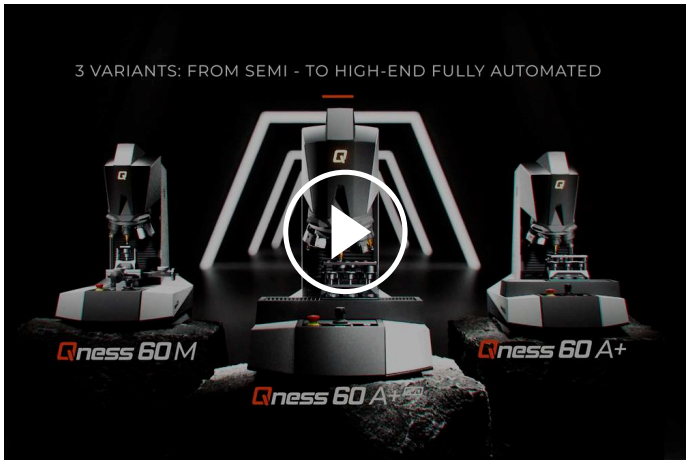
VICKERS / KNOOP / BRINELL / ROCKWELL MICRO HARDNESS TESTER

QNESS 10 / 60 M

The Vickers / Knoop / Brinell / Rockwell hardness tester series Qness 10 / 60 takes micro hardness testing to a whole new level: The high-end laboratory devices of the latest generation combine the best of both worlds – hardness testing and microscopy without compromise and with maximum operating convenience. The revolutionary optical system with color camera provides reproducible and reliable results every time.

The classic "Qness 10 / 60 M" model of this Vickers / Knoop / Brinell / Rockwell hardness tester promises perfect semi-automatic operation and high precise positioning control of the Z axis. The combination of micro hardness tester and microscope makes this entry-level model a convincing solution for the laboratory.

QATM micro hardness testers seamlessly integrate with the Verder Scientific IoT platform, featuring remote real-time monitoring, live notifications, effortless backups and automatic software updates.



Klik om video te bekijken

Product Video

QNESS 10 / 60 M

PRODUCTVOORDELEN

- Semi-automated
- Breed gamma krachten (0.25 g – 62.5 kg)
- Ready to Test package, includes: ASTM+DAkkS certified Vickers diamond, 5x / 50x lenses
- Dynamische test revolver met 8-positie gereedschapswisselaar
- Qpix Control2 M Software including INSPECT microscopy features
- Digitale XY slede met data terugkoppeling
- Controlled automatic Z axis

EXPERIENCE THE 3D MODEL IN THE REAL WORLD!

FEDAR

SHARE

CHOOSE PRODUCT:

Qness 10/60 M

AR-Model - Visit the page with your smartphone or scan the QR code under "View in Room" and experience the 3D model in the real world!

QNESS 10 / 60 M

TEST METHODES & KRACHTEN BEREIK

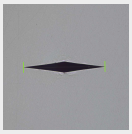
QATM hardness testers accurately analyze according to all standard test methods and cover a wide spectrum.

The electronically controlled, **fully automated test cycles** ensure fast, precise hardness testing, as well as fast method changes and automatic detection of the focal plane. With the **Ready to Test package** all Vickers test methods are possible with the standard scope of delivery.

Vickers
DIN EN ISO 6507, ASTM E-384, ASTM E92

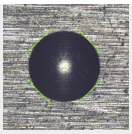
HV 0.00025*	HV 0.0005*	HV 0.001	HV 0.002
HV 0.003	HV 0.005	HV 0.01	✓ HV 0.02
✓ HV 0.025*	✓ HV 0.05	✓ HV 0.1	✓ HV 0.2
✓ HV 0.3	✓ HV 0.5	✓ HV 1	✓ HV 2	✓ HV 2,5
✓ HV 3	✓ HV 5	✓ HV 10	HV 20	HV 30	HV 50
HV 60*			

Knoop
DIN EN ISO 4545, ASTM E-384, ASTM E92



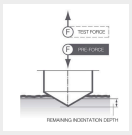
HK 0.001	HK 0.002	HK 0.005	HK 0.01	HK 0.015
HK 0.02	HK 0.025	HK 0.05	HK 0.1	HK 0.2	HK 0.3
HK 0.5	HK 1	HK 2		

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 2.5/6.5	HBW 2.5/31.25	HBW 2.5/62.5		
HBW 5/25	HBW 5/62.5			

Rockwell
DIN EN ISO 6508, ASTM E-18



HRA	HRF	HR15-N/T	HR30-N/T	HR45-N/T

Geïntegreerde conversies
DIN EN ISO 18265, DIN EN ISO 50150, ASTM E-140

Qness 60 M/A+/ all Vickers test methods possible with standard scope of delivery
✓ Qness 10 M/A+ with standard scope of delivery HV0.02 to HV10 possible.
* niet volgens normen

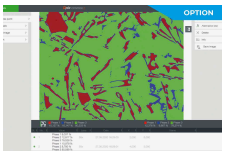
QNESS 10 / 60 M

MICROSCOPY & ANALYSIS WITH QPIX INSPECT

PHASE ANALYSIS

DIN 9042, ASTM E-562

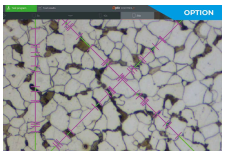
- Automatic image object dimensioning
- Provides analysis results as percentage proportions of a surface or as nominal surface values as tables or diagrams



PARTICLE SIZE DETERMINATION

DIN 9042, ASTM E-562

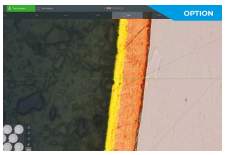
- Particle size determined via linear or circular section method
- Results of the analysis provided as tables or diagrams
- Abrams Circles, Heyn Lines, Snyder-Graff Line



LAYER THICKNESS MEASUREMENT

DIN EN ISO 1463

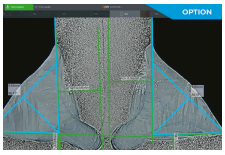
- Determination of layer thickness
- Semi-automated gauging of horizontal, vertical and radial layers.



