

NEMESIS 6200

Rockwell | Brinell Hardness Tester

FULLY **AUTOMATIC**



NEMESIS 6200

Your goals don't scare us...

The 6200 Series hardness tester is a state-of-the-art machine. It features an all linear force application system, with a descending test head and a fixed work piece position. This eliminates, for 100%, any unwanted tolerance in the depth measurement.

The 6200 model features Load cell, force feedback, closed loop system, fully automatic, servo motor driven. This hardness tester can accommodate a wide variety of applications due to the IMPRESSIONS® advanced hardness software. Perfectly suitable for aircraft engine parts, automobile parts, production lines, general quality assurance and the highest standard for laboratory use.



HARDNESS SCALES



ROCKWELL 3kgf – 150kgf



BRINELL 1kgf – 250kgf



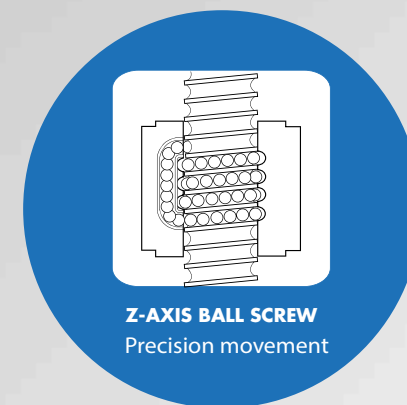
ROCKWELL FORCE RANGE:

3kgf	NEMESIS 6200RS	150kgf	250kgf
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HIGHLIGHTS

- 1 Load cell, closed loop, ball bearing linear force actuator.
- 2 Descending test head with collision detection system.
- 3 Built-in laser positioning system and overview camera (optional).
- 4 Extended indenter shaft, with removable high force clamping attachment and indenter protection.
- 5 Integrated high performance system controller, i7 processor, 120GB mSSD storage .
- 6 Industrial 15" touch screen, option for second screen 15" to 55" or projector.
- 7 IMPRESSIONS™ advanced workflow and tester control software.
- 8 Large test piece accommodation : 345mm (H) X 220mm (D).
- 9 Adjustable power LED workpiece illumination.
- 10 Top-class replaceable body parts, shock proof ABS covers.
- 11 Brinell scales optional

CREATIVE INNOVATION



Vertical force
actuator with
position reading
system

Stage and anvil
docking station

3-Axis joystick
with fine
adjustment

Ultimate precision...

Its lonely on the top for this world class machine. The vertical all linear force actuator of the 6200 eliminates any mechanical tolerance. There are no moving parts between depth reading and the indenter tip. The indenter itself is directly mounted on the load cell. Unbeatable precision. Up to depth reading of 0,02um and a force measurement tolerance of less than 0,05% for the reference version of this Master machine.

For those that want the best and nothing but the best...
Comprehensive, multi purpose, clever,
adaptable, flexible.

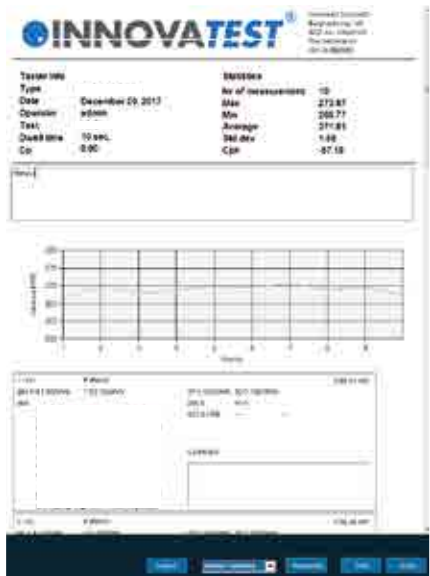
The Graphical User interface (GUI), contains industry preferred applications, and offers easy to learn, advanced workflow control. A simple test can be set up and conducted in about 3 seconds... IMPRESSIONS layout & functions will match not only your particular application requirements, but also meet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

FEATURED BY
IMPRESSIONS v2

ADVANCED SOFTWARE APPLICATIONS



The unique in the industry, 15" portrait mode, capacitive touch screen, gives room to all possible applications. Dual screen: For demanding users, a second vertical 15" screen can be connected. For educational purposes, schools, universities, a full HD projector can be connected to the HDMI supported outlet. With this many options in Hardware and Software configuration, yearly updates and on demand upgrades, IMPRESSIONS™ is truly the leading software in the industry.



