

**TENDER DOCUMENT
FOR
SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF DEBINDING FURNACE**

TENDER REFERENCE	PUR/112/CRTDH/06/2018-19
CONTACT DETAILS	Director [Attention: Stores & Purchase Officer] CSIR-Central Mechanical Engineering Research Institute Mahatma Gandhi Avenue, Durgapur-713209, West Bengal e-mail : pur@cmeri.res.in

CRITICAL DATE SHEET	DATE	TIME
Bid Published Date	27 June 2018	9.00 am
Bid Document Download / Sale Start Date	27 June 2018	9.00 am
Bid Submission Start Date	27 June 2018	9.30 am
Bid Submission End date	18 July 2018	3.00 pm
Last Date and Time for Submission of original DD/BG towards Earnest Money Deposit [EMD] and Hard Copy of Bid Form duly signed by Bidder	18 July 2018	3.00 pm
Bid opening date	19 July 2018	3.30 pm

THIS TENDER DOCUMENT CONSISTS OF THE FOLLOWING SECTIONS:

SECTION-1	NOTICE INVITING TENDER
SECTION-2	TERMS AND CONDITIONS
SECTION-3	SCHEDULE OF REQUIREMENTS
SECTION-4	TECHNICAL SPECIFICATIONS
SECTION-5	FORMS
	Bidder's Information Form
	Bid Form
	Price Schedule Form
	Format for submission of EMD in the form of a Bank Guarantee
<ul style="list-style-type: none"> <i>This Tender Document is to be read as a whole. Details as appearing in all Sections in this Tender Document are intended to be correlative, complementary, and mutually explanatory.</i> 	

SECTION -1

NOTICE INVITING TENDER

1. Director, CSIR-Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur 713209, West Bengal, invites e-tenders from eligible Manufacturers / Suppliers / Authorised Dealers for the following item/ items:

Sl. No.	Tender Ref.	Description of Goods and Services	Quantity	Single/ Double Bid	Bid Security/ EMD
1	PUR/112/CRTDH/06/2018-19	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF DEBINDING FURNACE	02 NOS.	Double Bid	Rupees 50,000/-

2. E-Bids are invited through the electronic tendering process and the Tender Document can be downloaded from the e-Tender portal of Government of India, <https://etenders.gov.in>. Please note that the submission of e-Bids will be only through the e-Tender portal <https://etenders.gov.in>. Bids will not be accepted in any other form. Further it may be noted that Bids which are duly submitted on e-Tender portal shall only be considered and Bids just saved without submission will not be available to the Evaluation Committee of CSIR-CMERI.
3. Any Bidder willing to take part in the process of e-tendering will have to get registered in the Central Public Procurement [CPP] portal, NIC, Government of India, by logging on to the portal <https://etenders.gov.in>. Bidders are requested to go through “Bidder Manual Kit”, “System Settings” & “FAQ” links available on the login page of the e-Tender portal for guidelines, procedures & system requirements. In case of any technical difficulty, Bidders may contact the help desk numbers & email ids mentioned at the e-tender portal. Every Bidder will be required to obtain a Class-III Digital Signature [DSC] for submission of Bids.
4. **EMD of Rs. 50,000/-** will be required to be paid offline by Demand Draft drawn in favour of **Director, CSIR-CMERI** payable at **Durgapur**. Alternatively, EMD can also be furnished in the shape of a Bank Guarantee issued by any Nationalised/Scheduled Bank of India. **Original EMD** to be sent to Director [Attn : Stores & Purchase Officer], CSIR-Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur – 713 209, West Bengal, before the date and time mentioned in CRITICAL DATE SHEET. ***Bids of those tenderers whose EMD is not received within the deadline for receipt of Bids will be summarily rejected. Any postal delay in this respect will not be entertained.***
5. Hard Copy of **BID FORM** duly signed by Bidder must reach **CSIR-CMERI** before the date and time mentioned in the **CRITICAL DATE SHEET**.
6. Clarifications, if required may be sent through e-tendering portal only.

