phase II+®

The Source of Quality

PRODUCT CATALOG

- Portable Hardness Testers
- Bench Hardness Testers
- Specialized Hardness Testers
- Surface Roughness Testers
- Ultrasonic Thickness Gauges
- Coating Thickness Gauges
- Force Gauges
- Vibration Meters

SCAN ME

Ordering Information

For orders, returns, parts, or quotes, contact our **Customer Service Department**

- All our customer service representatives have on-line access to prices and inventory information.
- Parts available for 99% of our products.

For repairs and technical assistance contact our **Service Department**

- Our technical and product support department can assist you with difficult application problems and offer trouble-shooting techniques.

Service and Quality

The Phase II Advantage:

Top Quality Products
Phase II offers only top quality products. Each new product passes a quality control checklist. We make sure our products live up to the high quality standards you have come to expect.

Free Technical Assistance
Our customer service representatives can answer your questions about our products, offer advice and recommend the proper accessories to complete your requests.

Mon - Fri | 8:30 AM - 5:30 PM (EST)

Phase II Machine & Tool, Inc.
21 Industrial Ave.
Upper Saddle River, NJ. 07458 USA

Tel: (201) 962-7373
Fax: (201) 932-8353 | 24-hour fax
General E-Mail: info@phase2plus.com

We accept Visa, MasterCard, Discover

Prices: F.O.B. New Jersey unless advised otherwise. Minimum order is $50 net.

Terms: Net 30 days, unless otherwise agreed upon in writing.

New Accounts: Three (3) trade references and a bank reference are required to open an account. Visa, MasterCard and Discover are accepted. If immediate delivery is required, please include a check with your order, allow for COD shipment or charge to credit card.

Claims: Must be made within 5 days after receipt of merchandise. If it is a truck shipment, make sure the damage or short shipment is noted on the delivery receipt. Without proper notation, you accept it at your own risk.

Returns: All Phase II products must have authorization prior to return. If product is not acceptable for any reason including application issues and demonstrations, authorization for return must be obtained within 10 days of receipt of product. Unit must be in same new condition it was received. Failure to do so will result in an automatic 15% restocking fee. Returns after 30 days will not be accepted.

Guarantee: Phase II unconditionally guarantees items purchased, against manufacturer defect.

Liability: The value of the defective item(s) is the limit of our liability. All technical information has been supplied by the manufacturer for your convenience only. We do not warrant or represent that the merchandise complies with the provisions of any law—particularly the Walsh-Healey Public Contracts Act and the OSHA of 1970 and the regulations promulgated thereunder—unless the manufacturer so warrants. Dimensions may be changed without notice at the discretion of the manufacturer.

Orders: We ship 98% of our orders within 24 hours.
Phase II not responsible for typographical errors.

Call Today!
201-962-7373
www.phase2plus.com

Product Index

Ultrasonic Hardness Tester

PHT-6000 Series

FEATURES

- Non-Destructive hand held hardness tester
- Combines UCI and Leeb hardness testing in one state of the art device
- Test steel with min thickness of .08” and unlimited max thickness
- Blazing fast test results
- Rockwell, Brinell Vickers conversions shown on display
- Large Memory w/USB Output
- Choice of manual UCI probes; 1kg, 2kg, 5kg & 10kg
- Optional Motorized Probes: .30kg, .80kg, & 1kgf
- Available Impact Devices(Leeb) D, DC, D+15, G & DL

Non-Destructive!

“Ultrasonic Contact Impedance” is based on a 136 degree diamond at the end of a vibrating rod being depressed into the test surface at a fixed load. The difference in Ultrasonic vibration frequency is then calculated into a hardness value. The UCI test procedure is slower than the Dynamic Impact style, however the “UCI” method of hardness testing is portable, easy and accurate. It also has its own advantages when utilized for certain testing applications. UCI testers are not restricted to large mass items like dynamic type testers. These units can test metals as thin as 1mm and at a hardness value as low as 20HRC (75HB). They also excel at performing hardness tests on larger, harder metals as well. Another reason for the rise in popularity is due to the fact that the UCI method is categorized as “Non-Destructive”. That translates into less scrap parts/ lower mfg costs due to necessary inspections.

“Dynamic Impact” is based on the Leeb principle of hardness developed by Dietmar Leeb in the 1970’s. A spring loaded impact body is thrust to the test surface, effecting rebound. The speed of both the initial thrust and the rebound is measured in a non-contact mode. This is calculated as a Leeb hardness value and then automatically converted to Rockwell C, B, Brinell, Vickers and Shore Values. It has effectually brought easy, fast and accurate results to portable hardness testing.

Ultrasonic Hardness Tester

UCI

SCALES-UCI	MEASUREMENT RANGE
Rockwell C	20-70 HRC
Rockwell B	20-100 HRB
Rockwell A	61-100 HRA
Brinell	75-651 HB
Vickers	80-999 HV

LEEB

SCALES-UCI	MEASUREMENT RANGE
Rockwell C	20-70 HRC
Rockwell B	20-100 HRB
Brinell	75-651 HB
Vickers	80-999 HB
Shore	26-99 HS
Leeb	170-960 HLD

Can also test in the following scales: HRN15 - HRN30 - HRN45 - HRT15 - HRT30 - HRT45 - HRF - HK - HD.

UCI Hardness Tester with Manual Probe

MODEL NO.	DESCRIPTION	APPLICATION NOTES
PHT-6001	UCI Hardness Tester w/ 1kgf Probe	For use on polished surfaces. Below Ra 125µin
PHT-6002	UCI Hardness Tester w/ 2kgf Probe	For use on smooth surfaces. Below Ra 200µin
PHT-6005	UCI Hardness Tester w/ 5kgf Probe	For use on machined surfaces. Below Ra 400µin
PHT-6010	UCI Hardness Tester w/ 10kgf Probe	For use on polished surfaces. Below Ra 600µin
PHT-6011	UCI Hardness Tester w/ Extended 1kgf Probe	For use on polished surfaces. Below Ra 125 µin

UCI Hardness Tester with Motorized Probe

MODEL NO.	DESCRIPTION	APPLICATION NOTES
PHT-6030	UCI Hardness Tester w/.30kgf Probe	Best for checking coating layer hardness; Finished thin parts
PHT-6080	UCI Hardness Tester w/.80 kgf Probe	Best for smooth bearing type surfaces
PHT-6100	UCI Hardness Tester w/ 1kgf Probe	Best for machined surfaces

Specifications

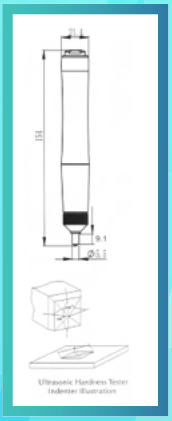
Hardness Range	HRC:20-70, HRB: 55-100, HB: 100-739, HV: 100-2970
Scale Selection	Rockwell C (HRC); Rockwell B (HRB); Rockwell A (HRA); Brinell (HB); Vickers (HV); Leeb (HLD) and many more
Tolerance	Exceedxs or conforms to relevant ASTM Standard
Display Type	LCD Color Screen w/Backlight, adjustable brightness
Language Selection	English, German, Chinese, Spanish, etc.
Data Logger	Letters, Numerals
Data Memory	2000 groups of measured data ; 20 groups of calibration data
Statistical Software	Supplied-can be saved in Word or Excel
Data Output	USB – cable supplied
Power Supply	Rechargeable Lithium Battery: Voltage-4.2V, 4800mAh
Auto Power Off	5 minutes
Recharging Time	A pprox. 8 hours
Battery Usage	Approx. 6 hours (no backlight)
Net Weight(base unit)	2lbs (w/probe)
Gross Weight	12 lbs
Unit Dimensions	7.0 x 3.1 x 1.1” (160x80x30mm)
Gross Dimensions	13.7 x 17.7 x 5.9” (350x450x150mm)

Meets or Exceeds ASTM A1038 (UCI) and ASTM A956 (Leeb)

Ultrasonic Hardness Tester

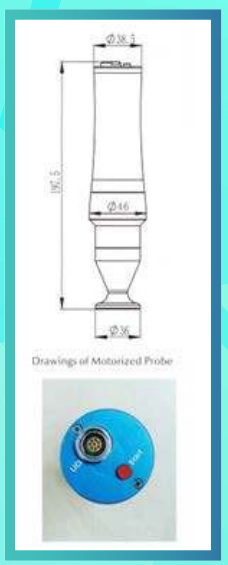
Manual UCI Probe Specifications

PROBE TYPE/MODEL	PHT-6030	PHT-6080	PHT-6100
Loading Force	.30kg (3N)	.80kg (8N)	1kgf (10N)
Probe Diameter	46mm	46mm	46mm
Length	198mm	198mm	198mm
Oscillating Rod Diameter	3.7mm	3.7mm	3.7mm
Surface Roughness Requirements μm= Metric μin=Inch	Ra< 3.2μm (Ra< 125μin)	Ra< 5μm (Ra< 197μin)	Ra< 8μm (Ra< 314μin)
Min weight of test sample	0.3kg (.66lbs)	0.3kg (.66lbs)	0.3kg (.66lbs)
Minimum thickness of sample	2mm (0.8")	2mm (0.8")	2mm (0.8")



Motorized UCI Probe Specifications

PROBE TYPE/MODEL	PHT-6030	PHT-6080	PHT-6100
Loading Force	.30kg (3N)	.80kg (8N)	1kgf (10N)
Probe Diameter	46mm	46mm	46mm
Length	198mm	198mm	198mm
Oscillating Rod Diameter	3.7mm	3.7mm	3.7mm
Surface Roughness Requirements μm= Metric μin=Inch	Ra< 3.2μm (Ra< 125μin)	Ra< 5μm (Ra< 197μin)	Ra< 8μm (Ra< 314μin)
Min weight of test sample	0.3kg (.66lbs)	0.3kg (.66lbs)	0.3kg (.66lbs)
Minimum thickness of sample	2mm (0.8")	2mm (0.8")	2mm (0.8")



Indentation Depth (μm)

HARDNESS	.30KG MOTORIZED	.80KG MOTORIZED	1KG MOTORIZED	1KG MANUAL	2KG MANUAL	5KG MANUAL	10KG MANUAL
800HV	4	5	7	7	10	15	22
600HV	4	5	8	8	11	18	25
500HV	5	6	9	9	12	19	27
300HV	6	8	11	11	16	25	35
100HV	10	13	19	19	27	43	61

Ultrasonic Hardness Tester

Special Application Impact Devices

Impact Device D Part No. PHT1800-100
Universal standard device. Use for the majority of hardness testing assignments.

Impact Device DL Part No. PHT1800-115
Needle front section.109" diameter x 1.96" length. Measurements in extremely confined spaces

Impact Device G Part No. PHT1800-125
Enlarged test tip : For use on solid heavy components such as; rough castings and forgings. Brinell only.

Impact Device DC Part No. PHT1800-120
Extremely short impact device. Used for very confined spaces such as holes, cylinders, internal measurements.

Impact Device D+15 Part No. PHT1800-110
Slim front section with coil set back. Hardness measurements in grooves, recessed surface.

Impact Device C Part No. PHT1800-130
Reduced impact energy. For testing case hardened material.

Precision Support Stand
Part No. PHT6000-MAN

Flat Support Ring
(manual probe)
Part No. PHT6000-511

V-Groove Adapter-Small
(manual probe) (8-22mm dia)
Part No. PHT6000-521

V-Groove Adapter-Large
(manual probe) (16-80mm dia)
Part No. PHT6000-531

Std Support Cap
(manual probe)
Part No. PHT6000-711

Deep Hole Adapter
(manual probe)
Part No. PHT6000-721

Deep Hole Adapter
(moto probe)
Part No. PHT6000-731

V-Groove Adapter
(motorized probe)
Part No. PHT6000-751

Push Handle
(Manual probe)
Part No. PHT6000-0100

Ultrasonic Hardness Tester

Optional Test Blocks for 6000 Series

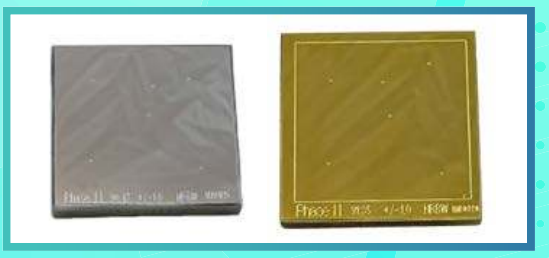
NIST Certified Test Block Kit

Part No. 900330-9410

Includes:
1pc HRC 20's
1pc HRC 40's
1pc HRC 60's
Full form cert for each block

Aluminum Brass Rockwell Blocks

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900330-9414AH	Rockwell B	Square	80's	Made in USA Aluminum
900330-9418H	Rockwell E	Square	90's	Made in USA Aluminum
900330-9418L	Rockwell E	Square	60's	Made in USA Aluminum
900330-9414BH	Rockwell B	Square	80-90's	Made in USA Brass
900330-9414BL	Rockwell B	Square	30-40's	Made in USA Brass

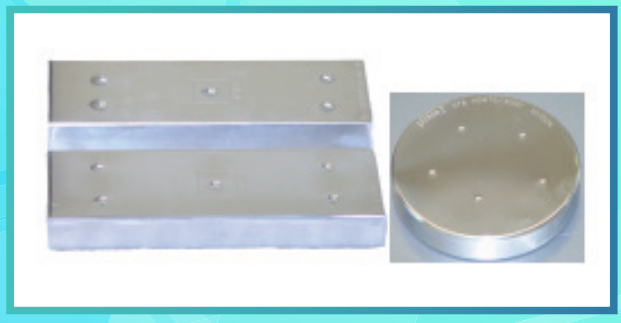


Leeb Test Blocks

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
PHT1300-01	Leeb "D" Test Block	Round	750-800 (HRC 50's)	Phase II std.
PHT1300001-cert	Leeb "D" Test Block	Round	750-800 (HRC 50's)	NIST Certified
PHT1300-02	Leeb "D" Test Block	Round	590-670 (HRC 40's)	Phase II std.
PHT1300002-cert	Leeb "D" Test Block	Round	590-670 (HRC 40's)	NIST Certified
PHT1300-03	Leeb "D" Test Block	Round	490-570 (HRC 20's)	Phase II std.
PHT1300003-cert	Leeb "D" Test Block	Round	490-570 (HRC 20's)	NIST Certified
PHT1100G-01	Leeb "G" Test Block	Round	480-670	For use with "G" impact devices
PHT1100G-01C	Leeb "G" Test Block ASTM Certified to Brinell	Round	480-670 (HB200's)	For use with "G" impact devices

Brinell Test Blocks

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900355-1000/150	3000kg	Round	150-250	Phase II std. (Steel)
900355-1000/250	3000kg	Round	250-500	Phase II std. (Steel)
900355-3010	3000kg	Rectangle	Low	Aluminum (USA)
900355-3020	3000kg	Rectangle	High	Aluminum (USA)
900355-3030	3000kg	Rectangle	100-200HB	Steel (USA)
900355-3040	3000kg	Rectangle	250-350HB	Steel (USA)
900355-3050	3000kg	Rectangle	500+HB	Steel (USA)



Portable Hardness Tester

PHT-1800

Meets ASTM A956 specifications

PHT-1800

PHT-1800C w/NIST Certified Test Block

PHT-1840 – W/DL Impact Device

PHT-1850 – W/G Impact Device

State of the art, digital tester is designed to test the hardness of large hard metal parts. Loaded with useful functions only found on high priced models the PHT-1800 is clearly setting a new industry standard by being the most accurate, economically priced hardness tester on the market today. Fast test speeds coupled with memory and output, this unit is a hands down winner whether you are out in the field or in the QC shop. The PHT-1800 can perform tests that easily convert to the most popular hardness scales, including Rockwell, Brinell, Vickers, Shore, etc. Meets ASTM A956 specifications.

CHECK PAGE 15 FOR OPTIONAL IMPACT DEVICE PROBES

Optional Accessories

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

Operation:
- Load the impact body
- Place the impact body on your test piece
- Push the button to begin testing and obtain reading

Standard Accessories:
- Base instrument
- Impact device D
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual

Optional accessories:
- Impact devices; DC, D+15, DL, G, C
- Special support rings
- Mini Printer

Functions:
- Easy to use keypad operation
- Auto identification of Impact Device
- Large LCD display with back light
- USB Ouput
- Automatic conversions to: Brinell, Rockwell B & C, Vickers and Shore
- Automatic mean value as well as Min & Max values
- Battery Indicator
- Memory capacity (100 groups)

Specifications:
- Accuracy: +/-4HL
- Measuring range: 200-960 HL
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, Spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy.
- Battery type: AA alkaline (4)
- Operating temperature: 5-104 degrees F
- Dimensions: 150 x 74 x 32mm
- Shipping Weight: 10 lbs.

Portable Hardness Tester w/Color Display

PHT-1900

Meets ASTM A956 specifications

PHT-1900

State of the art, digital portable hardness tester is designed to test the hardness of large hard metal parts. Clean crisp display shows the incredible functions that can only be found on this new portable hardness tester such as auto-probe detection, auto direction detector, single and multi-point calibration make the new 1900 the most versatile portable hardness tester in the industry.

