FULLY AUTOMATED MACRO HARDNESS TESTER

QNESS 250 / Q750 / Q3000 A+ EVO

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A and A+ models of the Qness 250/750/3000 EVO hardness tester series are the pinnacle of automated hardness testing.

Due to the fully automated 3-axis-control samples with different test heights can be tested. Samples can be clamped safely with up to 3.200 kg by the powerful asynchronous motor of the Z-axis.

PRODUCT ADVANTAGES

- Highly precise test head control by asynchronous motor
- Automatic XYZ test progression for different sample heights
- Base cabinet and safety fully integrated into machine design
- Maximum clamping safety due to fix or swiveling downholder
- Excellent image quality
- Qpix Control2 Software with intuitive 3D control elements
- **Variant A+ only:** Sample image camera with automatic image acquisition

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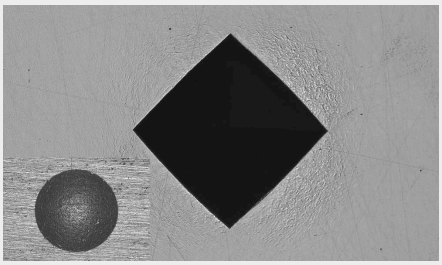
HIGHLY ACCURATE RESULTS IN ULTRA-SHORT TIME

XLED BRINELL EVALUATION LENSES

XLED illumination modules revolutionize the analysis of Brinell indentations. Due to beading on commercially available lenses, soft Brinell indentations in particular can be subject to imprecise gauging results. In contrast, XLED lenses guarantee precise and repeatable measurements, regardless of material type and hardness, due to direct and wide-extension illumination.



EXCELLENT IMAGE QUALITY

The optics system of the new hardness tester series EVO has been completely redeveloped. It was built on site in the cleanroom at the QATM plant and benefits from the company's comprehensive expertise. All hardness testers of the new series share one universal microscope system covering all the necessary visual ranges between 0.1 mm and 8 mm in maximum clarity and contrast. The QATM system guarantees uniform illumination across the entire image, regardless of the degree of magnification, and without dark edges.

ETHERNET INDUSTRIAL COLOR CAMERA

High-quality CMOS 5-megapixel cameras with Ethernet data transfer define the current industrial standard. Unlike other camera systems, a far higher transmission stability is possible here. Additionally, the PC and hardness tester can be set up remotely at great distances from each other. This is ideal in manufacturing environments in which the control infrastructure is installed in external switch cabinets.

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TEST METHODS & FORCE RANGE

Brinell
DIN EN ISO 6506, ASTM E-10

HBW 1/1	HBW 1/2.5	HBW 1/5	HBW 1/10	HBW 1/30	HBW 2.5/6.25	
HBW 2.5/15.6	HBW 2.5/31.25	HBW 2.5/62.5	HBW 2.5/187.5	HBW 5/25		
HBW 5/62,5	HBW 5/125	HBW 5/250	HBW 5/750	HBW 10/100	HBW 10/250	
HBW 10/500	HBW 10/1000	HBW 10/1500	HBW 10/3000	HBT*		

Rockwell
DIN EN ISO 6508, ASTM E-18

HRA - HRV	HR15-N/T/W/X/Y	HR30-N/T/W/X/Y	HR45-N/T/W/X/Y

Vickers
DIN EN ISO 6507, ASTM E-384, ASTM E-92

HV 0.3	HV 0.5	HV 1	HV 2	HV 3	HV 5	HV 10	HV 20	HV 30	HV 50	HV 60
HV 100	HV 120	HVT*								

Knoop
DIN EN ISO 4545, ASTM E-384, ASTM E92

HK 0.3	HK 0.5	HK 1	HK 2

Plastics
DIN EN ISO 6507, ASTM E-92, ASTM E-384

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49.03 N	132.9 N	357.9 N	961 N

Carbon testing

DIN 51917 (optional)

