

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
VIKRAM SARABHAI SPACE CENTRE (VSSC)  
THIRUVANANTHAPURAM**

**Tender for Design, realization, installation, commissioning and performance demonstration of a vacuum chamber (Diameter - 1500 mm and length - 2500 mm), vacuum pumps, gate valves, gauges and other accessories at HRAG/ASOE/VSSC**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202400223301 dated 08-10-2024**

## A. Tender Details

Tender No :	<b>VSSC/PURCHASE UNIT III (SPRE)/VS202400223301</b>
Tender Date :	<b>08-10-2024</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>PURCHASE UNIT III (SPRE)</b>
Centre :	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC)</b>

### **Design, realization, installation, commissioning and performance demonstration of a vacuum chamber (Diameter - 1500 mm and length - 2500 mm), vacuum pumps, gate valves, gauges and other accessories at HRAG/ASOE/VSSC**

This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 16/09/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.

Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired. Purchase preferenceto eligible vendors are applicable as per extant notifications issued by the Government of India.

The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened

in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

## **A.1 Tender Schedule**

Bid Submission Start Date : **14-10-2024 14:30**

Bid Clarification Due Date : **30-10-2024 14:00**

Bid Submission Due Date : **22-11-2024 10:01**

Bid Opening Date : **22-11-2024 10:01**

Price Bid Opening Date : **20-12-2024 10:00**

## B. Tender Attachments

### Technical Write-up/Drawings

Document : technical specification

### Instructions To Vendors

## 2. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER (IG)

1. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

2. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer. (d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

### 3. ACCEPTANCE OF STORES:

- (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.
- (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.
- (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.
- (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

4. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

- 5. a) Your offer should be valid for 90 days from the date of opening of the tender.
- b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

6. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

7. d) The term "Purchase Order" shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

### 8. GUARANTEE & REPLACEMENT:

- (a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.
- (b) For a period of twelve months after the acceptance of the stores, if any defects are discovered

therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

**9. PACKING FORWARDING & INSURANCE:** The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

**10.** Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.

**11. PRICES:** Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

**12. REJECTED STORES:**

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

**13.** Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be

mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

14. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

#### 15. TERMS & CONDITIONS OF TENDER

16. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

17. The authority of the person signing the tender, if called for, should be produced.

18. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

19. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

20. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

21. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

22. The term Purchaser shall mean the President of India or his successors or assigns.

23. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

### **3. Conditions for BIDDER FROM A COUNTRY WHICH SHARES LAND BORDER WITH INDIA**

1. 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. Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

2. Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws.

3. Validity of Registration: Registration should be valid at the time of submission of bids and should be valid at the time of placement of order.

### **4. Instructions to Vendors**

1. Last minute clarification on tenders will not be entertained.

2. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.

### **5. Specific Terms and Conditions to Tender (MII Compliant)**

1. (I) Please quote applicable GST separately.

2. (II) Our standard delivery term is FOR, VSSC. In case any vendor offers delivery term of Ex-works, Packing and Forwarding charges if any should be indicated separately either as a percentage of the quoted rate or as a Lumpsum amount.

3. (III) Our standard payment term is 100% within 30 days after receipt and acceptance of the items at our site (after installation and commissioning in cases where installation and commissioning is required).

4. (IV) Liquidated Damages: The delivery period quoted should be realistic. The delivery period so quoted and mentioned in the order is the essence of the order/contract. In case of delay in delivery of material as per the delivery schedule, Liquidated Damage @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Wherever, installation and commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.



5. (V) Performance Bank Guarantee: Wherever products offered carry warranty, the warranty should be for one year or as per manufacturers standard warranty term. Against such cases, please confirm submission of Performance Bank Guarantee. The Performance Bank Guarantee should be for 3% of the order value covering the warranty period obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of the warranty period. Alternately vendors can request for withholding 3% payment till completion of the warranty period.
6. (VI) Security Deposit: Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @ 3% of the order value by way of Bank Guarantee / FD Receipt. The Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations. If the Contractor is called upon by the Purchaser to deposit, Security and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor. In case if Security Deposit is submitted and the contractor fails to execute the order, then the security deposit will be forfeited.
7. (VII) Note: SD, LD and PBG clauses are mandatory and offers of the vendors who have not agreed for the above conditions will be excluded from the procurement process. Micro and Small Vendors are not exempted from the submission of Security Deposit. Only Govt Departments/PSUs/PSEs can submit Indemnity Bond instead of Bank Guarantee towards SD/PBG.
8. (VIII) Please upload the Technical Details / Catalogue / Data Sheets (wherever applicable)
9. (IX) The offer should be valid for a period of minimum 90 days from the date of opening of Tender and 180 Days for PT Two Part (120 Days for Technical Bid and 60 Days for Price Bid from the date of opening).
10. (X) In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer.
11. (XI) If any bidder submits forged / false document along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.
12. (XII) Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.
13. (XIII) The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the

specific terms will prevail over the standard terms.

14. (XIX) Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

15. (XV) Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

16. (XVI) Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

17. (XVII) Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.

18. (XVIII) The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself.

