



MEASUREMENT SOLUTION PROVIDER



# HARDNESS TESTING INSTRUMENTS

CATALOGUE NO. HT-E01



**As one of the most critical mechanical properties of materials, hardness encompasses a scientific depth that extends far beyond common perception.**

In an industrial landscape where precision defines quality and excellence drives competitiveness, every measurement bears directly on product reliability and corporate reputation.

INSIZE, a precision measurement brand originating from China, dedicates its pursuit of accuracy and engineering craftsmanship to the field of hardness testing, offering reliable and robust solutions for the global manufacturing industry.

### 1 ROCKWELL HARDNESS TESTERS

Rockwell hardness testers have established themselves as the benchmark for industrial hardness testing due to their unparalleled efficiency, simplicity and practicality.



### 2 BRINELL HARDNESS TESTERS

As a classic method for material hardness testing, the Brinell hardness tester holds an irreplaceable position in the inspection of raw materials and semi-finished products in industries such as metallurgy and mechanical manufacturing, thanks to its core advantages of stable results and strong representativeness.



### 3 VICKERS HARDNESS TESTERS

The Vickers hardness tester is theoretically the most rigorous, precise and widely applicable among the three classic static indentation hardness testers (Brinell, Rockwell and Vickers).



### 4 MULTIFUNCTIONAL HARDNESS TESTERS

Transcend single-scale limits. Effortlessly toggle between Brinell, Rockwell and Vickers. One device handles everything—from soft alloys to hardened steel, covering raw materials to finished goods. The ultimate integrated solution for industrial production and scientific research.



### 5 LEEB HARDNESS TESTERS

The Leeb hardness tester is a portable, dynamic testing instrument for measuring material hardness. Its core principle relies on elastic impact to determine hardness.



### 6 SHORE DUROMETERS

The Shore durometer is a portable instrument used for measuring the hardness of non-metallic materials, especially polymer elastomers such as rubber, plastics, foam and certain soft plastics.



### 7 ALUMINUM HARDNESS TESTERS

Aluminum hardness testers are portable, easy-to-operate instruments for hardness testing.



### 8 ULTRASONIC HARDNESS TESTERS

The ultrasonic hardness tester is a portable, non-destructive or minimally invasive advanced testing instrument that utilizes the principle of ultrasonic vibration to measure material hardness.



### 9 HARDNESS TEST BLOCKS

Hardness test blocks are critical yet often overlooked component in hardness measurement systems and act as the gatekeeper ensuring the reliability of product quality data.



## Application Scenarios



Metal materials and heat treatment industry

(The core application field)



Machinery manufacturing and automotive industry



Aerospace and defense industry



Metallurgy and foundry industry



Electronics and semiconductor industry



Plastics, rubber and other non-metallic industries

## Conversion of hardness-to-hardness or hardness-to-tensile-strength values for unalloyed and low alloy steels and cast steel

| Tensile strengt | Vickers hardness | Brinell hardness | Rockwell hardness |       |      |      |      |      |      |      |       |       |       |
|-----------------|------------------|------------------|-------------------|-------|------|------|------|------|------|------|-------|-------|-------|
|                 |                  |                  | MPa               | HV10  | HB * | HRB  | HRF  | HRC  | HRA  | HRD  | HR15N | HR30N | HR45N |
| 255             | 80               | 76.0             |                   |       |      |      |      |      |      |      |       |       |       |
| 270             | 85               | 80.7             | 41.0              |       |      |      |      |      |      |      |       |       |       |
| 285             | 90               | 85.5             | 48.0              | 82.6  |      |      |      |      |      |      |       |       |       |
| 305             | 95               | 90.2             | 52.0              |       |      |      |      |      |      |      |       |       |       |
| 320             | 100              | 95.0             | 56.2              | 87.0  |      |      |      |      |      |      |       |       |       |
| 335             | 105              | 99.8             |                   |       |      |      |      |      |      |      |       |       |       |
| 350             | 110              | 105              | 62.3              | 90.5  |      |      |      |      |      |      |       |       |       |
| 370             | 115              | 109              |                   |       |      |      |      |      |      |      |       |       |       |
| 385             | 120              | 114              | 66.7              | 93.6  |      |      |      |      |      |      |       |       |       |
| 400             | 125              | 119              |                   |       |      |      |      |      |      |      |       |       |       |
| 415             | 130              | 124              | 71.2              | 96.4  |      |      |      |      |      |      |       |       |       |
| 430             | 135              | 128              |                   |       |      |      |      |      |      |      |       |       |       |
| 450             | 140              | 133              | 75.0              | 99.0  |      |      |      |      |      |      |       |       |       |
| 465             | 145              | 138              |                   |       |      |      |      |      |      |      |       |       |       |
| 480             | 150              | 143              | 78.7              | 101.4 |      |      |      |      |      |      |       |       |       |
| 495             | 155              | 147              |                   |       |      |      |      |      |      |      |       |       |       |
| 510             | 160              | 152              | 81.7              | 103.6 |      |      |      |      |      |      |       |       |       |
| 530             | 165              | 156              |                   |       |      |      |      |      |      |      |       |       |       |
| 545             | 170              | 162              | 85.0              | 105.5 |      |      |      |      |      |      |       |       |       |
| 560             | 175              | 166              |                   |       |      |      |      |      |      |      |       |       |       |
| 575             | 180              | 171              | 87.1              | 107.2 |      |      |      |      |      |      |       |       |       |
| 595             | 185              | 176              |                   |       |      |      |      |      |      |      |       |       |       |
| 610             | 190              | 181              | 89.5              | 108.7 |      |      |      |      |      |      |       |       |       |
| 625             | 195              | 185              |                   |       |      |      |      |      |      |      |       |       |       |
| 640             | 200              | 190              | 91.5              | 110.1 |      |      |      |      |      |      |       |       |       |
| 660             | 205              | 195              | 92.5              |       |      |      |      |      |      |      |       |       |       |
| 675             | 210              | 199              | 93.5              | 111.3 |      |      |      |      |      |      |       |       |       |
| 690             | 215              | 204              | 94.0              |       |      |      |      |      |      |      |       |       |       |
| 705             | 220              | 209              | 95.0              | 112.4 |      |      |      |      |      |      |       |       |       |
| 720             | 225              | 214              | 96.0              |       |      |      |      |      |      |      |       |       |       |
| 740             | 230              | 219              | 96.7              | 113.4 |      |      |      |      |      |      |       |       |       |
| 755             | 235              | 223              |                   |       |      |      |      |      |      |      |       |       |       |
| 770             | 240              | 228              | 98.1              | 114.3 | 20.3 | 60.7 | 40.3 | 69.6 | 41.7 | 19.9 |       |       |       |
| 785             | 245              | 233              |                   |       | 21.3 | 61.2 | 41.1 | 70.1 | 42.5 | 21.1 |       |       |       |
| 800             | 250              | 238              | 99.5              | 115.1 | 22.2 | 61.6 | 41.7 | 70.6 | 43.4 | 22.2 |       |       |       |
| 820             | 255              | 242              |                   |       | 23.1 | 62.0 | 42.2 | 71.1 | 44.2 | 23.2 |       |       |       |
| 835             | 260              | 247              | (101)             |       | 24.0 | 62.4 | 43.1 | 71.6 | 45.0 | 24.3 |       |       |       |
| 850             | 265              | 252              |                   |       | 24.8 | 62.7 | 43.7 | 72.1 | 45.7 | 25.2 |       |       |       |
| 865             | 270              | 257              | (102)             |       | 25.6 | 63.1 | 44.3 | 72.6 | 46.4 | 26.2 |       |       |       |
| 880             | 275              | 261              |                   |       | 26.4 | 63.5 | 44.9 | 73.0 | 47.2 | 27.1 |       |       |       |
| 900             | 280              | 266              | (104)             |       | 27.1 | 63.8 | 45.3 | 73.4 | 47.8 | 27.9 |       |       |       |
| 915             | 285              | 271              |                   |       | 27.8 | 64.2 | 46.0 | 73.8 | 48.4 | 28.7 |       |       |       |
| 930             | 290              | 276              | (105)             |       | 28.5 | 64.5 | 46.5 | 74.2 | 49.0 | 29.5 |       |       |       |
| 950             | 295              | 280              |                   |       | 29.2 | 64.8 | 47.1 | 74.6 | 49.7 | 30.4 |       |       |       |
| 965             | 300              | 285              |                   |       | 29.8 | 65.2 | 47.5 | 74.9 | 50.2 | 31.1 |       |       |       |
| 995             | 310              | 295              |                   |       | 31.0 | 65.8 | 48.4 | 75.6 | 51.3 | 32.5 |       |       |       |
| 1030            | 320              | 304              |                   |       | 32.2 | 66.4 | 49.4 | 76.2 | 52.3 | 33.9 |       |       |       |
| 1060            | 330              | 314              |                   |       | 33.3 | 67.0 | 50.2 | 76.8 | 53.6 | 35.2 |       |       |       |
| 1095            | 340              | 323              |                   |       | 34.4 | 67.6 | 51.1 | 77.4 | 54.4 | 36.5 |       |       |       |

| Tensile strengt | Vickers hardness | Brinell hardness | Rockwell hardness |      |      |     |     |      |      |      |       |       |       |
|-----------------|------------------|------------------|-------------------|------|------|-----|-----|------|------|------|-------|-------|-------|
|                 |                  |                  | MPa               | HV10 | HB * | HRB | HRF | RC   | HRA  | HRD  | HR15N | HR30N | HR45N |
| 1125            | 350              | 333              |                   |      |      |     |     | 35.5 | 68.1 | 51.9 | 78.0  | 55.4  | 37.8  |
| 1155            | 360              | 342              |                   |      |      |     |     | 36.6 | 68.7 | 52.8 | 78.6  | 56.4  | 39.1  |
| 1190            | 370              | 352              |                   |      |      |     |     | 37.7 | 69.2 | 53.6 | 79.2  | 57.4  | 40.4  |
| 1220            | 380              | 361              |                   |      |      |     |     | 38.8 | 69.8 | 54.4 | 79.8  | 58.4  | 41.7  |
| 1255            | 390              | 371              |                   |      |      |     |     | 39.8 | 70.3 | 55.3 | 80.3  | 59.3  | 42.9  |
| 1290            | 400              | 380              |                   |      |      |     |     | 40.8 | 70.8 | 56.0 | 80.8  | 60.2  | 44.1  |
| 1320            | 410              | 390              |                   |      |      |     |     | 41.8 | 71.4 | 56.8 | 81.4  | 61.1  | 45.3  |
| 1350            | 420              | 399              |                   |      |      |     |     | 42.7 | 71.8 | 57.5 | 81.8  | 61.9  | 46.4  |
| 1385            | 430              | 409              |                   |      |      |     |     | 43.6 | 72.3 | 58.2 | 82.3  | 62.7  | 47.4  |
| 1420            | 440              | 418              |                   |      |      |     |     | 44.5 | 72.8 | 58.8 | 82.8  | 63.5  | 48.4  |
| 1455            | 450              | 428              |                   |      |      |     |     | 45.3 | 73.3 | 59.4 | 83.2  | 64.3  | 49.4  |
| 1485            | 460              | 437              |                   |      |      |     |     | 46.1 | 73.6 | 60.1 | 83.6  | 64.9  | 50.4  |
| 1520            | 470              | 447              |                   |      |      |     |     | 46.9 | 74.1 | 60.7 | 83.9  | 65.7  | 51.3  |
| 1555            | 480              | 456              |                   |      |      |     |     | 47.7 | 74.5 | 61.3 | 84.3  | 66.4  | 52.2  |
| 1595            | 490              | 466              |                   |      |      |     |     | 48.4 | 74.9 | 61.6 | 84.7  | 67.1  | 53.1  |
| 1630            | 500              | 475              |                   |      |      |     |     | 49.1 | 75.3 | 62.2 | 85.0  | 67.7  | 53.9  |
| 1665            | 510              | 485              |                   |      |      |     |     | 49.8 | 75.7 | 62.9 | 85.4  | 68.3  | 54.7  |
| 1700            | 520              | 494              |                   |      |      |     |     | 50.5 | 76.1 | 63.5 | 85.7  | 69.0  | 55.6  |
| 1740            | 530              | 504              |                   |      |      |     |     | 51.1 | 76.4 | 63.9 | 86.0  | 69.5  | 56.2  |
| 1775            | 540              | 513              |                   |      |      |     |     | 51.7 | 76.7 | 64.4 | 86.3  | 70.0  | 57.0  |
| 1810            | 550              | 523              |                   |      |      |     |     | 52.3 | 77.0 | 64.8 | 86.6  | 70.5  | 57.8  |
| 1845            | 560              | 532              |                   |      |      |     |     | 53.0 | 77.4 | 65.4 | 86.9  | 71.2  | 58.6  |
| 1880            | 570              | 542              |                   |      |      |     |     | 53.6 | 77.8 | 65.8 | 87.2  | 71.7  | 59.3  |
| 1920            | 580              | 551              |                   |      |      |     |     | 54.1 | 78.0 | 66.2 | 87.5  | 72.1  | 59.9  |
| 1955            | 590              | 561              |                   |      |      |     |     | 54.7 | 78.4 | 66.7 | 87.8  | 72.7  | 60.5  |
| 1995            | 600              | 570              |                   |      |      |     |     | 55.2 | 78.6 | 67.0 | 88.0  | 73.2  | 61.2  |
| 2030            | 610              | 580              |                   |      |      |     |     | 55.7 | 78.9 | 67.5 | 88.2  | 73.7  | 61.7  |
| 2070            | 620              | 589              |                   |      |      |     |     | 56.3 | 79.2 | 67.9 | 88.5  | 74.2  | 62.4  |
| 2105            | 630              | 599              |                   |      |      |     |     | 56.8 | 79.5 | 68.3 | 88.8  | 74.6  | 63.0  |
| 2145            | 640              | 608              |                   |      |      |     |     | 57.3 | 79.8 | 68.7 | 89.0  | 75.1  | 63.5  |
| 2180            | 650              | 618              |                   |      |      |     |     | 57.8 | 80.0 | 69.0 | 89.2  | 75.5  | 64.1  |
|                 | 660              |                  |                   |      |      |     |     | 58.3 | 80.3 | 69.4 | 89.5  | 75.9  | 64.7  |
|                 | 670              |                  |                   |      |      |     |     | 58.8 | 80.6 | 69.8 | 89.7  | 76.4  | 65.3  |
|                 | 680              |                  |                   |      |      |     |     | 59.2 | 80.8 | 70.1 | 89.8  | 76.8  | 65.7  |
|                 | 690              |                  |                   |      |      |     |     | 59.7 | 81.1 | 70.5 | 90.1  | 77.2  | 66.2  |
|                 | 700              |                  |                   |      |      |     |     | 60.1 | 81.3 | 70.8 | 90.3  | 77.6  | 66.7  |
|                 | 720              |                  |                   |      |      |     |     | 61.0 | 81.8 | 71.5 | 90.7  | 78.4  | 67.7  |
|                 | 740              |                  |                   |      |      |     |     | 61.8 | 82.2 | 72.1 | 91.0  | 79.1  | 68.6  |
|                 | 760              |                  |                   |      |      |     |     | 62.5 | 82.6 | 72.6 | 91.2  | 79.7  | 69.4  |
|                 | 780              |                  |                   |      |      |     |     | 63.3 | 83.0 | 73.3 | 91.5  | 80.4  | 70.2  |
|                 | 800              |                  |                   |      |      |     |     | 64.0 | 83.4 | 73.8 | 91.8  | 81.1  | 71.0  |
|                 | 820              |                  |                   |      |      |     |     | 64.7 | 83.8 | 74.3 | 92.1  | 81.7  | 71.8  |
|                 | 840              |                  |                   |      |      |     |     | 65.3 | 84.1 | 74.8 | 92.3  | 82.2  | 72.2  |
|                 | 860              |                  |                   |      |      |     |     | 65.9 | 84.4 | 75.3 | 92.5  | 82.7  | 73.1  |
|                 | 880              |                  |                   |      |      |     |     | 66.4 | 84.7 | 75.7 | 92.7  | 83.1  | 73.6  |
|                 | 900              |                  |                   |      |      |     |     | 67.0 | 85.0 | 76.1 | 92.9  | 83.6  | 74.2  |
|                 | 920              |                  |                   |      |      |     |     | 67.5 | 85.3 | 76.5 | 93.0  | 84.0  | 74.8  |
|                 | 940              |                  |                   |      |      |     |     | 68.0 | 85.6 | 76.9 | 93.2  | 84.4  | 75.4  |

\* Brinell hardness values up to 450 HB were determined using a steel ball indenter, those above this value were determined with a hardmetal ball.

NOTE 1: Values in parentheses are those lying outside the defined range of the standard test method but which may be used as estimates.

NOTE 2: The value of the tension test are not based on method A (10.3 Testing rate based on close-loop control at the rate of the extension) in ISO 6892-1:2009.

# 1 ROCKWELL HARDNESS TESTERS

Rockwell hardness testers have established themselves as the benchmark for industrial hardness testing due to their unparalleled efficiency, simplicity and practicality. With their significant advantages in quality control and production efficiency, they are poised to remain one of the most common and reliable "gatekeepers of quality" on the manufacturing floor for the foreseeable future.



**Minimal indentation**  
approaching a non-destructive testing effect

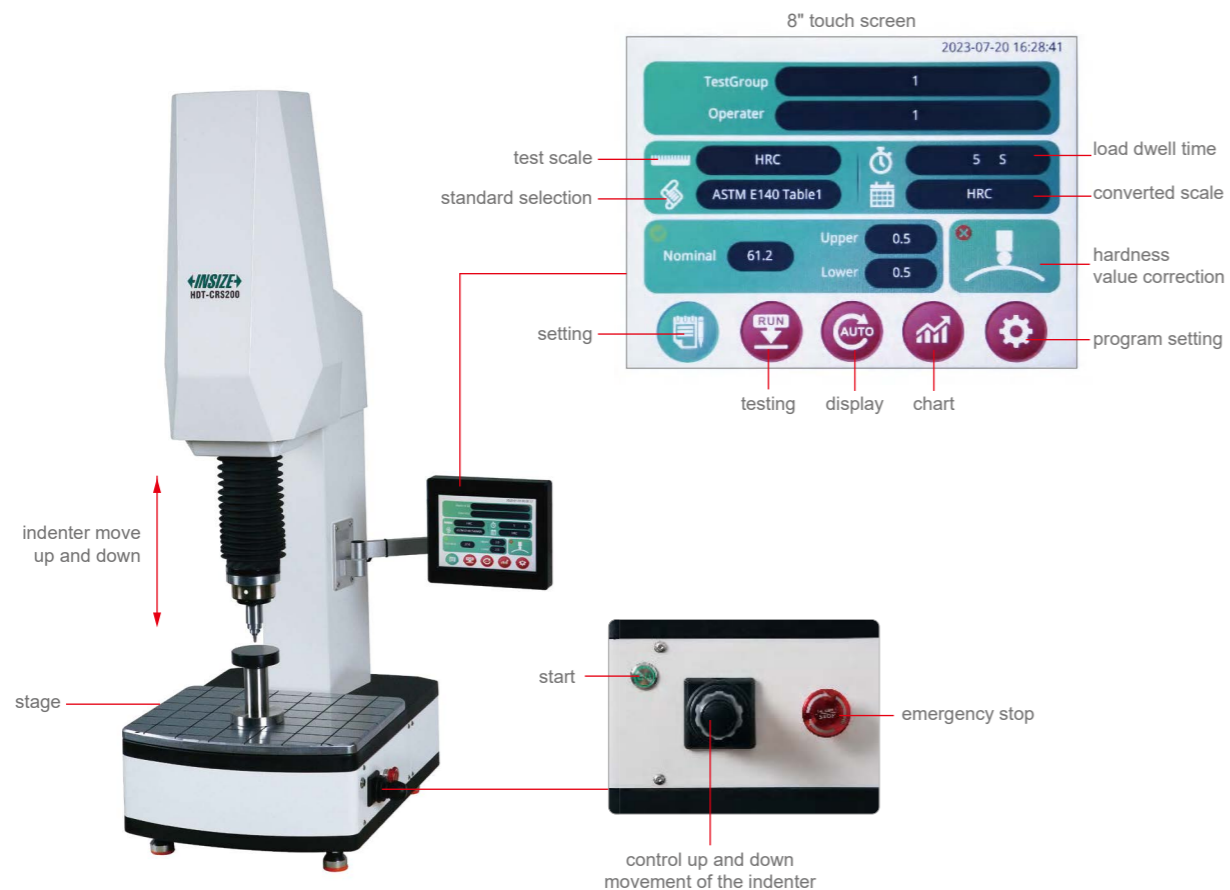


**Simple operation**  
and exceptionally high efficiency



## Model Selection Guide

| Code       | Type  | Display method | Resolution | Stage lifting | Load control | Portability | Output           |         |     |           |
|------------|---|----------------|------------|---------------|--------------|-------------|------------------|---------|-----|-----------|
| HDT-CRS200 | Rockwell/Superficial Rockwell                     | Digital        | 0.05HR     | automatic     | automatic    | x           | Bluetooth, RS232 |         |     |           |
| HDT-DM290  | Rockwell (dolphin-nose type)                      |                | 0.01HR     | manual        |              |             | USB              |         |     |           |
| HDT-DM300  | Superficial Rockwell (dolphin-nose type)          |                |            |               |              |             |                  |         |     |           |
| HDT-DM310  | Rockwell/Superficial Rockwell (dolphin-nose type) |                | 0.1HR      | automatic     |              |             | RS232            |         |     |           |
| HDT-RT151  | Rockwell  |                |            |               |              |             |                  |         |     |           |
| HDT-RT152  | Superficial Rockwell                              |                |            |               |              |             |                  |         |     |           |
| HDT-RT153  | Rockwell/Superficial Rockwell                     |                |            |               |              |             |                  |         |     |           |
| HDT-ST300  | Rockwell  |                | Pointer    | 0.5HR         |              |             | manual           | x       |     |           |
| HDT-ST310  | Superficial Rockwell                              |                |            |               |              |             |                  |         |     |           |
| HDT-ST320  | Rockwell/Superficial Rockwell                     |                |            |               |              |             |                  |         |     |           |
| HDT-RW160  | Rockwell  | Digital        |            |               | 0.1HR        | manual      |                  |         | USB |           |
| HDT-RA151  |   |                |            |               |              |             |                  |         |     | automatic |
| HDT-RD160  |   |                |            |               |              |             |                  |         |     | manual    |
| HDT-MD151  |   |                |            |               |              |             |                  |         |     | automatic |
| HDT-RH411  | Rockwell (high)                                   | Pointer        |            |               | 0.5HR        | manual      |                  |         | x   |           |
| HDT-RM421  |   |                |            |               |              |             |                  |         |     | automatic |
| HDT-MD411  |   |                |            |               |              |             |                  |         |     | manual    |
| HDT-MD421  |   |                | automatic  |               |              |             |                  |         |     |           |
| HDT-MD421  | Digital   | 0.1HR          | automatic  | USB           |              |             |                  |         |     |           |
| ISHR-D121  | Rockwell  | Digital        | 0.1HR      | x             | manual       | ✓           | x                |         |     |           |
| ISHR-M111  |   |                |            |               |              |             |                  |         |     |           |
| ISHR-P151  |   |                |            |               |              |             |                  | Pointer | 1HR |           |
| HDT-MR112  |   |                |            |               |              |             |                  |         |     |           |



### AUTOMATIC DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTER (ADVANCED TYPE)

CODE: HDT-CRS200

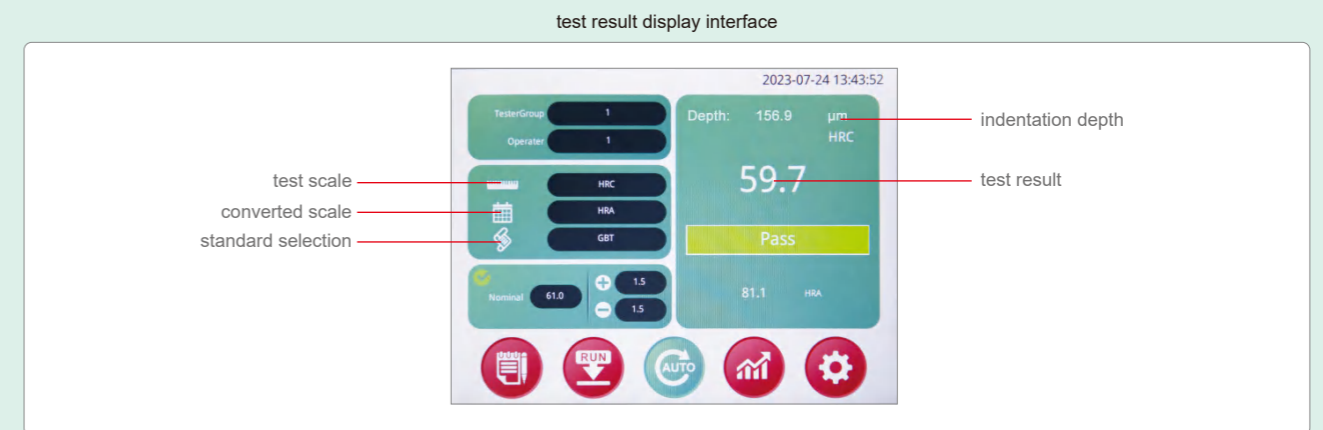
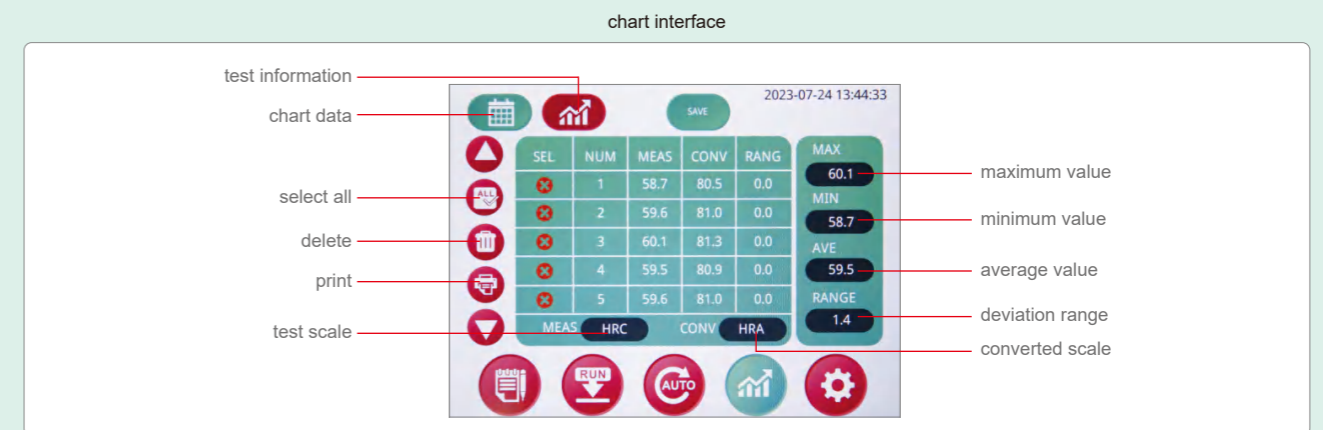
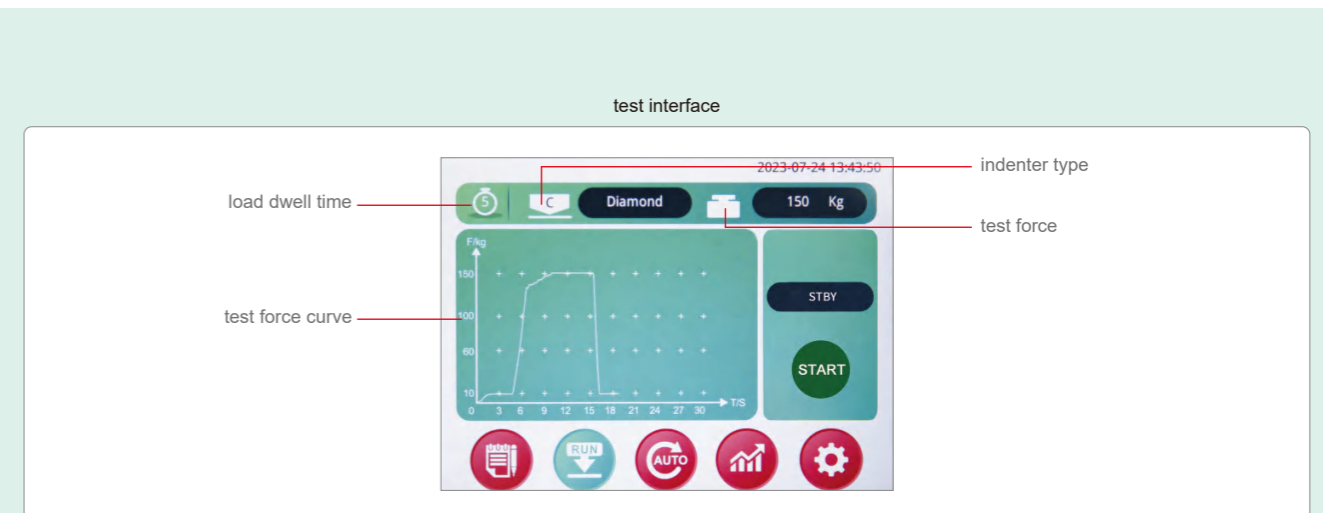
AUTOMATIC TEST    HIGH ACCURACY    FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)    INSPECTION CERTIFICATE

- One click operation can obtain measurement results, enabling large-scale hardness measurement of workpieces
- CNC system, close-loop electronic control system applies test force
- Touch screen operation and display
- Cantilevered structure, achieving full automation of hardness measurement
- The big flat stage is convenient for testing and can work in conjunction with robotic arms and automation equipment to step up online hardness testing and achieve completely unmanned testing
- Bluetooth, RS232 data transmission to computer, data management using hardness management software
- According to ISO 6508, ASTM E18, JIS Z 2245

HIGH EFFICIENCY    TOUCH SCREEN    BUILT-IN BLUETOOTH



Continued from previous page



Ø58mm flat anvil (included)



V-type anvil (included)



bluetooth printer (included)

Continued from previous page

**SPECIFICATION**

|                               |                        |   |
|-------------------------------|------------------------|---|
| <b>Measurement range</b>      |                        | Rockwell: 20~88HRA, 20~100HRB, 20~70HRC<br>Superficial Rockwell: 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T |
| <b>Hardness scale</b>         | with indenter included | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T  |
|                               | with optional indenter | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y                              |
| <b>Preliminary test force</b> |                        | Superficial Rockwell: 29.4N (3kgf)<br>Rockwell: 98N (10kgf)   |
| <b>Test force</b>             |                        | Superficial Rockwell: 147N (15kgf), 294N (30kgf), 441N (45kgf)<br>Rockwell: 588N (60kgf), 980N (100kgf), 1471N (150kgf)                 |
| <b>Test force accuracy</b>    |                        | ±1%   |
| <b>Operational mode</b>       |                        | automatic   |
| <b>Load control</b>           |                        | automatic (load/dwell/unload)   |
| <b>Resolution</b>             |                        | 0.05HR  |
| <b>Load dwell time</b>        |                        | 0~99 seconds  |
| <b>Max. workpiece height</b>  |                        | 300mm   |
| <b>Max. testing width</b>     |                        | 200mm (indenter to frame distance)  |
| <b>Output</b>                 |                        | bluetooth printer, RS232  |
| <b>Power supply</b>           |                        | 220V, 50/60Hz   |
| <b>Dimension (L×W×H)</b>      |                        | 555x400x1250mm  |
| <b>Net weight</b>             |                        | 130kg   |

**STANDARD DELIVERY**

|                                 |      |
|---------------------------------|------|
| Main unit                       | 1 pc |
| Diamond indenter                | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Ø58mm flat anvil                | 1 pc |
| V-type anvil                    | 1 pc |
| Hardness test block HRC20~30    | 1 pc |
| Hardness test block HRC60~70    | 1 pc |
| Hardness test block HRBW80~100  | 1 pc |
| Hardness test block HR30N60~85  | 1 pc |
| Hardness test block HR30TW70~85 | 1 pc |
| Bluetooth printer               | 1 pc |

**OPTIONAL ACCESSORY**

|                      |              |
|----------------------|--------------|
| Hardness test blocks | page 117~122 |
| Desk                 | HDT-DESK     |



can test rings, tubes, internal surfaces of frame parts, etc.

workpiece demonstration



HDT-DM310

RS232 interface

USB interface power

**MOTORIZED DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS (DOLPHIN-NOSE TYPE)**

TOUCH SCREEN

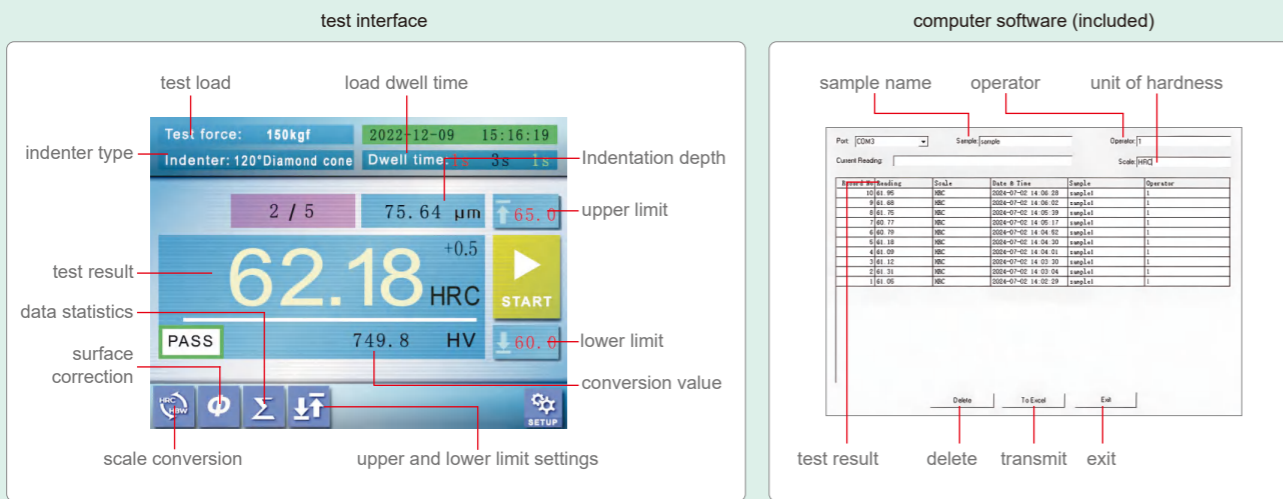
INSPECTION CERTIFICATE



FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

- Conforms to ASTM E18, ISO 6508
- Full closed-loop precise control, real-time monitoring of test force, greatly increase the accuracy
- USB communication port, can be connected to an external computer, measurement data Excel output
- Convertible to various hardness standards such as HB, HV, HLD, HK and tensile strength
- Correction function automatically corrects the measurement results of curved parts
- 250 sets of data are stored independently in the mainframe, which can be accessed at any time
- Dolphin-nose structure indenter, more measuring space
- Measurements on 30 Rockwell and Superficial Rockwell scales
- Mean, variance, maximum and minimum statistics are available

Continued from previous page



**SPECIFICATION**

| Code                        | HDT-DM290   | HDT-DM300   | HDT-DM310  |
|-----------------------------|---|---|--|
| Type                        | Rockwell  | Superficial Rockwell  | Rockwell and Superficial Rockwell  |
| Hardness scale              | with indenter included<br>HRA, HRB, HRC, HRD, HRF, HRG                | HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                      | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                     |
|                             | with optional indenter<br>HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV | HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y |
| Preliminary test force      | 98N/10kgf for Rockwell  | 29.4N/3kgf for Superficial Rockwell                           | 98N/10kgf for Rockwell<br>29.4N/3kgf for Superficial Rockwell  |
| Test force                  | 588N (60kgf), 980N (100kgf), 1471N (150kgf)                           | 147N (15kgf), 294N (30kgf), 441N (45kgf)                      | 147N (15kgf), 294N (30kgf), 441N (45kgf), 588N (60kgf), 980N (100kgf), 1471N (150kgf)                      |
| Stage elevation             | manual  |   |  |
| Load control                | automatic (load/dwell/unload)   |   |  |
| Resolution                  | 0.01HR  |   |  |
| Load dwell time             | 2~250 seconds, can be set   |   |  |
| Max. workpiece height       | 290mm   |   |  |
| Max. testing width          | 220mm (indenter to frame distance)                                    |   |  |
| Max. bore depth             | 130mm   |   |  |
| Min. testing inner diameter | 35mm  |   |  |
| Power supply                | 220V, 50/60Hz   |   |  |
| Dimension (L×W×H)           | 700×290×880mm   |   |  |
| Net weight                  | 85kg  |   |  |

