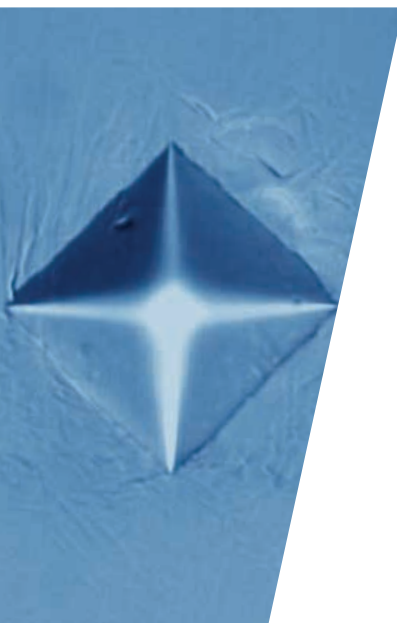
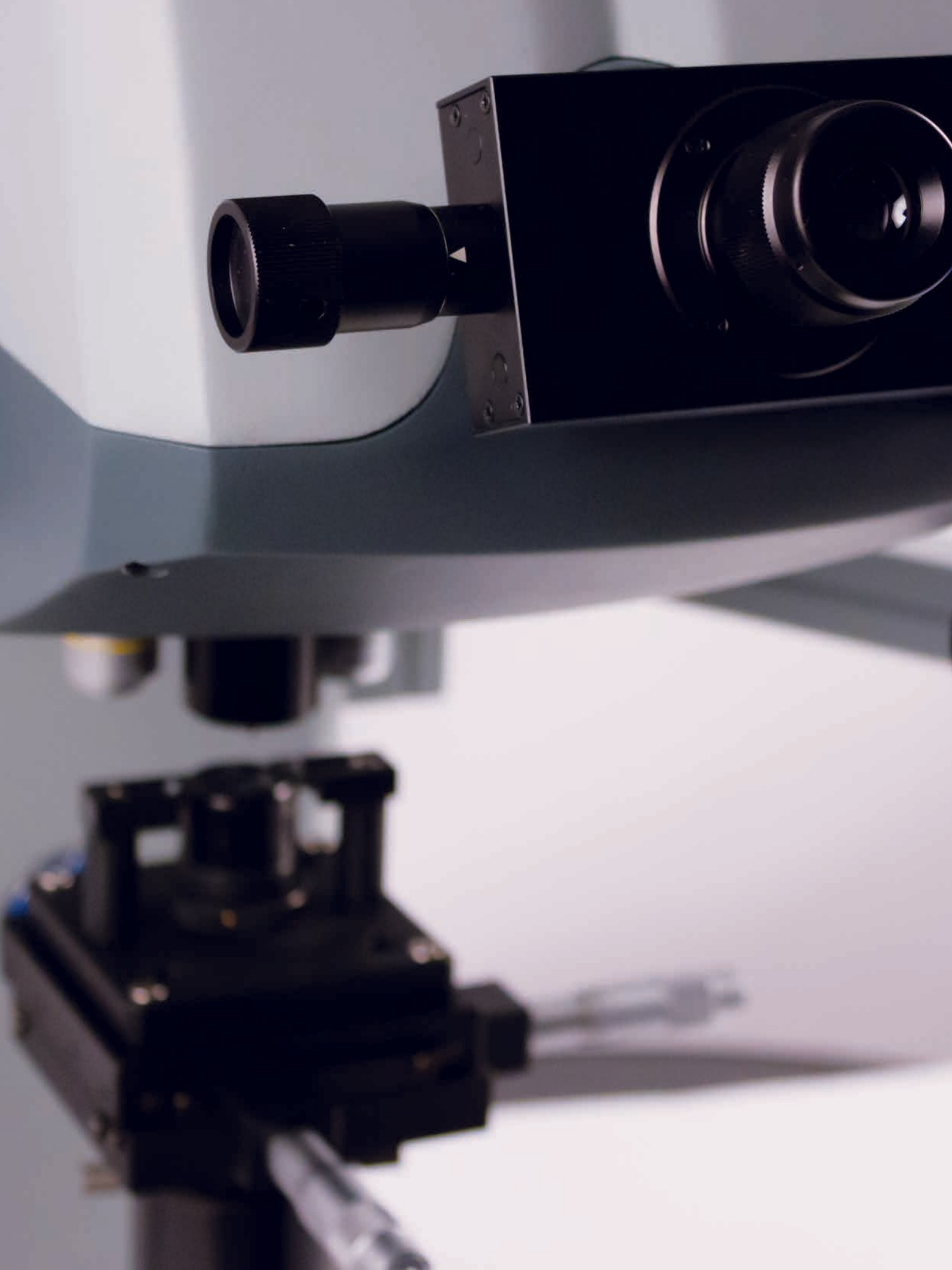