19. (XIX) The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

20. (XX) In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

21. (XXI) False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

22. (XXII) Purchase Preference Policy:- Goods/Works which are divisible in nature (required quantity is

greater than 1 or not a package basis): i. If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. ii. If L1 bid is not from a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases 100% quantity shall be ordered on original L1 bidder. iv. In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor. v. In case L1 bidder (not a 'Class-I local supplier') is not accepting splitting of order on 50:50 basis, in that case the order/contract shall be awarded to such 'Class-I local supplier' for full quantity subject to matching the L1 price. vi. Regarding MSEs (Indian vendors): a) The following additional aspect as indicated below would be applicable for procurement which are falls under divisible category (i.e., not applicable for indivisible category), in case of participation of MSEs in the tendering who are also complying to the Minimum Local Content (MLC) stipulated in the tender. b) If any Indian vendor satisfies the requirement of MSEs stipulation and also falls within the purchase preference margin as called for in MSME policy (in case of matching L1 price) will be considered for ordering 25% of tendered quantity, the balance quantity / works will be considered for distribution amongst all bidders (including MSEs) as per the purchase preference policy. c) In case no MSEs qualifies for purchase preference or do not match with L1 price then the total tendered quantity will be distributed amongst all bidders as per the purchase preference policy.

23. Purchase Preference Policy:- Goods/Works which are not divisible in nature (required quantity is 1 or on a package basis):

(i). If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. (ii). If L1 bid is not from a 'Class-I local supplier', then, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). (iii). In case such lowest eligible 'Class-I local supplier' fails to match the L1 price , the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases the contract shall be placed on original L1 bidder. (iv). In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor.

## 6. PPP Make in India(Non- Divisible Items-Class I & II Local Suppliers Only)

1. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-

2. a) The subject item falls under Non-divisible category. b) The offers sought only from Class-I & Class-II local suppliers

3. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

4. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.

5. The margin of Purchase Preference shall be up to 20%.

6. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost).

7. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).

8. Works means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'. Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

9. Purchase Preference Policy:- Goods/Works which are not divisible (ie., required quantity is 1 or as a package) and Services:

a) If L1 is from a 'Class-I local supplier', the contract will be awarded to L1 bidder.

b) If L1 is not from a 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

c) In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and order/contract shall be awarded accordingly. In case where none of the

'Class-I local supplier' within the margin of purchase preference agree to match the L1 price, then the order/contract shall be awarded to the original L1 Bidder.

10. The 'Class-I & II local supplier' should provide a "Self Certification" along with technical offer indicating that the item offered meets the minimum local content [as per Sl. No.(3)] as called for in the tender and provide the percentage of local content along with details of the location(s) at which the local value addition is made. In case of two bid tenders, it is mandatory to indicate compliance to MLC(minimum Local Content) in technical bid zone.

11. The ink-signed certificate shall be provided on vendors letter head along with the offer (in case of online tender, copy of ink-signed certificate shall be uploaded along with your offer under concerned tab. Original in Hard copy shall be produced on request). In case of non-submission of certificate, the purchase preference shall not apply.

12. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.

13. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.

14. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

15. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.

16. The Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India indicates that if there are any general or specific restrictive clauses to restrict participation of Indian companies in those countries procurement tenders, reciprocity clause need to be invoked as per the order. Hence, if ISRO or Govt. of India come across that Indian suppliers of an item are not allowed to participate and / or compete in procurement by your government, the bid submitted by you will be not

be considered and excluded from eligibility for procurement. Please note this point.

## C. Bid Templates

### C.1 Technical Bid - Design, realization, installation, commissioning and performance demonstration of a vacuum chamber (Diameter - 1500 mm and length - 2500 mm), vacuum pumps, gate valves, gauges and other accessories at HRAG/ASOE/VSSC

1. Vacuum chamber: Scope of work includes design, realization, installation, commissioning and performance demonstration of a vacuum chamber at HRAG/ASOE/VSSC as per the following specifications and schematic layout.

#### Item specifications for Vacuum chamber

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	PARAMETER	SPECIFICATION	Yes / No / Explain		
2	1. Scope of work	Scope of work includes design, realization, installation, commissioning and performance demonstration of a vacuum chamber (Diameter - 1500 mm and length - 2500 mm), vacuum pumps, gate valves, gauges and other accessories at HRAG/ASOE/VSSC as per the following specifications and schematic layout.	Yes / No / Explain		
3	2. Vacuum chamber description	...	Yes / No / Explain		
4	2.1 Specifications for vacuum chamber	Details as follows:	Yes / No / Explain		

5	Specifications for vacuum chamber (a)	a) The chamber shall be cylindrical with a tori-spherical end dished doors, horizontally placed, designed as per ASME Boiler & Pressure Vessel Code Section VIII division I. Welding procedures and qualification shall meet the requirements of ASME Boiler & Pressure Vessel Code section IX.	Yes / No / Explain		
6	Specifications for vacuum chamber (b)	b) Internal dimensions of the chamber shall be diameter 1500 mm & length 2500 mm.	Yes / No / Explain		
7	Specifications for vacuum chamber (c)	c) Minimum shell thickness of the chamber shall be 8 mm.	Yes / No / Explain		
8	Specifications for vacuum chamber (d)	d) Stiffening rings shall be provided only on the external side of chamber, if required.	Yes / No / Explain		
9	Specifications for vacuum chamber (e)	e) The chamber axis height from ground level shall be 1200 mm.	Yes / No / Explain		
10	Specifications for vacuum chamber (f)	f) Chamber shall be designed for external pressure operation (internal pressure of $5 \times 10^{-3}$ mbar absolute and external pressure of 1.01325 bar absolute at 35°C).	Yes / No / Explain		



