

TECHNICAL SPECIFICATION FOR VICKERS MICROHARDNESS TESTER

Essential Features:

- The required specifications are tabled as follows:

Technical Specifications:

VICKERS MICROHARDNESS TESTER		
Sl. No.	Part/Feature	Description
01	Microhardness Frame	<ul style="list-style-type: none"> • Rust-free and rigid metallic stand. • Rugged and sturdy stand with modular design for future upgradation to various techniques.
02	Sample Stage	<ul style="list-style-type: none"> • Travel range 20 mm (or higher) in X direction and 20 mm (or higher) in Y direction
03	Testing Force	<ul style="list-style-type: none"> • 10gf, 25gf, 50gf , 100gf, 200gf , 300gf, 500gf, 1kgf with a conversion scale- HRA, HRB, HRC, HRD, HK, HBS, H15N, H30N, H45N, H15T, H30T, H45T
04	Test capacity	<ul style="list-style-type: none"> • Vertical-80 mm, • Horizontal-100 mm
05	Operations	<ul style="list-style-type: none"> • Focus : Manual • Turret Type:Automatic • Loading: Automatic (Load-dwell-unload) with minimum load speed of 40 µm/sec. • Test force dwell time: 0~60s
06	Minimum measuring unit	<ul style="list-style-type: none"> • 0.25 µm. Lesser the better.
07	Test Range	<ul style="list-style-type: none"> • The test range for the hardness should fall between 10HV- 2800HV. Higher range is better.
08	Indenter	<ul style="list-style-type: none"> • Diamond indenter 136° Pyramid
09	Observation Tube	<ul style="list-style-type: none"> • Eyepiece Pair • Magnification:10x
10	Objectives	<ul style="list-style-type: none"> • Magnification:10x and 40x
11	Light Source	<ul style="list-style-type: none"> • 20 W or better LED Light source • Min. Life span: 10,000 working hours
12	Display and Data output	<ul style="list-style-type: none"> • Digital LCD screen with minimum size of 6 inch (diagonal). Higher the better. • Built-in Printer
13	Accesories	<p>Accessories such as : Weight, 10x Eyepiece, Standard Test Block (High & Middle Range), X-Y platform, Thin parts test platform, various fixtures for sample holding,Power Cord,Level (spirit tube), Dust Cover,Fuse, Screwdriver, allen</p>

		wrenches, User Manual and Hardness Conversion Table. Other necessary accessories to be provided for smooth operation of microhardness tester.
OTHER MANDATORY TERMS AND CONDITIONS		
14	Warranty period	<ul style="list-style-type: none"> Warranty for 12 months from the date of installation/commissioning.
15	Installation/Commissioning/Training Charges	<ul style="list-style-type: none"> Installation/Commissioning should be done by factory trained engineers at our institute, free of charge. Operation, service and maintenance training should be provided to at least five persons for a minimum of two days at free of cost. Sample for training must be provided by the supplier One set of maintenance and operating manuals in English (with a hard copy)
16	Packing & Forwarding, Freight	<ul style="list-style-type: none"> Free of cost
17	GST	<ul style="list-style-type: none"> The offer should be made @ 5 % GST against a concessional GST certificate.
18	Delivery condition	<ul style="list-style-type: none"> Equipment to be delivered in test ready, factory calibrated condition.
19	Other Conditions	<ul style="list-style-type: none"> The proposed supplier should ensure that the similar systems of same manufacturer have been supplied by the proposed supplier to at least 1 IIT or 2 NITs or 3 national government research organizations or 3 government engineering colleges. A list of such clients in the last five years must be provided along with the contact person of the institute to whom the equipment has been supplied. Attractive discount for an educational institution should be offered. Support of hardware and spares for 10 years and more after the End of life of the model The firm should be equipped with well-trained engineers to offer post warranty maintenance and service support. Details of service support in India that the firm can offer should be given. The nearest service center is to be mentioned.
20	Compliance statement	<ul style="list-style-type: none"> Compliance statement needs to be provided clearly specifying COMPLY/NON-COMPLY with remarks/reasons of all of the points mentioned above.
21	Upgradation provision	A. The users will upgrade in near future into computerized unit by integration of

		<p>CCD/CMOS camera, software and DAQ system. There should be provision in the equipment for such upgradation.</p> <p>B. After upgradation of the unit into computerized unit as mentioned in “A”, there should have provision to measure the hardness independently with and without computerization as a standalone unit. A suitable KNOB/SWITCH/SOME ARRANGEMENT should be provided to connect/disconnect the mode of hardness measurement between MANUAL MODE and COMPUTERIZED MODE.</p>
OPTIONAL REQUIREMENTS		
22	CCD Camera and Software	<p>A. The vendor should provide the quote for CCD Camera with following specification along with required software and related DAQ to facilitate the upgradation of the proposed unit into a computerized unit as mentioned in Sl. No-21.</p> <p>Camera Specification: 5MP CCD/ CMOS camera or better Speed- 30 fps or better Pixel Size: 2.3 μm x 2.3μm or better USB 2.0/3.0 Connectivity & auto measurement software system for future upgradation, if required.</p> <p>B. The quotation/price of the above mentioned software should be valid upto a duration of 1 year.</p>
23	Computer	<p>The vendor should provide the quote for a suitable PC and related accesories (including UPS) compatible for the microhardness tester , software , camera etc.</p>