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 meet 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
**Technical Specifications**

<table>
<thead>
<tr>
<th>Hardness scales FH-31-0</th>
<th>Rockwell and Superficial Rockwell all scales *see note below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness scales FH-31-1</td>
<td>Rockwell, Superficial Rockwell and Brinell scales (2.5kgf/24.5N to 187.5kgf/1838N) *see note below</td>
</tr>
<tr>
<td>Load application</td>
<td>Load cell, force feedback, closed loop system</td>
</tr>
<tr>
<td>Rockwell Pre load</td>
<td>3kgf and 10kgf</td>
</tr>
<tr>
<td>Rockwell Main load</td>
<td>15kgf, 30kgf, 45kgf, 60kgf, 100kgf, 150kgf</td>
</tr>
<tr>
<td>Superficial Rockwell scales available</td>
<td>15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y</td>
</tr>
<tr>
<td>Brinell test load (model FH-30-1)</td>
<td>2.5kgf/24.5N to 187.5kgf/1838N</td>
</tr>
<tr>
<td>Display</td>
<td>6.5” full color industrial touch screen, testing results, statistics, can also be operated by mouse and keyboard</td>
</tr>
<tr>
<td>Display overview</td>
<td>Conversion to other hardness scales such as Brinell, Vickers, Leeb, UTM. convex, concave adjustment, machine settings, calibration</td>
</tr>
<tr>
<td>Standards</td>
<td>Meets or exceeds, ISO, ASTM, JIS standards</td>
</tr>
<tr>
<td>Test cycles</td>
<td>Motorized, fully automatic, Pre load, Load, Dwell, Unload process</td>
</tr>
<tr>
<td>Indentors (optional)</td>
<td>Rockwell Diamond Cone: 120° Rockwell balls: 1/16”, 1/8”, 1/4”, 1/2” Brinell Balls: 1mm, 2.5mm, 5mm, 10mm</td>
</tr>
<tr>
<td>Dwell time</td>
<td>Pre-load 1-99 seconds, Main load 1-99 seconds, Recovery 1-99 seconds</td>
</tr>
<tr>
<td>Connectivity</td>
<td>USB-2 (3x), converter to RS-232, LAN RJ45, WLAN (Optional), Wi-Fi onboard (Optional), Bluetooth (Optional)</td>
</tr>
<tr>
<td>Optical system FH-31-1</td>
<td>Brinell microscope</td>
</tr>
<tr>
<td>Workpiece accommodation</td>
<td>Vertical capacity 250mm Horizontal capacity 175mm (from indentor center-line)</td>
</tr>
<tr>
<td>Machine dimensions</td>
<td>250mm x 505mm x 745mm (WxDxH)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>10° to 35°C (50° to 95°F) non condensing</td>
</tr>
<tr>
<td>Weight</td>
<td>82 kg (181 lb)</td>
</tr>
<tr>
<td>Power supply</td>
<td>100V AC to 240V AC, 50Hz/60Hz, single phase</td>
</tr>
</tbody>
</table>

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

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**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”

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**Contact Your Local Representative:**

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

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