11	Specifications for vacuum chamber (g)	g) The vacuum chamber and all vacuum chamber subsystems inside the chamber shall be constructed using stainless steel (AISI 304L). The vendor shall provide a material test certificate from NABL certified laboratory, stating mechanical and chemical properties with traceability. All blank flanges shall be constructed using AISI 304.	Yes / No / Explain		
12	Specifications for vacuum chamber (h)	h) Flanges of vacuum chamber shall be ISO DN-F/KF type as per applicable vacuum standards.	Yes / No / Explain		
13	Specifications for vacuum chamber (i)	i) The chamber front & rear door shall be clamped using manual clamps. There shall be door open/ close status indication in the control console.	Yes / No / Explain		
14	Specifications for vacuum chamber (j)	j) All joints shall be TIG welded, using certified filler rods and high-purity argon/ helium shield gas. Welding filler rods are to be compatible for SS304L material. Only qualified welders shall carry out welding with the established welding procedure specification.	Yes / No / Explain		
15	Specifications for vacuum chamber (k)	k) Vacuum chamber elements including all welded joints shall be leak tested with a Helium Mass Spectrometer Leak Detector to an Individual leak rate of better than $1 \times 10^{-8}$ mbar L/s of Helium.	Yes / No / Explain		

16	Specifications for vacuum chamber (l)	l) Necessary handling provisions shall be provided for the chamber.	Yes / No / Explain		
17	Specifications for vacuum chamber (m)	m) Tori spherical dished doors on both ends (front & rear) shall be double hinged. Rotational movement of the door about vertical axis perpendicular to the chamber axis shall be within $\pm 5^\circ$ with respect to hinge on door. Door flanges shall be forged type with minimum finished thickness of 50 mm.	Yes / No / Explain		
18	Specifications for vacuum chamber (n)	n) The O-ring on the chamber door shall be moulded type and uniform compression of the O-ring shall be ensured.	Yes / No / Explain		
19	Specifications for vacuum chamber (o)	o) Chamber inner surface shall be buffed and electrochemically polished for minimizing outgassing. Surface finish for all vacuum exposed surface and sealing surface shall be of three triangle finish (Ra value - 0.025 $\mu\text{m}$ to 1.6 $\mu\text{m}$ ).	Yes / No / Explain		
20	2.2 Specifications for test article mounting platform (Tray)	Details as follows:	Yes / No / Explain		
21	Specifications for test article mounting platform (Tray) (a)	a) Material of construction for test article mounting platform shall be AISI 304L.	Yes / No / Explain		
22	Specifications for test article mounting platform (Tray) (b)	b) Dimension of test article mounting platform shall be 1400 mm (width) x 2400 mm (Depth).	Yes / No / Explain		
23	Specifications for test article mounting platform (Tray) (c)	c) Load carrying capacity of test article mounting platform shall be minimum 200 Kg (udl).	Yes / No / Explain		

24	Specifications for test article mounting platform (Tray) (d)	d) Test article mounting platform shall have an array of through holes of dia. 10 mm (8 rows x 8 columns of 100 mm x 100 mm) to mount the test article.	Yes / No / Explain		
25	Specifications for test article mounting platform (Tray) (e)	e) Test article mounting platform shall be movable type. It shall be design in such a way that it can be moved on the guide way with full stroke with minimum effort. Suitable locking mechanism shall be provided to prevent movement of the tray inside the chamber.	Yes / No / Explain		
26	2.3 Specifications for safety shield		-		
27	Specifications for safety shield (a)	a) A safety shield shall be provided inside the chamber covering the test article mounting platform to prevent direct hitting of fragments on to the chamber wall during the test. A typical schematic for safety shield is shown in fig.2. Schematic shown is tentative, better alternates for the same is also acceptable on mutually agreed basis.	Yes / No / Explain		
28	Specifications for safety shield (b)	b) Material of construction for safety shield shall be AISI 304L.	Yes / No / Explain		
29	Specifications for safety shield (c)	c) Dimensions of safety shield shall be Dia. 1400 mm x 2400 mm long.	Yes / No / Explain		
30	Specifications for safety shield (d)	d) Thickness of safety shield shall be 2 mm (minimum).	Yes / No / Explain		

31	Specifications for safety shield (e)	e) Safety shield shall be mounted on the test article mounting platform through detachable type joint so that it can be easily removed from platform for maintenance & cleaning purposes.	Yes / No / Explain		
32	Specifications for safety shield (f)	f) Two separate end safety shields shall be provided – one attached with front door and other attached with baffle plate. End shield attached with baffle plate shall be of detachable type.	Yes / No / Explain		
33	Specifications for safety shield (g)	g) Necessary stiffeners shall be provided in the safety shields considering structural stability.	Yes / No / Explain		
34	2.4 Specifications for support table for test article mounting platform	Details as follows:	Yes / No / Explain		
35	Specifications for support table for test article mounting platform (a)	a) A movable type table located outside the chamber shall be provided to support the test article mounting platform while removing the same from the chamber after the test.	Yes / No / Explain		
36	Specifications for support table for test article mounting platform (b)	b) Length, width and height of the table shall be in line with the test article mounting platform.	Yes / No / Explain		
37	Specifications for support table for test article mounting platform (c)	c) Material of construction for support table shall be AISI 304L.	Yes / No / Explain		
38	Specifications for support table for test article mounting platform (d)	d) Appropriate guiding mechanism shall be provided on the table for easy movement of test article mounting platform.	Yes / No / Explain		

