



NOVOTEST

Digital Micro Vickers Hardness Tester NOVOTEST TB-MCV-1



Datasheet

2022

1. Introduction

Digital Micro Vickers Hardness Tester NOVOTEST TB-MCV-1 implements direct Vickers method of hardness testing in accordance with ISO 6507-2 and ASTM E384.

Application

Micro Vickers hardness tester is used for high precision testing of:

- carburized layer, ceramic, steel, non-ferrous metals;
- sheet, metal foil, plating, fine specimen, surface hardened layers;
- coatings, nitride layer;
- carburized layer and hardened layer;
- parallel surfaces;
- thin and small objects, when use of other hardness testers is impossible.

Description

Hardness tester has a large contrast display. The device is handy and easy to set up and operate.

Hardness tester has a large LCD screen with easy operating menu. The device is equipped with built-in printer.

NOVOTEST TC-MCV-1 has optical microscope for measuring the obtained diagonals of the imprints. Hardness values are calculated fully automatically, no manual tables are used. Operator sees ready hardness value on LCD screen.

Hardness tester has such function as: automatic hardness calculation, storage, display, printing of results and conversion of hardness value to different scales.

This machine can be used as metallographic microscope tissue, when it can match with computer, install the CCD camera and PC software. The hardness tester can become micro hardness meter using image processing. Its function is very powerful, which is the ideal test instrument nowadays.

2. Specifications

2.1 Advantages

- Automatic data input
- High measurement accuracy
- The device is handy and easy to set up and operate
- Built-in printer
- Large LCD display
- Integrated microscope for measuring the obtained diagonals of the imprints
- Hardness values are calculated fully automatically
- Allows to recalculate the obtained value into other hardness scales automatically
- Allows user to maximize the efficiency of the using portable hardness testers, especially UCI hardness testers, because Micro Vickers hardness testers implemented direct method of hardness measuring

2.2 Specifications

Indenter	<ul style="list-style-type: none"> •Vickers: four-sided diamond pyramid (136 °)
Scales	<ul style="list-style-type: none"> •HV0.01 •HV0.025 •HV0.05 •HV0.1 •HV0.2 •HV0.3 •HV0.5 •HV1
Conversion scales	<ul style="list-style-type: none"> •HRA •HRB •HRC •HRD •HRF •HV •HK •HBW •HR15N •HR30N •HR45N •HR15T •HR30T •HR45T
Testing load	<ul style="list-style-type: none"> •10gf (0.098N) •25gf (0.245N) •50gf (0.49N) •100gf (0.98N) •200gf (1.96N) •300gf (2.94N) •500gf (4.9N) •1000gf (9.8N)
Hardness range	5-3000 HV
Measuring time	5~99 sec
Testing materials	<ul style="list-style-type: none"> •Carburized layer, ceramic, steel, non-ferrous metals; •Sheet, metal foil, plating, fine specimen, surface hardened layers; •Coatings, nitride layer, the gradient measurement of carburized layer and hardened layer •Hardness measurement of thin and small objects
Max height of test sample	90 mm
Max depth of test sample	120 mm

2.2 Specifications

Optical measuring system	<ul style="list-style-type: none"> •Objective lenses: 10X, 40X •Eyepiece: 10X •Total magnification: 100X, 400X •Measuring range: 0-200μm •Index value: 0.25 μm
Data output	<ul style="list-style-type: none"> •LCD display •Built-in printer •RS-232 interface
Body color	<ul style="list-style-type: none"> •Blue •White
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	60 kg
Gross weight	70 kg
Package dimensions	580*410*870 mm (L*W*H)

2.3 Available options

- CCD measuring system (video camera) and data processing PC software
- Indenters
- Vickers: four-sided diamond pyramid (136 °)
- Knoop: four-sided diamond pyramid (172,5 °)
- Manual XY testing table
- Auto XY testing table
- Auto turret
- Standard hardness test blocks
- Weight
- 40X objective lens
- 10X micrometer eyepiece
- Large testing table
- Medium testing table
- V-shaped testing table
- Chuck testing platform
- Flat testing platform
- Clamping testing platform
- Bolt adjustor
- Other kinds of power supply
- Power cable
- Fuse

2.4 Standard package

- Micro Vickers Hardness Tester NOVOTEST TB-MCV-1A
- Vickers indenter: four-sided diamond pyramid (136 °)
- Weights roller
- Weight (6 pcs.)
- 40X objective lens
- 10X micrometer eyepiece
- Manual XY testing table
- Chuck testing platform
- Flat testing platform
- Clamping testing platform
- V-shapep testing table
- Standard Micro Vickers hardness test blocks (2pcs.)
- Horizontal scroll bar
- Bolt adjustor (4 pcs.)
- Fuse (2 pcs.)
- Operating manual
- Calibration certificate
- Transportation box