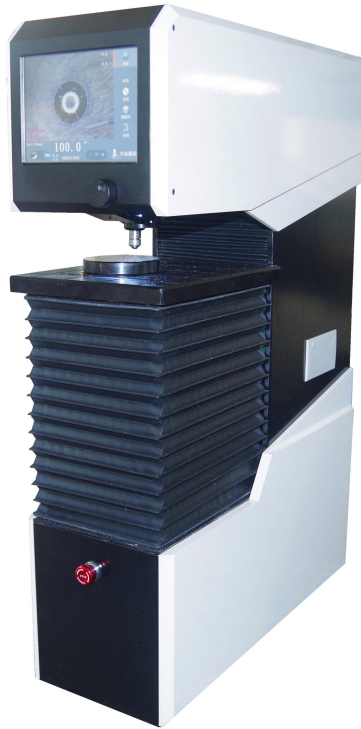


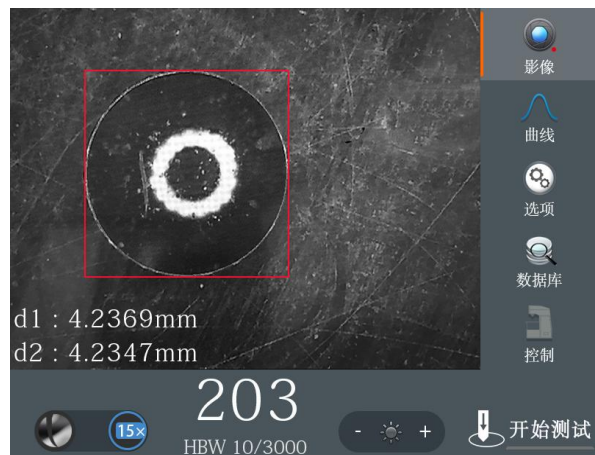
# HBS-3000V-Z plus Automatic Focusing Visual Brinell Hardness Tester



## Vision technology

Embedded vision technology is to embed the vision chip directly into the instrument control system and process and measure the image directly through the motherboard. It no longer needs the operating system, so as to avoid the crash caused by the driver through the operating system.

Shanghai Aolong Xingdi Testing Equipment Co., Ltd. has made a preliminary attempt in the field of hardness tester with embedded vision chip, and obtained preliminary results and applied for national patent.



## Product introduction

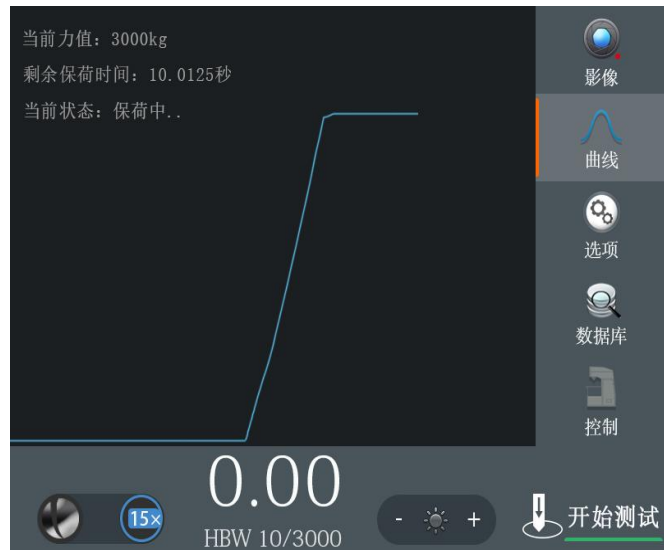
The visual Brinell hardness tester HBS-3000V-Z PLUS is mainly used to measure the Brinell hardness of materials. The latest frame structure design, the high precision step-control system and the more intuitive measurement method are adopted. The structure is more stable, the control accuracy is higher, the time and effort are saved, and the accuracy is improved by an order of magnitude.

The machine adopts electronic control automatic loading, computer software programming, high-power optical measurement, photoelectric sensor and other systems, and adopts high-precision step

control technology to ensure that the load of test force does not overshoot. By manually fitting the indentation edge, the Brinell hardness is automatically calculated and displayed on the LCD screen. The reading is accurate and the operation is convenient.

