



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 7653 Fax : Email : skaruna@bheltry.co.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631600033	25.07.2016	26.08.2016

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 tender should be submitted online on or before the due date by 14.00 Hrs (IST). Tenders received after 14.00 Hrs (IST) will not be considered for evaluation.

Item	Description	Quantity
10	Microwave Digestion System as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in or https://bheleps.buyjunction.in)	1.00 No.

Important points to be taken care during submission of offer

1. Delivery required 3 months from the date of purchase order.
2. Erection & Commissioning period required 1 Week from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
3. EMD for this Tender will be (INR) : 40,000.00
4. Compliance Form No: TRY/IND/03 (for foreign vendors) and TRY/IND/03A (for indigenous vendors) to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
5. 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 / EPROC / GENL / 001-EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from <https://bheleps.buyjunction.in> or 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 above Enquiry reference.

Tenders should be submitted online at our above indicated web portal before 14:00 hours on the due date
Tenders will be opened online at 14:30 hours on the due date.

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

DGM / Capital Equipment / MM

S. KARUNANIDHY
Dy. General Manager
Capital Equipment / MM
BHEL, Tiruchirappalli - 620 014.

MICROWAVE DIGESTION SYSTEM

PART – A

QUALIFYING CRITERIA FOR THE SUPPLY OF MICROWAVE DIGESTION SYSTEM

SECTION- 1: Qualifying Criteria

Sl.No.	REQUIREMENTS	VENDOR'S RESPONSE
1.1	The bidder / Vendor (OEM) shall have a minimum of FIVE years of continuous experience in the field of Design, manufacture and supply of Microwave Digestion System. Vendor shall indicate the actual number of years of experience in the field.	
1.2	Only those vendors (OEMs) should quote, who have commissioned in the last THREE years (as on the original date of tender opening) at least TWO "Microwave Digestion System" exactly the same model proposed in the technical offer in India, and the referred equipment are presently working satisfactorily for more than one year from the date of commissioning (as on the original date of tender opening).	
1.2.1	The supplier has to give following information about the offered model. (a) Model Name, Year of launch of the Model. (b) name and contact addresses of the customers	
1.3	Vendor has to submit at least ONE PERFORMANCE CERTIFICATE for satisfactory performance of Microwave Digestion System as referred under clause 1.2 above, for a minimum period of one year from the date of commissioning (as on the original date of tender opening) from their customers in India, supplied and commissioned in the last THREE years. Performance certificate as Original Certificate or E-mail directly from the customer may be submitted. The original certificate may be returned after verification by BHEL, if required. For obtaining the Performance certificate, a suggestive format is provided at Page-3 .	
1.5	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. BHEL reserves the right to accept or reject the OEMs based on the assessment of their technical and financial capability.	

SECTION - 2:

The BIDDER / VENDOR are requested to provide the following **information**:-

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
2.1	The BIDDER / VENDOR to furnish Reference List of Customers, with complete address, details of contact person, where Microwave Digestion System has been supplied in the past for the following category of CUSTOMERS a) Government Organizations b) Private Sector Companies [Large Scale Industries] c) Universities d) R&D Labs e) Reputed Heavy Engineering Works/Manufacturing Firms.	
2.2	Details of Design Set-Up and Technology Back-Up assured for the Principal Equipment Maker.	
2.3	Details on International Standards followed in Design of the Equipment (including Analysis Methodology and Calibration of Equipment).	
2.4	Details of Quality System followed (Kindly furnish the salient aspects of the QA system followed).	
2.5	Specify details of Microwave Digestion System supplied to other units of BHEL, if any (model, Year of commissioning with details etc.)	
2.6	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	
2.7	Any Additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

SECTION – 3:

The BIDDER to note:

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO parts. 1. Technical Offer [with PART A & PART B] 2. Commercial Offer and Price bid.	
3.2	The Technical Offer shall contain complete details against all clauses of Technical Specifications given by BHEL. A just 'CONFIRMED' or 'COMPLIES' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.	
3.3	The Technical Offer shall be supported by Original Product Catalogues of the offered model, Data Sheets and technical details of Bought- Out- Items and selection criteria. Note: Photocopies of the catalogues are NOT ACCEPTED.	
3.4	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	

Suggestive Format of Performance Certificate:

The Performance should be certified by the customer on **Customer's Letter Head** and submitted along with the offer.

