

NEXUS 3300FA & 3400FA

Brinell Hardness Testers

FULLY **AUTOMATIC**



NEXUS 3300FA & 3400FA

The game has changed...

The NEXUS 3300FA and its larger equivalent the 3400FA are heavy duty, fully automatic hardness testing machines to test metals, mostly castings, according to the principle invented in 1900 by the Swedish engineer Johan August BRINELL.

Both machines incorporate a large sturdy machine body of over 300kg, from 390mm working height (3300) to 530mm working height (3400).

Pushing the START button will put the fully automatic procedure in motion. The motorized z-axis lifts the work stage with workpiece to the correct focus/test height, the 6 position turret with 3 indenters, 2 objectives with ring lights and positioning laser, will turn to the correct position corresponding with the chosen test load and ball indenter.

An impression is being made after which the turret will turn to the objective corresponding to the settings and the IMPRESSIONS Software conducts an automatic measurement.

One touch on the screen or start button, provides you the actual Brinell hardness value of your workpiece.



BRINELL FORCE RANGE

1gf	62.5kgf	NEXUS 3300FA	3000kgf
1gf	62.5kgf	NEXUS 3400FA	3000kgf

HIGHLIGHTS

- 1 Fully automatic, closed loop, load cell, force application system
- 2 High speed, 6 position turret with 3 indenters and 2 objectives
- 3 18 Megapixels 4K+ full HD industrial CCD camera
- 4 Objectives include power LED ring lights for excellent dark/brightfield illumination
- 5 Heavy duty, servo driven, motorized Z-axis lifts parts up to 500kg
- 6 Operation over Industrial 15" full color touch screen, or real feel rubber buttons for casting workshop environment.
- 7 Integrated high speed CPU i7, Windows 10 OS, IMPRESSIONS™ workflow controller
- 8 Fully enclosed heavy duty frame with rubber sealings between interior access covers
- 9 Optional Motorized CNC X-Y stage suitable for total loads up to 4000kg(f).
- 10 Optional over-pressure fan system, avoids machine failure in very dirty environments
- 11 Body cover plates in ABS to protect main body against damage
- 12 Optional floor type operation console for remote tester operation



SENSIBLE INNOVATION



NEXUS 3400FA



NEXUS 3300FA

A purpose, an intention, a design...

Heavy duty machines with CE and fully concealed IP51 enclosure. Thanks to use of rubber sealings no metal dust can enter into the machine structure. For very dirty environments the inner side of the tester can be 'overpressured' by an air compressing filtered fan.

Match fixing...

1 MACHINE STRUCTURE

Fully enclosed machine body with rubber sealings between machine body and access plates. Can be used in dirty environments. For very dirty environments like metal grinding workshops or inside casting grinding workshops the tester can be equipped with a filtered fan interior overpressure system, with pollution (filter replacement) indication.

2 MOTORIZED TURRET

6 position turret, 3 ball indenters (2.5mm / 5mm / 10mm) can be installed simultaneously. 2 high quality objectives with power LED ring lights combined with an 18 megapixels 4k+ Full HD camera system, provide that any indentation with the range of the machine can be displayed and measured according to the requirements as set forth in the applicable ASTM/ISO/JIS standards.

3 COLLISION PROTECTION

Collision protection safeguard, protects the turret mechanism from unwanted / accidental collision with workpieces.

4 MOTORIZED SERVO DRIVEN HIGH SPEED Z-AXIS

Power-full servo driven motorized Z-axis provides excellent and reliable stage lifting capacity of 500kg as a maximum load.

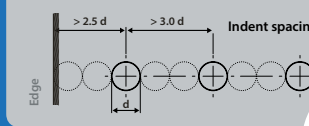
5 SYSTEM CONTROL

A powerful i7 Windows 10 OS controller is standard on-board of these machines. The 15" full color touch screen gives excellent comfort on operating the IMPRESSIONS™ work flow and tester control software. Recordings can be operated with a single touch of the camera button.

6 SOFT KEYS

More controls can be found on the base of the machine. The front panel features rubber buttons that allowing operators wearing gloves to control the Z-axis and start/stop the machine to conduct a test. Since data is stored automatically, the tester can be set up from the touch panel, but operated in conducting actual tests from either the touch screen or the glove-proof front panel buttons.

