

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

**Tender for Supply, Installation and Commissioning of High Precision
4-axis CNC Die Sinking Electric Discharge Machine**

Bids to be submitted online

**Tender No.: VSSC/PURCHASE UNIT V (MME PURCHASE)/VS202400578701 dated
17-01-2025**

A. Tender Details

Tender No :	VSSC/PURCHASE UNIT V (MME PURCHASE)/VS202400578701
Tender Date :	17-01-2025
Tender Classification:	GOODS
Purchase Entity :	PURCHASE UNIT V (MME PURCHASE)
Centre :	VIKRAM SARABHAI SPACE CENTRE (VSSC)

Supply, Installation and Commissioning of High Precision 4-axis CNC Die Sinking Electric Discharge Machine

This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II). Hence all technical & Commercial details shall be furnished in the Techno-Commercial Bid while Price shall be indicated only in the Price Bid.

This being a two part tender, Technical & Commercial Part and Price Part separately, the tenderers should not attach any documents containing Pricing information along with Technical & Commercial Bid.

We do not open PART-II (Price Bid), if PART-I (Technical & commercial Offer) does not meet with our technical specification requirements

The Technical Specification / Drawing / Product Catalogues / Works carried by vendor / Make offered etc. as a single PDF file without any financial details has to be uploaded online mode in the technical part by the vendor [i.e. Supporting Documents]. This being TWO PART TENDER the PDF document uploaded should not contain any pricing details. If the attached PDF contains any pricing detail the offer will be treated as unresponsive and will be summarily rejected.

If a vendor is not able to submit bid against this tender due to any reason, such vendor is requested to post their REGRET message in the eprocurement portal with clear reasons or email to spso_mme_pur@vssc.gov.in. Non-submission of bids without regrets will be viewed seriously.

- 1.GST No: Our Goods and Service Tax Registration No 32AAAGV0026J1ZL.
- 2.GSTIN Rate and HSN Code: Vendors registered under GST shall mention their GSTIN applicable rate and HSN code wherever necessary as per GST Law.
- 3.Delivery of the item should be made as per commercial terms attached in the tender.

4. Wherever supply, installation, commissioning & training is involved, the bidders shall clearly specify the delivery period for supply of items, time required for installation & commissioning etc.
5. Security Deposit (SD): SD will be applicable if the Purchase Order value is above Rs 5 lakhs. SD at the rate of 3 per cent of order value to be submitted in the form of Bank Guarantee valid till successful completion of PO or Contract if awarded.
6. Free Issue Material (FIM): N/A
7. Performance Bank Guarantee (PBG): PBG @ 3% of order value to be submitted in the form of Bank Guarantee from a Scheduled Bank, valid till successful completion of all contractual obligations, including the warranty period, in case PO/Contract is awarded.
8. Consolidated SD cum PBG: If both SD and PBG are applicable, a Consolidated SD cum PBG for 3% order value can be submitted in the form of Bank Guarantee from a Scheduled Bank, valid till successful completion of all contractual obligations, including the warranty period
9. Liquidated Damages Clause (LD): The delivery period should be realistic. The delivery period so quoted and mentioned in the order is the essence of the PO or Contract. In case of delay in delivery of material as per the delivery schedule LD at 0.5 per cent per week or part thereof on the undelivered portion subject to a maximum of 10 per cent of the contract value shall be levied. Wherever installation and commissioning are also involved the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted
10. LD, SD, Warranty & PBG clauses are mandatory and offer without acceptance of these clauses will not be considered for evaluation
11. Delivery terms: Our standard delivery term is FOR VSSC Trivandrum. In case any vendors offer 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.
12. Payment Terms: Our standard payment term is 100 per cent within 30 days of receipt and acceptance of Stores at our site for indigenous orders and Sight Draft or Wire Transfer or Irrevocable LC (without confirmation) for foreign orders. The Bank charges shall be to respective Accounts.
13. All registered MSME vendors are requested to provide their Registration and Ownership details.
14. Vendors may please note that MSMEs are not exempted from the submission of Security Deposit.
15. Vendors shall provide the name address email ID and contact number of authorised official in order to contact in case of need.
16. If any vendor submits forged or false documents along with their bids, the offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.
17. 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.
18. We are partially exempted from payment of IGST and eligible for paying IGST at a concessional rate of 5 per cent vide Ministry of Finance Dept of Revenue Notification No 1-2017, Integrated Tax Rate Schedule-I SI No 243B Dated 28-06-2017 as amended by Notification No. 25-2018, Integrated Tax Rate Dated 31-12-2018.
19. We are also partially exempted from payment of GST and eligible for paying GST at a concessional rate of 5 per cent vide Ministry of Finance Dept of Revenue Notification No 45-2017, Central Tax Rate Dated 14-11-2017 and Government of Kerala Taxes B Department Notification No GO P No 169-2017 TAXES Dated 15-11-2017. IGST-GST CONCESSION CERTIFICATE SHALL BE PROVIDED

