DiaMet™ Software
Automatic Vickers/Knoop Hardness Test Software

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Solutions for Materials Preparation, Testing and Analysis
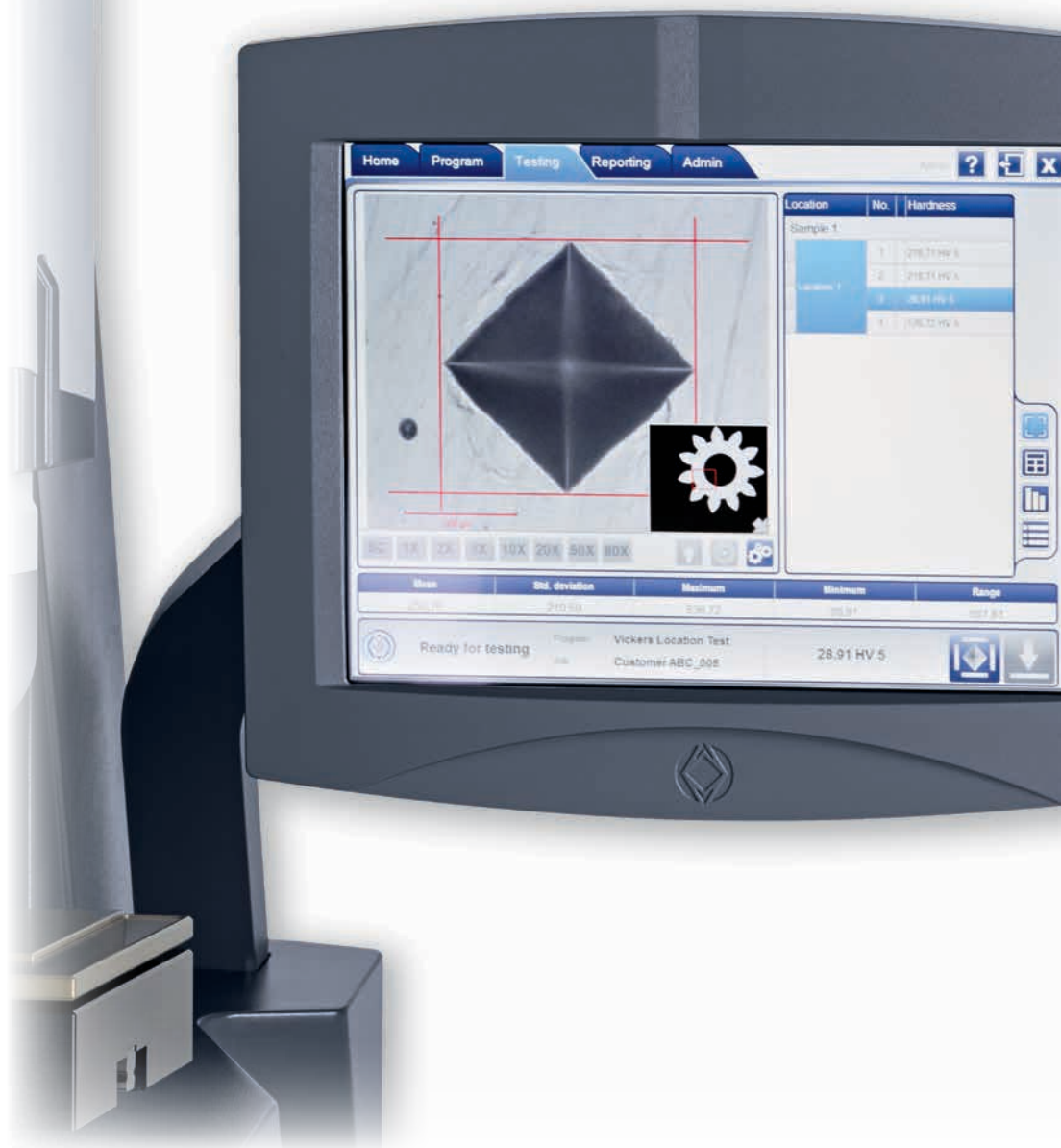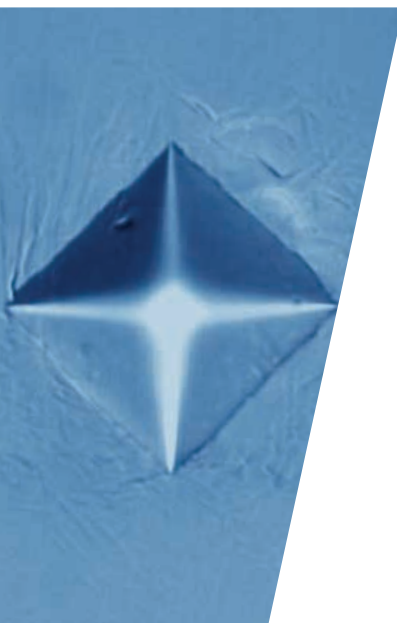
"The New Generation of Automated Hardness Testing Software"
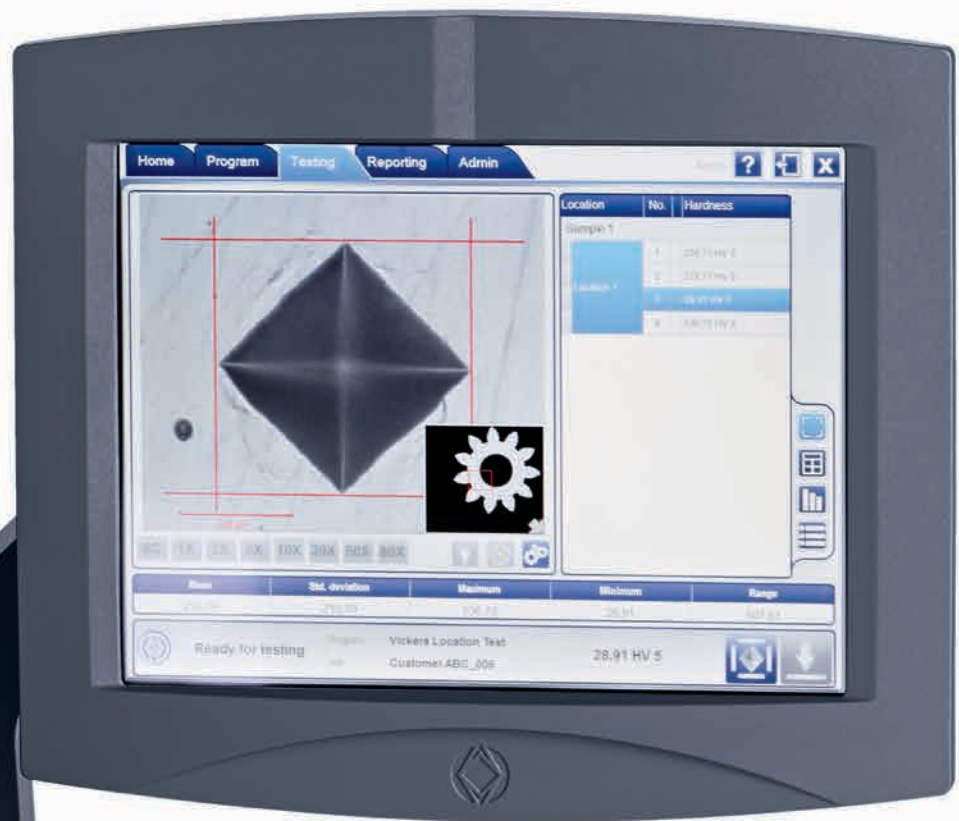
DiaMet™
Hardness Testing Made Easy