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

QNESS 10 / 60 M

REVOLUTIONAIR OPTISCH SYSTEEM

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.

Experienced metallurgists agree the image quality provided by the Qness 10 / 60 M 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.

INNOVATIVE OPERATION

TEST OPPERVLAK VERLICHTING

Alle toestellen zijn voorzien van de nieuwe LED werkruimte verlichting: vereenvoudigd positioneren van monsters voor afzonderlijke analyses.

SAMPLE HOLDER

PERFECTION IN SEMI AUTOMATION

QATM sample holders are designed to ensure accuracy and repeatability. In combination with the digital slide and data feedback, the machine produces perfect measurement readings

QNESS 10 / 60 M

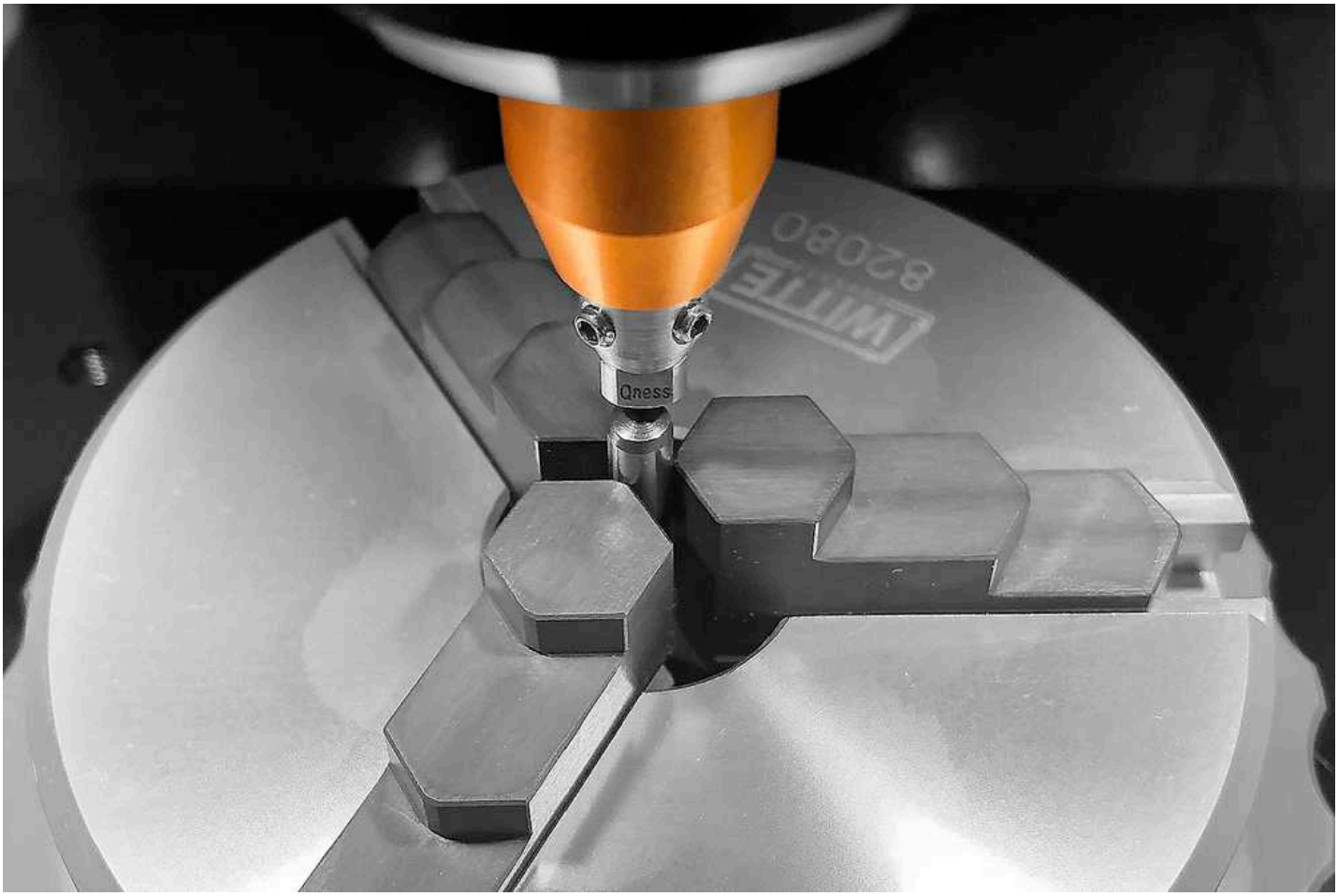
PIONIERSTECHNOLOGIE - UNIEKE IMPLEMENTATIE

QPIX CONTROL2M 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.

