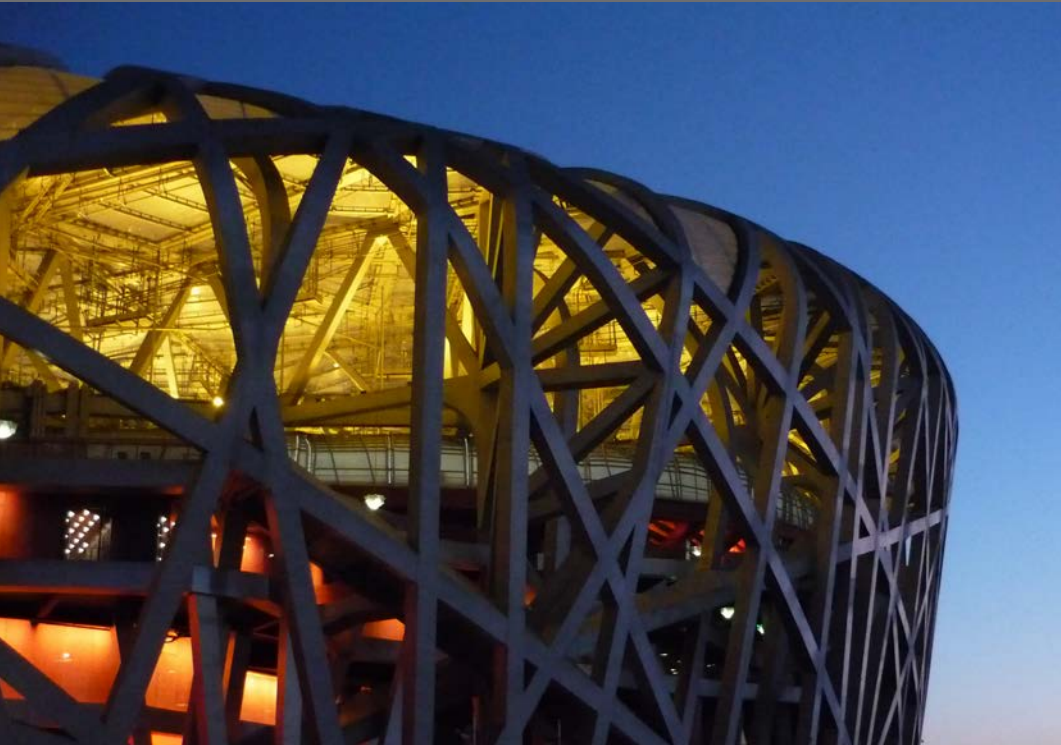




A professional distributor in Quality Control & NDT fields



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An advanced  
state-of-the-  
art palm sized

metal hard-  
ness tester

*New HARTIP 1800DL<sup>TM</sup>*

## Company Profile



AGS-TECH Inc. supplies industrial test and measurement, inspection and evaluation instruments.

The products we sell are versatile commonly used industrial type instruments such as electronic multimeter, infrared inspection cameras for fault locating, hardness testers for evaluating mechanical properties of materials, metallurgical microscopes, precision digital balance...etc.

We offer you brand name high quality equipment for the list price or lower. Our products are mostly hand held or desktop.

Most of our equipment is in stock.

Regardless of your location on earth, we ship within a few days to your door. You can order online using options such as credit cards using our PayPal account, wire transfer, certified check or money order.

If you would like to speak to us before making a decision or if you have any questions, all you need is to call us and one of our seasoned instrumentation engineers will help you.

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## UNIVERSAL ANGLE HARDNESS TESTER

### HARTIP2000/HARTIP2000 DL™

**H**ARTIP2000 is an innovative portable Leeb hardness tester with our new patent technology, which makes HARTIP 2000 a universal angle (UA) impact direction hardness tester. It is no need to set up impact direction when taking measurement by any angle. Therefore, HARTIP 2000 offers a linear accuracy comparing to the angle compensating method. HARTIP 2000 is also a cost saving hardness tester and has many other features.

HARTIP2000 DL is equipped with SADT unique D and DL 2-in-1 probe. ●



## Advantages

- ★ Universal impact direction mode, it does not need to setup different impact direction, just take measurement at any angle
- ★ High accuracy:  $\pm 2HL(0.3\% @ HL800)$
- ★ Linear accuracy for any angles
- ★ No need to setup impact direction
- ★ No compensation for impact direction
- ★ Dual values (Leeb value and one conversion value) can be displayed at the same screen
- ★ Big LCD display with backlight
- ★ Ten testing materials including forged steel,
- ★ It has strength conversion value
- ★ RS232 and blue tooth interface, it can connect micro-printer directly by cable or wireless
- ★ 100 data for memory
- ★ Customer re-calibration allowed
- ★ Power off automatically
- ★ More economic and more convenient to use

## Specifications

SADT HARTIP 2000/HARTIP2000 D&DL		Standard Package
Principle	Leeb hardness measurement	HARTIP 2000(DL) main unit
Accuracy	$\pm 0.3\% @ HL=800$ , Repeatability: $\pm 2HL$	Impact device DU/D-DL 2-in-1*
Display	Digital LCD with backlight	Test block D
Hardness scale	HL/HRC/HRB/HV/HS/ob	Small support ring
Measuring range	HL170-960/ HRC17-69/ HRB13-101.7/ HB20-655/ HV80-940 / HS32-99.5 / ob(rm)255-2180N/mm <sup>2</sup>	Cleaning brush
Impact device	DU (External) /D-DL 2-in-1*	Operation manual
Impact direction	Universal angle (UA) type	Calibration Certificate
Materials	11 common metal materials	Carrying case
Memory	100 data can be stored and re-readable	<b>Optional accessories</b>
Statistics	Calculated automatically	Bluetooth/RS232 Micro printer
Re-calibration	Allowed by user	Probe DU/DL/D+15/G/C
Indicator	Low battery	Standard big support ring for probe
Communication interface	RS232 to micro-printer Bluetooth (optional) to bluetooth micro-printer	Standard small support ring for probe
Auto power off	Auto	Impact body D
Power supply	1.5V AA alkaline battery x 2	Carbide ball tip D
Working environment	-10~+40°C	Test block D without certificate
Dimension (mm)	124x67x30	Test block D with certificate
Net weight (g)	240	Bluetooth Module
Standard	Conforming to ASTM A956, GB/T 17394-1998	Leather case with magnetism

\*: D-DL 2-in-1 probe is only available for HARTIP2000 DL.



# PORTABLE HARDNESS TESTER HARTIP1800 PLUS / D&DL

**H**ARTIP1800 plus is an advanced state-of-the-art palm sized metal hardness tester with many new features. Using our patent technology, SADT HARTIP1800 plus is a new generation product. It has high accuracy:  $\pm 2$  HL (or 0.3% @HL800) with high contrast OLED display and wide environment temperature ( $-40^{\circ}\text{C}$ - $60^{\circ}\text{C}$ ). Apart from huge memories in 400 blocks with 360k data, HARTIP1800 plus can download measuring data to PC and printout to mini-printer by USB port and wirelessly with internal bluetooth module. The battery can be charged simply from USB port, also it has a customer re-calibration and statics function. ●

**H**ARTIP 1800 plus D&DL is equipped with two-in-one probe. With unique two-in-one probe, HARTIP1800 plus D&DL can convert between probe D and probe DL simply by changing impact body. It's more economic than buying them individually. It has the same configuration with HARTIP1800 plus except two-in-one probe. ●



## ADVANTAGES

- ✦ Integrated design , easy operation
- ✦ Digital with high contrast OLED display
- ✦ Wide operating environment:  $-40^{\circ}\text{C}$ - $60^{\circ}\text{C}$
- ✦ High accuracy:  $\pm 2$  HL (or 0.3% @HL800)
- ✦ Dual values( Leeb value and one conversion value) can be displayed at the same screen
- ✦ Two display modes: single value shown in big letter or multi-values shown in batch
- ✦ Screen view displays in four different directions, more convenient to view
- ✦ Huge memories in 400 blocks with 360K data, data can be recalled easily
- ✦ USB, RS232 interface, it can connect to computer
- ✦ RS232 and blue tooth interface, it can connect micro-printer directly by cable or wireless
- ✦ Customer re-calibration allowed
- ✦ 3.7 V Li-ion rechargeable battery , it can be charged by USB or power source
- ✦ Statistics value can be calculated automatically
- ✦ With strength conversion value
- ✦ Power on/off automatically
- ✦ Packed in water-proof and rigid carrying case



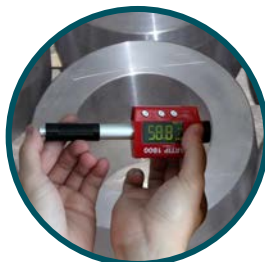
With internal Bluetooth module, HARTIP1800 plus/D&DL can print measuring data wirelessly

## Applications

Normal display



Flip display



Upright display



## Portable Hardness Tester

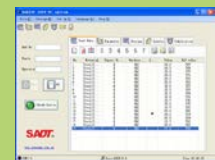
### Standard package

#### HARTIP 1800 Plus / D&DL

HARTIP 1800 plus main unit	1
Internal impact device D(for 1800 plus)	1
2-in-1 impact device D/DL(for 1800 plus D&DL)	1
Test block D	1
Cleaning brush	1
3.7 V Li-ion rechargeable battery (internal)	1
Bluetooth module(internal)	1
Bluetooth microprinter	1
USB cable	1
Data managing software	1
Operation manual	1
Calibration Certificate	1
Carrying case	1

### Optional accessories

- Bluetooth micro printer (powered by rechargeable battery)
- RS232 microprinter(powered by rechargeable battery)
- Special support rings
- Standard support ring for probe D
- Small support ring for probe D
- Impact body D
- Carbide ball tip D
- Test block D with certificate
- Test block D w/o certificate
- Charger
- European adapter plug



Software for HARTIP1800 plus



Standard package - HARTIP1800 plus

# PORTABLE HARDNESS TESTER HARTIP1800 BASIC / D&DL

## Standard package

### HARTIP 1800B/1800B DL

HARTIP 1800 basic main unit	1
Impact device D(1800 basic)	1
2-in-1 impact device D/DL(1800 basic D&DL)	1
Test block D	1
Cleaning brush	1
3.7 V Li-ion rechargeable battery (internal)	1
USB cable	1
Operation manual	1
Calibration Certificate	1
Carrying case	1

## Optional accessories

Bluetooth micro printer (powered by rechargeable battery)
RS232 microprinter(powered by rechargeable battery)
Special support rings
Standard support ring for probe D
Small support ring for probe D
Impact body D
Carbide ball tip D
Test block D with certificate
Test block D w/o certificate
Charger
European adapter plug



Standard package -  
HARTIP1800B

**H**ARTIP1800 Basic is a basic model for HARTIP1800 plus. With most of core functions of HARTIP1800 plus and lower price, HARTIP1800 Basic is a good choice for the customer who has the limited budget. HARTIP1800 Basic also can be equipped with our unique D/DL two-in-one impact device.



