

Description



'Vaiseshika' Economical Micro Hardness Tester also referred as Vickers Hardness Tester, **Type: 7005 A** is precision hardness testing machines which integrate the technology of optics, mechanics. Hardness is a characteristic of a material and is determined by measuring the permanent depth of the indentation. More simply, when using a fixed force (load) with indenter, the smaller the indentation, the harder the material. Hardness value is obtained by measuring the depth or area of indentation.

Application & Uses

- High precision hardness testing of small and/or thin specimens such as sheet, foil, coatings, ceramic products
- Hardness measurement of Steel, ferrous-nonferrous metals, cemented carbide, sheet metal, metallographic structure.
- Carburization, nitriding and decarburization layer, surface hardening layer, galvanized coating, coating.
- Glass, chip and ceramic material, agate, precious stone, human tooth & jaws for anthropological studies.
- Measurement of case hardness & case depth by sectioning a part and making a series of indentations to describe a profile of change in hardness

Features & Function:

- 1.0 Low Cost opto-mechanical instrument (Integrated technology of optics, mechanics, computer with precision).
- 2.0 Micro hardness measurement in Vickers.
- 3.0 Easy to operate.
- 4.0 First ever Indian Hardness Testing Machine successfully accepted as import substitute.
- 5.0 Intensity of the illuminator can be adjusted according to different requirement of the operators, to avoid the visual fatigue.
- 6.0 Complete PC Interface & hardness measurement software for exact analysis of material hardness.
- 7.0 High resolution camera for quality photographs fully synchronized with hardness tester & PC with software.
- 8.0 Excellent Import substitute at 1/4th the cost of Imported Hardness Machine.
- 9.0 Reliable after sales services for atleast 10 years of operation.
- 10.0 Single-piece casting aluminum molding shell ensure more stable structure, powder coated color gives decent look, high scratch resistance capability.

The specification given in this literature are broad details. We can customize & supply these Hardness Testers as per your requirement & application

Specification:

Model	7005 A
Hardness Range	20 HV-1500 HV Read Out: Manual
Accuracy	For Hardness Less than 100HV : ± 10 HV For Hardness 100HV TO 1500 HV : ± 20 HV
Least Count	0.000133mm (approx.)
Testing Force	10gm (0.098N), 20gm (0.196N), 50gm (0.49N), 100gm (0.98N), 200gm (1.96N)
Indenter	Standard Rectangular pyramid diamond indenter (136°)
Eye Piece	Manual Filar Micrometer Eyepiece 10X Resolution: 0.01 μ m Maximum Travel: 200 μ m
Objective	40X
Magnification	400X (For Measurement) (Optional –Can be extended to 150X or 600X)
Working Distance	≤ 1 mm
Loading method	Manual (Loading, dwell and unloading)
Dwell Time	5-20 s
Turret	Manual
Objective lens center and indenter center	Coincidence accuracy error < 1 μ m (objective lens center position can be adjusted)
Maximum Sample height	75 mm
Throat depth	130 mm
X-Y Testing Table	Dimensions:100 \times 100 mm, Travel : 10 \times 10mm, Resolution : 0.01 mm Angle of Turn: 0 to 180°
Illuminator	6V,20W Halogen light source (can be continuous used for 24 hours, ensuring stable working, adjustable brightness control)
Power Supply	220V AC $\pm 10\%$, 50-60 Hz
Instrument size and Net weight	$\sim 190 \times 270 \times 570$ mm (L \times W \times H) , ~ 22 kg
Standard Accessories	<ul style="list-style-type: none"> • Filar Micrometer Eyepiece 10X:1 piece • Diamond indenter-01 piece • Standard Hardness Block-1 piece • Instruction Manual • Objective lens - 40X :01 piece • X-Y Testing Table • Dust cover • Accessory case
Optional Accessories	<ul style="list-style-type: none"> • Image Capturing Device • Filter: Green & Blue • Clamp or Fixture: Flat Precision Clamp, Thin-Piece Clamp, Filament Clamp • Hardness measuring software • Digital X-Y Testing Table • Hardness blocks