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

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 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 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	2×AA batteries	
Dimension	145×68×28mm	
Weight	158g	

STANDARD DELIVERY

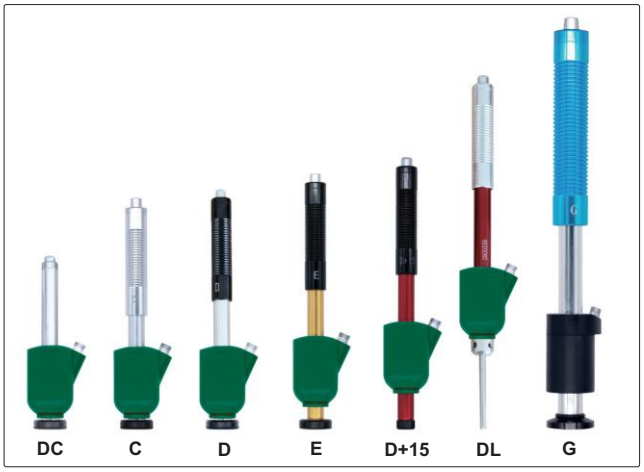
Code	HDT-CB320	HDT-WL320
Main unit	1 pc	1 pc
Wired probe D	1 pc	—
Wireless probe D	—	1 pc
Hardness test block D	1 pc	1 pc
Small support ring	1 pc	1 pc
Cleaning brush	1 pc	1 pc

OPTIONAL ACCESSORY

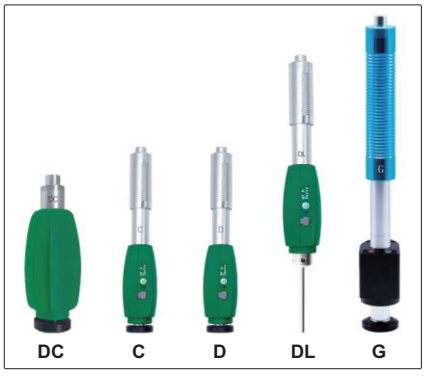
Wired probe	DC	HDT-CB320-DC
	C	HDT-CB320-C
	D	HDT-CB320-D
	D+15	HDT-CB320-D15
	DL	HDT-CB320-DL
	E	HDT-CB320-E
	G	HDT-CB320-G
Wireless probe	DC	HDT-WL320-DCW
	C	HDT-WL320-CW
	D	HDT-WL320-DW
	DL	HDT-WL320-DLW
	G	HDT-WL320-GW
Hardness test block D **		HDT-B-HLD3
Hardness test block G *		HDT-B-HLG2
Printer		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

PORTABLE LEEB HARDNESS TESTER WITH WIRELESS PROBE
CODE HDT-WP201

INSPECTION CERTIFICATE

VIDEO

- 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)

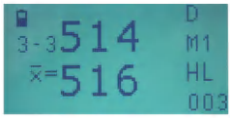
small support ring (included)

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

info@insz.ro | (+4) 0775 291 134 | www.insz.ro

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

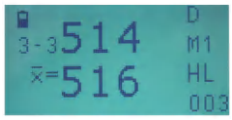
HDT-LP200

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

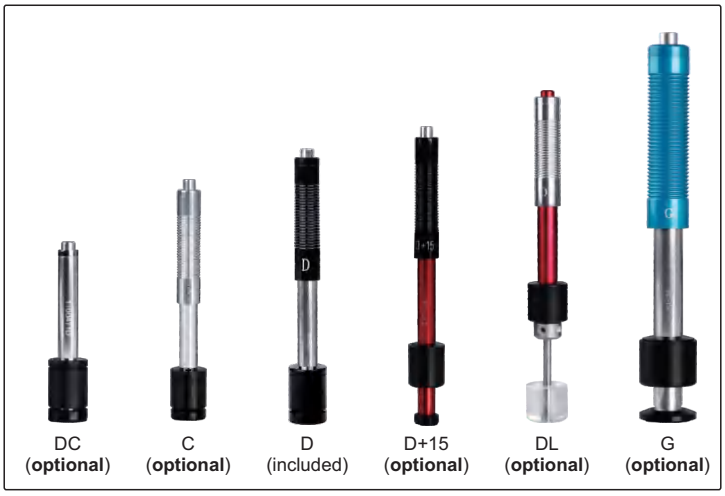
Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
Impact device D	1 pc
Bluetooth printer (included in HDT-LP200B)	1 pc

