



NOVOTEST

Digital Rockwell Hardness Teste NOVOTEST TB-R-C



Datasheet

2022

1. Introduction

Digital Rockwell hardness tester TB-R-C implements direct Rockwell method of hardness testing in accordance with ISO 6508-2 and ASTM E18.

Application

Rockwell Hardness Tester NOVOTEST TB-R-C allows user to measure hardness of:

- hardened and surface hardened steel, hardened and tempered steel;
- cold and hard casted parts, forged parts;
- hard alloy steel;
- aluminium alloys;
- bearing steel;
- carbonized steel sheets and others

Description

Digital Rockwell Hardness Tester NOVOTEST TB-R-C is a digital model with new-designed large LCD screen to display the structure of menu. The bench Rockwell hardness tester has the hyper terminal setting RS-232 with good reliability, excellent operation and easy watching.

The Rockwell hardness test uses the method of measuring indentation depth. The hardness values are read directly through the LCD screen. Therefore, it is easy to operate the hardness tester with high efficiency. The hardness tester is suitable for inspect batches of spare parts. Digital Rockwell Hardness Tester NOVOTEST TB-R-C allows to use the diamond indenter and ball indenter, which can measure the hard and the soft samples. So, it has been widely used in production to become the most detecting device for inspecting the product quality and determining the reasonable processing technology.

2. Specifications

2.1 Advantages

Digital model has following advantages against analog machine:

- more convenient in operating;
- measurement process is faster;
- setting menu is easy in use (setting of scales, loads and dwell time etc.);
- digital resolution is better. As a result, accuracy is higher than manual tester has;
- RS-232 interface;
- human factor influence is minimum.

The machine allows user to:

- select the Rockwell hardness scales type (A, B, C, D, E, F, G, H, K);
- recalculate the obtained hardness values into all hardness scales (Brinell, Rockwell and Vickers);
- record test results under the particular operator;
- print the results of hardness measurements via built-in printer;
- automated load/unload system allows user to get measurement results of high accuracy and free of operator faults.

2.2 Specifications

Indenter	Conical Rockwell 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)
Scales	<ul style="list-style-type: none"> •20-88 HRA •20-100 HRB •20-70 HRC •40-77 HRD •70-100 HRE •30-94 HRG •80-100 HRH •40-100 HRK
Hardness resolution value	0.1
Measurement accuracy	<1.0%
Conversion scales	Plastic Rockwell, Brinell, Vickers
Initial testing load(accuracy ±2%)	98,07N (10kg)
Testing load (accuracy ±1%)	<ul style="list-style-type: none"> •588,4N (60kg) •980,7N (100kg) •1471N (150kg)
Measuring time	5~60 sec
Testing materials	<ul style="list-style-type: none"> •Cemented carbides, thin steel and shallow case hardened steel •Steel, hard cast irons, pearlitic malleable iron, titanium, deep case hardened steel & other material harder than HRB 100 •Thin steel and medium case hardened steel and pearlitic malleable iron •Hardened and surface hardened steel, hardened and tempered steel; cold and hard casted parts, forged parts; hard alloy steel; aluminum alloys; bearing steel; carbonized steel sheets and others
Max height of test sample	100 mm (210 mm – without protective cover) (can be produced up to 400 mm)
Max depth of test sample	165 mm
Power supply	220V±5%, 50~60Hz
Data output	<ul style="list-style-type: none"> •LCD •Built-in printer •RS-232 interface
Recommended operating conditions	<ul style="list-style-type: none"> •Air temperature: 0...+40 °C •Air pressure: 94 – 106.7 kPa •Humidity: up to 65%
Net weight	86 kg
Gross weight	96 kg
Package dimensions	630*500*860 mm (L*W*H)

2.2 Specifications

Recommended operating conditions	•Air temperature: 0...+40 °C •Air pressure: 94 – 106.7 kPa •Humidity: up to 65%
Net weight	130 kg
Gross weight	140 kg
Package dimensions	670*470*866 mm (L*W*H)

2.3 Available options

- Indenters
- Standard hardness test blocks
- Large testing table
- Medium testing table
- V-shaped testing table
- Bolt adjustor
- Power cable
- Fuse

2.4 Standard package

- Rockwell Hardness Tester NOVOTEST TB-R-C
- Conical Rockwell diamond indenter (120 °)
- Hard alloy steel Rockwell ball indenter (d=1,5875 mm)
- Large testing table (150 mm)
- Medium testing table (60 mm)
- V-shaped testing table
- Rockwell hardness test blocks (5 pcs. in total):
 - HRA: 85±5 – 1pc.
 - HRB: 90±5 – 1pc.
 - HRC: 65±5 – 1pc.
 - HRC: 45±10 – 1pc.
 - HRC: 25±5 – 1pc.
- RS-232 interface
- Bolt adjustor (4 pcs.)
- Power cable
- Fuse (2pcs.)
- Operating manual
- Calibration certificate
- Transportation box