

HARDNESS TESTING



MICROSCOPY & ANALYSIS



Qness 10 / 60 M
Qness 10 / 60 A+
Qness 60 A+^{EVO}



THE REVOLUTION IN QUALITY ASSURANCE

**HARDNESS TESTING + MICROSCOPY SEAMLESSLY
COMBINED AND HIGHLY AUTOMATED**

Qness 10 M Qness 60 M



Qness 10 A+ Qness 60 A+



Qness 60 A+^{EVO}



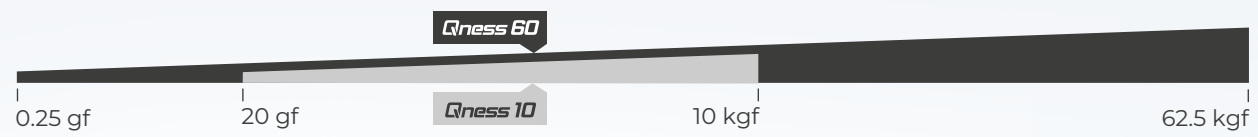
MICROHARDNESS TESTER MEETS METALLOGRAPHIC ANALYSIS

The new QATM micro hardness tester series is a combination of a classic micro hardness tester, universal macro hardness tester up to 62.5 kgf and a microscope for metallographic analysis. With a new design and high-end components such as: **automatic 8-fold tool changer**, plug & play test modules, fully automated

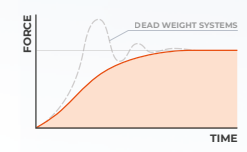
axes, **high-resolution optics and optimised motion sequences**. In combination with the QpixControl2 software, there are no limits to the imaging of complex applications. This perfectly harmonised system impresses with its overall package and its **high degree of automation**. Especially in times of automation and simplification

of work processes, these devices are ideally suited, particularly with regard to **digitalisation, data transfer and networkability**. With this new QATM product range, a wide variety of applications can be covered and combined for the respective areas of use.

2 TEST FORCE VARIANTS: QNESS 10 OR QNESS 60



Electronically controlled test forces ensure fast, precise hardness testing, as well as fast method changes and automatic detection of the focal plane.



UNLIMITED POSSIBILITIES

- 2 Test force variants:
Qness 10: 20 gf to 10 kgf
Qness 60: 0.25 gf to 62.5 kgf
- 3 Model variants - from semi-automatic application (M) to full automation (A+/A+EVO)
- Ready to Test: including ASTM & DAkkS as standard certified Vickers test diamond and lenses
- Solidly-built machine – 'Made in Austria'
- Variably-structured, vibration-reducing cast body with frame in anodized aluminum.

HARDNESS TESTING

MICROSCOPY & ANALYSIS

QPIX INSPECT



VICKERS

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

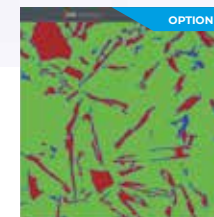
HV 0.00025*	HV 0.005	• HV 0.1	• HV 2	HV 20
HV 0.0005*	HV 0.01	• HV 0.2	• HV 2.5	HV 30
HV 0.001	• HV 0.02	• HV 0.3	• HV 3	HV 50
HV 0.002	• HV 0.025*	• HV 0.5	• HV 5	HV 60*
HV 0.003	• HV 0.05	• HV 1	• HV 10	



PHASE ANALYSIS

ISO 9042, ASTM E-562

- | Automatic image object dimensioning
- | Provides analytics results as percentage proportions of a surface or as nominal surface values as tables or diagrams



KNOOP

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

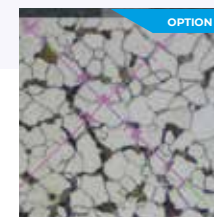
HK 0.001	HK 0.02	HK 0.3
HK 0.002	HK 0.025	HK 0.5
HK 0.005	HK 0.05	HK 1
HK 0.01	HK 0.1	HK 2
HK 0.015	HK 0.2	



PARTICLE SIZE DETERMINATION

ISO 9042, ASTM E-562

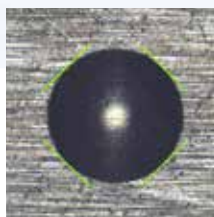
- | Particle size determined via linear or circular section method
- | Results of the analysis provided as tables or diagrams
- | Abrams Circles, Heyn Lines, Snyder-Graff Line



BRINELL

DIN EN ISO 6506, ASTM E-10

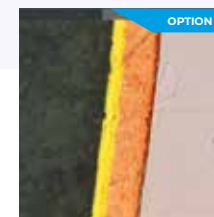
HBW 1/1	HBW 2.5/6.5
HBW 1/2.5	HBW 2.5/31.25
HBW 1/5	HBW 2.5/62.5
HBW 1/10	HBW 5/25
HBW 1/30	HBW 5/62.5



LAYER THICKNESS MEASUREMENT

DIN EN ISO 1463

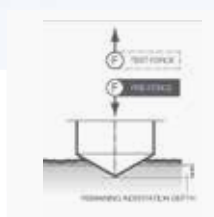
- | Determination of layer thickness
- | Semi-automated gauging of horizontal, vertical and radial layers.



ROCKWELL

DIN EN ISO 6508, ASTM E-18

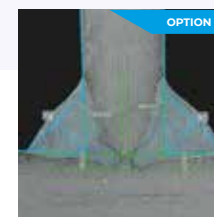
HRA
HRF
HR 15-N/T
HR 30-N/T
HR 45-N/T



WELD SEAM MEASUREMENT

DIN EN ISO 5817

- | Standardised measurement and evaluation of weld seams
- | Prefabricated templates with all relevant measuring tools such as throat thickness, weld reinforcement, penetration depth, etc.
- | Automatic good/bad evaluation and report generation



CONVERSION

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

READY TO TEST

Qness 60 M/A+/A+EVO all Vickers test methods possible with standard scope of delivery • Qness 10 M/A+ with standard scope of delivery HV0.02 to HV10 possible *Not according to standard

CRYSTAL CLEAR IMAGE QUALITY

REVOLUTIONARY OPTIC SYSTEM

The QATM-developed, in-house manufactured lens system sets new standards. As well as providing crystal clear image quality for hardness testing, Koehler illumination uses white LED light and motor-operated aperture shuttering to produce ideal contrast, even for high magnification images. The color-corrected high-quality lens series is used for structural analysis. Experienced metallurgists agree the image quality provided by the micro hardness tester is comparable in all aspects with that of established sophisticated microscopes. The up-to-date concept and new lenses in the optic system enable the device to completely meet even the strictest physical 'test system definition' requirements in compliance with DIN EN ISO6507-1/2:2018.

