



Bid Number/बोली क्रमांक (बिड संख्या):  
GEM/2023/B/3465774  
Dated/दिनांक : 19-05-2023

### Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	09-06-2023 11:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	09-06-2023 11:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	65 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Mines
Department Name/विभाग का नाम	Na
Organisation Name/संगठन का नाम	Jawaharlal Nehru Aluminium Research Development And Design Centre (jnarddc)
Office Name/कार्यालय का नाम	West
Total Quantity/कुल मात्रा	1
Item Category/मद केटेगरी	Thermo Gravimetric Analyzer (Q3)
Minimum Average Annual Turnover of the bidder (For 3 Years)/बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का)	12 Lakh (s)
OEM Average Turnover (Last 3 Years)/मूल उपकरण निर्माता का औसत टर्नओवर (गत 3 वर्षों का)	100 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 and Turnover/ अनुभव के वर्षों से एमएसई छूट	No
Startup Exemption for Years of Experience and Turnover/ अनुभव के वर्षों से स्टार्टअप छूट	No
Document required from seller/विक्रेता से मांगे गए दस्तावेज़	Experience Criteria,Past Performance,Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate,OEM Annual Turnover,Additional Doc 1 (Requested in ATC),Additional Doc 2 (Requested in ATC),Additional Doc 3 (Requested in ATC),Additional Doc 4 (Requested in ATC),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>Bid Details/बिड विवरण</b>	
<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>	3 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

#### **EMD Detail/ईएमडी विवरण**

Advisory Bank/एडवाइजरी बैंक	IDBI Bank
EMD Amount/ईएमडी राशि	75000

#### **ePBG Detail/ईपीबीजी विवरण**

Advisory Bank/एडवाइजरी बैंक	IDBI Bank
ePBG Percentage(%) / ईपीबीजी प्रतिशत (%)	5.00
Duration of ePBG required (Months) / ईपीबीजी की अपेक्षित अवधि (महीने).	14

(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 दस्तावेज प्रस्तुत करने हैं। 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 :**

SENIOR ADMIN OFFICER

West, NA, Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC), Ministry of Mines (R Srinivasan)

#### **Splitting/विभाजन**

Bid splitting not applied/बोली विभाजन लागू नहीं किया गया.

**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. 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.
2. 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 / Public Listed Company 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.
3. 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.
4. 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 .In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.
5. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs 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 the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. 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. 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 Seller shall be given opportunity to match L-1 price and contract will be awarded for 25%(selected by Buyer) percentage of total QUANTITY.
6. 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 / Public Listed Company. 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.

## Thermo Gravimetric Analyzer ( 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	Raghupathy Srinivasan	440023,Opp Wadi Police Station Amarawati Road	1	60

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

#### 1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

#### 2. Generic

**Bidder financial standing:** The bidder should not be under liquidation, court receivership or similar proceedings, should not be bankrupt. Bidder to upload undertaking to this effect with bid.

#### 3. 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 %.

#### 4. 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.

#### 5. Generic

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 / Public Listed Company for 3 years 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 year. In case of bunch bids, the primary product having highest value should meet this criterion.

6. **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.

7. **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

8. **Generic**

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

2

, Place for Training

JNARDDC NAGPUR

and Duration of training

5

days.

9. **Generic**

The successful bidder has to supply all essential accessories required for the successful installation and commissioning of the goods supplied. Besides standard accessories as per normal industry practice, following accessories must be part of supply and cost should be included in bid price:

COMPLETE SUPPLY AS PER SPECIFICATION WITH ACCESSORIES, INTALLATION AND TRAINING

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10. **OEM**

IMPORTED PRODUCTS: In case of imported products, OEM or Authorized Seller of OEM should have a registered office in India to provide after sales service support in India. The certificate to this effect should be submitted.

11. **Inspection**

**Nominated Inspection Agency:** On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance:

Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been selected in ATC):

NOT REQUIRED

Post Receipt Inspection at consignee site before acceptance of stores:

IN THE PRESENCE OF SERVICE ENGINEER

12. **Forms of EMD and PBG**

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

JNARDDC

payable at

NAGPUR

.

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.

**13. Forms of EMD and PBG**

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

JNARDDC  
Account No.  
041104000192392  
IFSC Code  
IBKL0000041  
Bank Name  
IDBI  
Branch address  
CIVIL LINES NAGPUR

. 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.

**14. 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

JNARDDC  
payable at  
NAGPUR

. 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.

**15. 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

JNARDDC  
Account No.  
041104000192392  
IFSC Code  
IBKL0000041  
Bank Name  
IDBI  
Branch address  
CIVIL LINES NAGPUR

. 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.

**16. Financial Criteria**

**NET WORTH:** Net Worth of the OEM should be positive as per the last audited financial statement.

**17. 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.

**18. Certificates**

The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in

the bid document.

#### 19. **Service & Support**

Availability of Service Centres: Bidder/OEM must have a Functional Service Centre in the State of each Consignee's Location in case of carry-in warranty. (Not applicable in case of goods having on-site warranty). If service center is not already there at the time of bidding, successful bidder / OEM shall have to establish one within 30 days of award of contract. Payment shall be released only after submission of documentary evidence of having Functional Service Centre.

