



MACRO HARDNESS TESTER

QNESS 250 / 750 / 3000 E EVO

qatm.com/products/hardness-testing/macro-hardness-tester/qness-250-750-3000-e/

QNESS 250 / 750 / 3000 E EVO

MACRO HARDNESS TESTER

A hardness tester for all purposes: no matter if operated in a laboratory or in a rough production environment.

The fixed component support and extra-large test table area allow hardness testing of even the largest components.

In the “E” version, the test head is conveniently and dynamically controlled by the integrated asynchronous motor. Test pieces of virtually any size, weighing up to 3500 kg, are securely clamped in the device. The maximum test height is 510 mm.

Qness 250 / 750 / 3000 EVO — product video available on the product page.



8-POSITION TOOL CHANGER

FASTER TEST METHOD CHANGE-OVER

Brinell, Knoop, Rockwell or Vickers hardness testing? The sophisticated tool-changer concept with a rotational axis angle of 15° provides space for 8 tools in one 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.



TEST FORCE VARIANTS

TEST METHODS & FORCE RANGE

QNESS 250 E

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 10/100 · HBW 10/250 · 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-92, E-384	HV1 · HV 2 · HV 3 · HV 5 · HV 10 · HV 20 · HV 30 · HV 50 · HV 100 · HVT*
KNOOP DIN EN ISO 4545 ASTM E-92, E-384	HK 1 · HK 2
PLASTICS DIN EN ISO 6507 ASTM E-92, E-384	49.03 N · 132.9 N · 357.9 N · 961 N

QNESS 750 E

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 · 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-92, E-384	HV 0,3 · HV 0.5 · HV1 · HV 2 · HV 3 · HV 5 · HV 10 · HV 20 · HV 30 · HV 50 · HV 60 · HV 100 · HVT*
KNOOP DIN EN ISO 4545 ASTM E-92, E-384	HK 0,3 · HK 0.5 · HK 1 · HK 2
PLASTICS DIN EN ISO 2039	49.03 N · 132.9 N · 357.9 N · 961 N

TEST FORCE VARIANTS

QNESS 3000 E • TEST METHODS

BRINELLDIN EN ISO 6506
ASTM E-10

HBW 1/1 · HBW 1/2.5 · HBW 1/5 · 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*

ROCKWELLDIN 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

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

HV 0,3 · HV 0.5 · HV 1 · HV 2 · HV 3 · HV 5 · HV 10 · HV 20 · HV 30 · HV 50 · HV 100 · HVT*

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

HK 0,3 · HK 0.5 · HK 1 · HK 2

PLASTICS

DIN EN ISO 2039

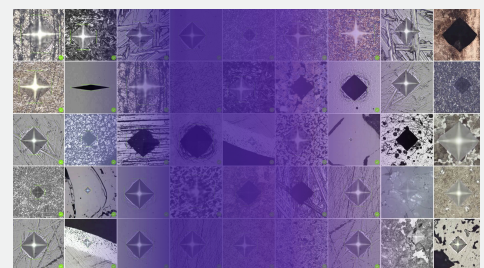
49.03 N · 132.9 N · 357.9 N · 961 N

Integrated conversions: DIN EN ISO 18265, DIN EN ISO 50150, ASTM E140. * Not according to standards.

DISCOVER THE UNSEEN

HARDNESS TESTING
PERFECTED WITH AI

DISCOVER QAI →

qatm.com/products/hardness-testing/software/qai/

LARGE-SCALE UNIVERSALITY

UNIQUE INSTRUMENT FEATURES



DYNAMIC HEIGHT ADJUSTMENT

The dynamic height adjustment enables comfortable positioning control via potentiometer (8 mm/s). Using the 2-hand-safety device allows a moving speed of up to 17 mm/s (included with E variant).



SWIVELING DOWNHOLDER

No long tool changeovers for inaccessible test positions. The downholder can be swivelled in and out via manual or motorized action, as required. Clamping elements can be changed and adapted to suit the customer's component.



WORKPIECE RECOGNITION

Workpiece recognition with motorized height adjustment facilitates a test head movement speed of 17 mm/s. Sensor technology recognizes the workpiece and reduces the bracing speed to protect the device and workpiece.



DYNAMIC HEIGHT ADJUSTMENT

Comfortable positioning control via potentiometer (8 mm/s). The 2-hand-safety device allows a moving speed of up to 17 mm/s (included with E variant).



MAXIMUM CLAMPING SAFETY

The E version's induction motor facilitates a workpiece clamping force of up to 3500 kg. Clamping power is adapted to the test method and automatically set greater than the test force.



