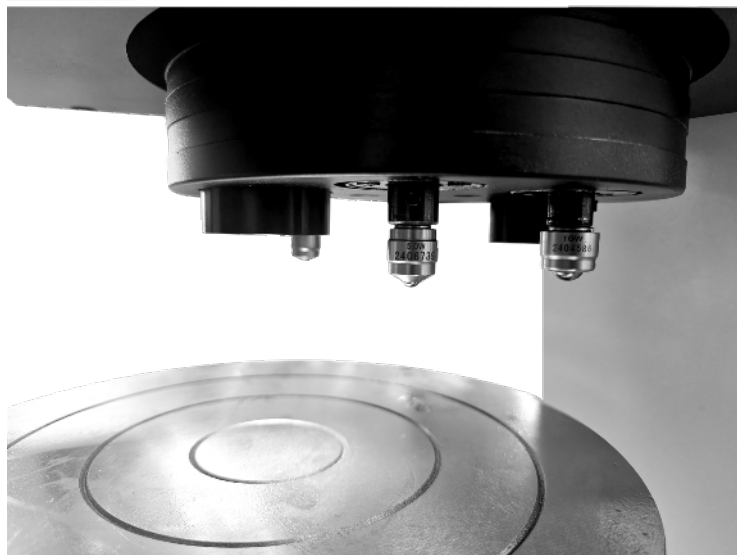
5.RS232 Interface

6.RJ45LAN Interface

Product Details

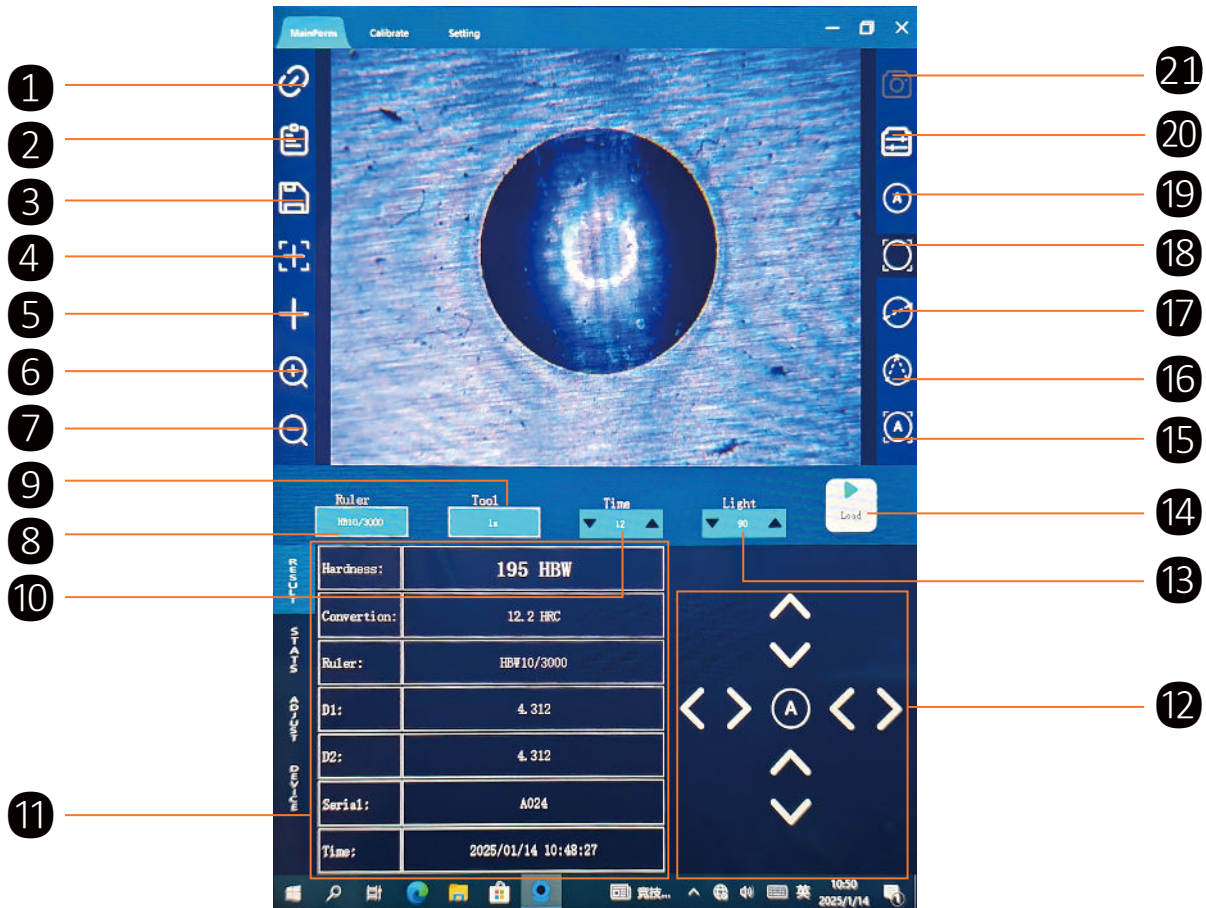


- This equipment uses closed loop loading. It is ready to use immediately after startup. Combined with high-precision sensors and a measurement system, it ensures accurate measurement results.



