ADVANCED TOUCH SCREEN DIGITAL VICKERS HARDNESS TESTER (LOAD CELL BASED)

- *VALUE*

- *VERSATILITY*

- *PERFORMANCE*

BVHT-ADL SERIES

- Close Loop high precision load cell structure.
- Dual optical systems design (eyepiece + camera path), both paths can work at same time, no need switch knob.
- 5.6'' Touch screen, menu structure, easy operate.
- Quality automatic judgment function.
- Automatic turret, automatic loading, dwell, unloading.
- With emergency stop button, operation more safe.
- Automatic turret, digital eyepiece with encoder.

APPLICATION:

- Widely used to test the hardness of all kinds of metal materials (steel, nonferrous metals, tinsel, cemented carbide, sheet metal, etc.)
- Surface layer / coating (Carburization, nitriding, decarburization layer, surface hardening layer, galvanized coating, etc.)
- Glass, chip, ceramic, plastic and rubber, etc.

FEATURES:

- Closed loop design with high accuracy load cell, no need to install dead weights, let installation more easy and loading - dwell - unloading automatically and easy operation.
- With load automatic correct function, greatly improved test accuracy and let calibration more easy.
- Modular design, simple maintenance.
- With hardness conversion function, from HV hardness value can covert to HR, HB, HK, etc.
- With HV/HK test function.
- Built-in printer for optional purchase.
- Can work with camera and Vickers indentation measuring software.
- According to different visual habits of the operators, the strength of the light source can be adjusted. To avoid the visual fatigue for long time operation.
- Industrial digital touch screen can direct display hardness value, conversion hardness, testing method, testing force, dwell time, test number and testing process.
- One-time casting iron molding shell ensure structure more stable; Adopted car painting technology, pure white color looking more decent; High scratch resistance capability, used for years still brightness like new.

Optional purchase:

XY cross work table

TECHNICAL SPECIFICATION:

Model No.		BVHT-ADL SERIES
Turret		Automatic (Motorized)
Force Loading		Automatic Loading - Dwell - Unloading
Testing Force	BVHT-10ADL	0.1kgf(0.98N), 0.2kgf(1.96N), 0.3Kgf(2.94N), 0.5Kgf(4.90N), 1.0Kgf(9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N)
	BVHT-30ADL	0.2kgf(1.96N), 0.3Kgf(2.94N), 0.5Kgf(4.90N), 1.0Kgf(9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 20.0Kgf(196.0N), 30.0Kgf(294.0N)
	BVHT-50ADL	0.3Kgf(2.94N), 0.5Kgf(4.90N), 1.0Kgf(9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 20.0Kgf(196.0N), 30.0Kgf(294.0N)), 50.0kgf(490.0N)
Hardness Scale	BVHT-10ADL	HV0.1, HV0.2, HV0.3, HV0.5, HV1, HV2, HV2.5, HV3, HV5, HV10
	BVHT-30ADL	HV0.2, HV0.3, HV0.5, HV1, HV2, HV2.5, HV3, HV5, HV10, HV20, HV30
	BVHT-50ADL	HV0.3, HV0.5, HV1, HV2, HV2.5, HV3, HV5, HV10, HV20, HV30, HV50
Conversion Scales		HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Magnification	BVHT-10ADL	200X (Measurement), 400X (Measurement); Measuring range:400um **Both lens can do observe and measurement work directly**
	BVHT-30ADL & BVHT-50ADL	100X (Measurement), 200X (Measurement); Measuring range:400um **Both lens can do observe and measurement work directly**
Min Measuring Unit		0.125μm
Hardness Range		5-4000HV
Eyepiece		10X Digital eyepiece with built-in encoder, Automatic calculate data
Objective		10X, 20X, 40X
XY Work Table (Optional Purchase)		Dim.:100x100 mm, Max. Travel Range: 25x25mm, Moving Resolution Ratio: 0.01mm
Dwell Time		1-99S (1 second per step)
Data Output		5.6'' Touch screen display, Built-in printer
Test Space		175mm x 125mm (Height x Depth)
Power Supply		AC220V，50Hz
Standard		ISO 6507, ASTM E92, JIS Z2244, GB/T 4340.2
Overall Dimension		320*580*620mm
Net Weight		71kg
Packing Size		680*470*750mm
Gross Weight		91kg

