# FENIX 300 SERIES

Rockwell | Brinell | Universal Hardness Testers

SEMI - AUTOMATIC





# FENIX **300**RS

#### Sense, Simplicity, affordable top technology...

The FENIX 300RS combines today's load application technology with a top class German made depth measuring system. Rockwell, Superficial Rockwell & Brinell scales are part of the machine's capabilities. High accurate test results and fast operation make the FENIX 300 series the best work horse in its class on the market today. The entry model 300 RS provides a smart User Interface, easy to learn and with internal and external data storage options.

#### **ROCKWELL & BRINELL FORCE RANGE:**

1kgf         3kgf         FENIX 300RS         150kgf         250kgf
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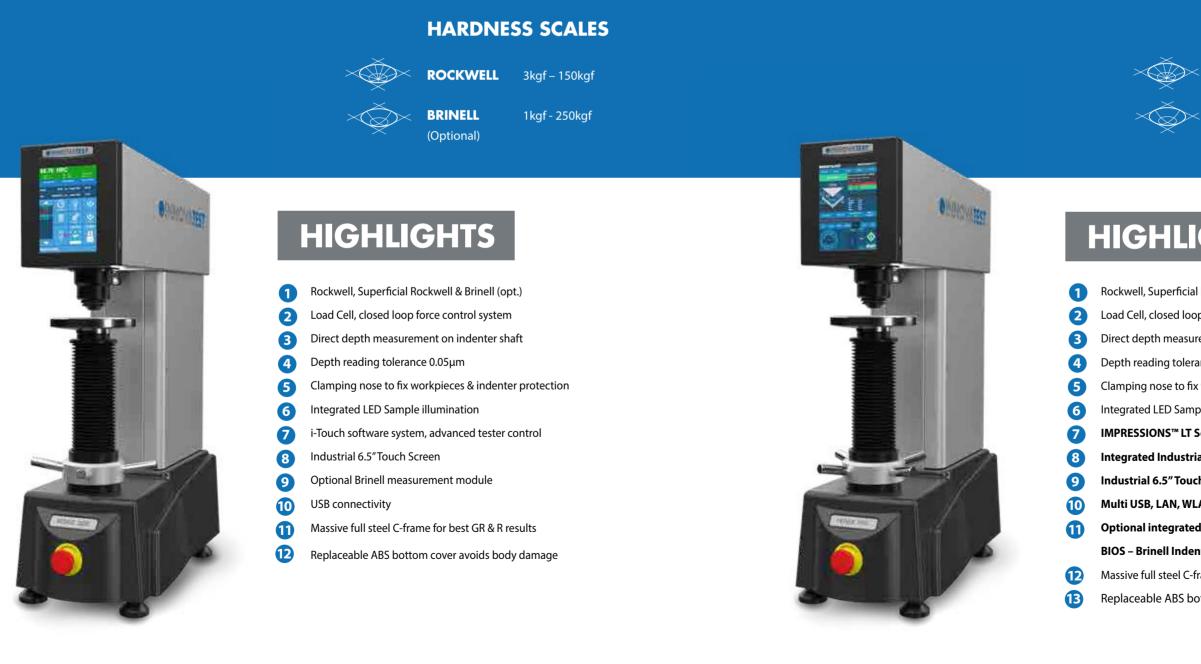
# FENIX 300RS-IMP

#### Workflow process visualisation, advanced connectivity...

The IMP version of the FENIX 300RS combines the excellent force application and measuring system with an advanced machine controller running on Windows 10. Make connection to your network by WIFI or LAN, connect to a printer, a Quality system or MS application; the IMPRESSIONS™ LT system offers great flexibility.

#### **ROCKWELL & BRINELL FORCE RANGE:**

1kgf	3kgf	FENIX 300RS-IMP	150kg







250kgf

#### HARDNESS SCALES

BRINELL (Optional)

ROCKWELL

3kgf – 150kgf

1kgf - 250kgf

## HIGHLIGHTS

- Rockwell, Superficial Rockwell & Brinell (opt.)
- Load Cell, closed loop force control system
- Direct depth measurement on indenter shaft
- Depth reading tolerance 0.05µm
- Clamping nose to fix workpieces & indenter protection
- Integrated LED Sample illumination
- IMPRESSIONS<sup>™</sup> LT Software, work flow control
- Integrated Industrial PC, Windows 10 Licensed
- Industrial 6.5" Touch Screen
- Multi USB, LAN, WLAN, (Bluetooth opt.) connectivity
- Optional integrated software for Brinell and
- **BIOS Brinell Indent Optical Scanner**
- Massive full steel C-frame for best GR & R results
- Replaceable ABS bottom cover avoids body damage

