**ISRO INERTIAL SYSTEMS UNIT**
Vattiyoorkavu
Thiruvananthapuram – 695 013

आईआईएसू/सिटी/विज्ञापन-42/2019 विज्ञापन 25/02/2020
ADVT.NO.IISU/PT/ADVT-42/2019 dated 25/02/2020

भारत के राज्यपाल के लिए तथा उनकी ओर से निर्देशित मद्द के लिए चरित्र क्रम एवं चंद्र अधिकारी, इसरो जड़लीय प्रणाली यूनिट (आईआईएसू) वत्तीयोर्क्कावु पी, ओ., तिरुवानंतपुरम, मोहरवंड निविदाएँ आमलित करते हैं:-

For and on behalf of the President of India, the Senior Purchase & Stores Officer, ISRO Inertial Systems Unit (IISU) Vattiyoorkavu, Thiruvananthapuram invites Sealed Tenders for the following item:-

<table>
<thead>
<tr>
<th>क्रम संख्या / Sl. No.</th>
<th>निविदा संख्या / Tender No.</th>
<th>विवरण / Description</th>
<th>मात्रा / Qty.</th>
<th>इम्प / EMD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8625 2019006774 दो भाग/Two Part</td>
<td>उड्ड परिसंचालन टूल का खराब का आपूर्ति / Supply of High Precision Tool Room Lathe</td>
<td>01 No.</td>
<td>निविदा दस्तावेजों का संदर्भ ले Refer Tender documents</td>
</tr>
<tr>
<td>2.</td>
<td>8625 2019006775 दो भाग/Two Part</td>
<td>हस्त कार्यकाल सार मशीन का आपूर्ति / Supply of Manual Cylindrical Grinding Machine</td>
<td>01 No.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>8715 2019007097 दो भाग/Two Part</td>
<td>विद्यमान पर्यावरण दस्तावेज वस्त्र / Controlled Environment Glove Box</td>
<td>01 No.</td>
<td></td>
</tr>
</tbody>
</table>

**नोट:-** विवरण तथा विवरण दस्तावेज एवं अन्य निविदा दस्तावेज के अनुसार

*Note:* Specification and detailed terms & conditions as per Tender document

<table>
<thead>
<tr>
<th>निविदा शुल्क / Tender Fee</th>
<th>Rs. 560/-प्रति निविदा/ per tender</th>
</tr>
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<tbody>
<tr>
<td>निविदा फॉर्म जारी करने की अंतिम तिथि / Last Date for issue of Tender Forms</td>
<td>25/03/2020 बंद तक / up to 16.00 hrs.</td>
</tr>
<tr>
<td>निविदा स्वीकृति के लिए निर्धारित तिथि / Due Date for Receipt of Tender</td>
<td>26/03/2020 बंद तक / up to 16.00 hrs.</td>
</tr>
<tr>
<td>निविदा कैंसेल करने की तिथि / Tender Opening Date</td>
<td>27/03/2020 बंद तक / up to 10.00 hrs.</td>
</tr>
</tbody>
</table>

**इसरो वेब साइट** www.isro.gov.in पर निविदा दस्तावेज़ उपलब्ध है। इस प्रकार निविदाकार, वेब साइट से निविदा दस्तावेज़ हाउसलोड करें और निविदा सुजन में दिए गए विवरण के अनुसार, दरिया लेखा अधिकारी, आईआईएसू, वत्तीयोर्क्कावु, तिरुवानंतपुरम - 695013 के नाम पर भारतीय स्टेट बैंक, नेट्टायम शाखा, तिरुवानंतपुरम में दें, पानी किताब हो जाए, वित्तवाणिज्यिक रूप से प्राप्त हो, निरंजित निविदा भाग के साथ अपना प्रस्ताव दस्तावेज करें।

*Tender document is available at ISRO web site www.isro.gov.in. Interested tenderers may, download the tender document from the web site and submit their offers alongwith the prescribed tender cost in the form of CROSSED DEMAND DRAFT drawn in favour of Sr. Accounts Officer, IISU Accounts, Vattiyoorkavu P.O., Thiruvananthapuram-695013 payable at State Bank of India, Nettayam Branch, Trivandrum – 695 013 as per details given in the Tender Notification.*

हस्ताक्षरित/Sd/-
बरिष्क क्रम एवं चंद्र अधिकारी/Sr. Purchase & Stores Officer
फोन/Phone No.0471-2569317
ई-मेल/Email: spso_iisu_pur@vssc.gov.in
Dear Sirs,

Please submit your sealed quotation, in the Tender Form enclosed here along with the descriptive catalogues/literature, superscribed with Our Ref. No. and Due Date for the supply of the following items as per the terms & conditions mentioned in Annexure (Form No: DOS:PM:FORM 22 E). CLOSED

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description of Items with Specifications</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply, Installation, Commissioning, Demonstration &amp; Training of Manually Operated High Precision Tool Room Lathe with accessories. Detailed Specifications, Terms and Conditions as per Annexure 1 attached.</td>
<td>Nos</td>
<td>1</td>
</tr>
</tbody>
</table>

DELIVERY AT: IISU, TRIVANDRUM

MODE OF DESPATCH ON SITE

DUTY EXEMPTIONS CDEC WILL BE PROVIDED, IF REQUIRED

SPECIAL INSTRUCTIONS AS PER ENCLOSURE

INSTRUCTIONS TO TENDERERS:

1. Please submit your quotation in two parts:- (i) Technical and Commercial Bid (ii) Price Bid (Detailed in Annexure II).
2. If you are unable to submit offer, the same may be communicated to us by Fax/ E-mail/ Post before the due date and time.
3. Please submit your quotation in a sealed envelope only superscribing the enquiry number and date of opening, fax or e-mail quotations will not be considered.
4. Bidders who are desirous of attending the tender opening may make arrangements for attending the tender opening at their own cost.

For and on behalf of the President of India
The Purchaser
Specifications of Manually operated High Precision Tool Room Lathe

A Machine Description and applications

This High Precision lathe is intended for carrying out manual precision turning operations for realizing various high precision components in aerospace materials like High strength steels, Alloyped steels, Titanium alloys, Nickel alloys, Aluminum alloys etc. The lathe shall be constructed with naturally seasoned/stress relieved grey cast iron bed preferably for good vibration absorption and spindle shall possess required power and speed-torque characteristics suitable to machine the above materials. The machine shall be equipped with High precision bearings to obtain minimum spindle run out with long lasting accuracies. It should also be equipped with digital read out system with linear glass scales for better accuracies, life and repeatability.

B Technical Features

Detailed technical catalogue describing constructional features of the machine shall be provided along with the quotation.

C Specifications

1 Capacities (Minimum)
   1.1 Height of Centre 150 mm
   1.2 Swing over bed (Turning diameter) 300 mm
   1.3 Swing over cross slide 180 mm
   1.4 Distance between centre’s 600 mm

2 Headstock spindle
   2.1 Drive (Stepless) Specify details.
   2.2 Spindle Power 5 KW (min).
   2.3 Spindle collet holding Required (Please specify).
   2.4 Spindle speed range 50 – 4,000 rpm (nominal).
   2.5 Spindle through bore 40 mm (nominal).

3 Accuracies & Surface finish
   3.1 Spindle Run out at nose (axial & radial) 0.001 mm or better.
   3.2 Cylindricity (over a length of 300 mm) Please Specify.
   3.3 Surface finish on Aluminum ≤ 0.8 μm Ra.

4 Carriage
   4.1 Transverse stroke, X axis 160 mm (nominal).
   4.2 Longitudinal stroke, Z axis 600 mm (nominal).

5 Feeds
   5.1 Longitudinal Feed 0.01-6 mm/rev (nominal).
   5.2 Transverse Feed 0.005-2 mm/rev (nominal).

6 Thread Cutting
   6.1 Metric Thread pitch 0.3 – 10 mm.
   6.2 Inch Threads pitch 75 – 3 TPI.
   6.3 Electronic limit switch for thread cutting with provision for controlling the thread length. Necessary.
7 Tailstock
7.1 Quill taper
7.2 Quill stroke
7.3 Quill diameter

8 Tool Holder Type
   Tool Holder Shank Size

9 Display System
9.1 DRO Type
9.2 DRO Resolution
9.3 Display
9.4 Measuring Sales for all axis

9.5 Protection

9.6 Metric & Inch display
9.7 Radius / Diameter display for cross slide
9.8 Zero Offset
9.9 Constant Cutting speed
9.10 Oriented spindle stop.
9.11 Speed and feed override through precision potentiometer.
9.12 Remaining path display for thread depth
9.13 Graphical support for thread cutting and taper turning
9.14 Clock wise and Anti Clock wise rotation of Main spindle
9.15 Automatic hand wheel disengagement for apron and cross slides
9.16 Constant torque until nominal speed
9.17 Braking device for the main drive
9.18 Auto feed of carriage

10 Standard Accessories
10.1 Quick change tool post
10.2 Turning Tool Holder Unit
10.3 LED Tube Light for soft illumination (Machine Lamp)
10.4 Rotating Centre
10.5 Tapered sleeve
10.6 Movable chuck guard monitored by limit switch
10.7 Rear Chip guard
10.8 Movable splash guard.
10.9 Removable chip tray
10.10 Longitudinal fixed stop
10.11 Central lubrication
10.12 Coolant system
10.13 Lead screw disengagement
10.14 Set of operator tools

Please specify.
80 mm (nominal).
40 mm (minimum).
Quick Change type.
20 x 20 mm.
Required
Required, 2 Axis.
0.001 mm or better.
8 “Digital display.
Heidenhain Glass scales (preferred).
All scales, heads and cables should be properly protected from oil and chips.
Required.
Required.
Required.
Required.
Required.
Required.
Required.
Required.
Required.
Required.
Required.

10 Nos
1 No
1 Set
1 Set
Required
Required
Required
Required
Required
Required
1 Set
11 Essential Accessories (please provide separate quote)

11.1 High precision 3 Jaw scroll chuck of dia 200 mm, self centering type steel body with hardened inward and outward stepped jaws with back plate suitable for machine main spindle interface. 1 Set

11.2 High precision independent 4 Jaw scroll chuck of dia 200 mm, type steel body with hardened inward and outward stepped jaws with back plate suitable for machine main spindle interface. 1 Set

11.3 Hardened jaws inward and outward stepped for 3 Jaw Chuck (extra) 1 Set

11.4 Soft jaws suitable for 3 Jaw Chuck 3 Sets

11.5 Hardened jaws inward and outward stepped for 4 Jaw Chuck (extra) 1 Set

11.6 Soft jaws suitable for 4 Jaw Chuck 3 Sets

11.7 Face Plate Dia 300 mm (min) 1 No

11.8 Lever Operated High Precision Collet Chuck attachment 1 No

11.9 Clamping devices for draw-in and stationary collet chuck 1 Set

11.10 High precision collets (Range 1.0 to 30.0 mm in steps of 0.5 mm) 1 Set

11.11 Driver plate with protection rim and drivers 1 Set

11.12 Live Centers and Dead centers for head stock and tail stock. 1 Set

11.13 Reduction sleeves suitable to headstock taper 1 Set

11.14 Keyless Drill Chuck for tailstock (Range: 1.0 mm – 15.0 mm). 2 Nos

11.15 Turning Tool Holder units suitable for quick change tool post (20 mm x 20 mm). 10 Nos

11.16 Coolant system and supply unit. Required

11.17 Test Mandrel. 1 No

11.18 Foundation kit (Leveling elements). 1 Set

11.19 First fill of oils for the machine. Required

11.20 3 pin Socket for 230V/50 Hz /10A supply. 1 No

11.21 Tool cabinet with drawers.

12 Machine Guarding and Safety features

12.1 All moving parts/guide ways/ball screws/control and measuring systems shall be protected against dust and oil incursion by providing suitable covers/bellows.

12.2 Machine shall be provided with adequate guarding & doors.

12.3 Machine shall be designed for safe operation with all safety features and interlocks.

12.4 Restart protection in case of power failure or emergency stop.

12.5 Emergency off button shall be integrated on the machine at suitable location.

12.6 Safety monitoring devise for clock wise and counter clock wise spindle movement.

13 Electrical specifications

Voltage : 400 V ± 10 % AC, 3 phase.
Frequency : 50 Hz ± 2 %.