STANDARD ACCESSORIES:

Item Name	Q'ty	Item Name	Q'ty
Large Round Test Table	1	Medium Size Test Table	1
10X Digital Eyepiece	1	V-Shape Test Table	1
Vickers Hardness Block	2	Accessory Case	1
10X or 20X Objective Lens	1	Spare Fuses (2A)	2
20X or 40X Objective Lens	1	Production Certificate	1
Regulating Screw	4	Warranty Card	1
Dust Cover	1	Manual Book	1

Built-in printer + USB port + RS232 port
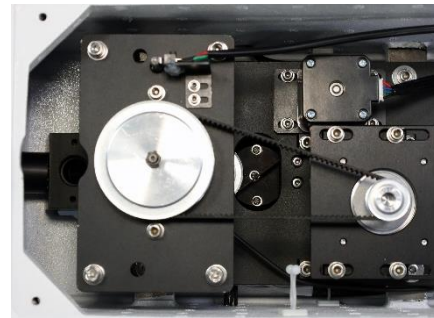
Camera port + Load cell

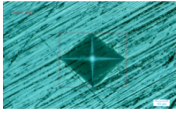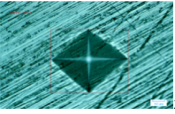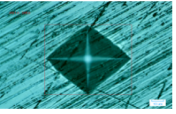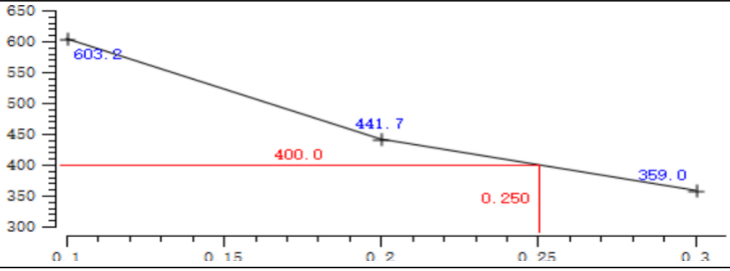### HVS-A MICRO / VICKERS HARDNESS MEASUREMENT SOFTWARE (Optional)
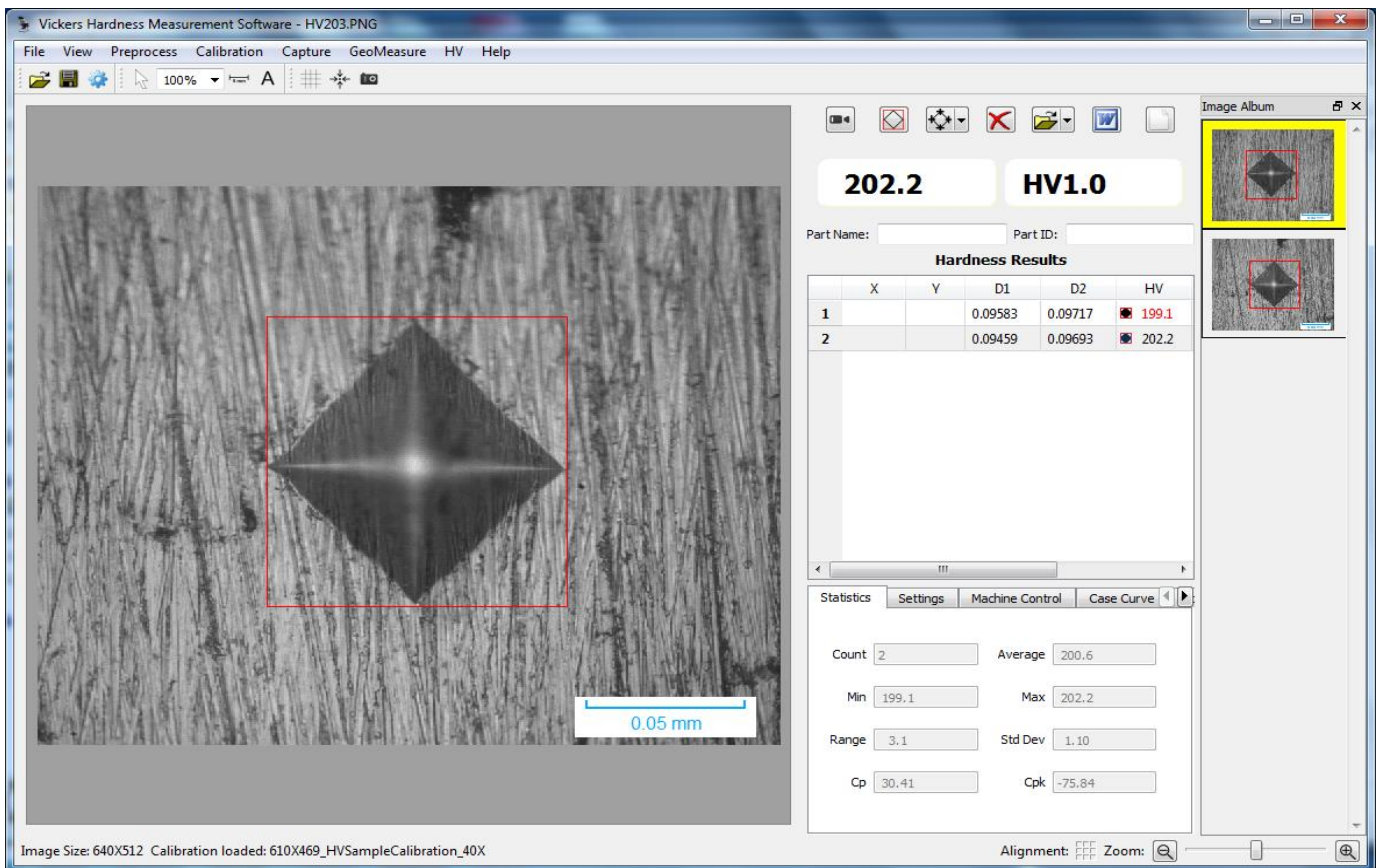
MAIN FUNCTIONS:

