

Hardness testers - Measuring quality

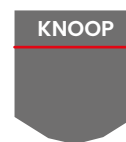
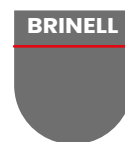
MICROPIXEL D3



FIELDS OF APPLICATION

Single and multiple micro and macro Vickers, Knoop and Brinell tests on all ferrous and non-ferrous materials such as: iron, steel, hardened steel, cast iron, brass, aluminium, copper and metal alloys. Heat treated, hardened, nitrided and cemented materials and filler materials.

Testing of ceramics and glass. In full compliance with the international reference standards, including **ISO 6506**, **ISO 6507**, **ISO 4545**, **ASTM E10**, **ASTM E92**, **ASTM E384**.



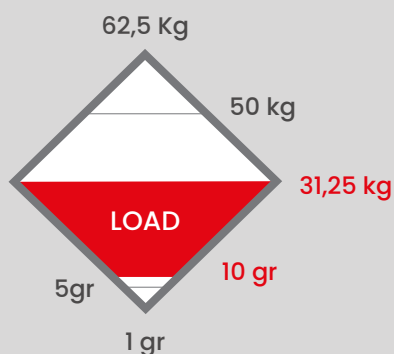
Manual movement of the test sample

using the practical micrometric handwheel with built-in reducer and recirculating ball bearing guide, for high precision and stability.



XY table with mechanical vernier

with a resolution of $\pm 10 \mu\text{m}$, ensuring that both single and multiple (stitch) guided tests can be performed.



Unparalleled accuracy even at very low loads

thanks to the management of the forces (available from 10gf to 31.25kgf but customisable on request) through **load cells with Closed Loop control** and high sampling rate (20 bits at 1 kHz).

Turret with 5-position automatic changeover

Designed to ensure **fast use** of the various high-quality optical lenses, which thanks to **energy-saving LED lighting** guarantee a natural colour view of the indentations.



4 lenses
applied



1 indenter
included



1 Automatic hardness calculation:

Focusing is done manually with the support of the **software**: simply turn the micrometric handwheel to bring the sample closer to the measuring head with **extreme accuracy**. To ensure maximum reliability, the test cycle is automatic: the indenter generates the indentation, the lens performs the optical analysis and the hardness value appears on the PC monitor.

2 Comfortable working area:

suitable for handling both small and medium-small samples.

3 Reliability in any situation:

thanks to the load cell system, Micropixel-D3 guarantees **extreme reproducibility and repeatability in any test condition**.

Versatile customisation:

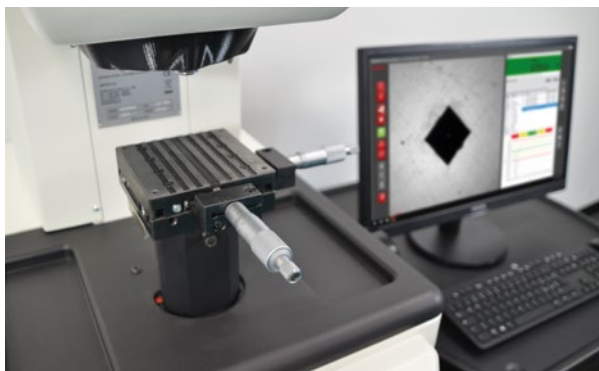
the range of forces and integrated accessories can be expanded or modified on request.



Software and connectivity

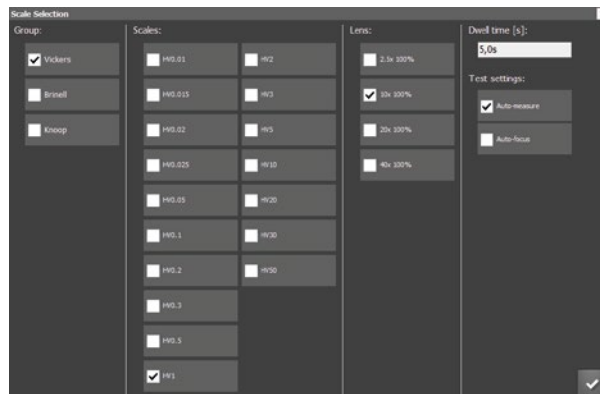
thanks to the processing of the image based on an **algorithm developed entirely by Axiotek**, Micropixel D3 allows **fast and accurate optical analysis** even on test samples with less than optimal surface finish.

