

Rock and more

DUROMETRO PARA ENSAYOS ROCKWELL CON POSIBILIDAD DE INCLUIR ENSAYOS QUE NECESITEN OPTICA (BRINELL, VICKERS Y KNOOP) Y AUTOMATIZACIÓN COMPLETA (MESA MOTORIZADA).

Rock and more. Rockwell hardness tester with add-on modules for optical evaluation and full automation



Q150

Las variantes

THE VARIANTS



Q150 R

ROCKWELL DUROMETRO

- Procedimiento de ensayo automático con inicio automático opcional
- Ensayos con o sin mordaza
- Creación de plantillas de ensayo, estadísticas, indicaciones de proceso, conversiones a ISO y ASTM
- Salida de datos en soporte de datos externo (lápiz USB)
- Posible actualización a Qpix T12 con PC interno

ROCKWELL HARDNESS TESTER

- Automatic test sequence with optional automatic start
- Test clamped or unclamped
- Creation of favorites, statistics, progression displays, ISO and ASTM conversions
- Direct data export via RS232, Ethernet or USB
- Various result export possibilities as configurable protocol or data export in Qpix T2R software



Q150 A

ROCKWELL / BRINELL / VICKERS / KNOOP DUROMETRO PARA ENSAYOS PUNTUALES COMPLETAMENTE AUTOMÁTICOS

- Mesa X-Y completamente automático
- Seguridad CE por detector de obrecargas (no requiere caja de protección)
- Admite hasta 8 muestras Jominy
- Admite simultáneamente 2 portamuestras múltiples
- Joystick dinámico para manejar cómodamente los 3 ejes

ROCKWELL / BRINELL / VICKERS / KNOOP FULLY AUTOMATIC SINGLE HARDNESS TESTER

- Fully automatic test slide
- CE security via overload coupling (no housing necessary)
- Up to 8 Jominy-samples
- Up to 2 multi-sample holders
- Dynamic 3-axis joystick for the manual control of the axis

Inversión duradera.

EL EQUIPO PARA ENSAYOS DE DUREZA DISEÑADO PARA SATISFACER SUS NECESIDADES.

A long term investment - a hardness tester that grows with your requirements

MÓDULOS / ACCESORIOS UPGRADE UPGRADE MODULES / ACCESSORIES



Q150 A+

**ROCKWELL / BRINELL / VICKERS / KNOOP
DUROMETRO PARA ENSAYOS PUNTALES COMPLETAMENTE AUTOMÁTICOS**

con cámara de vision de la muestra

- cámara integrada (campo visual de 50 x 40 mm)
- Uso opcional de un segundo monitor para la imagen de la muestra
- Ampliable a métodos de medición óptica (Vickers, Brinell, Knoop)*

**ROCKWELL / BRINELL / VICKERS / KNOOP
FULLY AUTOMATIC HARDNESS TESTER**

with sample image camera

- Integrated sample image camera (field of view 50 x 40 mm)
- Optional 2nd screen for sample image
- Upgrade for optical test methods (Vickers, Brinell, Knoop)*

