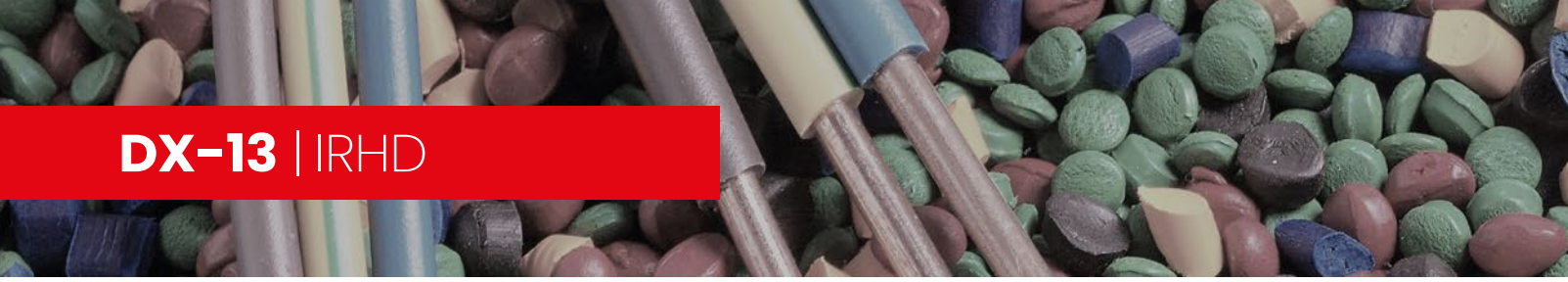
AXIOTEK®

Hardness Testers - Measuring Quality

DX-13

Micro and Macro IRHD hardness tester



DX-13 | IRHD

Fields of application

DX-13 is ideal for measuring hardness on **thermoplastic and vulcanised rubber** samples according to the standardised IRHD method, such as O-rings, cables, rubber hoses and medical items.

Particularly recommended for **samples of small size and thickness,** usually less than 6 mm

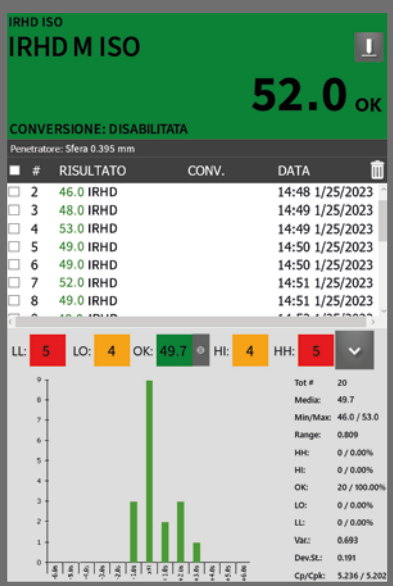
Integrated in the company's control-production system, is of great help for:

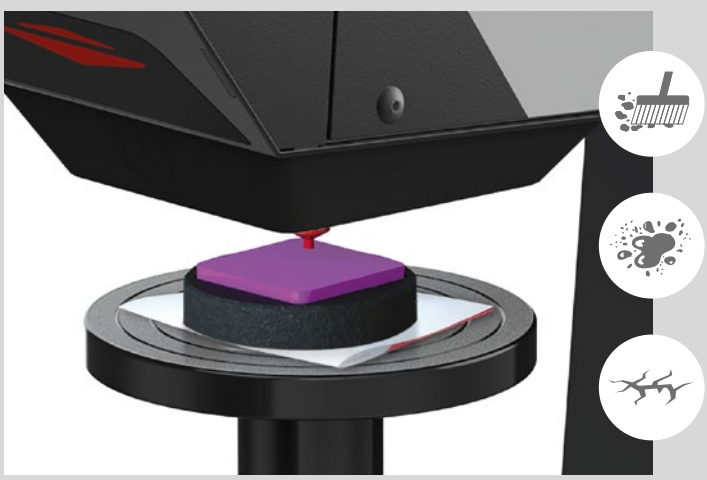
- Analysis of Process Capacity;
- Final product and mould approval tests;
- Quality control tests on standard and non standard samples

Fully automatic test cycle

The instrument is operated and the hardness value is determined through the front touch display. It only takes **3 steps** to start and finish the test:

1. Press the START button to start the test cycle
2. The indenter automatically searches for the test sample with a motorised 50 mm run
3. The final hardness value is returned directly on the display with all the analysis data that were indicated during the setting up of the test





