

# NEXUS 7700

Universal Hardness Tester

SEMI-AUTOMATED



# NEXUS 7700

## The icon of Universal hardness testing!

The 7700 is the latest update of the late 60's development matt screen Universal Hardness tester with a swivel system to change from indenter to objective position. Alive as never before!

Due to enhanced camera technology that provides 18 Megapixel 4K full HD images, there isn't much need for exchanging objectives.

Economic, high end, hardness testing machine, easy to use, continuing a long established reputation. Measures a large number of hardness scales according to the procedures as stated in the ISO & ASTM standards.



### HARDNESS SCALES



**VICKERS** 500gf - 120kgf  
also HVD (HVT)



**KNOOP** 500gf - 5kgf



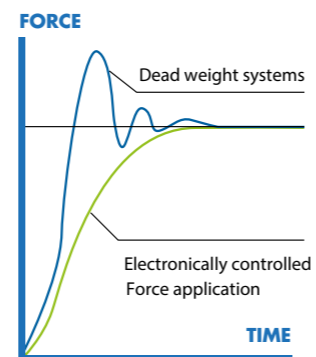
**BRINELL** 1kgf - 250kgf  
also HBD (HBT)



**ROCKWELL** 3kgf - 150kgf

\* For more details on the scales see page 18

### TECHNOLOGY OF TODAY



Load cell, closed loop,  
force feedback system

### CONVENIENT FORCE RANGE



## HIGHLIGHTS

- 1 Load cell, closed loop, force feedback, load application system.
- 2 Fully automatic test cycle
- 3 18 Megapixels, 4K+ Full HD camera system, with zoom and autofocus
- 4 12" industrial full color touch screen
- 5 Precision Z-axis displacement by ergonomic handwheel
- 6 Adjustable workpiece illumination
- 7 Integrated high performance system controller i7 processor
- 8 Clamp to protect indenter and fix workpiece to anvil or stage
- 9 Manual, motorized stages and/or anvils at choice
- 10 Workpiece accommodation: 340 mm (H) x 205 mm (D)

## Solid performance and lasting reliability

### 1 INDENTER & OBJECTIVE SWIVEL SYSTEM

The 7700 has an electro-mechanical swivel system that swivels from indenter to objective after each test. It's a proven system that makes it easy to perform a test and requires no operator skills.

Indenters are easy to exchange and are protected by an adjustable and removable clamping system that provides protection to the indenter and holds the workpieces firmly clamped to the anvil.

### 2 SYSTEM CONTROL

The optical system makes use of top quality objectives that transfer image to an 18 megapixels 4K (Full HD) camera system that on its turn creates crisp images on the 12" industrial touch screen.

The electronic heart of the tester is based around a latest technology system controller running on Windows 10 that includes MSATA hard drives for file storing. The 7700 can be connected to the internet by a wired or wireless connection and if required can be serviced over the internet easily.

### 3 Z-AXIS

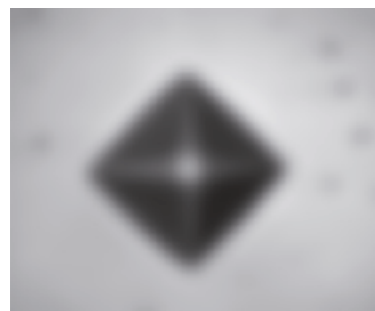
Vertical workpiece positioning can be obtained by running the solid and ergonomic spindle handwheel. The precision spindle allows a large variety of accessories such as tables or anvils to be mounted or inserted.

It is also possible to install a CNC X-Y motorized stage or manual X-Y stages, please see the accessories page for more explanation.





# AUTOMATIC IMAGE EVALUATION



1

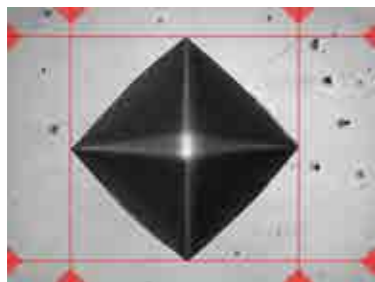
## 1 AUTO FOCUS

Fast & precise, observe how IMPRESSIONS™ finds focus from a large distance, as far as the travel of the Z-axis allows. Algorithms used for close distance autofocusing set new standards in AF speed.



## 2 AUTOMATIC MEASUREMENT

Manual positioning of filar lines is no longer required. IMPRESSIONS™ refined measurement algorithms detect indents even on very poor or scratched surfaces and measure the relevant indent dimensions according to standards. Stay in control by switching to manual measure mode and have the option of adjusting measurements by touching the screen or using the mouse. Filar lines can be colored to give the best contrast against the specimen's surface. To assure that measurements meet relevant standards on symmetry, enable the automatic indent check. All hardness values can be converted to other scales according to ISO 18265, ISO 50150, ASTM E140.



2



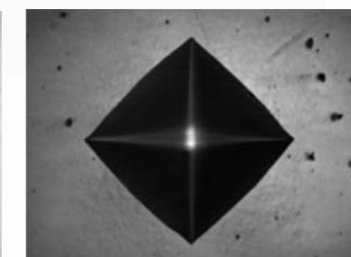
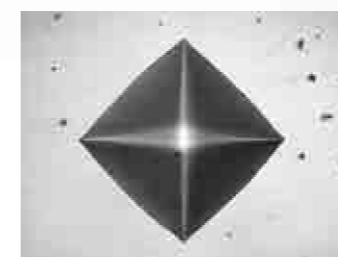
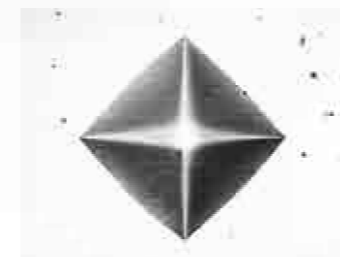
## 3 ILLUMINATION SETTINGS

IMPRESSIONS™ software automatic illumination system adapts to the correct illumination regardless of the sample surface quality, wherever on the sample, independent from material (steel, carbide, coated or ceramic). Contrast, Brightness and Program, can be set automatically for each measurement or controlled manually. Sharpness can be stored with the pre-determined test.