**Wilson® VH1150**  
Macro Vickers Hardness Tester





# Wilson® VH1150 Macro Vickers Hardness Tester

The Wilson VH1150 is the ultimate evolution of the deadweight Vickers hardness tester offering a unique load range of 300gf-50kgf in one machine. The automatic load selection eliminates the need for a hard to operate manual selector knob, and opens new possibilities in automation applications. Together with

the adjustable pan and tilt user interface panel, the automatic load selection capabilities form the center of an ergonomic system. The multi-scale conversion, shape correction and USB data export make hardness testing easier, helping you focus on process control.

## Built-in Camera (Optional)

- Protected from exposure to dirt
- Safe from accidental misalignment

## SmartUI Interface

- No buried menu items
- Quickly evaluate your results and set-up your parameters

## 5 Position Turret

- Motorized turret
- Four objectives and one indenter position

## USB Output

- Export your data automatically to file
- Readable with many common spreadsheet programs

## 0.3 – 50kgf Load Range



- A wide load range, divided into 10 individual load steps

## Automatic Load Selection

- Select the load on the touch screen and the machine adjusts the mechanics



## Load Range & Hardness Scales

	0.3kg	0.5kg	1kg	2kg	3kg	5kg	10kg	20kg	30kg	50kg
	HV0.3	HV0.5	HV1	HV2	HV3	HV5	HV10	HV20	HV30	HV50
	HK0.3	HK0.5	HK1							

# Wilson® VH1150 Delivers

## Motorized 5 Position Turret

The precision mechanics of the VH1150 motorized turret allow for fast and quiet positioning, with the inclusion of indenter and objective switching as part of the automated test cycle.

The turret offers 4 objective positions, allowing you to fit all the magnification power for your application. The standard 10x and 20x objective can be extended with a 50x or even a 100x objective, thus allowing for a total magnification of upto 1000x. The optional 5x objective, with its large field of view makes navigation with a motorized XY-stage easier.



## Automatic Load Selection

Load selection is controlled through the touchscreen interface, eliminating the need for the user to make a manual selection. This allows for improved ergonomics and helps to prevent user error.

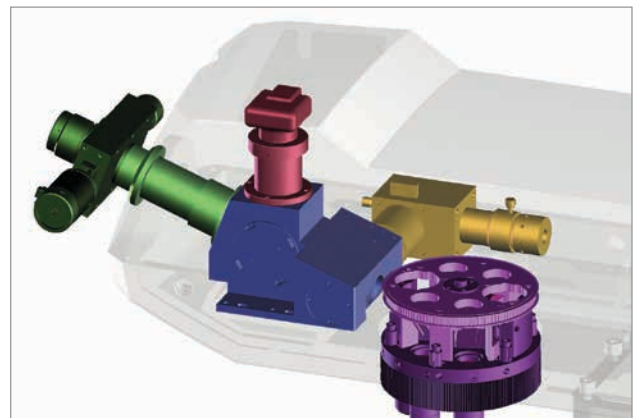


## Best in Class Optics Ensure Accurate Results

A precise indenting system is a critical requirement for a hardness tester but this must be combined with an accurate system for measuring the indentations.

This high quality optical system, with proprietary components, provides an unparalleled image quality, previously unavailable in hardness testing systems, providing the precision required for the most accurate measurements possible.

The addition of a digital camera is an option on this system that is necessary for automation. The camera is housed within the machine cover itself, keeping it safe from dust and contamination, as well as preventing it from being misaligned.



# Wilson® VH1150 Application Advantages

## Smart UI - Feature Rich & Easy to Use

- The smart-UI has tabs for testing, statistics and set-up, allowing for an easy setup without having to go through deeply buried menus
- Large 5.7in touch screen provides 50% more viewing area
- Physical buttons for frequently used functions such as start, turret rotation & illumination ensure long working life and economical replacement
- Extended statistical functions are built in, including mean, standard deviation, min, max, and range
- Eco-Power puts the VH1150 into standby mode when not in use
- Shape correction, for testing convex or concave shaped specimens.
- Hardness conversion to Rockwell, Brinell or Tensile Strength according to ASTM E140 and ISO 18625