39	Specifications for support table for test article mounting platform (e)	e) Adequate locking mechanism shall be provided on the support table for locking the test article mounting platform.	Yes / No / Explain		
40	2.5 Specifications for vacuum chamber support structure	Details as follows:	Yes / No / Explain		
41	Specifications for vacuum chamber support structure (a)	a) Chamber shall be mounted on a Mild steel structure meeting all the structural requirements. It shall be sturdy to prevent undue vibration of the chamber.	Yes / No / Explain		
42	Specifications for vacuum chamber support structure (b)	b) The supporting points on the chamber shall be strengthened using AISI 304L material. (Such pads shall not obscure the longitudinal as well as cirseam welds)	Yes / No / Explain		
43	2.6 Specifications for exhaust system for removing residual gases	Details as follows:	Yes / No / Explain		
44	Specifications for exhaust system for removing residual gases (a)	a) An exhaust system equipped with suitable mechanism and cylindrical duct shall be provided for safe exhaust of residual gases to outside the room. Tentative schematic of the exhaust system is shown in fig. –	Yes / No / Explain		
45	Specifications for exhaust system for removing residual gases (b)	b) During exhaust of residual gases, the maximum pressure inside the chamber shall be near to atmospheric pressure.	Yes / No / Explain		
46	Specifications for exhaust system for removing residual gases (c)	c) Duct shall be of cylindrical type with approximate dia. of 150 mm.	Yes / No / Explain		
47	Specifications for exhaust system for removing residual gases (d)	d) Length of duct shall be 6 meter (approx.) with flexible connection.	Yes / No / Explain		

48	Specifications for exhaust system for removing residual gases (e)	e) Material of construction for duct shall be Aluminium Alloy with adequate stiffeners.	Yes / No / Explain		
49	Specifications for exhaust system for removing residual gases (f)	f) Exhaust system shall be connected to the chamber by ISO 160F (Approx.) flange port through electro pneumatic gate valve.	Yes / No / Explain		
50	2.7 Specifications for vacuum chamber ports	All ports and vacuum feed-throughs shall be provided with Viton O- rings. Dummy flanges shall be provided for all ports, including feed-through ports. Schematic of port details are shown in fig. - 3. Details of vacuum chamber ports are given in table - 1. Details given are tentative and shall be firmed up during design review stage.	Yes / No / Explain		
51	2.8 Specifications for painting	Chamber surfaces exposed to outside environment shall be first coated with zinc chromate primer followed by two coats of polyurethane paint. Support stand shall be cleaned of rust and dust and to be painted with (2 coats) epoxy paint after applying 2 coats of zinc rich primer.	Yes / No / Explain		

52	3.0 Vacuum system description	The objective of vacuum system is to pump out the vapour & gas present in the chamber (including gases given out by test articles and chamber elements) and to maintain a vacuum level $5 \times 10^{-3}$ mbar in the chamber throughout the test. The proposed vacuum system comprises of a vacuum pumping system, re-pressurization system and vacuum measurement system.	Yes / No / Explain		
53	3.1 Design / specifications for vacuum system	...	Yes / No / Explain		
54	Design / specifications for vacuum system (a)	a) Vacuum pumping system consisting of Rotary and Roots pump connected in series shall be designed to achieve a vacuum of $5 \times 10^{-3}$ mbar from ambient within 30 minutes.	Yes / No / Explain		
55	Design / specifications for vacuum system (b)	b) Ultimate vacuum shall be demonstrated with vacuum chamber backfilled with GN2 gas.	Yes / No / Explain		
56	Design / specifications for vacuum system (c)	c) Vacuum pump shall be connected to the vacuum chamber through vacuum isolation gate valves (operated electro pneumatically), SS piping of suitable size and flexible bellows.	Yes / No / Explain		
57	Design / specifications for vacuum system (d)	d) Pumping system shall have adequate pumping capacity for continuous operation up to 24 hours at a stretch.	Yes / No / Explain		

58	3.2 Specification for complete roughing skid (Roots pump+Double stage Rotary pump)	Details as follows:	Yes / No / Explain		
59	Specification for complete roughing skid (Roots pump+Double stage Rotary pump) (a)	a) Roughing skids shall be capable of achieving a vacuum level of $5 \times 10^{-3}$ mbar.	Yes / No / Explain		
60	Specification for complete roughing skid (Roots pump+Double stage Rotary pump) (b)	b) Roots pumps shall be integrated with an overflow valve to enable switch on together with the backing pump even at atmospheric pressure.	Yes / No / Explain		
61	Specification for complete roughing skid (Roots pump+Double stage Rotary pump) (c)	c) Tentative Specifications for Roots Vacuum Pumps: i) Nominal Pumping Speed (50Hz) : 1000m <sup>3</sup> /h (approx..) ii) Ultimate pressure with double stage rotary pump as backing pump: $\leq 5 \times 10^{-4}$ mbar	Yes / No / Explain		
62	Specification for complete roughing skid (Roots pump+Double stage Rotary pump) (d)	d) Tentative specifications for Rotary Vane Pump i) Pumping Speed (50Hz): 120m <sup>3</sup> /h (Approx.)	Yes / No / Explain		
63	3.3 Specification for vacuum isolation valve	Vacuum isolation gate valves of appropriately size shall be provided to isolate the chamber from vacuum pumping system based on the system design. Additional gate valves shall be provided, if necessary. Major specifications are given bellow	Yes / No / Explain		
64	3.3.1 Type	Electro pneumatically actuated high vacuum gate valve with position indicator and solenoid	Yes / No / Explain		
65	3.3.2 Leak tightness	1E-9 mbar.L/s	Yes / No / Explain		