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 focusses 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

Being developped by the same team, the Wilson VH3000 series testers and the DiaMet software are a prefect fit to oneanother. 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.

Safety

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.

4 clicks
to run an automated test

5 seconds
or less for Auto-focus & Automeasure

Collision Resistant
Indenters & Objectives

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

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Visit our website at www.buehler.com for more information.
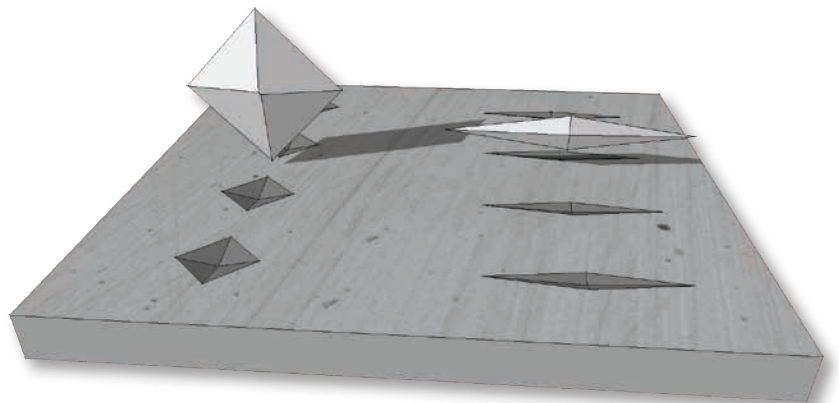
Clear & Touch Optimized

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.
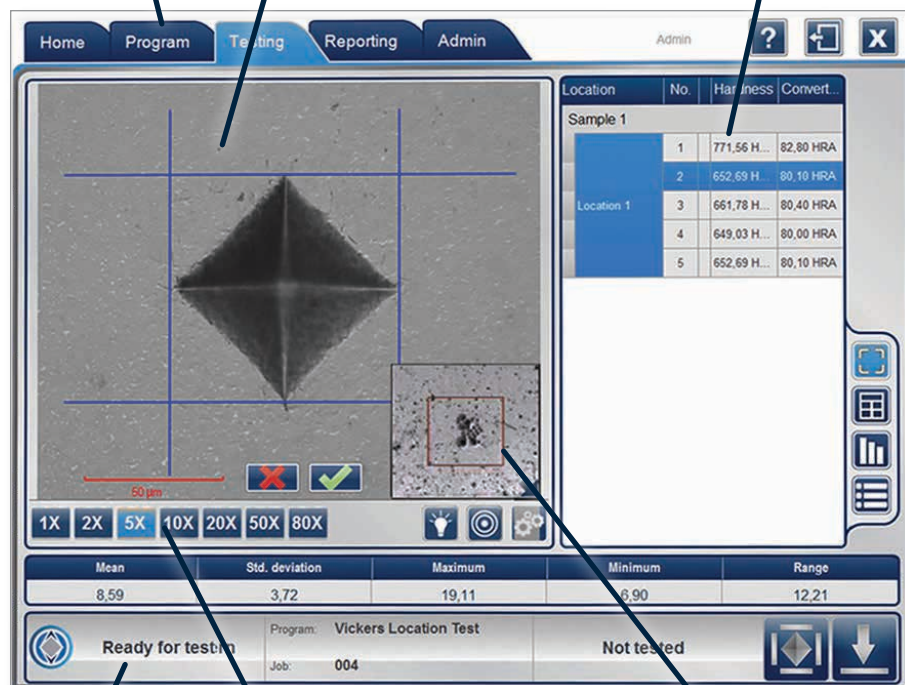
Status Bar