ENLARGED TEST HEIGHT

If the 510 mm test room is not enough for especially large, bulky or difficult-to-clamp items, QATM can provide an even taller, custom-dimension steel machine frame on request.

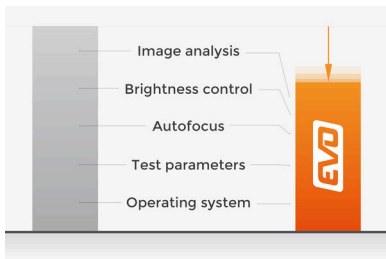
MACRO HARDNESS TESTER E EVO

HIGHLY ACCURATE RESULTS IN ULTRA-SHORT TIME



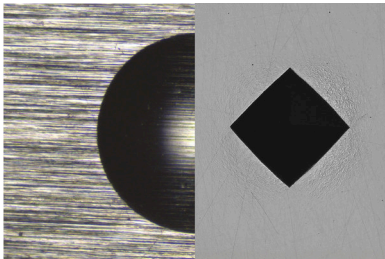
XLED BRINELL EVALUATION LENSES

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. XLED lenses guarantee precise, repeatable measurements with direct, wide-extension illumination.



REDUCED CYCLE TIMES

Optimized test parameters, a faster Windows 10 PC, shorter serial autofocus times and faster brightness regulation and image evaluation contribute to more rapid cycle completion times in everyday hardness testing – with quieter operating noises.



EXCELLENT IMAGE QUALITY

The EVO series' redeveloped optics are built in the QATM cleanroom. One universal microscope system covers visual ranges between 0.1 mm and 8 mm in maximum clarity and contrast. Uniform illumination is maintained across the image, regardless of magnification, without dark edges.

QPIX T2 FULL SCREEN MODE

CLEAR FOCUS ON ESSENTIALS

A clear overview of the most important functions on one screen prioritizes test results. Modern multi-touch operation enables simple zooming and easy menu navigation.

MACRO HARDNESS TESTER E EVO

UNLIMITED SUITABILITY FOR INDUSTRIAL APPLICATIONS



FREELY ADJUSTABLE OPERATING DISPLAY

The 12" ultra-flat, capacitive touch display can be raised, lowered and tilted smoothly via ball-and-socket joints for ergonomically optimized use.



OPTIMIZED TEST HEAD DESIGN

A range of clamping and holding elements can be configured to suit tooling requirements. The optional transparent collision guard can protect tools on the device from damage while ensuring an unrestricted view of the test cell interior.



ETHERNET INDUSTRIAL COLOR CAMERA

High-quality CMOS 5-megapixel cameras with Ethernet data transfer offer high transmission stability. The PC and hardness testing device can also be set up remotely at great distances from each other, ideal for manufacturing with control infrastructure in external switch cabinets.

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 connectivity.

| Real-time monitoring: Monitor machinery from anywhere in the world.

| Live notifications: Receive immediate alerts and updates.

| Effortless backup: Back up a device or an entire fleet.

| Automatic & free software updates: Keep machines up to date.

LEARN MORE → verder-scientific.com/products/iot/

INDUSTRY 4.0

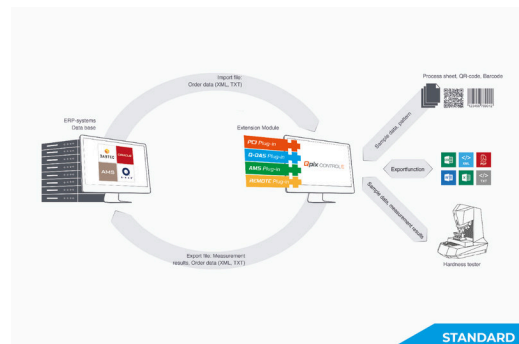
QCONNECT FOR CONNECTED TOMORROWS

Qconnect is the interface in QATM Qpix Control2 software, providing a full portfolio of inter-device connectivity – from serial production, open bi-directional XML interfaces and QDAS Plug-In+ through to customer-specific connectivity solutions implemented completely by QATM.

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).

QCONNECT PROJECT →

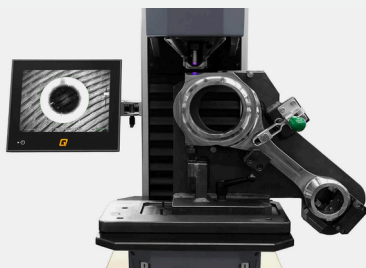
qatm.com/company/qnessconnectedfuture/



FLEXIBLE, CUSTOMERS SPECIFIC AND AFFORDABLE

FOR YOUR TESTING NEEDS

We offer solutions for your testing needs – from workpiece bracing, extended test area and possibilities for automation to software adaption.



