

HST-HVS 50ACT integrated intelligent visual hardness tester

Integrated intelligent visual hardness tester, only need to operate a touch tablet computer, easy to get the measurement! And all the parameters required for the test can be selected, modified and analyzed directly on the computer. The PC terminal is connected in series with the hardness tester through the communication protocol to realize the control of the mechanical movement of the hardness tester. It can realize: automatic multi-function tower, automatic identification of objective lens and indenter, automatic loading, automatic load preservation, automatic unloading, light brightness. By linking the built-in CCD measurement and acquisition system, it can display clear indentation image dynamics on the PC in real time, and can also directly lock the indentation to automatically measure the hardness value, automatically save the test data, and generate a report. The operation is very simple and fast, eliminating human measurement errors. Integrated intelligent visual hardness tester, with tablet computer as the platform, can expand more application functions through the Internet, and can also be connected to external monitors, printers and other equipment. The side-swing lifting screw adopts a worm gear structure, and the transmission is stable.



Integrated synchronous touch screen on the side is optional

1. Industrial tablet computer integration, USB expansion
2. Equipped with the latest Windows operating system,
3. Built-in CCD image automatic measurement system
4. Visual display of indentation and automatic hardness measurement
5. Automatically record measurement data, generate hardness-depth curve, and save it as a WORD file

The machine is equipped with a Vickers automatic measurement control system: it can carry out successive experiments with each load and each indentation read. The convenient ccd camera is used to observe and measure the indentation directly on the display, which has high measurement accuracy and avoids manual measurement errors. For setting test conditions, display results, etc. can be operated and displayed clearly and quickly. Through the measurement control software, it can be easily operated on the built-in computer to realize single-point measurement. Multi-point measurement can be randomly measured, statistical measurement data, and the distance between two or multi-point measurement points can be arbitrarily set for seepage depth measurement along X or Y Two-direction measurement, statistical measurement data, automatic calculation of the hardened layer depth according to the judgment value input by the user. Statistical calculation, conversion, display curve judgment, etc., etc. The length of the measured part can be saved and printed.

Software features:

1. Hardness tester control: The system provides serial communication to control the operation of the hardness tester, such as turning the objective lens, loading, setting the holding time, adjusting the brightness of the light, and adjusting the feedback of the test force;
2. Automatic measurement: the system automatically measures the indentation, and automatically draws the hardening curve, updates the statistical results, etc.;
3. Manual measurement: The system provides manual measurement, including four-point measurement and diagonal measurement;
4. Hardness value conversion, correction, and effective verification: The system can simultaneously convert the measured micro Vickers hardness value to other hardness scales such as HB, HR, etc.; it can correct the measured value of the spherical cylindrical sample; Effective verification of the measured value of the sample;
5. Data statistics: automatically calculate the average value, variance, Cp, Cpk and other statistical values of the measured hardness, and can optionally save it automatically;
6. Data storage: single measurement data and images can be saved in a file for later recall, and can be automatically saved;
7. Test report: Automatically generate WORD or EXCEL document report; users can customize the report format; the standard format includes every single hardness measurement value, statistical value, indentation image, and hardening curve, etc.;
8. Knoop hardness: can be set to Knoop hardness measurement;
9. Fracture toughness: can be set to measure indentation fracture toughness;
10. Other functions: all functions of the microscopic image processing and measurement system, including image shooting, calibration, image processing, geometric measurement, document labeling, album management, and fixed-magnification printing, etc.;

Main functions and features of the machine:

1. The optical system designed by senior optical engineers not only has clear images, but also can be used as a simple microscope, with adjustable brightness, comfortable vision, and not easy to fatigue after long-term operation;
2. The built-in PC can visually display the hardness value, convert the hardness, test method, test force, brightness, holding time, measurement times, statistical data, upper and lower limit measurement range, test time and other test procedures are intuitive and clear;
3. Adjustable range of optical system brightness: 0-100;
4. Unlimited storage of test report data;
5. The test force unit can be manually selected for mutual conversion, the conversion unit is: (Kgf, N)
6. Simultaneous display: maximum value, minimum value, average value, maximum error, etc.
7. The scale can be converted and can be switched: national standard, American standard and international standard, a total of 18 measuring scales can be converted: HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HV, HK, HBW;
8. Both objective lenses can directly measure the hardness,
9. The upper and lower limit measurement range can be set and displayed on the main measurement interface;
10. The measuring scale can be converted into HK Knoop hardness;
11. The operating system can be converted between Chinese and English;
12. The built-in measuring system can automatically measure the hardness value;
13. The cast aluminum shell has a stable and non-deformed structure once formed, the pure white car paint has high grade, strong scratch resistance, and it is still bright as new after many years of use;
14. Our company has the ability of self-developed design, production and processing. Our machines provide parts replacement and maintenance upgrade services for life;

Main purpose and scope of application:

1. Steel, non-ferrous metals, metal foil, cemented carbide, metal sheet, microstructure
2. Carburizing, nitriding and decarburizing layer, surface hardening layer, electroplating layer, coating
3. Glass, wafers,

Standard configuration:

parameter name	Parameter data
Product model	HST-HVS 50ACT
Hardness scale	HV1, HV5, HV10, HV20, HV30, HV50
Test force (Kgf)	1, 5, 10, 20, 30, 50
Hardness measurement range	(5-3000)HV
Unit conversion	Brinell, Rockwell, Knoop (and switchable: ASTM, ISO, JJG standards)
Hardness value	PC automatically measures hardness
Qualified judgment	The qualified range can be set, and the machine automatically reminds whether it is qualified
Language switch	Chinese and English systems can be switched at any time
Error correction	The system calibrates the hardness at any time
Ruler conversion	HK (Knoop)
Hardness value conversion	Brinell, Rockwell, Vickers

testing report	Automatic generated
Load control	Auto load, auto hold, auto unload
Objective lens and indenter	Automatic switching
Optical channel	Support dual channel
Test force retention time (s)	5~60
Test force selection	External force selection knob, test force is automatically displayed on the computer
Objective lens magnification	10×, 20×
Optical system	Total magnification (μm): 100× (observation), 200× (measurement); measuring range (μm): 400;
Optical system resolution (μm)	0.125
XYtest bench	Size (mm): 100×100 Stroke range (mm): 25×25 Minimum reading (mm): 0.01
Maximum height of specimen(mm)	150
Maximum width of test piece(mm)	120
Power supply voltage	AC220V/50HZ
Weight (kg)	60
Appearance size	620mmX230mmX630mm

Standard configuration:

Micro Vickers Indenter	1piece	10X objective lens	1 piece	40X objective lens	1 piece
Weight bar	1piece	Weight	6 pieces	XY cross table	1 piece
Sheet holding table	1piece	Flat clamping table	1 piece	Filament clamping table	1 piece
Standard Vickers hardness block	2 sets	wireless mouse	1 piece	screwdriver	2 pieces
Level adjustment screw	4 pieces	Spirit level	1 piece	power cable	1 piece
Fuse	2 pieces	Dust cover	1 piece	Instruction certificate	1 set
Japanese ARTRAY industrial camera	1 set	Optical adapter tube	1 set	Dongle	1piece
Automatic measurement control system (built-in)	1 set	PC computer (built-in)	1 set	Touch screen external controller (optional)	1 set