## PORTABLE LEEB HARDNESS TESTER
## APPLICABLE MATERIAL AND HARDNESS RANGE OF IMPACT DEVICE D

| Material | HLD | HV | HB | HRC | HRB | HS | Tensile strength (MPa) |
|---|---|---|---|---|---|---|---|
| Steel & cast steel | 300-900 | 81-955 | 81-654 | 20-68 | 38-100 | 32-100 | 375-2639 |
| Tool steel | 300-840 | 80-898 | | 20-67 | | | |
| Stainless steel | 300-800 | 85-802 | 85-655 | | 46-101 | | |
| Cast iron | 360-650 | | 93-334 | | | | |
| Cast aluminum alloy | 170-570 | | 19-164 | | 23-84 | | |
| Brass | 200-550 | | 40-173 | | 13-95 | | |
| Bronze | 300-700 | | 60-290 | | | | |
| Copper | 200-690 | | 45-315 | | | | |

## PORTABLE LEEB HARDNESS TESTERS

BLUETOOTH DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO


**HDT-CB320**
(wired probe is included)


**HDT-WL320**
(wireless probe is included)



- Can use wired probes or wireless 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, HRA and HRB), Shore (HS) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large 2.4" LCD display with backlight
- With a magnet on the back, the main unit can be attached on steel surfaces
- According to ASTM A956 and DIN 50156

hardness test block D (included)

small support ring (included)

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


connect to bluetooth printer (**optional**)


To be continued



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Continued from previous page

## 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 | ±6HLD (when HLD=800) | |
| Output | USB | |
| Measuring range | HL 170-960/HRC 1.3-74.7/HRB 1.2-139.7/HB 28-1027/HV 45-1221<br>HS 4.0-112.1/HRA 1.3-88.5/MPa 118-3315N/mm² | |
| Applicable materials | 1. steel/cast steel 2. alloy steel 3. stainless steel 4. gray pig iron<br>5. nodular cast iron 6. cast aluminum 7. brass 8. bronze<br>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 | 2×AA batteries | |
| Dimension | 145×68×28mm | |
| Weight | 158g | |

## STANDARD DELIVERY

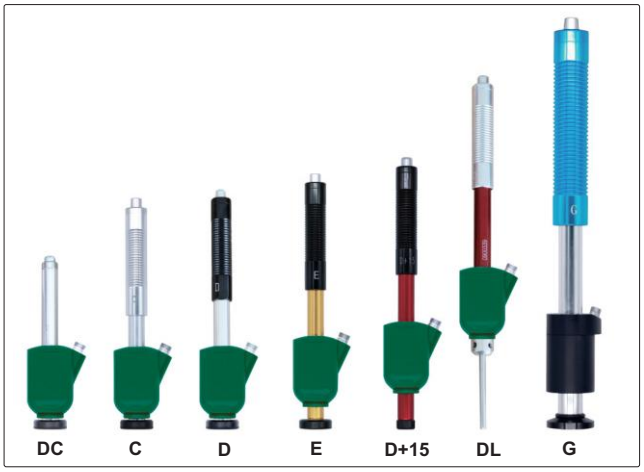
| Code | HDT-CB320 | HDT-WL320 |
|---|---|---|
| Main unit | 1 pc | 1 pc |
| Wired probe D | 1 pc | — |
| Wireless probe D | — | 1 pc |
| Hardness test block D | 1 pc | 1 pc |
| Small support ring | 1 pc | 1 pc |
| Cleaning brush | 1 pc | 1 pc |

## OPTIONAL ACCESSORY

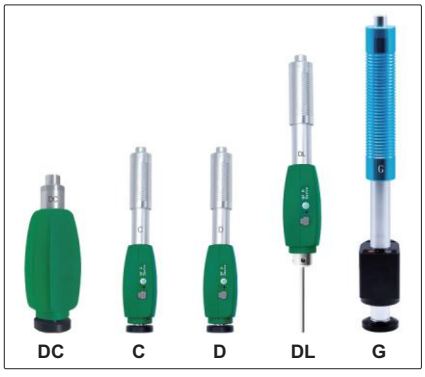
| | | |
|---|---|---|
| Wired probe | DC | HDT-CB320-DC |
| | C | HDT-CB320-C |
| | D | HDT-CB320-D |
| | D+15 | HDT-CB320-D15 |
| | DL | HDT-CB320-DL |
| | E | HDT-CB320-E |
| | G | HDT-CB320-G |
| Wireless probe | DC | HDT-WL320-DCW |
| | C | HDT-WL320-CW |
| | D | HDT-WL320-DW |
| | DL | HDT-WL320-DLW |
| | G | HDT-WL320-GW |
| Hardness test block D ** | | HDT-B-HLD3 |
| Hardness test block G * | | HDT-B-HLG2 |
| Printer | | ISH-LP200-PRINTER |
| Support rings | | page 862 |

