

Product Information

ZHU250 - Universal Hardness Tester up to 250 kg

CTA: 46098 46099



Applications

The **ZwickRoell ZHU 250 universal hardness testing machine** is suitable for the following hardness testing methods.

Metals

- Vickers (HV) as per EN ISO 6507, ASTM E92
- Knoop (HK) as per ISO 4545, 4546
- Brinell (HB) as per EN ISO 6506, ASTM E10
- Rockwell (HR) as per EN ISO 6508, ASTM E18
- Vickers depth measurement (HVT) as per VDI/VDE 2616-1
- Brinell depth measurement (HBT) as per VDI/VDE 2616-1

Plastics

- Ball indentation hardness to ISO 2039-1

Advantages and Features

- A rugged, high-accuracy hardness testing machine for many different applications.
- Intuitive menu navigation via large color display and keyboard.

- Robust digital measuring system for convenient, high-accuracy measurement..
- Fast, easy, precise handling.
- Large standardized test area (250 x 300 mm).
- Load application up to 250 kg via closed-loop system.
- Online display of force-time or indentation depth-time diagrams.
- Automatic display of measured quantities (diagonals/indentation depths) and hardness value.
- Motorized changeover between lens and indenter position.
- Automatic travel to set focal-plane when optics are swiveled into position.
- Large, highly tempered, non-reflective focusing screen (diameter 150 mm).
- Individual accessories directly matched to the relevant testing requirements.
- Conversion of hardness values as per current standard DIN 18265.
- testXpert: transfer (export) of data to QA programs, report generation etc. etc.
- Direct printer connection (LPT1).

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Technical data

Basic device

Item no.	024484	
Test load, min.	1	kg
Test load, max.	250	kg
Included in the scope of delivery	Holding down clamp	
Optical indentation measuring device	Focusing screen	
Test method	<ul style="list-style-type: none"> Vickers: HV1, HV2, HV3, HV5, HV10, HV20, HV30, HV50, HV60, HV100, HVT Knoop: HK1 Brinell: HBW 1/1 ... 1/30 - HBW 2.5/6,25 ... 2.5/187.5 - HBW 5/25 ... 5/250 - HBW 10/100 ... 10/250 and HBT Rockwell: HR scales A, B, C, D, E, F, G, H, K, 15N, 30N, 45N, 15T, 30T, 45T Ball indentation hardness: H - 49.03 N / 132.39 N / 357.9 N / 961.0 N 	
Voltage	Adjustable, 100 ... 250	V
Dimensions:		
Height, approx.	1200	mm
Width, approx.	270	mm
Depth, approx.	870	mm
Weight, approx.	300	kg

Lenses

Description	Item number
Lens for 15x magnification, field of view diameter approx. 10.0 mm	369404
Lens for 45x magnification, field of view diameter approx. 3.3 mm	369405
Lens for 90x magnification, field of view diameter approx. 1.7 mm	369406
Lens for 185x magnification, field of view diameter approx. 0.8 mm	369407
Lens for 360x magnification, field of view diameter approx. 0.42 mm	1037407
Lens for 520x magnification, field of view diameter approx. 0.29 mm	369409

Rockwell hardness tests

Type	Indenter as per hardness test method	Included in delivery	Item No.
Indenter	Rockwell, with hard metal ball, 1/16" (1.587 mm)	Official test certificate	320859
Indenter	Rockwell, with hard metal ball, 1/8" (3.175 mm)	Official test certificate	320861
Indenter	Rockwell, with hard metal ball, 1/4" (6.35 mm)	Official test certificate	368896
Indenter	Rockwell, with hard metal ball, 1/2" (12.7 mm)	Official test certificate	368897
Indenter	Rockwell, with diamond tip 120°, Ø 0.2 mm	Official test certificate	368899

Brinell hardness test

Type	Indenter as per hardness test method	Included in delivery	Item No.
Indenter, one-piece	Brinell, with hard metal ball, 10 mm	Official test certificate	368898
Indenter, one piece	Brinell, with hard metal ball 5 mm		320894

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Type	Indenter as per hardness test method	Included in delivery	Item No.
Indenter, one-piece	Brinell, with hard metal ball, 2.5 mm	Official test certificate	320896
Indenter, one-piece	Brinell, with hard metal ball, 1 mm	Official test certificate	320900

Vickers hardness test

Type	Indenter as per hardness test method	Included in delivery	Item No.
Indenter	Vickers, with pyramidal diamond point 136°	Official test certificate	318061

Knoop hardness test

Type	Indenter as per hardness test method	Included in delivery	Item No.
Indenter	Knoop, with diamond pyramid to Knoop, 172° 30'/130°	Official test certificate	318845

Table

Height of support table [mm]	Width of support table [mm]	Depth of support table [mm]	Item No.
610	750	800	369423
620	600	780	018617

Test tables

Description	Item number
Specimen platform, diameter 90 mm	369427
Specimen platform, diameter 10 mm (ball indentation hardness)	369429
Specimen platform, diameter 150 mm	369425
Specimen platform, diameter 250 mm	369426
Specimen platform, 400 x 600 mm, with inset for prism supports and smaller test tables	007867
V-shaped test table for diameters 15 to 55 mm	369432
V-shaped test table for diameters 22 to 220 mm	369433

testXpert® III testing software

Description	Item number
testXpert III Basic program in German ¹⁾	1035123
testXpert III Basic program in English ¹⁾	1035124
testXpert III Standard Test Program data connection via serial port	1035143
testXpert III Master Test Program data connection via serial port (3rd license) ²⁾	1035512
Connecting cable for PC, RS232 C	310678

1) further languages on request

2) A 3rd license may be quoted for for connection of hardness testers in the first case also.