

Mikrosize®

uBRV-187.5/250

Digital Universal Hardness Tester



Video



Product Feature&Application

Product Features

- Equipped Brinell, Rockwell, Vickers test methods for more variable hardness scales.
- Closed-loop control system with high precision load cell, no need to install weights.
- 8" Touch screen, easy to operate.
- Eyepiece with digital encoder, measuring D1, D2 value, LCD directly display D1, D2 value and hardness value.
- Directly select the hardness scale, test force automatically changes in test parameters.
- Auto test force correction, auto test force compensation, greatly improving test force accuracy.
- Can be calibrated according to standard hardness block or length scale.
- The test force can be automatically corrected by standard dynamometer.
- The hardness values of brinell, rockwell and vickers can be converted.
- Automatic hardness conversion according to standard GB/ASTM.
- Password protection for setting parameters, more samples and test information.
- U-disk of measurement data is saved in EXCEL format for easy editing and processing.



uBRV-187.5



uBRV-250

Product Application

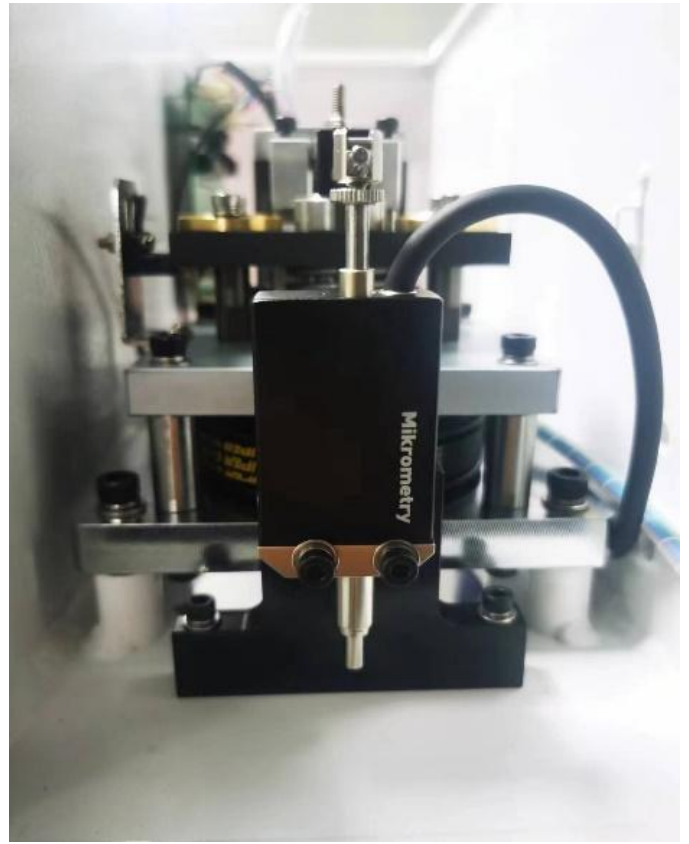
Suitable for hardened and surface hardened steel, hard alloy steel, casting parts, non-ferrous metals, various kinds of hardening and tempering steel and tempered steel, carburized steel sheet, soft metals, surface heat treating and chemical treating materials etc.

User Friendly

Equipped Brinell, Rockwell, Superficial Rockwell, Vickers test methods for more variable hardness scales. Closed-loop control system with high precision load cell, no need to install weights.