ALONGWITH PURCHASE ORDER.

20.We are partially exempted for payment of IGST and eligible for paying IGST at concessional rate of 5% vide Ministry of Finance, Dept. of Revenue Notification No.47/2017 - Integrated Tax (Rate) dtd14/11/2017.

21.Wherein PFMS Number is not available, please provide IFSC Code Bank Details etc and upload Copy of Personalized cheque leaf in the name of the Purchase Vendor or NEFT Mandate form duly endorsed by the Bank of the Vendor.

22.Copy of latest filed tax returns

23.Details of registration Number, PAN Card, GST, TIN, NSIC, MSME registration etc.

24.The address of registered site works / workshop / etc.

25.Last minute clarification on tender will not be entertained.

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

27.VSSC has the right to cancel the tender without assigning any reason thereof.

28.Our Bankers: State Bank of India, Thumba Branch, ISRO PO, Trivandrum 695022.

29.Consignee address: Senior Purchase and Stores Officer, Central Stores, RFF, VSSC, ISRO PO, Trivandrum.

A.1 Tender Schedule

Bid Submission Start Date :	17-01-2025 17:15
Bid Clarification Due Date :	17-02-2025 16:00
Bid Submission Due Date :	21-02-2025 14:00
Bid Opening Date :	21-02-2025 14:10
Price Bid Opening Date :	25-03-2025 14:00

B. Tender Attachments

NA

Instructions To Vendors

1. Conditions for BIDDER FROM A COUNTRY WHICH SHARES LAND BORDER WITH INDIA

1. Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority.

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

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

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

2. FORM NO. 20

1. Form No. DOS:PM:20

INSTRUCTIONS TO TENDERERS

1. Late tenders and delayed tenders will not be considered.

2. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be distinctly shown separately in the tender.

3. 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.

4. a) Your quotation 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.

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

6. (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.

7. 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.

8. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

9. 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.

10. 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.

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

TERMS & CONDITIONS OF TENDER

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, representative, heirs, executors and administrators unless excluded by the Contract.

(c) 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.

(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.

2. 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.

3. SECURITY DEPOSIT:

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 10(b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

4. 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 as to whether the nature of the defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfil guarantee conditions outlined in clause 4 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser) 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 the 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 in such cases the period of 14 months referred to in para 4 (b) & (c) shall be the "asked for" guarantee period plus two months.

5. 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.

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. TEST CERTIFICATE:

Wherever required, test certificates should be sent along with the despatch documents.

8. 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. 8 (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.

9. 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.

10. DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.

(i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 0.5% per week of the price of any stores which the Contractor has failed to deliver as aforesaid or

during which the delivery of such store may be in arrears subject to a minimum of 10%, or (II) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or (iii) to cancel the Contract or a portion thereof and if so desired to purchase or authorise the purchase of stores not so delivered or others of a similar description (where others exactly if complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk and cost of the Contractor.

In the event of action being taken under sub-clause (ii) & (iii) of clause 10 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to repurchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re-purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re-purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

11. EXTENSION OF TIME:

As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchaser's right to recover liquidated damages under clause 10 thereof.