- The automatic turret of this device is simultaneously equipped with 3 indenters of different sizes and 2 objective lenses of different magnifications. All can directly participate in measurement and observation. Based on the test scale selected by the user, the indenter and objective lens are automatically switched.

Product Functions



1.Connect Device

2.Open Image

3.Save Image

4.Crosshair Reset

5.Crosshair

6.Zoom In Key

7.Zoom Out Key

8.Test Scale

9.Indenter/Objective

Lens Switch

10.Dwell Time

11.Test Results

12.Hardness Fine Adjustment

Key

13.Brightness Adjustment

14.Load Key

15.Area Automatic Measure-

ment

Measurement

17.Two-Point Circle

Manual Measurement

18.Manual Measure-

ment

19.Automatic Measure-

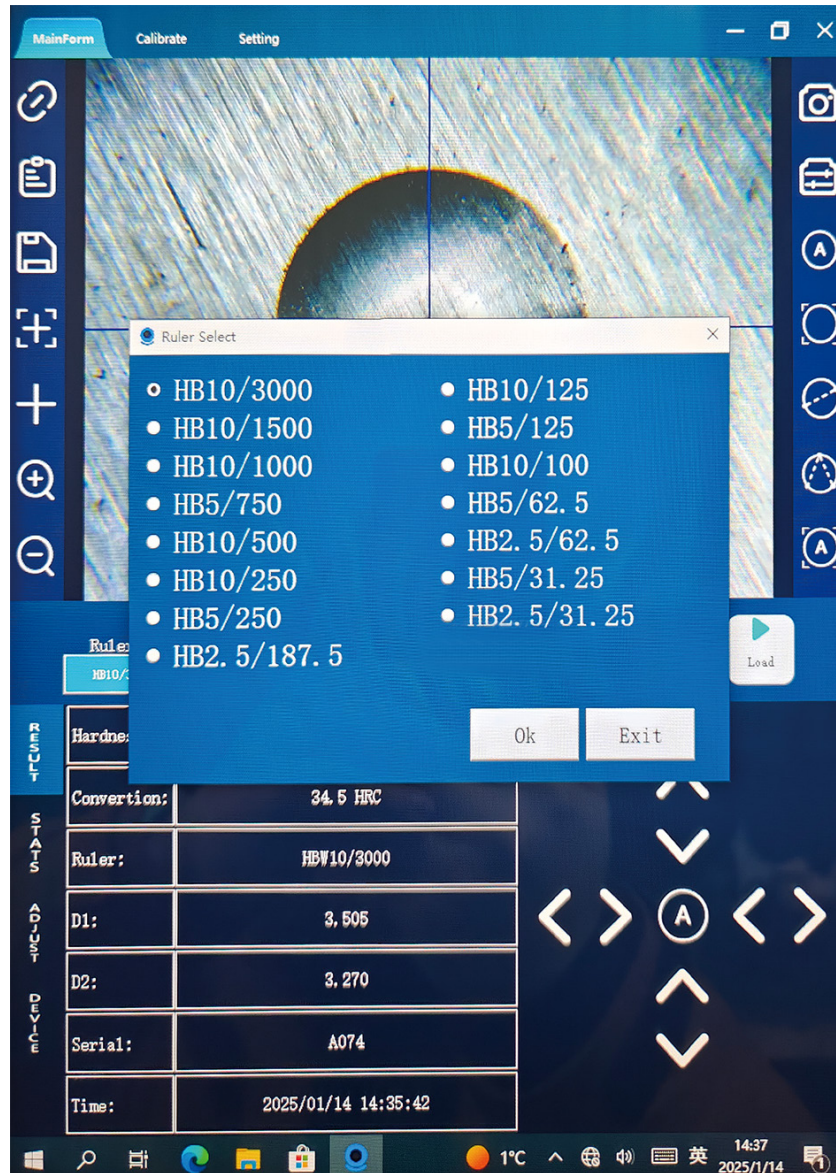
ment

20.Camera Settings

21.Camera Connection

Operation Interface

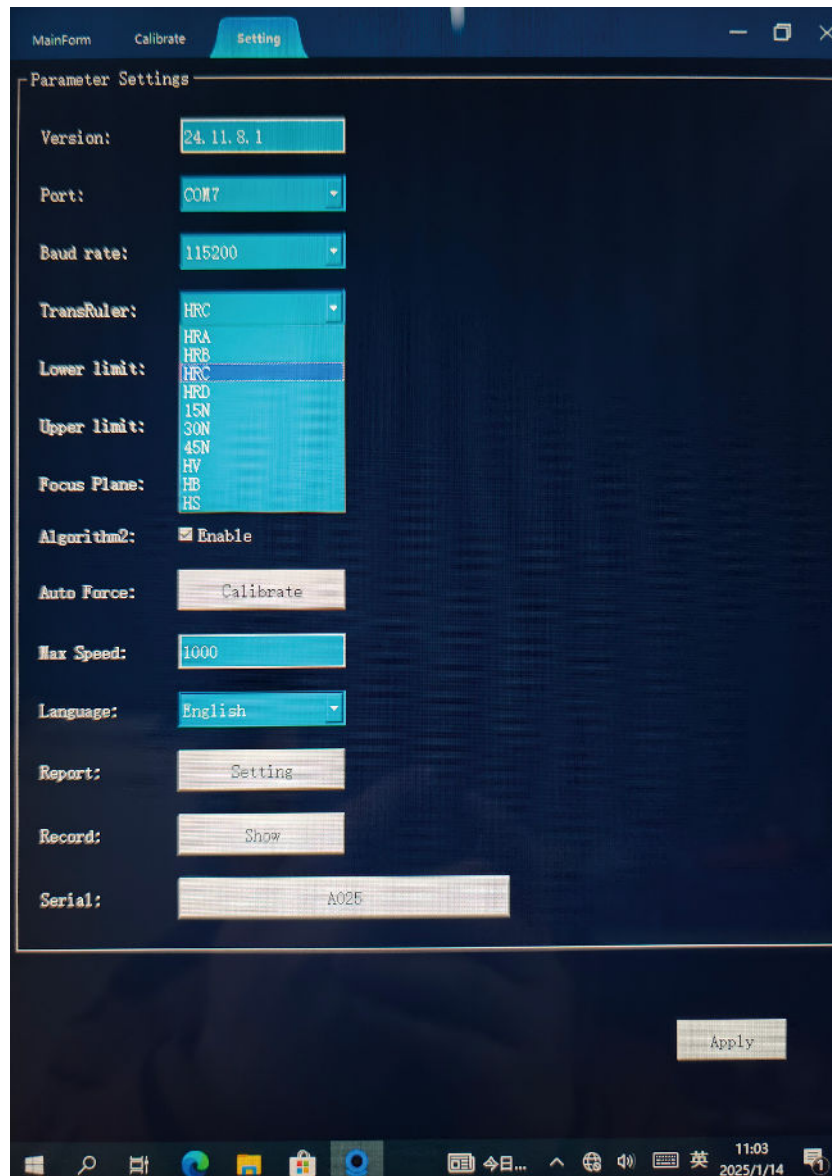
Scale Selection



- 3 sizes of indenters combined with different test forces provide 15 test scales to choose from.
- HBW2.5/31.25、HBW2.5/62.5、HBW2.5/187.5、HBW5/31.25、HBW5/62.5、
- HBW5/125、HBW5/250、HBW5/750、HBW10/100、HBW10/125、HBW10/250、
- HBW10/500、HBW10/1000、HBW10/1500、HBW10/3000.

