



Introduction & Features:

The traditional micro hardness testers often suffer from low precision and misaligned indentation images, especially when connected to cameras and software. These issues complicate measurement and analysis. However, **our updated Micro Hardness Tester** resolves these challenges with the following advanced features:

1. **High Guiding Accuracy:** Guided by optical cross rails to ensure precise linear movement.
2. **Smooth Force Transmission:** Utilizes a secondary rack and pinion transmission for fast, stable, and smooth force application.
3. **Precision Drive Mechanism:** Equipped with a high-transmission-ratio, high-precision worm gear rod for continuous and stable lifting—significantly improving both accuracy and repeatability.
4. **Dual Optical Path:**
 - One path for the eyepiece system.
 - Another for the CCD camera.
 - Both can work **simultaneously** without switching, extending optical system life and simplifying operations.
5. **Touchscreen Interface:**
 - 8" touch screen with a menu-driven structure.
 - Digital eyepiece with built-in encoder.
 - With a button click, D1, D2 diagonal indentation lengths and hardness value appear directly on screen.
6. **Hardness Conversion Function:** Convert HV to HRA, HRB, HRC, HBW, and other

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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hardness scales.

7. **Multiple Test Modes:** Supports **Vickers (HV)** and **Knoop (HK)** hardness testing.
8. **Easy Calibration:** User-friendly menu structure with quick and intuitive calibration.
9. **Modular System Design:** Unlike traditional testers, system upgrades or refreshes can be performed via an SD card—no complex setup required.

Main Purpose and Applications:

- **Materials Testing:**
 - Steel and non-ferrous metals
 - Sheet metal
 - Cemented carbides
 - Tinsel and metallographic structures
- **Surface Treatments:**
 - Carburization, nitriding, decarburization layers
 - Surface hardening layers
 - Galvanized coatings and other surface coatings
- **Brittle Materials:**
 - Glass, ceramics, and chips

Technical Specifications –

- **Turret Type:** Automatic Turret
- **Objective Lenses:**
 - 10X (Observation)
 - 40X (Measurement)
- **Eyepiece:** 10X digital eyepiece with built-in encoder
- **Total Magnification:**
 - 100X (Measurement)
 - 400X (Measurement)

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Testing Parameters

- **Testing Force:**
 - 10g (0.098N), 25g (0.245N), 50g (0.49N), 100g (0.98N),
 - 200g (1.96N), 300g (2.94N), 500g (4.9N), 1000g (9.8N)
- **Hardness Scales:**
 - Vickers: HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
 - Conversion Scales: HRA, HRB, HRC, HRD, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HV, HK, HBW
- **Loading Speed:** $\leq 50 \mu\text{m}/\text{sec}$
- **Indenter:** Standard rectangular pyramid diamond ($136^\circ \pm 0.5^\circ$)
- **Minimum Measuring Unit:** 0.01 μm
- **Hardness Range:** 8 HV – 2900 HV

Display & Operation

- **Data Display:** 8-inch LCD touch screen
- **Loading Method:** Fully automatic (Load, Dwell, Unload)
- **Dwell Time:** 1–99 seconds (adjustable in 1s steps)
- **Objective & Indenter Alignment:** Coincidence accuracy error $< 1 \mu\text{m}$ (adjustable)

Test Table & Space

- **X-Y Testing Table:**
 - Dimensions: 100 × 100 mm
 - Max Travel Range: 25 × 25 mm
 - Resolution: 0.01 mm
- **Test Space:**
 - Vertical (Max Sample Height): 100 mm
 - Horizontal (Throat Depth): 130 mm

Lighting & Power

- **Light Source:**
 - LED cold light source

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- 24-hour continuous use
- No heat generation
- Lifespan: up to 100,000 hours
- **Power Supply:**
 - 220V \pm 5%, 50/60 Hz (110V available upon request)

Physical Specifications

- **Machine Dimensions:** 540 \times 260 \times 650 mm (Approx)
- **Net Weight:** 50 kg (Approx)
- **Packing Dimensions:** 710 \times 420 \times 627 mm (Approx)
- **Gross Weight:** 68 kg (Approx)

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