

DIGITAL HARDNESS TESTER

- Compact size with high accuracy, wide measuring range and ease of operation
- Suitable for testing the hardness of all metals
- Automatically computes all Vickers, Brinell, Rockwell and Shore hardness values
- Materials: steel, cast steel, alloy tool steel, stainless, grey cast iron
- USB output
- Supplied with 2 AAA batteries
- 5 Year Warranty



Digital Hardness Tester

Part #PH2-PHT-1800

\$1,495.00

Specifications

Dimensions	5.90" x 2.91" x 1.26"
Accuracy	+/- .05%
Repeatability Accuracy	+/- 4 Leeb units
Measuring Range	200-960 HL
Operating Temp.	5-104° F
Battery Type	AA alkaline (4)

PORTABLE HARDNESS TESTER

With Printer



This 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.

- Easy to use keypad operation
- Large LCD display with back light
- Automatic mean value
- Automatic conversions to Vickers, Brinell, Rockwell, B&C and Shore hardness values
- USB output
- Battery type: 6v NiMH Rechargeable
- 5 Year Warranty

Hardness Tester w/Printer

Part #PH2-PHT-3500

\$1,895.00

Specifications

Dimensions	8.35" x 3.15" x 1.26"
Materials	Steel & cast steel, alloy tool steel, stainless steel, grey cast iron, cast aluminum, brass, bronze and wrought copper alloy
Accuracy	+/- .05%
Repeatability Accuracy	+/- 4 Leeb units
Measuring Range	200-960 HL

PORTABLE HARDNESS TESTER

Series 3811

The Starrett 3811 is an advanced, integrated hardness tester featuring a very compact size, high accuracy, a wide measuring range and simplicity of operation. It is ideal for testing the hardness of all metals in many areas of industry. The 3811 combines the universal impact device D and a data processor designed into a single unit. With the ability to "plug and play" optional impact devices, this unit can effectively test almost any combination of material, size and shape. It automatically computes at Vickers, Brinell, Rockwell and Shore hardness values. Statistical mean value is automatically provided.

Specifications

Dimensions	2.5" W x 1-1/8" D x 6-5" L
Test Tip	Tungsten Carbide
Max. Hardness of Sample	980hv
Impact Direction	Any Angle
Min. Thickness of Sample	<0.2"
Min. Weight of Sample	11 lbs / 5kg



Starrett

- Compact, lightweight and accurate integrated hardness tester with a wide measuring range
- Computes at Vickers, Brinell, Rockwell and Shore hardness values and archives data
- Built-in D impact probe with internal tungsten carbide test tip (optional probes also available)
- Back lighting, with LCD readout
- Utilizes Leeb measuring method
- Battery operated with automatic shut off
- Parts can be checked at any angle
- Includes case, calibrated test block and manual
- Error modification function

Portable Hardness Tester

Part #STR-67184

\$2,750.00

ROCKWELL HARDNESS TESTER



This hardness tester features state of the art design coupled with dynamic precision. Easy to operate, yet engineered to obtain highly sensitive and accurate readings. 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. **5 Year Warranty!**



Rockwell Hardness Tester

Part #PH2-900-331

\$1,899.00

Specifications

Minor Load/ Major Load	10Kgf / 60Kgf, 100Kgf, 150Kgf
Vertical Cap.	6.7"
Throat Depth	6.6"
Dimensions	30" H x 8.5" W x 20" D
Results Display	Analog Dial Gage
Shipping Weight	242 lbs

DIGITAL ROCKWELL HARDNESS TESTER



- Fully automated testing procedures affords highly sensitive and accurate readings
- Micro computer controlled with USB output to built-in mini printer or PC
- Offers programmable scale conversions, dwell times, statistical capabilities and test counter
- Capable of testing in all Rockwell® scales
- Automatic conversions to HB, HV, HLD and Ob

Digital Hardness Tester

Part #PH2-900-365

\$5,995.00

Specifications

Minor/Major Load	10Kgf/60Kgf, 100Kgf, 150Kgf
Vertical Cap.	7.87"
Throat Depth	6.50"
Dimensions	28.34" H x 7.87" W x 21.60" D
Results Display	Hi Def LCD Digital Readout
Shipping Weight	220 lbs



LATHE CHUCKS
LIVE CENTERS

VICE JAWS
VICE ACCESSORIES

STRAIGHT SHANK
COLLET HOLDERS

TAP HOLDERS
DRILL CHUCKS

CARBIDE INSERTS
THREADING/GROOVING

CUTTING TOOLS
MACHINERY

PRECISION TOOLS
DEBURRING

COOLANT/FLUIDS
TOOL STORAGE

HARDNESS TESTERS/SURFACE ROUGHNESS GAGES

Prices subject to change.
Please call for current prices.

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ROCKWELL HARDNESS TESTER

Analog Rockwell Hardness Tester-

A high quality precision instrument that uses the Rockwell A, B and C scales for measuring hardness. A reasonably priced solution for those requiring precision and durability.

