

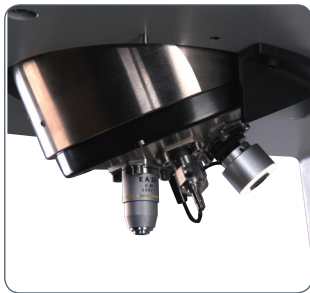
## NEXUS 8000XL SERIES



# NEXUS 8000XL Series

## Universal/Brinell hardness tester

6 Position motorized turret  
Microscope quality optical  
system with long working  
distance objectives,  
5Mp embedded camera



Standard, including ringlight  
for (Brinell) dark field  
illumination

Including workpiece  
clamping attachment

Standard, extra large  
worktable 600mm x 500mm  
with T-slot

Heavy duty precision spindle  
(Motorized automatic, optional)

• 15" industrial touch screen,  
embedded high performance  
system controller with two SSD  
drives for enhanced reliability

• IMPRESSIONS™ advanced  
hardness testing software,  
includes file storage, test  
program storage, machine  
settings storage, etc.

Advanced algorithms for  
automatic indent measurement.  
Indent ZOOM function

Connectivity USB (4),  
UTP-RJ45-LAN, W-LAN,  
Motorized X-Y stage (optional)

• Robust, rigid, solid heavy duty  
tester frame (610kg) can  
withstand the harshest  
environment

**Large workpiece accommodation**  
height 490mm x throat depth 285mm (XL)  
height 520mm x throat depth 285mm (XLM)

## Features

The sturdy design of the NEXUS 8000XL Series allows rough workshop conditions.

The tester can be used for measuring hardness according to global standards in most of the common hardness scales. Rockwell, Superficial Rockwell, Brinell, Vickers and Knoop. But it also can do ball and indentation hardness testing for thermoplastics and the Vickers depth (HVT) and Brinell depth (HBT) procedures.

The NEXUS 8000XL Universal hardness testers applies all common test forces between 1kgf/9.8N - 250kgf/2.45kN (8001XL), 3kgf/29N until 750kgf/7.35kN (8002XL), 10kgf/98N until 3000kgf/29kN (8003XL). All procedures meet or exceed DIN, ISO, ASTM and JIS standards.

The tester contains high-quality mechanical components and is based on a load-cell, closed loop force feed-back system. The advanced user interface IMPRESSIONS™ controls the automatic testing procedure and offers many advanced functions, such as fully automatic indent measuring and data storage. The integrated camera with calibrated ZOOM function guarantees fast, and accurate user-independent Vickers or Brinell measurement.

The NEXUS 8000XL™ Series represents universal hardness testing, in the most versatile meaning of Universal. Heavy aircraft engine parts, automobile parts, train components or general quality assurance or laboratory conditions, are all fields covered by the NEXUS 8000XL™ Series.

### Applications

- Hardness of castings and forgings
- For flat and cylindrical work pieces
- Wide application within the automotive and aerospace industry
- Foundries or workshop testing
- Sample testing or quality control testing
- Steels, non-ferrous metals and plastics
- Cemented carbide, ceramics, stainless steels

## IMPRESSIONS™, Firmware

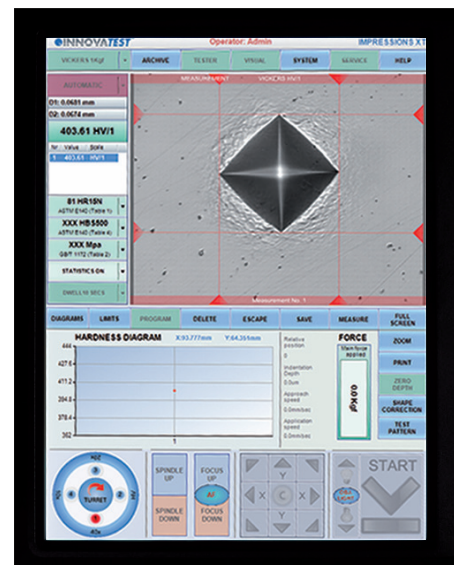
IMPRESSIONS™ is the advanced user operating system of the NEXUS 8000XL. The software incorporates, manual and automatic measurement for all scales, image editing, file storing, image storing, report printing, turret operation, manual or automatic focusing and many other advanced functions.