14 Spares (Mechanical / Electrical/ Electronics) and consumables for 2 year trouble free operation may be listed in detail in technical bid and individual break up cost shall be quoted separately as optional with price in price bid including all hydraulic / lubricating oils.
15 Pre-delivery Inspection:
15.1 The machine shall be inspected as per DIN8605 standards for machine and spindle accuracies.
15.2 Demonstrate the performance and accuracy of the machine by machining a standard manufacturer's test component. However the manufacturer's test component shall comprise roundness of 0.003 mm & cylindricity of 0.005 mm or better over a length of 30 mm (min). Drawing showing the geometrical and dimensional accuracies of the test component shall be submitted along with the offer and shall be mutually agreeable. Test reports of the component shall be sent to IISU to obtain shipment clearance.

16 Post installation at IISU site
Repeat 15.1 & 15.2

17 Installation & Commissioning
Machine should be installed at our site IISU, Trivandrum by trained personnel and demonstrate the accuracies, performances & machine functional features by trial machining on a selected component after installation.

18 Training
Training for two persons at IISU site for the operation and basic maintenance shall be imparted after installation of the machine at our site.

19 Acceptance
Acceptance of the machine will be based on overall performance & test reports of inspection conducted as per DIN 8605 standard for machine & spindle accuracies at your site as well as demonstration of the same after installation at our site along with complete training on machine.

20 Documentation
2 Sets of hard copy and 1 No soft copy of machine manuals related to Operation and Maintenance for Mechanical, Electrical and Electronics systems, Electrical Wiring diagrams etc in ENGLISH language should be supplied along with the machine.

21 Delivery period – within 4 to 6 months.

22 Warranty - Minimum one year from the date of commissioning at our site.

23 Others
23.1 Technical leaflet and write-up of equipment must be furnished along with quotation.
23.2 Quotation shall be prepared and signed by the original machine manufacturer.
23.3 The bidder should have manufactured and supplied similar class of precision machines during last 10 years shall only be considered.
23.4 Offers for proven model with reference list of minimum 3 users (with contact address and phone no) where similar machine is in operation shall only be considered.
23.5 Machine acceptance test certificates mentioning the measured accuracies on similar machine delivered by the manufacturer for both geometrical & Spindle accuracies need to be supplied along with the quotation in English language.
23.6 A compliance statement with respect to the indent specification shall be attached with supporting documents in the bid. (Bids with compliance statement shall only be considered for evaluation)
23.7 Price bid shall contain detailed breakup of cost for basic machine, optional accessories, essential spares etc along with commercial terms like FOB, Delivery period and Payment terms.
23.8 Non-Comprehensive AMC charges shall be quoted separately for 3 years after warranty period considering two preventive maintenance visits and one breakdown maintenance visit for year.

23.9 Details of service providers in India with contact information should be provided.
Annexure II

SPECIAL CONDITIONS IN RESPECT OF TWO-PART TENDERS

PROCEDURE TO BE FOLLOWED BY TENDERERS

PART-I: TECHNICAL & COMMERCIAL BID:

(a) TECHNICAL DETAILS:

Our tender enquiry contains technical requirements and specification of items. The detailed technical specifications of your offer should be covered in this part. Price details shall not be mentioned in the Technical Part failing which the offer will be treated as invalid. This should be sent in a sealed envelope duly superscribing the following details on the top of the envelope.

(b) COMMERCIAL DETAILS:

The commercial terms applicable for this tender such as Delivery terms, Delivery period, Payment Terms, Mode of Despatch, Validity of the Offer, Warranty, Guarantee, Performance Guarantee, Liquidated Damages (for delayed supply), Quantity tolerance etc., shall be covered. The applicable GST rates and duties or requirement of Duty Exemption Certificates also shall be indicated in this part. A copy of the price offer by masking prices shall be enclosed to the technical and commercial part (Part-I) to clearly understand as to whether you have provided the prices as desired by the tender document.

The technical and commercial part should be put in a sealed envelope and supercribed as follows:

“Technical and Commercial Bid against Tender No: 8625 201900677401”

PART-II: PRICE BID

The price of the item should be indicated in this part with unit rate. The prices are to be mentioned both in figures as well as in words and each page is to be signed by your authorized signatory. Apart from the cost of the items, packing charges, AMC charges for 2 years, forwarding charges, freight charges (if applicable), installation and commissioning, training charges etc shall be clearly mentioned. GST rates and Duties applicable shall also be mentioned.

The Price Bid should be put in a sealed envelope and supercribed as follows:

“Price Bid against Tender No: 8625 201900677401”

i) The “Technical and Commercial Bid” and the “Price Bid” are to be put in separate sealed covers and they should be put into a single envelope supercribed with the Tender Number, Due Date and Time. The cover thus prepared should be sent to the following address so as to reach us on or before the due date and time specified in the tender form.

The Senior Purchase & Stores Officer
IISU Purchase
ISRO Inertial Systems Unit
Vattiyoor Kavu PO,
Trivandrum - 695 013, Kerala, India
ii) Tenders may be hand delivered or sent preferably well in advance by speed post. Levels of responsibility and reliability among couriers with respect to the delivery to ISU are not entirely satisfactory and tenderers shall therefore choose the couriers if required, at their responsibility.

iii) The offer should be valid for a minimum period of 120 days from the due date.

iv) TENDER OPENING The Technical and commercial Bid will be opened on the specified day and in case any further clarification/discussions are required, such clarifications/discussions shall be called for before opening the Price Bid.

v) Late and Delayed Tenders will not be considered. Therefore, please ensure that your tender is posted well in time to reach us before the due date and time.

vi) Tenders which are not prepared in terms of these instructions are liable to be rejected.

vii) Fax offers shall not be considered.

viii) All the pages of your offer should be signed/initialled by competent authority and affixed with your Company’s Seal.

ix) Either the Indian Agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of the Principal / OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

x) Note:- YOU MAY CLEARLY SPECIFY ANY EXPORT LICENCE IS REQUIRED AND WHETHER THE ITEM CAN BE SUPPLIED ON HIGH SEA SALES BASIS OR RUPEE PAYMENT IN THE TECHNICAL BID ITSELF WITHOUT MENTIONING THE PRICE

Splitting up of the quantities at the time of placement of Order:

I. Department / ISRO has the right to cancel the tender without assigning any reason.

II. Detailed Technical details/catalogue/data sheet required.

III. Please confirm acceptance of payment term 100% within 30 days from the date of receipt & acceptance of item at our site / Sight Draft, in the case of imported item.

IMPORTANT: Your offer duly complying with the above formalities should reach us on or before the due date and time prescribed in the Tender Enquiry. Late offers, Delayed Offers will summarily be rejected.
EARNED MONEY DEPOSIT/BID SECURITY:

1. Earned Money Deposit (EMD) or Bid Security is obtained to ensure the earnestness of the vendor in the procurement process. Registered Vendors of IISU/ISRO shall not furnish EMD or Bid Security in the procurement process. Other Vendors participating in the tender process has to furnish EMD through Demand Draft/Banker’s Cheque for Rs.2 Lakhs (Rupees Two Lakhs only) drawn in favour of Sr. Accounts Officer, IISU Accounts payable at State Bank of India, Nettayam Branch, Trivandrum-695013. EMD shall be interest free. EMD shall also be furnished in the form of Fixed Deposit Receipts or Bank Guarantee from any nationalized or the Scheduled Banks executed on non-judicial stamp paper of value Rs.200/-. In case of Bank Guarantee, it shall be valid for a period of 45 days beyond the final tender validity date.

2. Also, Foreign Vendors, Registered Vendors who have already applied for renewal of registration, Central PSUs, PSEs, Autonomous Bodies, Micro and Small Enterprises, KVIC, National Small Industries Corporation etc., are exempted from the payment of EMD.

3. Any tender not accompanied with EMD shall be treated as invalid tender and rejected. Vendors seeking exemption from payment of EMD shall submit necessary proof like registration number etc.

4. EMD of vendor shall be forfeited if the tenderer/contractor withdraws or amends his tender or deviates from the tender in any respect within the period of the validity of the tender. Failure to furnish Security Deposit/Performance Bond by a successful vendor within the specified period shall also result in forfeiture of EMD.

5. EMD shall be refunded to all the unsuccessful vendors within thirty days after placement of the Purchase Order. EMD shall be refunded to the successful tenderer/contractor after payment of the Security Deposit. EMD shall be refunded to all the participants in cases where the tender is cancelled or withdrawn by the Centre/Unit, within thirty days from the date of such cancellation or withdrawal.
Note :-

1. Full details and specifications of the items and general instructions to be followed regarding submission of tenders are indicated in the tender documents.

2. Tender Documents can be downloaded from our website www.isro.gov.in and also be obtained from the following address on request and submission of tender fee:
   While requesting for Tender Documents please indicate on the envelope as “Request for Tender Documents- Tender No.......... dt............”.

3. Tender Fee (Rs. 560/-) shall be paid in the form of CROSSED DEMAND DRAFT ONLY. Other mode of payment is not acceptable. The Demand Draft should be in favour of Sr. Accounts Officer, IISU Accounts, Vattiyoorkavu PO, Trivnadrum-695013 payable at State Bank of India, Nettayam Branch, Trivandrum - 695 013 [The tender fee is NON-REFUNDABLE]

   Government Departments, PSUs (both Central and State), Small Scale Industries units borne in the list of NSIC/MSE and foreign sources are exempted from submission of tender fee. Those who are coming under the above category should submit documentary evidence for the same.

4. While submitting your offer, the envelope shall be clearly superscribed with Tender No. and Due Date and to be sent to Sr. Purchase & Stores Officer, IISU Purchase, ISRO Inertial Systems Unit, Vattiyoorkavu PO, Trivandrum - 695 013

5. Quotations received after the Due Date/Time will not be considered.

6. IISU, Trivandrum is not responsible for any postal delay/loss of documents in transit.

7. Sr. Purchase & Stores Officer, IISU, Trivandrum reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.
INSTRUCTIONS TO THE BIDDERS

1. **GSTIN, Rate & HSN Code:** We are partially exempted from the payment of IGST and eligible for paying IGST @5% vide Ministry of Finance, Dept. of Revenue Notification No.47/2017-Integrated Tax [Rate] dtd.14/11/2017. Necessary IGST Exemption Certificate shall be provided along with Purchase Order. Vendors registered under GST shall mention their GSTIN, applicable rate and HSN code wherever necessary as per GST Law. ISSU GST No.32AAAG10068M1Z1. GST element as applicable shall be shown separately.

2. **Government of India Ministry of Finance (Department of Revenue) Vide Notification No. 45/2017 – Central Tax (Rate) Dated. 14th November 2017 (For Intra-State Supplies) has reduced the rate of CGST to 2.5% and subsequently by Government of Kerala Notification No. 169/2017 Dated 15/11/2017 Taxes (B) Department, reduced the rate of SGST to 2.5% for the Procurements made by the Department of Space being a Public Funded Research Institution. Necessary Exemption Certificate will be provided.

3. **Customs Duty:** We are partially exempted from payment of Customs Duty vide Notification No.050/2017-SI.No. 539A dated 30/06/2017. CD element as applicable shall be shown separately.

4. **Warranty:** Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of 1 year, or as specified in the tender document. Please specify warranty period in the offer.

5. **Performance Bank Guarantee (PBG):** PBG @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, valid till successful completion of all contractual obligations, including the warranty period, in case PO/Contract is awarded.

6. **Security Deposit:** SD will be applicable if the Purchase Order value is above Rs.5 lakhs. SD @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, or Fixed Deposit Receipt valid till successful completion of PO / Contract, if awarded.

7. **Validity of Offer:** Minimum validity of tender from the date of opening of the tender shall be as follows:
   - Two-part tender: 120 days
   - Single part tender: 90 days

8. **Liquidated Damages Clause:** The delivery period should be realistic. The delivery period so quoted and mentioned in the order is the essence of the PO/Contract. In case of delay in delivery of material as per the delivery schedule, LD @ 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 & commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.

9. **Delivery terms:** Our standard delivery term is FOR, IISU Trivandrum. In case any vendors offer delivery term of Ex-Works, Packing & Forwarding charges, if any, should be indicated separately either as a percentage of the quoted rate or as a lumpsum amount.