## KEY FEATURES

- ★ Integrated design , easy operation
- ★ High accuracy –  $\pm 0.3\%$  @ HL=800 / Repeatability:  $\pm 2HL$
- ★ Wide operating environment –  $-40\sim+60^{\circ}C$
- ★ Digital with high contrast OLED display
- ★ 4000 data memory in 4 blocks, data can be recalled easily
- ★ RS232 and blue tooth interface, it can connect micro-printer directly by cable or wireless (Bluetooth is an option)
- ★ 3.7 V Li-ion rechargeable battery , it can be charged by USB or power source
- ★ With strength conversion value
- ★ Re-calibration allowed by user
- ★ Power on/off automatically



## Specifications

Model	SADT HARTIP 1800 plus/1800 plus D&DL	SADT HARTIP 1800 Basic/1800 Basic D&DL
Principle	Leeb hardness measurement	
Accuracy / Repeatability	$\pm 0.3\%$ @ HL=800 / $\pm 2HL$	
Display	High contrast OLED	
Hardness scale	HL/HRC/HRB/HV/HS/HRA/ob	
Measuring range	HL170-960/ HRC19-70/ HRB13-109/ HB20-655/ HV80-940/ HS32-99.5 / HRA30-88	
Impact device	D/ D-DL 2-in-1 (internal)*	
Materials	10 common metal materials	
Memory	360000 data in 400 blocks, can be saved and re-readable	4000 data in 4 blocks can be saved and re-readable
Statistics function	Average / Max. / Min. / S. value	Average / Max. / Min.
Re-calibration	Allowed by user	
Indicator	Low battery	
Interface	USB/RS232/Bluetooth to PC for transferring data or printing, USB for charging	USB for charging or printing, Bluetooth(Optional) for printing
Bluetooth microprinter	Included	-
Power on/off	Auto	
Power supply	3.7V Li-ion rechargeable battery	
Working environment	$-40^{\circ}C\sim+60^{\circ}C$	
Dimension (mm)	148x44x22	
Net weight (g)	110	
Standards	Conforming to ASTM A956, GB/T 17394-1998	

\*: D-DL 2-in-1 probe is only available for DL models.

# PORTABLE HARDNESS TESTER HARTIP 3000

**H**ARTIP 3000 is an advanced hand-held digital metal hardness tester with characters of high accuracy, wide measuring range and easy operation. It is suitable for testing the hardness of all metals especially on site for large structure or assembled components, which is widely used in the industry of power, petrochemistry, air space, vehicle, machine and so on.

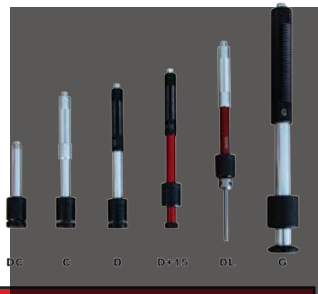
## Specifications



SART HARTIP 3000			
<b>Principle</b>	Leeb hardness measurement	<b>Indicator</b>	Low battery
<b>Accuracy</b>	±0.5% @ HL=800 / ±4HL	<b>Communication</b>	RS232/USB to PC for transferring data
<b>Display</b>	Large graphic LCD with EL backlight	<b>Print</b>	RS232/USB to micro printer
<b>Hardness scale</b>	HL/HRC/HRB/HB/HV/HS	<b>Power supply</b>	1.5V AA battery x 4
<b>Measuring range</b>	HL200-960/ HRC19-70/ HRB13-109/ HB20-655/ HV80-1027/ HS31.9-102.8	<b>Working environment</b>	-10~+45°C
<b>Impact device</b>	D (Standard) DC/D+15/C/G/E/DL (Optional)	<b>Dimension (mm)</b>	195x84x38
<b>Materials</b>	9 common metal materials	<b>Net weight (g)</b>	550
<b>Memory</b>	960 data in 8 blocks, can be saved and re-readable	<b>Standards</b>	Conforming to ASTM A956, GB/T 17394-1998
<b>Statistics function</b>	Average / Max. / Min. / S. value		

## KEY FEATURES

- + Wide measuring range: Rockwell B&C, Brinell, Vickers, Shore and HL
- + Automatic conversion to Brinell, Rockwell, Vickers and Shore
- + Test in any directions
- + Impact devices: D, DC, DL, C, D+15, E, G
- + All impact devices interchangeable
- + Menu operation
- + Large LCD display with backlight
- + RS232/USB interface to PC and micro-printer
- + Automatic mean, max., min. value display
- + Data management software



## Key Accessories

Special Support Rings	Size(mm)	Description
Z10-15 Z14.5-30 Z25-50	20x20x7.5 20x20x6.5 20x20x6.5	Cylindrical R10-15mm R14.5-30mm R25-50mm
HZ11-13 HZ12.5-17 HZ16.5-30	20x18x5 20x20x5 20x20x5	Hollow-cylindrical R11-13mm R12.5-17mm R16.5-30mm
K10-15 K14.5-30	Ø20x7.7 Ø20x6.7	Spherical R10-13mm R14.5-30mm
HK11-13 HK12.5-17 HK16.5-30	Ø17x5 Ø18x5 Ø20x5	Hollow-spherical R11-13mm R12.5-17mm R16.5-30mm
UN	Ø52x20x16	Universal

Optional Probes	
<b>D</b>	Universal standard unit. For the majority of hardness testing assignments.
<b>DC</b>	Extremely short impact device. Use in very confined spaces.
<b>DL</b>	Needle front section diameter 2.78mm, length 50mm. Measurements in extremely confined spaces.
<b>C</b>	Reduced impact energy. Test in surface hardened or impact sensitive components.
<b>D+15</b>	Particularly slim front section and with measuring coil moved back. Hardness measurements in grooves and on recessed surfaces.
<b>E</b>	Synthetic diamond test tip. For measurements in the extremely high hardness range.
<b>G</b>	Enlarged test tip, increased impact energy. For measurements in the Brinell range only. Use in solid components.

## Portable Hardness Tester

### Standard package

HARTIP 3000 main unit	1
Impact device type D	1
Small support ring	1
Test block D	1
Cleaning brush	1
Operation manual	1
Calibration Certificate	1
Carrying case	1

### Optional accessories

- Mirco-printer
- Connection cable to PC
- RS232-USB adaptor
- Data managing software
- Impact device D
- Impact device DC
- Impact device D+15
- Impact device G
- Impact device C
- Impact device E
- Impact device DL
- Impact body D/DC
- Impact body D+15
- Impact body G
- Impact body C
- Impact body DL
- Test block G / D with certificate
- Test block D w/o certificate
- Special support rings
- Leather case



Mirco Printers for  
HARTIP3000/HARTIP2000



Software for HARTIP3000

# PORTABLE HARDNESS TESTER HARTIP 1500/1000

## Standard package

### HARTIP 1500

HARTIP 1500 main unit	1
Built in impact device D	1
Test block D	1
Rechargeable battery	1
Battery charger	1
Cleaning brush	1
Operation manual	1
Calibration Certificate	1
Carrying case	1

### Optional accessories

Special support rings
Standard big support ring for probe D
Standard small support ring for probe D
Impact body D
Test block D with certificate
Test block D without certificate
Leather pouch

## Standard package

### HARTIP 1000

HARTIP 1000 main unit	1
Built in impact device D	1
Leather pouch	1
Operation manual	1
Calibration Certificate	1

**H**ARTIP 1500/1000 is an integrated handheld metal hardness tester that combines impact device (probe) and processor into one unit. The size is much shorter than normal impact device, which lets HARTIP 1500/1000 can meet not only normal measurements, but can take measurements at narrowed space as well. HARTIP 1500/1000 is suitable for testing hardness of almost all Ferrous and Nonferrous materials. With our new technology, its accuracy is improved to a higher level than normal type. HARTIP 1500/1000 is one of the most economic hardness testers. ●



## KEY FEATURES

- ✦ Rugged and modular design
- ✦ High accuracy
- ✦ Palm size for narrow space
- ✦ Built-in impact device
- ✦ For all metallic materials
- ✦ Wide measuring range: Rockwell B&C, Brinell, Vickers, Shore and HL
- ✦ Test in any directions
- ✦ Comply to standard ASTM A956

## Specifications

Model	SADT HARTIP 1500	SADT HARTIP 1000
<b>Principle</b>	Leeb hardness measurement	
<b>Accuracy</b>	±0.4% @ HL=800 / ±3HL	±HRC0.5
<b>Display</b>	LCD with backlight	
<b>Hardness scale</b>	HL/HRC/HRB/HB/HV/HS	HL/HRC
<b>Measuring range</b>	HL170-960/ HRC19-70/ HRB13-109/ HB20-655/ HV80-940/ HS32-99.5	HL170-960/ HRC20-68
<b>Impact device</b>	D (Internal)	
<b>Materials</b>	9 common metal materials	Steel/Cast steel
<b>Memory</b>	99 data	-
<b>Statistics function</b>	Average / Max. / Min.	-
<b>Re-calibration</b>	Allowed by user	-
<b>Indicator</b>	Low battery	
<b>Auto power off</b>	Auto	
<b>Power supply</b>	Ni-MH 9V rechargeable battery	9V alkaline battery x 1
<b>Working environment</b>	-10~+45°C	
<b>Dimension (mm)</b>	100x60x33	
<b>Net weight (g)</b>	150	
<b>Standards</b>	Conforming to ASTM A956, GB/T 17394-1998	





# ULTRASONIC THICKNESS GAUGE

## SA40/SA40EZ/SA40EC/SA50

**S** A40 / SA40EZ are the miniaturized ultrasonic thickness gauges that can measure wall thickness and velocity.

Our intelligent gauges are designed to measure the thickness of metallic and nonmetallic materials such as steel, aluminum, brass, silver and etc. They are quite versatile model which can be easily equipped with the low & high frequency probes as well as a high temperature probe. SA40EC is especially designed to equipped with CT2.5 probe. ●



**S** A50 thickness meter is controlled by micro-processor based on the ultrasonic measuring principle. It is able to measure the thickness and acoustic speed of various materials transmitted ultrasonic. It is designed to measure the thickness of normal metal materials and metal materials covered with coating. ●

### Specifications

Model	SA50	SA40	SA40 EZ	SA40 EC
Display	4 digits LCD			
Backlight	Yes			
Measuring range	1.00~225.0mm in steel with PT-5 probe (Normal mode) 3.00~20.00mm in steel Thickness for coating: <1.2mm (Coating mode)	0.8~250.0mm in steel with PT-5 probe	1.0~250.0mm in steel with PT-5 probe	3.0~250.0mm in steel with CT-2.5 probe
Resolution	1.00~9.99mm ±0.05 10.00~99.99mm ±(0.5% H+0.01) 100.0~225.0 ±(1% H+0.1)	0.01mm@0.8~99.99mm 0.1mm@100.0~250.0mm	0.1mm	
Unit	mm/inch		mm	
Velocity	1000~9999m/s			
Coupling indicator	Yes			
Calibration	Auto			
Memory	40 data		-	
Low battery indicator	Yes			
Working environment	0~40°C, 20~90%RH			
Power off	Auto			
Power supply	AA battery x 2			
Dimension (mm)	124x67x30			
Net weight (g)	245	240		
Standard probe	PT-5		CT-2.5	
Optional probes	XT-5 / GT-5 / CT2.5		XT-5 / GT-5	

### Ultrasonic Thickness Gauges

#### Standard package -

##### SA40/SA40 EZ/SA50

SA40/SA40 EZ/SA50 main unit	1
Standard 5MHz probe PT-5 with probe holder	1
Built-in calibration block	1
Coupling paste for normal temperature	1
Operation manual	1
Carrying case	1

#### Optional probes

XT-5 probe	
GT-5 probe	
CT-2.5 probe	
PT-5 probe with probe holder	
Coupling paste for high temperature	

#### Standard package -

##### SA40 EC

SA40 EC main unit	1
2.5MHz probe CT-2.5	1
Built-in calibration block	1
Coupling paste for normal temperature	1
Operation manual	1
Carrying case	1



# ULTRASONIC THICKNESS GAUGE ST5900/ST5900+

## Standard package - ST5900

ST5900 main unit	1
Standard 5MHz probe PT-5	1
Built-in calibration block	1
Leather case	1
Operation manual	1

## Standard package - ST5900+

ST5900+ main unit	1
Standard 5MHz probe PT-5	1
Built-in calibration block	1
Leather case	1
Operation manual	1

## Optional probe

PT-5 probe

**S** T5900/ST5900+ are the miniaturized ultrasonic thickness gauges that can measure wall thickness. ST5900 has a fixed velocity 5900 m/s, which is used only for measuring of wall thickness of steel. ST5900+ is able to adjust velocity so that it can measure the thickness of metallic and nonmetallic materials such as steel, aluminum, brass, silver, and etc. ●



Easy to operate -- screwing here to adjust velocity!!!



