



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirapalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY

NOTICE INVITING TENDER

Phone: +91 431 257 76 53

Email : skaruna@bheltry.co.in

spsy@bheltry.co.in

Web : www.bhel.com

TWO PART BID

Tender to be submitted in two Parts

Enquiry
Number:

2631700088

Enquiry
Date:

13.11.2017

Due date for submission
of quotation:

07.12.2017

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer should reach physically on or before 14.00 Hrs(IST) on the Date of tender opening. Tenders received after 14.00Hrs (IST) will not be considered for evaluation.

Item	Description	Quantity	(Indigenous Vendors) Matl. Will be Delivered to
10	Surface Roughness Tester with Standard Accessories as per the technical specification & commercial conditions applicable(To be downloaded from web site www.bhel.com or http://tenders.gov.in)	1 No.	FOR, BHEL, Stores, High Pressure Boiler Plant, Tiruchirappalli - 620014

Important points to be taken care during submission of offer

- 1) Material shall be delivered to (By Indigenous vendors): As stated above.
- 2) By Foreign Vendors: CFR Chennai Seaport / Airport
- 3) Delivery required 2 months from the date of purchase order.
- 4) Erection & Commissioning period required 2 Weeks from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
- 5) EMD for this Tender will be (INR): NIL
- 6) Compliance Forms. TRY/IMP/04 & TRY/IND/04A to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
- 7) All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM / CE / GENL / GENL / 001 - EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference .

Tenders should be submitted before 14.00Hrs (IST) on the due date
Tenders will be opened online at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

DGM / Capital Equipment / MM

S.PARTHASARATHY
MANAGER
CAPITAL EQUIPMENT / MM
BHEL, TRICHY-620014.

PART - A
QUALIFYING CRITERIA FOR
SURFACE ROUGHNESS TESTER WITH STANDARD ACCESSORIES

S.No	BHEL Specification	Vendor's Offer
1.0	QUALIFYING CRITERIA	
1.1	The BIDDER / VENDOR (OEM) shall have at least THREE Years of Experience in the Design, Manufacture & Supply of "SURFACE ROUGHNESS TESTERS". Vendor must indicate the actual no. of years of experience in the field	
1.2	Only those vendors (OEMs), who have manufactured, supplied and commissioned at least ONE SURFACE ROUGHNESS TESTER of QUOTED SERIES , in the last Five years [as on date of this tender opening(first date)] should quote.	
1.3	Vendor has to submit at least ONE Performance Certificate from their customer, for satisfactory performance of SURFACE ROUGHNESS TESTER specified in clause 1.2 supplied to them and such equipment is working satisfactorily for a minimum period of one year [as on date of this tender opening(first date)]. For obtaining the Performance certificate, a suggestive format is provided at the end of part-A.	
1.4	BHEL reserves the right to verify the information provided by the Vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

2.0	INFORMATION TO BE PROVIDED BY VENDOR	
2.1	Vendor shall provide contact details(phone no & email id) including the address of his Agents / Service Centres in India	
2.2	Year of launch of the model quoted against this enquiry	
2.3	Number of "SURFACE ROUGHNESS TESTERS" supplied and commissioned till date in the quoted model (to quote thickness gauges supplied during the last three years only)	
2.4	Details of "SURFACE ROUGHNESS TESTERS" supplied to BHEL UNITS till date if any along with PO copies/reference	
2.5	The BIDDER/VENDOR to furnish Reference List of Customers(max 10 customers) including Contact details(phone no & email id).	

PART-B

SURFACE ROUGHNESS TESTER WITH STANDARD ACCESSORIES

BRIEF DESCRIPTION:

Surface roughness tester is used to measure roughness parameters for testing surface finish of the machined components. The instruments should be hand held type.

