



Bid Number/बोली क्रमांक (बिड संख्या):  
GEM/2024/B/5638201  
Dated/दिनांक : 22-11-2024

### Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	23-12-2024 16:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	23-12-2024 16:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	120 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Finance
Department Name/विभाग का नाम	Department Of Economic Affairs
Organisation Name/संगठन का नाम	Security Printing And Minting Corporation Of India Limited (spmci)
Office Name/कार्यालय का नाम	Janpath
Total Quantity/कुल मात्रा	1
Item Category/मद केटेगरी	MOTORIZED TILTING INDUCTION FURNACE
GeMARPTS में खोजी गई स्ट्रिंग / Searched Strings used in GeMARPTS	MOTORIZED TILTING INDUCTION FURNACE
GeMARPTS में खोजा गया परिणाम / Searched Result generated in GeMARPTS	Induction Motor as per IS 12615, IS 325, Tilt Table, Motor Resistance and Inductance Measuring Instrument, Squirrel Cage Induction Motor, Foot Mounted as per IS:325
अधिसूचना के लिए चयनित प्रासंगिक श्रेणियाँ / Relevant Categories selected for notification	<ul style="list-style-type: none"><li>Tubular Furnace</li></ul>
Minimum Average Annual Turnover of the bidder (For 3 Years)/बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का)	29 Lakh (s)
OEM Average Turnover (Last 3 Years)/मूल उपकरण निर्माता का औसत टर्नओवर (गत 3 वर्षों का)	29 Lakh (s)
Years of Past Experience Required for same/similar service/उन्हीं/समान सेवाओं के लिए अपेक्षित विगत अनुभव के वर्ष	3 Year (s)
MSE Exemption for Years Of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover/टर्नओवर के लिए एमएसई को छूट प्राप्त है	Yes

<b>Bid Details/बिड विवरण</b>	
<b>Startup Exemption for Years Of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover/ टर्नओवर के लिए स्टार्टअप को छूट प्राप्त है</b>	Yes
<b>Document required from seller/विक्रेता से मांगे गए दस्तावेज़</b>	Experience Criteria,Past Performance,Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate,OEM Annual Turnover,Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
<b>Do you want to show documents uploaded by bidders to all bidders participated in bid?/</b>	No
<b>Past Performance/विगत प्रदर्शन</b>	80 %
<b>Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया</b>	No
<b>Type of Bid/बिड का प्रकार</b>	Two Packet Bid
<b>Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय</b>	4 Days
<b>Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM)</b>	No
<b>Evaluation Method/मूल्यांकन पद्धति</b>	Total value wise evaluation
<b>Financial Document Required/वित्तीय दस्तावेज़ की आवश्यकता है।</b>	Yes
<b>Arbitration Clause</b>	No
<b>Mediation Clause</b>	No

#### **EMD Detail/ईएमडी विवरण**

Advisory Bank/एडवाइजरी बैंक	Indusind bank
EMD Amount/ईएमडी राशि	144000

#### **ePBG Detail/ईपीबीजी विवरण**

Advisory Bank/एडवाइजरी बैंक	Indusind bank
ePBG Percentage(%) /ईपीबीजी प्रतिशत (%)	5.00
Duration of ePBG required (Months)/ईपीबीजी की अपेक्षित अवधि (महीने).	20

(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy./जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित केटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज़ प्रस्तुत करने है। एमएसई केटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।

(b). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

**Beneficiary/लाभार्थी :**

Chief General Manager

P.B. NO: 10, IDA PHASE-II, Cherlapally, (R.R district), Hyderabad, Telangana Pin-500051, India.

(India Government Mint, Hyderabad)

**MII Purchase Preference/एमआईआई खरीद वरीयता**

MII Purchase Preference/एमआईआई खरीद वरीयता	Yes
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**MSE Purchase Preference/एमएसई खरीद वरीयता**

MSE Purchase Preference/एमएसई खरीद वरीयता	Yes
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1. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
2. If the bidder is a Startup, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to their meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
3. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
4. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.
5. OEM Turn Over Criteria: The minimum average annual financial turnover of the OEM of the offered product during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the OEM is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
6. Preference to Make In India products (For bids < 200 Crore):Preference shall be given to Class 1 local supplier

as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises will be allowed to participate .The buyers are advised to refer the OM No.F.1/4/2021-PPD dated 18.05.2023.

[OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

7. Purchase preference will be given to MSEs having valid Udyam Registration and whose credentials are validated online through Udyam Registration portal as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail themselves of the Purchase preference, the bidder must be the manufacturer / OEM of the offered product on GeM. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises and hence resellers offering products manufactured by some other OEM are not eligible for any purchase preference. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service and Buyer will decide eligibility for purchase preference based on documentary evidence submitted, while evaluating the bid. If L-1 is not an MSE and MSE Seller (s) has / have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such MSE Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total quantity. The buyers are advised to refer the OM No. F.1/4/2021-PPD dated 18.05.2023 [OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if seller is validated on-line in GeM profile as well as validated and approved by Buyer after evaluation of documents submitted.

8. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 80% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

**Excel Upload Required/एक्सेल में अपलोड किए जाने की आवश्यकता :**

Price Schedule Format for Induction Melting Furnace - [1732270557.xlsx](#)

**Pre Bid Detail(s)**

Pre-Bid Date and Time	Pre-Bid Venue

07-12-2024 15:00:00	<p>India Government Mint, Hyderabad P.B. NO: 10, IDA PHASE-II, Cherlapally, (R.R district), Hyderabad, Telangana Pin-500051, India. E-Mail: purchase.igmh@spmcil.com; Phone: 040-27268300,EXT: 117/122 Note: The Bidder(s) or his Official representative who will participate in bidding process are invited to attend Pre-Bid Conference Meeting which will take place on the date specified in Bid document. Bidder(s) queries if any must reach to India Government Mint, Hyderabad at least 2 days prior to Pre-Bid Meeting date to the E-Mail ID provided in GeM bid document. The Bidder(s) or his Official representative who will participate in bidding process are requested to send the details of the Persons attending along with ID Proofs against the GeM bid to the above mentioned E-mail Id at least 2 days prior to the date of the Pre Bid Interaction date for making necessary Gate Pass arrangements.</p>
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### MOTORIZED TILTING INDUCTION FURNACE ( 1 set )

**(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)**

#### Technical Specifications/तकनीकी विशिष्टियाँ

Buyer Specification Document/क्रेता विशिष्टि दस्तावेज़	<a href="#">Download</a>
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#### Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्रा	Delivery Days/डिलीवरी के दिन
1	Sumanta Goswami	500051,India Govt Mint, IDA, Phase-II Cherapally, (R.R district) Hyderabad , Telangana	1	180

### Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें

#### 1. Generic

Actual delivery (and Installation & Commissioning (if covered in scope of supply)) is to be done at following address

India Government Mint, Hyderabad,  
P.B. NO: 10, IDA Phase-II, Cherlapally,  
Hyderabad (R.R district),  
Telangana, Pin-500051,  
India.

2. **Generic**

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

3. **Generic**

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

4. **Generic**

Installation, Commissioning, Testing, Configuration, Training (if any - which ever is applicable as per scope of supply) is to be carried out by OEM / OEM Certified resource or OEM authorised Reseller.

5. **Generic**

**Manufacturer Authorization:**Wherever Authorised Distributors/service providers are submitting the bid, Authorisation Form /Certificate with OEM/Original Service Provider details such as name, designation, address, e-mail Id and Phone No. required to be furnished along with the bid

6. **Generic**

Scope of supply includes Training: Number of employees to be trained

08

, Place for Training

India Government Mint, Hyderabad

and Duration of training

03

days.

7. **Generic**

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

8. **Generic**

1. The Seller shall not assign the Contract in whole or part without obtaining the prior written consent of buyer.
2. The Seller shall not sub-contract the Contract in whole or part to any entity without obtaining the prior written consent of buyer.
3. The Seller shall, notwithstanding the consent and assignment/sub-contract, remain jointly and severally liable and responsible to buyer together with the assignee/ sub-contractor, for and in respect of the due performance of the Contract and the Sellers obligations there under.