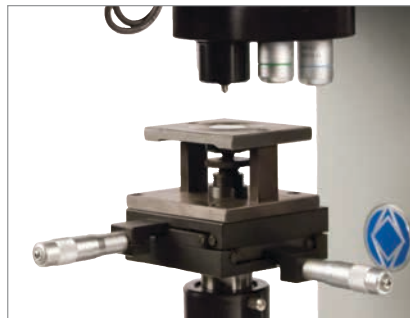
- Test data on the VH1150 can be exported with a single button press via an integrated USB port. Results are saved in CSV format, which can be easily opened in Microsoft Excel and other analysis programs.
- Predefine the desired measurement objective, and have the VH1150 automatically switch from observation objective to measurement objective after indenting

## Choosing the Correct Support

It is important to keep the test specimen stationary during set-up and testing. The correct support will help ensure that the specimen remains motionless.

A wide range of supports are available, whether testing mounted samples, tapered pieces, small diameter parts, wires or sheet metal.

Refer to the Buehler Product Catalogue to select the appropriate support for the application.



# Control & Evaluate Software

## Camera and Automation Options

All control of the hardness instrument can be handled through comprehensive software – automatically test and measure indentations, as well as set up and run automatic testing sequences with minimal operator interaction.

The basic package offers a simple and comfortable indentation measurement on the PC screen, but with manual placement of the specimen. Displaying the indent on a screen can improve identification of indents and reproducibility of results. With the Semi-automatic version, the indent patterns can be placed by means of a motorized 100 x 100mm XY-stage. In Full-automatic mode, the Z-axis is motorized as well, providing rapid test sequences and highly accurate positioning allowing the complete test sequence to be performed from Start to Finish with no user interaction required.

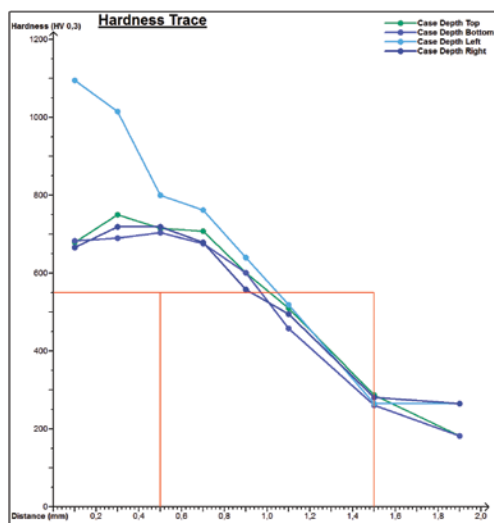
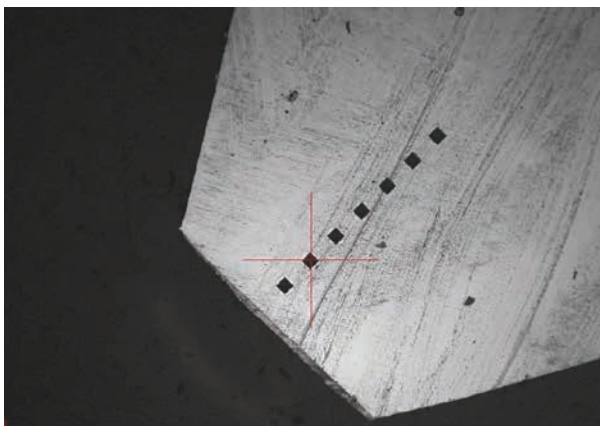
The automatic indentation measurement feature (standard in the fully automatic package and optional in the basic and semi-automatic packages) not only reduces overall testing time, it also reduces operator errors associated with manual measurements. The software uses advanced imaging processes and algorithms that utilise a variety of methods to identify indent borders. Adjustment of these parameters to suit a wide variety of specimen conditions is also possible.



## User Defined Programs

Using a set of simple tools, users can customize test patterns in a program. Programs can be saved and used whenever required, edited, copied or amended. Pre-fabricated programs can be

loaded and amended to suit a particular application. Save set-up time and improve positioning accuracy with these automatic testing sequences.



## Wilson® Test Blocks & Indenters

Wilson test blocks and indenters provided for a wide range of Vickers & Knoop, as well as Rockwell® and Brinell applications. Certified to a range of international standards including ASTM and ISO, we manufacture test blocks in-house to ensure the highest quality test reference standards available. Test blocks and indenters are certified using the latest standardization and optical measuring technology. We operate our own calibration laboratory, traceable to NIST and are accredited to ISO/IEC 17025 by A2LA®.