## Specifications

Model	ST5900	ST5900+
Display	4 digits LCD	
Measuring range	1.2~200mm	
Resolution	0.1mm	
Unit	mm	
Velocity	5900m/s	1000~9990m/s
Calibration	Manual	
Power off	Automatically power off after 2 minutes of non-use	
Power supply	AAA battery x 1	AA battery x 1
Dimension (mm)	107x60x15	107x60x20
Net weight (g)	100	110
Standard probe	PT-5	



## Optional Probes

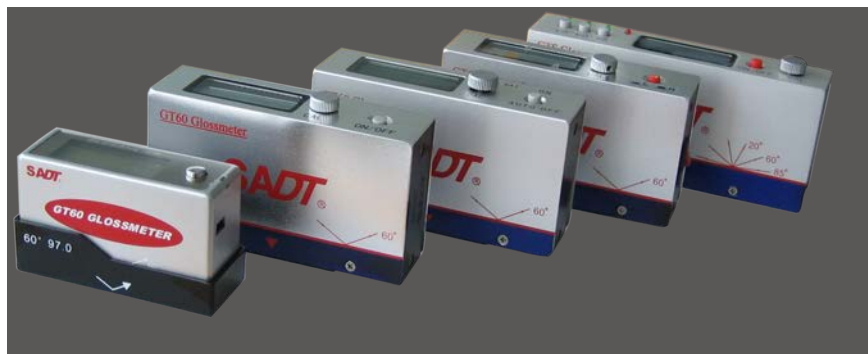
Probe	Frequency	Diameter	Measuring Range	Application
PT-5 (Standard)	5MHz	Ø10mm	0.8~250.0mm	For standard applications
XT-5 (Optional)	5MHz	Ø7mm	0.8~30mm	For tubes with small diameter
GT-5 (Optional)	5MHz	Ø12mm	3.0~100mm	For high temperature up to 400°C
CT-2.5 (Optional)	2.5MHz	Ø12mm	3.0~250mm	For unfavorable attenuation cast

# GLOSS METER

# SADT GT SERIES



**G** T series gloss meters are designed and manufactured according to international standards ISO2813, ASTM D523, DIN 67530 and China standards GB9754, GB9966, GB/T3891. The technical parameters is up to JJG696-2002. The GT45 gloss meter is especially designed for measuring plastic film and ceramics. The GT60S gloss meter is especially designed for measuring small areas and curvy surfaces. ●



## Specifications

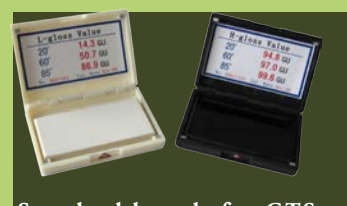
Model	GTS	GTS+	GT60	GT60N	GT60S	GT45	GT60L	
<b>Application</b>	Paint, coating, printing, ceramics	Paint, coating, printing, ceramics, metal, plating layer	Paint, coating, printing, ceramics	Paint, coating, printing, ceramics, metal, plating layer	Small area, curvy surface	Plastic, porcelain enamel	Marble, Granite Terrazzo	
<b>Measuring Range(Gu)</b>	0~199.9	0~1999	0~199.9	0~1999	0~199.9		0~199	
<b>Readout Error(Gu)</b>	±1.2	±0.5 (0~99.9) ±0.5%(100~1999)	±1.2	±0.5 (0~99.9) ±0.5%(100~1999)	±1.2		±2	
<b>Repeatability</b>	±0.4	±0.2 (0~99.9) ±0.2%(100~2000)	±0.4	±0.2 (0~99.9) ±0.2%(100~1999)	±0.4		±1	
<b>Aperture (mm)</b>	20°, 60°, 85°		60°			45°	60°	
<b>Measurement Spot (mm)</b>	10×10 @ 20° 10×20 @ 60° 8×30 @ 85°		10×20			2×2	10×14	25×50
<b>Window Size (mm)</b>	11×52	11×38	14×28			∅4	14×20	26×52
<b>Memory</b>	-	10 data for each degree	-	10 data	-			
<b>Communication Interface</b>	-	USB	-	RS232/USB	-			
<b>Software</b>	-	My Gloss	-	My Gloss	-			
<b>Power Supply</b>	1.5V AA			1.5V AAA	1.5V AA	1.5V AA	1.5V AA	
<b>Dimension (mm)</b>	143×32×64	144×32×64	114×32×64	83×46×30	114×32×64			
<b>Net Weight(g)</b>	390	380	285	100	285			
<b>Standards</b>	ISO2813, ASTM D523, DIN-67530, GB/T9754, GB/T7706, GB/T9966.6			ISO2813, ASTM D523, DIN-67530, ISO7668, GB/T9754	ISO2813, ASTM D523, GB/T9754	ASTM-C346, ASTM2767, GB/T11420, GB/T8807, GB/T3295	ISO2813, ASTM D523, GB/T9966-5	

## Gloss Meter

### Standard package -

#### Gloss Meter GT Series

GT Gloss meter main unit	1
Standard board	1
Lens cloth	1
Operation manual	1
Carrying case	1



Standard boards for GTS



Standard package of GTS

# GLOSS METER GMS/GM60

## Standard package -

### Gloss Meter GM Series

GM Gloss meter main unit	1
Standard board	1
USB cable	1
Data software	1
Power adapter	1
Operation manual	1
Carrying case	1

### Optional accessories

SD card

**G** M Series gloss meters are designed and manufactured according to international standards ISO2813, ISO7668, ASTM D523, ASTM D2457 and China standards GB/T9754, GB/T13891, GB/T7706 and GB/T8807. The technical parameters is up to JJG696-2002. GM Series gloss meters can be widely used to measure painting, coating, plastic, ceramics, leather products, paper, printing, floor materials and so on. ●



## KEY FEATURES

- ✦ Precision appearance design, more suitable for human characteristic, easy to use.
- ✦ Three-angle gloss data is displayed simultaneously, can satisfy various requirements. (Only for GMS)
- ✦ Large memory for measurement data.
- ✦ Latest Bluetooth function and removable memory card to transmit data conveniently.
- ✦ Special designed gloss software to analysis data and output.
- ✦ Prompt for low battery and full memory.

With internal Bluetooth module or USB interface, GM gloss meter can transfer data with PC easily. The measuring data also can be exported to printer via printing interface. Optional SD card makes the memory as large as you want.



## Specifications

Model	GMS	GM60
<b>Application</b>	Painting, printing, floor material, plastic, ceramics, leather, hardware, plating	
<b>Measuring Range(Gu)</b>	0~120, 120~2000 @ 20° 0~120, 120~1000 @ 60° 0~120, 120~160 @ 85°	0~120, 120~1000 @ 60°
<b>Readout Error(Gu)</b>	±1.5 (0~120) ±1.5%(120~2000)	±1.5 (0~120) ±1.5%(120~1000)
<b>Repeatability</b>	±0.5 (0~120) ±0.5%(120~2000)	±0.5 (0~120) ±0.5%(120~1000)
<b>Aperture (mm)</b>	20°, 60°, 85°	60°
<b>Measurement Spot (mm)</b>	10×10 @ 20° 9×15 @ 60° 5×38 @ 85°	9×15
<b>Memory</b>	900 data or 30 groups, CF card (optional)	
<b>Interface</b>	USB / printer /Bluetooth	
<b>Software</b>	Data managing software	
<b>Power Supply</b>	+5V, AA*4	
<b>Working Environment</b>	10~40°C, <85%RH,	
<b>Dimension (mm)</b>	164×58×88	
<b>Net Weight(g)</b>	520	
<b>Standards</b>	ISO2813, ISO7668, ASTM D523, ASTM D2457, GB/T9754, GB/T13891, GB/T7706, GB/T8807	



Standard package  
-- GMS/GM60

# SURFACE ROUGHNESS TESTER

# SADT ROUGHSCAN

**S**ADT RoughScan tester is a portable, battery-powered instrument for checking surface roughness with the measured values displayed on a digital readout. The instrument can be used in the laboratory, an inspection area, in the shop, or wherever on-site surface roughness testing is required. ●



## Specifications

SADT RoughScan			
Measuring Range	Ra: 0.03μm~6.3μm/1μ"~250μ" Rz: 0.2μm~50.0μm/8μ"~999μ" Ry/Rmax: 0.2μm~25μm/8μ"~999μ"	Readout Error	±10%
		Stability	≤6%
		Sensor Type	Piezoelectric
Resolution	0.01μm/1μ"	Maximum stylus force	15.0mN/1500mgf
Cut-off	0.8mm/0.30", ANSI 2RC Filter	Working Environment	10°C~45°C
Display	3-digit LCD	Storage Temperature	0°C~60°C

Traverse length	Evaluation length	Numbers of cutoff
0.5mm	0.25mm	1
1.2mm	0.8mm	
5.5mm	5.0mm	
1.25mm	0.75mm	3
3.0mm	2.4mm	
5.5mm	5.0mm	
1.75mm	1.25mm	5
4.5mm	4.0mm	
5.5mm	5.0mm	

## Optional Probes

Probe	Application	
<b>General purpose probe SFP-2001/ SFP-2002</b>	For most surface roughness applications. SFP-2001 has a 90° conical diamond stylus, .0004"/10μm radius per ISO standards. SFP-2002 has a 90° conical diamond stylus, .0002"/5μm radius per DIN standards.	
<b>Transverse chisel probe SFP-2003</b>	For gaging sharp edges or small O.D.'s where probe is aligned with (in 180° or closed position) to axis of traverse. 90° diamond chisel stylus, .0004"/10μm radius.	
<b>Parallel chisel probe SFP-2004</b>	For gaging sharp edges or small O.D.'s where probe is perpendicular (in 90° or 270° position) to axis of traverse. 90° diamond chisel stylus, .0004"/10μm radius.	
<b>Small bore probe SFP-2005/SFP-2006</b>	For measuring small bores (min. inside diameter of 5.0mm, up to a depth of 15.0mm). 90° conical diamond stylus, .0004"/10μm radius for SFP-2005; 90° conical diamond stylus, .0002"/5μm radius for SFP-2006	
<b>Groove bottom probe</b>	For measuring the bottoms of "O" ring grooves, recesses and holes to depth of 6.0mm. Also used for short lands and shoulders. 90° conical diamond stylus, .0004"/10μm radius.	