66	3.3.3 Seal	FKM	Yes / No / Explain		
67	3.3.4 Housing material	Aluminium	Yes / No / Explain		
68	3.3.5 Differential pressure on the gate	less than or equal to 1.6 bar (abs)	Yes / No / Explain		
69	3.4 Specification for seamless pipe and flexible bellows	AISI 304L seamless pipes and flexible bellows of AISI 316 L, suitably sized for the highest conductance shall be used in the pumping system for the highest conductance.	Yes / No / Explain		
70	3.5 Specification for re-pressurization system	An air admittance valve EPV4 shall be provided for re-pressurizing the chamber after the test/ process. Major specifications are given below.	Yes / No / Explain		
71	3.5.1 Inlet and outlet flange	DN 25 ISO-KF	Yes / No / Explain		
72	3.5.2 Leak tightness	1E-8mbar.L/s	Yes / No / Explain		
73	3.5.3 Seal	FKM	Yes / No / Explain		
74	3.5.4 Housing material	Stainless steel	Yes / No / Explain		
75	3.5.5 Differential pressure in opening direction	2000 mbar	Yes / No / Explain		
76	3.5.6 Pressure range	2000 mbar (abs) to 1E-3 mbar	Yes / No / Explain		
77	3.5.7 Operating voltage	230 V AC, 50Hz	Yes / No / Explain		

78	3.6 Specification for vacuum measurementsystem	Combined pirani capacitance gauge shall be provided for monitoring the chamber pressure. Vacuum gauges shall be connected to the chamber through isolation valves. Both gauges shall be mounted on a DN 160 ISO-F flange welded to the chamber (2 Nos. of DN 16 ISO KF ports shall be welded to this flange). Similar valve used for re-pressurisation system with a size of DN 16 ISO KF size shall be provided for isolation of vacuum gauges. Vacuum reading shall be displayed in digital and graphical form in the HMI screen. Major specifications of the vacuum gauge are given bellow	Yes / No / Explain		
79	3.6.1 Gauge Type	Combined pirani capacitance gauge	Yes / No / Explain		
80	3.6.2 Measurement Range	1100 mbar to 5E-5 mbar	Yes / No / Explain		
81	3.6.3 Accessories	Built-in Display with Communication Interface	Yes / No / Explain		
82	4.0 Feedthrough description	2 nos. of electrical and 2 nos. of thermocouple feed through shall be provided. All the feed through shall have mating connectors inside and outside of the chamber.	Yes / No / Explain		

83	4.1 Specification for electrical feedthrough	Chambers shall be provided with an electrical feedthrough with 50 channels for device testing, with mating connectors at both ends. Each feed through shall be identified by a unique number and tag. Each wire in the harness shall also be tagged. Detailed specifications are given below.	Yes / No / Explain		
84	4.1.1 Feedthrough type	Electrical feedthrough	Yes / No / Explain		
85	4.1.2 Number of Pins	50	Yes / No / Explain		
86	4.1.3 Pin Insulation	Each pin shall be individually insulated to prevent electrical shorting and for maintaining isolation between the internal and external circuits.	Yes / No / Explain		
87	4.1.4 Current Rating	10A per pin	Yes / No / Explain		
88	4.1.5 Vacuum Compatibility	Designed to withstand vacuum level of 10 <sup>-3</sup> mbar or lower	Yes / No / Explain		
89	4.1.6 Connector Type	At both the ends the harness of each feed through shall be terminated on to 50 pin ITT D type gold plated connectors.	Yes / No / Explain		
90	4.1.7 Testing and Certification	Feedthrough shall be tested as per industry standards to ensure vacuum compatibility, electrical insulation, and reliability	Yes / No / Explain		

91	4.2 Specification for thermocouple feed through (2 nos.)	K – Type thermocouple feed through with 10 channels having end connectors on both sides shall be provided for temperature monitoring of the test article. The connectors and feed through shall be compact and sealed (maximum permissible leak rate shall be better than $1 \times 10^{-8}$ mbar l/s). Detailed specifications are given below.	Yes / No / Explain		
92	4.2.1 Feed through Type	Thermocouple feed through	Yes / No / Explain		
93	4.2.2 Number of Channels	10	Yes / No / Explain		
94	4.2.3 Thermocouple Type	Type K thermocouple	Yes / No / Explain		
95	4.2.4 Hermetic Sealing	The feed through is hermetically sealed to ensure vacuum tightness and prevent gas leakage	Yes / No / Explain		
96	4.2.5 Wire Insulation	Each thermocouple wire shall be isolated to prevent electrical shorting and to maintain accurate temperature measurements	Yes / No / Explain		
97	4.2.6 Vacuum Compatibility	Designed to withstand vacuum level of $10^{-3}$ mbar or lower	Yes / No / Explain		
98	4.2.7 Connector Type	Feed through shall have standard connectors compatible with 10 channel thermocouple connectors for interfacing with the external monitoring or control systems	Yes / No / Explain		