STORES AND PURCHASE OFFICER

SECTION - 2

TERMS AND CONDITIONS

In these Terms and Conditions, the following words and expressions shall have the meaning as have been respectively assigned to them:

Bidder shall mean the entity submitting an e-Bid in response to this Tender Document.

CSIR-CMERI / Purchaser / Institute shall mean CSIR-Central Mechanical Engineering Research Institute, [a constituent unit of the Council of Scientific & Industrial Research] having its office at MG Avenue, Durgapur – 713 209 [West Bengal], India.

Vendor/Supplier shall mean the entity whose bid has been accepted by the Purchaser and a formal Purchase Order has been placed on them.

1. SUBMISSION OF BIDS

- 1.1. The e-Bid shall be digitally signed by the Bidder at the e-tendering portal by person / persons duly authorized to bind the Bidder to the contract. Written Power –of – attorney [if required under the Bidding Process] should accompany the Bid. The person or persons signing the e-bid shall also physically sign each document of the Bid, except for printed literature. The e-Bid submitted shall be in readable form and encrypted as per e-tendering portal requirements. Standard Printed terms and conditions of the Bidder other than the NIT conditions shall not be considered.
- 1.2. The e-Bid is to be submitted at the e-tendering portal in two covers. One cover will be the **Un-Priced Techno-Commercial Bid** [**termed as FEE/PREQUAL/TECHNICAL cover type in the portal**] and the other shall be the **Priced Bid** [**termed as the FINANCE cover type in the portal**] Both the Un-Priced Techno-Commercial Bid and the Priced Bid shall be submitted at the e-portal in separate packets as described above:
- 1.3. The **Techno-Commercial Bid/Technical Bid** shall consist of the following documents

Sl. No.	Document Required	Document type
1	Scanned Copy of Demand Draft or Bank Guarantee of Rs. 50,000/- submitted as EMD	.pdf
2	Scanned Bid Form duly filled-in and signed by Bidder WITHOUT DISCLOSING PRICES	.pdf
3	Scanned copy of Manufacturer's Authorisation Certificate in case Bidder is not OEM	
4	Scanned Quotation with complete Technical details and Commercial conditions. No prices to be indicated but Technical literature, data sheets, catalogues, Technical Compliance Statement etc. to be attached.	.pdf
All the above scanned documents must be e-signed prior to being uploaded and saved in the system		

- 1.3 The **Priced Bid** prepared by the Bidder shall include the following documents:

Sl. No.	Document Required	Document type
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1	Price Schedule Form duly filled-in and signed by Bidder	.pdf
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- 1.4 The bidders shall digitally sign and encrypt their bid and upload the bid on –line at the e-Tendering portal.
- 1.5 If the envelope is not digitally signed & encrypted the Purchaser shall not accept such open Bids for evaluation purpose and shall be treated as non-responsive and rejected.
- 1.6 Purchaser shall receive the bids online through CPP e-portal only. The e-Tender portal shall automatically stop accepting bids at the scheduled date and time specified in the Tender Document. Partially submitted bids shall be treated as invalid and shall not be processed. Bidders are advised to upload and submit their bids timely in view of the electronic process so as to avoid list minute issues.
- 1.7 Purchaser may, at its discretion extend the deadline for submission of the e-Bids by amending the Tender Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
- 1.8 Bidders must note that the e-tender portal shall not permit uploading of bids after the scheduled time of submission.
- 1.9 The bidder may correct or modify his digitally signed bid after submission prior to the deadline for submission of bids, through provisions of e-tendering portal.

