

AFFRI

PORTABLES hardness testers

® Only one machine with three options
ISO - ASTM - DIN CONFORMED

Professional
Reliable
Accurate
Easy



METALTEST



MK II

PIXEL



PORTABLES

AUTOMATIC SYSTEM

The portable AFFRI hardness testers are extremely accurate systems for automatic preloading, loading and measurements. The Affri system hardness testers achieve the highest level of depth accuracy and measurement resolution available for Rockwell tests. Thanks to the AFFRI System, the real indentation measurement is guaranteed without any external interference in any condition.

STRENGTHS OF AFFRI'S PORTABLES HARDNESS TESTERS:

- Digital portable hardness testers conform to hardness standards DIN 50157.
- Indirect calibration conform to ASTM E-18, ASTM E-10, ASTM E-384, ASTM E-92, ISO 6508, ISO 6506 and ISO 6507.
- Able to read directly in Brinell, Vickers, Rockwell, Knoop, Shore, Webster, Barcol, N/mm² hardness scales with hardness conversion and test temperature measurements.
- Equipped with an advanced calibrated dynamometric load cell. This means that the load application works as bench top hardness testers.
- The diamond indenter used to measure the depth of indentation is protected inside the tester.
- Accurate measurements on very thin metal sheets (thickness > 0.06 mm), coating chromium surface, rolled steel and profiles.

EXTREMELY EASY TO USE

Just push the probe and the head moves down performing the hardness test cycle in automatic succession without breaching a phase:

1. Automatic contact with the specimen
2. Automatic activation of the reference surface point
3. Automatic preloading and loading
4. Automatic measure
5. Automatic return stroke when releasing

At the end of the test, the instrument emits a sound signal and the result immediately appears on the display. At this point the hardness tester is once again ready for a new measurement. The whole cycle is shown step by step on the display and followed by the result. The tester can easily be used by operators of every level.



Compact and
pocket for
anyone and
everywhere
in production.

THE TEST CYCLE IS QUICK!

Less than 5" for a complete test including pre load, main load and release.

Don't worry, the pressure doesn't affect the result at all!



MK II

Portable hardness tester with smart digital console LCD screen, large hard disk for data and statistics storage and data outputs for printer or computer.

OPERATING CONSOLE

Hardness testing data are simultaneously shown on the LCD graphic display: detected values in various scales, average of the values with automatic updating, battery level, tolerance limits expressed both numerically and graphically, programmable preload and load timing, statistics and Gauss diagram, sound signal to indicate the end of the cycle. It is also possible to display the temperature.

TEST EVERY SAMPLE

Safe clamping on any surface, from round to flat, with self-alignment of the indenter with the measurement axis. High accuracy at every measurement even on flexible surfaces. Completely uninfluenced by direction these testers have the ability to operate up to 360° degrees of positioning, even upside down.



OUR BEST MEASUREMENTS FOR:

- Aluminium profiles
- Round and flat surfaces
- Coils
- Bars
- Metal plates



METALTEST

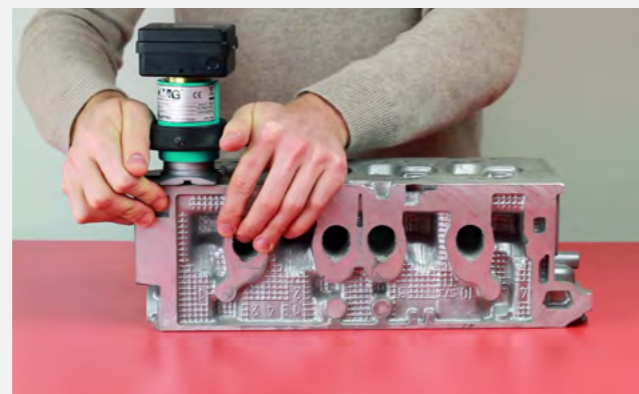
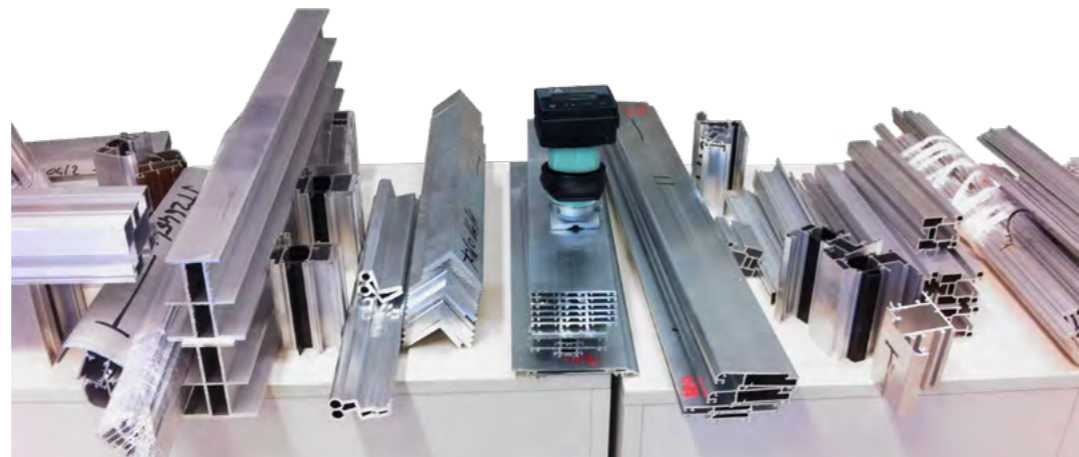


