

# College of Engineering Trivandrum, Thiruvananthapuram

## NOTICE INVITING TENDER

P5/9468/19/CET

30.10.2019

E-Tender ID : 2019\_DTE\_312744\_1  
Tender No. : 26/19/P5/ME/MODROB  
Microvickers Hardness Tester with Analysis Software  
for Metallurgy Lab of Mechanical Engineering  
Department of this institution.

Superscription

Last date and time of receipt of tender on the website (www.etenders.kerala.gov.in) : 28/11/2019 3 PM  
Date and time of opening of tender : 30/11/2019 11 AM  
Date upto which the rates are to be firm : 30/05/2020  
Bidding fee : Rs.1770/-(Rs.1500/-+18%GST)  
EMD required : Rs.7500/-  
: THE PRINCIPAL, COLLEGE OF ENGINEERING  
Address of the Officer to whom hard copy is TRIVANDRUM, THIRUVANANTHAPURAM-695016,  
to be send. KERALA  
GSTIN:32AAAGC0358L1ZP

### General conditions

- 1.The price quoted should be inclusive of all taxes, freight charges, unloading charges, installation and commissioning charges and should be furnished unambiguously.
- 2.Payment: 100 % after successful supply, installation, commissioning and demonstration.
- 3.Delivery Period: Maximum Delivery period will be 60 days from the date of receipt of supply order.
- 4.Agreement as per NIT 2 in Rs.200/- Kerala Stamp Paper and tender form should be uploaded.
- 5.5% security deposit along with agreement should be furnished within a month/fortnight from the date of receipt of supply order.
- 6.Date of opening of tender: In case the proposed date declared as holiday, the tender will be opened on the next working day.
- 7.After E-Tendering the hard copy of all documents such as agreement, brochure,tender form should be submitted before the opening date.
- 8.Only GST registered firms can participate in the Tender.The firm under composition scheme must mention the words "Composition taxable person" in their quotation and should submit proof for that.
- 9.Necessary brochure should be attached.
- 10.No loading,unloading,transportation charges are allowed. the item should be installed/erected and demonstrated,if needed, free of cost.
- 11) Warranty : 5 years.
- 12). The conditions attached,if any by the bidders should not be considered on any account.

NB: The Tender procedure will be made as per Rules mentioned in the Revised Store Purchase Manual.

The bidders should participate this tender through E-Tendering System. Tender cost and EMD should be submitted only through online. For more details Contact Ph.0471 2577088, 0471 2577188, 0471 257388, 0471 2515772.

Sd/-  
PRINCIPAL



Sl. No	Item	Specifications	Quantity
1	MICRO VICKERS HARDNESS TESTER WITH SOFTWARE	<p><b>Turret Movement:</b> Automatic</p> <p><b>Measuring Eyepiece:</b> 10 X</p> <p><b>Minimum Measuring unit:</b>0.25 micron</p> <p><b>Test force:</b> 10 gf, 25gf, 50gf, 100 gf, 200 gf, 300 gf, 500gf, 1000gf.</p> <p><b>Hardness Scales:</b> HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1</p> <p><b>Conversion Scale:</b> HRA, HRB, HRC, HRD, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T</p> <p><b>Hardness Ranges:</b> 1 HV - 4000 HV</p> <p><b>Hardness Value of reading :</b>Digital LCD Screen (62 mm × 44 mm)</p> <p><b>Magnification :</b> 100 X(Observation) and 400 X(Measurement)</p> <p><b>Dwell Time :</b> 1- 99 Sec</p> <p><b>Loading Control:</b> Automatic (Load, Dwell, Unload).</p> <p><b>X-Y Testing Table:</b> Size 100 mm X100 mm, Max Travel Range 25 mm X25 mm, Least count 0.01mm.</p> <p><b>Overall dimension:</b> 490 mm X 185 mm X 515 mm (LXWXH).</p> <p><b>Net Weight :</b> 45 Kg ( approx)</p> <p><b>Power Supply:</b> AC 220 V ± 5%, 50-60 Hz.</p> <p><b>Max Test Height :</b> 85 mm</p> <p><b>Max, Depth of Throat :</b> 110 mm</p> <p><b>Light Source:</b> Cold Light Source, 5 V/3W.</p> <p><b>Data output:</b> Built in printer&amp; Built in RS 232 interface.</p> <p><b>Carried Standard:</b> IS 1501(Part- 2): 2013, ISO: 6508-2:2005.</p>	1
		<p style="text-align: center;"><b>Software Specifications</b></p> <p><b>Turret Movement:</b> Software should capable of setting parameters and commanding the operations of the turret of the hardness machine via RS232 communication port.</p>	

Indentation Measurement: Auto Mode and Manual Mode.

**Hardness Curve Graph:** Software automatically plots the hardness value vs test point depth graph and calculates the effective case depth.

**Hardness Conversion Scale:** HRA HRB HRC HRD HRE HRF HRG HRH HRK HR15N HR30N HR45N HR15T HR30T HR45T HBS HBW HLD HSD HK.

**Cylindrical Correction:** Vickers Hardness can be corrected for non Planar Surfaces.

**Statistical Calculation:** Statistical values such as average, minimum value, maximum value, standard deviation, Cp, Cpk are automatically generated in software.

**Working Data Saving and retrieval:** Software can save and retrieve the hardness measurement data and images in data files

**Geometry Measurement:** Software provides the tools to draw and measure common geometric shapes such as lines, angles, rectangles, arc/circles, ellipses, polygons, point to line and point to arc etc.

**Image Processing:** Software should provide a rich set of image processing tools for advance applications which include adjusting brightness, contrast, Gamma, Histogram Level, Sharpen, Smooth, Invert etc

**Hardness Report:** Software should automatically generates Hardness report which contains the measurement data, Statistical information, Images of indentation measurement, and the Hardness Curve graph.

**Hardness Report Format:** Word and excel

**Standard Accessories:** 10 X Manual Eyepiece- 1 No.

10 X & 40 X Objective Lens – 01 No. Each

Vickers Indentor – 01 No.

X-Y Tester Table -01 No.

Flat Clamping Fixture- 1 No

Thin Specimen Fixture – 1 No.

Small Parts Fixture – 1 No.

Hardness test Block - 2 Nos.

Screw Driver – 1 No.

Level Bubble – 1 No

Allen Key- 1 Set

Levelling Screw- 4 Nos.

Camera 5 megapixel- 1No.

Software Dongal- 1No.

Software CD- 1No.

Power Cable- 1No.

<p>Dust Cover- 1No.</p> <p>Instruction Manual- 1No</p> <p>Accessory box- 1 No.</p> <p><b>Hardware Specification</b></p> <p>8 GB RAM</p> <p>OS- Windows 10</p> <p>USB 2.0 Port</p> <p>Screen Resolution :1280×1024</p> <p>Color Depth:"True Color 32 –Bit</p> <p>Graphics Card : 2 GB( ATI recommended)</p> <p>MS Office</p> <p>Monitor 18.5" LCD</p> <p>1TB HDD</p> <p><b>Warranty</b></p> <p>5 year</p>
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