* Hardness test block G (**HDT-B-HLG2**) is for probe G (**HDT-CB320-G** or **HDT-WL320-GW**)
** Hardness test block D (**HDT-B-HLD3**) is for all other probes

wired probes (**optional**)




wireless 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 | 5kg | 15kg |
| | on solid support | 2.5kg | 0.5kg | 2kg | 2kg | 2kg | 2.5kg | 5kg |
| | coupled on plate | 0.05-2kg | 0.02kg | 0.05-2kg | 0.1kg | 0.1kg | 0.1-2kg | 0.5kg |
| Minimum thickness of workpiece | | 3mm | 1mm | 3mm | 3mm | 3mm | 3mm | 10mm |

# PORTABLE LEEB HARDNESS TESTER (BUILT-IN BLUETOOTH)
# CODE ISH-PHB-B

BUILT-IN BLUETOOTH | DATA OUTPUT

VIDEO | INSPECTION CERTIFICATE

- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via wireless module
- Automatic power off
- According to ASTM A 956
- Wired data transmission (keyboard signal):
  USB cable connect to computer, press transmission button to send data
- Wireless data transmission (keyboard signal):
  built-in Bluetooth module connect to computer or mobile phone, press transmission button to send data

hardness test block D (included)

small support ring (included)

wireless printer (**optional**)


transmission button

**SPECIFICATION**

| | | |
|---|---|---|
| **Min. reading** | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa | |
| **Accuracy** | ±6HLD (when HLD=800) | |
| **Display** | Leeb (HLD), converted hardness, material, impact direction, test times, average value, date | |
| **Output** | bluetooth, USB | |
| **Applicable workpiece** | minimum weight | 5kg |
| | | 2kg (on solid support) |
| | | 0.1kg (coupled on plate) |
| | minimum thickness: 5mm | |
| | minimum radius of curved surface: 30mm | |
| | maximum roughness (Ra): 1.6μm | |
| **Power supply** | 3×AAA batteries | |
| **Dimension** | 150×84×28mm | |
| **Weight** | 200g | |

**STANDARD DELIVERY**

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

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Wireless printer** | **ISH-DS-PRINTER** |
| **Couplant** | **ISH-COUPLANT** |
| **Support rings** | page 862 |
| **Hardness test block D** | **HDT-B-HLD3** |

connected to computer by USB cable, upload the data in real time

connected to computer by bluetooth module, upload the data in real time





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INSPECTION CERTIFICATE

VIDEO

# PORTABLE LEEB HARDNESS TESTER WITH WIRELESS PROBE
# CODE HDT-WP201

- Bluetooth 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
- Operation temperature: -10°C~45°C
- According to ASTM A956, DIN 50156 GB/T 17394

hardness test block D (included)

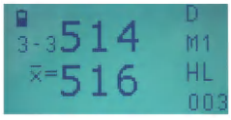
small support ring (included)

bluetooth printer (**optional**)

## SPECIFICATION

| | |
|---|---|
| **Resolution** | 1HLD/1HV/1HB/0.1HRC/0.1HRB/ 0.1HSD/1σb |
| **Accuracy** | ±6HLD (when HLD=800) |
| **Measuring range** | HL 170-960/HRC 17-69/HRB 13-101.7/ HB 20-655/HV 80-940/HSD 32-99.5/ σb (rm) 255-2180N/mm² |
| **Power supply** | 2×AA batteries |
| **Dimension** | 135×77×32mm |
| **Weight** | 240g |

large font display



statistics display

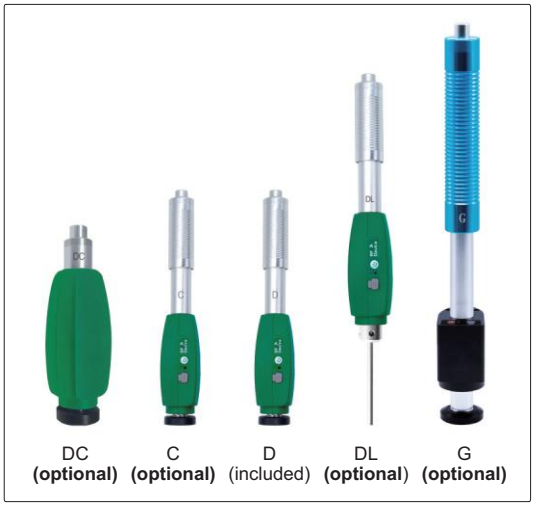
## STANDARD DELIVERY

| | |
|---|---|
| **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** | page 862 |

* Hardness test block G (**HDT-B-HLG2**) is for probe G (**HDT-WL320-GW**)
** Hardness test block D (**HDT-B-HLD3**) is for all others probes