2. PRICES

- 2.1 In case an MS-EXEL BOQ file is provided, Bidders are requested to note that they should necessarily submit their financial bids in the MS-EXEL format provided and no other format is acceptable. Bidders are required to download the BOQ file, open it and complete the unprotected cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected. It may be noted that only duly submitted bids shall be evaluated and bids just saved but not submitted shall not be part of the evaluation process. **In case MS-EXEL BOQ file is not provided, Bidders should quote their Prices in the prescribed Price Schedule Form and upload the .pdf file on the e-tendering portal.** All applicable taxes should be clearly shown in the Price Schedule Form.
- 2.2 Prices for supply from within India shall be offered with the following break–up:

Basic Price /Ex Works	
Packing & Forwarding	
GST at applicable rate	
Freight , Insurance and any other charges incidental to delivery of Goods at CSIR-CMERI, Mahatma Gandhi Avenue, Durgapur-713209, West Bengal	
Charges for Installation, Commissioning and Training	
Charges for Warranty Support	

Prices for supply from outside India shall be offered with the following break –up:

Ex Works Price [inclusive of packing]	
Inland Freight and Insurance till Airport of Despatch	
Freight And Insurance for transportation of the Goods from Port of Despatch to Port of Destination	

Charges for Installation, Commissioning and Training	
Charges for warranty support	
<i>Note: Delivery Terms such as FOB, FCA, EXW, CIP, CIF etc. shall be governed by the rules prescribed in the latest edition of INCOTERMS issued by the International Chamber of Commerce, Paris.</i>	

- 2.3 In the event of any errors or ambiguity in Unit Rates itself, the Price Bid of the Vendor shall be rejected.
- 2.4 CSIR-CMERI shall not consider any changes on any account after the submission of Bid and hence the prices offered shall remain firm during the validity of the Bid and shall not be subject to variation on any account.
- 2.5 The bidder shall quote as per Price Schedule Format given in this Tender Document. However, in case an MS-EXEL BOQ file is provided, the Prices should be quoted only in the BOQ file to be downloaded from the e-tendering portal.
- 2.6 Customs Duty for Goods imported for Scientific Purpose, is paid by this Institute at a concessional rate vide Govt. of India Notification no. 51/96-Customs dated 22/07/1996.
- 2.7 CSIR-CMERI is registered with the Department of Scientific & Industrial Research, Govt. of India for availing concessional GST @ 5% research items under provisions of Govt. Notification Nos. 47/2017-Integrated Tax (Rate) dated 14/11/2017, 45/2017-Central Tax (Rate) dated 14.11.2017, North. No. 45/2017- Union Territory Tax (Rate) dated 14.11.2017, as amended from time to time.
- 2.8 CSIR-CMERI is not empowered to issue any Sales Tax Concessional Certificates [FORM C / FORM D]; thus Bidders shall ensure that the normal rate of Sales Tax is quoted wherever applicable.
- 2.9 CSIR-CMERI shall not issue any exemption certificates (CDEC etc.) for materials/commodities that go into production of the quoted item/equipment.
- 2.10 Reference to any brand/make/model in the Tender Document is only indicative in nature. Bidder is free to quote any other product provided such product meets the desired specification/requirement.

3 EARNEST MONEY DEPOSIT

- 3.1 The Bidder shall furnish, as part of its bid, a Bid Security (BS) / Earnest Money Deposit [EMD] for an amount as specified in the **NIT**. In the case of foreign Bidders, the BS shall be submitted either by the Principal or by the Indian agent and in the case of indigenous Bidders, the BS shall be submitted by the Manufacturer or their specifically authorized dealer/Bidder.
- 3.2 The Bid Security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture.
- 3.3 The Bid Security shall be payable promptly upon written demand by the Purchaser in case the conditions listed at Clause 3.6 are invoked. The Bid Security should be submitted in its original form. Copies shall not be accepted.
- 3.4 While Bid Security/ EMD is a requirement, the Director of the Laboratories / Institutes may grant exemption of Bid Security to some specific parties having sound credentials and are of national/international repute.
- 3.5 The firms registered with DGS&D, NSIC, Govt. Public Undertakings, Central Autonomous Bodies and with the CSIR Laboratories /Institutes, if any, are exempted from payment of BS provided such registration includes the item they are offering which are manufactured by them and not for selling products manufactured by other companies. Further, all entities who are entitled for EMD exemption under Rule 170 of GFR 2017, shall also be exempted from payment of EMD.
- 3.6 The Bid Security may be forfeited

- i. If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
- ii. In case of a successful Bidder, if the Bidder fails to furnish Order Acknowledgement within 15 days of receipt of Purchase Order

4 PAYMENT

- 4.1 Payment shall be made within 30 days of completion of installation and commissioning of the goods to the complete satisfaction of the User Division of CSIR-CMERI and completion of other contractual obligations.