10. **Payment terms:** Our standard payment term is 100% within 30 days for indigenous order and Sight Draft/LC for foreign orders. All Bank charges shall be on the account of Vendor.

11. **Purchase/Preference to MSEs:** Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small & Medium Enterprises Development Act 2006. Necessary authenticated documentary evidences shall be submitted along with your offer. MSEs will be exempted from submission of EMD. Specify your category. All registered MSME vendors are requested to provide their Registration and Ownership details.

12. **Vendors may please note that MSMEs are not exempted from the submission of Security Deposit.**

13. Vendors shall provide the name, address, email ID and contact number of authorised official in order to contact in case of need.

14. PO will be placed on technically and commercially suitable lowest offer basis and IISU reserves the right to split the order on L1 basis.

15. If any vendor submits forged / false documents along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

16. Tenders are not transferable and in case any vendor is not interested or able to submit their tenders, such vendors may send their regret letter.

Contd...
17. II SU has the right to cancel the tender without assigning any reason etc.

18. **In case of foreign orders:**
   (a) Either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
   (b) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
   (c) Please specify whether any export clearance is required. If required, please provide End User Certificate format along with the offer.
   (d) Please mention percentage of Agency Commission, if any. (Agency Commission shall be claimed by the Indian Agent through an invoice. Agency commission shall be paid to the Indian agent in Indian Rupees worked out on the basis of Telegraphic transfer buying rate of exchange prevailing on the date of placement of the purchase order/contract and within 30 days from the date of satisfactory acceptance of the item.)

19. **Special conditions against Indian Agents submitting quotations in Foreign Currency**
   (a) Foreign Principal’s Proforma Invoice shall indicate the commission payable to the Indian Agent and nature of after sales service to be rendered by the Indian Agent.
   (b) Copy of Agency agreement with the Foreign Principal, precise relationship between them and their mutual interest in the business.
   (c) The enlistment of the Indian Agent with Director-General of Supplies & Disposals under the Compulsory Registration Scheme of Ministry of Finance.
   (d) Compliance of Tax Laws by the Indian agent.
   (e) The bidder shall clearly mention the full ordering address in capital letters.
   (f) The bidder shall clearly mention their banker’s address including their SWIFT code compulsorily.
   (g) Any change of address shall be compulsorily supported by documentary proof issued either by Governmental agencies or by Chamber of Commerce.

20. In case any bidder is submitting their offer on High Sea Sales basis(HSS) the Indian Trader shall submit the following documents mandatorily along with their offer: (i) The Import Export Code of the Indian Trader (ii) Bank authorisation code of the Indian Trader (iii) GSTIN of the Indian Trader.

21. In all HSS Purchase Orders/Contract, the Indian Trader shall mandatorily submit the following documents:-
   c) GSTIN of the Indian Trader.
   d) High Sea Sale Agreement.
   e) Invoice pertaining to the Indian Trader in INR and the Invoice from the Foreign Vendor in Foreign currency.

22. In respect of HSS Orders/Contracts, in case the Indian Trader fails to submit the aforesaid file documents meant for custom clearance as at 3 (a) to (e) above, any delay is getting accrued due to the non-submission of one or more of the document(s), late fee and penalties, if any levied by the Customs Authorities shall be recovered from the bills of Indian Trader.”

23. **NOTE**
   - The tender submitted by you shall be compulsorily signed. Unsigned tenders will be summarily excluded from the procurement process.
   - If any of the bidders submit any forged or false documents along with the tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders.
   - Being a Govt of India Dept., insurance is not required at our cost. Please ensure safe delivery of the ordered item with proper /ROAD/SEA/AIR worthy packing.
   - All delivery formats (PBG, SD18) shall be provided by the Dept., in case of placement of order.

Sreeja I
Sr.Purchase & Stores Officer
GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISRO INERTIAL SYSTEMS UNIT  
ISU PURCHASE, VATTIYORKAVU PO.  
THIRUVANANTHAPURAM - 695 013  
Kerala, India  

I. INSTRUCTIONS TO TENDERERS  

1. The Tenderers should submit quotations in duplicate in a sealed envelope, superscribing the Tender No. and due date of opening and complete in all respects with technical specifications, including pamphlets and catalogues.  

2. A Proforma Invoice may also be given which should contain the following information:  
   a. The FOB/FCA value, the C & F value for import by Sea freight / Air freight up to and for air parcel post up to Thiruvananthapuram, Kerala, India should be separately indicated.  
   b. Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an invoice from him applying T.T. buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.  
   c. The Contractor shall invoice only for the net amount payable to him, after deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractor’s invoice should separately reflect the amount of commission payable to his Indian Agent.  
   d. The earliest delivery period and country of origin of the Stores.  
   e. Banker’s name, address, telephone/fax Nos. & e-Mail ID of the Contractor.  
   f. The approximate net and gross weight and dimensions of packages /cases.  
   g. Recommended spares for satisfactory operation for a minimum period of one year.  
   h. Details of any technical service, if required for erection, assembly, commissioning and demonstration.  

3. The FOB/FCA and C & F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer’s country.  

4. The offer should be valid for a minimum period of 90 days from the due date of opening of the tender.  

5. Samples, if called for, should be sent free of all charges.  

6. Late and delayed tenders will not be considered.  

7. Offers made by Indian Agents on behalf of their Principals, should be supported by the proforma invoice of their Principals.  

8. The details of Import Licence will be furnished in the Purchase Order.  

9. The authority of person signing the tender, if called for, shall be produced.  

10. Instructions / Operation Manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents /correspondence should be in English language only.  

11. The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.  

12. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.  

13.  
   a. Part shipment is not allowed unless specifically agreed to by us.  
   b. As far as possible stores should be despatched by Indian Flag Vessels /Air India through any Agency nominated by us.  

14. Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractor’s works. If any inspection by Lloyd’s or any other testing agency is considered necessary, it shall be arranged by Contractors.  

15. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.  

16. For items having shelf life, those with maximum shelf life should be supplied if order is placed.  

II. TERMS AND CONDITIONS  

1. DEFINITIONS:  
   a. The term 'Purchaser' shall mean the President of India or his successors or assignees.  
   b. 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, representatives, heirs, executors and administrators unless excluded by the Contract.  
   c. 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 of plant, machinery or equipment of part thereof.  
   d. The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.
2. PRICES: Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations 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 variations.

3. TERMS OF PAYMENT:
   3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However, other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.
   3.2 The Sight Draft / Letter of Credit will be operative on presentation of the under mentioned documents:
      a) Original Bill of Lading / Airway Bill.
      b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately.
      c) Packing List showing individual dimensions and weight of packages.
      e) Test Certificate.
      f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the stores are guaranteed as per the specifications asked for by the Purchaser.
      g) Warrant and guarantee Certificate's vide Clause 20 herein below.

4. IMPORT LICENCE: Reference to Import License No. & date and Contract number & date shall be prominently indicated in all the documents vide Para 3.2.

5. DEMURRAGE: Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in Para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignment.

6. ADDRESS OF INDIAN AGENTS: ..............................................................

7. GUARANTEED TIME DELIVERY: The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

8. INSPECTION AND ACCEPTANCE TEST:
   8.1 The Purchaser's representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractor's premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchaser's representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.
   8.2 For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchaser's representative to carry out the tests efficiently.
   8.3 When the stores have passed the specified test, the purchaser's representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test's certificates to the purchaser as may be required.

9. MODE OF DESPATCH: Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser. A copy of the invoice and packing list should invariably be kept inside each of the packages.

10. PORT OF ENTRY: Thiruvananthapuram for Air Cargos and Kochi Sea Port for Ocean vessel cargos.

11. CONSIGNEE:
    PURCHASE & STORES OFFICER,
    IIISU STORES
    ISRO INERTIAL SYSTEMS UNIT
    VATTIYORKAVU PO
    THIRUVANANTHAPURAM - 695013

12. SHIPPING MARKS. The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follows:
    PURCHASE ORDER NO:.................................................. DATE:..........................  
    Government of India, Department of Space
    ISRO INERTIAL SYSTEMS UNIT
    Vattiyorkavu P.O
    Thiruvananthapuram - 695013
    KERALA STATE, INDIA
    Destination: Thiruvananthapuram
    PORT OF ENTRY: Air freight to THIRUVANANTHAPURAM International Airport.
    Sea freight to KOCHI/CHENNAI/

13. INSURANCE OF THE STORES: The necessity or otherwise of insurance will be as indicated in the Purchase Order.

14. CONTRACTOR'S DEFAULT LIABILITY:
    14.1. The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed here under:
a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

15. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 14 the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 19 until such reasonable time as may be required for the final supply of stores.

15.1 If this Contract is terminated as provided in Clause 14 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the Purchaser and for manufacturing material delivered and accepted.

15.2 In the event the Purchaser does not terminate the Contract as provided in Clause 14, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 19 until the stores are accepted.

16. REPLACEMENT: If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.

17. REJECTION: In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either –

a. replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or

b. terminate the Contract for default as provided under clause 14 above, or

c. acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser’s rights under clause 19.

18. EXTENSION OF TIME: If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

19. DELAY IN COMPLETION / LIQUIDATED DAMAGES: If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.

20. 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 are found to have developed under proper use arising from faulty materials, 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 parts thereof are faulty.

c. If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals 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 defects has enveloped within the said period of 12 months or as to whether the nature of the defects requires renewal or replacement shall be final, conclusive and binding on the Contractor.

f. To fulfill guarantee conditions outlined in Clause 20 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

g. All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at
purchaser's site.

h. Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications, then such a specification shall apply, and in such cases, the period of 14 months referred to in Clause 20 (b) and (c) shall be asked for guarantee period plus two months.

21. REQUIREMENT OF ADDITIONAL NUMBERS OF THE STORES/SPARE PARTS ORDERED: The Contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date. The actual price to be paid shall be mutually agreed to after negotiations.

22. PACKING:
   a. The Contractor wherever applicable shall pack and crate all stores for sea/air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractors shall be held responsible for all damages due to improper packing.
   b. The Contractor shall ensure that each box/unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.
   c. The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.
   d. The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.
   e. Transshipment of equipment shall not be permitted except with the written permission of the purchaser.
   f. Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments:
      i. Commercial Bill of Lading / Air Way Bill /
         Post parcel Receipt. (Two non-negotiable copies)
      ii. Invoice (3 copies)
      iii. Packing List (3 copies)
      iv. Test Certificate (3 copies)

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

23. ARBITRATION: If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

24. LANGUAGE AND MEASURES: All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

25. INDEMNITY: The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the Contract.

26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS: Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

27. SECURITY INTEREST: On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

28. BANK CHARGES: While the purchaser shall bear the bank charge payable to his Bankers [State Bank of India, Main Branch, Statue, Thiruvananthapuram 695 001], the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

29. TRAINING: The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchaser's engineering / technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract / stores, number of such personnel to be mutually agreed upon.

30. APPLICABLE LAW: The Contract shall be interpreted, construed and governed by the laws of India.
Dear Sirs,

Please submit your sealed quotation, in the Tender Form enclosed here along with the descriptive catalogues / pamphlets / literature, superscribed with Our Ref. No. and Due Date for the supply of the following items as per the terms & conditions mentioned in Annexure 1. Form No: DOS:PM:FORM 22 E)CLOSED

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description of Items with Specifications</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply, Installation, Commissioning, Demonstration &amp; Training of Manually operated High Precision Universal Cylindrical Grinding machine with DRO and accessories. Detailed specifications, Terms and Conditions as per Annexure 1 attached.</td>
<td>Nos</td>
<td>1</td>
</tr>
</tbody>
</table>

DELIVERY AT: IISU, TRIVANDRUM
MODE OF DESPATCH ON SITE
DUTY EXEMPTIONS CDEC WILL BE PROVIDED, IF REQUIRED

SPECIAL INSTRUCTIONS AS PER ENCLOSED

SPECIFIC TERMS DOS:PM:FORM 22 ENCLOSED

INSTRUCTIONS TO TENDERERS:
1. Please submit your quotation in two parts:- (i) Technical and Commercial Bid (ii) Price Bid (Detailed in Annexure II).
2. Please submit your quotation in a sealed envelope only superscribing the enquiry number and date of opening. fax or e-mail quotations will not be considered.
3. If you are unable to submit offer, the same may be communicated to us by Fax/ E-mail/ Post before the due date and time.
4. Bidders who are desirous of attending the tender opening may make arrangements for attending the tender opening at their own cost.