12. ERECTION OF PLANT & MACHINERY:

Wherever erection of a plant or machinery is the responsibility of the Contractor as per the terms of the Contract and in case the Contractor fails to carry out the erection as and when called upon to do so within the period specified by the purchaser, the purchaser shall have the right to get the erection done through any source of his choice. In such an event, the Contractor shall be liable to bear any additional expenditure that the purchaser is liable to incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the purchaser.

13. PAYMENT:

Contractor's bill will be passed for payment only after the stores have been received, inspected and accepted by the Purchaser.

14. MODE OF PAYMENT:

Normally payment will be made for the accepted stores within 30 days from the date of receipt of the materials.

15. RECOVERY OF SUM DUE:

Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the

balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

16. 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 Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.

17. ARBITRATION:

In the event of any question, dispute or difference arising under these conditions or any conditions contained in the Purchase Order or in connection with this Contract (except as to any matter the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of the Head of the Purchase office or some other person appointed by him. It will be no objection that the arbitrator is a Government servant, that he had to deal with matter to which the Contract relates or that in the course of his duties as Government servant he has expressed views on all or any other matters in dispute or difference. The award of the arbitrator shall be final and binding on the parties of this Contract.

If the arbitrator be the Head of the Centre/Unit

(i) In the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in-office either to proceed with reference himself, or to appoint another person as arbitrator, or

(ii) In the event of his being unwilling or unable to act for any reason, it shall be lawful for the Head of the Centre/Unit to appoint another person as arbitrator. If the arbitrator be a person appointed by the Head of the Purchase Office In the event of his dying, neglecting or refusing to act or resigning or being unable to act, for any reason, it shall be lawful for the Head of the Centre/Unit either to proceed with the reference himself or appoint another person as arbitrator in place of the outgoing arbitrator.

Subject as aforesaid the Arbitration & Conciliation Act 1996 and the rules there under and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this Clause. The Arbitrator shall have the power to extend with the consent of the purchaser and the Contractor the time for making and publishing the award. The venue of arbitration shall be the place as purchaser in his absolute discretion may determine. Work under the Contract shall, if reasonably possible, continue during arbitration proceedings.

In the event of any dispute or difference relating to the interpretation and application for the provisions of the Contracts, such dispute or difference shall be referred by either party to Arbitration of one of the

Arbitrations in the Department of Public Enterprises. The Arbitration Act 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute provided however any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs. Ministry of Law & Justice, Govt. of India. The parties to the dispute will share equally, the cost of arbitration as intimated by Arbitrator.

18. COUNTER TERMS AND CONDITION 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.

19. SECURITY FOR PURCHASE OF MATERIALS:

Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

3. Model certificate to comply the supplier

i. Model Certificate for Tenders (For Transitional Cases)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered.

ii. Model Certificate for Tenders

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

iii. Model Certificates for Tenders for Work involving possibility of sub-contracting

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contracting from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contract from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

C. Bid Templates

C.1 Technical Bid - Supply, Installation and Commissioning of High Precision 4-axis CNC Die Sinking Electric Discharge Machine

1. CNC EDM - High Precision CNC 4 axis Die Sinking EDM

Item specifications for CNC EDM - High Precision CNC 4 axis Die Sinking EDM

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Machine Description	This machine is meant for high precision electrical discharge machining of aerospace materials like Steels, Inconel, Titanium, Tungsten Carbide, Aluminium etc. The machine shall be equipped with latest state-of-the-art high resolution 4-axis CNC control system with X, Y, Z and C axes fully programmable. The machine shall be capable of simultaneous erosion in X, Y, Z and C axes.	Yes / No / Explain		