99	4.2.8 Testing and Certification	Feedthrough shall be tested as per industry standards to ensure vacuum compatibility, electrical insulation, and reliability	Yes / No / Explain		
100	5.0 Electrical and instrumentation control system description	..	Yes / No / Explain		
101	5.1 Specifications for electrical power distribution and switching panel	..	Yes / No / Explain		
102	a) Power distribution and switching panel is in the scope of the supplier. Supplier shall manage power distribution to all the electrical equipment through appropriately sized starters/relays, switches etc. to ensure proper switching of all equipments, safety of personnel and equipments. The equipment shall work/operate for a power supply of 415V AC $\pm 5\%$ , 3 phase, 50Hz.	...	Yes / No / Explain		
103	b) The electrical cabling to and from the panels shall meet industry standards and shall be ensured that the routing and clamping doesn't interfere with routine operations and facilitate periodic maintenance works.	...	Yes / No / Explain		
104	c) Overload circuit breakers and earth leakage circuit breakers shall be provided. Details of special earthing, if required shall be provided.	...	Yes / No / Explain		

105	d) Every input and output cable shall be properly identified and tagged. Detailed documentation of the electrical wiring and interconnections shall be provided.	...	Yes / No / Explain		
106	e) Routing of special earthing lines from the earthing pit to the chamber subsystems is in the scope of the supplier. Earthing pit alone will be provided by VSSC.	...	Yes / No / Explain		
107	5.2 Specifications for control and instrumentation panel	The operation of chamber subsystems including vacuum pumps, vacuum gauge, electro pneumatic valves, vacuum and temperature monitoring systems etc. shall be controlled through a HMI (Human machine Interface) control panel located close (3 to 5m) to the chamber. Key features and components of an HMI touch screen control system shall be as follows -	Yes / No / Explain		
108	a) Operating Panel shall have a display with minimum size of 12" (diagonal). It shall be a touch enabled panel with easy menu-guided operations.	...	Yes / No / Explain		
109	b) Standard PLC controller shall be provided having a provision for temperature monitoring for test article and creating vacuum profiles (vacuum Vs temperature profile).	...	Yes / No / Explain		

110	c) Display panel and PLC controller shall be of generic nature and make shall be readily available in open market. It shall be non –proprietary.	..	Yes / No / Explain		
111	d) Display panel shall display full diagnostic logs of errors, warning, malfunctions etc. of chamber components like vacuum pumps, vacuum gauges, vacuum isolation valves, intermittent power failure etc. Display panel shall have provisions for storing the data for future retrieval.	..	Yes / No / Explain		
112	e) Software for PC based operation and remote control shall be provided. This software shall be license free. Support for the software including future updates etc. shall be provided free of cost. One extra copy of software (installable) shall be provided in case of meeting any exigency arising due to corruption of loaded software.	...	Yes / No / Explain		
113	5.3 Specifications for data logging	Details as follows:	Yes / No / Explain		

114	Specifications for data logging (a)	a) Provision for real time monitoring and printing of test specimen temperature and vacuum (for 10 sample thermocouple and chamber vacuum sensors) using external PC interface Via LAN (Apart from HMI PC meant for chamber programme control) shall be provided. The basic configuration of this external PC shall be as follows - Processor : Intel® Core™ i7-10700 or better RAM : 8GB Hard disk : SATA, 1TB minimum Monitor : LED, 32 inch	Yes / No / Explain		
115	Specifications for data logging (b)	b) Ethernet connectivity to personal computer shall be available with provision for remote operation (minimum 25meter away from chamber).	Yes / No / Explain		
116	Specifications for data logging (c)	c) USB port and provision to download test data shall be provided.	Yes / No / Explain		
117	6.0 Air compressor (Qty. – 1 No.)	A rotary screw air compressor of adequate capacity shall be provided to actuate electro pneumatic valves. Compressed air lines shall be of stainless steel. Flexible PU tubes shall be used for short lengths near to actuators & valves. Alongwith compressor, following shall be provided -	Yes / No / Explain		
118	a) Compressed air reservoir of adequate capacity	...	Yes / No / Explain		



119	b) Refrigerated air dryer compatible for the selected air compressor	...	Yes / No / Explain		
120	c) FRL unit at the outlet of the dryer	...	Yes / No / Explain		
121	d) Automated drain valve with a timer for reservoir and dryer	...	Yes / No / Explain		
122	7.0 Inspection and acceptance test plan at factory and at VSSC	Specifications & performance of equipment listed above shall be demonstrated at factory (during PDI) and at VSSC(during site acceptance test). In addition to this, following aspect also shall be demonstrated.	Yes / No / Explain		
123	a) Functioning of all interlocks	..	Yes / No / Explain		
124	b) Safe shut down & revival in the event of electrical power failure	....	Yes / No / Explain		
125	c) All Safety alarms & its acknowledgment	...	Yes / No / Explain		
126	d) Functioning of emergency push stop button	...	Yes / No / Explain		
127	8.0 Commercial terms & conditions	...	Yes / No / Explain		

128	8.1 Scope of supply	The scope of supply is to design, fabricate, demonstrate main parameters/specifications at vendor's site, transport to site, handle at site, integrate, test & demonstrate all sub systems, install and commission a horizontally mounted Vacuum chamber at ASOE, Vikram Sarabhai Space centre, ISRO Thiruvananthapuram on turnkey basis as per the attached technical specifications. Mutually agreed third party certification from M/s.BVQI/LLOYDS/TUV is required at all stages of fabrication from raw material identification till testing during pre-delivery inspection stage.	Yes / No / Explain		
129	8.2 Bidding process	The quote shall be presented in TWO parts namely, Techno – Commercial bid and Price bid. Both bid shall be separately sealed and clearly identified.	Yes / No / Explain		
130	8.3 Techno-commercial bid		-		
131	8.3.1 Techno-commercial bid details	Techno-commercial bid shall contain the following information –	Yes / No / Explain		
132	a) Tentative layout diagram of the proposed system showing major equipment with the minimum floor area / space required for installation	..	Yes / No / Explain		