*) Zubehör/Option, Accessories/Options



Q150 A Q150 A+

Sistema de objetivos
Lens system



Q150 A

Segundo sistema de objetivos
2nd lens system



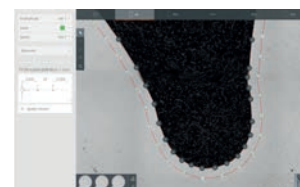
Q150 R Q150 A

Iluminación del lugar de trabajo
Work space lighting



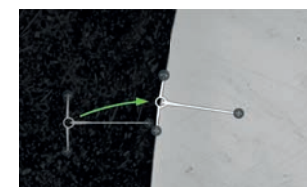
Q150 A

Cámara de vision de la muestra
Sample image camera



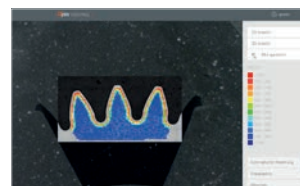
Q150 A Q150 A+

Escaneo de contornos
Contour scan



Q150 A+

Detección de bordes
Edge recognition



Q150 A+

2D/3D mapping module
2D/3D mapping module



Q150 A Q150 A+

Lector de códigos de barras
Barcode reader



Q150 A Q150 A+

Qpix JOMINY
Qpix JOMINY



Q150 A Q150 A+

Qpix REMOTE Control por SPS/PCI
Qpix REMOTE Control via SPS/PCI



Q150 R

Carro digital de 260 mm x 166 mm
Digital slide 260 mm x 166 mm



Q150 A Q150 A+

Reconocimiento de muestras almacenadas
Sample magazine recognition

Novedades y funciones

HIGHLIGHTS & FEATURES

1 **MÉTODOS DE ENSAYO**
Test methods and conversion

Q150 R Q150 A Q150 A+

Rockwell DIN EN ISO 6508, ASTM E-18



HRA	HRB	HRC	HRD	HRE	HRF
HRG	HRH	HRK	HRL	HRM	HRP
HRR	HRS	HRV	HR 15-N/T/W/X/Y		
HR 30-N/T/W/X/Y			HR 45-N/T/W/X/Y		

Ensayos en plástico / Plastic test DIN EN ISO 2039

Q150 A Q150 A+ con sistema de objetivos / with lens system

Brinell DIN EN ISO 6506, ASTM E-10



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	5/250	10/100	10/250
HBT (not acc. to standards)			

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



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

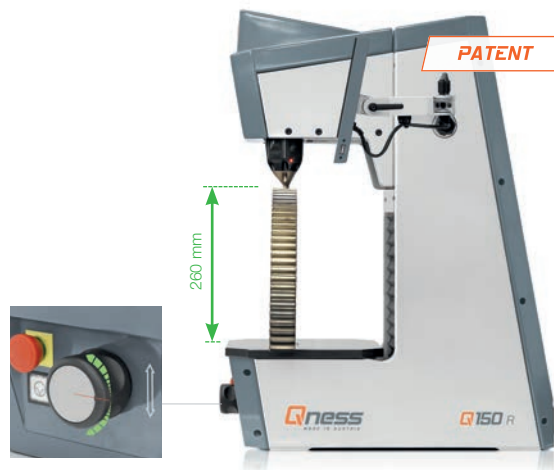
Knoop DIN EN ISO 4545, ASTM E-384



HK1	HK2
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Conversión / Conversion
DIN EN ISO 18265, DIN EN ISO 50150, ASTM E140

2 **AJUSTE DINÁMICO DE LA ALTURA**
Dynamic height adjustment



El equipo de ensayos de dureza es compacto y en combinación con el control electrónico del movimiento, o permite desplazar el palpador de forma rápida, precisa y con la máxima sensibilidad. Se coloca con alta precisión y sin ejercer fuerza por encima del ángulo de giro de manera que no pueda producirse ninguna colisión (6 mm/s).

The compact hardness tester in combination with the electronic movement control allows quick, accurate and sensitive positioning of the test head. Forceless, precise and collision-proof positioning of the test head via rotating the control knob (6mm/s).

3 **ACCESO A ENSAYOS DE DUREZA UNIVERSAL**
High performance and highly professional



La evaluación óptica se realiza desplazando manualmente la mesa por debajo del objetivo

Completely connected in high performance with the integrated Windows PC with SSD hard disk even in the base model Q150R in standard equipment. Customized data connection and integration into production lines possible up to request.

4

POSICIONAMIENTO EXACTO Y GRAN ESPACIO PARA ENSAYOS

Exact positioning and large test room



Gracias a su diseño mejorado el espacio para los ensayos es grande y abierto. La mesa XY completamente automática con sistema óptico de medición del recorrido de alta precisión puede equiparse por ejemplo con 2 portamuestras de 8 compartimentos. Además, en el software también pueden crearse y gestionarse almacenamientos específicos para cada cliente.

The sophisticated construction offers a large and well arranged test area. The fully automatic XY-slide with high precision optic path measurement system can be equipped i.e. with two 8-fold sample holders. Beyond that, customer specific magazines can be managed and created in the software.