# FENIX **300**U

#### Not sure of your future needs..?

In addition to Rockwell and Superficial Rockwell, the FENIX 300U has the ability to perform Vickers, Knoop and Brinell scales. A fit for purpose machine for workshops usually measuring Rockwell scales and occasionally Vickers, Knoop or Brinell. Excellent choice for education institutes such as technical schools, universities and versatile general workshops. The electronic microscope with exchangeable lenses and ringlight for the measurement of shallow Brinell indents is easy to use and provides crisp images of the indent.

#### **UNIVERSAL FORCE RANGE:**

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HARDNESS SCALES

# FENIX 300XL

#### **Reaching out to the stars...**

The XL version of the FENIX range combines all the specifications of the standard 300RS model with a much taller work space. The test height available on this model can be used for both Rockwell scales as well as for the Brinell scales.

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1

12

#### **ROCKWELL & BRINELL FORCE RANGE:**

1kgf	3kgf	FENIX 300XL	150kg

Called Martin



é	1	2
1	9	
14		





250kgf

#### HARDNESS SCALES

ROCKWELL

BRINELL (Optional)

1kgf - 250kgf

3kgf – 150kgf

## HIGHLIGHTS

Rockwell, Superficial Rockwell & Brinell (opt.)

#### Extra large working height 470mm

- Load Cell, closed loop force control system
- Direct depth measurement on indenter shaft
- Depth reading tolerance 0.05µm
- Clamping nose to fix workpieces & indenter protection
- Integrated LED Sample illumination
- i-Touch software system, advanced tester control
- Industrial 6.5" Touch Screen
- USB connectivity
- Massive full steel C-frame for best GR & R results
- Replaceable ABS bottom cover avoids body damage

# FENIX RANGE

Phoenix, arising again and again, our 3rd generation of the most popular range of Rockwell hardness testing machines is now offering high-end testing technology, an optional advanced integrated Windows 10 system controller, a universal or extra tall model; at very affordable pricing.

Constructed around a solid steel frame, the FENIX 300 series includes a best in its class depth measuring system providing a stable maximum tolerance of less than 0.05µm. The combination of these 2 key elements and a Load Cell, Closed Loop force feedback system provides a workhorse, a hardness tester for use in the more demanding workshop or QC department.

Expanding the capabilities of the FENIX 300 line is as easy as the addition of Optical hardness testing of Vickers, Knoop and Brinell. Manual Microscope, Brinell Optical indent scanning system (BIOS) or for the FENIX 300U an integrated Microscope for optical image analysis. Outfitted properly the FENIX 300 series of testers excel at testing facilities, Colleges and Universities that require more than just a Rockwell machine.





**FENIX 300RS** i-Touch

FENIX 300RS-IMP **IMPRESSIONS<sup>™</sup> LT** 

### Above the current...

It is usually easy to determine how much use a hardness tester gets over its lifetime in a lab. Missing paint, dents and scratches all over the base of the tester, and even rust forms if not corrected in time. Samples fall from the testing area, an occasional bump from a foreign object or just a paint chip from use can make a new machine look aged after short period of time. Our FENIX line is outfitted with an ABS Cover to protect the tester and the samples, including verification blocks, from changing your new tester into the not so new anymore tester. Simply forward focused thinking from an Advanced hardness testing manufacturer.





FENIX 300U Universal

FENIX 300XL **Extra Tall** 

## I-TOUCH INTERFACE

#### Easy to learn, easy to use...

The i-Touch<sup>™</sup> software on the FENIX 300 series provides clever multi-function on an industrial touch-screen for machine operation such as testing, set-up, storing and uploading of test programs, statistic control and more, making tester operation as easy as it can be.

Data export, single or batch readings, with a single press on a button, or just fully automatic over an USB connection to a PC and imported or evaluated in EXCEL.

Further advanced features include extended statistics, shape correction for convex, concave or ball shaped specimens, hardness conversion to Rockwell, Brinell or Tensile strength according to ASTM E140 and ISO 18625 with different material tables.