133	b) Technical specifications of the vacuum chamber such as chamber size, wall thickness etc.	...	Yes / No / Explain		
134	c) Materials used in realisation of system and the standards followed in design	...	Yes / No / Explain		
135	d) Source / make of individual equipment with its technical catalogue	..	Yes / No / Explain		
136	e) List of essential spares that will be provided along with the chamber	..	Yes / No / Explain		
137	8.3.2 Evaluation	Evaluation of technical specifications by the committee will be based on the inputs provided in the techno-commercial bid. Merely accepting the tender specification is not sufficient unless it is backed up by supporting information/calculations, catalogs and proof of achieving the parameters in earlier supplied items to various national as well as international customers. Bid will be rejected if all necessary information is not provided.	Yes / No / Explain		
138	8.4 Price bid	Price bid shall contain the following information –	Yes / No / Explain		
139	a) Price for the complete system (including all the activities mentioned in scope of work)	...	Yes / No / Explain		
140	b) Cost breakup of all major sub systems viz chamber, pumping system & transportation etc.	...	Yes / No / Explain		

141	c) List & cost of items sourced within India included in technical quote( In terms of percentage of total cost)	...	Yes / No / Explain		
142	d) Cost breakup of the essential spare parts proposed for the trouble-free operation of the chamber for a period of 10 years (minimum). The quantity and price shall also be provided in price bid.	....	Yes / No / Explain		
143	e) Non comprehensive Annual Maintenance Contract (AMC) charges for a period of 7 years after warranty period.	...	Yes / No / Explain		
144	8.5 Delivery period	The chamber shall be installed and commissioned by the supplier within 10 months from the date of acceptance of PO.	Yes / No / Explain		
145	8.6 Right to visit	VSSC reserves the right to visit vendor's/sub-contractors site where the systems are getting realized as part of inspection to verify data specified in technical bids/facility capabilities/infrastructure	Yes / No / Explain		
146	8.7 Adequacy of offer	Offer shall be for the total system and incomplete/ partial offers will not be considered.	Yes / No / Explain		

147	8.8 Technical presentation / clarification	Vendor shall be ready to give a technical presentation/clarification to the Technical Committee constituted in this regard by VSSC Thiruvananthapuram . A lead time of two weeks will be provided for this presentation/clarification.	Yes / No / Explain		
148	8.9 Acceptance test plan and schedule of activities	Vendor shall give full details of acceptance test plan & schedule of activities proposed at vendor's site and VSSC.	Yes / No / Explain		
149	8.10 Third party inspection	Vendor shall confirm compliance to all the specifications witnessed by Third Party Inspection Agency (TPIA) and the inspection / tests reports thus generated and vouched by TPIA shall be provided to VSSC well in advance for scrutiny prior to witnessing tests at vendor's site.	Yes / No / Explain		
150	8.11 Pre dispatch inspection	Pre-dispatch inspection shall be carried out by VSSC Engineers at vendor's site. This may involve demonstration of salient specifications as per factory acceptance test plan in presence of VSSC engineers at their works/site.	Yes / No / Explain		
151	8.12 Vendor responsibilities details	Responsibilities of vendor are as follows –	Yes / No / Explain		
152	a) Safe transportation of total system; warehouse to warehouse insurance shall be provided by vendor.	...	Yes / No / Explain		

153	b) Supervise unloading and handling of the system at VSSC site, Thiruvananthapuram .	...	Yes / No / Explain		
154	c) Installation and commissioning of total system at VSSC site at Thiruvananthapuram adhering to all safety regulations.	...	Yes / No / Explain		
155	d) Demonstration of total performance specifications of the integrated system including vacuum chambers and other associated system supplied.	...	Yes / No / Explain		
156	8.13 Training	Vendor shall impart detailed training for operation, trouble shooting and maintenance of the system to Engineers & Technicians at VSSC, Thiruvananthapuram at no extra cost.	Yes / No / Explain		
157	8.14 Technical catalog, literature & data sheet	Vendor shall attach technical catalogs, literature and detailed data sheets of all items offered by the vendor in support of their technical offer.	Yes / No / Explain		
158	8.15 User manual / documentation	Installation, operation and maintenance manuals in English for all systems/sub systems shall be supplied. CAD drawings and circuit diagrams relevant to maintenance shall also be included.	Yes / No / Explain		
159	8.16 Approval of fabrication drawing	The vendor shall submit the fabrication drawing for the vacuum chamber along with layout drawings of vacuum pumping system for prior approval to initiate fabrication works.	Yes / No / Explain		

160	8.17 Warranty	The vendor shall provide a performance warranty of minimum 1 year, from the date of installation, commissioning and acceptance at VSSC.	Yes / No / Explain		
161	8.18 Maintenance	All maintenance related issues shall be addressed within 3 days from the date of service call.	Yes / No / Explain		
162	9.0 Safety	-	Yes / No / Explain		
163	a. Interlocks required for the safe operation of equipment shall be provided	....	Yes / No / Explain		
164	b. Tower light shall be provided above the control panel.	.....	Yes / No / Explain		
165	c. Emergency stop switch with minimum 40mm dia. In compliance with ISO 13850:2015 shall be provided with stop category 1.	.....	Yes / No / Explain		
166	d. Surge protection device, ammeter and voltmeter shall be provided.	.....	Yes / No / Explain		
167	e. The control & Instrumentation panel shall have the mimic diagram of the chamber and utility operational status.	.....	Yes / No / Explain		
168	f. Control panel shall be provided with fans to dissipate the heat.	.....	Yes / No / Explain		
169	g. The wall thickness or pressure rating of the stainless steel tubes required for pneumatic lines shall be in line with the compressor operating pressure.	.....	Yes / No / Explain		

