Mikrosize®

MBrin-3000SA

Semi-Automatic Brinell Hardness Tester

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Contact us

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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 Application

- 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
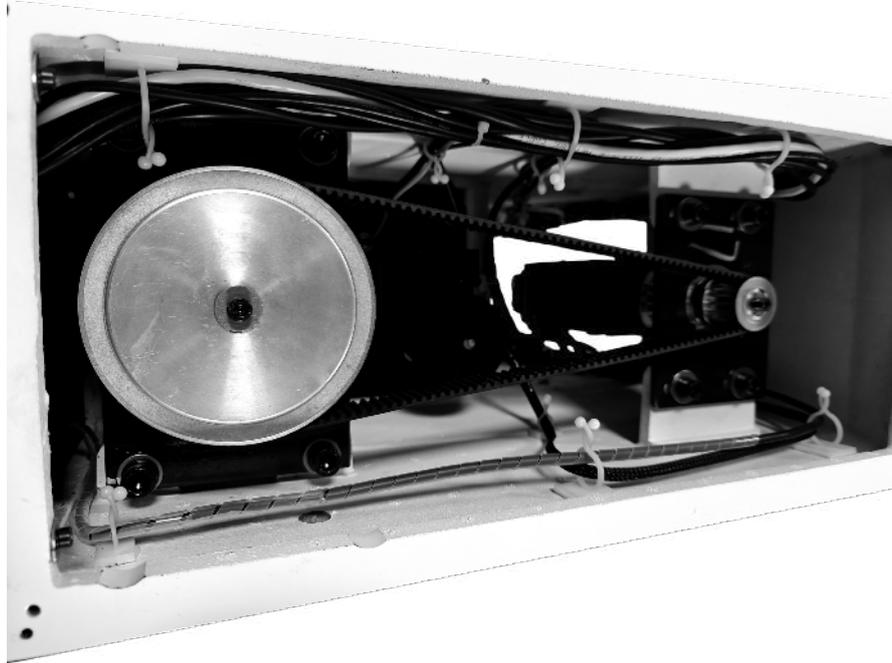
Product Details