5 DELIVERY

- 5.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by CSIR-CMERI in the Purchase Order. If, at any time during performance of the Contract / Purchase Order, the Supplier encounters conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify CSIR-CMERI in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, CSIR-CMERI shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Purchase Order / Contract.
- 5.2 A delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause as detailed below, unless an extension of time is agreed upon without the application of penalty clause.

6 LIQUIDATED DAMAGES

- 6.1 If the Supplier fails to deliver the ordered material (s) within the delivery schedule as agreed upon, a sum equivalent to 1 (one) per cent of the delivered price of the delayed goods or unperformed services or Purchase Order value for each week of delay or part thereof until actual delivery or performance, will be deducted from the order value as liquidated damages, subject to a maximum deduction of 10 (ten) per cent of the order value. And, on attainment of maximum, termination of the contract may be considered by CSIR-CMERI.

7 RISK PURCHASE

- 7.1 If the supplier fails to deliver the ordered material(s) within the maximum delivery period specified in the purchase order, CSIR-CMERI may procure such item(s) and in such a manner as deemed appropriate, goods or services similar to those undelivered and the supplier will be liable to the institute for any excess costs for such similar goods or services.

8 INDIAN AGENT

- 8.1 In case an Indian agent is directly submitting a bid on behalf of its Principals, a copy of the Authorisation Certificate issued by the Principals in favour of the Indian agent should be furnished along with a certified copy of the Agency Agreement between the foreign Principal and India agent. Both these certificates should be up-to-date and valid.
- 8.2 Foreign Bidders to disclose the name and address of agent and representative in India and Indian Bidder to disclose their foreign Principal or associate.
- 8.3 Agency Commission, if any, payable to the Indian agent will be released within 60 (sixty) days of completion of installation and commissioning of the equipment to the entire satisfaction of the buyer. For determining the value of agency commission, exchange rate of foreign currency prevailing on the date of negotiation of documents, will be taken into consideration.

8.4 In a tender either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

8.5 If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

9 INSTALLATION, COMMISSIONING AND TRAINING

9.1 The ordered goods are required to be installed within 30 days of receipt of goods at this Institute. Installation should be carried out only by expert engineers of Supplier / Manufacturer. During the course of installation, necessary training on operation and maintenance of the goods shall be imparted to Institutes, Scientist / Engineers/Technicians.

10 WARRANTY

10.1 Comprehensive on-site warranty for a period as stated in the Technical Specifications shall be provided by Supplier. Warranty to be effective from the date of completion of installation and commissioning and final acceptance of the equipment at the user's laboratory / Institute.

11 COUNTRY OF ORIGIN

11.1 Tenderer should mention the country of origin and the country from which goods will be finally shipped, for these particulars are essential for establishment of L/C, arranging insurance etc. Certificate of Origin issued by the Local Chamber of Commerce shall be required to be submitted at the time of negotiating the L/Credit, in case payment is made by L/Credit.

12 VALIDITY OF BIDS

12.1 The offer should be valid for at least 90 days from the date of opening of e-Bids/e-Quotation.

13 LIST OF PURCHASERS

13.1 Please indicate names and addresses of organizations to whom you have supplied identical or similar type of equipment during the last 3 years along with the details of such supplies and prices eventually or finally paid. For this purpose, a Performance Statement Form has been provided with this Tender Document, which may be filled, signed and submitted together with enclosures, if any.