170	h. The test article moving platform shall be designed in such a way that chances of its falling out while pulling is totally eliminated	.....	Yes / No / Explain		
171	i. The view port provided in the equipment shall be made of shatter proof toughened glass	.....	Yes / No / Explain		
172	j. Exhaust system shall be capable of removing all the exhaust gas from the chamber	.....	Yes / No / Explain		
173	k. O-ring provided at the door of chamber shall be made of Viton/ Silicon rubber.	.....	Yes / No / Explain		
174	l. Party shall obtain approval from VSSC for the design of vacuum chamber and its safety provisions before realization.	.....	Yes / No / Explain		

**Common Specifications (Applicable for all items)**

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Nil		-		

**Supporting Documents required from Vendor**

**1. List & cost of items sourced within India (In terms of percentage of total cost) (Price Bid Related)**

**2. Non comprehensive Annual Maintenance Contract (AMC) charges for 7th year (Price Bid Related)**

**3. Non comprehensive Annual Maintenance Contract (AMC) charges for 6th year (Price Bid Related)**

**4. Non comprehensive Annual Maintenance Contract (AMC) charges for 5th year (Price Bid Related)**



- 5. Non comprehensive Annual Maintenance Contract (AMC) charges for 4th year (Price Bid Related)**
- 6. Non comprehensive Annual Maintenance Contract (AMC) charges for 3rd year (Price Bid Related)**
- 7. Non comprehensive Annual Maintenance Contract (AMC) charges for 2nd year (Price Bid Related)**
- 8. Non comprehensive Annual Maintenance Contract (AMC) charges for 1st year (Price Bid Related)**
- 9. Price for the complete system (including all the activities mentioned in scope of work) (Price Bid Related)**
- 10. Cost breakup of all major sub systems viz chamber, pumping system & transportation etc. (Price Bid Related)**
- 11. Cost breakup of the essential spare parts proposed for the trouble-free operation of the chamber for a period of 10 years (minimum). The quantity and price shall also be provided in price bid. (Price Bid Related)**
- 12. Tentative layout diagram of the proposed system showing major equipment with the minimum floor area / space required for installation**
- 13. Technical specifications of the vacuum chamber such as chamber size, wall thickness etc.**
- 14. Materials used in realization of system and the standards followed in design**
- 15. Source / make of individual equipment with its technical catalogue**
- 16. List of essential spares that will be provided along with the chamber**
- 17. Local content declaration**
- 18. Unpriced offer with techno-commercial details in pdf format is mandatory.**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Nil	Yes / No / Explain	
2	Taxes and other costs,	Yes / No / Explain	
3	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
4	Delivery Terms.(FOR VSSC)	Yes / No / Explain	
5	Delivery Period (Please specify the period required for the supply on receipt of PO)	Yes / No / Explain	
6	Installation (Please specify the period required for completing Installation & Commissioning work on Intimation from VSSC on site readiness).	Yes / No / Explain	
7	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
8	Warranty (1 Year from the date of Installation, Commissioning and acceptance of item at VSSC)	Yes / No / Explain	
9	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	

10	Please quote your lowest AMC charges per year for 7 Years. Percentage of taxes, if any payable shall be shown separately. The rates shall remain firm and fixed till the completion of the contract period. Scope of AMC shall also be mentioned.	Yes / No / Explain	
11	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days on receipt, acceptance, Installation and commissioning of the item at our site. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
12	Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) More than 20% but less than 50% : Class-II local supplier. c) Less than or equal to 20% : Non-local supplier. Mention your category.	Yes / No / Explain	
13	Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.	Yes / No / Explain	
14	The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself. Confirm attachment of Self declaration along with the offer.	Yes / No / Explain	

15	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
16	Any Other Terms	Yes / No / Explain	
17	Offer Validity (180 days)	Yes / No / Explain	
18	This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 16/09/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.	Yes / No / Explain	
19	This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.	Yes / No / Explain	
20	Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired. Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.	Yes / No / Explain	
21	The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.	Yes / No / Explain	

22	False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.	Yes / No / Explain	
23	Techno-Commercial Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Vacuum chamber: Scope of work includes design, realization, installation, commissioning and performance demonstration of a vacuum chamber at HRAG/ASOE/VSSC as per the following specifications and schematic layout.	1.00 Nos.		-		

### Common charges (Applicable for all items)

AMC Charges for 1st Year after warranty period	
AMC Charges for 2nd Year after warranty period	
AMC Charges for 3rd Year after warranty period	

<b>AMC Charges for 4th Year after warranty period</b>	
<b>AMC Charges for 5th Year after warranty period</b>	
<b>AMC Charges for 6th Year after warranty period</b>	
<b>AMC Charges for 7th Year after warranty period</b>	
<b>Any Other Charges</b>	
<b>Packing and Forwarding Charges</b>	
<b>Freight charge</b>	
<b>Essential Spares for 10 Year Operation</b>	
<b>Cost of Spares to be supplied along with Chamber</b>	