



AFFRI® RSDMAG is the first real standardized portable hardness tester conform to Rockwell and Brinell standards **ASTM E-18, ASMT E-10** and **ISO 6508, ISO 6506**.

The AFFRI magnetic portable hardness tester solves all types of problems. It can be used as a conventional hardness tester or as a portable system for on-site testing when test pieces are too large or too heavy for a bench hardness tester. The load cell inside has no impact force, while the AFFRI vertical movement permits a fully automatic test cycle. This is a true Rockwell and Brinell tester that conforms to any ASTM or ISO standard.

The AFFRI RS-MAG is completely uninfluenced by direction so that it is operative up to 360° degrees of positioning. It is not affected by any external source of vibration, and it does not need to be leveled.

LCD graphic display for multi scale vision, simultaneous conversion on many scales, tolerance setting, statistic, temperature measure, depth indentation thickness, complete statistic, histogram, memory data. RS 232 C and USB 2 output for printer.

The AFFRI system protects the indenter from accidental shock before and during testing, thus increasing the life of the indenter, especially for diamond cone 120° Rockwell C test.







### USER FRIENDLY

Pulling one single start lever the result will appear in few seconds. It is so simple and easy to use that there is no need for any particular preparation by the operator.

- 1. Identify the test area and place the hardness tester on the test sample
- 2. Locking the magnetic lever the tester will strongly adhere to the test piece and remain clamped for the entire test cycle
- 3. Sliding 50 mm the indenter take contact with different surfaces or misaligned surfaces
- 4. Start the test and in 4 seconds the result will appear on the display scale or deal gauge







# HARDNESS TESTERS



RSDMAG/70-D2 RSDMAG/70-D4



HARDNESS TESTERS MODEL CODES				
	D2 Multiloads: From 60 to 187.5 kgf	D4 Multiloads: From 15 to 45 kgf		
RSDMAG/30	06010130	06040130		
RSDMAG/50	06010150	06040150		
RSDMAG/55	06010155	06040112		
RSDMAG/70	06010113	06040113		
RSDMAG/80	06010180	06040180		

# **AFFRI**<sup>®</sup>

## SPARE PARTS/ACCESSORIES





RSDMAG D2 Cod. 06013001 Tester head (60 to 187.5 kgf)

#### RSDMAG D4 Cod. 06043001 Tester head (15 to 45 kgf)



300mm / 11.8" magnetic base for HR/HB measures up to 20mm / 0.8" sample's thickness 500mm / 19.7" magnetic base



SMX55 (Cod. 06001002-b)

Magnetic base with 10mm / 0.4" horizontal stroke sliding head for multi indentation

Combine the RSDMAG head with the base that better fit with the surface's shape geometry of your test sample.

The RSDMAG head (Cod. MEC025.06003001) can be assembled, as it is, on any of our manual hardness terster's stand supports (206/330/903/331).



#### SMX70 (Cod. 06001003)

Double magnetic clamping base for big or small diameters round shape samples



SMX80 (Cod. 06001004) Chain clamping base for non ferrous sample





903RSD (Cod. 90311001) Bench support for RSDMAG head. Big base for big or small samples. 700mm of vertical stroke or more. 700mm of vertical stroke or more. 300mm of vertical stroke.

331RSD (Cod. 03101001) Bench support for RSDMAG head.



330RSD (Cod. 90200001) Bench support for RSDMAG head. Big base for big or small samples.



206RSD (Cod. 9000001) 670H (Cod. 060A1002) Bench support for RSDMAG head. Elevating screw. For small samples. 390mm/15.3" height capacity 215mm of vertical stroke.



Bench support for magnetic RSDMAG. 232mm/9.1" depth capacity



460L (Cod. 060A1001) Bench support for magnetic RSDMAG. 180mm/7.1" height capacity 204mm/8" depth capacity





Base for ring shape samples.



LOAD CELL TECHNOLOGY: THE FIRST TEST RESULT IS CORRECT AND ABSOLUTE



The exclusive Affri latest generation of load cells control load forces, which are automatically programmed and controlled at each test assuring perfect linearity in every range eliminating the problems associated with traditional dead weight testers. The force by load cell assure absolute accuracy at all test conditions without any equal in the world. Results are not affected by any structural deflection, misalignment or vibration. The system can also operate in an inclined position. The R & R. data is at the top of its class and not surpassed by any other competitor under the same test conditions.



# 670H - 460L

#### FROM PORTABLE TO BENCH-TOP

Combine the RSD MAG tester with two different size of stand support in order to have a regular bench top tester based on your needs.



Easy and safe measurements on samples with difficult geometry



50 mm vertical stroke for measuring head and indenter







Made by: OMAG di AFFRI D. S.r.I.

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	RSD MAG D2	RSD MAG D4	
Accuracy	Better than 0.5 %		
Temperature Range	From 10 °C to 35 °C		
Data Output	RS 232 C (USB as option)		
Power Supply	6 V + Charger		
Principle of Operation	Dynamometric load Cell		
Preload	29.42 <b>N</b> (3 kgf) OR 98.07 <b>N</b> (10 kgf)		
Force Range	Rockwell 588.4 - 980.7 - 1471 <b>N</b> (60 - 100 - 150 <b>kgf</b> ) Brinell 98.07 - 612.9 - 1226 - 1839 <b>N</b> (at request 2452 <b>N</b> ) (10 - 62.5 - 125 - 187.5 <b>kgf</b> (at request 250 <b>kgf</b> ) Vickers 98.07 - 588.4 - 980.7 <b>N</b> (10 - 60 - 100 <b>kgf</b> )	Rockwell 147.1 - 294.2 - 441.3 <b>N</b> (15 - 30 - 45 <b>kgf</b> ) Brinell 153.2 - 294.2 - 306.5 <b>N</b> (15.625 - 30 - 31.25 <b>N</b> ) Vickers 29.42 - 147.1 - 294.2 <b>N</b> (3 - 15 - 30 <b>kgf</b> )	
Feasible Tests	Rockwell HRC A - D - B - F - G - L - M - R Brinell HB 30 - HB 10 - HB 5 - HB 2.5 MPa (F/D²) Vickers HV10 - HV60 - HV100	Superficial Rockwell HRN - HRT Brinell HB 30 - HB 5 - HB 2.5 MPa (F/D²) Vickers HV3 - HV15 - HV30	
Standards	ISO 6506 / ISO 6508 / ASTM E-18 / ASTM E-10 / ASTM E103		
Indenter Stroke	50 mm / 2"		
Magnetic Support	100 x 50 mm (standard)		
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 with a more than 0.6 mm thickness. Heat treatment, hardening, nitriding, cementation an hardfacing with less than 0.6 mm depth (RSD MAG D4).		
Packing Weight	35 kg		
Packaging Measurements	50 x 40 x 60 cm		

	460L (Stand support for RSDMAG)	670H (Stand support for RSDMAG)
Height capacity	180 mm / 7.1"	390 mm / 15.3"
Height capacity	204 mm / 8.0"	232 mm / 9.1"