Operation Interface

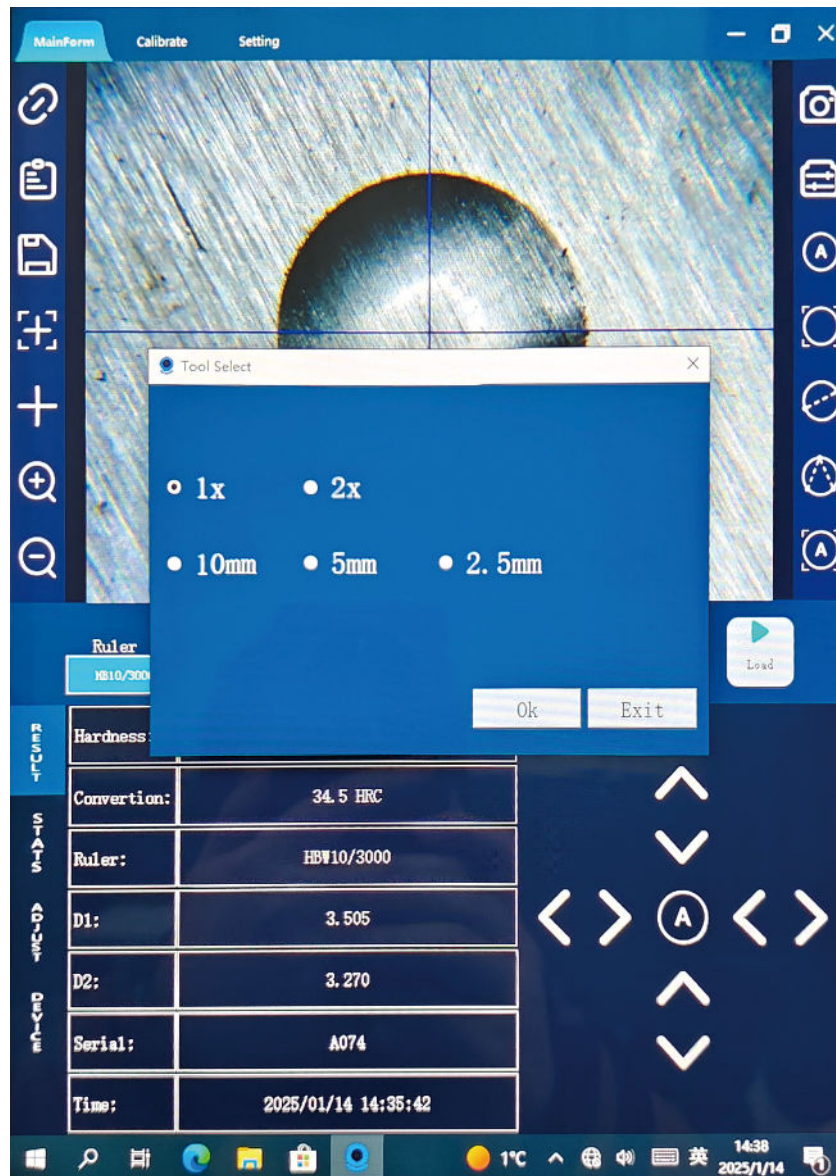
Scale Conversion



- Can be converted to commonly used Rockwell and Vickers hardness scales HRA、HRB、HRC、HRD、HS、HV、HB、HR15N、HR30N、HR45NT.

