

# MODEL FH-31

## Rockwell and Brinell Hardness Testing Machine



6.5in full-color industrial LCD touchscreen for easy tester operation, (operation also achieved by included wireless mouse and keyboard)

Adjustable specimen lighting

Attachment for adjustable clamping of test pieces and indenter protection

Precision spindle allows large test pieces to be tested

Connectivity – USB (3x), RJ45-LAN, WLAN (optional), WiFi onboard (optional), Bluetooth (optional)

Load cell-based, closed loop force feedback system with automatic load setting

Model FH-31-o

The FH-31 Series is a new generation of hardness testing instruments. The main body is a precision cast rigid structure and incorporates a load cell-based, closed loop force loading actuator to provide precise, adjustable loading on the indenters.

The load application system avoids 'overshoot' during the test and guarantees one of the best GR & R results ever seen on Rockwell/Brinell hardness testers in this class.

The tester meets or exceeds the ISO, ASTM and JIS standards. (ISO 6508, ISO 2039/1, ASTM E18, ASTM B254, JIS Z2245).

Test forces range from 2.5-187.5kgf, which means that even this basic model is equipped with Rockwell, Superficial Rockwell and Brinell load settings (model dependent).

System control is managed by a 6.5 inch industrial touchscreen running our Horizon firmware, but a mouse and keyboard can also be used. The touchscreen will also display results and statistics.

### Features and benefits

- Load cell, force feedback, closed loop system.
- MS Windows embedded operating system.
- Unmatched GR & R results in its class.
- Load range 2.5kgf/24.5N up to 187.5kgf/1838N (depending on model).
- Fully automatic operation.
- Meets or exceeds ISO, ASTM and JIS standards.
- Shape correction settings for curved surfaces.
- Go/No Go function with visual and acoustic warning.
- Large memory for measurements with statistical results.
- Easy calibration function.
- Testing program storage.
- Testing value storage.
- Standard workpiece clamping attachment.
- USB-2 (3x), converter to RS-232, LAN RJ45, WLAN (optional), Wi-Fi onboard (optional), Bluetooth (optional) outputs.
- Wireless mouse and keyboard
- External Brinell microscope (FH-31-1)
- Large workpiece accommodation.

# Specifications



FH-31 SPECIFICATIONS	
Hardness scales FH-31-0	Rockwell and Superficial Rockwell all scales*
Hardness scales FH-31-1	Rockwell, Superficial Rockwell and Brinell scales (2.5kgf/24.5N to 187.5kgf/1838N)*
Load application	Load cell, force feedback, closed loop system
Rockwell Pre-load	3kgf and 10kgf
Rockwell Main load	15kgf, 30kgf, 45kgf, 60kgf, 100kgf, 150kgf
Rockwell test scales available	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V
Superficial Rockwell scales available	15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Brinell test load (model FH-30-1)	2.5kgf/24.5N to 187.5kgf/1838N
Brinell test scales (model FH-30-1) available	HB1: 2.5kgf/24.5N, 5kgf/49N, 10kgf/98N, 30kgf/295N HB 2.5: 6.25kgf/61.29N, 15.625kgf/153.2N, 31.25kgf/306.45N, 62.5kgf/612N, 187.5kgf/1838N HB5: 25kgf/245.16N, 62.5kgf/612N, 125kgf/1225N HB10: 100kgf/980.7N
Display	6.5in full color industrial touchscreen, testing results, statistics. Can also be operated by mouse and keyboard
Display overview	Conversion to other hardness scales such as Brinell, Vickers, Leeb, UTM. Convex, concave adjustment, machine settings, calibration
Standards	Meets or exceeds, ISO, ASTM, JIS standards
Test cycles	Motorized, fully automatic, Pre-load, Load, Dwell, Unload process
Indenter (optional)	Rockwell Diamond cone: 120° Rockwell balls: 1/16in, 1/8in, 1/4in, 1/2in Brinell balls: 1mm, 2.5mm, 5mm, 10mm
Dwell time	Pre-load 1-99 seconds, Main load 1-99 seconds, Recovery 1-99 seconds
Connectivity	USB-2 (3x), converter to RS-232, LAN RJ45, WLAN (optional), WiFi onboard (optional), Bluetooth (optional)
Optical system FH-31-1	Brinell microscope
Workpiece accommodation	Vertical capacity 250mm Horizontal capacity 175mm (from indenter center-line)
Machine dimensions	250 x 505 x 745mm (WxDxH)
Operating temperature range	10-35°C (50-95°F) non-condensing
Weight	82kg (181lb)
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase
<b>*Calibration of scales is required prior to use. Please specify desired scales at the time of ordering.</b>	

## STANDARD ACCESSORIES

- V-anvil
- Flat anvil 60mm
- Round testing table 150mm
- Brinell microscope (FH-30-1)
- Power cable
- Four adjustable feet
- Certificate
- Installation and user manual
- Wireless mouse & keyboard

## OPTIONAL ACCESSORIES

- Certified indenters
- Rockwell C indenter
- Rockwell B indenter
- Brinell ball indenters 1mm, 2.5mm, 5mm, 10mm (FH-30-1)
- Certified reference hardness blocks
- Custom testing tables
- Precision vise for small parts, jaw width 36mm
- Precision vise for small parts, jaw width 42mm
- Precision vise for small parts, jaw width 75mm
- V-blocks and special clamps
- Solid tester table and storage cabinet
- Firmware service over internet 'Team Viewer'

## MODEL DETAILS

- **FH-031-0000** 2.5-150 kgf Rockwell, Superficial Rockwell
- **FH-031-0001** 2.5-187.5 kgf Rockwell, Superficial Rockwell, Brinell

Wide range of certified test blocks available



Solid tester tables with storage cabinets available

