

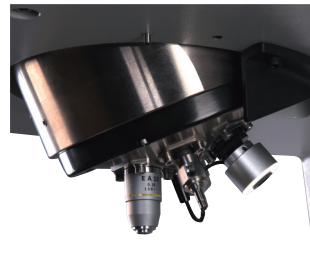
## NEXUS 8000 SERIES



# NEXUS 8000 Series Universal hardness tester



Including workpiece clamping attachment



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

High precision spindle  
(Motorized automatic,  
optional)

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

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

Automatic indent measurement  
with ZOOM function

Bright LED illumination  
Including ringlight for (Brinell)  
dark field illumination

Connectivity USB (4),  
UTP-RJ45-LAN, W-LAN, RS232,  
Motorized X-Y stage

Robust, rigid, solid heavy duty tester  
frame (425kg) can withstand the  
harshest environment

## Features

The NEXUS 8000 Series can be used for all hardness procedures according to standards. Rockwell, Superficial Rockwell, Brinell, Vickers and Knoop. But it also can do ball and indentation hardness testing for thermoplastics and the new Vickers depth (HVT) and Brinell depth (HBT) procedures.

The NEXUS 8000 universal hardness testers includes all standard hardness testing methods between 1kgf/9.8N - 250kgf/2.45kN(8001), 3kgf/29N until 750kgf/7.35kN(8002), 10kgf/98N until 3000kgf/29kN(8003). 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 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 8000™ Series represents universal hardness testing, in the most versatile meaning of Universal. Aircraft engine parts, automobile parts, production lines, general quality assurance and laboratory use, are all fields covered by the NEXUS 8000™ Series.

### Applications

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

## IMPRESSIONS™, Firmware

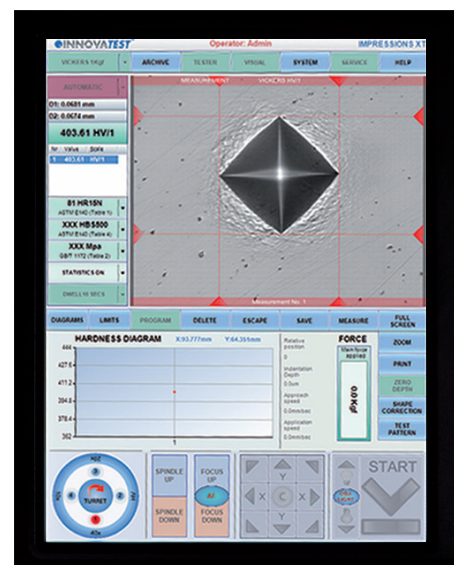
IMPRESSIONS™ is the advanced user operating system of the NEXUS 8000. The software incorporates, manual and automatic measurement for all scales, image editing, file storing, image storing, report printing, swivel operation, manual or automatic focusing and many other advanced functions.

The firmware converts to 3 different hardness (and tensile) scales simultaneously. The conversions can be set to material and standard (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 drivers of the tester. No external 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.



# Technical specifications

<b>NEXUS 8000</b>	
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, 3kgf/29N - 750kgf/7.35kN, 10kgf/98N - 3000kgf/29kN
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 PC, MS Windows® , 15" full color touch screen, automatic and manual measurement
Standards	Meets or exceeds, ISO, ASTM, JIS (Nadcap) standards
Test loads 8001	1kgf/9.8N, 2kgf/19N, 2.5kgf/24N, 3kgf/29N, 4kgf/39,2N 5kgf/49N, 6.25kgf/62N, 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,
Test loads 8002	3kgf/29N, 4kgf/39,2N 5kgf/49N, 6.25kgf/62N, 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
Test loads 8003	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, 15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y (8003 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, 30kgf/294.2N, 50kgf/490N, 100kgf/980.7N 120kgf/1176N HVT: 50kgf/490N, 100kgf/980.7N
Brinell test range	1kgf/9.8N - 3000kgf/29kN (depending on model) HB1: 1kgf/9.8N, 2.5kgf/24N, 5kgf/49N, 10kgf/98N, 30kgf/294.2N HB2.5: 6.25kgf/62N, 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: 5kgf/49N, 250kgf/2.45kN
Test cycles	Fully automatic, automatic and manual
Force tolerance	<0.5%
Force control	1 - 99 seconds
Connectivity	USB (4), UTP-RJ45-LAN, W-LAN, RS232, Motorized X-Y stage
Workpiece accommodation	Vertical capacity 330mm, Horizontal capacity 260mm (from center-line)
Operating temperature	10°C to 35°C, non-condensing
Machine dimensions	380mm x 728mm x 1390mm
Machine weight	425kg
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase

## Standard delivery

- Flat anvil, hardened,  $\varnothing 80\text{mm}$
- V-anvil, hardened,  $\varnothing 80\text{mm}$
- Testing table, hardened,  $\varnothing 200\text{mm}$
- Ringlight for (Brinell) dark field illumination
- Power cable
- Wireless mouse and keyboard
- Four adjustable feet
- INNOVATEST® calibration certificate
- Installation and user manual

