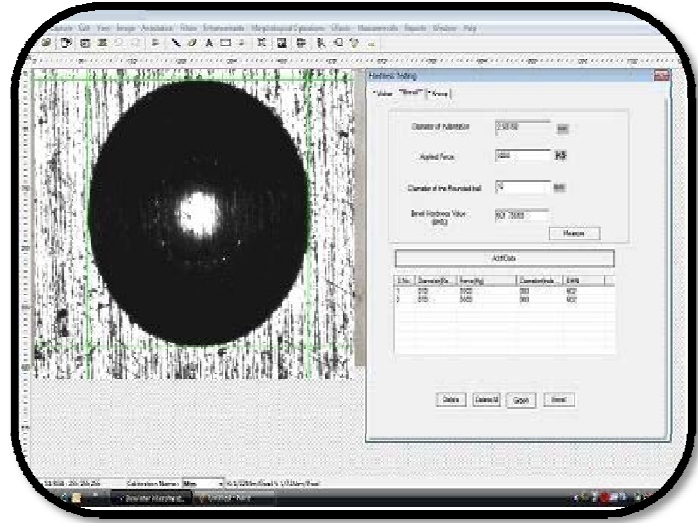
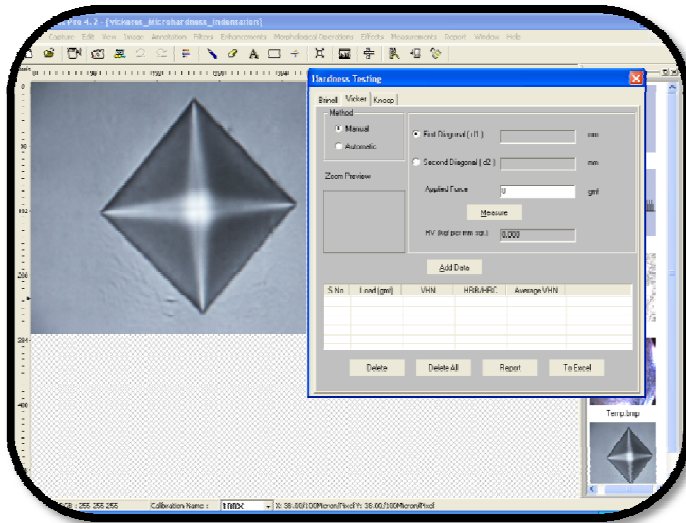




## Computerized Brinell / Vickers / Knoop Hardness Measurement software



### OVERVIEW :

- The Hardness Pro software is exactly what your lab needs to measure your Brinell, Vickers or Knoop Indentations, The software is designed to increase productivity & efficiency to avoid any user error.
- The easy to use hardness testing system steps you through the entire process & then combines the results into a report.
- The software is also integrated with Microsoft Excel to create powerful spreadsheets with just a click of mouse.
- Hardness pro easily retrofits to most microhardness testers & Universal Hardness Testers.
- This software automatically detects any camera connected to the computer, so you can use multiple machines with single software; this unique feature makes it one of its kind.

### BRINELL HARDNESS :

- In Brinell hardness test, an indentation hardness test in which a hard metal ball is forced into the surface of a test piece, mean diameter of the indentation is left on the surface after removal of the test force is measured.
- The Brinell hardness HBW is obtained by software.

## VERTEX ENGINEERS & ASSOCIATES

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## Computerized Brinell / Vickers / Knoop Hardness Measurement software

### **VICKERS HARDNESS :**

- The Vickers hardness test, measure length of the diagonals of indentation left in the surface in which a Square-based diamond pyramid, having an angle of 136 degree between the opposite faces at the vertex, is forced.
- The Vickers hardness is obtained by dividing the test force by the area of the sloping faces of the indentation.
- The Vickers hardness HV is displayed by software.

### **KNOOP HARDNESS**

- The Knoop hardness test is an indentation hardness test in which a rhombic based diamond pyramid, having an included longitudinal edge angle of 172.5 degree and an included transverse edge angle of 130 degree, is forced into the surface of a test piece.
- The length of the long diagonal of the indentation left in the surface after removal of the test force.
- The Knoop hardness HK is calculated by software.

### **The software has following features:**

<b>Automatic mode</b>	Fully/ semi automatic mode
<b>Manual mode</b>	Pure manual operations
<b>Calibration</b>	To map real dimensions in mm to computer dimensions in pixels
<b>Batch Mode</b>	To create/delete/ update batches & customers
<b>Statistics mode</b>	Mean, median, maximum, minimum, frequency, distribution graph linearity graph of the readings taken in a batch.
<b>Report generation</b>	To generate reports specifying statistical analysis & graphs.
<b>Table generation</b>	For generating table of standard readings for quick reference
<b>Camera control</b>	To adjust the brightness / contrast of impression image
<b>Lux guide</b>	To check the uniformity of the illumination
<b>Focus guide</b>	For getting correct focusing of the impression
<b>Case depth measurement</b>	Effective case depth measurement and graph

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## Computerized Brinell / Vickers / Knoop Hardness Measurement software



### TECHNICAL SPECIFICATION :

<b>Weight</b>	200g
<b>Name</b>	2.0MP colour CMOS Camera
<b>Sensor</b>	1/2color 2.0MP CMOS
<b>Pixel size</b>	3.2"µm X 3.2"µm
<b>Range</b>	400nm1000nm
<b>Sensitivity</b>	1.0V/lux-sec@550nm
<b>Read</b>	progress
<b>Exposure</b>	ERS(Electronic rolling snap)
<b>Resolution</b>	2048 X 1536
<b>Speed</b>	6f/s@2048 X 1536
<b>White balance</b>	Auto/Manual
<b>Exposure control</b>	Auto/Manual
<b>Output</b>	USB2.0,480Mb/s
<b>Power supply</b>	USB2.0
<b>Dynamic Range</b>	62dB
<b>Control</b>	Image size,bright, gain,exposure time
<b>Software</b>	Preview,static capture,video capture
<b>Temp</b>	0 c~50 C
<b>Application</b>	High resolution microscope imaging
<b>Mount</b>	C/CS mount

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