USER FRIENDLY, HANDY AND ACCURATE

Hardness tests directly in production department without the need of tests in laboratory. The tester light weight and the compact size make it extremely efficient durometer to test any surface, any large or unwieldy item or any already assembled product.

Extremely easy to use: simply choose the desired hardness scale, place 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 emits a sound signal and the result immediately appears on the wide graphic display. At this point the hardness tester is once again ready for a new measurement.

Wireless communication with embedded display and commands. Extremely easy to use and always ready for all measurement condition and surfaces. Light and pocket for extremely easiness of transportation.



POCKET!
Bring it everywhere
you want!

PIXEL

Compact with on board measurement and BT data transmission to programmer.
For tough measurement conditions.



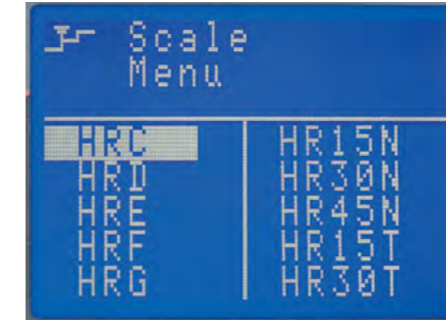
LITTLE IN SHAPE BUT BIG IN FUNCTIONS

Pixel without any cable offers double vision: the rapid measurement on board the probe and the remote transmission by BT of numerous statistical data, conversion and printing data displayed on the smart reader to be located in another operating area.

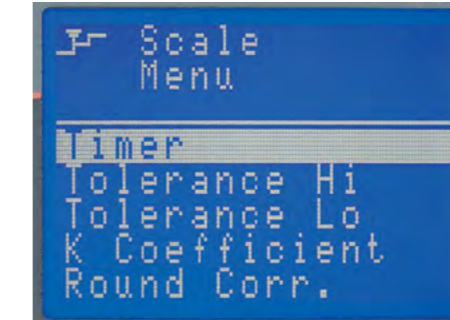
Pixel is compact and easy to handle due to its shape, while inside it is capable of collecting a lot of data and statistical functions of MK II.

WIRELESS:
everytime and everywhere you need.

SOFTWARE PIXEL / MK II



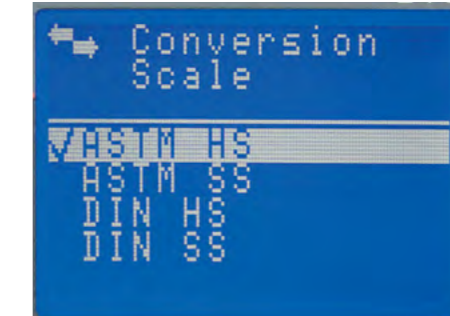
Measurement settings



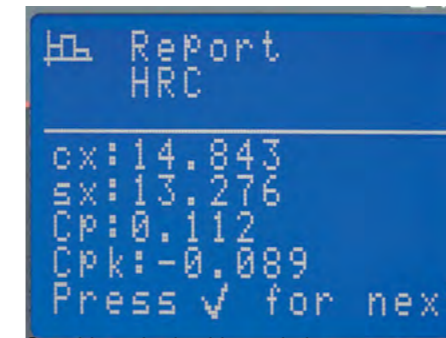
Set of the hardness test methods



Results with average and conversion



Conversion scales tables



Storable and printable statistics



Intuitive keyboard with direct commands.
IP 64 protection.