CHECK PAGE 15 FOR OPTIONAL IMPACT DEVICE PROBES

Optional Accessories pg.16

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

Operation:
- Load the impact body
- Place the impact body on your test piece
- Push the button to begin testing and obtain reading

Standard Accessories:
- Base instrument
- Impact device D
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual

Optional accessories:
- Impact devices; DC, D+15, DL, G, C
- Special support rings

Functions:
- Easy to use keypad operation
- Auto identification of Impact Device
- Large LCD display with back light
- USB Ouput
- Automatic conversions to: Brinell, Rockwell B & C, Vickers and Shore
- Automatic mean value as well as Min & Max values
- Battery Indicator
- Memory capacity (100 groups)

Specifications:
- Accuracy: +/-4HL
- Measuring range: 200-960 HL
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, Spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy.
- Battery type: AA alkaline (4)
- Operating temperature: 5-104 degrees F
- Dimensions: 150 x 74 x 32mm
- Shipping Weight: 10 lbs.

NIST TRACEABLE 5 YEAR WARRANTY

The PHT-2100 can perform tests that easily convert to the most popular hardness scales, including Rockwell, Brinell, Vickers, Shore, etc.

Portable Hardness Tester w/Rugged Alum Body

PHT-2100

Meets ASTM A956 specifications

PHT-2100

Our new rugged "extruded aluminum" frame portable hardness tester issuited for rough environments such as mining facilities, pipeline, bridge and tower inspections, etc and is packed with features typically found on high end models only. This new leeb hardness tester is designed totest the hardness of large hard metal parts. Loaded with useful functions only found on high priced models the PHT-2100 is clearly setting a new industry standard by being the most accurate, economically priced hardness tester on the market today. Fast test speeds coupled with memory and output, this unit is a hand's down winner whether you are out in the field or in the QC shop. Designed to test large hard parts: Example: Tool steel should be close to 1" thick of solid material.

CHECK PAGE 15 FOR OPTIONAL IMPACT DEVICE PROBES

Operation:
- Load the impact device
- Place the impact device on your test piece
- Push the button to begin testing and obtain reading

Standard Accessories:
- Base instrument
- Impact device D
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual

Optional accessories:
- Impact devices; DC, D+15, DL, G, C
- Special support rings convex/concave surfaces

Functions:
- Easy to use keypad operation
- Auto identification of Impact Device
- Large LCD display with back light
- USB Ouput
- Automatic conversions to: Brinell, Rockwell B & C, Vickers and Shore
- Automatic mean value as well as Min & Max values
- Battery Indicator
- Memory capacity (100 groups)

Specifications:
- Accuracy: +/-4HL
- Measuring range: 200-960 HL
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy
- Battery type: AA alkaline (2)
- Operating temperature: 5-104 degrees F
- Dimensions: 150 x 74 x 32mm
- Weight: 245 grams

Meets ASTM A956 specifications

Portable Economy Hardness Tester

PHT-1700 Series

PHT-1700
Loaded with features, this economically priced hardness tester is capable of measuring the surface hardness of a broad variety of metals on flat and round surfaces. This instrument comes complete with the universal D impact device, calibrated test block and rugged carry case.

PHT-1740
Same base instrument as the PHT-1700 but comes supplied with the "DL" impact device for testing of gear teeth, grooves and other confined applications. See page 15.

PHT-1750
Same base instrument as the PHT-1700 but comes supplied with the "G" impact device for testing of large castings and rough porous parts. See page 15.

Optional Accessories pg.16

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

Operation:
- Load the impact body
- Place the impact body on your test piece
- Push the button to begin testing and obtain reading

Standard Accessories:
- Base instrument
- Impact device D ("DL" PHT-1740) ("G" PHT-1750)
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual
- USB cable

Functions:
- Easy to use push button operation
- Large LCD display with back light
- Automatic conversions to: Brinell, Rockwell, Vickers and Shore
- Automatic mean value
- Data storage capacity

Specifications:
- Accuracy: +/-4HL
- Measuring range: 200-960 HL
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy.
- Battery type: AA alkaline (2)
- Operating temperature: 5-104 degrees F
- Dimensions: 108 x 62 x 25mm
- Shipping Weight: 11 lbs.

Portable Hardness Tester w/Printer

NIST TRACEABLE 5 YEAR WARRANTY

PHT-3500

State of the art, digital tester is designed to test the hardness of large hard metal parts. Loaded with useful functions and a built in mini-printer the PHT-3500 is clearly the industry leader for fast accurate hardness testing with advanced thermal printing capabilities. Meets ASTM A956 Specifications.

The PHT-3500 can perform tests that easily convert to the most popular hardness scales, including Rockwell, Brinell, Vickers, Shore, etc.

Optional Accessories pg.16

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

Meets ASTM A956 specifications

Operation:
- Load the impact body
- Place the impact body on your test piece
- Push the button to begin testing and obtain reading

Standard Accessories:
- Base instrument
- Impact device D
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual

Optional accessories:
- Impact devices; DC, D+15, DL, G, C
- Special support rings

Functions:
- Easy to use keypad operation
- Auto identification of Impact Device
- Large LCD display with back light
- USB Ouput
- Automatic conversions to: Brinell, Rockwell B & C, Vickers and Shore
- Automatic mean value as well as Min & Max values
- Upper/Lower Limit Setting w/Alarm
- Battery Indicator
- Memory capacity (500 groups)

Specifications:
- Accuracy: +/-4HL
- Measuring range: 200-960 HL
- Minimum Thickness:< 0.5” (Steel)
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy.
- Battery type: 6V NiMh Rechargeable
- Battery charger: 9V/500mA
- Continuous working period of about 150 hours (With backlight off, no printing)
- Printing paper: width is (57.5±0.5) mm, diameter is 30mm
- Communication interface: USB1.1
- Operating temperature: 5-104 degrees F
- Dimensions: 212 x 80 x 32mm
- Shipping Weight: 12 lbs.

Integrated Portable Hardness Tester

PHT-3300

Meets ASTM A956 specifications

The PHASE II hardness tester, Model No. PHT-3300 is an advanced integrated hardness tester distinguished by its very compact size, high accuracy, wide measuring range and simplicity of operation. It is suitable for testing the hardness of all metals and widely applied in many areas of industry.

The PHT-3300 as with all Leeb hardness testers, is designed to test very large hard parts. Steel should be close to 1" thick of solid material. Softer metals need even more mass. The PHT-3300 hardness tester combines the universal impact device D and a data processor in a single unit. It automatically computes all Vickers, Brinell, Rockwell and Shore hardness values. USB output enables this new model to print any of it's memory from up to 500 groups. The impact direction can be set so that the accurate values can be achieved at any angle, even upside down! Statistical mean value is automatically provided.The measuring method of the PHT-3300 is defined as "the quotient of the impact body's rebound velocity over its impact velocity". Optional accessories include various support rings to meet the requirements of specialized convex or concave applications.

Optional Accessories pg.16

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

Technical Specifications:

- Dimensions: 6.10" x 2.36" x 1.49" (155 X 60 X 38mm)
- Impact Device D
- Impact Energy: 8 Ft-Lbs (11nm)
- Test Tip: Tungsten Carbide
- Accuracy: +/-4HL
- Max. Hardness Of Sample: 980hv
- Shipping Weight: 11 lbs.
- Impact Direction: Any Angle
- Operating Temperature: 32 To 122 Degrees F (0 To 50 Degrees C.)
- Min. Weight Of Sample: 11 lbs / 5kg
- Min. Radius Of Curved Surface: 1.2in (30mm) (With Support Rings:11mm)
- Power Supply: 3.6V Lithium Rechargeable Battery

NIST TRACEABLE 5 YEAR WARRANTY

Standard Accessories:

- Base Instrument
- Impact device DL
- Calibrated Test Block
- USB Output Cable &Software
- Carry Case
- Operation Manual

Gear Teeth Hardness Tester

For Testing In Tight Spaces

Meets ASTM A956 specifications

Optional Accessories pg.16

12 Pc Ring Set for Tough Radii
PHT1500-300

Double-Sided Test Block
PHT1300-05

NIST Certified Test Block
PHT130001-CERT

PHT-1740

This dedicated unit is designed to test gear teeth and other difficult to access applications. The 1740 is an economically priced hardness tester that is loaded with the same features found on the base 1700 version. The 1740 hardness tester is capable of measuring the surface hardness of a broad variety of metals on flat and round surfaces. This instrument comes complete with a dedicated DL impact device, calibrated test block and rugged carry case.

PHT-1840

This dedicated unit is designed to test gear teeth and other difficult to access applications. The 1840 is loaded with the same features found on the base 1800 version which includes memory, USB output and software for downloading to your PC. The 1840 hardness tester is capable of measuring the surface hardness of a broad variety of metals on flat and round surfaces. This instrument comes complete with a dedicated DL impact device, calibrated test block and rugged carry case.

PHT-1850

PHT-1750

NIST TRACEABLE 5 YEAR WARRANTY

Standard Accessories:

- Base Instrument
- Impact device G
- Calibrated test block
- Custom carry case
- Cleaning brush
- Operation manual

Meets ASTM A956 specifications

Rough Castings Portable Hardness Tester

For Porous Castings

PHT-1750/1850

Hardness Testing for Rough Surfaces

Incorporates the "G" impact device mated to the popular PHT-1700 & 1800 portable hardness testers. This combination allows the user to test large rough surface parts and readout in the Brinell hardness scale.

Operation:

- Load the impact body
- Place the impact body on your test piece
- Push the button to begin testing and obtain reading

Functions:

- Easy to use keypad operation
- Auto identification of Impact Device
- Large LCD display with back light
- Automatic mean value as well as Min & Max values
- Battery Indicator
- Memory capacity (100 groups)

Specifications:

- Accuracy: +/-9HLG
- Measuring range: 200-960 HL
- Materials: steel & cast steel, alloy tool steel, stainless steel, grey cast iron, spheroidal iron, cast aluminum, brass, bronze, wrought copper alloy.
- Battery type: AA alkaline (4)
- Operating temperature: 5-104 degrees F
- Dimensions: 150 x 74 x 32mm
- Shipping Weight: 20 lbs.

Impact Device	G
Impact Energy	90Nmm
Mass of the Impact Body	20g
Test Tip	
*Hardness	1600 HV
*Diameter	5 mm
*Material	Tungsten Carbide
Impact Device	
*Diameter	30 mm
*Length	254 mm
*Weight	250 g
Max Hardness Sample	650 HB
Preparation of Surface	
*Max Roughness Depth Rt	30 µm
*Average Roughness Ra	6.3 µm
Preparation of Surface	
*Of Compact Shape Depth Rt	15 kg
*On Solid Support	5 kg
*Coupled on Plate	0.5 kg
Indentation of Test Tip With 300 HV	
*Diameter	1.03 mm
*Depth	53 µm
With 600 HV	
*Diameter	0.5 kg

Impact Devices for Above Portable Hardness Testers

IMPACT DEVICES	D/DC/DL	D+15	C	G
Impact Energy	11 Nmm	11 Nmm	3 Nmm	90 Nmm
Mass of the Impact Body	5.5 g DL: 7.3 g	7.8 g	3.0 g	20 g
Test Tip				
*Hardness	1600 HV	1600 HV	1600 HV	1600 HV
*Diameter	3 mm	3 mm	3 mm	5 mm
*Material		Tungsten Carbide	Tung Carbide	
Impact Device				
*Diameter	20 µm	20 µm	20 µm	30 µm
*Length	147/86 µm	162 µm	141 µm	254 µm
*Weight	75/50 g	80 g	75 g	250 g
Max. Hardness of Sample	940 HV	940HV	1000HV	650HV
Preparation of Surface				
*Max. Roughness Depth Rt	10 µm	10 µm	2.5 µm	30 µm
*Average Roughness Ra	2 µm	2 µm	0.4 µm	7 µm
Indentation of Test Tip				
With 300 HV				
*Diameter	0.54 µm	0.54 µm	0.38 µm	1.03 µm
*Depth	24 µm	24 µm	12 µm	53 µm
With 600 HV				
*Diameter	0.45 µm	0.45 µm	0.32 mm	0.90 µm
*Depth	17 µm	17 µm	8 µm	41 mmC
With 800 HV				
*Diameter	0.35 µm	0.35 µm	0.30 µm	-
*Depth	10 µm	10 µm	m7 µm	-

"D" Impact Device Part No. PHT 1800-100

Universal standard unit. Will handle the majority of hardness testing applications. Weight: 2.6oz

"DC" Impact Device Part No. PHT 1800-120

Very short impact device for those confined areas, i.e. inside bores for internal measurements. Conforms to the D measuring range. Weight: 1.8oz

"D+15" Impact Device Part No. PHT 1800-110

Very narrow contact area with a set back measurement coil. This device is used to measure hardness in grooves and recessed surfaces. Weight: 2.8oz.

"G" Impact Device Part No. PHT 1800-125

This device has an enlarged test tip, and an increased impact energy range (approx. 9 times the D, 72 ft-lb.). Can be used on lower quality finishes for measuring hardness in the Brinell range only (max. 650 HB). Designed to be used with heavy components such as heavy castings and forgings. Weight: 8.8oz

"DL" Impact Device Part No. PHT 1800-115

Slim front section with coil set back. Hardness measurements in grooves, recessed surface.

"C" Impact Device Part No. PHT 1800-130

A reduced energy impact device for measuring the hardness of Case Hardened Steel only. Applies a small superficial indentation. Weight: 2.6oz°

NIST/ASTM Certified Leeb Test Blocks: Comes with Full Form Certificates

MODEL	DESCRIPTION	RANGE
PHT 130001-CERT	NIST Certified Leeb "D" Test Block	750-800 HLD (HRC 50's)
PHT 130002-CERT	NIST Certified Leeb "D" Test Block	590-670 HLD (HRC 40's)
PHT 130003-CERT	NIST Certified Leeb "D" Test Block	490-570 HLD (HRC 20's - 90's HRB)
PHT 1100G-01C	ASTM Certified Leeb "G" Test Block	400's HLD (200's HB)

Leeb Test Blocks D&G

Standard Leeb Test Blocks:

MODEL	DESCRIPTION	RANGE
PHT 1300-01	Standard Leeb "D" Test Block	750-800 HLD (HRC 50's)
PHT 1300-02	Standard Leeb "D" Test Block	590-670 HLD (HRC 40's) 590-670 HLD
PHT 1300-03	Standard Leeb "D" Test Block	490-570 HLD (HRC 20's - 90's HRB)
PHT 1300-05	Standard Double Sided Leeb "D" Test Block	750-800 HLD (HRC 50's)
PHT 1100G-01	Standard Leeb "G" Test Block	400's HLG (200's HB)

12pc Universal Support Ring Set

PHT 1500-300

This kit comes complete with 6-concave rings, 5 convex rings and 1- small stand for difficult to test round or curved parts.

New! Portable Brinell Hardness Tester

PHT-5050

The PHT-5050 Portable Brinell Hardness Tester has been engineered and built for durability, while maintaining accurate and repeatable Brinell hardness measurements. This versatile Brinell hardness tester can be used to take accurate Brinell hardness tests in any direction, up, down or sideways. And this hardness tester can act as both a bench type or portable hardness tester for use in the field. The PHT-5050 portable Brinell hardness tester meets all Brinell standards, including ASTM E-110, and relevant Brinell hardness tester standards from ISO, JIS and GB. Lifetime technical support is included on all Phase II Hardness Testers. So test away with confidence and a level of accuracy you will only find at Phase II.

The PHT-5050 portable Brinell hardness tester is easy to operate and small enough to carry to outside locations for on-site testing. This portable hardness tester can be used to test all sizes of parts and parts in any direction.

This portable Brinell hardness tester utilizes a 3,000 kg load on a 10mm carbide ball, which is available for reading or re-reading at any time.

The PHT-5050 portable Brinell hardness tester uses a hydraulic principle with hand-operation to apply the 3000kg test force. The central part of this portable Brinell hardness tester is a small hydraulic system in which a release valve is used to control the test force.

Specifications

Test Force: 3000kg (500kg, 750kg, 1000kg, and 1500kg are optional)
Accuracy of Test Force: 1%
Indenter: 10 mm carbide ball indenter (5mm ball optional)
Testing Range: 16-650 HBW
Max. Specimen Height: Approx. 13”
Throat Depth: Approx. 4”
Repeatability: ISO 6506/ASTM E110
Error: ISO 6506/ASTM E110
Net Weight: 32 lbs.

The PHT-5050 Portable Brinell Hardness Tester comes with a calibrated test block, 10mm carbide ball, measuring microscope, 3 anvils, usb stick (manuals/info), certificate and carry case.

Optional accessories: Phase II PHT-5000 optical Brinell scanner for Brinell portable hardness tester.

