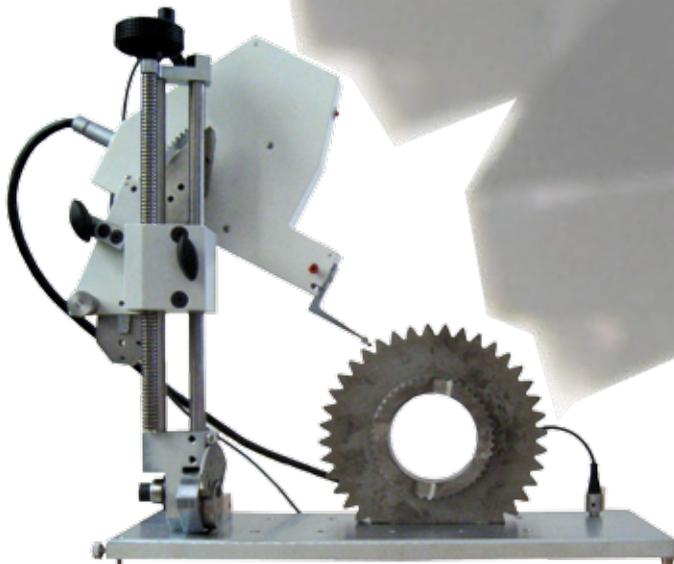


MTR X
SERIES
bench hardness tester

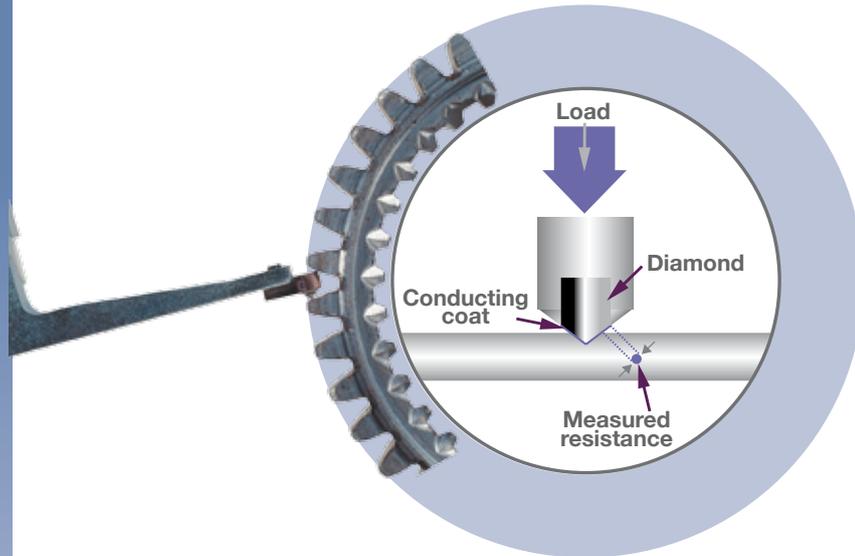


www.ernsthardnesstesters.com

ERNST

MTR X | THE PRINCIPLE

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

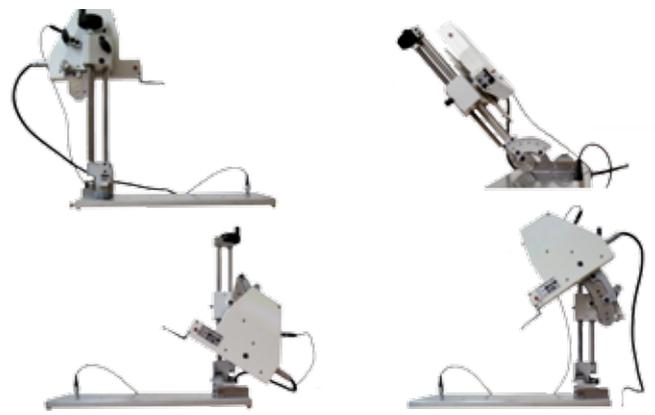


The diamond indenter can be compared to a little potentiometer, which, while gradually pushed into the material, obtains all the data (load-hardness) during the whole phase of load application.

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 0,2kgf to 10kgf
- 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

MTR X-SERIES is suitable for testing of inclined surfaces, sprockets and interiors
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



MTR X | THE POTENTIAL

The ESATEST MTR X-SERIES hardness tester has been studied to solve some of the still unsolved issues in the field of hardness control. The principle based on the determination of electrical resistance allows the user to perform measurements in difficult or inaccessible points such as interiors or gears.