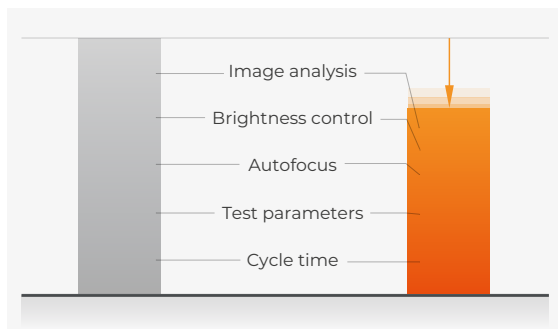
INTERACTIVE TEST SOFTWARE FOR ALL VERSIONS

Qpix Control2 is pioneering the ultra-modern software operation of hardness testing equipment and has been expanded to include intelligent measurement tools for lengths and angles. It's ideal for establishing templates, and now also for the testing of welds (A+ models). In addition, the optional INSPECT software modules can be seamlessly integrated into the overall operating infrastructure:

- | Phase analysis
- | Layer thickness measurement
- | Grain size evaluation
- | Weld seam measurement

HARDNESS TESTER OR MICROSCOPE?

BOTH.



OPTIMIZED PERFORMANCE AND SILENCED DESIGN

Optimized testing parameters and shorter intervals for serial autofocus, brightness regulation and image analysis, facilitate unbeatable cycle times during everyday operation involving hardness testing devices of the new micro hardness tester product line; and it's even faster than the previous model. A further benefit of the new machine concept is the emphasis on reduced noise emissions in operation and motion, making it **particularly suitable for laboratory work**.



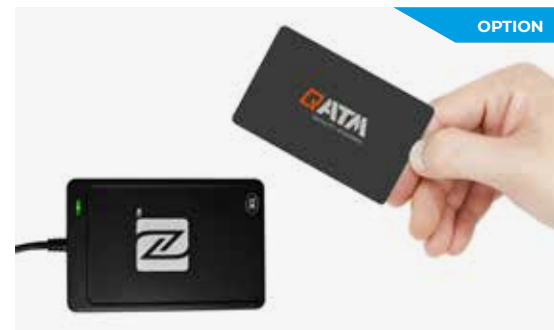
TEST SPACE LIGHTING

All devices are equipped with the new LED work space lighting: Simplified positioning of samples for single-piece tests.



8-POSITION TOOL CHANGER

Up to 8 different test diamonds or lenses can be mounted to the ultra-modern test turret. The compact structure is angled at 20° to guarantee excellent test room visibility. **Highlight:** The newly-developed hardness testing modules serve as modular indenter holders enabling plug-and-play retrofitting of Brinell and Knoop test equipment at any time after delivery.



LOGIN VIA NFC

The Qpix Control 2 software supports user login using an external NFC reader. Depending on the NFC tag/card, the customer's existing access cards can also be programmed in, for example.



COMPREHENSIVE RANGE OF BASIC FUNCTIONS

Several labor-saving features are already included in the QATM base model:

- | Optimized autofocus system
- | Automatic brightness regulation
- | Automatic image evaluation for hardness testing with multiple evaluation modes
- | Built-in protocol generator

THE PROFESSIONAL INTRODUCTION TO
HARDNESS TESTING AND MICROSCOPY

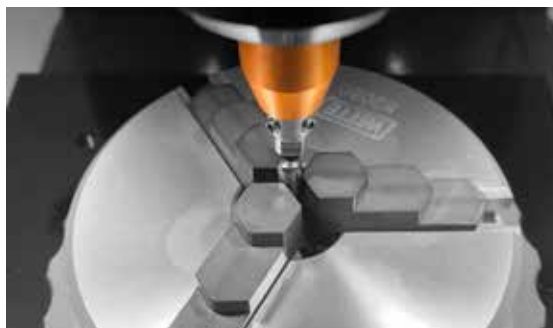
VARIANTE M

- | Semi-automatic hardness testing with automatic image evaluation, autofocus and brightness regulation
- | Manual XY table can be retooled for simple progression inspections
- | Desktop PC with monitor and Qpix Control2 M for full interconnectivity



THE BEST
OF TWO WORLDS

IN A SINGLE DEVICE



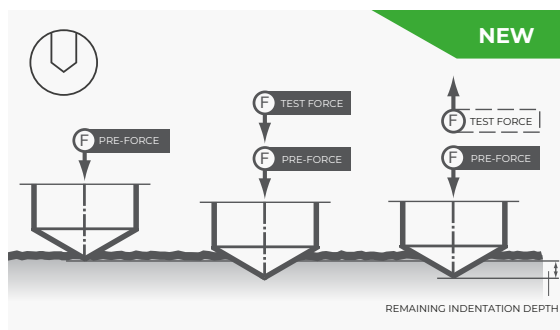
MAXIMUM VERSATILITY

Unsurpassed in single-piece testing and limited series tests on items of all sizes: Simple operability and optional additions for microscopy make QATM Qness 10/60 M a unique, high-quality, all-round package.



DIGITAL CROSS SLIDE WITH DATA FEEDBACK

Enables serial predefinition of test programs with fixed numbers of test points. If required, also with a manual slide, digital micrometer spindle and positioning data feedback – as used for manual CHD progressions.



NEW ROCKWELL TEST METHOD

In addition to the Vickers, Knoop and Brinell optical methods, Rockwell measurements can now also be carried out with the new micro hardness testers. A special Rockwell test module has been developed for this purpose.