Digital Rockwell Hardness Indicator

900330-9500 Digital Indicator for 900-330 & HR150

900331-9700 Digital Indicator for 900-331/ Starrett 3814 & SPI 15-817-0

Features:

- Resolution: 0.1 HR
- Replace Analog indicator directly
- Data memory is up to 999 readings
- Ready to measure immediately without calibration
- Scales convert automatically
- Auto power off

Resolution	0.1 HR
Display	128 x 64 Graphic LCD w/Backlight
Memory	999 Readings
Scales	HRC, HRA, HRB HRD HRE, HRF, HRG, HRK, HRH,
Convert Scales	HB, HV
Power	Ni-H Rechargeable Battery Pack
Charger	Input: 100~240/50~60 Hz; Output 5V 1A/DC
Operating Environment	Temperature: -10°C~+50°C; Humidity: 20%~85%
Storage Environment	Temperature: -30°C~+70°C; Humidity: 5%~95%
Dimensions	114 x 37 mm
Weight	420 g
Accessories	Charger
Standard	ASTM E18, ISO 6508

Rockwell Hardness Tester

900-331

This hardness tester comprises the very best in “state of the art” design coupled with dynamic precision only found at Phase II. The **900-331 Rockwell Hardness Tester** is easy to operate yet engineered to obtain highly sensitive and accurate readings. A perfect, rugged performer suited for almost any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs. Lifetime technical support is included on all Phase II Hardness Testers. So test away with confidence and a level of accuracy you will only find at Phase II.

Included Accessories:

- C-scale Diamond Indentor
- 1/16” Ball Indentor
- 3- HRC Test Blocks
- 1- HRB Test Block
- Flat Anvil 2.5” (63mm)
- Flat Anvil 5.87” (150mm)
- V-Anvil 1.57” (40mm)
- Accessory Case
- Dust Cover

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available.
  Please refer to pages 48-52.

Minor Load	10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Dead Weight
Test Force Control	Hydraulic Dashpot System
Results Display	Digital Gauge
Vertical Capacity	6.7 in.
Throat	6.6 in.
Height	30.0 in.
Width	8.50 in.
Depth	20.0 in.
Shipping Weight	242 lbs.

Minor Load	10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Dead Weight
Test Force Control	Hydraulic Dashpot System
Results Display	Digital Gauge
Vertical Capacity	6.7 in.
Throat	6.6 in.
Height	30.0 in.
Width	8.50 in.
Depth	20.0 in.
Shipping Weight	242 lbs.

Rockwell Hardness Tester w/Digital Readout

900-331D

This hardness tester with digital indicator comprises the very best in “state of the art” design coupled with dynamic precision only found at Phase II. The **900-331D Rockwell Hardness Tester** is easy to operate yet engineered to obtain highly sensitive and accurate readings. A perfect, rugged performed suited for almost any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs. Lifetime technical support is included on all Phase II Hardness Testers. So test away with confidence and a level of accuracy you will only find at Phase II.

Included Accessories:

- C-scale Diamond Indentor
- 1/16” Ball Indentor
- 3- HRC Test Blocks
- 1- HRB Test Block
- Flat Anvil 2.5” (63mm)
- Flat Anvil 5.87” (150mm)
- V-Anvil 1.57” (40mm)
- Accessory Case
- Dust Cover

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Tall Frame Rockwell Hardness Tester

900-332

The **900-332 Rockwell Hardness Tester** is perfectly designed for that large part application. It is easy to operate and engineered to take highly sensitive and accurate readings. Perfect for the shop floor, labs, heat treat facilities and tool rooms.

Included Accessories:

- C-scale Diamond Indentor
- 1/16" Ball Indentor
- 3- HRC Test Blocks
- 1- HRB Test Block
- Flat Anvil 2.5" (63mm)
- Flat Anvil 5.87" (150mm)
- Std. V-Anvil 1.57" (40mm)
- Accessory Case
- Dust Cover

Features:

- 15¾" Test height for extremely large parts
- Direct analog dial reading
- Advanced design, easy to operate
- Engineered to obtain highly sensitive and accurate readings

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Minor Load	10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Dead Weight
Test Force Control	Hydraulic Dashpot System
Results Display	Digital Gauge
Vertical Capacity	15-3/4" in.
Throat	5.5 in.
Height	33.0 in.
Width	18.0 in.
Depth	70.0 in.
Shipping Weight	285 lbs.

Test Force Control	Hydraulic Dash Pot
Results Display	Analog Dial
Vertical Capacity	6.7 in.
Throat	6.6 in.
Height	28 in.
Width	8.9 in.
Depth	19.6 in.
Shipping Weight	190 lbs.

Superficial Rockwell Hardness Tester

900-345

Just like our Phase II analog rockwell hardness tester, the **900-345 Superficial Rockwell Hardness Tester** comprises the very best in "state of the art" design, coupled with dynamic precision only found at Phase II. Used for testing thin and soft metals in the superficial rockwell hardness scales, the 900-345 is easy to operate yet engineered to obtain highly sensitive and accurate readings. The 900-345 will offer unmatched repeatability in all superficial rockwell scales. A perfect, rugged performer suited for almost any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs. So test away with confidence and a level of accuracy you will only find at Phase II.

Included Accessories:

- N-scale Diamond Indentor
- 1/16" Steel Ball Indentor
- 3- HRN Test Blocks
- 3-HRT Test Blocks
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Spot Anvil .38" (10mm)
- Std. V-Anvil 1.57" (40mm)
- Accessory Case
- Dust Cover

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Specifications:

Minor Load 3 Kgf
Major Load 15 Kgf, 30 Kgf, 45 Kgf
Test Force Applicaiton Dead Weight

Rockwell/Superficial Rockwell Hardness Tester

900-375

Our latest Phase II analog Rockwell Hardness Tester, the **900-375**, tests both Rockwell hardness and Superficial Rockwell hardness in one unit, with state of the art design and dynamic precision only found at Phase II. The Phase II Twin Rockwell/Superficial Rockwell hardness tester is ruggedly engineered to obtain highly sensitive and accurate readings. Conforming to ASTM E-18 Rockwell hardness standards, this hardness tester will offer unmatched repeatability in all Rockwell hardness scales. A perfect performer suited for any environment including heat treatment facilities, tool rooms, workshops, laboratories and inspection labs. Lifetime technical support is included with all Phase II Hardness Testers. So test away with confidence and a level of accuracy you will only find at Phase II.

Included Accessories:

- Diamond Conical Indentor
- 1/16” Ball Indentor
- 2- HRC Test Blocks
- 1- HRB Test Block
- 1- HR15N Test Block
- 1- HR30N Test Block
- 1- HR45T Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- Std. V-Anvil 1.57” (40mm)
- Accessory Case
- Dust Cover

Features:

- Direct analog dial reading
- Advanced design, easy to operate
- Supplied with NIST Certified Test Blocks
- Engineered to obtain highly sensitive and accurate readings
- Conforms to ASTM E-18 – Perfect for laboratories, workshops, tool rooms, inspection labs, etc.

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Minor Load	3 Kgf, 10 Kgf
Major Load	15 Kgf, 60 Kgf 30 Kgf, 100 Kgf 45 Kgf, 150 Kgf
Test Force Application	Dead Weight
Test Force Control	Manual
Results Display	Dual Scale Dial
Vertical Capacity	6.0 in.
Throat	5.5 in.
Height	26 in.
Width	18.2in.
Depth	9.4 in.
Weight	165 lbs.

NIST TRACEABLE 5 YEAR WARRANTY

Test Rockwell and Superficial Rockwell Hardness in 1 Unit!

Minor Load	10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.01 HR in.
Vertical Capacity	7.80"
Throat Depth	5.90"
Height	700 mm
Width	600 mm
Depth	250 mm
Weight	220 lbs.

- Test resolution: 0.1HR Rockwell unit;
- Operation temperature: 50° - 95°F (10°C~35°C)
- Ambient environment: clean, no vibration, no strong magnetic field, and no corrosive medium
- Power supply: single phase, AC, 110-220 with manual change, 50~60Hz, 4A;
- Machine dimension: 700mm×250mm×600mm.

Digital Rockwell Hardness Tester

900-367

This digital Rockwell hardness tester with fully automated load/unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to PC. The **900-367 Digital Rockwell Hardness Tester** offers programmable scale conversions, dwell times, statistical capabilities and test counter. Capable of testing in all of the regular Rockwell hardness scales.

Direct Loading Method With Load-Cell Instead Of Dead Weight System. High Speed Test Cycle and Extremely Accurate Loading Control

- Automatic conversions to HB, HV, Regular Rockwell Scales
- Touch Screen selectable system
- Upper/Lower Limit Settings
- Supplied with NIST Certified Test Blocks

Included Accessories:

- C-scale Diamond Indenter
- 1/16” Ball Indenter
- 3- HRC test Blocks
- 1- HRB Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- Std. V- Anvil 1.57”(40mm)
- Dust Cover
- Accessory Case

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Minor Load	3 Kgf
Major Load	15 Kgf, 30 Kgf, 45 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.01 HR in.
Vertical Capacity	7.80"
Throat Depth	5.90"
Height	700 mm
Width	600 mm
Depth	250 mm
Weight	220 lbs.

- Test resolution: 0.1HR Rockwell unit;
- Operation temperature: 50°– 95°F (10°~35°C)
- Power supply: single phase, AC, 110-220 with manual change, 50~60Hz, 4A;
- Machine dimension: 700mm×250mm×600mm.
- Supplied with NIST Certified Test Blocks

Digital Superficial Rockwell Hardness Tester

900-346 Load Cell, Closed Loop, Superficial Rockwell Hardness Tester!

Just like our Phase II analog rockwell hardness tester, the Phase II superficial rockwell hardness tester with digital indicator comprises the very best in "state of the art" design, coupled with dynamic precision only found at Phase II. Used for testing thin and soft metals in the superficial rockwell hardness scales, this tester is easy to operate yet engineered to obtain highly sensitive and accurate readings. The **900-346** will offer unmatched repeatability in all superficial rockwell scales. A perfect, rugged performer suited for almost any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs. So test away with confidence and a level of accuracy you will only find at Phase II.

Included Accessories:

- N-scale Diamond Indenter
- 1/16" Ball Indenter
- 2- HRN test Blocks
- 3- HRT Test Block
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Std. V- Anvil 1.57"(40mm)
- Dust Cover
- Accessory Case

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Touch Screen Functions w/One Touch Testing Feature!

Minor Load	3 Kgf, 10 Kgf
Major Load	15 Kgf, 30 Kgf, 45 Kgf, 60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.1 HR in.
Vertical Capacity	7.80"
Throat Depth	5.90"
Height	700 mm
Width	600 mm
Depth	250 mm
Weight	220 lbs.

- Test resolution: 0.1HR Rockwell unit;
- Operation temperature: 50°–95°F (10ĐCĐ35ĐC)
- Ambient environment: clean, no vibration, no strong magnetic field, and no corrosive medium;
- Power supply: single phase, AC, 110-220 with manual change, 50~60Hz, 4A;
- Machine dimension: 700mm×250mm×600mm.

Digital Rockwell/Superficial Rockwell Hardness Tester

900-387

Load Cell, Closed Loop, Superficial Rockwell Hardness Tester !

This digital Rockwell/Superficial Rockwell hardness tester with fully automated load/unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to PC. The **900-387** digital Rockwell hardness tester offers programmable scale conversions, dwell times, statistical capabilities and test counter. Capable of testing in all of the regular Rockwell hardness scales.

Direct Loading Method With Load-Cell Instead Of Dead Weight System.
High Speed Test Cycle and Extremely Accurate Loading Control

- Automatic conversions to HB, HV, Regular Rockwell Scales
- Touch Screen selectable system
- Upper/Lower Limit Settings
- Supplied with NIST Certified Test Blocks

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Accessories Included:

- C-scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRC test Blocks
- 1- HRB Test Block
- 1-HRN Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- Std. V- Anvil
- Dust Cover
- Accessory Case

Ascent of Load Shaft • Minor Load Application
Test Load Application/Hold/Release •
Rockwell Hardness Display • Descent of Load Shaft

Touch Screen Functions w/One Touch Testing Feature!

New! Automatic Rockwell/Superficial Rockwell Hardness Tester

900-389 Auto-Z Axis for One Button Testing

This digital Rockwell/Superficial Rockwell hardness tester with fully automated load/unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to PC. Utilizing the guidelines of ASTM E-18, the **900-389** digital Rockwell hardness tester offers programmable scale conversions, dwell times, statistical capabilities and test counter.

Included Accessories:

- C/N scale Diamond Indenter
- 1/16" Ball Indenter
- 3- HRC Test Block
- 1- HRB Test Block
- 1- HRN Test Block
- 1- HRT Test Block
- Dust Cover
- Accessory Case

- Test resolution: 0.01HR Rockwell unit;
- Operation temperature: 50°– 95°F (10°~35°C)
- Ambient environment: clean, no vibration, no strong magnetic field, and no corrosive medium;
- Power supply:single phase, AC, 110-220 with manual change, 50～60Hz, 4A;
- Machine dimension: 700mm×250mm×600mm
- Supplied with NIST Certified Test Blocks

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Minor Load	3kg, 10kg
Major Load	15kg, 30kg, 45kg, 50kg, 100kg, 150kg
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.1 HR
Vertical Capacity	5.50 "
Throat Depth	5.90 "
Height	700 mm
Width	700 mm
Depth	260 mm
Weight	220 lbs

FEATURES

Easy to use Touchscreen Functions

- Preload: 98.1N (10kgf)
- Total test force: 588.4N(60kgf), 980.7N(100kgf), 1471N(150kgf)
- Scales: HRA,HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRE, HRL, HRM, HRP, HRR, HRS, HRV
- Load dwell duration: 2–50s
- Resolutio: 0.1HR
- Display: High definition backlight LCD
- Operation: Menu selectable push buttons
- Auxiliary functions: Upper/lower limits setting& alarm, Scale conversions: HV & HB
- Data output: USB memory stick
- Testing Capacity: Vertical: 8.00” Throat Depth: 7.87”
- Dimensions: Height: 22.04” Width: 8.07” Depth: 31.49” (560mm×205mm×800mm)
- Power supply: single phase, AC, 110V, 50–60Hz, 4A
- Gross weight: 175lbs (80kg)

Digital Rockwell Hardness Tester

900-410

The **900-410** rockwell hardness tester with digital display comprises the very best in “state of the art” design, coupled with dynamic precision only found at Phase II. Used for testing metals in the rockwell hardness scales, this tester is easy to operate yet engineered to obtain highly sensitive and accurate readings.

The 900-410 will offer unmatched repeatability in all regular rockwell scales. A perfect, rugged performer suited for almost any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs. So test away with confidence and a level of accuracy you will only find at Phase II.

Supplied with NIST Certified Test Blocks

Accessories Included:

- C-scale Diamond Indenter
- 1/16” Ball Indenter
- 3- HRC Test Blocks
- 1- HRB Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- V- Anvil 1.57” (40mm)
- H/D Accessory Case
- Dust Cover

Options:

NIST/ASTM certified test blocks, penetrators and kits are available.
Please refer to pages 48-52.

Minor Load	10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.1 HR
Vertical Capacity	8.0 "
Throat	7.2 "
Height	22 "
Width	8.0 "
Depth	31 "
Weight	175 lbs.

Load Cell, Closed Loop, Superficial Rockwell Hardness Tester !

Digital Rockwell Hardness Tester

900-415

This digital Rockwell hardness tester with fully automated load/unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to flash drive.The **900-415** digital Rockwell hardness tester offers programmable scale conversions, dwell times, statistical capabilities and test counter. Capable of testing in all of the regular Rockwell hardness scales.

- **Test resolution:** 0.1HR Rockwell unit;
- **Operation temperature:** 50° - 95°F (10°C~35°C)
- **Ambient environment:** clean, no vibration, no strong magnetic field, and no corrosive medium
- **Power supply:** single phase, AC, 110-220 with manual change, 50~60Hz, 4A

Direct Loading Method With Load-Cell Instead Of Dead Weight System.
High Speed Test Cycle and Extremely Accurate Loading Control

- Automatic conversions to HB, HV, Regular Rockwell Scales
- Touch Screen selectable system
- Upper/Lower Limit Settings

Accessories Included:

- C-scale Diamond Indenter
- 1/16” Ball Indenter
- 3- HRC Test Blocks
- 1- HRB Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- V- Anvil 1.57” (40mm)
- Accessory Case
- Dust Cover

Options:
NIST/ASTM certified test blocks, penetrators and kits are available.
Please refer to pages 48-52.

Supplied with NIST Certified Test Blocks

Minor Load	3 Kgf
Major Load	15 Kgf, 30Kgf, 45 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.1 HR
Vertical Capacity	8.0 "
Throat	7.8 "
Height	22 "
Width	8.0 "
Depth	31 "
Weight	175 lbs.

Load Cell, Closed Loop, Superficial Rockwell Hardness Tester !

Digital Superficial Rockwell Hardness Tester

900-420

This digital Superficial Rockwell hardness tester with fully automated load/unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to flash drive. Utilizing the guidelines of ASTM E-18, the **900-420** digital Superficial Rockwell hardness tester offers programmable scale conversions, dwell times, statistical capabilities and test counter. Capable of testing in all of the Superficial Rockwell hardness scales.

- **Test resolution:** 0.1HR Rockwell unit;
- **Operation temperature:** 50° - 95°F (10°C~35°C)
- **Ambient environment:** clean, no vibration, no strong magnetic field, and no corrosive medium
- **Power supply:** single phase, AC, 110-220 with manual change, 50~60Hz, 4A

Direct Loading Method With Load-Cell Instead Of Dead Weight System.
High Speed Test Cycle and Extremely Accurate Loading Control

- Automatic conversions to HB, HV, Regular Rockwell Scales
- Touch Screen selectable system
- Upper/Lower Limit Settings

Accessories Included:

- N-scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRN test Blocks
- 3- HRT Test Block
- 1- HRB Test Block
- Test Table 5.87” (150mm)
- Flat Anvil 2.5” (63mm)
- V- Anvil 1.57” (40mm)
- Accessory Case
- Dust Cover

Options:
NIST/ASTM certified test blocks, penetrators and kits are available.
Please refer to pages 48-52.