Workpiece bracing



Manually cross slide



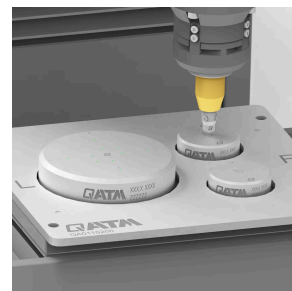
Extended test area

PERFECT HARDNESS TESTING · CONSUMABLES BY QATM

Hardness testing is more reliable, safe and efficient when processed with the right ingredients: knowledge, care and the right choice of consumables and instruments.

PRODUCT RANGE →

qatm.com/products/consumables/hardness-testing/



MACRO HARDNESS TESTERS

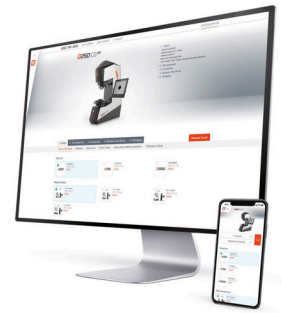
CONFIGURE YOUR HARDNESS TESTER TO MATCH YOUR APPLICATION

With the QATM Configurator, you can tailor your hardness tester to your individual requirements. Select the appropriate device version, equipment and accessories, and submit your configuration directly as a non-binding request for quotation to QATM.

YOUR BENEFITS AT A GLANCE

- | **Configure individually:** Select the device, equipment and accessories to match your application.
- | **Simple & clear:** Step by step to your desired device configuration.
- | **Request directly:** Submit a free, non-binding request for quotation.
- | **Personal support:** QATM experts assist you in selecting the right solution.

Alternatively, submit your inquiry directly via the contact form.



YOUR NEXT STEP

EXPLORE THE AVAILABLE OPTIONS

CONFIGURATOR FOR MACRO HARDNESS TESTERS →

qatm.com/products/hardness-testing/macro-hardness-tester/configurator/

CONTACT QATM →

qatm.com/contact/contact-form/

QPIX T2

FULL SCREEN MODE

A clear overview of all the most important functions on one screen guarantees user-friendliness and ensures test results are clearly prioritized. Multi-touch operation enables simple zooming and easy menu navigation.

QNESS 250 / 750 / 3000 E EVO

TECHNICAL DATA

Supported test methods	Brinell, Vickers, Rockwell, Knoop, Plastics
Test force range	Qness 250 E EVO: 1 - 250 kg (9.81 - 2450 N) Qness 750 E EVO: 0.3 – 750 kg (2.94 – 7358 N) Qness 3000 E: 0.3 - 3000 kg (2.94 - 29430 N)
Height adjustment	electrical / asynchron motor
Test height / Throat depth	510 mm / 320 mm
Test anvil	584 x 450 mm
Max. work piece weight	“unlimited”
Weight of basic machine	500 kg
Test sequence	fully automatic / electronic force control
Camera system / Image transfer	5 MP Ethernet Industrial standard / up to 270FPS
Tool positions	2 (Standard) oder 8 (Tool Changer)
Software	Qpix T2 (Option: Qpix CONTROL 2 M)
Operating system / Hard disk	Windows 11 IoT / 128 GB SSD
Data interfaces	2x USB 3.0, 2x USB 2.0, 1x RJ45 (Ethernet), 1x RS232, 1x DisplayPort
Lenses	XLED 1, XLED 2, XLED 5, 5x, 10x, 20x, 50x, 100x
Fields of view (depending on tool selection)	0.113x 0.084 mm (100x) up to 7.98 x 5.97 mm (XLED 1)
Display	Capacitive 12“ Touch - Display
Power connection	230~ 50-60Hz 1/N/PE (option: 110~1/N/PE)
Max. power consumption	~ 1230 W
Additional options	designer pedestal, collision protection, cross laser, test anvils, prisms, data connections, barcode/QR code reader etc.

QNESS 250 / 750 / 3000 E EVO

CONTACT US

qatm.com/contact/contact-form/

REQUEST A QUOTE

qatm.com/products/hardness-testing/macro-hardness-tester/configurator/



qatm.com/products/hardness-testing/macro-hardness-tester/qness-250-750-3000-e/

© QATM – qatm.com / Content may be subject to modifications or corrections