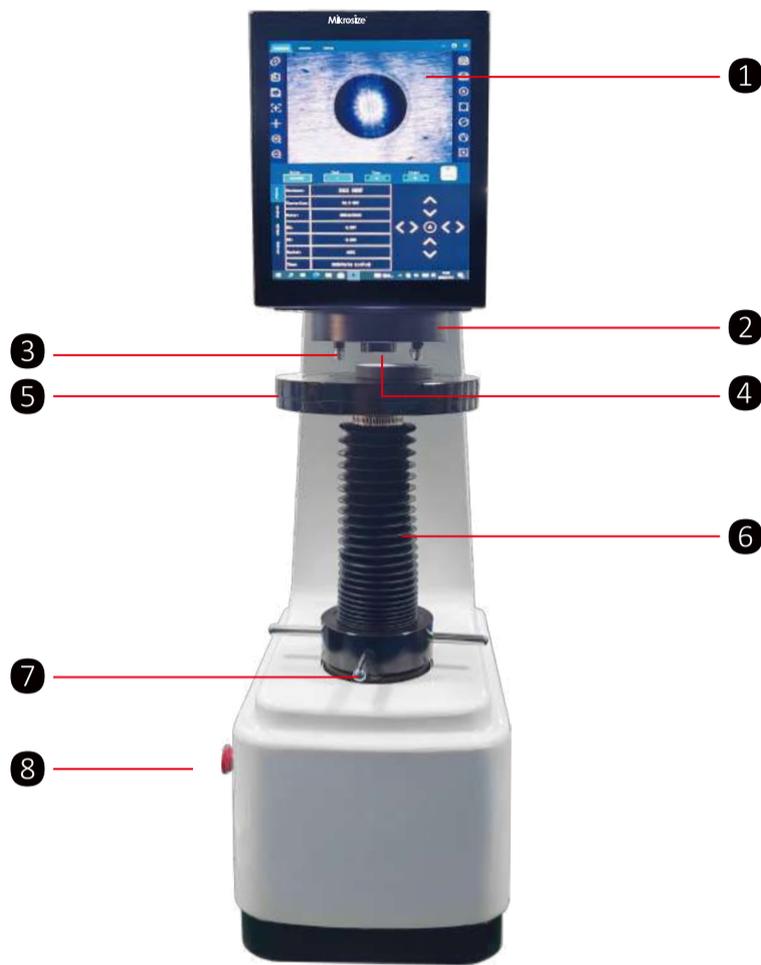
1.Display Screen	**2.Automatic Turret**	**3.Indenter**	**4.Objective Lens**
5.Test Anvil	**6.Lifting Screw**	**7.Handwheel**	**8.Emergency Stop Button**
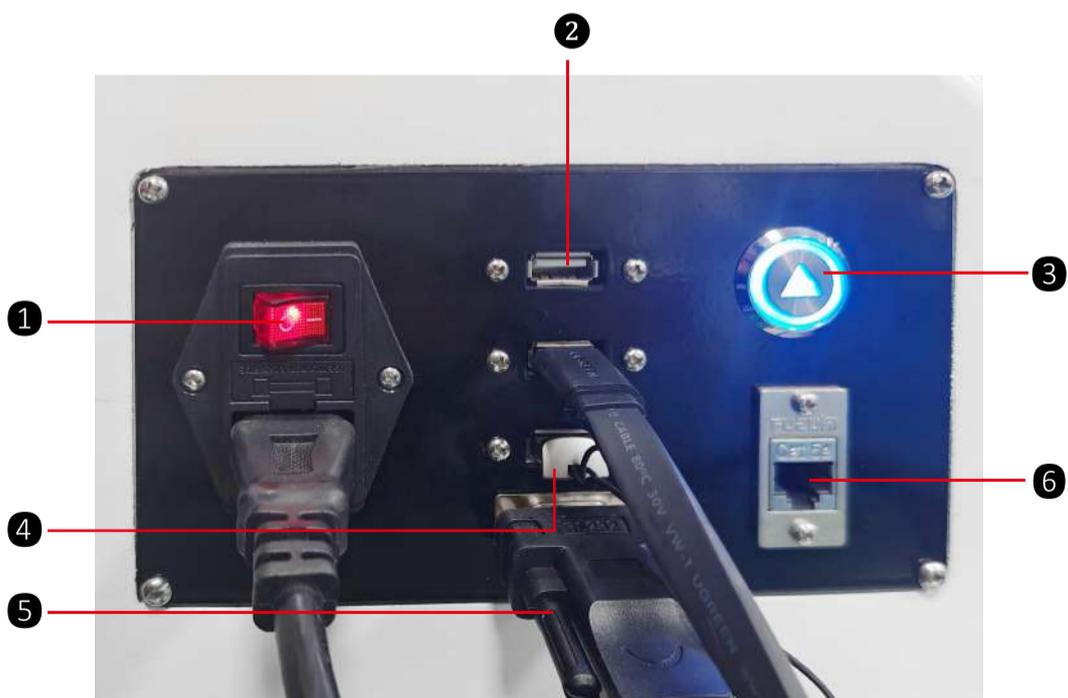
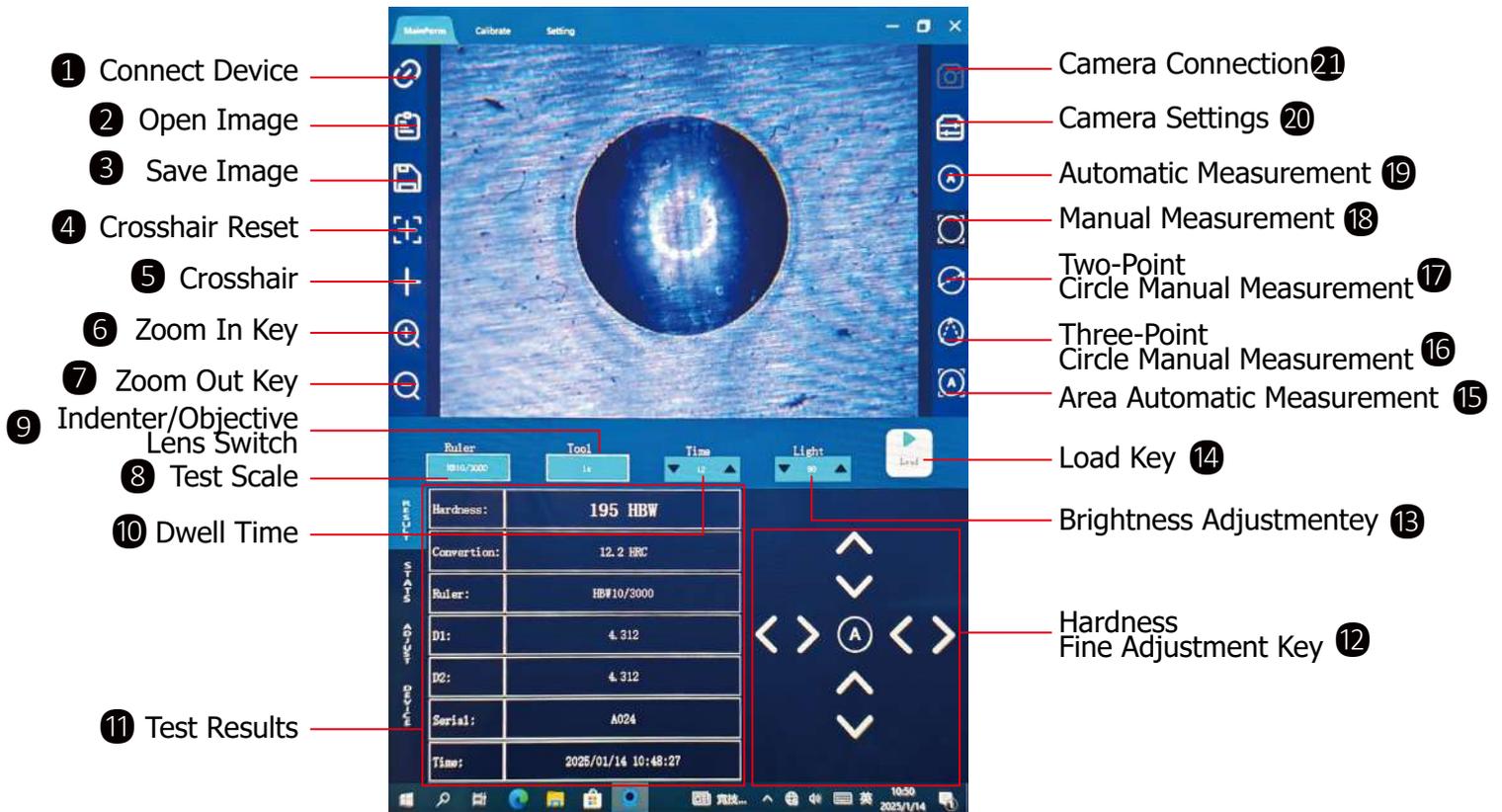|			
1.Power Switch	**2.USB Interface**	**3.Start Key**	**4.Power Cord Interface**
5.RS232 Interface	**6.RJ45LAN Interface**		