## Surface Roughness Tester

### Standard package -

#### RoughScan

RoughScan main unit	1
Standard probe	1
Calibrate plate with the reference specimen	1
9-volt alkaline battery	1
Screw driver	1
Operation manual	1
Carrying case	1

### Optional accessories

- General Purpose Probe SFP-2001
- General Purpose Probe SFP-2002
- Transverse Chisel Probe SFP-2003
- Parallel Chisel Probe SFP-2004
- Small Bore Probe SFP-2005
- Small Bore Probe SFP-2006
- Groove bottom probe SFP-2007
- Height Stand
- Standard test block





# ULTRASONIC FLAW DETECTOR SADT SUD10

## Standard package

SUD10 main unit	1
2.5MHz-Ø20 straight probe	1
4MHz 60° 8x9mm angle probe	1
Probe connection cable (Q9 to Q9)	1
Probe connection cable (Q9 to C5)	1
4A/9V power adapter	1
Data managing software	1
Interface cable	1
Operation manual	1
Carrying case	1

## Optional accessories

### Straight probe

5MHz-Ø20mm probe
2.5MHz-Ø20mm probe
2.25MHz-Ø20mm probe
1MHz-Ø20mm probe

### Angle probe

4MHz 45° 8 x 9mm probe
4MHz 60° 8 x 9mm probe
4MHz 70° 8 x 9mm probe
4MHz 80° 8 x 9mm probe
2MHz 45° 8 x 9mm probe
2MHz 60° 8 x 9mm probe
2MHz 70° 8 x 9mm probe
2MHz 80° 8 x 9mm probe
T/R 5MHz-Ø20mm, focus 15mm probe
T/R 2.5MHz-Ø20mm, focus 15mm probe
Connection cable to probe (Q9 to Q9)
Connection cable to probe (Q9 to C5)
Connection cable to probe (C9 to Q9)
Connection cable to probe (C9 to C5)

Lithium ion battery
Power adaptor 4A/9V
Power Cable
Leather case

**S**UD10 is a portable, microprocessor-based instrument suitable for both shop and field use. SUD10, which is integrated with international advanced digital integration and new EL display technology, is a smart Digital Ultrasonic Flaw Detector propelled by SADT. SUD10 has almost all functions to meet requirements of professional application for nondestructive testing.

SUD20 has same functions as SUD10, but smaller and lighter. ●

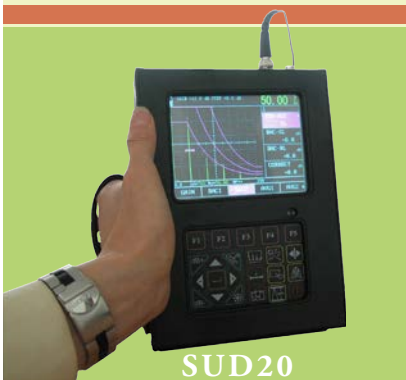


## Key Features

- ✓ High-speed capture and very low noise
- ✓ DAC, AVG, B Scan
- ✓ Solid metal housing (IP65)
- ✓ Automated make video of test process and play
- ✓ High contrast viewing of the waveform from bright, direct sunlight to complete darkness and easy to read from all angles
- ✓ Powerful PC software and data can be exported to Excel
- ✓ Automated calibration of transducer Zero, Offset and/or Velocity
- ✓ Automated gain, Peak Hold and Peak Memory
- ✓ Automated display precise flaw location (Depth d, level p, distance s, amplitude, sz dB, Ø)
- ✓ Automated switch three staff gauge (Depth d, level p, distance s)
- ✓ Ten independence setup, any criterion can be input freely, can work in the scene without test block
- ✓ Big memory of 300 A graph and 30000 thickness values
- ✓ A&B Scan
- ✓ RS232/USB port, Communication with PC is easy
- ✓ The embedded software can be online updated
- ✓ Li battery, continue working time up to 8 hours
- ✓ Display freeze
- ✓ Automatic echo degree
- ✓ Angles and K-value
- ✓ Lock and unlock function of system parameters
- ✓ Dormancy and screen savers
- ✓ Electronic clock calendar
- ✓ Two gates setting and alarm indication

## Specifications

Measuring range (mm)	0.5~10000	Frequency range (MHz)	0.5~15	Pulse shift (µs)	-20~+3400
Vertical linearity error	≤2.5%	Gain (dB)	0~110	Zero (µs)	0.0~999.9
Horizontal linearity error	≤0.1%	Material velocity	1000~15000 m/s	Port type	BNC
Sensitivity margin	≥60dB	Measurement mode	single, dual, THRU	Operating temperature	-20~55°C
Dynamic scope	≥32dB	Reject	0~80%	Dimension & net weight	240×180×50mm, 2.2kg
Standards	JB/T 10061-1999, JJG 746-2004				



SUD20

# PRECISE COLOR READER SC 80

**S**C80 precise color reader is mainly applied to plastic, painting, design, plating, costume, printing and dyeing industries.. It can do the color analysis and color controlling. ●



## KEY FEATURES

- + The 2.4" colorful screen and portable design make you feel comfortable.
- + 3 kinds of light sources for your selection, SCI and SCE mode switch and metamerism analysis satisfy your test needs in different working status.
- + Tolerance setting, auto-judge color difference values and color deviation make you judge the color easily even you don't have any professional knowledge in color.
- + Using professional color analysis software you can do the color data analysis and color difference diagrammatic outputting.
- + Via optional mini printer the color data can be printed out on site.



## Specifications

Model	SC 80
Accuracy	0.08 (average value of 30 times @ the standard white tabula)
Lighting/Inspecting system	8/d (8° falloff/diffuse reflection) SCI (include flat mirror light) / SCE (eliminate flat mirror light)
Light source	White light source
Inspection angle	10° angle of view in CIE
Inspection conditions	D65, D50, F11
Rectification	White board rectification Black board rectification
Storage	12 groups of standard samples, 30 groups of values for each sample
Display	L*a*b*, L*c*h* Chroma values and ΔE*ab Δ(L*a*b*), Δ(L*c*h*) color difference values
Language	English / Chinese
Aperture (mm)	Ø8
Power supply	4 pcs of alkaline batteries or nickel batteries special adaptor (DC, 5V)
Weight (g)	550g
Dimension (mm)	77x86x210

## Standard accessories



Standard white tabula    Standard black cavity    Power adapter    USB cable    Software CD    Carrying case

## Optional accessory



Micro printer

## Precise Color Reader

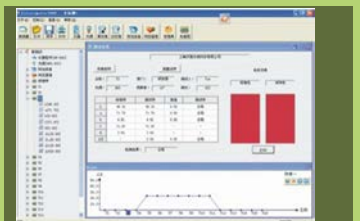
### Standard package

SC80 main unit	1
Standard white tabula	1
Standard black cavity	1
USB cable	1
Software CD	1
Power adapter	1
Operation manual	1
Carrying case	1

### Optional accessory

Micro Printer

**COLOR TEST**  
and quality management  
Software



# PORTABLE COLOR DIFFERENCE METER

## SC 20



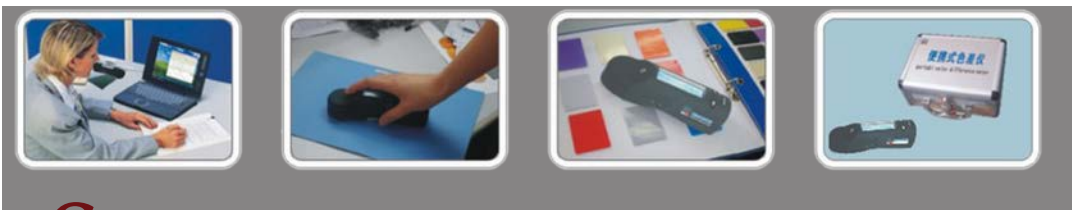
### Standard package

SC20 main unit	1
USB cable	1
Software CD	1
Power adapter	1
Operation manual	1
Leather pouch	1

**S**C20 portable color difference meter is widely applied to quality control of plastic and printing industries. It makes you capture color efficiently and accurately.

### KEY FEATURES

- + Easy operation makes you use it easily.
- + Widely applied to quality control of plastic and printing industries.
- + Display directly color difference by  $E^*ab$ ,  $L^*a^*b$ ,  $CIE_{L^*a^*b}$ ,  $CIE_{L^*c^*h}$ .
- + Standard deviation within  $E^*ab0.2$  (test condition: choose average values by 12 pcs white tabula).
- + It can be connected with computer to do the inspection by software with USB expansion interface.



### Specifications

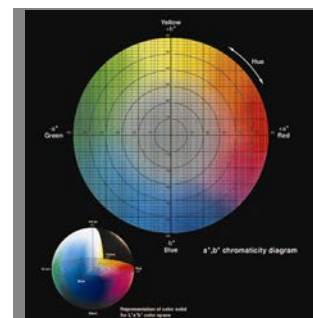
Model	SC 20
Accuracy	<0.2 $\Delta E^*ab$
Display	$\Delta E^*ab$ , $CIE_{Lab}$ , $\Delta Lab$ , $CIE_{Lch}$
Test range	L: 0~100, a: -128~127, b: -128~127
Test time	About 3 seconds
Test interval	2 seconds
Aperture (mm)	Ø8
Power off	Automatically in 5 min
Light source	C light source
Sensor	Silicon photodiode array
Power Supply	DC/5V (1.5A)/2 x 1.5V (AAA) battery
Working environment	0~40°C, < 85%RH
Weight (g)	204
Dimension (mm)	171x50x49
Application	Measure any color of smooth surfaces

**COLOR ANALYSIS**  
- connecting with computer

### Color Difference Analysis

0~0.25 $\Delta E$	Perfect
0.25~0.5 $\Delta E$	Acceptable
0.5~1.0 $\Delta E$	Acceptable in some areas
1.0~2.0 $\Delta E$	Acceptable in some areas
2.0~4.0 $\Delta E$	Acceptable in specific applications
4.0 $\Delta E$	Not acceptable in most applications

### CIE COLOR SPACE CHART



# METALLURGICAL MICROSCOPE SM500



**S** M500 is a self-contained portable metallurgical microscope ideally used for inspecting metallography of metals in laboratory or in situ. With fully handheld design and unique magnetic stand, SM500 can be attracted directly against the surface of ferrous metal at any angles for non-destructive examination on flatness, curvature as well as other complicated surface.

SM500 can also be used with digital camera or CCD image process system to download metallurgical image to PC for data transfer, analysis, storage and printout. ●

## KEY FEATURES

- ✦ Portable metallurgical laboratory, with on-site sample preparation, microscope, camera. Without AC power supply in field
- ✦ Natural colors without changing light by dimming the LED lighting provides the best image observed at any time.
- ✦ Magnetic stand can be attracted against metals at any angles.

