●Ultrasonic Hardness Tester With Multi-Point Calibration

◣Product overview

There are many types of hardness testing methods，commonly used methods include HB, HRC, HV, HL, etc. But all these methods have boundness. The test force of HB and HRC is strong, so the indentation is big, and the damage to the surface is obvious. HV is tested by optical method, which needs very professional and technical personnel to operate, and cannot directly test large workpiece. And our ultrasonic hardness tester uses ultrasonic contact impedance method to compare and test patterns, this new method brings advantages of high precision, fast speed, portable, easy operation, etc.

◣Applications

- Hardness test of flange edge and gear root stamping parts, mold, thin plate, face-hardened gear tooth, gear groove and taper part
- Hardness test of axle and thin-wall pipes and vessels
- Hardness test of wheels and turbine rotors
- Hardness test of bit edge
- Hardness test of welding parts
- Measure the depth of deep hole with certain aperture, concave and convex mark with large radians, and irregular plane
- Hardness test of most ferrous and nonferrous metals and their alloys in industrial production
- Etc.

◣Functional characteristics

- New appearance design, innovative sculpt, convenient to hold and good craft.
- 3.5 inches large LCD screen with 320×480 color graphics dot matrix, beautiful font and graphics, rich information and clear display.
- Full English display, menu-type operation, few keys, simple and convenient to operate.
- For materials with different elastic modulus, only a simple point calibration is required to adapt to the new material.

- Provide multi-point calibration function for any hardness standard. For materials without conversion table, users only need to prepare 2 to 10 test samples with different hardness to directly calibrate the hardness (Hardness standard is arbitrary, as long as these 2 to 10 samples have the same standard).
- High accuracy -- ±3 %HV, ± 3%HB, ± 1.5HR (using test stand), according with the test error standard of GB/T-34205, JJF1436 and JB/T9377.
- Tiny test indentation - smaller than a Leeb hardness tester and requires a high-power microscope to see.
- High test speed -- output test results within 2S.
- Easy to test on assembly line -- compare with Leeb hardness tester.
- 50 sets of data storage -- the data includes time information.
- 360° test without correction.

◣Technical parameters：

<table>
<tr><td>Model</td><td colspan="8"></td></tr>
<tr><td>Standard</td><td colspan="8">DIN50159-1-2008; ASTM-A1038-2005; JB/T 9377-2010; JJG-654-2013; GB\T34205-2017</td></tr>
<tr><td>Range</td><td colspan="8">HV50-1599, HRC20-76, HB76-618, HRB41-100, HRB41-100, HRA61-85.6, Mpa255-2180</td></tr>
<tr><td>Test Error</td><td colspan="8">HRC: ± 2HRC; HB: ± 3%HB; HV: ± 3%HV</td></tr>
<tr><td rowspan="5">Maximum allowable relative error</td><td rowspan="2">Hardness of standard test block</td><td colspan="7">Maximum allowable relative error of hardness tester %</td></tr>
<tr><td>HV10</td><td>HV5</td><td>HV2</td><td>HV1</td><td>HV0.8</td><td>HV0.3</td><td>HV0.1</td></tr>
<tr><td><250HV</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>5</td><td>5</td></tr>
<tr><td>250HV-500HV</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>6</td><td>6</td></tr>
<tr><td>>500HV-800HV</td><td>4</td><td>4</td><td>5</td><td>5</td><td>5</td><td>7</td><td>7</td></tr>
<tr><td></td><td>>800HV</td><td>4</td><td>4</td><td>6</td><td>6</td><td>6</td><td>8</td><td>8</td></tr>
<tr><td>Probe test force</td><td colspan="8">2kgf(optional 0.5kgf, 1kgf, 5kgf, 10kgf)</td></tr>
<tr><td>Working temperature</td><td colspan="8">-20℃~50℃</td></tr>
<tr><td>Working humidity</td><td colspan="8"><=85%</td></tr>
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◣Probe parameters：

Probe	0.5kgf manual probe	1kgf manual probe	2kgf manual probe	5kgf manual probe	10kgf manual probe
Accessory	Optional accessory	Optional accessory	Standard accessory	Optional accessory	Optional accessory
Test force	5N	10N	20N	50N	98N
Diameter	22mm	22mm	22mm	22mm	22mm
Length	150mm	150mm	150mm	150mm	150mm
Resonant rod diameter	2.4mm	2.4mm	2.4mm	2.4mm	2.4mm
Maximum roughness of test surface	Ra<3.2um	Ra<3.2um	Ra<5um	Ra<10um	Ra<15um
Minimum workpiece weight	0.3kg	0.3kg	0.3kg	0.3kg	0.3kg
Minimum workpiece thickness	2mm	2mm	2mm	2mm	2mm

◣Standard Delivery： Main unit, Probe (2kgf), Probe cable, 5V ac power adapter, Custom-made carrying case, Standard test block

◣Optional Accessories： Probe (optional 0.5kgf, 1kgf, 5kgf, 10kgf)