14 EVALUATION OF BIDS

14.1 All the Technical Bids received on the e-portal will first be scrutinized to see whether the bids / tenders meet the basic requirements as incorporated in the Tender Document. The bids/tenders, which do not meet the basic requirements, are to be treated as unresponsive and ignored. The following are some of the important points, for which a tender may be declared as unresponsive and to be ignored, during the initial scrutiny:

- a) The Bidder is not eligible.
- b) The Bid validity is shorter than the required period.

- c) The Bidder has quoted for goods manufactured by a different firm without the required authority letter from the proposed manufacturer.
- d) The goods quoted are sub-standard, not meeting the required specification etc.
- e) Against the requirement (incorporated in the Tender Document), the bidder / tenderer has not quoted for the entire requirement as specified.
- f) The Bidder / Tenderer has not agreed to some essential condition(s) incorporated in the Tender Document.
- h) The Bidder has not submitted the unconditional acceptance of CSIR-CMERI's Tender terms and conditions in the format prescribed in the BID FORM.
- i) In case a bid is submitted directly by an Indian agent, a certified copy of the agency agreement between agent and Principal has not been submitted.

14.2 Prior to the detailed evaluation, CSIR-CMERI will determine the substantial responsiveness of each bid to the Tender Document. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without any deviations, reservations or omissions.

14.3 During the course of evaluation, CSIR-CMERI may, at its discretion ask the bidder for clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted.

14.4 The Technical Bids which are found to be substantially responsive to the terms of this Tender Document shall be taken up for further processing and the Price Bids of only those Bidders will be opened whose Technical Bid meet our tender specifications and other requirements. The Prices quoted by Bidders shall be evaluated on basis of the total landed costs, which will be arrived as below:

13.4.1 For goods manufactured in India.

- (i) The Price of the goods quoted ex-works including, all taxes already paid.
- (ii) GST at applicable rates, which will be payable on the goods if the contract is awarded.
- (iii) Charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination.
- (iv) The installation, commissioning and training charges including incidental services, if any.

13.4.2 For goods manufactured abroad

- (i) The price of the goods, quoted on Ex-Works (duly packed); FCA (named place of delivery abroad), FOB (named port of shipment), as specified in the bidding document.
- (ii) The charges for insurance and transportation of the goods to the port / place of destination.
- (iii) The agency commission etc., if any.
- (iv) The installation, commissioning and training charges including incidental services, if any.

14.5 The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF / CIP basis respectively. However, the CIF / CIP prices quoted by any foreign bidder shall be loaded further as under.

- (i) Towards customs duty and other statutory levies – as per applicable rates.

(ii) Towards custom clearance, inland transportation etc. – 2% of the CIF / CIP value.

14.6 **The Purchase Order / Contract shall be awarded to the lowest evaluated responsive (L-1) bidder.**

14.7 In case optional items are specified in the tendered specifications, the Purchaser reserves the right to buy or not to buy the optional items. In case the option is exercised to buy the optional items after Bid opening, then the cost of optional items would be included to ascertain the Lowest Evaluated Responsive Bid. In case, the option is exercised not to buy the optional items, then the cost of the optional items would not be included in ascertaining the Lowest Evaluated Responsive Bid.

14.8 **NOTE: Bidders not quoting the optional items entail the risk of their offer being summarily ignored in the event of the Purchaser deciding to buy the optional items after Bid opening.**

14.9 The quotations are liable to be rejected if any of the above conditions are not complied with. Conditional Bids / shall not be accepted.

15 SETTLEMENT OF DISPUTES AND ARBITRATION

15.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Purchase Order / Contract. If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

15.2 Disputes or differences shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director General, Council of Scientific & Industrial Research and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

15.3 In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of Clause 15.2. above. But if this is not acceptable to the Supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Laws).

15.4 The venue of the arbitration shall be the place from where the purchase order or contract is issued.

15.5 Notwithstanding any reference to arbitration herein,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

(b) the Purchaser shall pay the Supplier any monies due the Supplier.