Variable Hardness Scales



Displacement Sensor



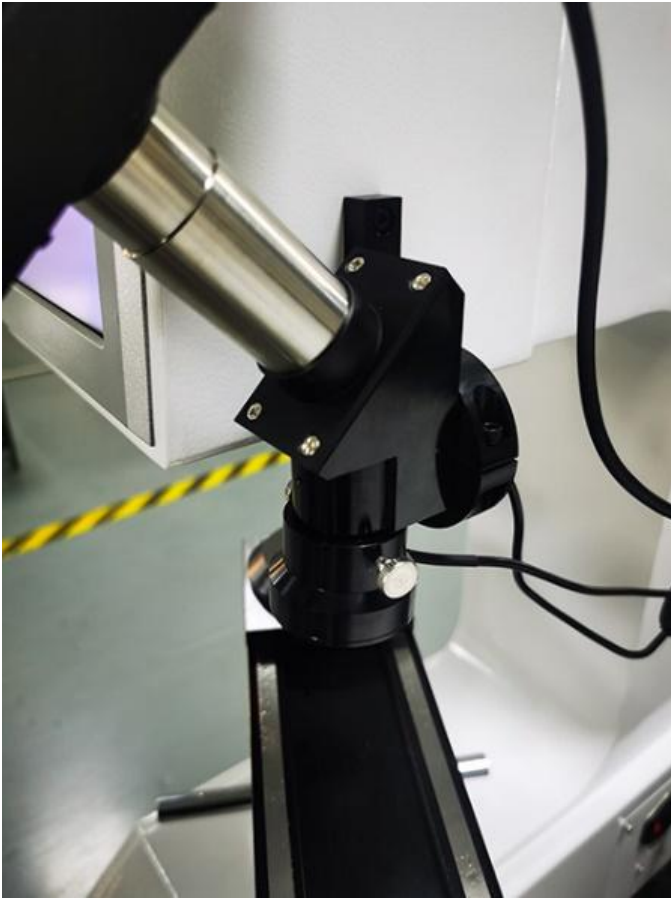
Indenter Structure



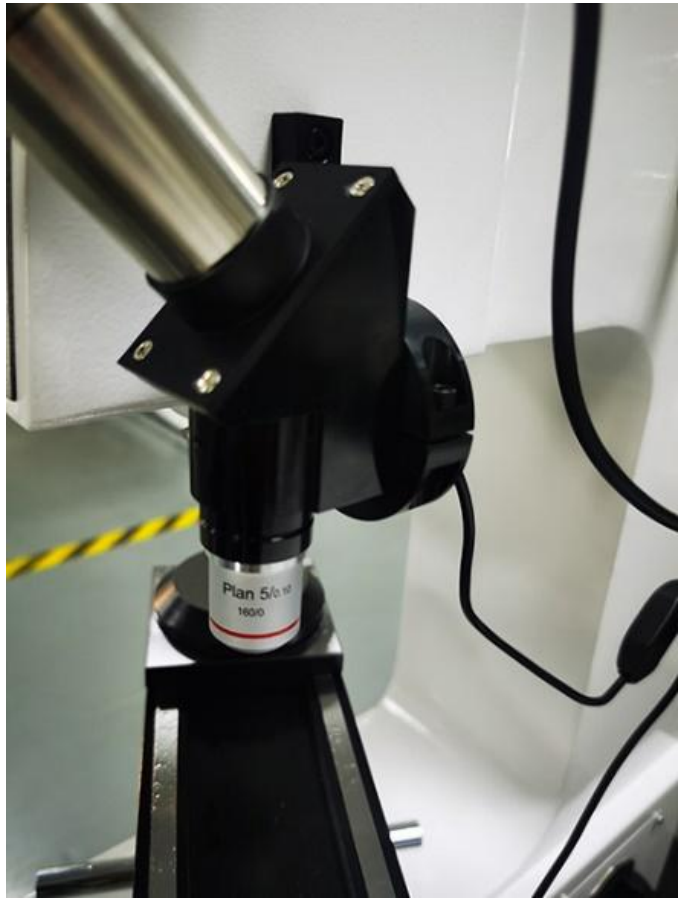
Load Cell above Indenter

Eyepiece & Objective

Objective: 2.5X (for Brinell), 5X (for Vickers) (10X, 20X for optional), eyepiece: 15X. Eyepiece with digital encoder, measuring D1, D2 value, LCD directly display D1, D2 value and hardness value.