BRINELL			
ASTM E10 & ISO 6506			
Brinell scale	Ball mm	Force diameter index $0.102 \times F/D^2$	Recommended Hardness Range HBW
HBW 10/3000	10	30	96 - 650
HBW 10/1500	10	15	48 - 327
HBW 10/1000	10	10	32 - 218
HBW 10/500	10	5	16 - 109
HBW 10/250	10	2.5	8 - 55
HBW 10/125	10	1.25	4 - 27
HBW 10/100	10	1	3 - 22
HBW 5/750	5	30	96 - 650
HBW 5/250	5	10	32 - 218
HBW 5/125	5	5	16 - 109
HBW 5/62.5	5	2.5	8 - 55
HBW 5/31.25	5	1.25	4 - 27
HBW 2.5/187.5	2.5	30	96 - 650
HBW 2.5/62.5	2.5	10	32 - 218
HBW 2.5/31.25	2.5	5	16 - 109



NEXUS 3300FA

NEXUS 3400FA

FEATURED BY IMPRESSIONS v2

ADVANCED SOFTWARE APPLICATIONS

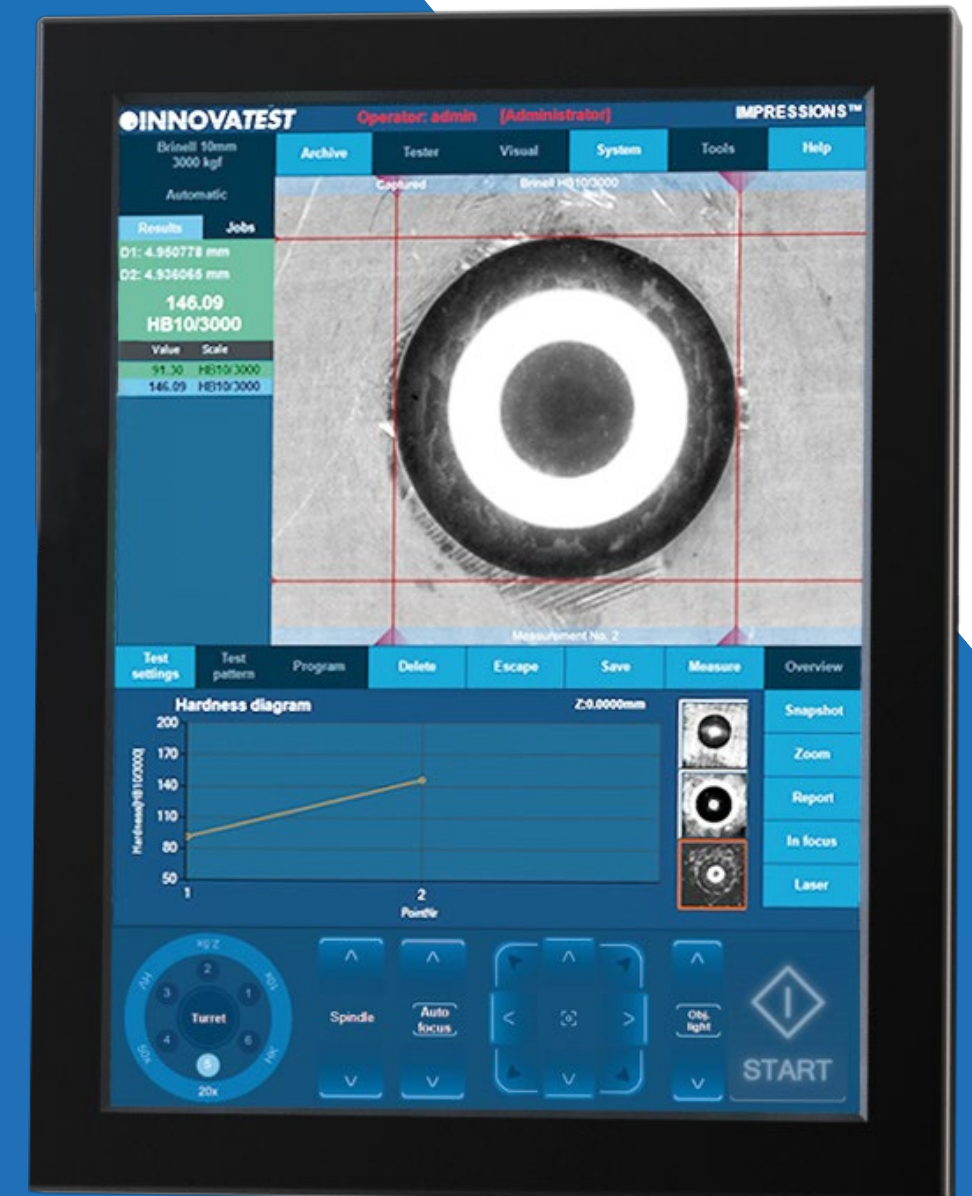
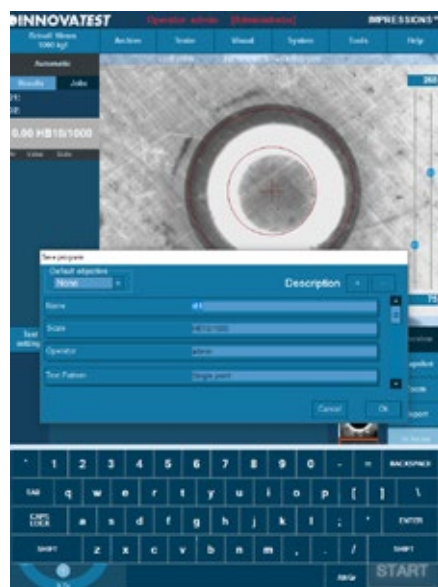
The Graphical User interface (GUI), contains Industry preferred applications, and offers easy to learn, advanced workflow control. A simple test can be set up and conducted in about 3 seconds...IMPRESSIONS™ layout & functions will match not only your particular application requirements, but also meet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