USER FRIENDLY

Main LCD control panel in front of the measuring head for setting up the test parameters, including powerful software and electronics:

- Large LCD and lots of functions: Simultaneous view of 2 scales, the one of the test and the one chosen from the list of conversion scales. Conversion values for all hardness scales HR, HB, HV, HSD, HK, HRN, HRT, N/mm.
- Precise test settings: Check load is applied correctly. Select dwell time. Calibration by direct and indirect method conform to ASTM E 18 ISO 6508.
- Dynamic results: Simultaneous view of the range of results for statistics. Results average updated at the last measure. Statistic CP CPX CX Histogram and number of tests corresponding to tolerance values (Lo, Hi, Ok). Create 10 file record data with 350 measures each.
- Unique performances: Temperature measure in C° useful for certification tests according to ASTM E 18 ISO 6508. Depth of indentation in 0,01 microns. Acoustic signal for dwell time and for preload. Printer connection output RS 232C or USB. Back light LCD display 128 x 64 pixels. Touch key pad board with IP 64 protection. Powered by rechargeable battery for 100% portability of the hardness tester (OPTION).

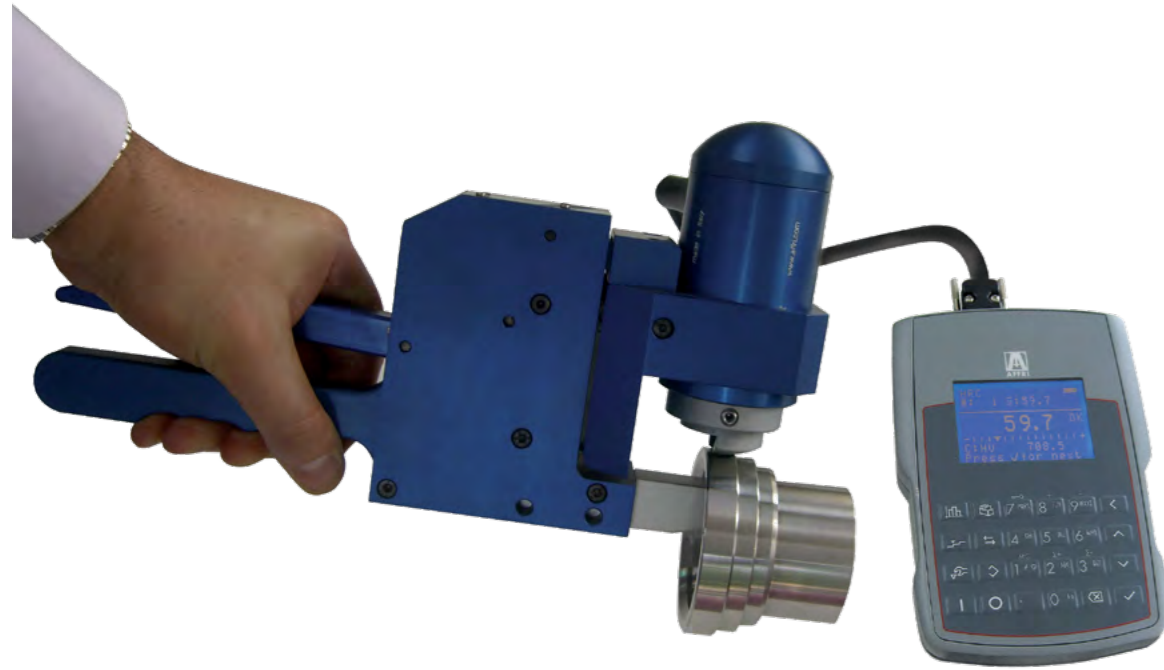
Data output via RS 232 C for connection to printer and computer for diagram plotting and statistics. Hyperterminal is needed. USB adapter available.



HARDTEST

HANDCLAMP SUPPORT

Very useful instrument especially for hard-to-test items or for items with odd shapes (i.e. tests on spring wires). HARDTEST is a hand clamp system that accommodates your MKII or METALTEST, which locks the testing piece and allows steady measurements avoiding sample movements. Easy and safe with a testing capacity of 30 x 30 mm. It comes with an anvil and various accessories.



Using our products is simple and easy.



HARDTEST I



Handclamp support for Metaltest hardness tester

HARDTEST II



Handclamp support for MK II hardness tester

HANDCLAMP'S SAMPLE SUPPORTS AND ANVILS

The HARDTEST handclamp provides a clamping system with the ability to lock the sample to test. However, due to the particular shape of some samples, we recommend the use of specific optional supports in order to meet stability and positioning requirements for a standard hardness test. Please see examples below of main supports. Additional supports can be developed according to customer requirements.