Supplied with NIST Certified Test Blocks

FEATURES

•Reads in all Rockwell Hardness Scales and Superficial Rockwell Hardness Scales. These include the popular HRA, HRBW, HRC, HRN and HRT Hardness scales.
•Automatic conversions to all Rockwell/Superficial Rockwell Scales, as well as to Brinell (HB) and Vickers (HV).
•Load Cell driven system provides precise control of test force application
•Touch Screen selectable system
•Upper/Lower Limit Settings

Minor Load	3 Kgf, 10 Kgf
Major Load	60 Kgf, 100 Kgf, 150 Kgf, 15 Kgf, 30 Kgf, 45 Kgf
Test Force Application	Load Cell Closed Loop
Test Force Control	Motorized
Results Display	Hi Def LCD Digital Readout
Resolution	0.1 HR
Vertical Capacity	8.0"
Throat Depth	7.8"
Height	22"
Width	8.0"
Depth	31"
Weight	175 lbs.

Digital Rockwell/Superficial Rockwell Hardness Tester

900-440

This digital Rockwell hardness tester with fully automated load/ unload procedures affords highly sensitive and accurate readings. Micro computer controlled Touch Screen with USB output to flash drive. Utilizing the guidelines of ASTM E-18, the **900-440** digital Rockwell hardness tester offers programmable scale conversions, dwell times, statistical capabilities and test counter. Capable of testing in all of the regular Rockwell and Superficial Rockwell hardness scales.

For full conformance to the latest ASTM E18-22 specification, please call (201) 962-7373

Direct Loading Method With Load-Cell Instead Of Dead Weight System. High Speed Test Cycle and Extremely Accurate Loading Control

•Automatic conversions to HB, HV, Superficial Rockwell Scales
•Touch Screen selectable system Upper/Lower Limit Settings
•Test resolution: 0.1HR Rockwell unit;
•Operation temperature: 50° – 95°F (10ºC∼35ºC)
•Ambient environment: clean, no vibration, no strong magnetic field, and no corrosive medium;
•Power supply: single phase, AC, 110-220 with manual change, 50∼60Hz, 4A;

Included Accessories:

- C/N scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRC Test Blocks
- 1- HRB Test Block
- 2- HRN Test Block
- 1- HRT Test Block
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Std. V- Anvil
- Accessory Case

Minor Load	3 Kgf, 10 Kgf
Major Load	15 Kgf, 60 Kgf 30 Kgf, 100 Kgf 45 Kgf, 150 Kgf
Test Force Application	Load Cell
Test Force Control	Motorized
Display	Hi Def LCD Digital Readout
Display Resolution	0.1 HR
Vertical Capacity	16.9"
Memory/Output	500 Tests/USB
Throat Depth	7.8 in
Power Supply	Single phrase, AC, 110V/220V (selectable)
Weight	285 lbs Net (Shipping weight = 350 lbs)
Dimensions	285 lbs Net (Shipping weight = 350 lbs)

Digital Rockwell/Superficial Rockwell Hardness Tester

900-384

Direct Loading Method With Load-Cell Instead Of Dead Weight System. High Speed Test Cycle and Extremely Accurate Loading Control

The test force is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit that replace traditional dead weights. The result is highly accurate hardness test measurements at all test loads up to 0.5%. Simple plug – and – play tech allows for much more quick and easy installation than traditional dead weight type machines. Extended dolphin nose allows vertical hardness test height of 11.8” and throat depth of 8.6”. Built-in micro-printer.

Functions:

- Twin hardness tester –Regular Rockwell & Superficial Rockwell hardness test for metal and plastic material.
- Horizontal dolphin nose Indenter is suitable for internal and external hardness testing.
- Rockwell Hardness Testing on Surfaces difficult to reach. Hardness Testing internal surface of rings and tubes.
- Provided with many features such as high measuring precision, wide measuring range with 30 Rockwell scales.
- The Rockwell hardness tester is suitable for testing of carbon steel, alloy steel, cast iron, non-ferrous metal. Measuring results digitally displayed and can be printed with its built-in thermal Mini-Printer.
- Automatic conversions to Rockwell, Superficial Rockwell, Brinell (HB) and Vickers (HV) Hardness Scales
- The tester meets the following standards: ISO 6508-2, ASTM E18.
- Utilizing the guidelines of ASTM E-18.

Included Accessories:

- C/N scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRC Test Blocks
- 1- HRB Test Block
- 2- HRN Test Block
- 1- HRT Test Block
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Std. V- Anvil
- Accessory Case

Options:

NIST/ASTM certified hardness test blocks, penetrators and kits are available.
This model is available with ASTM E18-22 certification

Minor Load	3 Kgf, 10 Kgf
Major Load	15 Kgf, 60 Kgf 30 Kgf, 100 Kgf 45 Kgf, 150 Kgf
Test Force Application	Load Cell
Test Force Control	Motorized
Display	Hi Def LCD Digital Readout
Display Resolution	0.1 HR
Vertical Capacity	16.9"
Memory/Output	500 Tests/USB
Throat Depth	7.8 in
Power Supply	Single phrase, AC, 110V/220V (selectable)
Weight	285 lbs Net (Shipping weight = 350 lbs)
Dimensions	285 lbs Net (Shipping weight = 350 lbs)

Digital Rockwell/Superficial Rockwell Hardness Tester

900-384 Tall Boy Frame

Direct Loading Method With Load-Cell Instead Of Dead Weight System. High Speed Test Cycle and Extremely Accurate Loading Control

The Phase II Tall Frame **900-384TB** Twin Rockwell Hardness Tester can be used directly to measure Rockwell hardness and superficial Rockwell hardness and change those values of Rockwell hardness into other rockwell hardness scales, HB, HV, HLD, and HK values.

Loaded with features such as ultra precise measurements, wide measuring range, automatic main test force loading/unloading, digitally displayed results, etc. Utilizing the guidelines of ASTM E-18 , the 900-384TB rockwell hardness tester is suitable for hardness testing on carbon steel, alloy steel, cast iron, non-ferrous metal and engineering plastics. A perfect performer suited for any environment including heat treat facilities, tool rooms, workshops, laboratories and inspection labs.

Options:
NIST/ASTM certified hardness test blocks,
penetrators and kits are available.
This model is available with ASTM E18-22 certification

Included Accessories:

- C/N scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRC Test Blocks
- 1- HRB Test Block
- 2- HRN Test Block
- 1- HRT Test Block
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Std. V- Anvil
- Accessory Case

Digital Rockwell/Superficial Rockwell Hard Tester

900-388

The test force is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit that replaces traditional dead weights. The result is highly accurate hardness test measurements at all test loads.

Specifications

Load cell driven with Auto-Z Axis one button test

Functions:

- Twin hardness tester –Regular Rockwell & Superficial Rockwell hardness test for metal and plastic material.
- Horizontal dolphin nose Indenter is suitable for internal and external hardness testing.
- Rockwell Hardness Testing on Surfaces difficult to reach. Hardness Testing internal surface of rings and tubes.
- Provided with many features such as high measuring precision, wide measuring range with 30 Rockwell scales.
- The Rockwell hardness tester is suitable for testing of carbon steel, alloy steel, cast iron, non-ferrous metal.
- Measuring results digitally displayed and can be printed with its built-in thermal Mini-Printer.
- Automatic conversions to Rockwell, Superficial Rockwell, Brinell (HB) and Vickers (HV) Hardness Scales
- The tester meets the following standards: ISO 6508-2, ASTM E18.
- Utilizing the guidelines of ASTM E-18

Parameters:

- Preload: 29.4N（3kgf）, 98.1N (10kgf)
- Total test force: 147.1N(15kgf), 294.3N(30kgf), 441.3N(45kgf), 588.4N (60kgf),980.7N (100kgf), 1471N (150kgf)
- Scales: HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15W, HR30W, HR45W, HR15X,HR30X, HR45X, HR15Y, HR30Y, HR45Y, HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV
- Load dwell duration: 2～50s, can be set and stored
- Resolution: 0.1HR
- Display: High definition backlight LCD
- Operation: Menu selectable, Membrane keypad Upper/lower limits setting alarming
- Data statistics: Avg., Max., Min., S, R Curved surface auto correction
- Memory: 400 test results stored automatically
- Testing Capacity: Vertical: 11.8” (300mm) , Depth: 8.6” (220mm)
- Dimensions: 690mm×280mm×860mm
- Power supply: AC, 220V/110V, 50～60Hz, 4A (convertible)
- Net weight: 86 kg (190lbs)
- Gross weight: 120kg (265 lbs)

Included Accessories:

- C/N scale Diamond Indenter
- 1/16” Ball Indenter
- 2- HRC Test Blocks
- 1- HRB Test Block
- 2- HRN Test Block
- 1- HRT Test Block
- Test Table 5.87" (150mm)
- Flat Anvil 2.5" (63mm)
- Std. V- Anvil
- Accessory Case

Options:

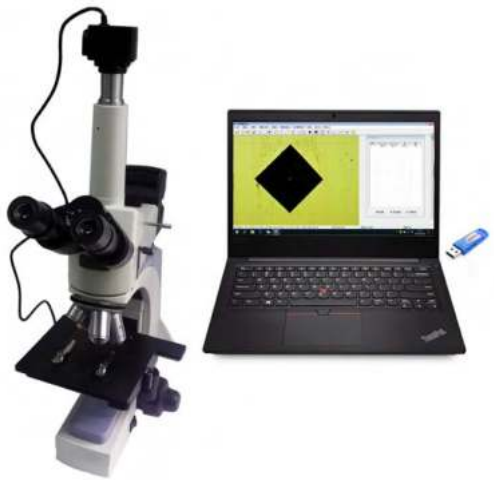
NIST/ASTM certified hardness test blocks, penetrators and kits are available. This model is available with ASTM E18-22 certification.

Hardness Tester Parameters:
Load dwell duration: 2～50s, can be set and stored
Resolution：0.1HR
Display: High definition backlight LCD
Operation: Menu selectable, Membrane keypad
Limit setting: Upper/lower limits setting & alarming
Data statistics：Avg., Max., Min., S, R
Curved surface auto correction
Memory: Max 400 items of test results stored automatically
Testing Capacity: 300mm (vertical) , 220mm (horizontal)
Dimensions：690mm×280mm×860mm
Power supply：AC, 220V/110V, 50～60Hz, 4A (convertible)
Net weight：86 kg (190lbs)
Gross weight: 120kg (265 lbs)

New! Universal Hardness Tester

900-450

The test force is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit that replace traditional dead weights. The result is highly accurate measurements at all test loads up to 0.5%.



CAN TEST IN ROCKWELL, BRINELL, AND VICKERS!

Included Accessories:

- **1** Host machine span
- **1** Standard hardness block for B scale
- **3** Standard hardness block for C scale
- **1** Standard hardness block for 30N scale
- **1** Standard hardness block for 30T scale
- **1** Ball indenter (1/16")
- **1** 120°cone diamond indenter
- **1** Standard hardness block for HBW2.5/187.5
- **1** Standard hardness block for HBW5/250
- **1** Φ2.5mm Ball indenter
- **1** Φ5mm Ball indenter
- **1** 40X Microscope for Brinell
- **1** Standard hardness block HV10
- **1** Standard hardness block HV30
- **1** 136° diamond pyramid indenter
- **1** Microscope with 40X, 100X, 200X
- **1** lens for Vickers
- **1** Camera and Specific Software for
- **1** Vickers with USB-key
- **1** Φ150mm Flat anvil
- **1** “V ”shape anvil
- **1** Power supply wire
- **1** Mounting screws for indenter
- **1** Screwdriver for indenter mounting
- **1** Dust cover

New! Digital Rockwell/Superficial Rockwell Hard Tester

900-475

Included Accessories:

- C-scale Diamond Indenter
- 1/16" Carbide Ball Indenter
- 6pc NIST/ASTM Certified Test Blocks
- 3- HRC Test Blocks
- 1- HRB Test Block
- 1-HRN Test Block
- 1-HRT Test Block
- Dust Cover
- Small round flat anvil
- V-Anvil

Application

- Suitable to determine the Rockwell hardness of ferrous, non-ferrous metals and non-metal materials.
- Quality control for metal heat treatment, material inspection, welding evaluations, production evaluations involving alloys, Grade verification for hard plastics, and failure analysis.
- Especially suitable for the precise measurement of flat surfaces as well as a curved surface.

Model No. 900-475 is a newly designed fully automated digital Rockwell hardness tester.

Main Technical Parameter:

Hardness scales:
HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15N, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Pre-load: 29.4N (3kgf), 98.1N (10kgf)
Total Test Force: 147.1N(15kgf), 294.2N(30kgf), 441.3N(45kgf), 588.4N (60kgf), 980.7N (100kgf), 1471N (150kgf)
Resolution: 0.01HR
Output: Built-In Bluetooth Interface
Max. height of test piece: 170mm
Depth of throat: 200mm
Dimension: 669*477*877mm
Power supply: 110V/220V, 50/60Hz
Weight: 130kg

FEATURES

- Test force closed-loop control;
- Automatic tracking and testing, no test error caused by deformation of frame and/or workpiece.
- LED lighted measuring head can move up and down and automatically applies preliminary test force
- Conversions based upon material per ASTM E140-12b (2019)
- Round part correction factor
- High accuracy optical grating displacement measuring system
- Large test table, which is suitable for testing of abnormal shapes and heavy workpieces.
- Large LCD display, menu operation, complete functions (data processing, hardness conversion between different hardnes scales etc.).
- Bluetooth data interface
- Includes external wireless mini printer
- Precision conforms to guidelines set by ASTM E18, GB/T 230.2, and ISO 6508-2

Digital Brinell Hardness Tester

900-355

The tester incorporates the latest load cell technology. The test load is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit. The result is highly accurate Brinell hardness measurements at all test loads up to 0.5%. The common load overshoot or undershoot as known from traditional dead weight, or open-loop, systems is eliminated. The absence of mechanical weights not only eliminates friction problems but also makes the equipment less sensitive to misalignments caused by vibrations.

Included Accessories:

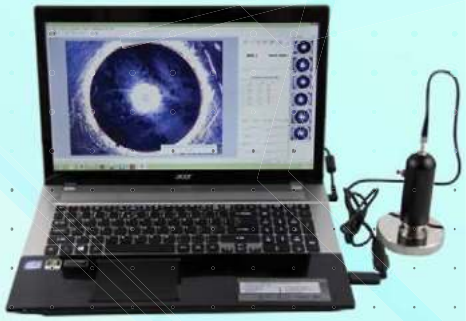
- Calibration block 125-350HBW10/3000
- Calibration block 125-350HBW10/1000
- 10mm Tungsten Carbide Ball indenter
- 5mm Tungsten Carbide Ball indenter
- 2.5mm Tungsten Carbide Ball indenter
- Mounting screws for indenter
- Flat anvil
- "V "shape anvil
- 20X microscope
- Dust cover

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Specifications

Loads: F3000kgf (29400N), 1500Kgf (14700N), 1000Kgf (9800N), 750Kgf(7355N),500Kgf (4900N), 250Kgf (2452N), 187.5Kgf (1839N), 125Kgf (1226N), 100Kgf (980N), 62.5Kgf (612.9N)
Load dwell duration: 2s-99s, can be set and stored
Tungsten Carbide Ball indenter: 10mm, 5mm, 2.5mm
Measuring range: 8HBW-650HBW
Magnification of the microscope: 20X
Resolution capability of the microscope: 0.005mm
Max measurable height: 230 mm
Max measurable depth: 140 mm
Dimensions: 530mm x 260mm x 750mm
Power supply: 220/110 V, 50/60 Hz, 4A
Weight: 224lbs.



Optional Accessory:
PHT-5000 Optical Brinell Scanner | See Page 40

Features:

- Load Cell driven system provides precise control of test force application
- Direct reading
- Engineered to obtain highly sensitive and accurate readings
- Perfect for laboratories, workshops, tool rooms, inspection labs, etc.
- Measuring Range: 8-650HBW

Tall Frame Digital Brinell Hardness Tester

900-356

The tester incorporates the latest load cell technology. The test Load is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit. The result is highly accurate Brinell hardness measurements at all test loads up to 0.5%. The common load overshoot or undershoot as known from traditional dead weight, or open-loop, systems is eliminated. The absence of mechanical weights not only eliminates friction problems but also makes the equipment less sensitive to misalignments caused by vibrations.

Included Accessories:

- Calibration block 125-350HBW10/3000
- Calibration block 125-350HBW10/1000
- 10mm Tungsten Carbide Ball indenter
- 5mm Tungsten Carbide Ball indenter
- 2.5mm Tungsten Carbide Ball indenter
- Mounting screws for indenter
- Flat anvil
- "V "shape anvil
- 20X microscope
- Dust cover

Options:

- NIST/ASTM certified test blocks, penetrators and kits are available. Please refer to pages 48-52.