16 APPLICABLE LAW

16.1 The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to a court of competent jurisdiction in Durgapur, West Bengal, India.

17 OTHERS

17.1 Wherever deemed necessary, Bidder shall be at liberty to question the Bidding Document, Bidding process and rejection of its Bid.

SECTION – 3

SCHEDULE OF REQUIREMENT

Sl. No.	Tender Ref.	Description of Goods and Services	Quantity
1	PUR/112/CRTDH/06/2018-19	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF DEBINDING FURNACE	02 NOS.
Technical Specifications are detailed at SECTION-4 of this Tender Document.			

Delivery & Installation site / Final Destination	CSIR - Central Mechanical Engineering Research Institute Mahatma Gandhi Avenue, Durgapur 713209 West Bengal
Period of Delivery shall count from	DATE OF AWARD OF CONTRACT / ISSUE OF PURCHASE ORDER
Delivery Period [Goods to be delivered in one lot at final destination – CSIR-CMERI, Durgapur]	90 days
Time frame required for conducting installation, commissioning of the Goods etc. after arrival of the Goods at Final destination	30 days

SECTION – 4

TECHNICAL SPECIFICATIONS AND OTHER REQUIREMENTS

Sl. No.	Key Features	Our requirement:
01.	Furnace type:	Horizontal Box type Debinding Furnace.
02.	Maximum Temperature:	1100 ^o C
03.	Continuous working temperature:	1000 ^o C (For 4hrs minimum.)
04.	Atmosphere :	The furnace should be vaccum to 1x10 ⁻³ torr at room temperature. Gas tight sealing is to be fitted within the chamber. The chamber must have the purging facility of Argon, Nitrogen, Hydrogen and relevant mixture gases with positive pressure throughout the debinding cycle whenever it is required.
05.	Basic construction of chamber & f/c	Furnace must have provision for rapid removal of volatiles, gases generated due to removal wax, LDPE,HDPE,PP,Synthetic oil etc.from specimen during debinding process. Direct heat exposed parts to be made of heat resistant stainless steel. Molybdenum /equivalent material to make the furnace robust and easy to maintain. Hydrogen Safety System with after burner is to be fitted Water-Cooled Door is preferable. Exhaust valve to wave out the exhaust gases. Safety system for overshoots of gas pressure. The volatiles should not react with heating elements (specifically hydro-carbons)
06.	Gas Purging arrangement	Must be fitted with Argon, Hydrogen flow meters (individual), necessary flow valve with mixer unit & gas line connections with the chamber to create positive pressure even at its maximum working temperature Gas flow rate = 50 mL to 200 mL/min All gas line should be push connection tyupe so that it can be replaced easily
07.	Uniform Heating Zone	200X 200X500 m.m.(minimum), maximum temperature variation +/- 2 ^o C Over-temperature cutout Controller for thermal protection (class 2) to protect the furnace and sample. Provision must be done to supply gases (Argon, Nitrogen, Hydrogen and relevant mixture gases) in case of power failure.

