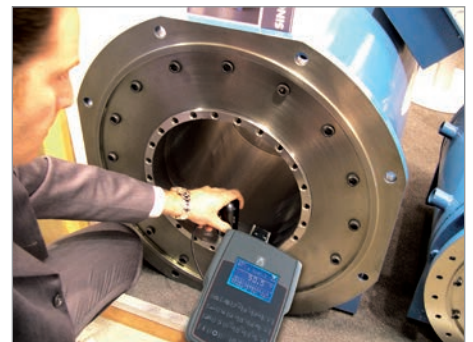


METALTESTER MKII

Conform with standard
DIN 50157 - ASTM E110



MICROPROCESSOR CONTROLLED DIGITAL DUROMETER



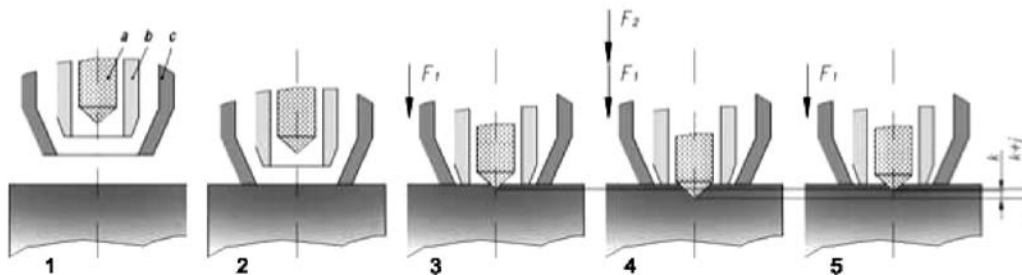
WHEN EASINESS OF TRANSPORT AND RELIABILITY COUNT ...

With the METALTESTER portable durometer it is possible to perform quick and precise Rockwell, Brinell and Vickers hardness measurements as well as determine ultimate strength anywhere, inside or outside your production department. METALTESTER can be used to test almost all metals: chromed surfaces, nitrided surfaces, aluminum, brass, copper, bronze, metal wire and hard and soft steel starting from a thickness of 0.08 mm. A diamond indenter ensures precise hardness readings on all surfaces. Three interchangeable test accessories allow the user to run tests on differently shaped samples or on finished items. A variety of accessories to facilitate testing on small or oddly shaped items is available upon request. METALTESTER's limited weight and the compact size make it an extremely efficient durometer to test any surface, any large or unwieldy item or any already assembled product. The narrow and elongated head is ideal to measure hard to reach surfaces such as the inner parts of castings or of



finished housings. It is extremely easy to use: simply choose the desired hardness scale, put the test probe on the surface and apply a light pressure to start the entire test cycle. At the end of the test, the instrument lets out a sound signal and the result immediately appears on the wide graphic display. At this point METALTESTER is once again ready for a new measurement. It's that easy! Data simultaneously shown on the LCD graphic display: detected values in various simultaneous scales, average of the values with automatic updating, battery level, findings according to the tolerance limits expressed both numerically and graphically, programmable test preload and load timer, sound signal to indicate the end of the cycle. It is also possible to display the temperature and the date, to set data memory up to 3500 values and various files with alphanumerical codes, to display statistics and Gauss diagram. Data output, to connect a printer or a computer, with an RS232C connection or USB connection upon request.

WORKING PRINCIPLE FOR ROCKWELL TESTS (AFFRI PATENT)



It works neither by rebound nor by means of ultrasounds, it works with a static load and it measures the penetration. It can test hardness of coatings or of foil as thin as 0.08 mm.

- 1- instrument at rest
- 2- clamping the test item
- 3- applying the preload
- 4- applying the test load
- 5- reading of the value of the actual residual penetration converted in hardness values, uninfluenced by possible vibrations, springing or subsidence of the underlying surface.

FIELDS OF APPLICATION FOR AFFRI® TESTERS

	Soft	Hard	
HRA - Rockwell A	20	92	For hard steel, nitriding, cementation, roller, steel for tools, soft and hard materials
HK - Knoop	25	97	For soft steel, non ferrous metals
HRC - Rockwell C	0	80	For hard steel, nitriding, cementation, roller, steel for tools
HRB - Rockwell B	26	100	For soft steel, non ferrous metals
HR30T - Rockwell 30T	16	83	For soft steel, non ferrous metals
HB5 - Brinell 5	5	205	For aluminium, soft aluminium alloy cast iron, bronze, brass
HB30 - Brinell 30	66	884	For heat treated steel, annealed steel, drawn products, deep-drawn strip
HV - Vickers	13	1865	For all material
R - Tensile module N/mm ²	226	2898	For heat treated steel, annealed steel, drawn products, deep-drawn strip
HR15N - Rockwell HR15N	69	93	For hard steel, nitriding, cementation, roller, steel for tools

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AFFRI
www.affri.com
info@affri.com
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Date: 2006/05/23
Time: 17:41
Temperature: 27.3C
Test Scale:HRC
K: DISABLED
MemUse: 10/350
Folder Name:
01-0P12

HI tol: 65.8
LO tol: 65.0
Total test n.: 10
Test OK: 4-40.0Z
Test HI: 4-40.0Z
Test LO: 2-20.0Z
Max Val.: 65.8
Min Val.: 64.8
Mean Val.: 65.4
Range: 1.0
Std.Dev: .399
Std.Dev-1: .420
Cp: .316
Cpk: .242
Var: .176
Z-Minus: 1.173
Z-Plus: .728