9. **Generic**

Without prejudice to Buyer's right to price adjustment by way of discount or any other right or remedy available to Buyer, Buyer may terminate the Contract or any part thereof by a written notice to the Seller, if:

- i) The Seller fails to comply with any material term of the Contract.
- ii) The Seller informs Buyer of its inability to deliver the Material(s) or any part thereof within the stipulated Delivery Period or such inability otherwise becomes apparent.
- iii) The Seller fails to deliver the Material(s) or any part thereof within the stipulated Delivery Period and/or to replace/rectify any rejected or defective Material(s) promptly.
- iv) The Seller becomes bankrupt or goes into liquidation.
- v) The Seller makes a general assignment for the benefit of creditors.
- vi) A receiver is appointed for any substantial property owned by the Seller.
- vii) The Seller has misrepresented to Buyer, acting on which misrepresentation Buyer has placed the

Purchase Order on the Seller.

#### 10. **Generic**

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

#### 11. **Inspection**

**Pre-dispatch inspection at Seller premises (Fee/Charges to be borne by the BUYER):** Before dispatch, the goods will be inspected by Buyer / Consignee or their Authorized Representative or by Nominated External Inspection Agency (independently or jointly with Buyer or Consignee as decided by the Buyer) at Seller premises (or at designated place for inspection as declared / communicated by the seller) for their compliance to the contract specifications. Fee/Charges taken by the External inspection Agency and any external laboratories testing charges shall be borne by the Buyer. For in-house testing, the Sellers will provide necessary facilities free of cost. Seller shall notify the Buyer through e-mail about readiness of goods for pre-dispatch inspection and Buyer will notify the Seller about the Authorized Representative/ Nominated External Inspection Agency and the date for testing. The goods would be dispatched to consignee only after clearance in pre-dispatch inspection. Consignee's right of rejection as per GTC in respect of the goods finally received at his location shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by Buyer/ Consignee or its Nominated External Inspection Agency prior to the goods' shipment. While bidding, the sellers should take into account 7 days for inspection from the date of email offering the goods for inspection. Any delay in inspection beyond 7 days shall be on the part of the buyer and shall be regularised without Liquidated Damages.

When there is requirement of submission the advance sample, the seller shall inform the buyer promptly through emails about the date of submission of sample to the buyer nominated Inspection agency.

#### 12. **Certificates**

Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

#### 13. **Warranty**

Bidder / OEM has to give an undertaking that after expiry of warranty period, it will provide AMC Service for next 5 years for the offered products at the rate not more than 3 % of contract price per annum. Buyer reserves the right to enter into an AMC agreement ( covering preventive maintenance and servicing)with the Successful Bidder / OEM after expiry of the Warranty period at rate as mentioned above and the payment for the AMC charges would be made Quarterly after rendering of the AMC Services of the relevant AMC period. Performance Security of the successful bidder shall be forfeited if it fails to accept the AMC contract when called upon by the buyer. The original Performance Security of contract will be returned only after submission and verification of AMC Performance Security for 5% of total AMC value valid up to AMC period plus 2 months (if there is no other claim). (Undertaking of acceptance to be uploaded with bid).

#### 14. **Warranty**

Warranty period of the supplied products shall be 1 years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods. The seller should guarantee the rectification of goods in case of any break down during the guarantee period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service. Details of Service Centres near consignee destinations are to be uploaded along with the bid.

#### 15. **Warranty**

Successful bidder will have to ensure that adequate number of dedicated technical service personals / engineers are designated / deployed for attending to the Service Request in a time bound manner and for ensuring Timely Servicing / rectification of defects during warranty period, as per Service level agreement indicated in the relevant clause of the bid.

**16. Warranty**

Timely Servicing / rectification of defects during warranty period: After having been notified of the defects / service requirement during warranty period, Seller has to complete the required Service / Rectification within 5 days time limit. If the Seller fails to complete service / rectification with defined time limit, a penalty of 0.5% of Unit Price of the product shall be charged as penalty for each week of delay from the seller. Seller can deposit the penalty with the Buyer directly else the Buyer shall have a right to recover all such penalty amount from the Performance Security (PBG). Cumulative Penalty cannot exceed more than 10% of the total contract value after which the Buyer shall have the right to get the service / rectification done from alternate sources at the risk and cost of the Seller besides forfeiture of PBG. Seller shall be liable to re-imburse the cost of such service / rectification to the Buyer.

**17. Forms of EMD and PBG**

Bidders can also submit the EMD with Account Payee Demand Draft in favour of

India Government Mint, Hyderabad (A Unit of SPMCIL)  
payable at  
Hyderabad

Bidder has to upload scanned copy / proof of the DD along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date / Bid Opening date.