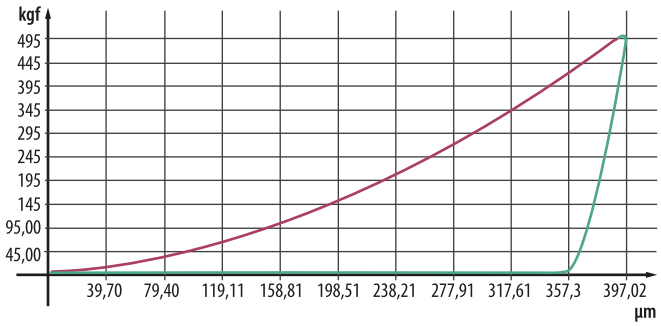
Patented intelligent self-compensation system

We are the only company on the market who have integrated in our IRHD-DX13 hardness tester a system that guarantees all the benefits benefits associated with **the insensitivity of the test to dust and dirt, and most of all to the failure of the test sample.** This system allows the stabilisation of the applied force during each stage of the test, ensuring a higher level of result repeatability.

1 Closed Loop technology with coaxial force management

Forces are applied electronically by the **load cell with Closed Loop control system – frequency of 1000 pulses per second** with high sampling rate electronics (20 bits at 1kHz).

This technology also **allows the entire test cycle** to be monitored and assessed to determine certain elastic properties of the tested material, analysing parameters such as force and displacement.



2 Motorised indenter stroke

Thanks to the **motorised 50 mm stroke**, the test cycle is simplified and improved through increased reproducibility

3 Every geometry and value can be measured

The IRHD-DX13 hardness tester was designed to accept and **secure in position both semi-finished products and already assembled components** of any size.

This is a considerable advantage when one takes into account that the hardness values of the individual plastic component will never be the same as those measured on the same part after assembly.

Think, for example, of **industrial foam** rubber seals or **diaphragm pumps** in the medical sector.

Reference standards

Due to the viscoelastic properties to which the test samples are subjected, **compliance with the relevant international standards is of vital importance.** DX-13 complies with the following standards: **ISO 48, ASTM D1415, DIN 53519**

Software capabilities

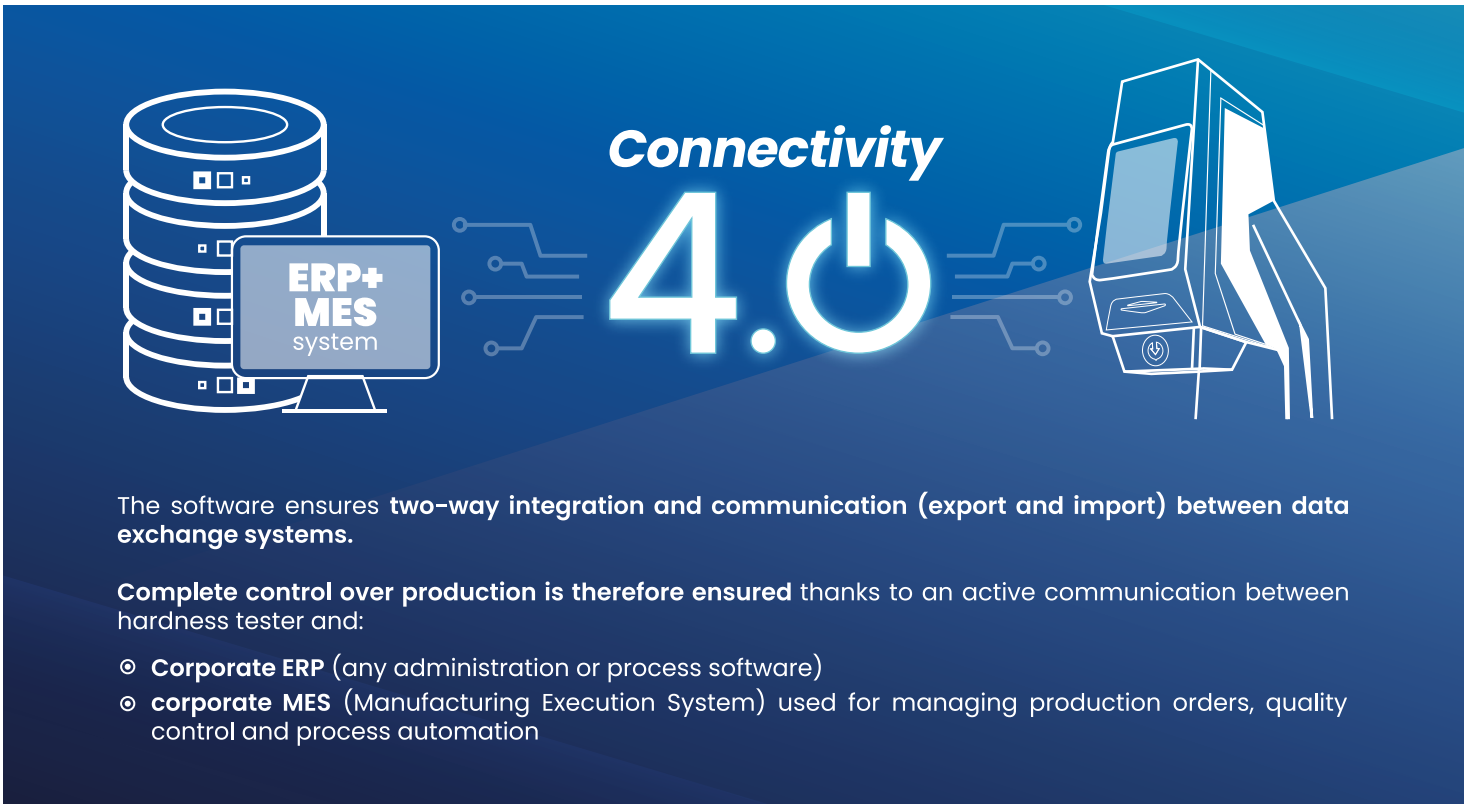
the world of IRHD hardness testing at your fingertips

