# Wilson® VH1150
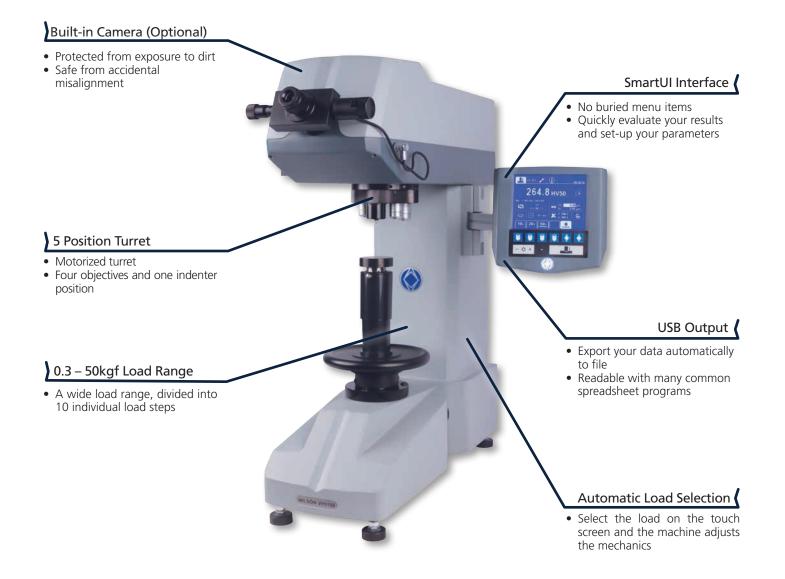## Macro Vickers Hardness Tester

264.8 HV50

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Solutions for Materials Preparation, Testing and Analysis

# 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

## 0.3 – 50kgf Load Range

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

## USB Output

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

## 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 |
|-----|-------|-------|-----|-----|-----|-----|------|------|------|------|
| HV  | HV0.3 | HV0.5 | HV1 | HV2 | HV3 | HV5 | HV10 | HV20 | HV30 | HV50 |
| HK  | HK0.3 | HK0.5 | HK1 |     |     |     |      |      |      |      |

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# 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.
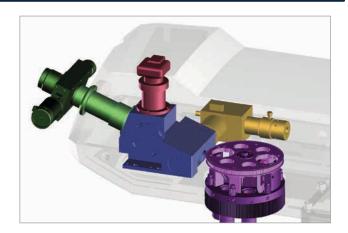


## Best in Class Optics Ensure Accurate Results

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 meaurements 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.

## 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
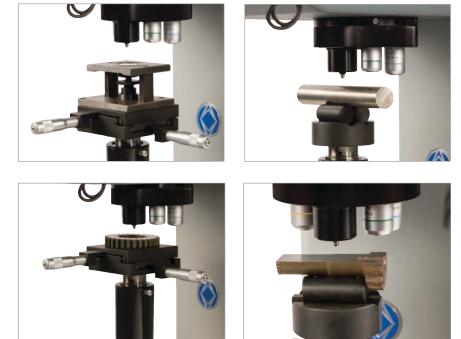


• Test data on the VH1150 can be exported with a single button press via an integrated USB port. Results are saved in CSV format, which can be easily opened in Microsoft Excel and other analysis programs.

• 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®.