Objective Structure



Objective Structure

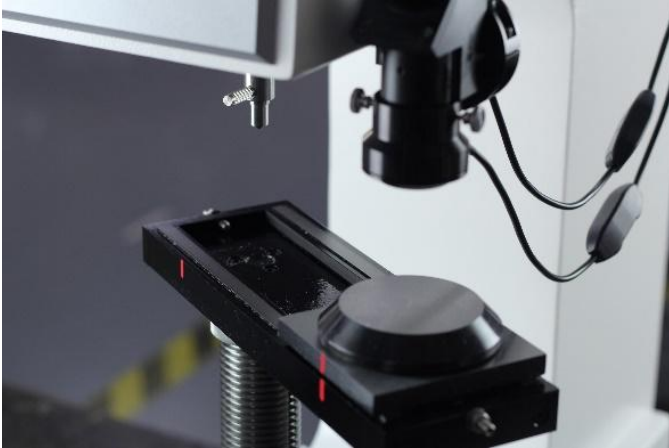


Objective Structure



Objective Structure

Eyepiece & Objective



Objective above Test Table



Eyepiece Structure



Objective Structure



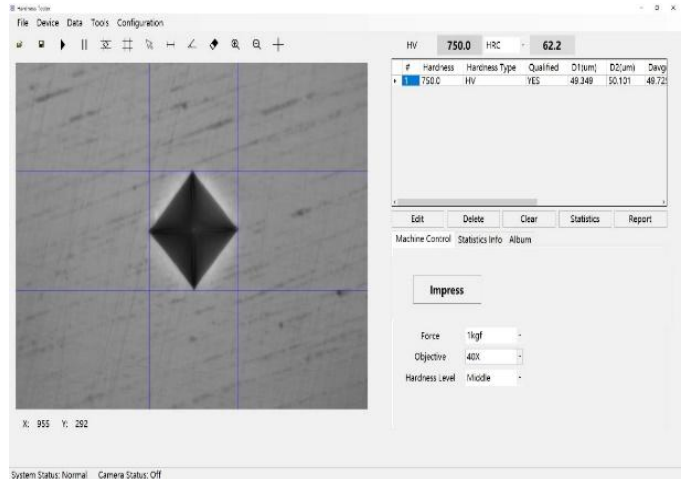
Objective Lensr

Data Output

U-disk of measurement data is saved in EXCEL format for easy editing and processing, LCD display or optional hardness measurement software.

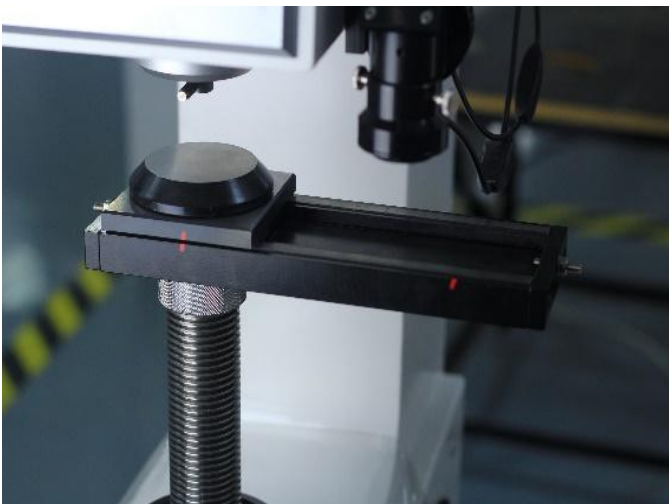
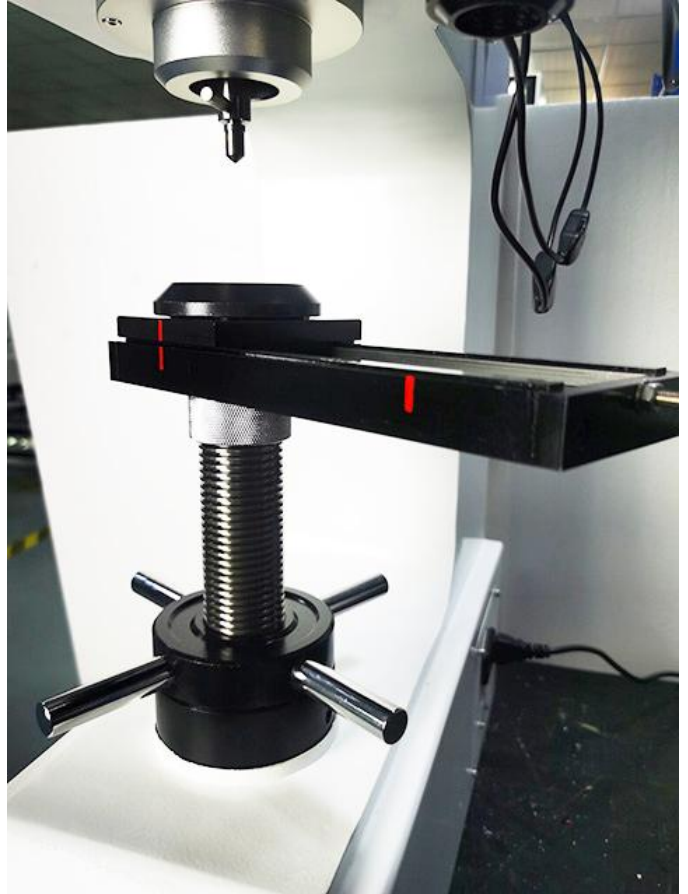