The firmware converts to 3 different hardness (and tensile) scales simultaneously. The conversions can be set to particular materials and according to certain standards (ISO/ASTM/GB).

The system also controls an (optional) X-Y stage, rotary or inclining table that can be plugged into the optional built-in or external driver of the tester. No other devices required.

In combination with an (optional) X-Y stage, the tester offers the option of running case depth hardness programs, pre-defined testing patterns and/or other specific or special tasks defined by the user.

All data can be copied or exported in to MS applications like Word, Excel, or a report generator that emails test results directly to your workstation, or server. All data can be accessed over the LAN or WLAN connections, the system also generates common CSV files.



# Technical specifications

NEXUS 8000XL		
Hardness scales	Rockwell, Vickers, Brinell, Vickers depth (HVT), Brinell depth (HBT), Ball indentation for plastic ISO 2039/1	
Load application	Load cell, force feedback, closed loop system	
Load range	1kgf/9.8N - 250kgf/2.45kN (8001XL), 3kgf/29N - 750kgf/7.35kN (8002XL), 10kgf/98N - 3000kgf/29kN (8003XL)	
Motorized turret	3 indenter positions, 3 objectives positions	
Optical system	High definition, 5Mp machine Vision system	
Objectives	3 installed for 0.7x - 1000x magnification	
Electronic system	High performance embedded micro system controller, MS Windows® , 15" full color touch screen, automatic and manual measurement	
Standards	Meets or exceeds, ISO, ASTM, JIS (Nadcap) standards	
Test loads 8001XL	1kgf/9.8N, 2kgf/19N to 250kgf/2.45kN	
Test loads 8002XL	3kgf/29N to 750kgf/7.35kN	
Test loads 8003XL	10kgf/98N to 3000kgf/29kN	
Rockwell test scales	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V, 15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y (8003XL no superficial scales)	
Vickers test range	1kgf/9.8N - 120kgf/1176N (depending on model) HV: 1kgf/9.8N, 2kgf/19N, 3kgf/29N, 4kgf/39.2N, 5kgf/49N, 10kgf/98N, 20kgf/196N, 25kgf/245.2N, 30kgf/294.2N, 40kgf/392.2N, 50kgf/490N, 100kgf/980.7N 120kgf/1176N HVT: 5kgf/49N, 10kgf/98N, 20kgf/196N, 30kgf/294.2N, 50kgf/490N, 100kgf/980.7N, 120kgf/1176N	
Brinell test range	1kgf/9.8N - 3000kgf/29kN (depending on model) HB1: 1kgf/9.8N, 1.25kgf/12.3N, 2.5kgf/24N, 5kgf/49N, 10kgf/98N, 30kgf/294.2N HB2.5: 6.25kgf/62N, 7.8125/76.6N, 15.625kgf/153N, 31.25kgf/306N, 62.5kgf/612N, 187.5kgf/1838N HB5: 25kgf/245N, 31.25kgf/306N, 62.5kgf/612N, 125kgf/1225N, 250kgf/2.45kN, 750kgf/7.35kN HB10: 100kgf/980.7N, 125kgf/1225N, 250kgf/2.45kN, 500kgf/4.9kN, 750kgf/7.35kN, 1000kgf/9.8kN, 1500kgf/14.7kN, 3000kgf/29kN HBT: 5kgf/49N, 6.25kgf/62N, 10kgf/98N, 15.625kgf/153N, 25kgf/245N, 30kgf/294.2N, 31.25kgf/306N, 62.5kgf/612N, 100kgf/980.7N, 125kgf/1225N, 187.5kgf/1838N, 250kgf/2.45kN, 500kgf/4.9kN, 750kgf/7.35kN, 1000kgf/9.8kN, 1500kgf/14.7kN, 3000kgf/29kN	
Test cycles	Fully automatic, automatic and manual	
Force tolerance	<0.5%	
Force control	1 - 99 seconds	
Connectivity	USB (4), UTP-RJ45-LAN, W-LAN, Motorized X-Y stage (optional)	
Workpiece accommodation	Vertical capacity	490mm (XL) 520mm (XLM)
	Horizontal capacity	285mm (XL) 285mm (XLM) (from center-line)
Operating temperature	10°C to 35°C, non-condensing	
Machine dimensions	600mm x 930mm x 1680mm	
Machine weight	610kg	
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase	