VERTICAL CONCEPT WITH 2 Z-AXES

There are decisive benefits in distributing vertical movement across 2 axes. Via the first Z-axis there is dynamic motion control, allowing the indenter to be positioned towards the test surface quickly and conveniently at up to 30mm/s. The additional second Z-axis in the QATM system offers a high-resolution positioning system for greater precision in force application and focusing.



QPIX CONTROL2 M SOFTWARE

The Qpix Control2 M-Version of the intuitively-operated software is included with the Qness 10/60 M to provide sophisticated functionality tailored to the requirements of semi-automatic hardness testing devices. Clearly organized batch management and the effective use of templates from a broad span of testing projects, test result structuring and a complete range of background project information. The easily-generated templates include all the required information on test patterns, test methods, item names and user field details.

AUTOMATED AND PERFECTED

VERSION A+

- | Fully automatic XY slide ($\pm 2 \mu\text{m}$)
- | Integrated sample image camera for unique ease of use
- | Fully automatic 3D control functions

FOR EXCELLENT ACCURACY

VERSION A+ EVO

- | High-precision, fully automatic XY slide ($\pm 0.2 \mu\text{m}$)
- | Rotatable indenter (IPC technology)
- | Equipped with HQ lenses as standard



PIONEERING TECHNOLOGY

UNIQUE IMPLEMENTATION



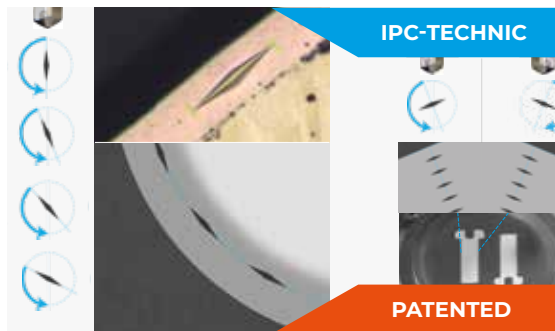
SAMPLE IMAGE CAMERA

It's no coincidence that most QATM customers choose the 'A+' version with a built-in sample image camera. In a few seconds the image of the sample is shot with the additional camera (field of view 52 x 39 mm). The image provides excellent navigational support within the software, particularly in combination with DOUBLE-VIEW TECHNOLOGY, and aids enhanced documentation in the automatically compiled test report.



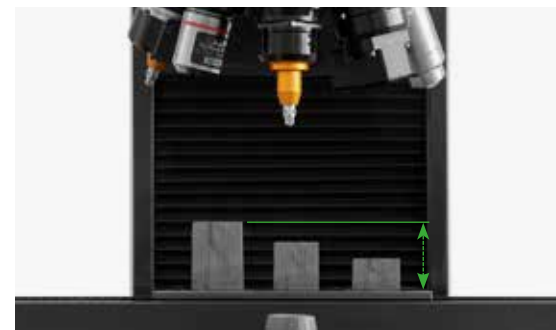
EXACT POSITIONING AND A LARGE TEST SPACE

All 3 axes are equipped with the direct, optical path measuring system as standard. The axes and turret can be positioned to an accuracy of 1.5 μm , so even thin layers, or special testing or analytical coordinates, can be repeatedly and accurately approached.



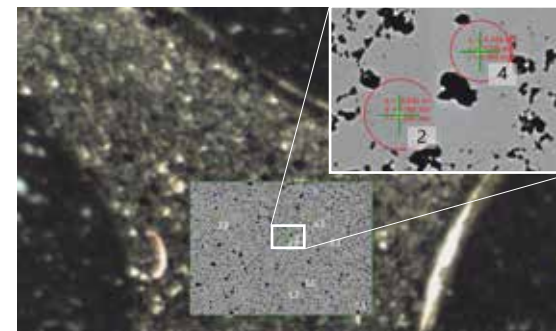
IPC TECHNOLOGY / ROTATABLE INDENTER

IPC – 'Indenter Parallel to Contour' (optional)
The operator can select the route and points for the Knoop indenter along each contour, either manually, via the software setting, or fully automatically. The compact indenter unit with a built-in rotation drive facilitates fully automated hardness testing in layers or along the edge of the workpiece.



DIFFERENT TEST HEIGHTS

The unique construction of the highly-dynamic tool changer turret allows the positioning of test pieces at various heights within the test area. Innovative CAS technology protects the unit from collisions.

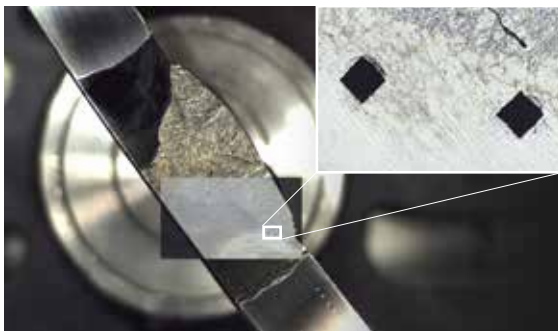


MODULE FOR SINTERED COMPONENTS

With this module, an area on the component can be easily defined and the number of hardness test points defined, especially for sintered samples. The software automatically searches for a position in the selected area where a hardness test indentation can be placed so that it is placed at a suitable location.

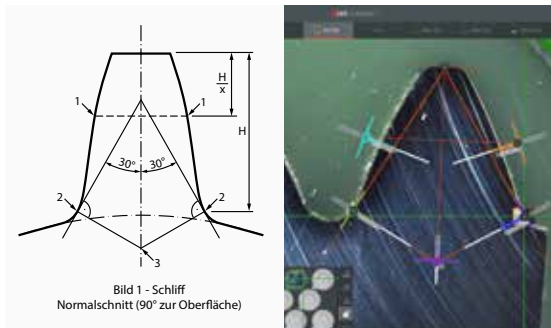
PRACTICAL

APPLICATIONS



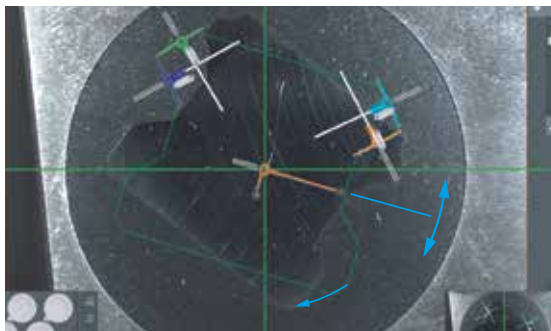
HIGH-RESOLUTION SAMPLE IMAGE (HRI)

If high-quality images of larger areas are required (e.g. for weld seam measurements), the area can be scanned using the HRI function. The Qpix Control 2 software automatically combines the individual images into one large overall image.