5

FÁCIL ACCESO A LOS PUNTOS DE ENSAYO MÁS ESTRECHOS

Accessibility to narrow test places



- Los objetivos LD garantizan una gran distancia focal.
- Seguridad contra colisiones
- Claridad y análisis gracias al sistema óptico
- Campo visual: 0,2 - 40 mm
- Con la función estándar de panorama, toda el área de desplazamiento X-Y se puede visualizar como imagen.
- LD lenses provide an increased working distance
- Collision proof
- Overview and analysis via optical system
- Field of view 0.2 - 40 mm
- The X-Y travel range can be displayed as one image via the standard panorama function

6

ILUMINACIÓN DEL LUGAR DE TRABAJO

Work space lighting



La iluminación del lugar de trabajo integrada permite colocar el indentador con precisión.
The functionally integrated work space lighting permits accurate positioning of the indenter.

Fácil manejo con pantalla táctil de 10,1"

MOST SIMPLE OPERATION ON 10,1" TOUCH-SCREEN



Adaptación ergonómica
Ergonomically adaptable

Carcasa de aluminio robusta y de alta calidad
High-quality and sturdy aluminium case

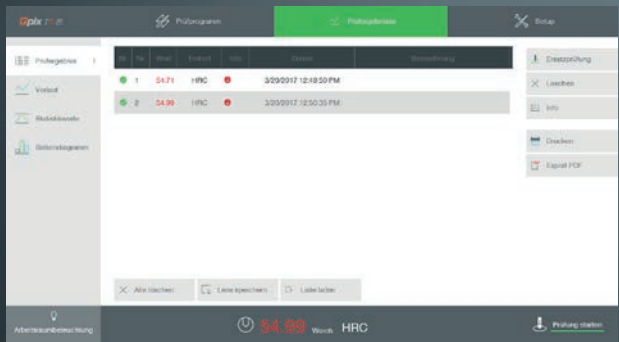


USB para la exportación e importación de datos
USB for data export and data input

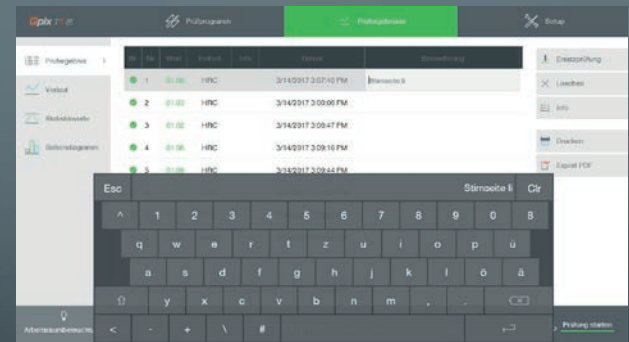
- Across-the-line software design
- numerous statistic functions: bar graph, progression, histogram
- Measurement value list to export as „Excel“ (CSV via export configurator)
- Standardized detail information to each indentation
- A4 protocol as PDF / direct print
- User management with different security access levels



Configurable protocol and data management
Configurable protocol and data management



Test result harder than allowed limit hardness
Test result harder than allowed limit hardness



Result list test point identification
Result list test point identification



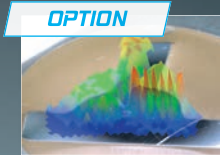
Integrated statistic view
Integrated statistic view

Sets new Standards

SETS NEW STANDARDS

1 Creation of test data
Creation of test data

2 Test result management
Test result management



Color representation of the hardness in 2D and 3D
Color representation of the hardness in 2D and 3D



Configurable protocol and data presentation. Wide range of structuration options for stored test item data. Adaptable content for export files and protocol content simplifies daily operation with Qpix Control2 software.



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St.	Nr.	Wert	Einheit	Objektiv	Info	Datum	X	Y	Bezeichnung
1		245	HV 1	40x		3/30/2017 8:42:27 AM	0.000	0.000	
2		246	HV 1	40x		3/30/2017 8:42:37 AM	0.221	0.000	
3		245	HV 1	40x		3/30/2017 8:42:48 AM	0.443	0.000	
4		244	HV 1	40x		3/30/2017 8:42:58 AM	0.666	0.000	
5		245	HV 1	40x		3/30/2017 8:43:09 AM	0.888	0.000	
6		245	HV 1	40x		3/30/2017 8:43:19 AM	1.110	0.000	
7		245	HV 1	40x		3/30/2017 8:43:30 AM	1.332	0.000	
8		244	HV 1	40x		3/30/2017 8:43:40 AM	1.554	0.000	
9		247	HV 1	40x		3/30/2017 8:43:51 AM	1.778	0.000	

Maximum repeatability. All test specific data are stored for every single test point. Test points can be easily checked or tested a second time.