For and on behalf of the President of India
The Purchaser
SPECIFICATION OF A MANUAL HIGH PRECISION UNIVERSAL CYLINDRICAL GRINDING MACHINE WITH DRO

A General Description
This manual high precision Universal Cylindrical grinding machine is meant for carrying out external and internal precision cylindrical grinding operations for realization of variety of aerospace components in different materials like Hardened steel, Stainless steel, Heat resistant Super alloys, Titanium etc with good surface finish and close dimensional and geometrical accuracies.

B Machine Configuration
1. Machine should comprise of stable and rigid table structure with 3 point location.
2. The machine structure should have excellent damping characteristic, maximum rigidity, thermal & chemical stability etc.
3. Longitudinal and cross slides shall be of rigidly ribbed construction with finely ground and scraped flat & V guide ways to ensure high accuracy, wear resistant properties and long life.
4. The machine shall be equipped with standard grinding cycles to take care of typical external and internal grinding operations.
5. The machine shall be well proven model and shall be capable of carrying out all standard grinding operations normally envisaged for its class.
6. It shall be possible to install and operate the machine without erecting on special foundation.

C Detailed Specifications:
1 Major Specifications (Nominal)

   1.1 Center height
   1.2 Distance between Center
   1.3 Max. Work piece weight between centers
   1.4 In feed drive system
   1.5 Machine Bed
   1.6 Work Head and Wheel Head Spindle bearing
   1.7 Measuring system (Digital Read Out)

   1.8 Type of Guideways

2 Machine Accuracies (Min)

   2.1 Straightness on gauge length of 600mm
   2.2 Roundness on live spindle
   2.3 Cylindricity on job of Dia 40 X 300 mm long

3 Work Head (Nominal)

   3.1 Spindle bearing
   3.2 Speed Range
   3.3 Spindle Drive
   3.4 Collets & holding provision
   3.5 Swiveling range
   3.6 Bar capacity
   3.7 Power
   3.8 Fitting taper
   3.9 Max. work piece weight between centers
   3.10 Live Grinding load

   : 175 mm
   : 650 mm
   : 100 Kg
   : Hydraulic
   : Polymer Concrete
   : Hydrodynamic
   : Linear scale with 0.0001mm resolution
   : V and Flat

   : 0.0025 mm
   : 0.0001 mm
   : 0.002 mm (prove out)

   : Hydrodynamic
   : 50 to 600 rpm,
   : Please Specify
   : Required. To be provided
   : 0 to 90°
   : Please specify
   : 0.5 KW (min)
   : Morse Taper 5
   : 100 kgs (min)
   : 100 Nm
4 Wheel Head

4.1 Transverse slide (X-axis) (Nominal)
   4.1.1 Travel
   4.1.2 Rapid approach
   4.1.3 Minimum Grinding diameter
   4.1.4 In feed drive system
   4.1.5 In feed
   4.1.6 Incremental In feed
   4.1.7 Spark out time
   4.1.8 Hand wheel rotation travel
   4.1.9 Provision for 1 micron fine feed

4.2 External grinding unit
   4.2.1 Wheel spindle bearing
   4.2.2 External Grinding wheel. Left position
   4.2.3 Fitting taper
   4.2.4 Drive
   4.2.5 Drive power
   4.2.6 Peripheral speed
   4.2.7 Speeds
   4.2.8 Manual swivel with Hirth serration

4.3 Internal grinding unit
   4.3.1 Spindle Drive System
   4.3.2 Spindle Adaption Bore
   4.3.3 Spindle Speed range
   4.3.4 Grinding Wheel Holding provision
   4.3.5 Minimum bore to be ground
   4.3.6 Internal grinding spindles
   4.3.7 Internal grinding spindle Lubrication

5 Longitudinal Slide (Z-axis) (Nominal)
   5.1 Max. travel
   5.2 Minimum automatic travel
   5.3 In feed drive system
   5.4 Reverse precision
   5.5 Traverse Speed
   5.6 Reversal dwell
   5.7 Table swivel with fine adjustment

6 Tailstock
   6.1 Fitting taper
   6.2 Stroke
   6.3 Barrel diameter
   6.4 Fine adjustment for cylindricity Corrections

---

300 mm
60 mm
0.5 mm
Hydraulic
0.012 to 6 mm/min.
0.001 to 0.005 mm
0 to 6 sec.
4 mm/rev.
Required

Hydrodynamic type
Dia 400 mm x Width 63 mm x 127 mm bore
Please Specify
Please Specify
5.0 KW (min)
35 m/s
1600 to 2100 rpm
5 Deg serration with swivel range from 0 to 180 deg.

Please Specify.
100 mm
9600 rpm to 57000 rpm. (others please specify as option).
Collet type (for smaller dia.)
Threaded type (for other sizes)
4 mm.
Specify.
Required. Specify.

700 mm
1.5 mm
Hydraulic
0.02 mm
50 to 5000 mm/min
0 to 6 sec
10 Deg.

Specify
35 mm (min)
50 mm (min)
± 0.04 mm in dia (min)
Lubrication

Hydraulic System
- Pressure
- Filtering Capacity
- Cooling system with heat exchanger

Pneumatic System

Coolant System
- Coolant supply through work head
- Filtering system combined with paper and magnetic band filter

General:
- Fine adjustment as well as air cushion for swiveling table for rapid cylindricity correction and precise setting of tapers.
- Provision for precise length correction of jobs with dial indicator
- Facility for automatic switch over of in-feed to grinding feed.
- Work head shall be equipped both for grinding between fixed centers and live spindle grinding and also fitted with hydrodynamic bearing.
- Dressing - An efficient dressing setup shall be provided for dressing both internal and external grinding wheels including radius-dressing attachment.

CONTROL AND OPERATION
- Automatic grinding cycle with automatic switch off having the following cycles of operation shall be available:
  - Rapid approach
  - In-feed
  - Sparking out
  - Fast return of the rapid approach and in-feed hand wheel to the set grinding allowance.
- The following grinding cycles shall be provided:
  - Plunge grinding.
  - Plunge grinding with short stroke of longitudinal slider.
  - Longitudinal grinding with intermittent feed at left hand, right hand or at both ends of stroke.
  - The grinding cycles shall run with or without rapid in-feed.
  - Automatic switching the work head motor ON & OFF.
  - Possibility to override the grinding cycles at any time.
  - Air gap elimination by built in sensor preventing cutting in air on batches with varying stroke removal enabling cycle time minimum.

Accessories
- Internal Grinding arbors from dia 4mm to 30mm arbors.
- Internal Grinding Collet Holder.
- Spring Collets (Diameter Range: 2 – 25 mm in steps of 0.5mm).
- Different Centers for work head and tailstock.
- Work holding devices like- 3-jaw chuck, 4-jaw chuck, magnetic chuck etc.
- Manual Draw bar for work head.
- Dressing devise and dressers (0.5 / 1.0 / 1.5 / 2.0 Carat) including radius dresser.
- Grinding wheels for external and internal grinding.
- Grinding wheel adaptors.
- Machine mounting pads.
- Between centre dogs
12.9 Electrical Specification
Voltage : 400V ± 10% AC, 3 Phase
Frequency : 50 Hz ± 2%
12.10 Any other accessories : Specify
12.11 First fill of oils shall be supplied with the machine.
12.12 Spares (Mechanical / Electrical / Electronics / Hydraulic / Pneumatic / Filtering), wear parts, Oil
Consumables etc necessary for minimum period of 2 years of trouble free operations should be supplied with the machine. (Split price of each spare shall be provided).
12.13 Warranty: Machine should be under warrantee for a period of minimum 12 months from the date of installation at our site. AMC for additional three years shall be quoted optionally.
12.14 Machine acceptance test certificates mentioning the measured accuracies of similar machine delivered by the manufacturer for both geometrical and spindle accuracies of the machine need to be supplied along with the quotation. The quote should also include measured accuracy test report of standard test component ground on the machine.
12.15 Pre Delivery Inspection:
The machine shall be inspected for positional and geometrical accuracies in presence of our Engineer's and cleared before despatch. The original test reports should be supplied to IISU
Machining trials at manufacturer's site to demonstrate the performance, geometrical and positional accuracies and overall functions of the machine in all respects.
Demonstrate the machining performance and accuracy of the machine by grinding a standard manufacturer's test component. However the manufacturer's test component shall comprise roundness of 0.001 mm & cylindricity of 0.003 mm or better over a length of 40 mm (min). Drawing showing the geometrical and dimensional accuracies of the test component shall be submitted along with the offer and shall be mutually agreeable. Test reports of the ground component shall be sent to IISU along with positional and geometrical test reports for obtaining despatch clearance.
12.16 Acceptance: Acceptance of the machine will be based on overall performance & test reports of inspection conducted for positioning and geometrical accuracies at your site along with achieved accuracies on test components and performance of the machine with complete training after installation at our site. Trial machining of standard precision component should be conducted to demonstrate the overall performance of the machine after commissioning at our site.
12.17 Installation & commissioning: Machine should be installed at our site – ISMP/MDPG/IISU, Vattiyoorkavu, Trivandrum by experienced & factory trained engineers from the machine manufacturer and demonstrate the accuracies, performances and machine functional features by trail machining after installation.
12.18 Training: Necessary training should be imparted to the operating personnel with respect to operation, programming, general maintenance etc for a period of minimum 10 working days at our site.
12.19 Documentation: 2 Sets of hard copy and 1 Set soft copy of machine manuals related to Operation, Maintenance for Mechanical, Electrical and Electronics systems, Electrical Wiring diagrams, Hydraulic & Pneumatic diagrams, List of spares etc in ENGLISH language should be supplied along with the machine.
12.20 Technical leaflet and write-up of equipment must be furnished by the party along with quotation.
12.21 The quotation should also contain test charts reporting the accuracies & geometry obtained on similar machine supplied earlier in English.
12.22 Quotation shall be prepared and signed by the original machine manufacturer only.
12.23 Reference list of organisation (with postal address, contact person, Phone and fax number) to whom similar equipment is sold in recent past may be furnished along with offer. Offers for proven model with minimum 3 users where similar machine is in operation shall only be considered.
12.24 The bidders should have manufactured and supplied similar class of precision machines during last 10 years shall only be considered.

12.25 A compliance statement with respect to the indent specification shall be attached with supporting documents in the bid. (Bids with compliance statement shall only be considered for evaluation)

12.26 Price bid shall contain detailed breakup of cost for basic machine, optional accessories, essential spares etc along with commercial terms like FOB, Delivery period and Payment terms.

12.27 Non-Comprehensive AMC charges shall be quoted separately for 3 years after warranty period considering two preventive maintenance visits and one breakdown maintenance visit for year.

12.28 Details of service providers in India with contact information should be provided.
Annexure II

SPECIAL CONDITIONS IN RESPECT OF TWO-PART TENDERS

PROCEDURE TO BE FOLLOWED BY TENDERERS

PART-I: TECHNICAL & COMMERCIAL BID:

(a) TECHNICAL DETAILS:

Our tender enquiry contains technical requirements and specification of items. The detailed technical specifications of your offer should be covered in this part. Price details shall not be mentioned in the Technical Part failing which the offer will be treated as invalid. This should be sent in a sealed envelope duly superscribing the following details on the top of the envelope.

(b) COMMERCIAL DETAILS:

The commercial terms applicable for this tender such as Delivery terms, Delivery period, Payment Terms, Mode of Despatch, Validity of the Offer, Warranty, Guarantee, Performance Guarantee, Liquidated Damages (for delayed supply), Quantity tolerance etc., shall be covered. The applicable GST rates and duties or requirement of Duty Exemption Certificates also shall be indicated in this part. A copy of the price offer by masking prices shall be enclosed to the technical and commercial part (Part-I) to clearly understand as to whether you have provided the prices as desired by the tender document.

The technical and commercial part should be put in a sealed envelope and superscribed as follows:

"Technical and Commercial Bid against Tender No: 8625 201900677501"

PART-II: PRICE BID

The price of the item should be indicated in this part with unit rate. The prices are to be mentioned both in figures as well as in words and each page is to be signed by your authorized signatory. Apart from the cost of the items, packing charges, AMC charges for 2 years, forwarding charges, freight charges (if applicable), installation and commissioning, training charges etc shall be clearly mentioned. GST rates and Duties applicable shall also be mentioned.