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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.
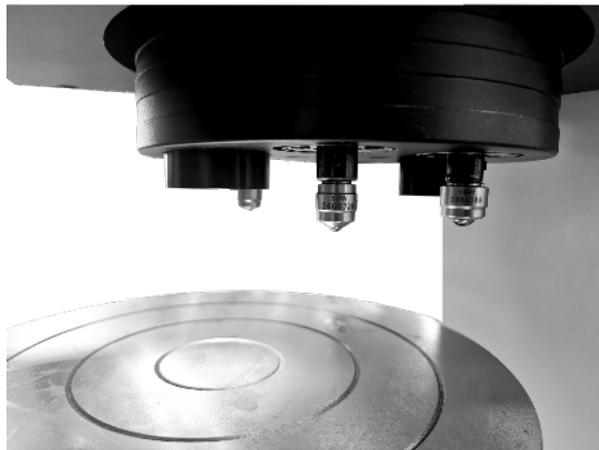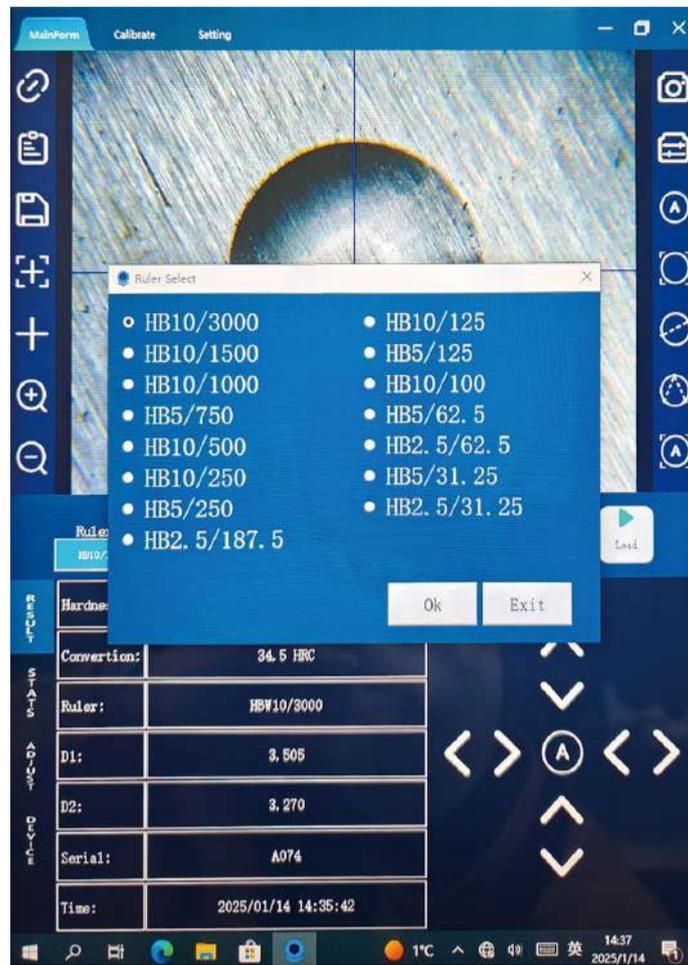