## Product characteristics

- **High precision step-controlled electric loading technology, fast loading speed of main test force and high efficiency**
- **New mechanical structure design, strong frame structure**
- **Real-time video measurement, better effect, more accurate and more stable**
- **The data of operation process and test results can be displayed on the screen.**
- **High-precision sensors cooperate with control system, the loading speed and unloading speed are faster and more accurate.**
- **With the unique embedded vision technology, the measurement operation is simple, and the human error is greatly reduced. The measurement can be learned in five minutes. The results of different people's measurement are basically the same.**
- **The remote control can be realized and the operation is simple.**
- **Automatic focusing.**
- **Automatic lifting of platform.**
- **The light source can be measured by adjusting the screen.**
- **Measuring indentation is more stable**
- **Can preset the test force guarantee time**
- **Extremely fast loading speed: loading time of test force is 3.5-8 seconds**
- **The test force has high precision and two thousandths of the fluctuation of the holding pressure of the force value.**
- **Intelligent control of whole process: piecewise force application, smooth speed change, high precision and high speed step control, etc.**
- **The experimental data can be output by printer.**



## Visual system characteristics

- **Objectivity: The visual system has objectivity, and the results of analysis are not affected by subjectivity.**
- **High gray resolution: human eyes generally have 64 gray scales, and machine vision can reach 256 gray scales.**



- **Embedded image technology replaces traditional measuring eyepiece, using camera + display mode, indentation image, direct display screen.**
- **Type of Visual Chip: Industrial-grade Special High Definition Camera**
- **Contrast, brightness, white balance and other adjustments are available.**
- **Visual analysis model simplifies manual operation process, reduces operator fatigue, and makes measurement data more intuitive and convenient.**
- **Optimizing each link greatly improves the overall performance of the hardness tester and saves 50% of the time compared with the traditional hardness tester.**

## Advantages of vision system relative to eyepiece measurement

- There is no visual error when measuring directly on the surface that needs to be measured. The hardness tester of traditional structure is measured by eyepiece. The calibration line and indentation are not on one plane. Under different angles of view, the calibration position and indentation position will produce visual difference, which will lead to different angles of view and different results of personnel measurement.
- High measurement accuracy: there is no problem of mechanical eyepiece error. The calibration resolution of mechanical eyepiece helical microstructures is about 10 μm, and there is mechanical backlash, so it is necessary to define the measurement method strictly. Pixel spacing of image sensor in vision system is 7.5 μm, which has high precision and good measurement consistency.
- It can provide two-dimensional simultaneous measurements of various measurement modes, simplify the measurement process and improve the measurement speed.
- With rectangular tangent measurement method
- No visual fatigue, reduce the measurement of labor intensity. The vision system adopts 65K true color TFT LCD screen, which is comfortable to observe and not fatigued, and can be measured by many people at the same time.

## Technical parameter

Model	HBS-3000V-Z PLUS
Brinell scale	HBW2.5/62.5、HBW2.5/187.5、HBW5/62.5、HBW5/125、HBW5/250、HBW5/750、HBW10/100、HBW10/125、HBW10/250、HBW10/500、HBW10/1000、HBW10/1500、HBW10/3000
Test force	62.5kgf、100kgf、125kgf、187.5kgf、250kgf、500kgf、750kgf、1000kgf、1500kgf、3000kgf 612.9N、980.7N、1226N、1839N、2452N、4903N、7355N、9807N、14710N、29420N
Scale conversion	HR、HV、HK est.
Minimum measuring unit	1 μm
Test force dwell time	0-60s
Objective lens and indenter switching	Automatic
Focusing method	Automatic
Hardness testing range	8-650HBW
Total magnification	20X
Executive standard	JJG150-2005, GB/T231, ASTM D-785, ISO6506
Hardness indication	LCD display
Date output	Built-in printer

Power supply	AC90-240V,50-60Hz
Maximum height of specimen	200mm
Distance from the center of indenter to body	158mm
Shape size	590*250*835
Machine net weight	About 140kg

### Standard configuration

Name	Quantity	Name	Quantity
Standard hardness block	3	Φ2.5、5、10mm Steel ball indenter	Each one
Fuse 2A	3	Large、medium、V type test-bed	Each one
Power cord	1	Printer manual book	1
Manual book	1	Product Qualification Certificate	1