

Mikrosize[®]

iRock-150/45A

Auto Rockwell Hardness Tester



Contact us

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Features and Applications

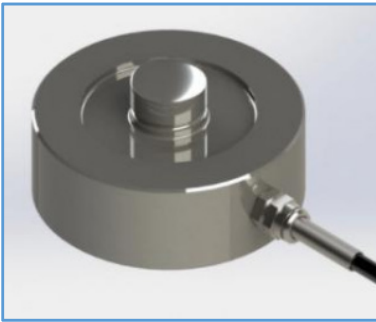
Product Features

- This automatic Rockwell hardness tester complies with ASTM E18 Standard Test Methods for Rockwell Hardness of Metallic Materials, featuring high automation, high testing accuracy, and high testing efficiency.
- One-touch operation delivers test results instantly, designed for high-volume hardness measurement applications;
- Cantilever-type structure with automatic indenter lifting and lowering enables fully automated hardness measurement;
- Joystick control for rapid servo motor-driven adjustment of testing space, improving inspection efficiency;
- Touchscreen display and operation with dynamic curve visualization for real-time monitoring of load cell and displacement sensor status, highly intuitive;
- Large flat anvil accommodates large workpieces; compatible with robotic arms and automation equipment from any brand for inline hardness testing with fully unmanned operation;
- Customization available for special specimen fixture positioning requirements upon request;
- Panoramic camera (optional) enables direct test path setting on the image for multi-line, multi-point continuous testing. Test paths can be saved as templates for convenient recall, suitable for automatic batch inspection;
- Data transmission via USB, Bluetooth, or RS232 to computer with dedicated hardness management software.

Product Applications

- Rockwell Hardness:
- For determining the Rockwell hardness of ferrous metals, non-ferrous metals, and non-metallic materials; suitable for heat-treated materials such as quenched and tempered steels; particularly appropriate for precision testing of parallel flat surfaces. Equipped with a V-anvil (V-support) for precision testing of cylindrical specimens.
- Superficial Rockwell Hardness: For determining the hardness of ferrous metals, alloy steels, cemented carbides, and surface-treated materials (carburized, nitrided, and electroplated coatings).
- Plastics Rockwell Hardness (Optional): For determining the Rockwell hardness of plastics, composite materials, various friction materials, as well as soft metals and soft non-metallic materials.

Product Composition



- The dedicated CNC system and closed-loop electronic control system apply the test force.

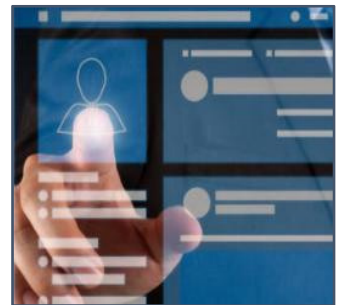


- Equipped with a high-precision grating displacement sensor, the hardness value resolution is 0.01HR.



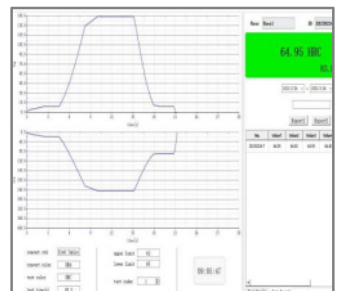
- The entire transmission system of the machine is fully composed of a servo motor and a ball screw.

- It features a high-definition color touchscreen display with an independent and user-friendly operating system.