To be continued

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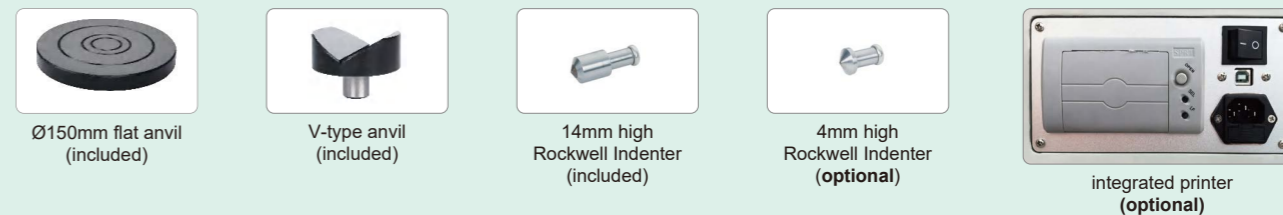
**STANDARD DELIVERY**

| Code  | HDT-DM290 | HDT-DM300 | HDT-DM310 |
|---|-----------|-----------|-----------|
| Main unit   | 1 pc      | 1 pc      | 1 pc      |
| 14mm high diamond Rockwell indenter (HDT-DM-14MM) | 1 pc      | 1 pc      | 1 pc      |
| Ø1.5875mm carbide ball indenter (HDT-DM-BALL)     | 1 pc      | 1 pc      | 1 pc      |
| Ø150mm flat anvil                                 | 1 pc      | 1 pc      | 1 pc      |
| V-type anvil                                      | 1 pc      | 1 pc      | 1 pc      |
| Hardness test block HRC20~30                      | 1 pc      | —         | 1 pc      |
| Hardness test block HRC35~55                      | 1 pc      | —         | 1 pc      |
| Hardness test block HRC60~70                      | 1 pc      | —         | 1 pc      |
| Hardness test block HRB85~100                     | 1 pc      | —         | 1 pc      |
| Hardness test block HRA80~88                      | 1 pc      | —         | 1 pc      |
| Hardness test block HR15T88~93                    | —         | 1 pc      | 1 pc      |
| Hardness test block HR15N89~91                    | —         | 1 pc      | 1 pc      |
| Hardness test block HR30N74~80                    | —         | 1 pc      | 1 pc      |
| Hardness test block HR30T70~82                    | —         | 1 pc      | 1 pc      |
| Computer software and USB cable                   | 1 pc      | 1 pc      | 1 pc      |
| Anti-dust cover                                   | 1 pc      | 1 pc      | 1 pc      |

**OPTIONAL ACCESSORY**

|   |              |
|---|--------------|
| Hardness test blocks                          | page 117~122 |
| Ø90mm flat anvil                              | HDT-DM290-FA |
| Ø230mm flat anvil                             | HDT-DM290-FB |
| Integrated printer (require pre-installation) | HDT-DM290-PT |
| 4mm high diamond Rockwell indenter*           | HDT-DM-4MM   |

\*The minimum testing inner diameter is 25mm



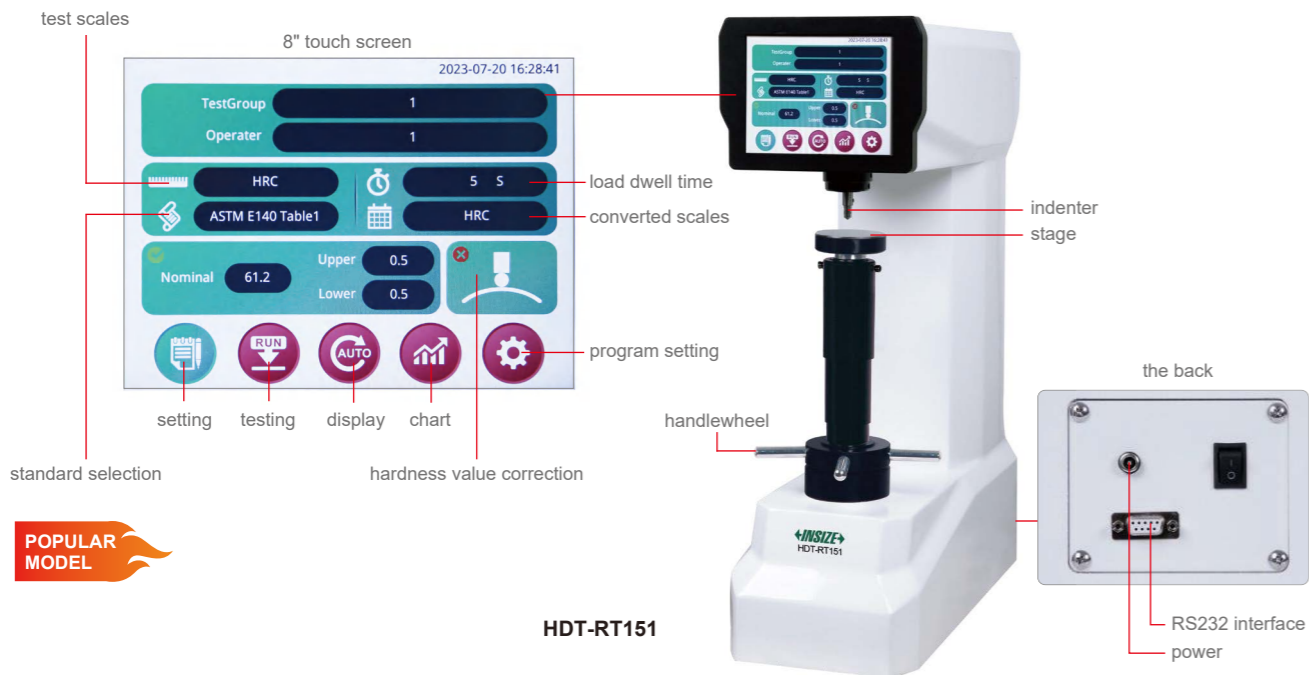
Ø150mm flat anvil (included)

V-type anvil (included)

14mm high Rockwell Indenter (included)

4mm high Rockwell Indenter (optional)

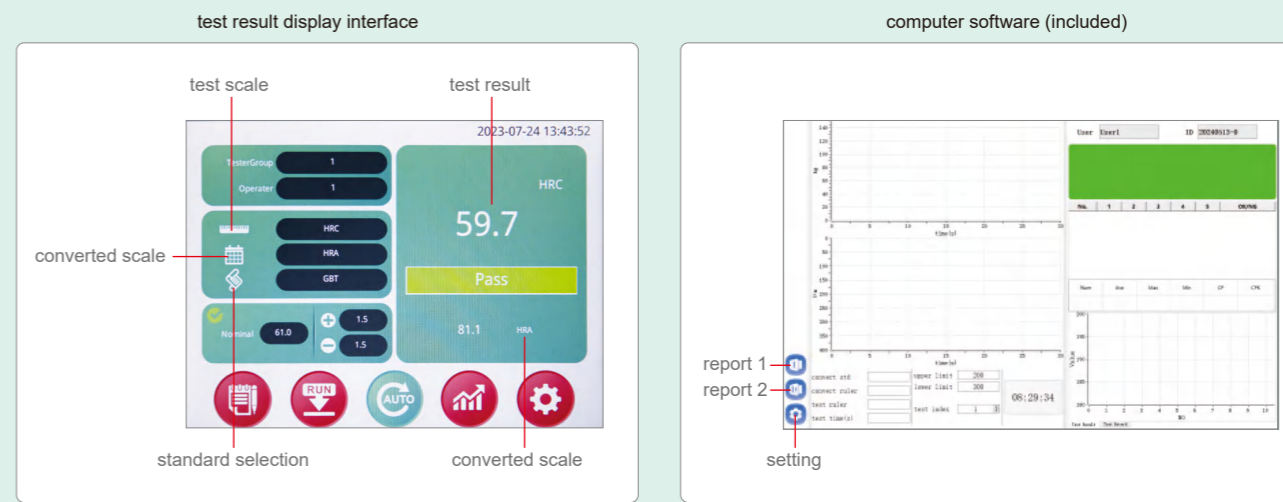
integrated printer (optional)



HDT-RT151

POPULAR MODEL

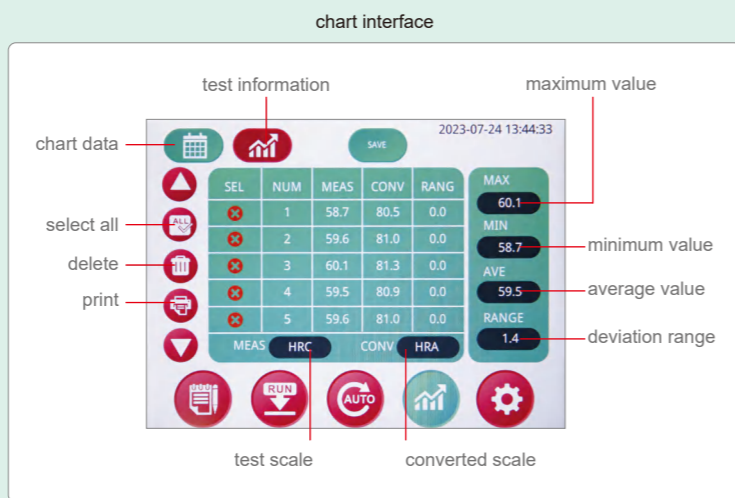
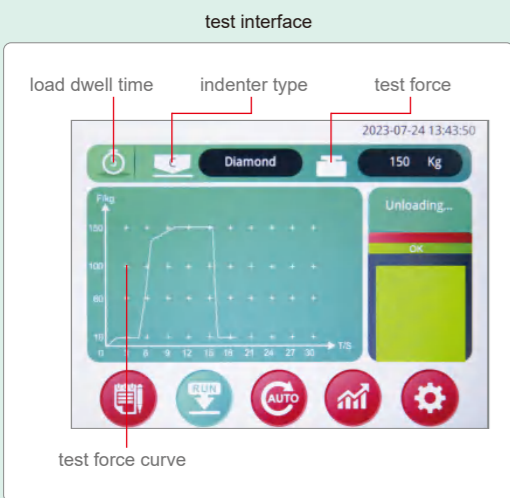
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### MOTORIZED DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS

TOUCH SCREEN FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS) INSPECTION CERTIFICATE

- Comply with test standards ISO 6508, ASTM E18, JIS Z 2245
- Implement ISO, ASTM scale conversion standards
- Electronic loading test force, with high accuracy and stable measurement values
- 8-inch touch screen for operation and display
- Capable of testing 15 Rockwell hardness scales and optional Superficial Rockwell scales
- Main unit stores 500 data groups independently; data retained after power failure
- Hardness correction function available based on cylinder size
- Wireless data transmission system is optional



#### SPECIFICATION

| Code                   | HDT-RT151                                   | HDT-RT152  | HDT-RT153   |
|------------------------|---|--|---|
| Type                   | Rockwell                                    | Superficial Rockwell   | Rockwell and Superficial Rockwell   |
| Measurement range      | 20~95HRA, 10~100HRB, 10~70HRC               | 70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T | Rockwell: 20~95HRA, 10~100HRB, 10~70HRC<br>Superficial Rockwell: 70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T |
| Hardness scale         | with indenter included                      | HRA, HRB, HRC, HRD, HRF, HRG   | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T  |
|                        | with optional indenter                      | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV                            | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y                              |
| Preliminary test force | Rockwell: 98N (10kgf)                       | Superficial Rockwell: 29.4N (3kgf)                                     | Rockwell: 98N (10kgf)<br>Superficial Rockwell: 29.4N (3kgf)   |
| Test force             | 588N (60kgf), 980N (100kgf), 1471N (150kgf) | 147N (15kgf), 294N (30kgf), 441N (45kgf)                               | 147N (15kgf), 294N (30kgf), 441N (45kgf), 588N (60kgf), 980N (100kgf), 1471N (150kgf)   |
| Stage elevation        | manual                                      |  |   |
| Load control           | automatic (load/dwell/unload)               |  |   |
| Resolution             | 0.1HR                                       |  |   |
| Load dwell time        | 2~60 seconds                                |  |   |
| Max. workpiece height  | 230mm                                       |  |   |
| Max. testing width     | 170mm (indenter to frame distance)          |  |   |
| Power supply           | 100~240V, 50/60Hz                           |  |   |
| Dimension (L×W×H)      | 475×200×700mm                               |  |   |
| Net weight             | 70kg  |  |   |

To be continued

To be continued

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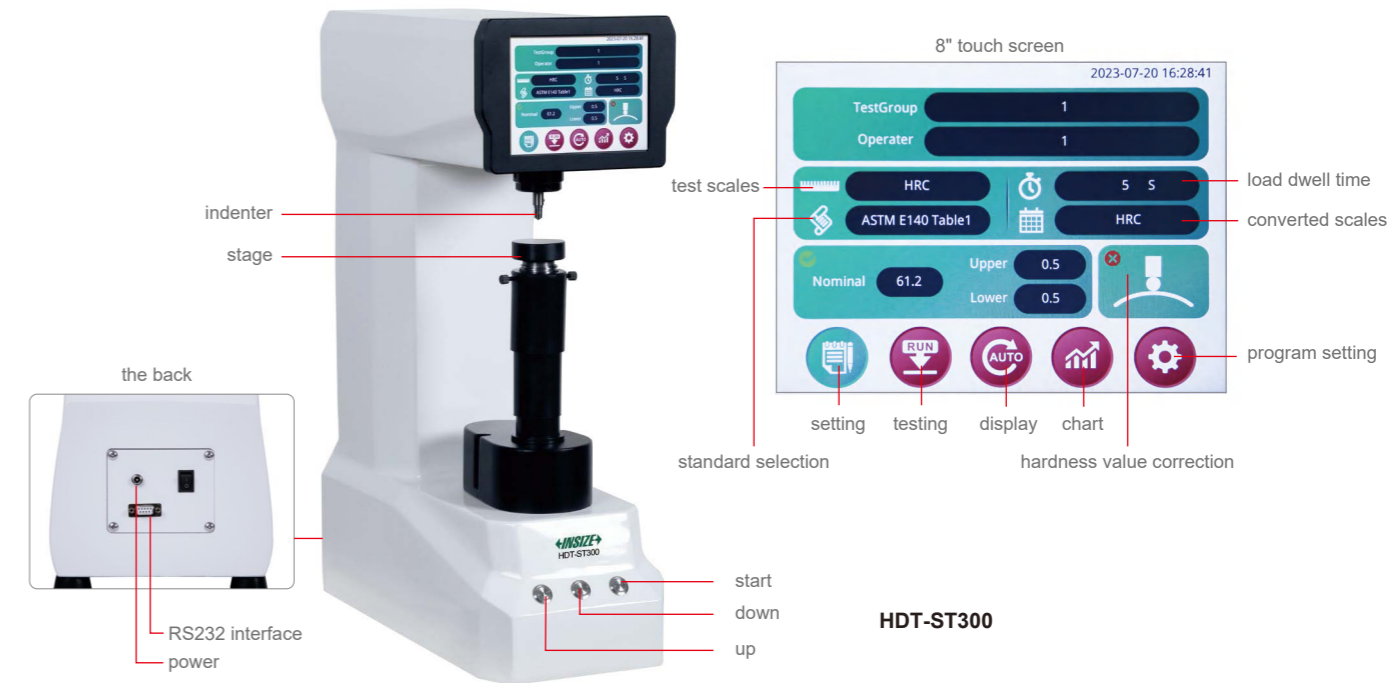
**STANDARD DELIVERY**

| Code                            | HDT-RT151 | HDT-RT152 | HDT-RT153 |
|---------------------------------|-----------|-----------|-----------|
| Main unit                       | 1 pc      | 1 pc      | 1 pc      |
| Diamond indenter                | 1 pc      | 1 pc      | 1 pc      |
| Ø1.5875mm carbide ball indenter | 1 pc      | 1 pc      | 1 pc      |
| Ø150mm flat anvil               | 1 pc      | 1 pc      | 1 pc      |
| Ø58mm flat anvil                | 1 pc      | 1 pc      | 1 pc      |
| V-type anvil                    | 1 pc      | 1 pc      | 1 pc      |
| Hardness test block HRC20~30    | 1 pc      | —         | 1 pc      |
| Hardness test block HRC40~50    | 1 pc      | —         | —         |
| Hardness test block HRC60~70    | 1 pc      | —         | 1 pc      |
| Hardness test block HRBW80~100  | 1 pc      | —         | 1 pc      |
| Hardness test block HRA80~90    | 1 pc      | —         | —         |
| Hardness test block HR15N80~90  | —         | 1 pc      | —         |
| Hardness test block HR30N65~80  | —         | 1 pc      | 1 pc      |
| Hardness test block HR30TW70~85 | —         | 1 pc      | 1 pc      |
| Software                        | 1 pc      | 1 pc      | 1 pc      |
| Printer                         | 1 pc      | 1 pc      | 1 pc      |
| Anti-dust cover                 | 1 pc      | 1 pc      | 1 pc      |

**OPTIONAL ACCESSORY**

|   |                    |
|---|--------------------|
| Hardness test blocks                    | page 117~122       |
| Ø12.7mm carbide ball indenter           | HDT-RT15-INDENTER1 |
| Ø6.35mm carbide ball indenter           | HDT-RT15-INDENTER2 |
| Ø3.175mm carbide ball indenter          | HDT-RT15-INDENTER3 |
| Wireless data transmission transmitter* | 7315-HDT-M         |
| Wireless data transmission receiver*    | 7315-2/3/6/7/8/9   |

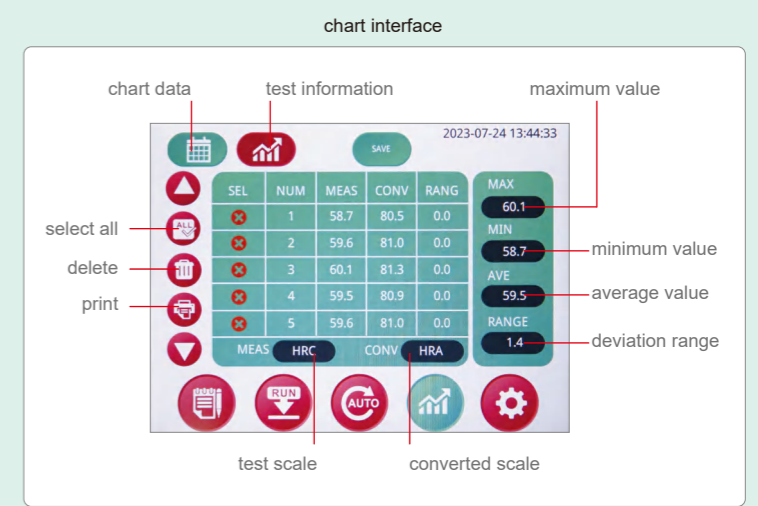
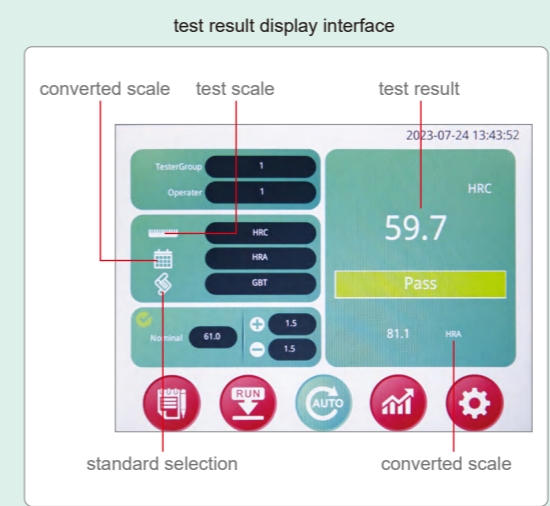
\*The wireless data transmission transmitter and receiver must be purchased together



**AUTOMATIC DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS**

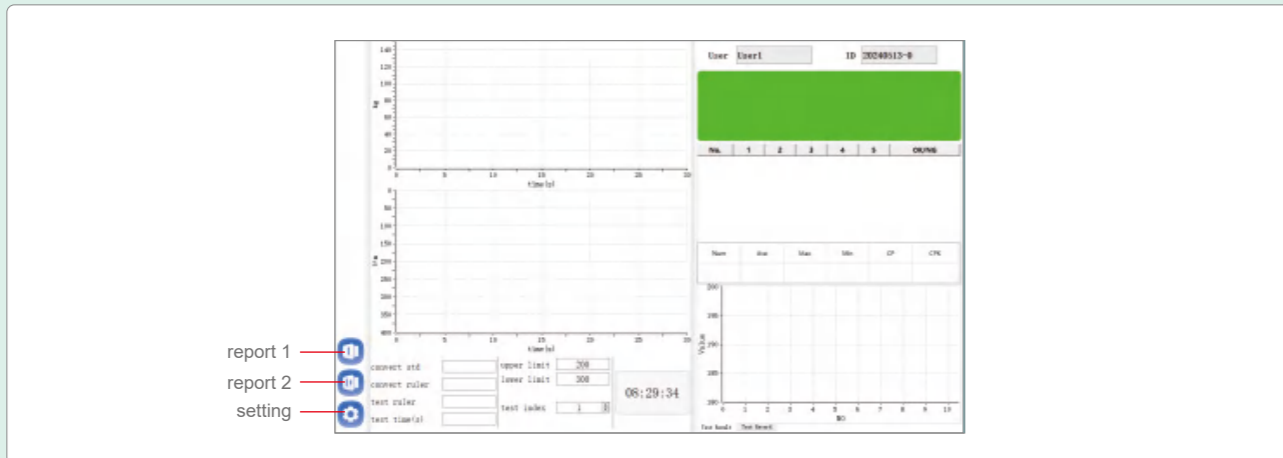
- TOUCH SCREEN
- LARGE RANGE
- AUTOMATIC LIFTING/LOADING/UNLOADING
- INSPECTION CERTIFICATE

- Comply with test standards ISO 6508, ASTM E18, JIS Z 2245
- Implement ISO, ASTM scale conversion standards, supporting HB, HV conversion
- Worktable (lead screw) auto-ascends/descends and applies test force for stable results
- 8-inch touch screen for operation and display
- Capable of testing 15 Rockwell hardness scales and optional Superficial Rockwell scales
- Main unit stores 500 data groups independently; data retained after power failure
- Hardness correction function available based on cylinder size
- Wireless data transmission system is optional



Continued from previous page

computer software (included)



**SPECIFICATION**

| Code                   | HDT-ST300   | HDT-ST310  | HDT-ST320   |
|------------------------|---|--|---|
| Type                   | Rockwell  | Superficial Rockwell   | Rockwell and Superficial Rockwell   |
| Measurement range      | 20~95HRA, 10~100HRB, 10~70HRC   | 70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T | Rockwell: 20~95HRA, 10~100HRB, 10~70HRC<br>Superficial Rockwell: 70~94HR15N, 42~86HR30N, 20~77HR45N, 67~93HR15T, 29~82HR30T, 10~72HR45T |
| Hardness scale         | with indenter included  | HRA, HRB, HRC, HRD, HRF, HRG   | HR15N, HR30N, HR45N, HR15T, HR30T, HR45T  |
|                        | with optional indenter  | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV                            | HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y   |
| Preliminary test force | Rockwell: 98N (10kgf)   | Superficial Rockwell: 29.4N (3kgf)                                     | Rockwell: 98N (10kgf)<br>Superficial Rockwell: 29.4N (3kgf)   |
| Test force             | 588N (60kgf), 980N (100kgf), 1471N (150kgf)                               | 147N (15kgf), 294N (30kgf), 441N (45kgf)                               | 147N (15kgf), 294N (30kgf), 441N (45kgf), 588N (60kgf), 980N (100kgf), 1471N (150kgf)   |
| Stage elevation        | automatic up, down and return   |  |   |
| Load control           | automatic (initial test force, main test force loading/holding/unloading) |  |   |
| Resolution             | 0.1HR   |  |   |
| Load dwell time        | 2~60 seconds  |  |   |
| Max. workpiece height  | 230mm   |  |   |
| Max. testing width     | 170mm (indenter to frame distance)  |  |   |
| Power supply           | 100~240V, 50/60Hz   |  |   |
| Dimension (L×W×H)      | 475×200×700mm   |  |   |
| Net weight             | 70kg  |  |   |

To be continued

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Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included)



printer (included)



wireless data transmitter (optional)

**STANDARD DELIVERY**

| Code                            | HDT-ST300 | HDT-ST310 | HDT-ST320 |
|---------------------------------|-----------|-----------|-----------|
| Main unit                       | 1 pc      | 1 pc      | 1 pc      |
| Diamond indenter                | 1 pc      | 1 pc      | 1 pc      |
| Ø1.5875mm carbide ball indenter | 1 pc      | 1 pc      | 1 pc      |
| Ø150mm flat anvil               | 1 pc      | 1 pc      | 1 pc      |
| Ø58mm flat anvil                | 1 pc      | 1 pc      | 1 pc      |
| V-type anvil                    | 1 pc      | 1 pc      | 1 pc      |
| Hardness test block HRC20~30    | 1 pc      | —         | 1 pc      |
| Hardness test block HRC40~50    | 1 pc      | —         | —         |
| Hardness test block HRC60~70    | 1 pc      | —         | 1 pc      |
| Hardness test block HRBW80~100  | 1 pc      | —         | 1 pc      |
| Hardness test block HRA80~90    | 1 pc      | —         | —         |
| Hardness test block HR15N80~90  | —         | 1 pc      | —         |
| Hardness test block HR30N65~80  | —         | 1 pc      | 1 pc      |
| Hardness test block HR30TW70~85 | —         | 1 pc      | 1 pc      |
| Software                        | 1 pc      | 1 pc      | 1 pc      |
| Printer                         | 1 pc      | 1 pc      | 1 pc      |
| Anti-dust cover                 | 1 pc      | 1 pc      | 1 pc      |

**OPTIONAL ACCESSORY**

|   |                    |
|---|--------------------|
| Hardness test blocks                    | page 117~122       |
| Ø12.7mm carbide ball indenter           | HDT-RT15-INDENTER1 |
| Ø6.35mm carbide ball indenter           | HDT-RT15-INDENTER2 |
| Ø3.175mm carbide ball indenter          | HDT-RT15-INDENTER3 |
| Wireless data transmission transmitter* | 7315-HDT-M         |
| Wireless data transmission receiver*    | 7315-2/3/6/7/8/9   |

\*The wireless data transmission transmitter and receiver must be purchased together

POPULAR MODEL



### MANUAL ROCKWELL HARDNESS TESTER (BASIC TYPE)

CODE: HDT-RW160



• According to ISO 6508



**SPECIFICATION**

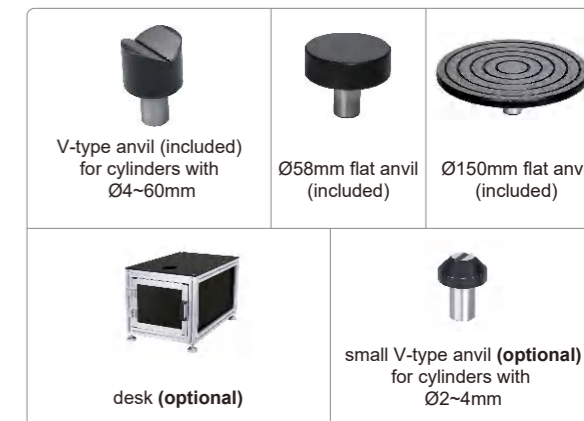
|                        |   |
|------------------------|---|
| Hardness scale         | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force | 98N (10kgf)                                 |
| Total test force       | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Display                | analogue                                    |
| Stage elevation        | manual                                      |
| Load control           | manual                                      |
| Resolution             | 0.5HR                                       |
| Max. workpiece height  | 170mm                                       |
| Max. testing width     | 135mm (indenter to frame distance)          |
| Dimension (L×W×H)      | 466×238×630mm                               |
| Net weight             | 70kg  |

**STANDARD DELIVERY**

|                              |       |
|------------------------------|-------|
| Main unit                    | 1 pc  |
| Ø58mm flat anvil             | 1 pc  |
| Ø150mm flat anvil            | 1 pc  |
| V-type anvil                 | 1 pc  |
| Diamond indenter             | 1 pc  |
| Ø1.5875mm ball indenter      | 1 pc  |
| Ø1.5875mm carbide ball       | 5 pcs |
| Hardness test block HRA80~88 | 1 pc  |
| Hardness test block HRB85~95 | 1 pc  |
| Hardness test block HRC20~30 | 1 pc  |
| Hardness test block HRC35~55 | 1 pc  |
| Hardness test block HRC60~70 | 1 pc  |
| Anti-dust cover              | 1 pc  |

**OPTIONAL ACCESSORY**

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Desk                 | HDT-DESK        |



### MOTORIZED ROCKWELL HARDNESS TESTER (BASIC TYPE)

CODE: HDT-RA151



• According to ISO 6508



**SPECIFICATION**

|                        |   |
|------------------------|---|
| Hardness scale         | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force | 98N (10kgf)                                 |
| Total test force       | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Display                | analogue                                    |
| Stage elevation        | manual                                      |
| Load control           | automatic (load/dwell/unload)               |
| Load dwell time        | 1~60 seconds                                |
| Resolution             | 0.5HR                                       |
| Max. workpiece height  | 170mm                                       |
| Max. testing width     | 128mm (indenter to frame distance)          |
| Power supply           | 220V, 50/60Hz                               |
| Dimension (L×W×H)      | 500×225×640mm                               |
| Net weight             | 65kg  |

**STANDARD DELIVERY**

|                              |       |
|------------------------------|-------|
| Main unit                    | 1 pc  |
| Ø58mm flat anvil             | 1 pc  |
| Ø150mm flat anvil            | 1 pc  |
| V-type anvil                 | 1 pc  |
| Diamond indenter             | 1 pc  |
| Ø1.5875mm ball indenter      | 1 pc  |
| Ø1.5875mm carbide ball       | 5 pcs |
| Hardness test block HRA80~88 | 1 pc  |
| Hardness test block HRB85~95 | 1 pc  |
| Hardness test block HRC20~30 | 1 pc  |
| Hardness test block HRC35~55 | 1 pc  |
| Hardness test block HRC60~70 | 1 pc  |
| Anti-dust cover              | 1 pc  |

**OPTIONAL ACCESSORY**

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Desk                 | HDT-DESK        |



## MANUAL DIGITAL ROCKWELL HARDNESS TESTER (BASIC TYPE)

CODE: HDT-RD160

DATA OUTPUT

INSPECTION  
CERTIFICATE  
VIDEO



- According to ISO 6508
- Convert to other Rockwell scales, HV or HB
- Capable of setting tolerances and evaluating test results
- Supports 2~10 selectable repeated measurements, with automatic calculation and display of average and range
- Stores up to 500 test results
- Correction of measurement results based on calibration
- Automatic power off
- Keyboard signals can be output via a USB cable



V-type anvil (included)  
for cylinders with  
Ø4~60mm



Ø58mm flat anvil  
(included)



Ø150mm flat anvil  
(included)



desk (optional)



small V-type anvil  
(optional) for cylinders  
with Ø2~4mm



wireless printer  
(optional)

Continued from previous page

### SPECIFICATION

|                        |   |
|------------------------|---|
| Hardness scale         | HRA, HRB, HRC, HRD, HRF, HRG                                    |
| Conversion scale       | HRA, HRB, HV, HB, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Preliminary test force | 98N (10kgf)   |
| Test force             | 588N (60kgf), 980N (100kgf), 1471N (150kgf)                     |
| Output                 | wireless and USB  |
| Stage lifting          | manual  |
| Load control           | manual  |
| Resolution             | 0.1HR   |
| Max. workpiece height  | 170mm   |
| Max. testing width     | 135mm (indenter to frame distance)                              |
| Power supply           | built-in li-ion rechargeable battery                            |
| Dimension (L×W×H)      | 466×238×630mm   |
| Net weight             | 70kg  |

### STANDARD DELIVERY

|                               |       |
|-------------------------------|-------|
| Main unit                     | 1 pc  |
| Ø1.5875mm steel ball indenter | 1 pc  |
| Ø1.5875mm steel ball          | 5 pcs |
| Ø150mm flat anvil             | 1 pc  |
| Ø58mm flat anvil              | 1 pc  |
| V-type anvil                  | 1 pc  |
| Diamond Rockwell indenter     | 1 pc  |
| Hardness test block HRA80~88  | 1 pc  |
| Hardness test block HRB85~95  | 1 pc  |
| Hardness test block HRC20~30  | 1 pc  |
| Hardness test block HRC35~55  | 1 pc  |
| Hardness test block HRC60~70  | 1 pc  |
| Anti-dust cover               | 1 pc  |
| Software and USB cable        | 1 pc  |
| AC/DC adapter                 | 1 pc  |

### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Desk                 | HDT-DESK        |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Wireless printer     | ISH-DS-PRINTER  |
| Hardness test blocks | page 117~122    |



### MOTORIZED DIGITAL ROCKWELL HARDNESS TESTER (BASIC TYPE)

CODE: HDT-MD151

DATA OUTPUT



- According to ISO 6508
- Convert to other Rockwell scales, HV or HB
- Capable of setting tolerances and evaluating test results
- Supports 2~10 selectable repeated measurements, with automatic calculation and display of average and range
- Stores up to 500 test results
- Correction of measurement results based on calibration
- Automatic power off
- Keyboard signals can be output via a USB cable



V-type anvil (included) for cylinders with Ø4~60mm



Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



desk (optional)



small V-type anvil (optional) for cylinders with Ø2~4mm



wireless printer (optional)

Continued from previous page

#### SPECIFICATION

|                              |   |
|------------------------------|---|
| Hardness scale               | HRA, HRB, HRC, HRD, HRF, HRG                          |
| Conversion scale             | HV, HB, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Preliminary test force       | 98N (10kgf)   |
| Test force                   | 588N (60kgf), 980N (100kgf), 1471N (150kgf)           |
| Output                       | wireless and USB                                      |
| Stage lifting                | manual  |
| Load control                 | automatic (load/dwell/unload)                         |
| Load dwell time              | 1~60 seconds  |
| Resolution                   | 0.1HR   |
| Max. workpiece height        | 170mm   |
| Max. testing width           | 128mm (indenter to frame distance)                    |
| Power supply of display unit | built-in li-ion rechargeable battery                  |
| Power supply                 | 220V, 50/60Hz   |
| Dimension (L×W×H)            | 500×225×640mm   |
| Net weight                   | 65kg  |

#### STANDARD DELIVERY

|                              |       |
|------------------------------|-------|
| Main unit                    | 1 pc  |
| Ø58mm flat anvil             | 1 pc  |
| Ø150mm flat anvil            | 1 pc  |
| V-type anvil                 | 1 pc  |
| Diamond Rockwell indenter    | 1 pc  |
| Ø1.5875mm ball indenter      | 1 pc  |
| Ø1.5875mm carbide ball       | 5 pcs |
| Hardness test block HRA80~88 | 1 pc  |
| Hardness test block HRB85~95 | 1 pc  |
| Hardness test block HRC20~30 | 1 pc  |
| Hardness test block HRC35~55 | 1 pc  |
| Hardness test block HRC60~70 | 1 pc  |
| Anti-dust cover              | 1 pc  |
| Software and USB cable       | 1 pc  |
| Power adapter                | 1 pc  |

#### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Desk                 | HDT-DESK        |
| Wireless printer     | ISH-DS-PRINTER  |



## MANUAL HIGH ROCKWELL HARDNESS TESTER

CODE: HDT-RH411



- According to ISO 6508



VIDEO

### SPECIFICATION

|                        |   |
|------------------------|---|
| Hardness scale         | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force | 98N (10kgf)                                 |
| Test force             | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Display                | analogue                                    |
| Stage elevation        | manual                                      |
| Load control           | manual                                      |
| Resolution             | 0.5HR                                       |
| Max. workpiece height  | 400mm                                       |
| Max. testing width     | 160mm (indenter to frame distance)          |
| Dimension (L×W×H)      | 540×300×1030mm                              |
| Net weight             | 140kg                                       |

### STANDARD DELIVERY

|                               |       |
|-------------------------------|-------|
| Main unit                     | 1 pc  |
| Ø58mm flat anvil              | 1 pc  |
| Ø150mm flat anvil             | 1 pc  |
| V-type anvil                  | 1 pc  |
| Diamond indenter              | 1 pc  |
| Ø1.5875mm ball indenter       | 1 pc  |
| Ø1.5875mm carbide ball        | 5 pcs |
| Hardness test block HRA80~84  | 1 pc  |
| Hardness test block HRB88~100 | 1 pc  |
| Hardness test block HRC20~30  | 1 pc  |
| Hardness test block HRC35~55  | 1 pc  |
| Hardness test block HRC60~70  | 1 pc  |
| Anti-dust cover               | 1 pc  |

### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |

## MOTORIZED HIGH ROCKWELL HARDNESS TESTER

CODE: HDT-RM421



- According to ISO 6508



VIDEO

### SPECIFICATION

|                        |   |
|------------------------|---|
| Hardness scale         | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force | 98N (10kgf)                                 |
| Test force             | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Display                | analogue                                    |
| Stage elevation        | manual                                      |
| Load control           | automatic (load/dwell/unload)               |
| Load dwell time        | 1~60 seconds                                |
| Resolution             | 0.5HR                                       |
| Max. workpiece height  | 400mm                                       |
| Max. testing width     | 160mm (indenter to frame distance)          |
| Power supply           | 220V, 50/60Hz                               |
| Dimension (L×W×H)      | 540×300×1030mm                              |
| Net weight             | 140kg                                       |

