a VERDER company

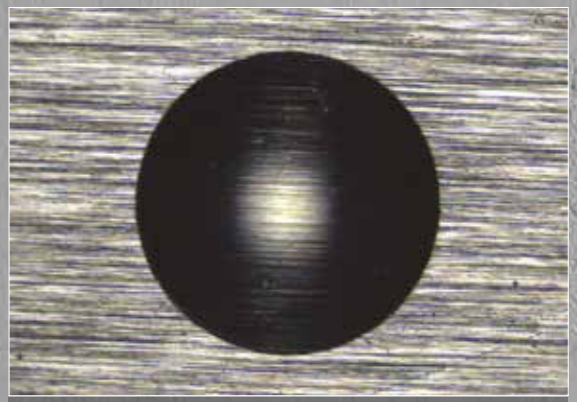
Qness 200 CS
Qness 200 CSA+

EFFICIENT AND SUSTAINABLE

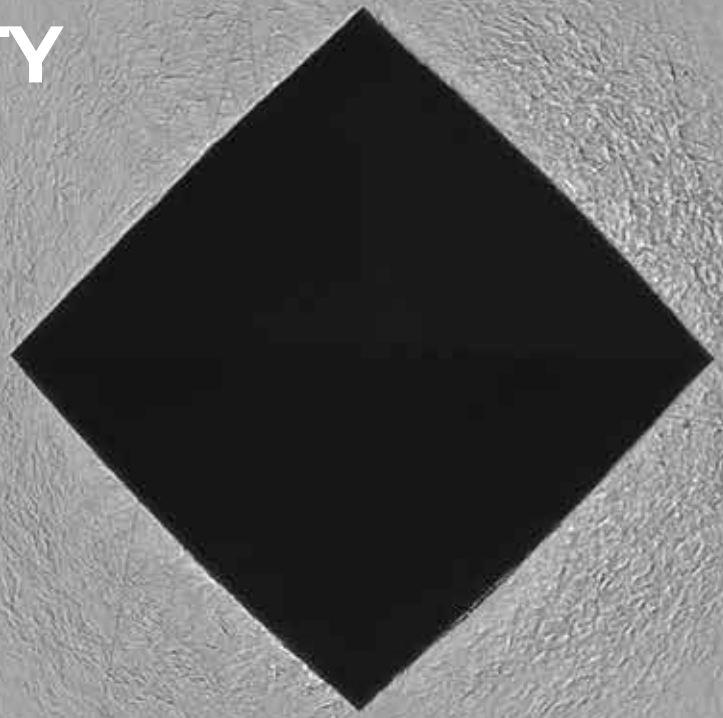
NEXT-GENERATION UNIVERSAL HARDNESS TESTING

OPTICAL TEST METHODS

EXCELLENT IMAGE QUALITY



The optics system of the new CS/CSA+ series has been completely redeveloped. It was built on site in the clean room at the QATM plant and benefits from the company's comprehensive expertise. The devices share one universal microscope system covering all the necessary visual ranges between 0.1 mm and 4,2 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.



REVOLUTIONARY IMAGE EVALUATION WITH AI TECHNOLOGY

FULLY AUTOMATIC DETECTION AND EVALUATION, EVEN WITH DIFFICULT SURFACES

Discover the future of hardness testing with our ground-breaking 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.

EFFICIENT AND SUSTAINABLE

HIGHLY ACCURATE RESULTS IN ULTRA-SHORT TIME

COMPACT DESIGN - STATE-OF-THE-ART TECHNOLOGY

- Test force ranges 0.5 kg to 187.5 kg
- Two machine versions to serve all applications and test piece sizes
- Direct depth measurement system with a resolution of 0.05 µm
- Robust, welded steel frame and covers made of sheet steel

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	10/100	
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

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

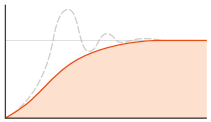
KNOOP
DIN EN ISO 4545, ASTM E-92, ASTM E-384

HK0.5	HK1	HK2

PLASTICS TESTING
DIN EN ISO 2039

49.03 N	132.9 N	357.9 N	961 N

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



FULLY AUTOMATED TEST CYCLE

With electronic weight application and closed-loop control

MADE IN AUSTRIA

Unmatched in its class! We know how important a long-serving superior-quality device can be and guarantee excellent quality from our Qness 200 CS/CSA+ series. Developed and manufactured in Austria!