The Price Bid should be put in a sealed envelope and superscribed as follows:

"Price Bid against Tender No: 8625 201900677501"

i) The “Technical and Commercial Bid” and the “Price Bid” are to be put in separate sealed covers and they should be put into a single envelope superscribed with the Tender Number, Due Date and Time. The cover thus prepared should be sent to the following address so as to reach us on or before the due date and time specified in the tender form.

The Senior Purchase & Stores Officer
IISU Purchase
ISRO Inertial Systems Unit
Vattiyoorkavu PO.
Trivandrum - 695 013, Kerala, India
ii) Tenders may be hand delivered or sent preferably well in advance by speed post. Levels of responsibility and reliability among couriers with respect to the delivery to ISU are not entirely satisfactory and tenderers shall therefore choose the couriers if required, at their responsibility.

iii) The offer should be valid for a minimum period of 120 days from the due date.

iv) TENDER OPENING The Technical and commercial Bid will be opened on the specified day and in case any further clarification/discussions are required, such clarifications/discussions shall be called for before opening the Price Bid.

v) Late and Delayed Tenders will not be considered. Therefore, please ensure that your tender is posted well in time to reach us before the due date and time.

vi) Tenders which are not prepared in terms of these instructions are liable to be rejected.

vii) Fax offers shall not be considered.

viii) All the pages of your offer should be signed/initialled by competent authority and affixed with your Company's Seal.

ix) Either the Indian Agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of the Principal / OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

x) Note:- YOU MAY CLEARLY SPECIFY ANY EXPORT LICENCE IS REQUIRED AND WHETHER THE ITEM CAN BE SUPPLIED ON HIGH SEA SALES BASIS OR RUPEE PAYMENT IN THE TECHNICAL BID ITSELF WITHOUT MENTIONING THE PRICE

**Splitting up of the quantities at the time of placement of Order:**

I. Department / ISRO has the right to cancel the tender without assigning any reason.

II. Detailed Technical details/catalogue/data sheet required.

III. Please confirm acceptance of payment term 100% within 30 days from the date of receipt & acceptance of item at our site / Sight Draft, in the case of imported item.

**IMPORTANT:** Your offer duly complying with the above formalities should reach us on or before the due date and time prescribed in the Tender Enquiry. Late offers, Delayed Offers will summarily be rejected.
EARNEST MONEY DEPOSIT/BID SECURITY:

1. Earnest Money Deposit (EMD) or Bid Security is obtained to ensure the earnestness of the vendor in the procurement process. Registered Vendors of IISU/ISRO shall not furnish EMD or Bid Security in the procurement process. Other Vendors participating in the tender process has to furnish EMD through Demand Draft/Banker’s Cheque for Rs.6 Lakhs (Rupees Six Lakhs only) drawn in favour of Sr Accounts Officer, IISU Accounts payable at State Bank of India, Nettayam Branch, Trivandrum-695013 EMD shall be interest free. EMD shall also be furnished in the form of Fixed Deposit Receipts or Bank Guarantee from any nationalized or the Scheduled Banks executed on non-judicial stamp paper of value Rs.200/-. In case of Bank Guarantee, it shall be valid for a period of 45 days beyond the final tender validity date.

2. Also, Foreign Vendors, Registered Vendors who have already applied for renewal of registration, Central PSUs, PSEs, Autonomous Bodies, Micro and Small Enterprises, KVIC, National Small Industries Corporation etc., are exempted from the payment of EMD.

3. Any tender not accompanied with EMD shall be treated as invalid tender and rejected. Vendors seeking exemption from payment of EMD shall submit necessary proof like registration number etc.

4. EMD of vendor shall be forfeited if the tenderer/contractor withdraws or amends his tender or deviates from the tender in any respect within the period of the validity of the tender. Failure to furnish Security Deposit/Performance Bond by a successful vendor within the specified period shall also result in forfeiture of EMD.

5. EMD shall be refunded to all the unsuccessful vendors within thirty days after placement of the Purchase Order. EMD shall be refunded to the successful tenderer/contractor after payment of the Security Deposit. EMD shall be refunded to all the participants in cases where the tender is cancelled or withdrawn by the Centre/Unit, within thirty days from the date of such cancellation or withdrawal.
Note :-

1. Full details and specifications of the items and general instructions to be followed regarding submission of tenders are indicated in the tender documents.

2. Tender Documents can be downloaded from our website www.isro.gov.in and also be obtained from the following address on request and submission of tender fee:
   While requesting for Tender Documents please indicate on the envelope as “Request for Tender Documents - Tender No.......... dt.............”.

3. Tender Fee (Rs. 560/-) shall be paid in the form of CROSSED DEMAND DRAFT ONLY. Other mode of payment is not acceptable. The Demand Draft should be in favour of Sr. Accounts Officer, IISU Accounts, Vattiyoorkavu PO, Trivandrum-695013 payable at State Bank of India, Nettayam Branch, Trivandrum - 695 013 [The tender fee is NON-REFUNDABLE]

   Government Departments, PSUs (both Central and State), Small Scale Industries units borne in the list of NSIC/MSE and foreign sources are exempted from submission of tender fee. Those who are coming under the above category should submit documentary evidence for the same.

4. While submitting your offer, the envelope shall be clearly superscribed with Tender No. and Due Date and to be sent to Sr. Purchase & Stores Officer, IISU Purchase, ISRO Inertial Systems Unit, Vattiyoorkavu PO, Trivandrum - 695 013

5. Quotations received after the Due Date/Time will not be considered.

6. IISU, Trivandrum is not responsible for any postal delay/loss of documents in transit.

7. Sr. Purchase & Stores Officer, IISU, Trivandrum reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.
INSTRUCTIONS TO THE BIDDERS

1. **GSTIN, Rate & HSN Code:** We are partially exempted from the payment of IGST and eligible for paying IGST @5% vide Ministry of Finance, Dept. of Revenue Notification No.47/2017-Integrated Tax [Rate] dtd.14/11/2017. Necessary IGST Exemption Certificate shall be provided along with Purchase Order. Vendors registered under GST shall mention their GSTIN, applicable rate and HSN code wherever necessary as per GST Law. iiSU GST No.32AAAG10068M1ZI. GST element as applicable shall be shown separately.

2. **Government of India Ministry of Finance (Department of Revenue) VideNotification No. 45/2017 – Central Tax (Rate) Dated. 14th November 2017 (For Intra-State Supplies) has reduced the rate of CGST to 2.5% and subsequently by Government of Kerala Notification No. 169/2017 Dated 15/11/2017 Taxes (B) Department, reduced the rate of SGST to 2.5% for the Procurements made by the Department of Space being a Public Funded Research Institution. Necessary Exemption Certificate will be provided.

3. **Customs Duty:** We are partially exempted from payment of Customs Duty vide Notification No.050/2017-SI.No. 539A dated 30/06/2017. CD element as applicable shall be shown separately.

4. **Warranty:** Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of 1 year, or as specified in the tender document. Please specify warranty period in the offer.

5. **Performance Bank Guarantee(PBG):** PBG @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, valid till successful completion of all contractual obligations, including the warranty period in case PO/Contract is awarded.

6. **Security Deposit:** SD will be applicable if the Purchase Order value is above Rs.5 lakhs. SD @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, or Fixed Deposit Receipt valid till successful completion of PO / Contract, if awarded.

7. **Validity of Offer:** Minimum validity of tender from the date of opening of the tender shall be as follows:
   
   (a) Two-part tender: 120 days
   
   (b) Single part tender: 90 days

8. **Liquidated Damages Clause:** The delivery period should be realistic. The delivery period so quoted and mentioned in the order is the essence of the PO/Contract. In case of delay in delivery of material as per the delivery schedule, LD @ 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 & commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.

9. **Delivery terms:** Our standard delivery term is FOR, iiSU Trivandrum. In case any vendors offer delivery term of Ex-Works, Packing & Forwarding charges, if any, should be indicated separately either as a percentage of the quoted rate or as a lumpsum amount.

10. **Payment terms:** Our standard payment term is 100% within 30 days for indigenous order and Sight Draft/LC for foreign orders. All Bank charges shall be on the account of Vendor.

11. **Purchase/Preference to MSEs:** Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small & Medium Enterprises Development Act 2006. Necessary authenticated documentary evidences shall be submitted along with your offer. MSEs will be exempted from submission of EMD. Specify your category. All registered MSME vendors are requested to provide their Registration and Ownership details.

12. **Vendors may please note that MSMEs are not exempted from the submission of Security Deposit.**

13. Vendors shall provide the name, address, email ID and contact number of authorised official in order to contact in case of need.

14. PO will be placed on technically and commercially suitable lowest offer basis and iiSU reserves the right to split the order on L1 basis.

15. If any vendor submits forged / false documents along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

16. Tenders are not transferrable and in case any vendor is not interested or able to submit their tenders, such vendors may send their regret letter.

Contd...2
17. NSU has the right to cancel the tender without assigning any reason etc.

18. **In case of foreign orders:** (a) Either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
   (b) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
   (c) Please specify whether any export clearance is required. If required, please provide End User Certificate format along with the offer.
   (d) Please mention percentage of Agency Commission, if any. (Agency Commission shall be claimed by the Indian Agent through an invoice. Agency commission shall be paid to the Indian agent in Indian Rupees worked out on the basis of Telegraphic transfer buying rate of exchange prevailing on the date of placement of the purchase order/contract and within 30 days from the date of satisfactory acceptance of the item.)

19. **Special conditions against Indian Agents submitting quotations in Foreign Currency**
   (a) Foreign Principal’s Proforma Invoice shall indicate the commission payable to the Indian Agent and nature of after sales service to be rendered by the Indian Agent.
   (b) Copy of Agency agreement with the Foreign Principal, precise relationship between them and their mutual interest in the business.
   (c) The enlistment of the Indian Agent with Director-General of Supplies & Disposals under the Compulsory Registration Scheme of Ministry of Finance.
   (d) Compliance of Tax Laws by the Indian agent.
   (e) The bidder shall clearly mention the full ordering address in capital letters.
   (f) The bidder shall clearly mention their banker’s address including their SWIFT code compulsorily.
   (g) Any change of address shall be compulsorily supported by documentary proof issued either by Governmental agencies or by Chamber of Commerce.

20. In case any bidder is submitting their offer on High Sea Sales basis[HS] the Indian Trader shall submit the following documents mandatorily along with their offer:
   (i) The Import Export Code of the Indian Trader
   (ii) Bank authorisation code of the Indian Trader
   (iii) GSTIN of the Indian Trader.

21. In all HS5 Purchase Orders/Contract, the Indian Trader shall mandatorily submit the following documents:
   c) GSTIN of the Indian Trader.
   d) High Sea Sale Agreement.
   e) Invoice pertaining to the Indian Trader in INR and the Invoice from the Foreign Vendor in Foreign currency.

22. In respect of HS5 Orders/Contracts, in case the Indian Trader fails to submit the aforesaid file documents meant for custom clearance as at 3 (a) to (e) above, any delay is getting accrued due to the non-submission of one or more of the document(s), late fee and penalties, if any levied by the Customs Authorities shall be recovered from the bills of Indian Trader."

23. **NOTE**
   - The tender submitted by you shall be compulsorily signed. Unsigned tenders will be summarily excluded from the procurement process.
   - If any of the bidders submit any forged or false documents along with the tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders.
   - Being a Govt. of India Dept., insurance is not required at our cost. Please ensure safe delivery of the ordered item with proper ROAD/SEA/AIR worthy packing.
   - All delivery formats (PBG, SD 18) shall be provided by the Dept., in case of placement of order.

Sreeja I
Sr. Purchase & Stores Officer
GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
ISRO INERTIAL SYSTEMS UNIT
ISU PURCHASE, VATTIYOORKAVU PO.
THIRUVANANTHAPURAM - 695 013
Kerala, India

I. INSTRUCTIONS TO TENDERERS

1. The Tenderers should submit quotations in duplicate in a sealed envelope, superscribing the Tender No. and due date of opening and complete in all respects with technical specifications, including pamphlets and catalogues.

