



NOVOTEST

Digital Brinell, Rockwell, Vickers Hardness Tester NOVOTEST TB-BRV-D



Datasheet

2022

1. Introduction

Digital Brinell, Rockwell, Vickers Hardness Tester NOVOTEST TB-BRV-D implements direct Brinell,

Rockwell and Vickers methods of hardness testing in accordance with ISO 6508, ASTM E10, ASTM E92, ASTM E18.

Application:

The device allows user to carry out:

- hardness testing of ferrous metals (steel, cast iron, low carbon steel and tempered steel, etc);
- hardness testing of non-ferrous metals (alloys from aluminum, copper, etc);
- hardness testing of hard alloys, carbonized and chemically treated layers.
- Tester application in different scales allows user to solve nearly all hardness measurement requirements: hardness measurement in a wide range – from very soft up to the hardest materials.

Description:

Digital Universal Hardness Tester is a TOP high-tech multi-purpose, and multi-functional hardness testing equipment, with digital LCD touch screen.

This hardness tester uses different types of indenters and multi-stage test load for hardness testing of wide range of tested products in different scales: Brinell, Rockwell and Vickers.

Hardness tester provides the high sensitivity and accuracy of the load level, and the high accuracy of the measuring values. The machine has built-in high precision microscope with backlighting.

Hardness tester is supplied with a special table which allows user to measure the diameters of imprints without removing the sample. The hardness tester has special stand for the microscope, which significantly simplifies operating the device.

Besides manual testing platform, it is completely achieve automatic operation, including loading, unloading, hardness value directly display etc.

Hardness tester TB-BRV-D is one of the easiest device in operating and servicing, but at the same time it is universal and multi-functional instrument in its class. Touch screen and automatically testing system make operator's work much more comfortable.

User can measure hardness in various scales and have no problems with hardness measurement in a wide range – from very soft materials up to some of the hardest materials.

2. Specifications

2.1 Advantages

- Touch screen
- Automatically operation and testing
- Easy in operating and servicing
- Multi-functional instrument in its class. User can measure hardness in various scales and have no problems with hardness measurement in a wide range – from very soft materials up to some of the hardest materials

- Special table which allows user to measure the diameters of prints without removing the sample from the device
- Special stand for the microscope, which significantly simplifies operating the device
- Built-in high precision microscope with backlighting
- An electric actuator – the main test load is completely automated

2.2 Specifications

Indenter	<ul style="list-style-type: none"> •Rockwell: Conical diamond indenter (120 °) – diamond tip as a cone with 120 degrees of the cone apex angle and the bead size of 1/16 inch (1.5875 mm) •Brinell: Hard alloy steel ball with a diameter of 1.5875, 2.5, 5 mm •Vickers: four-sided diamond pyramid (136 °)
Scales	<ul style="list-style-type: none"> •Rockwell: HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK •Brinell: HBW2.5/31.25, HBW2.5/62.5, HBW5/62.5, HBW2.5/187.5 •Vickers: HV30, HV100
Initial load	10kgf (98N)
Testing load	<ul style="list-style-type: none"> •Rockwell: 60kgf (588N), 100kgf (980N), 150kgf (1471N) •Brinell: 31.25kgf (306.5N), 62.5kgf (612.9N), 187.5kgf (1839N) •Vickers: 30kgf (294.2N), 100kgf (980.7N)
Measuring time	5~60 sec
Testing materials	<ul style="list-style-type: none"> •ferrous metals (steel, cast iron, low carbon steel and tempered steel, etc) •non-ferrous metals (alloys from aluminum, copper and its alloys, etc) •hard alloys, carbonized and chemically treated layers
Hardness range	<ul style="list-style-type: none"> •Rockwell: (20-88) HRA, (20-100)HRB, (20-70)HRC •Brinell: (8-650) HB •Vickers: (14-3000) HV
Accuracy	<ul style="list-style-type: none"> •Rockwell: accuracy: ± 0.1HR, repeatability: 0.5HR •Brinell: accuracy ($\delta/\%$): ± 2.5, repeatability (Hcf/$\%$): ≤ 3.0 •Vickers: accuracy ($\delta/\%$): ± 2, repeatability (Hcf/$\%$): ≤ 2.5
Max height of test sample	<ul style="list-style-type: none"> •Rockwell indenter – 170 mm (can be produced up to 500 mm) •Brinell – 140 mm (can be produced up to 470 mm) •Vickers – 140 mm (can be produced up to 470 mm)
Max depth of test sample	165 mm (can be produced up to 200 mm)
Microscope zoom	15X
Lense zoom	2.5X, 5X
Data output	<ul style="list-style-type: none"> •Rockwell – digital indicator •Brinell – measuring microscope •Vickers – measuring microscope

Recommended operating conditions	<ul style="list-style-type: none"> •Air temperature: 0...+40 °C •Air pressure: 94 – 106.7 kPa •Humidity: up to 65%
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Net weight	110 kg
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Gross weight	130 kg
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Package dimensions	550*700*850 mm (L*W*H)
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2.3 Available options

- Indenters (Brinell, Rockwell, Vickers)
- Standard hardness test blocks
- Microscope
- Large testing table
- Medium testing table
- V-shaped testing table
- Movable testing platform
- Bolt adjuster
- Fuse
- Power cable

2.4 Standard package

- Digital universal hardness tester NOVOTEST TB-BRV-D
- Rockwell indenter (Conical diamond indenter (120 °))
- Vickers indenter (Four-sided diamond pyramid (136 °))
- Brinell indenter (1.5875, 2.5, 5 mm diameter hard alloy steel balls – 3 pcs. in total)
- Microscope for Brinell and Vickers scales (15X)
- Lens (2.5X and 5X)
- Large testing table
- Medium testing table
- V-shaped testing table
- Movable testing platform
- Rockwell Hardness Test Blocks (HRC – 2 pcs, HRB – 1 pc. – 3 pcs. in total)
- Brinell Hardness Test Block (1pc.)
- Vickers Hardness Test Block (1pc.)
- Bolt adjustor (4 pcs.)
- Power cable
- Fuse (2 pcs.)
- Operation manual
- Calibration certificate
- Transportation box