1 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, such as hardness scale, force, dwell-time, pattern, conversion and the report template are stored in the same program.

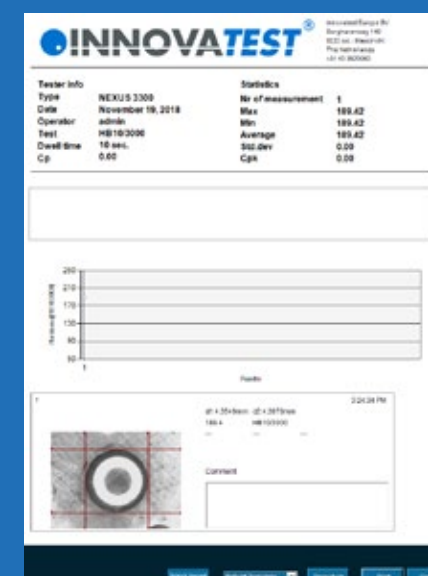
2 SNAPSHOT FUNCTION

This handy function in IMPRESSIONS™ allows you to make screen captures of the viewing area. It offers the opportunity to store such images with comments or to paste them into the report generator for further processing.



3 THE REPORT GENERATOR

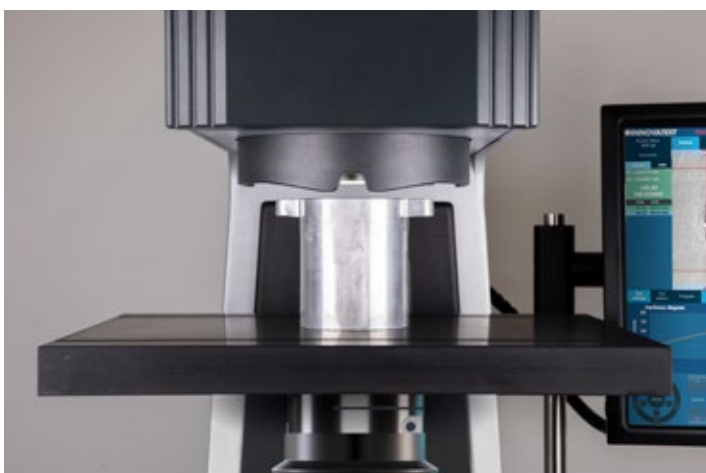
The report generator offers to design customized testing reports, including your company's details and logo and include testing results, graphics and pictures of indentations in an easy to edit environment. The file can be printed straight to a connected laser printer for further distribution. Alternatively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





DESIGNED FOR PURPOSE

Convert your wishes into real experiences. The 3300FA and 3400FA fully automatic Brinell hardness testers conduct fast tests on nearly all samples regardless of their shape. The large flat work stage with removable center plate, provides excellent workpiece support while keeping the flexibility of using anvils for particular shaped components or installing a CNC X-Y stage.