2. A Proforma Invoice may also be given which should contain the following information:
   a. The FOB/FCA value, the C & F value for import by Sea freight / Air freight up to and for air parcel post up to Thiruvananthapuram, Kerala, India should be separately indicated.
   b. Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an invoice from him applying T.T. buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.
   c. The Contractor shall invoice only for the net amount payable to him, after deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractor’s invoice should separately reflect the amount of commission payable to his Indian Agent.
   d. The earliest delivery period and country of origin of the Stores.
   e. Banker’s name, address, telephone/fax Nos. & e-Mail ID of the Contractor.
   f. The approximate net and gross weight and dimensions of packages /cases.
   g. Recommended spares for satisfactory operation for a minimum period of one year.
   h. Details of any technical service, if required for erection, assembly, commissioning and demonstration.

3. The FOB/FCA and C & F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer’s country.

4. The offer should be valid for a minimum period of 90 days from the due date of opening of the tender.

5. Samples, if called for, should be sent free of all charges.

6. Late and delayed tenders will not be considered.

7. Offers made by Indian Agents on behalf of their Principals, should be supported by the proforma invoice of their Principals.

8. The details of Import Licence will be furnished in the Purchase Order.

9. The authority of person signing the tender, if called for, shall be produced.

10. Instructions / Operation Manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents correspondence should be in English language only.

11. The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.

12. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

13. a. Part shipment is not allowed unless specifically agreed to by us.
   b. As far as possible stores should be despatched by Indian Flag Vessels /Air India through any Agency nominated by us.

14. Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractor’s works. If any Inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.

15. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.

16. For items having shelf life, those with maximum shelf life should be supplied if order is placed.

II. TERMS AND CONDITIONS

1. DEFINITIONS:
   a. The term 'Purchaser' shall mean the President of India or his successors or assignees.
   b. 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, representatives, heirs, executors and administrators unless excluded by the Contract.
   c. 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 of plant, machinery or equipment of part thereof.
   d. The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.
2. PRICES: Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations 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 variations.

3. TERMS OF PAYMENT:
3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.

3.2 The Sight Draft / Letter of Credit will be operative on presentation of the under mentioned documents:
   a) Original Bill of Lading / Airway Bill.
   b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately.
   c) Packing List showing individual dimensions and weight of packages.
   e) Test Certificate.
   f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are guaranteed as per the specifications asked for by the Purchaser.
   g) Warrantee and guarantee Certificate's vide Clause 20 herein below.

4. IMPORT LICENCE: Reference to Import License No. & date and Contract number & date shall be prominently indicated in all the documents vide Para 3.2.

5. DEMURRAGE: Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in Para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignment.

6. ADDRESS OF INDIAN AGENTS: ..............................................................

7. GUARANTEED TIME DELIVERY: The time for the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

8. INSPECTION AND ACCEPTANCE TEST:
8.1 The Purchaser's representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractor's premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchaser's representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.

8.2 For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchaser's representative to carry out the tests efficiently.

8.3 When the stores have passed the specified test, the purchaser's representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test's certificates to the purchaser as may be required.

9. MODE OF DESPATCH: Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser. A copy of the invoice and packing list should invariably be kept inside each of the packages.

10. PORT OF ENTRY: Thiruvananthapuram for Air Cargos and Kochi Sea Port for Ocean vessel cargos.

11. CONSIGNEE:

   PURCHASE & STORES OFFICER,
   ISU STORES
   ISRO INERTIAL SYSTEMS UNIT
   VATTIYORKAVU PO
   THIRUVANANTHAPURAM - 695013

12. SHIPPING MARKS. The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follows:

   PURCHASE ORDER NO: .................................................. DATE: ................................

   Government of India, Department of Space
   ISRO INERTIAL SYSTEMS UNIT
   Vattiyorkavu P.O
   Thiruvananthapuram - 695013
   KERALA STATE, INDIA
   Destination: Thiruvananthapuram

   PORT OF ENTRY: Air freight to THIRUVANANTHAPURAM International Airport.
   Sea freight to KOCHI/ CHENNAI.

13. INSURANCE OF THE STORES: The necessity or otherwise of insurance will be as indicated in the Purchase Order.

14. CONTRACTOR'S DEFAULT LIABILITY:

   14.1. The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed here under:
a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

15. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 14 the Purchaser reserves the right to Purchase, upon such terms and in such a manner as may be deemed appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 19 until such reasonable time as may be required for the final supply of stores.

15.1 If this Contract is terminated as provided in Clause 14 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.

15.2 In the event the Purchaser does not terminate the Contract as provided in Clause 14, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 19 until the stores are accepted.

16. REPLACEMENT: If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser based on the original price quoted in the tender or as reasonably worked out from the tender.

17. REJECTION: In the event that any of the stores supplied by the Contractor is found defective or damaged or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either:

a. replace or rectify such defective stores and recover the extra cost involved from the Contractor, or
b. terminate the Contract for default as provided under clause 14 above, or
c. acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser's rights under Clause 19.

18. EXTENSION OF TIME: If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, war embargoes, etc., the Contractor shall give notice within 7 days to the Purchaser in writing of his claim for an extension of time. The Purchaser upon receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

19. DELAY IN COMPLETION / LIQUIDATED DAMAGES: If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delivered until such time as the missing parts are delivered.

20. 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 are found to have developed under proper use arising from faulty materials, 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 parts thereof are faulty.

c. If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals shall be made by the Contractor free of all costs to the purchaser. 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 part 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 defects has been repaired, shall be final, conclusive and binding on the Contractor.

f. To fulfill guarantee conditions outlined in Clause 20 (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

g. All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at
purchaser’s site.

h. Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications, then such a specification shall apply, and in such cases, the period of 14 months referred to in Clause 20 (b) and (c) shall be asked for guaranteed period plus two months.

21. REQUIREMENT OF ADDITIONAL NUMBERS OF THE STORES/SPARE PARTS ORDERED: The Contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date. The actual price to be paid shall be mutually agreed to after negotiations.

22. PACKING:

a. The Contractor wherever applicable shall pack and crate all stores for sea/air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractors shall be held responsible for all damages due to improper packing.

b. The Contractor shall ensure that each box/unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c. The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d. The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.

e. Transshipment of equipment shall not be permitted except with the written permission of the purchaser.

f. Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments:

i. Commercial Bill of Lading / Air Way Bill /

ii. Post parcel Receipt. (Two non-negotiable copies)

iii. Invoice (3 copies)

iv. Packing List (3 copies)

v. Test Certificate (3 copies)


The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

23. ARBITRATION: If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

24. LANGUAGE AND MEASURES: All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

25. INDEMNITY: The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfillment of the Contract.

26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS: Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

27. SECURITY INTEREST: On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

28. BANK CHARGES: While the purchaser shall bear the bank charge payable to his Bankers [State Bank of India, Main Branch, Statue, Thiruvananthapuram 695 001], the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

29. TRAINING: The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchaser’s engineering/technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract/stores, number of such personnel to be mutually agreed upon.

30. APPLICABLE LAW: The Contract shall be interpreted, construed and governed by the laws of India.
Dear Sirs,

Please submit your sealed quotation, in the Tender Form enclosed here along with the descriptive catalogues/literature, superscribed with our Ref. No. and Due Date for the supply of the following items as per the terms & conditions mentioned in Annexure (Form No: DOSL;PM:FORM 22) ENCLOSED.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description of Items with Specifications</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CONTROLLED ENVIRONMENT GLOVE BOX, with accessories, Detailed Specification as per Annexure-1</td>
<td>No</td>
<td>1</td>
</tr>
</tbody>
</table>

DELIVERY AT: IISU
MODE OF DESPATCH: ON SITE
DUTY EXEMPTIONS: CONSEQUENTIAL CDEC WILL BE PROVIDED, IF REQUIRED

SPECIAL INSTRUCTIONS AS PER ENCLOSURE

SPECIFIC TERMS: DOSL;PM:FORM 22 ENCLOSED

INSTRUCTIONS TO TENDERERS:
1. Please submit your quotation in Two-Parts:- (i) Technical and Commercial Bid (ii) Price Bid (Please see special conditions in Annexure-A)
2. Bidders who are desirous of attending the tender opening may make arrangements for attending the tender opening at their own cost.

For and on behalf of the President of India
The Purchaser
### Specification for Controlled environment Glove Box:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enclosure with Gas purification system, Detailed Specification given below</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Vacuum drying Oven</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Dry Vacuum Pump (Oil free)</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Moisture Monitor suits for enclosure</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Oxygen Analyzer (ppm) suits for enclosure.</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Additional gloves – Particle free gloves - butyl, Ambidextrous</td>
<td>1 pair</td>
</tr>
<tr>
<td>7</td>
<td>Additional gloves – Particle free gloves - butyl, Anatomical</td>
<td>1 pair</td>
</tr>
<tr>
<td>8</td>
<td>Additional HEPA filters suitable for glove box</td>
<td>2</td>
</tr>
</tbody>
</table>

- Enclosure System should be equipped with manually controlled workstation chamber, Gas purification system with vacuum pump, Vacuum bake out oven, flushing pass-through antechamber and bench assembly with rack mounting capability.
- Purging and filling provision should be given for the main chamber, Antechamber and mini Antechamber.
- Leak rate should be less than 0.05 Vol% /hr.
- Glove box should be modular and expandable with bolted side panels.
- Glove box should be clean room compatible of class 100.

1. **Enclosure Specification:**

   - No. of Glove Ports: Three number, O-ring sealed
   - Glove Size: Should be able to access inside components and should be ergonomic. Gloves must be suitable to carry out delicate & precision activities in the chamber.
   - Glove Material: Particle free butyl gloves
   - Enclosure Size: (Internal) 1500 mm (L) x 800mm (D) x 900mm (H) (approx.)
   - Construction: 3mm seam welded Stainless Steel.
   - Pressure Control: normal pressure / vacuum gauge
   - Lighting: 15Watt Fluorescent (each chamber)
   - Input Voltage: 220-240 Volts 50/60 Hz, Single Phase.
   - Gas Input: N2 @ 250 kPa
   - Viewable provision for the inside components.
Gas Purification System:
- Gas circulation: Closed loop gas recirculation
- Gas Purification System: Removal of H₂O and O₂
- Working gas: Nitrogen (N₂). Should be compatible for Helium (He) and Argon (Ar).
- Attainable Purity: H₂O <1 ppm, O₂ <1 ppm (at complete pressure range).

Purifier:
- Amount / type: 1 H₂O / O₂ purifier column
- Capacity: Oxygen removal: 35 L (standard conditions),
- Moisture removal: 1300g or better.
- Material: Stainless steel type
- Heater: Integrated

Regeneration:
- Automatic PLC controlled regeneration sequence with nitrogen N₂ or Argon & Hydrogen (5-10%)

Circulation Unit:
- Type: Integrated blower, Vacuum-tight, Oil-free
- Flow rate: 85 m³/h (approx.)

Control Unit:
- PLC – Touch Panel
- Automatic box pressure control in adjustable range between -15 to +15 mbar relative pressure.
- Additional foot switch to change box pressure during operation.

Feed through:
- Piping: Stainless Steel pipe for Main pipe and Control pipe work.
- Integral leak rate: Less than 10-5 mbar l/s
- 6 nos of Vacuum feed through DN40KF from glove box to outside should be provided.
  o 2 nos of Vacuum / Gas feed throughs
  o 1 nos of MB-USB feed through for connectivity to the box for special instrument. USB 2.0 cable feedthrough approx 5m to be provided.
  o 1 nos Electrical power feed through AC 230V, 15A, Single phase. Extension board should be provided for inside the box.
  o 1 nos for Vacuum oven.
  o 1 nos as a spare for additional requirement.

Heat Exchanger and Cooler:
- Glove Box should be integrated with heat exchanger
- Suitable re-circulation chiller Temperature range +5 to +30°C (Setting range)
- Cooling capacity: 1000 W @ 30°C (ambient temperature) Flow rate (cooling fluid) up to 12 l/min
AnteChamber:
- Type: Cylindrical,
- Size (Internal): dia390mm, length 600mm.
- Flush Rate: 0 – 100 SCFH (0 - 2.83SCMH)
- Controls: On / Off
- Should include sliding tray stainless steel.
- Inside should be brushed finish, door lock should be spindle lock.

