The Collision Resistant System prevents indenter or objective damage by detecting unintended obstructions in the test path. The motion system is continuously monitored during the test process and system movement is instantaneously stopped if an obstruction is detected. The Collision Resistant System provides an unparalleled, unique to market essential safety benefit for operators, while reducing downtime and maintenance costs.

Being developed by the same team, the Wilson VH3000 series testers and the DiaMet software are a perfect fit to one another. This results in the fastest test cycle, the fastest Auto-focus and the fastest Automeasure sequence in its application segment. By delivering accurate results faster, it is possible to more closely control internal processes. Or one can do more tests in the same amount of time.

DiaMet is optimized for evaluating Macro-Vickers, Micro-Vickers and Knoop indents according to ISO 6507, ISO 4545 and ASTM E384 standards. A standard DiaMet feature is an automatic symmetry calculation for both Knoop and Vickers. This extra validation, with clear visual indication, helps to ensure the results conform to standards.

4 clicks to run an automated test

5 seconds or less for Auto-focus & Automeasure

Collision Resistant Indenters & Objectives

Automation

Often a high level of Automation comes with a high level of complexity, both in set-up and in operation. DiaMet breaks with that convention and focuses on a fast and simple operation to satisfy the needs of low trained operators, while maintaining the flexibility and high level of features required by expert users. Once the required test pattern is set-up, any operator can use this to run a series of Vickers or Knoop indents with a minimum of 4 clicks – or incase of touchscreen operation, 4 touches.

Speed

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Safety

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Versatile

DiaMet is optimized for evaluating Macro-Vickers, Micro-Vickers and Knoop indents according to ISO 6507, ISO 4545 and ASTM E384 standards. A standard DiaMet feature is an automatic symmetry calculation for both Knoop and Vickers. This extra validation, with clear visual indication, helps to ensure the results conform to standards.

Vickers & Knoop

DiaMet™
Hardness Testing Made Easy
Clear & Touch Optimized

Navigation within the new DiaMet™ Software is made easy by its clean design and is supported by simple and intuitive gestures. Virtual tabs on top of the screen let you navigate between to Home, Program Testing and Reporting. Comprehensive feedback is shown on the status bar, which make interactions clear and efficient.

Being designed for touch panel use, with an entirely new look and feel, DiaMet is simple, useful, and smart to work with!

**Tab Interface**
No deeply buried menus. Jump from Program to testing, to Reporting.

**XYZ Controls**
Besides the traditional Point & shoot and arrow stage navigation, DiaMet introduces Stickynav, where the stage follows your finger on the screen.

**Touch Optimized**
Save space in your work environment, and control your hardness tester by touch. Tap, swipe & slide your samples to an accurate result.

**Status Bar**
Monitor your hardness tester, program and job status in one overview, with the DiaMet status bar.

**Magnifications**
Direct access to all available zoomsteps. It is possible to preset the desired navigation and measurement magnifications in the test program.

**Overview Insert**
Blend in a navigation overview window for easy navigation and fast travel - zoom in & out and pan over the workspace. (in combination with scan option)
Easy Handling

By removing all unnecessary steps, DiaMet™ allows users to set-up and run samples in the least possible time. Below is an overview describing a typical workflow within the DiaMet software.

**Step 1: Select Program**

All application specific parameters like scale, dwell time, pattern, conversion & report template are stored in the same program.

**Step 2: Position Pattern**

Use the overview camera or infinite scan to see where all indents will be placed. Press start to indent and measure all.

**Step 3: Indent & Measure**

Machine & software make all indentations & measure them automatically, with use of the standard* automatic focus, automatic illumination and automatic measurement functions.

* On full-automatic configurations only.

**Step 4: Evaluate**

Verify the readings in graph and grid and remeasure or re-indent where applicable. Export results to PDF, printer or Excel®.

**QuickTest**

The fastest results can be produced with QuickTest. Quickly do a few random HV indents on part by selecting one of the user defined QuickTest buttons on the login screen. Each button brings the operator directly in the measurement screen with all the required parameters set and where the indent process can be initiated immediately. QuickTest programs can be password protected to prevent unauthorized use.

