

# MHBS-62.5

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## Digital Display Small Load Brinell



### Overview

Mitech MHB-62.5 Digital Display Small Load Brinell Hardness Tester, based on the mechanical principle of hard alloy indenter pressing into the sample surface to produce indentation, realizing the material hardness measurement by measuring the diameter of the indentation. It's MITECH latest optical mechanical and electrical integration of high-tech products. It is novel and high reliable with accurately measurement. With LED display, simple operation, it can visually display the test results to meet the hardness testing requirement for the quality control and qualified assessment of the workpiece sample. It is widely used in metal processing and manufacturing, various metal material's failure analysis and other fields like colleges and research institutions. It is the new type Brinell hardness testing instrument for testing the hardness of the materials like cast iron, steel, soft alloy with small and thin sheet type workpiece and so on.

## Technical Parameters

Technical Parameters	Technical Indicators
The power series	61.25N ( 6.25kgf ) 、 98.07N ( 10kgf ) 、 153.2N ( 15.625kgf ) 、 294N ( 30kgf ) 、 306.25N ( 31.25kgf ) 、 612.9N ( 62.5kgf )
Measuring range	8~650HBW、 8~450HBS
Indication accuracy	±3% ( HBW≤225 )
Brinell scale	HBW2.5/625、 HBW1/10、 HBW2.5/15.625、 HBW1/30、 HBW2.5/31.25、 HBW2.5/62.5、 HBW5/62.5
Testing Force Application Mode	Automatic (loading, holding, unloading)
Indenter objective lens conversion mode display usage	Manual operation LCD Liquid crystal display
Microocular magnification	40X 100X
Test force holding time	5~60s
Minimum division	0.1μm
Applicable material maximum height	160mm
Max distance from head to body	135mm
Voltage	AC 220V/50Hz
Size	540* 220*650mm
Total Weight	45kg

## Features

- Suitable for measuring the small or thin workpiece hardness , a variety of small load Brinell scale selection;
- Support Brinell, Rockwell, Vickers and other hardness standard conversion;
- Built-in large-capacity chip, can store large amounts of data, comes with the database for comparison;
- Modeling novel, strong structure, high reliability, simple operation, intuitive readings, high test efficiency;
- With RS-232 interface, can communicate with the computer;
- Equipped with excellent performance of the carbide indenter, high hardness, wear resistance, good toughness, while high temperature, corrosion resistance, to ensure that the instrument test value is accurate, stable and reliable;
- Host stability is good, the workpiece surface quality and man-made factors on the hardness of the test results less impact;
- LCD display, menu smart tips, easy to operate;
- Optional shooting device, can achieve the measured indentation and material metallographic organization to shoot;
- Compliance with ISO 6506, ASTM E10-12, ASTM E-384, GB / T231.2, JIS Z2243 and other relevant domestic and foreign standards.

## Application

- Metal processing industry quality control links
- Universities teaching and demonstration test
- The failure test of metal material
- The material hardness test of scientific research institutions

## Working condition

- Working Temperature : 18°C ~ 28°C;
- Relative Humidity : ≤65%;
- Clean environment, no vibration;
- No corrosive media around.

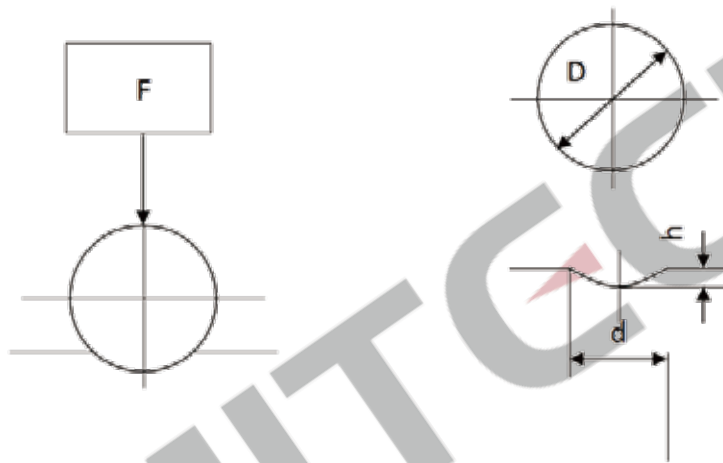
## Working Principle

Hardness is not a simple physical quantity, but a reflection of the material elasticity, plasticity, strength and toughness .and hardness test is the most simple mechanical testing method to determine the metal material performance. Also one of the important means to judge the products quality.

Brinell hardness test: Test force(F) is on the steel ball with certain diameter(D) , pressed on sample surface. After a period of time, cancel the force. The indentation diameter is get by measuring with micrometer ocular;thus to calculate the average pressure(N/mm<sup>2</sup>). Then we can get the Brinell hardness of the sample as below

$$HB = 0.102 \times \frac{2F}{\pi D (D - \sqrt{D^2 - d^2})}$$

Tips : F : Test force on steel ball , unit:N ; D : Diameter of steel ball , unit:mm ; d : Indentation diameter , unit:mm ; 0.102 : Rule coefficient.



## Configuration

NO.	Configuration	QTY.	备注
1	Main body	1	
2	10×Lens	1	
3	Φ1mm ball	1	
4	φ2.5mm ball	1	
5	φ5mm ball	1	
6	Small testing table	1	Diameter 80mm
7	Large testing table	1	Diameter 200mm
8	V-shape testing table	1	For cylindrical sample
Standard Config 9	10× objective lens	1	
10	Thermal printing paper	1	
11	Standard Brinell Hardness Blocks	2	
12	Spare bulbs	2	
13	Horizontal adjustment screw	4	
14	Weight	5	
15	Fuse wire(2A)	2	
16	power line	1	
17	Plastic dust	1	
18	Attached files	1	
19	Instrument case	1	
Optional Config 1	Brinell measurement system	1	