TOOTH FLANK TESTING

The time-consuming creation of test points, especially with tooth flank testing, is minimized by means of pre-defined test templates. The Qness 60 A+/A+EVO enables the entire normed procedure between HV30 and HV1 to be done by one single device.



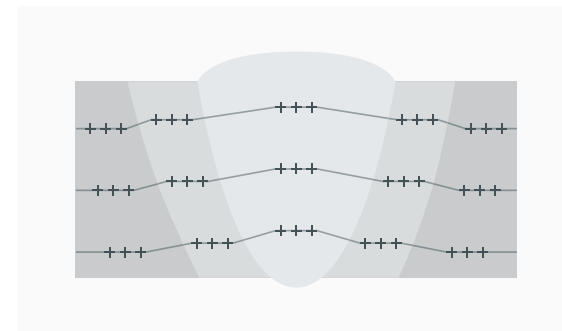
TEMPLATE FUNCTION

- Ideal for repeated tests / components
- Alignment of 'test point mappings' directly on the work piece with reference lines and bench marks
- Test point and analysis patterns without 'fixed stop' or sample holder
- The sample image can be used in a clearly-structured test report



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 set-up, matrices and cassette systems for every requirement.



WELD SAMPLE TESTING AND ANALYSIS

Serial provision of 'Advanced Welding' functions facilitates the simple, norm-compliant (e.g. EN ISO 9015 & EN ISO 22826) integration of test mapping for hardness testing. Pre-defined patterns can be simply adapted to each respective test piece via interactive functions. If required, Qpix INSPECT modules can also provide a simultaneous material-graphics analysis of the weld seam.

ILLUMINATED STATUS DISPLAY

BRINGS LIGHT INTO THE DARK

The illuminated QATM logo displays the current device status at a glance. The range of flash intervals indicates whether the device is operating automatically or is free to be used for new tasks for staff all around the lab. Furthermore, not only does the LED test space lighting, installed as standard, allow samples and sample holders to be set up correctly, in the A+ version it guarantees uniform light intensity for sample imaging.

8-FOLD SAMPLE HOLDER

PERFECTION IN FULL AUTOMATION

QATM sample holders are designed to ensure maximum sample throughput. 'A+'-device test tables include enough space for an 8-fold sample holder as standard; up to two sample holders can be used in parallel with the optional 300 mm slide.

GATM

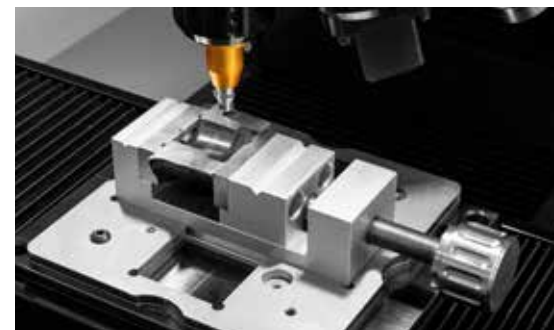
OPTIMIZED SAMPLE CLAMPING

GUARANTEED



EMBEDDED SAMPLES

The secure clamping of samples thanks to a redesigned sample holder with a built-in clamping force limiter, simplifies sample centering and positioning. A sample plate with a ball-joint even clamps samples that cannot be held flat to prevent them tilting or sliding during testing. Available with 1, 4 or 8 sample-holding positions and adapter rings for a large range of metric and imperial sample diameters.



VICES

The clearly-organized, large and robust test room facilitates universality. Additionally, clamping samples straight into conventional vices reduces the effort required to prepare the sample, and expands the range of possible future test applications. QATM vices are also available with extra templates, enabling samples to be repeatedly clamped in precisely the same position.



NON-EMBEDDED SAMPLES

Components of almost all geometrical shapes can be fitted into the universal sample holder. Four clamping bolts can be set variably in various T-slots.



PRISMS

QATM prisms also enable round components to be tested with our devices. Benefit: Integration of the 3D model in the software automatically determines the center of the component and the highest point of each piece.