### STANDARD DELIVERY

|                               |       |
|-------------------------------|-------|
| Main unit                     | 1 pc  |
| Ø58mm flat anvil              | 1 pc  |
| Ø150mm flat anvil             | 1 pc  |
| V-type anvil                  | 1 pc  |
| Diamond indenter              | 1 pc  |
| Ø1.5875mm ball indenter       | 1 pc  |
| Ø1.5875mm carbide ball        | 5 pcs |
| Hardness test block HRA80~84  | 1 pc  |
| Hardness test block HRB88~100 | 1 pc  |
| Hardness test block HRC20~30  | 1 pc  |
| Hardness test block HRC35~55  | 1 pc  |
| Hardness test block HRC60~70  | 1 pc  |
| Anti-dust cover               | 1 pc  |

### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |



## MANUAL DIGITAL HIGH ROCKWELL HARDNESS TESTER

CODE: HDT-MD411

DATA OUTPUT



- According to ISO 6508
- Keyboard signals can be output via a USB cable
- Capable of setting tolerances and evaluating test results
- Correction of measurement results based on calibration

- Supports 2~10 selectable repeated measurements, with automatic calculation and display of average and range
- Automatic power off
- Convert to other Rockwell scales, HV or HB
- Stores up to 500 test results

### SPECIFICATION

|                              |   |
|------------------------------|---|
| Hardness scale               | HRA, HRB, HRC, HRD, HRF, HRG                          |
| Conversion scale             | HV, HB, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Preliminary test force       | 98N (10kgf)   |
| Test force                   | 588N (60kgf), 980N (100kgf), 1471N (150kgf)           |
| Output                       | wireless and USB                                      |
| Stage elevation              | manual  |
| Load control                 | manual  |
| Resolution                   | 0.1HR   |
| Max. workpiece height        | 400mm   |
| Max. testing width           | 160mm (indenter to frame distance)                    |
| Power supply of display unit | built-in li-ion rechargeable battery                  |
| Dimension (L×W×H)            | 540×300×1030mm  |
| Net weight                   | 140kg   |

### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Wireless printer     | ISH-DS-PRINTER  |

### STANDARD DELIVERY

|                               |       |
|-------------------------------|-------|
| Main unit                     | 1 pc  |
| Ø58mm flat anvil              | 1 pc  |
| Ø150mm flat anvil             | 1 pc  |
| V-type anvil                  | 1 pc  |
| Diamond indenter              | 1 pc  |
| Ø1.5875mm ball indenter       | 1 pc  |
| Ø1.5875mm carbide ball        | 5 pcs |
| Hardness test block HRA80~84  | 1 pc  |
| Hardness test block HRB88~100 | 1 pc  |
| Hardness test block HRC20~30  | 1 pc  |
| Hardness test block HRC35~55  | 1 pc  |
| Hardness test block HRC60~70  | 1 pc  |
| Anti-dust cover               | 1 pc  |
| Software and USB cable        | 1 pc  |
| Power adapter                 | 1 pc  |



## MOTORIZED DIGITAL HIGH ROCKWELL HARDNESS TESTER

CODE: HDT-MD421

DATA OUTPUT



- Correction of measurement results based on calibration
- Capable of setting tolerances and evaluating test results
- Keyboard signals can be output via a USB cable

- According to ISO 6508
- Supports 2~10 selectable repeated measurements, with automatic calculation and display of average and range
- Convert to other Rockwell scales, HV or HB
- Stores up to 500 test results
- Automatic power off

### SPECIFICATION

|                              |   |
|------------------------------|---|
| Hardness scale               | HRA, HRB, HRC, HRD, HRF, HRG                          |
| Conversion scale             | HV, HB, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Preliminary test force       | 98N (10kgf)   |
| Test force                   | 588N (60kgf), 980N (100kgf), 1471N (150kgf)           |
| Output                       | wireless and USB                                      |
| Stage elevation              | manual  |
| Load control                 | automatic (load/dwell/unload)                         |
| Load dwell time              | 1~60 seconds  |
| Resolution                   | 0.1HR   |
| Max. workpiece height        | 400mm   |
| Max. testing width           | 160mm (indenter to frame distance)                    |
| Power supply of display unit | built-in li-ion rechargeable battery                  |
| Power supply                 | 220V, 50/60Hz   |
| Dimension (L×W×H)            | 540×300×1030mm  |
| Net weight                   | 140kg   |

### OPTIONAL ACCESSORY

|                      |                 |
|----------------------|-----------------|
| Hardness test blocks | page 117~122    |
| Small V-type anvil   | ISH-SMALL-ANVIL |
| Wireless printer     | ISH-DS-PRINTER  |

### STANDARD DELIVERY

|                               |       |
|-------------------------------|-------|
| Main unit                     | 1 pc  |
| Ø58mm flat anvil              | 1 pc  |
| Ø150mm flat anvil             | 1 pc  |
| V-type anvil                  | 1 pc  |
| Diamond indenter              | 1 pc  |
| Ø1.5875mm ball indenter       | 1 pc  |
| Ø1.5875mm carbide ball        | 5 pcs |
| Hardness test block HRA80~84  | 1 pc  |
| Hardness test block HRB88~100 | 1 pc  |
| Hardness test block HRC20~30  | 1 pc  |
| Hardness test block HRC35~55  | 1 pc  |
| Hardness test block HRC60~70  | 1 pc  |
| Anti-dust cover               | 1 pc  |
| Software and USB cable        | 1 pc  |
| Power adapter                 | 1 pc  |



**PORTABLE ROCKWELL HARDNESS TESTER**  
**CODE: ISHR-P151**



- According to ISO 6508, ASTM E18



**SPECIFICATION**

|                                |   |
|--------------------------------|---|
| Hardness scale                 | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force         | 98N (10kgf)                                 |
| Test force                     | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Load control                   | manual                                      |
| Resolution                     | 1HR   |
| Max. workpiece thickness       | 25mm  |
| Max. testing width             | 25mm (indenter to frame distance)           |
| Dimension (L×W×H)              | 240×70×160mm                                |
| Net weight (with base support) | 2.5kg                                       |

**STANDARD DELIVERY**

|                                 |       |
|---------------------------------|-------|
| Main unit                       | 1 pc  |
| Diamond indenter                | 1 pc  |
| Ø1.5875mm carbide ball indenter | 2 pcs |
| Hardness test block HRB88~100   | 1 pc  |
| Hardness test block HRC60~70    | 1 pc  |
| Hardness test block HRC20~30    | 1 pc  |
| Flat anvil                      | 1 pc  |
| V-type anvil                    | 1 pc  |
| Base                            | 1 pc  |
| Anvil extension                 | 1 pc  |
| Magnifier                       | 2 pcs |



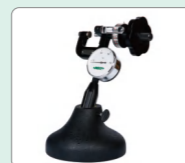
flat anvil (included)



V-type anvil (included)



anvil extension for thin workpieces (included)



base (included)



**DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER**  
**CODE: ISHR-D121**



- Apply to large and heavy steel or iron workpieces
- With statistic function, display average, maximum and minimum values
- Convert to HV, HB and tensile strength
- According to ISO 6508, ASTM E18



**SPECIFICATION**

|  |  |
|--|--|
| Hardness scale                         | HRA, HRB, HRC                                    |
| Preliminary test force                 | 98N (10kgf)                                      |
| Test force                             | 588N (60kgf), 980N (100kgf), 1471N (150kgf)      |
| Load control                           | manual   |
| Resolution                             | 0.1HR  |
| Flat workpiece requirement             | length>190mm, width>60mm, thickness>5mm          |
| Cylinder or tube workpiece requirement | length>200mm, diameter>Ø50mm, wall thickness>8mm |
| Power supply                           | 3×AA batteries                                   |
| Dimension (L×W×H)                      | 245×105×230mm                                    |
| Net weight                             | 5.3kg  |

**STANDARD DELIVERY**

|                                 |      |
|---------------------------------|------|
| Main unit                       | 1 pc |
| Flat anvil                      | 1 pc |
| Diamond indenter                | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB85~95    | 1 pc |
| Hardness test block HRC60~70    | 1 pc |
| Hardness test block HRC20~30    | 1 pc |



flat anvil for test block (included)



**MAGNETIC ROCKWELL HARDNESS TESTER**  
**CODE: ISHR-M111**



- Apply to large and heavy steel or iron workpieces
- According to ISO 6508, ASTM E18

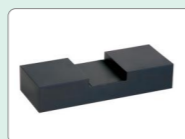


**SPECIFICATION**

|  |  |
|--|--|
| Hardness scale                         | HRA, HRB, HRC, HRD, HRF, HRG                     |
| Preliminary test force                 | 98N (10kgf)                                      |
| Test force                             | 588N (60kgf), 980N (100kgf), 1471N (150kgf)      |
| Load control                           | manual   |
| Resolution                             | 1HR  |
| Flat workpiece requirement             | length>180mm, width>60mm, thickness>5mm          |
| Cylinder or tube workpiece requirement | length>180mm, diameter>Ø50mm, wall thickness>8mm |
| Dimension (L×W×H)                      | 220×70×220mm                                     |
| Net weight                             | 4.7kg  |

**STANDARD DELIVERY**

|                                 |       |
|---------------------------------|-------|
| Main unit                       | 1 pc  |
| Diamond indenter                | 1 pc  |
| Ø1.5875mm carbide ball indenter | 2 pcs |
| Hardness test block HRB85~95    | 1 pc  |
| Hardness test block HRC60~70    | 1 pc  |
| Hardness test block HRC20~30    | 1 pc  |
| Flat anvil                      | 1 pc  |
| Support                         | 4 pcs |
| Magnifier with LED              | 1 pc  |



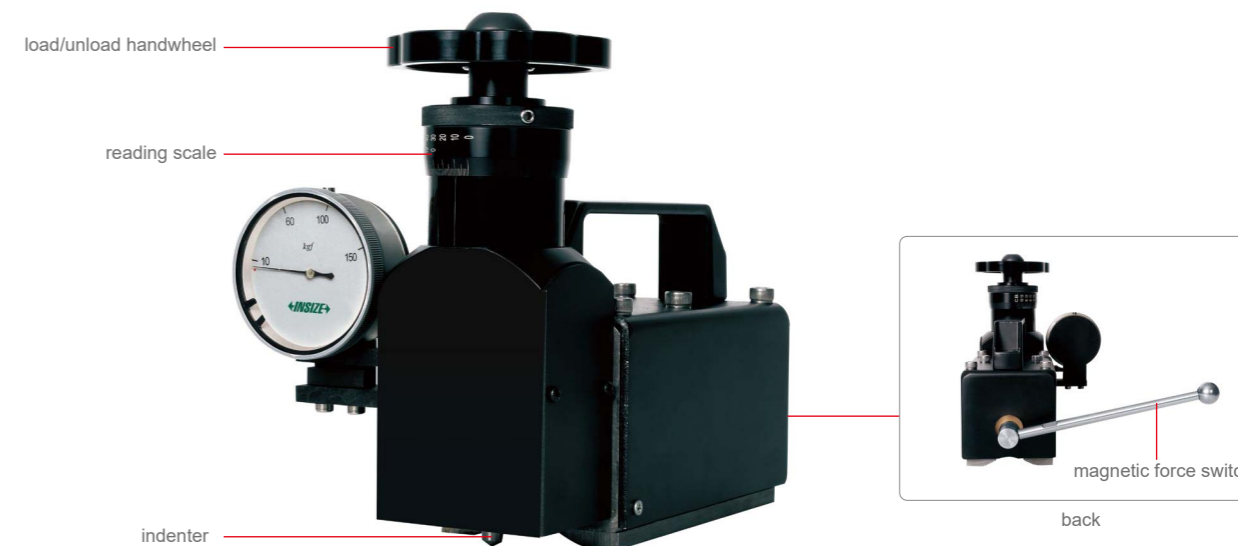
flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)



**MAGNETIC ROCKWELL HARDNESS TESTER**  
**CODE: HDT-MR112**



- According to ISO 6508

**SPECIFICATION**

|                          |   |
|--------------------------|---|
| Hardness scale           | HRA, HRB, HRC, HRD, HRF, HRG                |
| Preliminary test force   | 98N (10kgf)                                 |
| Test force               | 588N (60kgf), 980N (100kgf), 1471N (150kgf) |
| Load control             | manual                                      |
| Resolution               | 1HR   |
| Min. flat workpiece size | length>210mm, width>70mm, thickness>15mm    |
| Dimension (L×W×H)        | 232×131×171mm                               |
| Net weight (with anvil)  | 13kg  |

**STANDARD DELIVERY**

|                               |      |
|-------------------------------|------|
| Main unit                     | 1 pc |
| Diamond indenter              | 1 pc |
| Ø1.5875mm steel ball indenter | 1 pc |
| Flat anvil                    | 1 pc |
| Hardness test block HRA80~84  | 1 pc |
| Hardness test block HRB88~100 | 1 pc |
| Hardness test block HRC20~30  | 1 pc |
| Hardness test block HRC35~55  | 1 pc |
| Hardness test block HRC60~70  | 1 pc |

**OPTIONAL ACCESSORY**

|                         |                     |
|-------------------------|---------------------|
| Hardness test blocks    | page 117~122        |
| Diamond indenter        | HDT-MR112-INDENTER1 |
| Ø1.5875mm ball indenter | HDT-MR112-INDENTER2 |



flat anvil

## 2 BRINELL HARDNESS TESTERS

As a classic method for material hardness testing, the Brinell hardness tester holds an irreplaceable position in the inspection of raw materials and semi-finished products in industries such as metallurgy and mechanical manufacturing, thanks to its core advantages of stable results and strong representativeness. Although it may be less efficient or versatile compared to certain other types of hardness testers, it remains one of the authoritative methods for measuring the macroscopic hardness of materials.



Stable data, high repeatability and strong representativeness



Relatively low requirement for the surface roughness of test specimens



Touch screen





Continued from previous page

**SPECIFICATION**

|                             |   |
|-----------------------------|---|
| <b>Test force</b>           | 62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf  |
| <b>Brinell scale</b>        | HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000 |
| <b>Range</b>                | 8~650HBW  |
| <b>Hardness resolution</b>  | 0.1HBW  |
| <b>Stage elevation</b>      | manual  |
| <b>Load control</b>         | automatic (load/dwell/unload)   |
| <b>Load dwell time</b>      | 0~60 seconds  |
| <b>Measuring microscope</b> | <b>magnification</b> 20X<br><b>resolution</b> 0.01mm  |
| <b>Output</b>               | RS232 (can transmit the keyboard signal by an optional wireless transmitter and receiver)   |
| <b>Max.workpiece height</b> | 230mm   |
| <b>Max.testing width</b>    | 140mm (form the center of indenter to the wall of main body)  |
| <b>Power supply</b>         | 220V, 50/60Hz   |
| <b>Dimension (L×W×H)</b>    | 550×210×750mm   |
| <b>Net weight</b>           | 130kg   |

**STANDARD DELIVERY**

|                              |      |   |      |
|------------------------------|------|---|------|
| Main unit                    | 1 pc | Ø10mm carbide ball indenter             | 1 pc |
| Ø78mm flat anvil             | 1 pc | Hardness test block 100~200HBW2.5/187.5 | 1 pc |
| Ø200mm flat anvil            | 1 pc | Hardness test block 90~200HBW10/1000    | 1 pc |
| V-type anvil                 | 1 pc | Hardness test block 100~200HBW10/3000   | 1 pc |
| Ø2.5mm carbide ball indenter | 1 pc | Measuring microscope                    | 1 pc |
| Ø5mm carbide ball indenter   | 1 pc |   |      |

**OPTIONAL ACCESSORY**

|  |                  |
|--|------------------|
| <b>Hardness test blocks</b>                      | page 117~122     |
| <b>Wireless transmitter (receiver is needed)</b> | 7315-HDT-M       |
| <b>Receiver</b>                                  | 7315-2/3/6/7/8/9 |
| <b>Desk</b>                                      | HDT-DESK         |
| <b>Measuring systems</b>                         | HDT-MB42□        |

**MOTORIZED DIGITAL BRINELL HARDNESS TESTER (BASIC TYPE)**

**CODE: HDT-MBE320**

TOUCH SCREEN

FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHTS)

KEYBOARD SIGNAL TRANSMISSION IS OPTIONAL



- According to ISO 6506
- Touch screen color LCD display
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- Measure indentation diameter by measuring microscope, then input the diameters, the hardness value is shown on screen automatically
- Optional Wireless data transmission system can be used to output keyboard signals, connecting to a computer or mobile phone to send data to Excel



Ø78mm flat anvil (included)



Ø200mm flat anvil (included)



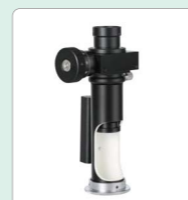
V-type anvil (included)



desk (optional)



wireless transmitter (optional)



measuring microscope (included)



HDT-MB710

### MOTORIZED DIGITAL BRINELL HARDNESS TESTERS (STANDARD TYPE)



- According to ISO 6506
- Touch screen color LCD display
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- Measure the indentation with microscope, automatically calculate the hardness value and display it on the screen
- Optional wireless data transmission system can be used to connect computer or mobile phone to send data to Excel (keyboard signal)

TOUCH SCREEN    FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHTS)    WIRELESS TRANSMISSION IS OPTIONAL



Continued from previous page

#### SPECIFICATION

| Code                  | HDT-MB610  | HDT-MB710 |
|-----------------------|--|-----------|
| Turret rotation       | manual   | automatic |
| Test force            | 612.5N (62.5kgf), 980N (100kgf), 1225N (125kgf), 1837.5N (187.5kgf), 2450N (250kgf), 4900N (500kgf), 7350N (750kgf), 9800N (1000kgf), 14700N (1500kgf), 29400N (3000kgf) |           |
| Brinell scale         | HBW2.5/62.5, HBW2.5/187.5, HBW5/125, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000   |           |
| Range                 | 8~650HBW   |           |
| Hardness resolution   | 0.1HBW   |           |
| Stage elevation       | manual   |           |
| Load control          | automatic (load/dwell/unload)  |           |
| Load dwell time       | 0~60 seconds   |           |
| Measuring microscope  | magnification  | 20X       |
|                       | resolution   | 0.1μm     |
| Max. workpiece height | 200mm  |           |
| Max. testing width    | 135mm (form the center of indenter to the wall of main body)   |           |
| Data output           | built-in printer, RS232 (can transmit by optional wireless transmitter and receiver)   |           |
| Power supply          | 220V, 50/60Hz  |           |
| Dimension (L×W×H)     | 510×210×750mm  |           |
| Net weight            | 130kg  |           |

#### STANDARD DELIVERY

|                              |      |   |      |
|------------------------------|------|---|------|
| Main unit                    | 1 pc | Ø5mm carbide ball indenter              | 1 pc |
| Ø78mm flat anvil             | 1 pc | Ø10mm carbide ball indenter             | 1 pc |
| Ø200mm flat anvil            | 1 pc | Hardness test block 100~200HBW2.5/187.5 | 1 pc |
| V-type anvil                 | 1 pc | Hardness test block 90~200HBW10/1000    | 1 pc |
| Ø2.5mm carbide ball indenter | 1 pc | Hardness test block 100~200HBW10/3000   | 1 pc |

#### OPTIONAL ACCESSORY

|   |                  |
|---|------------------|
| Hardness test blocks                      | page 117~122     |
| Wireless transmitter (receiver is needed) | 7315-HDT-M       |
| Receiver                                  | 7315-2/3/6/7/8/9 |
| Desk                                      | HDT-DESK         |
| Brinell measuring system                  | HDT-MB42□        |



### AUTOMATIC DIGITAL BRINELL HARDNESS TESTER

CODE: HDT-FB301

AUTOMATIC TEST



- According to ISO 6506, ASTM E10
- Objective lens and indenter switch automatically by the selceted test scale to test Brinell hardness automatically
- Computer-Integrated hardness tester
- The test results can be generated into Word or Excel reports and can be directly saved or output by an external printer



#### SPECIFICATION

|                            |  |
|----------------------------|--|
| Test force                 | 612.9N (62.5kgf), 980.7N (100kgf), 1226N (125kgf), 1839N (187.5kgf), 2452N (250kgf), 4903N (500kgf), 7355N (750kgf), 9807N (1000kgf), 14710N (1500kgf), 29420N (3000kgf) |
| Conversion scale           | HV, HK, HRA, HRBW, HRC, HRD, HREW, HRFW, HRGW, HRKW, HR15N, HR30N, HR45N, HR15TW, HR30TW, HR45TW, HS, HBS, HBW   |
| Range                      | 3.18~653HBW  |
| Hardness reading method    | direct reading   |
| Stage lifting              | automatic  |
| Load control               | automatic (load/dwell/unload)  |
| Load dwell time            | 0~99 seconds   |
| Camera pixel               | 3M   |
| Objective                  | 1X, 2X   |
| Max. field of view         | 1X: 6mm, 2X: 3mm   |
| Minimum display resolution | 1X: 4.6µm, 2X: 2.3µm   |
| Max. workpiece height      | 290mm  |
| Max. testing width         | 150mm  |
| Data output                | USB ×3, VGA ×1, network port ×1  |
| Power supply               | 220V, 50/60Hz  |
| Dimension (L×W×H)          | 690×310×1000mm   |
| Net weight                 | 200kg  |

#### STANDARD DELIVERY

|                                       |              |
|---------------------------------------|--------------|
| Main unit                             | 1 pc         |
| 1X, 2X objective                      | 1 pc of each |
| Ø2.5mm ball indenter                  | 1 pc         |
| Ø5mm ball indenter                    | 1 pc         |
| Ø10mm ball indenter                   | 1 pc         |
| Ø73mm flat anvil                      | 1 pc         |
| Ø200mm flat anvil                     | 1 pc         |
| V-type anvil                          | 1 pc         |
| Hardness test block 150~250HBW5/750   | 1 pc         |
| Hardness test block 150~250HBW10/3000 | 1 pc         |
| Anti-dust cover                       | 1 pc         |

#### OPTIONAL ACCESSORY

Hardness test blocks page 117~122



### BRINELL INDENTATION HARDNESS MEASURING SYSTEMS

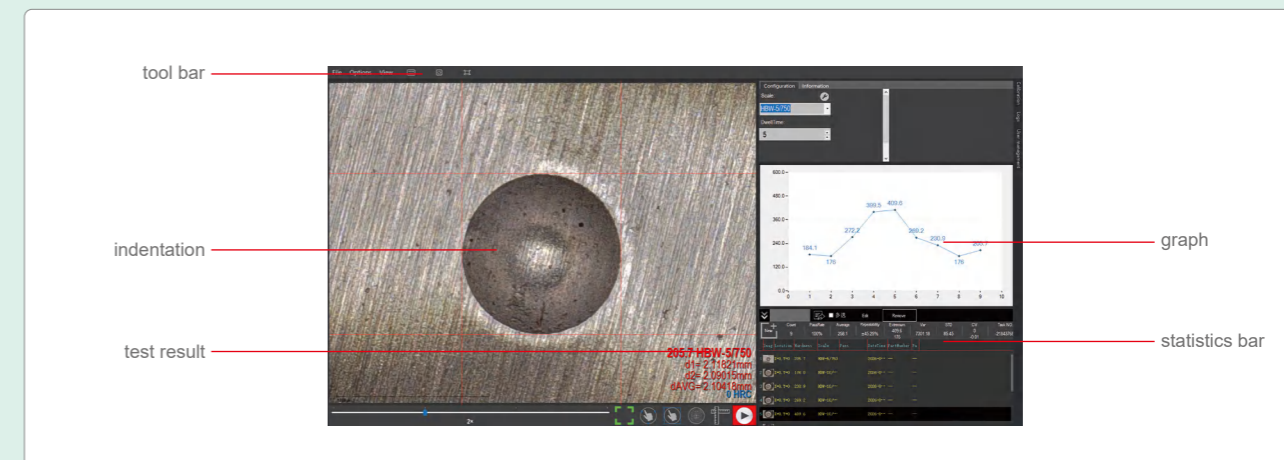
SMART VOICE ASSISTANT

PRECISE IDENTIFICATION



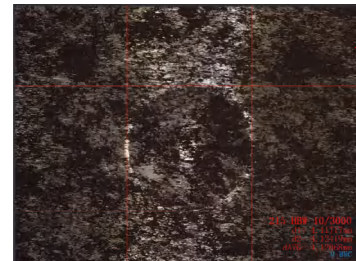
- Indentation recognition is highly accurate, capable of handling most complex surface conditions
- Measurement results can be automatically generated including average, maximum and minimum values, standard deviation, etc.
- Measured hardness values can be announced by voice, and the software also supports voice-controlled automatic measurement
- Measurement results can be converted to HRA, HRB, HRC, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, Rm etc.
- Built-in software dongle, not easy to lose
- Software interface offers multiple layout modes and also supports customizable layout
- Measurement results can be sent to Word or Excel

measurement software (included)



Continued from previous page

application (complex surface condition test case)



computer (optional)

**SPECIFICATION**

| Code                              | HDT-MB424    | HDT-MB425 | HDT-MB426      | HDT-MB427         | HDT-MB428                                  |
|-----------------------------------|--------------|-----------|----------------|-------------------|--|
| Type                              | Brinell      | Brinell   | hammer Brinell | shear pin Brinell | Brinell, hammer Brinell, shear pin Brinell |
| Measurement method of Indentation | manual       | automatic | automatic      | automatic         | automatic                                  |
| Range                             | 10~650HBW    |           | /              |                   |  |
| Max. measuring diameter           | 6mm          |           |                |                   |  |
| Accuracy                          | ±2%          |           |                |                   |  |
| Repeatability                     | ±1%          |           |                |                   |  |
| Pixel                             | 3M           |           |                |                   |  |
| Dimension (L×W×H)                 | 105×70×200mm |           |                |                   |  |
| Net weight                        | 620g         |           |                |                   |  |

**STANDARD DELIVERY**

|               |      |
|---------------|------|
| Camera        | 1 pc |
| Software      | 1 pc |
| USB cable     | 1 pc |
| Standard base | 1 pc |
| Magnetic base | 1 pc |
| Slender base  | 1 pc |

**OPTIONAL ACCESSORY**

|                 |             |
|-----------------|-------------|
| OFFICE software | 7313-OFFICE |
| Tablet computer | 7313-4      |



standard base (included)



magnetic base (included)



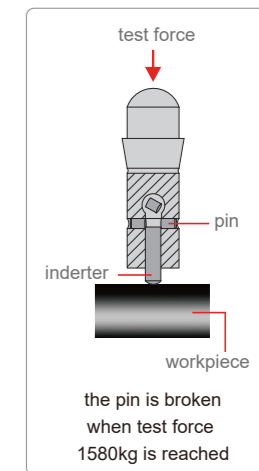
slender base (included)



static test clamp



impact test handle

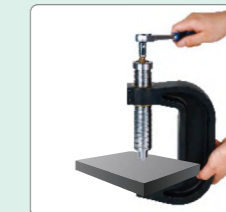


**PIN BRINELL HARDNESS TESTER**

**CODE: ISHB-P101**



- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Static and impact test modes
- According to ISO and ASTM standard



static test



impact test

**SPECIFICATION**

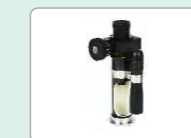
|                                      |   |
|--------------------------------------|---|
| Measuring range                      | 100~350HBW (with Ø7.26mm indenter, included)<br>350~650HBW (with Ø4mm indenter, optional) |
| Test force                           | 1580kg  |
| Accuracy                             | static test: ±3%<br>impact test: ±5%  |
| Measuring microscope                 | 20X, graduation 0.01mm  |
| Max. workpiece height of static test | 150mm   |
| Max. testing width of static test    | 80mm (from the center of indenter to the clamp)   |
| Dimension (L×W×H)                    | 195×60×350mm  |
| Net weight                           | 4.2kg   |

**STANDARD DELIVERY**

|                      |         |
|----------------------|---------|
| Static test clamp    | 1 pc    |
| Impact test handle   | 1 pc    |
| Flat anvil           | 1 pc    |
| V-type anvil         | 1 pc    |
| Ø7.26mm indenter     | 1 pc    |
| Hardness test block  | 1 pc    |
| Pin                  | 250 pcs |
| Measuring microscope | 1 pc    |

**OPTIONAL ACCESSORY**

|               |                    |
|---------------|--------------------|
| Ø4mm indenter | ISHB-P101-INDENTER |
| Pin (250 pcs) | ISHB-P101-PIN      |



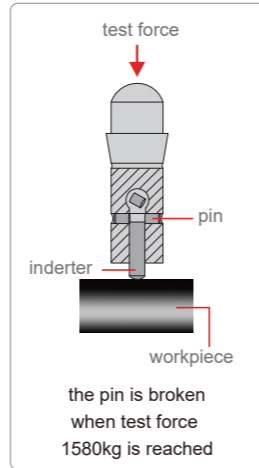
measuring microscope (included)



pins (included)



V-type anvil (included)



### HAMMER IMPACT BRINELL HARDNESS TESTER

CODE: HDT-PB350



- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Measure Brinell hardness of large and heavy workpieces



#### SPECIFICATION

|                      |   |
|----------------------|---|
| Measuring range      | 100~350HBW (with Ø7.26mm indenter, included)<br>350~650HBW (with Ø4mm indenter, optional) |
| Test force           | 1580kg  |
| Accuracy             | ±5%HBW  |
| Repeatability        | ±5%HBW  |
| Measuring microscope | 20X, graduation 0.01mm  |
| Dimension (L×W×H)    | 200×50×100mm  |
| Net weight           | 0.8kg   |

#### STANDARD DELIVERY

|                      |         |
|----------------------|---------|
| Main unit            | 1 pc    |
| Ø7.26mm indenter     | 1 pc    |
| Hardness test block  | 1 pc    |
| Pin                  | 250 pcs |
| Pin removal tool     | 1 pc    |
| Measuring microscope | 1 pc    |



hammer impact to apply test force

#### OPTIONAL ACCESSORY

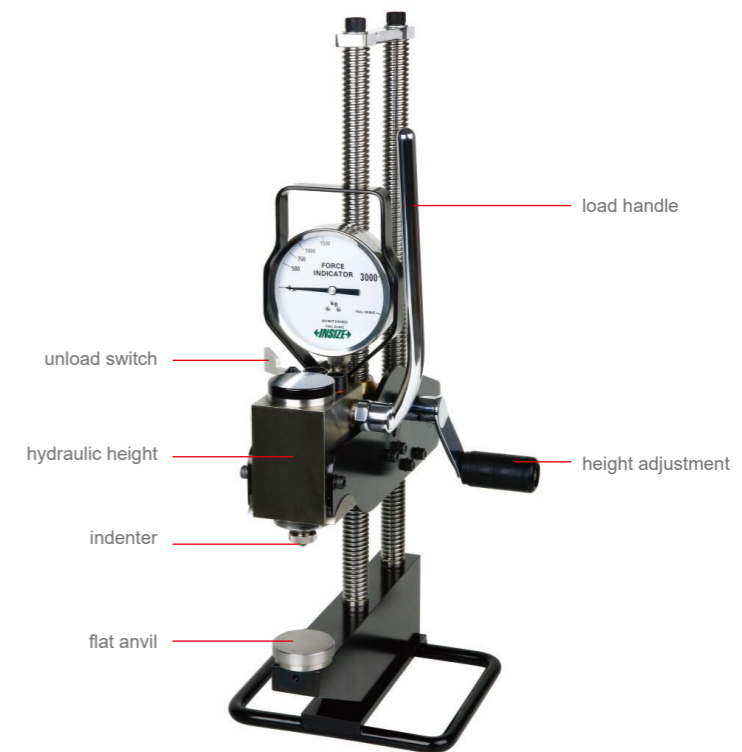
|               |                    |
|---------------|--------------------|
| Ø4mm indenter | ISHB-P101-INDENTER |
| Pin (250 pcs) | ISHB-P101-PIN      |



measuring microscope (included)



pins (included)



### HYDRAULIC BRINELL HARDNESS TESTER

CODE: ISHB-H131



- According to ISO 6506, ASTM E10



#### SPECIFICATION

|                       |  |
|-----------------------|--|
| Measuring range       | 16~650HBW  |
| Test force            | 3000kg   |
| Indenter              | Ø10mm carbide ball                               |
| Measuring microscope  | 20X, graduation 0.01mm                           |
| Max. workpiece height | 350mm  |
| Max. testing width    | 90mm (from the center of indenter to the column) |
| Dimension (L×W×H)     | 270×225×570mm                                    |
| Net weight            | 13.8kg   |

#### STANDARD DELIVERY

|                      |       |
|----------------------|-------|
| Main unit            | 1 pc  |
| Flat anvil           | 1 pc  |
| V-type anvil         | 1 pc  |
| Spherical anvil      | 1 pc  |
| Ø10mm carbide ball   | 2 pcs |
| Brinell test block   | 2 pcs |
| Measuring microscope | 1 pc  |



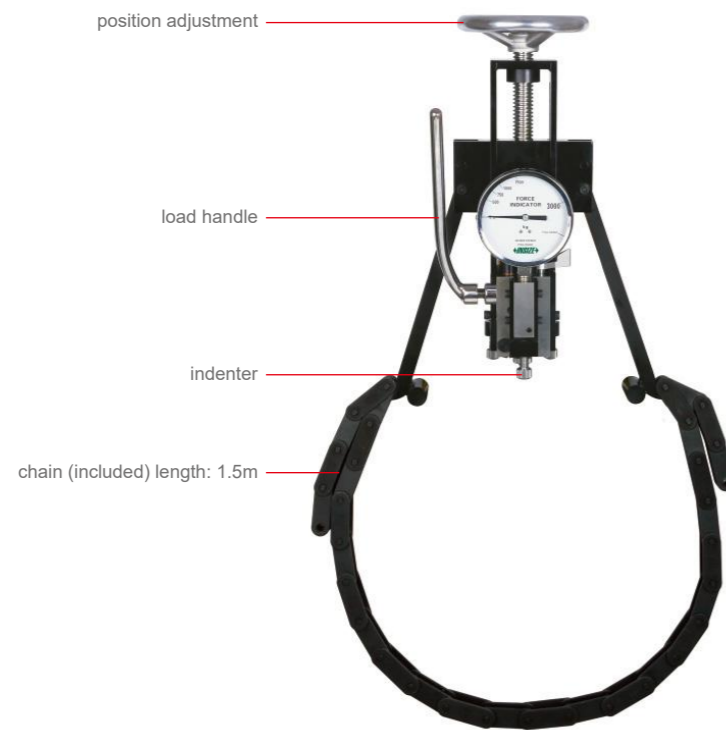
V-type anvil (included)



spherical anvil (included)



measuring microscope (included)



### CHAIN TYPE HYDRAULIC BRINELL HARDNESS TESTER

CODE: ISHB-C161



- To measure the hardness of cylinders or tubes
- According to ISO 6506, ASTM E10

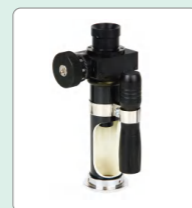


#### SPECIFICATION

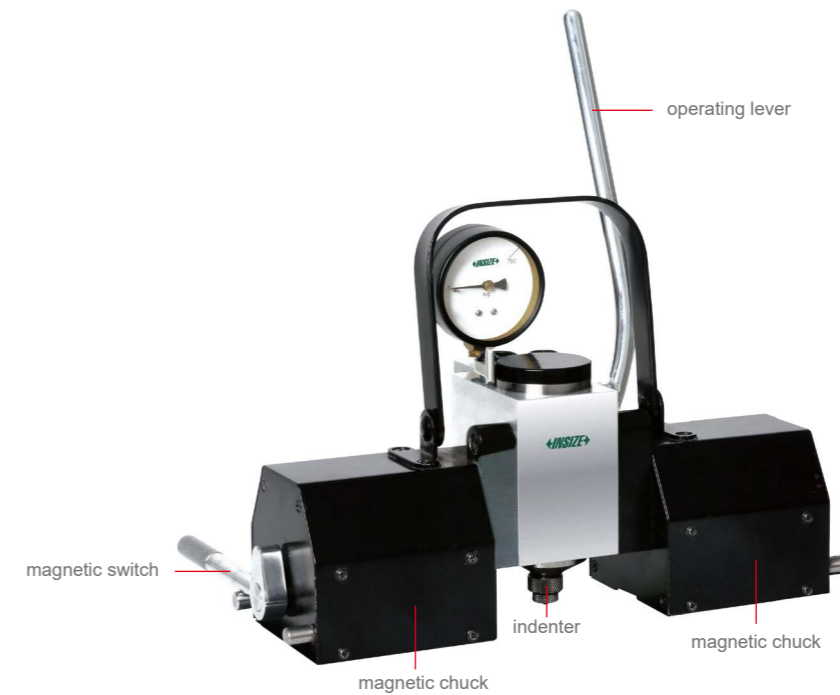
|                          |                        |
|--------------------------|------------------------|
| Measuring range          | 32~650HBW              |
| Workpiece diameter range | Ø150~Ø500mm            |
| Test force               | 3000kg                 |
| Indenter                 | Ø10mm carbide ball     |
| Measuring microscope     | 20X, graduation 0.01mm |
| Dimension (L×W×H)        | 270×225×570mm          |
| Net weight               | 14.5kg                 |

#### STANDARD DELIVERY

|                      |       |
|----------------------|-------|
| Main unit            | 1 pc  |
| 1.5m chain           | 1 pc  |
| Ø10mm carbide ball   | 2 pcs |
| Brinell test block   | 2 pcs |
| Measuring microscope | 1 pc  |



measuring microscope (included)



### MAGNETIC BRINELL HARDNESS TESTER

CODE: HDT-B750



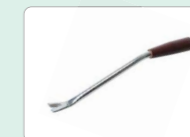
- According to ISO 6506, ASTM E110
- Applied to large and heavy steel or iron workpieces
- Easy to use and portable
- 5mm indenter provides more accurate and easy-to-read measurements

#### SPECIFICATION

|                            |   |
|----------------------------|---|
| Measuring range            | 100~650HBW                              |
| Test force                 | 750kg                                   |
| Indenter                   | Ø5mm carbide ball                       |
| Measuring microscope       | 40X, graduation 0.01mm                  |
| Resolution                 | 1HB                                     |
| Flat workpiece requirement | length>295mm, width>95mm, thickness>5mm |
| Dimension (L×W×H)          | 320×150×240mm                           |
| Net weight                 | 15kg                                    |

#### STANDARD DELIVERY

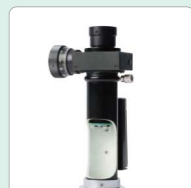
|                       |       |
|-----------------------|-------|
| Main unit             | 1 pc  |
| Flat anvil            | 1 pc  |
| Brinell test block    | 2 pcs |
| Measuring microscope  | 1 pc  |
| Ø5mm brinell indenter | 1 pc  |
| Crowbar               | 1 pc  |



crowbar (included)



flat anvil for test block (included)



measuring microscope (included)

# 3 VICKERS HARDNESS TESTERS

The Vickers hardness tester is theoretically the most rigorous, precise and widely applicable among the three classic static indentation hardness testers (Brinell, Rockwell and Vickers). It effectively compensates for some of the shortcomings of both the Brinell and Rockwell hardness testers.



