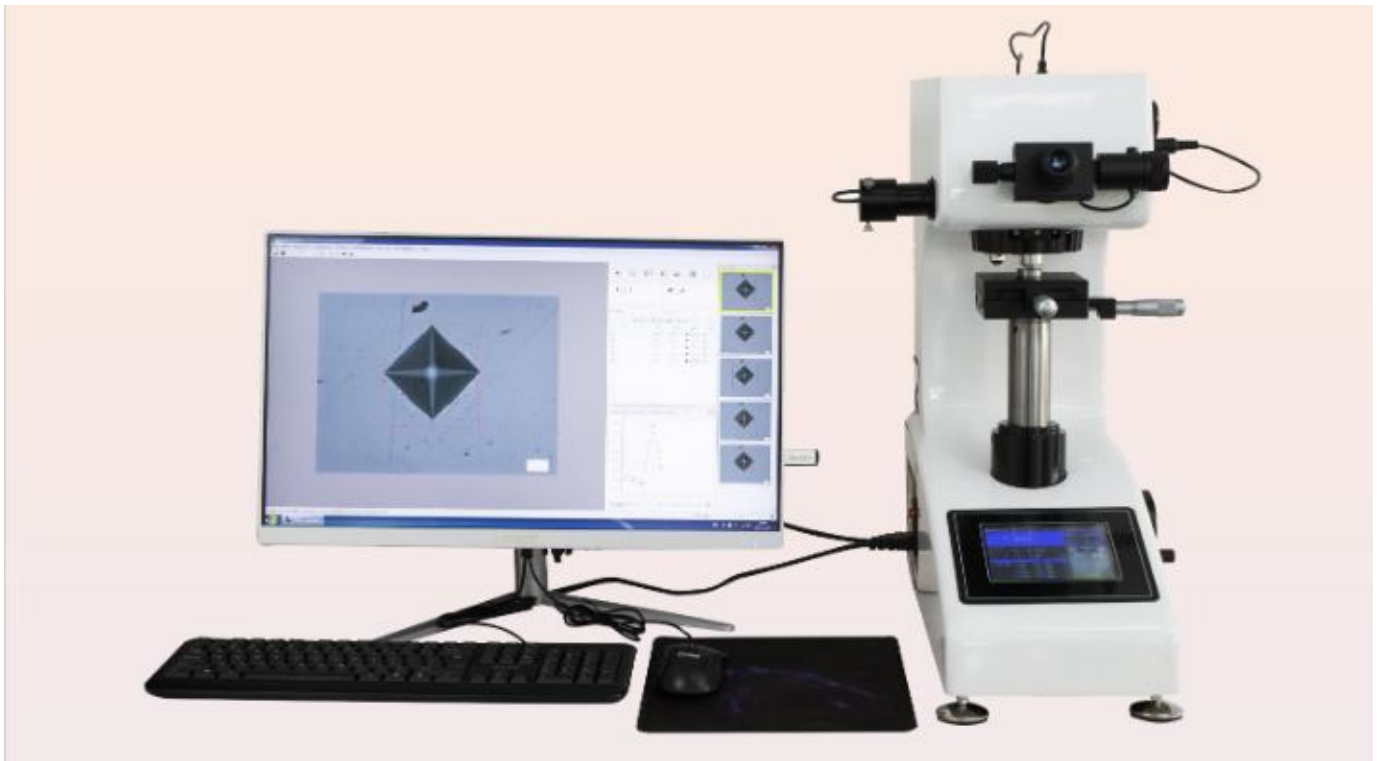


Computerized Control Touch Screen Digital Micro Vickers Hardness Tester



With high-quality imported components, ensure the new type digital Micro Hardness Testers working more stable. Protected by the state patent application of the lift & down system, after upgrading, the control system can provide more measuring data, and control more precise. This machine is integrated with optics, mechanics and electricity. It with unbeatable price / performance ratio, widely used in quality inspection and quality control field.

Main Purpose and Application:

1. Steel, nonferrous metals, tinsel, cemented carbide, sheet metal, metallographic structure.
2. Carburization, nitriding and decarburization layer, surface hardening layer, galvanized coating.
3. Glass, chip and ceramic material.



With hardness conversion function

Main Features:

1. Adopted one time casting aluminum machine body and car painting technology, structure more stable and appearance more decent.
2. The independent research and development of lift & down system and positioning system, ensured the accuracy and repeatedly of the testing process.