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)*
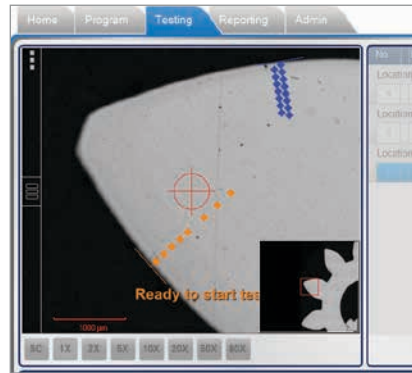
By removing all unnecessary steps, DiaMet™ allows users to set-up and run samples in the least possible time. Below is an overview describing a typical workflow within the DiaMet software.
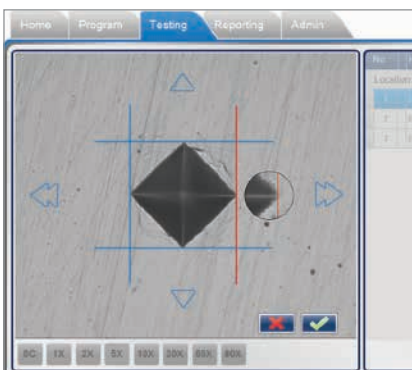
Step 1: Select Program
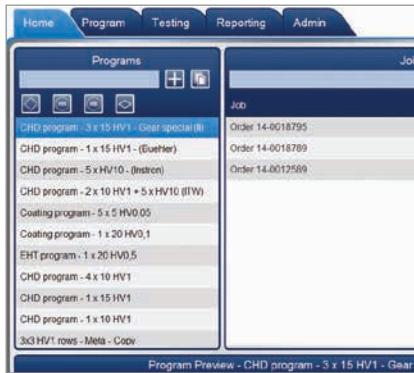
All application specific parameters like scale, dwell time, pattern, conversion & report template are stored in the same program.

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.
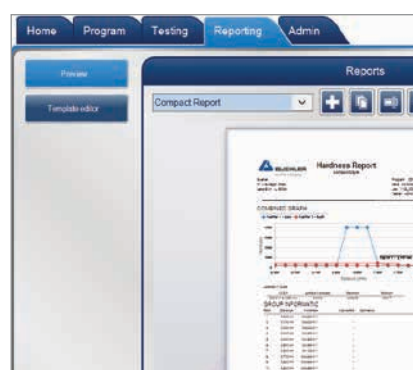
Step 3: Indent & Measure

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.
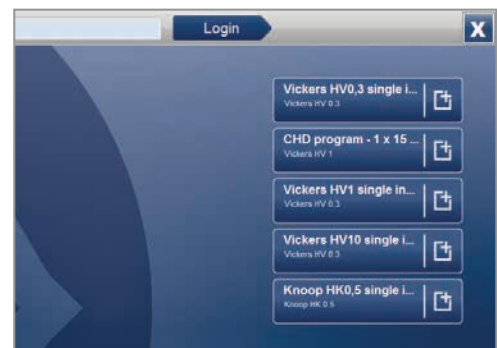
Software Features

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

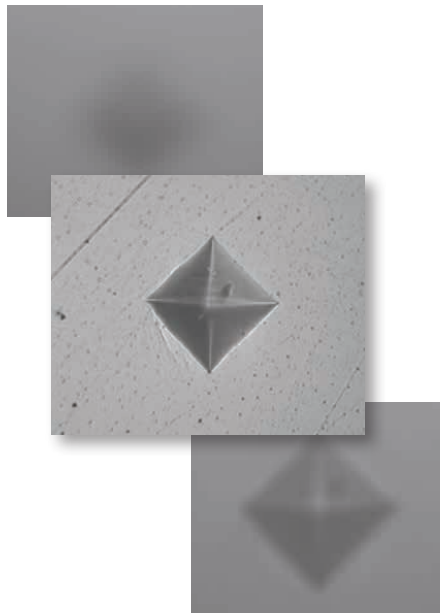Manual positioning of filar-lines is no longer required with this refined measurement algorithm. Stay in control, and adjust the measurements by manipulating the filar lines. The manual measure mode is designed used by touch and/or mouse. An automatic indent symmetry check for Vickers and Knoop can be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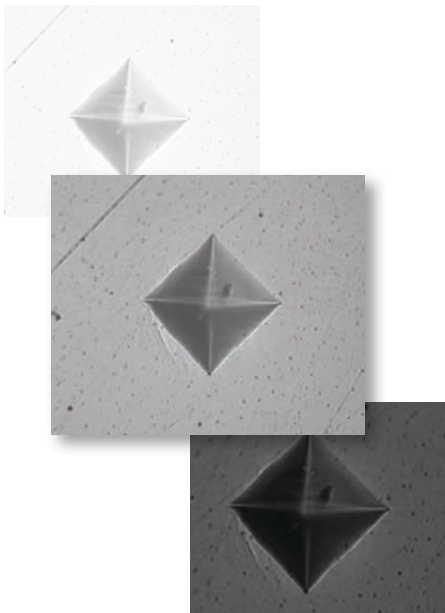
Repeatable
Brightness & Contrast

