



NOVOTEST

Analog Rockwell Hardness Tester NOVOTEST TB-R



Datasheet

2022

1. Introduction

Analog Rockwell hardness tester TB-R implements direct resistance to indentation under Rockwell method of hardness testing in accordance with ISO 6508-2 and ASTM E18.

Application

The mechanical Rockwell bench hardness tester can be used for:

- hardness testing of products made of various kinds of steels, such as tempered cast iron and all sorts of alloys, stainless steel and others; tempered cast iron and all sorts of alloys
- manufacturing of calibration test blocks, which can be used for calibration of portable hardness testers

Description

The metal hardness testing method is based on the testing samples of resistance to indentation.

Rockwell hardness tester TB-R is reliable; also, it is very easy in operation and servicing. Operator can directly see the result of hardness measuring on the tester dial.

Rockwell hardness tester TB-R is a stationary type of hardness testers on a rigid rack. Rockwell hardness tester TB-R allows user to measure the hardness value by three hardness scales (HRA, HRB, HRC) with loads of 60, 100 and 150 kgf. The device has a diamond tip as a cone with 120 degrees of the cone apex angle and the bead size of 1/16 inch (1.5875 mm).

Rockwell hardness tester TB-R is equipped with tables which are used for different types of the objects. It supplies with large and small flat tables, and V-shape anvil. In addition, Rockwell hardness tester TB-R also is equipped with three Rockwell hardness standard blocks for checking or calibration of the tester.

The range of measurements can be varied from 20 HR to 100 HR (it is depending of scale). The design features of the device allows user to tests objects with dimensions up to 17 cm by vertically and up to 13.5 cm by horizontally, maximum height of testing objects – 200 mm.

2. Specifications

2.1 Advantages

- High measurement accuracy
- Wide range of measurements
- Device is very usability and reliability, through the using high quality materials in the manufacturing
- Significant advantages from other methods of hardness testing of tempered steels
- Device allows user to test steel samples after various heat treatments
- Device allows test blocks verification for calibration of portable hardness tester

2.2 Specifications

Indenter	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)
Scales	<ul style="list-style-type: none"> •20-88 HRA •20-100 HRB •20-70 HRC
Initial testing load(accuracy $\pm 2\%$)	98,07N (10kg)
Testing load (accuracy $\pm 1\%$)	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
Max height of test sample	200 mm (can be produced another model up to 400 mm)
Max depth of test sample	165 mm
Data output	Dial indicator
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	55 kg
Gross weight	65 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

- Rockwell diamond indenter (120 °)
- Hard alloy steel ball Rockwell indenter (d=1,5875 mm)
- Other types of Rockwell scales
- Rockwell hardness test blocks
- Weight A, B, C
- Large testing table
- Medium testing table
- V-shaped testing table
- Bolt adjustor (4 pcs.)

2.4 Standard package

- Rockwell Hardness Tester NOVOTEST TB-R
- Conical Rockwell diamond indenter (120 °)
- Hard alloy steel ball Rockwell indenter (d=1,5875 mm)
- Weight A, B, C (3pcs. in total)
- Large testing table (150 mm)
- Medium testing table (60 mm)
- V-shaped testing table
- Rockwell hardness test blocks (3 pcs. in total):
 - HRB: 90±10 – 1pc.
 - HRC: 65±5 – 1pc.
 - HRC: 25±5 – 1pc.
- Operating manual
- Calibration certificate
- Transportation box