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.

FASTER
TEST METHOD CHANGE-OVER

5-POSITION TOOL CHANGER

Simply cover universal applications: the concept with horizontal rotary axis combines space for 5 tools in a uniquely compact design. Three-sided closed elements ensure secure workpiece clamping close to the test point, even with small components.

PROVEN UNIVERSALITY

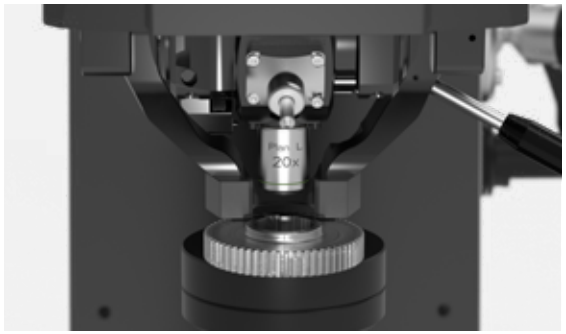
UNLIMITED SUITABILITY FOR INDUSTRIAL APPLICATIONS

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.

SWIVELING DOWNHOLDER

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



OPTIMIZED TEST HEAD DESIGN

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

TEST TABLE HEIGHT ADJUSTMENT

Height adjustment via stable, ultra-precise roller-bearing spindle guide. Solid, no-maintenance structure. All devices are available with a Ø 25 mm table mount (optional ¾" adapter available) facilitating the use of a wide range of test tables and devices.

RAPID INDENTER CHANGING SYSTEM

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

UNIVERSAL HARDNESS TESTING

VERSION 200 CS

- Redefined version of a reliable concept
- Ideal for small workpieces

VERSION CS

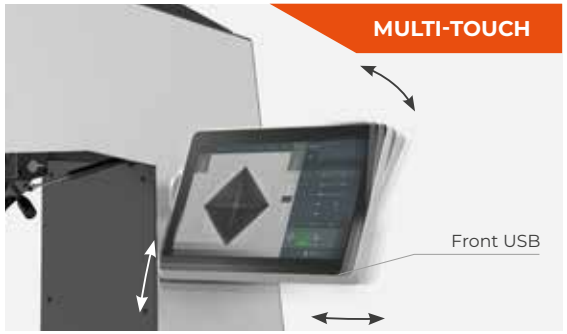
FAST, QUIET AND UNIVERSALLY APPLICABLE

HIGHLY DURABLE, EXTREMELY PRECISE

As with the Qness 250/750/3000 C/CS and the Qness 150 CS machines, a ultra precise roller bearing spindle is used. All devices are available with a 25 mm table mount to provide the opportunity to mount a great variation of test tables.

BASIS FOR BI-DIRECTIONAL DATA LINK-UP

All machines of this series can, if required, be equipped with a desktop PC system. Customers can provide their own PC system and use it to control their hardness tester.



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.

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.

WORKSPACE ILLUMINATION

The bright, uniform LED workspace lighting enables safe positioning of the test part. The workspace lighting is designed to illuminate the test area without disturbing shadows.

Qpix T2

FULL-HD 13.3“ PANEL-PC

CLEAR FOCUS ON ESSENTIALS

MULTI-TOUCH CAPACITY FOR ULTRA-SIMPLE OPERATION:

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

RESULT OVERVIEW

The most important information is centralized and displayed in a main screen, so that user-friendliness and, above all, the test results are in focus. Functions: measurement list, progress curve, statistics, distribution, live force/time progress

SOFTWARE QPIX

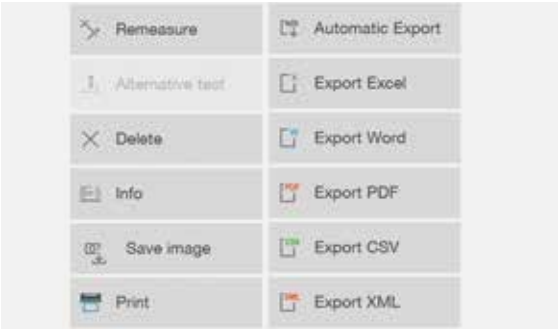
A NEW DIMENSION OF EFFICIENT OPERTATION

DATA ADMINISTRATION

- Numerous statistical functions: Bar graphs, line graphs, histograms
- Export test results as XML or CSV file
- Detailed normed information on each indentation
- Test report as Excel, Word, PDF or direct print
- Automatic export and deleting functions for serial operation