ABOUT IMPRESSIONS

Easy to operate, time reducing solutions...

1 PATTERN EDITOR*

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. 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 print out. An important function for later sample analyses.

*Includes JOMINY testing patterns



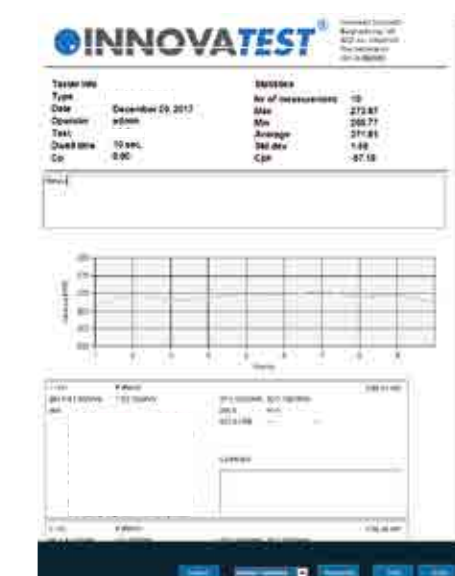
2 USER DEFINED PROGRAMS

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.



3 REPORT GENERATOR

The report generator offers to design customized testing reports, including your company's details and logo and include testing results, graphics and pictures of indentations in an easy to edit environment. The file can be printed straight to a connected laser printer for further distribution. Alternatively the file can be exported as a CSV file, to be used in MS Office applications or 3rd party quality assurance software.



VARIOUS POSSIBILITIES

The NEMESIS 6200 is a rock-solid Rockwell hardness tester. With a throat depth of 220 mm and a maximum working height of 345 mm, it provides a wide workspace for every type of user. Its solid body work can withstand the hardest environments. Perfectly suitable for aircraft engine parts, automobile parts, production lines, general quality assurance and the highest standard for laboratory use.





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.