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

info@insz.ro | (+4) 0775 291 134 | www.insz.ro

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)

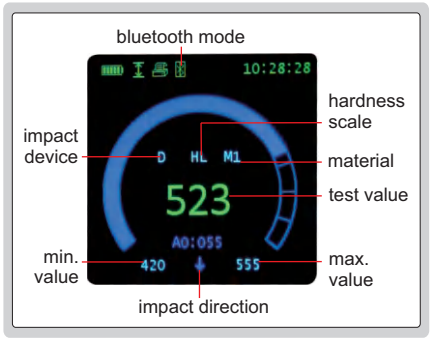

wireless printer (**optional**)


small support ring (included)

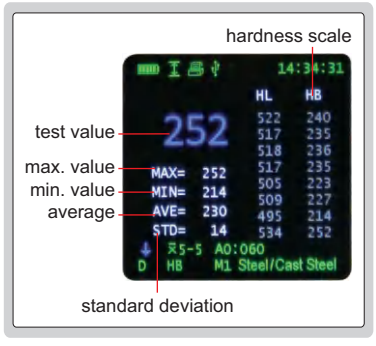
DL probe can be installed (**optional**)

- 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

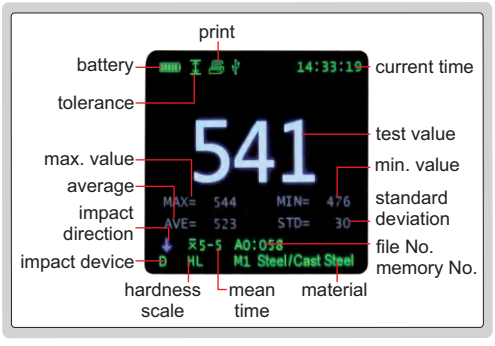
dynamic ring display



statistic display

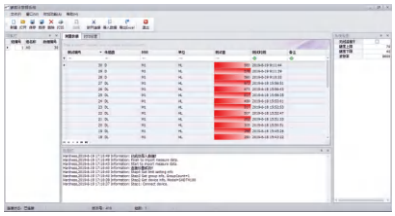


can choose large font display



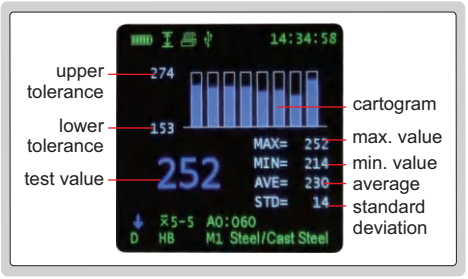
software (included), upload the memory to PC, print and send to EXCEL

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)

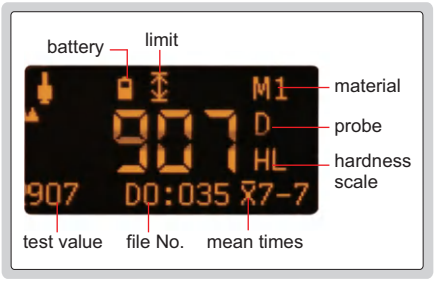

wireless printer (**optional**)

VIDEO

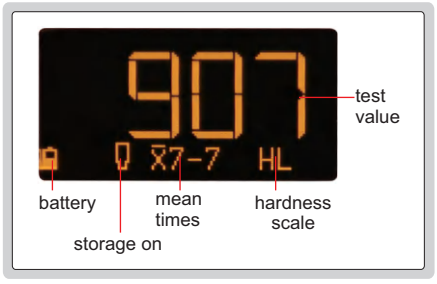
DL probe can be installed (**optional**)