## Optional accessories

- Certified indentors (ASTM, DIN, ISO)
- Certified reference hardness blocks (ASTM, DIN, ISO)
- Large testing table, 350mm x 250mm, with T-grooves
- Extra large testing table, 450mm x 350mm, with grooves and support
- Motorized X-Y stages, motorized rotary or tilting tables
- Built-in 5 axis support driver
- Solid tester table and storage cabinet



*NEXUS 8000 equipped with (standard) testing table  $\varnothing 200\text{mm}$ .*



*The NEXUS 8000 can be equipped with manual and motorized X-Y stages. Above picture shows optional 250Kg motorized X-Y stage*



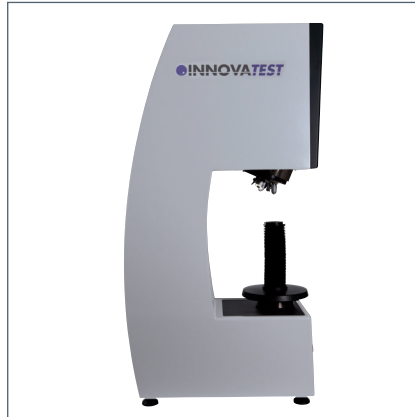
*The optional 450mm x 350mm large testing table with T-slots can be used for large and heavy workpieces.*

## Order details

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



## NEXUS 8000



*NEXUS 8000 has an advanced report generator allowing you to print sophisticated customized result reports and statistics.*



*NEXUS 8000 can be equipped with an automatic motorized spindle which makes it possible to position your workpiece without any effort.*

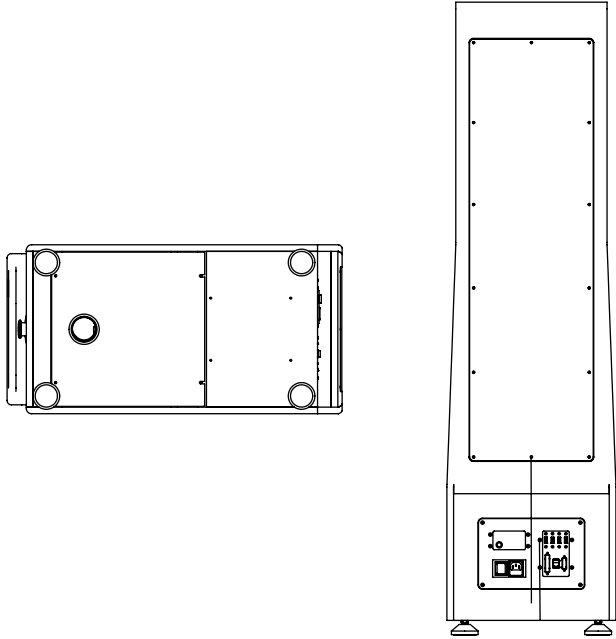
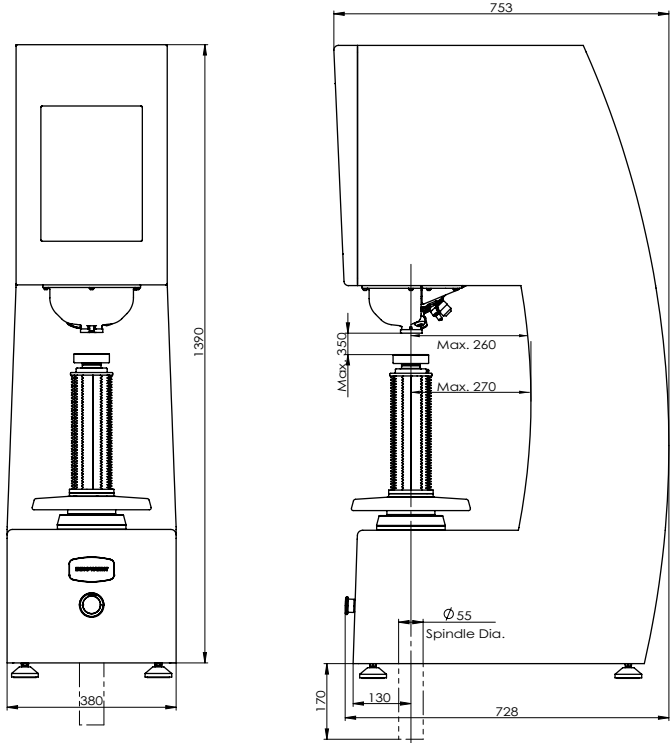


*IMPRESSIONS™ hardness testing firmware and video measuring software with enhanced algorithms for automatic indent measuring.*



# Technical drawing NEXUS 8000

All dimensions are in mm



Represented by:

IN12-224 080615

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