- Step-by-step support for completing multiple tests thanks to the analogue XY table.



- Hardness value calculated in **automatic or manual mode**;
- Smart auto-exposure**: optimisation of the indentation contrast level, increasing the reproducibility of the automatic measurement even under less than optimal conditions.

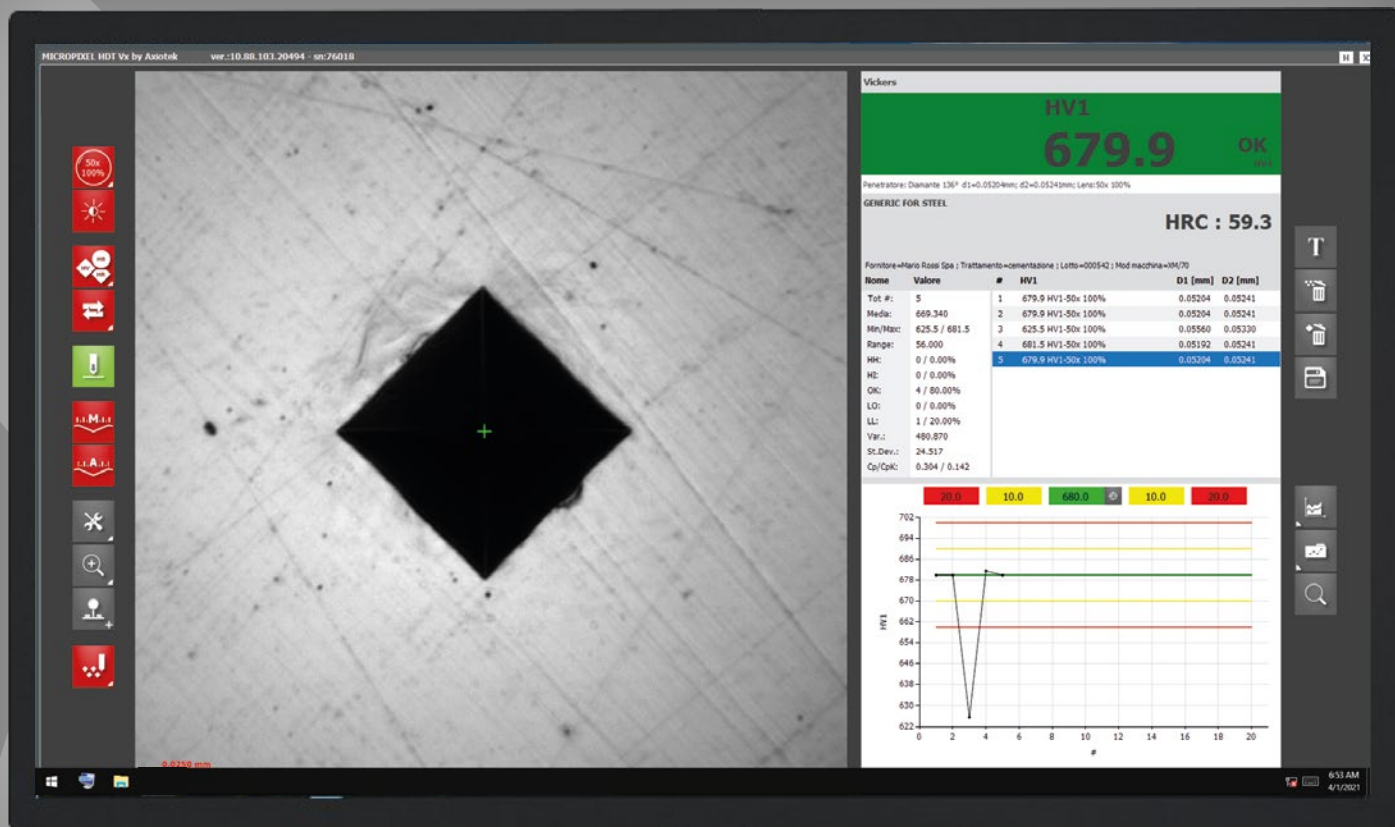
- Change the test method with a simple click**: everything is handled through the software without the need to deal with inconvenient load selectors, therefore reducing the possibility of errors.