A unified scale that ensures continuous comparability of hardness values.



Extremely small indentations with exceptionally high precision



Exceptionally wide range of applications



## Model Selection Guide

| Code        | Test force                      | Automatic Turret       | Eyepiece                        | Objective | Output                 | Software | Computer |
|-------------|---------------------------------|------------------------|---------------------------------|-----------|------------------------|----------|----------|
| HDT-VE03    | 0.3kgf~5kgf                     |                        | 10x, manual reading measurement | 10X, 20X  | built-in printer       | optional | x        |
| HDT-VE14    | 0.3kgf~10kgf                    |                        |                                 |           |                        |          |          |
| HDT-VE35    | 1kgf~30kgf                      |                        |                                 |           |                        |          |          |
| HDT-VE56    | 1kgf~50kgf                      |                        |                                 |           |                        |          |          |
| HDT-VH05    | 0.3kgf~5kgf                     |                        |                                 |           |                        |          |          |
| HDT-VH11    | 0.3kgf~10kgf                    |                        | 10x, one-click measurement      |           | software export report | included | ✓        |
| HDT-VH31    | 1kgf~30kgf                      |                        |                                 |           |                        |          |          |
| HDT-VH51    | 1kgf~50kgf                      |                        |                                 |           |                        |          |          |
| HDT-AVH05   | 0.3kgf~5kgf                     |                        |                                 |           |                        |          |          |
| HDT-AVH10   | 0.3kgf~10kgf                    |                        |                                 |           |                        |          |          |
| HDT-AVH30   | 1kgf~30kgf                      | ✓                      | 10x, manual reading measurement | 10X, 40X  | software export report | included | ✓        |
| HDT-AVH50   | 1kgf~50kgf                      |                        |                                 |           |                        |          |          |
| HDT-MVH1100 | 0.01kgf~1kgf                    |                        |                                 |           |                        |          |          |
| HDT-MV320   |                                 |                        |                                 |           |                        |          |          |
| HDT-DMV90   |                                 |                        |                                 |           |                        |          |          |
| HDT-AMV338  |                                 |                        |                                 |           | software export report | included | ✓        |
| HDT-MVE1300 | 10x, manual reading measurement |                        |                                 |           | built-in printer       | optional | x        |
| HDT-MV315   | x                               | software export report | included                        | ✓         |                        |          |          |

## Application scenarios



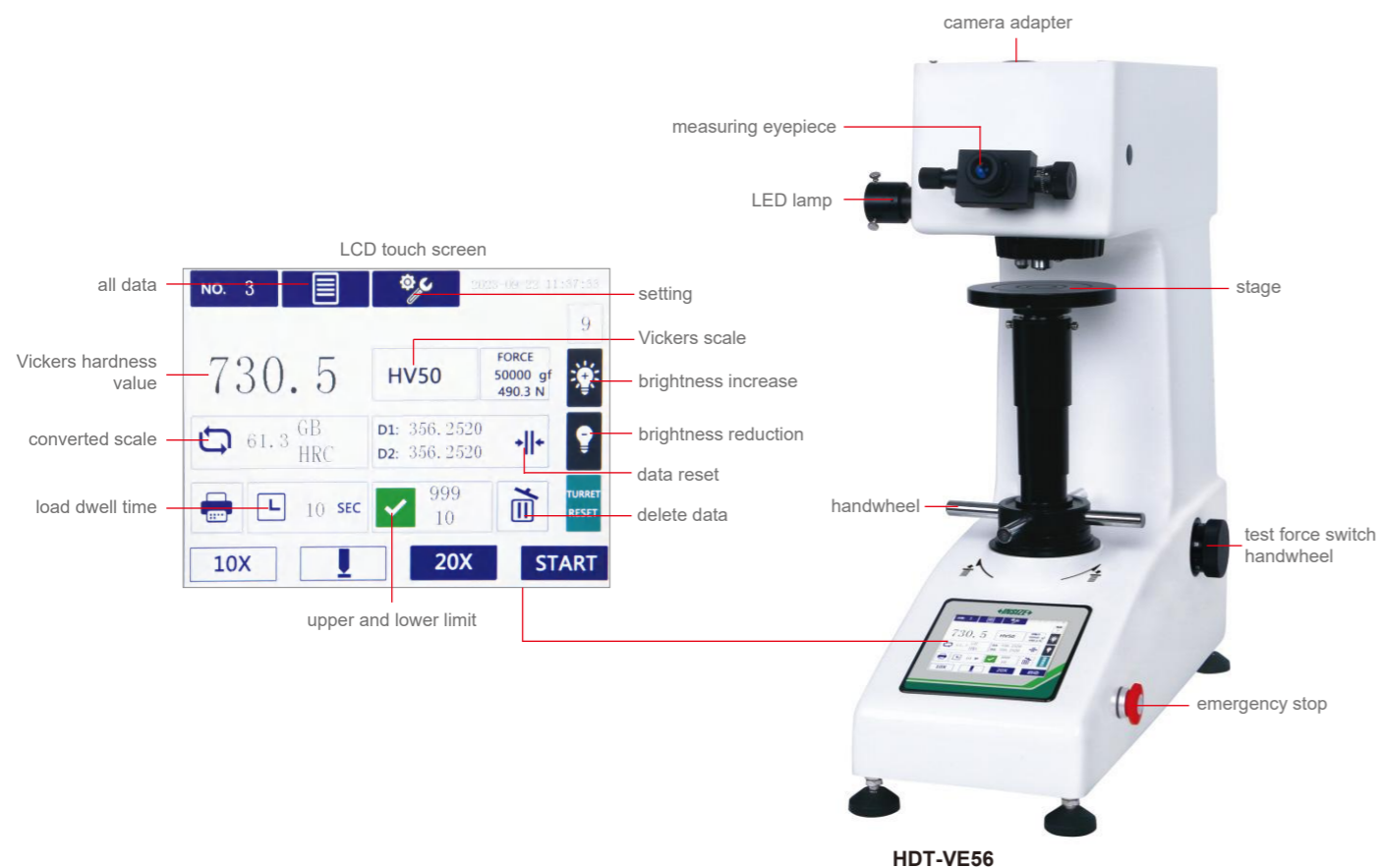
Precise quantitative analysis and material research in laboratories



Measurement of hardness and gradients in surface hardening layers from heat treatment

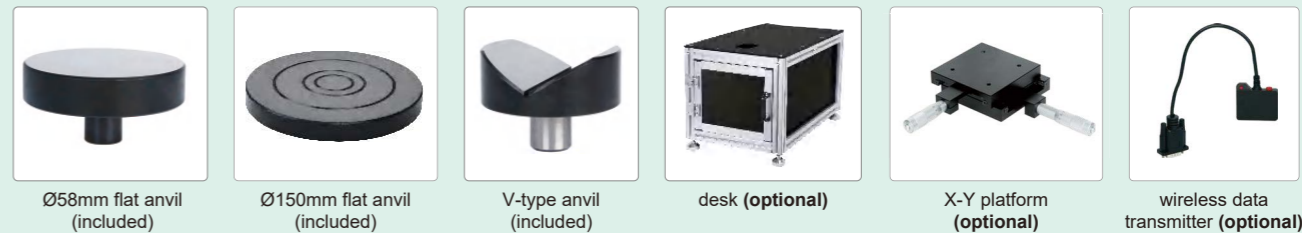


Suitable for hardness testing of various small, thin or miniature components



HDT-VE56

Continued from previous page



**SPECIFICATION**

| Code                                 | HDT-VE03   | HDT-VE14                                | HDT-VE35                              | HDT-VE56                               |
|--------------------------------------|--|---|---------------------------------------|--|
| <b>Test force</b>                    | 0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf   | 0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf | 1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf | 1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf |
| <b>Vickers scales</b>                | HV0.3, HV0.5, HV1, HV2, HV3, HV5   | HV0.3, HV0.5, HV1, HV3, HV5, HV10       | HV1, HV3, HV5, HV10, HV20, HV30       | HV1, HV5, HV10, HV20, HV30, HV50       |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |   |                                       |  |
| <b>Range</b>                         | 8~3000HV   |   |                                       |  |
| <b>Length measurement resolution</b> | 1µm  |   |                                       |  |
| <b>Objective/indenter switch</b>     | motor driven turret  |   |                                       |  |
| <b>Stage lifting</b>                 | manual   |   |                                       |  |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |   |                                       |  |
| <b>Load dwell time</b>               | 1~60 seconds   |   |                                       |  |
| <b>Objective</b>                     | 10X, 20X   |   |                                       |  |
| <b>Eyepiece</b>                      | 10X  |   |                                       |  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 200X (for measurement)                  |   |                                       |  |
| <b>Max. workpiece height</b>         | 175mm  |   |                                       |  |
| <b>Max. testing width</b>            | 135mm (form the center of indenter to the wall of main body)                   |   |                                       |  |
| <b>Power supply</b>                  | 220V, 50/60Hz  |   |                                       |  |
| <b>Dimension (L×W×H)</b>             | 580×320×660mm  |   |                                       |  |
| <b>Net weight</b>                    | 55kg   |   |                                       |  |

**STANDARD DELIVERY**

|                      |              |
|----------------------|--------------|
| Main unit            | 1 pc         |
| 10X, 20X objective   | 1 pc of each |
| Vickers indenter     | 1 pc         |
| Hardness test blocks | 2 pcs        |
| Ø58mm flat anvil     | 1 pc         |
| Ø150mm flat anvil    | 1 pc         |
| V-type anvil         | 1 pc         |
| Anti-dust cover      | 1 pc         |

**OPTIONAL ACCESSORY**

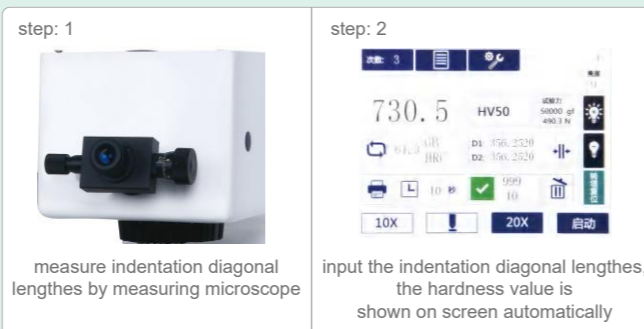
|   |                  |
|---|------------------|
| Hardness test blocks                      | page 117~122     |
| Desk                                      | HDT-DESK         |
| Measuring system (manual, Max. HV10) *    | HDT-ACM1-SW      |
| Measuring system (automatic, Max. HV10) * | HDT-ACM1-AW      |
| Measuring system (manual, Max. HV50) *    | HDT-ACM2-SW      |
| Measuring system (automatic, Max. HV50) * | HDT-ACM2-AW      |
| X-Y platform                              | HDT-VEH-ST       |
| Wireless data transmission transmitter ** | 7315-HDT-M       |
| Wireless data transmission receiver **    | 7315-2/3/6/7/8/9 |

\*Measuring system includes camera and measuring software  
 \*\*The wireless data transmission transmitter and receiver must be purchased together

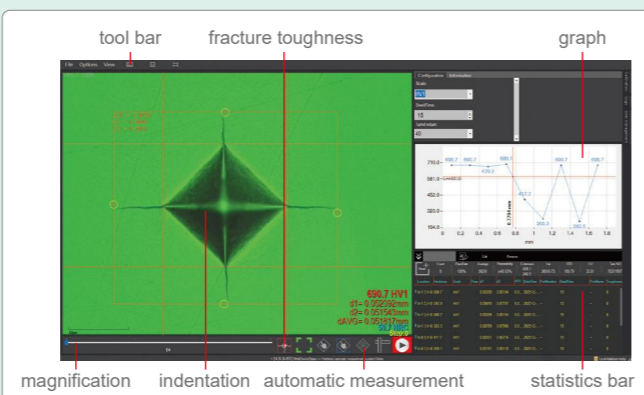
**DIGITAL VICKERS HARDNESS TESTERS (BASIC TYPE)**



- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507
- Wireless data transmission system is optional

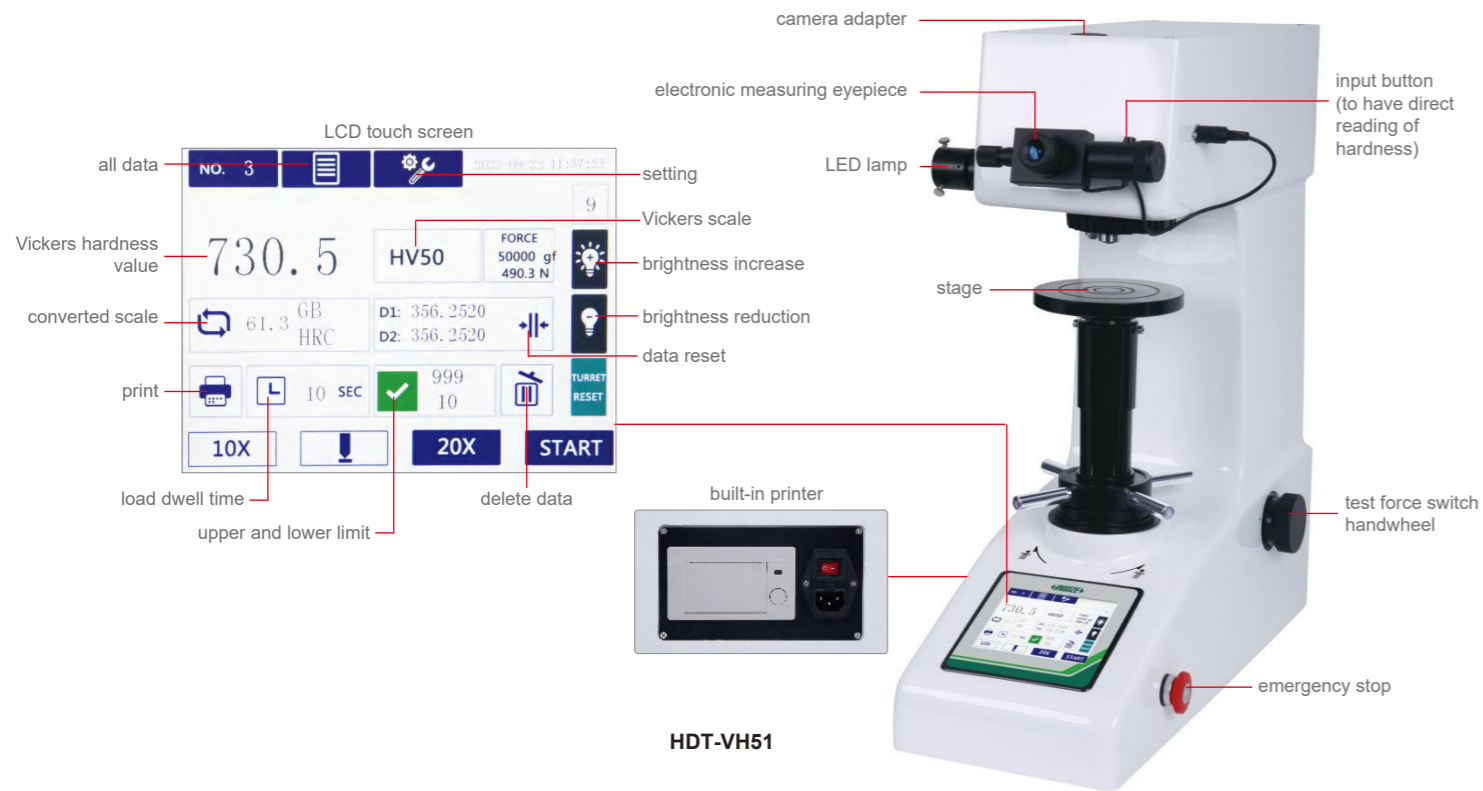


camera and measuring software (optional)

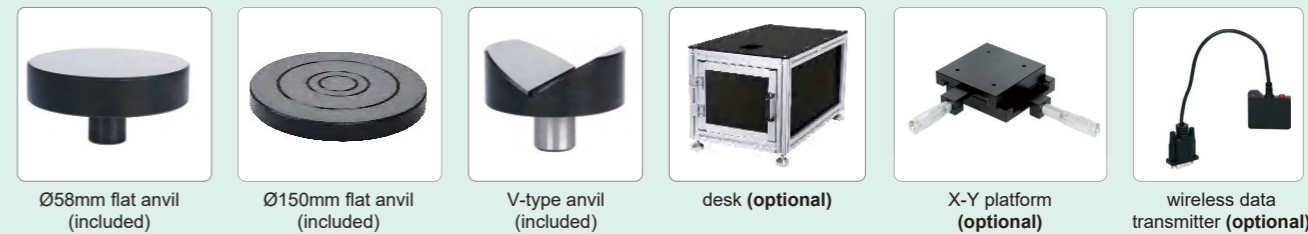


measurement software (optional)

To be continued



Continued from previous page



**SPECIFICATION**

| Code                          | HDT-VH05   | HDT-VH11                                | HDT-VH31                              | HDT-VH51                               |
|-------------------------------|--|---|---------------------------------------|--|
| Test force                    | 0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf   | 0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf | 1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf | 1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf |
| Vickers scales                | HV0.3, HV0.5, HV1, HV2, HV3, HV5   | HV0.3, HV0.5, HV1, HV3, HV5, HV10       | HV1, HV3, HV5, HV10, HV20, HV30       | HV1, HV5, HV10, HV20, HV30, HV50       |
| Converted scales              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |   |                                       |  |
| Range                         | 8~3000HV   |   |                                       |  |
| Length measurement resolution | 0.06µm   |   |                                       |  |
| Objective/indenter switch     | motor driven turret  |   |                                       |  |
| Stage lifting                 | manual   |   |                                       |  |
| Load control                  | automatic (load/dwell/unload)  |   |                                       |  |
| Load dwell time               | 1~60 seconds   |   |                                       |  |
| Objective                     | 10X, 20X   |   |                                       |  |
| Eyepiece                      | 10X  |   |                                       |  |
| Total magnification           | 100X (for measurement or observation), 200X (for measurement)                  |   |                                       |  |
| Max. workpiece height         | 175mm  |   |                                       |  |
| Max. testing width            | 135mm (form the center of indenter to the wall of main body)                   |   |                                       |  |
| Output                        | built-in printer   |   |                                       |  |
| Power supply                  | 220V, 50/60Hz  |   |                                       |  |
| Dimension (L×W×H)             | 580×320×660mm  |   |                                       |  |
| Net weight                    | 55kg   |   |                                       |  |

**STANDARD DELIVERY**

|                      |              |
|----------------------|--------------|
| Main unit            | 1 pc         |
| 10X, 20X objective   | 1 pc of each |
| Vickers indenter     | 1 pc         |
| Hardness test blocks | 2 pcs        |
| Ø58mm flat anvil     | 1 pc         |
| Ø150mm flat anvil    | 1 pc         |
| V-type anvil         | 1 pc         |
| Anti-dust cover      | 1 pc         |

**OPTIONAL ACCESSORY**

|  |                  |
|--|------------------|
| Hardness test blocks                     | page 117~122     |
| Desk                                     | HDT-DESK         |
| Measuring system (manual, Max. HV10)     | HDT-ACM1-SW      |
| Measuring system (automatic, Max. HV10)  | HDT-ACM1-AW      |
| Measuring system (manual, Max. HV50)     | HDT-ACM2-SW      |
| Measuring system (automatic, Max. HV50)  | HDT-ACM2-AW      |
| X-Y platform                             | HDT-VEH-ST       |
| Wireless data transmission transmitter** | 7315-HDT-M       |
| Wireless data transmission receiver**    | 7315-2/3/6/7/8/9 |

\*Measuring system includes camera and measuring software  
 \*\*The wireless data transmission transmitter and receiver must be purchased together

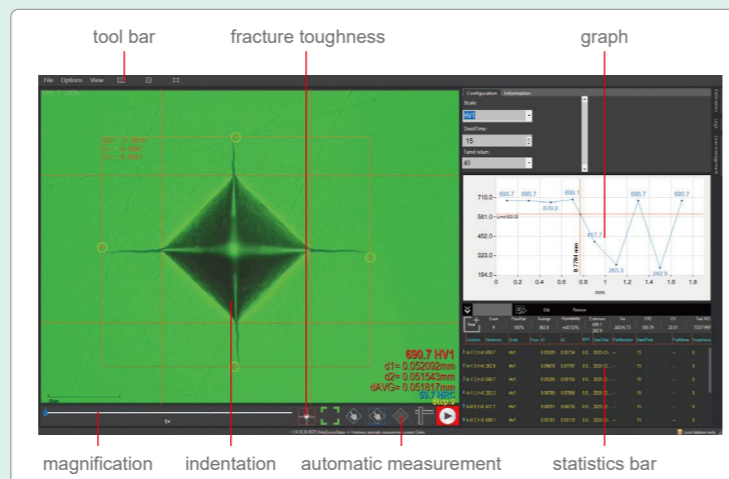
**DIGITAL VICKERS HARDNESS TESTERS (STANDARD TYPE)**

- TOUCH SCREEN
- PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS
- MOTOR DRIVEN TURRET
- INSPECTION CERTIFICATE

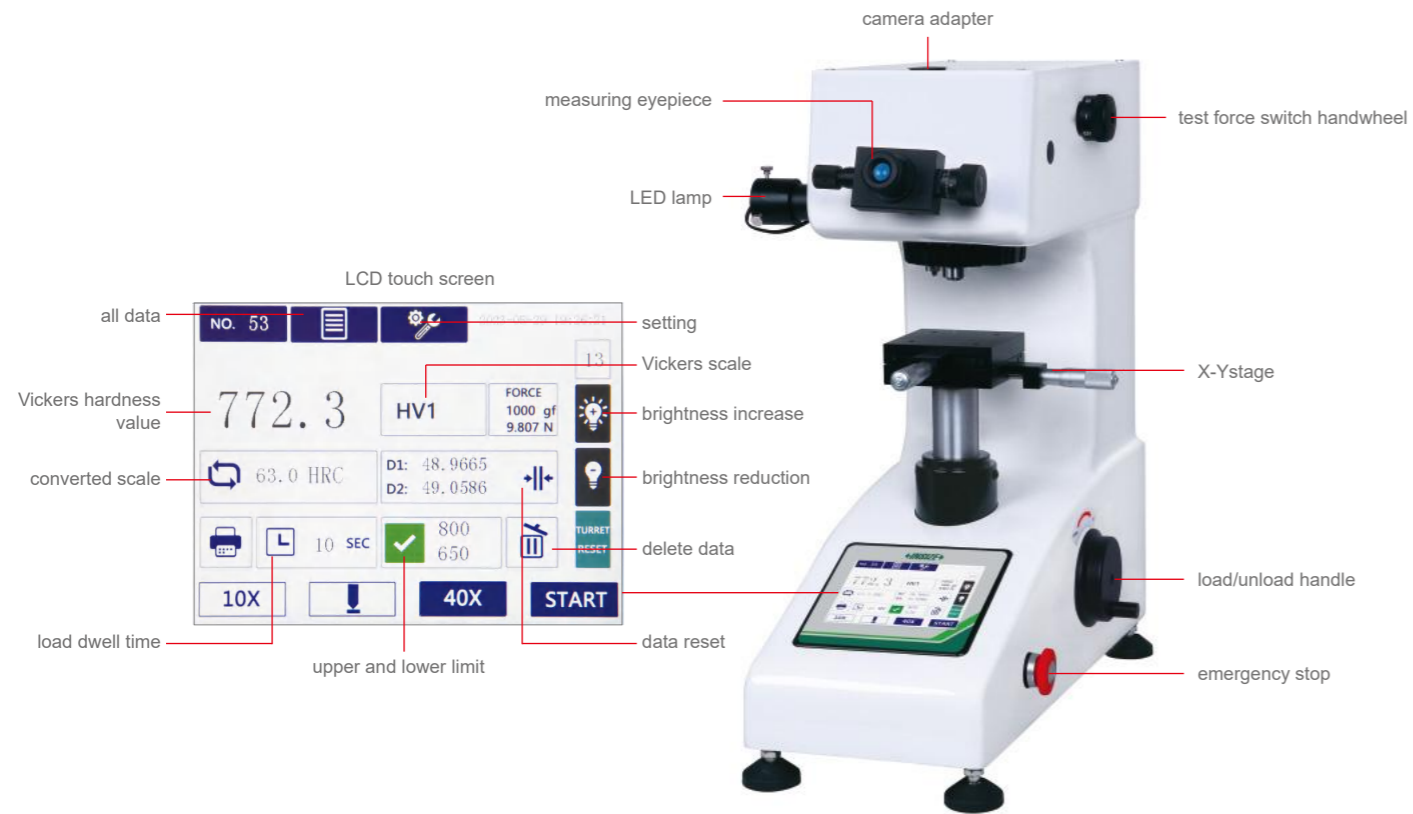
- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507
- Wireless data transmission system is optional



camera and measuring software (optional)



measurement software (optional)



**DIGITAL MICRO-VICKERS HARDNESS TESTER (BASIC TYPE)**

CODE: HDT-MVE1300

TOUCH SCREEN

MOTOR DRIVEN TURRET



- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507
- Wireless data transmission system is optional

step:1

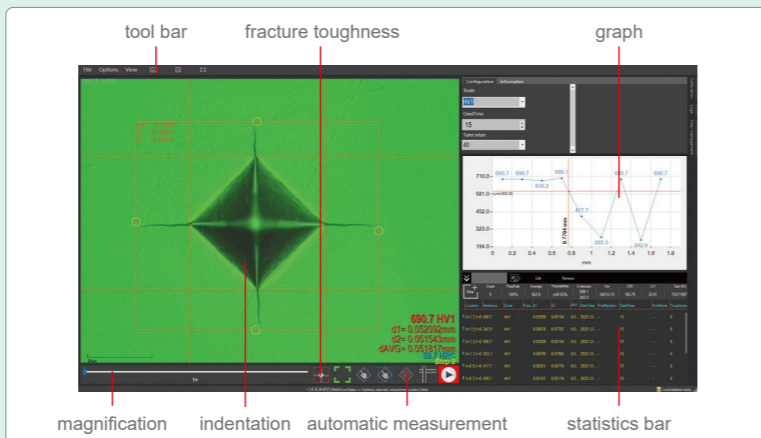
measure indentation diagonal lengths by measuring microscope

step:2

input the indentation diagonal lengths, the hardness value is shown on screen automatically



camera and measuring software (optional)



measurement software (optional)

Continued from previous page



vice (included)



slice holder (included)



cylinder holder (included)



wireless data transmitter (optional)

**SPECIFICATION**

|                                      |  |
|--------------------------------------|--|
| <b>Test force</b>                    | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| <b>Vickers scales</b>                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1   |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                     |
| <b>Range</b>                         | 5~3000HV   |
| <b>Length measurement resolution</b> | 0.5µm  |
| <b>Objective/indenter switch</b>     | motor driven turret  |
| <b>Stage lifting</b>                 | manual   |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |
| <b>Load dwell time</b>               | 1~60 seconds   |
| <b>Objective</b>                     | 10X, 40X   |
| <b>Eyepiece</b>                      | 10X  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 400X (for measurement)  |
| <b>Max. workpiece height</b>         | 90mm   |
| <b>Max. testing width</b>            | 95mm (from the center of indenter to the wall of main body)  |
| <b>X-Y stage</b>                     | dimension: 100×100mm, travel range: 25×25mm  |
| <b>Power supply</b>                  | 220V, 50/60Hz  |
| <b>Dimension (L×W×H)</b>             | 510×290×570mm  |
| <b>Net weight</b>                    | 40kg   |

**STANDARD DELIVERY**

|   |              |
|---|--------------|
| <b>Main unit</b>                        | 1 pc         |
| <b>10X, 40X objective</b>               | 1 pc of each |
| <b>Micro Vickers indenter</b>           | 1 pc         |
| <b>Hardness test block 400~500HV0.2</b> | 1 pc         |
| <b>Hardness test block 700~750HV1</b>   | 1 pc         |
| <b>Slice holder</b>                     | 1 pc         |
| <b>Vice</b>                             | 1 pc         |
| <b>Cylinder holder</b>                  | 1 pc         |
| <b>Anti-dust cover</b>                  | 1 pc         |

**OPTIONAL ACCESSORY**

|   |                         |
|---|-------------------------|
| <b>Hardness test blocks</b>                     | page 117~122            |
| <b>Desk</b>                                     | <b>HDT-DESK</b>         |
| <b>Measuring system (manual)*</b>               | <b>HDT-ACM-SW</b>       |
| <b>Measuring system (automatic)*</b>            | <b>HDT-ACM-AW</b>       |
| <b>Knoop indenter</b>                           | <b>HDT-MV-KNOOP</b>     |
| <b>Wireless data transmission transmitter**</b> | <b>7315-HDT-M</b>       |
| <b>Wireless data transmission receiver**</b>    | <b>7315-2/3/6/7/8/9</b> |

\*Measuring system includes camera and measuring software  
 \*\*The wireless data transmission transmitter and receiver must be purchased together



Continued from previous page



vice (included)



slice holder (included)



cylinder holder (included)



wireless data transmitter (optional)

**SPECIFICATION**

|                                      |  |
|--------------------------------------|--|
| <b>Test force</b>                    | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| <b>Vickers scales</b>                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1   |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                     |
| <b>Range</b>                         | 5~3000HV   |
| <b>Length measurement resolution</b> | 0.03µm   |
| <b>Objective/indenter switch</b>     | motor driven turret  |
| <b>Stage lifting</b>                 | manual   |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |
| <b>Load dwell time</b>               | 1~60 seconds   |
| <b>Objective</b>                     | 10X,40X  |
| <b>Eyepiece</b>                      | 10X  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 400X (for measurement)  |
| <b>Max. workpiece height</b>         | 90mm   |
| <b>Max. testing width</b>            | 95mm (from the center of indenter to the wall of main body)  |
| <b>X-Y stage</b>                     | dimension: 100×100mm, travel range: 25×25mm  |
| <b>Data output</b>                   | built-in printer   |
| <b>Power supply</b>                  | 220V, 50/60Hz  |
| <b>Dimension (L×W×H)</b>             | 510x290x570mm  |
| <b>Net weight</b>                    | 40kg   |

**STANDARD DELIVERY**

|                                  |              |
|----------------------------------|--------------|
| Main unit                        | 1 pc         |
| 10X, 40X objective               | 1 pc of each |
| Micro Vickers indenter           | 1 pc         |
| Hardness test block 400~500HV0.2 | 1 pc         |
| Hardness test block 700~750HV1   | 1 pc         |
| Slice holder                     | 1 pc         |
| Vice                             | 1 pc         |
| Cylinder holder                  | 1 pc         |
| Anti-dust cover                  | 1 pc         |

**OPTIONAL ACCESSORY**

|  |                  |
|--|------------------|
| Hardness test blocks                     | page 117~122     |
| Desk                                     | HDT-DESK         |
| Measuring system (manual)*               | HDT-ACM-SW       |
| Measuring system (automatic)*            | HDT-ACM-AW       |
| Knoop indenter                           | HDT-MV-KNOOP     |
| Wireless data transmission transmitter** | 7315-HDT-M       |
| Wireless data transmission receiver**    | 7315-2/3/6/7/8/9 |

\*Measuring system includes camera and measuring software  
 \*\*The wireless data transmission transmitter and receiver must be purchased together

**DIGITAL MICRO-VICKERS HARDNESS TESTER (STANDARD TYPE)**

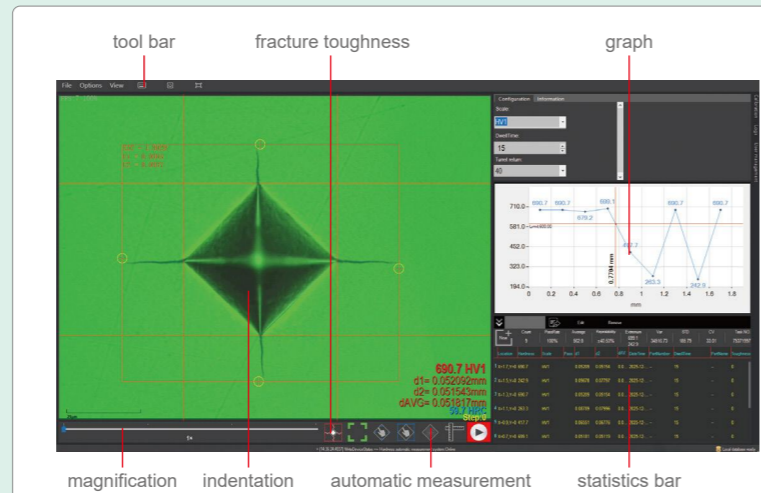
CODE: HDT-MVH100

- TOUCH SCREEN
- PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS
- MOTOR DRIVEN TURRET
- INSPECTION CERTIFICATE

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507
- Wireless data transmission system is optional

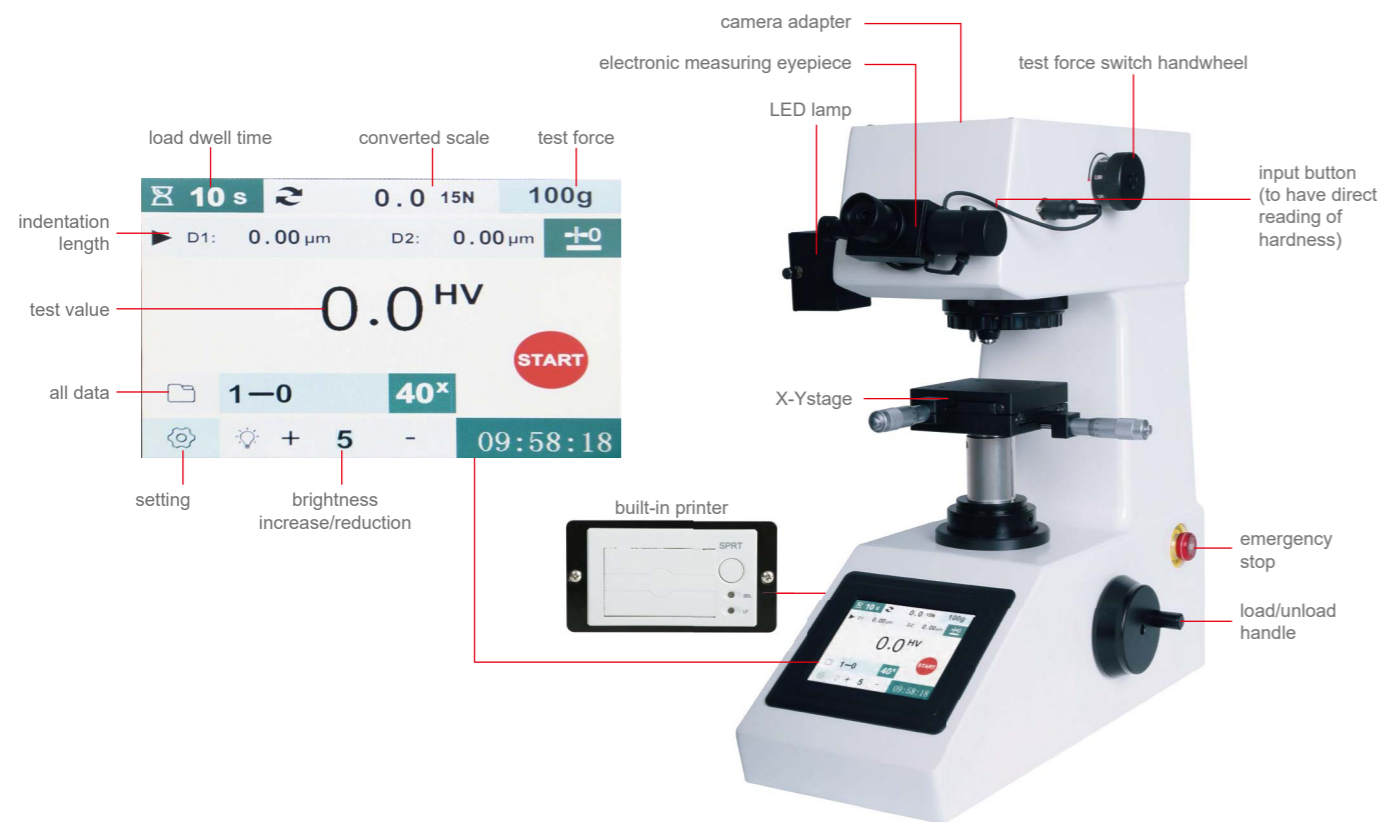


camera and measuring software (optional)



measurement software (optional)