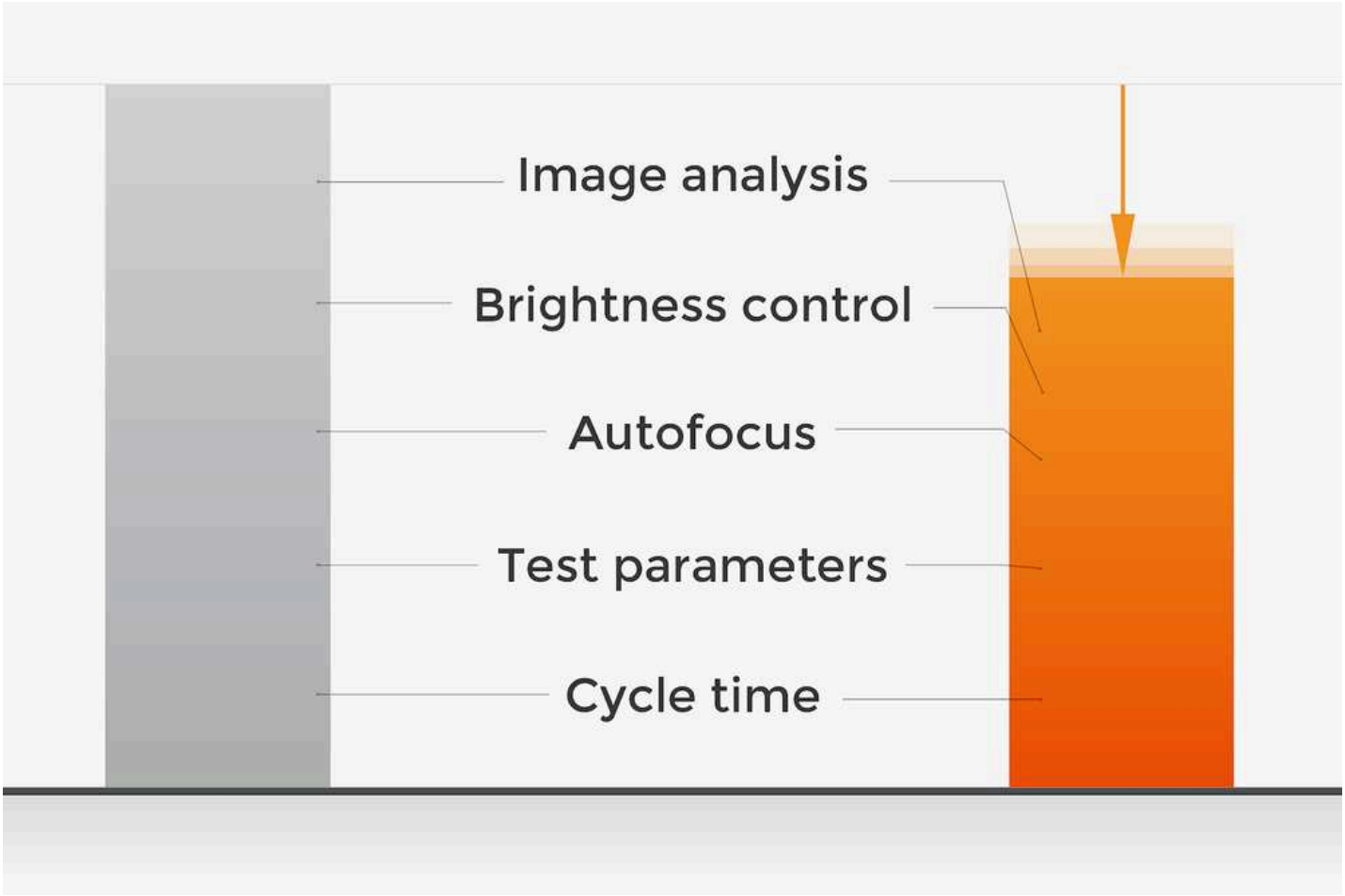
DIGITALE SLEDE MET DATA TERUGKOPPELING

Maakt seriële voorprogrammatie van testprogramma's mogelijk met een vast aantal meetpunten. Indien gewenst, ook met een manuele slede, digitale micrometer regelschroef en positie-terugkeer – zoals gebruikt voor manuele CHD progressies.



MAXIMALE GEBRUIKSVRIJHEID

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.