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 that matching our testers.



UN-STAND/950 71 x 90 x 70 cm
UN-STAND/955 71 x 90 x 57 cm



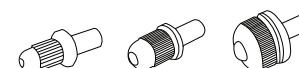
UN-STAND/956 71 x 90 x 42 cm

ACCESSORIES

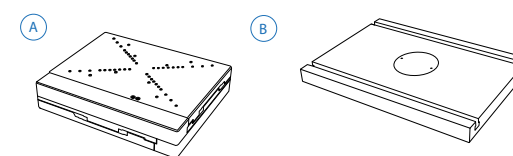
NEXUS 3300FA/3400FA

Schematic overview of the configuration options, standard and optional accessories

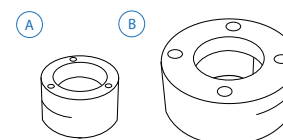
1 Indenters



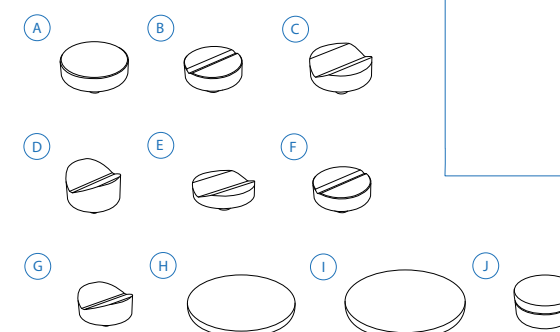
2 Stages



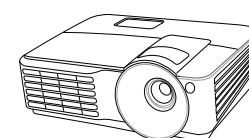
3 Locking rings



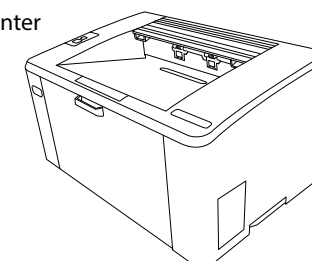
4 Anvils



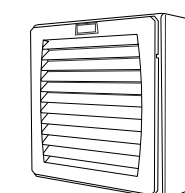
5 Projector



6 Printer



7 Fan filter unit



8 Bench stand(s)

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

ORDER DETAILS

3300FA/3400FA



NEXUS 3300FA Brinell hardness tester, 62.5kgf - 3000 kgf	● NEXUS 3300FA	
NEXUS 3400FA Brinell hardness tester, 62.5kgf - 3000 kgf	● NEXUS 3400FA	