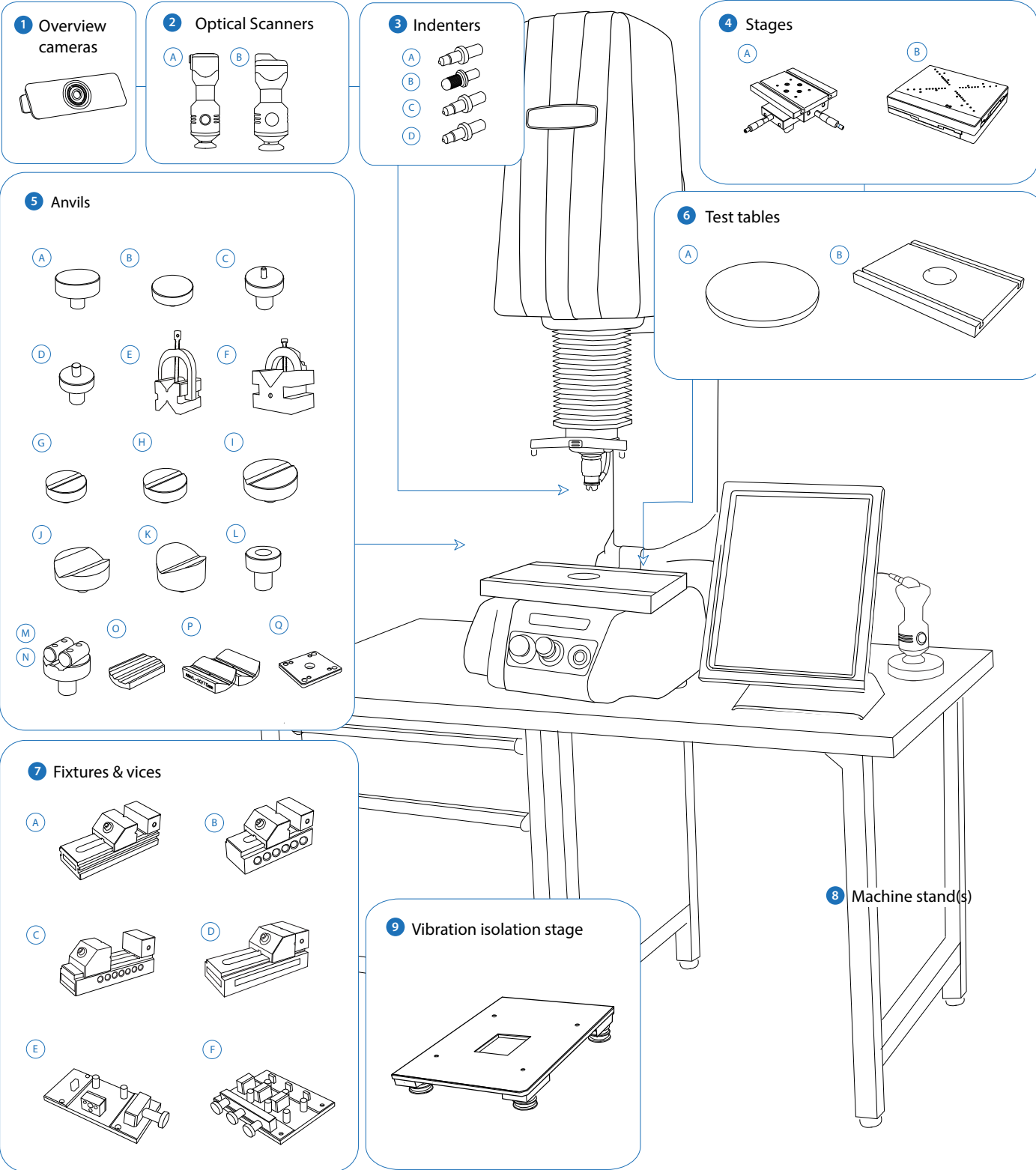
UN-STAND/960 71 x 75 x 80 cm



UN-STAND/965 150 x 75 x 80 cm

ACCESSOIRES NEMESIS 6200

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

NEMESIS 6200

	NEMESIS 6200 Rockwell hardness tester	NEMESIS 6200 RS	

ACCESSORIES

1	Overview Camera		Overview / Full view zoom camera + software functionality, includes overview lights and laser pointer	SA-05-0002	
2	Optical Scanners	A	5mpx USB2 Brinell Indent Optical Scanner for indents from 1.6 to 6mm (most common) made with 5mm or 10mm ball indenter	UN-BIOS1	
		B	5mpx USB2 Brinell Indent Optical Scanner for indents from 0.5 to 2.5mm made with 1 mm or 2.5 mm ball indenter	UN-BIOS2	
3	Indenters	A	Rockwell diamond indenter	IN/6005	
		B	1mm Carbide Ball Indenter Ø6.35mm	IN/7000	
			2.5mm Carbide Ball Indenter Ø6.35mm	IN/7005	
			5mm Carbide Ball Indenter Ø6.35mm	IN/7010	
			10mm Carbide Ball Indenter Ø6.35mm	IN/7015	
		C	1/16" Carbide Ball Indenter	IN/7506	
			1/8" Carbide Ball Indenter	IN/7606	
			¼" Carbide Ball Indenter	IN/7706	
			½" Carbide Ball Indenter	IN/7806	
		D	Macro Vickers Indenter Ø6.35mm	IN/8010	
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 BUSH50	
			Mounting plate for lock flange	UN-XYZ30FP50-55	
			Quick change anvil base (required for mounting testing tables, anvils)	AS5000-450	
		B	Motorized CNC X-Y stage, 257x188mm, total load up to 400Kgf max. Displacement: 170x120mm, repeatability +/-0.003mm	UN-XY571210	
			Motorized CNC X-Y stage, 307x208mm, total load up to 400Kgf max. Displacement: 170x120mm, 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, repeatability better then 0.003mm	UN-XY572212	
			Motorized CNC X-Y stage, 337X238mm, total load up to 450Kgf max. Displacement: 200x150mm, resolution 0.001mm, repeatability better then 0.003mm	UN-XY902015	
			Motorized CNC X-Y stage, 437x238mm, total load up to 450Kgf max. Displacement: 300x150mm, resolution 0.001mm, repeatability better then 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, 410X280mm, total load up to 4000Kgf max. Displacement: 200x150mm, resolution 0.001mm, repeatability better then 0.003mm	UN-XY932015	
			Motorized CNC X-Y stage, 510x280mm, total load up to 4000Kgf max. Displacement: 300x150mm, resolution 0.001mm, repeatability better then 0.003mm	UN-XY933015	
			Motorized CNC X-Y stage, 630x238mm, total load up to 4000Kgf max. Displacement: 400x150mm, resolution 0.001mm, repeatability better then 0.003mm	UN-XY934015	
			Dove tail mounting plate	CM-08-0033	
			Cable set for connecting CNC stage to embedded driver (1 set for 2-axis) 105cm	UN-XY2CABLENBS	