- Dynamic zoom** with high definition view;
- Integrated conversion tables**;

◀ 24" Full HD screen

◀ high definition display



Multiple tests in a few quick steps:

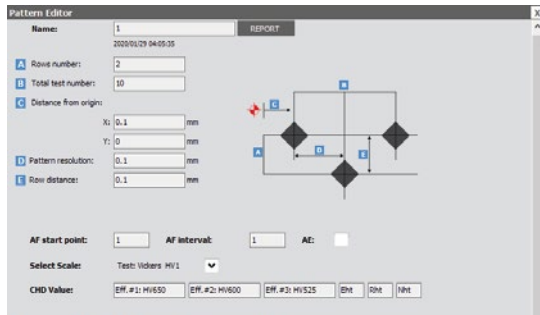
1 move to the test area

frame the point where to execute the test and proceed with manual focusing.



2 Set the patterns:

copy and paste or create and save the new patterns to use. Then select the execution orientation of the stitching as required with a single click.

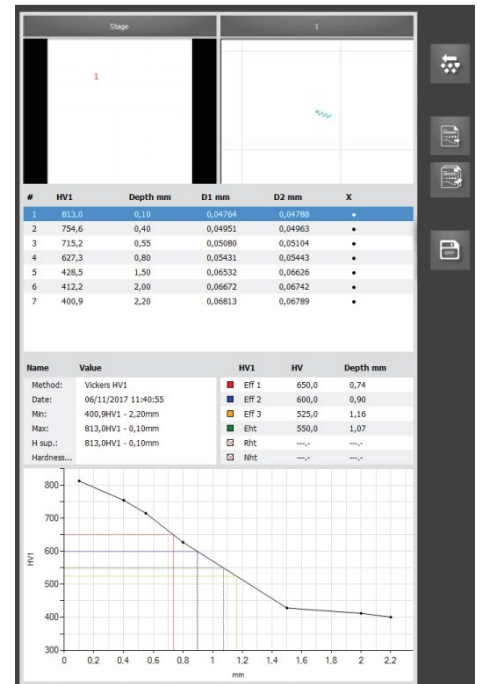


3 Press START

start the test: Micropixel-D3 will automatically create the indentations following the path with manual movement. Measurements are taken automatically, showing the hardness details on the screen

4 Analyse the results

all the results obtained are reported in comparison charts and statistical analyses, and can be exported at your convenience



Statistical export/printing of data

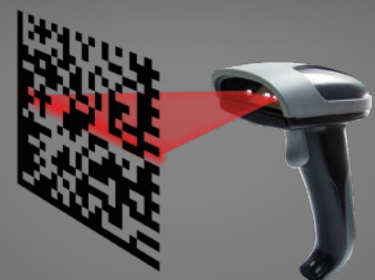
Basic and advanced statistical processing/printing functions with the possibility of direct interface to administration or processing software (such as company ERP) for data export/backup. (on request)

Data output: USB, Ethernet



Barcode scanner:

possibility of combining a barcode scanner (optional) to scan the barcodes found on the individual samples, making all the product details immediately accessible while the test is being carried out



TECHNICAL DATA

TEST FORCES:

Vickers:

0,098 - 0,147 - 0,196 - 0,245 - 0,980 - 1,961 - 2,942 - 4,903 - 9,807 - 19,61 - 29,42 - 49,03 - 98,07 - 196,1 - 294,2 N
(0,01 - 0,015 - 0,02 - 0,025 - 0,1 - 0,2 - 0,3 - 0,5 - 1 - 2 - 3 - 5 - 10 - 20 - 30 Kgf)

Knoop:

