



Qness 250|750 CA|CA+^{EVD}

Qness 250|750|3000 A|A+^{EVD}

FULLY AUTOMATED UNIVERSAL HARDNESS TESTING

**CUSTOMIZATION STRAIGHT
TO THE POINT**

**FASTER
TEST METHOD CHANGE-OVER**

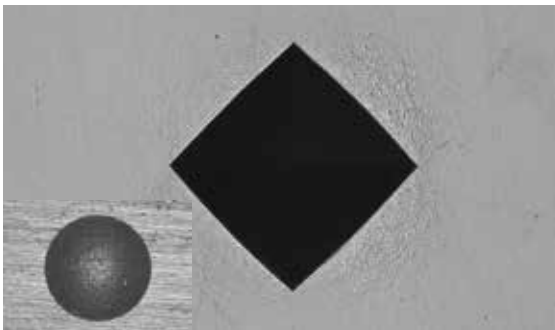
8-POSITION TOOL CHANGER

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.



EFFICIENT AND SUSTAINABLE

HIGHLY ACCURATE RESULTS IN ULTRA-SHORT TIME



EXCELLENT IMAGE QUALITY

The optics system of the new EVO series 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 the new devices 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.



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.



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 testing device 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.

SUPPORTED TEST METHODS



BRINELL

DIN EN ISO 6506, ASTM E-10

HBW 1/1	1/2.5	1/5	1/10	1/30
2.5/6.25	2.5/15.6	2.5/31.25	2.5/62.5	2.5/187.5
5/25	5/62.5	5/125	5/250	5/750
10/100	10/250	10/500	10/1000	10/1500
10/3000	HBT (not acc. to standards)			



ROCKWELL

DIN EN ISO 6508, ASTM E-18

HRA - HRV	HR 15-N/T/W/X/Y
HR 30-N/T/W/X/Y	HR 45-N/T/W/X/Y



VICKERS

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

HV0.3	HV0.5	HV1	HV2	HV3	HV5
HV10	HV20	HV30	HV50	HV60	HV100
HV120	HVT (not acc. to standards)				



KNOOP

DIN EN ISO 4545, ASTM E-92, ASTM E-384

HK0.3	HK0.5	HK1	HK2
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PLASTICS TESTING

DIN EN ISO 2039

49.03 N	132.9 N	357.9 N	961 N
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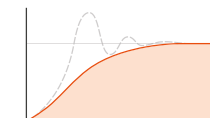
CARBON TESTING

DIN 51917 (optional)



CONVERSION

DIN EN ISO 18265, DIN EN ISO 50150, ASTM E140



FULLY AUTOMATED TEST CYCLE

With electronic weight application and closed-loop control

FULLY AUTOMATED
UNIVERSAL HARDNESS TESTING

VERSION CA/CA+

- | Proven concept – full automation with highly precise XY slide
- | For applications with consistent sample height



**FULFILLS CLEAR
REQUIREMENTS**

SIMPLE AND RELIABLE



TEST TABLE HEIGHT ADJUSTMENT

The height of the test table is infinitely adjustable (position can be fixed) via the play-free roller-bearing spindle guide - ideal for fully automatic series and progression tests on parts with identical test height. The test sequence is performed without clamping. Individual tests can also be carried out with the patented, swivelling downholder clamp.



AUTOMATIC PROGRESSIONS

The automatic XY slide with high-precision positioning drive enables extensive test series and hardness curves. External joystick (option) for controlling the X and Y axis. Usable support surface: 170 x 250 mm, travels: X 260 / Y 266 mm.



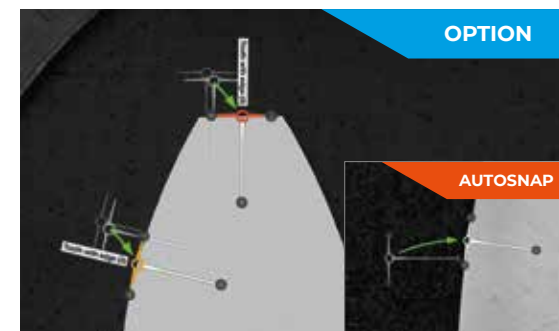
EMBEDDED SAMPLES

Two QATM sample holders, each with up to eight embedded samples, can be placed on the large workpiece support with integrated slots, allowing up to 16 specimens to be tested in one operation.



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. It is standard in the CA+ and A+ versions to record the entire table surface as sample image.



EDGE RECOGNITION

Edge recognition involves automatic adaptation 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.

UNMATCHED PROFESSIONALISM

VERSION A/A+

- | Highly precise test head control by asynchronous motor
- | Automatic XYZ test progressions
- | Base cabinet and safety housing fully integrated into machine design



HIGHLY PRECISE AND
HIGHLY AUTOMATED

CUSTOMIZED FOR YOUR TEST REQUIREMENTS



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 3500 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 device to guarantee safe, optimized adaptation.



ELECTRIC SWIVELING DOWNHOLDER

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.



Qpix CONTROL 2

OPERATION VIA EXTERNAL PC SYSTEM

REVOLUTIONARY 3D OPERATING CONCEPT

Intuitive, clearly organized and professional: Qpix Control2 next-generation hardness testing software, 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 Qness 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.

