

MODEL FH-8

Universal Hardness Tester

Universal



HR



HV



HB



The FH-8 Series can be used for all hardness procedures according to the most common international standards: Rockwell, Superficial Rockwell, Brinell, Vickers and Knoop. It can also undertake ball and indentation hardness testing for thermoplastics and the new Vickers depth (HVT) and Brinell depth (HBT) procedures.

The FH-8 universal hardness tester series includes all standard hardness testing methods from 1kgf/9.8N to 250kgf/2.45kN (8001), 3kgf/29N to 750kgf /7.35kN (8002), and 10kgf/98N to 3000kgf/29kN (8003). The series also features extra large models that can accommodate large workpieces.

The tester features quality mechanical components and is based on a load cell, closed loop, force feedback system. The advanced user interface controls the automatic testing procedure and offers many functions, such as fully automatic indent measuring and data storage. The integrated camera with calibrated zoom function guarantees fast, and accurate user-independent Vickers or Brinell measurement.

The FH-8 Series represents universal hardness testing, in the broadest meaning of Universal. Aircraft engine parts, automobile parts, production lines, general quality assurance and laboratory use are all covered by the FH-8 Series.

Features and benefits

- Load cell, force feedback, closed loop system.
- Complies to applicable EN/ISO and ASTM standards.
- Shape correction for curved surfaces.
- High accuracy depth measuring system (Rockwell, HBT, HVT).
- 15in industrial LCD display shows measured values, online statistics, memory overview and tester settings.
- User-friendly, low training requirements.
- Direct printer and/or PC connections via RS232 and USB-2.
- Large workpiece accommodation (H = 300mm).

COMMON APPLICATIONS

- Hardness of castings and forgings
- Flat and cylindrical workpieces
- Automotive and aerospace industries
- Laboratory and workshop testing
- Sample testing or quality control testing
- Steels, non-ferrous metals
- Cemented carbide, ceramics, stainless steels



Specifications

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FH-8 SPECIFICATIONS

Hardness scales	Brinell, Vickers, Rockwell, Vickers depth (HVT), Brinell depth (HBT)
Optical	Universal models – 5 megapixel HD camera, indent zoom function
Motorized turret	Universal models – three indenter positions and three objectives positions
Objectives	Universal models – three installed for 0.7-1000x magnification
Motorized head	Brinell model only – single indenter location
Optical	Brinell model only – high-resolution Brinell palm scanner I, FoV 1.5-6mm
Display	15in high-resolution industrial LCD touchscreen Brinell model only – height-adjustable LCD touchscreen
Controller	Embedded high performance system controller with data storage
Firmware	Horizon advanced hardness testing operating system including options for: manual measurement, automatic measurement, indent zoom function, scale conversion, file storage, report printing, test program storage, machine settings storage and graphic interface for swivel system position
Standards	Meets or exceeds the requirements of ISO 6506, 6507, 6508, 4545, ASTM E18, E92, E10 and JIS
Test load type	Loadcell closed loop, force feedback system with <0.5% accuracy
Test cycle	Fully automatic and indent evaluation, and manual
Brinell test range (model dependent)	1kgf/9.8N/2.2lbf – 3000kgf/29kN/6,600lbf HB1: 1, 2.5, 5, 10, 30kgf HB2.5: 6.25, 15.62, 31.25, 62.5, 187kgf HB5: 25, 62.5, 125, 250kgf HB10: 100, 250, 500, 750, 1000, 1500, 3000kgf HBT: 5250kgf
Vickers test range (model dependent)	1 kgf/9.8N/2.2lbf – 120kgf/11.76kN/264lbf HV: 1, 2, 3, 5, 10, 20, 30, 50, 100, 120kgf HVT: 50, 100kgf
Rockwell test scales (model dependent)	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V, 15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Load duration	1-99 seconds (user defined)
Connectivity	USB-2(4), UTP RJ45, LAN, WLAN, RS232, motorized XY stage (optional)
Specimen accommodation	Universal models – maximum test height 350mm (13.8in), maximum throat 250mm (9.84in); Extra height models – height 520mm x throat depth 300mm
Operating temperature range	10-35°C (50-95°F)
Operating humidity range	10-90% non-condensing
Weight	425kg (935lb) – standard models 610kg (1345lb) – extended models
Power supply	110 to 240V AC, 50/60Hz, single phase

UNIVERSAL MODEL DETAILS

- **FH008-0000** 1-250kgf Rockwell, Superficial Rockwell, Brinell, Knoop, HVT, HBT
- **FH008-0001** 3-750kgf Rockwell, Superficial Rockwell, Brinell, Knoop, HVT, HBT
- **FH008-0002** 10-3000kgf Rockwell, Brinell, Knoop, HVT, HBT
- **FH008-0007** 1-250kgf *Extra height* Rockwell, Superficial Rockwell, Brinell, Knoop, HVT, HBT
- **FH008-0021** 3-750kgf *Extra height* Rockwell, Superficial Rockwell, Brinell, Vickers, Knoop, HVT, HBT
- **FH008-0022** 10-3000kgf *Extra height* Rockwell, Superficial Rockwell, Brinell, Knoop, HVT, HBT

BRINELL MODEL DETAILS

- **FH008-0013** 1-250kgf Brinell
- **FH008-0014** 3-750kgf Brinell
- **FH008-0015** 10-3000kgf Brinell
- **FH008-0017** 1-250kgf *Extra height* Brinell
- **FH008-0018** 3-750kgf *Extra height* Brinell
- **FH008-0019** 10-3000kgf *Extra height* Brinell

STANDARD FEATURES

Universal models

- Objectives for 70x and 140x magnification
- Clamping protection nose
- Testing table ø80mm (3.15in)
- Large 2-T slotted work surface: 600 x 450mm (extra height models)
- Power cable, operation manual, certificate

Brinell models

- High resolution video palm scanner I, 5mpx, FoV 1.5-6mm
- Single indenter with clamping feature
- Large 2-T slotted work surface: 600 x 450mm (extra height models)
- Power cable, operation manual, certificate

OPTIONAL FEATURES

- **FH-50-25** V-anvil ø80mm (3.15in) for 3.3-20mm
- **FH-50-26** V-anvil ø80mm (3.15in) for 12-80mm
- **FH-50-27** V-anvil ø120mm (4.72in) for 20-140mm
- **FH-50-79** Large testing table 350 x 250mm (13.8 x 9.8in) with two T slots, 250kgf maximum load
- Manual XY-stages
- Certified indenters and certified hardness test blocks
- Testing table ø150mm (5.9in) or ø235mm (9.25in)
- Brinell palm scanner II, FoV 0.5-1.7mm