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 6-60mm	UN-ANVIL/006	
		I	V-Anvil ø80mm 3.3-20mm	UN-ANVIL/040	
		J	V-Anvil ø80mm 12-80mm	UN-ANVIL/045	
		K	V-Anvil ø80mm 20-140mm	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	
			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	
	Clamping, Locking & Fixing Adapters		Quick change anvil base (required for mounting testing tables, anvils)	AS5000-450	
6	Test Tables	A	Testing table flat ø200mm, screwfix	UN-TESTTABLE/010	
			Testing tabe flat ø235mm, screwfix	UN-TESTTABLE/012	
			Quick change anvil base (required for mounting testing tables, anvils)	AS5000-450	
		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	
	Clamping, Locking & Fixing Adapters		Quick change anvil base (required for mounting testing tables, anvils)	AS5000-450	
7	Fixtures and Vices		Polished precision vice with lock down system, jaw width 25mm, opens 20mm	UN-VICE/210	
			Polished precision vice with lock down system, jaw width 36mm, opens 42mm	UN-VICE/215	
			Polished precision vice with lock down system, jaw width 48mm, opens 75mm	UN-VICE/220	
			Polished precision vice with lock down system, jaw width 75mm, opens 100mm	UN-VICE/230	
			JOMINY Fixture, for 1 quench end test sample, quick release function	UN-JOMFIX1	
			JOMINY Fixture, for 3 quench end test sample, quick release function	UN-JOMFIX3	
8	Machine Stands		Cabinet test table with drawer for hardness testers 71x75x80cm	UN-STAND/960	
			Cabinet test table with drawer for hardness testers 150x75x80cm	UN-STAND/965	
			Seaworthy packing box for 950/960	PACK/100	
			Seaworthy packing box for 965	PACK/200	

9	Vibration Isolation Stage	Passive vibration isolation stage, broad spectrum	UN-AVS-300	
	Printer	Laser Printer	UN-PRINT	
	Projector	On request, any brand of choice	UN-PROJECTOR	
	ISO/ASTM Verification	Direct and Indirect Verification/Calibration & BRINELL Certification in compliance with ISO & ASTM, NADCAP. Includes Direct force and depth verification report, machine hysteresis report, indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale	CALCEFRDW/1B	
		Direct and Indirect Verification/Calibration & ROCKWELL Certification in compliance with ISO & ASTM, NADCAP. Includes Direct force and depth verification report, machine hysteresis report, indirect verification report (block readings), GR & R report, flat fee for selected common scales, per scale	CALCEFRDW/1R	
	Cover	Anti Static machine cover 800x680x1450mm	UN-TESTERCOVER04	

ACCESSORIES

OVERVIEW CAMERA



SA-05-0002

OPTICAL SCANNERS



UN-BIOS-1

UN-BIOS-2

INDENTERS



STAGES



UN-TESTTABLE/030



- UN-XY571210
UN-XY571712
UN-XY572010
UN-XY572212
UN-XY902015
UN-XY903015
- UN-XY904015
UN-XY932015
UN-XY933015
UN-XY934015