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Visit our website at www.buehler.com for more information.
Software Features

Auto-illumination
Repeatable, repeatable, repeatable; the DiaMet automatic illumination adjusts to the correct illumination level on what ever sample, and where ever on the sample. Independent from material (steels, toolsteel, carbides, coatings).

Auto-focus
Astonishing in any way. Observe how the software finds focus from a distance as far as 30mm or more. Enjoy the shear AF-speed when focussing at close range. The Diamet™ Autofocus algorithm sets new standards.

Auto-Measurement
Manual positioning of filar-lines is no longer required with this refined measurement algorithm. Stay in control, and adjust the measurements by manipulating the filar lines. The manual measure mode is designed used by touch and/or mouse. An automatic indent symmetry check for Vickers and Knoop can be enabled on demand.

Repeatability

Repeatability

Repeatability

Repeatable, Repeatable, Repeatable; the DiaMet automatic illumination adjusts to the correct illumination level on what ever sample, and where ever on the sample. Independent from material (steels, toolsteel, carbides, coatings).

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Testing Aids

Graphical Pattern Editor

The DiaMet™ pattern editor allows the user to create any number of patterns with a large number of variables. Create patterns with great precision and verify the result in the preview. Combine different patterns and even different loads in one program, and run them fully automatically.

For example 3 CHD rows of 15 indents with HV1, and a core hardness determination out of an average of 5 indents HV10. This is the level of flexibility the VH3000-series offer.

Macro View with Navigation Map

Using the macro view function, it’s possible to create a composite image of the specimen. The shape and size of the specimen is irrelevant, since the DiaMet software can scan any area within stage limits.

Blend in the navigation minimap to navigate quickly and efficiently from test location to test location.

Pattern Video Overlay

DiaMet shows the operator where the indents will be made, even before the actual indent process takes place.

The pattern video overlay function helps whilst positioning multiple test rows all across the specimen. The pattern video overlay scales automatically with every magnification, even within the macroview.

Personalize User Interface

Blend in as many or as little measurement aids in the video screen as needed. Define the color of the measurement filar lines to achieve the best contrast on the specimen’s surfaces. A ruler can be blend in to provide a reference during navigation and positioning. The magnifier glass can pop-up to help manually position the filar lines.
Technical Specifications

Software Specifications

<table>
<thead>
<tr>
<th>Software Version</th>
<th>Wilson® DiaMet™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness Scales</td>
<td>Vickers, Knoop &amp; Brinell (depending on machine configuration)</td>
</tr>
<tr>
<td>Compatible Hardware</td>
<td>Wilson VH3100, Wilson VH3300* (*introduction in 2015)</td>
</tr>
<tr>
<td>Focus</td>
<td>Automatic Focus, with manual override option</td>
</tr>
<tr>
<td>Illumination</td>
<td>Automatic Illumination, with manual override option</td>
</tr>
<tr>
<td>Measurement</td>
<td>Manual or Automatic Indent Measurement</td>
</tr>
<tr>
<td>Stage Control</td>
<td>Auto traversing for various patterns: CHD, line, circle, matrix and others</td>
</tr>
<tr>
<td>Multi-sample</td>
<td>Multi-sample</td>
</tr>
<tr>
<td>Overview scan &amp; stitch</td>
<td>Only in combination with overview optics</td>
</tr>
<tr>
<td>Data export</td>
<td>Printer, PDF, Excel</td>
</tr>
</tbody>
</table>

Minimum PC Requirements

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Windows® 7 32-bit or 64-bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor (CPU)</td>
<td>Intel® i3 or better</td>
</tr>
<tr>
<td>RAM</td>
<td>4 gigabyte (GB)</td>
</tr>
<tr>
<td>Hard disk space</td>
<td>Software: 1 GB - Database &gt;1 GB (variable, depending on usage)</td>
</tr>
<tr>
<td>Graphics card</td>
<td>Onboard Intel Graphics</td>
</tr>
<tr>
<td>USB ports</td>
<td>4x USB 2.0</td>
</tr>
</tbody>
</table>

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Shop online at www.buehler.com. (US, DE, FR and UK only)

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