## IMPRESSIONS<sup>TM</sup> LT INTERFACE

#### Advanced workflow control...

IMPRESSIONS<sup>™</sup> LT installed on the integrated Windows 10 controller provides a modern graphical user interface on the 300RS-IMP. Common sense and simplicity, but yet, includes the most advanced functions found in hardness testing. With only a minimum of operator skills required, IMPRESSIONS<sup>™</sup> leads you through the set up process, in just seconds, not even minutes. Standard features, complex tasks and advanced work flow at your fingertips.

Just some of the features :

Scale setting, Test methods setting, Limits, Conversion to other hardness scales, Graphics, File saving, Test program saving, Zoom function, Full screen, etc.

All standardized hardness testing methods have been programmed in the software and can be selected at any time.



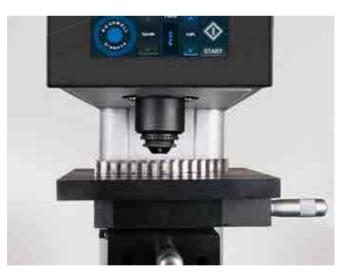


#### **INDENT ZOOM MAGNIFICATION**

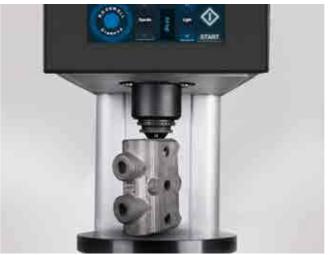
# VARIOUS POSSIBILITIES

The FENIX 300 Series is a workhorse in the range of Rockwell hardness testers. With a throat depth of 150mm and maximum workpiece height of 470mm (XL model), it offers the user a generous workspace. It is designed for 24/7 use and conducts testing at a high speed.









#### **BIOS BRINELL INDENT OPTICAL SCANNER**

The FENIX 300RS-IMP can be upgraded with a BIOS system that automatically scans and measures Brinell indents. Both BIOS models 1 & 2 have a high quality optical system with a built-in ring light to assure fast and accurate Brinell measurements.







## **SUPPORT** YOUR **BEST TESTING RESULTS**

With our rigid designed Bench stands

#### Rock solid bench stands

INOVA

BINNOVATEST

- 100% retractable drawer, bearing guidance,
- max 100kg load. Rubber anti slip bottom
- Lockable cabinet, 300mm high
- Adjustable feet, (+/- 50mm height adjustable to reach ergonomic working position)
- Made of corrosion resistant zinc plated steel with RAL powder coating
- Carrying capacity of 400kg Top surface made of 50mm Plywood with 1.5mm chemical resistant plastic plating, edges made of shock resistant 3mm ABS side liner Industrial quality, for workshop or laboratory

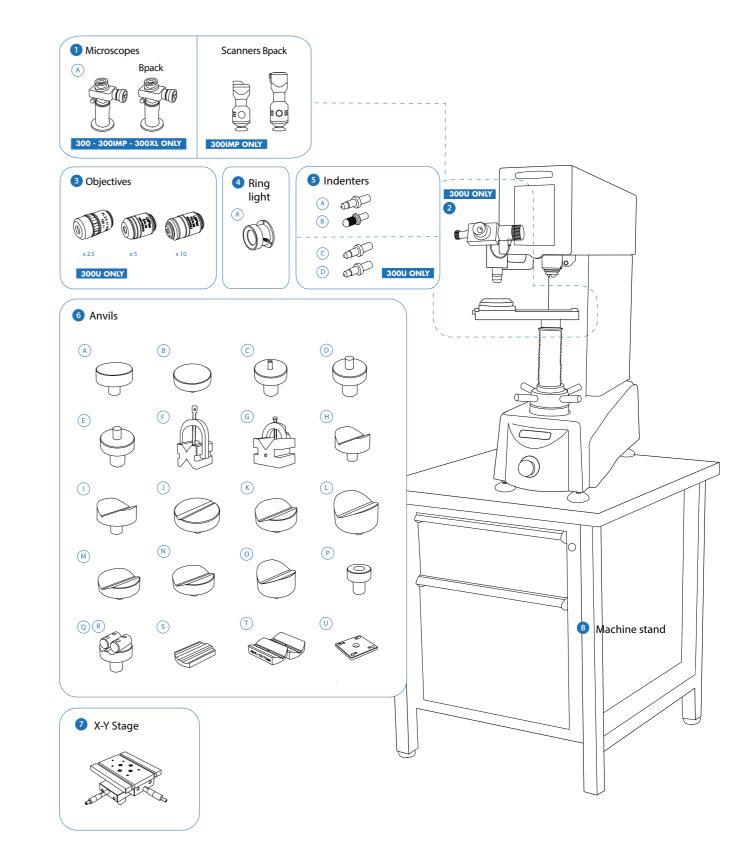
Designed for hardness testing instruments, painted in INNOVATEST® RAL colors matching our testers.