SPECIAL CLAMPING DEVICES

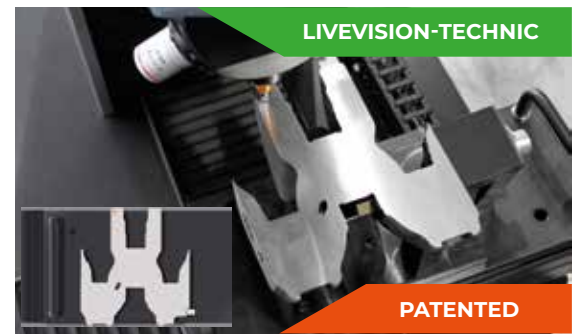
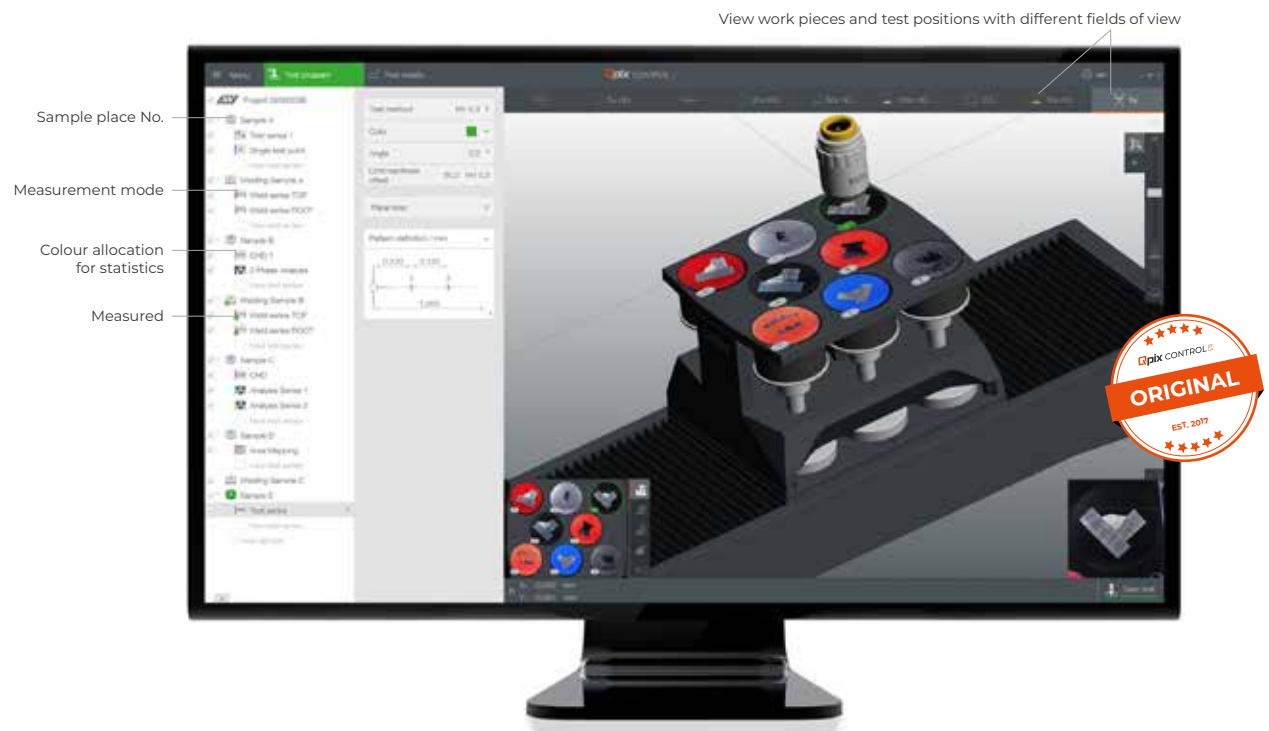
QATM is the right stop for advice on complex requirements and clamping devices! It would be our pleasure to advise, devise, customize and implement a solution for you. Only the right component clamping solution can guarantee reliable results.

SOFTWARE **Qpix** CONTROL2

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.



SIMPLIFIED LENSE SELECTION

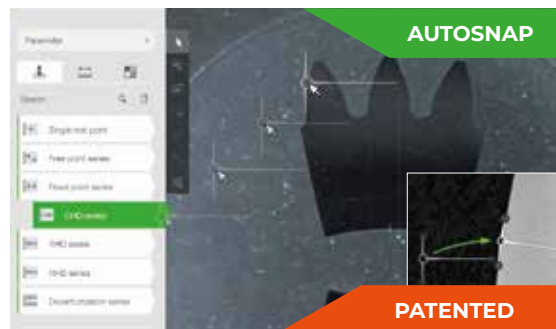
Based on the selected method (e.g. HV10), the suitable hardness range is displayed for each lens, which can be measured. The most suitable lens is also highlighted.

3 STEPS TO THE RESULT



1. LOAD SAMPLES

The machine moves automatically to the height of the sample holder. An image of the sample is taken automatically.



2. LOAD ROW

AutoSnap - Speedy row set-up: Drag the row of test points to the desired position. The serial Auto-Snap function corrects the starting point of the test row automatically.



3. START TEST SEQUENCE

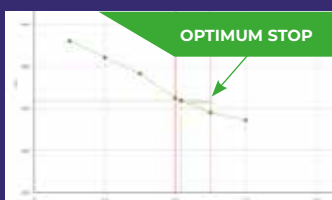
The test sequence is executed according to the applicable hardness testing standards.

MORE ACCURATE RESULTS RAPIDLY



FULLY AUTOMATIC HARDNESS TESTING

Several progressions and samples are created and completed 'unmanned' (e.g. 60 progressions on 8 different samples in one test run)



SAVE TIME WITH OPTIMUM STOP

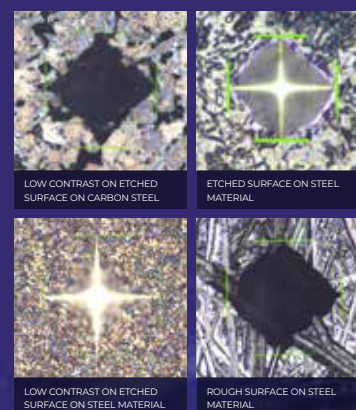
Time-saving test mode 'Complete all indentations – then evaluate' and 'Optimum stop' to complete test series as soon as the lower hardness limit has been undercut.

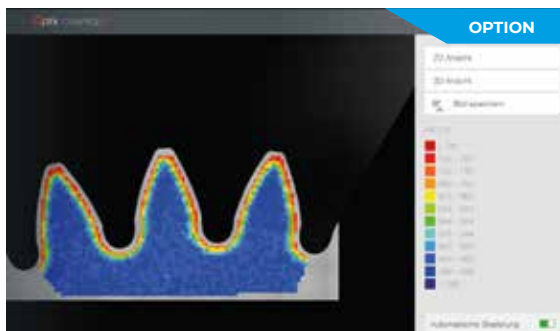


REVOLUTIONARY IMAGE EVALUATION WITH AI-TECHNOLOGY

FULLY AUTOMATIC DETECTION AND EVALUATION, EVEN WITH DIFFICULT SURFACES.

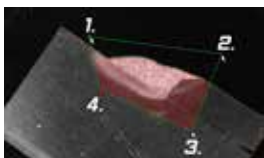
Discover the future of hardness testing with our groundbreaking AI integration, QAI. Our technology sets new standards in precision and efficiency by utilising cutting-edge AI models specifically designed for the challenges of Vickers, Knoop and Brinell hardness testing. The QATM quality standard and the ability to guarantee increased performance through retraining make QAI second to none in the industry.



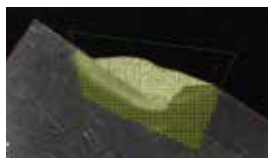


2D/3D AREA MAPPING

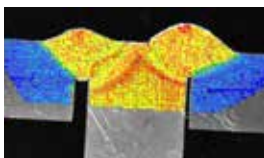
The optional software module '2D/3D hardness chart' is the perfect aid for the detailed determination of hardness distribution over the total cross section, especially for heat-treated samples. This is extremely important in material exploration, and also for weld testing or in damage analysis.