2	Qualifying Criteria	The machine shall be a standard catalogued product and a proven working model. The vendor must necessarily have supplied atleast 10 same machine model in India during the past five years. Vendor must furnish performance certificates issued by atleast 3 reputed users of similar machine model supplied during last five years. The offers from vendors not meeting aforesaid criteria will be rejected.	Yes / No / Explain		
3	Machine shall have excellent vibration damping capacity, superior thermal isolation and rigid cast iron C-frame construction.	Vendor to furnish details	Yes / No / Explain		
4	It shall have fixed table with tool movements in X, Y, Z and C directions.	Vendor to furnish details	Yes / No / Explain		
5	It shall have automatic three-sided drop tank design.	Vendor to furnish details	Yes / No / Explain		
6	Compact machine construction with ergonomic design with characteristics for high precision machining is essential.	Vendor to furnish details	Yes / No / Explain		
7	Machine shall be mounted on anti-vibration pads. Use of foundation bolt of machine mounting is not acceptable.	Vendor to furnish details	Yes / No / Explain		
8	X axis traverse	350 mm (minimum)	Yes / No / Explain		
9	Y axis traverse	250 mm (minimum)	Yes / No / Explain		
10	Z axis traverse	300 mm (minimum)	Yes / No / Explain		

11	Resolution of X, Y and Z axis	0.05 µm or better	Yes / No / Explain		
12	X, Y axis speed	5 m/min (nominal)	Yes / No / Explain		
13	X, Y axis acceleration	2.5 m/s ² (nominal)	Yes / No / Explain		
14	Z axis speed	15 m/min (minimum)	Yes / No / Explain		
15	Z axis acceleration	5 m/s ² (minimum)	Yes / No / Explain		
16	C-axis compatible with System 3R Macro chuck	Required	Yes / No / Explain		
17	C-axis rotation	360° (Deg) continuous; 0-100 rpm or faster	Yes / No / Explain		
18	C-axis indexing	Must be indexable to any programmed angle	Yes / No / Explain		
19	C-axis indexing resolution	0.001° (Deg) or better (As per ISO 230-2)	Yes / No / Explain		
20	Bi-directional accuracy (A) for X, Y and Z axes	0.005 mm or better (As per ISO 230-2)	Yes / No / Explain		
21	Bi-directional mean positional deviation (M) for X, Y and Z axes	0.002 mm or better (As per ISO 230-2)	Yes / No / Explain		
22	Bi-directional repeatability (R) for X, Y and Z axes	0.004 mm or better (As per ISO 230-2)	Yes / No / Explain		
23	Reversal deviation (B) for X, Y and Z axes	0.002 mm or better (As per ISO 230-2)	Yes / No / Explain		
24	Bi-directional accuracy (A) for C-axis	0.01° (Deg) or better (As per ISO 230-2)	Yes / No / Explain		
25	Bi-directional mean positional deviation (M) for C-axis	0.01° (Deg) or better (As per ISO 230-2)	Yes / No / Explain		
26	Bi-directional repeatability (R) for C-axis	0.006° (Deg) or better (As per ISO 230-2)	Yes / No / Explain		
27	Reversal deviation (B) for C-axis	0.005° (Deg) or better (As per ISO 230-2)	Yes / No / Explain		
28	Type of drive	AC servo drive	Yes / No / Explain		
29	Guideways	Linear guideways (Pls provide details)	Yes / No / Explain		

30	Drive element	High precision ballscrew (Pls provide details)	Yes / No / Explain		
31	Feedback element	Direct measuring system (linear glass scales for all linear axis). Vendor to Confirm & provide details.	Yes / No / Explain		
32	Linear glass scale resolution for X, Y and Z axes	0.05 μ m	Yes / No / Explain		
33	Worktank size (Width x Depth x Height)	800 x 500 x 350 mm (minimum)	Yes / No / Explain		
34	Worktable size (Width x Depth)	500 x 400 mm (minimum)	Yes / No / Explain		
35	Min./Max. distance between work table and chuck	Min. 150-450 mm range	Yes / No / Explain		
36	Max. workpiece dimensions (Width x Depth x Height)	700 x 450 x 275 mm (nominal)	Yes / No / Explain		
37	Max. workpiece weight	500 kg	Yes / No / Explain		
38	Max. electrode weight	50 kg or more	Yes / No / Explain		
39	Max. electrode weight with C axis rotation	25 kg or more	Yes / No / Explain		
40	T-slots for work clamping	Required; pls specify	Yes / No / Explain		
41	Dielectric type	Oil preferred	Yes / No / Explain		
42	Dielectric tank capacity	Pls specify	Yes / No / Explain		
43	Dielectric level min./max. from worktable surface	Min. 100-300 mm range (programmable)	Yes / No / Explain		
44	Dielectric filtration	Minimum 5 micron filtering quality required (Pls specify full details of filtration system)	Yes / No / Explain		
45	Automatic dielectric cooling	Heat exchanger required (Pls specify details)	Yes / No / Explain		
46	Dielectric flushing	2 lateral, 1 through workpiece, 1 through electrode and 1 suction	Yes / No / Explain		