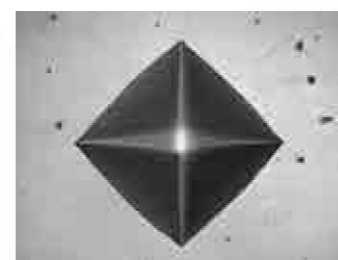
Too bright

OK

Too dark



3



4

Irregular surface

Regular surface

Poor surface

## 4 REFINED IMAGE DETECTION

Complex, refined algorithms ensure reproducible measurements on different materials and even on scratched and damaged surfaces.

Evaluate whatever you want, --  
because what gets measured, gets produced...

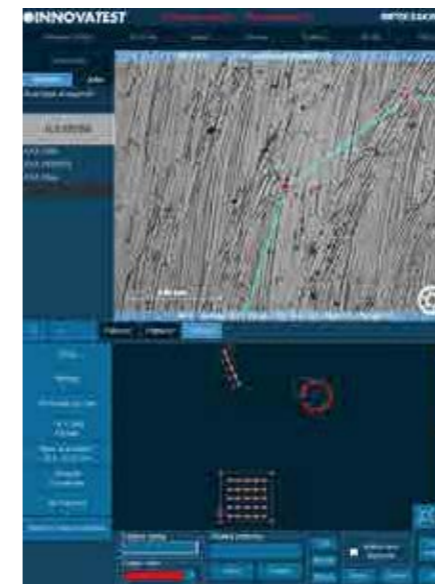
## IMPRESSIONS operating comfort guarantees less down time

The Graphical User interface (GUI), contains industry preferred applications and offers easy to learn, advanced workflow control. A simple test can be set up and conducted in about 3 seconds... IMPRESSIONS™ layout & functions will match not only your particular application requirements, but also meet the needs and preferences of your operators. A user level management system maximizes their comfort and efficiency.

The unique in the industry, 12" portrait mode, capacitive touch screen, gives room to all possible applications. With this many options in Hardware and Software configuration, yearly updates and on demand upgrades, IMPRESSIONS™ is truly the leading software in the industry.

# FEATURED BY IMPRESSIONS v2

## ADVANCED SOFTWARE APPLICATIONS



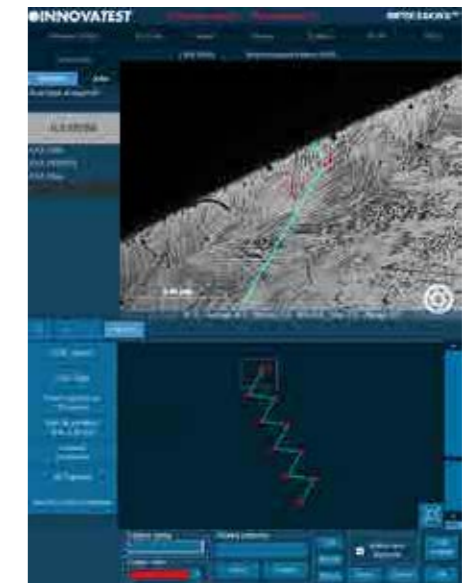
### 1 PATTERN TESTING

The IMPRESSIONS™ pattern editor allows the user to create any number of test patterns with a large number of variable settings. Create test patterns with great precision and freedom. Verify the settings in the preview mode. Drag & drop patterns from one test sample to another sample. Live vision technique over zoom overview camera, no image stitching required.

Combine different patterns and even different test forces in one program, and run them fully automatically. All test points can be identified individually or to customer specifications. The label is shown in the test result list and in the test results overview and in the results print out. An important function for sample analyses at the end of a test and in the future for review of previous tests.

### 2 CHD, SHD, NHD

How do you increase throughput in your lab? Make the most common testing design as easy to set up as it is to perform automatically and still adhere to the applicable standards. CHD/SHD/NHD testing can be started directly from the surface view or from the overview. Additional core points of hardness can be defined separately for NHD measurements. The distances of test points are automatically set to a minimum distance, following the standard, to assure correct testing is conducted. Time saving test mode "complete all indentations – then evaluate" and "auto-stop" to complete test series as soon as the lower hardness limit has been reached. Report Generator is enhanced with reporting features for this application.