## Standard delivery

- Workpiece clamping attachment
- Large work piece table 600mm x 500mm with T slot
- Ringlight for (Brinell) dark field illumination
- Wireless mouse and keyboard
- Power cable
- Four adjustable feet
- INNOVATEST® calibration certificate
- Installation and user manual

## Optional accessories

- Certified indentors (ASTM, DIN, ISO)
- Certified reference hardness blocks (ASTM, DIN, ISO)
- Testing table, hardened, ø200mm
- Flat anvil, hardened, ø80mm
- V-anvil, hardened, ø80mm
- Motorized X-Y stages, motorized rotary or tilting tables
- Built-in 5 axis support driver
- Solid tester stand and storage cabinet



## Order details

<b>NEXUS 8001XL</b>	Universal hardness tester, tall version, with video indent measuring system Brinell, Vickers, Rockwell, Superficial Rockwell, Knoop, HVT, HBT, Ball indentation, test forces 1kgf/9.8N until 250kgf/2.45kN
<b>NEXUS 8001XLM</b>	Universal hardness tester, tall version with motorized spindle and video indent measuring system Brinell, Vickers, Rockwell, Superficial Rockwell, Knoop, HVT, HBT, Ball indentation, test forces 1kgf/9.8N until 250kgf/2.45kN
<b>NEXUS 8002XL</b>	Universal hardness tester, tall version, with video indent measuring system Brinell, Vickers, Rockwell, Superficial Rockwell, HVT, HBT, Ball indentation, test forces 3kgf/29N until 750kgf/7.35kN
<b>NEXUS 8002XLM</b>	Universal hardness tester, tall version with motorized spindle and video indent measuring system Brinell, Vickers, Rockwell, Superficial Rockwell, HVT, HBT, Ball indentation, test forces 3kgf/29N until 750kgf/7.35kN
<b>NEXUS 8003XL</b>	Universal hardness tester, tall version, with video indent measuring system Brinell, Vickers, Rockwell, HVT, HBT, Ball indentation, test forces 10kgf/98N until 3000kgf/29kN
<b>NEXUS 8003XLM</b>	Universal hardness tester, tall version with motorized spindle and video indent measuring system Brinell, Vickers, Rockwell, HVT, HBT, Ball indentation, test forces 10kgf/98N until 3000kgf/29kN

# NEXUS 8003HBT XL Series Brinell hardness tester

## Single indenter position.

Optional Brinell Indent  
Optical Scanner (BIOS).



Including workpiece  
clamping attachment

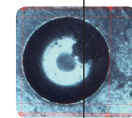
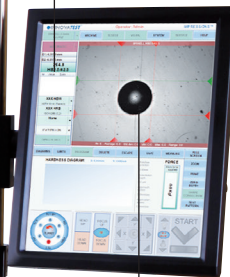
Standard, extra large  
worktable  
600mm x 500mm  
with T-slot

Heavy duty precision spindle  
(Motorized automatic, optional)

15" industrial touch screen,  
embedded high performance  
system controller with two SSD  
drives for enhanced reliability

• IMPRESSIONS™ advanced  
hardness testing software,  
includes file storage, test  
program storage, machine  
settings storage, etc.

Advanced algorithms for  
automatic indent measurement.  
Indent ZOOM function



Optional:  
Crisp indent image via  
Brinell Indent Optical  
Scanner (BIOS)  
with built-in ringlight

Connectivity USB (4),  
UTP-RJ45-LAN, W-LAN,  
Motorized X-Y stage (optional)

• Robust, rigid, solid heavy duty  
tester frame (610kg) can  
withstand the harshest  
environment

**Large workpiece accommodation**  
height 490mm x throat depth 285mm (XL)  
height 520mm x throat depth 285mm (XLM)

## Features

The sturdy design of the NEXUS 8003HBT XL allows rough workshop conditions.

The tester can be used for measuring hardness according to global standards in several common hardness scales.

