

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

**Tender for Computer Controlled Rotational Rheometer with
Accessories**

Bids to be submitted online

Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202400499401 dated 24-12-2024

A. Tender Details

Tender No :	VSSC/PURCHASE UNIT III (SPRE)/VS202400499401
Tender Date :	24-12-2024
Tender Classification:	GOODS
Purchase Entity :	PURCHASE UNIT III (SPRE)
Centre :	VIKRAM SARABHAI SPACE CENTRE (VSSC)

Computer Controlled Rotational Rheometer with Accessories

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

Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.]

A.1 Tender Schedule

Bid Submission Start Date :	24-12-2024 17:20
Bid Clarification Due Date :	10-01-2025 12:00
Bid Submission Due Date :	30-01-2025 14:00
Bid Opening Date :	30-01-2025 14:01
Price Bid Opening Date :	13-03-2025 14:00

B. Tender Attachments

NA

Instructions To Vendors

1. Instructions to Vendors

1. Last minute clarification on tenders will not be entertained.
2. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.

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

1. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.
2. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
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with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

3. ACCEPTANCE OF STORES:

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

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

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

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

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

8. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

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

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

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

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

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

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

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

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

12. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or

sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

13. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

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

15. TERMS & CONDITIONS OF TENDER

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

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

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

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

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

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

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

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

3. Specific Terms and Conditions to Tender

1. CUSTOMS DUTY: We are eligible for concessional payment of Customs Duty vide Notification Ref: 050/2017 CUSTOMS Dtd. 30/06/2017 Sl. No. 539(b) as amended by Notification No. 5/2018 dtd.25/01/2018. Please Note.

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

3. In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer.

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

5. Note: SD, LD and PBG clauses are mandatory and offers of the vendors who have not agreed for the above conditions will be excluded from the procurement process. Micro and Small Vendors are not exempted from the submission of Security Deposit. Only Govt Departments/PSUs/PSEs can submit Indemnity Bond instead of Bank Gurantee towards SD/PBG.

6. Offer Validity:- Please keep and confirm the offer validity minimum 90 days[in case of Single part Tender]from the date of opening of tender/180 days [For Two Part Tenders, 120 Days after opening Part-I and 90 days after opening Part-II].

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

8. Our standard payment term is 100% within 30 days for indigenous orders.

9. Performance Bank Guarantee: Wherever products offered carry warranty, the warranty should be for one year or as per manufacturers standard warranty term. Against such cases, please confirm

submission of Performance Bank Guarantee. The Performance Bank Guarantee should be for 3% of the order value covering the warranty period obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of the warranty period. Alternately vendors can request for withholding 3% payment till completion of the warranty period.

10. Please quote applicable GST separately.

(a) We are eligible for partial exemption of IGST vide Notification No: 47/2017-Integrated Tax (Rate) dtd 14/11/2017 and 45/2017-Central Tax (Rate) dtd 14/11/2017 issued by Dept. of Revenue, Ministry of Finance. Necessary Exemption Certificates will be issued on demand.

(b) We are eligible for partial exemption of CGST and SGST vide Notification No: 45/2017 dtd 14/11/2017 and No: 169/2017/TAXES dtd 15/11/2017 respectively. Necessary Exemption Certificates will be issued on demand.

11. Please upload the Technical Details / Catalogue / Data Sheets (wherever applicable)

12. Security Deposit: Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @ 3% of the order value by way of Bank Guarantee / FD Receipt. The Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations. If the Contractor is called upon by the Purchaser to deposit, Security and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor. In case if Security Deposit is submitted and the contractor fails to execute the order, then the security deposit will be forfeited.

13. The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the specific terms will prevail over the standard terms.

14. Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.

4. PPP Make in India(Non- Divisible Items-All Classes of Suppliers)

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

2. a) The subject item falls under Non-divisible category. b) The offers are sought from all classes of suppliers.

3. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.
4. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.
5. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.
6. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.
7. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-
8. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).
9. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.
10. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost).
11. Purchase Preference Policy:- Goods/Works which are not divisible (ie., required quantity is 1 or as a package) and Services:
- a) If L1 is from a 'Class-I local supplier, the contract will be awarded to L1 bidder.

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

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

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

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

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

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

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

C. Bid Templates

C.1 Technical Bid - Computer Controlled Rotational Rheometer with Accessories

1. EQUIPMENT - Computer Controlled Rotational Rheometer Rheometer

Item specifications for EQUIPMENT - Computer Controlled Rotational Rheometer Rheometer

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Rheometer Main Unit	<ul style="list-style-type: none"> o Main rheometer electronics and power supply must be housed in a separate unit to minimize the effects of vibration and heat. o It should have motor and transducer with both air bearing and magnetic thrust bearing units. o The normal force transducer of the rheometer should be separated from the optical encoder. o Automatic recognition of different geometries and all information specific to the geometry should be automatically configured into the software with appropriate parameters (type, dimension, material etc). o The rheometer should have the provision for automatically correcting the residual bearing friction. o The rheometer should have the provision for motor and geometry inertia correction in both flow and oscillation mode, with the actual inertia measured by the instrument. o The rheometer should have the option to zero the gap automatically. The speed of gap closure should be continuously variable. o The rheometer should have the capability of running the available tests in one fixed procedure. It should also have 	Yes / No / Explain		
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		<p>manual override capability to change any of the steps or add a new step.</p> <ul style="list-style-type: none"> o During any test, the normal force on the sample [compression or tension] to be kept within defined limits. o During temperature sweeps or ramps, the gap should automatically adjust for thermal expansion/contraction of the measurement plates by actual movement of the geometry as long as the normal force is within the limits. o Software gap correction for parallel plates should be invoked if the limits have been reached. o The bearing lock mechanism, its capabilities and advantages are to be specified. o A purge gas cover should be supplied for purging inert gas. o Safety features in the main and sub-systems for safe functioning of the equipment to be highlighted. 			
2	Rheological measurements	<ul style="list-style-type: none"> o Controlled stress and controlled strain mode in all plate geometries o Scan multiple frequencies (frequency sweep) and step and/or ramp heating (temperature sweep) 	Yes / No / Explain		

3	Materials	<ul style="list-style-type: none"> o Viscoelastic materials from extremely low viscosity fluids (viscosity min 1 mPa.s or better) o Thermoplastics, thermosets, resins, rubbers, low and high viscous fluids and nanofluids 	Yes / No / Explain		
4	Temperature control	<p>Furnace (suitable cooling arrangements via LN2 or other means to be provided):</p> <ul style="list-style-type: none"> • Operating temperature range: -150°C to 600°C • Heating rates: 0.1 to 10°C/min or better <p>Peltier plate:</p> <ul style="list-style-type: none"> • Operating temperature range: -20°C to 150°C • Heating rates: 0.1 to 10°C/min or better <p>The equipment shall be capable of automatic recognition of different temperature systems, i.e., peltier and furnace</p> <p>Suitable temperature controller(s) to be provided for all the given geometries</p>	Yes / No / Explain		
5	Minimum torque in oscillation	0.005 μ N.m or better	Yes / No / Explain		
6	Minimum torque in steady shear	0.005 μ N.m or better	Yes / No / Explain		
7	Maximum torque	200 mN.m or better	Yes / No / Explain		
8	Torque resolution	0.1 nN.m or better	Yes / No / Explain		
9	Angular frequency, minimum	10 ⁻⁷ rad/s or better	Yes / No / Explain		
10	Angular frequency, maximum	600 rad/s or better	Yes / No / Explain		
11	Angular velocity range	0 to 300 rad/s or better	Yes / No / Explain		