08.	Power	415V, 3- phase
09.	Mandatory Mounting in control Panel	The furnace should be fitted with safety thermocouple (R-type) with display. Necessary Ammeters and Voltmeters. Pressure indicator & vacuum Indicator to be fitted, load and phase lamps/ indicators etc. The furnace should be fitted with over temperature cut off for safety purpose,
10.	Thermocouples	One thermocouple should be placed in the heating Zone for direct measurement of the temperature variation within the Heating Zone.(may be R-Type or equivalent) another in a suitable position.
11.	Controller:	The furnace should be fitted with controlling unit containing PID controller (make: Eurotherm or Similar standard) with digital display. No. Of pattern: Minimum 4 <ul style="list-style-type: none"> • Pattern status: Must have at least 16 segments (Ramp + Soak) • Control Configuration: 0.5°C/ Min or lesser to 5 °C/Min or greater (Heating & cooling) • Control Action: Fuzzy Control (with auto tuning) • Indication: <ul style="list-style-type: none"> ▪ Process value ▪ Set Value ▪ Status indication ▪ Mode indication ▪ Pressure Indication in the tube (if possible) • Accuracy: +/- 1°C at 100°C -1000°C • Temperature protector: Solid state with audio signal/manual state. • Communication: <ul style="list-style-type: none"> ▪ RS232 or similar/ PLC with HMI ▪ Protocol: MODBUS-RTU ▪ Speed: 9600 bps or greater
12.	Software & computer	Necessary software must be provided for operating the furnace through computer. The software must be compiled with Window 7/ Window 8 (windows 7 recommended) <ul style="list-style-type: none"> ▪ Scan time/Logging time: Programmable ▪ Facility to view the real time line graph of the process value (12-24hrs duration) ▪ Data base must be created in the back ground which can be seen in tabular form with real time and date ▪ The records can be searched by date and time or by the user selectable field. ▪ The program of ramp & soak, tuning and start & stop must be done by software through. <p>Branded PC (make : HP/DEL/IBM/LENOVO) to be provided FOR CONTROLLING THE FURNACE WITH FOLLOWING CONFIGURATION.:</p> <p>CPU : RAM : 2 GB min. hard drive : 320 GB.Processor : i3 ,at least 02 nos. USB & LAN port,</p>

		Monitor : 21" LED color screen. With mouse key board etc.
13.	Vacuum pump	A direct drive double stage rotary vacuum pump with min. flow rate of 1.0 L/Min with magnetic auto closer valve, tubing and other accessories to fit in the working chamber.
14.	Warranty :	At least 1year.
15.	Documentation & Training:	Operation & maintenance manual of the furnace in English Language must be provided in CD or hard copy, 3-days training must be provided on operation & maintenance of the furnace at CSIR_CMERI after commissioning.
16.		
17.	Heating element	Silicon Carbide (Make : KANTHAL or equivalent reputed brand).
18.	Thyristor	Full automatic (make : Fotek, Yudian or equivalent reputed brand)
19.	Thermocouple 1	R type duplex with sheath
20.	Control Cables	Stranded copper conductor, PVC insulated, extruded PVC inner sheathed, steel wire armoured, FRLS PVC outer sheathed as per IS: 1554 (part-I)Make :Finolex, Mescab or equivqlent reputed brand.
21.	Fuses ,contactors etc.	Power contactor, MCB, Fuse etc. should be make of L&T , siemens or equivqlent reputed brand.
22.	After burn Furnace	A separate After Burn Furnace with water bath chamber for burning volatiles (wax, LDPE,HDPE,PP,Synthetic oil etc.) during debinding process(to reduce the pollution level) may be quoted separately .
23	Annual Maintenance Contract (optional)	Aannual Maintenance Contract on quarterly basis (preventive) for two years after warranty period.

SECTION – 5

FORMS

1	Bidder's Information Form
2	Bid Form
3	Price Schedule Form
4	BG Format – for submission as EMD

BIDDER'S INFORMATION FORM

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]

Date: [insert date (as day, month and year) of Bid Submission] Tender No.: [insert number from Tender Document]

Page 1 of _____ pages

1. Bidder's Legal Name [insert Bidder's legal name]
2. In case of JV, legal name of each party: [insert legal name of each party in JV]
3. Bidder's actual or intended Country of Registration: [insert actual or intended Country of Registration]
4. Bidder's Year of Registration: [insert Bidder's year of registration]
5. Bidder's Legal Address in Country of Registration: [insert Bidder's legal address in country of registration]
6. Bidder's Authorized Representative Information Name: [insert Authorized Representative's name] Address: [insert Authorized Representative's Address] Telephone/Fax numbers: [insert Authorized Representative's telephone/fax numbers] Email Address: [insert Authorized Representative's email address]
7. Attached are copies of original documents of: [check the box(es) of the attached original documents] Articles of Incorporation or Registration of firm named in 1, above.