Mini AnteChamber:
- Type: Cylindrical
- Size (Internal): dia150mm, length 400mm.
- Should include sliding tray stainless steel.
- Ante chamber and mini Antechamber should be in one side of the glovebox (preferably right side).

2. Bake Oven Specification:
- Type: Bright Stainless Steel Construction
- Size (Internal): minimum 20litre.
- Vacuum (absolute): <4.8x10⁻¹ mbar
- Max. Temp: 200° C (Ramping of heating should be possible)
- Temperature variation: +/- 2°C
- Temperature fluctuation: 0.2°C
- Standard Vacuum: Dry pump oil free.
- Controls: Temperature Set Control (Ambient to 200 °C)
  Back Fill: On / Off
  Vacuum: On / Off
- Should include microprocessor temperature controller.
- Should include pressure safety system with door safety catch.
- The heating system should immediately turn off, when the door is opened.
- Vacuum supply should be through the gas purifier.
- The viewing window should be double glaze safety glass.
- Should include alpha numeric display.
- Vacuum drying oven should be integrated in the back wall of glove box. After integrating, working distance should be available > 400mm in the glovebox.
- Body should be stainless steel with brushed finish.

.quality tip: Pressure gauges (measurable from absolute vacuum to 2bar pressure) to be provided on the main chamber, Ante chamber and Vacuum Bake oven.

3. Dry Vacuum Pump (Oil free):
- Vacuum Pumping system should be suitable for use with vacuum ovens or vacuum interchanges.
- Should achieve 20mtoorr(0.03mbar) in clean oven or antechamber.
- Should include all necessary adapters, hoses and mounting hardware.
- Only standard catalogue products from reputed manufacturers shall be offered. Viz. M/s Edwards or M/s Pfeiffer or M/s Varian is only acceptable.
• Dry vacuum pump should be clean room compatible of class 100.
• The pump should not produce any particles during operation.
• Noise Level should be <50 dB.

4. **Moisture Monitor:**
   • Inline Solid-state Moisture sensor located at the Gas outlet of the box.
   • Operating Range: 0-500 ppm
   • Accuracy: 1 PPM or better at high precision range 0-10 ppm
   • Should provide real-time moisture monitoring in any combination of other gases.
   • PLC controlled, via touch panel
   • Provision for transfer the data to the personal computer.

5. **Oxygen Monitor (PPM):**
   • Inline Solid-state Oxygen sensor located at the Gas outlet of the box.
   • Operating Range: 0 – 1000 ppm.
   • Accuracy: 1 PPM or better at high precision range 0-10 ppm
   • Should provide real-time oxygen monitoring in any combination of other gases.
   • PLC controlled, via touch panel
   • Provision for transfer the data to the personal computer.

➢ **Control System**
   • PLC Controlled with Color Touch panel for operation of all Glove box functions, including graphical trend of box pressure, oxygen and moisture levels.
   • System should be able to upgrade for PLC control of solvent sensor.
   • Provision for remote monitoring of glove box parameters.

➢ **Other Features Required**
   • Automatic pressure regulation system without vacuum pump.
   • Automatic switch off of fluorescent lamp.
   • Circulation speed should be linked to oxygen / moisture purity.
   • Automatic activation of above features at user desired time.
   • Party should install suitable data logging for display and record analyzer values (H2O, O2), box pressure, system status via RS232 interface.
   • Provision for Oxygen and H2O alarm should be included.
   • Adjustable Storage system - minimum 3 adjustable shelves for storage inside the glove box should be provided preferably on the left side of the back panel.

**Notes:**

1) Party should supply technical specification along with quotation.
2) Entire glove box should be installed inside the clean room.
3) Only standard catalogue products from reputed manufacturers shall be offered.
4) Party should install the item at IISU for free of cost and should demonstrate the performance.
5) Minimum One-year warranty should be provided for the entire system.
6) Supplier should have service facility Preferably in India. Party should support for AMC of the machine after warranty at least for 3 years.
7) Operating and service manuals should be provided for system (Language- English).
### Annexure - Specification Sheet cum Compliance Matrix

#### A. Specification

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Parameter</th>
<th>Value [With tolerance if any]</th>
<th>Supplier's Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attainable Purity for H2O &amp; O2 (at complete pressure range)</td>
<td>&lt; 1ppm</td>
<td>Y</td>
</tr>
<tr>
<td>2</td>
<td>Moisture sensor (H2O) Operating Range</td>
<td>0-500 ppm</td>
<td>Y</td>
</tr>
<tr>
<td>3</td>
<td>Oxygen Analyzer (O2)</td>
<td>0-1000 ppm</td>
<td>Y</td>
</tr>
</tbody>
</table>

#### B. Technical Requirements

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Requirement</th>
<th>Supplier Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chamber should be stainless steel with brushed finish.</td>
<td>Y</td>
</tr>
</tbody>
</table>

#### C. Specific Conditions

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Specific Conditions</th>
<th>Supplier Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Installation and training at IISU</td>
<td>Y</td>
</tr>
<tr>
<td>2</td>
<td>One year Warranty for entire Glove box</td>
<td>Y</td>
</tr>
</tbody>
</table>

* (Supplier shall provide reference number against each as per the Quotation / Catalogue / Data Sheet)
SPECIAL CONDITIONS IN RESPECT OF TWO-PART TENDERS

PROCEDURE TO BE FOLLOWED BY TENDERERS

PART-I: TECHNICAL & COMMERCIAL BID:

(a) TECHNICAL DETAILS:

Our tender enquiry contains technical requirements and specification of items. The detailed technical specifications of your offer should be covered in this part. This part should not contain Price Details. This should be sent in a sealed envelope duly superscribing the following details on the top of the envelope. Detailed Technical details/catalogue/data sheet required

(b) COMMERCIAL DETAILS:

The commercial terms applicable for this tender such as Delivery terms, Delivery period, Payment Terms, Mode of Despatch, Validity of the Offer, Warranty, Guarantee, Performance Guarantee, Liquidated Damages (for delayed supply), Quantity tolerance etc., shall be covered. The applicable GST rates and duties or requirement of Duty Exemption Certificates also shall be indicated in this part. A copy of the price offer by masking prices shall be enclosed to the technical and commercial part (Part-I) to clearly understand as to whether you have provided the prices as desired by the tender document.

The technical and commercial part should be put in a sealed envelope and super scribed as follows:

PART -II: PRICE BID

The price of the item should be indicated in this part with unit rate. The prices are to be mentioned both in figures as well as in words and each page is to be signed by your authorized signatory. Apart from the cost of the items, packing charges, forwarding charges, freight charges (if applicable), installation and commissioning, training charges etc shall be clearly mentioned. GST rates and Duties applicable shall also be mentioned.

i) The “Technical and Commercial Bid” and the “Price Bid” are to be put in separate sealed covers and they should be put into a single envelope super scribed with the 
Tender Number, Due Date and Time. The cover thus prepared should be sent to the 
following address so as to reach us on or before the due date and time specified in 
the tender form.

The Senior Purchase & Stores Officer
IISU Purchase
ISRO Inertial Systems Unit
Vattiyoorkavu PO.
Trivandrum - 695 013, Kerala, India
ii) Tenders may be hand delivered or sent by post or through couriers. Levels of responsibility and reliability among couriers with respect to the delivery to IISU are not entirely satisfactory and tenderers shall therefore choose the couriers with particular case.

iii) The offer should be valid for a minimum period of 120 days from the due date.

iv) TENDER OPENING: The Technical and commercial Bid will be opened on the specified day and in case any further clarification/discussions are required, such clarifications/discussions shall be called for before opening the Price Bid.

v) Late and Delayed Tenders will not be considered. Therefore, please ensure that your tender is posted well in time to reach us before the due date and time.

vi) Tenders which are not prepared in terms of these instructions are liable to be rejected.

vii) Fax /E-mail offers shall not be considered.

viii) All the pages of your offer should be signed/initialled by competent authority and affixed with your Company's Seal.

ix) Either the Indian Agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of the Principal / OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

x) YOU MAY CLEARLY SPECIFY ANY EXPORT LICENCE IS REQUIRED AND WHETHER THE ITEM CAN BE SUPPLIED ON HIGH SEA SALES BASIS OR RUPEE PAYMENT IN THE TECHNICAL BID ITSELF WITHOUT MENTIONING THE PRICE

IMPORTANT: Your offer duly complying with the above formalities should reach us on or before the due date and time prescribed in the Tender Enquiry. Late offers, Delayed Offer will summarily be rejected.
Ref No. 8715 2019007079

EARNEST MONEY DEPOSIT/BID SECURITY:

1. Earnest Money Deposit (EMD) or Bid Security is obtained to ensure the earnestness of the vendor in the procurement process. Registered Vendors of IISU/ISRO shall not furnish EMD or Bid Security in the procurement process. Other Vendors participating in the tender process has to furnish EMD through Demand Draft/Banker’s Cheque for Rs.1,15,000/-Lakhs drawn in favour of Sr. Accounts Officer, IISU Accounts payable at State Bank of India, Nettayam Branch, Trivandrum-695 013. EMD shall be interest free. EMD shall also be furnished in the form of Fixed Deposit Receipts or Bank Guarantee from any nationalized or the Scheduled Banks executed on non-judicial stamp paper of value Rs.200/-. In case of Bank Guarantee, it shall be valid for a period of 45 days beyond the final tender validity date.

2. Also, Foreign Vendors, Registered Vendors who have already applied for renewal of registration, Central PSUs, PSEs, Autonomous Bodies, Micro and Small Enterprises, KVIC, National Small Industries Corporation etc., are exempted from the payment of EMD.

3. Any tender not accompanied with EMD shall be treated as invalid tender and rejected. Vendors seeking exemption from payment of EMD shall submit necessary proof like registration number etc.

4. EMD of vendor shall be forfeited if the tenderer/contractor withdraws or amends his tender or deviates from the tender in any respect within the period of the validity of the tender. Failure to furnish Security Deposit/Performance Bond by a successful vendor within the specified period shall also result in forfeiture of EMD.

5. EMD shall be refunded to all the unsuccessful vendors within thirty days after placement of the Purchase Order. EMD shall be refunded to the successful tenderer/contractor after payment of the Security Deposit. EMD shall be refunded to all the participants in cases where the tender is cancelled or withdrawn by the Centre/Unit, within thirty days from the date of such cancellation or withdrawal.
Note :-

1. Full details and specifications of the items and general instructions to be followed regarding submission of tenders are indicated in the tender documents.

2. Tender Documents can be downloaded from our website www.isro.gov.in and also be obtained from the following address on request and submission of tender fee: While requesting for Tender Documents please indicate on the envelope as “Request for Tender Documents- Tender No......... dt............”.

3. Tender Fee (Rs. 560/-) shall be paid in the form of CROSSED DEMAND DRAFT ONLY. Other mode of payment is not acceptable. The Demand Draft should be in favour of Sr. Accounts Officer, IISU Accounts, Vattiyoorkavu PO, Trivandrum-695013 payable at State Bank of India, Nettayam Branch, Trivandrum - 695 013 [The tender fee is NON-REFUNDABLE]

Government Departments, PSUs (both Central and State), Small Scale Industries units borne in the list of NSIC/MSE and foreign sources are exempted from submission of tender fee. Those who are coming under the above category should submit documentary evidence for the same.

4. While submitting your offer, the envelope shall be clearly superscribed with Tender No. and Due Date and to be sent to Sr. Purchase & Stores Officer, IISU Purchase, ISRO Inertial Systems Unit, Vattiyoorkavu PO, Trivandrum - 695 013

5. Quotations received after the Due Date/Time will not be considered.

6. IISU, Trivandrum is not responsible for any postal delay/loss of documents in transit.

7. Sr. Purchase & Stores Officer, IISU, Trivandrum reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.
INSTRUCTIONS TO THE BIDDERS

1. **GSTIN, Rate & HSN Code:** We are partially exempted from the payment of IGST and eligible for paying IGST @5% vide Ministry of Finance, Dept. of Revenue Notification No.47/2017-Integrated Tax [Rate] dtd.14/11/2017. Necessary IGST Exemption Certificate shall be provided along with Purchase Order. Vendors registered under GST shall mention their GSTIN, applicable rate and HSN code wherever necessary as per GST Law. IISU GST No.32AAAGI0068M1ZL.