Digital Rockwell Hardness Tester-

A high quality precision instrument that uses the Rockwell A, B and C scales for measuring hardness. Featuring ease of operation, automatic loading and unloading, automatic holding of test force and an easy-to-read LCD.

Features:

- Standards: BS EN ISO 6508, ISO 6598.2 and ASTM E18
- Resolution: 0.1 Rockwell unit
- Pre-load: 98.1N/10kgf
- Total load: 588.4N/60kgf, 980.7N/100kgf, 1471N/150kgf
- Rockwell scales: 1~100HRA, 0~130 HRB, 0~100 HRC
- Testing space: Vertical = 7.87"/200mm, Horizontal = 6.3"/160mm

Analog Model



Digital Model



Accessories included:

- Test block A
- Test block B
- Test block C
- 1.5875mm diameter ball indenter
- 1.5875mm spare ball
- 120° cone diamond indenter
- 60mm flat anvil
- 60mm V-shape anvil
- Model TH550 includes dust-proof cover

Description	Part Number	Price
Analog Rockwell Hardness Tester	FW-53-770-600	\$1,975.00
Digital Rockwell Hardness Tester	FW-54-770-650	\$4,395.00

PORTABLE HARDNESS TESTER USB INTERFACE

- Communicate with your USB devices (supplied with cable)
- Built-in D impact probe
- Utilizes new LEEB measuring method
- Integrated calibration function
- Upper and lower limit setting
- Measurement result on LCD HLD can be converted to HB, HRB, HRC, HV and HS
- Parts can be checked at any angle
- Memory: 270 average readings in 9 files
- Battery operated (2) AAA 1.5V
- Backlight for dim environment use
- Furnished with carrying case, calibrated test block and manual



PORTABLE HARDNESS TESTER-USB INTERFACE

Part # A-4902-0170

\$1,900.00

PORTABLE QUICK-CHECK ROCKWELL HARDNESS TESTER



A quick and easy checking gage for flat workpieces. Ideal for spot or production checking.

- Pocket sized- 9-1/4" OAL, 4 oz. weight
- Precise reading in Rockwell C scale
- No moving parts! Accuracy: +/- 2 Rockwell points
- Covers the entire range of heat treated steel from 20 Rc to 65 Rc
- The piece to be checked should have a section size of 1" square or more and be at least 1/2" thick
- Will not mar the surface of heat treated parts
- Includes carrying case

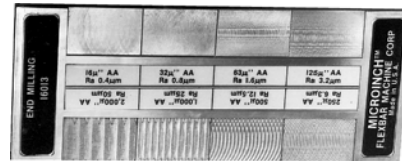
QUICK-CHECK PORTABLE HARDNESS TESTER

Part # FXB-17295

\$187.06

MICROINCH COMPARATOR PLATES

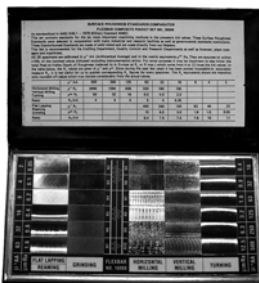
- Comparison standards made of solid electroformed nickel
- Assess and specify by symbol or degree of roughness, including every machining method known
- Each value size is 5/8" x 1"
- Overall dimensions of each plate is 2-1/16" x 5"
- Lightweight-can be carried in pocket in supplied plastic wallet
- Markings: graduated in American values (AA-microinches) as well as ISO standards such as metric equivalents RA (μ)
- 8 specimens per plate



Machining Method	Range RA μm	Range AA μ"	N Numbers	Part Number	Price
Surface Grinding	.025-3.2	1, 2, 4, 8, 16,	1-8	FXB-16009	\$102.94
Cylindrical Grinding	.025-3.2	32, 63, 125	1-8	FXB-16010	\$102.94
Face Turning	0.4-50	16, 32, 63, 125,	5-12	FXB-16011	\$102.94
Cylindrical Turning	0.4-50	250, 500,	5-12	FXB-16012	\$102.94
End Milling	0.4-50	1000, 2000	5-12	FXB-16013	\$102.94

SURFACE ROUGHNESS STANDARDS SET

- Ideal for use in the drafting room, engineering department or small shop
- Set consists of 30 specimens, 7/8" x 3/8" of electroformed solid nickel
- Gives operator or designer a realistic idea of the feel, appearance and texture of the machined components
- Allows for quick and easy comparisons, eliminating costly checking methods and saving valuable production time
- Includes wallet and instruction sheet



SURFACE ROUGHNESS STANDARDS SET

Part # FXB-16008

\$117.06 ea

SURFACE ROUGHNESS STANDARDS SET

- 30 specimens 7/8" x 3/8" of electroformed solid nickel
- Each type of surface finish is truly and consistently reproduced with a realistic idea of the feel, appearance and texture of the machined components
- For quick and easy comparisons
- Conforms to SAE and military specifications
- Supplied with wallet, instructions and certificate