Operation Interface

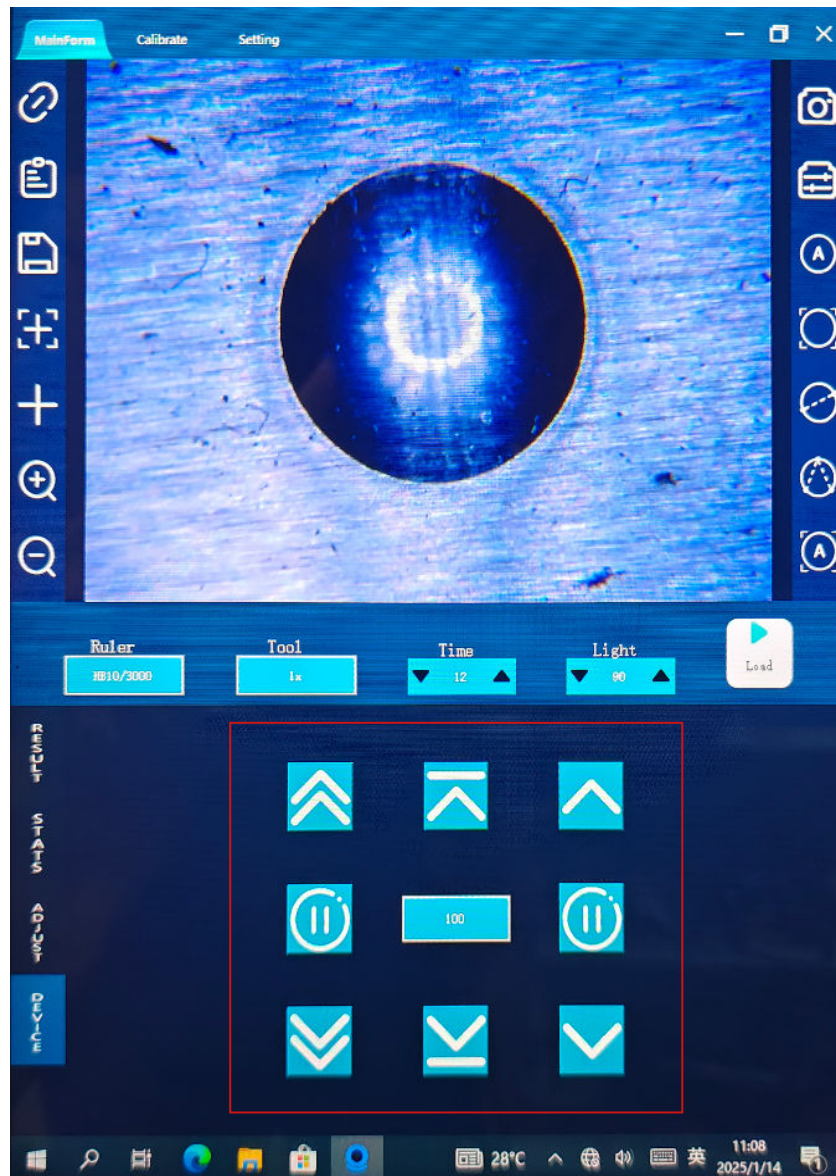
Turret Selection



- A 5-position automatic turret is simultaneously equipped with 3 sizes of indenters and 2 types of objective lenses. Click the corresponding indenter or