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Fully automatic row- and progression measurement
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Across-the-line and intuitive test cycle
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Revolutionary 3D operating Concept

REVOLUTIONARY 3D OPERATING CONCEPT

InfoGraphic-Technic

Sample place no.
Sample place No.

Measurement mode
Measurement mode

Colour allocation
for statistic
Colour allocation
for statistics

Measured
Measured

View work pieces and test positions with different fields of view
View work pieces and test positions with different fields of view



Customer specific sample holder
Customer specific sample holder



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

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3D-SmartView

CAS-Technic



Innovative CAS technology (Collision Avoidance System) protects the mechanical components in the device from collisions and operating errors by generating 3D preview calculations of all movements in the visualized testing area.

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Intuitive, structured and professional: Qpix Control2 heralds a new generation of hardness testing software. It has been developed based on customer input and feedback to guarantee maximum user-friendliness. New standards in hardness testing are now being established thanks to the controlled test head with automatic height adjustment and contact-free gauging, complete integration of the Qness sample holders, CAD compatibility with 3D component imaging and a wide variety of easily comprehensible 3D control elements and view angles within the software.

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Best orientation by simultaneous macro and micro view

BEST ORIENTATION BY SIMULTANEOUS MACRO AND MICRO VIEW



Sophisticated Software tools

Sophisticated Software tools



Image with graphic indentation size pre calculation
Image with graphic indentation size pre calculation



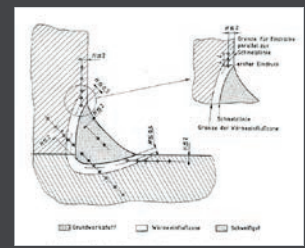
Graphic hint when test points are located to close to each other (3x d)
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Welding test samples

- Ideal for welding test samples or visual test point positioning jobs
- Test points can be norm-positioned based on the visual presentation

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PRACTICAL APPLICATIONS

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1 *IDENTICAL PART TESTING*
Identical part testing



Identical sample test series can be saved as templates. Pre-defined sample magazines can be used to activate all relevant data, such as test patterns, test methods and user fields.

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2 *EMBEDDED SAMPLES FOR CHD, NHD, SHD*
Embedded samples for CHD, NHD, SHD



The sample patterns can be easily selected using the program. In addition to the single and row measurement, the user can select CHD, NHD and SHD.

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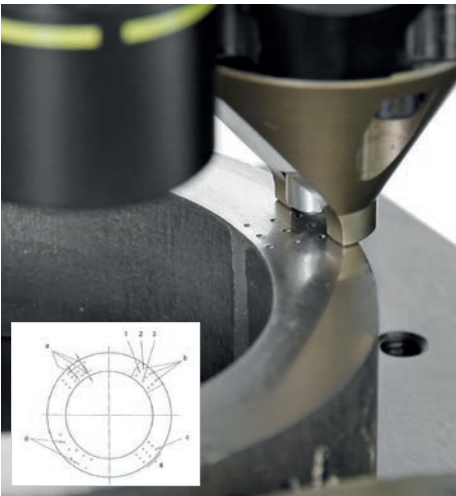
3 *MULTI JOMINY SAMPLE TESTING*
Multi Jominy sample testing



Up to 8 samples can be placed in the Jominy sample holder for testing. The testing cycle is fully automatic and executed according to the norm.

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4 PIPE TESTING
Pipe testing



Check pipes economically with the Q150A/A+ according to the applicable standards.