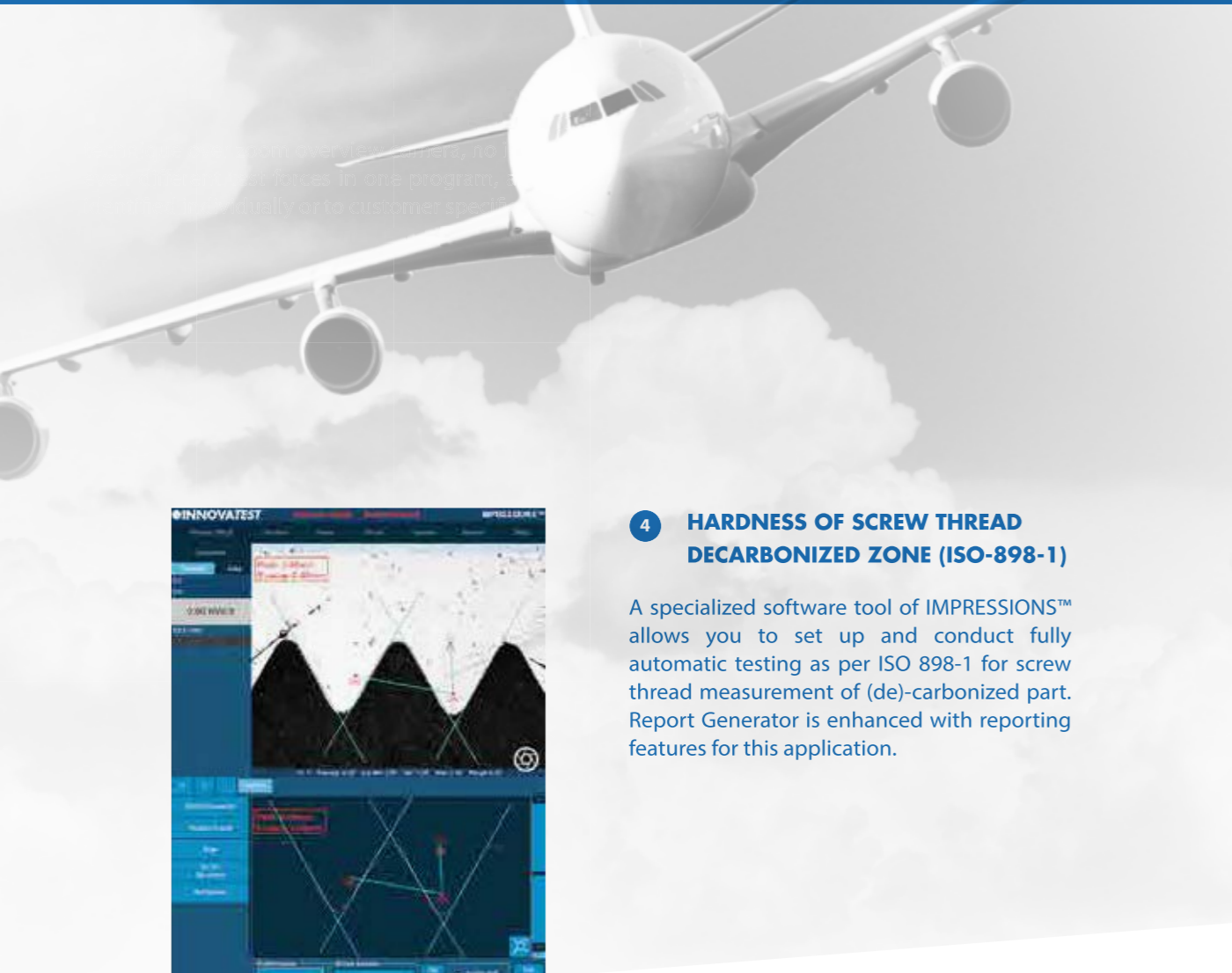


### 3 Kic CRACK MEASUREMENT

For those requiring more in depth knowledge on materials behavior, wishing to study material fracture and fatigue, crack growth can be predicted and measured by using the Kic application. The software supports Kic crack detection under load with customized Kic result reporting. By way of one or both methods, Palmqvist or Median / Radial, fracture toughness is now a repeatable and reproducible test across multiple operators.

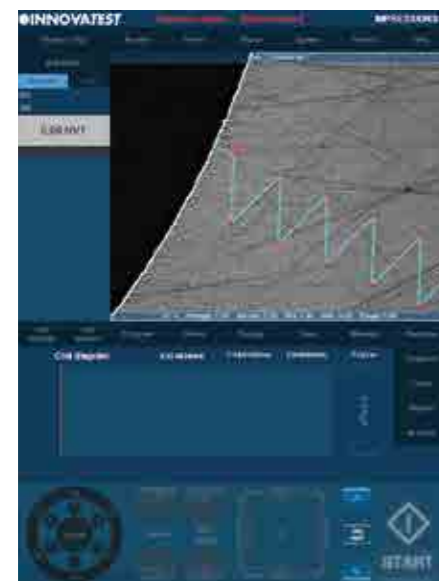


# Easy to operate, time reducing solutions...



## 4 HARDNESS OF SCREW THREAD DECARBONIZED ZONE (ISO-898-1)

A specialized software tool of IMPRESSIONS™ allows you to set up and conduct fully automatic testing as per ISO 898-1 for screw thread measurement of (de)-carbonized part. Report Generator is enhanced with reporting features for this application.



## 5 EDGE DETECTION

Technology that automatically or at a mouse click recognizes the edge of your sample. This helps to determine and fix the desired starting position for CHD or other pattern testing jobs.

## 6 SNAPSHOT FUNCTION

This handy function in IMPRESSIONS™ allows you to make screen captures of the viewing area by way of objective view and/or Overview camera. It gives the opportunity to store such images with comments or to paste them into the report generator for further processing.

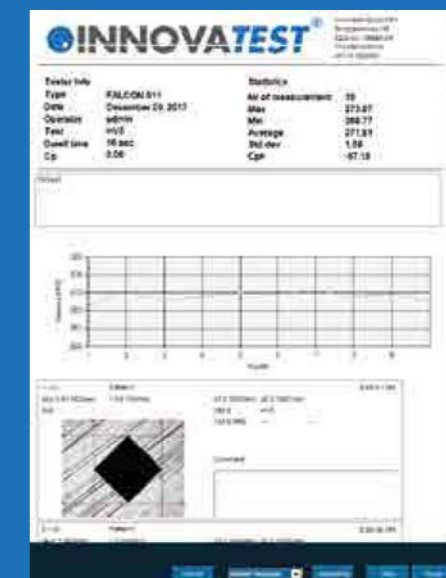


## 7 USER DEFINED PROGRAMS

For repeating jobs, IMPRESSIONS™ utilizes the option of setting up and storing custom test programs. For each task, a "job" can be created. All application specific parameters, like hardness scale, force, dwell-time, pattern, conversion and the report template are stored in the same program.