objective lens based on the different test scale, and the turret automatically rotates to the corresponding position

Operation Interface

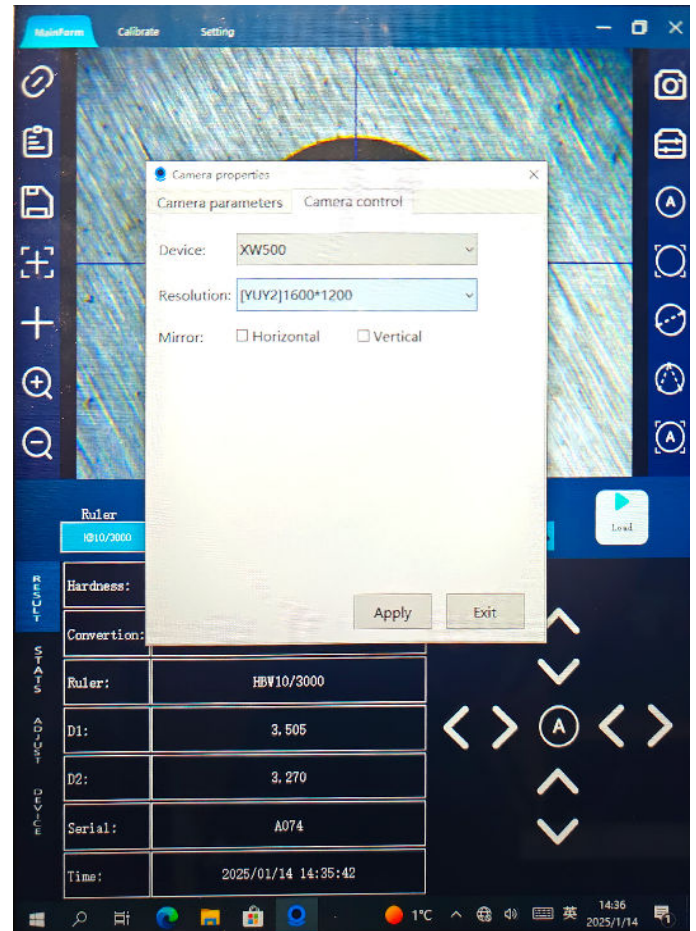
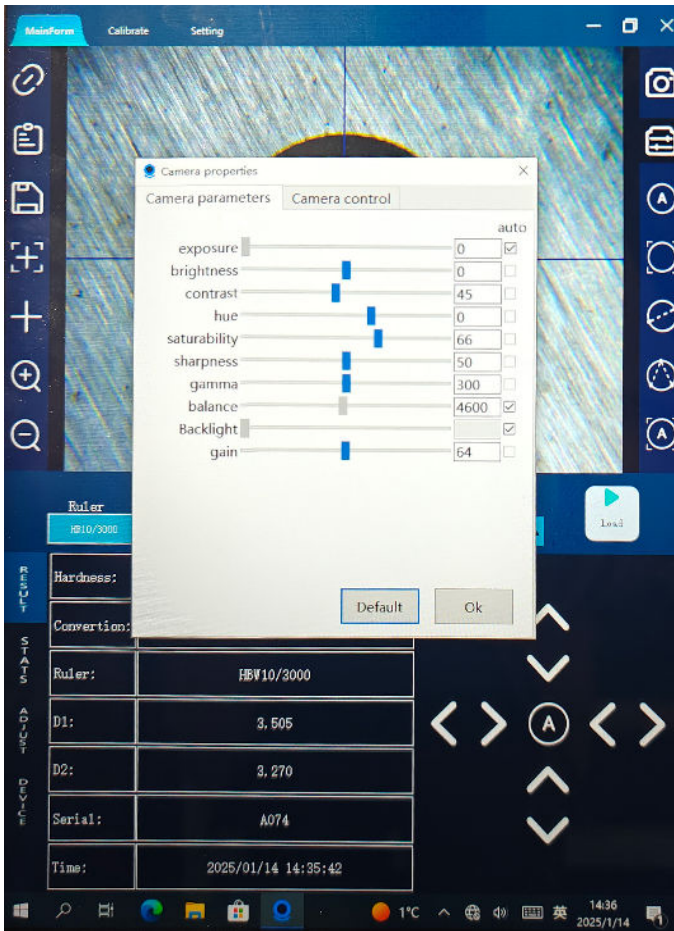
Lifting Screw Control