Features:

- 15.7" Vertical Capacity
- Test load selection by keypad and shown on the LCD screen
- Fully automatic test cycles. The Brinell hardness Tester features a fully automatic test cycle, load application, dwell, unloading, is performed fully automatically. This greatly improves reproducibility of test results since operator influence is eliminated.
- Selectable dwell times by screen. The indenter, load, and other test information are shown clearly on the large LCD screen.
- The directions for 0.102F/D2 ratios selecting according to the materials and hardness range can be shown on the screen.
- Equipped with a 20X optical microscope to measure the diameter of Brinell indention.
- Brinell Hardness Calculator(BHC) makes the hardness value calculation easy and convenient.

Specifications

Loads: 3000kgf (29400N), 1500Kgf (14700N), 1000Kgf (9800N), 750Kgf (7355N), 500Kgf (4900N), 250Kgf (2452N), 187.5Kgf (1839N), 125Kgf (1226N), 100Kgf (980N), 62.5Kgf (612.9N)
Load dwell duration: 2s~99s, can be set and stored
Tungsten Carbide Ball Indenter: 10mm, 5mm, 2.5mm
Measuring Range: 3.18HBW~658HBW
Magnification of the Microscope: 20X
Resolution capability of the Microscope: 0.005mm

Max measurable height: 430 mm (w/large anvil) 450mm (w/small anvil)
Max measurable depth: 200mm
Dimensions: 600mm×300mm×1000mm
Power supply: 220/110 V, 50/60 Hz, 4A (Convertible)
Weight: 205kg (gross) 165kg(net).

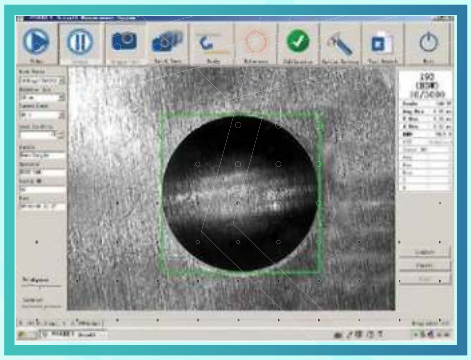
New! Automatic Digital Brinell Hardness Tester

900-359

The tester incorporates the latest load cell technology. The test load is applied via a closed-loop control unit with a load cell, a DC motor and an electronic measurement and control unit. The result is highly accurate Brinell hardness measurements at all test loads up to 0.5%. The common load overshoot or undershoot as known from traditional dead weight, or open-loop, systems is eliminated. The absence of mechanical weights not only eliminates friction problems but also makes the equipment less sensitive to misalignments caused by vibrations.

Features:

- Fully automated test cycles. Press the START key once, the hardness tester will complete the entire test cycle automatically— 1) sample elevation 2) major load application 3) Dwell Time 4) Unloading.
- Equipped with CCD camera and built-in touch screen PC performs the indentation measuring process automatically.
- Measurement software includes useful functions.
  - a) Single and batch testing mode
  - b) Tolerance setting w/alarm
  - c) Statistic values such as Max, Min, Avg, R and S are selectable
  - d) Convert test result to other scales, such as HRC, HRB, HRA, HV, σb.
- All test results and indention images are saved automatically
- Test report created in Microsoft EXCEL format, can be edited, copied or printed.
- Load Cell driven system provides precise control of test force application
- Direct digital reading
- Engineered to obtain highly sensitive and accurate readings
- Perfect for laboratories, workshops, tool rooms, inspection labs, etc.
- Measuring Range: 8-650HBW



Specifications

Max measurable height: 230 mm
Max measurable depth: 140 mm
Dimensions: 530mm×260mm×1000mm
Power supply: 220/110 V, 50/60 Hz, 4A
Weight: 110kg

Technical Specifications:
Loads: 3000kgf (29400N), 1500Kgf (14700N), 1000Kgf (9800N), 750Kgf(7355N), 500Kgf (4900N), 250Kgf (2452N), 187.5Kgf (1839N),125Kgf (1226N), 100Kgf (980N), 62.5Kgf(612.9N)
Load dwell duration: 2s~99s, can be set and stored
Tungsten Carbide Ball Indenter: 10mm, 5mm, 2.5mm
Measuring Range: 3.18HBW~58HBW

Optical Brinell Scope/Reader

PHT-5000

Includes the basic functions of an imaging system such as image capture, camera calibration, image processing, geometric measurement, document labeling, and album management; automatically or manually measures the indentation diameter and calculates the hardness HB value; HB2 (DIN 1605 standard) automatic measurement: Automatically or manually measures the indentation diameters on the calibration sample and the test sample, and automatically interpolates the HB value for the test sample; Converts HB to other hardness scales—Validates the test results with sample dimensions; automatically updates the statistical values such as average, min and max, standard deviation,Cp and Cpk; Auto-alarm: Automatically marks the out of spec measurements; Test report: Automatically generates customizable WORD or EXCEL report.

NIST TRACEABLE 5 YEAR WARRANTY

- **Increase Accuracy!**
- **Eliminate user measurement errors!**
- **Fast and easy measurements!**

Features

- Automatic scanning system for brinell impressions
- Friendly User Interface: Automatic measurement with a key stroke or a click of a button; Test results can be manually generated or corrected with a single mouse drag move
- High reliability: Advanced image processing and analysis technologies in automatic measurement. Field proven under severe sample surface conditions;
- Single camera with four magnifications: 1.3M pixel CMOS USB camera with two camera tubes with each tube height having two magnifications. Full measurement range is covered with four magnifications for better measurement accuracy. Specifically, tube 1 magnification #1 is suitable for indentation diameters 3-6mm, magnification #2 for 0.8-1.6mm, while tube 2 magnification #3 for 2-4mm, and magnification #4 for 1-2mm.

Laptop Not Included

Specifications

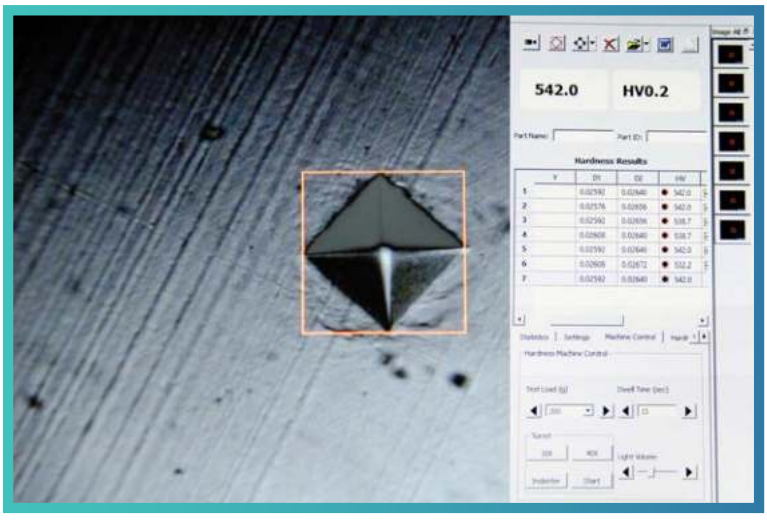
Testing Range: 1HV-2967HV
Test Force: 0.098N(10g), .246N(25g), 49N(50g), 0.98N(100g) 1.96N(200g), 4.90N(500g), 9.80N(1000g)
Max Height of the Specimen: 70mm
Max Distance from the Indenter Center to the Instrument Panel: 95mm
Lens/indenters with: With Hand Turret
Carriage Control: Automatic (loading/ holding-up of the load/unloading)
Amplification of the microscope: 100x, 400x
Dwell Time of the Test Force: (5-60)S
Min.Graduation Value of the Testing Drum Wheel: 0.25μm
Dimension of the XY Table: 100x100mm
Movement Field of the XY Table: 25x25mm
Light source/Power Supply: 110/220V,60/50Hz/ Cold Light Source
Weight/Gross Weight: 92lbs/77lbs
Package Dimensions: 425x245x490mm

Micro Vickers Hardness Tester

900-390 A- Includes Video Cam, Adapter and Manual Measurement Software

900-390 B- Includes Video Cam, Adapter and Auto-Measurement Software

This **Micro Vickers Hardness Tester** is a precise testing system suitable for hardness analysis of metallic specimens in metallography laboratories or production environments. Software for 900-390A can be upgraded to 900-390B. Contact Phase II for further information.



Micro Vickers Hardness Tester

900-391 Series

This Micro Vickers Hardness Tester is a precise testing system suitable for hardness analysis of metallic specimens in metallography laboratories or production environments.

Packages A, B & C can be upgraded at any time. Packages C&D only function with Phase II brand or similar machines.
Contact Phase II for further information.

Technical Features

Testing Range: 1HV-2967HV
Test Force: 0.098N(10g), .246N(25g), .49N(50g), 0.98N(100g)
1.96N(200g), 4.90N(500g), 9.80N(1000g)
Max Height of the Specimen: 70mm
Max Distance from the Indenter Center to the Instrument Panel: 95mm
Lens/indenters with: With Hand Turret
Carriage Control: Automatic (loading/holding-up of the load/unloading)
Amplification of the microscope: 100x, 400x
Dwell Time of the Test Force: (5-60)S
Min.Graduation Value of the Testing Drum Wheel: 0.25μm
Dimension of the XY Table: 100x100mm
Movement Field of the XY Table: 25x25mm
Light source/Power Supply: 110/220V,60/50Hz/Cold Light Source
Weight/Gross Weight: 92lbs/77lbs
Package Dimensions: 425x245x490mm

900-391 A/B/C/D Series

Model No. 900-391A
Includes Video cam, adapter and manual measurement software

Model No. 900-391B
Includes Video cam, adapter and Auto-Measurement software

Model No. 900-391C
Includes Video cam, adapter and Turret control w/manual measurement software

Model No. 900-391D
Includes Video cam, adapter and Turret control w/ Auto-Measurement software

Model No. 900-391E
Includes Video cam, adapter, Automatic X & Y axis control, and auto Turret control w/Auto-Measurement software

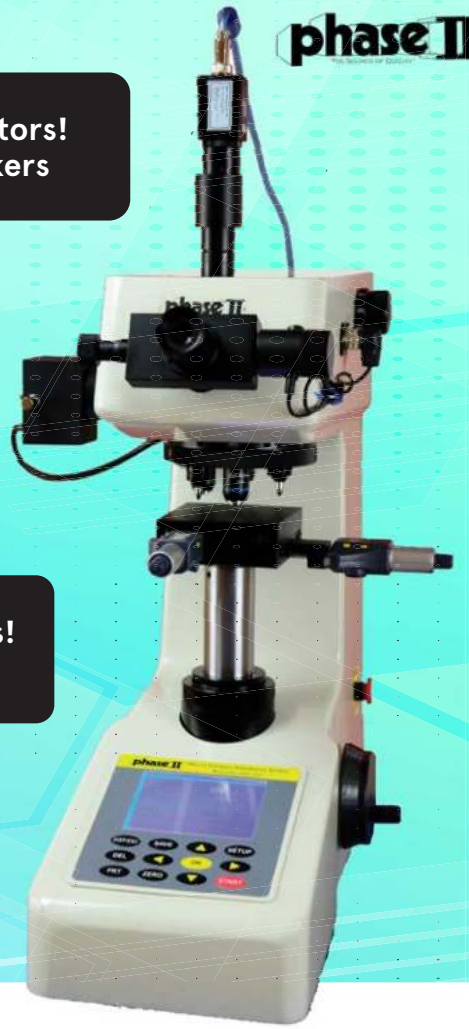
Specifications

1. Test Forces: (gf) and (mN)
   10, 25, 50,100, 200, 300, 500, 1000(1K) gf
   98, 245, 490, 980, 1960, 2940, 4900, 9800 Nm
2. Test Scales:
   Vickers Scales: HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
   Knoop Scales: HK0.01, HK0.025, HK0.05, HK0.1, HK0.2, HK0.3, HK0.5, HK1
3. Test mode: HV / HK
4. Language: English / Chinese
5. Test force application: Automatic lifting system
6. X-Y Testing Table
   a) Dimension: 100×100mm
   b) Travel: 25×25 mm
   c) Revolving power: 0.002mm
7. Selection of hardness scale conversions
8. Dwell time of the test force: 0~90s (5 sec increments)
9. Turrett: Toggle between indenters and objectives:
   Automatic recognition and manual
10. Brightness: adjustable

Dual Penetrators!
Knoop & Vickers

3 Measuring Objectives!
10x, 20x,40x

NIST TRACEABLE 5 YEAR WARRANTY



Dual Indenter Vickers Hardness Tester

900-392 Series

This **Micro Vickers Hardness Tester** is a precise testing system suitable for hardness analysis of metallic specimens in metallography laboratories or production environments. Software for 900-390A can be upgraded to 900-392B. Contact Phase II for further information.

- The Max. Height of the specimen: 90 mm
- The Max. Depth of the specimen: 12t0 mm (From the center)
- Power supply: AC110/220V, 60/50Hz
- Overall dimension (L x W x H): 495×305×550mm
- Weight: 33kg net

Three measuring objectives to choose from:

EYEPIECE	OBJECTIVE	TOTAL AMPLICATION	MIN. TEST UNIT
10*	10*	100*	0.25 μm
	20*	200*	0.03 μm
	40*	400*	0.015 μm

900-391 A/B/C/D Series

Model No. 900-392A
Includes Video cam, adapter and manual measurement software

Model No. 900-392B
Includes Video cam, adapter and Auto-Measurement software

Model No. 900-392C
Includes Video cam, adapter and Turret control w/manual measurement software

Model No. 900-392D
Includes Video cam, adapter and Turret control w/ Auto-Measurement software

Macro Vickers Hardness Testers

900-398 A- Includes Video Cam, Adapter and Manual Measurement Software
900-398 B- Includes Video Cam, Adapter and Auto-Measurement Software

Our advanced line of **Macro Vickers Hardness Testers** are state-of-the-art, precise testing systems suitable for hardness analysis of metallic specimens in metallography laboratories or production environments.

The Phase II macro-vickers hardness testers are versatile and user-friendly systems.

Designed for the accurate hardness testing of small precision parts, thin materials, case hardened layers and all sorts of steel components. The Phase II 900-398 is our macro-vickers hardness tester, covering the load range from 1kg to 50kg, with digital technology. Conforming to ASTM E-384/92 vickers hardness testers standards, the 900-398 digital vickers hardness tester will offer unmatched repeatability. A perfect rugged performer suited for any environment, the Phase II vickers hardness testers are offered with a 5 year warranty and free lifetime technical support.

The 900-398 Vickers Hardness Tester is engineered to produce a clear indentation and a more precise measurement. By means of a load cell, closed circuit system for control, the CPU controls testing force to load/dwell/unload, allowing for the highest degree of accuracy. The large LCD shows the measuring methods, the testing force, the indentation length, hardness value, the dwell time of the testing force as well as the number of the measurement on its screen.

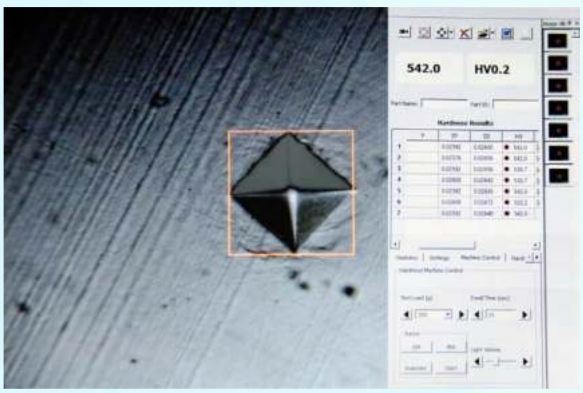
All information such as diagonal lines length of indentation, hardness values, data statistics and hardness conversions can be displayed on the LCD.

includes Digital CMOS Camera, Adaptor, cabling and USB software.

Specifications

Test Forces: 9.807, 19.61, 24.52, 29.42, 49.03, 98.07, 196.1, 249.2, 490.3 N 1, 2, 2.5, 3, 5, 10, 20, 30, 50kgf
Carriage Control: (Load/Dwell/Unload)
Amplification of the Microscope: 100x 200x
Dwell Time of the Test Force: (0-60)s
Min. Graduation Value of the Testing
Drum Wheel: 0.125μm
Testing Field: 1HV—2967HV
Output: Built-in Mini Printer RS-232
Max. height of the specimen: 170 mm
Max. width of the specimen: 130 mm
Objective: 10x 20 x 40x selectable
Light source: Cold light source
Power Supply: 110V/220V,60/50Hz
Dimension: 535X225X580mm
Weight: 60 kg

Main Accessories:
- Large test table
- "V"Shape test table
- 10X Digital Micro Lens
- Level
- Adjustable Screw
- Vicker Hardness Block
- USB Interface



Specifications

1. Test Forces: (gf) and (Nm)
10, 25, 50,100, 200, 300, 500, 1000(1K) gf
98, 245, 490, 980, 1960, 2940, 4900, 9800 Nm
2. Test Scales:
Vickers Scales: HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Knoop Scales: HK0.01, HK0.025, HK0.05, HK0.1, HK0.2, HK0.3, HK0.5, HK1
3. Test mode: HV / HK
4. Language: English / Chinese
5. Test force application: Automatic –Loading-Dwell-Unloading
6. X-Y-Z Testing Table a) Dimension: 100×100mm b) Travel: 25×25 mm c) Revolving power: 0.002mm
7. Selection of hardness scale conversions
8. Dwell time of the test force: 0~90s (5 sec increments)
9. Turrett: Toggle between indenters and objectives: Automatic and manual selectable
10. Brightness: adjustable

New! Fully Automated Micro Vickers Hardness Tester

900-505

Our advanced line of Micro Vickers hardness testers are state-of-the-art, precise testing systems suitable for Vickers hardness analysis of metallic specimens in metallography laboratories or production environments.

