



# 250 MRS

Rockwell, Superficial Rockwell, Brinell,  
Vickers, Knoop, Shore

**AFFRI**

# 250 MRS

## ONE BUTTON MEASUREMENT

All operation are managed by a single drive including automatic contact with the test piece:

1. Push the start button
2. The head moves down to make contact with the test surface and automatically starts the test cycle in automatic succession without breaching a phase.
3. The entire test cycle is complete, results and statistics appear on the display.

250 MRS AFFRI® System Hardness Tester achieves the highest level of depth accuracy and measurement resolution available for Rockwell test. Thanks to the AFFRI® System, the real indentation measurement is guaranteed without any external interference in any condition.





## THE FIRST TEST RESULT IS CORRECT AND ABSOLUTE

The constant clamping surface assures the right measurement with no need to repeat the test. Accuracy is assured even in the case of structural deflection. When testing unstable samples or defective parts, the AFFRI System will follow the sample and not lose contact with its 2" stroke.

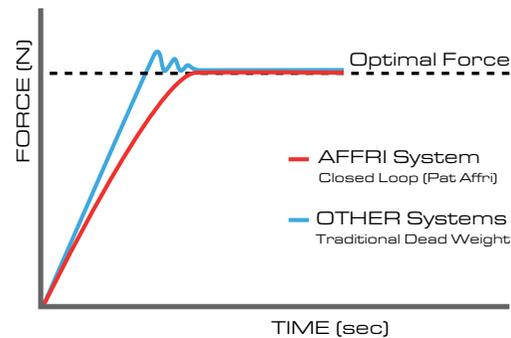
Accurate measurements, even on the first test, eliminate the need for multiple repeated hardness tests.

The R & R. data is at the top of its class and not surpassed by any other competitor under the same test conditions.

# 250 MRS

## CLOSED LOOP AND LOAD CELL TECHNOLOGY

Each load force is automatically programmed and controlled assuring perfect linearity in every range eliminating the problems associated with traditional dead weight system testers. The test is not affected by any external sources of deflection, misalignment or vibration. The AFFRI system can also operate in an inclined position.





## CLAMPING SYSTEM

Secure contact with the specimen is always maintained, even in the unlikely event of any specimen movement during the operation cycle. The clamping system assures perfect stability of any test piece throughout the test cycle. No additional accessories are required, as per old traditional hardness testers. The top surface referencing design minimizes errors caused by problems associated with dirt or scale. This reduces sample preparation time and increase both accuracy and speed.

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## HEAD STROKE 50 mm (2")

The long head stroke permits easy tests on different height test's samples without change every time the elevating screw position. The motorized head automatically goes downwards to contact, clamp the specimen and perform the indentation.





## ACCESSORIES

Large variety of indenters for each hardness scale.  
A series of different anvils is available to test every size of test piece.  
Consult our web database for more information. Customized solution based on your needs can be made for perfect tests on rough pieces.



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**Made by:**  
**OMAG di AFFRI D. S.r.l.**

Via M. Tagliaferro, 8  
I-21056 INDUNO OLONA - CEE (VA) - ITALY  
Tel. +39 0332 200546  
Fax +39 0332 203704  
info@omagaffri.com

**Europe/Asia:**

**AFFRI®**  
Via M. Tagliaferro, 8  
I-21056 INDUNO OLONA - CEE - (VA) - ITALY  
Tel. +39 0332 201533 +39 0332 206289  
Fax +39 0332 203621  
info@affri.com - www.affri.com

**America:**

**AFFRI Inc.**  
111 S. Lombard Rd Unit #4  
ADDISON, IL 60101 - USA  
Tel. 224 374 0931 - 630 303 1588  
sales@affriusa.com  
www.affri.com

| 250 MRS                |  |
|------------------------|--|
| Action                 | Just press one button and the Affri® system cycle starts: <ul style="list-style-type: none"> <li>• The Indentation head approaches to the sample</li> <li>• System auto-clamps the sample</li> <li>• Establishes a surface reference point</li> <li>• Performs the analysis</li> <li>• Releases the sample</li> </ul> This cycle is fully automatic. It avoids any risk of human errors and improves accuracy  |
| Accuracy               | Better than 0.5 %  |
| Temperature Range      | From 10 °C to 35 °C  |
| Data Output            | RS 232 C (USB as option)   |
| Power Supply           | 110 or 220 V / 50÷60 Hz  |
| Software               | Affri - OMAG   |
| Principle of Operation | Load Cell and Closed Loop  |
| Preload                | 29.4 - 98.1 <b>N</b> (3 - 10 <b>kgf</b> )  |
| Force Range            | Rockwell 588.4 - 980.7 - 1471 <b>N</b> (60 - 100 - 150 <b>kgf</b> )<br>Superficial Rockwell 29.42 - 147.1 - 294.2 - 441.3 <b>N</b> (3 - 15 - 30 - 45 <b>kgf</b> )<br>Brinell 49.03 - 61.29 - 98.07 - 153.2 - 245.2 - 294.2 - 306.5 - 612.9 - 1226 - 1839 <b>N</b> (on request 2452 <b>N</b> )<br>(5 - 6.25 - 10 - 15.6 - 25 - 30 - 31.2 - 62.5 - 125 - 187.5 <b>kgf</b> - on request 250 <b>kgf</b> )<br>Vickers - Knoop 9.807 - 29.42 - 49.03 - 98.07 - 147.1 - 196 - 294.2 - 490.35 - 980.7 <b>N</b><br>(1 - 3 - 5 - 10 - 15 - 20 - 30 - 50 - 100 <b>kgf</b> )<br>Optional test 49 - 132 - 358 - 961 <b>N</b> (for plastic, rubber as per EN-ISO 2039-1) |
| Feasible Tests         | Rockwell HRC A - D - B - F - G - L - M - R<br>Superficial Rockwell HRN + HRT<br>Brinell HB 30 - HB 10 - HB 5 - HB 2.5 - Break N/mm <sup>2</sup><br>Vickers - Knoop (only indentation)<br>Shore A-D   |
| Standards              | EN-ISO 6506-2 / EN-ISO 6507-2 / EN-ISO 6508-2 / EN-ISO 2039 / ISO 868 / ASTM-E18 / ASTM E-10 / ASTM 2240 / ASTM E 103 / JIS  |
| Screw Stroke           | 215 mm   |
| Indenter Stroke        | 50 mm  |
| Depth Capacity         | 190 mm   |
| Tolerable Weight       | 2000 kg  |
| Fields Of Use          | For all metals: iron, steel, tempered steel, brass, aluminum and nitriding, cementation, hard facing, plastics   |
| Packing Weight         | 85 kg  |
| Packaging Measurements | 34 x 54 x 99 cm  |