**18. Forms of EMD and PBG**

Bidders can also submit the EMD with Fixed Deposit Receipt made out or pledged in the name of A/C

India Government Mint, Hyderabad (A Unit of SPMCIL)  
. The bank should certify on it that the deposit can be withdrawn only on the demand or with the sanction of the pledgee. For release of EMD, the FDR will be released in the favour of the bidder by the Buyer after making endorsement on the back of the FDR duly signed and stamped along with covering letter. Bidder has to upload scanned copy/ proof of the FDR along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date/ Bid Opening date

**19. Forms of EMD and PBG**

Bidders can also submit the EMD with Banker's Cheque in favour of

India Government Mint, Hyderabad (A Unit of SPMCIL)  
payable at  
Hyderabad

Bidder has to upload scanned copy / proof of the BC along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date / Bid Opening date.

**20. Forms of EMD and PBG**

Bidders can also submit the EMD with Payment online through RTGS / internet banking in Beneficiary name

INDIA GOVERNMENT MINT (A UNIT OF SPMCIL) -COLLECTION A/C  
Account No.  
201003484303  
IFSC Code  
INDB0000004  
Bank Name  
INDUSIND BANK  
Branch address  
0004 - HYDERABAD

Bidder to indicate bid number and name of bidding entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer along with bid.

**21. Forms of EMD and PBG**



Successful Bidder can submit the Performance Security in the form of Account Payee Demand Draft also (besides PBG which is allowed as per GeM GTC). DD should be made in favour of

India Government Mint, Hyderabad (A Unit of SPMCIL)  
payable at  
Hyderabad

. After award of contract, Successful Bidder can upload scanned copy of the DD in place of PBG and has to ensure delivery of hard copy to the original DD to the Buyer within 15 days of award of contract.

## 22. **Forms of EMD and PBG**

Successful Bidder can submit the Performance Security in the form of Fixed Deposit Receipt also (besides PBG which is allowed as per GeM GTC). FDR should be made out or pledged in the name of

India Government Mint, Hyderabad (A Unit of SPMCIL)  
A/C (Name of the Seller). The bank should certify on it that the deposit can be withdrawn only on the demand or with the sanction of the pledgee. For release of Security Deposit, the FDR will be released in favour of bidder by the Buyer after making endorsement on the back of the FDR duly signed and stamped along with covering letter. Successful Bidder has to upload scanned copy of the FDR document in place of PBG and has to ensure delivery of hard copy of Original FDR to the Buyer within 15 days of award of contract.

## 23. **Forms of EMD and PBG**

Successful Bidder can submit the Performance Security in the form of Payment online through RTGS / internet banking also (besides PBG which is allowed as per GeM GTC). On-line payment shall be in Beneficiary name

INDIA GOVERNMENT MINT (A UNIT OF SPMCIL) -COLLECTION A/C  
Account No.  
201003484303  
IFSC Code  
INDB0000004  
Bank Name  
INDUSIND BANK  
Branch address  
0004 - HYDERABAD

. Successful Bidder to indicate Contract number and name of Seller entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer in place of PBG within 15 days of award of contract.

## 24. **Buyer Added Bid Specific ATC**

Buyer Added text based ATC clauses

### **I. TECHNICAL SPECIFICATIONS OF 50 KG MOTORIZED TILTING INDUCTION FURNACE:**

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1.	Scope of work	<p>To Design, manufacture, supply, installation, commissioning, testing and handing over of ONE 50 KG MOTORIZED TILTING INDUCTION FURNACE.</p> <p>Power &amp; Control System comprising of:</p> <ol style="list-style-type: none"> <li>a. Power input section</li> <li>b. Converter section rated for 50 KW</li> <li>c. Inbuilt DC capacitor in filter section</li> <li>d. Voltage Inverter section rated for 50 KW</li> <li>e. Inbuilt AC tank capacitor section</li> <li>f. Control and monitor section</li> <li>g. Husky copper bus bars</li> <li>h. Internal distilled water circulating system</li> <li>i. Supply of GLM grade graphite crucible of capacity 50 Kg : 6 Nos. for charge of silver and</li> <li>j. Supply of silicon-carbide crucible of capacity 50 Kg : 6 Nos. for charge of silver</li> </ol> <p>50 KG MOTORIZED TILTING FURNACE (Without Lid) comprising of :</p> <ol style="list-style-type: none"> <li>a. Motorized tilting arrangement.</li> <li>b. Set of water-cooled leads.</li> <li>c. One Standard set of interconnecting copper tubing.</li> </ol>
2.	Furnace Type	Medium Frequency Induction Melting Furnace
3.	Metals to be cast	Silver, Silver alloys, QA silver, Gold etc...
4.	Charging size	50kg Silver
5.	Rated KW	50KW
6.	Nominal Furnace Frequency	6KHz - 10KHz

