MODEL FH1
ROCKWELL AND UNIVERSAL HARDNESS TESTING MACHINE

KEY FEATURES
• Load cell, force feedback, closed loop system
• Unparalleled rigidity
• Unmatched gauge repeatability and reproducibility
• Load range 1 kgf up to 250 kgf
  (2.2 lbf up to 551 lbf)
• Complies with all applicable EN/ISO, ASTM, and JIS standards
• Shape correction settings for curved surfaces
• Optical depth measuring system (Rockwell, HBT, HVT, ball indentation for plastic ISO 2039/1)
• OLED full color user-friendly interface, easy to operate
• Go / No Go function with visual and acoustic warning
• Large memory for measurements with statistic results
• Easy calibration function
• Testing program storage
• Standard nose cone clamping attachment
• 9 pin serial and USB-2 outputs
• External Brinell microscope with LED light (FH-1-2 model)
• Built-on Vickers / Brinell microscope with LED light (FH-1-3 model)
• Work piece sliding table (FH-1-3 model)
• Large work piece accommodation
• Motorized spindle (optional)
<table>
<thead>
<tr>
<th>Load application</th>
<th>Load cell, force feedback, closed loop system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness scales FH-1-1</td>
<td>Rockwell / Superficial Rockwell, HVT, HBT, ball indentation for plastic ISO 2039/1</td>
</tr>
<tr>
<td>Hardness scales FH-1-2</td>
<td>Rockwell / Superficial Rockwell, Brinell, HVT, HBT, ball indentation for plastic ISO 2039/1</td>
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<tr>
<td>Hardness scales FH-1-3</td>
<td>Rockwell / Superficial Rockwell, Brinell, Vickers, HVT, HBT, ball indentation for plastic ISO 2039/1</td>
</tr>
<tr>
<td>Load range FH-1-1</td>
<td>1 kgf to 250 kgf (2.2 lbf to 551 lbf)</td>
</tr>
<tr>
<td>Load range FH-1-2</td>
<td>1 kgf to 250 kgf (2.2 lbf to 551 lbf)</td>
</tr>
<tr>
<td>Load range FH-1-3</td>
<td>1 kgf to 250 kgf (2.2 lbf to 551 lbf)</td>
</tr>
<tr>
<td>Test loads</td>
<td>1, 2, 2.5, 3, 5, 10, 15, 15.625, 20, 30, 31.25, 45, 50, 60, 62.5, 100, 125, 150, 187.5, 250 kgf (2.2, 4.4, 5.5, 6.6, 11, 22, 33, 34, 44, 66, 69, 79, 110, 132, 138, 220, 276, 331, 413, 551 lbf) depending on model</td>
</tr>
<tr>
<td>Vickers test range</td>
<td>HV1, HV 2, 3, 5, 10, 20, 30, 50, 100, 120 kgf (4.4, 6.6, 22, 44, 66, 110, 220 lbf)</td>
</tr>
<tr>
<td>Brinell test range</td>
<td>HB1/2.5, 5, 10, 31.25 kgf (5.5, 11, 22, 69 lbf)</td>
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<tr>
<td></td>
<td>HB2.5/6.25,15,625, 31.25, 62.5, 187.5 kgf (14, 34, 69, 138, 413 lbf)</td>
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<tr>
<td></td>
<td>HB5/25, 62.5, 125 kgf (55, 138, 276 lbf)</td>
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<td></td>
<td>HB10/100 kgf (220 lbf)</td>
</tr>
<tr>
<td></td>
<td>HBT2.5/6.25, 187.5 kgf (138, 413 lbf)</td>
</tr>
<tr>
<td>Rockwell superficial scales</td>
<td>15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y</td>
</tr>
<tr>
<td>Plastic ball indentation</td>
<td>Meets or exceeds the requirements of ISO 2039/1</td>
</tr>
<tr>
<td>Scale resolution (depth)</td>
<td>0.1 micron</td>
</tr>
<tr>
<td>Display</td>
<td>Full color OLED display, testing results, statistics, built-in hardness calculator, program overview, settings, calibration, and many more</td>
</tr>
<tr>
<td>Standards</td>
<td>Complies with, or exceeds, EN/ISO, ASTM, and JIS standards</td>
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<tr>
<td>Test cycles</td>
<td>Fully automatic, Load, Dwell, Unload</td>
</tr>
<tr>
<td>Dwell time</td>
<td>1-99 seconds</td>
</tr>
<tr>
<td>Data output</td>
<td>USB-2 (RS-232)</td>
</tr>
<tr>
<td>Specimen accommodation</td>
<td>Height 300 mm (11.81”); Throat 200 mm (7.87”)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>10° to 35°C (50° to 95°F)</td>
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<tr>
<td>Operating Humidity Range</td>
<td>10% to 90% non-condensing</td>
</tr>
<tr>
<td>Weight</td>
<td>96 kg (211 lbs)</td>
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<tr>
<td>Power</td>
<td>100V to 240V AC, 50/60 Hz, single phase</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

**STANDARD ACCESSORIES**
- Brinell microscope with LED light for dark field illumination (FH-1-2) or Built-on microscope with LED light for dark field illumination (FH-1-3)
- Objectives for 2.5x, 5x and 10x magnification (FH-1-3)
- Sliding testing table (FH-1-3)
- Flat anvil, hardened, ø60 mm (2.36”)
- V-anvil hardened ø80 mm (3.6”)
- Fuse 3A slow (2 pcs)
- Power cable
- Certificate
- Installation and user manual

**OPTIONAL ACCESSORIES**
- Certified hardness test blocks
- Certified indentors.
- Long indentors
- Goose neck indenter holder (350x250)
- Large testing table with T-slot
- Custom testing tables
- Precision vices, V-blocks, and special clamps
- Testing table, hardened, ø180 mm (7.09”)
- Manual X-Y stage 100mmx60mm; micrometer travel 25mmx25mm
- Motorized spindle option
- LED ring light (FH1-3 model)

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