## 8 REPORT GENERATOR

Imagine having a report created for you that includes: Your company name, address, contact information, labeled results related to patterns or sequential, pictures of your optical measurements, stitched images, notes section for each result or pictures, rendition of the pattern performed, overview picture of your pattern on your sample, full statistics, summary of your results, go no-go results, Pass or fail... all that information or having the ability to only have what you need reported, we call this our Report Configurator. You decide how much or how little you report by PDF or laser printer. We even keep it simple by choosing export to CSV file, to a thumb drive or network file location. Data management at its best!





**WORKPIECE CLAMP & INDENTER COVER**

The NEXUS 7700 is standard equipped with a workpiece clamp that provides adjustable pressure on the workpiece surface and presses the workpiece firmly to the stage or anvil. The clamp also protects the indenter against unwanted damage.

INCOMPREHENSIBLE

**POSSIBILITIES**

The 7700 has the option to install a wide variety of anvils, fixtures, flat stages, manual micrometer stages or CNC X-Y motorized stages. In combination with a load application system that ranges from 0.5kgf up to 250kgf the machines can be seen as unique in its class. The very competitive price is justified from a large sales number and an install base of many thousands of machines.







# SUPPORT YOUR BEST TESTING RESULTS

## With our rigid designed Bench stands

- Rock solid bench stands
- 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

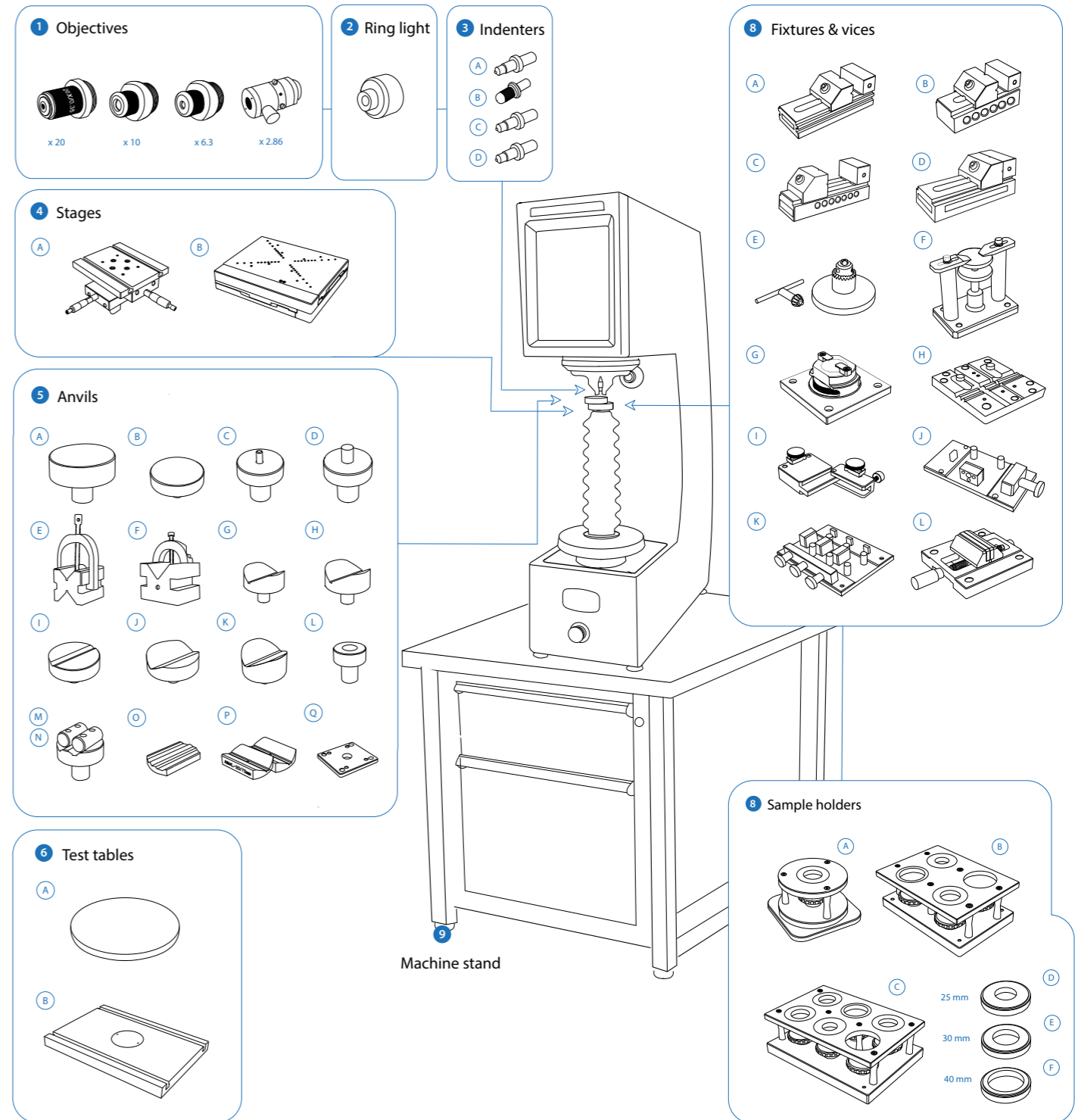
Designed for hardness testing instruments, painted in INNOVATEST® RAL colors matching our testers.



