

MIDLAND METROLOGY LTD

iRocky-150CL

Digital Touch Screen Rockwell Hardness Tester(Closed Loop)



Product Feature&Application

Product Feature

- Loading cell instead of dead weight, improving loading accuracy,more stable loading forces;
- Smart shape design,8 inch touch screen operating ,fast and sensitive, friendly for users.All settings on screen,intuitive and humanized.
- Bluetooth linked to computer, analyzed and managed data through dedicated hardness software(optional)
- Powerful data processing capabilities, calculating and analyzing maximum, minimum, and average values, etc
- Multiple Rockwell hardness scales can be selected on the touch screen, and multiple hardness scales such as HV and HB can be converted.
- The operation interface is simple, with a user-friendly interface for setting parameters. System independently stores 500 sets of data;
- Compliant with the latest ISO, ASTM, GB and other standards hardness conversions
- Dwelling time and loading time can be set, hardness value can be corrected.
- 60/100/150kg selectable test forces for rockwell scales.
- Big test space:230x170mm



iRocky-150CL

Product Application

- Suitable for hardness testing of various materials such as carbon steel, hardened steel, bearing metals, annealed brass, thin metal sheets, etc
- Suitable for Rockwell hardness testing of heat-treated metal parts Workpieces such as soft steel, aluminum alloy, copper alloy, malleable cast iron, annealed steel, etc;Workpieces such as hard alloys, carbide surface quenched steels, and hardened thin steel plates;
- Widely used in aerospace machinery manufacturing, and product testing in metallurgical research institutes

Operation Interface

1. Setting Interface
2. Testing Interface
3. Display Interface
4. Diagram Interface
5. Program Setting Interface



Selecting Interface

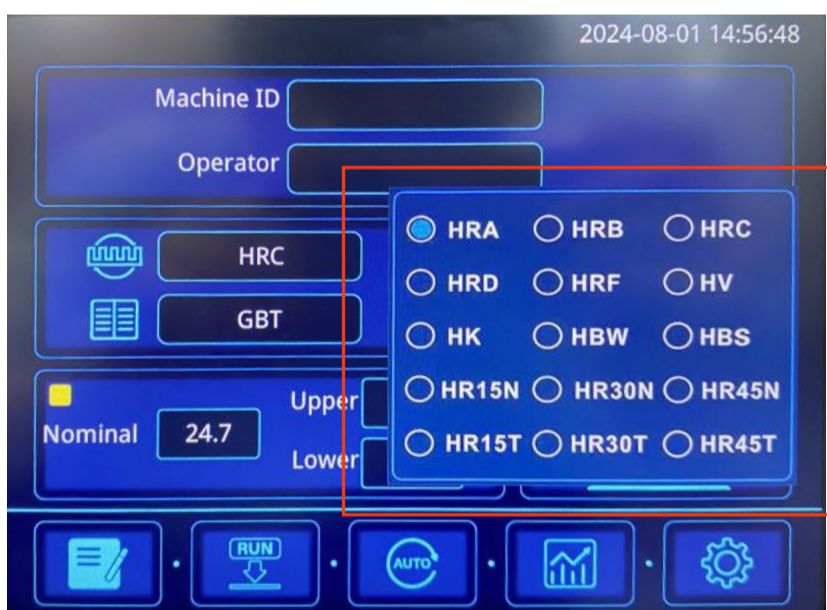
Users can select different standard accordingly: ASTM E140, DIN18625, GB/T



Users can select different hardness scale accordingly:HRA,HRB,HRC,HRD HRE,HRF,HRG,HRH HRK,HRL,HRM,HRP HRR,HRS,HRV



Users can select different conversion scale accordingly:HRA,HRB,HRC HRD,HRF,HV,HK,HBW,HBS,HR15N,HR30N,HR45N,HR15T,HR30T,HR45T