PERFORMANCE CERTIFICATE

1.0	Microwave Digestion System Supplied by : (Manufacturer's name)	
2.0	Make & Model number of the Equipment	
3.0	Month & Year of Commissioning	
4.0	Performance of the Equipment (Please tick the appropriate option)	Satisfactory
		Not Satisfactory
5.0	Service after sales (Please tick the appropriate option)	Satisfactory
		Not Satisfactory
6.0	Other remarks (if any)	
Date:		Signature & Seal of the Authority Issuing the Performance Certificate

PART-B**TECHNICAL SPECIFICATION FOR MICROWAVE DIGESTION SYSTEM, QTY: 01 No.**

Sl. No.	Description	Specification	BIDDER'S OFFER
1.0	Scope of applications /Purpose	The microwave digestion system should enable rapid digestion of difficult to digest samples such as Metals like iron base, nickel base and cobalt base alloys, ceramics, ores, rocks, sediments, welding flux samples. The digestion system should include suitable rotor system that can carry out reactions at extreme conditions of temperature and pressure and meet the international safety standards. Vendor to confirm & specify.	
2	Installed power	1700 watts or greater	
3	Microwave power output	Must have continuous / unpulsed microwave power output of at least 1200 watts or greater, delivered from magnetrons for homogeneous heating- to ensure uniform heating of samples in 1 watts of power increment to ensure precise reaction control. Vendor to confirm.	
4	Vessel cooling system	System must have built-in high performance vessel cooling system. The airflow must be variable and controlled by system software. Vendor to confirm.	
5	Measurement of temperature.	Should have IR temperature sensor for each remote/non-invasive measurement of temperature. To ensure user safety during handling, vessels must be cooled inside the oven. Removal of hot, pressurized vessels and the use of external cooling devices like water bath is not acceptable. Vendor to confirm.	
6	Built-in control and display	System must have built-in control and touchscreen graphic color display for all routine operations. Otherwise, it should have possibility of connection with an external PC to control & view the process. Vendor to confirm.	
7	Rotor System	Rotor System must be capable of processing minimum 6 or more reaction vessels simultaneously. Vendor to confirm.	

Sl. No.	Description	Specification	BIDDER'S OFFER
8	Pressure Measurement and Control	Must have Active Pressure Measurement and Control on individual vessel positions via pressure sensors located at each vessel with Pressure Rate Increase monitoring for precise reaction monitoring and control. Vendor to confirm.	
9	Reaction Vessels:	Ceramic Vessels with PTFE/TFM Liners for applications with HF Acids (Minimum 06 nos. or more) - Volume : 60 ml Minimum - Operating Pressure : 30 bar (minimum) - Operation Temperature: 250 deg C (minimum) - Material Design Temperature / Pressure: 250 deg. C or more/ 140 bar or more. - Each pressure vessels must be individually tested & deliverance with pressure test certificate. Vendor to confirm & specify	
10	Sensor System	- Should have integrated simultaneous pressure control in all positions with wireless transmission of data to system electronics. - Should have IR sensor for all vessels for accurate temperature measurement and control with wireless transmission of data to system electronics. Should also have temperature measuring probe for internal reaction temperature monitoring and control in one reference vessel. - Should have provision to allow for re-calibration of the temperature sensors by the operator. Vendor to confirm & specify.	
11	Safety Features	- System must have magnetically resealing safety door for safe release of overpressure. - Should have software safeguards for rotor identification and over-pressure settings. - Should have adequate protection for magnetron protection from reflected energy. - Over temperature auto shutdown. Vendor to confirm & specify.	

Sl. No.	Description	Specification	BIDDER'S OFFER
12	Accessories	Necessary accessories for operating the equipment shall be quoted. 1. Application notes. 2. Procedure for digesting various materials by modifying heating program if any. 3. Instrument operating manual (English) in hard copy and soft copy. Vendor to confirm.	
13	Spares	Vendor shall quote item wise necessary spares or consumable required for two years of trouble free operation. Vendor to confirm.	
14	Installation and Commissioning	The Equipment with all Accessories is to be installed & commissioned at BHEL works by the Service Engineer of the vendor. Vendor to confirm.	
15	Training on operation & Maintenance	Complete Training for BHEL persons to be given on operation & Maintenance of the OFFERED EQUIPMENT at BHEL works, for ONE DAY excluding the nos. of days for commissioning. Vendor to confirm.	
16	Performance Prove-Out at BHEL	The Supplier's Service executive has to calibrate and perform the digestion of metal samples with the supplied equipment. Vendor to confirm.	
17	Performance Guarantee	The Equipment & Accessories are to be guaranteed for its performance for a minimum period of 12 months from the date of commissioning at BHEL Works. Vendor to confirm.	
18	Service Support Requirements.	Vendor shall ensure AMC service facilities in India after the guarantee period, through trained service personnel in India. Vendor to confirm.	
19	Annual Maintenance Contract (OPTIONAL)	The BIDDER HAS TO QUOTE in a separate sealed cover for AMC UNDER TWO PATTERNS GIVEN BELOW, for a period of 3 YEARS after the Guarantee period.	
19.1	AMC – CASE I	Technical Service for Preventive Maintenance, Trouble Shooting and Re- Commissioning of the Equipment excluding the Cost of SPARES and Consumables [BHEL will make available the required Spares & Consumables on demand]	
19.2	AMC – CASE II	Technical Service for Preventive Maintenance, Trouble Shooting and Re- Commissioning of the Equipment INCLUDING the Cost of SPARES and Consumables [BHEL will not be responsible for the timely availability of Spares & Consumables]	