- 10X Digital eyepiece with encoder, only click the button of encoder, the D1, D2 value will input machine automatically. No need manually input the value of diagonal length. Easy operation, greatly improve working efficiency, and test result more accurate.
- The optical system designed by our senior optical engineer not only meet the definition of hardness testing requirements, but also can observe the micro structure of the material, image is very clear.
- 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.
- With Vickers hardness and Knoop hardness testing capabilities. By measuring the indentation diagonal length, the hardness will show on the screen directly, no need to check hardness table.
- Industrial digital touch screen can direct display hardness value, conversion hardness value, testing method, testing force, dwell time, easy for operator to save the data.
- Double optical path design. Both eyepiece and CCD camera path can work at same time. No need switch optical path. Camera can be install inside machine (camera for optional purchase).

Specification:

Model	EI-eVick-1ATS
Turret	Automatic Turret
Testing Force	10g (0.098N), 25g (0.245N), 50g (0.49N), 100g (0.98N), 200g (1.96N), 300g (2.94N), 500g (4.9N), 1000g (9.8N) Test Force Error: $\pm 1.0\%$
Hardness Scale	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Loading Speed	$\leq 0.05\text{mm/sec}$
Indenter	Standard Rectangular pyramid diamond indenter ($136^{\circ}\pm 0.5^{\circ}$)
Min. Measuring Unit	0.01 μm
Hardness Value Range	5HV ~ 3000HV
Hardness Value Of Reading	Digital LCD Screen
Eyepiece	10X digital eyepiece
Objective Lens	10X (observe), 40X (Measurement)
Total Magnification	100X (For Observation) , 400X (For Measurement)
Loading Method	Automatically (Load, dwell and unload the testing force)

Duration Time	1 ~ 99s (each step is 1 second)
HV Software System	5 million pixel camera; camera connect tube and adapter; Professional HV/HK Indentation image measurement and analysis software, support automatic measure mode and manual measure mode, generate test report automatically in word / Excel format; Software can control machine turret and control machine do test work
Maximum Height	90mm
Throat Depth	95mm
Instrument Size	405 (L) * 290 (W) * 480 (H) mm
Net Weight	Approx. 40kg
Light Source	LED cold light source
Power Supply	220V + 5%, 50/60 Hz (110V is available)
X-Y Testing Table	Dim.:100×100 mm, Max. Travel Range: 25×25mm, Moving Resolution Ratio: 0.01mm
Executed Standard	GB/T4340, ASTM E384 & E92, EN-ISO 6507, JIS B-7734

Features:

X-Y Testing table of Micro Vickers hardness tester,
Dim.: 100×100mm

Maximum Travel Range: 25 x 25mm

Moving Resolution Ratio: 0.01

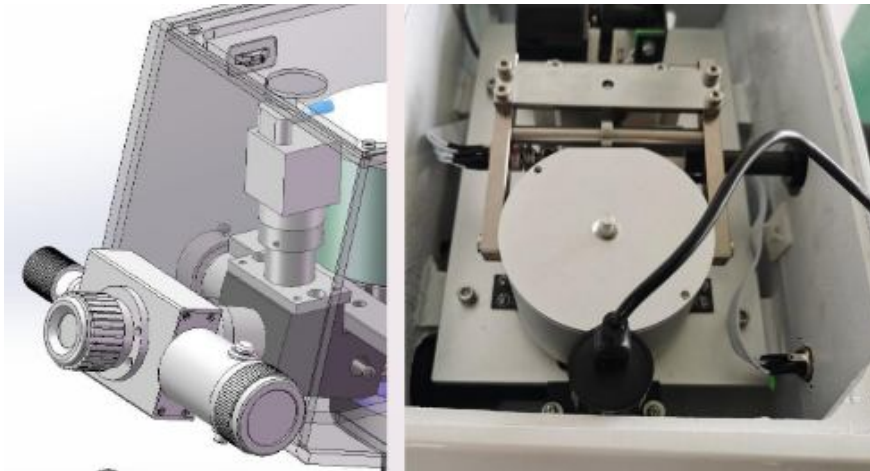
Optional Accessories: Digital Meter Head





LED Cold light source (Can be continuous use for 24 hours, no heat generates ensure stable working, servicing life can reach 100,000 hours); Lightness can be adjusted, avoid visual fatigue of operator.