## Specifications

<b>Microscope main</b>	100-500x (extendable 1500x)	<b>Power supply</b>	230V AC 50/60Hz
<b>Eyepiece(large view)</b>	10x, 12.5x	<b>Stand</b>	On-off magnetic stand
<b>Objective</b>	10x, 40x	<b>Dimension(mm)</b>	210x160x95
<b>Slideway</b>	X-direction 15mm Y-direction 12mm	<b>Net weight (kg)</b>	2.5
<b>Illuminator(halide)</b>	6V, 15W		

## Optional accessories



E-P302 Electrolytic Polisher

- \* Non-destructive polisher of large workpiece size
- \* Constant voltage constant flow
- \* Electrolyte does not leak, easy to clean-up
- \* Digital show voltage and current values and with a timing device
- \* Recommended for the in situ, non-destructive examination or in laboratory.
- \* It can also be used for large samples.



SM500 with adaptor for digital camera



SM500 with CCD adaptor to PC



MP395 Mini Grinder with 2 sets of wheel heads

## Metallurgical Microscope

### Standard package - SM500

SM500 main body 100-500x	1
Eyepiece: 10x	1
Eyepiece: 12.5x	1
Objective: 10x	1
Objective: 40x	1
Slideway: x-direction 15mm, y-direction 12mm	1
Bulb (halide): 6v 15w	2
Power supply: 230VAC	1
On-off magnetic stand	1
Operation manual	1
Carrying case	1

### Optional accessories

Additional stand for small samples	
Digital camera	
Adapter for digital camera with eyepiece	
CCD with interface	
Eyepiece 5x/10x/15x/16x	
Objective 4x/5x/20x/25x/40x/100x	
Mini grinder	
Electrolytic polisher	
A set of wheel heads	
Polishing cloth wheel	
Replica film	
Filter (green, blue, yellow)	
Bulb	



# PORTABLE METALLURGRAPHIC MICROSCOPE SM-3



### Standard package - SM-3

SM-3 main body	1
Eyepiece: 10x	1
Eyepiece: 20x	1
Objective: 5x	1
Objective: 10x	1
Objective: 50x	1
Portable LED illuminator	1
Power supply	1
Magnetic stand	1
Filter(green, sunlight)	1
Adaptor for digital camera 10x 1	1
C-Mount 0.5x video adaptor	1
Operation manual	1
Carrying case	1

### Optional accessories

Digital camera
Eyepiece 5x/10x/15x/16x
Objective 4x/5x/20x/25x/40x/100x
Mini grinder
Electrolytic polisher
A set of wheel heads
Polishing cloth wheel
Replica film
Filter
Bulb

### KEY FEATURES

- + Special magnetic base, fixing the unit firmly on the workpieces
- + Suitable for large-scale roll test and direct observation, no cutting and sampling
- + LED lighting, uniform color temperature, no heating
- + Forward/backward and left/right moving mechanism for main machine, convenient for adjustment of the inspection point
- + Point connecting of digital cameras, observing the records directly on PC

### Specifications

Observation method	Upright	Illuminator(halide)	Build-in LED or 6V15W light source
Microscope main	50x-1000x	Power supply	230V AC 50/60Hz
Eyepiece(large view)	10x, 20x	Stand	On-off magnetic stand
Objective	5x, 10x, 50x	Dimension(mm)	550x260x380
Adaptor	digital camera adaptor with 10x eyepiece video adaptor C-mount 0.5x	Net weight (kg)	2.7

## METALLURGICAL MICROSCOPE

# XJP-6A

**X**JP-6A metalloscope can be widely used in such departments as factories, schools and science research institutions for identifying and analyzing the microstructure of all kinds of metal and alloys. It is the ideal tools for testing metal material, verifying the quality of casting and analyzing metallographic organization of the material metalized.



Standard package		Optional accessories	
Part No.	Item	Part No.	Item
XJP-6A	Main body		Digital camera
S09	Mechanical stage with a stroke of 75x50mm and size of 180x155mm	DCK	Adapter for digital camera with eyepiece
EP10	Plan eyepiece 10 <sup>x</sup> -18	DIG300	3 mega pixel CCD with eyepiece
EP12.5	Plan eyepiece 12.5 <sup>x</sup> -14	CWC	Micrometer
Epr10b	Plan reticle eyepiece 10 <sup>x</sup> -14		
M-OPr10	Plan achromat objective 10 <sup>x</sup> /0.25mm		
M-OPr20	Plan achromat objective 20 <sup>x</sup> /0.35mm		
M-OPr40A	Plan achromat objective 40 <sup>x</sup> /0.65mm		
M-OSPor100	S-plan achromat objective 100 <sup>x</sup> /1.25 oil		
9J-6	Stage plate(1)		
9J-7	Stage plate(2)		
9J-8	Stage plate(3)		
9J.11	Stage plate holder		
TBR03	Rotating binocular head(45 degree)		
LH01	Lamp housing		
	Halogen lamp 6V 30W		
PO02	Polarizer		
PA01	Analyzer		
CL02	Specimen holder		

# INVERTED METALLOGRAPHIC MICROSCOPE SM400



## KEY FEATURES

- + Economical practical design offering for inspecting grain coarsening metallurgical samples.
- + Easy installation by the production line and easy to carry.
- + The SM400 is suitable for colleges and factory .



An adapter for attaching a digital camera to the trinocular tube is also available. This mode needs MI of the metallographic image printing with fixed sizes.



We have a selection of CCD adapters for computer print-out with standard magnification and more than 60% observation view...

## Specifications

Observation method	Inverted, bright field, polarizing	Objective	10 <sup>x</sup> / 0.25 20 <sup>x</sup> / 0.4 40 <sup>x</sup> / 0.65 100 <sup>x</sup> / 1.25 (oil, optional)
Magnification	100 <sup>x</sup> , 200 <sup>x</sup> , 400 <sup>x</sup> , 1000 <sup>x</sup> (optional)	Field diaphragm	1
Focus	Graduation: 1 $\mu$ m	Mirror	1
Illuminator	6V, 30W	Power supply	220V / 110V
Stage	180x150mm	Dimension(mm)	560x195x300
Eyepiece	10 <sup>x</sup> (F.N18) x 2	Net weight (kg)	12
Nosepiece	4		

# INVERTED METALLOGRAPHIC MICROSCOPE SD300M

## KEY FEATURES

- + Infinite focusing optics provides high resolution image.
- + Objective: Long viewing distance type.
- + Wide field of view: 20mm
- + The three-plate mechanical stage can accept nearly all sample sizes and also allows nondestructive microscope examination of large components.



SADT optics provides high NA and long viewing distance. SADT optics delivers bright, high-resolution images. New optical coating improve dustproof and dampproof in SD300M.



The large stage surface enables observation of heavy samples. The three-plate structure gives the microscope stable and superior durability.

## Specifications

Optical	SADT infinity system	Nosepiece	5
Observation method	Inverted, bright field, polarizing	Objective	5 <sup>x</sup> /0.13, WD11.5; 10 <sup>x</sup> /0.3, WD6.8 20 <sup>x</sup> /0.4, WD11.1; 50 <sup>x</sup> /0.55, WD8.2 100 <sup>x</sup> /0.8, WD2.0(Spring)
Magnification	50 <sup>x</sup> , 100 <sup>x</sup> , 200 <sup>x</sup> , 500 <sup>x</sup> , 1000 <sup>x</sup>	Field diaphragm	1
Focus	Graduation: 1 $\mu$ m	Mirror	1
Illuminator	12V, 50W	Power supply	90-240V
Stage	247x270mm	Dimension(mm)	700x320x400
Eyepiece	10 <sup>x</sup> (F.N20)	Net weight (kg)	15

## Metallurgical Microscope

### Standard package - SM400

SM400 main body	1
Trinocular head	1
Mechanical stage	1
Illuminator(halide): 6V 30W	1
Power supply: 220V	1
High resolution plan achromat objective:	
10 <sup>x</sup> /20 <sup>x</sup> /40 <sup>x</sup>	1 for each
Eyepiece: 10 <sup>x</sup>	2
Operation manual	1

### Optional accessories

Eyepiece: 12.5 <sup>x</sup>	
Reticle eyepiece 10 <sup>x</sup>	
Objective: 100 <sup>x</sup> (Oil)	
C-Mount	
1.3M pixel CCD	

### Standard package - SD300M

SD300M main body	1
Trinocular head	1
Mechanical stage	1
Stage plate	1
Lamp house	1
Bulb: 12V, 50W	4
High resolution plan achromat objective:	
5 <sup>x</sup> /10 <sup>x</sup> /20 <sup>x</sup> /50 <sup>x</sup> /100 <sup>x</sup>	1 for each
Eyepiece: 10 <sup>x</sup>	2
Filter	1
Polarizer	1
Operation manual	1

### Optional accessories

C-Mount	
1.3M pixel CCD	

# SADT HB SCALER

## Standard package - HB SCALER

Measuring software	1
CCD	1
USB security dog	1
USB cable to PC	1
Standard indentation test block	1
Operation manual	1



**H**B Scaler is an optical measuring system which can automatically measure the size of indentation from Brinell hardness tester and gives the Brinell hardness readings. All values and indentation images can be saved in PC. With the software, all values can be processed and printout as a report.

## KEY FEATURES

- + High accuracy:  $\pm 0.01\text{mm}$
- + Measuring automatically
- + Read out in HBW and mm
- + All HB readings and images can be saved as tif or Excel format
- + Print out test report
- + Quick respond:  $< 0.001\text{s}$

## Specifications

**Measuring scale:** HBW10/3000, HBW10/1000, HBW5/750/, HBW5/250, HBW2.5/187.5

**Measuring range:** indent: 0.6~6mm

**Hardness:** 31~650HBW

**Resolution:** 0.1HBW

**Respond interval:**  $< 0.001\text{s}$

**Power:** From USB port

**Weight:** 350g (Measuring head)

**Dimension:** 170x $\varnothing$ 70mm

# ROCKWELL HARDNESS TESTER

*Bench Hardness Tester*

## HR-150A Rockwell Hardness Tester



The manually operated HR-150A Rockwell hardness tester is highly appreciated for its perfection and very easy operation. This machine uses the standard preliminary test force of 10kgf, and main loads of 60/100/150 kilograms conform the international Rockwell standard. After each test the HR-150A shows the Rockwell B or Rockwell C hardness value directly on the dial indicator. The preliminary test force has to be applied manually, followed by applying the main load by means of the lever at the right side of the hardness tester. After unloading the dial indicates the requested hardness value directly with high accuracy and repeatability. ●

## HR-150DT Motorized Rockwell Hardness Tester



This series hardness testers, appreciated for their accuracy and easy operation, work entirely conform the international Rockwell standard. Depending on the combination of indenter type and applied total test force, a unique symbol is given to each Rockwell scale. HR-150DT and HRM-45DT feature both specific Rockwell scales HRC and HRB on a dial. The appropriate force should be adjusted manually, using the dial on the right side of the machine. After application of the preliminary force, the HR150DT and HRM-45DT will proceed with a full automatic test: loading, duration, unloading, and will display the hardness directly. ●