- 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

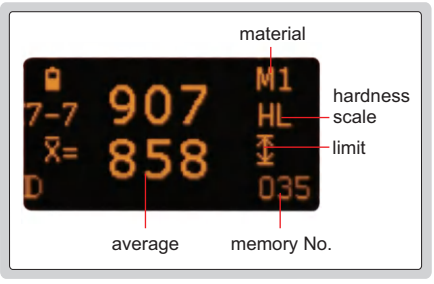
standard display



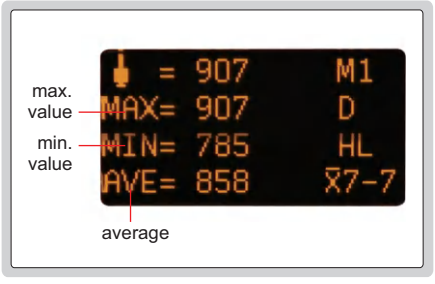
big character display



average display

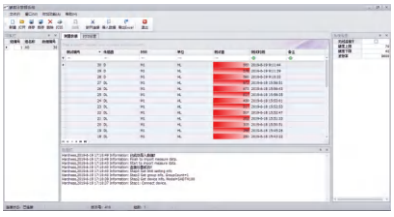


statistical parameter display



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

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 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**

info@insz.ro | (+4) 0775 291 134 | www.insz.ro

DATA OUTPUT

INSPECTION CERTIFICATE

VIDEO

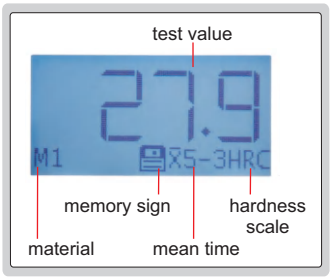
PEN-TYPE LEEB HARDNESS TESTER (BASIC TYPE)
CODE HDT-L411

software flash disk (included)

hardness test block D (included)

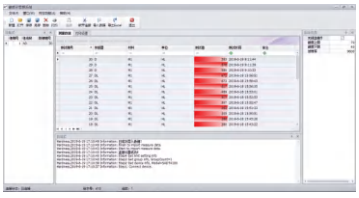
small support ring (included)

can choose large font display

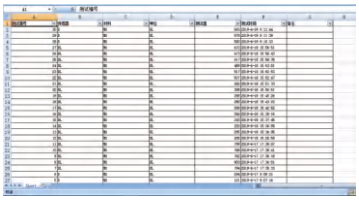


software (included), upload the memory to PC, print and send to EXCEL

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

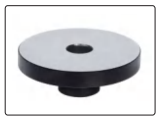
OPTIONAL ACCESSORY

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

VIDEO

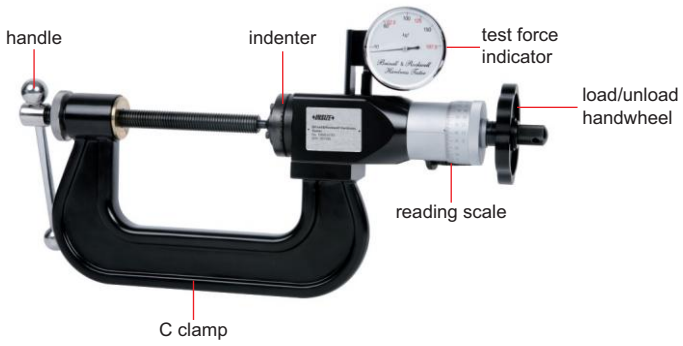
PORTABLE BRINELL AND ROCKWELL HARDNESS TESTER
CODE ISBR-H181

- 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 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

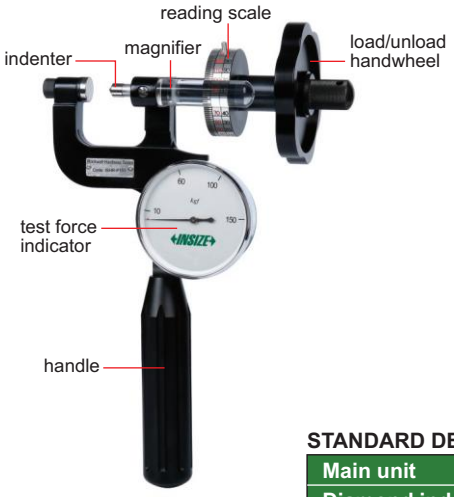
VIDEO

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

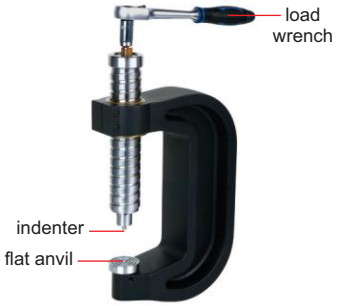
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	10kg
Test force	60kg, 100kg, 150kg
Load control	manual
Min. reading	1HR
Max. workpiece thickness	25mm
Max. testing width	25mm (from the center of indenter to the main body)
Dimension	240×70×160mm
Weight (with base)	2.5kg