UN-STAND/960 71 x 75 x 80 cm

# ACCESSORIES FENIX RANGE

Schematic overview of the configuration options, standard and optional accessories



Not all accessories are displayed on this page. Full details can be found on the Order details page.



## **ORDER DETAILS**

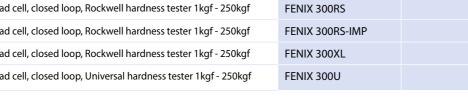
#### FENIX SERIES

<b>H</b>	Fully automatic, load cell, closed loop, Rockwell hardness tester 1kgf - 250kgf
-	Fully automatic, load cell, closed loop, Rockwell hardness tester 1kgf - 250kgf
-	Fully automatic, load cell, closed loop, Rockwell hardness tester 1kgf - 250kgf
	Fully automatic, load cell, closed loop, Universal hardness tester 1kgf - 250kgf

A	CESSORIE	S			
1	Microscope	A	Analogue Brinell indent measuring microscope 20x (for 300RS, 300RS-IMP & 300XL)	ASS3001-MICRO/01	
			Only in combination with UN-BPACK01		
2	Eyepiece		Electronic digital eyepiece with 15x magnification (for 300U)	AS-EYEPIECE/03	STANDARD
3	Objectives		Objective 2.5x (for 300U)	ASSV700-OBJ2.5X	STANDARD
			Objective 5x (for 300U)	ASS9000-10-02	STANDARD
			Objective 10x (for 300U)	ASS9000-10-03	STANDARD
4	Ringlight	A	LED ring light for enhanced Brinell viewing	ASV700-10	
5	Indenters		Rockwell C Diamond Indenter. Ø6.35mm. ISO & ASTM certified	IN/6005	
			Rockwell Ball Indenter 1/16". Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7506	
			Rockwell Ball Indenter 1/8". Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7606	
			Rockwell Ball Indenter 1/4". Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7706	
			Rockwell Ball Indenter 1/2". Includes 1 carbide ball, ISO & ASTM certified	IN/7806	
		B	Brinell Indenter 1mm. Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7000	
			Brinell Indenter 2.5mm. Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7005	
			Brinell Indenter 5mm. Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7010	
			Brinell Indenter 10mm. Includes 1 carbide ball. Ø6.35mm. ISO & ASTM certified	IN/7015	
		<b>(C)</b>	Macro Vickers Indenter Ø6.35mm, ISO & ASTM certified (for 300U)	IN/8010	
		D	Macro Knoop Indenter Ø6.35mm, ISO & ASTM certified (for 300U)	IN/8220	
6	Anvils	A	Flat anvil 60mm	AS3000-19-04	
		B	Flat anvil 80mm	UN-TESTTABLE/002	
		C	Spot anvil 5mm	UN-ANVIL/010	
		D	Spot anvil 10mm	UN-ANVIL/011	
		E	Spot anvil 10mm	UN-ANVIL/016	
		F	V block with bracket 40x40x50mm (LxBxH)	UN-VBLOCK404050	
		G	Steel, cross type, (X) V-block 60x120x100mm 8-90mm pair	UN-CROSSBLOCK01	
		H	V-anvil ø40mm 6-60mm	UN-ANVIL/005	
			V-anvil ø63mm 6-60mm	UN-ANVIL/006	
			V-Anvil ø80mm 3.3-20mm	UN-ANVIL/040	
		K	V-Anvil ø80mm 12-80mm	UN-ANVIL/045	
			V-Anvil ø80mm 20-140mm	UN-ANVIL/050	
		M	V-anvil ø120mm 15-100mm	UN-ANVIL/060	
		N	V-anvil ø120mm 3.3-20mm	UN-ANVIL/065	
		0	V-anvil ø120mm 30-200mm	UN-ANVIL/070	