## HRS-150 Digital Rockwell Hardness Tester



The HRS-150 digital Rockwell hardness tester is designed for ease of use and safety in operation, and conforms with the international Rockwell standard. Depending on the combination of indenter type and applied total test force, a unique symbol is given to each Rockwell scale. The HRS-150 will automatically show your selection of a specific Rockwell scale on the LCD display, and indicate which load is being used. The integrated autobrake mechanism allows the preliminary test force to be applied manually without the possibility of an error. After application of the preliminary force, the HRS-150 will proceed with a fully automatic test: loading, dwell time, unloading, and computation of the hardness value on display. Connected to the included printer, by means of an RS232 output, it's possible to print out all results directly. ●

## Specifications & Packing List

Model	HRS-150	HR-150DT	HR-150A
Type	Digital Rockwell hardness tester	Motorized Rockwell hardness tester	Rockwell hardness tester
Preliminary test force (N/kgf)	98.07/10		
Rockwell hardness test (N/kgf)	588.4/60, 980.7/100, 1471/150		
Test force dwell time (s)	1~30	0~30	-
Hardness indication	Digital	Dial	
Max. height of specimens (mm)	170		
Max. depth of specimens (mm)	165		
Power	AC220V, 50/60Hz		-
Dimension (DxWxH) (mm)	510 x 212 x 730	510 x 212 x 700	510 x 212 x 700
Net weight (kg)	85		
<b>Standard package</b>			
Main machine	1	1	1
Diamond Rockwell indenter	1	1	1
Ø1.5875mm hardmetal ball indenter	1	1	1
Testing table (big, medium, V)	1 for each type	1 for each type	1 for each type
Standard Rockwell hardness block	HRB / HRC high / HRC low, 1 for each type	HRB / HRC high / HRC low, 1 for each type	HRB / HRC high / HRC low, 1 for each type
Weight	3	3	3
Fuse	2(2A)	2(0.5A)	-
Lamp	-	2	-
Power cord	1	1	-
Operation manual	1	1	1
Internal printer	1	-	-
Printer operation manual	1	-	-
Print paper	1	-	-
RS-232 cable	1	-	-



**HRM-45DT Motorized Superficial Rockwell Hardness Tester**



**T**his series hardness testers, appreciated for their accuracy and easy operation, work entirely conform the international Rockwell standard. Depending on the combination of indenter type and applied total test force, a unique symbol is given to each Rockwell scale. HR-150DT and HRM-45DT feature both specific Rockwell scales HRC and HRB on a dial.

The appropriate force should be adjusted manually, using the dial on the right side of the machine. After application of the preliminary force, the HR150DT and HRM-45DT will proceed with a full automatic test: loading, duration, unloading, and will display the hardness directly.

**Specifications & Packing List**

**HRMS-45 Superficial Rockwell Hardness Tester**



**H**HRMS-45 Digital Superficial Rockwell Hardness Tester is a novel product integrating advanced mechanical and electronic technologies and featured with neoteric appearance, intuitive dual display of LCD and LED digital diodes, making it an upgrading product of common type superficial Rockwell tester. It serves to measure the hardness of ferrous, nonferrous metals, hard metals, carburized or nitrided layers, and other chemical treating layers. It is also used to for hardness test of thin pieces.

**XHR-150 Plastic Rockwell Hardness Tester**



**X**HR-150 plastics Rockwell hardness tester adopts motorized testing method, its testing force can be loaded, kept and unloaded automatically. Avoid man-made error and easy to use. It is therefore, welcomed by many users. It serves to measure hard plastics, hard rubbers, aluminum, tin, copper, soft steel, synthetic resins, fricative materials, etc.

Model	HRM-45DT	HRMS-45	XHR-150
Type	Motorized superficial Rockwell hardness tester	Digital superficial Rockwell hardness tester	Plastics Rockwell hardness tester
Preliminary test force (N/kgf)	29.4/3		98.07/10
Rockwell hardness test (N/kgf)	-	-	588.4/60, 980.7/100, 1471/150
Superficial Rockwell hardness test (N/kgf)	147/15, 294/30, 441/45		-
Measuring range	70-91 HR15N / 42-80 HR30N / 20-70 HR45N 73-93 HR15T / 43-82 HR30T / 12-72 HR45T		70-94 HRE / 100-120 HRL 85-110 HRM / 114-125HRR
Test force dwell time (s)	0~30	1~30	2~60
Hardness indication	Dial	Digital	Dial
Max. height of specimens (mm)	170		
Max. depth of specimens (mm)	165		
Power	AC220V, 50/60Hz		
Dimension (DxWxH) (mm)	510 x 212 x 700	510 x 210 x 730	520 x 215 x 700
Net weight (kg)	80		78
Standard package	HRM-45DT	HRMS-45	XHR-150
Main machine	1	1	1
Diamond Rockwell indenter	1	1	-
Ø1.5875mm hard metal ball indenter	1	1	-
Steel ball indenter (Ø3.175mm, Ø6.35mm, Ø12.70mm)	-	-	1 for each type
Steel ball (Ø3.175mm, Ø6.35mm, Ø12.70mm)	-	-	2 for each type
Testing table (big, medium, V)	1 for each type	1 for each type	1 for each type
Standard superficial Rockwell hardness block	HR15N / HR30N / HR30T, 1 for each type	3	-
Standard plastic Rockwell hardness block	-	-	4
Weight	3	3	-
Lamp	2	-	-
Fuse	2(0.5A)	2(2A)	-
Power cord	1	1	1
Operation manual	1	1	1
Internal printer	-	1	-
Printer operation manual	-	1	-
Print paper	-	1	-
RS-232 cable	-	1	-

# VICKERS HARDNESS TESTER

Bench Hardness Tester

## HVS-10/50 Low Load Vickers Hardness Tester



**L**ow Load Vicker's hardness tester with digital display is a new hi-tech product integrating mechanical and photoelectrical technologies. As a substitute of traditional small-load Vicker's hardness tester, it features in easy operation and good reliability, which is specially designed for testing minute, thin samples or parts after surface coating. For research institutes, factories labs and QC departments, this is an ideal hardness testing instrument for research or measuring purposes.

### Key features and functions:

Integration of computer programming technology, high resolution optical measuring system and photoelectrical technique

Soft key input

Light source adjustment

Selectable testing model, conversion tables, pressure-holding time, file number input and data saving functions

Big LCD screen to display testing model, testing pressure, indentation length, hardness values, pressure holding time and numbers of tests

Date recording test results recording and data processing

Printing output function

RS232 interface

## HV-10/50 Low Load Vickers Hardness Tester



**L**ow load Vickers hardness testers are new hi-tech products integrating mechanical and photoelectrical technologies. These testers are specially designed for testing minute, thin samples or parts after surface coating. For research institutes, factories labs and QC departments, these are ideal hardness testing instruments for research or measuring purposes.

### Key features and functions:

Micro computer control

Adjustment of lighting source via soft keys

Adjustment of pressure holding time and LED/LCD display

Unique measurement conversion device and unique micro eyepiece one-time measurement readout device, ensuring easy use and high accuracy

## HV-30 Vickers Hardness Tester



**H**V-30 Vickers hardness tester is specially designed for testing minute, thin samples or parts after surface coating. For research institutes, factories labs and QC departments, these are ideal hardness testing instruments for research or measuring purposes.

### Key features and functions:

Micro computer control, automatic loading and unloading mechanism

Adjustment of lighting source via hardware

Adjustment of pressure holding time (0-30s)

Unique measurement conversion device and unique micro eyepiece one-time measurement readout device, ensuring easy use and high accuracy

## Specifications & Packing List

Model	HV10	HVS10	HV30	HV50	HVS50
Type	Vickers low load hardness tester	Digital Vickers hardness tester	Vickers hardness tester	Vickers hardness tester	Digital Vickers hardness tester
Testing Forces (N)	2.94 / 4.9 / 9.8 / 29.4 / 49 / 98		19.6/29.4/49/98/196/294	9.8 / 49 / 98 / 196 / 294 / 490	
Testing Forces	0.3 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 (kgf)		2/3/5/10/20/30 (kgf)	1.0 / 5.0 / 10.0 / 20.0 / 30.0 / 50.0 (kgf)	
Load control	Automatic loading and releasing				
Holding Time (s)	5~60		0~30	5~60	
Magnification of microscope <sup>x</sup>	200 <sup>x</sup> for measurement, objective 20 <sup>x</sup> eyepiece 10 <sup>x</sup> 100 <sup>x</sup> for observation, objective 10 <sup>x</sup> eyepiece 10 <sup>x</sup>		100 <sup>x</sup> for measurement	100 <sup>x</sup> for measurement, objective 10 <sup>x</sup> eyepiece 10 <sup>x</sup>	
Max. measuring length	0.25mm			0.65mm	
Micrometer resolution (μm)	0.5	0.0625	1	1	0.25
Testing range	8 HV <sub>0.3</sub> ~2500 HV <sub>10</sub>		10 HV <sub>2</sub> ~2500 HV <sub>30</sub>	5 HV <sub>1</sub> ~2500 HV <sub>50</sub>	
Max. Height of the specimen	160mm		150mm	160mm	
Max. width of the specimen	135mm		130mm	135mm	
Hardness conversion	-	Provided	-	-	Provided
Output	-	Built-in printer, RS232C	-	-	Built-in printer, RS232C
Power	220V, 50Hz	220V, 50Hz, Lithium battery	220V, 50Hz	220V, 50Hz	220V, 50Hz, Lithium battery
Dimension (mm)	650 x 540 x 270		620 x 452 x 200	650 x 540 x 270	
Net weight (kg)	35		38	45	
Standard package	HV10	HVS10	HV30	HV50	HVS50
Main machine	1	1	1	1	1
Test block	High block x 1, medium block x 1	High block x 1, medium block x 1	(400~500)HV <sub>2</sub> x 1 (400~500)HV <sub>3</sub> x 1	Medium block 5kg x 1, medium block 30kg x 1	Medium block 5kg x 1, medium block 30kg x 1
Micrometer eyepiece	1	1	1	1	1
Test table	big / medium / small V-shape, 1 for each type	big / medium / small V-shape, 1 for each type	big / medium / V-shape, 1 for each type	big / medium / small V-shape, 1 for each type	big / medium / small V-shape, 1 for each type
Objective	10 <sup>x</sup> x 1, 25 <sup>x</sup> x 1	10 <sup>x</sup> x 1, 25 <sup>x</sup> x 1	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1
Vickers Indenter	1	1	1	1	1
Spare fuse	2	2	4	2	2
Weight	3	3	4	4	4
Spare bulb	2	2	2	2	2
Product operating manual	1	1	1	1	1
Printer operating manual	-	1	-	-	1

**HV-1000 Micro Hardness Tester**  
**HVS-1000 Digital Micro Hardness Tester**



HV-1000



HVS-1000

**M**icro hardness tester HV1000 / HVS1000 is especially well suited for high precision hardness testing of small and/or thin specimens such as sheet, foil, coatings, ceramic products, and hardened layers. To ensure a satisfactory indentation, the HV1000 / HVS1000 features automatic loading and unloading operations, a very precise loading mechanism and a robust lever system. The micro-computer controlled system ensures an absolutely precise hardness measurement with adjustable dwell time.