The DX-13 software was **developed and put into operation by our own research and development department** to ensure **maximum attention and precision** during IRHD hardness testing activities

In developing it, we made sure that it could accommodate **all the 8 scales provided for in the main international reference standard (ISO 48-2)** for this analysis macro area

Methods on flat surfaces		Methods on round surfaces
Method N	Testing of normal hardness samples	**Method CN**
Method H	Testing of high hardness samples	**Method CH**
Method L	Testing of low hardness samples	**Method CL**
Method M	Testing of very small samples (microtest)	**Method CM**

To make the scale change faster and safer, the DX-13 software is self-guided: when selecting the scale to be used on the display, the force settings are automatically adjusted and the user is guided in the selection and installation of the correct reference indenter



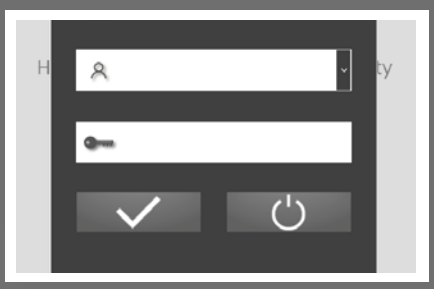
The software ensures **two-way integration and communication (export and import) between data exchange systems.**

Complete control over production is therefore ensured thanks to an active communication between hardness tester and:

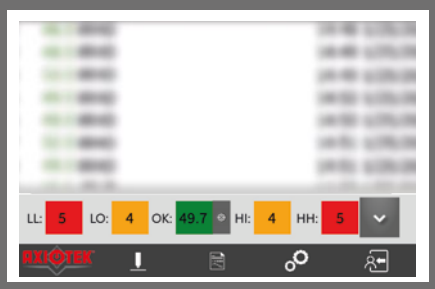
- **Corporate ERP** (any administration or process software)
- **corporate MES** (Manufacturing Execution System) used for managing production orders, quality control and process automation

The returned reference values are precise and accurate, tailored to your needs.

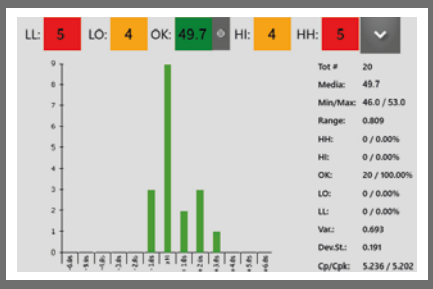
It is indeed possible to:



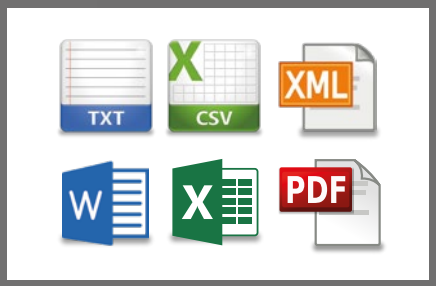
Create personal hierarchical access profiles that store and retrieve recorded work sessions for the individual users, with different levels of authority depending on the type of user (admin, user etc.)



