a VERDER company



BRINELL / KNOOP / ROCKWELL / VICKERS HARDNESS TESTER

QNESS 250 / 750 / 3000 C EVO

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

QNESS 250 / 750 / 3000 C EVO

BRINELL / KNOOP / ROCKWELL / VICKERS HARDNESS TESTER

The new Brinell / Knoop / Rockwell / Vickers hardness tester series EVO by QATM combines extremely short cycle times with maximum precision.

The characteristic “C” shaped machine frame gives the Qness 250/750/3000 EVO series their name.

The proven concept with fixed test head and up/down moving spindle has been standard in hardness testing for many decades and is ideally suited for small test pieces – as model **“C” for component heights up to a maximum of 395 mm.**

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.



FASTER TEST METHOD CHANGE-OVER · 8-POSITION TOOL CHANGER

A compact tool-changer concept for Brinell, Knoop, Rockwell and Vickers hardness testing.

QNESS 250 / 750 / 3000 C EVO

TEST METHODS & FORCE RANGE

QNESS 250 C EVO

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, ASTM E-384

HV 1 · 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, ASTM E-384

HK 1 · HK 2

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

49.03 N · 132.9 N · 357.9 N · 961 N

QNESS 750 C EVO

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 · KNOOP · PLASTICS

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 · HVT*
HK 0,3 · HK 0.5 · HK 1 · HK 2 | 49.03 N · 132.9 N · 357.9 N · 961 N

QNESS 250 / 750 / 3000 C EVO

TEST METHODS & FORCE RANGE

QNESS 3000 C EVO

BRINELL DIN 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*

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, ASTM 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*

KNOOP DIN EN ISO 4545, ASTM E-92, ASTM 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/

QNESS 250 / 750 / 3000 C EVO

UNIQUE INSTRUMENT FEATURES



TEST TABLE HEIGHT ADJUSTMENT

Via stable, ultra-precise roller-bearing spindle guide. Solid, no-maintenance structure with a sophisticated black chrome-plated handwheel. All Brinell / Knoop / Rockwell / Vickers hardness tester models of the EVO series are available with a Ø25 mm table mount (optional ¾" adapter available).



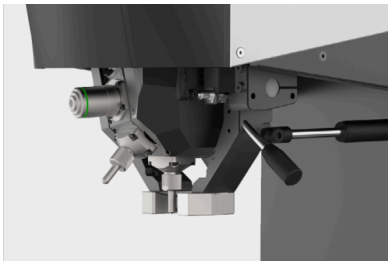
SWIVELING DOWNHOLDER

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



WIDE RANGE OF TEST TABLES AND PRISM ANVILS

The wide range of available test anvils and prisms enable hardness testing to be conducted on unusually large or spherical items, and on test objects with an uneven test surface.



2-POSITION TOOL HOLDER

All 250/750/3000 hardness testers of the EVO series are equipped as standard with clamping for 2 tools – simple and affordable with room for a test head and a lens or XLED – ideal for unchanging testing requirements.



RAPID INDENTER CHANGING SYSTEM

Uniquely simple, tool-free indenter changes due to indenter quick-release mechanism.

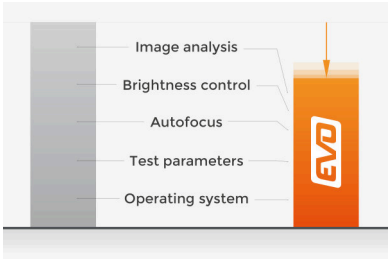
QNESS 250 / 750 / 3000 C EVO

HIGHLY ACCURATE RESULTS IN ULTRA-SHORT TIME



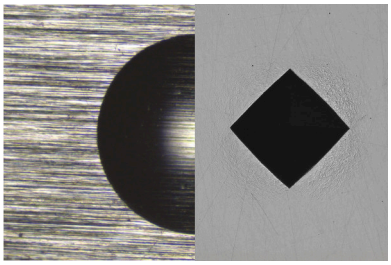
XLED BRINELL EVALUATION LENSES

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. In contrast, XLED lenses guarantee precise and repeatable measurements, regardless of material type and hardness, due to direct and wide-extension illumination.