DC **(optional)** C **(optional)** D (included) DL **(optional)** G **(optional)**

## 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)** | | 2μm | 0.4μm | 2μm | 2μm | 7μm |
| **Minimum weight of workpiece** | **direct measurement** | 5kg | 1.5kg | 5kg | 5kg | 15kg |
| | **on solid support** | 2kg | 0.5kg | 2kg | 2kg | 5kg |
| | **coupled on plate** | 0.05kg | 0.02kg | 0.05kg | 0.05kg | 0.5kg |
| **Minimum thickness of workpiece** | | 3mm | 1mm | 3mm | 3mm | 10mm |

# PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)

INSPECTION CERTIFICATE

VIDEO

POPULAR MODEL

- 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), 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
- Operation temperature: -10°C~45°C
- According to ASTM A956, GB/T 17394

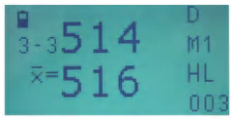
HDT-LP200

hardness test block D (included)

small support ring (included)

bluetooth printer (included in **HDT-LP200B**)

large font display



statistics display

## SPECIFICATION

| Code | HDT-LP200 | HDT-LP200B |
|---|---|---|
| Printer | not included | included |
| Resolution | 1HLD/1HV/1HB/0.1HRC/0.1HRB/ 0.1HSD/1σb | |
| Accuracy | ±6HLD (when HLD=800) | |
| Measuring range | HL 170-960/HRC 17-70/HRB 13-109/ HB 20-655/HV 80-940/HSD 32-99.5/ σb(rm) 255-2639N/mm² | |
| Power supply | 2×AA batteries | main unit: 2×AA batteries printer: rechargeable lithium battery |
| Dimension | 135×77×32mm | |
| Weight | 240g | |

## STANDARD DELIVERY

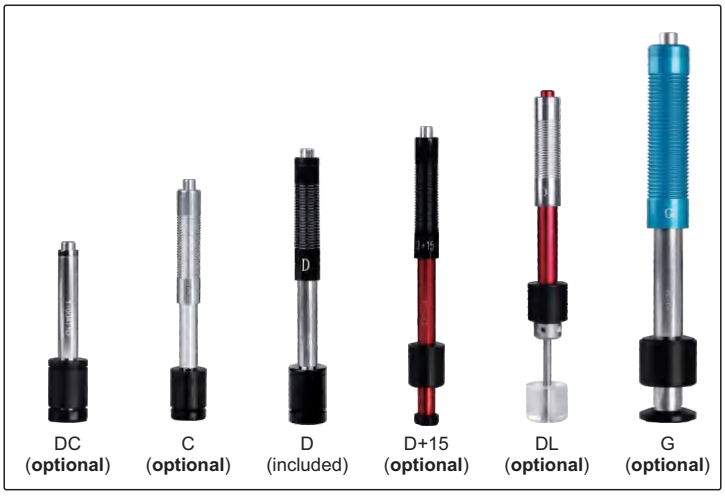
| | |
|---|---|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| Impact device D | 1 pc |
| Bluetooth printer (included in HDT-LP200B) | 1 pc |

## 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 | page 862 |

* Hardness test block G (**HDT-B-HLG2**) is for impact device G (**HDT-LP200-G**)

** Hardness test block D (**HDT-B-HLD3**) is for all other impact devices



DC (**optional**) C (**optional**) D (included) D+15 (**optional**) DL (**optional**) G (**optional**)

## 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 |





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DATA OUTPUT | HIGH ACCURACY | DL PROBE IS OPTIONAL

# PEN-TYPE LEEB HARDNESS TESTER (ADVANCED TYPE) CODE HDT-L410

INSPECTION CERTIFICATE

VIDEO


software flash disk (included)


hardness test block D (included)


wireless printer (**optional**)

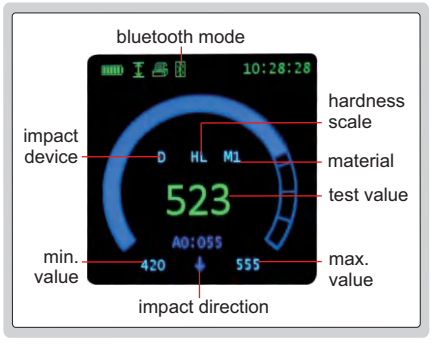

small support ring (included)



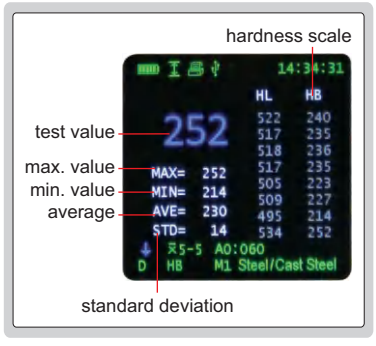

DL probe can be installed (**optional**)


- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- 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
- Connected with printer via Bluetooth
- Operation temperature: -20°C~70°C
- According to ASTM A956, DIN 50156, GB/T 17394

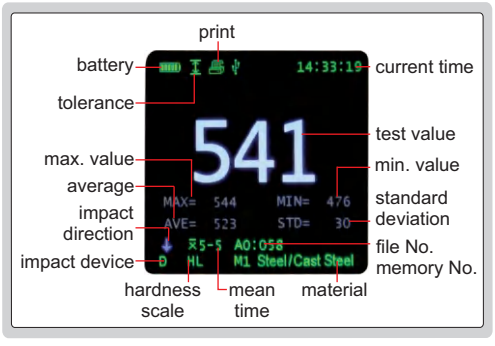
dynamic ring display




statistic display

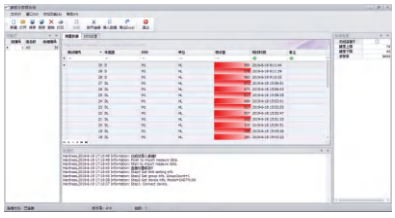



can choose large font display



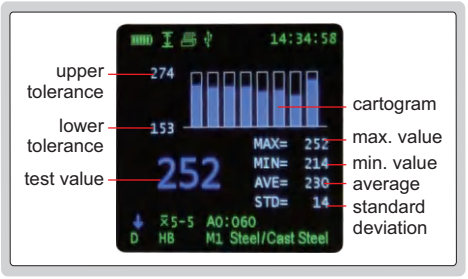

software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL

histogram display




## SPECIFICATION

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

## 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

| | |
|---|---|
| **Printer** | **HDT-L410-PRINTER** |
| **Support rings** | page 862 |
| **Hardness test block D** | **HDT-B-HLD3** |
| **DL probe** | **HDT-L410-DL** |

# PEN-TYPE LEEB HARDNESS TESTER (STANDARD TYPE)
# CODE HDT-B430

DATA OUTPUT | DL PROBE IS OPTIONAL | INSPECTION CERTIFICATE


software flash disk (included)


hardness test block D (included)


small support ring (included)

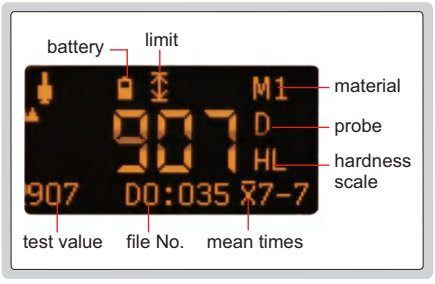

wireless printer (**optional**)

VIDEO

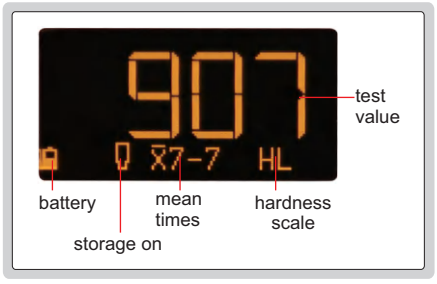
DL probe can be installed (**optional**)

- 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 GB/T, 17394

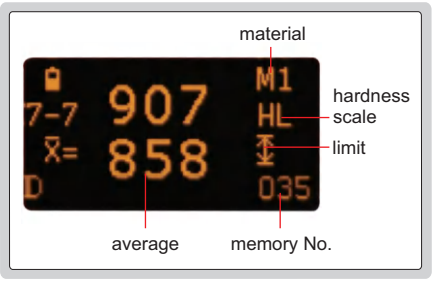
standard display



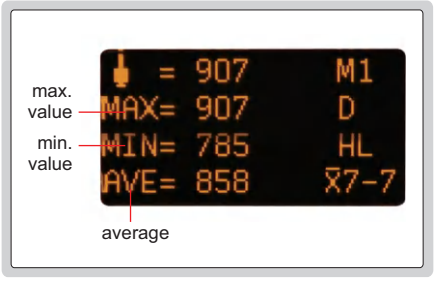

big character display




average display

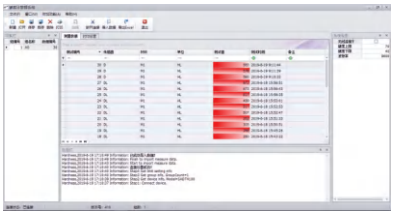



statistical parameter display




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

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## SPECIFICATION

| | | |
|---|---|---|
| **Resolution** | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HSD, 16b | |
| **Accuracy** | ±6HLD (when HLD=800) | |
| **Measuring range** | HLD170-960, HRC17-70, HRB13-109, HB20-655, HV80-940<br>HSD32-99.5, HRA30-88, σb (rm) 255-2180N/mm² | |
| **Applicable workpiece** | minimum weight | 5kg (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.05kg (coupled on plate) |
| | minimum thickness: 5mm | |
| | minimum radius of curved surface: 30mm | |
| | maximum roughness (Ra): 2μm | |
| **Output** | USB and bluetooth | |
| **Power supply** | built-in 3.7V rechargeable battery | |
| **Dimension** | 148×44×28mm | |
| **Weight** | 110g | |