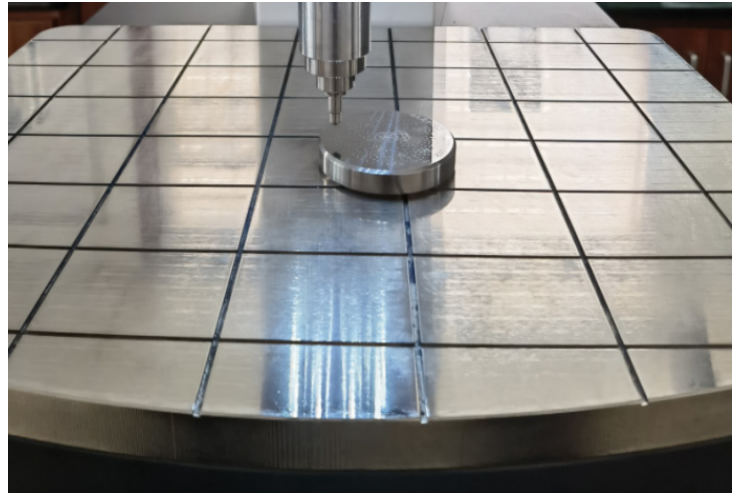
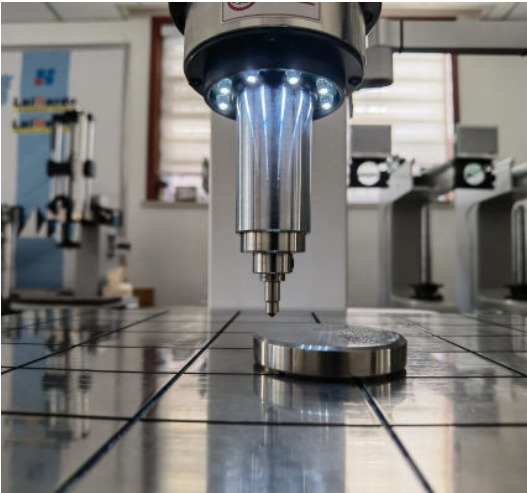


- Equipped with a sample illumination system, it highlights the measurement area to ensure clarity and visibility.

- Equipped with specialized hardness processing software for data handling, it also includes comprehensive charting capabilities.



Product Details

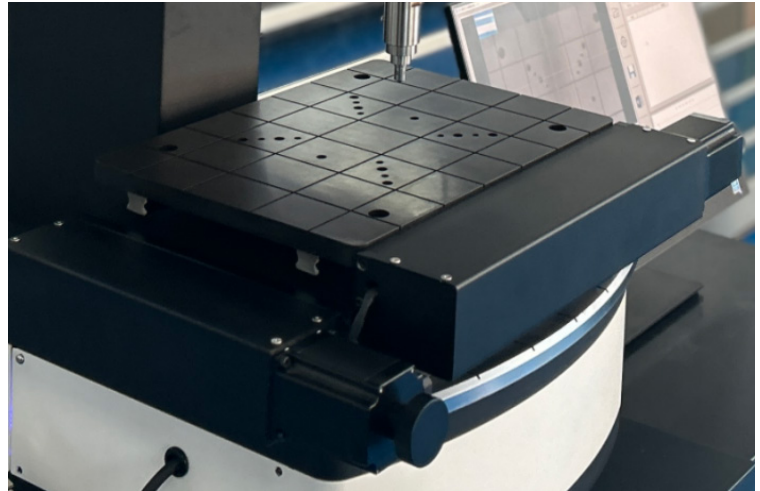
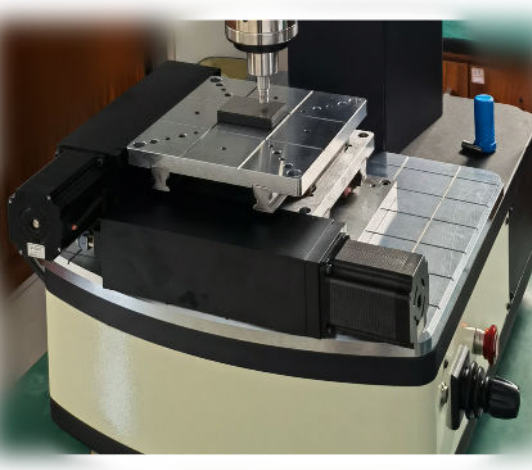


- The large flat testing platform is designed to accommodate the placement of large workpieces for accurate measurements. Additionally, the platform can be customized to suit irregularly shaped workpieces.