12	Step change in angular velocity	≤10 ms	Yes / No / Explain		
13	Step change in strain	≤20 ms	Yes / No / Explain		
14	Normal force range	0.01 to 50 N or better	Yes / No / Explain		
15	Displacement resolution	10 nrad	Yes / No / Explain		
16	Modes of analysis	<p>Oscillation Mode</p> <ul style="list-style-type: none"> o Torque/Stress sweep (linear or log) at single frequency o Frequency sweep (linear or log) at single torque o Frequency sweep (linear or log) at single strain o Strain/angular displacement sweep (linear or log) at single frequency o Temperature sweep at single frequency/torque <p>Flow Mode</p> <ul style="list-style-type: none"> o Controlled stress or torque sweeps. o Controlled rate (1/s) or speed (rad/s) sweeps. o Stress stepped flow. o Temperature sweep at constant stress or rate. <p>Creep Mode</p> <ul style="list-style-type: none"> o Constant stress creep and recovery. o Automatic sensing of steady state during creep test. <p>Stress relaxation</p>	Yes / No / Explain		

17	Plate Geometries (with and without solvent trap)	Parallel plates • 40-50 mm dia. (SS – 1 no.) • 20-25 mm dia. (SS – 1 no.) Cone and plate ($\leq 2.0^\circ$ cone angles) • 20-25 mm dia. (SS – 1 no.) • 40-50 mm dia. (SS – 1 no.) Serrated plate • 40 mm dia. – 1 no.	Yes / No / Explain		
18	Disposable parallel plates made of aluminum	20-25 mm – 100 sets	Yes / No / Explain		
19	Calibration standards	Suitable Low Viscosity, High Viscosity and PDMS Standards shall be supplied along with the equipment along with the calibration certificates, wherever applicable.	Yes / No / Explain		

20	Air compressor (oil-free)	<ul style="list-style-type: none"> o A high-quality air drier should be supplied to ensure clean, dry and oil free air to the rheometer. o The air filter should have a regulator and pressure gauge to regulate the air supply to the rheometer. o High quality air filter assembly should be supplied along with the air compressor and the air filter should be capable of filtering any oil, moisture or particulates from the air supplied to the air bearing. o The air filter should have an electronic timer for automatically draining out any accumulated water or oil from the air. o Electrical requirements: 220±10 V, AC, 50 Hz o Noise-free functioning (65-70 dB) o Necessary tubes and valves, required for connecting the air filter to the air compressor and to the rheometer should be provided as standard supply. 	Yes / No / Explain		
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21	Accessories for the rheometer	<ul style="list-style-type: none"> o Accessory for rheological study of pressure sensitive adhesives. o Torsion clamp accessory o Dewar of suitable capacity & necessary connections & adaptors and other mechanisms for connecting dewar to the equipment to be provided for low temperature measurements using LN2 o Dewar capacity & details of all accessories to be provided along with the offer o A computer with the latest version of the processor, Windows based operating system as well as MS Office Suite available at the time of supply should be provided along with a colour duplex laser printer. o The computer should facilitate the control of the instrument and accessories through the supplied software. 	Yes / No / Explain		
22	Optional accessories	<ul style="list-style-type: none"> o Concentric cylinder measuring systems (with and without solvent trap): Single and double gap – 1 no. each (price to be quoted separately). 	Yes / No / Explain		