## 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

| | |
|---|---|
| **Printer** | **ISH-LP200-PRINTER** |
| **Support rings** | page 862 |
| **Hardness test block D** | **HDT-B-HLD3** |
| **DL probe** | **HDT-L410-DL** |



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DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO

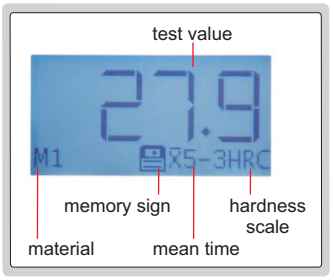
# PEN-TYPE LEEB HARDNESS TESTER (BASIC TYPE)
# CODE HDT-L411

software flash disk (included)

hardness test block D (included)

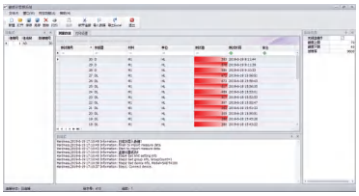
small support ring (included)

can choose large font display

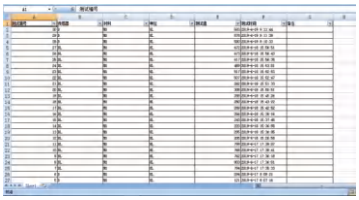



software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable



send the stored data to EXCEL



- 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
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394

## SPECIFICATION

| | | |
|---|---|---|
| **Resolution** | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM | |
| **Accuracy** | ±6HLD (when HLD=800) | |
| **Output** | USB | |
| **Measuring range** | HL100-960, HRC1-74.7, HRB1.2-140, HB28-1027, HV45-1230, HS4-112, HRA7-88.5, SGM (rm) 118-3315N/mm² | |
| **Applicable workpiece** | minimum weight | 5kg (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.05kg (coupled on plate) |
| | minimum thickness: 5mm | |
| | minimum radius of curved surface: 30mm | |
| | maximum roughness (Ra): 2μm | |
| **Power supply** | 1×AAA battery | |
| **Dimension** | 148×45×21mm | |
| **Weight** | 105g | |

## STANDARD DELIVERY

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

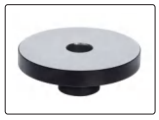
## OPTIONAL ACCESSORY

| | |
|---|---|
| **Support rings** | page 862 |
| **Hardness test block D** | **HDT-B-HLD3** |

VIDEO

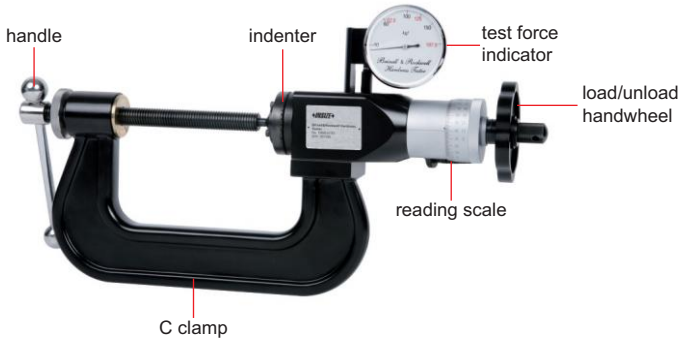
# PORTABLE BRINELL AND ROCKWELL HARDNESS TESTER
# CODE ISBR-H181

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


flat anvil (included)


V-type anvil (included)


measuring microscope (included)




**SPECIFICATION**

| | |
|---|---|
| Rockwell hardness scale | HRA, HRB, HRC |
| Brinell test range | 16~650HBW |
| Rockwell preliminary test force | 10kgf |
| Rockwell total test force | 60kgf, 100kgf, 150kgf |
| Brinell test force | 62.5kgf, 125kgf, 187.5kgf |
| Load control | manual |
| Min. reading | rockwell 0.5HR<br>brinell 0.005mm (indentation diameter) |
| Max. workpiece thickness | 75mm |
| Max. testing width | 100mm (from the center of indenter to the main body) |
| Dimension | 510×380×180mm |
| 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 |