The automatic turret of this device is simultaneously equipped with 3 indenters of different sizes and 2 objective lenses of different magnifications. All can directly participate in measurement and observation. Based on the test scale selected by the user, the indenter and objective lens are automatically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

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# Product Functions

1. Connect Device
2. Open Image
3. Save Image
4. Crosshair Reset
5. Crosshair
6. Zoom In Key
7. Zoom Out Key
9. Indenter/Objective Lens Switch
8. Test Scale
10. Dwell Time
11. Test Results

21. Camera Connection
20. Camera Settings
19. Automatic Measurement
18. Manual Measurement
17. Two-Point Circle Manual Measurement
16. Three-Point Circle Manual Measurement
15. Area Automatic Measurement
14. Load Key
13. Brightness Adjustmentey
12. Hardness Fine Adjustment Key

Hardness:	195 HBW
Convertion:	12.2 HRC
Ruler:	HBW10/3000
D1:	4.312
D2:	4.312
Serial:	A024
Time:	2025/01/14 10:48:27

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 Measurement
16.Three-Point Circle Manual Measurement
17.Two-Point Circle Manual Measurement
18.Manual Measurement

19.Automatic Measurement
20.Camera Settings
**21.Camera Connection**

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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
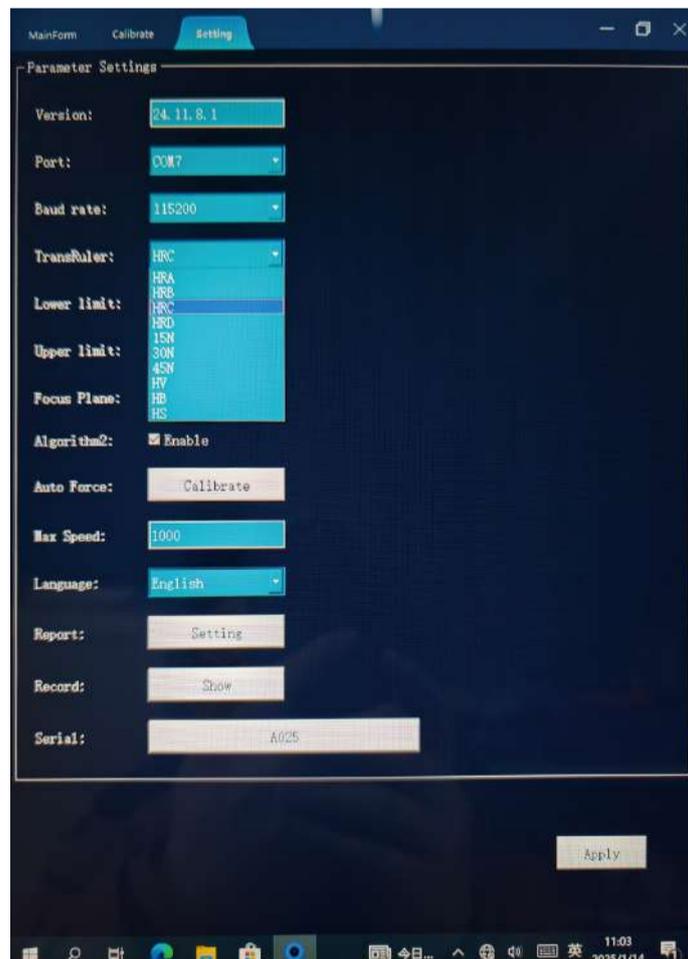