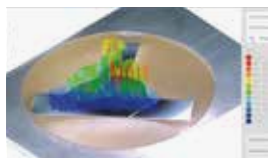
1. Create area



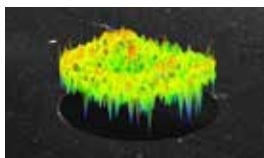
2. Define grid



3. Display in 2D...



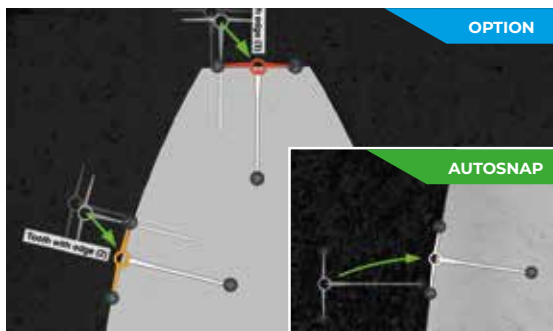
...or 3D



Homogenous hardness distribution chart on wire cross section



Test point pattern on a non-bedded specimen



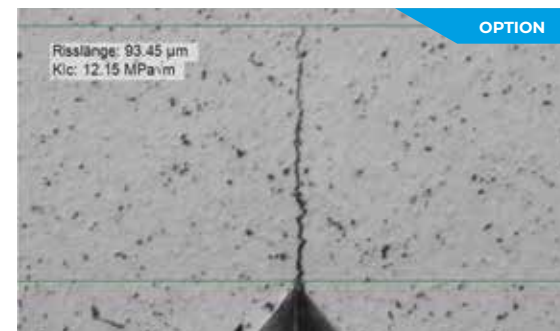
EDGE RECOGNITION

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 AutoSnap function.



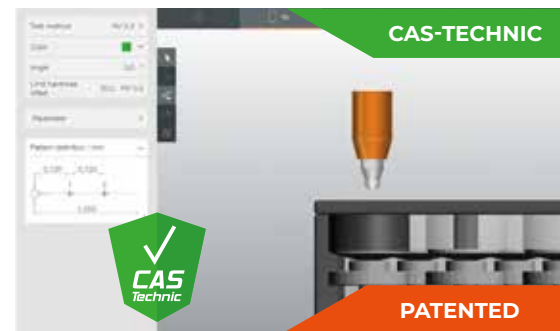
DIGITAL CALIPER

The digital caliper is compatible with the Qpix Control2 system and reads the dimensions, height and diameter of components wirelessly and at the push of a button, entering them into the software. The test head height control enables the test height to be reached completely automatically with no need for manual input.



FRACTURE LENGTH MEASUREMENT

The KIC value is established via norm-compliant measurement of the 4 fracture lines. The MPa√m is subsequently calculated automatically.



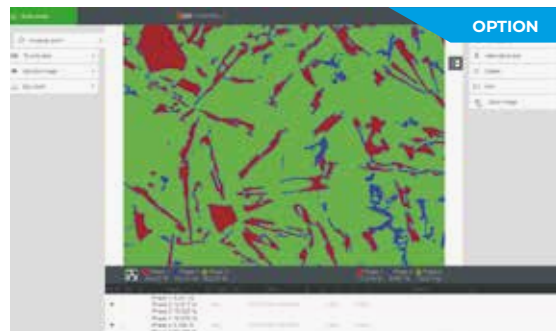
CAS TECHNOLOGY

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.

STRUCTURAL ANALYSIS MADE EASY

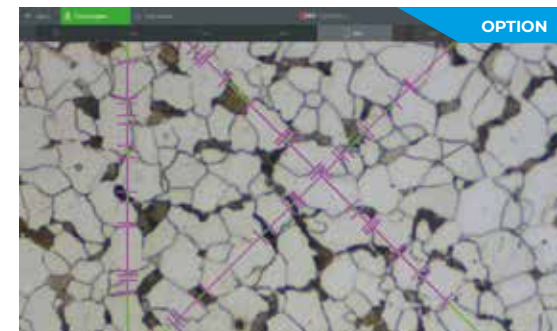
QPIX INSPECT SOFTWARE MODULES

The intuitive and user-friendly Qpix INSPECT software functionality provides a comprehensive toolbox for microscopic evaluations and result documentation. The multifunctional software can be customized for customer-specific measuring tasks and complemented with add-on modules.



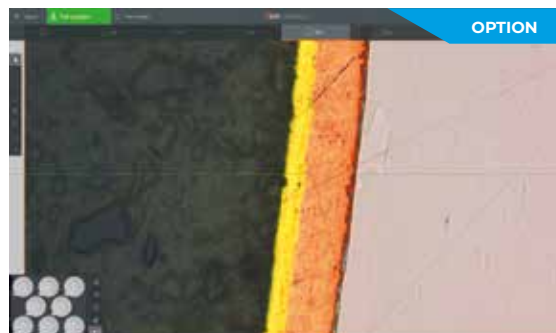
INSPECT PHASE ANALYSIS

- | Automatic image object dimensioning
- | Evaluation of phase fractions according to ISO 9042 and ASTM E562
- | Provides analytics results as percentage proportions of a surface or as nominal surface values as tables or diagrams



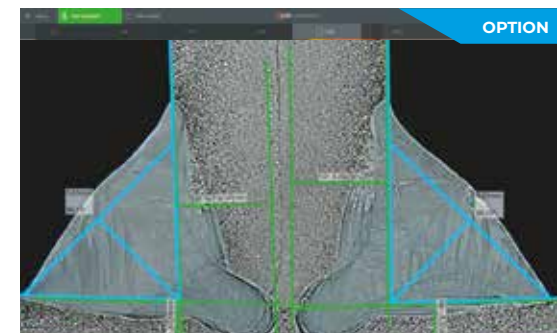
INSPECT PARTICLE SIZE DETERMINATION

- | Particle size determined according to DIN EN ISO 643 and ASTM E112 via linear or circular section method.
- | Results of the analysis provided as tables or diagrams.
- | Documentation of statistical characteristics of particle size and segment lengths cutting through the particles.