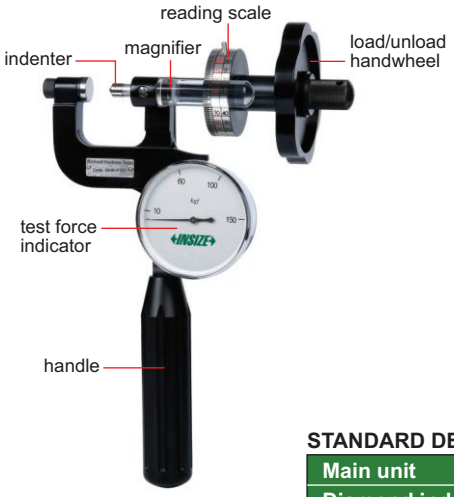
VIDEO

# PORTABLE ROCKWELL HARDNESS TESTER
# CODE ISHR-P151


anvil extension for thin workpieces (included)


flat anvil (included)


V-type anvil (included)





- According to ISO 6508, ASTM E18

**SPECIFICATION**

| | |
|---|---|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 10kg |
| Test force | 60kg, 100kg, 150kg |
| Load control | manual |
| Min. reading | 1HR |
| Max. workpiece thickness | 25mm |
| Max. testing width | 25mm (from the center of indenter to the main body) |
| Dimension | 240×70×160mm |
| Weight (with base) | 2.5kg |

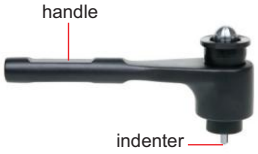
**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 2 pcs |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 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 |

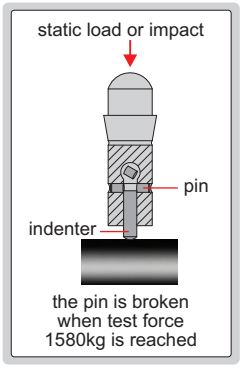
# PIN BRINELL HARDNESS TESTER
# CODE ISHB-P101

- 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 clamp**




**impact test handle**




static test

impact test

measuring microscope (included)

pins (included)

V-type anvil (included)

### 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** | 195×60×350mm |
| **Weight** | 4.2kg |

### STANDARD DELIVERY

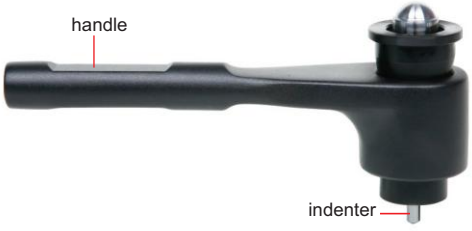
| | |
|---|---|
| **Static test clamp** | 1 pc |
| **Impact test handle** | 1 pc |
| **Flat anvil** | 1 pc |
| **V-type anvil** | 1 pc |
| **Ø7.26mm indenter** | 1 pc |
| **Hardness test block** | 1 pc |
| **Pin** | 250 pcs |
| **Measuring microscope** | 1 pc |

### OPTIONAL ACCESSORY

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

# HAMMER IMPACT BRINELL HARDNESS TESTER
# CODE HDT-PB350

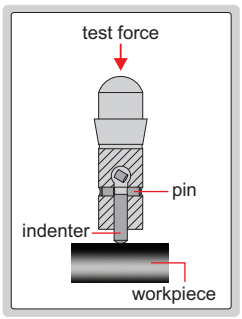





hammer impact to apply test force

pins (included)

measuring microscope (included)




the pin is broken when test force 1580kg is reached

- 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

### 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** | 200×50×100mm |
| **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 |

### OPTIONAL ACCESSORY

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

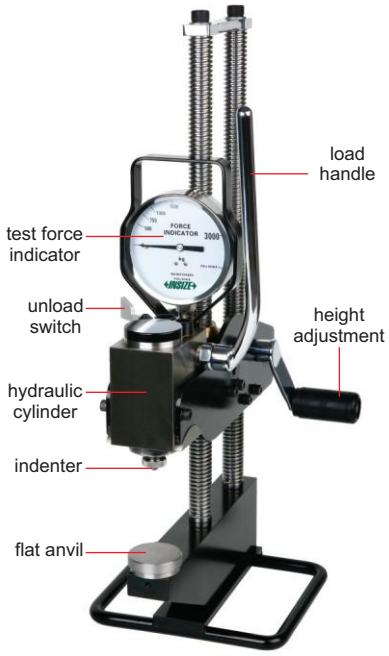
# HYDRAULIC BRINELL HARDNESS TESTER
# CODE ISHB-H131


V-type anvil
(included)


spherical anvil
(included)


measuring microscope
(included)

- 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 | 270×225×570mm |
| Weight | 13.8kg |