U-disk Interface



Measurement Software(Optional)

More Detailed Photoes



Operation Interface

It can be calibrated according to the standard hardness block or length scale to make hardness value more accurately. RS-232 interface connected to computer for data output, testing result can be saved in USB (optional) in EXCEL format. bulut-in mini-printer to print testing data.

Operator

Sample

Range

To

Load(kg)

Dwell Time(S)

Start

D1

D2

HBW

Conversion

Reset

Return

Calibrate

Measurement Scale for the Brinell

1/5

2.5/6.25

1/10

2.5/15.625

1/30

2.5/31.25

2.5/62.5

10/100

5/125

2.5/187.5

Return

Brinell Main Interface

Brinell Scale uBRV-187.5

Measurement Scale for the Brinell

1/5

2.5/6.25

1/10

2.5/15.625

1/30

2.5/31.25

2.5/62.5

10/100

5/125

2.5/187.5

2/250

10/250

Return

Brinell Scale uBRV-250

Operator

Sample

Curvature

Range

To

Hardness Type

Conbersion Type

Value

Dwell Time(S)

Hardness Value

Calibration

Start

Data

Rockwell Main Interface

Measurement Scale for the Rockwell

HRA

HRB

HRC

HRD

HRE

HRF

HRG

HRH

HRK

HRL

HRM

HRP

HRR

HRS

HRV

Return

Rockwell Scale uBRV-187.5

Measurement Scale

Calibration

HRB/100/1.588

HRC/150/D

HRD/100/D

HRE/100/3.175

HRF/60/1.588

HRG/150/1.588

HRH/60/3.175

HRK/150/3.175

HRL/60/6.35

HRM/100/6.35

HRP/150/6.35

HRR/60/12.7

HRS/100/12.7

HRV/150/12.7

HR15N/D

HR30N/D

HR45N/D

HR15T/1.588

HR30T/1.588

HR45T/1.588

HR15W/3.175

HR30W/3.175

HR45W/3.175

HR15X/6.35

HR30X/6.35

HR45X/6.35

HR15Y/12.7

HR30Y/12.7

HR45Y/12.7

Please choose the right indenter for the scale you choosed.

Explanation

HRA/60/D

HR15N/D

Return

Scale/Force/Indentor Scale/Force/Indentor

Rockwell Scale uBRV-187.5

Operation Interface

Operator

Sample

Range To

Load(kg)

Dwell Time(S)

Start

D1 D2

HBW

Conversion

Reset

Return

Calibrate

Vickers main interface

Measurement Scale for the Vickers

5

10

20

30

40

50

60

80

100

120

Return

Vickers scale

Calibration

Magnification:

Loda(kg) :

Pulses : X Y

Hardness Value

Save

Calibration

Return

Brinell,Vickers Calibration

Calibration

Scale:

Standard Hardness Value : Measured:

Low

Medium

High

Save

Calibration

Return

Rockwell Calibration



Ordering Information



uBRV-187.5 Digital Universal Hardness Tester
(Brinell , Rockwell, Macro Vickers)

uBRRV-187.5 Digital Universal Hardness Tester
(Brinell , Rockwell, Superficial Rockwell ,Macro Vickers)

uBRV-250 Digital Universal Hardness Tester
(Brinell , Rockwell, Macro Vickers)

uBRRV-250 Digital Universal Hardness Tester
(Brinell , Rockwell, Superficial Rockwell, Macro Vickers)

- The 1.3-megapixel camera has clear images, and the indentation measurement is automatic/manual.
- Calibration using micrometer or hardness block calibration, automatic calibration.
- Computer automatic measurement image analysis, hardness software accurate correction and gradient diagonalization.
- Hardness is converted to other hardness according to national standard and ASTM; Hardness statistics and hardness exceeding alarm.
- Automatically generate test report, all test data saved forever, easy to historical inquiry.