1. Motorized XY stage, standard size: 110mmX110mm table dimension, 50mmX50mm XY travel lengths
2. XYZ stepping drive box, with AC power cable, USB communication cable, XY motor cable, Z motor cable, and RS232 cable.
3. 1.3M Pixel USB 2.0 Camera (130-WOM)
4. Fully automatic Vickers software (USB dongle and software CD)

The Phase II **Micro-Vickers Hardness Testers** are versatile and user-friendly systems, designed for the accurate Vickers and Knoop hardness testing of small precision parts, thin materials, coatings, wires and case depth determinations. The Phase II 900-505 micro-vickers hardness tester includes Automated X-Y-Z platform and controllers along with Auto-Turret, Video Cam, Adapter, USB Output Cable and Automatic Measurement Software. The 900-505 Micro Vickers hardness tester covers the load range from 10g to 1kg. Conforming to ASTM E-384/92 vickers hardness testers standards, the 900-505 series micro vickers hardness testers will offer unmatched repeatability. This micro Vickers hardness tester can toggle back and forth between Vickers and Knoop measurement. A perfect rugged performer suited for any environment, the Phase II vickers hardness testers are offered with a 5 year warranty and free lifetime technical support.

Measurement Software Packages

For Micro Vickers/Knoop

The new Phase II measurement software packages include a high quality video cam and adaptor coupled with our extensive yet simple to use software. This combination can turn any manually operated micro vickers hardness tester into a world class measurement system that includes memory and USB output to a Word or Excel formatted file.

Packages A, B & C can be upgraded at any time.
Packages C & D only function with Phase II brand or similar machines.
Contact Phase II for further information.

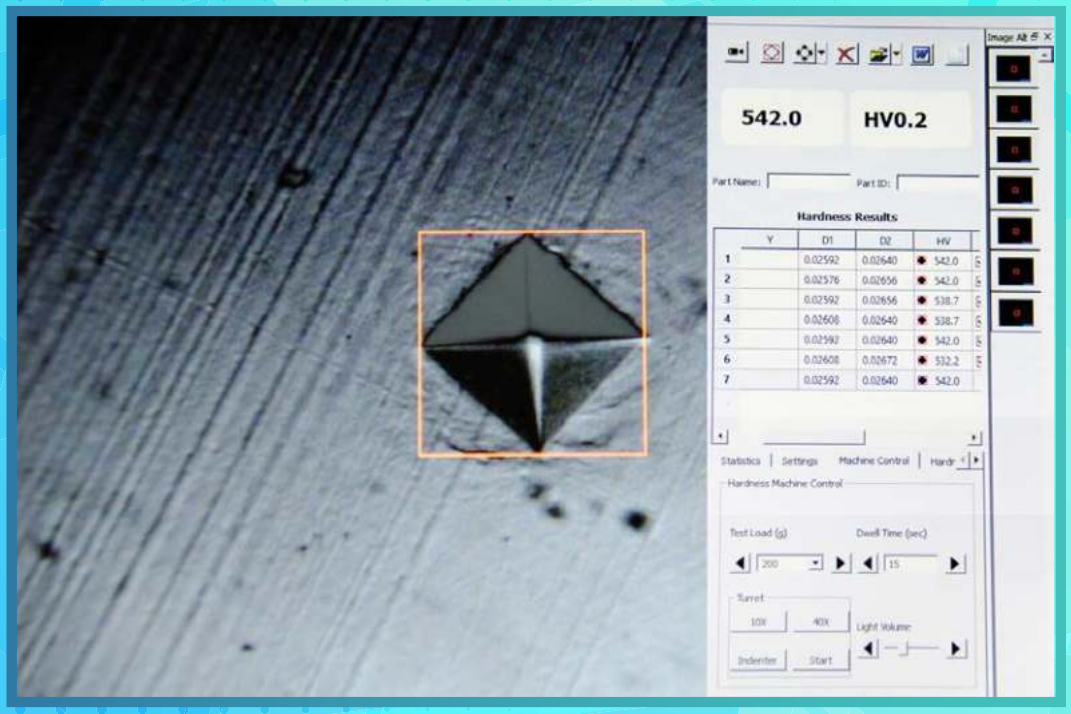
900-391 A,B,C,D Series

Model No. 900391-ASOFT:
Includes Video cam, adapter and manual measurement software

Model No. 900391-BSOFT:
Includes Video cam, adapter and Auto-Measurement software

Model No. 900391-CSOFT:
Includes Video cam, Adapter and Turret Control w/ manual measure software

Model No. 900391-DSOFT:
Includes Video cam, adapter and Turret control w/ Auto-Measurement software



Accessories for Micro, Macro & Knoop Testers

Thin Specimen Fixture
Part No. 900390-010
•Range: 0.1 – 6mm
•Diameter(Bottom): 76mm
•Height: 43mm

Vertical Holding Fixture
Part No. 900390-020
•Range: 0.6 – 4mm
•Diameter(Bottom): 60mm
•Height: 50mm

Clamping Fixture
Part No. 900390-030
•Max Opening: 45mm
•L-80 x W-76 x H-13.5mm

X-Y Stage w/Micrometers
Part No. 900390-050
•Graduation: 25mm x 25mm
•Table Size: 100 x 100 x 36mm

Diamond Indenters
Part No. 900390-0100 Micro Vickers
Part No. 900390-0150 Knoop
Made in USA-Certified
Part No. 900390-0100C Micro Vickers
Part No. 900390-0150C Knoop

Digital Micrometer Heads for X-Y
Part No. 900390-052

Motorized X-Y Stage w/Controller and Measurement Software
Includes Video cam, Adapter and Turret Control w/ Auto- measure software
Part No. 900391-ESOFT

Hardness Tester Stands/Cabinets

The Phase II hardness tester floor stands are sturdy, heavy metal cabinets for securing your Rockwell, Brinell or Vickers hardness tester. The **900331-STAND** is supplied with adjustable feet, a locking door, one drawer for storage of smaller parts and a large storage area for special fixtures. The **900388-STAND** is supplied with adjustable feet and extra large storage area for special fixtures and/or supplies. The tops on both stands are pre- drilled for an elevating screw. The Phase II stands will fit all Phase II brand hardness testers as well as many other name brand machines.

PART NO.	DEPTH	WIDTH	HEIGHT	SHIP WEIGHT
900331 - STAND	23 "	18 "	27 "	105 lbs
900388 - STAND	31 "	18 "	25 "	175 lbs

Rockwell Hardness Test Blocks

FEATURES

• Phase II offers a vast array of different hardness test blocks for Rockwell, Brinell and Vickers scales, as well as Portable hardness testers
• Phase II hardness test blocks are made of high grade materials to assure unmatched accuracy and repeatability throughout the entire block.
• Phase II Hardness test block surfaces are precision ground and lapped to an average finish of less than 2uin.
• Hardness Test blocks always engineered to obtain highly sensitive and accurate readings.
• All Made in the USA hardness test blocks conform to current ASTM specifications
• Traceability to NIST is offered on HRC steel blocks only.
•Prestigious Accredited laboratory A2LA and NVLAP in the USA used.
• Available Impact Devices (Leeb) D, DC, D+15, G & DL

Steel

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900330-9413	Rockwell A	Round	80-88	Phase II std.
900330-9414H	Rockwell B	Square	85-100	Made in USA
900330-9414L	Rockwell B	Square	60-80	Made in USA
900330-9414C	Rockwell B	Round	85-100	Phase II std.
900330-9414D	Rockwell B	Round	60-80	Phase II std.
900330-9415C	Rockwell C	Round	20-30's	Phase II std.
900330-9415D	Rockwell C	Round	20-30's	Phase II NIST certified
900330-9415E	Rockwell C	Square	20-30's	Made in USA/ NIST cert.
900330-9416C	Rockwell C	Round	40's-50's	Phase II std.
900330-9416D	Rockwell C	Round	40's-50's	Phase II NIST certified
900330-9416E	Rockwell C	Square	40's-50's	Made in USA/ NIST cert.
900330-9417C	Rockwell C	Round	60-70	Phase II std.
900330-9417D	Rockwell C	Round	60-70	Phase II NIST certified
900330-9417E	Rockwell C	Square	60-70	Made in USA/ NIST cert.
900340-9001	Superficial HR15N	Round	70-91	Phase II std.
900340-9002	Superficial HR30N	Round	42-80	Phase II std.
900340-9003	Superficial HR45N	Round	20-70	Phase II std.
900330-9004	Superficial HR45T	Round	55-72	Phase II std.
900340-9005	Superficial HR30T	Round	43-82	Phase II std.

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900340-9005	Superficial HR30T	Round	43-82	Phase II std.
900330-9006	Superficial HR15T	Round	73-93	Phase II std.
900345-1015N-L	Superficial HR15N	Square	Low Range	Made in USA
900345-1015N-M	Superficial HR15N	Square	Mid Range	Made in USA
900345-1015N-H	Superficial HR15N	Square	High Range	Made in USA
900345-1015T-L	Superficial HR15T	Square	Low Range	Made in USA
900345-1015T-M	Superficial HR15T	Square	Mid Range	Made in USA
900345-1015T-H	Superficial HR15N	Square	High Range	Made in USA
900345-1030N-L	Superficial HR30N	Square	Low Range	Made in USA
900345-1030N-M	Superficial HR30N	Square	Mid Range	Made in USA
900345-1030N-H	Superficial HR30N	Square	High Range	Made in USA
900345-1030T-L	Superficial HR30T	Square	Low Range	Made in USA
900345-1030T-M	Superficial HR30T	Square	Mid Range	Made in USA
900345-1030T-H	Superficial HR30T	Square	High Range	Made in USA
900345-1045N-L	Superficial HR45N	Square	Low Range	Made in USA
900345-1045N-M	Superficial HR45N	Square	Mid Range	Made in USA
900345-1045N-H	Superficial HR45N	Square	High Range	Made in USA
900345-1045T-L	Superficial HR45T	Square	Low Range	Made in USA
900345-1045T-M	Superficial HR45T	Square	Mid Range	Made in USA
900345-1045T-H	Superficial HR45T	Square	High Range	Made in USA

Rockwell, Brinell, Vickers, & Leeb Test Blocks

Rockwell B- Aluminum

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900330-9414A	Rockwell B	Square	80's	Made in USA
900330-9414L	Rockwell B	Square	50's	Made in USA
900330-9418H	Rockwell E	Square	90's	Made in USA
900330-9418L	Rockwell E	Square	60's	Made in USA

Rockwell B- Brass

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900330-9414BH	Rockwell B	Square	80's	Made in USA
900330-9414BH	Rockwell B	Square	50's	Made in USA

Brinell

PART NO.	DESCRIPTION	SHAPE	RANGE	COMMENTS
900355-3000/150	3000kg Steel	Round	150-250	Phase II Std.
900355-3000/250	3000kg Steel	Round	250-500	Phase II Std.
900355-3030	3000kg Steel	Rectangle	100-200	Made in USA
900355-3040	3000kg Steel	Rectangle	250-350	Made in USA
900355-3050	3000kg/Steel	Rectangle	350-500	Made in USA
900355-3060	3000kg/ Steel	Rectangle	500-600	Made in USA
900355-3010	3000kg	Rectangle	Low	Aluminum (USA)
900355-3020	3000kg	Rectangle	High	Aluminum (USA)

Vickers Hardness Test Blocks

PART NO.	DESCRIPTION	RANGE	COMMENTS
900390-V010	Vickers (1 gram to 1,000 gram)	80's	Made in USA
900390-V020	Heavy Load Vickers (1Kg to 50 Kg)	50's	Made in USA
900390-V030	Knoop (1 gram to 1,000 gram)	90's	Made in USA

Leeb Test Blocks

PART NO.	DESCRIPTION	RANGE	COMMENTS
PHT 1300-01	Test Block for Leeb "D" (High HRC scale)	750-800	Phase II Std.
PHT 13001-CERT	NIST Certified Test Block for Leeb "D" (High Scale HRC)	750-800	NIST Certified
PHT 1300-02	Test Block for Leeb "D" Block (Mid Scale HRC)	590-650	Phase II Std.
PHT 130002-CERT	NIST Certified Test Block for Leeb "D" (Mid Scale HRC)	590-650	NIST Certified
PHT 1300-03	Test Block for Leeb "D" Block (Mid Scale HRC)	490-570	Phase II Std.
PHT 13000-03 CERT	NIST Certified Test Block for Leeb "D" (High Scale HRC)	490-570	NIST Certified
PHT 1100G-01	Leeb Test Block for "G" Impact Device	590-670	For use w/G Impact Device
PHT 1100G-CERT	ASTM Certified G Block for Brinell Scale	590-670	Phase II Std.
PHT 1300-05	Double Sided Leeb "D" Test Block	750-800	

Hardness Tester Indenters & Anvils

Penetrators: Diamond

PART NO.	DESCRIPTION	COMMENTS
900330-9440	Rockwell C scale	Phase II Std. (1/4" shank w/flat)
900330-9440B	Rockwell C scale	Grade B (USA) Certified
900330-9440C	Combination C&N scale	USA-Certified
900385-9440	Rockwell C scale	Fits 900-384, 900-385, 900-388
900415-9440	Rockwell C scale	Fits 900-384, 900-420, 900-440
900415-9440B	Rockwell C scale	USA Certified: 900-415,900-420,900-440
900390-0100	Micro Vickers HV-6	Phase II Std.
900390-0100C	Micro Vickers HV-6	USA Certified
900390-0150	Knoop Indentor HV-4	Phase II Std.
900390-0150C	Knoop Indentor HV-4	Made in USA Certified

Penetrators: W/Carbide Ball

PART NO.	DESCRIPTION	COMMENTS
900330-9441	1/16" Carbide Ball	Phase II Std.
900330-9441C	1/16" Carbide Ball	Certified (USA)
900385-9441	1/16" Carbide Ball	Fits 900-384, 900-385, 900-388
900415-9441	1/16" Carbide Ball	Fits 900-415, 900-420, 900-440
900330-18	1/8" Carbide Ball	Phase II Std.
900330-18C	1/8" Carbide Ball	Certified (USA)
900330-14	1/4" Carbide Ball	Phase II Std.
900330-14C	1/4" Carbide Ball	Certified (USA)
900330-12	1/2" Carbide Ball	Phase II Std.
900330-12C	1/2" Carbide Ball	Certified (USA)
900335-010	Brinell 10mm Carbide Ball	Phase II Std.
900335-010C	Brinell 10mm Carbide Ball	Certified (USA)
900335-050	Brinell 5mm Carbide Ball	Phase II Std.
900335-050C	Brinell 5mm Carbide Ball	Certified (USA)
900335-025	Brinell 2.5mm Carbide Ball	Phase II Std.
900335-025C	Brinell 2.5mm Carbide Ball	Certified (USA)

Rockwell Ball Indentors

Brinell Ball Indentors

Anvils: 19 MM Shank

PART NO.	DESCRIPTION
900331-9404	Mini V-Anvil (10mm)
900331-9405	2" Dia. Anvil (flat)
900331-9406	1/2" Spot Anvil
900331-9407	V-Anvil (1.57")
900331-9411	Large Dia. Anvil (Flat)

Fits Models 900-331, 332, 345, 900-346, 900-367, 900-387, 375A, 410, 415, 420, 440

Anvils: 20 MM Shank

PART NO.	DESCRIPTION
900365-9405	2" Dia. Anvil (flat)
900365-9406	Spot Anvil (10mm)
900365-9411	Large Dia. Anvil (flat)
900365-9412	V-Anvil
900365-9413	X-Large Round Anvil (250mm)
900365-625	Combo SpotV / Spot Anvil
900365-630	Diamond Spot Anvil
900365-700	Goose neck for inner surface testing

Fits Models 900-330, 900-365, 900-375 (Pre-2016), 900-384 & 900-388

Spot Anvil for 900-355/900-356 Brinell Hardness Tester Part No. 900355-620

Digital Shore Durometers

Designed to test the hardness of Rubbers and Plastics These sleek hand held hardness testers are crafted and engineered to perform at the highest level of accuracy. An ergonomic, lightweight design assists in taking precise and consistent hardness measurements.

Model No. PHT-960

FOR TESTING THE FOLLOWING MATERIALS:

Rubber: Soft vulcanized (ie. tire), natural nitrile.
Elastic materials (rubber & rubber like): GR-S, GR-1, neoprene, thiokol.
Other: Wax, felt, leather etc. (materials that normally yield under fingernail pressure, such as the heel on your shoe).

Model No. PHT-980

FOR TESTING THE FOLLOWING MATERIALS:

Rubber: Hard
Plastics: Harder grades such as rigid thermoplastics, plexiglass, thermopolystyrene, vinyl sheet, cellulode acetate, thermosetting laminates (ie. formica)
Other: Paper filled calendar rolls, calendar bowls, etc. (materials that would not normally indent under fingernail pressure, such as a pocket comb or bowling ball).