Precision digital eyepiece (10X) within built encoder, automatic calculate



Double optical path design. Both eyepiece and CCD camera path can work at same time. No need switch optical path.

Test Load:

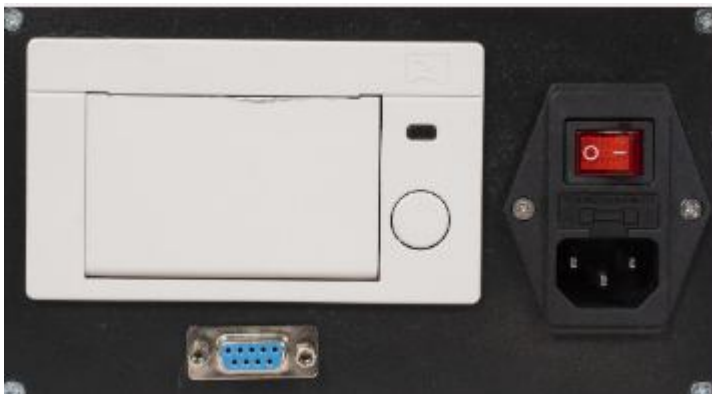
10g (0.098N), 25g (0.245N), 50g (0.49N),
100g (0.98N), 200g (1.96N), 300g (2.94N),
500g (4.9N), 1000g (9.8N)





Automatic turret design, Loading – Dwell - Unloading automatically process, greatly improved machine accuracy and working efficiency.

Touch screen control with menu structure, hardness value, hardness scale, indentation size, limit, force, conversion scale value, time, temperature, etc all can display on screen directly, very easy operation.

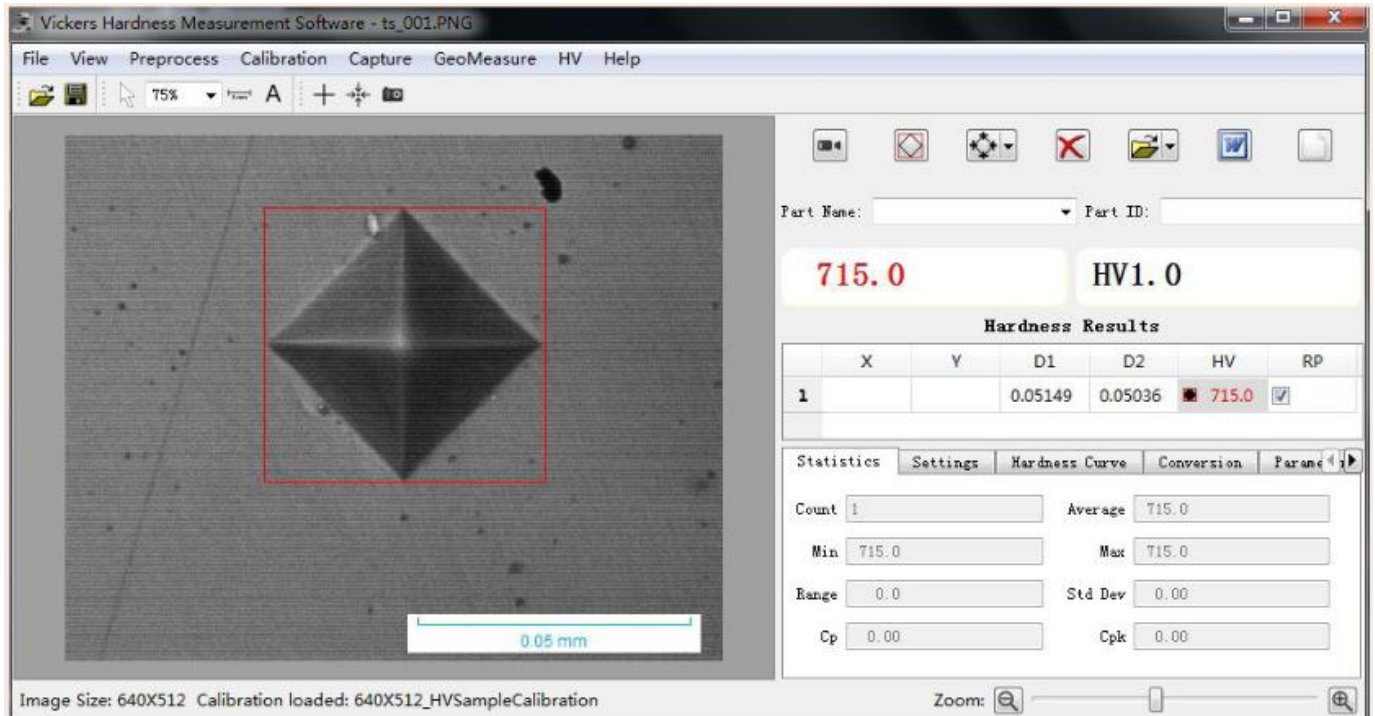


Built-in printer can print the test data directly, easy for data save and record.