Scale Conversion

Can be converted to commonly used Rockwell and Vickers hardness scales

HRA、HRB、HRC、HRD、HS、HV、HB、HR15N、HR30N、HR45NT

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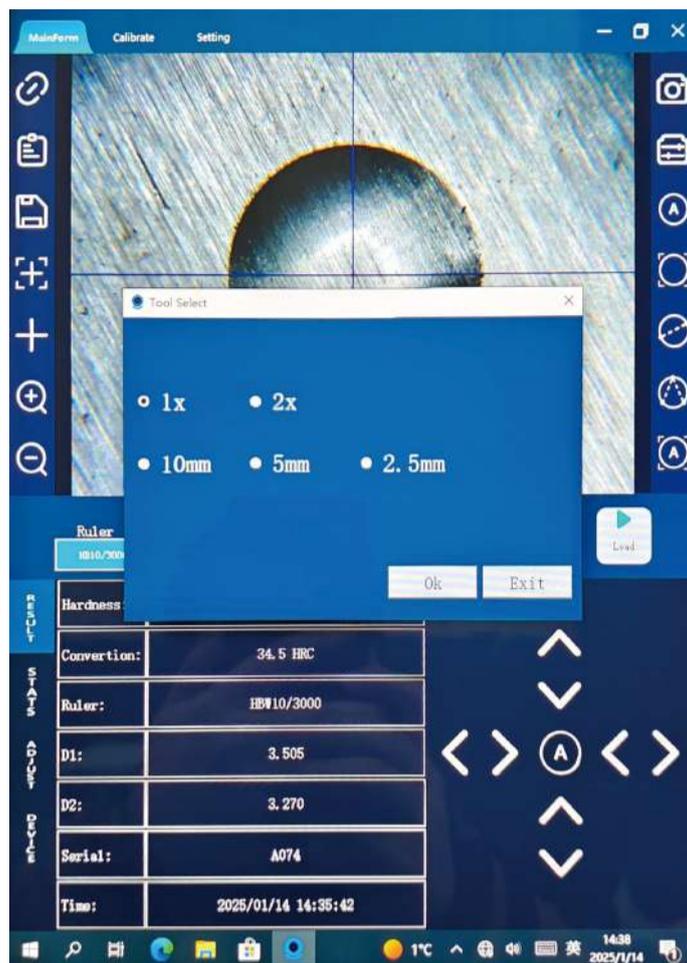
A 5-position automatic turret is simultaneously equipped with 3 sizes of indenters and 2 types of objective lenses. Click the corresponding indenter or objective lens based on the different test scale, and the turret automatically rotates to the corresponding position
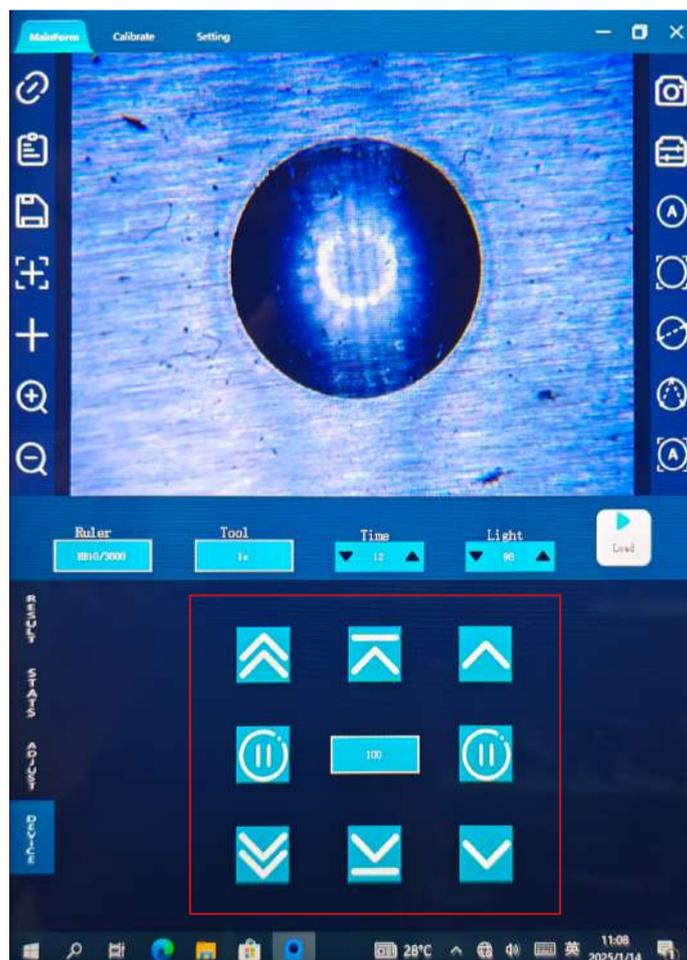
Lifting Screw Control