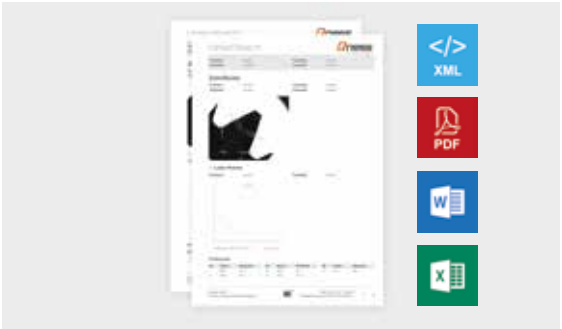
ONLINE SUPPORT

'Online Support Mode' links up the hardness testing device with the QATM service center. This allows user support and software updates to be provided as quickly as possible.



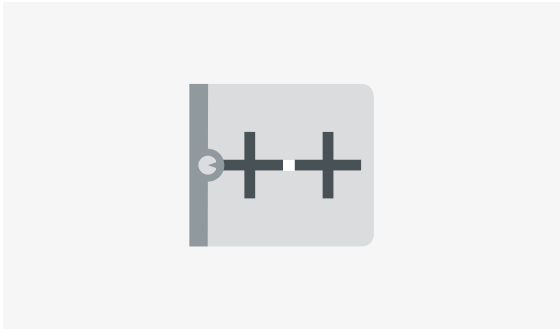
SAVE, DELETE & EXPORT FUNCTIONS

Save, create and archive data protocols at the push of a single button. Ideal for serial tests or in-line integration.



PROTOCOL AND DATA EXPORT

Export formats also in Qpix T2 PDF, XLSX, DOCX, XML or CSV, plus direct release of results via RS232 or Ethernet interface.



ROW TEST SEQUENCE

Predefinition of test programs with a fixed number of test points is included as standard. Optional expandable with manual slide, digital micrometer spindle and position feedback.

FULLY AUTOMATED UNIVERSAL HARNESS TESTING

VERSION 200 CSA+

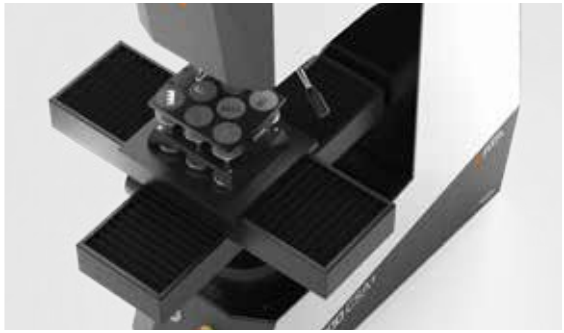
- Proven concept - fully automated with high-precision XY slide
- For applications with constant sample height

FULFILS 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

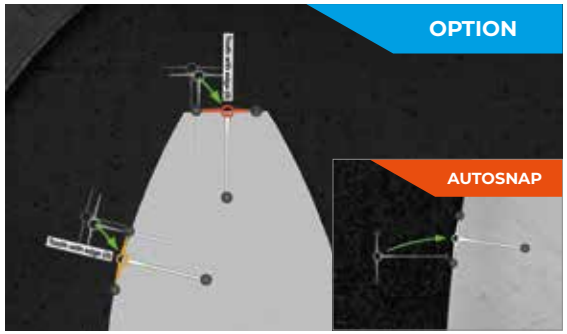
The automatic XY slide with high-precision positioning drive enables extensive test series and hardness curves. External joystick for controlling the axis. Usable support surface: 180 x 200 mm, Traverse path: X 220 / Y 220 mm.

EMBEDDED SAMPLES

QATM sample holders, with up to eight embedded samples, can be placed on the large workpiece support to be tested in one operation.

GRINDING PLATE

Grinding, polishing and hardness testing - all in one work cycle. The machine is designed to be equipped with the grinding plates of the QPol machines, using a special contraption. This prevents the need to unclamp the samples in between steps.



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.

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 200 x 180 mm.

MAXIMUM CLAMPING SAFETY

High-performance induction motor facilitates an ideal workpiece clamping force. 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 adaption.

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.

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.