<b>7.</b>	Line Power Factor	0.95 and above
<b>8.</b>	Melt Rate at 50 KW	Min. 125 Kg/hour - Silver
<b>9.</b>	Nominal capacity	50 KG (Silver)
<b>10.</b>	Operating Temperature	1200° C
<b>11.</b>	Pouring Mechanism	<p>VFD controlled Motorized tilt with smooth, jerk-free operation: (with adjustable speed and precise control)</p> <p>Provision of manual tilt overrides mechanism for emergency situations or power outages.</p> <p>Durable and rigid furnace mounting for smooth and jerk free tilting operation</p>
<b>12.</b>	Control System	<ol style="list-style-type: none"> <li>a. Micro Processor Based Controller with HMI Touch Screen</li> <li>b. Motorized tilted coreless melting furnace</li> <li>c. Manually operated Motorized controls for tilting.</li> <li>d. In Built Leak detector assembly with stainless steel probe wires and hardware.</li> <li>e. Set of flexible water-cooled power leads for connection between the power induction coil and power supply unit. Water-cooled leads are with sleeves for protection against metal splash.</li> <li>f. Furnace is mounting on self-aligning pillow block type pivot bearings</li> <li>g. Direct readout meters and diagnostic monitoring for easier set-up and control of the power supply.</li> <li>h. Reading instruments like frequency meter , kilowatt meter and furnace voltmeter &amp; etc.</li> <li>i. Power control knob to set the desired power level</li> </ol>

		<ul style="list-style-type: none"> <li>j. Circuit monitor for monitoring and indicating functional parameters, such as water pressure, water temperature and other electrical faults.</li> <li>k. Fast acting MCCB with manual on/off switch to isolate the plant power line.</li> <li>l. Fast acting semi-conductor fuses.</li> <li>m. Instantaneous fast acting MCCB for circuit protection.</li> <li>n. Voltage-fed DC to AC inverter for better controllability, higher line power factor and low line distortion</li> <li>o. AC to DC full wave rectifier for constant 95.5%-line power factor</li> <li>p. Measurement of total number of melting cycles done, total power units consumed per melt, timing of each melting cycle.</li> <li>q. Power Load demand control system inbuilt. For controlling consumption of power requirement during the melting process.</li> </ul>
<b>13.</b>	Thermal management for Furnace and electrical panels	Internal Closed Water System Inside the cabinet with heat exchanger with expansion tank and built-in water level indicator, mono block non-ferrous pump, set of feed manifold with temperature and pressure switches and drain manifold with temperature sensors for different paths of cooling system.
<b>14.</b>	HMI	<ul style="list-style-type: none"> <li>a. Inbuilt Digital Display- HMI for real time display of Inverter Parameters, Trends, Data Logging, Alarms and Data export in USB.</li> <li>b. ALARMS AND DATA TRENDING- Real time/Historical data with selectable parameters at a time: Power/Current/Frequency/Weight etc.</li> <li>c. Historical Alarm/Event Logging for Diagnostics.</li> </ul>

