

Mikrosize®

iRocky-150/45CL

Touch Screen Twin Rockwell Hardness Tester



Video



Web: www.mikrosize.com

Email: mikrosize@mikrosize.com

Product Feature&Application

Product Feature

- Electronic weighted mainframe, no weights, power on and go.
- A total of 6 test forces can be selected, covering Rockwell, Surface Rockwell and Plastic Rockwell scales.
- Supports conversion between multiple hardness values.
- Adopt 8-inch color touch screen, fast response speed, no delay operation sensitive.
- The maximum test height is 230mm and the distance between the press head and the machine wall is 170mm.
- Hardness test results can be printed out.

Product Feature

- It is suitable for hardness measurement of many different materials, such as carbon steel, hardened steel, bearing metals, annealed brass, thin metal sheets and other products.
- ☒ Widely used in metrology aerospace machinery manufacturing, metallurgy research institutes product testing.
- ☒ Metrology: for calibrating and verifying the accuracy of other hardness testing equipment.
- ☒ Mechanical manufacturing: testing the hardness of components to ensure product quality.
- Metallurgy: Evaluation of the mechanical properties of metallic materials and the effects of heat treatment.



Operation Interface



1. Setting Interface
4. Diagram Interface

2. Testing Interface
5. Program Setting Interface

3. Display Interface



1. Operating Status Display

2. Test force: select different scales, automatically correspond to the scale of the test force, can not and do not need to adjust the

3. Indenter type: select different scales, automatically correspond to the indenter of this scale

4. Loading time: default 5 seconds, generally no need to adjust, the user can also be adjusted according to their own needs.

5. Test force-time curve.

Selecting Interface

Selection of Experimental Standards



Users can choose different experimental standards according to their needs:
ASTM E140, DIN18265, GB/T

Scale Selection



Hardness scales supported by the machine: HRA, HR-B, HRC, HRD, HRE, HRF, HRG, HRH, HK, HRL, HRM, HRP, HR-R, HRS, HRV, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y

Scale conversion for different experimental standards



There are different conversion scales for choosing different experimental standards:

Experimental Standards	Convertible Scale
ASTM	HRC, HV, HBS, HBW, HK, HRA, HRD, 15N, 30N, 45N, Sclero
DIN	HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HBS, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
GBT	HV, HBS, HRA, HRB, HRC, HRD, HRE, HRF, HRG, HK, 15N, 30N, 45N, 15T, 30T, 45T

Selecting Interface

Time-delay Control



Users can choose the appropriate loading time, the default is 5 seconds, generally no need to adjust, the range is 2 ~ 60 seconds.

Curved Surface Specimen



- For curved specimens, such as convex cylindrical surfaces, the surface shape affects the accuracy of the hardness test. By setting the radius of curvature, the test results can be corrected to reflect the true hardness value of the specimen, thus improving the accuracy of the test.
- You can also set the standard value and the upper and lower deviation according to the user's products, in order to quickly screen the test products qualified or unqualified.

Testing Interface

Testing Demo



After the user selects the experimental scale, the test interface will automatically match the corresponding test force and the indenter to be selected.

Scale	Test Force(N)	Indentor
HRA	588.4(60kg)	Diamond
HRB	980.7(100kg)	Ball
HRC	1471(150kg)	Diamond

- After setting up, the handwheel on the rotating wheel screw turns clockwise, the screw rises, should make the standard block slowly and without impact with the indenter contact, until the test interface hardness tester into the display OK position, the buzzer sounds, at this time has been applied to the initial test force, the test bench stops rising.
- The motor starts, the main test force is automatically added, the holding time is 5 seconds, the seconds count down to 0, the motor rotates, the main test force is automatically removed and the initial test force is retained. Buzzer sound, read the hardness value in the hardness display area.
- Reverse the spinning wheel, the test stand is lowered, the test point is replaced and the above operation is repeated.
- Not less than 5 test points on each specimen (point 1 not counted).
- When the test starts, the display will show the test force curve and the count-down of the delay control time.

Display Interface

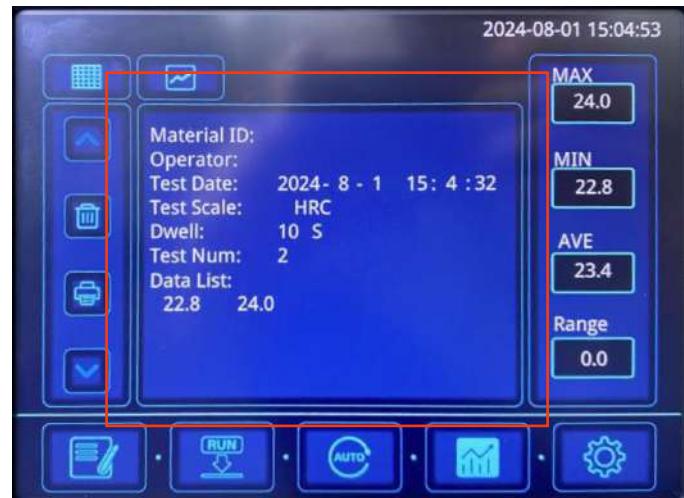
Test Results Display



When the user finished measuring, you can view the results of this measurement in the display interface, if the measurement result is within the deviation, the interface will display "PASS", it will also display the measurement scale set by the user, the conversion scale, the standard and the standard value set by the user, and the upper and lower deviation.