Controls the raising, lowering, and stopping of the Lifting Screw. The lifting speed can be selected
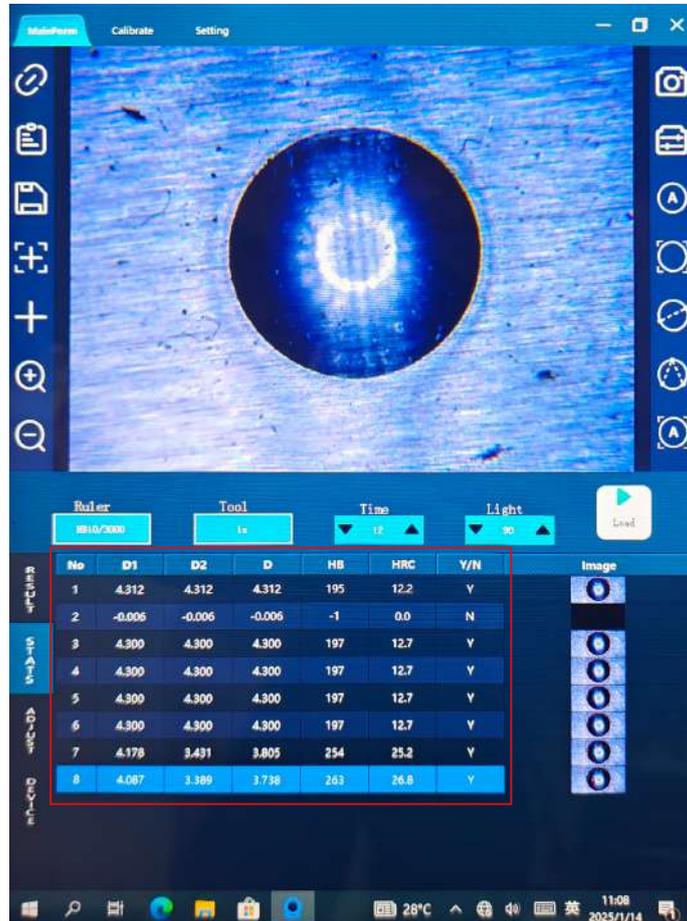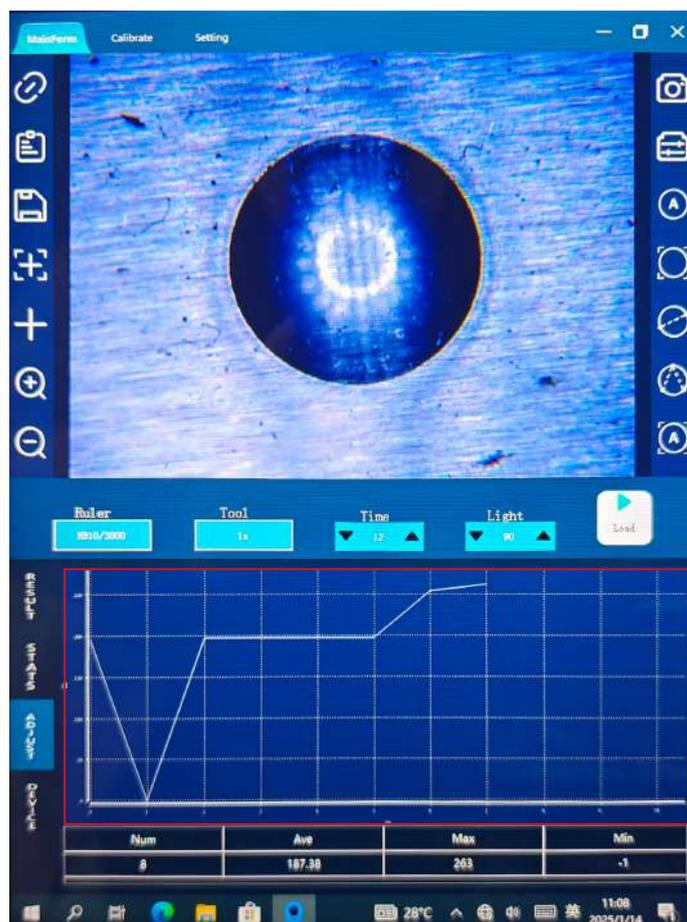
Operation Interface
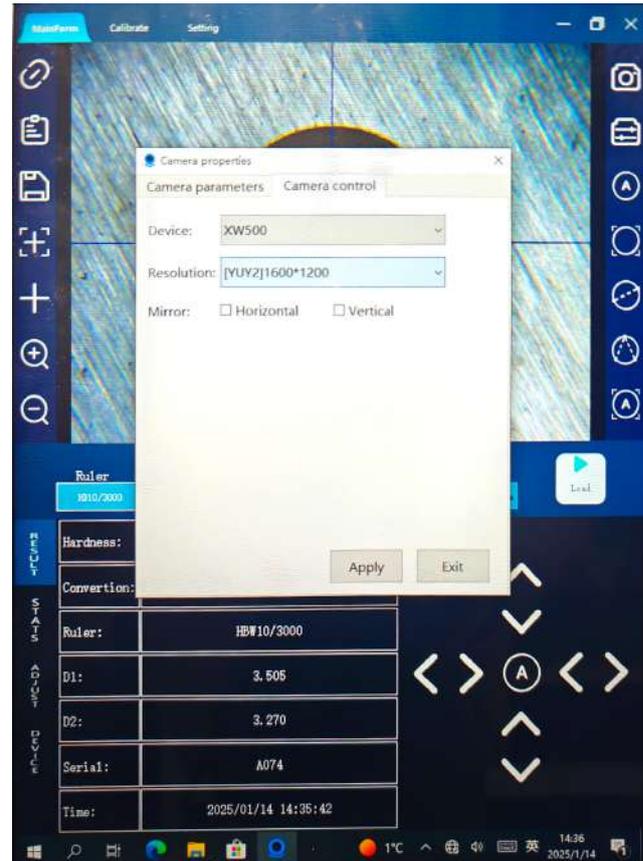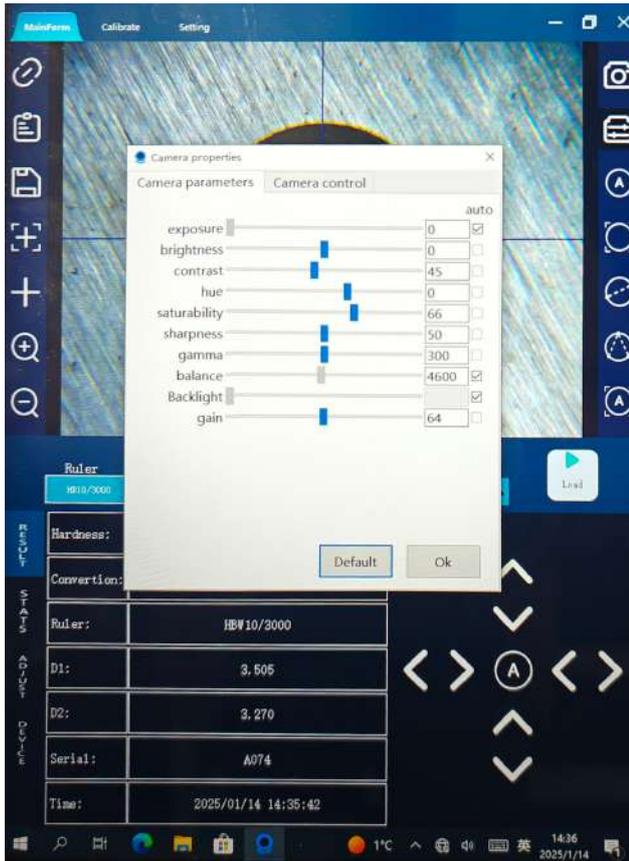
Camera Settings