**15.**

Control Cabinet

- Metal cabinet, duly painted fitted with panel doors, gasketed and equipped with locks. Micro switches to illuminate and shut off power to prevent injury to personnel when the lift off panel or doors is opened.
- Rectifier Section with Filter: SCR Diode Modules with snubbers for rectification to minimize line harmonics compared to phase-controlled rectifier.
- Air core encapsulated current limiting reactor(s) to reduce losses compared to iron core current limit reactor(s) to provide constant DC voltage to the voltage fed inverter.
- DC Capacitors located in the IGBT section
- Inverter Section: Inverter panel containing high power inverter IGBT with DI/DT reactors to provide full power throughout the melt cycle.
- Capacitor Section: Contains all the required DC filters and medium frequency AC capacitors.
- Control and Monitor System:
  - ON/OFF push buttons on the control door.
  - One Main Multi Meter with direct reading of Frequency meter, kilowatt meter and furnace voltmeter.
  - Three direct reading instruments including frequency meter, kilowatt meter, and furnace volt meter (multi meter)
  - One main control board for controlling of the equipment shall eliminate electronic complexity and simplifies maintenance. This board should be located in a compartment with a cooling fan
  - One circuit monitor for monitoring and indicating functional parameters, such as water pressure, water temperature and other electrical faults.

<b>16.</b>	Melting Furnace	<p>Motorized tilted coreless melting furnace for housing and providing rigid support to the induction coil. Constructed with cast aluminium alloy side plates, top and bottom made out of refractory with stainless steel fiber reinforcement. The coreless construction without shunts design to reducing energy loss.</p> <p>Included in each furnace will be:</p> <ol style="list-style-type: none"><li>a. The furnace should be suitable for continuous operation to its capacity for 24 X 7 .</li><li>b. Durable steel construction for long-lasting operation.</li><li>c. Adequate insulation to minimize heat loss and improve energy efficiency.</li><li>d. Cooling system integration points for water cooling hoses.</li><li>e. Crucible type: Isostatic graphite / GLM Grade graphite / Silicon-carbide crucibles</li></ol>
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17.

Features

- a. High Performance Induction Generators All solid stage IGBT frequency conversion and power adjustment, soft-switching resonance dual-control and frequency automatic tracking technology.
- b. High maximum output for fast heating up and thorough mixing and homogenisation of the molten metal-but with reduced effective power consumption.
- c. Intelligent Temperature control system: Best programmable temperature control with PID auto setting capabilities, Display of output power, output frequency, output voltage and current. Over temperature, broken even, flow and cooling water alarm and protection to ensure the system safe and reliable.
- d. Timer function: for heating time and retaining time to be provided.
- e. Water chilling system of minimum 5 ton capacity: closed loop water chiller of suitable capacity to be fitted. Display water pressure and water flow with water alarm. Cooling temperature should be between 22 to 35 degree centigrade.  
  
Dual Compressor 2.5 Ton X 2 With Auto Cot Off & Individual Operation Mode  
  
Water Tank 300 litres Capacity Stainless Steel  
  
Water Circulation Pump 1HP 3Phase PowerSupply - 50 LPM  
  
Puff insulated Water tank  
  
Internal copper Coil-Dual  
  
15 kw Power Supply 3 Phase 440V
- f. All essential safety measures for the Furnace to be provided. In the event of crucible breaking, all of the assemblies are covered by a separate protective housing and also a large collecting tray under the melting unit to prevent the loss of material.

**18.** Safety

All Safety Interlocks:

- a. All electrical components' related to safety features shall comply with CE marking requirements for electrical safety
- b. Safety interlocks that prevent furnace operation when the furnace is not in the upright position or the lid is open.
- c. Provision of manual tilt override mechanism for emergency situations or power outages.
- d. Low water level pressure alarm: Alerts operator when water flow or pressure falls below a safe level for furnace cooling.
- e. High water level pressure alarm: Prevents damage from over pressurization of the cooling system.
- f. Water temperature alarm: Warns operator if cooling water exceeds safe operating temperature.
- g. Panel cooling alarm: Ensures proper cooling of control panel for safe operation.
- h. IGBT failure alarm: Detects and alerts operator of any malfunction, a critical component of the induction heating system.
- i. Emergency stop button: Allows for immediate shutdown of the furnace in case of emergencies.
- j. Emergency Power-Off and Crucible /Furnace Cooling System: The furnace shall be equipped with a system that automatically shuts down power to the heating elements and initiates an emergency cooling protocol in case of a power failure such as provision of Gravity-fed water cooling system, a backup system with a separate water tank of 3000 litres capacity which will be placed at an elevated position higher than the furnace. This allows for continued water circulation through the cooling jacket even during power outages, aiding in safe crucible cooling.