Diagram Interface

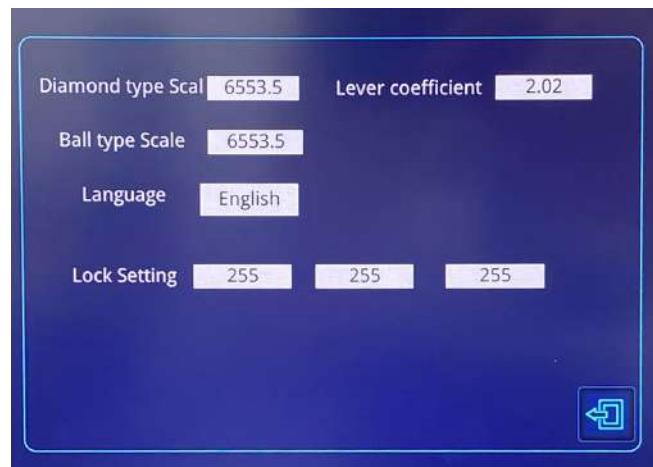
Test Data Viewing



This interface can display the maximum value, minimum value, average value, deviation range of each group; you can delete the data, print the data and so on.

Program Setting Interface

Language and experimental condition setting.



The interface allows you to set the language, the number of times for each group, the type of test, the date and time of the display (long press on the date to modify).

Scale, Indenter, Test Force Applications

Scale	Indenter Type	Initial test force	Total test force (N)	Application range
HRA	Diamond Indenter	98.07 N (10kg)	588.4 (60kg)	Carbide, carbide steel, case hardened steel, hardened steel sheet
HRD			980.7(100kg)	Sheet steel, surface hardened steel
HRC			1471(150kg)	Hardened steel, quenched and tempered steel, chilled cast iron
HRF	Ball Indenter Φ1.5875mm (1/16 inch)	98.07 N (10kg)	588.4 (60kg)	Cast iron, aluminum, magnesium alloy, bearing alloy, annealed copper alloy, thin mild steel plate, etc.
HRB			980.7(100kg)	Mild steel, aluminum alloy, copper alloy, malleable iron, annealed steel
HRG			1471(150kg)	Phosphor bronze, beryllium bronze and malleable iron
HRH	Ball Indenter Φ3.175mm (1/8 inch)	98.07 N (10kg)	588.4 (60kg)	Aluminum, zinc, lead, etc.
HRK			1471(150kg)	Soft materials such as bearing alloys, tin, hard plastics
HRE			980.7(100kg)	
HRL	Ball Indenter Φ6.35mm (1/4 inch)	98.07 N (10kg)	588.4 (60kg)	
HRM			980.7(100kg)	
HRR	Ball indenter Φ12.7mm (1/2 inch)		588.4 (60kg)	
HR15N	Diamond indenter	29.42N (3kg)	147.1 (15kg)	Cemented carbide, nitride steel, carburized steel, each heavy steel plate, etc
HR30N			249.20(30kg)	Surface hardened steel, carburized steel, knife, sheet steel, etc
HR45N			441.3(45kg)	Hardened steel, tempered steel, hard cast iron and parts edge, etc
HR15TW	Ball Indenter Φ1.5875mm		147.1 (15kg)	Annealed copper alloy, brass, bronze sheet, thin mild steel
HR30TW			249.20(30kg)	Thin mild steel, aluminum alloy, copper alloy, brass bronze, malleable cast iron
HR45TW			441.3(45kg)	Pearlitic iron, copper-nickel and zinc-nickel alloy sheets

Technical Specification

Initial test force	29.42N (3kg) ,98.07N (10kg) tolerance ± 2.0%
Total Test Force	147.1N (15kg), 294.20N (30kg), 441.30N (45kg), 588.4N (60kg), 980.7N (100kg), 1471N (150kg) tolerance ±1.0%
Hardness scales	HRA,HRB,HRC,HRD,HRE,HRF,HRG,HRH,HRK,HRL,HRM,HRP,HR-R,HRS,HRV,HR15N,HR30N,HR45N,HR15T,HR30T,HR45T,HR15W,HR30W,HR45T,HR15X,HR30X,HR45X,HR15Y,HR30Y,HR45Y
Conversion Scales	ASTM:HRC,HV,HBS,HBW,HHK,HRA,HRD,15N,30N,45N,Sclero DIN:HRA,HRB,HRC,HRD,HRF,HV,HK,HB-W,HBS,HR15N,HR30N,HR45N,HR15T,HR30T,HR45T GBT:HV,HBS,HRA,HR-B,HRC,HRD,HRE,HRF,HRG,HRK,15N,30N,45N,15T,30T,45T
Indenter Specifications	Diamond Rockwell indenter, $\Phi 1.5875\text{mm}$ ball indenter
Power Supply Voltage	AC220V±5%,50~60Hz
Delay Control	adjustable from 2 to 60 seconds
The Maximum Height of the Specimen	230mm
Throat	170mm
Machine Dimensions	475*200*700mm
Weight	70kg

Standard Delivery

Mainframe Machine	1 Set	
Diamond Rockwell Indenter	1 PC	
Φ1.5875mm Ball Indenter	1 PC	
Anvil (Big, Middle, "V"-Shaped)	1 PC ea.	
Standard Hardness Block	5 PCS	
Gradienter	1 PC	
Power Adapter	1 PC	
Printer	1 Set	
Level Adjusting Feet	4 PCS	
Sucker	1 PC	
Dust Cover	1 PC	
Power Cable	1 PC	
Instruction Manual	1 Copy	
Product Certificate, Warranty Card	1 Copy ea.	