

METROLOGY[®]

Vickers Hardness Tester (Automatic Turret)



Micro-Vickers Hardness Tester (Automatic Turret)



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【VHT-A9010D (10KG)】

【VHT-A9050D (50KG)】



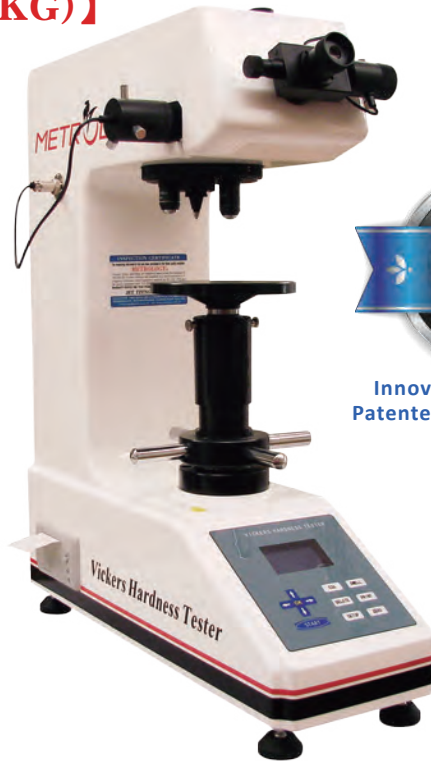
Test Structure Design



Precision Cast Iron Body



Assembly & Inspection



Innovation Design R&D
Patented Technology Award



Sophisticated Sensors
Microcomputer Control System



Digital Display Encoder
Data Computing System



Equipped with precise load cell, test result is more accurate; With high-quality imported components, ensure the Vickers 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 has unbeatable price and performance ratio, widely used in quality inspection and quality control field.

Main Function and Features:

1. Equipped with precise sensor (load cell), the test force is more precise and the test result is more accurate. Test force range more widely.
2. Main components adopted American 3M, Allegro, and Japan Omron, NKK brand, ensure the instrument can stable working for a very long time.
3. The independent research and development of lift & down system and positioning system, ensured the accuracy and repeatedly of the testing process.
4. The optical system not only meet the definition of hardness testing requirements, but also can observe the micro structure of the material, image is very clear.
5. 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.
6. 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.
7. Industrial digital screen can directly display hardness value, conversion hardness, testing method, testing force, dwell time, testing times and testing process; The built-in printer can print test number, hardness value, average value, Max. Value, Min. Value, Xmax-Xmin directly, easy for operator to save the data.
8. Optional data transfer software, all the testing data can be transfer to computer via RS232 port, then can edit and save the data on computer.
9. One-time casting aluminum molding shell ensure structure more stable; Adopted car painting technology.
10. Pure white color looking more decent; High scratch resistance capability, used for years still brightness like new.

Vickers Hardness Tester (Automatic Turret)

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, coating.
3. Glass, chip and ceramic material.

Technical parameters:

Model	VHT-A9010D	VHT-A9050D
Hardness scale	HV0.5, HV1, HV2, HV3, HV5, HV10	HV1, HV2, HV3, HV5, HV10, HV20, HV30, HV50
Hardness conversion scale	HRA, HRB, HRC, HRD, HK, HBS, H15N, H30N, H45N, H15T, H30T, H45T	
Testing force	500g(4.9N)、1kg(9.8N)、2kg (19.6N)、3kg(29.4N)、5kg(49N)、10kg (98N)	1kg (9.8N)、2kg(19.6N)、3kg (29.4N)、5kg (49N)、10kg (98N)、20kg (196N)、30kg (294N)、50kg (490N)
Loading speed	≤50μm/sec	
Indenter	Standard Rectangular pyramid diamond indenter (136°±0.5°)	
Screen size	62x44mm	
Minimum measuring unit	0.02μm	
Hardness value range	8HV-3000HV	
Hardness value of reading	Digital LCD Screen	
Total magnification	100X (For Observation) 200X (For Measurement)	
Loading method	Automatically (Load, dwell and unload)	
Dwell time	1-99s (each step is 1 second)	
Turret	Automatic Turret	
Objective lens center and indenter center	Coincidence accuracy error < 1um (objective lens center position can be adjusted)	
Maximum distance	Height :200mm, Depth:159mm	
Size and net weight	Instrument: 560×186×635mm (L×W×H) 43kg Packing: 625*430*900mm (LxWxH) 57kg	
Light source	LED Cold light source (can be continuous use for 24 hours, no heat generate ensure stable working, servicing life can reach 100,000 hours)	
Power supply	220V + 5%, 50/60 Hz (110V is available)	
Data output	Built-in Printer; Built-in RS-232 interface (transfer data to computer, easy for long time save)	
Executed standard	ASTM E-384、ISO/DIN 6507-2、JIS B-7734、GB/T4340	
Standard accessories	Hardness tester 10X micrometer eyepiece ; 10X and 20X objective lens; Vickers indenter; Large testing Table; Medium testing table; Gradienter; Power cable ; Dust cover; Manual instruction ; Accessory case, 2 pieces Standard block	
Optional accessories	Data transfer software;Image analysis software (HV-CCD-B) ; computer; printer; Standard indenter and hardness block	

*If you want to directly use Vickers measurement software for automatic measurement, you can also choose the economical electronic Vickers hardness tester VHT-9010 or VHT-9050

Micro-Vickers Hardness Tester (Automatic Turret)

【MHT-A1000D (1KG)】



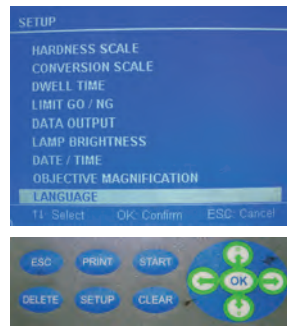
Test Structure Design



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Sophisticated Sensors
Microcomputer Control System



Digital Display Encoder
Data Computing System

It has a more faster testing speed than other ordinary Micro hardness tester. The hardness value can be displayed directly and not need to enter the length of the diagonal. High quality imported components ensure the instrument can stable working for a very long time; Protected by the state patent application of the lift & down system, after upgrading, the control system can provide more measuring data, and control more precisely.

