

KASON-XH980 Ultrasonic hardness meter



(Picture only for reference)

1. Introduction:

The ultrasonic hardness tester is an advanced measurement instrument that operates on the principle of ultrasonic vibration. The probe tip contains a pressure head that contacts the material surface during testing, applying static force while emitting ultrasonic signals. Different materials exhibit varying damping characteristics: harder materials cause faster signal attenuation, whereas softer ones show slower decay. The device calculates hardness based on this attenuation pattern. In practical applications, this instrument demonstrates multiple advantages: it can measure various workpiece shapes—whether large mechanical components or small precision parts—with remarkable accuracy. Its minimal surface requirements ensure reliable results even on rough surfaces. Widely used across industries including mechanical processing, mold manufacturing, aerospace,

petroleum and petrochemicals, shipbuilding, automotive manufacturing, rail transit, pressure vessels, and pipelines.

- Design basis standard: GB/T 34205-2017 "Hardness Test of Metal Materials ultrasonic contact impedance method" can be used for high precision testing of a variety of metal materials
- Two hardness scales show the corresponding values of Vickers hardness and other selected hardness systems
- The dedicated circuit design supports hot plug and unplug operation of the probe, which is plug and play and automatically identifies the force value of the probe
- Common material hardness scale (HV, HB, HRA, HRB, HRC) parallel conversion, double scale display
- It contains three kinds of new material setting, which is convenient for the hardness test of special materials, and can theoretically test the hardness of all metal materials
- It shows that the IPS (in-plane switching) full digital LCD display has significantly improved color and response speed
- The wide viewing Angle means that even when viewed from the side, the color and detail changes are minimal
- Chinese and English display, user-friendly menu operation, simple and convenient
- The brightness of LCD can be adjusted arbitrarily, which is convenient for use in dim light environment
- USB communication interface, can easily and quickly exchange data and set parameters with PC
- A host can be equipped with a variety of different probes, and the type of probe can be automatically identified in real time. There is no need to recalibrate when replacing it
- It has the function of calibrating the indicating software
- The upper and lower limits of hardness value can be preset, and the automatic alarm is provided when the range exceeds, which is convenient for users to test in batches
- Metal case, small, portable, high reliability, suitable for harsh operating environment, anti-vibration, impact and electromagnetic interference
- The hardness measurement of special materials can be calibrated and tested with user materials
- There is a remaining power indicator icon on the LCD, which can display the remaining battery power in real time; there is a charging process indicator, so that the operator can know the charging degree at any time
- It can store up to 600 sets of hardness measurement data. Each set of data includes the measurement date, sensor type, material, number, single measurement value, average value, maximum value, minimum value, hardness system and other information
- Built-in 3.7V large capacity lithium ion rechargeable battery and USB charging control circuit; can work continuously for no less than 20 hours; has automatic sleep, automatic shutdown and other power-saving functions

2. technical parameter

- Measurement direction: perpendicular to the surface of the workpiece being measured
- Hardness scale: Vickers (HV), Buhler (HB), Rockwell B (HRB), Rockwell C (HRC), Rockwell A (HRA)
- The measurement results show that the Vickers (HV) + hardness scale
- Measuring materials: steel and cast steel, cast aluminum alloy, pure copper
- User materials: 3, with a setup wizard
- Display: 3.5-inch IPS full digital color LCD display, resolution 480 x 320
- Probe identification: automatic identification + manual setting, support hot plug and unplug
- Data storage up to 600 sets (1-32 measurements)
- Working voltage: 3.7V lithium ion battery pack

- Continuous working time: not less than 20 hours
- Charging power supply: 5V/1000mA
- Communication interface: USB2.0
- Shape size: 159×83×39mm (main engine), Φ22×141mm (probe)
- Weight: The host is about 370g, the probe is about 210g

Relative error and indication repeatability are shown in Table 2 and Table 3

Maximum relative error allowed by hardness tester

Hardness of standard blocks	Maximum allowable relative error Erel/%						
	HV1	HV2	HV5	HV10	HV0.1	HV0.3	HV0.8
< 250HV	±4%	±4%	±4%	±4%	±5%	±5%	±4%
250HV ~ 500HV	±4%	±4%	±4%	±4%	±6%	±6%	±4%
> 500HV ~ 800HV	±5%	±4%	±4%	±5%	±7%	±7%	±5%
> 800HV	±6%	±4%	±4%	±4%	±8%	±8%	±6%

Table 3 Maximum allowable values for relative repeatability of hardness meters

Hardness of standard blocks	Maximum allowable value of relative repeatability of hardness tester rrel/%						
	HV1	HV2	HV5	HV10	HV0.1	HV0.3	HV0.8
≤ 250HV	8	5	5	5	8	8	8
> 250HV	6	5	5	5	6	6	6

3.standard layout

main engine	1
probe	1
standard test block	1
Connect the probe cable	1
data wire	1
operating instruction	1
certificate	1
warranty card	1
instrument container	1

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