ACCESSORIES

		Motorized high power servo drive Z-Axis 3300, 3400		STANDARD
		Objective for small Brinell indents with power LED ringlight		STANDARD
		Objective for large Brinell indents with power LED ringlight		STANDARD
		Laser positioning system		STANDARD
		Rubber sealings for cover plates		STANDARD
1	Indenters	Brinell Indenter 2.5 mm, includes 1 carbide ball, ISO/ASTM certified (6.35mm shaft)	IN/7005	
		Brinell Indenter 5 mm, includes 1 carbide ball, ISO/ASTM certified (6.35mm shaft)	IN/7010	
		Brinell Indenter 10mm, includes 1 carbide ball, ISO/ASTM certified	IN/7015	
		Carbide balls 2.5 mm ISO/ASTM certified	IN/2010	
		Carbide balls 5mm ISO/ASTM certified	IN/2015	
		Carbide balls 10mm ISO/ASTM certified	IN/2020	
2	Locking rings	A Locking ring and mounting base for large flat testing table (3300)	AS3000-21-01	
		B Locking ring and mounting base for large flat testing table (3400)	AS8000XL-16-01	
3	Stages	A Motorized CNC XY-stage, 410x280mm Displacement: 200x100mm, 4000kgf Motorized CNC XY-stage, 510x280mm, Displacement: 300x150mm, 4000kgf Motorized CNC XY-stage, 610x280mm, Displacement: 400x150mm, 4000kgf Repeatability +/-0.005mm requires: cable set UN-XY2CABLENBS 1x	UN-XY932015 UN-XY933015 UN-XY934015	
		Cable connecting to CNC stage to embedded driver (XY- set)	UN-XY2CABLENBS	
		B Large flat surface testing table 350x250mm, with 2 T-slots	UN-TESTTABLE/015	
		Large flat surface testing table 450x350mm, with 2 T-slots	UN-TESTTABLE/016	
		Large flat surface testing table 600x300mm, with 2 T-slots	UN-TESTTABLE/019	
		Large flat surface testing table customized	CUSTOMIZED	
4	Anvils	A Flat anvil ø80mm (3300)	UN-TESTTABLE/002	
		B V-Anvil ø80mm 3.3-20mm (3300)	UN-ANVIL/040	
		C V-Anvil ø80mm 12-80mm (3300)	UN-ANVIL/045	
		D V-Anvil ø80mm 20-140mm (3300)	UN-ANVIL/050	
		E V-Anvil Ø120mm 3.3-20mm (3400)	UN-ANVIL/065	
		F V-Anvil Ø120mm 15-100mm (3400)	UN-ANVIL/060	
		G V-Anvil Ø120mm 30-200mm (3400)	UN-ANVIL/070	
		H Testing table flat ø200mm, screwfix (3300)	UN-TESTTABLE/011	
		I Testing table flat ø235mm, screwfix (3300)	UN-TESTTABLE/013	
		J Irregular part table support, ø150mm (for use on test table)	UN-ANVIL/020	

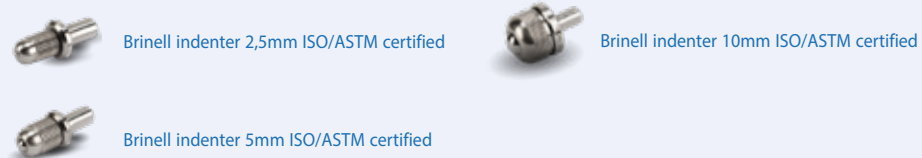
5	Projector	On request, any brand of your choice	UN-PROJECTOR	
6	Printer	Laser printer	UN-PRINT	
	Keyboard and mouse	Logitech keyboard and mouse	UN-SKBSET	STANDARD
7	Fan filter unit	Interior dust protection overpressure system	SA-16-0001	
	Remote console	Floor type operation console for remote tester operation	UN-REMCN	
8	Bench stands	Cabinet test table with drawer 71x90x70cm (recommended 3300)	UN-STAND/950	
		Cabinet test table with drawer 71x90x57cm (recommended 3400)	UN-STAND/955	
		Cabinet test table with drawer 71x90x42cm	UN-STAND/956	
		Pre installation, calibration, handling and standard packing (for truck, train, sea and airworthy transportation)	SEAPACK/060	
	Bluetooth	Bluetooth connectivity	UN-BTADAPT	
	Machine cover	Anti Static machine cover (3300)	UN-TESTERCOVER04	
	Machine cover	Anti Static machine cover (3400)	UN-TESTERCOVER08	

SOFTWARE

Manual on-screen measurement	UN-MANM	STANDARD
Automatic measurement	UN-AUTOM	STANDARD
Automatic focussing	UN-AUTOFOC	STANDARD
Report configurator	UN-REPORTA	STANDARD
User level management	UN-LEVMAN	STANDARD
Video overlay graphic pattern editor	UN-TESTPAT01	
Ammunition testing pattern configurator & reporting	UN-SHELLCONF	
Drawing & measuring application	UN-DRMEAS	
Snapshot function	UN-SNAPSH	STANDARD
Virtual joystick, on-screen (applies to motorized CNC XY-stages)		STANDARD
Advanced 3-axis communication protocol for robotic systems	UN-REMC	
Q-DAS Certified connectivity protocol	UN-QDAS	

ACCESSORIES

INDENTERS



STAGES



LOCKING RINGS



ANVILS



FAN FILTER UNIT

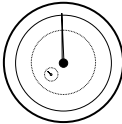
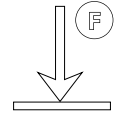
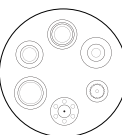
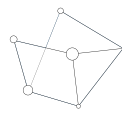