Integrated conversions
DIN EN ISO 18265, DIN EN ISO 50150, ASTM E-140

* not according to standards

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SIMPLE AND RELIABLE

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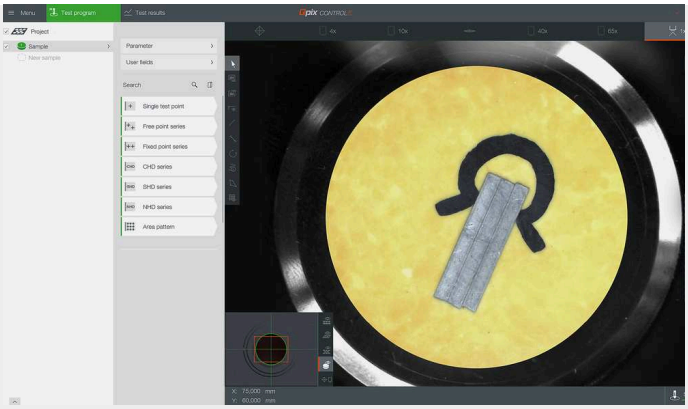
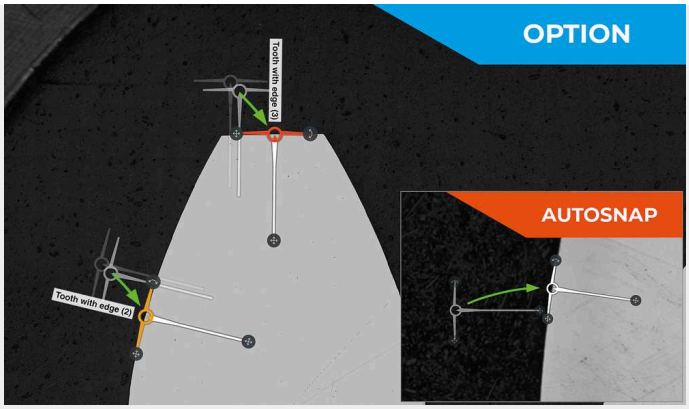


SAMPLE IMAGE CAMERA

Ultimate ease of use with 5 megapixel colour camera for recording the entire sample for a perfect overview and documentation in the protocol. As standard, hardness tester versions CA+ and A+ record the entire table surface as sample image.



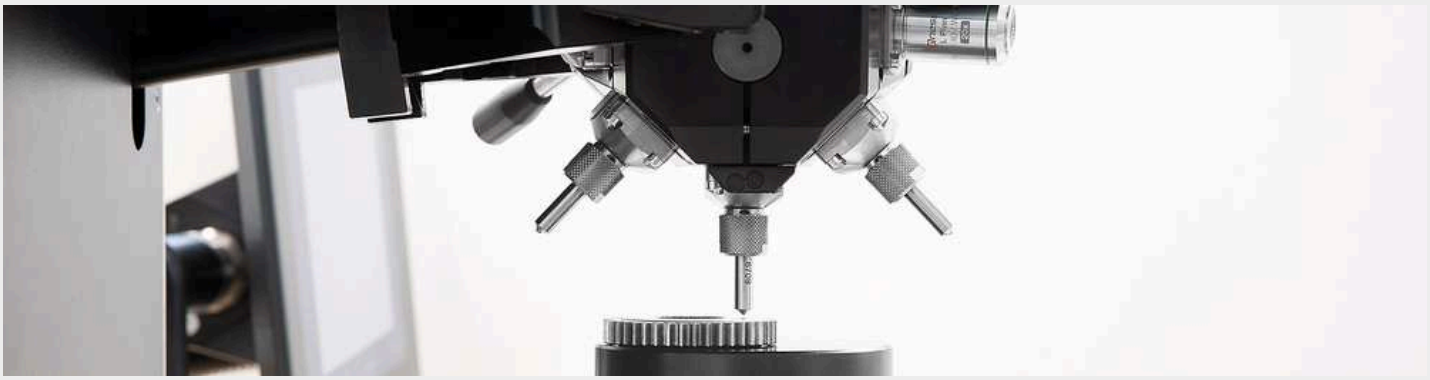
EDGE RECOGNITION

Edge recognition involves automatic adaption of test row starting points to the sample edge when using project and sample templates. The module significantly increases the degree of automation and is an ideal add-on to the serially provided Auto- Snap function.