To be continued



**DIGITAL MICRO-VICKERS HARDNESS TESTER (STANDARD TYPE)**

**CODE: HDT-MV320**

TOUCH SCREEN

PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS

MOTOR DRIVEN TURRET

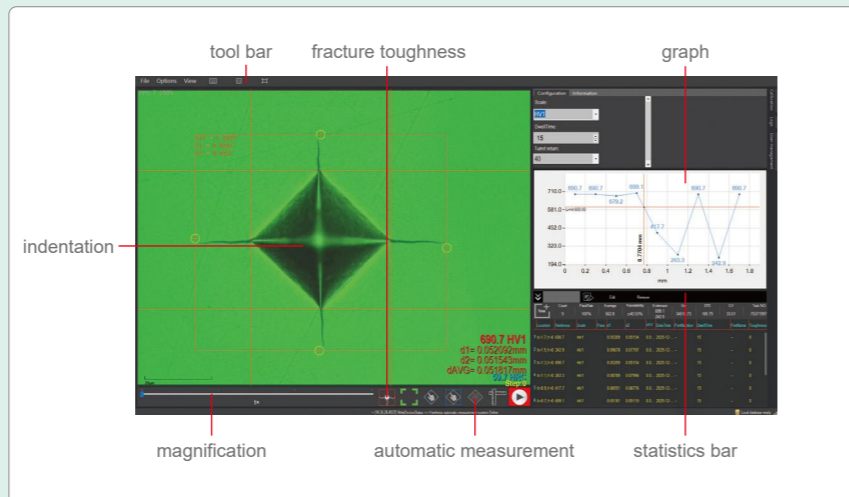


- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens

• According to ISO 6507, ASTM E384, JIS Z 2244



camera (optional)



measurement software (optional)

Continued from previous page



vice (included)



slice holder (included)



cylinder holder (included)



desk (optional)

**SPECIFICATION**

|                               |  |
|-------------------------------|--|
| Test force                    | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| Vickers scales                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1   |
| Converted scales              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                     |
| Range                         | 5~3000HV   |
| Length measurement resolution | 0.06μm   |
| Hardness value resolution     | 0.1HV  |
| Test mode                     | HV/HK  |
| Objective/indenter switch     | motor driven turret  |
| Stage lifting                 | manual   |
| Load control                  | automatic (load/dwell/unload)  |
| Load dwell time               | 1~60 seconds   |
| Objective                     | 10X,40X  |
| Eyepiece                      | 10X  |
| Total magnification           | 10X (for measurement or observation), 400X (for measurement)   |
| Max. workpiece height         | 90mm   |
| Max. testing width            | 100mm (from the center of indenter to the wall of main body)   |
| X-Y stage                     | dimension: 100×100mm, travel range: 25×25mm  |
| Data output                   | built-in printer, RS232 interface  |
| Power supply                  | 220V, 50/60Hz  |
| Dimension (L×W×H)             | 325x480x545mm  |
| Net weight                    | 31kg   |

**STANDARD DELIVERY**

|                                  |              |
|----------------------------------|--------------|
| Main unit                        | 1 pc         |
| 10X, 40X objective               | 1 pc of each |
| Micro Vickers indenter           | 1 pc         |
| Hardness test block 400~500HV0.2 | 1 pc         |
| Hardness test block 700~750HV1   | 1 pc         |
| Slice holder                     | 1 pc         |
| Vice                             | 1 pc         |
| Cylinder holder                  | 1 pc         |
| Anti-dust cover                  | 1 pc         |

**OPTIONAL ACCESSORY**

|                               |              |
|-------------------------------|--------------|
| Hardness test blocks          | page 117~122 |
| Desk                          | HDT-DESK     |
| Measuring system (manual)*    | HDT-ACM3-SW  |
| Measuring system (automatic)* | HDT-ACM3-AW  |

\*Measuring system includes camera and measuring software



**DUAL TOUCH SCREEN DIGITAL MICRO-VICKERS HARDNESS TESTER (ADVANCED TYPE)**

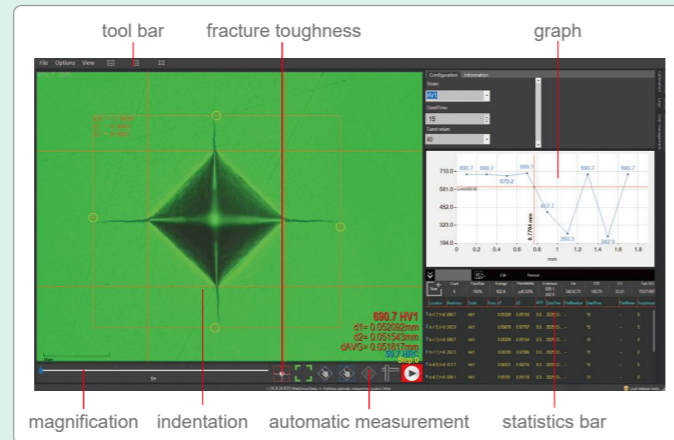
**CODE: HDT-DMV90**

**AUTOMATIC TEST**

**MOTOR DRIVEN TURRET**



- Dual touch screen control, high-definition image measurement and analysis
- One click start, automatic pressing and automatic measurement
- The host and Vickers hardness measurement software can be operated independently
- Automatic switch between the indenter and objective lens
- Data storage and average value calculation
- Can connect with wired and wireless networks to transmit data
- According to ISO 6507

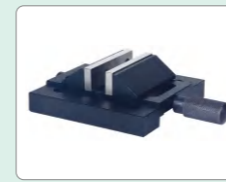


Vickers hardness measurement software (included)



To be continued

Continued from previous page



vice (included)



slice holder (included)



cylinder holder (included)



desk (optional)

**SPECIFICATION**

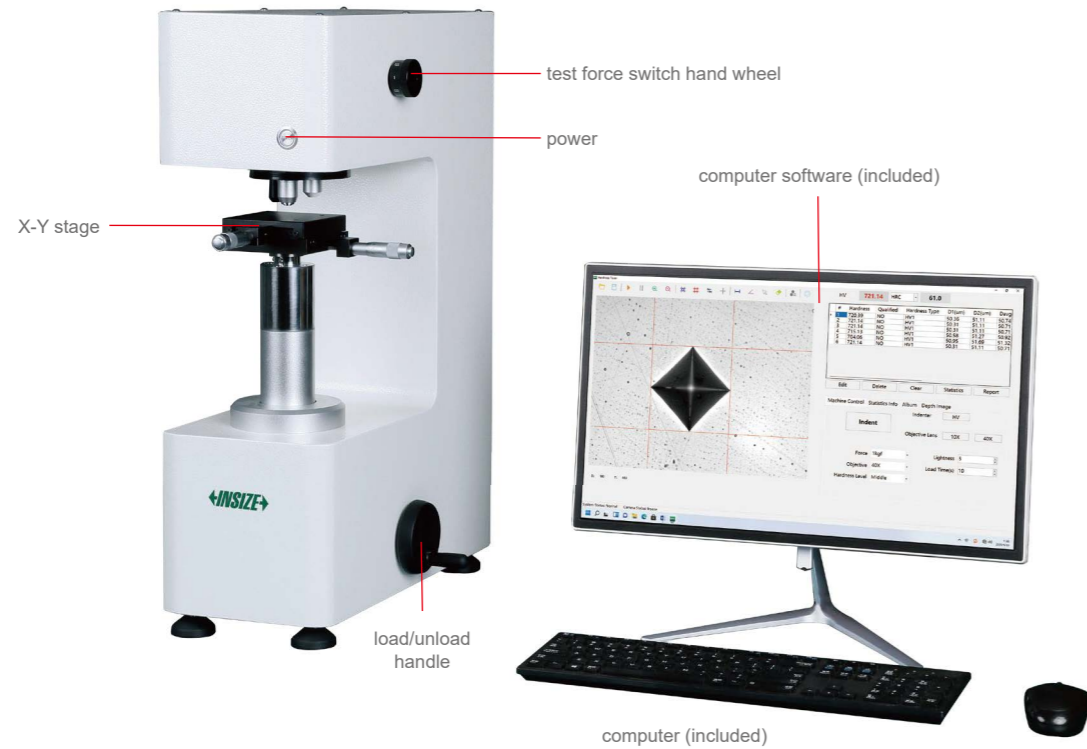
|                                      |  |
|--------------------------------------|--|
| <b>Test force</b>                    | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| <b>Vickers scales</b>                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1   |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                     |
| <b>Range</b>                         | 5~3000HV   |
| <b>Length measurement resolution</b> | 0.03µm   |
| <b>Objective/indenter switch</b>     | motor driven turret  |
| <b>Stage lifting</b>                 | manual   |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |
| <b>Load dwell time</b>               | 1~60 seconds   |
| <b>Objective</b>                     | 10X, 40X   |
| <b>Eyepiece</b>                      | 10X  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 400X (for measurement)  |
| <b>Max. workpiece height</b>         | 90mm   |
| <b>Max. testing width</b>            | 95mm (from the center of indenter to the wall of main body)  |
| <b>X-Y stage</b>                     | dimension: 100×100mm, travel range: 25×25mm  |
| <b>Data output</b>                   | built-in printer, USB  |
| <b>Power supply</b>                  | 220V, 50/60Hz  |
| <b>Dimension (L×W×H)</b>             | 500x420x480mm  |
| <b>Net weight</b>                    | 42kg   |

**STANDARD DELIVERY**

|  |              |
|--|--------------|
| <b>Main unit</b>                           | 1 pc         |
| <b>Vickers hardness measurement system</b> | 1 pc         |
| <b>10X, 40X objective</b>                  | 1 pc of each |
| <b>Micro Vickers indenter</b>              | 1 pc         |
| <b>Hardness test block 400~500HV0.2</b>    | 1 pc         |
| <b>Hardness test block 700~750HV1</b>      | 1 pc         |
| <b>Wireless keyboard</b>                   | 1 pc         |
| <b>Wireless mouse</b>                      | 1 pc         |
| <b>Vice</b>                                | 1 pc         |
| <b>Slice holder</b>                        | 1 pc         |
| <b>Cylinder holder</b>                     | 1 pc         |
| <b>Anti-dust cover</b>                     | 1 pc         |

**OPTIONAL ACCESSORY**

|                             |                     |
|-----------------------------|---------------------|
| <b>Hardness test blocks</b> | page 117~122        |
| <b>Desk</b>                 | <b>HDT-DESK</b>     |
| <b>OFFICE software</b>      | <b>7313-OFFICE</b>  |
| <b>Knoop indenter</b>       | <b>HDT-MV-KNOOP</b> |



**MICRO-VICKERS HARDNESS TESTER (SOFTWARE-TYPE)**

**CODE: HDT-MV315**

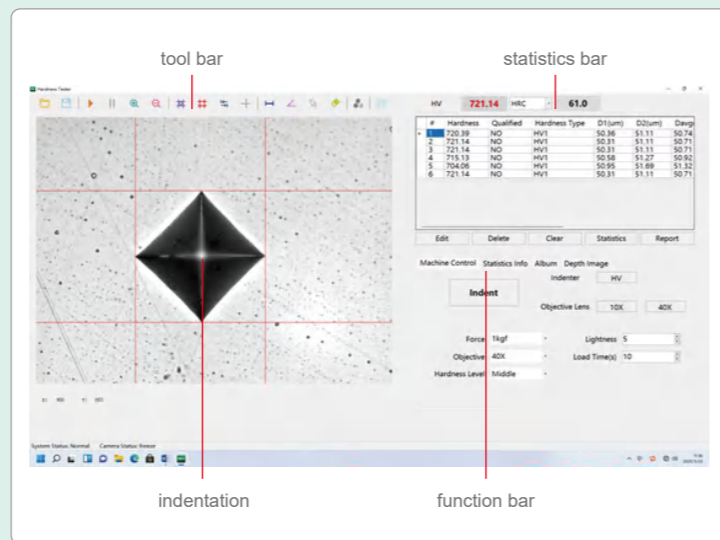
**AUTOMATIC TEST**

**AUTOMATIC TURRET**

**SOFTWARE INCLUDED**



- According to ISO 6507
- Standard dedicated Vickers measurement software, which can control the machine to perform automatic turret rotation, automatic indentation, and automatic measurement, etc.
- Built-in 5-megapixel high-definition CCD camera with compact optical path design for sharp imaging
- Built-in LCD light source with high brightness and long lifespan
- Capable of generating hardness gradient curves
- Capable of statistical calculations including average, maximum and minimum values
- Equipped with out-of-tolerance alarm functionality
- The test results can be generated into Word or Excel reports



Vickers hardness testing software

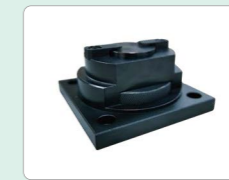
Continued from previous page



cylinder holder (optional)



vice (optional)



slice holder (optional)

**SPECIFICATION**

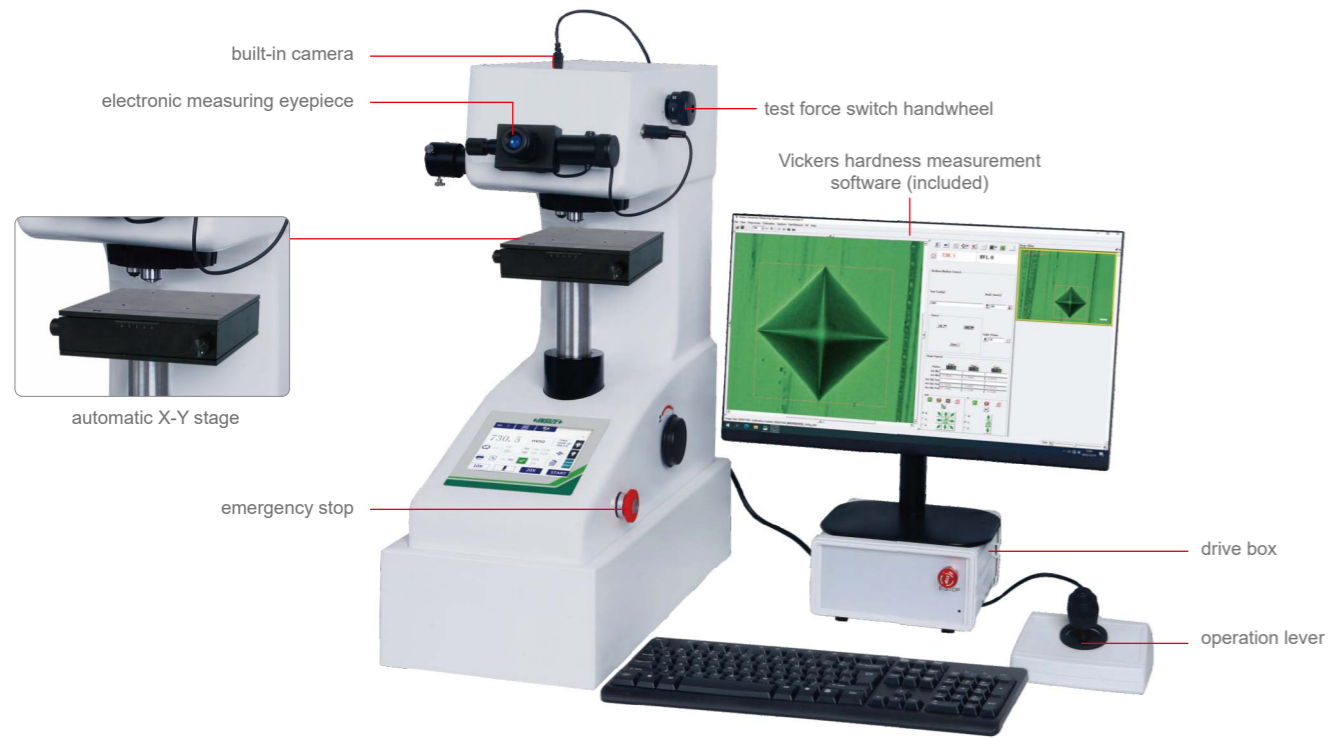
|                                      |  |
|--------------------------------------|--|
| <b>Test force</b>                    | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| <b>Vickers scales</b>                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1   |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HBW, HV, HK                                     |
| <b>Range</b>                         | 8-2900HV   |
| <b>Length measurement resolution</b> | 0.01µm   |
| <b>Objective/indenter switch</b>     | motor driven turret  |
| <b>Stage lifting</b>                 | manual   |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |
| <b>Load dwell time</b>               | 1~60 seconds   |
| <b>Objective</b>                     | 10X, 40X   |
| <b>Eyepiece</b>                      | 10X  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 400X (for measurement)  |
| <b>Max. testing height</b>           | 100mm  |
| <b>Max. testing width</b>            | 170mm  |
| <b>X-Y stage</b>                     | dimension: 100×100mm, travel range: 25×25mm  |
| <b>Power supply</b>                  | 220V, 50/60Hz  |
| <b>Dimension (L×W×H)</b>             | 540×260×650mm  |
| <b>Net weight</b>                    | 50kg   |

**STANDARD DELIVERY**

|  |                                 |
|--|---------------------------------|
| <b>Main unit</b>                         | 1 pc                            |
| <b>Micro Vickers indenter</b>            | 1 pc (on the main unit)         |
| <b>10X, 40X objective</b>                | 1 pc of each (on the main unit) |
| <b>Hardness test block 400~500HV0.2</b>  | 1 pc                            |
| <b>Hardness test block 700~800HV1</b>    | 1 pc                            |
| <b>Computer</b>                          | 1 pc                            |
| <b>Vickers hardness testing software</b> | 1 pc                            |
| <b>Anti-dust cover</b>                   | 1 pc                            |

**OPTIONAL ACCESSORY**

|                             |                     |
|-----------------------------|---------------------|
| <b>Vice</b>                 | <b>HDT-MV315-PK</b> |
| <b>Slice holder</b>         | <b>HDT-MV315-BP</b> |
| <b>Cylinder holder</b>      | <b>HDT-MV315-XS</b> |
| <b>Hardness test blocks</b> | page 117~122        |



## AUTOMATIC MICRO-VICKERS HARDNESS TESTER

CODE: HDT-AMV338

Z-AXIS AUTOFOCUS

AUTOMATIC TEST

MOTOR DRIVEN TURRET



- According to ISO 6507
- Automatic switch between the indenter and objective lens
- Z-axis automatic focus, X, Y axis automatic movement, can be for multi-point continuous measurement
- Automatic moving table by built-in step motor, high positioning accuracy, good repeatability, fast moving speed, high efficiency
- Automatic moving table bidirectional movement, equipped with safety devices to avoid misoperation
- The software can control the hardness tester hardware operation, two-way communication with each other
- The image acquisition device has fast reaction speed, high automatic measurement accuracy and good repeatability
- The system can automatically generate Word or Excel test report, and the report template can be modified
- Suitable for micro-hardness determination of various metals and non-metal materials, effective depth and heat affected area measurement, especially suitable for measuring workpieces hardness gradient distribution curve and surface hardness after heat treatment, effective hardening layer depth



vice (included)



slice holder (included)



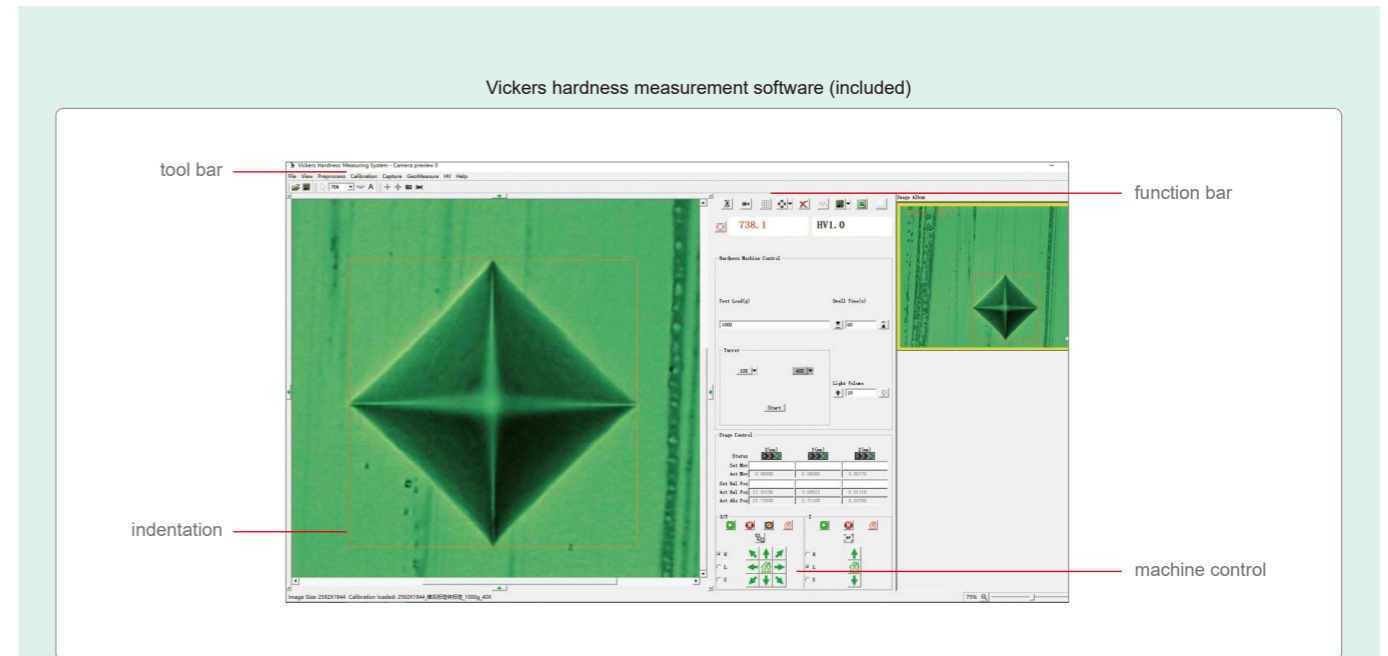
cylinder holder (included)



desk (optional)

To be continued

Continued from previous page



### AUTOMATIC TEST CONTROL SYSTEM

|  |  |
|--|--|
| <b>Hardness tester control</b>           | 1. automatic turret, automatic loading, automatic measurement<br>2. automatic display of test force, load dwell time, illumination brightness  |
| <b>Automatic control of X-Y stage</b>    | software system automatic control of X-Y stage movement  |
| <b>Measurement mode</b>                  | 1. automatic mode: automatic loading, automatic measurement, automatic display of measurement results<br>2. manual measurement mode can be selected  |
| <b>Automatic measurement</b>             | about 0.3sec of one indentation  |
| <b>Measurement repeatability</b>         | ±1% (700HV/500gf)  |
| <b>Data output format/edit functions</b> | 1. inspection reports can be customized according to customer requirements<br>2. the depth of hardened layer is shown in table form<br>3. output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value |

### AUTOMATIC X-Y STAGE

|   |   |
|---|---|
| <b>Drive motor</b>                      | step motor  |
| <b>Drive control</b>                    | movement control by software, speed is adjustable |
| <b>Dimension</b>                        | 110mm×110mm                                       |
| <b>Max. travel distance</b>             | 50mm×50mm   |
| <b>Min. travel distance</b>             | 1µm   |
| <b>Movement speed</b>                   | 1-10mm/sec, speed can be adjusted                 |
| <b>Displacement repetition accuracy</b> | within 1µm  |

To be continued

Continued from previous page

**SPECIFICATION**

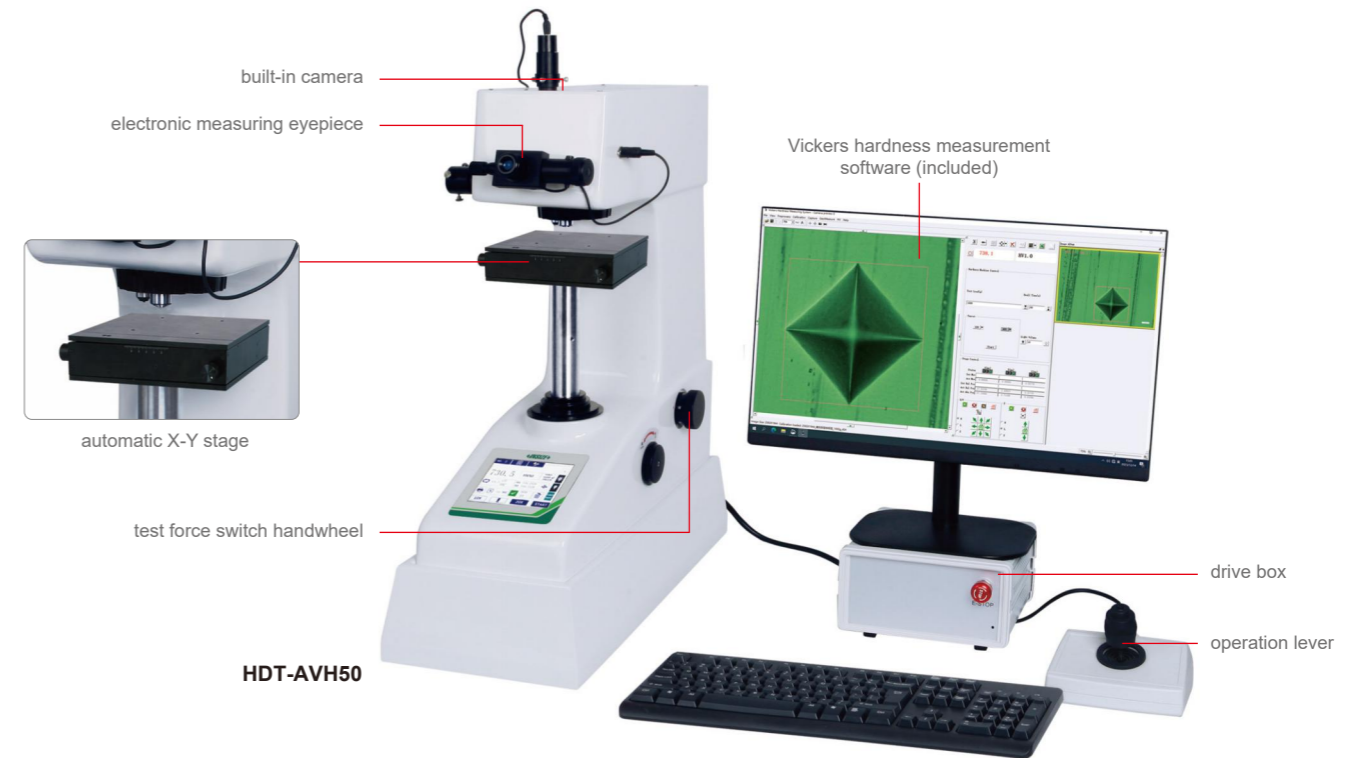
|                                      |   |
|--------------------------------------|---|
| <b>Test force</b>                    | 0.098N (10gf), 0.245 (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| <b>Vickers scales</b>                | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1  |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T                                    |
| <b>Range</b>                         | 5~3000HV  |
| <b>Length measurement resolution</b> | 0.03μm  |
| <b>Objective/indenter switch</b>     | motor driven turret   |
| <b>Stage lifting</b>                 | manual/electric   |
| <b>Focus mode</b>                    | Z-axis autofocus  |
| <b>Load control</b>                  | automatic (load/dwell/unload)   |
| <b>Load dwell time</b>               | 1~60 seconds  |
| <b>Objective</b>                     | 10X, 40X  |
| <b>Eyepiece</b>                      | 10X   |
| <b>Total magnification</b>           | 100X (for measurement or observation), 400X (for measurement)   |
| <b>Max. workpiece height</b>         | 80mm  |
| <b>Max. testing width</b>            | 110mm (from the center of indenter to the wall of main body)  |
| <b>Pixel</b>                         | 5M  |
| <b>Communication interface</b>       | RS232   |
| <b>Power supply</b>                  | 220V, 50/60Hz   |
| <b>Dimension (L×W×H)</b>             | 540×290×680mm   |
| <b>Net weight</b>                    | 42kg  |

**STANDARD DELIVERY**

|  |              |
|--|--------------|
| <b>Main unit</b>                         | 1 pc         |
| <b>10X, 40X objective</b>                | 1 pc of each |
| <b>Micro Vickers indenter</b>            | 1 pc         |
| <b>Hardness test block 400~500HV0.2</b>  | 1 pc         |
| <b>Hardness test block 700~800HV1</b>    | 1 pc         |
| <b>Automatic X-Y stage drive box</b>     | 1 pc         |
| <b>Vickers hardness testing software</b> | 1 pc         |
| <b>Computer</b>                          | 1 pc         |
| <b>Vice</b>                              | 1 pc         |
| <b>Slice holder</b>                      | 1 pc         |
| <b>Cylinder holder</b>                   | 1 pc         |
| <b>Anti-dust cover</b>                   | 1 pc         |

**OPTIONAL ACCESSORY**

|                             |                     |
|-----------------------------|---------------------|
| <b>Hardness test blocks</b> | page 117~122        |
| <b>Desk</b>                 | <b>HDT-DESK</b>     |
| <b>OFFICE software</b>      | <b>7313-OFFICE</b>  |
| <b>Knoop indenter</b>       | <b>HDT-MV-KNOOP</b> |

**AUTOMATIC VICKERS  
HARDNESS TESTERS**Z-AXIS  
AUTO FOCUSAUTOMATIC  
TESTMOTOR DRIVEN  
TURRETINSPECTION  
CERTIFICATE

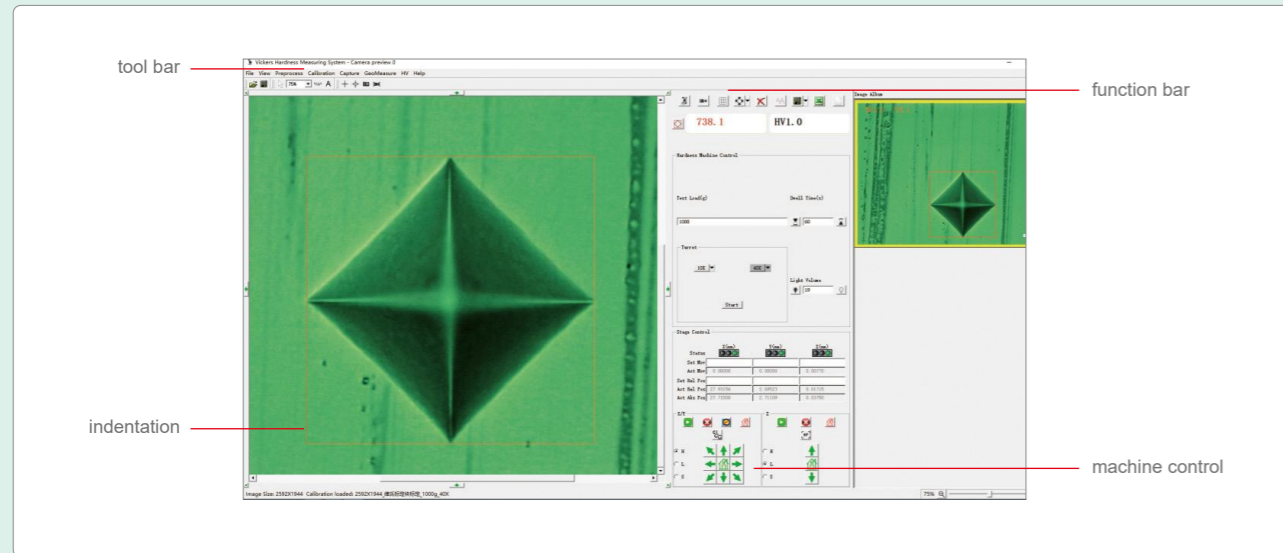
- Suitable for Vickers hardness determination of various metals and non-metal materials, effective depth and heat affected area measurement, especially suitable for measuring workpieces hardness gradient distribution curve and surface hardness after heat treatment, effective hardening layer depth
- Automatic switch between the indenter and objective lens
- Z-axis automatic focus, X, Y axis automatic movement, can be for multi-point continuous measurement
- Automatic moving table by built-in step motor, high positioning accuracy, good repeatability fast moving speed, high efficiency
- Automatic moving table bidirectional movement, equipped with safety devices to avoid misoperation
- The software can control the hardness tester hardware operation, two-way communication with each other
- The image acquisition device has fast reaction speed, high automatic measurement accuracy and good repeatability
- The system can automatically generate Word or Excel test report and the report template can be modified
- According to ISO 6507



desk (optional)

Continued from previous page

Vickers hardness measurement software (included)

**AUTOMATIC TEST CONTROL SYSTEM**

|  |  |
|--|--|
| <b>Hardness tester control</b>           | 1. automatic turret, automatic loading, automatic measurement<br>2. automatic display of test force, load dwell time, illumination brightness  |
| <b>Automatic control of X-Y stage</b>    | software system automatic control of X-Y stage movement  |
| <b>Measurement mode</b>                  | 1. automatic mode: automatic loading, automatic measurement, automatic display of measurement results<br>2. manual measurement mode can be selected  |
| <b>Automatic measurement</b>             | about 0.3sec of one indentation  |
| <b>Measurement repeatability</b>         | ±1% (700HV/5kgf)   |
| <b>Data output format/edit functions</b> | 1. inspection reports can be customized according to customer requirements<br>2. the depth of hardened layer is shown in table form<br>3. output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value |

**AUTOMATIC X-Y STAGE**

|   |   |
|---|---|
| <b>Drive motor</b>                      | step motor  |
| <b>Drive control</b>                    | movement control by software, speed is adjustable |
| <b>Dimension</b>                        | 110mm×110mm                                       |
| <b>Max. travel distance</b>             | 50mm×50mm   |
| <b>Min. travel distance</b>             | 1μm   |
| <b>Movement speed</b>                   | 1-10mm/sec, speed can be adjusted                 |
| <b>Displacement repetition accuracy</b> | within 1μm  |

To be continued

Continued from previous page

**SPECIFICATION**

| Code                                 | HDT-AVH05  | HDT-AVH10                               | HDT-AVH30                             | HDT-AVH50                              |
|--------------------------------------|--|---|---------------------------------------|--|
| <b>Test force</b>                    | 0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf   | 0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf | 1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf | 1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf |
| <b>Vickers scales</b>                | HV0.3, HV0.5, HV1, HV2, HV3, HV5   | HV0.3, HV0.5, HV1, HV3, HV5, HV10       | HV1, HV3, HV5, HV10, HV20, HV30       | HV1, HV5, HV10, HV20, HV30, HV50       |
| <b>Converted scales</b>              | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |   |                                       |  |
| <b>Range</b>                         | 5~3000HV   |   |                                       |  |
| <b>Length measurement resolution</b> | 0.06μm   |   |                                       |  |
| <b>Objective/indenter switch</b>     | motor driven turret  |   |                                       |  |
| <b>Stage lifting</b>                 | manual/electric  |   |                                       |  |
| <b>Focus mode</b>                    | Z-axis autofocus   |   |                                       |  |
| <b>Load control</b>                  | automatic (load/dwell/unload)  |   |                                       |  |
| <b>Load dwell time</b>               | 1~60 seconds   |   |                                       |  |
| <b>Objective</b>                     | 10X, 20X   |   |                                       |  |
| <b>Eyepiece</b>                      | 10X  |   |                                       |  |
| <b>Total magnification</b>           | 100X (for measurement or observation), 200X (for measurement)                  |   |                                       |  |
| <b>Max. workpiece height</b>         | 160mm  |   |                                       |  |
| <b>Max. testing width</b>            | 130mm (from the center of indenter to the wall of main body)                   |   |                                       |  |
| <b>Pixel</b>                         | 5M   |   |                                       |  |
| <b>Communication interface</b>       | RS232  |   |                                       |  |
| <b>Power supply</b>                  | 220V, 50/60Hz  |   |                                       |  |
| <b>Dimension (L×W×H)</b>             | 630×300×800mm  |   |                                       |  |
| <b>Net weight</b>                    | 75kg   |   |                                       |  |

**STANDARD DELIVERY**

|  |              |
|--|--------------|
| <b>Main unit</b>                         | 1 pc         |
| <b>10X, 20X objective</b>                | 1 pc of each |
| <b>Vickers indenter</b>                  | 1 pc         |
| <b>Hardness test blocks</b>              | 2 pcs        |
| <b>Automatic X-Y stage drive box</b>     | 1 pc         |
| <b>Vickers hardness testing software</b> | 1 pc         |
| <b>Computer</b>                          | 1 pc         |
| <b>Anti-dust cover</b>                   | 1 pc         |

**OPTIONAL ACCESSORY**

|                             |                    |
|-----------------------------|--------------------|
| <b>Hardness test blocks</b> | page 117~122       |
| <b>Desk</b>                 | <b>HDT-DESK</b>    |
| <b>OFFICE software</b>      | <b>7313-OFFICE</b> |



## 4 MULTIFUNCTIONAL HARDNESS TESTERS

Transcend single-scale limits. Effortlessly toggle between Brinell, Rockwell and Vickers. One device handles everything—from soft alloys to hardened steel, covering raw materials to finished goods. The ultimate integrated solution for industrial production and scientific research.