TECHNICAL SPECIFICATION

SL. NO	Description	BHEL REQUIREMENT	Vendor offer
1.0 Purpose			
1.1	Purpose	Surface roughness tester with standard accessories is required to measure roughness parameters for testing surface finish of the machined components. Vendor to note and confirm	
1.2	Jobs to be analyzed	Inner Bores, grooves, lateral measurement on small cylinders, Flat machined surfaces etc. Vendor to note	
2.0 Measurable Parameters and ranges			
2.1	X-Axis Measuring range	25mm or better. Vendor to specify actual range	
2.2	Z-axis Measuring range	800 microns or better. Vendor to specify actual range	
2.3	Minimum Resolution	0.005 micron or better. Vendor to specify actual resolution	
2.4	Roughness parameters to be displayed	The instrument shall measure the following according to ISO 4287, IS 3073/ JIS B0601 and DIN 4776 or other equivalent International standards. 1) Roughness parameters: Ra,Rz,Rmax,Rt,Rq,Rp,Rv, Rc. 2) Waviness parameters: Wa, Wq, Wt, Wz. Vendor to specify the standards followed and the parameters displayable.	
2.5	Important Roughness parameter range	1. Range of Ra : 0.025 to 25 μm 2. Range for Rz: 0.05 to 100 μm. Vendor to specify actual range	
2.6	Cut off lengths	The instrument shall be equipped with user selectable Cut Off Lengths of 0.08mm, 0.25mm, 0.8mm, 2.5mm and 8.0mm suitable for finer or coarser grade surface obtained by different types of machining process. Choice of Cut-offs shall be user selectable. Vendor to confirm and provide the actual cut off lengths available	
3.0	Unit of measurement	Microns/ mm/ inch- user selectable. Vendor to confirm	
4.0	Accuracy	Shall be within 5 % and as per ISO 3274. Vendor to confirm	
5.0	Skid/ skid less Measurement	Drive unit shall have the facility for the interchangeable probes/stylus for skid less measurement and skidded measurement. Vendor to quote the appropriate probes and stylus details	
6.0	Height/Tilt adjustment	The instrument shall have inbuilt/ standard accessory for height /tilt adjustment to make highly accurate alignment. Vendor to provide the details	
7.0	Essential Features Required	The instrument should be user friendly to operate following main functions. 1) Colour Touch screen display to be provided. It shall have auto sleep function to save battery. 2) Software for exporting the data to PC/laptop to be provided along with external data printer facility shall be available. Vendor to provide the details	

		3) Port compatible to PC and Printer to be stated by the supplier (preferably RS 232 port to be provided). Also USB port/memory card port shall be available for external data transfer and further processing.	
8.0	Size and weight	The overall equipment along with display should not be more than 3.5kg	
9.0	Power supply	Rechargeable battery type to be provided. Suitable charger and adaptor compatible to 50Hz/230V power supply to be provided. Vendor to provide the battery type and details	
10.0 Standard Accessories			
10.1	Standard Accessories	i) Reference Standard test specimen for comparison and calibration before commencement of test. ii) Rechargeable batteries, Charger, Carry bag for the instrument, probe, etc.	
11.0 Optional Items			
11.1	Optional Accessories (to be quoted separately item wise):	i) Reference Master specimen for Roughness Calibration: A set of Master calibration Specimens for the following roughness to be quoted (1 No each) along with the calibration certificates a) 0.2 μm approx. b) 0.8 μm approx. c) 1.6 μm approx. d) 3.2 μm approx. e) 6.3 μm approx. f) 12.5 μm approx. g) 25.0 μm approx ii) Reference Master specimen for Roughness Calibration: The following master calibration specimen for the following roughness to be quoted (1 No) along with the equipment surface roughness master –Depth of 10 μm approx.	
11.2	Optional items (to be quoted separately item wise as optional):	Probes/Stylus : 1) Special probe/stylus capable of measuring small bores (10mm min) 2) Special probe/stylus capable for measuring grooves at bottom, a recess up to 300mm Stand: Stand for vertical height adjustment of 200mm or higher and swivel/tilting adjustment to be offered with details.	
12.0	Test certificate	Supplier to provide the test certificate and calibration certificates of the Master specimens for BHEL approval prior to dispatch	
13.0	User manual and software	- User manual-1 Hard copy and 1 soft copy to be provided along with the equipment. - Software setup in CD/DVD for data transfer and printing to be provided along with key.	
14.0	Installation and prove out	Supplier to install the equipment at BHEL Trichy and to prove out the functionality of the equipment for BHEL acceptance. Also hands on training to BHEL persons during installation to be provided by the supplier	
15.0	Guarantee	12 months from the date of commissioning or 18 months from the date of dispatch whichever is earlier	