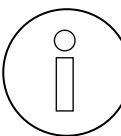
REMOTE CONSOLE



HEAVY DUTY MACHINE

SPECIFICATIONS

HARDNESS SCALES		
	BRINELL	62.5kgf/612N, 100kgf/980.7N, 125kgf/1225N, 187.5kgf/1838N, 250kgf/2.45kN, 500kgf/4.9kN, 750kgf/7.35kN, 1000kgf/9806N, 1500kgf/14.7kN, 3000kgf/29kN
	ISO 6506, ASTM E10 JIS Z 2243	
	CONVERSIONS	Rockwell, Vickers, Brinell, Leeb and Tensile 2 scales simultaneously
TEST FORCE		
	Force application	Fully automatic, closed loop, force feedback, loading, dwell, unloading
	Test forces	62.5kgf – 3000kgf
	Force range per model	NEXUS 3300FA 62.5kgf – 3000kgf
		NEXUS 3400FA 62.5kgf – 3000kgf
	Test force tolerance	< 0.5%
	Dwell time settings	Default 10 seconds, user defined 1 to 500 seconds
	Indenters	Certified indenters (ISO / ASTM) available at choice
TURRET		
	Motorized turret	6 position turret, 3 indenter positions, laser positioning system
	Objectives	2 special objectives including power LED ring lights
	Indenters	Certified indenters (ISO/ASTM) available at choice
	Camera 1 (objective)	18 Mpx, HD, 4K+, Machine vision system
SYSTEM		
	Electronic system	Integrated high speed CPU i7, Windows 10 OS, IMPRESSIONS™ workflow controller
	CNC support	5 Axis CNC controller (for motorized stages) or stage accessories
	Screen(s)	NEXUS 3300FA 15" portrait mode capacitive touch screen
		NEXUS 3400FA 15" portrait mode capacitive touch screen
	Display resolution	0.01HB
	Statistics	Total tests, max, min, average, range, standard deviation, all in real time after each test
	Hardness conversion	Rockwell, Vickers, Brinell, Leeb and Tensile 2 scales simultaneously
	Software	IMPRESSIONS™ V2, work flow system & tester control
	Data storage capacity	Internal and external mSSD, SSD or HDD
	Data output	XML, CSV, Certified for Q-DAS (Optional)
	Connectivity	4 x USB, UTP-RJ45-LAN, W-LAN, RS232
	Printer	A4, A3 full color laser printer (optional)