Multi-functional in one device  
Switch freely



Convenient and efficient





**MOTORIZED DIGITAL  
ROCKWELL/BRINELL/VICKERS  
HARDNESS TESTER**

**CODE: HDT-BRV330**

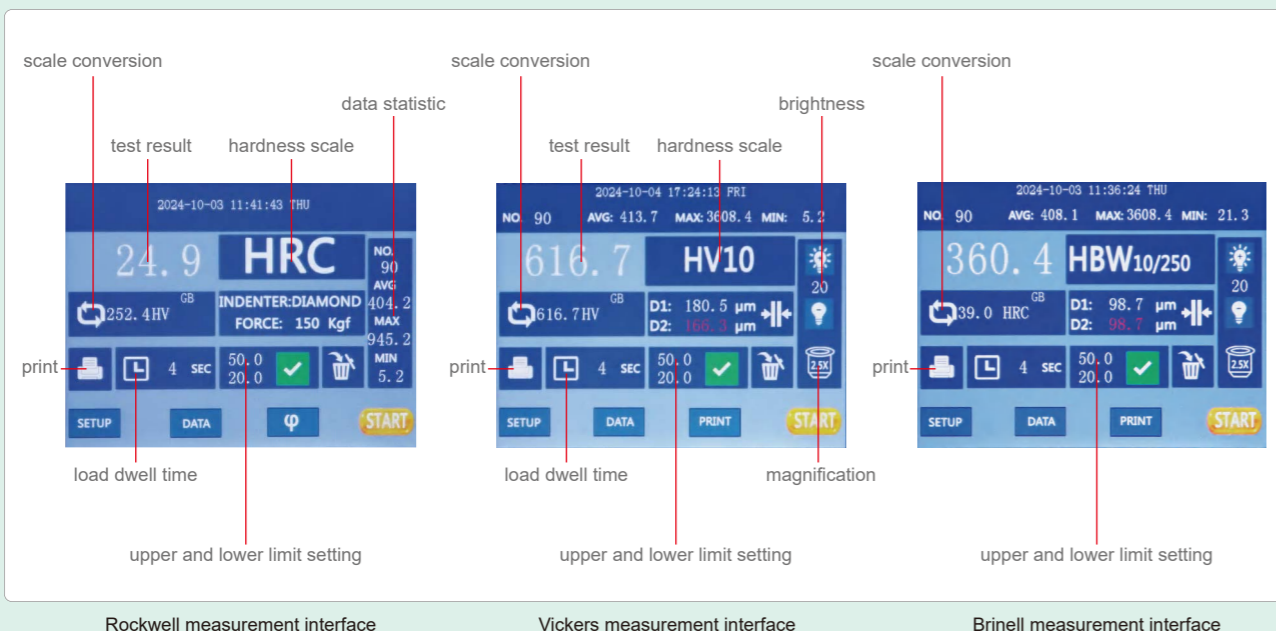
FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

TOUCH SCREEN

INSPECTION CERTIFICATE



- 5.6" color touch LCD display
- Electronic closed-loop control of the applied test force, easy to use, stable display value
- Total of 21 measurement scales, including Brinell, Rockwell and Vickers test method
- Convertible to various hardness standards such as HB, HV, HRC, HK, etc.
- Two types of internal and external illumination are available, and different illumination is used according to the size of the indentation to make the indentation clearer
- Average, maximum and minimum value statistic are available
- Data storage and query function, can be printed out by the printer
- According to ISO 6506, ISO 6507, ISO 6508, ASTM E10, ASTM E18, ASTM E92



To be continued

Continued from previous page

**SPECIFICATION**

| Type                  | Brinell  | Rockwell                                    | Vickers   |
|-----------------------|--|---|---|
| Test force            | 306.5N (31.25kgf), 612.9N (62.5kgf), 1226N (125kgf), 1839N (187.5kgf), 980.8N (100kgf), 2451.6N (250kgf) | 588N (60kgf), 980N (100kgf), 1471N (150kgf) | 29.42N (3kgf), 49.03N (5kgf), 98.07N (10kgf), 196.1N (20kgf), 294.2N (30kgf), 490.3N (50kgf), 980.7N (100kgf) |
| Hardness scale        | HBW2.5/31.25, HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW10/100, HBW10/250             | HRA, HRB, HRC, HRD, HRF, HRG                | HV3, HV5, HV10, HV20, HV30, HV50, HV100   |
| Conversion scale      | HRA, HRB, HRC, HRD, HRF, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HB, HV, HK                            |   |   |
| Range                 | 5-650HBW   | 20-88HRA, 20-100HRB, 20-70HRC               | 10-2900HV   |
| Stage lifting         | manual   |   |   |
| Load control          | automatic (load/dwell/unload)  |   |   |
| Eyepiece              | 15X  |   |   |
| Objective             | 2.5X(included, for Brinell), 5X (included, for Vickers), 10X (optional, for Vickers)                     |   |   |
| Resolution            | 0.1HB  | 0.1HR                                       | 0.1HV   |
| Load dwell time       | 0~99 seconds, can be set   |   |   |
| Max. testing width    | 160mm  |   |   |
| Max. workpiece height | 165mm  | 180mm                                       | 165mm   |
| Power supply          | 220V, 50/60Hz  |   |   |
| Dimension (L×W×H)     | 550×235×720mm  |   |   |
| Net weight            | 80kg   |   |   |

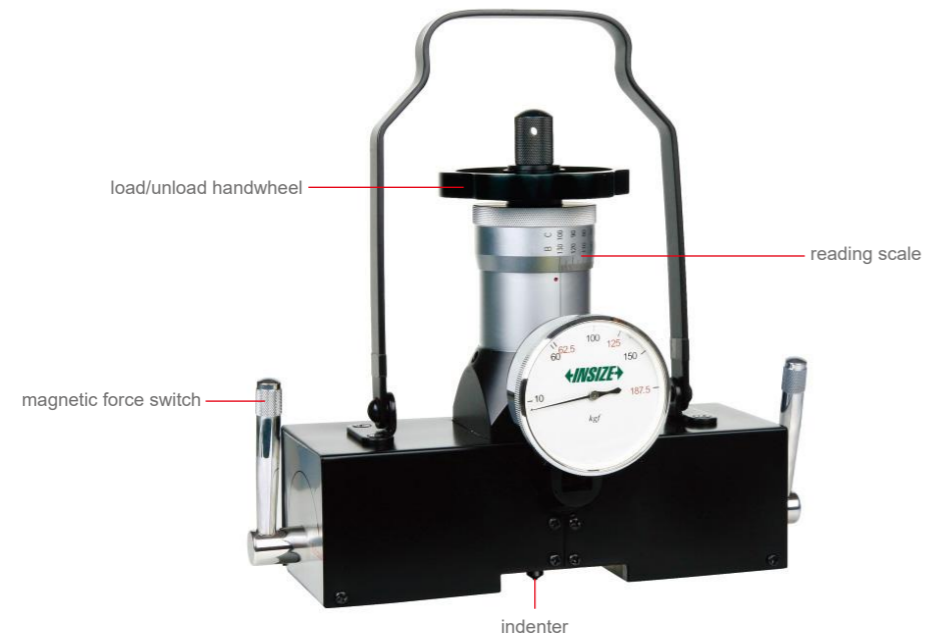
**STANDARD DELIVERY**

|                                  |      |
|----------------------------------|------|
| Main unit                        | 1 pc |
| Diamond Rockwell indenter        | 1 pc |
| Diamond Vickers indenter         | 1 pc |
| Ø2.5mm ball indenter             | 1 pc |
| Ø5mm ball indenter               | 1 pc |
| Ø1.5875mm carbide ball indenter  | 1 pc |
| Ø150mm flat anvil                | 1 pc |
| Ø60mm flat anvil                 | 1 pc |
| V-type anvil                     | 1 pc |
| Skateboard stage                 | 1 pc |
| Internal lighting bulb           | 1 pc |
| External lighting bulb           | 1 pc |
| Hardness test block HRC20~30     | 1 pc |
| Hardness test block HRC60~70     | 1 pc |
| Hardness test block HRB85~100    | 1 pc |
| Hardness test block HBW2.5/187.5 | 1 pc |
| Hardness test block HV30         | 1 pc |
| Anti-dust cover                  | 1 pc |

**OPTIONAL ACCESSORY**

|                      |                    |
|----------------------|--------------------|
| 10X objective        | HDT-OB-10          |
| Ø10mm ball indenter  | HDT-BRV-INDENTER10 |
| Hardness test blocks | page 117~122       |





## MAGNETIC BRINELL/ROCKWELL HARDNESS TESTER

CODE: ISHR-B141

- Apply to large steel or iron workpieces
- According to ISO 6508, ASTM E18



### SPECIFICATION

|                            |  |
|----------------------------|--|
| Rockwell scale             | HRA, HRB, HRC, HRD, HRF, HRG   |
| Brinell measuring range    | 20~650HBW  |
| Rockwell test force        | preload: 98N (10kgf)<br>total load: 588N (60kgf), 980N (100kgf),<br>1471N (150kgf) |
| Brinell test force         | 612.9N (62.5kgf), 1226N (125kgf),<br>1839N (187.5kgf)                              |
| Load control               | manual   |
| Resolution                 | Rockwell 1HR<br>Brinell 0.005mm (indentation diameter)                             |
| Measuring microscope       | 40X, graduation 0.01mm   |
| Flat workpiece requirement | length>180mm, width>60mm,<br>thickness>5mm   |
| Cylinder and tube          | length>180mm, diameter>Ø50mm   |
| Workpiece requirement      | thickness>8mm  |
| Dimension (L×W×H)          | 220×70×220mm   |
| Net weight                 | 4.7kg  |

### STANDARD DELIVERY

|                                 |       |
|---------------------------------|-------|
| Main unit                       | 1 pc  |
| Flat anvil                      | 1 pc  |
| Support                         | 4 pcs |
| Diamond Rockwell indenter       | 1 pc  |
| Ø1.5875mm carbide ball indenter | 1 pc  |
| Ø2.5mm Brinell indenter         | 1 pc  |
| Hardness test block HRC85~95    | 1 pc  |
| Hardness test block HRC60~70    | 1 pc  |
| Hardness test block HRC20~30    | 1 pc  |
| Brinell test block              | 1 pc  |
| Measuring microscope            | 1 pc  |
| Magnifier with LED              | 1 pc  |



flat anvil for test block (included)



supports for cylinder or tube workpieces (included)



magnifier with LED (included)



measuring microscope (included)



## PORTABLE BRINELL AND ROCKWELL HARDNESS TESTER

CODE: ISBR-H181

- Apply to huge or medium-size workpieces
- According to ISO 6506, ISO 6508, ASTM E10, ASTM E18



### SPECIFICATION

|                          |   |
|--------------------------|---|
| Rockwell hardness scale  | HRA, HRB, HRC   |
| Brinell test range       | 16~650HBW   |
| Rockwell test force      | preload: 98N (10kgf)<br>total load: 588N (60kgf),<br>980N (100kgf),<br>1471N (150kgf) |
| Brinell test force       | 612.9N (62.5kgf), 1226N (125kgf),<br>1839N (187.5kgf)                                 |
| Load control             | manual  |
| Resolution               | Rockwell 0.5HR<br>Brinell 0.005mm (indentation diameter)                              |
| Max. workpiece thickness | 75mm  |
| Max. testing width       | 100mm (from the center of indenter<br>to the main body)                               |
| Dimension (L×W×H)        | 510×380×180mm   |
| Net weight               | 2.3kg   |

### STANDARD DELIVERY

|   |      |
|---|------|
| Main unit                               | 1 pc |
| Diamond indenter                        | 1 pc |
| Ø1.5875mm carbide ball indenter         | 1 pc |
| Ø2.5mm carbide ball indenter            | 1 pc |
| Ø5mm carbide ball indenter              | 1 pc |
| Hardness test block HRBW88~95           | 1 pc |
| Hardness test block HRC20~30            | 1 pc |
| Hardness test block HRC60~65            | 1 pc |
| Hardness test block 200~300HBW2.5/187.5 | 1 pc |
| Flat anvil                              | 1 pc |
| V-type anvil                            | 1 pc |
| Measuring microscope                    | 1 pc |



flat anvil (included)



V-type anvil (included)



measuring microscope (included)

## 5 LEEB HARDNESS TESTERS

The Leeb hardness tester is a portable, dynamic testing instrument for measuring material hardness. Its core principle relies on elastic impact to determine hardness, making it particularly suitable for on-site, rapid and non-destructive hardness inspections. It is commonly used for large workpieces, installed equipment, or components that are difficult to move.



Portable and not limited by site constraints



Fast measurement speed



Small measurement indentation



Simple operation



### Model Selection Guide

| Code        | Type       | Probe            | Optional probe                                      | Output                   | Power supply                 | Software |
|-------------|------------|------------------|---|--------------------------|------------------------------|----------|
| HDT-LP200   | split      | wired, type D    | type DC<br>type C<br>type D+15<br>type DL<br>type G | USB                      | 2xAAA batteries              | ✓        |
| HDT-LP200WL |            |                  |   | USB, Bluetooth printer   |                              |          |
| HDT-LP200B  |            |                  |   | USB, Bluetooth           |                              |          |
| HDT-WP201   |            | wireless, type D |   | USB, Bluetooth           |                              |          |
| HDT-CB320   |            | wired, type D    |   | USB, Bluetooth           |                              |          |
| HDT-WL320   |            | wireless, type D |   | USB, Bluetooth           |                              |          |
| ISH-PHB-B   |            | wired, type D    | x   | USB, Bluetooth, keyboard | 3xAAA batteries              | x        |
| HDT-B430    | integrated | type D           | type DL   | USB, Bluetooth           | rechargeable lithium battery | ✓        |
| HDT-L410    |            |                  |   |                          |                              |          |
| HDT-L411    |            | type D           |   | USB                      | 1xAAA battery                |          |
| HDT-L301    |            | type D           | x   | USB, Bluetooth           | rechargeable lithium battery |          |
| HDT-LG210   |            | type G           |   |                          |                              |          |

POPULAR MODEL



HDT-LP200

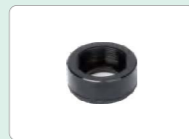
**PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)**



- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB, HRA), Shore (HSD) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Upload the memory to PC software via USB cable and send to Excel
- Save 300 data
- Large LCD display with backlight
- Operation temperature: -10°C~45°C
- According to ASTM A956
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value



hardness test block D (included)



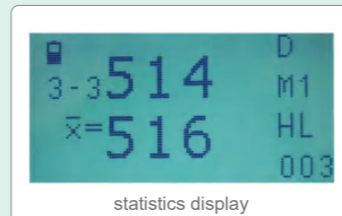
small support ring (included)



Bluetooth printer (included in HDT-LP200B)



receiver (HDT-LP200WL optional)



statistics display

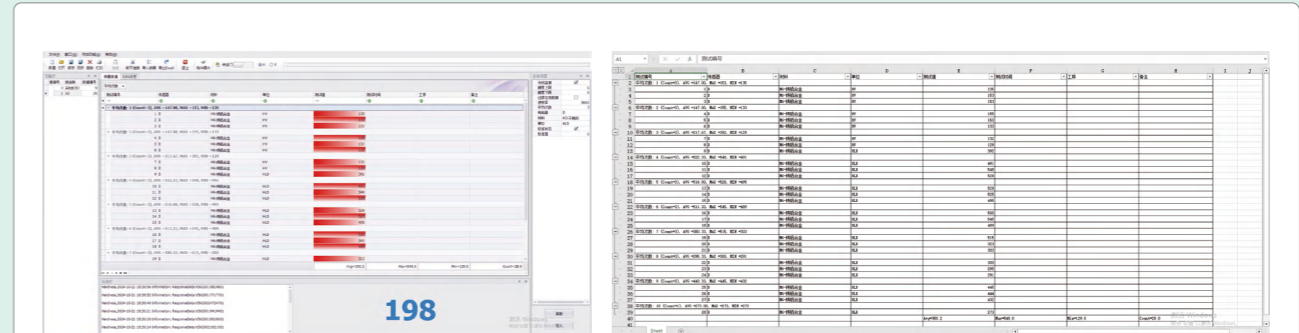


large font display

To be continued

Continued from previous page

computer software (included)



upload memory to PC software via USB cable or bluetooth

send the stored data to EXCEL

**SPECIFICATION**

| Code              | HDT-LP200  | HDT-LP200WL   | HDT-LP200B  |
|-------------------|--|---|---|
| Output            | connect to computer software via USB cable   | connect to computer software via USB cable; wireless transmission, keyboard signal, optional receiver 7315-2/3/6/7/8/9 is necessary | connect to computer software via USB cable; connect to computer software or printer via Bluetooth |
| Printer           | not included   | not included  | included  |
| Resolution        | 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HSD/1σb   |   |   |
| Accuracy          | ±6HLD (when HLD=800)   |   |   |
| Measuring range   | HL 170-960/HRC 17-70/HRB 13-109/HRA 7-89/HB 20-655/HV 80-940/HSD 32-99.5/σb (rm) 255-2639N/mm <sup>2</sup> |   |   |
| Power supply      | 2×AA batteries   | 2×AA batteries  | main unit: 2×AA batteries<br>printer: rechargeable lithium battery                                |
| Dimension (L×W×H) | 135×77×32mm  |   |   |
| Net weight        | 240g   |   |   |

**STANDARD DELIVERY**

|  |      |
|--|------|
| Main unit                                  | 1 pc |
| Hardness test block D                      | 1 pc |
| Small support ring                         | 1 pc |
| Cleaning brush                             | 1 pc |
| Impact device D                            | 1 pc |
| USB cable and software                     | 1 pc |
| Bluetooth printer (included in HDT-LP200B) | 1 pc |

To be continued

Continued from previous page

**APPLICABLE WORKPIECE**

| Impact device                       |                    | DC                        | C                                      | D           | D+15        | DL                        | G                            |
|-------------------------------------|--------------------|---------------------------|--|-------------|-------------|---------------------------|------------------------------|
| Application                         |                    | inner wall of small space | small or thin workpiece, coating layer | general use | deep groove | narrow slot or small hole | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) |                    | 2µm                       | 0.4µm                                  | 2µm         | 2µm         | 2µm                       | 7µm                          |
| Minimum weight of workpiece         | direct measurement | 5kg                       | 1.5kg                                  | 5kg         | 5kg         | 5kg                       | 15kg                         |
|                                     | on solid support   | 2kg                       | 0.5kg                                  | 2kg         | 2kg         | 2kg                       | 5kg                          |
|                                     | coupled on plate   | 0.05kg                    | 0.02kg                                 | 0.05kg      | 0.1kg       | 0.05kg                    | 0.5kg                        |
| Minimum thickness of workpiece      |                    | 3mm                       | 1mm                                    | 3mm         | 3mm         | 3mm                       | 10mm                         |

**OPTIONAL ACCESSORY**

|                         |                  |
|-------------------------|------------------|
| Impact device DC        | HDT-LP200-DC     |
| Impact device C         | HDT-LP200-C      |
| Impact device D+15      | HDT-LP200-D15    |
| Impact device DL        | HDT-LP200-DL     |
| Impact device G         | HDT-LP200-G      |
| Hardness test block D*  | HDT-B-HLD3       |
| Hardness test block G** | HDT-B-HLG2       |
| Support rings           | ISH-PH-SP9       |
| Receiver                | 7315-2/3/6/7/8/9 |

\*Hardness test block D (HDT-B-HLD3) is for all other impact devices  
 \*\*Hardness test block G (HDT-B-HLG2) is for impact device G (HDT-LP200-G)



HDT-LP200WL can send data to Excel, TXT and other documents by connecting to mobile phone or computer via optional 7315 series receiver



**PORTABLE LEEB HARDNESS TESTER WITH WIRELESS PROBE**

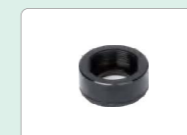
**CODE: HDT-WP201**



- Wireless digital probe
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operating temperature: -10°C~45°C
- According to ASTM A956, DIN 50156



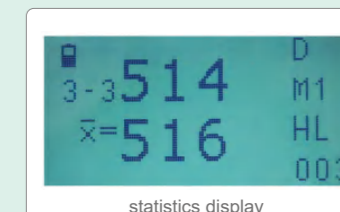
hardness test block D (included)



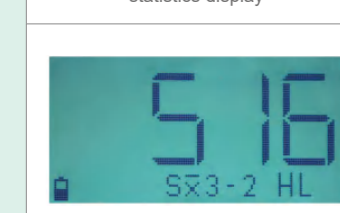
small support ring (included)



bluetooth printer (optional)



statistics display



large font display

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## SPECIFICATION

|                   |   |
|-------------------|---|
| Resolution        | 1HLD/1HV/1HB/0.1HRC/0.1HRB/<br>0.1HSD/1 $\sigma$ b  |
| Accuracy          | $\pm 6$ HLD (when HLD=800)  |
| Measuring range   | HL170-960/HRC 17-69/<br>HRB 13-101.7/HB 20-655/<br>HV 80-940/HSD 32-99.5/<br>$\sigma$ b (m) 255-2180N/mm <sup>2</sup> |
| Power supply      | 2xAAA batteries   |
| Dimension (L×W×H) | 135×77×32mm   |
| Net weight        | 240g  |



## STANDARD DELIVERY

|                       |      |
|-----------------------|------|
| Main unit             | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring    | 1 pc |
| Cleaning brush        | 1 pc |
| Impact device D       | 1 pc |

## OPTIONAL ACCESSORY

|                         |                   |
|-------------------------|-------------------|
| Impact device DC        | HDT-WL320-DCW     |
| Impact device C         | HDT-WL320-CW      |
| Impact device DL        | HDT-WL320-DLW     |
| Impact device G         | HDT-WL320-GW      |
| Hardness test block D*  | HDT-B-HLD3        |
| Hardness test block G** | HDT-B-HLG2        |
| Bluetooth printer       | ISH-LP200-PRINTER |
| Support rings           | ISH-PH-SP9        |

\*Hardness test block D (HDT-B-HLD3) is for all others probes

\*\*Hardness test block G (HDT-B-HLG2) is for probe G (HDT-WL320-GW)

## APPLICABLE WORKPIECE

| Impact device                       | DC                        | C                                      | D           | DL                        | G                            |
|-------------------------------------|---------------------------|--|-------------|---------------------------|------------------------------|
| Application                         | inner wall of small space | small or thin workpiece, coating layer | general use | narrow slot or small hole | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 2 $\mu$ m                 | 0.4 $\mu$ m                            | 2 $\mu$ m   | 2 $\mu$ m                 | 7 $\mu$ m                    |
| Minimum weight of workpiece         | direct measurement        | 5kg                                    | 1.5kg       | 5kg                       | 5kg                          |
|                                     | on solid support          | 2kg                                    | 0.5kg       | 2kg                       | 2kg                          |
|                                     | coupled on plate          | 0.05kg                                 | 0.02kg      | 0.05kg                    | 0.05kg                       |
| Minimum thickness of workpiece      | 3mm                       | 1mm                                    | 3mm         | 3mm                       | 10mm                         |



HDT-CB320 (wired probe is included)

HDT-WL320 (wireless probe is included)

PORTABLE LEEB  
HARDNESS TESTERS

DATA OUTPUT

BLUETOOTH



- Can use wired probes or wireless probes
- Dual value display, shows both Leeb and converted hardness
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Large 2.4" LCD display with backlight
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength ( $\sigma$ b)
- With a magnet on the back, the main unit can be attached on steel surfaces
- According to ASTM A956 and DIN 50156



## SPECIFICATION

| Code                 | HDT-CB320  | HDT-WL320        |
|----------------------|--|------------------|
| Probe included       | wired probe D  | wireless probe D |
| Optional probes      | wired (DC/C/D/D+15/DL/E/G), wireless (DC/C/D/DL/G)   |                  |
| Resolution           | 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HS/1MPa   |                  |
| Accuracy             | $\pm 6$ HLD (when HLD=800)   |                  |
| Output               | USB and bluetooth  |                  |
| Measuring range      | HL 170-960, 7-89HRA, 13-109HRB, 17-70HRC, 20-655HB, 32-99.5HS, 80-940HV, 255-2639N/mm <sup>2</sup>   |                  |
| Applicable materials | 1. steel/cast steel 2. alloy steel 3. stainless steel 4. grey cast iron 5. nodular cast iron 6. cast aluminum 7. brass 8. bronze 9. copper 10. forging steel 11. rolling steel |                  |
| Statistics           | average/max./min./s.value  |                  |
| Memory               | 999 data   |                  |
| Working environment  | -10°C~45°C   |                  |
| Power supply         | 2xAAA batteries  |                  |
| Dimension (L×W×H)    | 145×68×28mm  |                  |
| Net weight           | 158g   |                  |

To be continued

Continued from previous page

connect to PC, software is included  
upload the data to PC, print and send to Excel (software is included)



connect to bluetooth printer (optional)



**STANDARD DELIVERY**

|   |      |
|---|------|
| Main unit                                     | 1 pc |
| Wired probe D (type D, HDT-CB320 included)    | 1 pc |
| Wireless probe D (type D, HDT-WL320 included) | 1 pc |
| Small support ring                            | 1 pc |
| Hardness test block D                         | 1 pc |
| Cleaning brush                                | 1 pc |

**OPTIONAL ACCESSORY**

|                         |      |                   |
|-------------------------|------|-------------------|
| Wired probe             | DC   | HDT-CB320-DC      |
|                         | C    | HDT-CB320-C       |
|                         | D    | HDT-CB320-D       |
|                         | D+15 | HDT-CB320-D15     |
|                         | DL   | HDT-CB320-DL      |
|                         | E    | HDT-CB320-E       |
|                         | G    | HDT-CB320-G       |
| Wireless probe          | DC   | HDT-WL320-DCW     |
|                         | C    | HDT-WL320-CW      |
|                         | D    | HDT-WL320-DW      |
|                         | DL   | HDT-WL320-DLW     |
|                         | G    | HDT-WL320-GW      |
| Hardness test block D*  |      | HDT-B-HLD3        |
| Hardness test block G** |      | HDT-B-HLG2        |
| Printer                 |      | ISH-LP200-PRINTER |
| Support rings           |      | ISH-PH-SP9        |

\*Hardness test block D (HDT-B-HLD3) is for all others probes.

\*\*Hardness test block G (HDT-B-HLG2) is for probe G (HDT-CB320-G or HDT-WL320-GW).



wireless probes (optional)



wired probes (optional)

**APPLICABLE WORKPIECE**

| Probes                              | DC                        | C                                      | D           | D+15        | DL                        | E                  | G                            |
|-------------------------------------|---------------------------|--|-------------|-------------|---------------------------|--------------------|------------------------------|
| Application                         | inner wall of small space | small or thin workpiece, coating layer | general use | deep groove | narrow slot or small hole | very hard material | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 2µm                       | 0.4µm                                  | 2µm         | 2µm         | 2µm                       | 2µm                | 7µm                          |
| Minimum weight of workpiece         | direct measurement        | 5kg                                    | 1.5kg       | 5kg         | 5kg                       | 5kg                | 15kg                         |
|                                     | on solid support          | 2.5kg                                  | 0.5kg       | 2kg         | 2kg                       | 2kg                | 5kg                          |
|                                     | coupled on plate          | 0.05-2kg                               | 0.02kg      | 0.05-2kg    | 0.1kg                     | 0.1kg              | 0.5kg                        |
| Minimum thickness of workpiece      | 3mm                       | 1mm                                    | 3mm         | 3mm         | 3mm                       | 3mm                | 10mm                         |



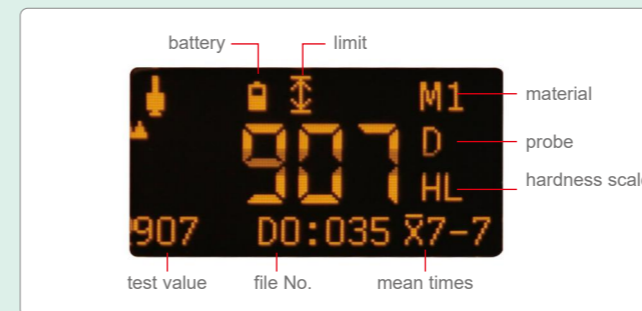
**PEN-TYPE LEEB HARDNESS TESTER (STANDARD TYPE)**

**CODE: HDT-B430**

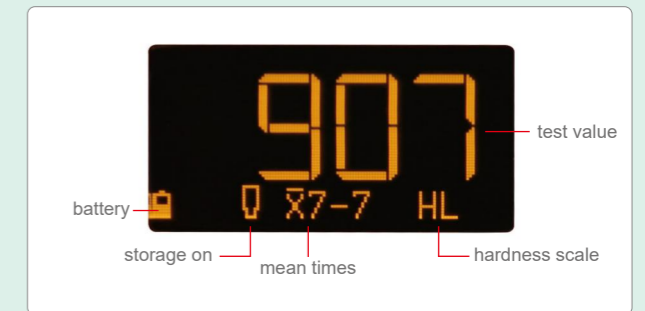
DATA OUTPUT DL PROBE IS OPTIONAL



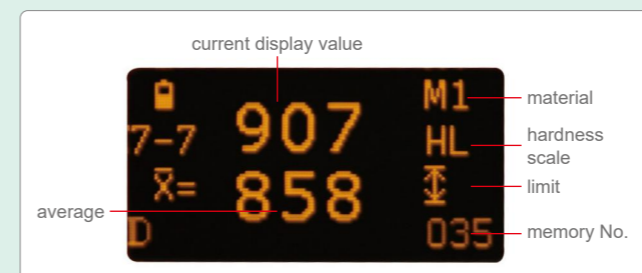
- Impact device D is included
- High contrast OLED display
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (σb)
- Dual value display, shows both Leeb and other conversion values
- No need to set the testing direction
- 31 files can be saved, each containing 100 measurement data
- Automatically calculate maximum, minimum, average value
- Connected to PC software via USB or Bluetooth
- Connected with printer via Bluetooth
- Operation temperature: -20°C-45°C
- According to ASTM A956, DIN 50156



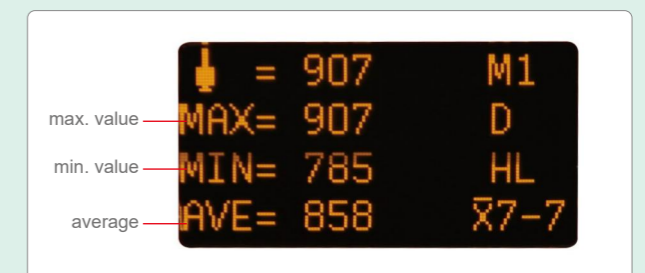
standard display



big character display



average display



statistical parameter display

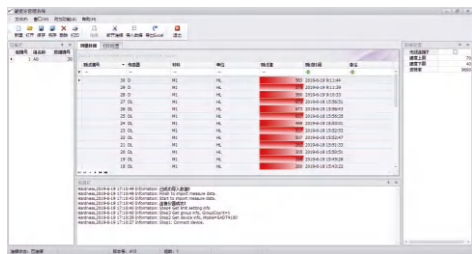
Continued from previous page

DL probe can be installed (optional)

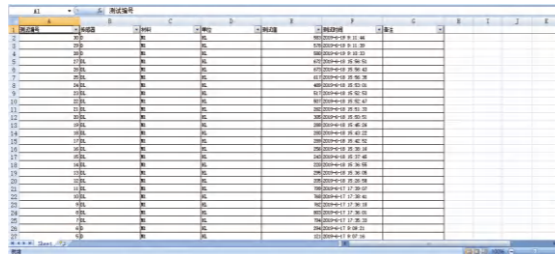


software (included), upload the memory to PC, print and send to Excel

upload the memory to PC software via USB cable or Bluetooth



send the stored data to Excel



**SPECIFICATION**

|                             |  |      |
|-----------------------------|--|------|
| <b>Resolution</b>           | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HSD, 16b  |      |
| <b>Accuracy</b>             | ±6HLD (when HLD=800)   |      |
| <b>Measuring range</b>      | HLD170-960, HRC17-70, HRB13-109, HB20-655, HV80-940, HSD32-99.5, HRA30-88, σb (rm) 255-2180N/mm <sup>2</sup> |      |
| <b>Applicable workpiece</b> | 5kg (direct measurement)   |      |
|                             | minimum weight   |      |
|                             | 2kg (on solid support)   |      |
|                             | 0.05kg (coupled on plate)  |      |
| <b>minimum thickness:</b>   | 5mm  |      |
|                             | minimum radius of curved surface:  | 30mm |
|                             | maximum roughness (Ra):  | 2μm  |
| <b>Output</b>               | USB and bluetooth  |      |
| <b>Power supply</b>         | built-in 3.7V Li-ion rechargeable battery  |      |
| <b>Dimension (L×W×H)</b>    | 148×44×28mm  |      |
| <b>Net weight</b>           | 110g   |      |



hardness test block D (included)



small support ring (included)



wireless printer (optional)



software flash disk (included)

**STANDARD DELIVERY**

|                                   |      |
|-----------------------------------|------|
| Main unit                         | 1 pc |
| Hardness test block D             | 1 pc |
| Small support ring                | 1 pc |
| Cleaning brush                    | 1 pc |
| AC/DC adapter                     | 1 pc |
| Software flash disk and USB cable | 1 pc |

**OPTIONAL ACCESSORY**

|                              |                   |
|------------------------------|-------------------|
| <b>Printer</b>               | ISH-LP200-PRINTER |
| <b>Support rings</b>         | ISH-PH-SP9        |
| <b>Hardness test block D</b> | HDT-B-HLD3        |
| <b>DL probe</b>              | HDT-L410-DL       |



**PEN-TYPE LEEB HARDNESS TESTER (ADVANCED TYPE)**

**CODE: HDT-L410**

DL PROBE IS OPTIONAL DATA OUTPUT HIGH ACCURACY

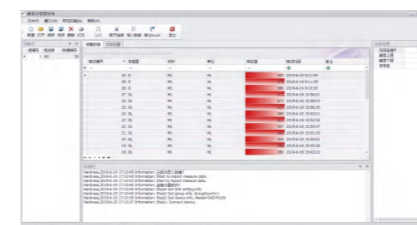


- Metal housing
- HD TFT 320×320 display
- Impact device D
- Four display modes
- Automatic direction correction
- Tolerance testing
- Connected with printer via Bluetooth
- Operating temperature: -20°C~70°C
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- According to ASTM A956, DIN 50156

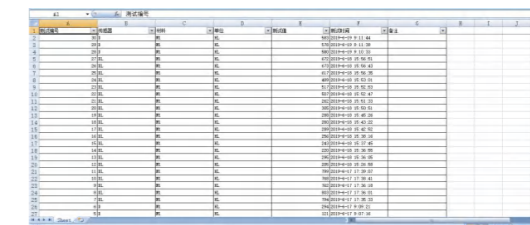


software (included), upload the memory to PC, print and export to Excel

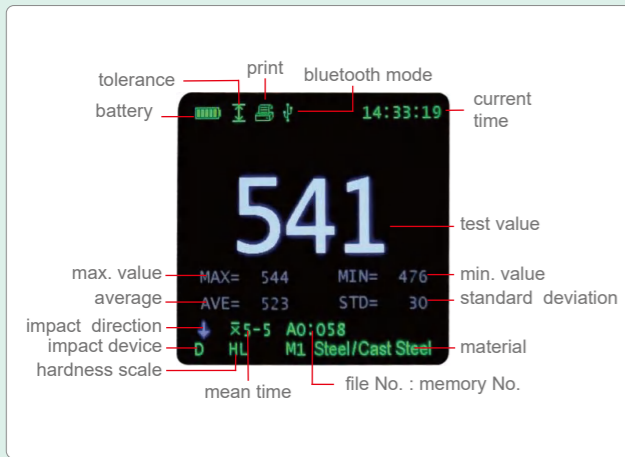
upload the memory to PC software via USB cable or Bluetooth