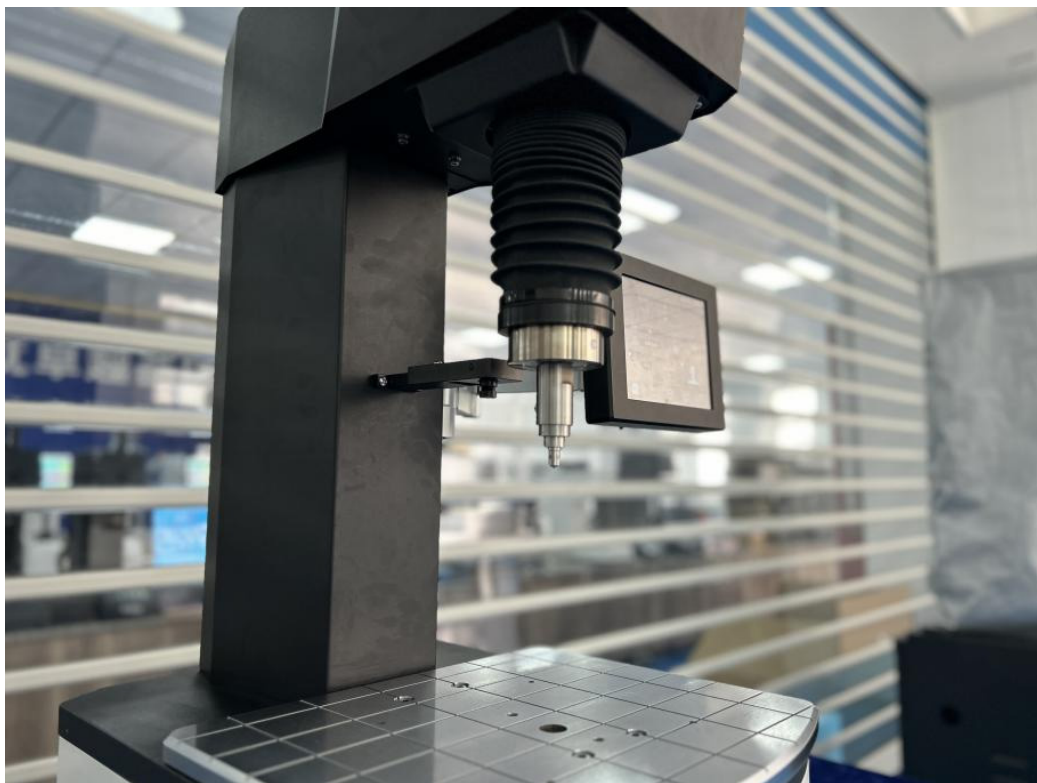


- The machine is capable of performing end-quenching hardness tests, fully complying with the requirements of GB/T225-2006 Steel Hardenability End-Quenching Test Method. After setting the hardness testing path, the test can be completed with a single button press. An optional multi-sample clamping platform allows for continuous measurement of multiple end-quenching samples.
- The system includes a software module that guides you through the testing process and ensures compliance with the applicable standards. The test results are displayed as a hardness curve, with tolerance lines. These results can be saved as a standardized test report.

Product Details



- The machine can be equipped with an XY automatic moving worktable, enabling automatic programming and point marking. By setting the measurement path through the software, it allows for continuous hardness measurements to be performed automatically.