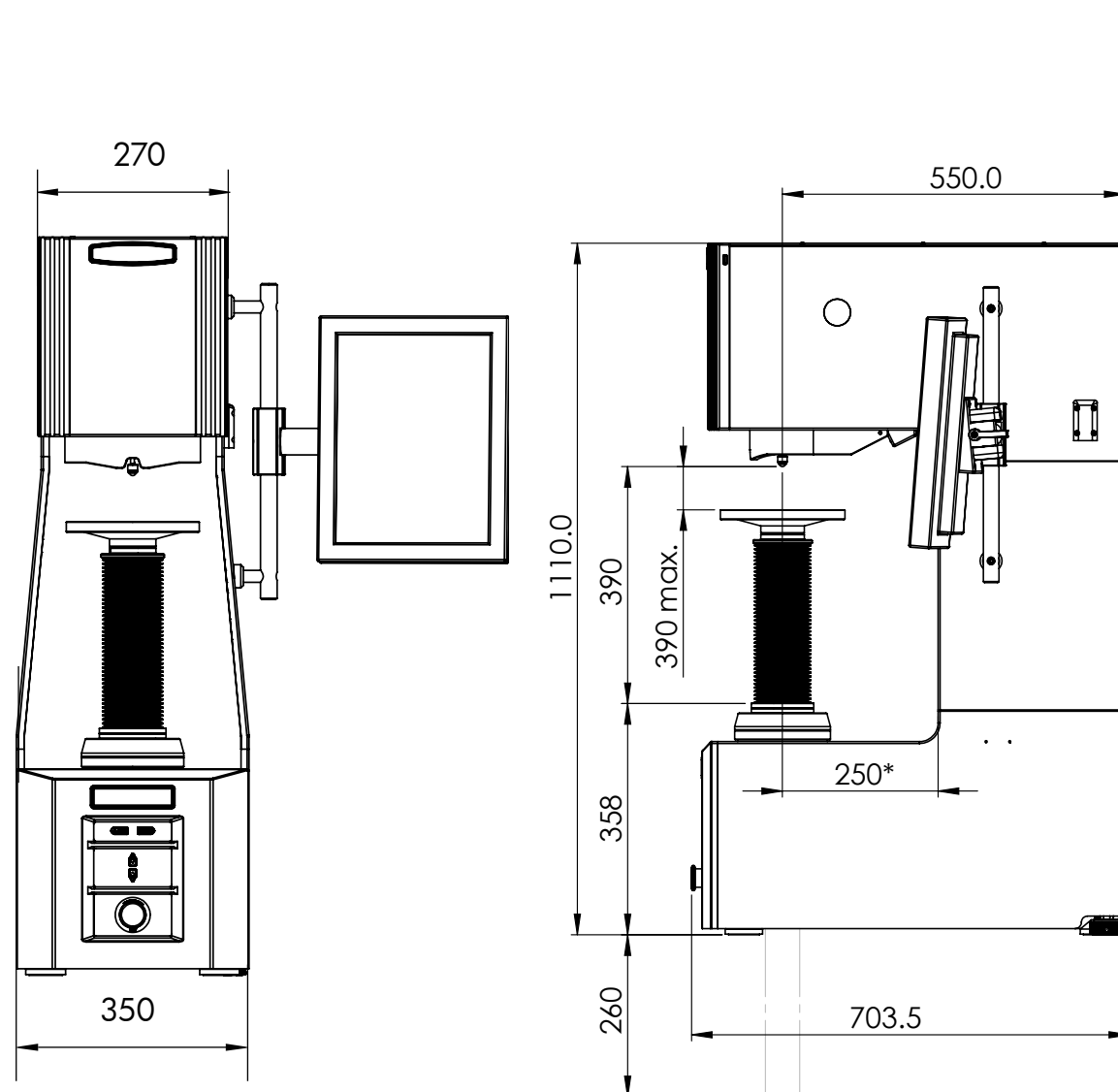
GENERAL		
	Machine dimension	NEXUS 3300FA L 703 x W 350 x H 1110mm
		NEXUS 3400FA L 773 x W 380 x H 1295mm
	Machine weight	NEXUS 3300FA 301 kg
		NEXUS 3400FA 380 kg
	Power supply	100VAC to 240VAC, 50/60Hz, single phase
	Operating temperature	10°C to 35°C, non-condensing
	Power consumption	100W
	Humidity	10% to 90%, non-condensing