Standard Accessories:

Weights Shaft	1
Weights	6
10X Digital Eyepiece	1
10X Objective Lens	1
40X Objective Lens	1
Vickers Diamond Indenter	1
X-Y Testing Table	1
Level Bubble Note: For avoid potential risks, Will remove level bubble if ship by air, since liquid materials are forbidden by airlines	1
Flat Fixture	1
Sheet Specimen Fixture	1
Standard Block Of Hardness	2
Spare Fuse 2A	2
5 Million Pixel Camera	1
Software Driver And Dongle	2
Horizontal Adjusting Screw	4
Power Line	1
Dust Proof Cover	1
Manual Book	1
Certificate Of Quality	1
Screwdriver	2
Warranty Card	1
Accessory Box	1

HVS-A Micro / Vickers Hardness Measurement Software



Main Functions

1. **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;
2. **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;
3. **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;
4. **Statistics:** Automatically updates the statistical values such as average, min and max, standard deviation, Cp and Cpk;
5. **Auto-Alarm:** Automatically marks the out of spec measurements;
6. **Test Report:** Automatically generates WORD or EXCEL report with customizable template;
7. **Data Archiving:** Measurement data and images can be saved in one file for later retrieval;
8. **Knoop Scale:** Can be configured for Knoop Scale measurement;
9. **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:

Micro / Vickers Hardness (HV) Test Result:


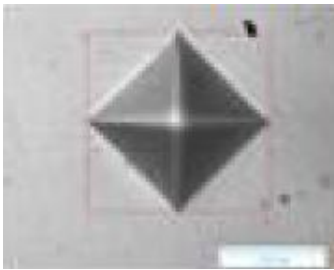

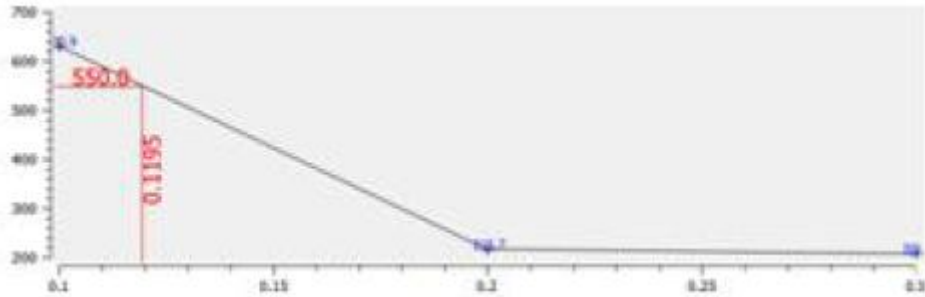
Submitter				Date Submitted											
Part Name		Gear		Part #		0002									
# of Sample				Sample Desscr.											
Qual. UL		650		Qual. LL		450									
Machine ID				Meas. Standard		GB/T231. 1-2002									
Sample Cyl. / Sph.diam (mm)		0		Force (g)		1000									
Test Results															
#	Depth	Y	D1	D2	Hard	Conver.	#	Depth	Y	D1	D2	Hard	Conver.		
	μm	μm	μm	μm	HV			μm	μm	μm	μm	HV			
1	100		53.95	54.48	630.9										
2	200		93.40	92.08	215.7										
3	300		94.48	95.00999	206.6										
Case Hardness (HV)			550			Case Depth (μm)									
Indent Images	1. 			2. 			3. 								
															
	Statistics														
Maximum		630.9			Minimum		206.6								
Average		351.1			Std. Dev.		114.26								
Cp		0.29			Cpk		-0.29								
Operator		Test Date			Auditor		Audit date								
		2016.12.25													

Image analysis software can measuring the length of the indentation, and show hardness easily; and can generate the Hardness report directly in word format, easy edit