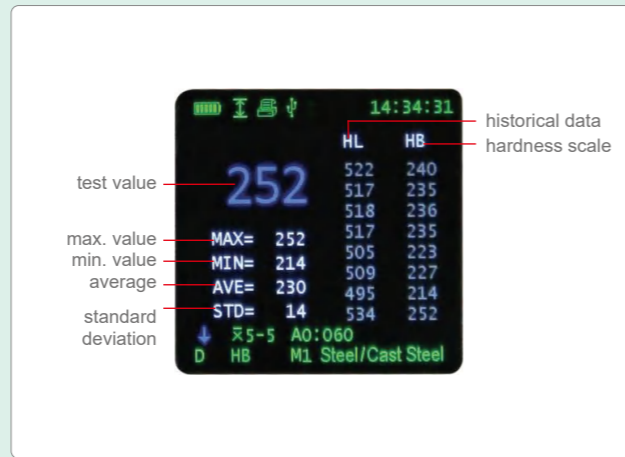
send the stored data to Excel



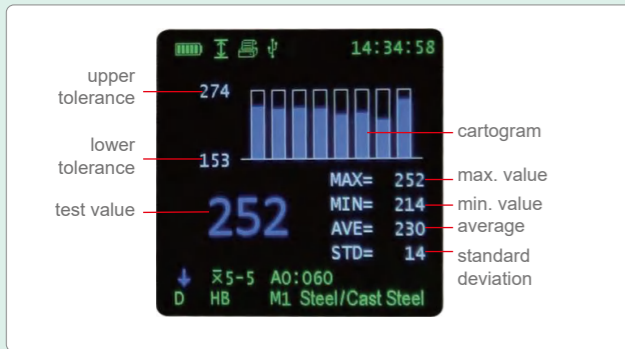
Continued from previous page



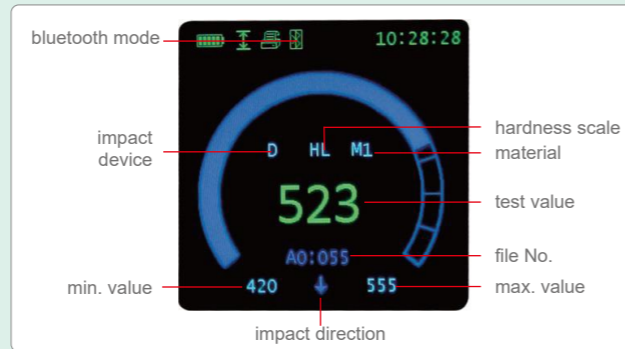
can choose large font display



statistic display



histogram display



dynamic ring display

DL probe can be installed (optional)



hardness test block D (included)



small support ring (included)



bluetooth printer (optional)



software flash disk (included)

To be continued

Continued from previous page

**SPECIFICATION**

|                             |   |   |
|-----------------------------|---|---|
| <b>Resolution</b>           | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM |   |
| <b>Accuracy</b>             | ±4HLD (when HLD=800)                                |   |
| <b>Output</b>               | USB and bluetooth                                   |   |
| <b>Applicable workpiece</b> | minimum weight                                      | 5kg (direct measurement)<br>2kg (on solid support)<br>0.05kg (coupled on plate) |
|                             | minimum thickness:                                  | 5mm   |
|                             | minimum radius of curved surface:                   | 30mm  |
|                             | maximum roughness (Ra):                             | 2µm   |
| <b>Power supply</b>         | built-in 3.7V rechargeable battery                  |   |
| <b>Dimension (L×W×H)</b>    | 148×44×22mm   |   |
| <b>Net weight</b>           | 115g  |   |

**STANDARD DELIVERY**

|  |      |
|--|------|
| <b>Main unit</b>                         | 1 pc |
| <b>Hardness test block D</b>             | 1 pc |
| <b>Small support ring</b>                | 1 pc |
| <b>Cleaning brush</b>                    | 1 pc |
| <b>AC/DC adapter</b>                     | 1 pc |
| <b>Software flash disk and USB cable</b> | 1 pc |

**OPTIONAL ACCESSORY**

|                              |                  |
|------------------------------|------------------|
| <b>Printer</b>               | HDT-L410-PRINTER |
| <b>Support rings</b>         | ISH-PH-SP9       |
| <b>Hardness test block D</b> | ISH-BHLD         |
| <b>DL probe</b>              | HDT-L410-DL      |



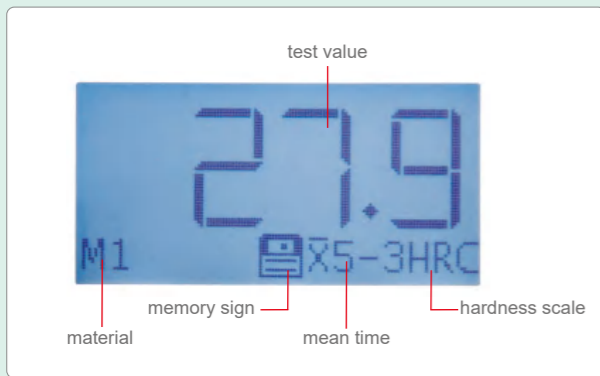
**PEN-TYPE LEEB HARDNESS TESTER (BASIC TYPE)**

**CODE: HDT-L411**

DATA OUTPUT



- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- Automatically calculate maximum, minimum, average value
- Can choose large font display
- High contrast digital LCD display
- Connected to PC via USB
- Save 999 data
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156



can choose large font display



hardness test block D (included)



small support ring (included)

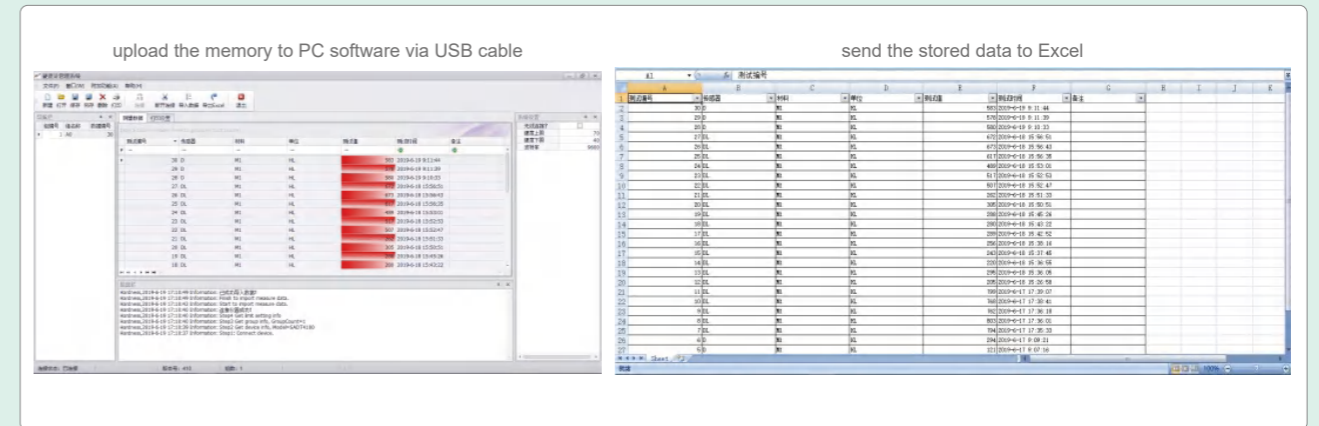


software flash disk (included)

To be continued

Continued from previous page

software (included), upload the memory to PC, print and send to Excel



**SPECIFICATION**

|                             |  |   |
|-----------------------------|--|---|
| <b>Resolution</b>           | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM  |   |
| <b>Accuracy</b>             | ±6HLD (when HLD=800)   |   |
| <b>Output</b>               | USB  |   |
| <b>Measuring range</b>      | HL 170-960, 7-89HRA, 13-109HRB, 17-70HRC, 20-655HB, 32-99.5HS, 80-940HV, 255-2639N/mm <sup>2</sup> |   |
| <b>Applicable workpiece</b> | minimum weight   | 5kg (direct measurement)<br>2kg (on solid support)<br>0.05kg (coupled on plate) |
|                             | minimum thickness  | 5mm   |
|                             | minimum radius of curved surface   | 30mm  |
|                             | maximum roughness (Ra)   | 2µm   |
| <b>Power supply</b>         | 1×AAA battery  |   |
| <b>Dimension (L×W×H)</b>    | 148×45×21mm  |   |
| <b>Net weight</b>           | 105g   |   |

**STANDARD DELIVERY**

|  |      |
|--|------|
| <b>Main unit</b>                         | 1 pc |
| <b>Hardness test block D</b>             | 1 pc |
| <b>Cleaning brush</b>                    | 1 pc |
| <b>AAA battery</b>                       | 1 pc |
| <b>Small support ring</b>                | 1 pc |
| <b>Software flash disk and USB cable</b> | 1 pc |

**OPTIONAL ACCESSORY**

|                              |            |
|------------------------------|------------|
| <b>Support rings</b>         | ISH-PH-SP9 |
| <b>Hardness test block D</b> | HDT-B-HLD3 |



### PEN-TYPE LEEB HARDNESS TESTER (TYPE G)

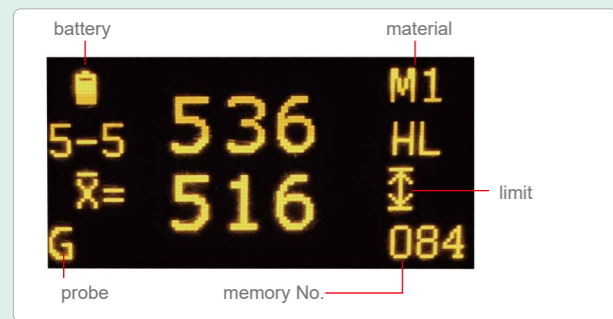
CODE: HDT-LG210

BUILT-IN BLUETOOTH

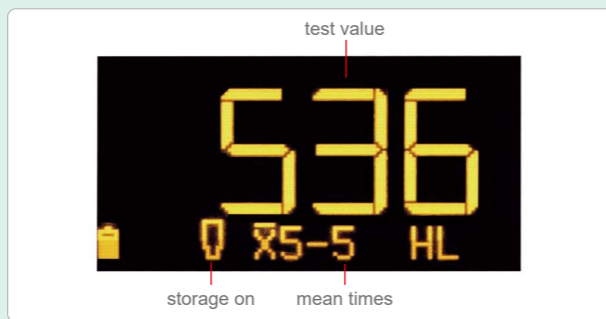


- Impact device G is included
- High contrast OLED display
- No need to set the testing direction
- Connected with printer via Bluetooth
- According to DIN 50156, EN ISO 16859, ASTM A956

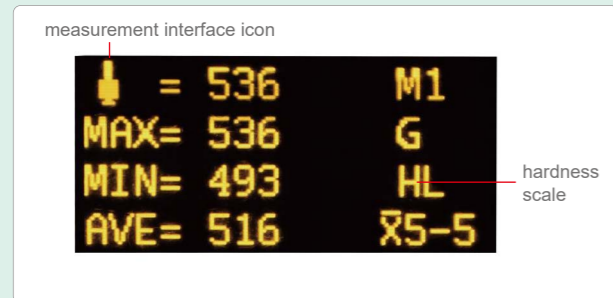
- Stores 31 files (100 test data points per files), supports Excel export
- Based on Leeb (HLG), converted to Rockwell (HRB), Brinell (HB). Dual value display, shows both Leeb and other conversion values
- Built-in Bluetooth, connected to PC software via USB



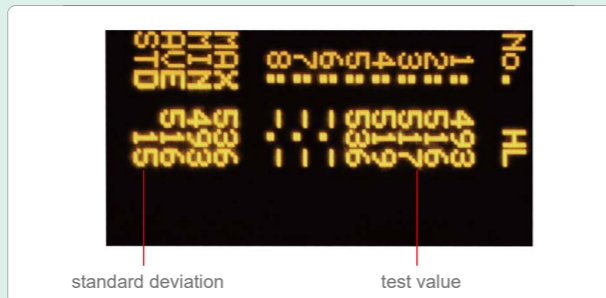
standard display



big character display



statistical parameter display



portrait display

To be continued

Continued from previous page

#### SPECIFICATION

|                     |   |
|---------------------|---|
| Accuracy            | ±6HLG   |
| Probe               | Type G  |
| Converted scales    | HLG, HRB, HB                                  |
| Range               | 300-750HLG, 47-100HRB, 90-650HB               |
| Resolution          | 1HLG, 0.1HRB, 1HB                             |
| Materials           | steel/cast steel, lamellar iron, nodular iron |
| Output              | Bluetooth and USB                             |
| Working environment | -40°C~70°C                                    |
| Power supply        | 3.7V li-ion rechargeable battery              |
| Dimension (L×W×H)   | 253×37×48mm                                   |
| Net weight          | 285g  |

#### STANDARD DELIVERY

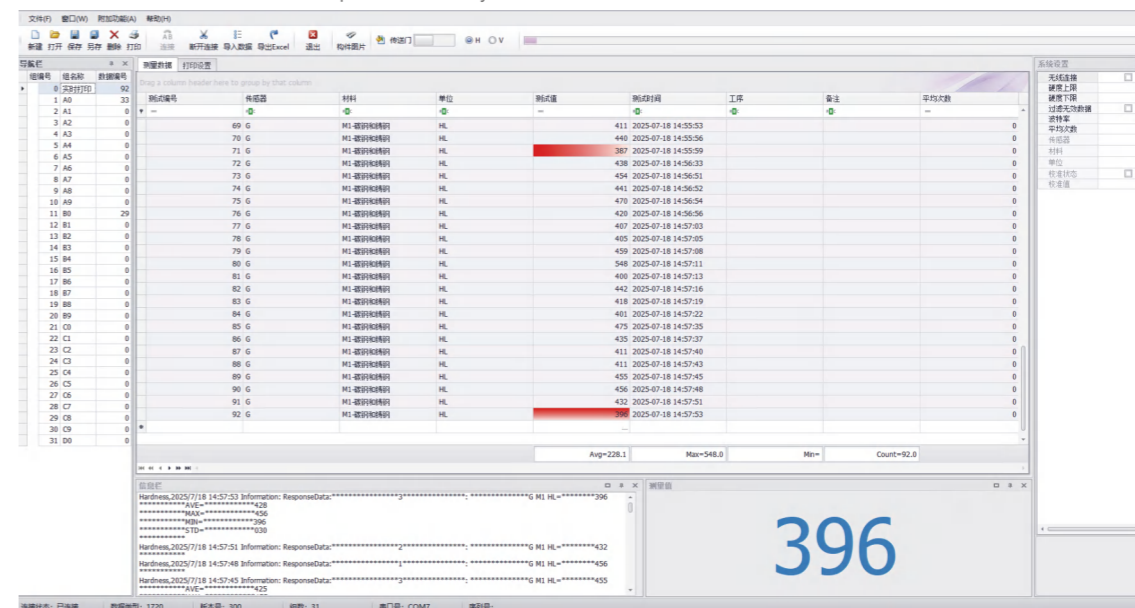
|                           |      |
|---------------------------|------|
| Main unit                 | 1 pc |
| Hardness test block (HLG) | 1 pc |
| Small support ring        | 1 pc |
| Cleaning brush            | 1 pc |
| Software and USB cable    | 1 pc |
| AC/DC adapter             | 1 pc |

#### OPTIONAL ACCESSORY

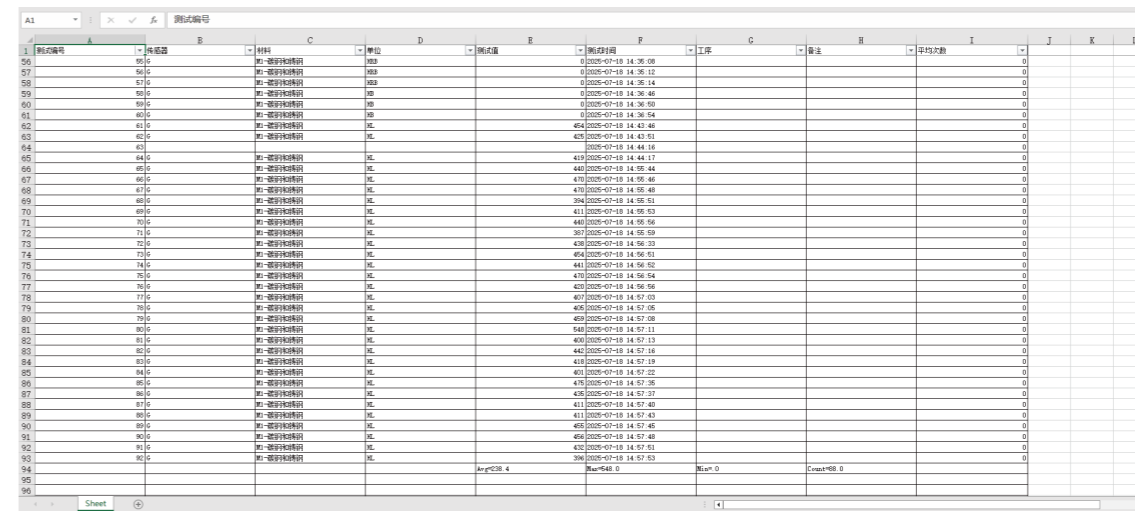
|                      |                   |
|----------------------|-------------------|
| Printer              | ISH-LP200-PRINTER |
| Hardness test blocks | page 117~122      |

software (included), upload the memory to PC, print and send to Excel

upload the memory to PC software via USB cable or Bluetooth

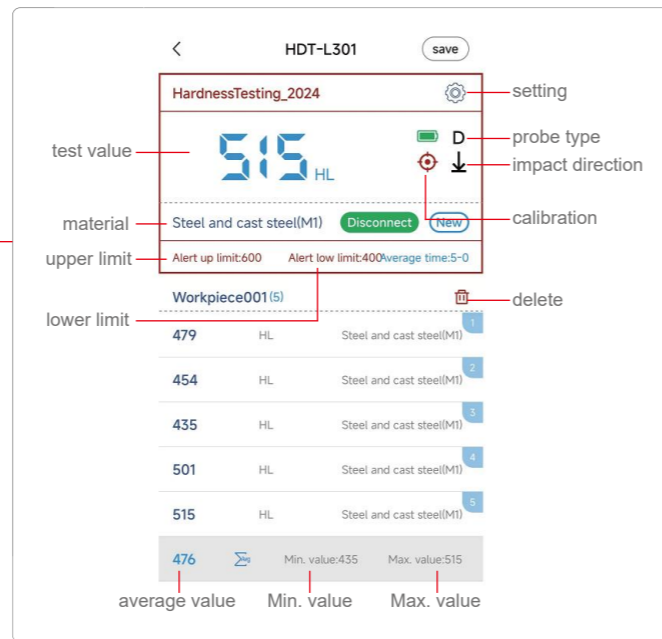


send the stored date to Excel





cell phone (optional)



Mobile App (included)

**MINI LEEB HARDNESS TESTER**  
CODE: HDT-L301

DATA OUTPUT

BUILT-IN BLUETOOTH

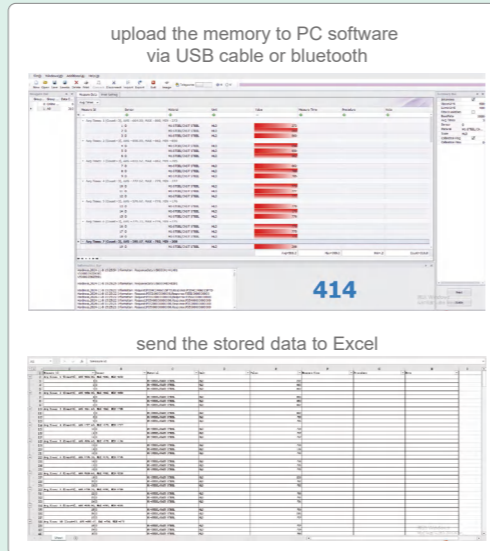
INSPECTION CERTIFICATE VIDEO



- One-handed operation is possible, making test easier and faster
- Suitable for testing hardness in small space
- All directions test, do not need to set impact direction
- The hardness value can be displayed on hardness tester and the cell phone App at the same time. It can also be connected by computer
- Automatic shutdown
- Support unlimited storage and sharing of test reports
- According to DIN 50156, EN ISO 16859, ASTM A956 standards

**SPECIFICATION**

|                       |  |
|-----------------------|--|
| Accuracy              | ±6HLD (when HLD=800)   |
| Impact device         | D  |
| Hardness scale        | HLD, HRA, HRB, HRC, HB, HS, HV, MPa  |
| Measurement range     | 170-960HLD, 7-88.5HRA, 1.2-140HRB, 1-74HRC, 18-1027HB, 3.9-112HS, 42-1220HV, 89-3300MPa  |
| Resolution            | 1HV, 0.1HRA, 0.1HRB, 0.1HRC, 1HB, 0.1HS, 1MPa  |
| Applicable material   | 1. steel/cast steel, 2. alloy tool steel, 3. stainless steel, 4. grey cast iron, 5. nodular cast iron, 6. cast aluminium, 7. brass, 8. bronze, 9. copper, 10. forged steel |
| Output                | USB and bluetooth  |
| Operation temperature | -20°C~45°C   |
| Power supply          | 3.7V Li-ion rechargeable battery   |
| Dimension (L×W×H)     | 88×30×20mm   |
| Net weight            | 45g  |



computer software (included)

**STANDARD DELIVERY**

|                        |      |
|------------------------|------|
| Main unit              | 1 pc |
| Hardness test block D  | 1 pc |
| Support ring           | 1 pc |
| Cleaning brush         | 1 pc |
| Loading rod            | 1 pc |
| USB cable and software | 1 pc |



**SUPPORT RING SET FOR PORTABLE LEEB HARDNESS TESTER**  
CODE: ISH-PH-SP9



**SPECIFICATION**

| Type | Applicable workpieces       | Range (mm)                        | Quantity |
|------|-----------------------------|-----------------------------------|----------|
| A    | cylindrical outside surface | R10~15<br>R14.5~30<br>R25~50      | 3 pcs    |
| B    | cylindrical inside surface  | R11~13<br>R12.5~17<br>R16.5~30    | 3 pcs    |
| C    | spherical inside surface    | SR11~13<br>SR12.5~17<br>SR16.5~30 | 3 pcs    |
| D    | spherical outside surface   | SR10~15<br>SR14.5~30              | 2 pcs    |
| E    | cylindrical outside surface | R>10                              | 1 pc     |

# 6 SHORE DUROMETERS

The shore durometer is a portable instrument used for measuring the hardness of non-metallic materials, especially polymer elastomers such as rubber, plastics, foam and certain soft plastics.

Its measurement principle involves characterizing the hardness of a material by measuring the depth of penetration of a specifically shaped indenter under a specific pressure. With its simple operation, quick reading and convenience for on-site use, it is the most commonly used and fundamental tool for quality control in industries such as rubber and plastics.



Simple to use — master it in one second



Compact and portable — fits in your pocket



## Model Selection Guide

| Code     | Unit | Display Method | Resolution | Materials for Measurement                        | Output        | Software |
|----------|------|----------------|------------|--|---------------|----------|
| ISH-DSA  | HA   | digital        | 0.1HA      | soft plastic, soft rubber, etc.                  | wireless, USB | ✓        |
| ISH-SAM  |      | pointer        | 1HA        |  | USB           | x        |
| ISH-S30A |      |                |            |  | x             |          |
| ISH-DSD  | HD   | digital        | 0.1HD      | hard plastic, hard rubber, etc.                  | wireless, USB | ✓        |
| ISH-SDM  |      | pointer        | 1HD        |  | USB           | x        |
| ISH-S30D |      |                |            |  | x             |          |
| ISH-DSOO | HOO  | digital        | 0.1HOO     | very soft plastic, rubber, sponge, textile, etc. | wireless, USB | ✓        |

## Application scenarios



Rubber Industry  
(Tires, hoses)



Plastic products industry  
(Plastic basins, buckets, engineering plastic parts)



Sponge, foam and soft packaging industries  
(Sofas, mattresses, pillows)



Daily necessities  
(Erasers, phone cases, etc.)



### DIGITAL SHORE DUROMETERS

DATA OUTPUT

- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Tolerance testing
- Wireless connection to printer
- Handhold use or work with test stand (code **ISH-DS-STANDA**)
- Automatic power off
- 500 memories



#### SPECIFICATION

| Code                | ISH-DSA                         | ISH-DSD                         | ISH-DSOO   |
|---------------------|---------------------------------|---------------------------------|--|
| Unit                | Shore A                         | Shore D                         | Shore OO   |
| Test material       | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. | very soft plastic, rubber, sponge, textile, etc. |
| Measuring range     | 0~100HA*                        | 0~100HD*                        | 0~100HOO   |
| Resolution          | 0.1HA                           | 0.1HD                           | 0.1HOO   |
| Accuracy            | ±1HA                            | ±1HD                            | ±2HOO  |
| Indenter protrusion | 2.5mm                           |                                 |  |
| Output              | wireless and USB                |                                 |  |
| Power supply        | built-in rechargeable battery   |                                 |  |
| Dimension (L×W×H)   | 115×47×24mm                     |                                 |  |
| Net weight          | 175g                            |                                 |  |

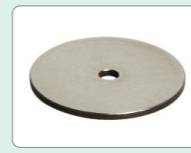
\*Use **ISH-DSD** when measuring result is higher than 90HA  
Use **ISH-DSA** when measuring result is lower than 20HD

#### STANDARD DELIVERY

|                        |      |
|------------------------|------|
| Main unit              | 1 pc |
| Calibration block      | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter          | 1 pc |



software flash disk (included)



calibration block (included)



printer (optional)

#### OPTIONAL ACCESSORY

|            |                       |
|------------|-----------------------|
| Printer    | <b>ISH-DS-PRINTER</b> |
| Test stand | <b>ISH-DS-STANDA</b>  |



### TEST STAND FOR DIGITAL SHORE DUROMETERS

CODE: **ISH-DS-STANDA**

- For digital shore durometers (code **ISH-DSA**, **ISH-DSD** and **ISH-DSOO**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A (included) is for **ISH-DSA**, weight block D (optional) is for **ISH-DSD**, remove weight block for **ISH-DSOO**



weight block D (optional) for ISH-DSD



#### SPECIFICATION

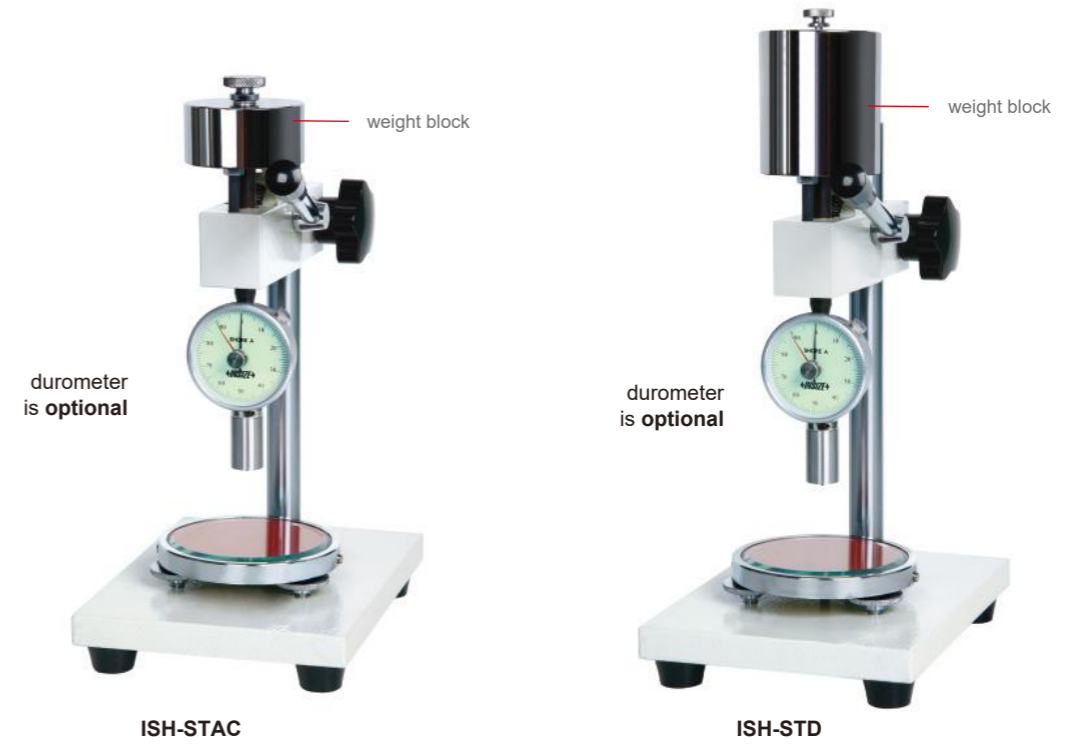
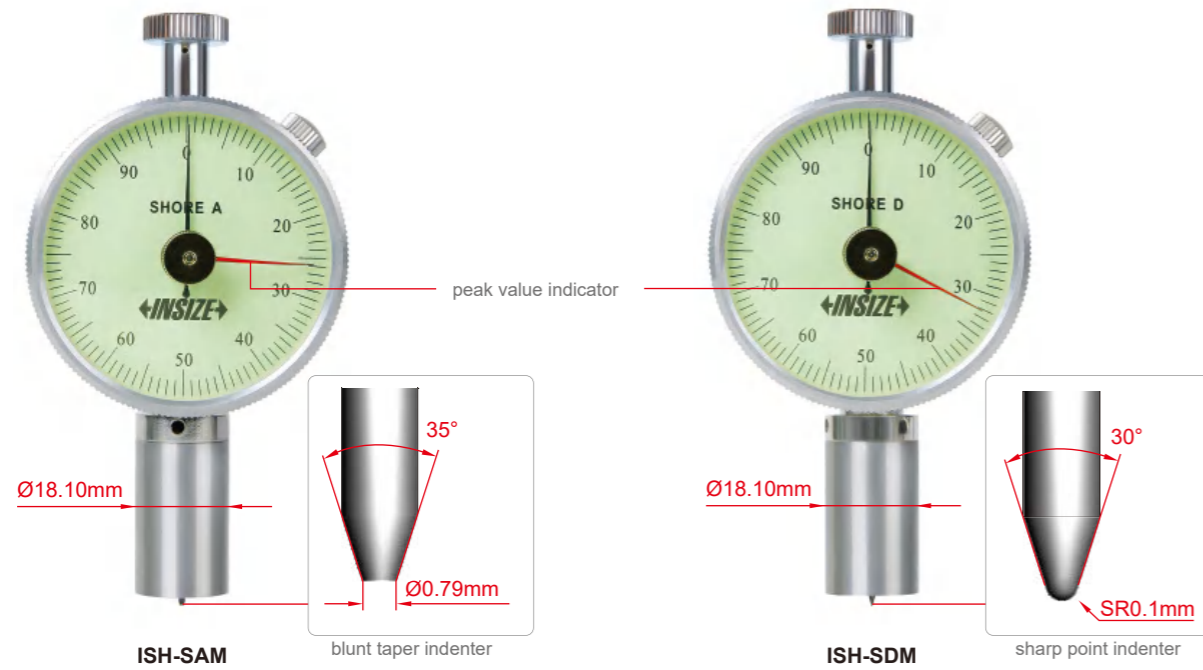
|                       |                                      |
|-----------------------|--------------------------------------|
| Stage diameter        | Ø115mm                               |
| Max. workpiece height | 45mm                                 |
| Max. testing width    | 63mm (from test point to the column) |
| Dimension             | Ø195×370mm                           |
| Net Weight            | 5.61kg                               |

#### STANDARD DELIVERY

|                              |      |
|------------------------------|------|
| Test stand                   | 1 pc |
| Weight block A (for ISH-DSA) | 1 pc |

#### OPTIONAL ACCESSORY

|                              |                  |
|------------------------------|------------------|
| Weight block D (for ISH-DSD) | <b>ISH-DS-W4</b> |
|------------------------------|------------------|



### SHORE DUROMETERS

- According to ISO 868, ISO 7619, ASTM D2240
- With peak value indicator
- Optional accessory: test stand ISH-STAC and ISH-STD



calibration block (optional)



#### SPECIFICATION

| Code                | ISH-SAM                             | ISH-SDM                                    |
|---------------------|-------------------------------------|--|
| Scale               | Shore A                             | Shore D                                    |
| Application         | nature rubber, soft elastomer, etc. | hard rubber, plastic, hard elastomer, etc. |
| Measuring range*    | 10~90HA                             | 20~90HD                                    |
| Graduation          | 1HA                                 | 1HD  |
| Indenter protrusion | 2.5mm                               |  |
| Dimension (L×W×H)   | 115×60×25mm                         |  |
| Net weight          | 160g                                |  |

\*Use ISH-SDM when measuring result is higher than 90HA  
Use ISH-SAM when measuring result is lower than 20HD

#### OPTIONAL ACCESSORY

|                   |              |
|-------------------|--------------|
| Calibration block | ISH-DS-BLOCK |
|-------------------|--------------|

### TEST STANDS FOR SHORE DUROMETERS

- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- For shore durometers (code ISH-SAM and ISH-SDM)



#### SPECIFICATION

| Code                  | ISH-STAC                             | ISH-STD                              |
|-----------------------|--------------------------------------|--------------------------------------|
| Applicable durometer  | ISH-SAM                              | ISH-SDM                              |
| Stage diameter        | Ø100mm                               | Ø100mm                               |
| Max. workpiece height | 75mm                                 | 75mm                                 |
| Max. testing width    | 65mm (from test point to the column) | 65mm (from test point to the column) |
| Weight block          | 1kg                                  | 5kg                                  |

## 7 ALUMINUM HARDNESS TESTERS

Aluminum hardness testers are portable, easy-to-operate instruments for hardness testing. One of them is primarily used for testing aluminum and aluminum alloy products (such as profiles, plates, pipes, castings and forgings) as well as materials like fiberglass and hard plastics. The other is mainly employed for measuring the hardness of non-ferrous metals and soft metals, such as aluminum, copper, brass and stainless steel and is particularly suitable for on-site rapid testing of aluminum profiles, pipes and plates.

Offering the most cost-effective and easiest-to-operate solution for non-destructive testing of relatively soft materials, such as non-ferrous metals, in production environments or on large workpieces.



Easy to carry



Simple to use



Built for aluminum



Fast to test



### Application scenarios



Aluminum profile / Aluminum products industry



Copper processing industry



ISHW-H10



ISHW-D20

## ALUMINUM HARDNESS TESTERS (BASIC TYPE)

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.

- According to ASTM B647



VIDEO

### SPECIFICATION

| Code  | ISHW-H10                       | ISHW-H11  | ISHW-H12                      | ISHW-H13                               | ISHW-H14                  | ISHW-H15                             |
|---|--------------------------------|---|-------------------------------|--|---------------------------|--------------------------------------|
| Application                                     | for aluminum alloy general use | for aluminum alloy thick workpiece  | for aluminum alloy small tube | for hard aluminum alloy and hard brass | for soft brass and copper | for soft steel and cold-rolled steel |
| Thickness requirement of flat workpiece         | 0.6~6mm                        | 0.6~13mm  | 0.6~8mm                       | 0.6~6mm                                | 0.6~6mm                   | 0.6~6mm                              |
| Internal diameter requirement of tube workpiece | >Ø10mm                         | >Ø10mm  | >Ø6mm                         | >Ø10mm                                 | >Ø10mm                    | >Ø10mm                               |
| Wall thickness requirement of tube workpiece    | 0.6~6mm                        | 6~13mm (internal diameter Ø10~23.3mm)<br>0.6~6mm (internal diameter >Ø23.3mm) | 0.6~8mm                       | 0.6~6mm                                | 0.6~6mm                   | 0.6~6mm                              |
| Hardness range                                  | 0~20HW                         |   |                               |  |                           |                                      |
| Resolution                                      | 1HW                            |   |                               |  |                           |                                      |
| Accuracy  | ±0.5HW (at 5~17HW)             |   |                               |  |                           |                                      |
| Dimension (L×W×H)                               | 205×30×95mm                    |   |                               |  |                           |                                      |
| Net weight                                      | 500g                           |   |                               |  |                           |                                      |

### STANDARD DELIVERY

|                     |      |
|---------------------|------|
| Main unit           | 1 pc |
| Spare indenter      | 1 pc |
| Hardness test block | 1 pc |
| Wrench              | 1 pc |

## DIGITAL ALUMINUM HARDNESS TESTERS

- To measure the hardness of soft metals such as aluminum profiles, tubes, plates, aluminum parts and other soft metals

- Easy to read, with peak hold function
- According to ASTM B647



VIDEO

### SPECIFICATION

| Code   | ISHW-D20                       | ISHW-D21   | ISHW-D22                       |
|--|--------------------------------|--|--------------------------------|
| Application                                      | for aluminum alloy general use | for aluminum alloy thick workpiece   | for aluminum alloy small tubes |
| Thickness requirement of flat workpieces         | 1~6mm                          | 1~13mm   | 1~6mm                          |
| Internal diameter requirement of tube workpieces | >Ø10mm                         | >Ø10mm   | >Ø6mm                          |
| Wall thickness requirement of tube workpieces    | 1~6mm                          | 6~13mm (internal diameter Ø10mm~24mm)<br>6~13mm (internal diameter >Ø24mm) | 1~6mm                          |
| Hardness range                                   | 0~20HW                         |  |                                |
| Resolution                                       | 0.1HW                          |  |                                |
| Accuracy   | ±0.5HW (at 5~18HW)             |  |                                |
| Dimension (L×W×H)                                | 203×44×105mm                   |  |                                |
| Net weight                                       | 500g                           |  |                                |

### STANDARD DELIVERY

|                         |       |
|-------------------------|-------|
| Main unit               | 1 pc  |
| Spare indenter          | 1 pc  |
| Hardness test block     | 1 pc  |
| Wrench                  | 1 pc  |
| Lithium battery         | 2 pcs |
| Lithium battery charger | 1 pc  |



ISHW-L20B

### ALUMINUM HARDNESS TESTERS

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.