TECHNICAL DRAWINGS

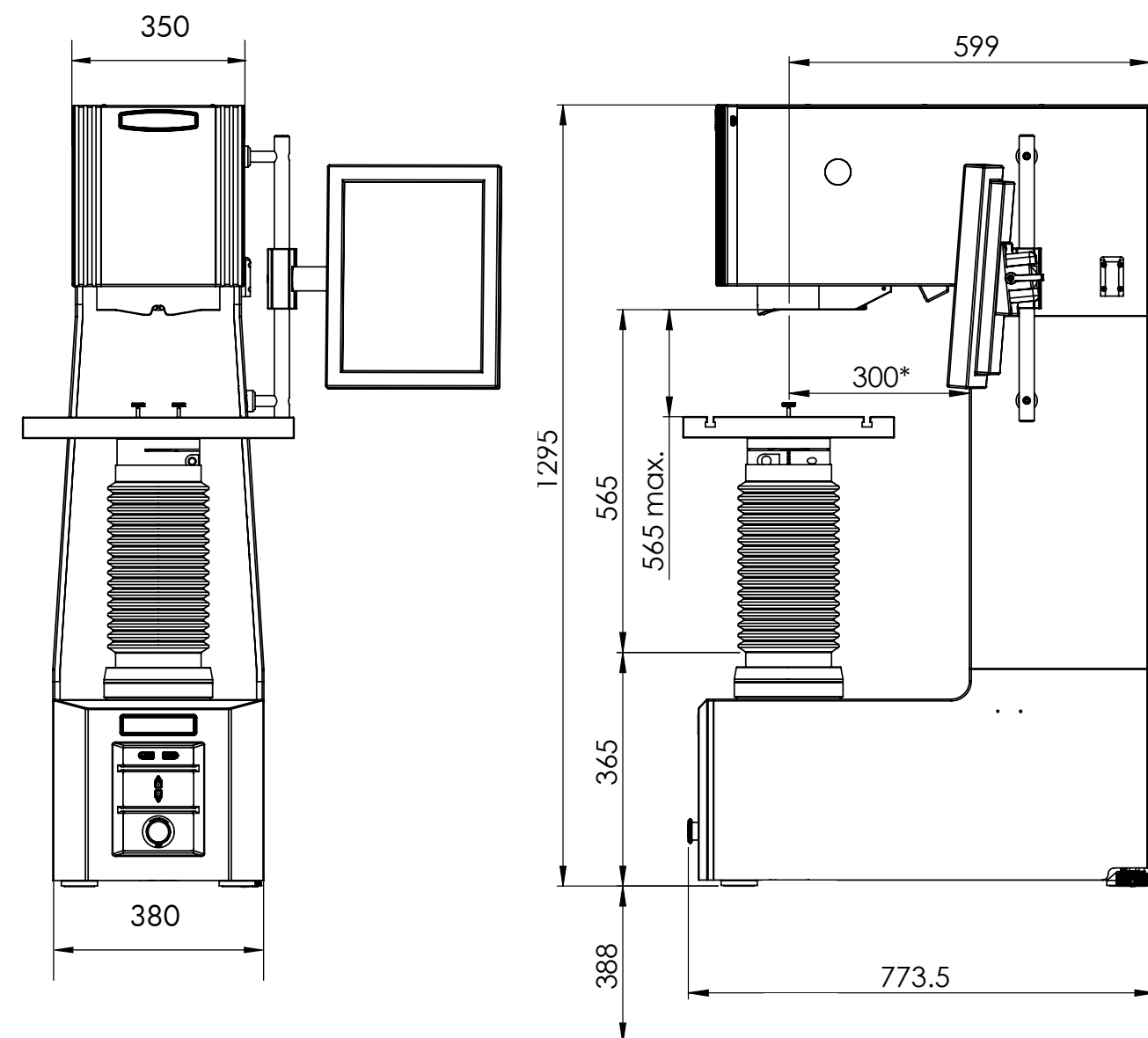
All dimensions in these drawings are in mm, approximate. Working heights and or workpiece accommodation varies depending on the stages and stage accessories used.

Please contact our sales department for more details.

NEXUS 3300FA



NEXUS 3400FA



OTHER MODELS IN THE BRINELL RANGE



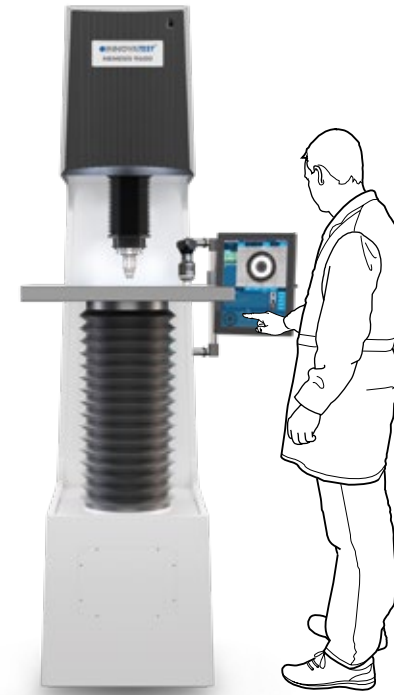
NEXUS 3100

Load Cell, closed loop
Brinell Hardness tester
With analogue microscope
See brochure B19N3100/XX



NEXUS 3200

Load Cell, closed loop
Brinell Hardness testers
With BIOS Brinell Indent
Optical Scanner
See brochure B19N3200/XX



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



NEXUS 3300(M)

Load Cell, closed loop
Brinell Hardness tester
With manual or motorized Z-axis
& BIOS Brinell Indent Optical
Scanner
See brochure B19N3300M-3400M/XX



NEXUS 3400(M)

Load Cell, closed loop
Brinell Hardness tester
With manual or motorized Z-axis
& BIOS Brinell Indent Optical
Scanner
See brochure B19N3300M-3400M/XX

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or product specifications
can emerge due to new
technologies and continuous
development.

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