COMPOSITE SET SURFACE ROUGHNESS STANDARDS

Part # A-4104-0030

\$99.00 ea

SET INCLUDES: 6 Horizontal milling, 6 Vertical Milling, 6 turning, 6 plain grinding, 2 flat lapping and 4 external grinding

PORTABLE SURFACE ROUGHNESS GAUGE



- 4 different roughness parameters
- Inside and outside diameters
- Display resolution:
 =/-20µm = 0.001 µm
 =/-40µm = 0.002 µm
 =/-80µm = 0.004 µm
- Pick Up Measuring Range: =/- 80µm
- Power: Li-Ion battery
- Working temperature: 5-40° C
- 5 Year Warranty

Portable Surface Roughness Gauge
Part #PH2-SRG-4000

\$1,495.00

Specifications

Roughness Parameter	Ra, Rz, Rq (RMS), Rt
Conformance Standards	ISO/DIN/JIS/ANSI
Sensor Angle	90°
Digital Filter	RC, PC-RC, Guassian, D-P
Contact Force	4mN (0.4gf)
Measuring System	Metric µ, Imperial µ inch

ULTRASONIC THICKNESS GAUGE



This hand-held unit has precise touch and read capabilities and economically priced. It 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 with parallel top and bottom surfaces. It 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, (4) AA batteries, operation manual and custom carrying case.

Ultrasonic Thickness Gauge
Part #PH2-UTG-1500

\$595.00

Specifications

Display Type	3-digit LCD
Resolution	0.001"/0.01mm
Measuring Range	0.04" to 8.0"
Dimensions	4.9" x 2.6" x 0.9"
Power Supply	AA alkaline (4 supplied)
Operating Temperature	32-122° F

COATING THICKNESS GAUGE

This gauge 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. Easily detect the thickness of non-magnetic coating on a magnetic substrate (ferrous) or an insulating coating on a non-magnetic conductive substrate (non-ferrous), utilizing either an integrated probe or an external probe. It can be used in manufacturing, general engineering, inspection, etc.

The PTG-3500 utilizes an integrated probe that can automatically detect a ferrous or non-ferrous substrate and comes with 2 substrate samples, steel and aluminum, 4 calibrated thickness samples, carrying case, batteries and operation manual.



Coating Thickness Gauge
Part #PH2-PTG-3500

\$495.00

Specifications

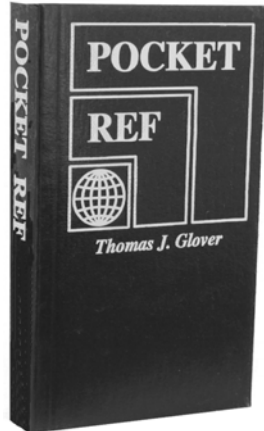
Measuring Range	0-1000µm/ 0-40mils
Resolution	0.1µm/0.01mils (0-99µm)
Tolerance	=/-1.3% or 2µm
Min. Measuring Area	0.2" x 0.2"
Dimensions	6.34" x 2.72" x 1.26"
Power Source	4-AAA batteries

POCKET REF

The Ultimate Reference Book!

Contains Information On:

- Tools
- Steels, Metals
- Taps and Dies
- Abrasives
- Drilling Specifications
- Hardware
- Saws
- Weights and Materials
- Welding
- Wood Characteristics
- Bolt Clearance Chart
- Math
- Safety
- Measurements
- Facts, Figures, Formulas and Conversions
- Drafting Symbols
- Degrees, Radians, Trig Functions



Pocket Ref
3rd Edition, Soft Cover
Part #SEQ-POCKETREF

\$12.95

And Thousands of Updates!

Air and gases, automotive, carpentry & construction, chemistry & physics, computers, electrical, general science, plumbing, tools, weather, conversion tables and lots of great general information!

PORTABLE ROUGHNESS TESTER



- Small, compact size
- 2 selectable parameters: Ra and Rz
- Large LCD display
- Meets ISO and DIN standards
- M.I.S.T. traceable specimen included
- Uses 9 volt battery (approx. 3000 measurements)
- Includes fitted case

The X-Pro Portable Roughness Tester can be used for many applications by selecting from a variety of accessories, including:

- Stand with swivel
- A variety of probes
- RS232 output available
- Printer for hard copy output



Description	Part Number	Price
Surface Roughness Tester w/ .0004" probe	FOW-54-410-500	\$1,500.00
Surface Roughness Tester w/ .0002" probe	FOW-54-410-600	\$1,500.00

LATHE CHUCKS
LIVE CENTERS

VICE JAWS
VICE ACCESSORIES

STRAIGHT SHANK
COLLET HOLDERS

TAP HOLDERS
DRILL CHUCKS

CARBIDE INSERTS
THREADING/GROOVING

CUTTING TOOLS
MACHINERY

PRECISION TOOLS
DEBURRING

COOLANT/FLUIDS
TOOL STORAGE