FASTER TEST METHOD CHANGE-OVER

8-POSITION TOOL CHANGER

The easy way to serve universal applications: The sophisticated tool-changer concept with a rotational axis angle of 15° provides space for 8 tools in a uniquely compact unit. Downholder elements with a closed shape on three sides guarantee secure workpiece clamping around the test point – even for small test pieces.



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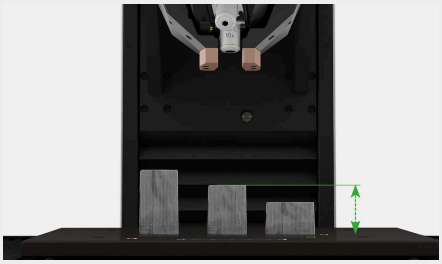
SIMPLE AND RELIABLE

FULLY AUTOMATED 3-AXIS CONTROL

Fully automatic and robust XY slide with high-precision positioning drive. Dynamic joystick to control all 3 axes (XYZ). Usable support surface 450 x 300 mm or, on request, larger travels and test tables available.



DIFFERENT TEST HEIGHTS

For each XY test point position the Z height can be individually selected. During automatic testing, the machine changes between specimens of different height or different test levels safely and fully automatically. Thanks to the innovative CAS technology, the unit is protected against collisions. When testing clamped samples, the patented QATM “workpiece recognition” reduces the approach speed of the test head automatically via sensor detection (preserves machine and sample).

MAXIMUM CLAMPING SAFETY

High-performance induction motor in the A/A+ version facilitates a workpiece clamping force of up to 3.200 kg. Clamping power is adapted to the test method and is automatically set to be greater than the test force. Operators do not need to set levels and can rely on the hardness tester to guarantee safe, optimized adaption.

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ELECTRIC SWIVELING DOWNHOLDER

Qness 250 A/A+ EVO-Version only: For hardness tests according to Rockwell or Brinell, parts securely fixed with the downholder are indispensable. For general processes, such as edge recognition or during the programming of test samples, however, the downholder is not required. Hence, the downholder clamp can be swivelled in or out by motor in a matter of seconds between different processes in the innovative EVO system. This improves operating convenience and further reduces cycle times.

IDENTICAL SAMPLE TESTS

An entire range of relevant data, such as test patterns, test methods and user fields can be activated via pre-defined sample magazines. QATM can provide the most suitable clamping setup, matrices and cassette systems for every requirement.

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IOT - INTERNET OF THINGS

THE PLATFORM FOR REMOTE ACCESS TO YOUR DEVICES

All QATM hardness testers with QpixControl2 and QpixT2 software seamlessly integrate into the Verder Scientific IoT platform, providing enhanced functionality and seamless connectivity.

- **Real-time Monitoring**: Monitor your machinery in real time, from anywhere in the world. This data-driven approach empowers you to make informed decisions with ease.
- **Live Notifications**: Be ahead of the curve with immediate alerts and updates. Real-time notifications ensure you stay informed about your equipment's performance, leading to proactive maintenance.
- **Effortless Backup**: Simplify your data protection. Whether you need to back up a single device or an entire fleet, our platform streamlines the process, minimizing downtime and data loss.
- **Automatic & Free Software Updates**: Bid farewell to manual updates! Verder Scientific IoT ensures your customers' machines are consistently equipped with the latest software, optimizing performance and reliability.

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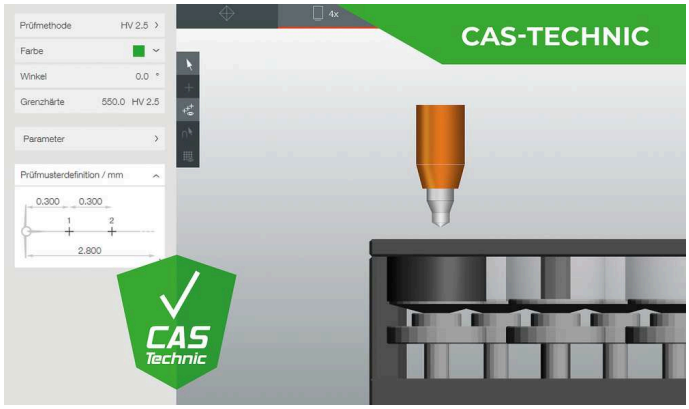
REVOLUTIONARY 3D OPERATING CONCEPT

Intuitive, clearly organized and professional: Qpix Control2 is a pc-operated, next-generation software for Brinell / Knoop / Vickers / Rockwell hardness testers, developed based on customer feedback and input for maximum user-friendliness. The controlled test head benefits from automatic height adjustment and contactless exploration, complete integration of the sample holder, CAD compatibility with 3D imaging and a whole range of easily understood 3D control elements and views included in the software. It sets new standards in hardness testing.