Hardness Tester

TestParameters

HardnessTesterSetting

GenericSetting

HardnessType

HRC/150

LoadTime

5

Indent

Hardness

HRC

ConvertType

HV

ConvertValue

HRC

QualifiedRange

1

-

130

Qualified

No

No.	MeasureTime	Hardness	HardnessType	Delete

Delete

Clear

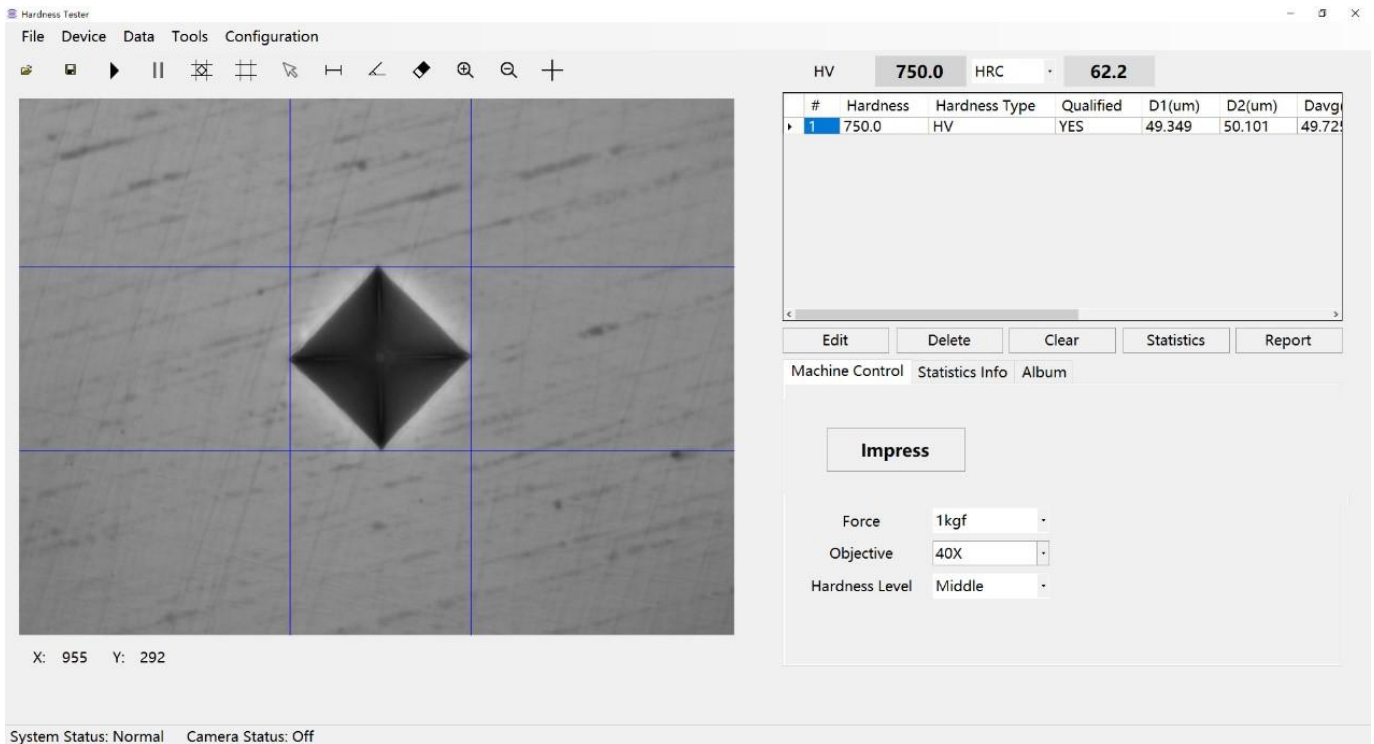
Statistics

Report

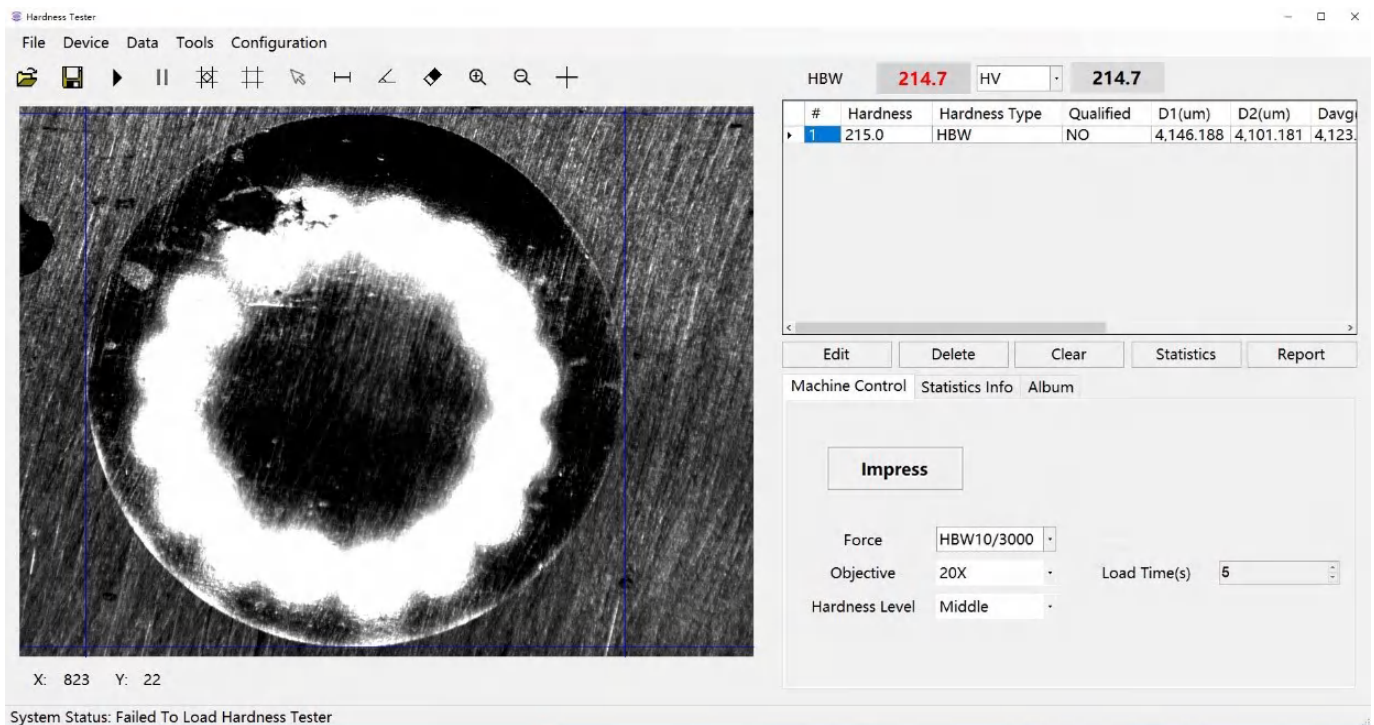
DataQuery

Rockwell Measurement Software Interface

Optional Measurement Software



Vickers Measurement Software Interface



Brinell Measurement Software Interface

Technical Specification

Model	uBRV-187.5/uBRRV-187.5	uBRV-250/uBRRV-250
Initial Test force	Rockwell: 10kgf(98.07N) , Superficial Rockwell: 3kgf(29.4N)	
Total Test force	Rockwell:60kgf,100kgf,150kgf	Rockwell:60kgf,100kgf,150kgf;
	Superficial Rockwell: 15 kgf, 30 kgf, 45 kgf,	Superficial Rockwell: 15 kgf, 30 kgf, 45 kgf,
	Brinell:5kgf, 6.25kgf, 10kgf, 15.625kgf, 30kgf, 31.25kgf, 62.5kgf, 100kgf, 125kgf, 187.5kgf	Brinell:5kgf, 6.25kgf, 10kgf, 15.625kgf, 30kgf, 31.25kgf, 62.5kgf, 100kgf, 125kgf, 187.5kgf,250kgf
	Vickers:5kgf, 10kgf, 20kgf, 30kgf, 40kgf(392N), 50kgf, 60kgf, 80kgf, 100kgf, 120kgf	Vickers:5kgf, 10kgf, 20kgf, 30kgf, 40kgf(392N), 50kgf, 60kgf, 80kgf, 100kgf, 120kgf
Force Error	< 0.5%	< 0.5%