- Controls the raising, lowering, and stopping of the Lifting Screw. The lifting speed can be selected.

Operation Interface

Lifting Screw Control



- Users can further improve image quality by adjusting detailed camera parameters such as gain and exposure.

Operation Interface

Data Statistics

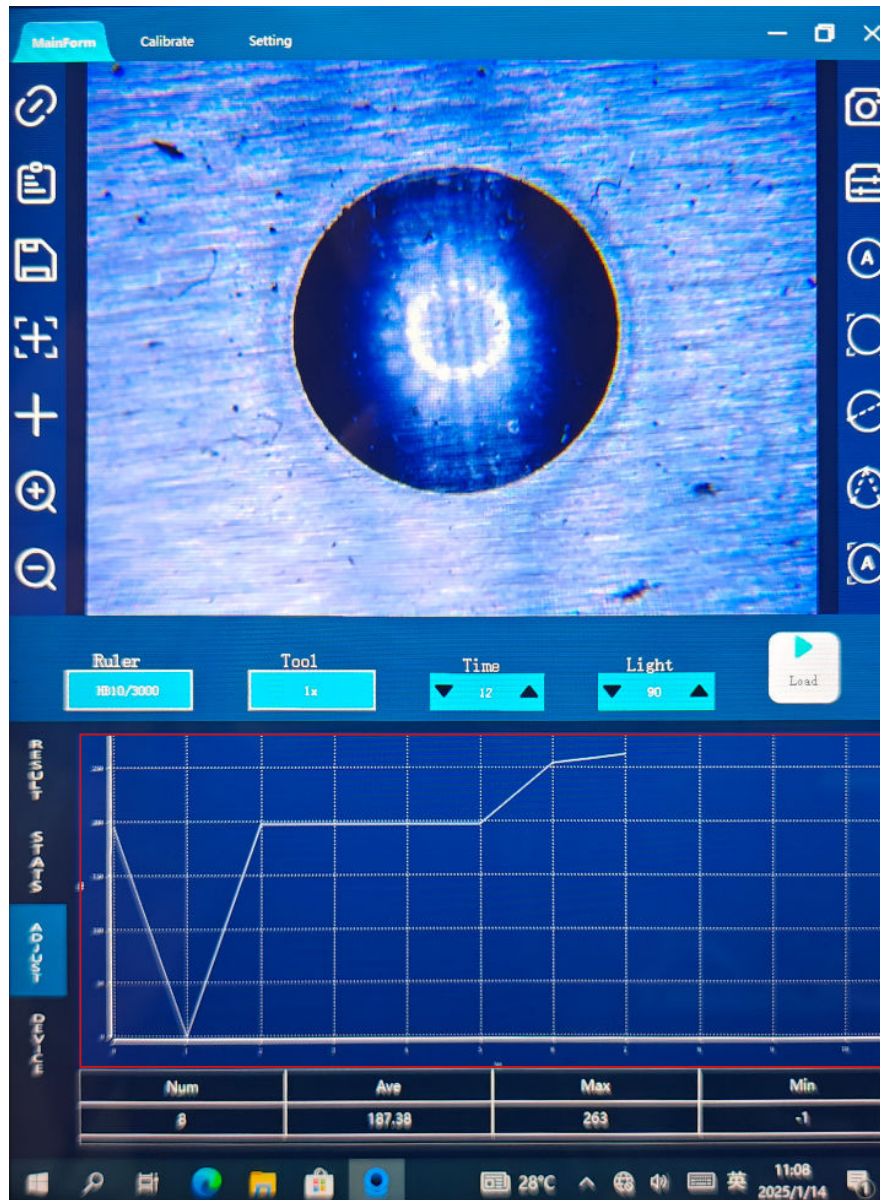
The screenshot displays the Mikrosize software interface. At the top, there are tabs for 'MainForm', 'Calibrate', and 'Setting'. The central area shows a blue-tinted image of a circular indentation on a metal surface. Below the image, there are control panels for 'Ruler' (HB10/3000), 'Tool' (I=), 'Time' (12), and 'Light' (90). A 'Load' button is also present. The bottom section features a data table with columns for 'No', 'D1', 'D2', 'D', 'HB', 'HRC', and 'Y/N'. To the right of the table is an 'Image' column with a vertical stack of small thumbnail images. The Windows taskbar at the bottom shows the system tray with a temperature of 28°C, the date 2025/1/14, and the time 11:08.