SUPPORT FOR BLENDED TUBES

SUPPORT FOR TUBES

SUPPORT FOR VARIOUS ANVILS

"V" shaped anvil

Flat anvil

Double face
V/Flat anvil

MICROTESTER

Very useful stand support for the laboratory, where it is necessary to test small sized items. (Only for MKII)
Height capacity: 170 mm - Depth capacity: 75 mm



Customized support for measurements on cutting tools blades.



Precise and safe results on each piece.

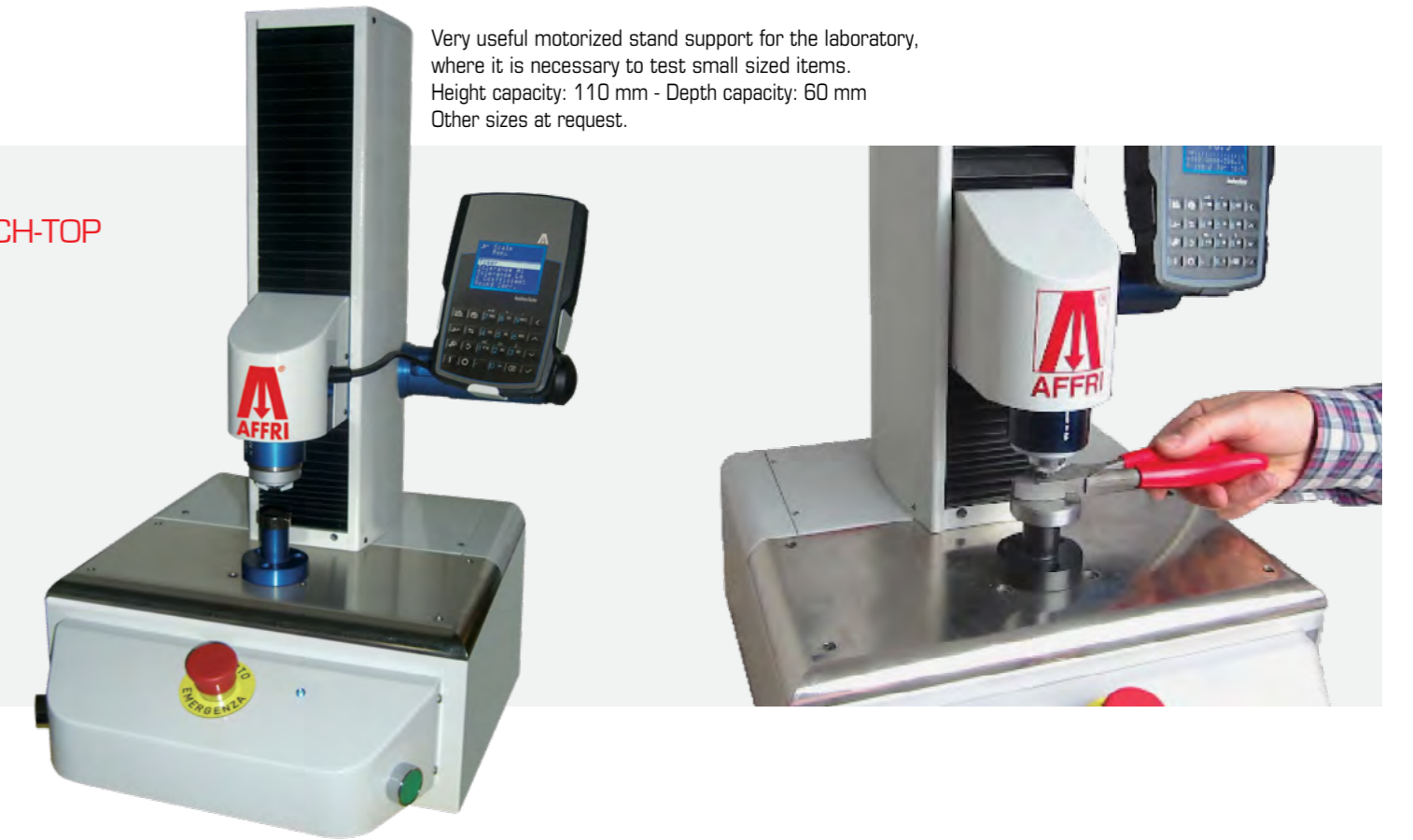


EDA 300

Our hardness testers responds to every customer request and to every budget. We offer Microtester for a standard request and EDA300 for motorized request with the same professional performance and precision.

FROM PORTABLE TO BENCH-TOP

To convert the MKII from a portable to regular bench top hardness tester, based on your needs, it can be combined with two different stand support: EDA300 and MICROTESTER. This system fully conforms to hardness testing standards and allows testing in laboratory on small pieces and prepared samples without the need to purchase an additional hardness tester. Hardness measurements will result fast and easy as standard AFFRI bench tester.