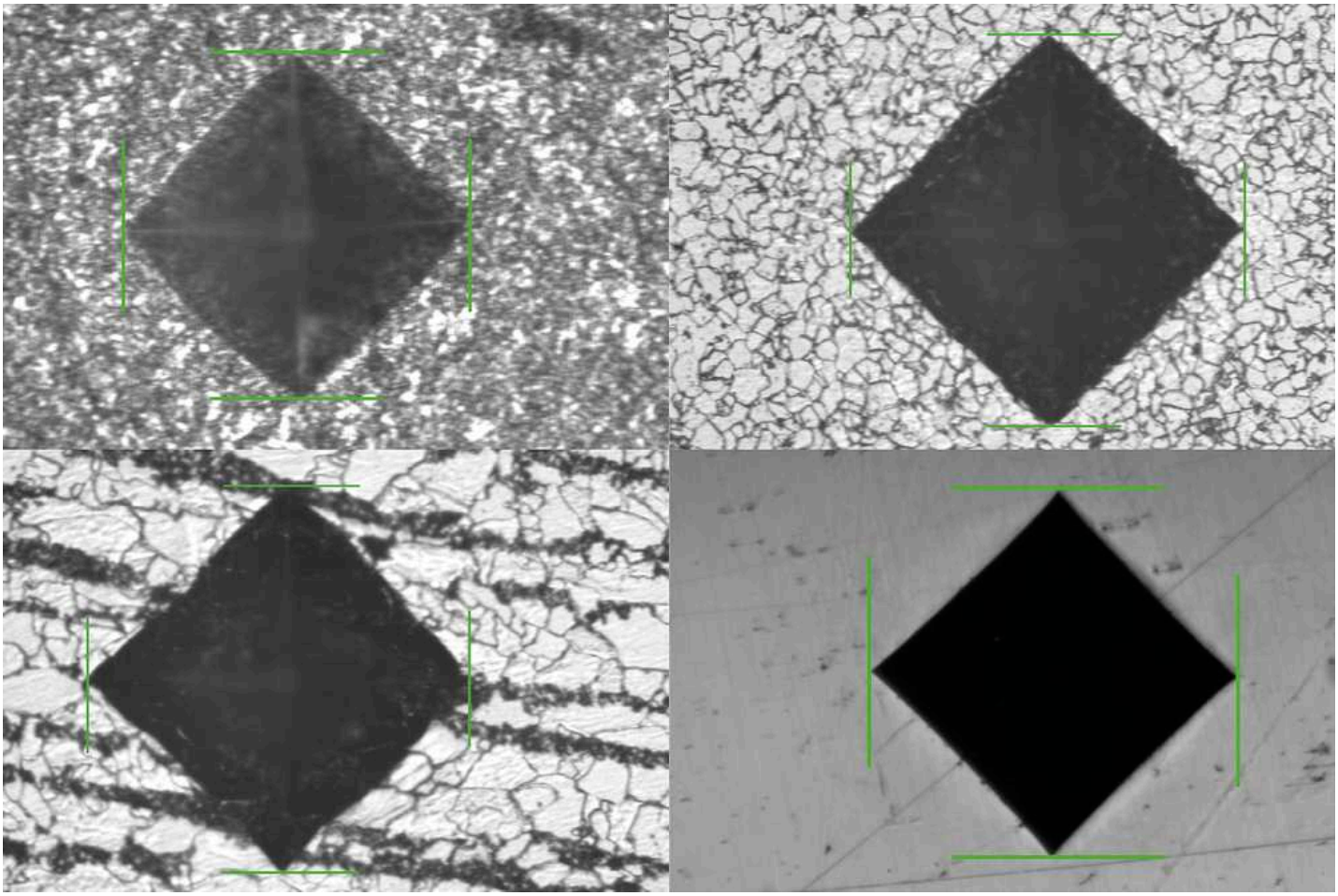
GEOPTIMALISEERDE PERFORMANTIE EN GELUIDSARM ONTWERP

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.

VERSTANDIGE REEKS BASIS FUNCTIES

Verschillende tijdssparende mogelijkheden zijn reeds in het QATM basis model opgenomen:

- Geoptimaliseerd autofocus systeem
- Automatische regeling helderheid
- Automatische foto evaluatie voor hardheidstest met meerdere evaluatie-modi
- Ingebouwde rapport generator



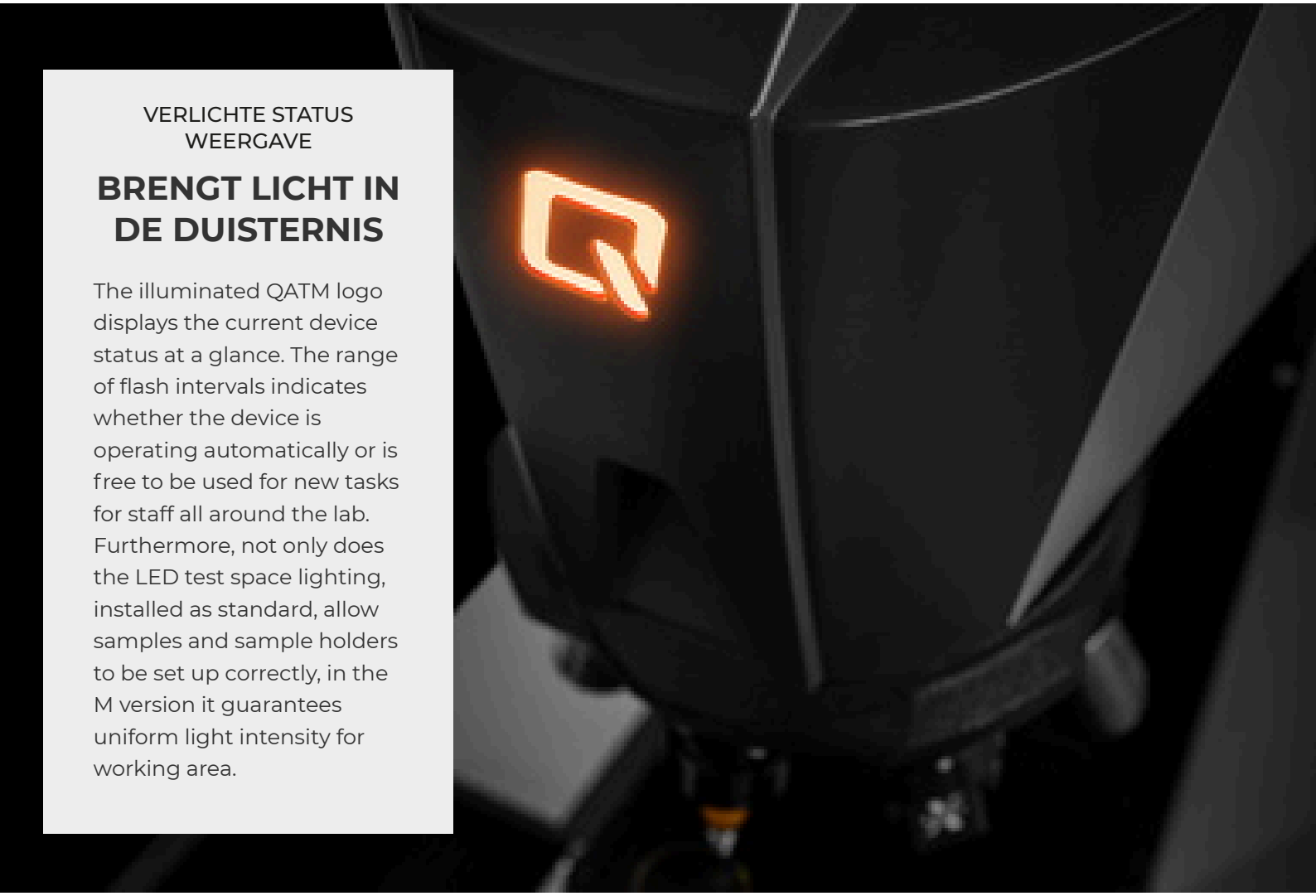
SURFACE INDENTATION RECOGNITION

The adjustable surface indentation recognition function reduces the required eff ort of sample preparation for testing the hardness of non-optimum surfaces. Hence, automatic indentation recognition is also possible on critical surfaces (etching, grinding...).