Dwelling Time : 0~60s adjustable selection

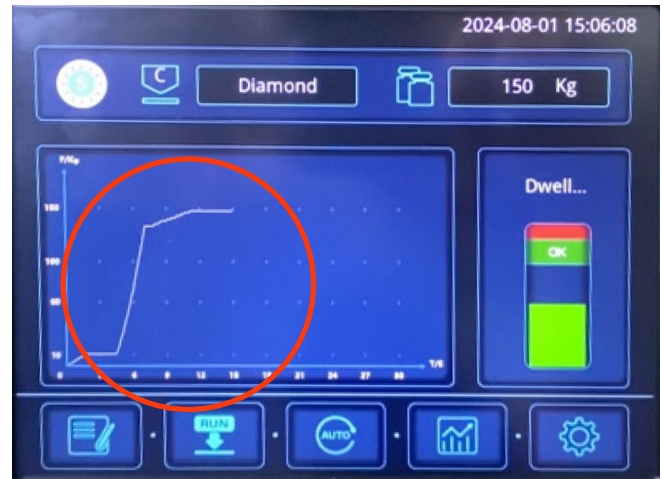
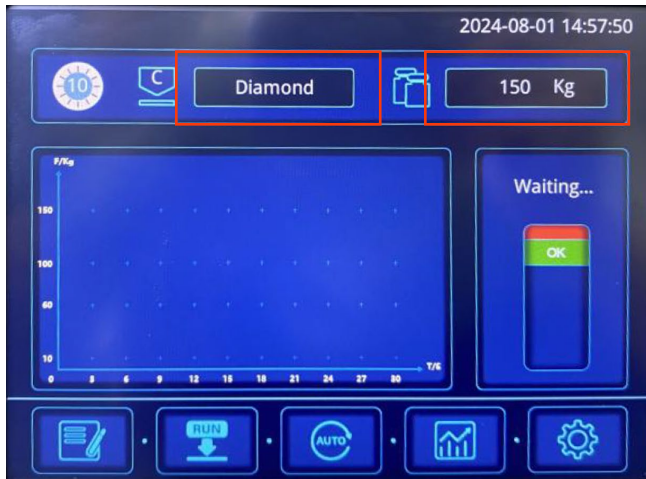


Selecting Interface

- For curved specimens, such as convex cylindrical surfaces, their surface shape can affect the accuracy of hardness testing. By setting the curvature radius, the test results can be corrected to reflect the true hardness value of the sample, improving the accuracy of the test.
- Setting standard values, upper and lower deviations based on the user's product, in order to quickly test whether the product is qualified or unqualified



Testing Interface



The testing interface will automatically match the corresponding test force and the selected indenter. The in-time test force curve will be shown on coordinate axis(X-axis:Time,Y-axis:Force)

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

- After setting, turn the handwheel on the rotary screw clockwise and raise the screw. The standard block should slowly and no impact contact with the indenter until test interface displays the OK position and the buzzer sounds. At this point, the initial test force has been applied and the test anvil stops rising.
- The motor starts, automatically applies the main test force, Dwelling loading , counts down to 0 seconds, the motor rotates, automatically removes the main test force, and retains the initial test force. The buzzer sounds and reads the hardness value in the hardness display area.
- Reverse the hand wheel, turn down the test anvil, replace the test point, and repeat the above operation.
- There shall be no less than 5 testing points on each specimen (excluding the first point)
- When starting the test, the display screen will show the test force curve and the countdown of the dwelling time

Display Interface



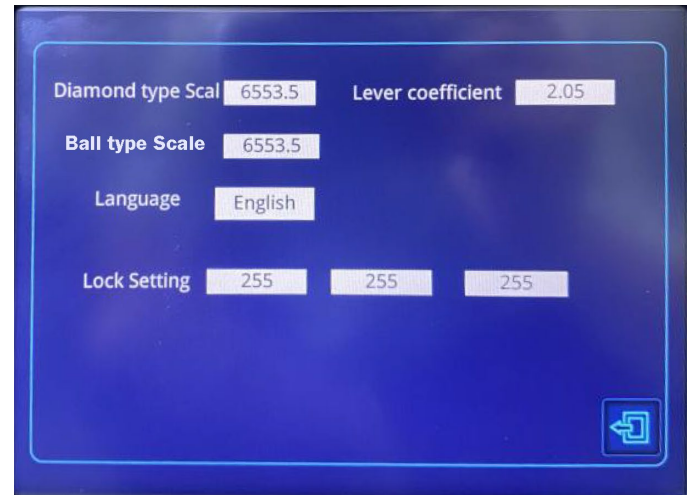
After the users completes the test, they can view the results of this result on the display interface. If the result is within the deviation, the interface will display "PASS"(conversely"NG") and also show the test scale set by the user, the conversion scale, and the standard value, upper and lower deviation set by the users.

Diagram Interface



This interface can display the maximum, minimum, average, and deviation range of each group; Can be deleted, data printed, etc

Setting Interface



This interface can be used for language settings, the number of testing times for each group, testing type, display date and time (long press on the date to modify)

User Friendly



Lifting Screw



Lifting Screw



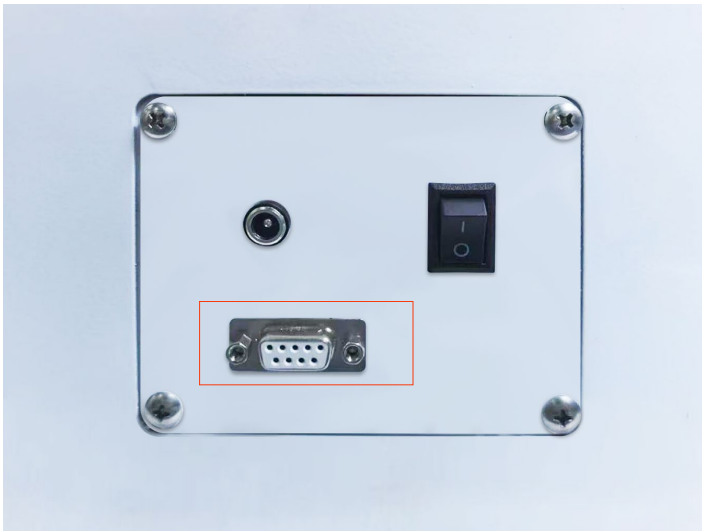
Indenter Fixed



Load Cell System

Data Output

Testing result can be printed out by portable printer or RS-232 Connecting to computer