UN-STAND/950 71 x 75 x 70 cm

# ACCESSORIES NEXUS 7700

Schematic overview of the configuration options, standard and optional accessories



Machine stand

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



# ORDER DETAILS

## NEXUS 7700



Universal hardness tester, 500gf - 250kgf	NEXUS 7700	
Plug & Play prepared, calibration, sea & airworthy packing in "non coniferous wood" material	P&PSEAPACK120	

## ACCESSORIES

1	Objectives	Objective for 20x (total magnification 140x)	AS7000-08-05	
		Objective 10x (total magnification 70x)	AS7000-08-06	STANDARD
		Objective 6.3x (total magnification 44x)	AS7000-08-07	STANDARD
2	Ringlight	Objective 2.86x (total magnification 20x)	AS7000-08-08	
		Ring light for 7501 and 7700 (suitable for as7000-08-08 only)	UN-RINGLIGHT 7700	
3	Indenters	A Rockwell C Diamond Indenter, ISO & ASTM certified	IN/6005	
		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	
		Rockwell Ball Indenter 1/16". Includes 1 carbide ball, ISO & ASTM certified	IN/7506	
		Rockwell Ball Indenter 1/8". Includes 1 carbide ball, ISO & ASTM certified	IN/7606	
		Rockwell Ball Indenter 1/4". Includes 1 carbide ball, ISO & ASTM certified	IN/7706	
		Rockwell Ball Indenter 1/2". Includes 1 carbide ball, ISO & ASTM certified	IN/7806	
		C Macro Vickers Indenter Ø6.35mm, ISO & ASTM certified	IN/8010	
Macro Knoop Indenter Ø6.35mm, ISO & ASTM certified	IN/8220			
4	Stages	A Manual X-Y stage with analogue metric micrometers, 180x160mm Displacement: 25x25mm, scale 0.01mm, max load 300kg	UN-TESTTABLE/030	
		Lock flange	UN-XYZ BUSH55	
		Mounting plate for lock flange	UN-XYZ30FP50-55	
		B Motorized CNC X-Y stage, 257x188mm, total load up to 400Kgf max Displacement: 120x100mm, resolution 0.001 mm, repeatability +/-0.003mm	UN-XY571210	
		Motorized CNC X-Y stage, 307x208mm, total load up to 400Kgf max Displacement: 170x120mm, resolution 0.001mm, repeatability +/-0.003mm	UN-XY571712	
		Motorized CNC X-Y stage, 337x188mm, total load up to 400Kgf max Displacement: 200x100mm, resolution +/- 0.001mm, repeatability +/-0.003mm	UN-XY572010	
		Motorized CNC X-Y stage, 357x208mm, total load up to 400Kgf max Displacement: 220x120mm, resolution 0.001mm, repeatability +/- 0.003mm	UN-XY572212	
		Motorized CNC X-Y stage, 337x238mm, total load up to 400Kgf max. Displacement: 200x150mm, resolution 0.001mm, repeatability +/- 0.003mm	UN-XY902015	
		Motorized CNC X-Y stage, 437x238mm, total load up to 450Kgf max. Displacement: 300x150mm, resolution 0.001mm, repeatability +/- 0.003mm	UN-XY903015	
		Motorized CNC X-Y stage, 630x238mm, total load up to 450Kgf max Displacement: 400x150mm, resolution 0.001mm, repeatability +/-0.003mm	UN-XY904015	
Motorized CNC X-Y stage, 630x238mm, total load up to 4000Kgf max. Displacement: 400x150mm, resolution 0.001mm, repeatability +/- 0.008mm	UN-XY934015			
Clamping, locking & fixing adapters	Lock flange	AS3000-21-01		

		Mounting plate for lock flange	UN-XYZ30FP50-100	
		Cable set for connecting CNC stage to embedded driver (1 set for 2-axis) 155cm	UN-XY2CABLENBL	
5	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 V block with bracket 40x40x50mm (LxBxH)	UN-VBLOCK404050	
		F Steel, cross type, (X) V-block 60x120x100mm 8-90mm pair	UN-CROSSBLOCK01	
		G V-anvil ø40mm 6-60mm	UN-ANVIL/005	
		H V-anvil ø63mm 10-100mm	UN-ANVIL/006	
		I V-Anvil ø80mm 3.3-20mm	UN-ANVIL/040	
		J V-Anvil ø80mm 15-80mm	UN-ANVIL/045	
		K V-Anvil ø80mm 23-40mm	UN-ANVIL/050	
		L Anvil for round specimen dia. 6-25,4mm	UN-ANVIL/200	
		M Cylindrical V anvil 6-80mm	UN-CVANVIL680	
		N Cylindrical V anvil 50-200mm	UN-CVANVIL50200	
6	Test tables	Test table 100x100mm, V groove 20mm wide, 10mm deep	UN-TESTTABLE/040	
		O Small V-Anvil 3-20mm requires base plate (Requires Manual/Autom. X-Y stage)	UN-ANVILSV/105	
		P Large V-Anvil 20-75mm requires base plate (Requires Manual/Autom. X-Y stage)	UN-ANVILLV/106	
		Q Base plate for V-anvils un-anvilsv/105 & 106	UN-VANVILBASEPL	
		A Testing table ø200mm	UN-TESTTABLE/011	
		Testing table ø235mm	UN-TESTTABLE/013	
		B Large flat surface testing table 350x250mm, thickness 30mm with 2 T-slots, for large components	UN-TESTTABLE/015	
		Large flat surface testing table 450x350mm, thickness 35mm with 2 T-slots, for large components	UN-TESTTABLE/016	
		Large flat surface testing table 600x300mm, thickness 25mm, with 2 T-slots, for large light components	UN-TESTTABLE/019	
		7	Fixtures & vices	A Polished precision vice with lock down system, jaw width 25mm, opens 20mm
B Polished precision vice with lock down system, jaw width 36mm, opens 42mm	UN-VICE/215			
C Polished precision vice with lock down system, jaw width 48mm, opens 75mm	UN-VICE/220			
D Polished precision vice with lock down system, jaw width 75mm, opens 100mm	UN-VICE/230			
E Axle chuck 500 series for cylinder parts, dia. 0.4mm to 5mm	UN-AXLECHUCK			
F Universal Clamp & Leveling Device	UN-CLAMP/105			
G Thin metal clamp	UN-CLAMP/115			
H V groove clamp for small round parts dia.0.8-5mm (not suitable for test forces over 62.5kg)	UN-VGROOVE-CLAMP			
I Wire Testing Fixture	UN-WIRE/105			
J JOMINY Fixture, for 1 quench end test sample, quick release function	UN-JOMFIX1			
K JOMINY Fixture, for 3 quench end test sample, quick release function	UN-JOMFIX3			
L Small parts vice jaw width 55mm, open 50mm, self centering	UN-VICE/115			