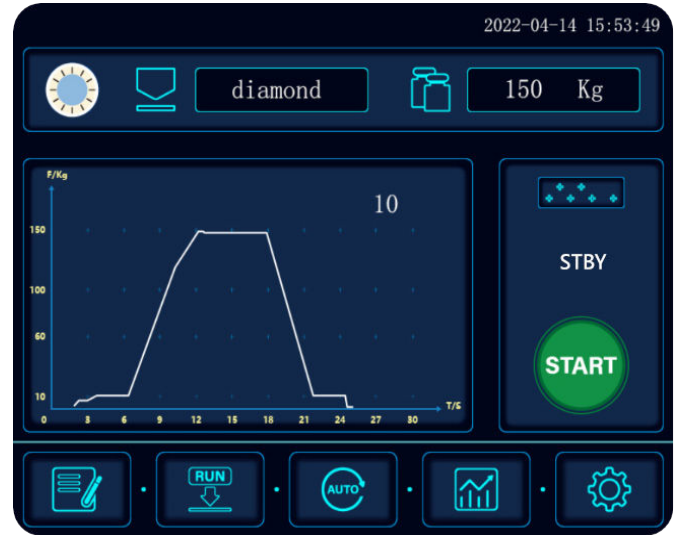


- Measuring head Lifting/Lowering Structure with Customizable Testing Space

Product Details



Main Interface of Measurement



Hardness Curve



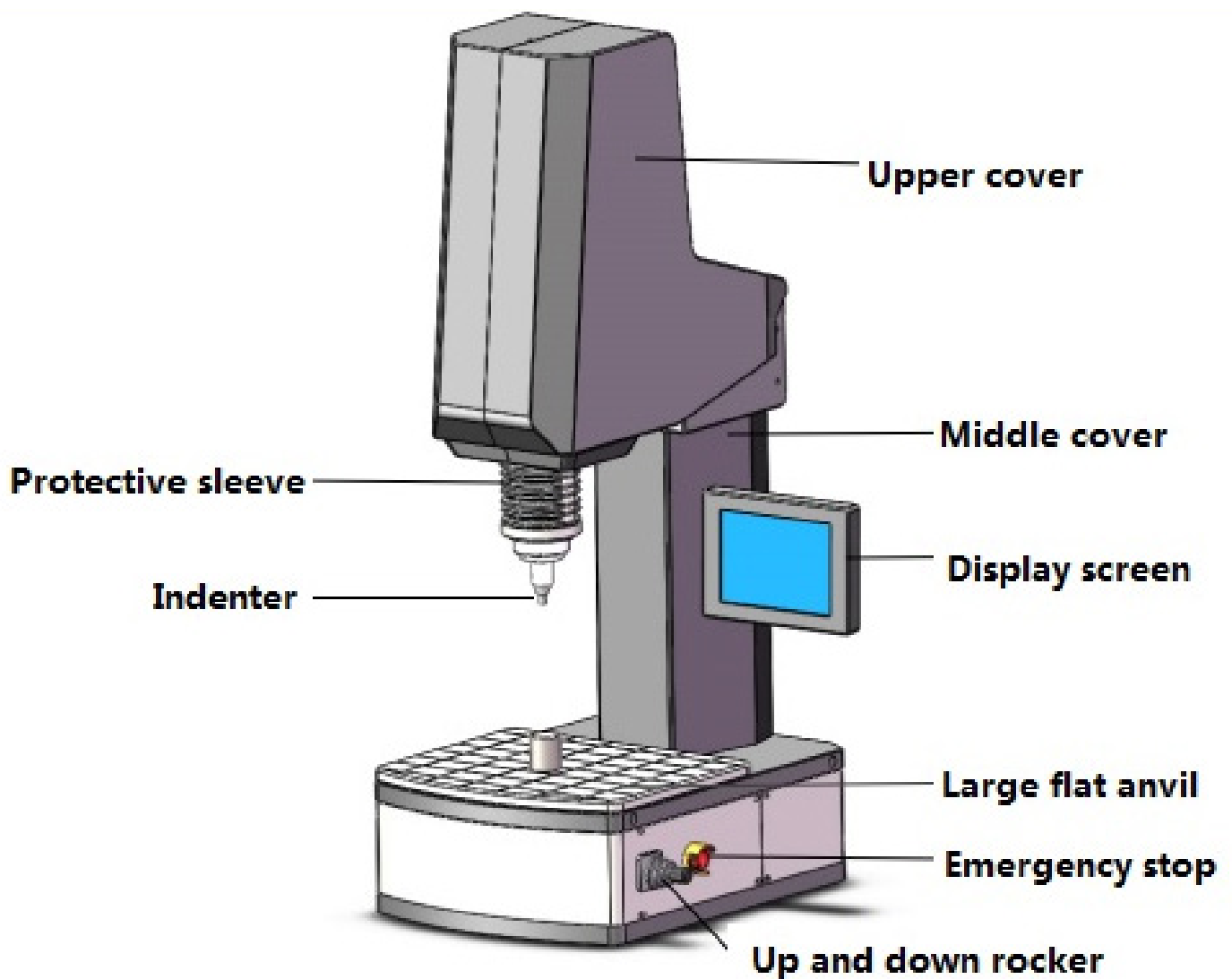
Hardness Display Interface

SEL	NUM	MESA	CONV	RANG
<input checked="" type="checkbox"/>	1	61.2	722	0.0
<input checked="" type="checkbox"/>	2	61.5	730	0.0
<input checked="" type="checkbox"/>	3	62.0	741	0.0
<input checked="" type="checkbox"/>	4	61.8	738	0.0
<input checked="" type="checkbox"/>	5	61.7	736	0.0

Data Statistics Interface

- User-friendly Operation Interface with Direct Display of Multiple Hardness Conversions, Hardness Value Upper/Lower Limit Setting, and Other Functions

Hardness Tester Configuration Structure



Technical Specification

Parameter	Specification
Test Forces	Rockwell: 60 kgf, 100 kgf, 150 kgf
	Superficial Rockwell: 15 kgf, 30 kgf, 45 kgf
	(Test force accuracy: $\pm 1\%$)
Measuring Range	Rockwell: 20-95 HRA, 10-100 HRB, 10-70 HRC
	Superficial Rockwell: 71-94 HR15N, 42-86 HR30N, 20-77 HR45N, 67-93 HR15T, 29-82 HR30T, 10-72 HR45T
Indenter Types	Rockwell diamond indenter (conical), $\varnothing 1.588$ mm tungsten carbide ball indenter
Testing Space	Maximum specimen height: 300 mm (customizable)