CUSTOMER-SPECIFIC SAMPLE HOLDER

Identical samples can be set up in the software in scale as a 3D model.



CAS TECHNOLOGY

Innovative Collision Avoiding System (CAS) technology protects the mechanical parts in the device using predictive 3D motion calculations to visualize the effects of collisions and operation errors.

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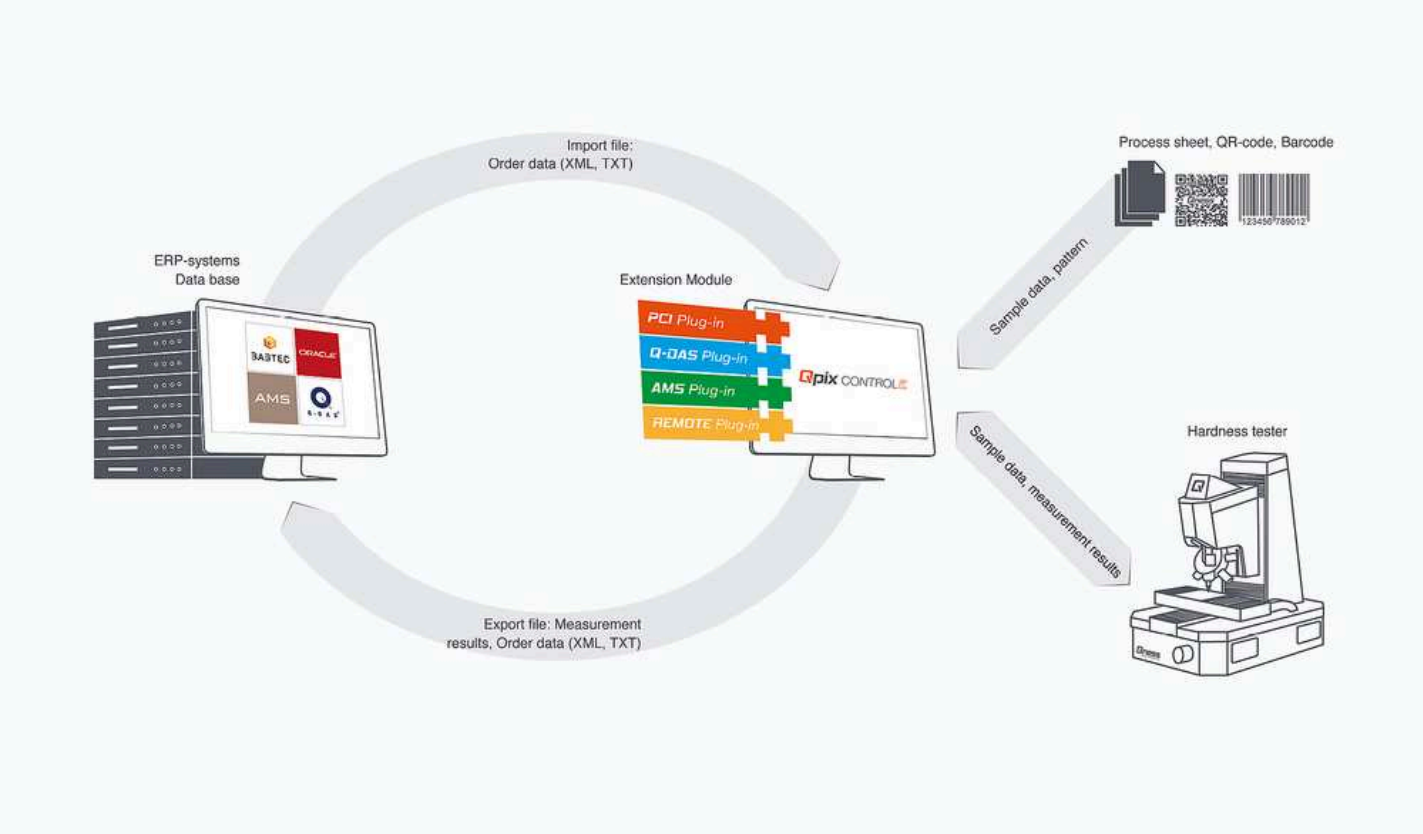
INTELLIGENT DATA EXCHANGE SOLUTIONS TODAY.