8	Sample holders	A	1 position sample holder, for 1 embedded sample, diameter 50mm or 2	UN-ESH1	
		B	4 position sample holder, for max. 4 embedded samples, diameter 50mm or 2	UN-ESH4	
		C	6 position sample holder, for max. 6 embedded samples, diameter 50mm or 2	UN-ESH6	
		D	1 insert reduction ring 25mm	UN-ESHI25	
		E	1 insert reduction ring 30mm	UN-ESHI30	
		F	1 insert reduction ring 40mm	UN-ESHI40	
				1 insert reduction ring 1	UN-ESHI1
		1 insert reduction ring 1 1/4	UN-ESHI125		
		1 insert reduction ring 1,5	UN-ESHI15		
9	Machine stand		Cabinet test table with drawer for hardness testers 71x75x70cm	UN-STAND/950	
			Seaworthy packing box for 950/960	PACK/100	
	Printer		Laser Printer	UN-PRINT	
	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.	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.	CALCEFRDW/1K		
	Cover		Machine cover 600x700x1000mm	UN-COVER5	

## SOFTWARE

Additional Software	Automatic measurement	UN-AUTOM	STANDARD
	Manual & automatic on-screen measurement	UN-MANM	STANDARD
	Automatic focussing	UN-AUTOFOC	STANDARD
	Report configurator	UN-REPORTA	STANDARD
	Snapshot function	UN-SNAPSH	STANDARD
	Advanced 3 axis coordinate & free style indent pattern configurator, for motorized stage only	UN-TESTPAT01	
	Advanced 3 axis coordinate & free style indent pattern configurator, + CHD, SHD, NHD and edge detection, (supports manual & digital micrometer stages only)	UN-TESTPAT02	
	KiC crack detection under load. Palmqvist & Median / Radial fracture toughness	UN-CRKPAP	
	Drawing and measuring (distance & angles) application	UN-DRMEAS	
	Automatic edge detection	UN-EDGEDTC	
	Force depth/time diagram	UN-FDDIAGR	
	ISO 898-1 screw thread measurement of (de)-carbonized part. Requires UN-CSCAN	UN-ISO898/1	
	ISO-2702 tap screw thread measurement	UN-ISO2702	STANDARD
	User level management	UN-LEVMAN	
	CHD, SHD, NHD configurator & graphic interface for analogue and digital micro meter stage only (not including full pattern editor)	UN-MCHD	
	CHD, SHD, NHD configurator & graphic interface requires: indent pattern configurator (TESTPAT01)	UN-PATCHD	
	Q-DAS Certified connectivity protocol	UN-QDAS	STANDARD
	Virtual joystick, on-screen		
	Advanced 3-axis communication protocol for robotic systems	UN-REMC	
	ISO bullets casings pattern configurator and reporting system	UN-SHELLCONF	
Connectivity Plus	Blue Tooth connectivity	UN-BTADAPT	
	Utility software; Import test results in MS applications like Excel	UN-SW/905	
	USB to USB null modem cable 2.5M	BE-99-0025	STANDARD
	Wireless system Keyboard & wireless mouse	UN-SKBSET	