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

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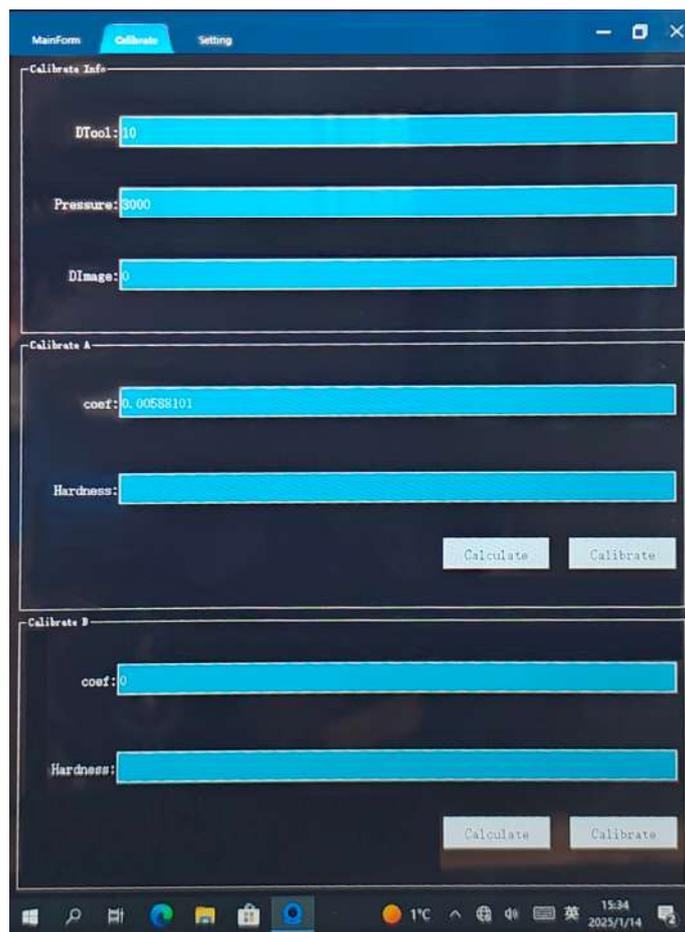## Operation Interface

