MODEL FH31
ROCKWELL AND BRINELL
HARDNESS TESTING MACHINE

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
• 9 pin serial, USB (3x), RJ45-LAN, W-LAN (optional), Wi-Fi onboard (Optional), Bluetooth (Optional) outputs.
• Wireless mouse and keyboard
• External Brinell microscope (FH-31-1)
• Large workpiece accommodation
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

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, 20kgf/295N
HB2.5: 20kgf/245.16N, 50kgf/612N, 100kgf/1225N
HB5: 50kgf/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 indentor center-line)

Machine dimensions
250mm x 505mm x 745mm (WxDxH)

Operating Temperature Range
10° to 35°C (60° 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.