**D**HV-1000 / DHV-1000Z micro Vickers hardness tester made with a unique and precise design in the field of mechanics, optics and light source is able to produce a clearer indentation and hence a more precise measurement. By means of a 20 × lens and a 40 × lens the tester has a wider measurement field and a broader usage range. Equipped with a digital microscope, it shows the measuring methods, the test force, the indentation length, the hardness value, the dwell time of the test force as well as the number of the measurements -- all shown on its LCD screen. What is more, it is equipped with an interface linked to a digital camera and a CCD video camera. This tester is widely used for measuring:  
 Ferrous metals, non-ferrous metals, IC thin sections, coatings, ply-metals;  
 Glass, ceramics, agate, precious stones;  
 Hardness such as that on the depth and the trapezium of the carbonized layers and quench hardened layers.



DHV-1000

**XHV-1000 Digital Micro Hardness Tester**

**D**XHV-1000 Digital Micro Vickers Hardness Tester made with a unique and precise design in the fields of mechanics, optics and light source is able to produce a clearer indentation and hence a more precise measurement. By means of a 20 × lens and a 40 × lens the tester has a wider measurement field and a broader usage range. With an automatically turning device ( the automatically turning turret ), the operation has become easier, and with a thread interface, it can be linked to a digital camera and a CCD Video—camera . It is the first tester that has adopted the LCD touch screen, thus making the operation more humanized. The tester has such features as the direct reading of the measurements, the easy change of the hardness scales, the reservation of the data, the printing and the linkage with RS232 interface. This tester is widely used for measuring:  
 Ferrous metals, non-ferrous metals, IC thin sections, coatings, ply-metals;  
 Glass, ceramics, agate, precious stones; thin plastic sections;etc.  
 Hardness such as that on the depth and the trapezium of the carbonized layers and quench hardened layers.



XHV-1000

## Specifications & accessories

Model	HV1000	HVS1000	DHV-1000	DHV-1000Z	XHV-1000
Type	Micro hardness tester	Digital micro hardness tester	Digital micro hardness tester	Digital micro hardness tester	Digital micro hardness tester
Testing Forces (N)	0.098 / 0.246 / 0.49 / 0.98 / 1.96 / 2.94 / 4.90 / 9.80				
Testing Forces (gf)	10 / 25 / 50 / 100 / 200 / 300 / 500 / 1000				
Load control	Automatic loading and releasing				
Objective-indenter turret	Manual			Automatic	
Holding Time (s)	5~60				
Magnification of microscope <sup>x</sup>	400 <sup>x</sup> for measurement, objective 40 <sup>x</sup> eyepiece 10 <sup>x</sup> 100 <sup>x</sup> for observation, objective 10 <sup>x</sup> eyepiece 10 <sup>x</sup>				
Micrometer resolution (μm)	0.5				0.0625
Testing range	5 HV~2500 HV			1 HV~2967 HV	
Dimension of XY test table	100X100 mm				
Movement range of XY test table	25X25 mm				
Max. Height of the specimen	65mm			70mm	
Max. width of the specimen	85mm			95mm	
Hardness conversion	-	Provided			
Output	-	Built-in printer			Built-in printer, RS 232
Power	220V, 50Hz				
Dimension (mm)	480 x 405 x 290				
Net weight (kg)	25				
Main accessories	HV1000	HVS1000	DHV-1000	DHV-1000Z	XHV-1000
Main machine	1	1	1	1	1
Test block	Micro Vickers high block x 1, medium block x 1	Micro Vickers high block x 1, medium block x 1	Micro Vickers high block x 1, medium block x 1	Micro Vickers high block x 1, medium block x 1	Micro Vickers high block x 1, medium block x 1
Micrometer eyepiece	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1	10 <sup>x</sup> x 1
Test table	X-Y stage / fine wire / fork-shaped / thin specimen, 1 for each type	X-Y stage / fine wire / fork-shaped / thin specimen, 1 for each type	X-Y stage / fine wire / fork-shaped / thin specimen, 1 for each type	X-Y stage / fine wire / fork-shaped / thin specimen, 1 for each type	X-Y stage / fine wire / fork-shaped / thin specimen, 1 for each type
Objective	10 <sup>x</sup> x 1, 40 <sup>x</sup> x 1	10 <sup>x</sup> x 1, 40 <sup>x</sup> x 1	10 <sup>x</sup> x 1, 40 <sup>x</sup> x 1	10 <sup>x</sup> x 1, 40 <sup>x</sup> x 1	10 <sup>x</sup> x 1, 40 <sup>x</sup> x 1
Indenter	Micro Vickers indenter x 1	Micro Vickers indenter x 1	Micro Vickers indenter x 1	Micro Vickers indenter x 1	Micro Vickers indenter x 1
Level	1	1	1	1	1
Product operating manual	1	1	1	1	1

# BRINELL HARDNESS TESTER

## MULTI-PURPOSE HARDNESS TESTER

*Bench Hardness Tester*



### HD<sub>9</sub>-45 Superficial Rockwell & Vickers Optical Hardness Tester

**H**D<sub>9</sub>-45 Superficial Rockwell & Vickers optical hardness tester serves the purpose of measuring the hardness of ferrous, non-ferrous metals, hard metals, carburized or nitrided layers and chemical treating layers. It is also used for the hardness test of thin pieces.



### HBRVU-187.5 Brinell Rockwell & Vickers Optical Hardness Tester

**T**his tester is used for determining the Brinell, Rockwell and Vickers hardness of ferrous, non-ferrous metals, hardmetals, carburized layers and chemical treating layers. It can be applied in the factories, scientific research institutes, laboratories and colleges.



### HBRV-187.5 Brinell Rockwell & Vickers Hardness Tester

**T**his tester is used for determining the Brinell, Rockwell and Vickers hardness of ferrous, non-ferrous metals, hardmetals, carburized layers and chemical treating layers. It can be applied in the factories, scientific research institutes, laboratories and colleges. It's not an optical type hardness tester.

### HBE-3000A Brinell Hardness Tester

**H**BE-3000A automatic Brinell hardness tester features a wide measuring range up to 3000 Kgf with a high accuracy conform DIN 51225/1. During the automatic test cycle the applied force will be controlled by closed loop system which guarantees a constant force on the work piece, conforming to DIN 50351. The HBE-3000A comes completely with a reading microscope with enlargement factor 20<sup>x</sup> and a micrometer resolution of 0.005mm.



### HBS-3000 Digital Brinell Hardness Tester

**H**BS-3000 digital Brinell hardness tester is a new generation Brinell hardness tester that is domestically advanced. It can be applied to determine the Brinell hardness for ferrous metal and non-ferrous metal. The tester adopts electronic auto loading, computer software programming, high power optical measurement, photosensor and other systems. Each operational process and test result can be displayed on large LCD. The test results can be printed by printer. This tester is also adaptive in manufacturing enterprises, colleges and scientific institutions.



### MHB-3000 Digital Electronic Brinell Hardness Tester

**M**HB-3000 digital Brinell hardness tester is a unified product combining optical, mechanic and electronic techniques, which is adopted the precise mechanical structure and computer control closed-circuit system. Without the weights, the instrument loads and unloads the testing force with the motor. By means of the 0.5% accuracy compression sensor to feedback the information and the CPU to control, the instrument compensates automatically the testing force lost during the testing. Equipped with a digital micro eyepiece on the instrument, the length of indentation can be measured by this eyepiece directly. All testing data such as the testing method, the testing force value, the length of testing indentation, the hardness value and the dwell time of testing force can be showed on the LCD screen, without inputting the value of diagonal length for the indentation and free from looking up the hardness value form the hardness table as well, therefore the reading data are more accuracy and operation of this instrument is more easy.



## Specifications & accessories

Model	HBE-3000A	HBS-3000	MHB-3000	HBRVU-187.5	HBRV-187.5	HD <sub>9</sub> -45
Type	Brinell hardness tester	Digital Brinell hardness tester	Digital Brinell hardness tester	Brinell, Rockwell & Vickers optical hardness tester	Brinell, Rockwell & Vickers hardness tester	Superficial Rockwell & Vickers
Test range	8~650 HBW (hardmetals steel ball)					
Preliminary test force (N)	-	-	-	98		29.4
Rockwell hardness test (N)	-	-	-	588, 980, 1471		-
Superficial Rockwell hardness test (N)	-	-	-	-	-	147.1, 294.2, 441.3
Brinell test force test (N)	612, 980, 1225, 1837.5, 2450, 4900, 7350, 9800, 14700, 29400			306, 613, 1839		-
Brinell test force test (kgf)	62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000			31.25, 62.5, 187.5		-
Vickers hardness test (N)	-	-	-	294, 980		49, 98, 196, 294.2
Load control	-	Automatic	-	-	-	-
Magnification of microscope <sup>x</sup>	20 <sup>x</sup> for reading microscope		15 <sup>x</sup> for reading microscope	37.5 <sup>x</sup> , 75 <sup>x</sup>		75 <sup>x</sup> , 150 <sup>x</sup>
Micrometer resolution (mm)	0.005		0.0025	-		-
Max. height of specimens (mm)	220		225	160 for Rockwell, 100 for Vickers, Brinell	170 for Rockwell, 140 for Vickers, Brinell	200 for superficial Rockwell, 100 for Vickers
Max. depth of specimens (mm)	135		135	200	165	200
Power	AC220V, 50/60Hz			AC220V, 50/60Hz		
Dimension (DxWxH) (mm)	550 x 236 x 753		720 x 470 x 893	546 x 300 x 767	520 x 215 x 700	546 x 300 x 767
Net weight (kg)	123	130		90		85
Main accessories						
Indenter	Hard alloyed ball indenter Ø2.5mmx1 Ø5mmx1 Ø10mmx1			Diamond Rockwell x 1, Diamond Vickers x 1 Hardmetal ball indenter Ø1.5875mm x 1, Ø2.5mmx1, Ø5mm x 1		Diamond Rockwell x 1, Diamond Vickers x 1 Hardmetal ball indenter Ø1.5875mm x 1
Testing table	Big / small / V, 1 for each			Big/medium/V, 1 for each		
Hardness block	HBW 3000/10 150~250 x 1, HBW 1000/10 75~125 x 1, HBW 187.5/2.5 150~250 x 1		HBW 3000/10 150~250 x 1, HBW 750/5 75~125 x 1	HRC high, HRC low, HRC block 1 for each, Brinell block x 1 Vickers block x 1		Superficial Rockwell block x 3 Vickers block x 1
Weight	-	-	-	5	5	4
Operation manual	1	1	1	1	1	1
Printer operation manual	-	1	-	-	-	-
Microscope stand	-	-	-	1	1	1
Reading microscope	20 <sup>x</sup> x 1		-	-	-	-
Micrometer eyepiece	-	-	15 <sup>x</sup> x 1 (digital)	15 <sup>x</sup> x 1		
Testing table for microscope				sliding / Pyramidal / V shaped 1 for each	sliding / V shaped 1 for each	sliding / Pyramidal / V shaped 1 for each
Objective	-	-	-	2.5 <sup>x</sup> x 1, 5 <sup>x</sup> x 1		5 <sup>x</sup> x 1, 10 <sup>x</sup> x 1



*Portable Rockwell  
Hardness Tester*

**Standard package**

Main unit	1
Diamond penetrator	1
Steel ball penetrator, Ø1.588mm	1
Test block	4
Flat anvil	1
V anvil	1
Extension	1
Operation manual	1
Carrying case	1

**Optional accessories**

Bench stand
Test block
Diamond penetrator, 120°
Steel ball penetrator, Ø1.588mm
Steel alloy ball penetrator, Ø1.588mm
Steel ball penetrator, Ø3.175mm
Flat anvil, 1/2"
Flat anvil, 1"
V anvil, 1/2"
V anvil, 1"
V anvil, 1-1/2"
Cylindrical anvil, 1/2"
Cylindrical anvil, 1"
Cylindrical anvil, 1-1/2"
Convex anvil, 1/2"
Convex anvil, 3/4"
Convex anvil, 1"
Raised flat anvil, 1/2"
Raised flat anvil, 1"
Diamond raised flat anvil, 1/2"
Extension, 1/2"
Extension, 3/4"
Extension, 1"
Extension, 2"
Lens

# PORTABLE ROCKWELL HARDNESS TESTER M-SERIES

**M**-series portable hardness testers are high accurate and reliable for measuring hardness of metal materials, especially for the measurement of work piece on site, it makes measurement convenient and easy. The M-series hardness testers are worked on the principle of Rockwell and Brinell, which complies to the ASTM E-110 standards. With different dimension, opening and throat depth, we have several models to fit smaller or bigger workpiece.



