HARDNESS TESTER

PORTABLE AND LABORATORY SHORE
DIGITAL

3104 - Portable Hardness Tester with electronic processor and interchangeable Probes

- For different scales in compliance with the standard ASTM 2240, ISO R.868, DIN 53505, JIS K7215 according to Shore A, B, C, D, O, OO, E, M, 000, 000-S

- Hardness Tester with electronic processor and interchangeable Probes for different scales:
  - A, B, C, D, O, OO, E, M, 000, 000-S Micro Shore with automatic detect of the probe inserted and automatic Calibration
  - Adaptable to perform accurate and fast test on small parts and large parts and record data
  - Very easy to operate: Push and read, memorize the result
  - Special ergonomic probe Made in Italy permits easy use in all situation also inclined
  - The special connection permit to use the probe in Laboratory connected with the bench support motorized DMG 03 for automatic measures

FUNCTIONS:

- Measure at peak / at time programmable / Continuous
- Store and number of tests, automatic average, list of stored result, statistic deviation diagram
  (when connected to a hard printer)
- Bat charge indicator and Bat shut off after 2 minute not use (saving data)

DIGITAL

Technical characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness Scales</td>
<td>Shore A, B, C, D, O, OO, E, M, 000, 000-S Micro</td>
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<tr>
<td>Standards</td>
<td>DIN 53505, ISO 868, 7619, NFT 51109, ASTM D2240, BS 903 Part. A26</td>
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<tr>
<td>Dimensions</td>
<td>Electronic processor: 112 x 180 x 70 mm</td>
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<td>Probe diameter 40 foot diameter 16mm</td>
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<td></td>
<td>Height 106 mm + Cable</td>
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<tr>
<td>Data transmission</td>
<td>RS 232 C</td>
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<tr>
<td>Resolution</td>
<td>0.1 unit</td>
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<tr>
<td>Power source</td>
<td>6 V CC 250 mA</td>
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<tr>
<td>Field of applications</td>
<td>all products tested through Shore system</td>
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<tr>
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<td>(plastic, rubber, paper, Silicon, PVC, ABS, NYLON, ...)</td>
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<tr>
<td>Weight</td>
<td>0.5 Kg probe - 1.4 Kg all complete with processor</td>
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<tr>
<td>Packing weight</td>
<td>4 Kg</td>
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<tr>
<td>Packing measures</td>
<td>470 x 400 x 150 mm in a portable bag</td>
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</tbody>
</table>

Applicable accessories

- Portable Printer 20 columns (03628)
- Motorized Bench support for laboratory tests DMG03 (Code 079.00.001)
- Bench support for laboratory tests (Code 13)
- Test blocks to check calibration (3320-1)
- Set of clamping parts to execute tests on O.R. conform to ASTM 1414 standard (Code 16)

Applicable probes

- Shore B for high values (Code 078.A1.020)
- Shore C for low values (Code 078.A1.030)
- Shore D for very hard materials Plexiglass, Nylon, over 80 Shore A (Code 078.A1.040)
- Shore O for silicium material silicon (Code 078.A1.050)
- Shore OO for very soft material silicon (Code 078.A1.060)
- Shore Micro for thin material medical and O.R. small sizes (Code 078.A1.070)

Packing measures 470 x 400 x 150 mm in a portable bag
HARDNESS TESTER
In compliance with ASTM 2240, ISO R.868, DIN 53505, JIS K7215 specifications.
For rubber, plastic, medical components, paper, sponge using Shore A, B, C, D, O, 00, E, M, 000, 000-S scales.

With slim nose to ensure exact measurement also on small components.
For laboratory use connect it with bench stand 13.

3001 - Shore A - For soft, flexible rubber, plastic, PVC, polyester, neoprene, leather, thiokol, nitril rubbers, tyres, etc.
3011 - Shore B - As A scale for high values
3004 - Shore C - As D scale for low values
3002 - Shore D - Scale for hard and rigid surfaces synthetic materials, acrilies, plexiglass, printing rolls, cellulose, acetates, densified wood, nylon, derling
3010 - Shore DO - As B and C
3009 - Shore O - As A scale for low values
3008 - Shore OO - For sponge, natural rubber silicone
3013 - Shore E - ASTM D 2240 - 02 a
3014 - Shore M - ASTM D 2240 - 02 a
3015 - Shore 000 - ASTM D 2240 - 02 a
3016 - Shore 000-S - ASTM D 2240 - 02 a

ANALOGIC
ANALOGIC AUTOLOADING
HARDNESS TESTER
In compliance with ASTM 2240, ISO R.868, DIN 53505, JIS K7215 specifications.
For rubber, plastic, medical components, paper, sponge using Shore A scale.

3003 Shore A
With clamping and automatic load application

Easy to use, supplied with clamping system to apply a constant and centered pressure on any sample,
also on curved surfaces assuring accurate results similar to those obtained
through the test with bench support. Suitable for testing tyres adapt to test tyres, roll.

3003 - Shore A - For soft, flexible rubber, plastic, PVC, polyester, neoprene, leather, thiokol,
nitril rubbers, tyres, etc.

SUPPORT MOTORIZED
DMG 03 Support Motorized Bench - Height capacity 75 mm
ART 16
Set of clamping holders for bench connection in compliance with ASTM 1414 for precise
 test O-Ring (section Ø 1,72 - 2,54 - 3,43 - 5,21 - 6,83 mm)
**ACCESSORIES**

**ART 13** - Manual bench support
Bench stand for use with analog or digital portable units, it ensures exact and centered use of the unit on test samples and with a constant pressure.

**ART 14** - Supplementary weight for Shore C - D - DO models

**ART 16** - Set of clamping holders for bench connection in compliance with ASTM 1414 for precise test O-Ring (section Ø 1,72 - 2,54 - 3,43 - 5,21 - 6,83 mm)

Complete Kit bag including printer for digital tester code 3104

Second pointer to memorise the measurement (optional)

**SCALE**

Indicative range for each scale (this cannot be used as a conversion reference)

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<th>Scale</th>
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Test blocks with certificate for each scale