RS-232



Portable Printer

Hardness Scale, Indentor & Application

Rockwell Scale	Indentor	Initial Test Force	Total Test Force	Application
HRA	Diamond Indentor	98.07N (10kg)	588.4N (60kg)	Hard alloy, carbide steel, surface quenched steel, hardened thin steel plate
HRD			980.7N (100kg)	Surface quenched steel, thin steel plate
HRC			1471N (150kg)	Quenched steel, modulated steel, chilled cast iron
HRF	Ball Indentor Φ1.5875mm (1/16 inch)		588.4N (60kg)	Cast iron, aluminum, magnesium alloy, bearing alloy, annealed copper alloy, thin soft steel plate
HRB			980.7N (100kg)	Soft steel, aluminum alloy, copper alloy, malleable cast iron, annealed steel
HRG			1471N (150kg)	phosphor bronze, beryllium bronze, malleable cast iron
HRH	Ball Indentor Φ3.175mm (1/8inch)		588.4N (60kg)	Aluminum, zinc, lead
HRK			1471N (150kg)	Soft materials such as bearing alloys, tin, hard plastics, etc
HRE			980.7N (100kg)	
HRL	588.4N (60kg)			
HRM	980.7N (100kg)			
HRR	Ball Indentor Φ12.7mm (1/2inch)	588.4(60kg)		

Technical Specification

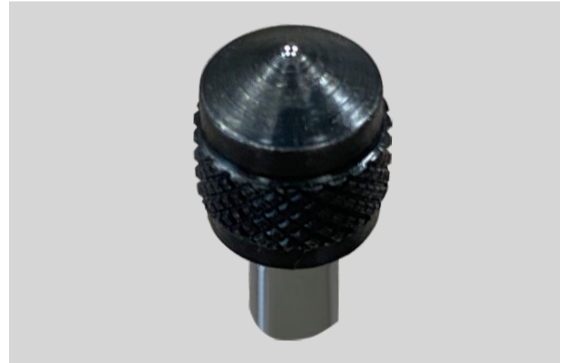
Product Name	Digital Touch Screen Rockwell Hardness Tester
Model No	iRocky-150CL
Initial Test Force	98.07N(10kg),±2.0%
Total Test Force	588.4N(60kg),980.7N(100kg),1471N(150kg);±1.0%
Indentor	Diamond Rockwell Indentor,Φ1.5875mm Ball Indentor
Test Range	20-95HRA, 10-100HRB, 10-70HRC
Hardness Display	8 inch Touch Screen(Optional Computer)
Hardness Resolution	0.1HR
Hardness Scale	HRA, HRD, HRC, HRFW, HRBW, HRGW, HRHW, HREW, HRKW, HRL, HRM, HRP, HRR, HRS, HRV
Conversion Scale	HV, HK, HRA, HRBW, HRC, HR15N, HR30N, HR45N, HR15TW, HR30TW, HR45TW, HBW
Data Output	Touch Screen/Portable Printer/RS232
Loading Method	Initial Test Force: Manual Loading
	Main Test Force: Auto Loading, Dwelling, Unloading
Power Supply	AC110V/220V±5%,50~60Hz
Dwelling Time	2~60s Adjustable
Test Height	230mm
Test Throat	170mm
Machine Dimension	475×200×700mm(L×W×H)
Net Weight	70kg

Packing List

Item	Qty	Item	Qty
Machine Mainframe	1 set	Rockwell Block 20-30HRC	1 pc
Diamond Rockwell Indentor	1 pc	Rockwell Block 40-50HRC	1 pc
Φ1.5875mm Ball Indentor	1 pc	Rockwell Block 80-88HRC	1 pc
Φ150mm Flat Test Anvil	1 pc	Rockwell Block 60-62HRC	1 pc
Φ60mm Flat Test Anvil	1 pc	Rockwell Block 90-95HRB	1 pc
Φ40mm“V”-shape Test Anvil	1 pc	Power Adaptor	1 pc
Portable Printer	1 pc	Power Cord	1 pc
Inner Hexagon Spanner	2 pcs	Instruction Manual	1 copy
Anti-dust Cover	1 pc	Product Warranty Card	1 copy
Screw Driver	1 pc	Product Certificate	1 copy
Level Adjusting Feet	4 pcs	Gradienter	1 pc



Diamond Indentor



Φ1.5875mm Ball Indentor



Test Anvil



Rockwell Hardness Block



Level Adjusting Feet



Gradienter



Portable Printer



Power Adaptor