IDENTICAL SAMPLE TESTS

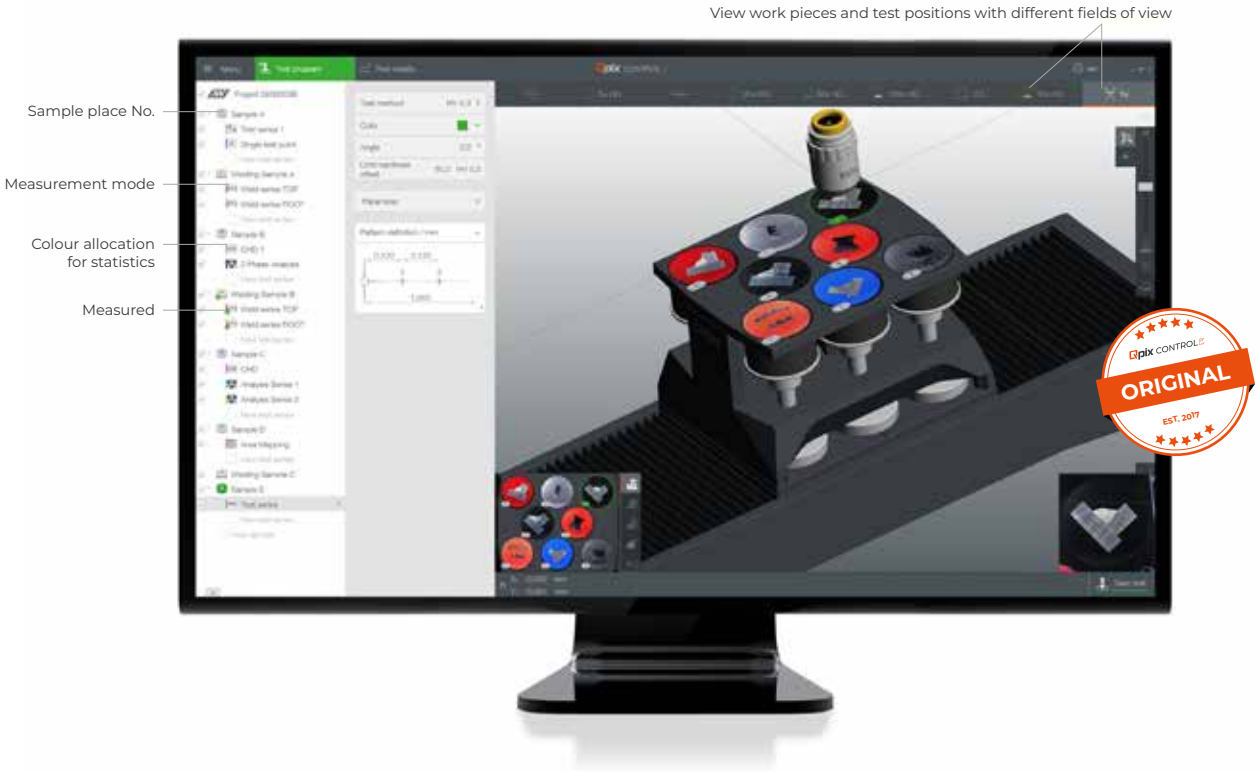
An entire range of relevant data, such as test patterns, test methods and user fields can be activated via pre-defined sample magazines. QATM can provide the most suitable clamping setup, matrices and cassette systems for every requirement.

