Specifications

The SH-21(E) Handy Hardness Tester is calibrated using the standard hardness test block produced in compliance with JIS B7730/ISO 6508-3 and the testers used for automatic machines.

1. Hardness
   - Load P= approx. 2kgf (approx. 20N)
   - Calculation values of SH indentation
     - Size of indentation (mm)
       - Conversion value, HV
         - Hardness

2. Measurable dimensions
   - Indenter
     - For loading of 2kgf/approx. 20N

3. Angles and deviations
   - Diamond indenter
   - Vibration rod

Measurement principle diagram

Motor

Piezoelectric element

Diamond indenter

Probe dimensions

Measurement possible in just a few seconds.

Possible to make output to an external printer (optional).

Hardening and annealing can be controlled according to hardness levels.

Free measuring ability in all directions.

10 pieces of calibration memory.

The backsides of test samples do not affect measurement.

Utilization of the Handy Hardness tester SH-21(E)

Examples of quality control and maintenance usage by measuring hardness

Example 1: Processed goods, Press parts, etc.

Example 2: Measuring the strength of welding sections

Example 3: Compact parts, Metal casts, etc.

Measurement of hardness on areas, grooved areas, etc.

The Handy Hardness Tester SH-21(E) differs completely from traditional hardness testers.

The Handy Hardness Tester SH-21(E) is perfect for use in making on-site measurements.

Direct reading of hardness values (HV, HRC, HS, and HB).

Measurement of hardness on sites with no need for temporary parts and annual replacement.

This makes it possible to quickly record measurement data using a printer on site.

Static pressure types of loads eliminate the need for temporary parts and annual replacement.

This makes it possible to measure steel towers, ships, large-scale parts, complexly arranged parts and other items both horizontally and vertically.

The hardness value can be obtained with one measurement without using calculation formulas.

Data can be managed easily using customer`s own developed software of data transfer to PC.
Specifications

A standard export model of SH-21(E) is not CE-Marking complied, but a CE-Marking complied model is also available by factory modification on JIS B7735/ISO 6507-3 by Yamamoto Scientific Tool Laboratory Co., Ltd., Japan, who has the quality management system approved under ISO 9001.

- The testers used for automatic machines.
  - Size: 15mm wide x 15mm long or greater
  - Thickness t= 7mm or greater
  - Load P= approx. 2kgf (approx. 20N)

1. The affect of surface roughness
2. Angles and deviations

Measurement of hardness via ultrasonic vibration

- Calculation value, Surface of the test sample
- Calculation value, Depth of indentation
- Calculation value, Size of indentation

Motor
- Piezoelectric element
- Diamond indenter
- Amplifier circuit
- LCD indicator
- Computation circuit

Component parts
- gulls, crank shafts and compact parts, metal casts, at areas, grooved areas

Strong points
- Used for measuring the hardness of steel, bridges, structures, vehicles, ships, steel towers, bridges, maintenance for large-scale structures, aircraft and aviation aircraft
- Possible to make output to an external printer (optional)
- Measuring tables (wooden, iron, resin, etc) do not affect measurement
- The backsides of test samples do not affect measurement
- Hardening and annealing can be controlled according to hardness levels
- Not only vertically and horizontally but all directional measurements can be made without any compensation
- Data can be managed easily using customer’s own developed software of data transfer to PC

Diagnosing wear and tear using a printer on site.
- It is possible to check the state of hardening and annealing of repaired metal casts according to their hardness levels.
- Possible to make output to an external printer (optional).

Possible to make output to an external printer (optional).