- **Auto hardness measurement:** With a click of a button, the software automatically measures the diagonals of the indentation, calculates the hardness value and the statistics.
- **Hardness curve:** With the depths of test points by user input, the software automatically plots the hardness curve(s); User may save and load the depths in a depth template file for later testing for convenience.
- **Conversion, compensation, and validation:** Converts HV to other hardness scales ; Validates the test results with sample dimensions; Compensates the test results with respect to sample cylindrical/spherical diameters.
- **Statistics:** Automatically updates the statistical values such as average, min and max, standard deviation,Cp and Cpk.
- **FRACTURE TOUGHNESS TESTING,** Kc(kic) value can be measured as a standard function.
- **Auto-alarm:** Automatically marks the out of spec measurements.
- **Test report:** Automatically generates WORD or EXCEL report with customizable template.
- **Data archiving:** Measurement data and images can be saved in one file for later retrieval.
- **Knoop Scale:** Can be configured for Knoop Scale measurement.
- **Other Functions:** Includes the basic functions of imaging system such as image capture, camera calibration, image processing, geometric measurement, document labeling, album management, and printing with specified magnifications.

HARDNESS REPORT FORMAT AS BELOW:

Micro/Vickers Hardness (HV) Test Results

Submitter			Date Submitted	
Part Name			Part #	
# of Samples			Sample Descri.	
Qual. UL		400.0	Qual. LL	450.0
Sample Cyl./Sph. Diam.		0.00 mm	Test Load	1000g

Test Results

#	X	Y	D1	D2	Hard.	Conver.	#	X	Y	D1	D2	Hard.	Conver.
	mm	mm	μm	μm	HV			mm	mm	μm	μm	HV	
1	0.100		55.901	54.994	603.2								
2	0.200		64.976	64.613	441.7								
3	0.300		72.780	70.965	359.0								

Case Hardness(HV)		400	Case Depth(mm)	0.250

Indent Images: 1. 2. 3.

Hard. Curve

Statistics

Maximum	603.2	Minimum	359.0
Average	468.0	Std. Dev.	124.2
Cp	0.27	Cpk	0.05

Operator	Test Date	Auditor	Audit date
	09-06-2022		

* Due to continuous product development, Image & specification can be upgrade.