The tester is equipped with a single indenter and has no turret. The high accurate depth reading system allows Brinell HBT testing and Vickers HVT testing. Further available are all common Rockwell scales and when equipped with a Brinell Indent Optical Scanner (BIOS) crisp images of the indent appear on the screen and can be measured automatically at the touch of a button.

The NEXUS 8003HBT XL Brinell hardness testers applies all common test forces between 10kgf/98N until 3000kgf/29kN. All procedures meet or exceed DIN, ISO, ASTM and JIS standards.

The tester contains high-quality mechanical components and is based on a load-cell, closed loop force feed-back system. The advanced user interface IMPRESSIONS™ controls the testing procedure and offers many advanced functions, such as fully automatic indent measuring\* and data storage. The optional BIOS scanner with calibrated ZOOM function guarantees fast and accurate user-independent Brinell measurement.

The NEXUS 8003HBT XL offers large components testing by either depth reading or optical scanning. Suitable for heavy aircraft engine parts, automobile parts, train components or general quality assurance or laboratory conditions, are all fields covered by the NEXUS 8003HBT XL.

### Applications

- Hardness of castings and forgings
- For flat and cylindrical work pieces
- Wide application within the automotive and aerospace industry
- Foundries or workshop testing
- Sample testing or quality control testing
- Steels, non-ferrous metals and plastics
- Cemented carbide, ceramics, stainless steels

## IMPRESSIONS™, Firmware

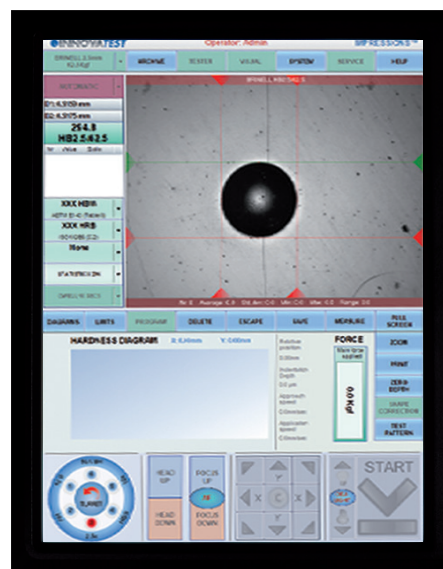
IMPRESSIONS™ is the advanced user operating system of the NEXUS 8003HBT XL. The software incorporates, manual and automatic measurement for all scales, image editing\*, file storing, image storing\*, report printing and many other advanced functions.

The firmware converts to 3 different hardness (and tensile) scales simultaneously. The conversions can be set to particular materials and according to certain standards (ISO/ASTM/GB).

The system also controls an (optional) X-Y stage, rotary or inclining table that can be plugged into the optional built-in or external driver of the tester. No other devices required.

In combination with an (optional) X-Y stage, the tester offers the option of running pre-defined testing patterns and/or other specific or special tasks defined by the user.

All data can be copied or exported in to MS applications like Word, Excel, or a report generator that emails test results directly to your workstation, or server. All data can be accessed over the LAN or WLAN connections, the system also generates common CSV files.



\* Indent image only available if used in combination with the Brinell Indent Optical Scanner (BIOS).

