



## Rockwell and Brinell Hardness Tester FH-31 Series

Loadcell based,  
closed loop  
force feedback  
system with  
automatic load  
setting.

### KEY FEATURES

The FH-31 series are a new generation of hardness testing instruments whose main body is a precision cast rigid structure, and which incorporate a load cell based, closed loop force loading actuator to provide precise, adjustable loading on the indentors.

The load application system avoids "overshoot" during the test force application and guarantees one of the best GR & R results ever seen on Rockwell/ Brinell hardness testers in this class. The testers meets or exceed the ISO, ASTM and JIS standards. (ISO 6508, ISO 2039/1, ASTM E18, ASTM B254, JIS Z2245)

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

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.

- 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
- Printer & USB (3x), RJ45-LAN, W-LAN (optional), Wi-Fi onboard (Optional), Bluetooth (Optional) output
- Wireless mouse and keyboard
- External Brinell microscope (FH-31-1)
- Large workpiece accommodation

6.5", Full color industrial LCD touch screen for easy tester operation, (operation can also be achieved by optional 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, W-LAN (optional), Wi-Fi onboard (Optional), Bluetooth (Optional)



Fig. 1. Model FH-31-0

# Technical Specifications

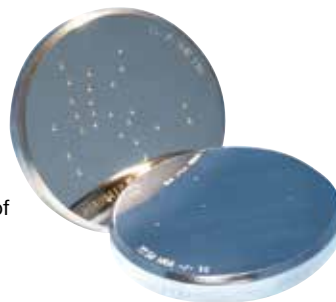
Hardness scales FH-31-0	Rockwell and Superficial Rockwell all scales *see note below	
Hardness scales FH-31-1	Rockwell, Superficial Rockwell and Brinell scales (2.5kgf/24.5N to 187.5kgf/1838N) * see note below	
Load application	Load cell, force feedback, closed loop system	
Rockwell Pre load	3kgf and 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	6.5" full color industrial touch screen, 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	
Indentors (optional)	Rockwell Diamond Cone:	120°
	Rockwell balls:	1/16", 1/8", 1/4", 1/2"
	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), Wi-Fi 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	250mm x 505mm x 745mm (WxDxH)	
Operating Temperature Range	10° to 35°C (50° to 95°F) non condensing	
Weight	82 kg (181 lb)	
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase	

\* **Note** - Calibration of scales is required prior to use. Please specify desired scales at the time of ordering.



**Fig. 2.** Solid tester tables with storage cabinets available

**Fig. 3.** Wide range of certified test blocks available



## 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

## OPTIONAL ACCESSORIES

- Certified indentors (UKAS, DKD, ASTM)
- Rockwell C Indentor
- Rockwell B Indentor
- Brinell ball indentors 1mm, 2.5mm, 5mm, 10mm (FH-30-1)
- Certified reference hardness blocks (UKAS, DKD, ASTM)
- Custom testing tables
- Precision vice for small parts, jaw width 36mm
- Precision vice for small parts, jaw width 42mm
- Precision vice for small parts, jaw width 75mm
- V-blocks and special clamps
- Manual X-Y stage 100mm x 60mm, micrometer travel 25mm x 25mm
- Solid tester table and storage cabinet
- Firmware service over internet "Team Viewer"

Contact Your Local Representative:

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