**19. Final Acceptance Test (FAT):**



The induction furnace system will be considered accepted if it meets the following criteria along with the above specification:

**Melting Test:**

- a) The furnace will be operated continuously for 7-10 melts/shift each in two consecutive days. The material to be melted will be either copper or silver.
- b) During the test, the following parameters will be monitored and recorded mainly:
  - o Power consumption
  - o \*Melting rate (kg/hour) – 1<sup>st</sup> melt 40-50 minutes subsequent melts in 20-30 minutes. The chosen metal reaches the desired melting temperature within the above timeframe, achieving the specified or a comparable melt rate. (Melt rates include only melting of metals).
  - o Functionality: All system components operate according to the technical specifications.
  - o Performance: The system achieves the specified melt rate and maintains melt quality.
  - o Safety: The system incorporates all necessary safety features and operates safely.
- c) All components pass the visual inspection and function according to the technical specifications.
- d) All required documentation is provided.
- e) The control panel displays accurate readings and alarms function properly.
- f) All safety features and interlocks operate as intended.
- g) The water cooling system functions effectively without leaks.

**20. Pre dispatch inspection:** A pre dispatch inspection shall be conducted to check the outlined specifications at the factory of the machine supplier and the supplier has to arrange demonstration for melting trials.

**21. Installation and commissioning at site:** Unpacking, Installation and Commissioning, functional checks have to be done by the service technician of the vendor.

**22. Training at site:**

- a. The firm will train four persons in operations and four persons from maintenance for 3 working days during installation and commissioning.
- b. The firm must train on the following Subjects:
  - I. System components / System configuration
  - II. Safety instruction
  - III. Operation of the machine
  - IV. Production setup
  - V. Maintenance instruction (preventive maintenance)

**23. Spares:**

- a. Firm should quote the list of spares, consumable etc. with price valid for next two years. To be quoted separately, It will not be considered while deciding L1 firm.
- b. Warranty for minimum one year after FAC.

#### **24. Service & after installation support:**

- a. Service support for minimum five years after the initial service and warranty period of 1 year which will be decided by way of annual maintenance contract or on demand service calls.
- b. In case of breakdown of the furnace, the service engineer has to mandatorily visit and provide service within a time frame of 24 to 48 hours from the time of registration of complaint by IGMH.

#### **25. Technical Documentation:**

- a. All documentations to be provided in English.
- b. All technical documents, including operation manuals, maintenance manuals/procedures, electrical schematics, and consumables/spares parts list, must be provided in complete and clear English in both hard copy and soft copy formats.
- c. Certificate of calibration wherever applicable shall be provided by the successful bidder.
- d. Layout and Utility Drawings: After receiving the PO vendor has to provide general layout recommendations for the furnace and power supply unit placement.
  - I. **Detailed Layout Drawings:** The vendor is responsible for creating detailed layout drawings that specify the placement of the furnace, power supply, crucible handling equipment (if applicable), and ventilation system within the designated workspace. These drawings should ensure adequate clearance for operation and maintenance.
  - II. **Utility Drawings:** The successful bidder is responsible for providing detailed utility drawings that indicate the location and capacity of the electrical supply, chilled water supply and drain lines, and any other required utilities.
  - III. **Spares Details:**
    - a. List of all consumable items and all spare/wear part.
    - b. Coil Drawings and Specifications: Detailed drawings of the induction coil, including dimensions, material specifications, and cooling water passages. Electrical specifications of the coil, including voltage, current rating, and frequency. Information on coil installation and removal procedures.
    - c. Water Cooling Circuit Documentation: A comprehensive diagram of the water cooling circuit, including: Flow path of the cooling water. Location and size of all pipes, valves, and pumps. Pressure and flow rate specifications for the cooling water. Water quality requirements.
    - d. Panel Cooling Diagram: A detailed diagram of the furnace control panel cooling system,
    - e. WCC (Water Cooled Cables) Details and Specifications: Detailed information on the water-cooled cables (WCCs) used for power delivery to the coil, including: Cable construction (e.g., conductor

material, insulation type). Current rating and voltage specifications. Cooling water flow rate and pressure requirements. Installation and maintenance instructions.

- f. Troubleshooting Manual: A comprehensive troubleshooting manual that addresses common operational issues with the furnace. The manual should include: Flowcharts or decision trees for diagnosing problems. Description of potential causes and corrective actions for identified problems. Information on error codes generated by the furnace control system.
- g. Circuit Drawings and Details: Complete and detailed electrical drawings of the system, including: Schematics of all control circuits. Wiring diagrams for all connected components.
- h. Details of interconnecting air/water cooled copper conductor used to connect the power panel with the melting furnace.