STANDARD DELIVERY

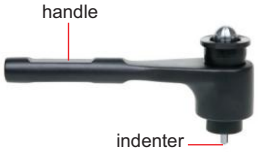
Main unit	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	2 pcs
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Flat anvil	1 pc
V-type anvil	1 pc
Base	1 pc
Anvil extension	1 pc
Magnifier	2 pcs

PIN BRINELL HARDNESS TESTER
CODE ISHB-P101

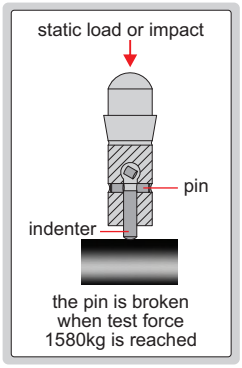
- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Static and impact test modes
- According to ISO and ASTM standard



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) 350~650HBW (with Ø4mm indenter, **optional**)
Test force	1580kg
Accuracy	static test: ±3% 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

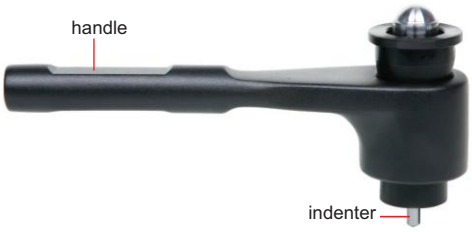
STANDARD DELIVERY

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**

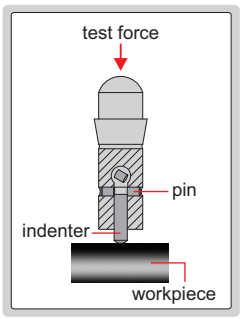
HAMMER IMPACT BRINELL HARDNESS TESTER
CODE HDT-PB350



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) 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**

VIDEO

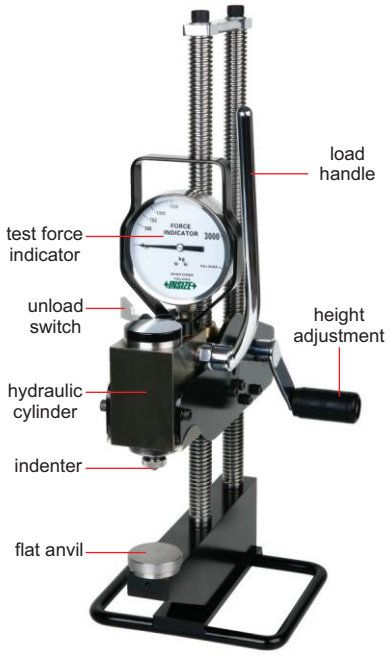
HYDRAULIC BRINELL HARDNESS TESTER
CODE ISHB-H131


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

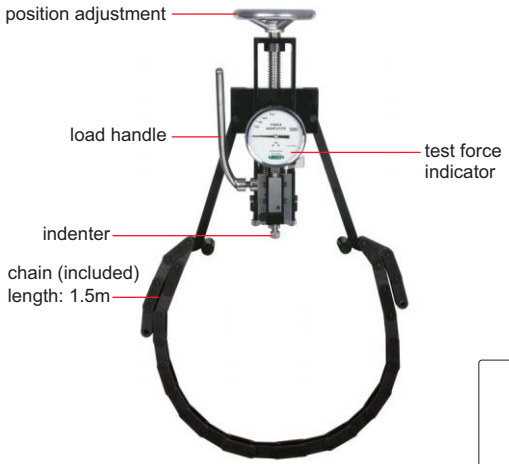
STANDARD DELIVERY

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

VIDEO

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

info@insz.ro | (+4) 0775 291 134 | www.insz.ro

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

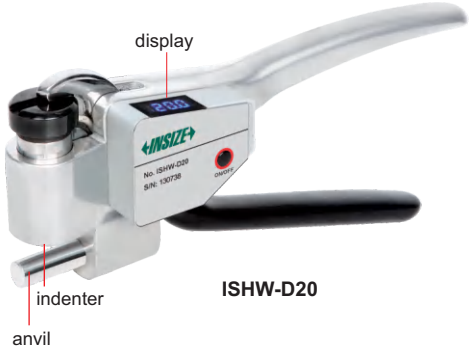
Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc

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

VIDEO

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**)

27

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.ro | (+4) 0775 291 134 | www.insz.ro

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

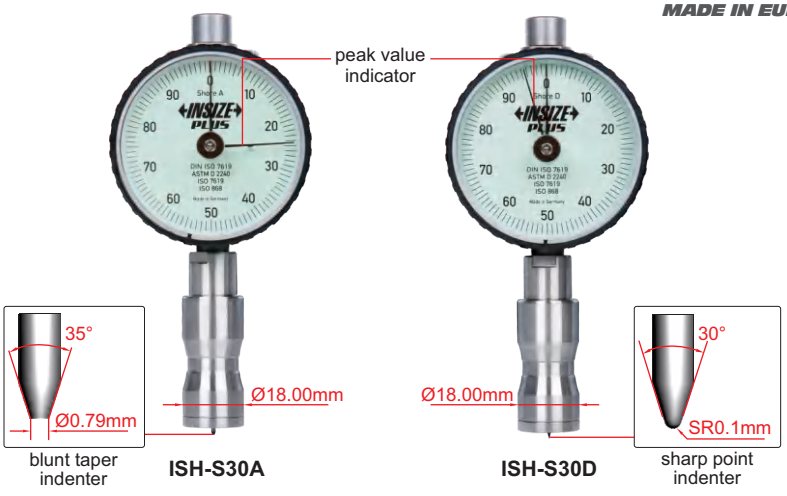
OPTIONAL ACCESSORY

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

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

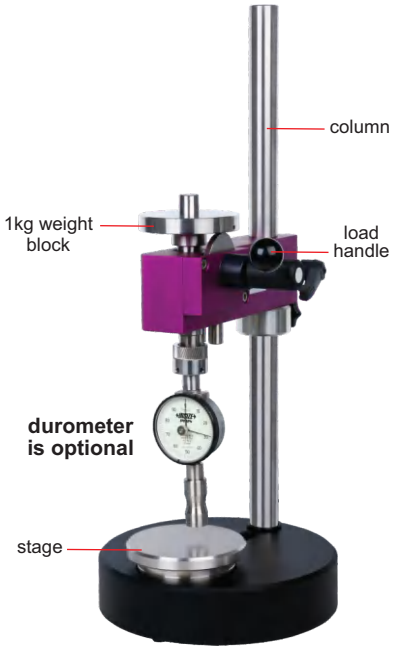
info@insz.ro | (+4) 0775 291 134 | www.insz.ro

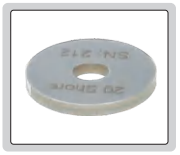
TEST STAND FOR SHORE DUROMETERS
CODE ISH-OS2

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

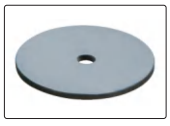
STANDARD DELIVERY

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

OPTIONAL ACCESSORY

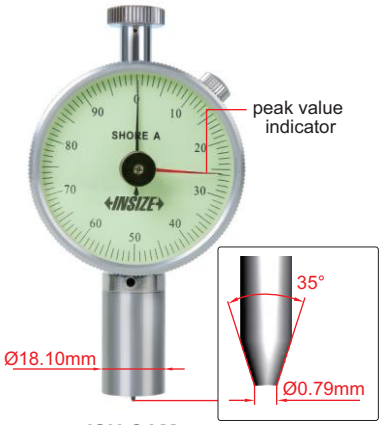
4kg weight block (for ISH-S30D)	**ISH-OS2-W4**

SHORE DUROMETERS

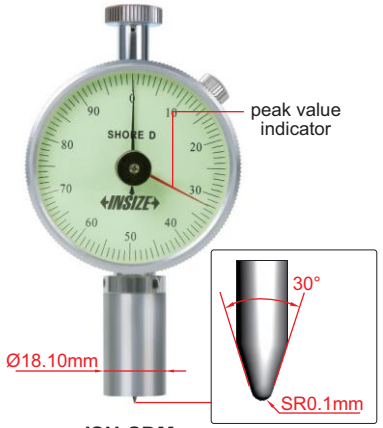

calibration block (**optional**)

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**

info@insz.ro | (+4) 0775 291 134 | www.insz.ro