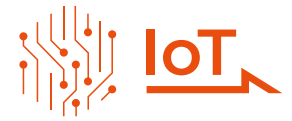
INSPECT LAYER THICKNESS MEASUREMENT

- | Determination of layer thickness according to DIN EN ISO 1463.
- | Semi-automated gauging of horizontal, vertical and radial layers.
- | Provision of layer thickness as statistical values for lengths as tables or diagrams.



INSPECT WELD SEAM MEASUREMENT

- | Standardised measurement and evaluation of weld seams
- | Prefabricated templates with all relevant measuring tools such as throat thickness, weld reinforcement, penetration depth, etc.
- | Automatic good/bad evaluation and report generation.



VISIONARY IDEAS

FOR INDUSTRY 4.0

#QNESSCONNECTEDFUTURE

Linking up production machinery, intelligent controls for production plants and automated data-sharing for work process planning, have become essential aspects of manufacturing operations over the past few years. Visionary ideas for the Internet of Things and Industry 4.0 now ensure we also offer interconnected test and result monitoring for quality assurance.

QATM HAS A CLEARLY-DEFINED GOAL

We aim to develop all the requisite technologies, processes and resources, and ensure that customers get 100% of the benefits from all the interconnected devices installed by QATM and to profit from optimized data management. All the steps, tools and developments this requires, are integral to our project: **#QnessConnectedFuture** We can already meet many of these requirements today!

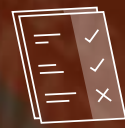
BENEFITS



Efficient documentation



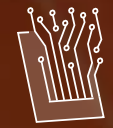
Reduced operation influence



Minimization of error sources



Faster and improved process monitoring



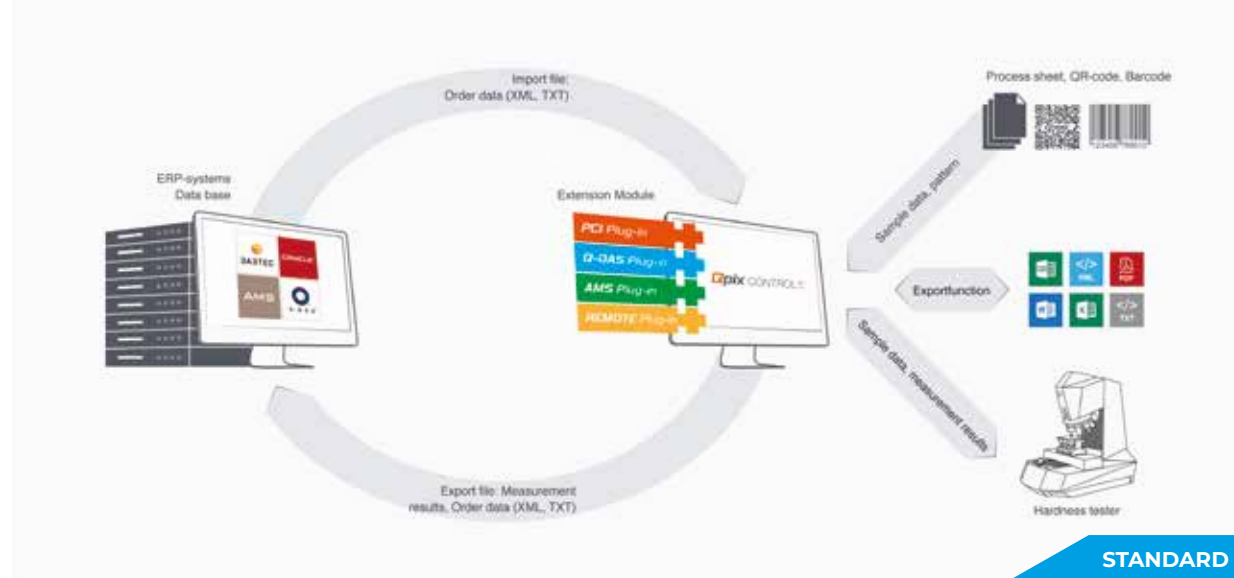
Real-time results



Reduced costs

INTELLIGENT
DATA EXCHANGE
SOLUTIONS TODAY

FOR CONNECTED TOMORROWS



QCONNECT

Qconnect is the interface in Qness 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 Qness. We have a professional solution for every applicational requirement.



CALIBRATION MANAGER

This is a leap forward for calibration result management. The QATM Calibration Manager reminds operators of the necessary tests at freely definable intervals. Test results are added to the ongoing statistical record at the push of a button.



BARCODE/QR CODE/DMC READER

Qpix software platforms support barcode and QR code readers. Whether simply inserting header files (serial), managing the complete integration of reading devices for the automatic selection of templates, or calling up data from superordinate systems (optional) – barcode/QR code readers simplify work procedures for the tester, while also preventing operating errors.



IOT - INTERNET OF THINGS

Your virtual laboratory for managing, controlling and reporting of your QATM devices. Always keep an eye on the measurement progress of your hardness testers. Automatic software updates can be carried out and backups can be saved via the cloud. All settings are of course fully customizable.

iot.verder-scientific.com

VERSIONS & ACCESSORIES

CONFIGURE HARDNESS TESTER



Online Configurator >

MODEL

Qness 10/60 M

Semi-automatic

Qness 10/60 A+

Semi-automatic incl. manual cross slide

Qness 60 A+ EVO

Fully automatic

Qness 60 A+ EVO

High-End fully automatic

LOAD LEVEL

VARIANT

High M

High A+

Long A+

Long & high A+

TEST MODULES

Vickers

Knoop

Knoop IPC

Brinell

Rockwell

INDENTER

Vickers

Knoop

Brinell 1 mm

Brinell 2,5 mm

Brinell 5 mm

Rockwell

Rockwell 1/16"

LENSES

2,5x

5x

10x

20x

50x

100x

XLED 2x

HQ LENSES

5x

10x

20x

50x

100x

XY ACCESSORIES

Wear plate with magnets

Digital data feedback

SAMPLE HOLDER

1x

2x

4x

8x

Universal

Grinding sample holder

Adapter

VICES

10.