Repeatable
Sharpness
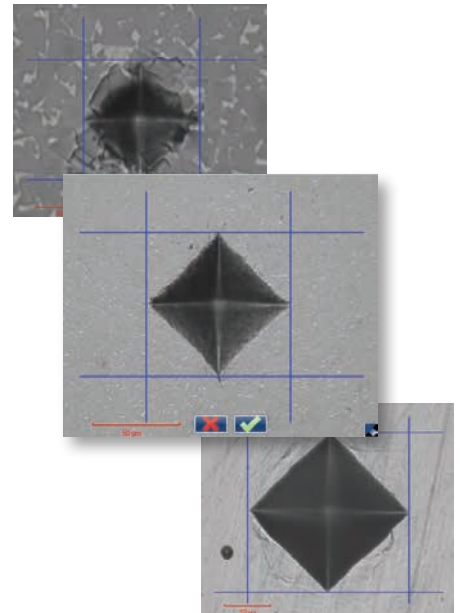
Repeatable
Results

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.

Create
the patterns for the application

Navigate
on the sample

See
where to place indents

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.
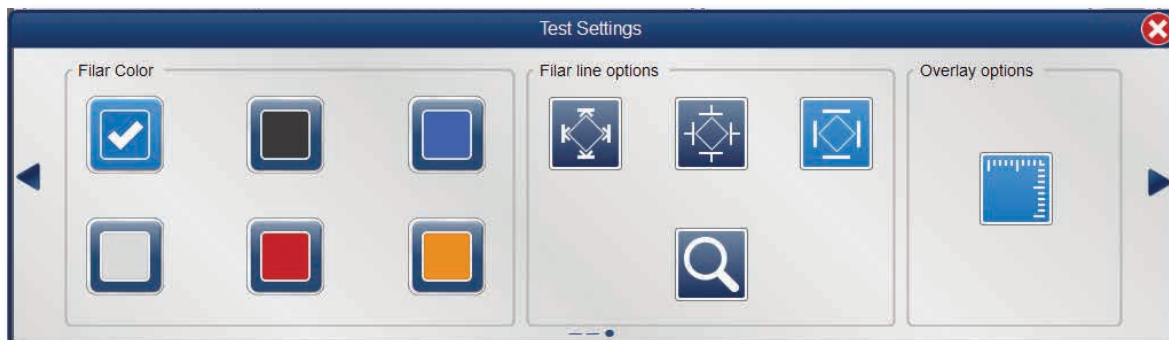
Technical Specifications

Software Specifications

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

Minimum PC Requirements

Operating system	Windows® 7 32-bit or 64-bit
Processor *(CPU)*	Intel® i3 or better
RAM	1 gigabyte (GB) *(32-bit)* or 2 GB *(64-bit)*
Hard disk space	Software: 1 GB - Database >1 GB *(variable, depending on usage)*
Graphics card	Onboard Intel Graphics
USB ports	4x USB 2.0

Visit www.buehler.com for compatible testers.

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

For a complete listing of accessories and consumables, visit our website at www.buehler.com or refer our Product Catalogue. Buehler continuously makes product improvements; therefore technical specifications are subject to change without notice.

Sectioning	Mounting	Grinding & Polishing	Imaging & Analysis	Hardness Testing
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