23	Software requirements	<ul style="list-style-type: none"> o All the operations of the rheometer should be controlled through software installed in a Windows based PC. Data analysis software should be provided. o Analysis of data as well as operation of rheometer should be possible concurrently through the software. o Full-fledged software for the operation of rheometer and data analysis o Real-time display and storage of oscillation waveforms for each data unit. The waveform should be viewable in either a graphical or tabular form in the analysis package in order to provide an indication of the reliability of the data. o Report raw phase angle in oscillation experiment to quantify the amount of instrument inertial correction applied during the measurement. o Image capture and video streaming capability o Free software upgradation for lifetime. Software update both on-line and offline should be possible. o Software should allow off-line data analysis in another PC (preferably in excel format). o Help videos should be provided for experimental set-up, experimental parameters and various types of rheological measurements 	Yes / No / Explain		
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24	Ability to predict models for material behavior	<ul style="list-style-type: none"> o Flow: Newtonian, Casson, Bingham, Herschel-Bufkley, Power Law, Sisko, Cross, Williamson, Ellis, Carreau, Best fit polynomial. o Models related to creep and stress relaxation. o Models related to oscillation – Time temperature superposition with WLF and Arrhenius models, Coz-Merz. o User-defined models o Time-Temperature Superposition capability must be built into the software package and should be part of the standard software supply. 	Yes / No / Explain		
25	Warranty	<ul style="list-style-type: none"> o The main and auxiliary equipment (air compressor, dewar etc.) shall be provided with a minimum warranty of 1 year. 	Yes / No / Explain		
26	Annual Maintenance Contract	<ul style="list-style-type: none"> o Non-comprehensive AMC for 3 years after the expiry of warranty shall be provided (2 regular AMC visits + Emergency visits as applicable). The AMC cost with a detailed split up for the charges incurred for visit/spares/repair etc., are to be submitted separately. 	Yes / No / Explain		
27	Supply Duration	<ul style="list-style-type: none"> o The equipment shall be supplied to VSSC within 16-20 weeks from the release of PO. 	Yes / No / Explain		
28	Installation and demonstration	<ul style="list-style-type: none"> o The equipment shall be installed and demonstrated at VSSC free of cost. 	Yes / No / Explain		

29	PDI	o PDI will be undertaken (online or offline mode). The readiness for PDI shall be communicated to VSSC.	Yes / No / Explain		
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Document : Technical Specification of the equipment

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Detailed specification for Rheometer	Attached separately.	Yes / No / Explain		

Supporting Documents required from Vendor

1. Catalogue of the model quoted along with the details of accessories
2. Compliance statement for each of the given specifications along with the quote.
3. Price quote for non-comprehensive AMC for 5 years post warranty period (Price Bid Related)
4. Item-wise price quote for recommended set of spares and consumables for 1 year (Price Bid Related)
5. Price details with item-wise break-up for computer controlled rotational rheometer and mandatory accessories as per tender (Price Bid Related)

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Supply in full at VSSC	Yes / No / Explain	
2	GST @ 5% for supply as per Ministry of Finance, Dept. of Revenue Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; SI.No.243B dated 31.12.2018 (Amendment to Notification No. 7/2018 - Integrated Tax (Rate) dated 25.01.2018 and Notification No. 1/2017 - Integrated Tax (Rate) dated 28.06.2017 GST18% towards service portion	Yes / No / Explain	
3	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indentity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
4	Delivery Terms(FOR VSSC)	Yes / No / Explain	
5	Delivery Period for supply	Yes / No / Explain	
6	Delivery period(for installation from the date of site readiness)	Yes / No / Explain	
7	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
8	Warranty(kindly mention the warranty period)	Yes / No / Explain	

9	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	
10	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
11	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
12	Any Other Terms	Yes / No / Explain	
13	Offer Validity(180 days)	Yes / No / Explain	
14	Mention the percentage of local content in your item	Yes / No / Explain	
15	Kindly mention whether the quoted rate is inclusive or exclusive of GST	Yes / No / Explain	
16	Please mention the non comprehensive AMC charges for three years in the price bid related document(price quote for non comprehensive AMC for five years post warranty period).By typographic error, the same was mentioned as five years.kindly ignore the same	Yes / No / Explain	
17	The merit of the offer will be decided on the basis of equipment cost(incl. of all mandatory accessories), Installation and Commissioning charges,AMC charges for three years put together	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
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1	EQUIPMENT - Computer Controlled Rotational Rheometer Rheometer	1.00 Unit		-		
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Common charges (Applicable for all items)

AMC Charges for 1st Year after warranty period	
AMC Charges for 2nd Year after warranty period	
AMC Charges for 3rd Year after warranty period	
Installation & Commissioning Charges	
P&F Charges	
Freight (Amount)	
Other Charges (If any)	
Spares Cost - optional(Lump Sum Price)	