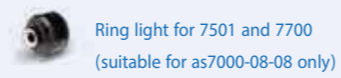


# ACCESSORIES

## OBJECTIVES



## RING LIGHT



## INDENTERS



## STAGES



## ANVILS



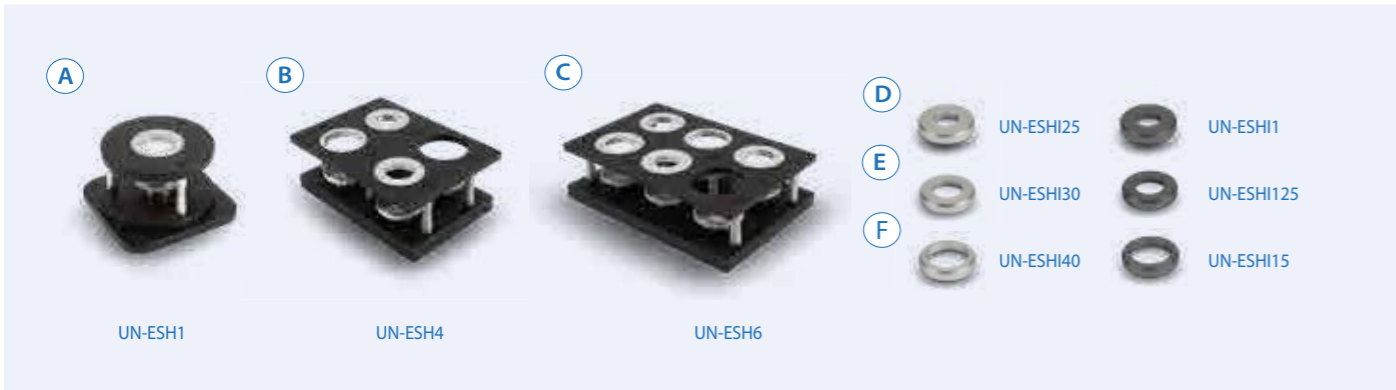
## TEST TABLES



## FIXTURES AND VICES



## SAMPLE HOLDERS



## MACHINE STAND



## COVER



# SPECIFICATIONS

## HARDNESS SCALES

	<b>ROCKWELL</b> EN-ISO 6508 ASTM E-18 JIS Z 2245	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
	<b>VICKERS</b> ISO 6507 ASTM E384, E92 JIS B 7725	HV0.5   HV1   HV2   HV2.5   HV3   HV4   HV5   HV10   HV20   HV25   HV30   HV40   HV50   HV100 HV120   HV150
	<b>Kic Fracture toughness</b>	All Vickers forces & scales
	<b>KNOOP</b> ISO 4545 ASTM E92 JIS Z 2251	HK0.5   HK1   HK2   HK5
	<b>BRINELL</b> ISO 6506, ASTM E10 JIS Z 2243	HBW1/1   HBW1/1.25   HBW1/2.5   HBW1/5   HBW1/10   HBW1/30   HBW1/31.25 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
	<b>PLASTIC</b> ISO 2039	49 N, 132 N, 358 N, 961 N
	<b>CARBON</b>	HR 2.5/7 HR 5/7   HR 5/20   HR 5/40   HR 5/60   HR 5/100   HR 5/150 HR 10/20   HR 10/40   HR 10/60   HR 10/100   HR 10/150
	<b>HVD (HVT)</b>	HV5   HV10   HV20   HV30   HV50   HV100   HV120
	<b>HBD (HBT)</b>	HBW1/5   HBW1/10   HBW1/30 HBW2.5/6.25   HBW2.5/15.625   HBW2.5/31.25   HBW2.5/62.5   HBW2.5/187.5 HBW5/25   HBW5/125   HBW5/250 HBW10/100
	<b>CONVERSIONS</b>	Conversion to other hardness scales according to ASTM E140, ISO 18265, GB/T 1172

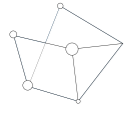
## TEST FORCE

	<b>Force application</b>	Loadcell closed loop, force feedback system
	<b>Test forces</b>	0.5kgf – 250kgf
	<b>Test force tolerance</b>	< 0.5%
	<b>Dwell time settings</b>	1 - 250 seconds

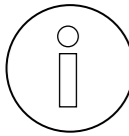


# TECHNICAL DRAWINGS

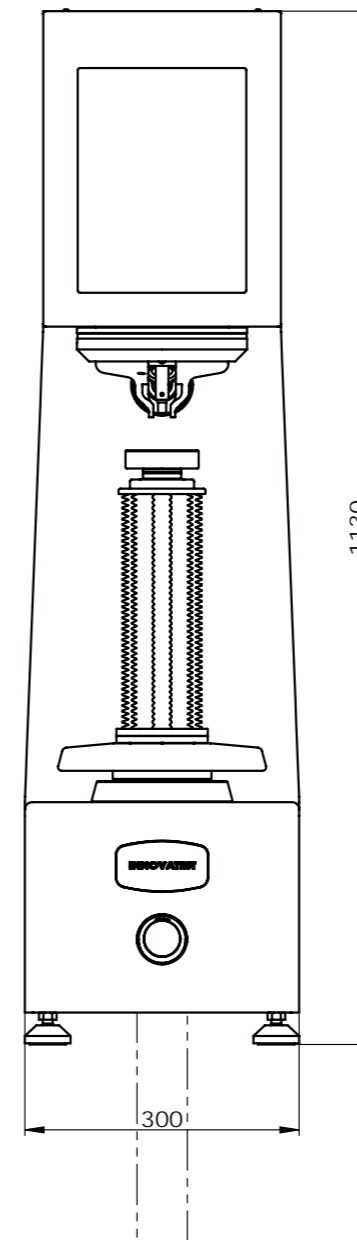
## SYSTEM

	<b>Electronic system Standard (Recommended)</b>	High performance embedded controller, i7, mSSD 120 GBxx, MS Windows® 10 operated , up to 8 years* INNOVATEST warranty
	<b>Electronic system (Optional)</b>	High performance external controller, i9, mSSD 120 GBxx, MS Windows® 10 operated, 1 year factory warranty
	<b>Screen(s)</b>	12" full colour touch screen
	<b>Display resolution</b>	0.01 HV, HK, HB
	<b>Statistics</b>	Total test, max, min, average, range, standard deviation, All in real time after each test
	<b>Hardness conversion</b>	Rockwell, Rockwell Superficial, Vickers, Brinell, Knoop, Leeb & Tensile
	<b>Software</b>	No. of tests, Mean, St. Deviation, Min., Max., Range, CP, CPk, individual readings list, storage memory, Dwell time, test force setting, scale selection, calibration etc.
	<b>Data output</b>	XML, CSV, Certified for Q-DAS (Optional)
	<b>Connectivity</b>	4 USB ports, RJ45 Ethernet LAN, W-LAN, RS-232, Blue Tooth