#### 20. **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.

#### 21. **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.

#### 22. **Past Project Experience**

**Proof for Past Experience and Project Experience clause:** For fulfilling the experience criteria any one of the following documents may be considered as valid proof for meeting the experience criteria:a. Contract copy along with Invoice(s) with self-certification by the bidder that service/supplies against the invoices have been executed.b. Execution certificate by client with contract value.c. Any other document in support of contract execution like Third Party Inspection release note, etc.**Proof for Past Experience and Project Experience clause:** For fulfilling the experience criteria any one of the following documents may be considered as valid proof for meeting the experience criteria:a. Contract copy along with Invoice(s) with self-certification by the bidder that service/supplies against the invoices have been executed.b. Execution certificate by client with contract value.c. Any other document in support of contract execution like Third Party Inspection release note, etc.

#### 23. **Past Project Experience**

The Bidder / OEM {themselves or through reseller(s)}, should have executed project for supply and installation / commissioning of same or similar Category Products during preceding 3 financial years (i.e. current year and three previous financial years) as on opening of bid, as per following criteria:

- (i) Single order of at least 35% of estimated bid value; or
- (ii) Two orders of at least 20% each of estimated bid value; or
- (iii) Three orders of at least 15% each of estimated bid value.

Satisfactory Performance certificate issued by respective Buyer Organization for the above Orders should be uploaded with bid. In case of bunch bids, the Category related to primary product having highest bid value should meet this criterion

#### 24. **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.

## 25. **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.

## 26. **Scope of Supply**

Scope of supply (Bid price to include all cost components) : Supply Installation Testing Commissioning of Goods and Training of operators and providing Statutory Clearances required (if any)

## **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. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

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.
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---**

## **TECHNICAL SPECIFICATION FOR THERMO-GRAVIMETRIC ANALYZER (Proximate)**

1. Automatic PC based Macro Thermo gravimetric analyzer (TGA) for measuring moisture volatiles matter and ash content in coal, coke and other solid fuels.
2. Instrument should be compliant to ASTM D-7582 and D-7348.
3. System should be able to analyze 1 to 20 samples (19 samples + 1 reference)
4. Instrument should use an integrated four-place monolithic weigh cell that is shielded and protected from any environmental or other internal component interference.
5. Instrument should provide a furnace temperature range from ambient to 1000 °C. Temperature stability should be  $\pm 1$  deg C at 105 and  $\pm 2$  deg C at all other higher ranges controlled with temperature controller.
6. Sample Size: 0.1 to 5 grams.
7. Mass resolution 0.0001 g
8. Weight Loss/ Gain Range: 0-100%.
9. Instrument should provide a dual thermocouple for monitoring of the furnace temperature accurately and precisely.
10. All heated parts should be ceramic only - carousels, crucibles, pedestal, covers.
11. Analyzer should have programmable ramp rates and ramp rate for volatile measurement.
12. System should have 5 to 50 °C/min (ramping) for ambient to 1000 °C temperature range.
13. Instrument should use a twenty position and Carousel of the analyzer should be made of high strength, technical grade ceramics to with stand high temperature and corrosive gases without warping.
14. Should have automatic crucible buoyancy calculations during analysis.

15. TGA should have exhaust fan from OEM and preprogrammed lid opening facility for faster cooling.
16. The system should be operated with Windows based software with editable programs, with data transmission from LIMS to PC, should have Open Database Connectivity (ODBC).
17. Operating Voltage: 220 VAC 50/60 Hz Furnace Capacity: 6 kW.
18. UPS with 30min backup along with PC/Laptop, Printer and Gases to be quoted.
19. The system should be operated with Windows based software. Software should be capable to present analysis data graphically in real time.
20. TGA should have option to create editable programs as per customer application/protocol.
21. Software should have facility to display the results instantly to operator after completion of the analysis.
22. Instrument software should contain customizable method parameters that include predefined methods for ASTM D-7582 compliance; temperature settings and ramp rates; atmosphere setting and flow rates; hold times; sample mass comparator settings; sample result equations for all method steps; and sample reporting settings.
23. Software should have a facility for results exporting to applications such as Excel or pdf or LIMS etc.
24. Analyzer should have smart connectivity facility for controlling the analyzer remotely through the internet from mobile/tablet/computer.
25. During sample analysis/sample introduction in analyzer, TGA lid cover should be closed through software as a safety measure for operator.
26. System should give indication about status of the analyzer like operation, maintenance/ready to use, ideal condition etc.
27. TGA should use power consumption lesser than 6 KW.
28. Software should plot the furnace temperature; sample mass, first derivative and second derivative of sample mass change versus analysis time.
29. The instrument should support the sequential loading, weighing, and taring of the crucibles; and for weighing of samples.

30. The thermo gravimetric analyzer should include - ceramic carousel, load cell, pedestal, gas fittings, fumes extractor, Min.20 ceramic crucibles, 20 crucible covers, necessary software to control the TGA through a computer, instruction manual.

Computer with Licensed Windows software

Black and white laser printer

Oxygen and Nitrogen Gas Cylinders with double stage regulator