# Technical specifications

NEXUS 8003HBT XL		
Hardness scales	Brinell depth (HBT), Vickers depth (HVT), Rockwell (Brinell, in combination with BIOS)	
Load application	Load cell, force feedback, closed loop system	
Load range	10kgf/98N - 3000kgf/29kN	
Indenter	Single indenter position, no turret	
Optical system	Optional Brinell Indent Optical Scanner (BIOS) hand scanner with ringlight	
Electronic system	High performance embedded micro system controller, MS Windows® , 15" full color touch screen, automatic* and manual measurement	
Standards	Meets or exceeds, ISO, ASTM, JIS (Nadcap) standards	
Test loads	10kgf/98N, 15.625kgf/153N, 20kgf/196N, 25kgf/245N, 30kgf/294.2N, 31.25kgf/306N, 50kgf/490N, 62.5kgf/612N, 100kgf/980.7N, 120kgf/1176N, 125kgf/1225N, 187.5kgf/1838N, 250kgf/2.45kN, 500kgf/4.9kN, 750kgf/7.35kN, 1000kgf/9.8kN, 1500kgf/14.7kN, 3000kgf/29kN	
Rockwell test scales	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V	
HVT test range	10kgf/98N, 20kgf/196N, 30kgf/294.2N, 50kgf/490N, 100kgf/980.7N, 120kgf/1176N	
Brinell test range	HB2.5: 15.625kgf/153N, 31.25kgf/306N, 62.5kgf/612N, 187.5kgf/1838N HB5: 25kgf/245N, 62.5kgf/612N, 125kgf/1225N, 250kgf/2.45kN HB10: 100kgf/980.7N, 250kgf/2.45kN, 500kgf/4.9kN, 750kgf/7.35kN, 1000kgf/9.8kN, 1500kgf/14.7kN, 3000kgf/29kN HBT: 10kgf/98N - 3000kgf/29kN, see above scales	
Test cycles	Fully automatic, automatic and manual	
Force tolerance	<0.5%	
Force control	1 - 99 seconds	
Connectivity	USB (4), UTP-RJ45-LAN, W-LAN, Motorized X-Y stage (optional)	
Workpiece accommodation	Vertical capacity	490mm (XL) 520mm (XLM)
	Horizontal capacity	285mm (XL) 285mm (XLM) (from center-line)
Operating temperature	10°C to 35°C, non-condensing	
Machine dimensions	600mm x 930mm x 1680mm	
Machine weight	610kg	
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase	



## Standard delivery

- Workpiece clamping attachment
- Large work piece table 600mm x 500mm with T slot
- Wireless mouse and keyboard
- Power cable
- Four adjustable feet
- INNOVATEST® calibration certificate
- Installation and user manual

## Optional accessories

- Certified indentors (ASTM, DIN, ISO)
- Certified reference hardness blocks (ASTM, DIN, ISO)
- Brinell Indent Optical Scanner (BIOS).
- Testing table, hardened, ø200mm
- Flat anvil, hardened, ø80mm
- V-anvil, hardened, ø80mm
- Motorized X-Y stages, motorized rotary or tilting tables
- Built-in 5 axis support driver
- Solid tester stand and storage cabinet