	Р	Anvil for round specimen dia. 6-25,4mm	UN-ANVIL/200
	Q	Cylindrical V anvil 6-80mm	UN-CVANVIL680
	R	Cylindrical V anvil 50-200mm	UN-CVANVIL50200
		Test table 100x100mm, V grove 20mm wide, 10mm deep	UN-TESTTABLE/040
	S	Small V-Anvil 3-20mm requires base plate (Requires Manual/Autom. X-Y stage)	UN-ANVILSV/105
	T	Large V-Anvil 20-75mm requires base plate (Requires Manual/Autom. X-Y stage)	UN-ANVILLV/106
	U	Base plate for V-anvils un-anvilsv/105 & 106	UN-VANVILBASEPL
0	X-Y Stage	Manual X-Y stage with analogue metric micrometers, 180x160mm Displacement: 25x25mm, scale 0.01mm, max load 300kg	UN-TESTTABLE/030
	Clamping, Locking & Fixing Adapters	Lock flange	UN-XYZ BUSH42
		Manual X-Y stage connecting plate	UN-TESTTABLE/ 030FAPL
8	Machine stand	Cabinet test table with drawer for hardness testers 71x75x80cm	UN-STAND/960
	ISO / ASTM Verification	BRINELL direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale.	CALCEFRDW/1B
		ROCKWELL direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale.	CALCEFRDW/1R
		VICKERS direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale (for 300U).	CALCEFRDW/1V
		KNOOP direct and indirect verification/calibration & certification in compliance with ISO & ASTM, NADCAP. Includes direct force and indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale (for 300U).	CALCEFRDW/1K
	Covers	Machine cover 600x700x1100mm (for 300XL)	UN-COVER5
		Machine cover 350x550x770mm (for 300RS, 300RS-IMP & 300U)	UN-COVER1
S	SOFTWARE		
	Connectivity Plus	Interface cable for PC (for 300RS-IMP, 300U & 300XL)	UN-CABLE/910

Connectivity Plus	Interface cable for PC (for 300RS-IMP, 300U & 300XL)	UN-CABLE/910	
	Utility software; Import test results in MS applications like Excel	UN-SW/905	
	Blue Tooth connectivity (for 300RS-IMP)	UN-BTADAPT	
	Wireless system Keyboard & wireless mouse (for 300RS-IMP)	UN-SKBSET	STANDARD
Upgrades	Upgrade Rockwell tester RS to RSB, Brinell scales, analogue microscope 40x	UN-BPACK01	
	Upgrade Rockwell tester RS to RSB, Brinell scales, BIOS 1 system, IMPRESSIONS <sup>™</sup> Lite	UN-BPACK02	
	Upgrade Rockwell tester RS to RSB, Brinell scales, BIOS 2 system, IMPRESSIONS <sup>™</sup> Lite	UN-BPACK03	