SPECIFICATIONS

- Measuring range: 0-100HSA (0-100 HSD)
- Resolution: 0 .5H
- Digital read out
- Auto Hold feature
- Uses 1-SR44 Button Cell Battery
- Custom rugged carry case

Durometer Test Block Kits and Support Stands

Shore A&D Scale Test Block Kits

PHT950–25 **7pc Shore A Test Block Kit**
PHT950-25C **Lab Certified Test Block Kit**

- Consists of 7 color coded test blocks that range from Ha 30's to Ha 90's.
- Designed for periodic verification of calibration accuracy.
- For use with all Shore A durometers
- Test kit is serialized for easy traceability
- Durometer results should be within +/-3 Durometer Points of stated test block value.

PHT975-20 **3pc Shore D Test Block Kit**
PHT975-20C **Lab Certified Test Block Kit**

- Consists of 3 color coded Shore test blocks that range from Shore HD30's to HD90's
- Designed for periodic verification of calibration accuracy.
- For use with all Shore D durometers
- Test kit is serialized for easy traceability
- Durometer results should be within +/-3 Durometer Points of stated test block value.

Certified block sets will have 1 lab certificate/block.

Shore A&D Test Stands

PHT-961
Shore A Test Stand

PHT-981
Shore D Test Stand

These Phase II test stands are used to improve the accuracy and reproducibility of both analog and digital durometer hardness tester readings by ensuring that the presser foot is exactly parallel to the specimen table.

New! Pocket Surface Roughness Tester

SRG-2200

The New Phase II **SRG-2200 Mini Surface Roughness Tester** is a next generation of surface roughness tester developed by the Phase II Metrology Group that features high accuracy, a wide range of application, simple operation and stable performance. It is widely applicable in surface roughness testing all kinds of metals andnon-metals.

Large memory with data output via Bluetooth.

The 1.14" IPS TFT display shows choice of surface roughness parameter Ra, Rz, Rq and Rt at the touch of a button, combined with the selected cutoff length.

Specifications

Roughness parameter	Ra, Rms(Rq), (ISO), Rt, Rz (DIN)
Measuring range	Ra: 0.05-10.0μm / Rz 0.1-50μm | Rms: 0.05-10.0μm / Rt: 0.1-50μm
Display Type	1.14” IPS TFT
Cut-off lengths	0.01in., 0.03in., 0.10in (0.25, 0.80, 2.50mm)
Filter	Gauss Digital
Tracing length	0.23in (6mm)
Evaluation Length	1.25mm, 4.0mm, 5.0mm
Tracing speed	0.04in/second (1.0mm/second)
Accuracy +/-	12% of actual Value
Pick-up stylus	Piezo-electric
Tracer tip	Diamond, radius 10μm
Memory / Transmission	500 Values / Bluetooth
Operating temperature	32-104 degrees F (0-40 degrees C)
Power	1pc 1.5v AA Battery
Contact force on probe	<0.5N
Static measuring force of sensor stylus	<0.16N
Dimensions	73x28x62mm
Weight	0.5lbs (220g)

Portable Surface Roughness Tester

SRG-4000

Features:

- 4 Different roughness parameters
- Inside/Outside Diameters
- Stylus Level Indicator

Roughness Parameter	Ra, Rz, Rq (RMS), Rt
Assessed Profiles	Primary profile (p), Roughness profile (R) tp curve (Mr)
Conformance Standards	ISO/DIN/JIS/ANSI
Measuring System	Metric µm, Imperial µinch
Display Resolution	+/- 20µm - 0.001 µm +/- 40µm - 0.002 µm +/- 80µm - 0.004 µm
Display Range	Rq Rq: 0.005µm up to 16 µm Rz, Rt: 0.02µm up to 160 µm
Pick Up Measuring Range	+/- 80µm
Sensor Specifications	5µm Diamond Tip Stylus
Sensor Angle	90°
Contact Force	4mN (0.4gf)
Display Features	Stylus position sensor Battery level indicator Direct display of parameters Direct printing Auto-off with auto store
Cut-off Lengths	0.25mm/ 0.8mm/ 2.5mm
Tracing Lengths	1.3mm - 17.5mm
Digital Filter	RC, PC-RC, GUASSIAN, D-P
Traverse Length	Selectable 1, 3 or 5
Power	Li-Ion battery
Working Temperature	5-40 degrees C.
Dimensions	139mm x 56mm x 48mm
Weight	1 lb.

Advanced Function Surface Roughness Tester

SRG-4600

The newest addition to our state-of-the-art surface roughness testers /profilometers, the **SRG-4600** will instill the highest level of confidence in your production, shop floor or QC lab. Extended memory and output coupled with many updated useful functions, the SRG-4600 surface roughness tester/profilometer is clearly the new leader in ultra accurate surface roughness/profile testing.

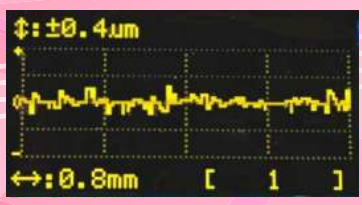
Optional Accessories:
- Precision Support Stand
- Deep Groove Stylus
- Small Hole Stylus
- Curved Surface Stylus
- Stylus Extension
- NIST Certified Reference Standard
- Micro Printer

SRG-4600 comes supplied with:
- Calibrated Reference Standard
- Bluetooth Auto-start FOB
- Leveling plate
- Stylus protector
- A/C Adapter
- Rugged Carry case

Features:
- 9 Different roughness parameters
- Inside/Outside Diameters
- Stylus position indicator
- USB/Bluetooth output to PC
- Optional Mini printer

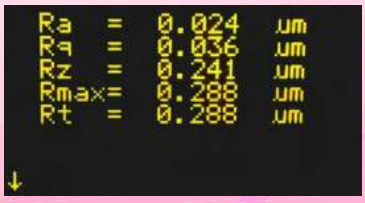
Specifications

- **Measures flat, Inside and Outside Diameters**
- **Measures grooves and recessions: wider than 0.16in (4mm)**
- **Roughness parameters: Ra, Rz, Rq, Rt, Rs, Rsm, Rmax, Rpc, Rmr**
- **Roughness standards: ISO/DIN/JIS/ANSI**
- **Display resolutions: 0.01µm/+/-20 µm | 0.02µm/+/-40 µm | 0.04µm/+/-80 µm**
- **Measuring accuracy: ≤±10%**
- **Repeatability: Less than or equal to 6%**
- **Measuring range: Ra, Rq: 0.01-40µm**
  Rz,Rt, Rm: 0.02-160µm
- **Maximum drive range: 0.7in(17.5mm)**
- **Cut-off length: 0.009/0.03/0.09inch (0.25/0.8/2.5mm)**
- **Tracing speeds: speed 1mm/s (sampling length 2.5mm)**
  speed 0.5mm/s (sampling length 0.8mm)
  speed 0.135mm/s (sampling length 0.25mm)
- **Sensor: Inductance type**
- **Sensor-stylus: Diamond, radius 5µm**
- **Pick up Force: <4mN**
- **Filter: RC, PC-RC,GAUSSIAN,D-P**
- **Data output: USB**
- **Operating temperature: 41°F-104°F (5°-40°C)**
- **Weight: 0.97lb(440g)**
- **Dimensions: (119 x 47 x 65mm)**
- **Power: Li-Ion rechargeable battery**
- **Auto shut-off**



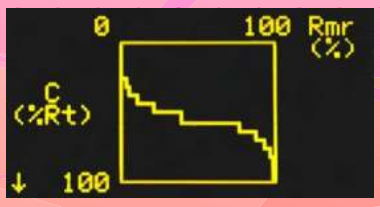
Roughness Profile

Main Screen



Parameters

Stylus Level Position



Ratio Curve

Advanced Function Surface Roughness Tester

Accessories for SRG-4600

Bluetooth Mini-Printer
SRG4600-MP

SRG4600-505
NIST Certified Reference Standard
Supplied with full form certificate

SRG4000-050
Precision Support Stand
Can be used with either 4000, 4500 & 4600 series roughness testers

SRG4600-100
Standard 5µm Stylus.
For use on flat and slightly curved surfaces

SRG4600-200
Deep Groove Stylus. For use on deep grooves with min. width of 3mm and max depth of 10mm. Must be used with support stand shown below

SRG4600-300
Small Hole Stylus.
For use in small holes under 2mm diameter and max depth of 9mm.

SRG4600-550
Curved Surface Stylus. For use on curved surface with a minimum curvature radius of 3mm. Must be used with support stand shown below.

SRG4600-500
2” Stylus Extension.
Adds extra 2” reach for deeper applications

SRG4600-550
5” Stylus Extension.
Adds extra 5” reach for deeper applications

Accessories for Roughness Testers

SRG4000-050
Can be used with all Phase II 4000 series surface roughness testers/profilometers

Range of travel: Approx. 4-13"
Height up to top bracket: 13"
Total height of stand: 18"

SRG4600-200
Deep Groove Stylus
For use on deep grooves with min. width of 3mm and max depth of 10mm. Must use with support stand

SRG4600-300
Small Hole Stylus
For use on small holes under 2mm diameter and max depth of 4mm

SRG4500-500
2" Stylus Extension

SRG4500-550
5" Stylus Extension

SRG4600-MP
Mini Printer for 4600 only

SRG2000-VISE
Vise Fixture for 2000 & 2200

SRG4600-500
Precision 2-Patch Roughness Standard

SRG4600-505
Precision 2-Patch Roughness Standard Lab Certified

Ultrasonic Thickness Gauge

UTG-2800

State of the art, digital tester is packed with features typically found on high end models only. This multi-functional unit offers everything from basic measurement, Scanning Capabilities, Adjustable Sound Velocity, extended memory and USB output capabilities. This dynamic sonic gauge is designed to measure the thickness of metallic and non-metallic materials such as steel, aluminum, titanium, plastics, ceramics, glass and any other good ultrasonic wave conductor as long as it has parallel top and bottom surfaces. **The UTG-2800** will accurately display readings in either inch or millimeter after a simple calibration to a known thickness or sound velocity.

Display Type	4-Digit LCD w/Back Light
Minimum Display Unit	0.001"/ 0.01mm (selectable)
Measuring Range	0.040-12.0" in steel w/ standard probe
Accuracy	+/- (0.5% thickness + .001")
Sound Velocity Range	3280-32805 ft/s (1000-9999m/s)
Upper/Lower Limit Preset Alarm	Yes
Operating Temperature	32-122 degrees F
Frequency	5 MHz
Update Range	4Hz
Memory	20 Groups (100 files/group)
Output	USB
Mini-Printer	Optional
Power Supply	3v AA alkaline batteries (2pc)
Battery Life	Approx. 100 hours (w/backlight off)
Power Consumption	Working current is less than 3V
Dimensions	5.90" x 2.91" x 1.30" (150 x 74 x 33mm)
Weight	8.6oz (245g)

Ultrasonic Thickness Gauge w/Thru Coat

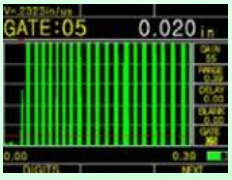
UTG-2900

Our new State of the art, digital tester is packed with features typically found on high end models only. This multi-functional unit offers everything from basic measurement, Thru Coating capabilities, Scanning Capabilities, Adjustable Sound Velocity, extended memory and USB output capabilities.

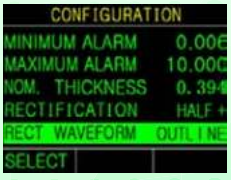
This dynamic sonic gauge is designed to measure the thickness of metallic and non-metallic materials such as steel, aluminum, titanium, plastics, ceramics, glass and any other good ultrasonic wave conductor as long as it has parallel top and bottom surfaces. The **UTG-2900** will accurately display readings in either inch or millimeter after a simple calibration to a known thickness or sound velocity.

Display Type	4.5-Digit LCD w/Back Light
Minimum Display Unit	0.001"/ 0.01mm (selectable)
Measuring Range	Pulse-Echo: 0.025" - 23.0" in steel Echo-Echo: -/118" - 2.35"
Accuracy	+/- (0.5% thickness + .001")
Sound Velocity Range	3280-32805 ft/s (1000-9999m/s)
Upper/Lower Limit Preset Alarm	Yes
Scanning Feature	Yes, 16 measurements/second
Operating Temperature	32-122 degrees F
Frequency	5 MHz
Update Range	4Hz
Memory	20 Groups (100 files/group)
Output	USB
Power Supply	AA alkaline batteries (2pc)
Battery Life	Approx. 100 hours (w/backlight off)
Power Consumption	Working current is less than 3V
Dimensions	5.90" x 2.91" x 1.30" (150 x 74 x 33mm)
Weight	8.6oz (245g)

UTG-4000 Ultrasonic Thickness Gauge- Blanking



UTG-4000 Ultrasonic Thickness Gauge Adjustable Gate



UTG-4000 Ultrasonic Thickness Gauge Configuration Mode

UTG-4000 Ultrasonic Thickness Gauge Alarm Mode

UTG-4000 Ultrasonic thickness gauge-Blanking

UTG-4000 Ultrasonic Thickness Gauge Min/Max Mode

UTG-4000 Ultrasonic Thickness Gauge Color B Scan

Ultrasonic Thickness Gauge w/ A&B Scan and Thru Coat

UTG-4000

Utilizing color waveform A-scan and time based B-scan for absolute correctness, this state of the art ultrasonic thickness gauge is packed with useful features allowing users to be confident of the displayed values on the most critical of applications. These multi-functional ultrasonic thickness gauges offer everything from basic measurement, Scan mode with Min/Max viewing, GO/NO GO display, Adjustable Sound Velocity and Thru-Coating Capabilities. This dynamic ultrasonic thickness gauge is designed to measure the thickness of metallic and non-metallic materials in critical situations that ordinary thickness gauges couldn't do.

Operating Principle	Ultrasonic pulse/echo method with dual element probe
Display Type	2.4" Color Screen
Resolution	0.001", 0.01"/ 0.01mm (selectable)
Measuring Range	0.02 - 20.0" (10mm-145mm) Dependent upon probe & material
Repeatability	+/- 0.001" (+/- 0.05mm)
Sound Velocity Range	0.0197-0.3937in/us (500-9999m/s)
Measuring Error:	0.001" (up to 0.984") 0.007" (up to 3.03") 0.019" (4" and above)
Display Modes:	Digital Thickness Readout A-scan or Waveform Min/Max Capture D-Value/ Reduction
V-Path Correction	Automatic
Update Rate	Selectable: 4Hz, 8Hz, 16Hz
Refresh Rate	4/second
Alarm Settings	Min/Max Alarm Dynamic waveform color change on alarm
Operating Temperature	14-122° F (-10° C - +50° C)
Auto Shut-Off	After 5 minutes
Power Supply	3v AA alkaline batteries (2pc)
Operating Time	Approx. 36 hours
Dimensions	6.02" x 2.99" x 1.45" (153 x 76 x 37mm)
Weight	9.9oz (280g)

New! Ultrasonic Thickness Gauge w/High Res

UTG-2675

The **UTG-2675** Ultrasonic Thickness Gauge is a simple to use, highly accurate, hand-held Ultrasonic Thickness Gauge with the ability to measure ultra-thin materials in super high resolution. Utilizing it's state of the art microprocessor and ultrasonic technology the UTG-2675 Ultrasonic Thickness Gauge offers you many outstanding features such as quick scan and extended memory.

It features reliable and stable readings, standard or dual element measuring modes, convenient data display (in both millimeters and inches), high resolution .0001" (0.001mm), ease of operation, low power consumption (two AA batteries). These features make the UTG-2675 ultrasonic thickness gauge unequalled in its performance as well as its value!.

Specifications

Display type	2.4QVGA(320×240)true color OLED screen, contrast 10000:1
Operating Principle	Adopts delay line probe ultrasonic measuring principle
Measuring Range	0.2mm to 25.4mm(0.007874" to 1.00")
Measuring Resolution	Selectable 0.001mm, 0.01mm or 0.1mm (selectable 0.0001, 0.001", 0.01")
Units	Inch or Millimeter
Display Mode	Normal, Minimum / Maximum capture, DIFF/RR%, A-Scan, B-Scan
V-Path Correction	Automatic
Update Rate	Selectable 4Hz, 8Hz, 16Hz per second
Material Velocity Range	500-9999m/s, 0.0179-0.3937in/u
Languages	Chinese, English, French, Germany, Japanese
Alarm Settings	Minimum and Maximum alarms. Dynamic waveform color change on alarm
Power Requirements	2 AA size batteries
Operating Time	35+ hours
Instrument Shut-off	Selectable ALWAYS ON or AUTO OFF after 5, 10, 20 minutes of inactivity
Operating Temperature	-10°C to +50°C (+10°F to +120°F); -20°C for special requirements
Size	153mm × 76mm × 37mm(H ×W ×D)
Weight	280g including batteries

Features

- Thru-Coating Capability
- Live A Scan, Timed B-Scan
- Ultra-High Resolution: 0.0001"
- Large Data Memory Capacity:
  Stores 100,000 thickness values
  &1000 wave-forms

Display Type	3-digit LCD
Resolution	0.001"/ 0.01mm
Measuring Range	0.04" to 8.0"
Sound Velocity Range	3280-32805 ft/s (1000-9999m/s)
Operating Temperature	32-122 degrees F
Frequency	5 MHz
Update Range	4Hz
Memory	N/A
Output	N/A
Printing	N/A
Power Supply	4-AAA batteries
Battery Life	Approx. 250 hours/set
Power Consumption	Working current is less than 3V
Dimensions	4.9" x 2.6" x 0.9" (161 x 69 x 32mm)
Weight	0.7lbs (300g)

Economy Ultrasonic Thickness Gauge

UTG-1500

This handheld unit has precise touch and read capabilities yet is economically priced. The **UTG-1500** is designed to measure the thickness of metallic and non-metallic materials such as aluminum, titanium, plastics, ceramics, glass and any other good ultrasonic wave conductor as long as it has parallel top and bottom surfaces. The UTG-1500 will accurately display readings in either inch or millimeter after a simple calibration to a known thickness or sound velocity.