MTR X-SERIES is equipped with: integrated industrial PC operated by Windows 7+, 8,4" touch-screen interactive monitor

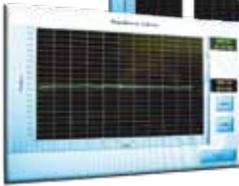


The use of Windows platform permitted to improve the calculation potential, consequently to obtain more accurate and reliable results



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

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



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

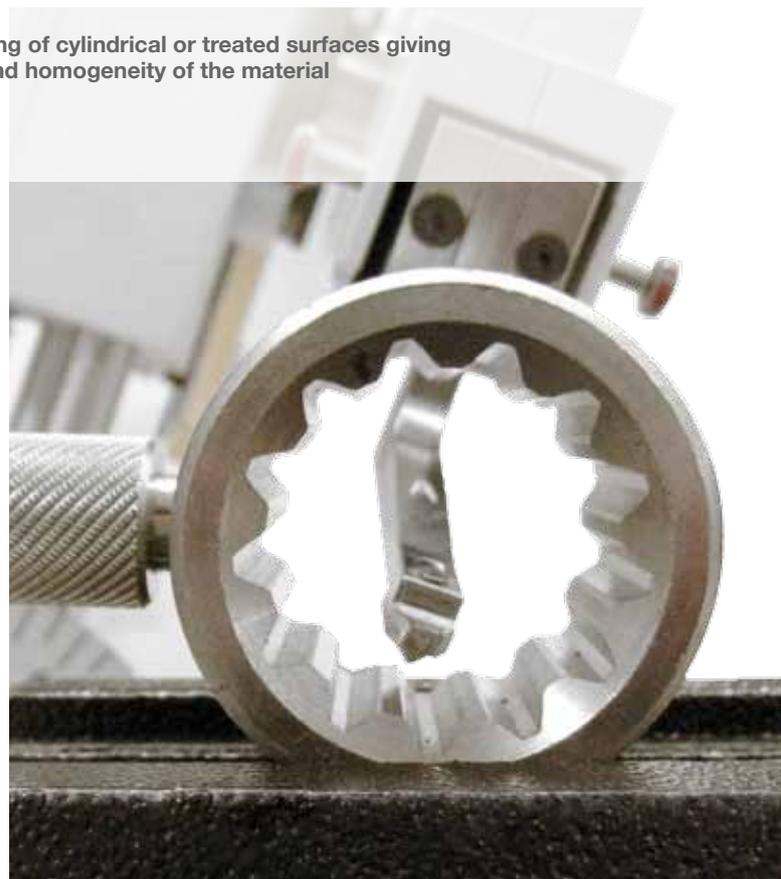
STANDARD ACCESSORIES

- 1 power cord
- 1 HV test block
- 1 support for test block
- Extension +50mm
- 1 V anvil for rounds \varnothing 60 mm
- 1 V anvil for rounds \varnothing 35 mm
- 1 V anvil for rounds \varnothing 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

ACCESSORIES ON REQUEST

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

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



MTR X SERIES | TECHNICAL DATA

- Operating principle:
Ernst ESATEST® patented method - measurement through electrical resistance
- International standards:
DIN 50158
- Reading:
direct on touch-screen display
- Display:
8,4" touch-screen 800 x 600px
- Test loads:
selectable from 0,2kgf - 10kgf according to the selected MTR X model:
Model A loads from 1kgf - 10kgf (9,81N - 98,1N)
Model B loads from 0,5kgf - 10kgf (4,9N - 98,1N)
Model C loads from 0,2kgf - 2kgf (1,96N - 19,6N)
- Load application method:
automatic / real time resistance and load values acquisition
- Load selection:
through touch-screen
- Load time:
the test cycle time depends on the load selected (max. 12 sec)
- Scale selection:
through touch-screen
- Standard scales:
HV - HRC - HRB - HB30 - N/mm² - HRF - HRD
- Other scales:
on request
- Output interfaces
USB - integrated Ethernet
- Minimum measurable diameter
outside Ø 2mm / inside Ø12 mm.
- Working area dimensions
2mm x 2mm
- Power supply:
100/240VAC - 50/60Hz
- Dimensions
40cm x 50cm x 30cm
- Weight
25kg
- Operation temperature:
0°C - 50°C

MTR X Series is composed by

- 1 - System for the motorized application of the load with load cell at elastic deformation and linear transducer.
 - Temperature sensor incorporated
 - Diamond penetrator with superficial coating with semi-conductive diamond mounted on a support able to carry out the hardness control also in problematic position such as: ties, holes, clutches, gears, etc.
 - Works in vertical or horizontal position
- 2 - Electronic box including industrial PC and wide touch screen:
 - Visualization of statistic calculations
 - The hardness value can be displayed at each load
 - Possibility of setting the tolerance fields (5) 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