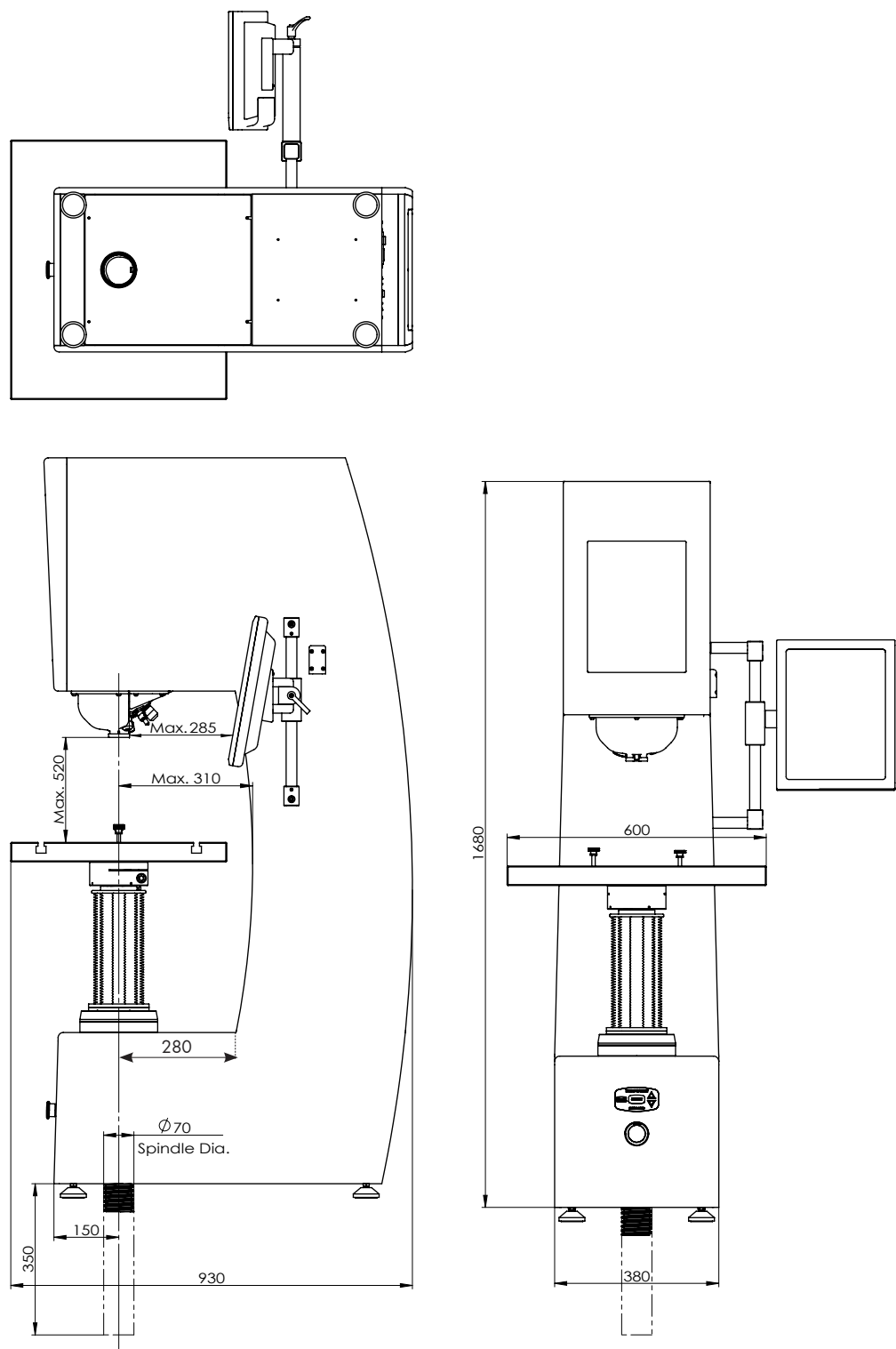
## Order details

**NEXUS 8003HBT XL** Brinell hardness tester, tall version, HBT, HVT, Rockwell (Brinell, in combination with BIOS), test forces 10kgf/98N until 3000kgf/29kN

**NEXUS 8003HBT XLM** Brinell hardness tester, tall version with motorized spindle, HBT, HVT, Rockwell (Brinell, in combination with BIOS), test forces 10kgf/98N until 3000kgf/29kN