EQUIPPED FOR TODAY AND TOMORROW

Qconnect is the interface in QATM Qpix Control2 software, providing customers with a full portfolio of inter-device connectivity - from serial production, open XML interfaces (bi-directional) and pre-specified plug-in solutions, such as the QDAS Plug-In+, through to customer-specific connectivity solutions implemented completely by QATM. We have a professional solution for every applicational requirement.

Available functionalities & formats:
REPORT, PRINT, PDF, XML IE, CSV, TXT, WORD, EXCEL, AUTO EXPORTER, MAIL, Q-DAS, AMS IE, IOT, LIMS, OPCUA, PCI IE (ERP, BABTEC, ORACLE, SAP)



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PERFECT SOLUTIONS FOR ANY APPLICATION

TEST PIECE CLAMPING AND SAMPLE HOLDER RECOGNITION

Switchable industrial magnets enable power- and time-saving loading and unloading of the test system and, at the same time, guarantee a secure hold during the test. In addition, all QATM fixtures can be equipped with a sample holder recognition: via integrated sensors, the fixture is automatically recognized by the testing device and only the appropriate test programs are loaded.

CUSTOMIZED SOLUTIONS IN LARGE FORMAT

Individual planning and professional project handling

SWIVELLING TEST PIECE SUPPORT

The swivelling test piece support permits testing of samples even if the testing surface is not parallel to the support surface.

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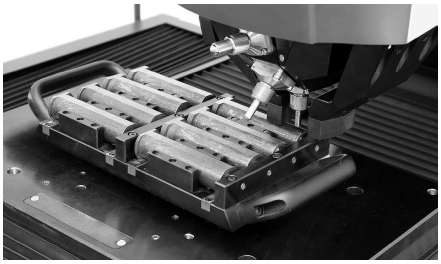

JOMINY SAMPLE TESTING

Up to 8 samples can be placed in the Jominy sample holder for testing with the additional Jominy test module. The testing cycle is fully automated and executed according to the norm. Larger sample holders are available on request.

TUBE TESTING

A or A+ models of the macro hardness tester series EVO allow testing tubes and tube segments fully automated and with maximum throughput according to valid standards.

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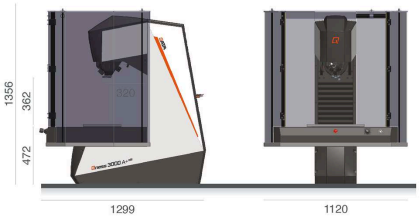
TECHNICAL DATA



Supported test methods	Brinell, Vickers, Rockwell, Knoop, Plastics
Test force range	Model 250 A+: 1 - 250 kg (9.81 - 2450 N) Model 750 A+: 0.3 – 750 kg (2.94 – 7358 N) Model 3000 A+: 0.3 - 3000 kg (2.94 - 29430 N)
Sample image camera	resolution 5 megapixel
Height adjustment	electrical via Asynchron motor
Test height / Throat depth	362 / 320 mm
Test anvil / Cross slide	motorized 450 x 297 mm
Traverse path	X 460 / Y 350 mm
Max. work piece weight	"unlimited"
Weight basic machine	695 kg
Power supply	230~ 50-60Hz 1/N/PE (option: 110~1/N/PE)

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Max. power consumption	~ 1680 W
Software	Qpix Control2
Interfaces	1x RJ45 (Ethernet)
Accessories and Options	XLED1, XLED2, XLED5, 5x, 10x, 20x, 50x, 100x Indenters (Vickers, Rockwell, Brinell), fix or swivelling downholder, signal lamp (A / A+) etc.
Jominy	Jominy 8-position sample holder incl. test module (optional)

www.qatm.com/q250a-evo

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ORDER DATA

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