No	D1	D2	D	HB	HRC	Y/N
1	4.312	4.312	4.312	195	12.2	Y
2	-0.006	-0.006	-0.006	-1	0.0	N
3	4.300	4.300	4.300	197	12.7	Y
4	4.300	4.300	4.300	197	12.7	Y
5	4.300	4.300	4.300	197	12.7	Y
6	4.300	4.300	4.300	197	12.7	Y
7	4.178	3.491	3.805	254	25.2	Y
8	4.087	3.389	3.738	263	26.8	Y

- The device records test data information, including indentation size, hardness value, converted hardness value, and indentation images.

Operation Interface

Curve Graph



- Recorded data is used by the device to generate curve graphs, making test results more intuitive and clear.

Operation Interface

Calibration

The screenshot displays the Mikrosize software's calibration interface. The window title is 'MainForm' and the active tab is 'Calibrate'. The interface is organized into three main sections:

- Calibrate Info:** Contains three input fields: 'DTool' with the value '10', 'Pressure' with the value '3000', and 'DImage' with the value '0'.
- Calibrate A:** Contains a 'coef' field with the value '0.00588101' and an empty 'Hardness' field. Below these fields are 'Calculate' and 'Calibrate' buttons.
- Calibrate B:** Contains an empty 'coef' field and an empty 'Hardness' field. Below these fields are 'Calculate' and 'Calibrate' buttons.

The Windows taskbar at the bottom indicates the system time is 15:34 on 2025/1/14.

- Calibrate using a standard hardness block. Note: Calibrate the objective lens currently in use, otherwise the calibration is invalid.