## GENERAL

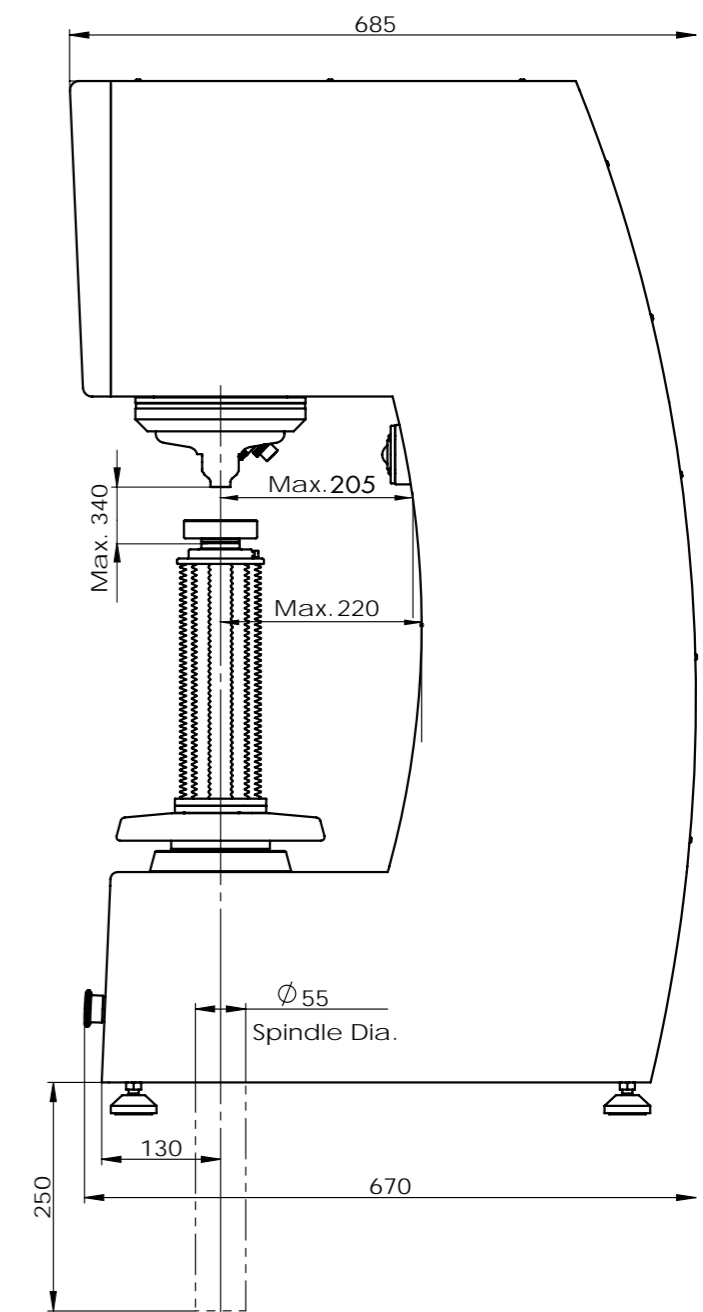
	<b>Machine dimension</b>	300mm x 670mm x 1130mm
	<b>Machine weight</b>	178 kg
	<b>Power supply</b>	100VAC to 240VAC, 50/60Hz, single phase
	<b>Operating temperature</b>	10°C to 35°C, non-condensing
	<b>Power consumption</b>	100W
	<b>Humidity</b>	10% to 90%, non-condensing

\* Check individual warranty conditions



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

Please contact our sales department for more details.



## OTHER MODELS IN THE UNIVERSAL RANGE



### NEXUS 605U

Fully automatic, load cell, closed loop, force feedback universal hardness tester with electronic micrometer or analogue eyepiece. i-Touch, 6.5" full color touch screen.  
See brochure B19N605U/XX



### VERZUS 750U

Fully automatic, load cell, closed loop, force feedback universal hardness tester with electronic micrometer or analogue eyepiece. IMPRESSIONS™ 8.5" full color touch screen.  
See brochure B19V750U/XX



### FENIX 300U

Load Cell, closed loop, force feedback, test force application system Universal hardness tester with I-TOUCH™ system.  
See brochure B20F300/XX



### NEXUS 8100XL

Heavy duty fully automatic, load cell, closed loop, force feedback universal hardness tester with full HD optical zoom stage overview camera, IMPRESSIONS™ 15" full color touch screen.  
See brochure B19N8100/XX



### NEMESIS 9600

Heavy duty fully automatic, load cell, closed loop, force feedback universal hardness tester with full HD optical zoom stage overview camera, IMPRESSIONS™ 15" full color touch screen.  
See brochure B19N9600/XX



### NEMESIS 5100

Multi Load Cell, Closed loop Fully automatic, 8 position turret Rockwell, Superficial Rockwell, Micro/Macro Vickers, Knoop & Brinell Hardness testers Descending test head, fixed work piece position  
See brochure B18N5100/XX



### NEMESIS 9100

Multi Load Cell, Closed loop Fully automatic, 8 position turret Rockwell, Superficial Rockwell, Micro/Macro Vickers, Knoop & Brinell Hardness testers Descending test head, fixed work piece position  
See brochure B18N9100/XX



### NEXUS 8100

Heavy duty fully automatic, load cell, closed loop, force feedback universal hardness tester with full HD optical zoom stage overview camera, IMPRESSIONS™ 15" full color touch screen.  
See brochure B19N8100/XX

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

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Brochure B18N7700/06/EN

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