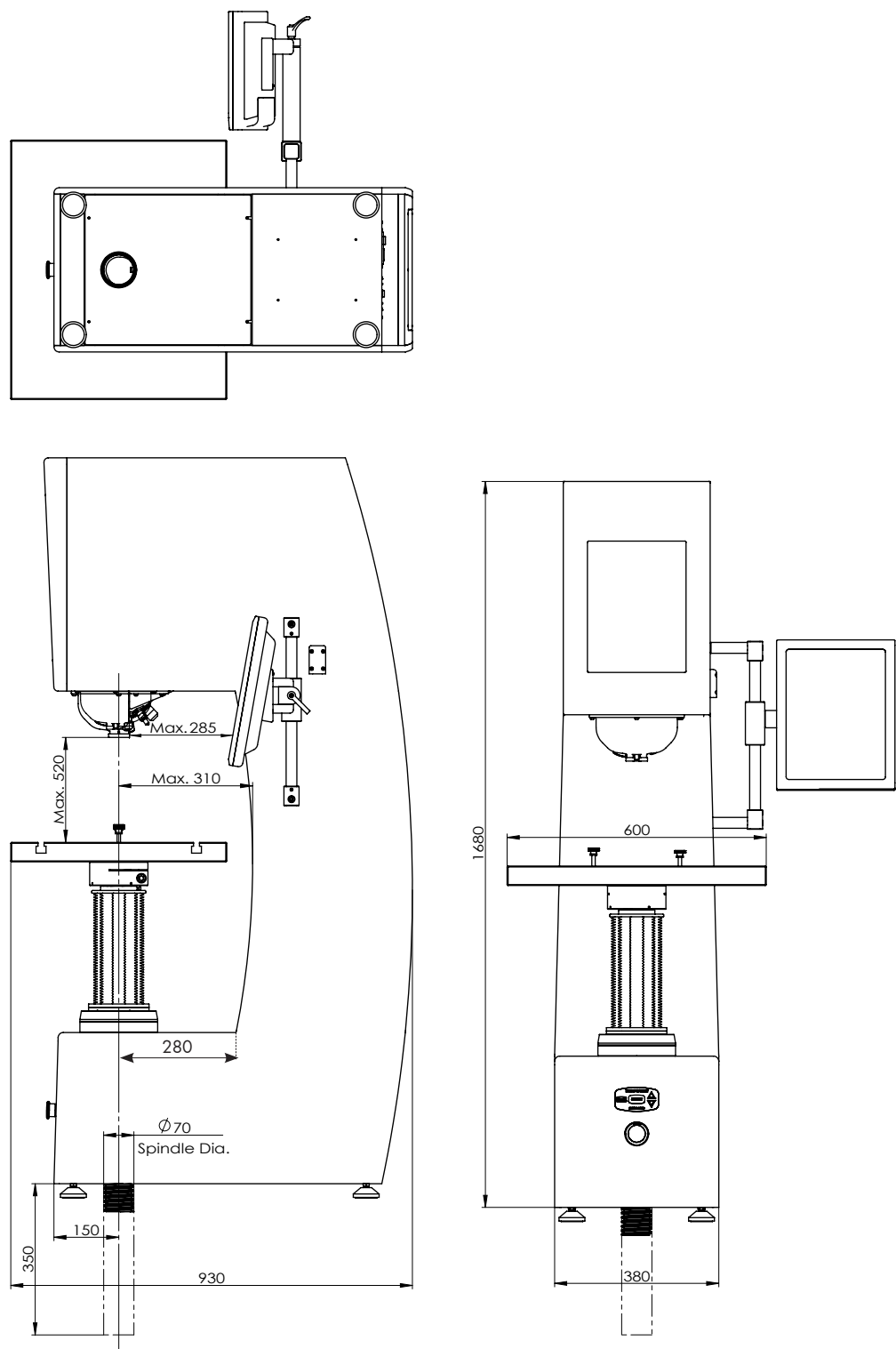
# Technical drawing NEXUS 8000XL/XLM

All dimensions are in mm



# Technical drawing NEXUS 8003HBT XL/XLM

All dimensions are in mm



Kapcsolat, bővebb információ:



**Sidex Trade Kft.**

1224 Budapest, Dózsa György út 105.  
TT Ipartelep (volt Mechanikai Művek)  
Tel : (+36-1) 424-1705, Mobil: (+36-30) 9349-611  
Fax : (+36-1) 424-1704  
Web: <http://www.sidex.hu> – E-mail: [info@sidex.hu](mailto:info@sidex.hu)

## **CORPORATE HEAD OFFICE**

**INNOVATEST Europe BV**  
**MANUFACTURING, DISTRIBUTION & SERVICE**

Borgharenweg 140  
6222 AA Maastricht (The Netherlands)  
Phone: +31 43 3520060  
Fax: +31 43 3631168  
E-mail: [info@innovatest-europe.com](mailto:info@innovatest-europe.com)  
Website: [www.innovatest-europe.com](http://www.innovatest-europe.com)

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**INNOVATEST Shanghai Co., Ltd.**  
**DISTRIBUTION, SALES & SERVICE**

Building 2, No.123, 1165 Nong Jindu Road,  
South Metropolis Industrial Park  
Minhang District, Shanghai, P.R. China  
Zip code: 201108  
Phone: +86 21 60906200  
Fax: +86 21 60912595  
E-mail: [info@innovatest-shanghai.com](mailto:info@innovatest-shanghai.com)  
Website: [www.innovatest-shanghai.com](http://www.innovatest-shanghai.com)

**INNOVATEST SOUTH EAST ASIA**  
**CUSTOMER SUPPORT CENTER**

(c/o LMS Technologies Pte Ltd)  
20 Sin Ming Lane #05-58 Midview City  
Singapore 573 968  
Phone: +65 6451 1123  
Fax: +65 6452 1011  
E-mail: [info@lmstech.com.sg](mailto:info@lmstech.com.sg)  
Website: [www.lmsscscientific.com](http://www.lmsscscientific.com)