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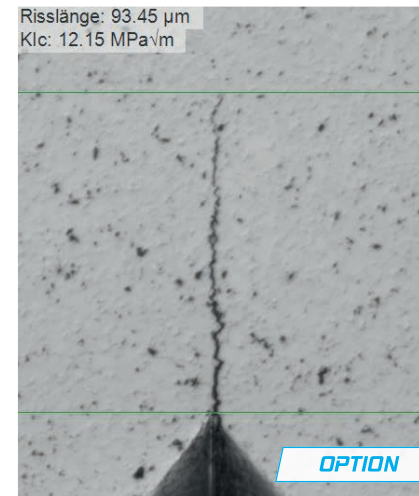
5 SCHIENEN PRÜFUNG
Rail testing



Another perfect application is the testing of rail profiles. The complete track can be scanned via the standardized panorama picture function, thus allowing accurate and fast positioning of the individual test series.

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6 CRACK LENGTH MEASUREMENT K1C
Crack length measurement K1C



For evaluating the K1C value the 4 cracks are measured according to the norm. After that the $\text{MPa}\sqrt{\text{m}}$ value is evaluated automatically.

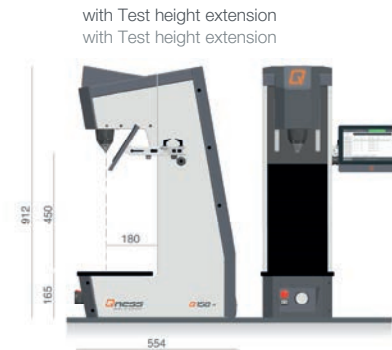
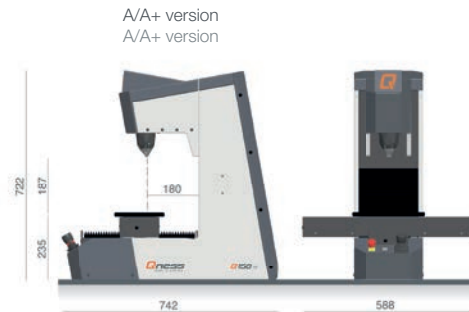
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7 EXTENDED TEST AREA
Extended test area



The complete Q150 series can be customized. Send us your specifications and you will immediately receive a customized concept.

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	Q150 R	Q150 A	Q150 A+
Test force range / Test force range	1 - 250 kg (9,81 - 2450 N)	1 - 250 kg (9,81 - 2450 N)	
Altura de ensayo/extensión / Test height/Throat depth	260 mm / 180 mm	187 mm / 180 mm	
Ampliación de la altura de ensayo / Test height extension	450 mm (Opcional)	377 mm (Opcional)	
Regulación de la altura / Height adjustment	v max 6 mm/s	v max 6 mm/s	
Software / Software	Qpix T^{CS} 6	Qpix CONTROL^{CS}	
Sistema óptico integrado / Integrated optic system	-	- (Opcional)	
Camera system / Camera system	-	up to 2x 18MP color camera / up to 2x 18MP color camera	
Cámara de formación de imágenes de muestras / Sample image camera	-	-	SI / Yes
Mesa de pruebas/mesa de cruz / Test anvil/Cross slide	250 x 260 mm	A motor / motorized 170 x 250mm	
Recorrido de desplazamiento / Traverse path	-	X 260 / Y 166 mm	
Interfaces / Data interface	3x USB, 1x Ethernet, 1x RS232	Schnittstelle PC-Härteprüfgerät: 1x USB3.0 Interface PC-Hardness tester: 1x USB3.0	
Peso del equipo base / Weight of basic machine with Test height extension / with Test height extension	95 kg 112 kg	120 kg 137 kg	
Peso máx. de la pieza de trabajo / Max. work piece weight	100 kg	50 kg	
Alimentación de tensión / Power supply	230~1/N/PE, 110~1/N/PE	230~1/N/PE, 110~1/N/PE	
Consumo de potencia máx. / Max. power consumption	~ 240 W	~ 240 W	
MÓDULOS Y ACCESORIOS ADICIONALES / Accessories and options			
General / General	Mesas planas, mesas prismáticas, indentes, objetivos Test anvils, Indenters	Portamuestras sencillo / múltiple, portamuestras Jominy, Single and multi sample holders, Jominy sample holder, Indenters, Lenses, Software modules	

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Encontrará otras opciones de equipamiento en
nuestro configurador de productos en www.qness.at

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



04/2017

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