Set in advance scales, tolerances and other test cycle setting parameters



Create, edit and customise **histograms, diagrams and standard deviations of the test statistics**

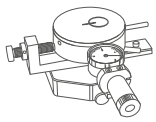
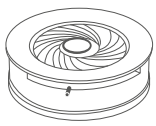
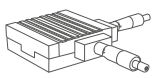


Export and print the final test report in the format of your choice (.txt - .word - .pdf - .csv - .xml)

Obtain the data and all the details of the sample to be analysed by scanning its barcode using the barcode scanner

Create customisable statistical test reports with your company data and job-specific details

ACCESSORIES AND SERVICES AVAILABLE ON REQUEST

	Calibration Specimen Kit
	support centring device for medium-sized O-rings
	support centring device for small-sized O-rings, adjustable depending on sample diameter
	“V” anvil
	Manual and motorised XY table
	Laser gauge for calculating the thickness of the sample being analysed
	Instrument support table
	Annual instrument calibration
	Accredia-certified ISO 17025 calibration LAT N° 316
	Training course for the use of the instrument

TECHNICAL DATA AND OVERALL DIMENSIONS

EXECUTABLE SCALES		DIAMETER (MM)	CONTACT (N)	FORCE (N)	TOTAL (N)	FORCE ON FOOT (N)
ROUND SURFACES	FLAT SURFACES					
Method N *(standard test)*	Method CN	Sphere 2.50 ±0.01 Tip Ø20 ± 1 Hole 6 ± 1	0.30 ± 0.02	5.40 ± 0.01	5.70 ± 0.03	8.3 ± 1.5
Method H *(high hardness)*	Method CH	Sphere 1.00 ±0.01 Tip Ø20 ±1 Hole 6 ±1	0.30 ± 0.02	5.40 ± 0.01	5.70 ± 0.03	8.3 ± 1.5
Method L *(low hardness)*	Method CL	Sphere 2.50 ±0.01 Tip Ø22 ±1 Hole 10 ±1	0.30 ± 0.02	5.40 ± 0.01	5.70 ± 0.03	8.3 ± 1.5
Method M *(microtest)*	Method CM	Sphere 0.395 ±0.005 Tip Ø3.35 ±0.15 Hole 1.00 ±0.15	8.3 ± 0.5	145 ± 0.5 (mN)	153.3 ± 1.0 (mN)	235 ± 30 (mN)

OPERATION
Automatic

REFERENCE STANDARDS
ISO 48, ASTM D1415 and DIN 53519

MEASURABLE SAMPLE DIMENSIONS
All geometries and dimensions can be measured

MINIMUM SAMPLE THICKNESS
according to ISO 48-2:
- for flat surfaces: min. 2mm
- for non-flat surfaces: min. radius 0.8mm

HARDNESS VALUE RESOLUTION
0.01 IRHD

USEFUL TEST AREA
80 mm

LIFT SCREW MOVEMENT
80 mm

USEFUL DEPTH
186 mm

MOTORISED VERTICAL STROKE
50 mm

INSTALLATION
Not necessary: DX-13 is ready for use

OPERATING TEMPERATURE
From 10°C to 35°C

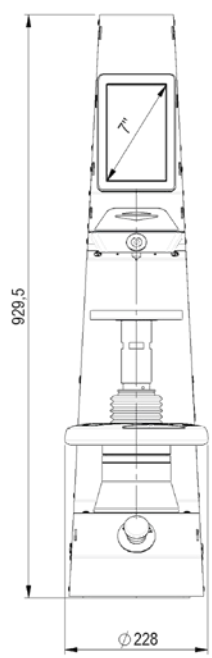
POWER SUPPLY
115/230VAC - 50÷60Hz

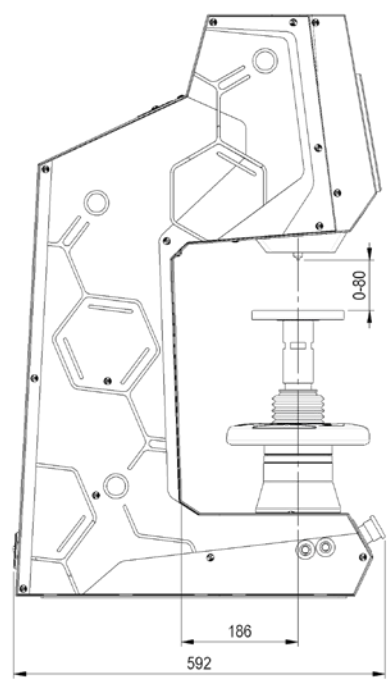
DATA OUTPUT
USB, Ethernet

SOFTWARE
PC monitor: 7"
Microsoft Windows 10®

SUPPORTED WEIGHT
150 Kg

NET WEIGHT
80 Kg





Service & Maintenance

Built around your needs

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

Our highly **strategic geographical location allows us to support you in the maintenance of your instrument,** offering you spare parts completely made in Italy, and therefore with prompt delivery.

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

AXIOTEK®

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

LAT N° 316

Calibration center | ISO 17025
The products are not covered by accreditation

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