0,098 - 0,196 - 0,254 - 0,490 - 0,980 - 1,961 - 2,942 - 4,903 - 9,81 N
(0,01 - 0,02 - 0,025 - 0,05 - 0,1 - 0,2 - 0,3 - 0,5 - 1 Kgf)

Brinell:

9,81 - 24,52 - 49,03 - 98,07 - 294,2 - 306,5 N
(1 - 2,5 - 5 - 10 - 30 - 31,25 Kgf)

POSSIBLE TESTS:

Vickers:

HV0,01 - HV0,015 - HV0,02 - HV0,025 - HV 0,1 - HV 0,2 - HV 0,3 - HV 0,5 - HV 1 - HV 2 - HV 3 - HV 5 - HV 10 - HV 20 - HV 30

Knoop:

HK0,01 - HK0,02 - HK0,025 - HK0,05 - HK 0,1 - HK 0,2 - HK 0,3 - HK 0,5 - HK 1

Brinell:

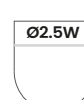
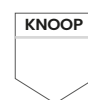
HBW 1/1 - HBW 1/2.5 - HBW 1/5 - HBW 1/10 - HBW 1/30 - HBW 2.5/31.25

OPTIONAL ACCESSORIES AND CUSTOMISATIONS

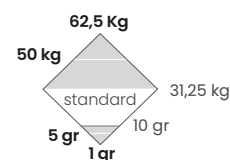
Lenses of your choice available to replace the standard ones: 2,5X



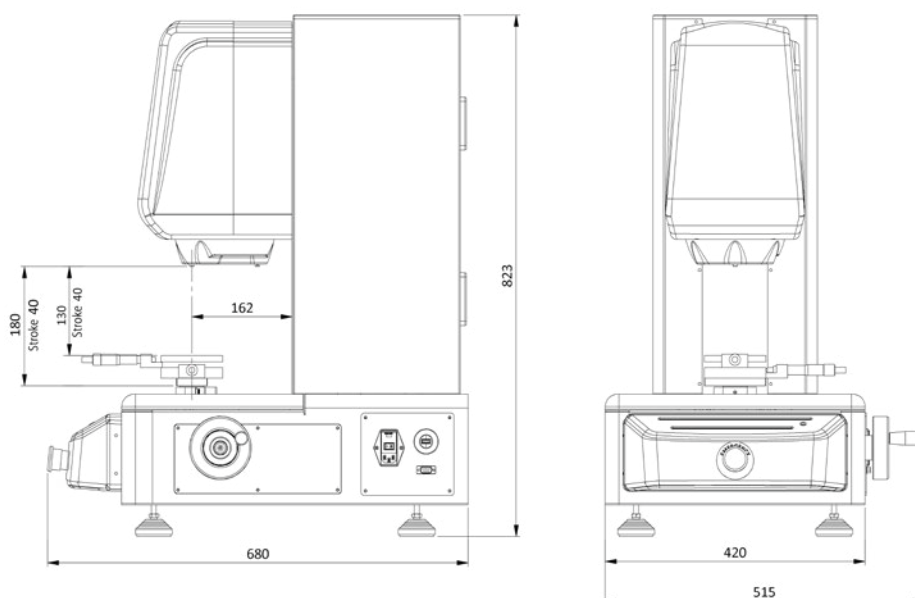
Indenter of your choice available to replace the standard one:
Knoop; Ø1W; Ø2.5W



Range of customisable forces:
up to 1gf; 5gf; 50kgf or 62,5kgf



OVERALL DIMENSIONS





download the data sheet
at the bottom of the page



Service & Maintenance

Our generational experience based on more than 60 years of field work allows us to answer any of your questions or concerns.

Our highly strategic geographical position allows us to support you in the maintenance of your instrument, offering you completely made in Italy spare parts.

Why choose us?

- ◉ We guarantee **100% Italian quality**.
- ◉ We believe in **true innovation**: listening to your needs and making an hardness tester that can meet them.
- ◉ We promote an **empathic design**, which ensures functionality and harmony in the interaction with measuring instruments.
- ◉ **We are pragmatic and result-oriented**: what we design and produce is the result of years of study, research and experimentation.
- ◉ **We love to accompany you step by step**, listening and advising you what better embraces your needs



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