Opening: 25mm  
Depth: 25mm

(*Superficial*) for  
Rockwell N and T  
scales  
Opening: 25mm  
Depth: 25mm

For *Superficial* testing  
small diameter tubing  
with walls.  
Anvil fits into  
3/6" I.D. and larger.  
Rockwell 15-T scale  
only.

Opening: 50mm  
Depth: 50mm

(*Superficial*) for  
Rockwell N and T  
scales  
Opening: 50mm  
Depth: 50mm

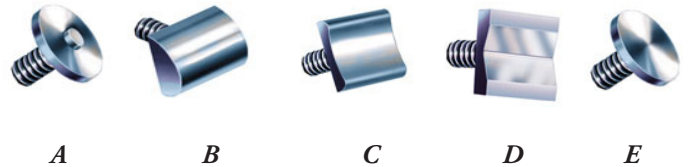
## Accessories

### Bench Stand



Cast iron for solid support. Holds tester at a convenient angle, freeing hands for ease of use. Inner fibre sleeve won't scuff tester handle.

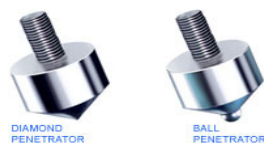
### Anvils



The correct anvil helps you get the reading right the first time.

- A - Raised flat for thin workpiece
- B - Convex for tube
- C - Round for larger round rod
- D - Vee for small round stock
- E - Standard flat stock anvil

### Penetrators



For each scale, you need the correct penetrator. They are interchangeable.

### Extensions



Extensions allow testing thinner items with larger tester models without sacrificing stability.

### Test Blocks

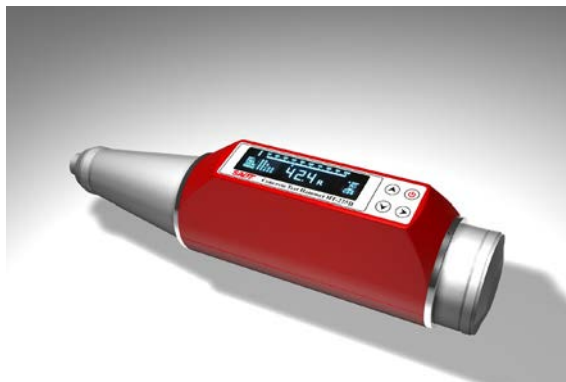


Traceable test specimens are essential for getting good tests. We provide only certified test blocks to users.

# DIGITAL CONCRETE TEST HAMMER

## HT-225D/HT-75D/HT-20D

**H**T-225D is an integrated digital concrete test hammer which combines data processor and test hammer into one unit. It is widely used for non destructive testing quality of concrete and building materials in finished structure or prefabricated blocks. From its rebound value, the compressive strength of concrete can be calculated out automatically. All testing data can be stored in memory and transferred to PC by USB cable or wireless by Blue tooth. ●



### KEY FEATURES

- ✦ High contrast OLED display
- ✦ All setup can be made on site
- ✦ Automatic calculating compressive strength
- ✦ Automatic correction of impact direction
- ✦ All data will be stored in memory
- ✦ All data can be transferred to PC by USB cable or blue tooth(optional)
- ✦ Dual display for analogue ruler and digital value

### Specifications

Model	HT-225D	HT-75D	HT-20D
Display	OLED digital		
Measuring range	10-70N/mm <sup>2</sup>		1-25N/mm <sup>2</sup>
Accuracy	±0.1R		
Impact energy	0.225kgm (2.207Nm) for testing ordinary building and bridge construction	0.075kgm (0.735Nm) for testing small and impact-sensitive parts of concrete or artificial brick	0.020kgm (0.196Nm) for testing mortal or clay of products
Communication	USB2.0 or Bluetooth(optional)		
Storage	data for 4000 concrete structures		
Operating temperature	-40°-60°C		
Power supply	3.7V Li-ion rechargeable battery charged via USB port		
Dimension (mm)	280x75x60		
Net weight	1.1kg		

### Digital Concrete Hammer

#### Standard package

HT-225D/HT-75D/HT-20D main unit	1
Grinding wheel	1
USB cable	1
USB charger	1
Software CD	1
Operation manual	1
Carrying case	1

#### Optional accessory

Bluetooth module

# CONCRETE TEST HAMMER HT-225A

## Standard package - HT-225A

HT225A main unit	1
Grinding wheel	1
Conversion table	1
Operation manual	1
Carrying case	1

## Standard package - EMT220

EMT220 main unit	1
Short feeler lever (only for integrated type)	1
Acceleration transducer (only for separate type)	1
Transducer connection cable (only for separate type)	1
Thermo electro couple transducer (only for EMT220 with temperature measuring function)	1
6F22 cell	1
Operation manual	1
Carrying case	1

## Optional accessories

Long feeler lever
Earphone Leather sheath
Signal output wire

## Standard package - EMT260A

EMT260A main unit	1
Reflective tape	1
Support converter	1
Battery	2
Operation manual	1
Carrying case	1

## Standard package - EMT260B

EMT260B main unit	1
Contact tip assembly	1
Contact tip(concave and convex)	1
Linear contact wheel	1
Operation manual	1
Carrying case	1



**W**hen testing the strength of concrete, the concrete test hammer uses a certain elastic force to transit the impact force of an impact hammer to the surface of concrete, its initial kinetic energy redistributes, a part of energy in the form of plastic deformation or residual deformation is adsorbed by the concrete, and another part of energy which is proportional to the surface hardness is transmitted to the impact hammer, making the hammer resile to a certain height, then the strength of the concrete is derived from the proportional relation between the height of resilience and the concrete strength.

With the merits of simple structure, easy correction, maintenance and repair, and portability, the concrete test hammer is widely used in civil engineering and construction industry for testing the strength of concrete. Compared to other nondestructive testers, the concrete test hammer is an economical and practical nondestructive testing instrument.

HT-225A is used for testing the strength of various concrete members (slab, beam, column, truss) of normal building strength and bridge.

- ✓ Nominal kinetic energy: 2.207J(0.225kgf.m)
- ✓ Flip tension spring rigidity: 7.84N(0.80kgf)/cm
- ✓ Punch advance for impact hammer: 75mm
- ✓ Impact surface hardness value between impact hammer and rod: HRC59-63
- ✓ Maximum breakout friction of pointer system: 0.49-0.78N(50-80g)
- ✓ Mean-value of steel-anvil rating of concrete test hammer: 80±2
- ✓ Standards: ISO/DIS 8045, EN 12504-2, ENV 206, DIN 1048 part 2, ASTM C 805, ASTM D 5873, NFP 18-417, B 15-225, JGJ/T 23-2001, JJG 817-1993
- ✓ Dimension: Ø60x280mm
- ✓ Net weight: 1kg



## PORTABLE VIBRATION METER EMT220

### Vibration transducer:

Integrated, annular shear type acceleration transducer (only for integrated type)

Separate, built-in electric charge amplifier, shear type acceleration transducer (only for separate type)

### Temperature transducer:

Type K thermoelectric couple transducer (only for EMT220 with temperature measuring function)

**Detector:** Root Mean Square

### Vibration measurement scale:

Displacement: 0.001-1.999 mm (peak to peak)

Velocity: 0.01-19.99 cm/s (r.m.s. value)

Acceleration: 0.1-199.9 m/s<sup>2</sup> (peak value)

Vibration acceleration: ≤ 199.9 m/s<sup>2</sup> (peak value)

### Temperature measurement scale:

-20-400°C(only for EMT220 with temperature-measuring function)

### Accuracy:

Vibration measurement: ±5% Measurement value; ±2 Digits

Temperature measurement: ±1% Measurement value; ±1 Digit

### Vibration Frequency Range:

10-1 kHz (Normal type)

5-1 kHz (Low frequency type)

1-15 kHz (only at "HI" position for acceleration)

**Display:** Digits liquid crystal display

**Sample period:** 1 second

### Vibration measurement value readout:

Displacement: Peak to peak value (r.m.s.×2√2)

Velocity: Root mean square (r.m.s.)

Acceleration: Peak value (r.m.s.×√2)

### Readout-keeping function:

Readout of vibration / temperature value can be remembered after releasing the Key (Vibration / Temperature Switch)

### Output Signal:

2V AC (peak value) (load resistance above 10 kΩ at full measuring scale)

### Power supply:

6F22 9V laminated cell

Battery life about 30 hours for continuous use

### Power on / off:

Power up when pressing Measure Key (Vibration / Temperature Switch)

Power automatically shut off after releasing the Measure Key for one minute

### Operating condition:

Temperature: 0-50°C

Humidity: ≤ 90% RH

**Dimension:** 185mm×68mm×30mm

**Net weight:** 200g



## PORTABLE OPTICAL TACHOMETER EMT260

- ✓ Unique ergonomic design provides direct line-of-sight viewing of display and target
- ✓ Easy reading 5 digit LCD display
- ✓ On-target and low battery indicator
- ✓ Maximum, minimum and last measurement of rotational speed, frequency, cycle, linear speed and counter.

## Specifications

### Speed Ranges:

**Rotational speed:** 1-99999r/min

**Frequency:** 0.0167-1666.6Hz

**Cycle:** 0.6-60000ms

**Counter:** 1-99999

**Linear speed:** 0.1-3000.0m/min

0.0017-16.666m/s

**Accuracy:** ±0.005% of reading

**Display:** 5 digit LCD display

**Input signal:** 1-5VP-P Pulse Input

**Output signal:** TTL compatible Pulse

Output

**Power:** 2x1.5V batteries

**Dimension (LxWxH):**

128mmx58mmx26mm

**Net weight:** 90g



