

**Digital Display Micro Vickers Hardness Tester  
with LCD Video Measuring System  
Model: JG-121H**



**(For reference only)**



## Equipment Usage

It can be used to determine the Vickers hardness of steel, non-ferrous metals, ceramics, treated layers of metal surface, and the hardness grads of carburized, nitride and hardened layers of metals. It is also suitable to determine the Vickers hardness of micro and super thin parts.

## Features

- Made with a unique and precision design in the field of mechanics, optics and light source. Able to produce a clearer image of indentation and hence a more precise measurement.
- By means of a 10X objective and a 40X objective and a 10X microscope for measurement.
- It shows measuring method, the testing force value, the indentation length, hardness value, the dwell time of the testing force, as well as the number of measurement on the LCD screen.
- During the operation, put in the diagonal length with the keys on the keyboard, and the built-in calculator automatically calculates the hardness value and shows it on the LCD screen.
- The tester has a threaded interface that can be linked to the digital camera and CCD pickup camera.
- The light source of the tester is firstly and uniquely adopted cold light source, and hence its life can reach 100000 hours. The user also can select halogen lamp as light source according to their requirement.
- According to user's requirement, the tester also can measure Knoop hardness value after equipping a Knoop indenter.



## Technical Specifications

| Model   | JG-121H  |
|---|--|
| Measuring range                                 | 5HV ~ 3000HV   |
| Test force                                      | 0.098, 0.246, 0.49, 0.98, 1.96, 4.90, 9.80N<br>(10, 25, 50, 100, 200, 500, 1000gf) |
| Max. height of test piece                       | 100mm  |
| Depth of throat                                 | 98mm   |
| Lens/indenters with                             | Hand turret  |
| Carriage control                                | Automatic (Loading / Holding-up of the load / Unloading)                           |
| Reading microscope                              | 10X  |
| Objectives                                      | 10x, 40x   |
| Total amplification                             | 100x, 400x   |
| Dwell time of the test force                    | 0 ~ 60s (5 seconds as a unit)  |
| Min. graduation value of the testing drum wheel | 0.01 $\mu$ m   |
| Dimension of the XY table                       | 100 x 100mm  |
| Travel of the XY table                          | 25 x 25mm  |
| Light source / Power supply                     | 220V, 60/50Hz  |
| Dimensions                                      | 480 x 305 x 545mm  |
| Package dimension                               | 600 x 355 x 800mm  |
| Net weight / Gross weight                       | 30kg / 47kg  |



### Main Accessories

| Description of Goods           | Quantity  |
|--------------------------------|-----------|
| Main unit                      | 1 Unit    |
| Reading microscope             | 1 Pc      |
| 10x, 40x objective             | 1 Pc each |
| Diamond Micro Vickers Indenter | 1 Pc      |
| Weight                         | 6 Pcs     |
| Weight Axis                    | 1 Pc      |
| XY table                       | 1 Pc      |
| Flat clamping test table       | 1 Pc      |
| Thin specimen test table       | 1 Pc      |
| Filament clamping test table   | 1 Pc      |
| Horizontal regulating screw    | 4 Pc      |
| Level                          | 1 Pc      |
| Fuse 1A                        | 2 Pc      |
| Halogen lamp                   | 1 Pc      |
| Power cable                    | 1 Pc      |
| Screw driver                   | 2 Pcs     |
| Hardness block 400 ~ 500 HV0.2 | 1 Pc      |
| Hardness block 700 ~ 800 HV1   | 1 Pc      |
| Anti-dust cover                | 1 Pc      |
| Operation manual               | 1 Set     |
| Certificate                    | 1 Pc      |



## Model SP-5 Video Measuring System

### Feature & Use

- Direct indentation image display on LCD and direct hardness measurement through LCD.
- Double function optional for measuring microscope.
- SP-5 can be mounted onto our Vickers and micro-Vickers hardness tester (HV series, HVS series, MHV series etc.)
- SP-5 designed on the basis of traditional measuring microscope.
- It adds optical measuring components, CCD measuring components, 8" colorful LCD display components to microscope, and can help to display the indentation image on LCD and make hardness test directly.
- In this way, the human error caused by long time eye viewing through microscope can be reduced.
- It is especially the ideal means for multiple persons to measure at the same time. It can be widely applied in constitutes, research dept. and factories.

### Specifications

- If equipped with digital microscope (with rotary encoder) and combined with 40X objective lens, Resolution is 0.01 $\mu$ m;
- If equipped with manual microscope (without rotary encoder) and combined with 40X objective lens, Resolution is 0.125 $\mu$ m
- If equipped with manual microscope (without rotary encoder) and combined with 1X objective lens, Resolution is 5 $\mu$ m;

### Measuring range:

|                                  |              |
|----------------------------------|--------------|
| Combined with 40X objective lens | 125 $\mu$ m  |
| Combined with 10X objective lens | 500 $\mu$ m  |
| Combined with 1X objective lens  | 5000 $\mu$ m |

### Optical system:

Total magnification: 400X (measurement)

100X (measurement)

1X (measurement)



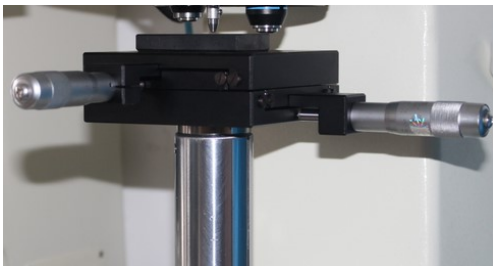
### CCD system:

|                                  |                 |
|----------------------------------|-----------------|
| Horizontal definition            | 570 lines       |
| Display mode                     | Black and white |
| Input voltage                    | DC12V±10%       |
| LCD display system               | Screen size: 8" |
| Input voltage                    | DC12V±10%       |
| Voltage stabilizer input voltage | 220V, 50Hz      |
| Power consumption                | ≤20W            |
| Dimension                        | φ47×170mm       |
| Weight                           | 1Kg             |

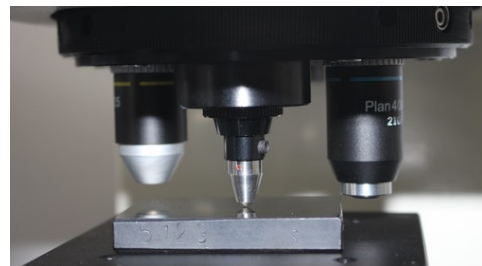
### Standard accessories

CCD CAMERA; LCD screen; Optical part

### Detailed Pictures



XY table



Indenter and Objective



Light Source