

MTR X-SERIES
bench hardness tester



The proper solution for any hardness control issue

ERFAG

MTR X-SERIES - bench hardness tester

MTR X-SERIES

Perfect for testing of large and small specimen, irregular shapes, interiors, gear
evolvents and difficult, until now inaccessible, points

Not influenced by deflection and bending
Operates according to DIN 50158 standard

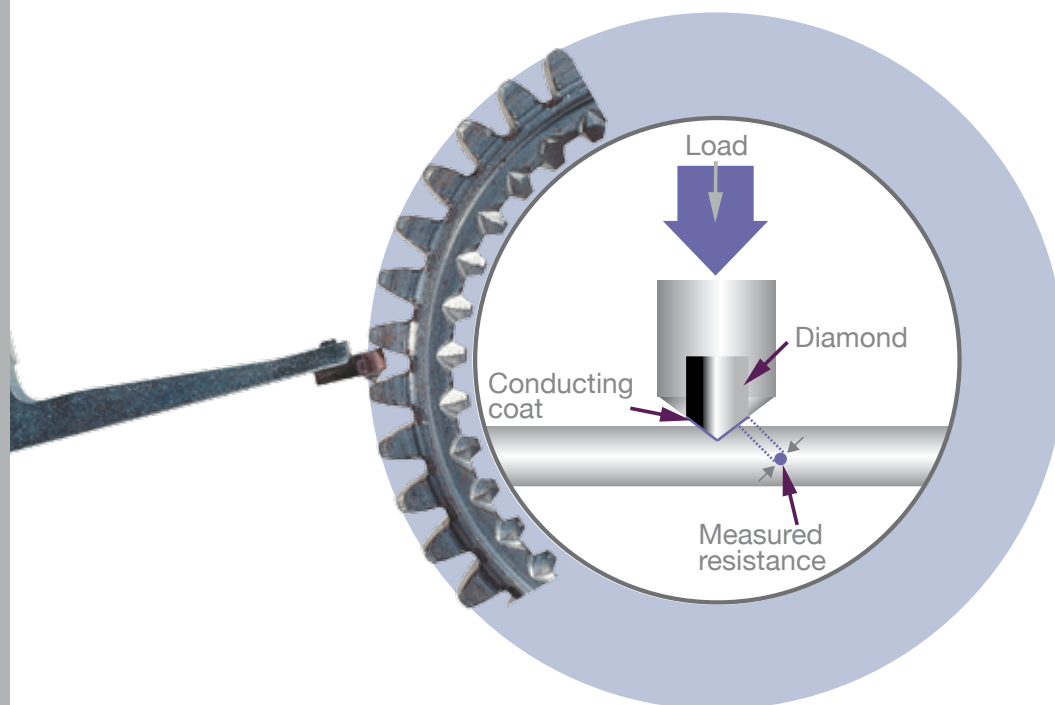
ESATEST® Principle
Default USB interface
Touchscreen display



MTR X-SERIES

MTR X-SERIES - THE PRINCIPLE

The bench hardness tester MTR X-SERIES operates according to the principle of hardness determination through measure of electrical resistance ESTAEST®, ERNST patented.



The diamond indenter can be compared to a little potentiometer, which, while gradually pushed into the material, obtains all the data (load-hardness) during the whole phase of load application.

MTR X-SERIES - SYSTEM ADVANTAGES

- ☐ Suitable for inaccessible points (such as: the wing of a supersonic plane, the wishbone of a racing Formula 1 sport car, a turbine blade, a wheel joint, gears teeth and others)
- ☐ Selectable load from 200gr to 10kg
- ☐ Ultra rapid measurement process on every material: with only one test the different hardness values conforming to the whole range of applied loads can be observed. This solution is very useful for testing of superficially treated specimens; allows in fact a quick evaluation of the depth of the superficial treatment and possible rectification of ground parts
- ☐ Suitable for interiors and holes (minimum diameter 10mm)
- ☐ Penetrator extensions up to 200mm available
- ☐ Suitable for welds and inclined surfaces
- ☐ Suitable for hardness testing of engine cylinders
- ☐ Operating according DIN 50158 standards

Il durometro MTR X-SERIES è stato studiato per risolvere alcune problematiche finora irrisolte nel controllo della durezza dei metalli.

L'innovativo principio per la determinazione del valore di durezza consente agli utilizzatori di eseguire misure in punti difficili o fino ad ora inaccessibili, come interni, cavità, innesti, ingranaggi.

Lo sviluppo della nuova elettronica, basata sull'utilizzo di un computer industriale, ha consentito di aumentare la potenza di calcolo e affinare conseguentemente il trattamento dei dati, permettendo misurazioni ancora più precise e affidabili. L'uso del computer ha altresì permesso di rendere disponibili i dati attraverso sistemi di interfaccia attuali, quali USB ed ETHERNET.

L'interfaccia Uomo/Macchina è semplificata dall'utilizzo di un ampio display touchscreen che rende più semplici le operazioni d'uso del software disponibile in 5 lingue.