Brinell Scale	HBW1/5, HBW2.5/62.5, HBW1/10, HBW2.5/15.625, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW10/100, HBW5/125, HBW2.5/187.5	HBW1/5, HBW2.5/6.25, HBW1/10, HBW2.5/15.625, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW10/100, HBW5/125, HBW2.5/187.5 HBW5/250, HBW10/250 HBT1/5kgf HBT1/10kgf HBT1/30kgf HBT2.5/6.25kgf HBT2.5/15.625kgf HBT2.5/31.25kgf HBT2.5/62.5kgf HBT2.5/187.5kgf HBT5/25kgf HBT5/31,25kgf HBT5/62,5kgf HBT5/ 125kgf HBT5/250kgf HBT10/100kgf HBT10/125kgf HBT10/ 250kgf
Rockwell Scale	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV	
Superficial Rockwell Scale	15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y	
Vickers Scale	HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120 HVT5,HVT10,HVT20,HVT30,HVT50,HVT100,HVT120	
Hardness Resolution	0.1HBW, 0.1HR,0.1HV	0.1HBW, 0.1HR,0.1HV
Indication Accuracy	Brinell: ±2.5HB, Rockwell:±0.1HR, Vickers:±2 HV	
Repeatability	Brinell:≤3.0HB, Rockwell: 0.5HR, Vickers: ≤2.5HV	
Magnification	Eyepiece: 15X, Objective:2.5X(for Brinell), 5X(for Vickers)(10X, 20X for optional) Total Magnification: 37.5X, 75X Brinell: 37.5X, Vickers: 75X	
Minimum Measuring Unit	0.1μm	0.1μm
Dwelling Time	0-60s	0-60s
Hardness Range	Brinell: 8 ~ 650HBW Rockwell: 20 ~ 100HR Vickers: 8 ~ 2900HV	
Data Output	LCD display, U disk	