Comes complete with Certificate of Calibration, Couplant Gel, AA Batteries, Operation Manual and Custom Carry Case.

Accessories for Ultrasonic Thickness Gauges

PART NUMBER	UTG4000-400	UTG2800-750	UTG2600-400	UTG2000-440	UTG2000-450	UTG2800-400
Probe Style	Standard	Small Tube	Extreme Small Tube	Rough Surface/Porous Metal	Hi-Temp	Standard
Frequency	5 MHz (E-E)	7.5 MHz	10 MHz	2 MHz	5 MHz	5 MHz
Contact Dia.	8mm	6mm	4m	17mm	15mm	10mm
Measure Range	.031-8.0"	.031-1.18"	.030-.787"	.157-20"	.157-3.14"	0.040-12"
Temperature	14-158° F	14-158° F	14-158° F	14-158° F	0-572° F	14-158° F
Image						

PART NUMBER	UTG2900-400	UTG2000-420	UTG1500-400	UTG2000-440	UTG2650-400
Probe Style	Standard	Small Tube	Extreme Small Tube	Rough Surface/P	Delay Line
Frequency	5MHz (E-E)	5 MHz	5 MHz	5 MHz	15 MHz
Contact Dia.	10mm	6mm	8mm	12mm	6mm
Measure Range	.031-23.0"	.031-1.18"	.040-8.0"	.040-8.0"	P/E: 0.010" - 0.787" E/E: 0.012" - 0.394"
Temperature	14-158° F	14-158° F	14-158° F	14-158° F	14-158° F
Image					

UTG1000-850 Couplant Gel 5-Liter
UTG1000-808 Couplant Gel 8oz
- Water based and water soluble
- Slow drying with good transducer lubrication
- Extended ambient temperature range
- Stable couplant that holds on a vertical and overhead surfaces and fills depressions in rough surfaces
- MSDS available by request

UTG-0500 5-Step Calibration Block
1018 Steel
.100" thru .500"

Coating Thickness Gauge

PTG-4000

The PHASE II **PTG-4000** can perform two different methods of calculating thickness measurement by utilizing the characteristics of both eddy current and magnetic induction. Testing performance is both non-destructive and extremely accurate. With this state of the art thickness gage, you can easily detect the thickness of nonmagnetic coating on a magnetic substrate (ferrous) or an insulating coating on a non-magnetic conductive substrate (non-ferrous) utilizing our auto-detect, integrated probe.

Can be used in many areas of industry including automotive auctions, manufacturing, general engineering, commercial inspection, etc.Utilizes an integrated probe that can automatically detect a Ferrous or Non-Ferrous substrate and comes with 2 substrate samples(steel,aluminum), 4 calibrated thickness samples, carry case, batteries and operation manual.

Main Technical Data:

- Measuring range: 0-1,250 µm max. or 0-50 mils
- Resolution: 1µm/0.1mils(0-99µm)
- Accuracy: +/- 3% + 2 µm (+/-3%+0.1 mil)
- Display: 3 digit color LCD
- Single or Continuous Measurement: Selectable
- Min. measuring area: 0.2” x 0.2” (5mm x 5mm)
- Min. radius of curvature: Convex: 0.12” (3mm) Concave: 1.2” (30mm)
- Min. substrate thickness: Ferrous: 20 mils (0.5mm) Non-ferrous: 2 mils (50 µm)
- Max. Surface temperature of test object: 302 degrees F (contact time max is 2 seconds)
- Power Source: 2-AAA batteries
- Dimensions: 100 x 52 x 29mm
- Weight: 2.4oz. (w/o Batteries)

Coating Thickness Gauge

PTG-5500

The PHASE II **PTG-5500** coating thickness gauge can perform two different methods of calculating coating thickness measurement by utilizing the characteristics of both eddy current and magnetic induction. Coating thickness testing performance is both non-destructive and extremely accurate.

With this state of the art coating thickness gauge, you can easily detect the thickness of nonmagnetic coating on a magnetic substrate (ferrous) or an insulating coating on a non-magnetic conductive substrate (non-ferrous) utilizing our auto-detect probe. The PTG-5500 coating thickness gauge can be used in many areas of industry including automotive auctions, manufacturing, general engineering, commercial inspection, etc.

Probe Type		**Ferrous/Non-Ferrous**
Measuring Principle		Magnetic Induction & Eddy Current
Measuring Range		0 ~ 1500 um (0-59 mil)
Resolution (Selectable)		1 um, 0.1 um, .01 um
Accuracy	Zero Calibration	± (2%H+1) um
Measuring Condition	Min. Radius of Curvature	Cx. 1.5 mm
	Min. Radius of Area	Φ7 mm
	Min. Thickness of Substrate	0.5 mm

FEATURES

- Two measuring modes: single or continuous (Scan mode) (selectable).
- Automatic Temperature compensation: compensates for the measurement distortion caused by the change of temperature.
- Displays five statistical values: average MEAN, maximum (MAX), minimum(MIN), measure number(No.), and standard deviation (S.DEV).
- Calibration: Simple 1-step calibration using supplied metal plate and reference shims
- Data storage: close to 500 measurements in memory. (99 measurements/group x 5 groups) Includes data output software and cable
- Tolerance Setting: alarm when measurements out of tolerance.
- Battery symbol: Displays remaining power in battery.

Analog Force Gauges

AFG-0100 2.5 lb Analog Force Gauge

AFG-0200 4.5 lb Analog Force Gauge

AFG-0300 11 lb Analog Force Gauge

AFG-0400 22.5 lb Analog Force Gauge

AFG-0500 45 lb Analog Force Gauge

AFG-0600 110 lb Analog Force Gauge

Features

- Heavy-Duty Construction
- Direct Dial Readings in lbs/kg
- Extreme Accuracy to +/- 1% Full Scale
- Designed for tension/compression measurements
- Versatile range of gages are supplied in complete test kit form containing full set of accessories and carry case.
- Can be hand-held or mounted to optional test stand

MODEL NO.	CAPACITY	RESOLUTION
AFG-0100	2.25 lb/1 kg	0.01
AFG-0200	4.5 lb/2 kg	0.02
AFG-0300	11 lb/4.9 kg	0.05
AFG-0400	22.5 lb/10.2 kg	0.1
AFG-0500	45 lb/20.4 kg	0.25
AFG-0600	110 lb/49.8 kg	0.5

Test Stand for Force Gauges

AFG-1000

Universal design enables user the ability to test multiple physical properties such as insertion, withdrawal, tension, compression and fracture type tests.

Phase II force gauges can be used in all types of tension and compression force testing applications. All force gauges are able to capture the peak force in both tension and compression and have both inch/metric units of measurement on dial face. Force gauge capacities are available from 2lbs to 100lbs. Phase II force gauges may be handheld or used with a force test stand and gripping fixtures for greater versatility.

FEATURES

- Manual force gauge test stands are the perfect solution for various, push, pull, tensile testing and force gauging of various parts.
- This lever activated force gauge stand offers quick acting performance, consistency and precise test results.
- Use this force gauge stand with force gauges and grips for your specific force gauge applications.
- Compatible with all Phase II force gauges

Base Plate with hole for mounting various fixtures

Dimensions:
Length: 9.25” (235mm)
Width: 5.98” (152mm)
Height: 15.75” (400mm)
Weight: 22 lbs

Pocket Vibration Meter

DVM-0500 Pocket Vibration Meter (mm)
DVM-0600 Pocket Vibration Meter (in)

Measuring Range	RMS Vibration Velocity 0.1 mm/s to 199.9 mm/s
Frequency Range	10 Hz to 1000 Hz
Display	3.5 digit LCD
Accelerometer	Integrated
Power Supply	1.5v button cell batteries (2)
Operating Temperature	0-40° C < 86% RH
Dimensions	150 x 22 x 18mm
Weight	2.0oz

The **DVM-0500/600** is a hand held device that is designed to aid in the preventative maintenance of machinery or any other object in motion by picking up vibrational changes over a period of time. Commonly used to check balance, misalignment of bearings. Useful features include last value hold and auto shut off make the DVM-0500/600 a must have for maintenance personnel.

DVM-0500/0600 comes complete with Certificate of Calibration, Operation Manual and Carry Case.

Portable Vibration Meter

DVM-1000 Digital Vibration Tester

FEATURES

- Quick accurate analysis for checking balance and alignment of a rotating object.
- Large LCD display
- Statistics: Mean, Max, MIN, No. of Measurements and Std deviation
- Inch/Metric Conversion with the push of a button
- Max Hold Function
- Regulated Output(AC output 2.0v peak full scale)

DVM Includes:

- 1-Powerful Magnet
- 1-Accelerometer
- 1-Stinger Probe (cone)
- 1-Stinger Probe (Ball)
- Operation Manual
- Carry Case

Acceleration	Peak Value: 0.1 - 400m/s^2 or 0.3 - 1312 ft/m/s	Frequency Range: 10Hz - 1KHz Frequency Range: 10Hz - 10KHz
Velocity (RMS)	RMS: 0.1 - 400 (mm/s) or 0.004 - 16.0 inch/s	Frequency Range: 10Hz - 1KHz
Displacement	Peak to Peak: 0.001 - 4.0mm or 0.04 - 160mil 10Hz - 1KHz	Frequency Range: 10Hz - 500KHz
RPM Frequency	5-100,000 r/min	
Frequency	0.1 - 10KHz	
Accuracy	< 5%	
Operating Temperature	0-45° C	
Power	4-AAA Batteries	
Dimensions	161 x 69 x 32mm	
Weight	10.5 oz	

phase II+®

The Source of Quality

21 Industrial Ave. Upper Saddle River, NJ 07458
Phone: 201-962-7373 • Fax 201-962-8353
www.phase2plus.com
email: info@phase2plus.com

We take pride in the products we sell and the services we provide:

- Instrumentation that is engineered for accuracy and dependability
- New product development and innovation
- Access to calibration/certification services
- Highest level of customer satisfaction
- Expert technical assistance
- On-time delivery
- Website: www.phase2plus.com for access to our complete product line as well as our tradeshow schedule, manuals and tables.
- 5-Yr Warranty against mfr defects on all instruments except for consumable parts
- International Product Sourcing:
  Refer to our website www.phase2plus.com for detailed information.
  Call us for more information.

We guarantee that your product will be manufactured to the highest degree of quality and shipped according to schedule.

Thank you for your continued support and we look forward to serving you in the future.

WELL- RENOWNED PHASE II CUSTOMERS

3M
3M Canada
A.O.Smith
ABB
Aero Turbine
Aerospace Coatings International
Aerospatiale Hemingford
Air Liquide
Airflow Research
AKG
Akebono Brake Co
Alcoa
Alcoa Howmet Castings
Alcoa Thermatech Coatings
Allison Transmission
Alstom
Alstom Power
American Drill Bushings
American Eagle Airlines
American Racing
American Roller Bearing
Amtrak
Anderson Brothers Construction
Arcelor Mittal
Archer Daniels Midland
Arias Pistons
Arias Pistons
Arizona State University
Array Technologies
Arrow Engine Co.
Atlas Tube
BAE Systems
Baker Hughes
Baldor
BASF
Bechtel
Becton Dickinson
Bodycote
Boeing
Bombardier
Borg Warner
Bosch
Braun Electric
Bridgestone
British Petroleum
Burgess Norton
Burton Snowboards
Carestream Health
Cargill
Carr Lane Mfg
Caterpillar
Champion
Chevron Oil
Chick Workholding
Chromalloy
Cobham Defense
Con Edison
Con Edison Power
Conoco
Coors Tek
Corning
Cummins
Curtiss Wright
Dana Corp
DB Cylinder Heads
Detroit Diesel
Dresser Rand
Dynamic Aviation
E.I.Dupont
EADS
Earnhardt-Childress Racing
East Kentucky Power
Eaton
Electric Boat
Elkay Mfg
Evergreen Airlines
Evernham Engines
Experior Photonics
Federal Signal
Fleetwood Enterprises
Florida Institute of Technology
Flowserve
Fluor Corp
Ford Motor Co.
Ford Performance Racing
Fox Valley Energy
Franklin Fueling Systems
Freightliner
FSU
Garmin Intl
GATX Rail Corp
General Electric (GE)
General Mills
General Motors
Genlyte Group
George Washington Univ
Georgia Pacific
Gibson USA
Gillette Racing
GKN Aerospace
Glaxo Smith Kline
Goodyear
Graco
Guhring, Inc.
Haas Automation
Halliburton
Haven Steel
Hendrick Motorsports
Hitachi Metals
Holokrome
Honda
Honeywell
Hughes Christensen
Idaho Armored Vaults
Ideal Steel
Iljin USA
Ingalls Shipbuilding
Ingersoll Rand
Innovation Medical
Intel Corp
Intercomp
International Crankshaft
Intertek
ITT Industries
Jet Aviation
Jindal Aluminum
John Crane
John Deere
Johns Hopkins
Johnson & Johnson
Johnson Controls
Kaiser Aluminum
KB Racing
Kellogg
Kennemetal
Keyspan Energy
Keystone Automotive
Kimball Electronic Lab
Klein Tools
Kohler
Kone Cranes
Krazy Glue
L3 Communications
LG Electronics
Liberty Mutual Insurance
Lincoln Forge
LMI Aerospace
Lockheed Martin
Los Alamos National Labs
Lufkin Industries
Mack Trucks
Manitowoc Cranes
Mars Racing
Mauser
Maxitrol
Merit Gear Corp
Messier-Bugatti
Misco
Mitsubishi Electric Power
Mitsubishi Hitachi Power Systems
Motorola
Nanosolar
NASA Langley
NASA Marshall
Naval Surface Warfare
Navistar
NC State University
New York University
Nissan
Nissin Brake
Northlake Steel
Novartis Pharmaceuticals
NTN-Bower Corp
Nucor Steel
Nuweld
NYC Transit
Ohio State University
OK State University
Oshkosh Corp
Otis Elevator
Owens Corning
Parke Hannifin
Penn State University
Penske Jasper Engines
Philips Oil
Port Authority of NY/NJ
Pratt & Whitney
Praxair, Inc.
Precoat Metals
Proctor & Gamble
Purdue Univ.
Quantum Precision
Quest Testing Services
Raybestos Powertrain
Raytheon
Rcohester Machine
Reactive Nano Technologies
Reliance Machine
Reliant Energy
Rocky Mountain Steel Mill
Roush-Yates Racing
Safety Kleen
Saint Gobain Abrasives
Sandia National Labs
Sandvik
Sanofi-Aventis
Sapa Extrusions
Schering-Plough
Schlumberger
Schunk
SGS
Siemens
Stihl
Stryker
Sulzer Pumps
Summit Racing
Taurus Arms
Taylor Made Golf
TCI Precision Metals
Tektronix
Tennessee Gas
TESLA
Thermo-Fisher Scientific
Thornapple Steel
Thyssen Krupp
Timken
Toronto Transit
Toyo Seat
Toyota
Trelleborg
Trescal
Triumph Drilling
TRW
Turbine Popwer Solutions
TUV Rheinland
TUV SUD
Tyco
U.S. Air Force
U.S. Army
U.S. EPA
U.S. Geological Survey
U.S. Marine Corps.
U.S. Navy
U.S. Pipeline
U.S. Tsubaka
United Launch Alliance
Universal Steel
Universal Studios Orlando
University of Arkansas
University of Maine
University of Massachusetts
University of Minnesota
University of New Zealand
University of Texas-Austin
University of Utah
Universoty of Ottawa
US Army Corps of Engineers
US Coast Guard
UTC Aerospace
Virginia Public Utilities
Virginia Tech
Voest Alpine
Vulcan Materials
W.L.Gore
Walker Forge
Washington State University
Weatherford
Weld Racing
Westinghouse
Wilwood Engineering
Yamaha Motor Mfg.

Main Headquarters USA

Phase II Machine & Tool, Inc.
21 Industrial Ave.
Upper Saddle River, NJ. 07458 USA
Tel: (201) 962-7373
Fax: (201) 962-8353
General E-Mail: info@phase2plus.com

Beijing, CHINA

PHASE II Instruments (Beijing) Ltd.
Room 308, Bldg 2,Qing Yuan Xi Li,
Haidian District, Beijing, 100192, China
Tel:+86-10-59792409
Fax:+86-10-59814851
E-mail: info@phase2china.com.cn

phase II+®

The Source of Quality

PRODUCT CATALOG

Phase II Machine & Tool, Inc.
21 Industrial Ave. • Upper Saddle River, NJ. 07458 USA
Tel: (201) 962-7373
Fax: (201) 962-8353
General E-Mail: info@phase2plus.com
www.Phase2Plus.com

Version 2023