INDUSTRY 4.0

EQUIPPED FOR
TODAY AND
TOMORROW

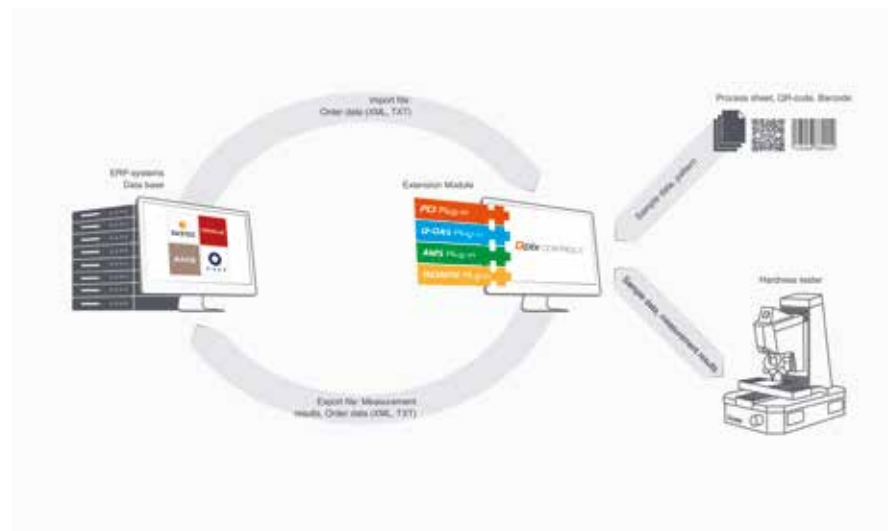
PROFESSIONAL DATA MANAGEMENT

Clearly structured batch management and effective use of templates from a wide range of test projects. Structured measurements with comprehensive background order information. Templates can be generated to contain all necessary information about test patterns, test methods, names and user-field information.



QNESS CALIBRATION MANAGER: ADVANCED TEST BLOCK MANAGEMENT

Redefining calibration result management: The Qness Calibration Manager can be set up to provide users with reminders of necessary checks at selected intervals. Test results can be added to the ongoing statistical profile at the push of a button. A clearly comprehensible overview of permitted tolerance values and long-term tracing of trends derived from all results, for every device and every test block. QATM test block data can be called up conveniently online without the need to enter test plate details. Extremely simple protocol access for purposes such as audits.



COMPLETE INTERLINKABILITY

Optionally completely interlinkable with databases, CRM systems and statistics programs via the PCI software module and with a direct link-up to production control systems - also for completely unmanned operation via the Qpix Remote Plug-In interface. The expert QATM team looks forward to helping you conceive the best possible solution for every link-up option.

APPLICATION EXAMPLES

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.



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.



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 automatic and executed according to the norm. Larger sample holders are available on request.



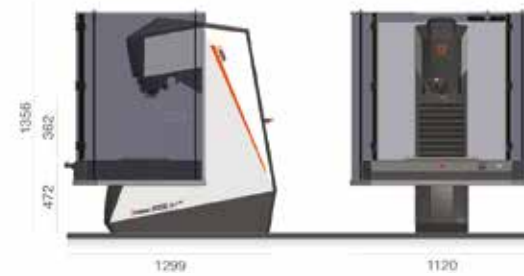
CUSTOMIZED SOLUTIONS IN LARGE FORMAT

Individual planning and professional project handling



TUBE TESTING

The Qness 250/750/3000 A or A+ EVO models allow testing tubes and tube segments fully automated and with maximum throughput according to valid standards.



CA ^{EVO}

CA+ ^{EVO}

A ^{EVO}

A+ ^{EVO}

Test force range	Qness 250 1 - 250 kg (9.81 - 2450 N) Qness 750 0.3 - 750 kg (2.94 - 7358 N)	Qness 250 1 - 250 kg (9.81 - 2450 N) Qness 750 0.3 - 750 kg (2.94 - 7358 N)	Qness 250 1 - 250 kg (9.81 - 2450 N) Qness 750 0.3 - 750 kg (2.94 - 7358 N) Qness 3000 0.3 - 3000 kg (2.94 - 29430 N)	Qness 250 1 - 250 kg (9.81 - 2450 N) Qness 750 0.3 - 750 kg (2.94 - 7358 N) Qness 3000 0.3 - 3000 kg (2.94 - 29430 N)
Sample image camera	-	Resolution 5 megapixel	-	Resolution 5 megapixel
Height adjustment	Handwheel on play-free roller bearing spindle guide including clamping device		electrical via Asynchron motor	electrical via Asynchron motor
Test height / Throat depth	250 / 220 mm	250 / 220 mm	362 / 320 mm	362 / 320 mm
Test anvil / XY cross slide	Motorized 170 x 250 mm	Motorized 170 x 250 mm	Motorized 450 x 297 mm	Motorized 450 x 297 mm
Traverse path	X 260 / Y 266 mm	X 260 / Y 266 mm	X 460 / Y 350 mm	X 460 / Y 350 mm
Max. workpiece weight	100 kg	100 kg	'unlimited'	'unlimited'
Weight of basic device	320 kg	320 kg	695 kg	695 kg
Software	Qpix CONTROL^E			
Interfaces	1x RJ45 (Ethernet)			
Tool positions	2 (Standard) or 8 (Tool Changer)			
Power supply	230-1/N/PE (option: 110-1/N/PE)			
Max. power consumption	~ 480 W (CA / CA+), ~ 1680W (A / A+)			
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)			

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