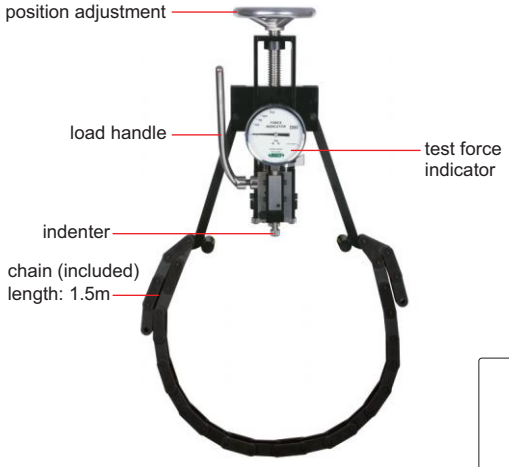
**STANDARD DELIVERY**

| | |
|---|---|
| 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 |

# 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 | 270×225×570mm |
| 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)

# ALUMINUM HARDNESS TESTERS


**ISHW-L20B**

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

**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) 0.6~6mm (internal diameter >Ø23.3mm) | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Hardness range | 0~20HW | | | | | |
| Min. reading | 1HW | | | | | |
| Accuracy | ±0.5HW (at 5~17HW) | | | | | |
| Dimension | 205×30×85mm | | | | | |
| Weight | 500g | | | | | |

**STANDARD DELIVERY**

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

## ALUMINUM HARDNESS TESTERS (BASIC TYPE)

- To measure the hardness of soft metals such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-10 (2016)

ISHW-H10

**STANDARD DELIVERY**

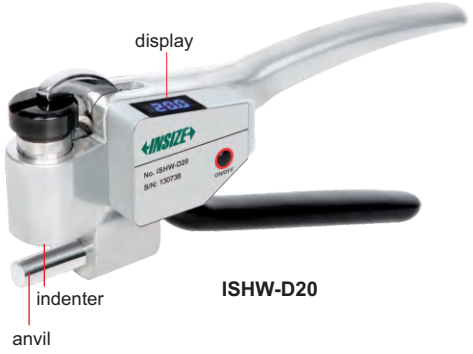
| | |
|---|---|
| Main unit | 1 pc |
| Spare indenter | 1 pc |
| Hardness test block | 1 pc |
| Wrench | 1 pc |

**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) 0.6~6mm (internal diameter>Ø23.3mm) | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Hardness range | 0~20HW | | | | | |
| Min. reading | 1HW | | | | | |
| Accuracy | ±0.5HW (at 5~17HW) | | | | | |
| Dimension | 205×30×95mm | | | | | |
| Weight | 500g | | | | | |

## 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 B647-2023



ISHW-D20

**SPECIFICATION**

| Code | ISHW-D20 | ISHW-D21 | ISHW-D22 |
|---|---|---|---|
| Application | for aluminum alloy general use | for aluminum alloy thick workpieces | 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) 1~6mm (internal diameter >Ø24mm) | 1~6mm |
| Hardness range | 0~20HW | | |
| Min. reading | 0.1HW | | |
| Accuracy | ±0.5HW (at 5~18HW) | | |
| Dimension | 203×44×105mm | | |
| 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 |

# DIGITAL SHORE DUROMETERS

blunt taper indenter

**ISH-DSA**

sharp point indenter

**ISH-DSD**

ball indenter

**ISH-DSOO**

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


software flash disk (included)


calibration block (included)


printer (**optional**)

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## 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 | ±1HOO |
| Indenter protrusion | 2.5mm | | |
| Output | wireless and USB | | |
| Power supply | built-in rechargeable battery | | |
| Dimension | 153×50×29mm | | |
| Weight | 170g | | |

* 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 |

## OPTIONAL ACCESSORY

| | |
|---|---|
| Printer | ISH-DS-PRINTER |
| Test stand | ISH-DS-STANDA |



info@insz.sk | +421 944 367 573 | www.insz.sk

VIDEO

# 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 |
| **Weight** | 5.61kg |

**STANDARD DELIVERY**

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

**OPTIONAL ACCESSORY**

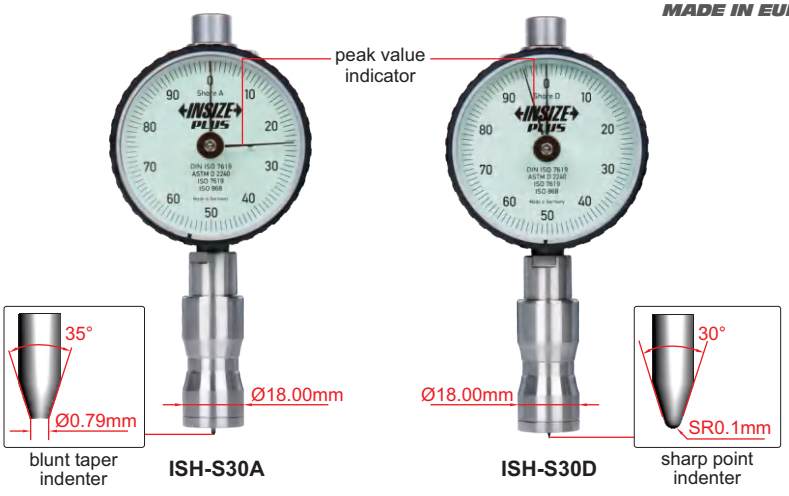
| | |
|---|---|
| **Weight block D (for ISH-DSD)** | **ISH-DS-W4** |