# Technical Specifications



Approx. Weight: 154 lbs [70.5kg]

## Specifications

Scales	HV, HK
Test Load range	300gf - 50kgf
Test load steps	0.3 – 0.5 – 1 – 2 – 3 – 5 – 10 – 20 – 30 – 50kgf
Test Load Accuracy	±1.5% < 200g, ±1% > 200g
Force Application	Motor controlled dead weight
Dwell Time	1 - 99 seconds
Standard Compliance	ASTM E384 & E92; ISO 6507, 9385, 4546
Turret	Motorized 5- position turret
Objectives	10x, 20x standard 40x, 50x & 100x optional
Eyepiece	Digital, resolution 0.01µm @200x
Light Source	LED
Operating Temperature	50 - 100°F [10 - 38°C]
Humidity	10 - 90% non-condensing
Power	65W - 100-240VAC, 50/60Hz

Part number	Description
W1151	VH1150 pack: Main-unit, digital eyepiece, 10x & 20x SWD objective, Ø 63mm flat anvil
W9170506	Analogue XY-stage
W9170507	Digital XY-stage (ex. Cables)
W9170509	PC Cable set digital micrometers
W5XLWD	5x Long working distance objective
W10XLWD	10x Long working distance objective
W20XLWD	20x Long working distance objective
W40XLWD	40x Long working distance objective
W50XLWD	50x Long working distance objective
W100XLWD	100x Long working distance objective

Buehler products are used throughout the world in manufacturing facilities, quality laboratories, and universities to analyze all types of materials, including:

- Aerospace
- Automotive
- Biomedical & Medical
- Ceramic, Plastics, Composites
- Education, Defense, Government
- Electronics & Optics
- Energy & Construction
- Petrography
- Primary Metals

**Buehler Americas**

- ★ Lake Bluff, IL, US Worldwide Headquarters
- Binghamton, NY, US
- Norwood, MA, US
- Whitby, ON, CA

**Buehler Europe**

- Coventry, UK
- Dardilly, FR
- Düsseldorf, DE
- Esslingen, DE



- Main Offices
- Manufacturing
- Sales
- Service
- Laboratory
- Distributors

**Buehler Asia**

- Tokyo, JP
- Hong Kong, CN
- Shanghai, CN

**Buehler Worldwide Locations**

Other products from Buehler:



Sample preparation equipment includes: abrasive sectioning, precision cutting, mounting, grinding & polishing, electronics and petrography.



Consumables for sample preparation equipment include: abrasive wheels, precision blades, compression mounting compounds, castable systems, silicon carbide abrasive papers, diamond grinding discs, polishing cloths, diamond polishing suspensions, and final polishing suspensions.



Imaging & Analysis and hardness testing equipment include: microscopes, cameras, imaging & analysis software, hardness testers, fixtures, test blocks and hardness software.



Shop online at [www.buehler.com](http://www.buehler.com). (US, DE, FR and UK only)

For a complete listing of consumables, visit our website at [www.buehler.com](http://www.buehler.com) or refer our Product Catalogue. Buehler continuously makes product improvements; therefore technical specifications are subject to change without notice.

Sectioning AbrasiMet • AbrasiMatic • IsoMet	Mounting SimpliMet	Grinding & Polishing EcoMet • AutoMet • MetaServ	Imaging & Analysis OmniMet	Hardness Testing Wilson®
--	-----------------------	---	-------------------------------	-----------------------------



**BUEHLER Worldwide Headquarters**  
41 Waukegan Road  
Lake Bluff, Illinois 60044-1699 USA  
P: (847) 295-6500  
[www.buehler.com](http://www.buehler.com) | [info@buehler.com](mailto:info@buehler.com)

**BUEHLER Germany**  
[info.eu@buehler.com](mailto:info.eu@buehler.com)

**BUEHLER France**  
[info.fr@buehler.com](mailto:info.fr@buehler.com)

**BUEHLER United Kingdom**  
[info.uk@buehler.com](mailto:info.uk@buehler.com)

**BUEHLER Canada**  
[info@buehler.ca](mailto:info@buehler.ca)

**BUEHLER Japan**  
[info.japan@buehler.com](mailto:info.japan@buehler.com)

**BUEHLER China**  
[china@buehler.com.hk](mailto:china@buehler.com.hk)

**BUEHLER Asia-Pacific**  
[info@buehler.com.hk](mailto:info@buehler.com.hk)