Test Height	Rockwell: 220mm, Brinell /Vickers: 150mm	
Test Throat	200mm	
Executive Standards	ISO 6508, ASTM E-18, JIS Z2245, GB/T 230.2	
	ISO 6506, ASTM E10-12, JIS Z2243, GB/T 231.2	
	ISO 6507, ASTM E92, JIS Z2244, GB/T 4340.2	
Dimensions	Machine Size: 560*350*800mm, Packing Size: 730x450x910mm	
Weight	N/W: 70kg, G/W: 99kg	
Power	AC220V+5%, 50-60Hz	

Packing List

Item	Quantity	Item	Quantity
Lighting (Internal Lighting, External Lighting)	Each 1 pc	Hardness Test block(HRC High, HRC Low, HRB, HBW2.5/187.5, HV30)	Each 1 pc
Rockwell Diamond Indenter	1 pc	Brinell Carbide Ball Indenter(2.5, 5mm)	Each 1 pc
Vickers Diamond Indenter	1 pc	Rockwell Carbide Ball Indentor 1.5875mm	1pc
Eyepiece 15X	1 pc	Objective (2.5X, 5X)	Each 1 pc
Sliding Test Table	1pc	Large, Medium, V-shape Test Anvil	Each 1 pc
U-disk, Touch Pen	Each 1pc	Fuse 2A	2pcs
Level	1pc	Adjusting Level Screw	4pcs
Power Cable	1pc	Dust-proof Cover	1pc
Certificate, Warranty Card	1copy	Instruction Manual	1copy



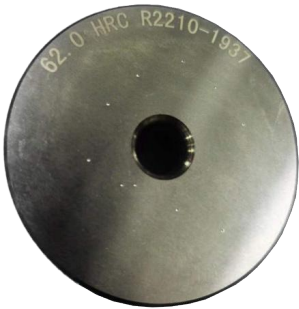
Rockwell Diamond Indenter



Vickers Diamond Indenter



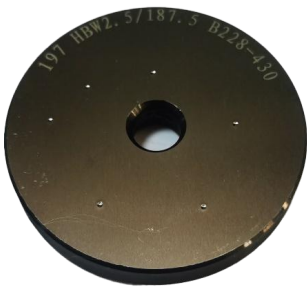
HRB Rockwell Block



HRC High Rockwell Block



HRC Low Rockwell Block



HBW Brinell Block



Brinell Ball Indentor



Large Test Anvil



Medium Test Anvil



V-shape Test Anvil