

HST-U300 Portable Ultrasonic Hardness Tester



Introduction:

There are many kinds of methods that can be used for hardness testing, and the more commonly used methods are Brinell, Rockwell, Vickers, and Leeb test methods. Among them, Brinell and Rockwell test force is large, indentation is large, and the surface damage of the sample is large, while Vickers adopts optical method to measure, which requires very professional technical personnel to operate, and can not directly test large workpieces; The ultrasonic hardness tester adopts the ultrasonic contact impedance method to compare and measure the styles, which has the advantages of high accuracy, fast speed, portability, and easy operation.

Measurable:

Hardness measurement of flange edge and gear root stampings, molds, thin plates, surface-hardened teeth, gear grooves, and taper parts,

Hardness measurement of shafts, thin-walled pipes and containers, hardness measurement of wheels and turbine rotors, hardness measurement of drill bit edges;

Hardness measurement of welding parts;

It can cover most of the hardness measurement of ferrous metals, non-ferrous metals and their alloys in industrial production. It is an ideal hardness testing instrument.

Features:

1. The ultrasonic hardness tester meets the standards: DIN 50159-1-2008; ASTM-A1038-2005; JB/T 9377-2010; JJG-654-2013; GB/T34205-2017.
2. 10-point factory calibration mode: calibrate through 10 Vickers hardness blocks with different hardness values.
3. One-point calibration mode: One-point calibration is adopted according to materials with different elastic modulus to eliminate the influence of elastic modulus and achieve test accuracy.
4. Multi-point calibration mode: Multi-point calibration is used due to the conversion error of each hardness scale of the hardness conversion table, the thickness of the workpiece, the surface roughness of the workpiece, and the measurement error caused by the liquid flow inside the workpiece. Direct calibration of HRC, HRB, HRA, HB, HV.
5. Multi-point calibration mode: For composite materials or new materials without hardness value conversion tables, multi-point calibration is used to directly test various hardness systems such as HRC, HRB, HRA, HB, HV and so on.
6. It can measure various hardness systems such as HV, HRC, HRA, HRB, HB.
7. Test direction: Support 360° , as long as the indenter and the measured surface form an angle of $90^{\circ} \pm 5^{\circ}$, the measurement operation can be carried out.
8. 3.5-inch LCD color display: The main interface of the screen directly displays the current measurement value, cumulative measurement times, maximum value, minimum value, average value, automatic storage of measurement data, measurement time, material, and hardness conversion table standards.
9. Battery specifications: 3.6V, 3000mAh lithium battery, 15 hours of battery life.
10. Data storage: 50 sets of measurement data and 10 calibration file data can be stored.
11. An external Bluetooth printer can be connected to print measurement data (optional) or a computer hyper terminal can be connected to export measurement data.
12. The test indentation is small: the indentation is smaller than the Leeb hardness tester, and it can be observed with a high-power microscope.
13. Fast measurement speed: the test result can be output within 2 seconds.

Main parameter:

Model	HST-U300							
Measure range:	HV50-1599, HRC20-76, HB76-618, HRB41-100, HRA61-85.6, Mpa255-2180							
Accuracy	HRC:±1.2HRC; HB:±3%HB; HV:±3%HV;							
Maximum allowable relative error	The hardness of the standard block	The maximum allowable relative error of the hardness tester%						
		HV10	HV5	HV2	HV1	HV0.8	HV0.3	HV0.1
	<250HV	4	4	4	4	4	5	5
	250HV-500HV	4	4	4	4	4	6	6
	>500HV-800HV	4	4	5	5	5	7	7
	>800HV	4	4	6	6	6	8	8
Probe test force	2Kgf(optional: 0.5Kg、1Kg、5Kg、10Kg)							
Working temperature	-20℃~50℃,							
Working humidity	≤85%							

Probe parameters:

Probe type	0.5kg Manual	1kg Manual	2kg Manual	5kg Manual	10kg Manual
Configuration	Option	Option	Standard	Standard	Standard
Real test force	5N	10N	20N	50N	98N
Diameter	22mm	22mm	22mm	22mm	22mm
Length	150mm	150mm	150mm	150mm	150mm
Resonator rod diameter	2.4mm	2.4mm	2.4mm	2.4mm	2.4mm
Maximum roughness of measuring surface	Ra<3.2um	Ra<3.2um	Ra<5um	Ra<10um	Ra<15um
Mini. weight of working piece	0.3kg	0.3kg	0.3kg	0.3kg	0.3kg
Mini. thickness of working piece	2mm	2mm	2mm	2mm	2mm
Probe application	Ion nitriding punches, mold shells, fixtures, thin-walled parts, bearings, tooth sides and pipe inner walls			Measure grooves, tooth flank and tooth root	Small forgings, casting materials, weld inspection, heat-affected zone, low roughness requirements

Standard Delivery: Main unit, Probe (2kgf), Probe cable, 5V ac power adapter, Custom-made carrying case, Standard test block

Optional Accessories: Probe (optional 0.5kgf, 1kgf, 5kgf, 10kgf)