@ 1:65.8 Tol:HI - MAX
@ 2:65.8 Tol:HI - MAX
@ 3:65.8 Tol:HI - MAX
@ 4:64.8 Tol:LO - MIN
@ 5:64.8 Tol:LO - MIN
@ 6:65.3 Tol:OK
@ 7:65.3 Tol:OK
@ 8:65.8 Tol:HI - MAX
@ 9:65.6 Tol:OK
@ 10:65.6 Tol:OK

6 6 6 6 6 6 6 6 6 6 6 6
5 5 5 5 5 5 5 5 5 5 5 5
. . . . .
0 0 1 2 3 4 4 5 6 7 8

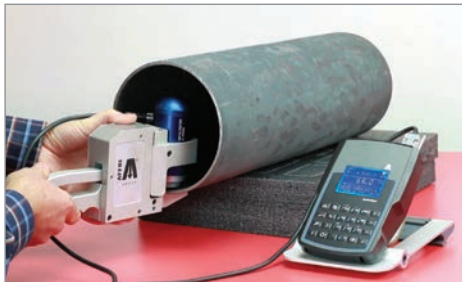
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AFFRI
www.affri.com
info@affri.com
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Example of a printed report

Technical characteristics - METALTESTER MKII	
Action	Simply choose the desired hardness scale, put the test probe on the surface and apply a light pressure to start the entire test cycle.
Accuracy	Better than 1 %
Temperature Range	From 10 °C to 35 °C
Data Output	RS 232 C (USB as option)
Power Supply	Rechargeable battery 6V
Principle of Operation	Dynamometric load cell
Preload	9.807 N (1 kgf)
Force Range	19.614 or 54.92 N (2 or 5.6 kgf)
Feasible Tests	Rockwell HRA (20...92); HRB (26...100); HRC (0...80); HR15N (69...93); HR30T (16...83) Brinell HB5 (5...205); HB30 (66...884) Knoop (25...97) Vickers (13...1865) Tensile Module R (226.. .2898); HZA (0...250) Webster B 0 / 20 (on request) Barcol 0 / 100 (on request) Leeb unit (on request)
Standards	DIN 50157 - ASTM E110
Min thickness measurable	0,06 mm at 2 kgf / 0,08 mm at 5,6 kgf
Fields Of Use	Tests in laboratory or in loco on tubes, profiles, valves bulky or small pieces. For all metals: iron, steel, tempered steel, cast iron, brass, aluminium, copper and metal alloys. Heat treatment, hardening, nitriding, cementation and hardfacing. Hard and soft plastics. Ceramic and glass materials.
Packing Weight	4 kg
Packaging Measurements	50 x 40 x 20 cm

APPLICATIONS



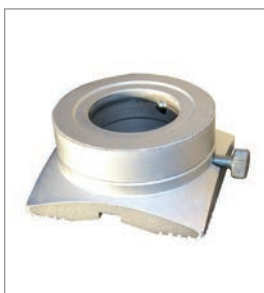
STANDARD ACCESSORIES

- n.1 Instrument with electronic unit
- n.1 A500.1.003 Recharger for battery (220V)
- n.1 075.0.3.351 Indenter (M3) for portable H.T.
- n.1 075.0.3.406 Adjustable Caliper base for portable
- n.1 A015.0.000 V+ flat face Base for round max \varnothing 200mm
- n.1 A400.4.001 Briefcase
- n.1 Test block with certificate
- n.1 User manual



The instrument comes with a carrying case which contains everything that's necessary, so that it can be easily transported. Printer as optional.

OPTIONAL ACCESSORIES



Oversized base for round items over \varnothing 200 mm.
Base obtained from a solid piece with a 120° V notch to test on round surfaces diameter over 200 mm
Art. 075.0.3.160



Oversized base for round items with a diameter greater than 200 mm.
Base obtained from a solid piece with three equidistant points to test round items with a diameter from a minimum 200 mm to a maximum of 2000 mm
Art. A015.1.000



Base for extruders (\varnothing 10 up to \varnothing 110)
Base obtained from a solid piece with a 120° V notch to test extruders or items with helical surfaces (i.e.: drills, trapezoid screws) with diameters ranging from 10 mm to 110 mm.
Art. A015.2.001



Clamping vise
Very useful instrument especially for hard-to-test items or for items with odd shapes (i.e. tests on spring wires). It comes with anvil and various accessories. (For further information ask for the explicative brochure)
Art. 077.0.000



Sliding support
Very useful accessory in a laboratory, where it is necessary to test small sized items. It comes with an anvil and various accessories. (For further information ask for the explicative brochure).
Art. 073.0.000



Vice support
Useful accessory to test pipes or round items with a diameter up to 70 mm. It comes with one fixed anvil with a 120° V notch.
Art. 072.0.000

- (A015.4.000) - Round base
- (A112.0.002) - USB interface for PC data connection
- (A001.0.000) - 20 column printer
- (A030.0.001) - Probe holding belt

Please note: Custom made accessories are also available on request.

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7952 Nieman Road
Lenexa, KS 66214-1560 USA

Phone: 913-685-0675, Fax: 913-685-1125
e-mail: sales@ndtsupply.com, www.ndtsupply.com



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