	Indenter center to frame distance (throat depth): 200 mm (customizable)
Dwell Time	Preliminary test force: 0.1-50 sec

Technical Specification

Dwell Time	Total test force: 0.1-50 sec
Operation Mode	Automatic head lifting with programmable return position; one-touch completion
Display	8-inch HD touchscreen with menu selection, hardness value display, parameter setting, data statistics, and storage
Resolution	0.01 HR
Hardness Scales	HRA, HRD, HRC, HRF, HRB, HRG, HRH, HRE, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Conversion Scales	Hardness conversion scales for various materials per ASTM E140 standard
Data Statistics	Test count, average, maximum, minimum, repeatability, programmable hardness limits with alarm function
Data Output	USB interface, RS232 interface
Power Supply	AC 220V, 50 Hz
Standards Compliance	ISO 6508, ASTM E18, JIS Z 2245, GB/T 230.2

Standard Delivery

Name	Qty	Photo
Rockwell Hardness Test Block 20-30 HRC	1 pc	
Superficial Rockwell Hardness Test Block 65-80 HR30N	1 pc	
Superficial Rockwell Hardness Test Block 80-90 HR15N	1 pc	
Rockwell Hardness Test Block 60-62 HRC	1 pc	
Superficial Rockwell Hardness Test Block 70-85 HR30TW	1 pc	
Carbide Ball Indenter Ø1.588 mm	1 pc	
Diamond Rockwell Indenter	1 pc	
Power Cable	1 pc	
Protective Cover	1 pc	