MTR X-SERIES - THE POTENTIAL



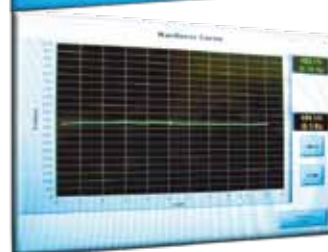
MTR X-SERIES is equipped with :
integrated industrial PC
operated by Windows XP
8,4" touchscreen interactive monitor



The use of Windows XP platform
permitted to improve
the calculation potential,
consequently to obtain
more accurate and reliable results



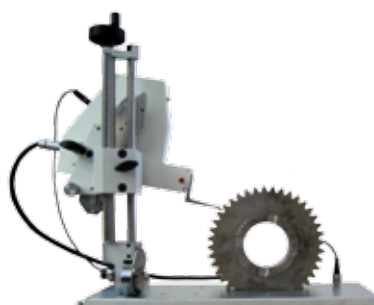
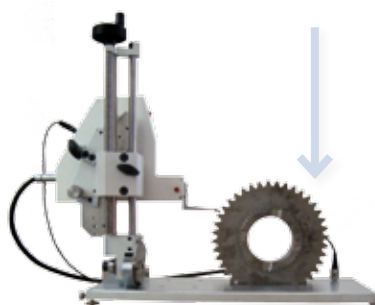
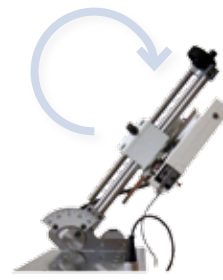
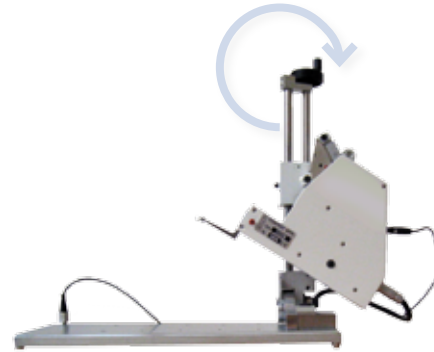
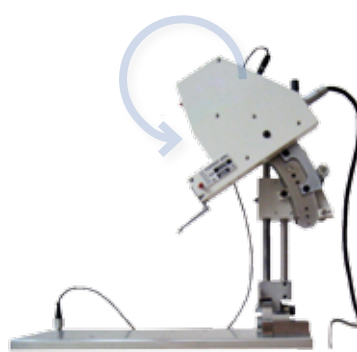
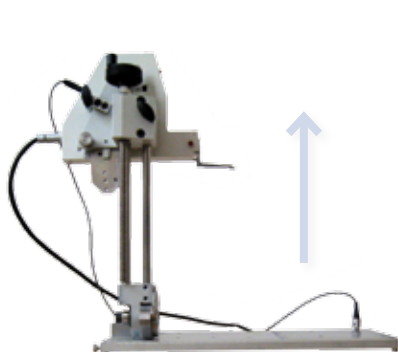
MTR X-SERIES guarantees,
thanks to its new userfriendly interface,
easy data input and quick recall
of files, statistics and charts



MTR X-SERIES allows
displaying the hardness
curve at different loads

MTR X-SERIES can send
the results to a printer or to
a network via ETHERNET
and USB at any time

MTR X-SERIES - THE VERSATILITY



MTR X-SERIES - bench hardness tester



MTR X-SERIES is suitable for testing of inclined surfaces

MTR X-SERIES suitable for sprockets and interiors



MTR X-SERIES allows the non-destructive testing of cylindrical surfaces, treated or rough, giving a precise indication of the coating and homogeneity of the material

MTR X-SERIES doesn't need particular clamping systems since the load is applied progressively, therefore the measure is less influenced by eventual deflections of the piece, thus giving more accurate results



Motorized hardness tester model ESATEST version MTR X-SERIES, with hardness detected through the measurement of the electric resistance between the mounting of the diamond and the top surface of the specimen in function of the penetration depth.

- Measuring scale:
Vickers 100 - 1000 HV

Continuous measuring system with test loads from 0,2 to 10kp (1,96N - 98,1N) with display of hardness results at every load. This important function allows to get an immediate idea about the homogeneity of the material and in case of thin coatings if the penetrator has gone through the layer.

- A - System for the motorized application of the load with load cell at elastic deformation and survey transducer.
Temperature sensor incorporated.
Diamond penetrator with superficial ionic implantation mounted on a support able to carry out the hardness control also in problematic position such as: cavities, holes, clutches, gears, etc., whether in vertical or horizontal position.
- B - Electronic box industrial PC with wide touch screen; visualization of the hardness value, statistics, histogram, etc.
The hardness value can be displayed at each load.
Possibility of setting the tolerance field (5 limits) in the batch testing and elaborating a statistic of the results.
Unlimited file management;
USB and ETHERNET interface;
Possibility to print the certificate in 5 languages.

Main PC features:

- display 8.4" SVGA TFT LCD 800x600 with resistant touchscreen resistivo a 5 fili
- CELERON 1 GHz processor
- SDRAM 1 GB memory
- Windows XP professional platform

Electronic box charger 100/240 Vac 50/60 Hz

STANDARD ACCESSORIES

- 1 power cord
- 1 HV test block
- 1 support for test block
- 1 V anvil for rounds Ø 60 mm
- 1 V anvil for rounds Ø 35 mm
- 1 V anvil for rounds Ø 6 mm
- 1 Magnetic sensor cable
- 1 Pedal switch
- 1 Set of allen spanner
- 2 screws for indenter
- 1 Set of spare fuses
- 1 plastic cover

OPTIONAL ACCESSORIES

- Spare indenter mod. A
- Spare indenter mod. B
- Spare indenter mod. C
- Indenter for gears (A-B-C)
- Extension +50mm (standard)
- Extension +75mm
- Extension + 100mm
- Extension +150mm
- Extension +200mm (max. load 5kp)
- External ETHERNET interface
- Stand with increased stroke
- Special anvils and accessories on customers request

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