ANVILS

A



AS3000-19-04

B



UN-TESTTABLE/002

C



UN-ANVIL/010

D



UN-ANVIL/011

E



UN-VBLOCK404050

F



UN-CROSSBLOCK01

G



UN-ANVIL/005

H



UN-ANVIL/006

I



UN-ANVIL/040

J



UN-ANVIL/045

K



UN-ANVIL/050

L



UN-ANVIL/200

M
N



UN-CVANVIL680
UN-CVANVIL50200

O



UN-ANVILSV/105

P



UN-ANVILSV/106

Q



UN-VANVILBASEPL

TEST TABLES

A



UN-TESTTABLE/010
UN-TESTTABLE/012

B



UN-TESTTABLE/015
UN-TESTTABLE/016

FIXTURES AND VICES

A



UN-VICE/210

B



UN-VICE/215

C



UN-VICE/220

D



UN-VICE/230

E



UN-JOMFIX1

F



UN-JOMFIX3

MACHINE STANDS

A



B



VIBRATION ISOLATION STAGE

A



UN-AVS-300

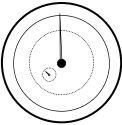


ORDER DETAILS

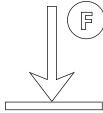
SOFTWARE				
Additional Software	Automatic measurement	UN-AUTOM	STANDARD	
	Automatic focussing	UN-AUTOFOC	STANDARD	
	Report configurator	UN-REPORTA	STANDARD	
	Snapshot function	UN-SNAPSH	STANDARD	
	Advanced 3 axis coordinate & free style indent pattern configurator, for motorized stage only	UN-TESTPAT01		
	Advanced 3 axis coordinate & free style indent pattern configurator, + CHD, SHD, NHD and edge detection, (supports manual & digital micrometer stages only)	UN-TESTPAT02		
	Force depth/time diagram	UN-FDDIAGR		
	User level management	UN-LEVMAN	STANDARD	
	Manual & automatic on-screen measurement	UN-MANM	STANDARD	
	Q-DAS Certified connectivity protocol	UN-QDAS		
	Advanced 3-axis communication protocol for robotic systems	UN-REMC		
	Virtual Joystick, on screen		STANDARD	
	Connectivity Plus	Powerfull External Intell Core i7 PC, with 16gb RAM, and 512gb SSD drive (or better) Windows 10 pre-installed, IMPRESSIONS™ tester work flow software INNOVATEST recommends Embedded Industrial computers with DeepFreeze enabled.	UN-SYSPCIMP01	
		Bluetooth connectivity	UN-BTADAPT	
		Utility software; Import test results in MS applications like Excel	UN-SW/905	
Upgrades		USB to USB null modem cable 2.5M	BE-99-0025	
		Wireless system Keyboard & wireless mouse	UN-SKBSET	
		Upgrade Rockwell tester RS to RSB, Brinell scales, BIOS 1 system, Impressions V2	UN-BPACK04	
		Upgrade Rockwell tester RS to RSB, Brinell scales, BIOS 2 system, Impressions V2	UN-BPACK05	

SPECIFICATIONS

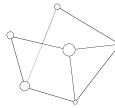
HARDNESS SCALES

	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	HBW1/1 HBW1/1.25 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
	HVD (HVT)	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 HR 10/100 HR 10/150
	CONVERSIONS	Conversion to other hardness scales according to ASTM E140, ISO 18265, GB/T 1172

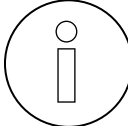
TEST FORCE

	Force application	Load cell, force feedback, closed loop system, fully automatic
	Test forces	Pre Load : 3kgf & 10kgf. Main Load : 15kgf, 30kgf, 45kgf, 60kgf, 100kgf & 150kgf
	Force range per model	6200RS 3kgf – 150kgf 6200RSB 1kgf – 250kgf
	Test force tolerance	<0.5% or <0.05% for LAB model
	Depth reading	0.1 <0.01 µm for LAB model

SYSTEM

	Electronic system	High performance embedded micro system controller, MS Windows® 15" full color capacitive touch screen, automatic and manual measurement.
	CNC Support	5 Axis CNC controller (for motorized stages) or stage accessories
	Screen(s)	15" full colour touch screen.
	Display resolution	Selectable 0.1 or 0.01HR, 0.5HB, others 0.1
	Statistics	Total test, max, min, average, range, standard deviation, All in real time after each test
	Hardness conversion	Rockwell, Rockwell Superficial, Vickers, Brinell, Knoop, Leeb & Tensile
	Software	IMPRESSIONS® V2 tester and work flow control. Advanced software features including pattern testing on complex parts and X-Y stage control.
	Data storage capacity	Internal and external mSSD, SSD or HDD
	Data output	XML, CSV, Certified for Q-DAS (Optional)
	Connectivity	2 x USB-2/3, RJ45 LAN, W-LAN, 5 axis CNC connector, HDMI
	Printer	A4, A3 full color laser printer (optional)