VERLICHTE STATUS WEERGAVE

BRENGT LICHT IN DE DUISTERNIS

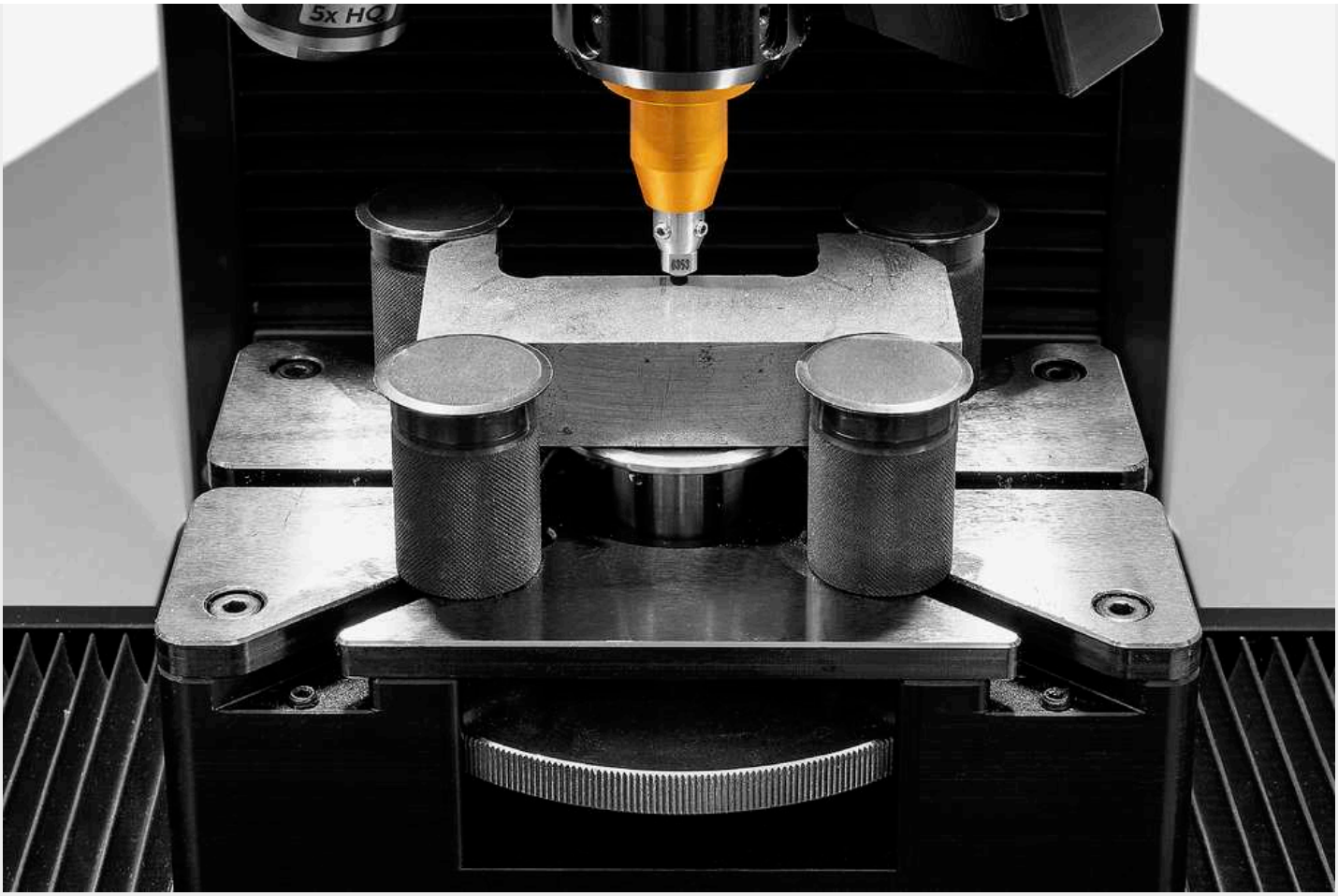
The illuminated QATM logo displays the current device status at a glance. The range of flash intervals indicates whether the device is operating automatically or is free to be used for new tasks for staff all around the lab. Furthermore, not only does the LED test space lighting, installed as standard,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