REDUCED CYCLE TIMES

The new EVO product line guarantees optimized test parameters, a faster Windows 10 PC, much shorter serial autofocus times, significantly faster regulation of brightness and image evaluation, all of which contributes to far more rapid cycle completion times in everyday hardness testing – with even quieter operating noises.



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.

QNESS 250 / 750 / 3000 C EVO

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 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.

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.

TO THE PRODUCT RANGE → qatm.com/products/consumables/hardness-testing/

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.
- **Live Notifications:** Immediate alerts and updates about equipment performance.
- **Effortless Backup:** Back up a single device or an entire fleet.
- **Automatic & Free Software Updates:** Machines stay equipped with the latest software.

QPIX T2 FULL SCREEN MODE

CLEAR FOCUS ON ESSENTIALS

FULL SCREEN MODE

A clear overview of all the most important functions on one screen guarantees user-friendliness and, most importantly, ensures test results are clearly prioritized.

MULTI-TOUCH CAPACITY FOR ULTRA-SIMPLE OPERATION

Modern multi-touch operation for simple zooming and easy menu navigation.

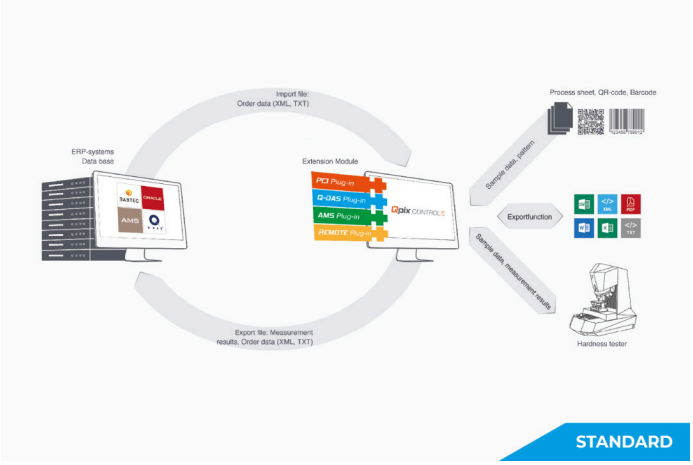


INDUSTRY 4.0

QCONNECT FOR CONNECTED TOMORROWS

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)



MACRO HARDNESS TESTERS

CONFIGURE YOUR HARDNESS TESTER

With the QATM Configurator, you can easily 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.

- **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.



QNESS 250 / 750 / 3000 C EVO

TECHNICAL DATA

Supported test methods	Brinell, Vickers, Rockwell, Knoop, Plastics
Test force range	Model 250 C: 1 - 250 kg (9.81 - 2450 N) | Model 750 C: 0.3 – 750 kg (2.94 – 7358 N) | Model 3000 C: 0.3 - 3000 kg (2.94 - 29430 N)
Height adjustment	manual / spindle
Test height / Throat depth	395 / 220 mm
Test anvil	Ø 100 mm
Max. work piece weight	“unlimited”
Weight basic machine	300 kg
Test sequence	fully automatic / electronic force control
Camera system / Image transfer	5 MP Ethernet Industrial standard / up to 270FPS
Tool positions	2 (Standard) or 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)	0.113 x 0.084 mm (100x) up to 7.98 x 5.97 mm (XLED 1)
Display	Capacitive 12“ Touch - Display
Power supply	230~1/N/PE, 110~1/N/PE
Max. power consumption	~ 480 W
Additional options	designer pedestal, collision protection, cross laser, test anvils, prisms, data connections, barcode/QR code reader etc.

QNESS 250 / 750 / 3000 C EVO

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qatm.com/contact/contact-form/?prefilltext=contact_form.request&product=Q01J0008A

REQUEST A QUOTE →

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