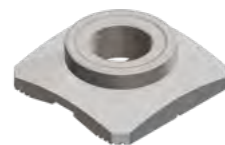
Very useful motorized stand support for the laboratory, where it is necessary to test small sized items.
Height capacity: 110 mm - Depth capacity: 60 mm
Other sizes at request.

ACCESSORIES



Art. A015.0.000

SQUARED BASE:
Tests on flat or round items with diameters from 60 to 200 mm.



Art. 075.0.3.160

SQUARED BASE FOR LARGE DIAMETERS:
Tests on flat or round items with diameters bigger than 200 mm.



Art. A015.1.000
Art. A015.1.001 (Magnetic)

3 POINTS BASES MAGNETIC:
Extremely useful for irregular flat surfaces or very large round pieces with diameters from 400 mm up to more than 2000 mm. The round base (on the left) is equipped with magnetic clamping tips.



Art. A015.2.001
(10 to 110 mm)
Art. A015.2.002
(85 to 240 mm)

LONG BASE FOR LONG ROUND PIECES:
Tests on pieces such as long screws.



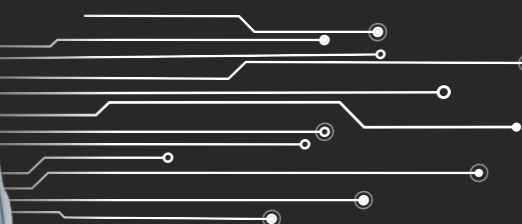
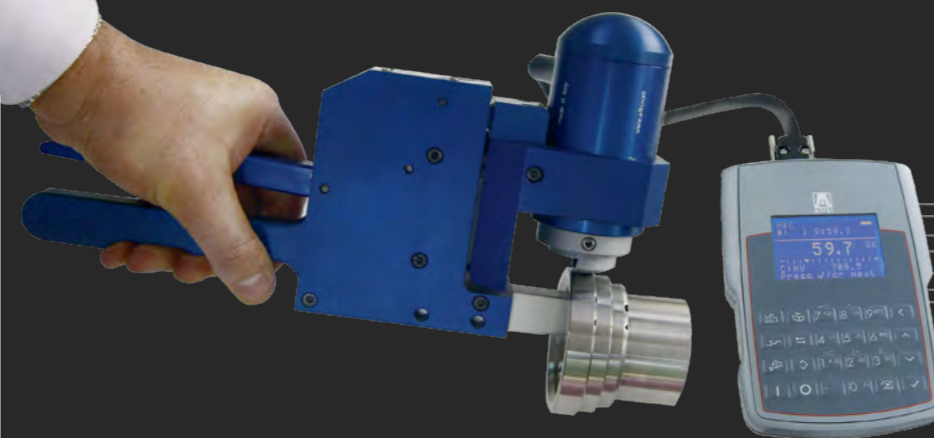
Art. A015.5.000

EXTENSION KIT:
Tests on irregular surfaces with drops up to 70 mm, where it would be difficult to reach with standard equipment.



One magnetic clamp for
MK II and METALTEST.

Statistic datas and measurements directly sent from **AFFRI** hardness tester to PC



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.

FORCE RANGE

Preload: 9.807 N (1 kgf)

METALTEST / PIXEL: 54.92 N (5.6 kgf)

MKII: 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)

Vickers (13...1865)

Tensile Module R (226...2898); HZA (0...250)

Knoop (25...97)

Test temperature measure from -40°C to 55°C

OPTIONAL TESTS

Webster B 0 / 20 (on request)

Barcol 0 / 100 (on request)

Leeb unit (on request)

TECHNICAL DATA

Conformity Standards:	DIN 50157 (ASTM E110-ASTM E18-E10-E384-ISO 6506-6507-6508 by indirect calibration)
Accuracy:	Better than 1 %
Readout Division:	0.1
Minthicknessmeasurable:	0,06 mm at 2 kgf / 0,08 mm at 5,6 kgf
Temperature Range:	From 10 °C to 35 °C
Data Output:	MKII / PIXEL: RS 232 C (USB as option)
Power Supply:	METALTEST: Battery 9v - MKII / PIXEL: Rechargeable battery 6V
Software:	Affri - OMAG
Principle of Operation:	Dynamometric load cell
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:	METALTEST: 6kg, 20 x 30 x 20 cm - MKII / PIXEL: 5kg, 50 x 40 x 20 cm



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