**MACHINE STAND** 

Q

R

UN-TESTTABLE/030

UN-ANVIL/050

UN-CVANVIL680

UN-CVANVIL50200

M

S



UN-STAND/960

# **SPECIFICATIONS**





TEST FC	DRCE		FENIX 300RS	FENIX 300RS-IMP	FENIX 300U	FENIX 300XL
F	TEST FORCES	1kgf - 250kgf	+	+	+	+
	FORCE APPLICATION	Load cell, closed loop, force feedback system	+	+	+	+
HARDN	IESS SCALES					
	VICKERS	HV1   HV2.5   HV3   HV4   HV5   HV10   HV20   HV25   HV30   HV40   HV50   HV100   HV120	_	_	+	_
$( ( \mathbf{A} ) ) $	КНООР	HK1   HK2.5   HK3   HK4   HK5	-	_	+	—
	ROCKWELL	Regular Rockwell scales; Pre Load 10kgf, Main Load 60kgf   100kgf   150kgf A   B   C   D   E   F   G   H   K   L   M   P   R   S   V Superficial Rockwell scales; Pre Load 3kgf, Main Load 15kgf   30kgf   45kgf 15N   30N   45N   15T   30T   45T   15W   30W   45W   15X   30X   45X   15Y   30Y   45Y	+	+	+	+
	BRINELL	HBW1/2.5   HBW1/5   HBW1/10   HBW1/30 HBW2.5/6.25   HBW2.5/7.8125   HBW2.5/15.625   HBW2.5/31.25   HBW2.5/62.5   HBW2.5/187.5 HBW5/25   HBW5/31.25   HBW5/62.5   HBW5/125   HBW5/250 HBW10/100   HBW10/125   HBW10/250	Optional	Optional	+	Optional
	<b>PLASTIC</b> ISO 2039-1/2	49 N, 132 N, 358 N, 961 N	+	+	+	+
	HVD (HVT)	HV1   HV5   HV10   HV20   HV25   HV30   HV40   HV50   HV60   HV100   HV120   HV125   HV150	+	+	+	+
	HBD (HBT)	HB1/5   HB1/10   HB1/30 HB2.5/6.25   HB2.5/7.8125   HB2.5/15.625   HB2.5/31.25   HB2.5/62.5   HB2.5/187.5 HB5/25   HB5/31.25   HB5/62.5   HB5/125   HB5/250 HB10/100   HB10/125   HB10/250	+	+	+	+
	CARBON	HR 2.5/7   HR 5/7   HR 5/15   HR 5/20   HR 5/40   HR 5/60   HR 5/100   HR 5/150 HR 10/20   HR 10/40   HR 10/60   HR10/100   HR 10/150	+	+	+	+
SYSTEM	١					
~	I-TOUCH	Graphic User Interface, Full color touch screen, USB-2	+	_	+	+
	IMPRESSIONS™ LT	Integrated system controller, Windows 10, full color touch screen, LAN, W-LAN, USB-3	-	+	-	-
GENER	AL					
$\overline{\bigcirc}$	MACHINE DIMENSIONS		270mm x 580mm x 770mm	270mm x 580mm x 770mm	270mm x 580mm x 770mm	440mm x 580mm x 1000
Ō)	MACHINE WEIGHT		115kg	115kg	115kg	140kg
$\smile$	TEST FORCE TOLERANCE	< 0.5%	+	+	+	+

$\left( \begin{array}{c} \circ \\ \Box \end{array} \right)$	MACHINE DIMENSIONS		270mm x 580mm x 770mm	270mm x 580mm x 770mm	270mm x 580mm x 770mm	440mm x 580mm x 1000mm
	MACHINE WEIGHT		115kg	115kg	115kg	140kg
	TEST FORCE TOLERANCE	< 0.5%	+	+	+	+
	<b>DWELL TIME SETTINGS</b>	Default 1 second, user defined. Up to 99 seconds	+	+	+	+
	<b>OPERATING TEMPERATURE</b>	10°C to 35°C, non-condensing	+	+	+	+
	POWER CONSUMPTION	<100W	+	+	+	+
	HUMIDITY	10% to 90%, non-condensing	+	+	+	+