2. **Customs Duty:** We are partially exempted from payment of Customs Duty vide Notification No.050/2017-SI.No. 539A dated 30/06/2017.

3. **Warranty:** Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of 12 months, or as specified in the tender document. Please specify warranty period in the offer.

4. **Performance Bank Guarantee (PBG):** PBG @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, valid till successful completion of all contractual obligations, including the warranty period, in case PO/Contract is awarded.

5. **Security Deposit:** SD will be applicable if the Purchase Order value is above Rs.5 lakhs. SD @ 10% of order value to be submitted in the form of Bank Guarantee from a Nationalized/Scheduled Bank, or Fixed Deposit Receipt valid till successful completion of PO / Contract, if awarded.

6. **Validity of Offer:** Minimum validity of tender from the date of opening of the tender shall be as follows:
   
   (a) Two-part tender: 120 days
   (b) Open/Public/Limited Tender (Single part): 90 days

7. **Liquidated Damages Clause:** The delivery period should be realistic. The delivery period so quoted and mentioned in the order is the essence of the PO/Contract. In case of delay in delivery of material as per the delivery schedule, LD @ 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 & commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.

8. **Delivery terms:** Our standard delivery term is FOR, IISU Trivandrum. In case any vendors offer delivery term of Ex-Works, Packing & Forwarding charges, if any, should be indicated separately either as a percentage of the quoted rate or as a lumpsum amount.

9. **Payment terms:** Our standard payment term is 100% within 30 days for indigenous order and Sight Draft/LC for foreign orders. All Bank charges shall be on the account of Vendor.

10. **Purchase/Preference to MSMEs:** Purchase/Price Preference shall be extended to the MSMEs under the Public Procurement Policy for MSMEs formulated under the Micro, Small & Medium Enterprises Development Act 2006. Necessary authenticated documentary evidences shall be submitted along with your offer. MSMEs will be exempted from submission of EMD. Specify your category. All registered MSME vendors are requested to provide their Registration and Ownership details.

11. **Vendors may please note that MSMEs are not exempted from the submission of Security Deposit.**

12. Vendors shall provide the name, address, email ID and contact number of authorised official in order to contact in case of need.

13. PO will be placed on technically and commercially suitable lowest offer basis and IISU reserves the right to split the order on L1 basis.

14. If any vendor submits forged / false documents along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

15. Tenders are not transferrable and in case any vendor is not interested or able to submit their tenders, such vendors may send their regret letter.

16. IISU has the right to cancel the tender without assigning any reason etc.
17. **In case of foreign orders:** (a) Either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
(b) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
(c) Please specify whether any export clearance is required. If required, please provide End User Certificate format along with the offer.
(d) Please mention percentage of Agency Commission, if any. (Agency Commission shall be claimed by the Indian Agent through an invoice. Agency commission shall be paid to the Indian agent in Indian Rupees worked out on the basis of Telegraphic transfer buying rate of exchange prevailing on the date of placement of the purchase order/contract and within 30 days from the date of satisfactory acceptance of the item.)

18. **Special conditions against Indian Agents submitting quotations in Foreign Currency**
(a) Foreign Principal’s Proforma Invoice shall indicate the commission payable to the Indian Agent and nature of after sales service to be rendered by the Indian Agent.
(b) Copy of Agency agreement with the Foreign Principal, precise relationship between them and their mutual interest in the business.
(c) The enlistment of the Indian Agent with Director-General of Supplies & Disposals under the Compulsory Registration Scheme of Ministry of Finance.
(d) Compliance of Tax Laws by the Indian agent.
(e) The bidder shall clearly mention the full ordering address in capital letters.
(f) The bidder shall clearly mention their banker’s address including their SWIFT code compulsorily.
(g) Any change of address shall be compulsorily supported by documentary proof issued either by Governmental agencies or by Chamber of Commerce.

19. In case any bidder is submitting their offer on High Sea Sales basis[HSS] the Indian Trader shall submit the following documents mandatorily along with their offer:
(i) The Import Export Code of the Indian Trader
(ii) Bank authorisation code of the Indian Trader
(iii) GSTIN of the Indian Trader

20. In all HSS Purchase Orders/Contract, the Indian Trader shall mandatorily submit the following documents:
   c) GSTIN of the Indian Trader.
   d) High Sea Sale Agreement.
   e) Invoice pertaining to the Indian Trader in INR and the invoice from the Foreign Vendor in Foreign currency.

21. In respect of HSS Orders/Contracts, in case the Indian Trader fails to submit the aforesaid fie documents meant for custom clearance as at 3 (a) to (e) above, any delay is getting accrued due to the non-submission of one or more of the document(s), late fee and penalties, if any levied by the Customs Authorities shall be recovered from the bills of Indian Trader."

**NOTE**

- The tender submitted by you shall be compulsorily signed. Unsigned tenders will be summarily excluded from the procurement process.
- If any of the bidders submit any forged or false documents along with the tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders.
- Being a Govt. of India Dept., insurance is not required at our cost. Please ensure safe delivery of the ordered item with proper ROAD/SEA/AIR worthy packing.
- All delivery formats (PBG, SD IB) shall be provided by the Dept., in case of placement of order.
GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
ISRO INERTIAL SYSTEMS UNIT
ISU PURCHASE, VATTYIOORKAVU PO.
THIRUVANANTHAPURAM - 695 013
Kerala, India

I. INSTRUCTIONS TO TENDERERS

1. The Tenderers should submit quotations in duplicate in a sealed envelope, superscribing the Tender No. and due date of opening and complete in all respects with technical specifications, including pamphlets and catalogues.

2. A Proforma Invoice may also be given which should contain the following information:
   a. The FOB/FCA value, the C & F value for import by Sea freight / Air freight up to and for air parcel post up to Thiruvananthapuram, Kerala, India should be separately indicated.
   b. Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an invoice from him applying T.T. buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.
   c. The Contractor shall invoice only for the net amount payable to him, after deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractor's invoice should separately reflect the amount of commission payable to his Indian Agent.
   d. The earliest delivery period and country of origin of the Stores.
   e. Banker's name, address, telephone/fax Nos. & e-mail ID of the Contractor.
   f. The approximate net and gross weight and dimensions of packages /cases.
   g. Recommended spares for satisfactory operation for a minimum period of one year.
   h. Details of any technical service, if required for erection, assembly, commissioning and demonstration.

3. The FOB/FCA and C & F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer's country.

4. The offer should be valid for a minimum period of 90 days from the due date of opening of the tender.

5. Samples, if called for, should be sent free of all charges.

6. Late and delayed tenders will not be considered.

7. Offers made by Indian Agents on behalf of their Principals, should be supported by the proforma invoice of their Principals.

8. The details of Import Licence will be furnished in the Purchase Order.

9. The authority of person signing the tender, if called for, shall be produced.

10. Instructions / Operation Manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents / correspondence should be in English language only.

11. The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.

12. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

13. 
   a. Part shipment is not allowed unless specifically agreed to by us.
   b. As far as possible stores should be despatched by Indian Flag Vessels / Air India through any Agency nominated by us.

14. Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractor's works. If any inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.

15. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.

16. For items having shelf life, those with maximum shelf life should be supplied if order is placed.

II. TERMS AND CONDITIONS

1. DEFINITIONS:
   a. The term 'Purchaser' shall mean the President of India or his successors or assigns.
   b. 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, representatives, heirs, executors and administrators unless excluded by the Contract.
   c. 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 of plant, machinery or equipment of part thereof.
   d. The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.
2. PRICES: Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations 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 variations.

3. TERMS OF PAYMENT:
   3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However, other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.
   3.2 The Sight Draft / Letter of Credit will be operative on presentation of the under mentioned documents:
      a) Original Bill of Lading / Airway Bill.
      b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately.
      c) Packing List showing individual dimensions and weight of packages.
      e) Test Certificate.
      f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are guaranteed as per the specifications asked for by the Purchaser.
      g) Warranty and guarantee Certificate's vide Clause 20 herein below.

4. IMPORT LICENCE: Reference to Import License No. & date and Contract number & date shall be prominently indicated in all the documents vide Para 3.2.

5. DEMURRAGE: Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in Para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignment.

6. ADDRESS OF INDIAN AGENTS: .................................................................

7. GUARANTEED TIME DELIVERY: The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

8. INSPECTION AND ACCEPTANCE TEST:
   8.1 The Purchaser's representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractor's premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchaser's representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.
   8.2 For tests on the premises of the Contractor or of any of his sub-Contractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchaser's representative to carry out the tests efficiently.
   8.3 When the stores have passed the specified test, the purchaser's representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test's certificates to the purchaser as may be required.

9. MODE OF DESPATCH: Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser. A copy of the invoice and packing list should invariably be kept inside each of the packages.

10. PORT OF ENTRY: Thrissur and Kochi Sea Port for Ocean vessel cargos.

11. CONSIGNEE:
    PURCHASE&STORESOFFICER,
    ISU STORES
    ISRO INERTIAL SYSTEMS UNIT
    VATTIYORKAVU PO
    THIRUVANANTHAPURAM - 695013

12. SHIPPING MARKS. The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follows:
    PURCHASE ORDER NO._________________________ DATE: ____________________
    Government of India, Department of Space
    ISRO INERTIAL SYSTEMS UNIT
    Vattiyorkavu P.O
    Thruvananthapuram - 695013
    KERALA STATE, INDIA
    Destination: Thruvananthapuram
    PORT OF ENTRY: Air freight to THIRUVANANTHAPURAM International Airport.
    Sea freight to KOCHI/CHENNAI/

13. INSURANCE OF THE STORES: The necessity or otherwise of insurance will be as indicated in the Purchase Order.

14. CONTRACTOR'S DEFAULT LIABILITY:
   14.1. The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed here under:
a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

15. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 14 the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 19 until such reasonable time as may be required for the final supply of stores.

15.1. If this Contract is terminated as provided in Clause 14 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the Purchaser and for manufacturing material delivered and accepted.

15.2. In the event the Purchaser does not terminate the Contract as provided in Clause 14, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 19 until the stores are accepted.

16. REPLACEMENT: If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.

17. REJECTION: In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either –

a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or

b) terminate the Contract for default as provided under clause 14 above, or

c) acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser’s rights under clause 19.

18. EXTENSION OF TIME: If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantines, etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

19. DELAY IN COMPLETION / LIQUIDATED DAMAGES: If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the contractor shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5% per month) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10%) of the Contract price of the unit or units so delayed. Stores shall be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.

20. 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 are found to have developed under proper use arising from faulty materials, 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 parts thereof are faulty.

c. If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals 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 defects has enveloped within the said period of 12 months or as to whether the nature of the defects requires renewal or replacement shall be final, conclusive and binding on the Contractor.

f. To fulfill guarantee conditions outlined in Clause 20 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

g. All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at
purchaser's site.

h. Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications, then such a specification shall apply, and in such cases, the period of 14 months referred to in Clause 20 (b) and (c) shall be asked for guarantee period plus two months.

21. REQUIREMENT OF ADDITIONAL NUMBERS OF THE STORES/SPAREPARTS ORDERED: The Contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date. The actual price to be paid shall be mutually agreed to after negotiations.

22. PACKING:
   a. The Contractor wherever applicable shall pack and crate all stores for sea/air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractors shall be held responsible for all damages due to improper packing.
   b. The Contractor shall ensure that each box/unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.
   c. The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.
   d. The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.
   e. Transshipment of equipment shall not be permitted except with the written permission of the purchaser.
   f. Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments:
      i. Commercial Bill of Lading / Air Way Bill /
      Post parcel Receipt. (Two non-negotiable copies)
      ii. Invoice (3 copies)
      iii. Packing List (3 copies)
      iv. Test Certificate (3 copies)

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

23. ARBITRATION: If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

24. LANGUAGE AND MEASURES: All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

25. INDEMNITY: The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the Contract.

26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS: Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

27. SECURITY INTEREST: On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, the purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

28. BANK CHARGES: While the purchaser shall bear the bank charge payable to his Bankers [State Bank of India, Main Branch, Statue, Thiruvananthaparam 695 001], the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

29. TRAINING: The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchaser's engineering/technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract/stores, number of such personnel to be mutually agreed upon.

30. APPLICABLE LAW: The Contract shall be interpreted, construed and governed by the laws of India.