Operation Interface

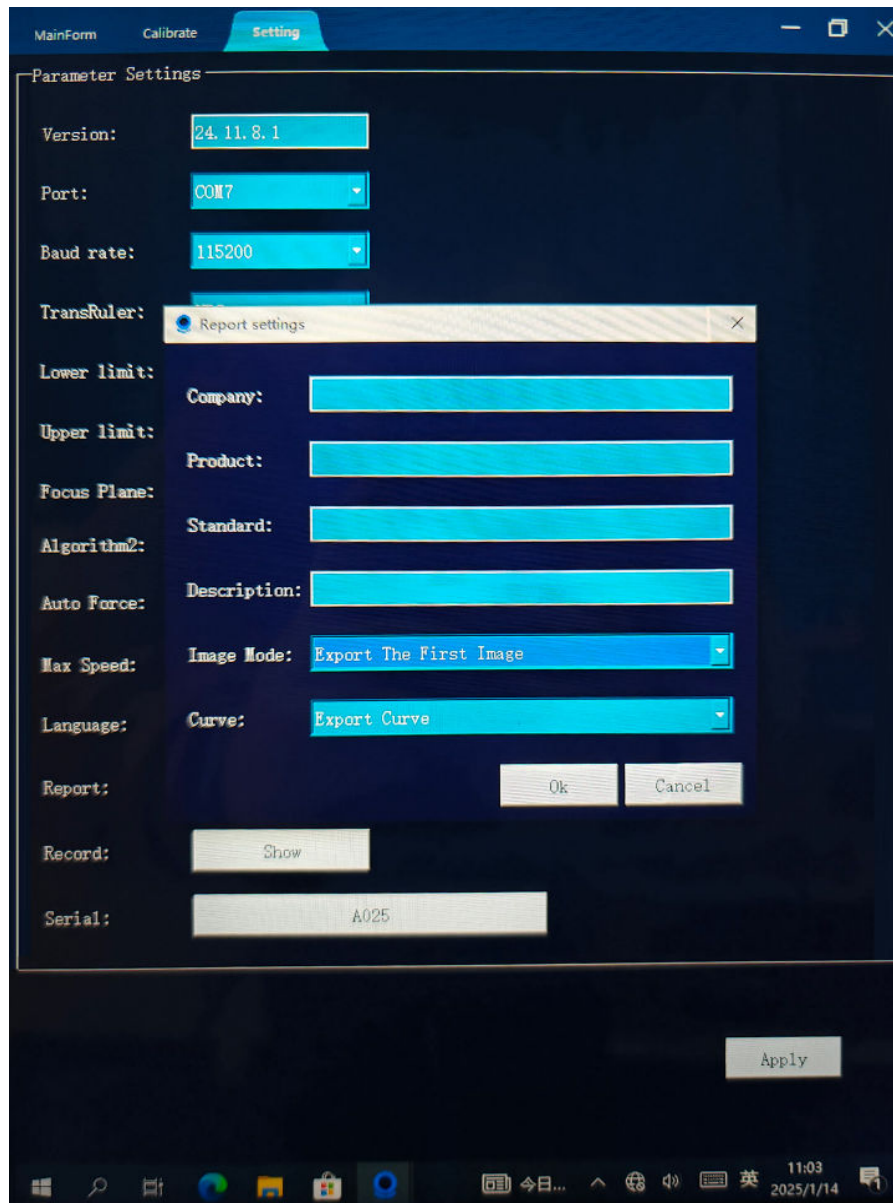
Settings



- Device com port selection.
- Select conversion scale.
- Set upper and lower limits.
- Set elevating column speed.
- Select display language.

Operation Interface

Report Settings



- Select the content of the output report, which can include indentation images and data statistical curve graphs.

Operation Interface

Language Selection



- Supports display in chinese and english. other languages can be customized.






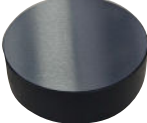

Technical Specification

Name	Semi-Automatic Brinell Hardness Tester
Model	MBrin-3000SA
Test Range	8~650HBW
Test Force	31.25kg、62.5kg、100kg、125kg、187.5kg、250kg、500kg、750kg、1000kg、1500kg、3000kg 306.45N、612.9N、980.7N、1226N、1839N、2452N、4903N、7355N、9807N、14710N、29420N
Test Scales	HBW2.5/31.25、HBW2.5/62.5、HBW2.5/187.5、HBW5/31.25、HBW5/62.5、HBW5/125、HBW5/250、HBW5/750、HBW10/100、HBW10/125、HBW10/250、HBW10/500、HBW10/1000、HBW10/1500、HBW10/3000
Scale Conversion	HRA、HRB、HRC、HRD、HS、HV、HB、HR15N、HR30N、HR45N
Measurement Range	8~650HBW
Loading Method	Automatic Loading, Dwell, Unloading
Test Height (mm)	280mm
Test Throat (mm)	200mm
Main Test Force Loading Time	5~8s
Dwell Time	0~99s




Technical Specification

Turret	Automatic
Objective Magnification	1X、 2X
Camera Magnification	20X
Total Magnification	20X、 40X
Indentor Diameter (mm)	Φ2.5、 Φ5、 Φ10
Indentation Repeatability	±0.8%
Data Display	12.1-inch industrial-grade touch screen
Data Output	Word , Excel or Printer
Illumination	LED
Communication Interfaces	USB、 RJ45LAN、 WLAN、 RS232
Dimensions (LxWxH) mm	1000*595*350
Power Supply	AC220V/110V±5% , 50~60Hz
Net Weight	210KG

Standard Delivery

Name	Qty	Photo
Machine Mainframe	1 pc	
Φ2.5mm Brinell Indenter	1 pc	
Φ5mm Brinell Indenter	1 pc	
Φ10mm Brinell Indenter	1 pc	
Φ2.5mm, Φ5mm, Φ10mm Carbide Balls	5 pcs	
Φ230mm Platform	1 pc	
Φ78mm Platform	1 pc	
60*90mm V-Anvil	1 pc	
Hardness Block (150~250) HBW10/3000	1 pc	

Standard Delivery

Name	Qty	Photo
Hardness Block (80~110) HBW10/1000	1 pc	
USB Software	1 pc	/
Dongle	1 pc	/
Anti-Dust Cover	1 pc	/
Allen Wrench	1 pc	/
Power Cord	1 pc	/
Fuse	2 pcs	/
Product Certificate	1 pc	
Instruction Manual	1 pc	

Optional Delivery

Optional Accessories

Carbide balls

Various Work Stages

Various Hardness Blocks

Machine Internal Accessories

Various Indenters

Mikrosize Precision Instrument Co.,Ltd

Add: A-4035 RuiFeng Business Expo , Wuhu City, China , 241000.

Tel: 0553-2836939 Fax:0553-2836938 Web: www.mikrosize.com