SAMPLE HANDLING FOR INDIVIDUAL & SERIES TESTING

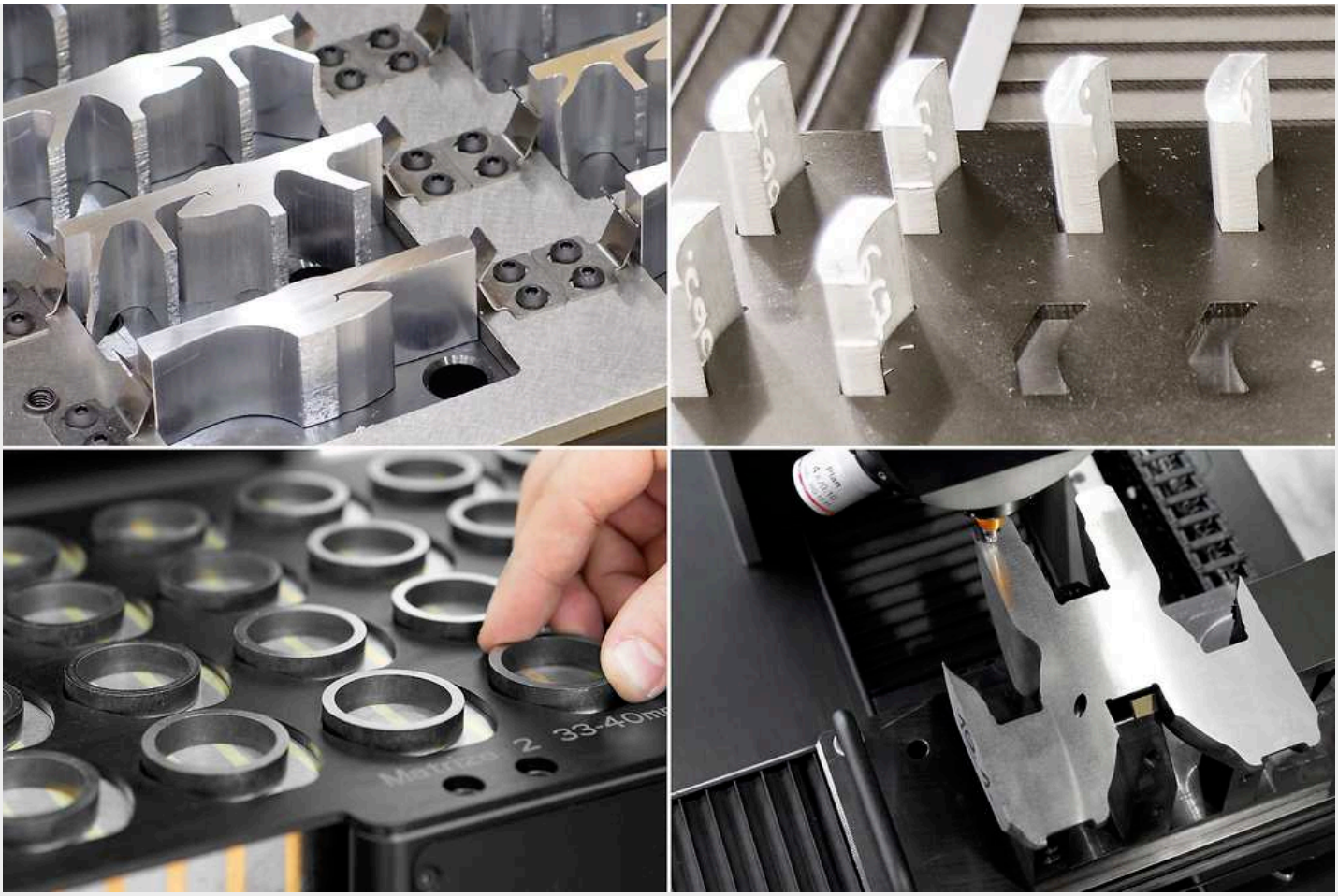
INGEBEDDE MONSTERS

Het veilig vastklemmen van monsters dankzij een herontworpen houder met een ingebouwde klemkrachtbegrenzer, vereenvoudigt het centreren en positioneren van het monster. Een plaat met een kogelgewricht klemt zelfs een preparaat vast dat niet plat kan worden gehouden om kantelen of verschuiven tijdens de analyse te voorkomen. Verkrijgbaar met 1, 4 of 8 houdposities en adapterringen voor een groot aantal metrische en imperiale monsterdiameters.



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.



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.

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.

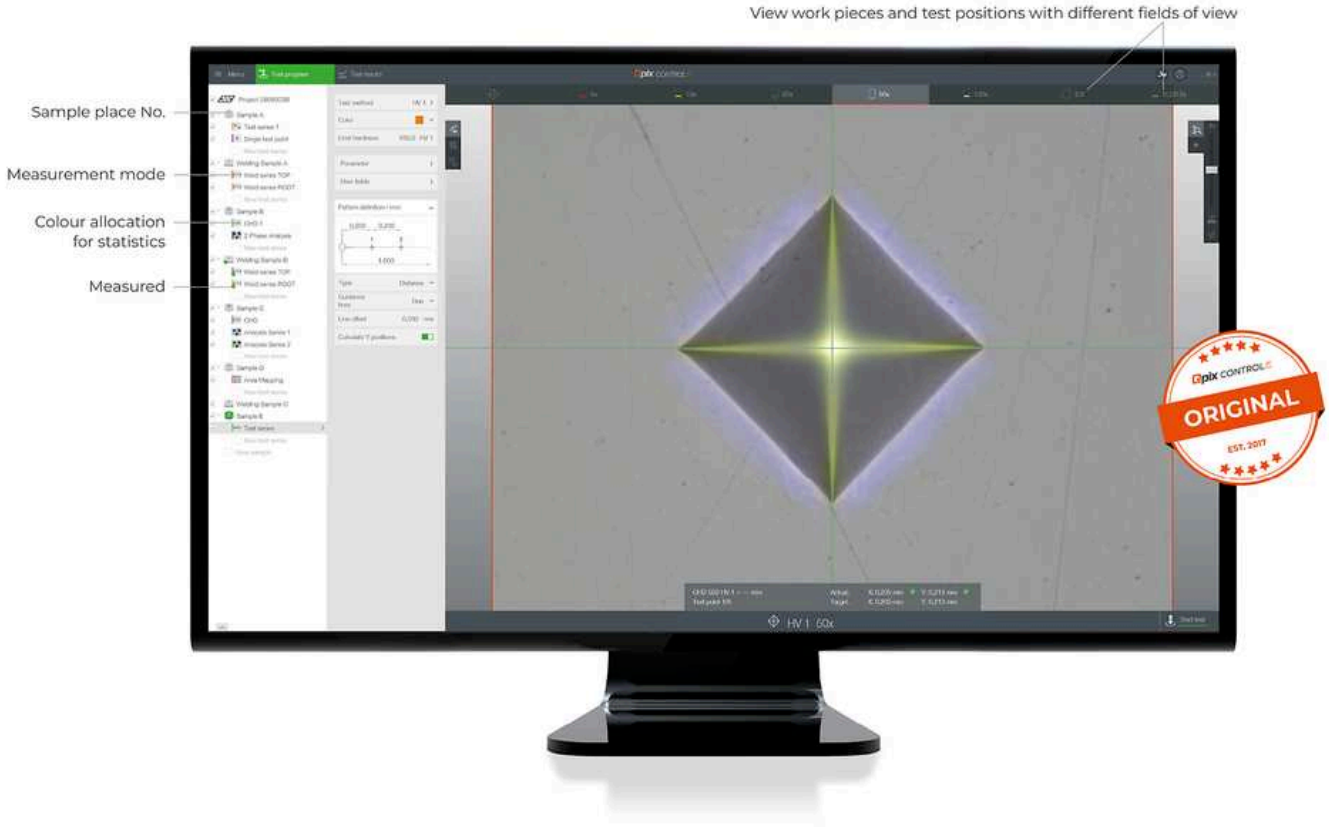
- **Real-time Monitoring**: Monitor your machinery in real time, from anywhere in the world. This data-driven approach empowers you to make informed decisions with ease.
- **Live Notifications**: Be ahead of the curve with immediate alerts and updates. Real-time notifications ensure you stay informed about your equipment's performance, leading to proactive maintenance.
- **Effortless Backup**: Simplify your data protection. Whether you need to back up a single device or an entire fleet, our platform streamlines the process, minimizing downtime and data loss.
- **Automatic & Free Software Updates**: Bid farewell to manual updates! Verder Scientific IoT ensures your customers' machines are consistently equipped with the latest software, optimizing performance and reliability.