VIDEO

# SHORE DUROMETERS

INSIZE PLUS MADE IN EUROPE

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Handhold use or work with test stand (code **ISH-OS2**)




**SPECIFICATION**

| **Code** | **ISH-S30A** | **ISH-S30D** |
|---|---|---|
| **Scale** | Shore A | Shore D |
| **Test material** | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. |
| **Measuring range** * | 0~100HA | 0~100HD |
| **Graduation** | 1HA | 1HD |
| **Accuracy** | ±0.5HA | ±0.5HD |
| **Indenter protrusion** | 2.5mm | |
| **Weight** | 184g | |

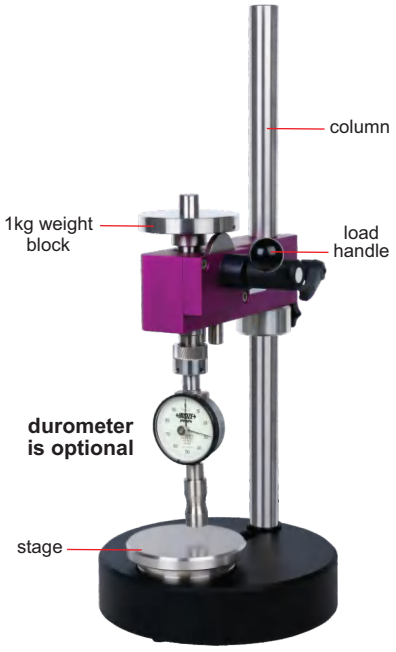
* Use **ISH-S30D** when measuring result is higher than 90HA
Use **ISH-S30A** when measuring result is lower than 20HD

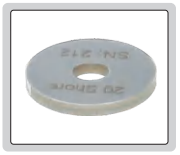
# TEST STAND FOR SHORE DUROMETERS
# CODE ISH-OS2

INSIZE PLUS
MADE IN EUROPE

VIDEO

- For shore durometers (code **ISH-S30A** and **ISH-S30D**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- 1kg weight block (included) is for **ISH-S30A**, 4kg weight block **(optional)** is for **ISH-S30D**





calibration block (included)


4kg weight block (**optional**) for **ISH-S30D**

**SPECIFICATION**

| | |
|---|---|
| **Stage diameter** | Ø98mm |
| **Max. workpiece height** | 180mm |
| **Max. testing width** | 115mm (from test point to the column) |
| **Dimension** | Ø200×500mm |
| **Weight** | 18kg |

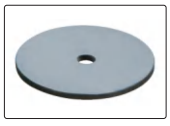
**STANDARD DELIVERY**

| | |
|---|---|
| **Test stand** | 1 pc |
| **1kg weight block (for ISH-S30A)** | 1 pc |
| **Calibration block** | 1 pc |

**OPTIONAL ACCESSORY**

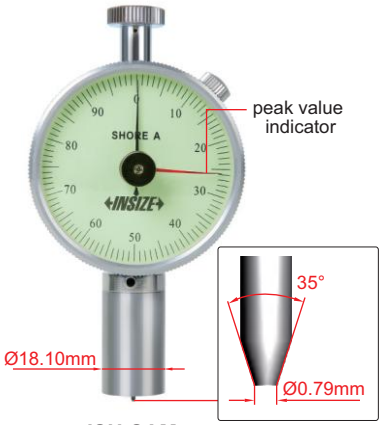
| | |
|---|---|
| **4kg weight block (for ISH-S30D)** | **ISH-OS2-W4** |

# SHORE DUROMETERS

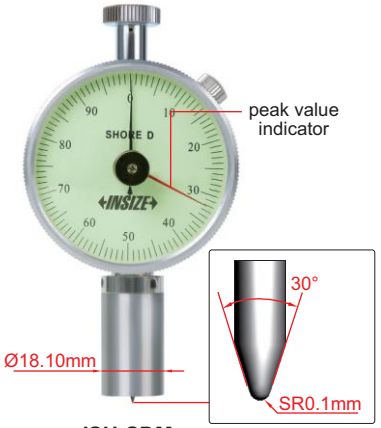

calibration block (**optional**)

VIDEO

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand **ISH-STAC** and **ISH-STD**



**ISH-SAM**
blunt taper indenter



**ISH-SDM**
sharp point indenter

**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** | 115×60×25mm | |
| **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** |





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