## **26. Other Specifications/Requirements:**

- a. Materials and Construction: materials used in the construction of the furnace shall ensure compliance with environmental standards (ISO). Certifications verifying that materials are sourced ethically and sustainably, aligning with ISO standards for responsible sourcing.
- b. Machine shall be user friendly for operation and interchange ability of the crucible to melt different precious metal alloy.
- c. The machine shall be sturdy, vibration free, latest state of the art technology.
- d. All the electrical devices shall be energy efficient, easy to maintain and of latest technology proven in the market and not on the verge of obsolescence.
- e. IGMH shall Provide Supply of Electricity and water as per the requirement of the successful bidder to install the machine.
- f. The machine shall have all the safety features to protect the man and material from electrical, Heat /Temperature, rotating/moving parts/bodies, explosion hazards. All hazardous locations shall bear necessary stickers as per relevant IS standards.
- g. The machine shall have necessary safety switches, sensors, Emergency stops and safety guards from Safety Point of view.
- h. Prior Site Visit: Permission can be sought and obtained for a pre-tender site visit to assess requirements and ensure alignment with project specifications.

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## **II. Payment Terms:**

100% payment will be made within 30 days after issue of Final Acceptance Certificate (FAC).

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## **III. Eligibility Criteria or Pre- Qualification Criteria:**

1. Experience & past performance:

The bidder (manufacturer or principal of authorized representative -

hereinafter referred simply as 'The Bidder') shall be a manufacturer that has regularly for at least the last three years manufactured, supplied, erected, commissioned INDUCTION MELTING FURNACE with the same or higher specifications of at least one number in last five years ending on 31.03.2024. At least one number of the product offered for supply should be in successful operation for at least one year on the date of bid opening.

Note: For MSEs and Start-ups (registered for the tendered item) all Experience & past performance criteria shall be exempted. Subject to Technical and Quality Compliance.

2. Capability Equipment & manufacturing Facilities:

The bidder must have an annual capacity to manufacture and supply at least one no of INDUCTION MELTING FURNACE.

3. Financial Standing:

- i. The average annual financial turnover of the bidder firm (manufacturer or principal of authorized dealer) during the last three years, ending on 31.03.2024, should be at Rs.29 Lakhs (or equivalent in foreign currency at exchange rate prevalent on 31.03.2024) as per the annual report (audited balance sheet and profit & loss account) of the relevant period, duly authenticated by a Chartered Accountant/ Cost Accountant in India or equivalent in relevant countries.
- ii. The net worth of the firm should not
  - a) be negative on 31.03.2024 and
  - b) have eroded by more than 30% in the last three years, ending on 31.03.2024.

Note: For MSEs and Start-ups (registered for the tendered item) all financial criteria shall be exempted. Subject to Technical and Quality Compliance.

**IV. General Instructions to the Tenderer (GIT) & General Conditions of the Contract (GCC):**

The following are integral part of this GeM bid document. Bidders have to upload duly signed General Instructions to the Tenderer (GIT) & General Conditions of the Contract (GCC) as a token of acceptance of all the terms and conditions.

<https://spmCIL.com/uploaddocument/GIT3.0.pdf>

<https://spmCIL.com/uploaddocument/GCC3.0.pdf>

## **V. Price Bid Submission:**

The Price-Bid should contain Two Parts. One Part should be a Price Offer of the Machine. The second Part should be Priced List of Spares. The Bidder should submit unpriced list of spares along with Technical Bid. The priced list of spares should be submitted in the Financial Document upload Field.

## **Disclaimer/अस्वीकरण**

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. If any clause(s) is / are incorporated by the Buyer regarding following, the bid and resultant contracts shall be treated as null and void and such bids may be cancelled by GeM at any stage of bidding process without any notice:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process. (However, in bids for [attached categories](#), trials are allowed as per approved procurement policy of the buyer nodal Ministries)
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

[This Bid is also governed by the General Terms and Conditions/ यह बिड सामान्य शर्तों के अंतर्गत भी शासित है](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action

in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो।बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।

**---Thank You/धन्यवाद---**