QpixCONTROL2M

REVOLUTIONAIR 3D BEDIENINGSCONCEPT

NEXT-GENERATION SOFTWARE FOR YOUR HARDNESS TESTER

The intuitive Qpix Control2 M-Version software is included with each Vickers / Knoop / Brinell / Rockwell hardness tester 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.

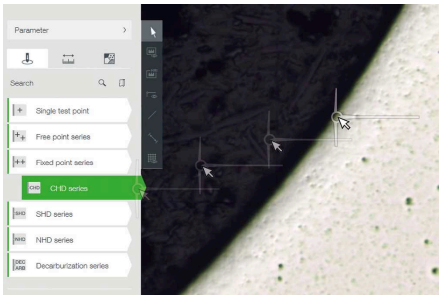


MONSTERS PLAATSEN, AANLEGGEN, STARTEN

IN 3 STAPPEN NAAR HET RESULTAAT

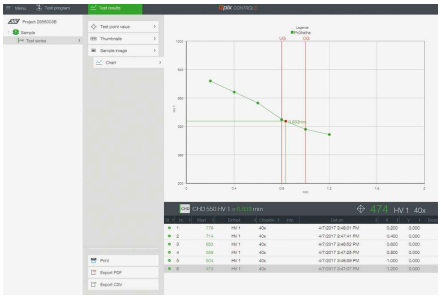
1. MONSTERS PLAATSEN

The machine moves automatically to the height of the sample holder.



2. RIJ LADEN

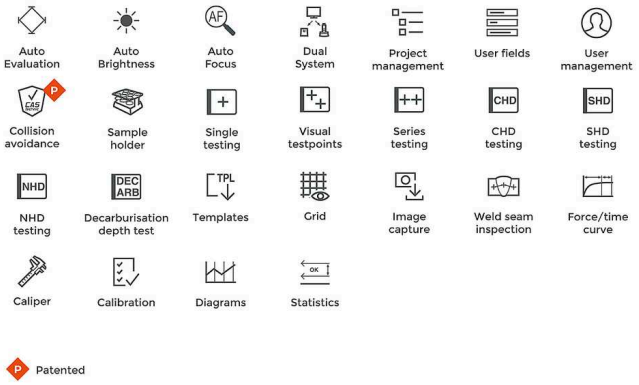
Speedy row set-up: Drag the row of test points.



3. START MEETREEKS

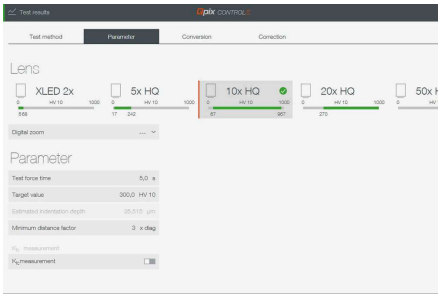
De meetprocedure wordt uitgevoerd volgens de hardheidstest standaarden.

STANDARD FEATURES



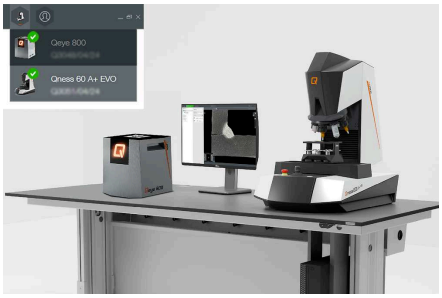
OPTIONAL FEATURES

MICROSCOPY & ANALYSIS



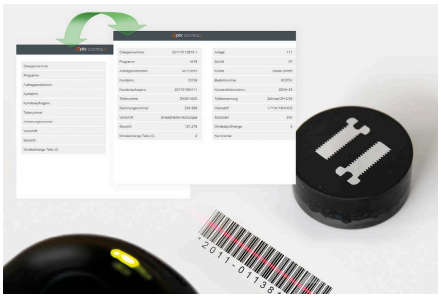
SIMPLIFIED LENS SELECTION

Based on the selected method (e.g. HV10), the suitable hardness



DUAL SYSTEM

With the Qpix Control 2 software, several QATM devices (for



BARCODE/QR-CODE/DMC-LEZER

Qpix software platforms support

range is displayed for each lens, which can be measured. The most suitable lens is also highlighted.

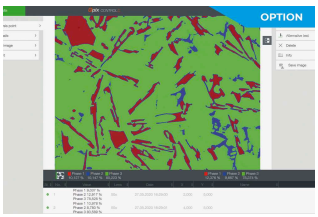
example a Qeye 800 and a Qness 60 A+ EVO) can be operated with the same PC system. It is easy to switch back and forth between the two devices in the software.

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.

STRUCTURELE ANALYSE MAKKELIJK GEMAAKT

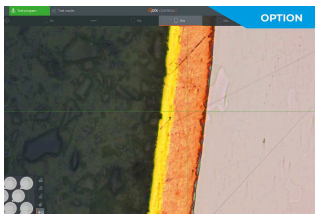
QPIX INSPECTIE SOFTWARE MODULES

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.



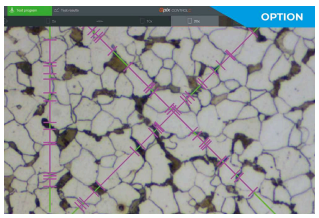
INSPECTEER FASE ANALYSE

- Automatische afbeelding object dimensionering
- Evaluatie van fasen-fracties volgens ISO 9042 en ASTM E562
- Levert analyse-resultaten als percentage verhoudingen van een oppervlak of als nominale oppervlakte waarden in tabel of grafiek



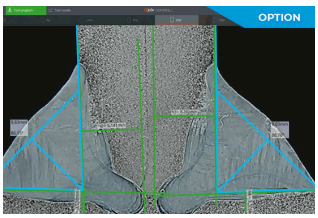
INSPECTEER LAAGDIKTE METING

- Bepaling van laagdikte volgens DIN EN ISO 1463
- Halfautomatische meting van horizontale, verticale en radiale lagen
- Voorziening van laagdikte als statistische waarden voor lengtes als tabellen of grafieken