- According to ASTM B647



#### SPECIFICATION

| Code  | ISHW-L20                       | ISHW-L20A   | ISHW-L20B                     | ISHW-B70                               | ISHW-B75                  | ISHW-B92                             |
|---|--------------------------------|---|-------------------------------|--|---------------------------|--------------------------------------|
| Application                                     | for aluminum alloy general use | for aluminum alloy thick workpiece  | for aluminum alloy small tube | for hard aluminum alloy and hard brass | for soft brass and copper | for soft steel and cold-rolled steel |
| Thickness requirement of flat workpiece         | 0.6~6mm                        | 0.6~13mm  | 0.6~8mm                       | 0.6~6mm                                | 0.6~6mm                   | 0.6~6mm                              |
| Internal diameter requirement of tube workpiece | >Ø10mm                         | >Ø10mm  | >Ø6mm                         | >Ø10mm                                 | >Ø10mm                    | >Ø10mm                               |
| Wall thickness requirement of tube workpiece    | 0.6~6mm                        | 6~13mm (internal diameter Ø10~23.3mm)<br>0.6~6mm (internal diameter >Ø23.3mm) | 0.6~8mm                       | 0.6~6mm                                | 0.6~6mm                   | 0.6~6mm                              |
| Hardness range                                  | 0~20HW                         |   |                               |  |                           |                                      |
| Resolution                                      | 1HW                            |   |                               |  |                           |                                      |
| Accuracy  | ±0.5HW (at 5~17HW)             |   |                               |  |                           |                                      |
| Dimension (L×W×H)                               | 205×30×85mm                    |   |                               |  |                           |                                      |
| Net weight                                      | 500g                           |   |                               |  |                           |                                      |

#### STANDARD DELIVERY

|                     |      |
|---------------------|------|
| Main unit           | 1 pc |
| Spare indenter      | 1 pc |
| Hardness test block | 1 pc |
| Wrench              | 1 pc |



ISHW-EH30

ISHW-ED31

### ELECTRIC ALUMINUM HARDNESS TESTERS

ONE-BUTTON MEASUREMENT

- According to ASTM B647
- To measure the hardness of soft metal such as aluminum profiles, tubes, plates, aluminum parts, copper alloy and other soft metals
- Easy to carry and read
- Using one-button measurement, micro servo motor as the power, accurate control of the applied force, improve the stability of the measurement
- The needle is made of special material for long life



#### SPECIFICATION

| Code                                      | ISHW-EH20                    | ISHW-EH30 | ISHW-ED21                          | ISHW-ED31 |
|---|------------------------------|-----------|------------------------------------|-----------|
| Display mode                              | pointer                      |           | digital                            |           |
| Conversion scale                          | /                            |           | 934-1 (Barcol), HRE, HRF, HV, HBS* |           |
| Thickness requirement of flat workpieces  | 1~5mm                        | 1~5mm     | 1~5mm                              | 1~5mm     |
| Pipe workpiece inner diameter requirement | >Ø10mm                       | >Ø6.5mm   | >Ø10mm                             | >Ø6.5mm   |
| Pipe workpiece wall thickness requirement | 1~5mm                        | 1~5mm     | 1~5mm                              | 1~5mm     |
| Hardness range                            | 0~20HW                       |           |                                    |           |
| Resolution                                | 1HW                          |           | 0.1HW                              |           |
| Accuracy                                  | ±0.5HW (at 5~18HW)           |           |                                    |           |
| Power supply                              | rechargeable lithium battery |           |                                    |           |
| Dimension (L×W×H)                         | 187×38×118mm                 |           | 187×38×131mm                       |           |
| Net weight                                | 906g                         |           | 934g                               |           |

\*Conversion scale values are only for reference, there is no direct conversion standard

#### STANDARD DELIVERY

| Code                    | ISHW-EH20 | ISHW-EH30 | ISHW-ED21 | ISHW-ED31 |
|-------------------------|-----------|-----------|-----------|-----------|
| Main unit               | 1 pc      | 1 pc      | 1 pc      | 1 pc      |
| Hardness test block     | 1 pc      | 1 pc      | 1 pc      | 1 pc      |
| Spare indenter          | 1 pc      | 1 pc      | 1 pc      | 1 pc      |
| Hex wrench              | 1 pc      | 1 pc      | —         | —         |
| Calibration wrench      | 1 pc      | 1 pc      | 1 pc      | 1 pc      |
| Lithium battery         | 1 pc      | 1 pc      | 1 pc      | 1 pc      |
| Lithium battery charger | 1 pc      | 1 pc      | 1 pc      | 1 pc      |



## ALUMINUM HARDNESS TESTER

CODE: ISHB-B300

- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648, ASTM D2853



### SPECIFICATION

|                          |  |
|--------------------------|--|
| Hardness range           | 0~100HBa                                   |
| Effective range          | 35~90HBa (equal to 25~150HBW)              |
| Resolution               | 1HBa                                       |
| Accuracy                 | ±2HBa (at 42~52HBa)<br>±1HBa (at 84~88HBa) |
| Min. workpiece thickness | 0.8mm                                      |
| Dimension (L×W×H)        | 142×65×90mm                                |
| Net weight               | 500g                                       |

### STANDARD DELIVERY

|                      |       |
|----------------------|-------|
| Main unit            | 1 pc  |
| Spare indenter       | 2 pcs |
| Hardness test blocks | 2 pcs |
| Wrench               | 1 pc  |



## DIGITAL ALUMINUM HARDNESS TESTER

CODE: HDT-DB337



- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- The support can be rotated, no need to disassemble
- Can be converted to HW, HRE, HRF, HV, HB values
- Full scale one key reset, no need to disassemble for external calibration
- According to ASTM B648, ASTM D2583



### SPECIFICATION

|                          |  |
|--------------------------|--|
| Hardness range           | 0~100HBa                                       |
| Effective range          | 40~90HBa (equal to 25~135HBW)                  |
| Resolution               | 0.1HBa   |
| Accuracy                 | ±2.0HBa (at 42~52HBa)<br>±1.0HBa (at 84~88HBa) |
| Repeatability            | ±2.5HBa (at 42~52HBa)<br>±1.5HBa (at 84~88HBa) |
| Min. workpiece thickness | 1.5mm  |
| Dimension (L×W×H)        | 143×40×87mm                                    |
| Net weight               | 260g   |

### STANDARD DELIVERY

|                              |       |
|------------------------------|-------|
| Main unit                    | 1 pc  |
| Full scale calibration block | 1 pc  |
| Hardness test blocks         | 2 pcs |
| Spare pin                    | 1 pc  |
| Wrench                       | 1 pc  |
| Power adapter                | 1 pc  |

## 8 ULTRASONIC HARDNESS TESTERS

The ultrasonic hardness tester is a portable, non-destructive or minimally invasive advanced testing instrument that utilizes the principle of ultrasonic vibration to measure material hardness. It represents a significant technological evolution from traditional hardness testers and is particularly suitable for on-site applications, online monitoring and scenarios where strict limitations on workpiece damage are required.

Minimal testing force, tiny indentation, and no impact on the aesthetics or performance of the workpiece. Portable and compact design, with fast measurement speed, making it highly suitable for rapid testing of large batches or oversized workpieces.



Pocket-sized & portable



Rapid measurement



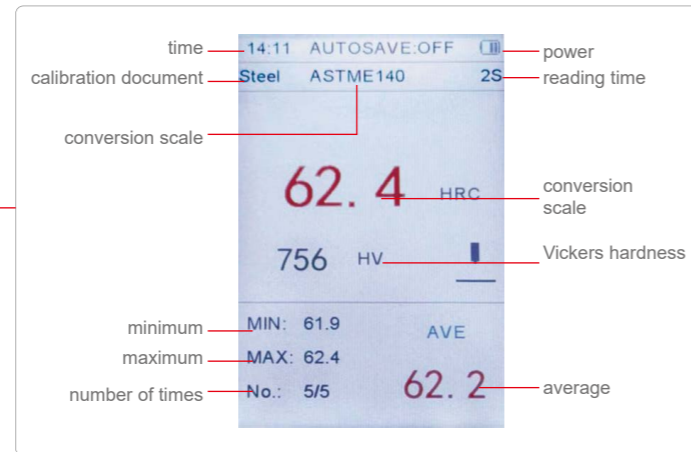
Micro-indentation



360° measurement supported



POPULAR MODEL



### ULTRASONIC HARDNESS TESTERS

ATTENTION: NEED TO CONFIRM IF THE WORKPIECES ARE SUITABLE BEFORE PURCHASE



- Small size, light weight, portable, convenient for on-line measurement and can be used to measure large workpieces
- 100 measurement data sets and 10 calibration data sets can be stored
- Support 360° measurement, fast test speed, the fastest results in 1 second
- Standard Vickers indentation, small test indentation and low damage to the workpiece
- Large display, directly shows the current measured value, maximum value, minimum value, average value and unit conversion value
- For unspecified conversion tables and unknown materials, multi-point calibration on any hardness scale you can choose to eliminate of systematic errors due to conversion tables
- According to DIN 50159, ASTM A1038 standards

SMALL TEST INDENTATION

WIRELESS TRANSMISSION IS OPTIONAL

ATTENTION: HARDNESS BLOCKS FOR CALIBRATION ARE OPTIONAL



#### SPECIFICATION

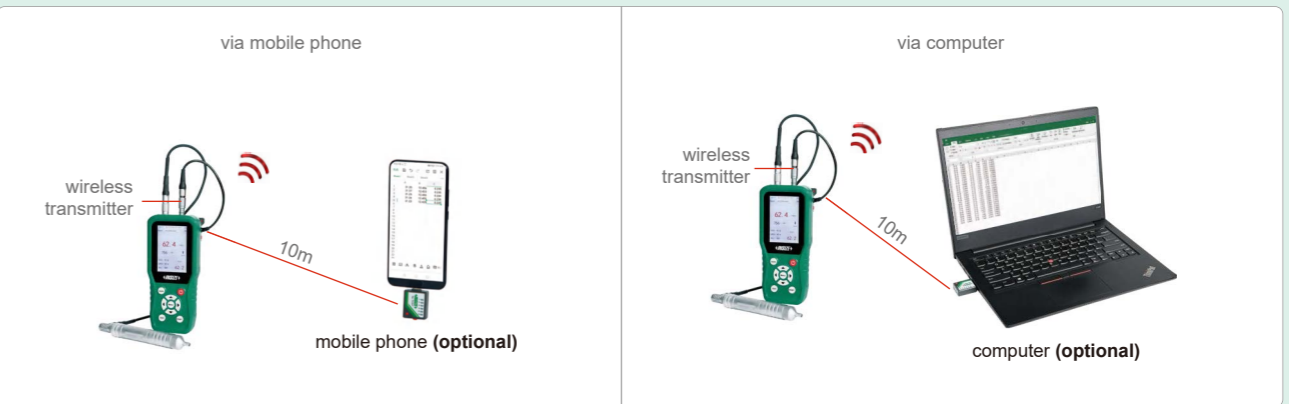
| Code                           | 9646-300   | 9646-301               | 9646-310        | 9646-311               |
|--------------------------------|--|------------------------|-----------------|------------------------|
| Test force of probe            | 19.6N (2kgf)   |                        | 49N (5kgf)      |                        |
| Data printout                  | without printer  | with bluetooth printer | without printer | with bluetooth printer |
| Main test parameter            | HV   |                        |                 |                        |
| Convertible parameters         | HRA, HRB, HRC, HBW, HS, MPa  |                        |                 |                        |
| Measurement range              | 50-1599HV, 20-68HRC, 85-650HB, 41-100HRB, 61-85.6HRA, 34.2-97.3HS, 255-2180MPa   |                        |                 |                        |
| Resolution                     | 1HV, 0.1HRA, 0.1HRB, 0.1HRC, 1HB, 0.1HS, 1MPa                                    |                        |                 |                        |
| Accuracy                       | ±4%HV, ±4%HB, ±1.5HR   |                        |                 |                        |
| Calibration method             | normal material: one-point calibration special material: multi-point calibration |                        |                 |                        |
| Operation temperature          | -10°C~40°C   |                        |                 |                        |
| Power supply                   | built-in rechargeable lithium battery (for 10 hours working)                     |                        |                 |                        |
| Dimension of main unit (LxWxH) | 190×82×30mm  |                        |                 |                        |
| Dimension of probe             | 150×Ø22mm  |                        |                 |                        |
| Net weight                     | 540g   |                        |                 |                        |

Continued from previous page

#### Applications:

1. Hardness measurement of flange edges and gear root stampings, gears and gear grooves with surface hardening of lamina, taper sections
2. Hardness measurement of shafts and thin-walled pipes and container
3. Hardness measurement of thin plating, wheels, turbine rotors and welded parts
4. Measurement of the depth of a certain diameter deep holes, dents of the larger curvature and convex marks, irregular planes
5. Covering the majority of hardness measurement of industrial production of ferrous metals, non-ferrous metals and their alloys

can send data to Excel, TXT and other documents by connecting to mobile phone or computer via optional 7315 series wireless transmission systems



stand (optional), suitable for measuring small workpieces, fast and stable



magnetic stand (optional), suitable for measuring large flat surface and shaft workpiece, with stable adsorption



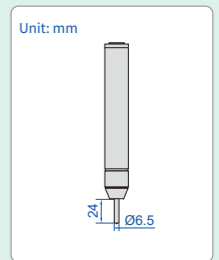
wireless transmitter (optional)



flat base (optional), suitable for measuring flat surface



bluetooth printer (included in 9646-301 and 9646-311)



long probe (optional)

Continued from previous page

**STANDARD DELIVERY**

| Code                           | 9646-300 | 9646-301 | 9646-310 | 9646-311 |
|--------------------------------|----------|----------|----------|----------|
| Main unit                      | 1 pc     | 1 pc     | 1 pc     | 1 pc     |
| 19.6N manual probe             | 1 pc     | 1 pc     | —        | —        |
| 49N manual probe               | —        | —        | 1 pc     | 1 pc     |
| Bluetooth printer              | —        | 1 pc     | —        | 1 pc     |
| Charger                        | 1 pc     | 1 pc     | 1 pc     | 1 pc     |
| USB cable                      | 1 pc     | 1 pc     | 1 pc     | 1 pc     |
| Ultrasonic hardness test block | 1 pc     | 1 pc     | 1 pc     | 1 pc     |

**OPTIONAL ACCESSORY**

|   |                  |
|---|------------------|
| 9.8N manual probe                         | 9646-300-10      |
| 29.4N manual probe                        | 9646-300-30      |
| 49N manual probe                          | 9646-300-50      |
| 98N manual probe                          | 9646-300-98      |
| 9.8N manual long probe                    | 9646-300-10L     |
| 19.6N manual long probe                   | 9646-300-20L     |
| 29.4N manual long probe                   | 9646-300-30L     |
| 49N manual long probe                     | 9646-300-50L     |
| 98N manual long probe                     | 9646-300-98L     |
| Stand                                     | 9646-300-STAND   |
| Magnetic stand                            | 9646-STANDV      |
| Flat base                                 | 9646-300-FLAT    |
| Wireless transmitter (receiver is needed) | 7315-9646        |
| Receiver                                  | 7315-2/3/6/7/8/9 |
| Ultrasonic hardness test blocks           | page 121         |

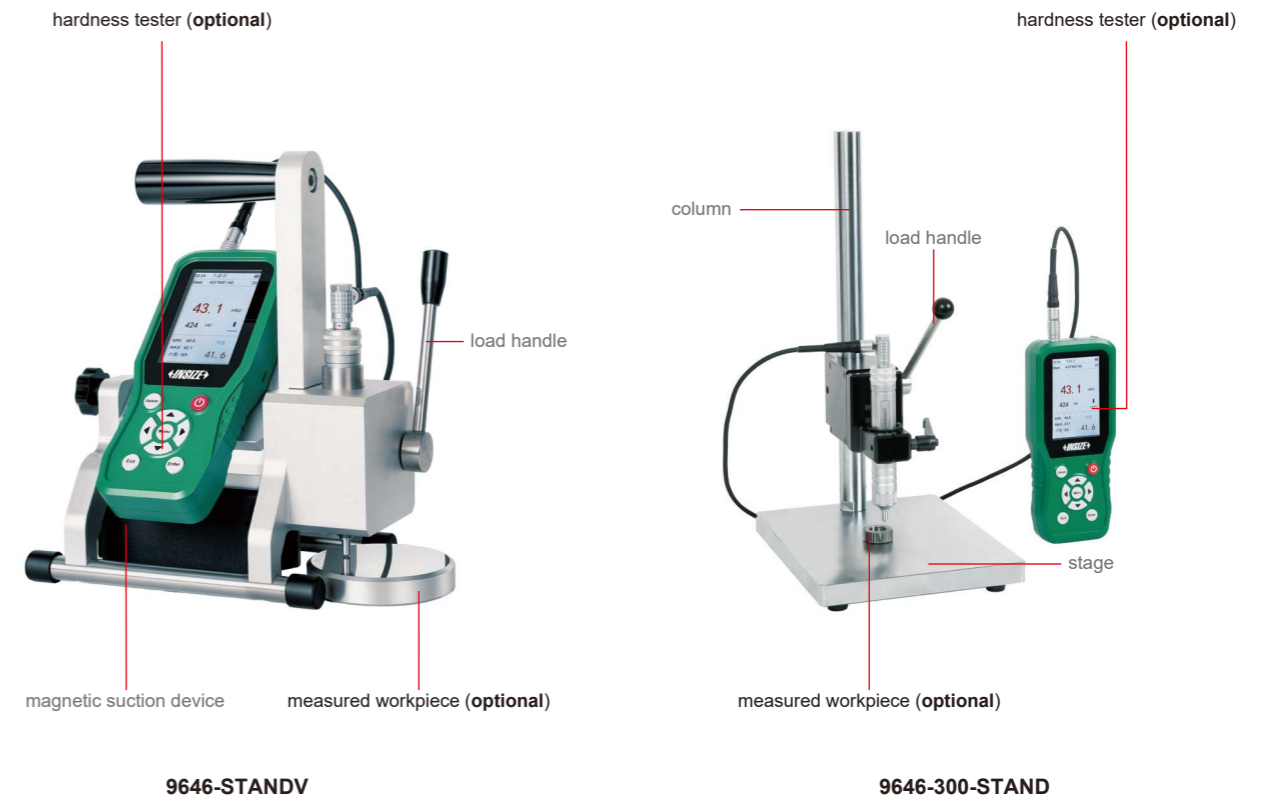
**SPECIFICATION OF PROBE**

| Probe type                             | 9.8N   | 19.6N  | 29.4N  | 49N  | 98N**                                     |
|--|--|--------|--------|--|---|
| Diameter                               | 22mm   | 22mm   | 22mm   | 22mm   | 22mm                                      |
| Length                                 | 150mm  | 150mm  | 150mm  | 150mm  | 150mm                                     |
| Maximum roughness of measuring surface | Ra<3.2μm   | Ra<5μm | Ra<5μm | Ra<10μm  | Ra<15μm                                   |
| Minimum workpiece weight               | 0.3kg*   | 0.3kg* | 0.3kg* | 0.3kg*   | 0.3kg*                                    |
| Minimum thickness of workpiece         | 2mm  | 2mm    | 2mm    | 2mm  | 2mm                                       |
| Application                            | mold shells, fixtures, thin-walled parts, bearings, tooth sides and pipe interiors |        |        | measurement of grooves, gear flanks and gear roots | workpieces with low roughness requirement |

\*If the weight or thickness of workpieces is less than required, the workpieces should be fixed or coupled on solid support

\*\*For large test force, it is recommended to use the probe with a stand

Note: when replacing optional probes, a multi-point calibration with more than three calibration blocks must be performed before use

**TEST STANDS FOR ULTRASONIC HARDNESS TESTERS**

- Suitable for 9646 series ultrasonic hardness testers
- Reduce the human error caused by manual operation of hardness tester, and improve the measuring accuracy and repeatability

**SPECIFICATION**

| Code                 | 9646-STANDV  | 9646-300-STAND               |
|----------------------|--|------------------------------|
| Type                 | magnetic base  | normal base                  |
| Applicable workpiece | large flat and shaft-shaped workpieces   | small workpieces             |
| Workpiece dimension  | Min. magnetic suction plane size: 170×50mm<br>Min. magnetic suction cylinder diameter: Ø20mm | Max. workpiece height: 210mm |
| Dimension (L×W×H)    | 220×130×260mm  | 220×180×380mm                |
| Net weight           | 4.6kg  | 3.6kg                        |

## 9 HARDNESS TEST BLOCKS

Hardness test blocks are critical yet often overlooked component in hardness measurement systems. No matter how precise a hardness tester is, if it is calibrated with expired or non-compliant test blocks, all its measurement results become unreliable.

They serve as the bridge linking national hardness standards to on-site measurement data, and act as the gatekeeper ensuring the reliability of product quality data.



Excellent stability



Durable & long-lasting





Rockwell



Vickers



Leeb

**HARDNESS TEST BLOCKS**



- Supplied with manufacturer inspection certificate

**ROCKWELL HARDNESS TEST BLOCKS**

| Code       | Type | Hardness | Dimension                                       |
|------------|------|----------|---|
| HDT-B-HRA  | HRA  | 80-84    | diameter:<br>(60±1)mm<br>thickness:<br>(11±1)mm |
| HDT-B-HRB  | HRB  | 88-100   |   |
| HDT-B-HRC1 | HRC  | 20-30    |   |
| HDT-B-HRC2 | HRC  | 45-55    |   |
| HDT-B-HRC3 | HRC  | 60-65    |   |
| HDT-B-HRD1 | HRD  | 40-47    |   |
| HDT-B-HRD2 | HRD  | 55-63    |   |
| HDT-B-HRD3 | HRD  | 70-75    |   |
| HDT-B-HRE  | HRE  | 107-114  |   |
| HDT-B-HRF  | HRF  | 106-127  |   |
| HDT-B-HRG1 | HRG  | 30-66    |   |
| HDT-B-HRG2 | HRG  | 66-129   |   |

**ROCKWELL SUPERFICIAL HARDNESS TEST BLOCKS**

| Code         | Type  | Hardness | Dimension                                       |
|--------------|-------|----------|---|
| HDT-B-HR15N1 | HR15N | 70-77    | diameter:<br>(60±1)mm<br>thickness:<br>(11±1)mm |
| HDT-B-HR15N2 | HR15N | 78-88    |   |
| HDT-B-HR15N3 | HR15N | 89-91    |   |
| HDT-B-HR30N1 | HR30N | 42-54    |   |
| HDT-B-HR30N2 | HR30N | 55-73    |   |
| HDT-B-HR30N3 | HR30N | 74-80    |   |
| HDT-B-HR45N1 | HR45N | 20-31    |   |
| HDT-B-HR45N2 | HR45N | 32-61    |   |
| HDT-B-HR45N3 | HR45N | 63-70    |   |
| HDT-B-HR15T  | HR15T | 90-100   |   |
| HDT-B-HR30T  | HR30T | 75-100   |   |
| HDT-B-HR45T  | HR45T | 60-100   |   |

**LEEB HARDNESS TEST BLOCKS**

| Code       | Type | Hardness | Dimension                                |
|------------|------|----------|--|
| HDT-B-HLD1 | HLD  | 490-570  | diameter:(90±1)mm<br>thickness:(55±1)mm  |
| HDT-B-HLD2 | HLD  | 590-670  |  |
| HDT-B-HLD3 | HLD  | 750-830  |  |
| HDT-B-HLG1 | HLG  | 460-540  | diameter:(120±1)mm<br>thickness:(70±1)mm |
| HDT-B-HLG2 | HLG  | 550-630  |  |

**VICKERS HARDNESS TEST BLOCKS**

| Code         | Type  | Hardness | Dimension                                       |
|--------------|-------|----------|---|
| HDT-B-HV5A   | HV5   | 140-200  | diameter:<br>(60±1)mm<br>thickness:<br>(11±1)mm |
| HDT-B-HV5B   | HV5   | 200-300  |   |
| HDT-B-HV5C   | HV5   | 300-400  |   |
| HDT-B-HV5D   | HV5   | 400-500  |   |
| HDT-B-HV5E   | HV5   | 500-600  |   |
| HDT-B-HV5F   | HV5   | 600-700  |   |
| HDT-B-HV5G   | HV5   | 700-750  |   |
| HDT-B-HV10A  | HV10  | 140-200  |   |
| HDT-B-HV10B  | HV10  | 200-300  |   |
| HDT-B-HV10C  | HV10  | 300-400  |   |
| HDT-B-HV10D  | HV10  | 400-500  |   |
| HDT-B-HV10E  | HV10  | 500-600  |   |
| HDT-B-HV10F  | HV10  | 600-700  |   |
| HDT-B-HV10G  | HV10  | 700-750  |   |
| HDT-B-HV30A  | HV30  | 140-200  |   |
| HDT-B-HV30B  | HV30  | 200-300  |   |
| HDT-B-HV30C  | HV30  | 300-400  |   |
| HDT-B-HV30D  | HV30  | 400-500  |   |
| HDT-B-HV30E  | HV30  | 500-600  |   |
| HDT-B-HV30F  | HV30  | 600-700  |   |
| HDT-B-HV30G  | HV30  | 700-750  |   |
| HDT-B-HV50A  | HV50  | 140-200  |   |
| HDT-B-HV50B  | HV50  | 200-300  |   |
| HDT-B-HV50C  | HV50  | 300-400  |   |
| HDT-B-HV50D  | HV50  | 400-500  |   |
| HDT-B-HV50E  | HV50  | 500-600  |   |
| HDT-B-HV50F  | HV50  | 600-700  |   |
| HDT-B-HV50G  | HV50  | 700-750  |   |
| HDT-B-HV100A | HV100 | 140-200  |   |
| HDT-B-HV100B | HV100 | 200-300  |   |
| HDT-B-HV100C | HV100 | 300-400  |   |
| HDT-B-HV100D | HV100 | 400-500  |   |
| HDT-B-HV100E | HV100 | 500-600  |   |
| HDT-B-HV100F | HV100 | 600-700  |   |
| HDT-B-HV100G | HV100 | 700-750  |   |

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Micro-Vickers



Brinell

**MICRO-VICKERS HARDNESS TEST BLOCKS**

| Code         | Type   | Hardness | Dimension                                      |
|--------------|--------|----------|--|
| HDT-B-HV005A | HV0.05 | 200-300  | diameter:<br>(25±1)mm<br>thickness:<br>(6±2)mm |
| HDT-B-HV005B | HV0.05 | 300-400  |  |
| HDT-B-HV005C | HV0.05 | 400-500  |  |
| HDT-B-HV005D | HV0.05 | 500-600  |  |
| HDT-B-HV005E | HV0.05 | 600-700  |  |
| HDT-B-HV005F | HV0.05 | 700-830  |  |
| HDT-B-HV01A  | HV0.1  | 200-300  |  |
| HDT-B-HV01B  | HV0.1  | 300-400  |  |
| HDT-B-HV01C  | HV0.1  | 400-500  |  |
| HDT-B-HV01D  | HV0.1  | 500-600  |  |
| HDT-B-HV01E  | HV0.1  | 600-700  |  |
| HDT-B-HV01F  | HV0.1  | 700-830  |  |
| HDT-B-HV02A  | HV0.2  | 200-300  |  |
| HDT-B-HV02B  | HV0.2  | 300-400  |  |
| HDT-B-HV02C  | HV0.2  | 400-500  |  |
| HDT-B-HV02D  | HV0.2  | 500-600  |  |
| HDT-B-HV02E  | HV0.2  | 600-700  |  |
| HDT-B-HV02F  | HV0.2  | 700-830  |  |
| HDT-B-HV03A  | HV0.3  | 200-300  |  |
| HDT-B-HV03B  | HV0.3  | 300-400  |  |
| HDT-B-HV03C  | HV0.3  | 400-500  |  |
| HDT-B-HV03D  | HV0.3  | 500-600  |  |
| HDT-B-HV03E  | HV0.3  | 600-700  |  |
| HDT-B-HV03F  | HV0.3  | 700-830  |  |
| HDT-B-HV05A  | HV0.5  | 200-300  |  |
| HDT-B-HV05B  | HV0.5  | 300-400  |  |
| HDT-B-HV05C  | HV0.5  | 400-500  |  |
| HDT-B-HV05D  | HV0.5  | 500-600  |  |
| HDT-B-HV05E  | HV0.5  | 600-700  |  |
| HDT-B-HV05F  | HV0.5  | 700-830  |  |
| HDT-B-HV1A   | HV1    | 200-300  |  |
| HDT-B-HV1B   | HV1    | 300-400  |  |
| HDT-B-HV1C   | HV1    | 400-500  |  |
| HDT-B-HV1D   | HV1    | 500-600  |  |
| HDT-B-HV1E   | HV1    | 600-700  |  |
| HDT-B-HV1F   | HV1    | 700-830  |  |

**BRINELL HARDNESS TEST BLOCKS**

| Code         | Type         | Hardness | Dimension                                     |
|--------------|--------------|----------|---|
| HDT-B-HB10A1 | HBW10/3000   | 75-150   | diameter:<br>(100±1)mm<br>thickness:<br>>16mm |
| HDT-B-HB10A2 | HBW10/3000   | 180-300  |   |
| HDT-B-HB10A3 | HBW10/3000   | 300-400  |   |
| HDT-B-HB10A4 | HBW10/3000   | 400-500  |   |
| HDT-B-HB10A5 | HBW10/3000   | 500-600  |   |
| HDT-B-HB10A6 | HBW10/3000   | 600-650  |   |
| HDT-B-HB10B1 | HBW10/1500   | 125-200  |   |
| HDT-B-HB10B2 | HBW10/1500   | 200-300  |   |
| HDT-B-HB10B3 | HBW10/1500   | 300-400  |   |
| HDT-B-HB10B4 | HBW10/1500   | 400-500  |   |
| HDT-B-HB10B5 | HBW10/1500   | 500-600  |   |
| HDT-B-HB10B6 | HBW10/1500   | 600-650  |   |
| HDT-B-HB10C1 | HBW10/1000   | 125-200  | diameter:<br>(64±1)mm<br>thickness:<br>>6mm   |
| HDT-B-HB10C2 | HBW10/1000   | 200-300  |   |
| HDT-B-HB10C3 | HBW10/1000   | 300-400  |   |
| HDT-B-HB10C4 | HBW10/1000   | 400-450  |   |
| HDT-B-HB10D1 | HBW10/500    | 115-150  |   |
| HDT-B-HB10D2 | HBW10/500    | 150-300  |   |
| HDT-B-HB10D3 | HBW10/500    | 300-400  |   |
| HDT-B-HB10D4 | HBW10/500    | 400-450  |   |
| HDT-B-HB25A1 | HBW2.5/187.5 | 150-180  |   |
| HDT-B-HB25A2 | HBW2.5/187.5 | 180-300  |   |
| HDT-B-HB25A3 | HBW2.5/187.5 | 300-400  |   |
| HDT-B-HB25A4 | HBW2.5/187.5 | 400-500  |   |
| HDT-B-HB25A5 | HBW2.5/187.5 | 500-600  |   |
| HDT-B-HB25A6 | HBW2.5/187.5 | 600-650  |   |
| HDT-B-HB25B1 | HBW2.5/62.5  | 90-200   | diameter:<br>(100±1)mm<br>thickness:<br>>12mm |
| HDT-B-HB25B2 | HBW2.5/62.5  | 200-300  |   |
| HDT-B-HB25B3 | HBW2.5/62.5  | 300-400  |   |
| HDT-B-HB25B4 | HBW2.5/62.5  | 400-450  |   |
| HDT-B-HB5A1  | HBW5/750     | 150-180  |   |
| HDT-B-HB5A2  | HBW5/750     | 180-300  |   |
| HDT-B-HB5A3  | HBW5/750     | 300-400  |   |
| HDT-B-HB5A4  | HBW5/750     | 400-500  |   |
| HDT-B-HB5A5  | HBW5/750     | 500-600  |   |
| HDT-B-HB5A6  | HBW5/750     | 600-650  |   |
| HDT-B-HB5B1  | HBW5/250     | 125-200  | diameter:<br>(64±1)mm<br>thickness:<br>>6mm   |
| HDT-B-HB5B2  | HBW5/250     | 200-300  |   |
| HDT-B-HB5B3  | HBW5/250     | 300-400  |   |
| HDT-B-HB5B4  | HBW5/250     | 400-450  |   |

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Ultrasonic

**ULTRASONIC HARDNESS TEST BLOCKS**

| Code         | Type       | Hardness | Dimension  |
|--------------|------------|----------|--|
| HDT-B-HRCU1  | HRC        | 20-30    | diameter:<br>(90±1)mm<br><br>thickness:<br>>16mm |
| HDT-B-HRCU2  | HRC        | 35-55    |  |
| HDT-B-HRCU3  | HRC        | 60-65    |  |
| HDT-B-HV2U8  | HV2        | 200-300  |  |
| HDT-B-HV2U9  | HV2        | 400-500  |  |
| HDT-B-HV2U10 | HV2        | 700-800  |  |
| HDT-B-HV5U1  | HV5        | 200-300  |  |
| HDT-B-HV5U2  | HV5        | 400-500  |  |
| HDT-B-HV5U3  | HV5        | 700-800  |  |
| HDT-B-HB10U2 | HBW10/3000 | 200-300  |  |
| HDT-B-HB10U3 | HBW10/3000 | 300-400  |  |
| HDT-B-HB10U4 | HBW10/3000 | 400-500  |  |



Knoop

**KNOOP HARDNESS TEST BLOCKS**

| Code         | Type   | Hardness | Dimension  |
|--------------|--------|----------|--|
| HDT-B-HK005A | HK0.05 | 200-300  | diameter:<br>(25±1)mm<br><br>thickness:<br>(6±2)mm |
| HDT-B-HK005B | HK0.05 | 400-500  |  |
| HDT-B-HK005C | HK0.05 | 700-800  |  |
| HDT-B-HK01A  | HK0.1  | 200-300  |  |
| HDT-B-HK01B  | HK0.1  | 400-500  |  |
| HDT-B-HK01C  | HK0.1  | 700-800  |  |
| HDT-B-HK02A  | HK0.2  | 200-300  |  |
| HDT-B-HK02B  | HK0.2  | 400-500  |  |
| HDT-B-HK02C  | HK0.2  | 700-800  |  |
| HDT-B-HK03A  | HK0.3  | 200-300  |  |
| HDT-B-HK03B  | HK0.3  | 400-500  |  |
| HDT-B-HK03C  | HK0.3  | 700-800  |  |
| HDT-B-HK05A  | HK0.5  | 200-300  |  |
| HDT-B-HK05B  | HK0.5  | 400-500  |  |
| HDT-B-HK05C  | HK0.5  | 700-800  |  |
| HDT-B-HK1A   | HK1    | 200-300  |  |
| HDT-B-HK1B   | HK1    | 400-500  |  |
| HDT-B-HK1C   | HK1    | 700-800  |  |

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Shore

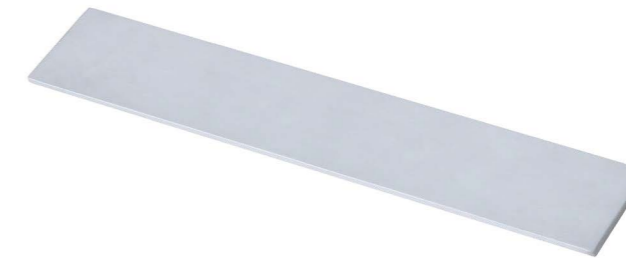
**SHORE HARDNESS TEST BLOCKS**

| Code     | Type | Hardness                          | Dimension                      |
|----------|------|-----------------------------------|--------------------------------|
| HDT-B-SA | SA   | 6pcs/set (30, 40, 50, 60, 70, 80) | diameter: 50mm, thickness: 7mm |
| HDT-B-SD | SD   | 3pcs/set (15, 30, 90)             | 50×50×7mm                      |

**HAMMER IMPACT BRINELL HARDNESS BAR**

| Code        | Type     | Hardness | Dimension   |
|-------------|----------|----------|-------------|
| HDT-B-HB5C1 | HBS5/750 | 177-217  | 12x12x150mm |

\*The above dimensions are for reference only, subject to actual supply



**ALUMINUM HARDNESS CALIBRATION BLOCKS**



- Supplied with manufacturer inspection certificate

| Code       | Type | Hardness | Dimension    |
|------------|------|----------|--------------|
| HDT-B-HW9  | HWA  | 8-10     | 150×25×1.6mm |
| HDT-B-HW16 | HWA  | 15-17    |              |
| HDT-B-HWB5 | HWB  | 4-6      |              |



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