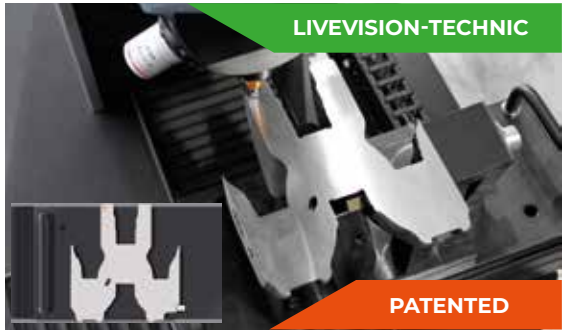
SOFTWARE Qpix CONTROL2

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

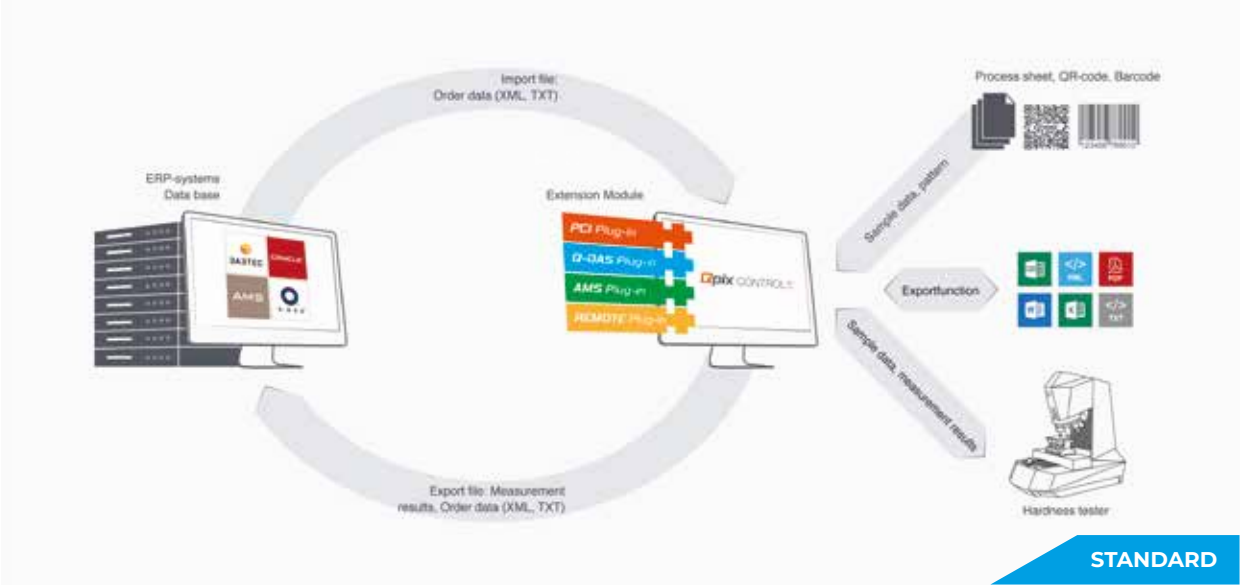
Identical samples can be set up in the software in scale as a 3D model.

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.

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

	Qness 200 CS	Qness 200 CSA+
Test force range	0.5 - 187.5 kg (4.9 - 1839 N)	0.5 - 187.5 kg (4.9 - 1839 N)
Tool positions	5 (toolchanger)	5 (toolchanger)
Software	Qpix T	Qpix CONTROL
Hight adjustment	manuel / spindle	motorized
Test height	250 mm	140 mm
Throat depht	238 mm	238 mm
Test table	Ø 100 mm	180 x 200 mm
Traverse path	-	X 220 / Y 220 mm
Max. workpiece weight	„unlimited“	„unlimited“
Weight of basic device	132 kg	174 kg

Test sequence	fully automated / electronic force application
Camerasystem / Image transfer	5 MP ethernet industrial standard
Operating system / Hard drive	Windows 11 IoT / 128 GB SSD
Ports	1x USB (Front) 4x USB, 2x RJ45 (Ethernet), 1x DisplayPort, 1x RS232, 1x HDMI
Lenses	XLED 2, XLED 5, 5x, 10x, 20x, 50x, 100x
Field of view (acc. to equipment)	0.113 x 0.084 mm (100x) to 4.24 x 3.18 mm (XLED2)
Additional options	QATM designer pedestal, collision protection, cross laser, test anvils, prisms, data connections, barcode/QR code reader etc.

Pedestal (Option)

ONLINE PRODUCT CONFIGURATOR

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

Online konfigurator ›

QATM®
a VERDER company

ATM Qness GmbH

Emil-Reinert-Str. 2
57636 Mammelzen
Germany

Phone: +49 2681 9539 0
Fax: +49 2681 9539 27

ATM Qness GmbH

Reitbauernweg 26
5440 Golling
Austria

Phone: +43 6244 34393
Fax: +43 6244 34393 30

info@qatm.com www.qatm.com

PREMIUM QUALITY
MADE IN GERMANY

TECHNOLOGY WIZARDS AUSTRIA

VERDER

ENABLING PROGRESS

VERDER SCIENTIFIC is composed of leading laboratory equipment companies active in sample preparation and analysis for quality control as well as research & development purposes.

As trusted solution partner, VERDER SCIENTIFIC enables thousands of companies to ensure economic, technological and environmental progress by mastering their scientific applications. Together, we make the world a healthier, safer and more sustainable place.

CARBOLITE
ELTRA
Retsch
QATM
MICROTRAC
ERWEKA