Span
32 mmSpan
55 mm3-fold
clampPRISMS
& ANVILS

11.

ø 4-50 mm



ø 10-130 mm



ø 18-70 mm



ø 200 mm



ø 4-50 mm



ø 4-50 mm

SOFTWARE
INCLUDED FEATURES

12.

Auto
EvaluationAuto
BrightnessAuto
FocusOverview
cameraPicture in
picture

Stitching

Dual
SystemProject man-
agement

User fields

User
managementCollision
avoidance3D
SoftwareSample
holderSingle
testingVisual
testpointsSeries
testingCHD
testingSHD
testingNHD
testingDecarburisa-
tion depth test

Autosnap



Templates

Test point
patternAuto minimum
distance

Grid

Group
functionImage
captureWeld seam
inspectionTooth flank
inspectionForce/time
curvedifferent
sample heights

Caliper



Calibration



Diagrams



Statistics

SOFTWARE
OPTIONS

13.



IPC



NFC-Login



Edge detection



Contour scan

2D/3D
Mapping

Jominy



KIC



Sintering test

Rings & tubes
API

Barcode

PC SYSTEM

14.

Customer PC



PC System



4K PC System



2. Monitor

MICROSCOPY &
ANALYSIS

15.

Geometric
measurementPhase
analysisGrain size
measurementLayer thickness
measurementWeld seam
measurementCONNECTIVITY
IMPORT & EXPORT

16.

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, ...)

HARDNESS
COMPARISON PLATES

17.

Vickers, Knoop,
Brinell, Rockwell

ACCESSORIES

18.

Dust cover

Vibration-damped
table top attachmentLaboratory benches
with hard stone plate

CALIBRATION

19.

Accredited QATM DAkkS/
ASTM calibrationDAkkS or ASTM calibration
for test methodsFactory calibration
cross table/XY slide

Patented

ACCESSORIES AND

INDIVIDUAL CONFIGURATIONS



PREMIUM HARDNESS TEST BLOCKS

Premium quality in comprehensive variety. Independent DAkkS (ISO/IEC 17025) calibration according to DIN EN ISO and ASTM including software for periodic norm-compliant tests.



EVEN LARGER WORK ROOM

The optional large slide doubles the test table surface area to 300 x 120 mm. If required, the test height can also be extended from 150 mm to 260 mm.



DUAL SYSTEM

With the Qpix Control 2 software, several QATM devices (for example a Qye 800 and a Qness 60 A+ EVO) can be operated with the same PC system. It is easy to switch back and forth between the two devices in the software.



QNESS 60 A+ PORTAL VERSION

The Qness 60 EVO is a portal solution that offers unique movement flexibility, opening up new possibilities in micro and low load hardness testing.

Benefits:

- | Test table dimensions/traverse path 500 x 500 x 300 mm
- | Front-loading position – ideal for heavy test pieces loaded by cranes
- | Accommodates up to 9 x 8-piece sample holders at once (72 pieces) and safety housing with a CE light grid
- | Unrestricted operational convenience



Variant M



Variant A+ / A+ EVO



	Qness 10 M	Qness 60 M	Qness 10 A+	Qness 60 A+	Qness 60 A+^{EVO}
Test force range	20 gf - 10 kgf (0.196 - 98.07 N)	0.25 gf - 62.5 kgf (0.00245 - 612.92 N)	20 gf - 10 kgf (0.196 - 98.07 N)	0.25 gf - 62.5 kgf (0.00245 - 612.92 N)	0.25 gf - 62.5 kgf (0.00245 - 612.92 N)
Z-axis	Dynamic, automated (CAS-Technic), Travelling distance Z 150 mm (5.91") (Option: 260 mm (10,2"))				
Tool positions	8-fold motorized tool changer (max. 3 hardness testing modules, max. 7 lenses)				
Camera system / image transfer	5 Mpixel - CMOS color, USB3.0				
Lenses	XLED 2x, 2.5x, 5x, 10x, 20x, 50x, 100x				
Lens types	Standard (Achromat) and High Quality (Semi-apochromat) for hardness testing and microscopy XLED for optimised Brinell hardness testing				
Sample image camera	-	5 Mpixel - CMOS color, USB3.0 52 x 39 mm (2.05 x 1.54")			
Test anvil / XY cross slide	Option: manual cross slide**		Automatic cross slide		
Table size	Ø 100 mm (3.94") (cross slide: 135 x 135 mm)		150 x 120 mm (5.91 x 4.72")***		
Positioning accuracy	-		+/- 2 µm		+/- 0,2 µm
Traverse path	at cross slide: X 25, Y 25 mm (0.98 x 0.98")**		X 150, Y 150 mm (5.91 x 5.91")***		
Control elements	Emergency stop, Start button, Joystick Z*		Emergency stop, Start button, Joystick X/Y/Z*		
Max. workpiece weight	50 kg (110 lbs)		50 kg (110 lbs)		
Weight of basic device	55 kg (121.3 lbs)		60 kg (132.3 lbs)		
Software	Qpix CONTROL 		Qpix CONTROL 		

KEY DATA

Test sequence	Fully automated / electronic force application
Hardness testing methods	Vickers, Knoop, Brinell, Rockwell (option)
Included basic equipment	Indenter Vickers ASTM + DAKKS, Lenses
Throat depth	170 mm (6.69")
Optical system	Upright microscope with Koehler lighting
Aperture diaphragm	motorized
Interfaces	1 x USB 3.0
Field of view (acc. to equipment)	0.074 x 0.055 mm (100x) to 2.80 x 2.10 mm (XLED 2)
Power supply	100 – 240 V ~1/N/PE, 45-65 Hz

ONLINE PRODUCT CONFIGURATOR

Additional modules and accessories can be viewed using the online product configurator at www.qatm.com



Online Configurator >



*Qness 10/60 M only Z-axis movement **Reduces test height by 20 mm, Option: X/Y 50 x 50 mm (1.97 x 1.97") ***Option: X/Y 300 x 150 mm (11.8 x 5.91"), table size 300 x 120 mm (11.8 x 4.72")

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VERDER

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