Signature of Bidder _____ Name _____

Business Address

BID FORM

(to be submitted on the official Letterhead of the Bidder)

Tender Reference _____

The Director,
CSIR-Central Mechanical Engineering Research Institute
Mahatma Gandhi Avenue, Durgapur – 713 209, West Bengal

Sir,

Having examined the Tender Document, the receipt of which is hereby duly acknowledged. I/We agree to furnish required supplies/services in conformity with the terms and conditions and other requirements detailed in the said Tender Document at the prices given in the Price Bid on receipt of order for the same.

I/We agree to hold this offer open until _____ and to supply, [install and commission the equipment, wherever applicable] and complete the whole of the work and hand over to the Purchaser within the period of _____ weeks, from the date of receipt of intimation from you regarding acceptance of our e-Bid/receipt of your Purchase Order.

I/We agree to submit the Bank Guarantee [wherever applicable] as specified in the form prescribed by your good self for the due performance of the contract, if our e-Bid is accepted.

I/we understand that you are not bound to accept the lowest or any bid you may receipt

Signature of Bidder
With office stamp
Name & Address

Telephone No.:

Fax No.:

E-mail ID:

Name & Designation of the Contract Person:

PRICE SCHEDULE FORMS

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder _____ TENDER No. _____

Sl. No.	Item Description	Item Code/Make	Quantity	Unit Price [mention currency]	Total Amount [mention currency]
Ex-Works Price [duly packed and cleared for export]					
Less : Indian Agent's Commission , if any					
Net Ex-Works Price [duly packed and cleared for export]					
Add : Inland Freight and other charges					
Net FCA/FOB Price					
Add : International Freight and Cargo Insurance					
CIF/CIP Kolkata Price					

Note:

Total Bid price in foreign currency (in figures) _____
 Total Bid price in foreign currency (in words) _____

- (a) Indian agent's name & address _____.
- (b) Installation, commissioning & training charges and other charges, if any _____ . [taxes / GST to be shown separately]
- (c) Cost of Spares, if requested by Purchaser _____ .
- (d) The Indian agent's commission shall be paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents.
- (e) ***The cost of optional items if any shall be indicated separately.***

Note : Any other charges/taxes etc. should be clearly indicated by Bidder, failing which no requests shall be entertained for incorporating such charges/taxes after opening of bids

Signature of Bidder

Name

Business Address

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA

Name of the Bidder _____ Tender No. _____

Sl. No.	Item Description	Item Code/Make	Quantity	Unit Price [INR]	Total Amount [INR]
Total Value of Goods					
Add : Packing and Forwarding					
Net Ex-Works Price					
Add : GST					
Add : Transportation and Insurance costs					
Net Price till CSIR-CMERI, Durgapur [f.o.r. CSIR-CMERI Durgapur]					

Total Bid price in Indian currency (in figures) _____

Total Bid price in Indian currency (in words) _____

- (a) The Cost of Spares, if requested by Purchaser
- (b) Installation, commissioning & training charges and other charges, if any _____ [taxes/GST to be shown separately]
- (c) **Cost of Optional Items if any shall be indicated separately**

Note : Any other charges/taxes etc. should be clearly indicated by Bidder, failing which no requests shall be entertained for incorporating such charges/taxes after opening of bids

Signature of Bidder

Name

Business Address

FORMAT FOR SUBMISSION OF EMD IN THE FORM OF A BANK GUARANTEE

Whereas _____ (hereinafter called the tenderer") has submitted their offer dated _____ for the supply of _____ (hereinafter called the tender") against the Purchaser's tender enquiry No. _____.

KNOW ALL MEN by these presents that We _____ having our registered office at _____ are bound unto _____ (hereinafter called the "Purchaser") in the sum of ----- for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this _____ day of _____ 20_____.

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
 - a. fails to furnish the Order Acknowledgement and/or Performance Security for the due Performance of the contract.
 - b. fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date. _____

(Signature of the authorized officer of the Bank)
Name and designation of the officer Seal,
Name & address of the Bank and address of the Branch