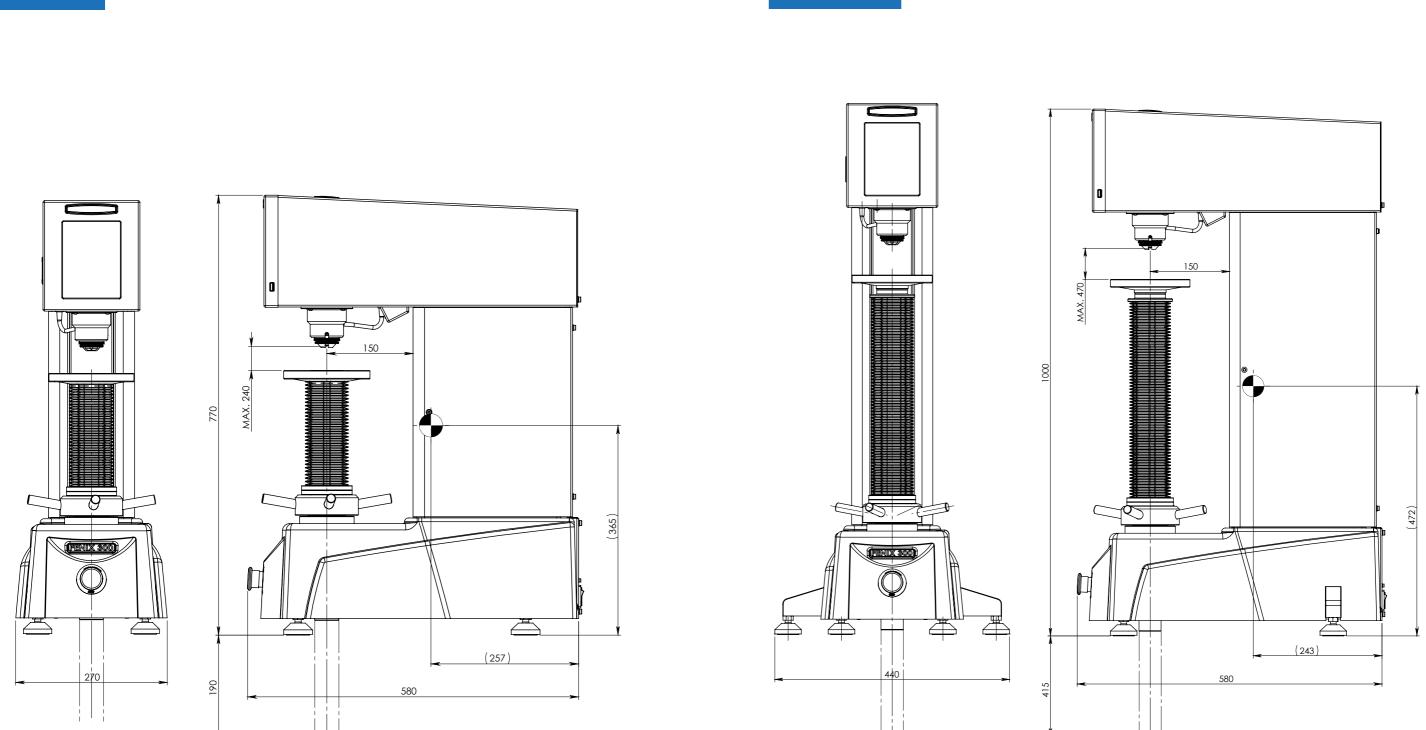
## TECHNICAL DRAWINGS

All dimensions in these drawings are in mm, approximate. Working heights and or workpiece accommodation varies depending on the stages and stage accessories used.

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Please contact our sales department for more details.

#### FENIX 300



FENIX 300XL

## OTHER MODELS IN THE **ROCKWELL RANGE**



FENIX 200AR

Load Cell, closed loop, force feedback, test force application system Rockwell / Brinell hardness tester. See brochure B18F200/XX



FENIX 200ACL

Load Cell, closed loop, force feedback, test force application system Rockwell / Brinell hardness tester. See brochure B18F200/XX



#### FENIX 200DCL

Load Cell, closed loop, force feedback, test force application system Rockwell / Brinell hardness tester. See brochure B18F200DCL/XX



#### **NEXUS 605**

Load Cell, closed loop Rockwell/Superficial Rockwell/ Brinell hardness tester, with full color touch screen. See brochure B18N605/XX



#### **VERZUS 710**

Load Cell, closed loop Rockwell/Superficial Rockwell/ Brinell hardness tester, with direct depth measuring system, integrated PC, Windows 10, wifi, full color touch screen. See brochure B18V710/XX



#### **VERZUS 720**

Load Cell, closed loop Rockwell/Superficial Rockwell/ Brinell hardness tester, with direct depth measuring system, integrated PC, Windows 10, wifi, full color touch screen. See brochure B18V720/XX



#### **NEMESIS 6100**

Load Cell, Closed loop Fully automatic Rockwell/ Superficial Rockwell (Brinell) hardness tester with descending test head & fixed workpiece position. full color touch screen oporation. See brochure B18N6100/XX



#### **NEMESIS 6200**

Load Cell, Closed loop Fully automatic Rockwell/ Superficial Rockwell (Brinell) hardness tester with descending test head & fixed workpiece position, integrated PC, Windows 10, Wifi, full color 15 " industrial capacitive touch screen.





#### NEMESIS 9100RS

Load Cell, closed loop Rockwell/Superficial Rockwell/ Brinell hardness tester, with integrated PC, Windows 10, WiFi etc. full color touch screen. See brochure B18N9100/XX

#### **NEMESIS 9600RSB**

Floor type, Load Cell, closed loop. Brinell, Rockwell, Superficial Rockwell Hardness tester With motorized Z-axis & BIOS Brinell Indent Optical Scanner See brochure B19N9600/XX

www.innovatest-europe.com

Includes CNC motorized X-Y stage, overview camera and advanced software (IMPRESSIONS<sup>™</sup>) for automatic pattern testing and fixture recognition. See brochure B18N6200/XX

Changes in products and/ or product specifications can emerge due to new technologies and continuous development.

We reserve the right to change or modify specifications of the products without prior notice. We recommend you to contact our sales office for up-to-date information.

Brochure B20F300/01/EN

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