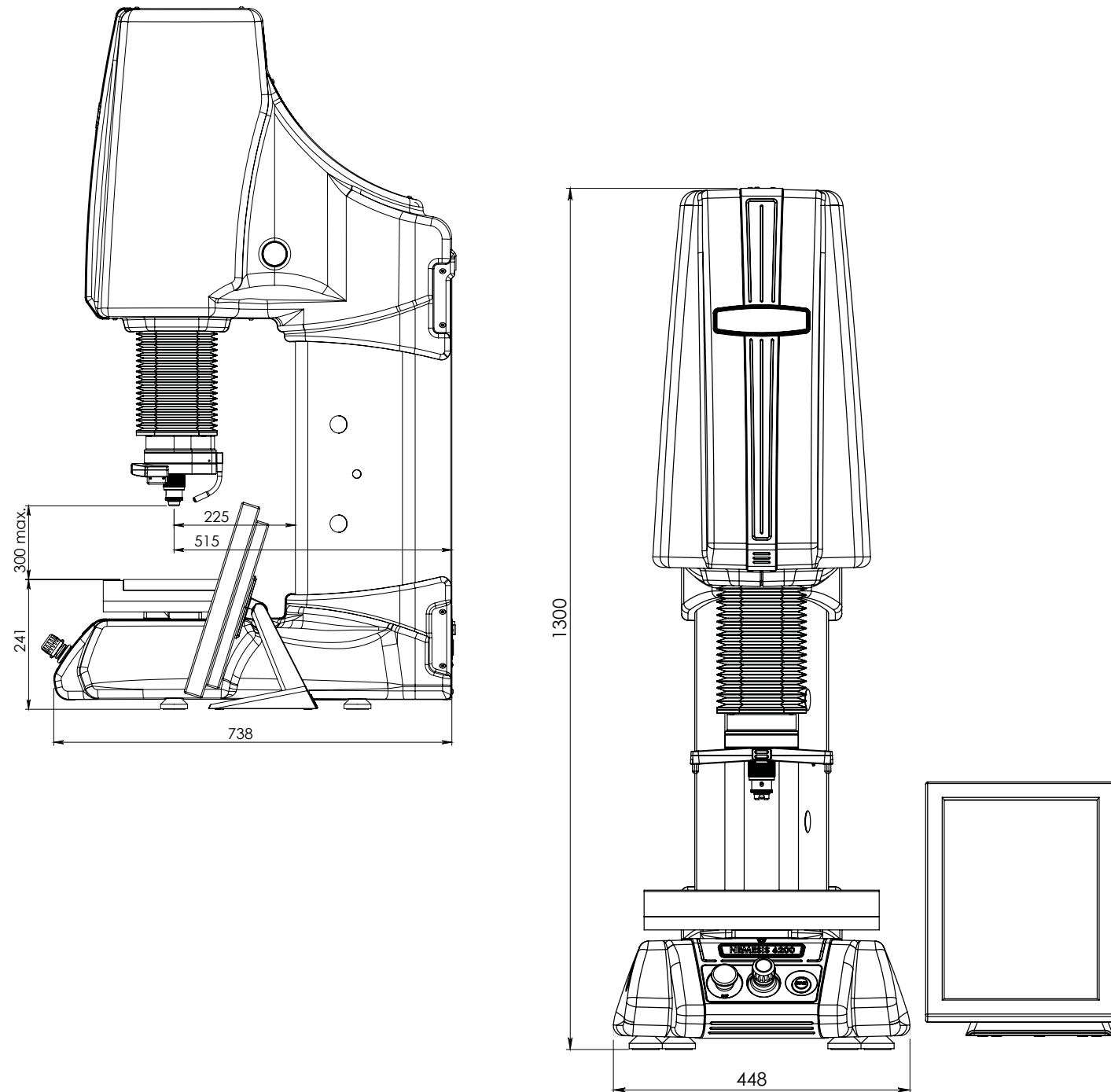
GENERAL

	Machine dimension	525 mm x 323 mm x 773 mm
	Machine weight	150kg
	Power supply	100VAC to 240VAC, 50/60Hz, single phase
	Operating temperature	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.

Please contact our sales department for more details.



OTHER MODELS IN THE ROCKWELL RANGE



FENIX 200

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



NEXUS 605

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



NEXUS 610

Load Cell, closed loop Rockwell/Super Rockwell/ Brinell hardness tester, with integrated PC, Windows 10, wifi etc. full color touch screen.
See brochure B18N610/XX



VERZUS 720

Load Cell, closed loop Rockwell/Super 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/ Super Rockwell (Brinell) hardness tester with descending test head & fixed workpiece position. full color touch screen operation.
See brochure B18N6100/01



NEMESIS 9600RSB

Load Cell, closed loop Brinell, Rockwell, Superficial Rockwell Hardness tester With motorized Z-axis & BIOS Brinell Indent Optical Scanner
See brochure B19N9600/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 B19F6200/02/EN

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