Data Statistics

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

Curve Graph

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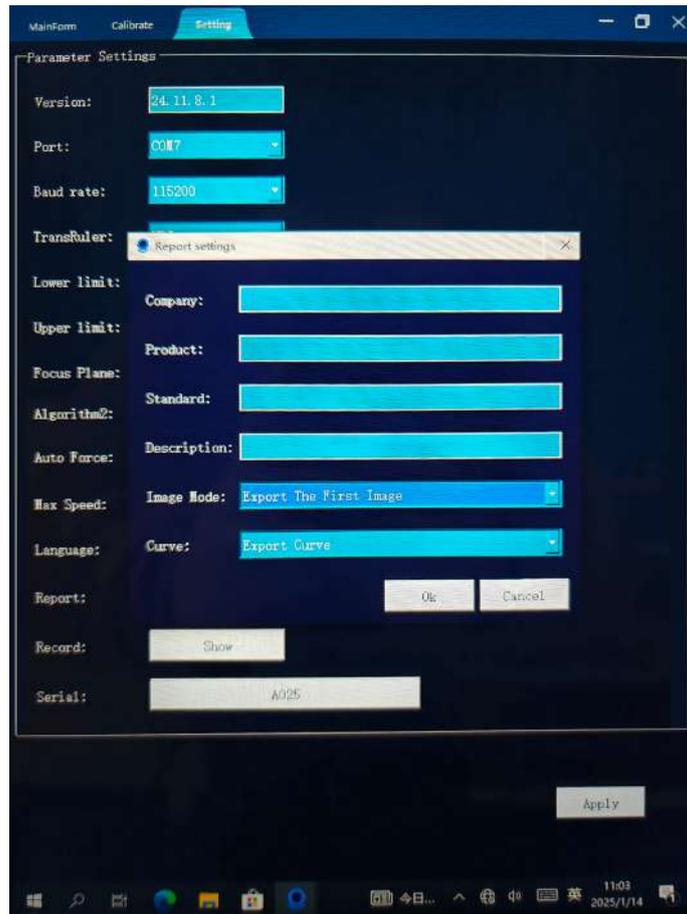
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Calibration

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

Settings

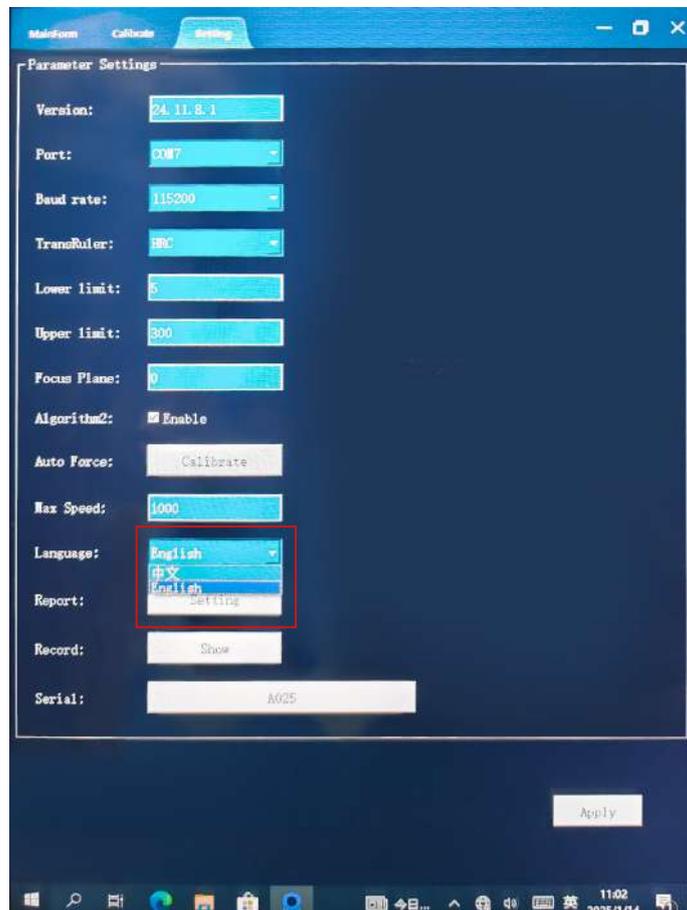- Device com port selection
- Select conversion scale
- Set upper and lower limits
- Set elevating column speed
- Select display language

Operation Interface

Report Settings

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

Language Selection

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

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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
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

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Name	Qty	Photo
Machine Mainframe	1	
Φ2.5mm Brinell Indenter	1	
Φ5mm Brinell Indenter	1	
Φ10mm Brinell Indenter	1	
Φ2.5mm, Φ5mm, Φ10mm Carbide Balls	3	
Φ230mm Platform	1	
60*90mm V-Anvil	1	
Hardness Block (150~250) HBW10/3000	1	
Hardness Block (80~110) HBW10/1000	1	
Test Block （150~250） HBW10/3000	1	
USB Software	1	
Dongle	1	
Anti-Dust Cover	1	
Allen Wrench	1	
Power Cord	1	
Fuse	2	
Product Certificate	1	
Instruction Manual	1	

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Optional Delivery

Optional Accessories	Carbide balls
	Various Work Stages
	Various Hardness Blocks
	Machine Internal Accessories
	Various Indenters