Main function and features:

1. Equipped with digital eyepiece and Data computing systems which accuracy can reach to 0.01um; Just click one button the hardness value will display on screen directly .
2. Main components adopted American 3M, Allegro, and Japan Omron, NKK brand, ensure the instrument can stable working for a very long time.
3. The optical system not only meet the definition of hardness testing requirements, but also can observe the micro structure of the material, image is very clear.
4. 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.
5. With Vickers hardness and Knoop hardness testing capabilities, and testing force can be extended to 2KG (HV2). Automatic measuring the indentation diagonal length, the hardness and conversion hardness will show on the screen directly, no need to check hardness table.
6. Industrial digital screen can direct display hardness value, conversion hardness, testing method, testing force, dwell time, test number and testing process; The built-in printer can print testing times, hardness value, average value, Max. Value, Min. Value, Xmax-Xmin directly, easy for operator to save the data.
7. Optional data transfer software, all the testing data can be transfer to computer via RS232 port, then can edit and save the data on computer.
8. One-time casting aluminum molding shell ensure structure more stable; Adopted car painting technology,
9. Pure white color looking more decent; High scratch resistance capability, used for years still brightness like new.
10. Reserved image channel, can be connected with computer, used the image analysis software (HV-CCD-B) to analyzing the physical and chemical properties of the material (optional).

Micro-Vickers Hardness Tester (Automatic Turret)

【MHT-A1000D (1KG)】

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, coating.
3. Glass, chip and ceramic material.



1 Eyepiece illumination



2 Automatic Turret



3 XY table



4 Printer



5 CCD output



6 Testing force knob



7 Digital eyepiece



8 Wheel & Output

Micro-Vickers Hardness Tester (Automatic Turret)

Specification:

Model	MHT-A1000D
Hardness scale	HV0.01、HV0.025、HV0.05、HV0.1、HV0.2、HV0.3、HV0.5、HV1
Conversion scale	HRA, HRB, HRC, HRD, HK, HBS, H15N, H30N, H45N, H15T, H30T, H45T
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: $\pm 1.0\%$
Loading speed	$\leq 50\mu\text{m}/\text{sec}$
Indenter	Standard Rectangular pyramid diamond indenter ($136^{\circ}\pm 0.5^{\circ}$)
Screen size	62x44mm
Minimum measuring unit	0.01 μm
Hardness value range	1HV-4000HV
Hardness value of reading	Digital LCD Screen
Total magnification	100X (For Observation) , 400X (For Measurement) (Can be extended to 150X or 600X)
Loading method	Automatically (Load, dwell and unload the testing force)
Duration time	1-99s (each step is 1 second)
Turret	Automatic Turret
Objective lens center and indenter center	Coincidence accuracy error < 1 μm (objective lens center position can be adjusted)
Maximum distance	Height : 90mm, Depth: 120mm
Size and net weight	Instrument: 405×290×480mm (L×W×H) 40kg
Light source	LED Cold light source (can be continuous use for 24 hours, no heat generate ensure stable working, servicing life can reach 100,000 hours)
Power supply	220V + 5%, 50/60 Hz (110V is available)
X-Y testing table	Size:100×100 mm, Max. Travel Range: 25×25mm, Resolution: 0.01mm
Data output	Built-in Printer; Built-in RS-232 interface (transfer data to computer, easy for long time save)
Executed standard	ASTM E384 & E92 、EN-ISO 6507、JIS B-7734、GB/T4340
Standard accessories	Hardness tester 10X digital eyepiece ; 10X and 40X objective lens; Vickers indenter; X-Y Testing Table; Flat fixture; sheet specimen fixture, Small parts fixture; Gradienter; Power cable; Dust cover; Manual instruction; Accessory case; 2 pieces Standard block
Optional accessories	Hardness measuring software (HV-CCD-B) ; Metallographic equipment; Knoop Indenter; hardness block; 15X micrometer eyepiece

Vickers Measuring Software

【HV-CCD-B】



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The system consists of Auto Turret Vickers or Micro Vickers Hardness Tester and hardness measuring image analysis software. Via the data line connect with computer, real time focus and the hardness indentation image can be displayed on the computer. Just through the mouse and keyboard, after the software automatically calculates that can complete a variety of test requirements, greatly improve the working efficiency. So, it can provide the perfect solution for experimental analysis.

Main functions and features of software:

1. Standard configuration: VICKERS hardness measurement software, dongle, HD CCD, USB data transmission line, computer equipment (optinal)
2. The indentation image can be measured after magnified 1600X. during measuring, it will magnify the corner image, so more easy to measure and avoid the manual operation errors.
3. For smooth surface specimen, the software can automatically identify the indentation image and automatic measuring diagonal length.
4. Diagonal length, hardness value, the indentation depth, strength of materials and conversion hardness can be displayed in real time.
5. It can mark point testing or continuous testing, the hardness depth and gradient curve can be draw out directly.
6. The unique Mark point positioning function makes the machine able to measure the hardness and analyse material on the specified point.
7. The color, grayscale, contrast and brightness of the image can be adjusted.
8. With the function of diagonal fine-tuning, length measuring and angle measurement.
9. With measuring results statistic and analysis function, the hardness report can be generated directly in word & Excel format.
10. Support for WINXP, Win7, WIN10 32 bit / 64 bit operating system.