INSPECTEER KORRELGROOTTE BEPALING

- Deeltjesgrootte, bepaald volgens DIN EN ISO 643 en ASTM E112 via lineaire of circulaire sectie methode
- Analyse-resultaten als tabel of grafiek
- Documentatie van statistische eigenschappen voor korrelgrootte en segment lengtes van de deeltjesdoorsnede



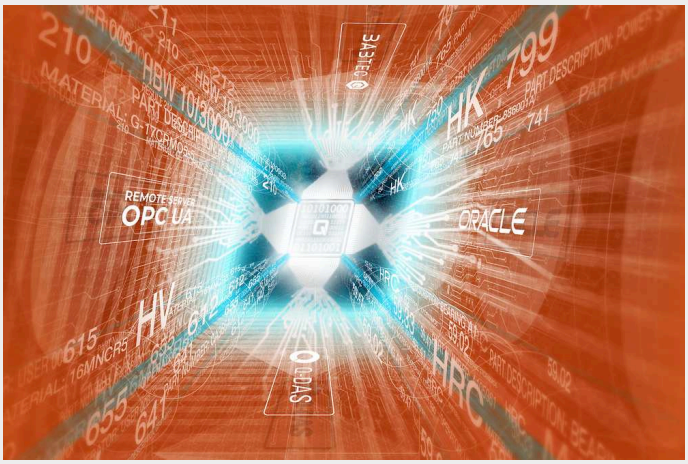
INSPECT WELD SEAM MEASUREMENT

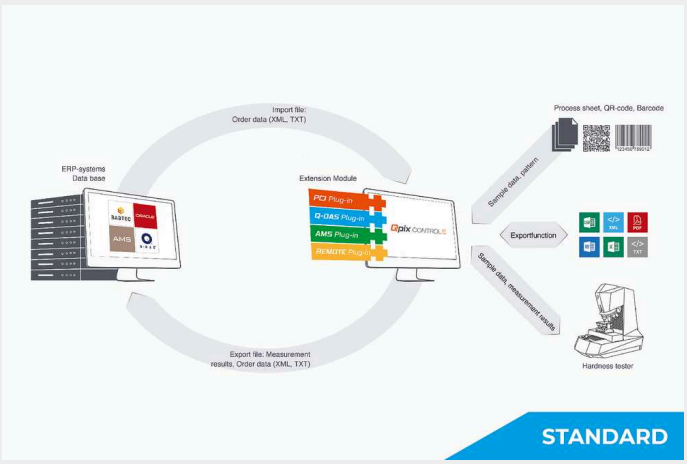
- Standardised measurement and evaluation of weld seams
- Prefabricated templates with all relevant measuring tools suchas throat thickness, weld reinforcement, penetration depth, etc.
- Automatic good/bad evaluation and report generation.

INDUSTRIE 4.0

QCONNECT VOOR EEN VERBONDEN TOEKOMST

Qconnect is de interface in QATM Qpix Control2 software, waarmee gebruikers werken men een volledig pakket voor onderling gekoppelde apparatuur, gaande van reeks-verwerking, open XML interfaces (bi-directioneel) en vooraf gespecifieerde plug-in oplossing, zoals de QDAS Plug-In+, langs klantspecifieke connectiviteitsoplossingen, volledig door QATM geïmplementeerd. We hebben een professionele oplossing voor elke toepassing.





APPROVED QUALITY

CALIBRATION & MONITORING

KALIBRATIEMANAGER

Dit is een sprong voorwaarts

PREMIUM HARDHEID TEST BLOKKEN

LOGIN VIA NFC

The Qpix Control 2 software

voor het beheer van kalibratieresultaten - De QATM Calibration Manager herinnert operators aan de noodzakelijke tests op vrij definieerbare intervallen. Testresultaten worden met een druk op de knop toegevoegd aan de lopende statistische registratie.

Premium kwaliteit in zinvolle diversiteit. Onafhankelijke DAkkS (ISO/IEC 17025) calibratie volgens DIN EN ISO en ASTM inclusief software voor periodieke norm-overeenkomstige tests.

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.

Bereik testkracht	Qness 10 M: 20 gf - 10 kgf (0.196 - 98.07 N) Qness 60 M: 0.25 gf - 62.5 kgf (0.00245 - 612.92 N)
Test methode	Vickers, Knoop, Brinell, Rockwell (option)
Testvolgorde	volautomatisch / elektronische krachttoepassing
Z-axis	Dynamic, automated (CAS-Technic)
Z-axis travelling distance	150 mm (5.91“); Option: 260 mm (10,2“)
Keeldiepte	170 mm (6.69“)
Gereedschap posities	8-fold motorized tool changer max. 3 hardness testing modules, max. 7 lenses
Camera system	5 Mpixel - CMOS color, USB3.0
Optical system	Upright microscope with Koehler lighting
Aperture diaphragm	gemotoriseerd
Lenzen	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
Gezichtsveld (afhankelijk van apparatuur)	0.074x0.055 mm (100x) to 2.80x2.10 mm (XLED 2)
Testaambeeld / XY kruisslede	Option: manual cross slide; Reduces test height by 26 mm
Afmetingen tafel	Ø 100 mm (3.94“) (cross slide: 135 x 135 mm)
Traverse path at cross slide	X 25, Y 25 mm (0.98 x 0.98“); Option X 50 x Y 50 mm (1.97 x 1.97“)
Control elements	Emergency stop, Start button, Joystick Z-axis
Software	Qpix Control2 "M"
Max. hoogte werkstuk	50 kg (110 lbs)
Gewicht van basisapparaat	55 kg (121.3 lbs)

Included basic equipment	Indenter Vickers ASTM + DAkkS; Lens 5x, 50x
Interfaces	1 x USB 3.0
Power connection	100 – 240 V ~1/N/PE, 45-65 Hz

www.qatm.com/qness-10-60-m

BESTELGEGEVENS