47	Pulsed flushing injection synchronized with electrode retraction	Required	Yes / No / Explain		
48	Intelligent Spark generator must be capable of generating equal energy pulses to ensure uniform surface finish. It should have technologies for very low wear EDM with copper and graphite electrodes. Vendor to provide complete details about spark generator. Adaptive Current Control (ACC) and Adaptive Current Optimization (ACO) features should be available.	Vendor to confirm and provide details	Yes / No / Explain		
49	Max. machining current	80 A or more	Yes / No / Explain		
50	Best surface finish	Ra 0.08 μm or better on copper/steel combination	Yes / No / Explain		
51	Max. material removal rate	450 mm^3/min (nominal) on copper/steel combination	Yes / No / Explain		
52	Power consumption	Pls specify	Yes / No / Explain		
53	Voltage	3 x 400 V $\pm 10\%$ AC	Yes / No / Explain		
54	Frequency	50 Hz	Yes / No / Explain		

55	Machining Technologies Required	Machine must have inbuilt technologies for all the following combinations of electrode/workpiece materials. Copper/Steel, Copper/Aluminium, Copper/Ni based superalloys, Copper/Tungsten carbide, Copper/Copper, Copper tungsten/Steel, Copper tungsten/Aluminium, Copper tungsten/Titanium Copper tungsten/Tungsten carbide, Graphite/Steel, Graphite/Ni based super alloys, Graphite/Titanium, Graphite/Tungsten carbide,	Yes / No / Explain		
56	CNC Control	Pls specify and provide details	Yes / No / Explain		
57	Controllable axes	X, Y, Z and C	Yes / No / Explain		
58	Simultaneous controllable axis	All 4 axes	Yes / No / Explain		
59	Display	15" or larger screen	Yes / No / Explain		
60	Programmable increment	Minimum 0.0001 mm on all linear axes and 0.001 ° (Deg) on C-axis	Yes / No / Explain		
61	Programming in metric/inch	Required	Yes / No / Explain		
62	Linear interpolation	3 out of 3 axes	Yes / No / Explain		
63	Circular interpolation	Any 2 axes	Yes / No / Explain		
64	Helical interpolation	Required	Yes / No / Explain		
65	Spline interpolation	Required	Yes / No / Explain		
66	Canned orbiting cycles	Required	Yes / No / Explain		

67	XY, XZ and YZ axes vector and orbiting	Required	Yes / No / Explain		
68	Machining cycles:	Vendor to confirm from serial no. 69 to 81	Yes / No / Explain		
69	Orbital Translation on plane	Required	Yes / No / Explain		
70	Orbital Translation on Cone: Movement during the machining in 3 axes at the sametime in conical pattern with pre-definition of the selected axis	Required	Yes / No / Explain		
71	Angular machining: Machining cycle for angular faces & comers machining	Required	Yes / No / Explain		
72	3D Orbiting: Machining on 3 axes at a time according to penetration vector	Required	Yes / No / Explain		
73	Square 3D Cycle	Required	Yes / No / Explain		
74	Conical machining on angles upto 900 around all axes: movement duringmachining withgeneration of taper by definition of the angle in programming line	Required	Yes / No / Explain		
75	Diagonal machining in cavity	Required	Yes / No / Explain		
76	Helical machining with 'C' axis. Machining of internal and external helix	Required	Yes / No / Explain		
77	Contouring mode in X, Y, Z & C- axes: Machining of different 2-D contours byCNC programming with tool offset	Required	Yes / No / Explain		
78	Vectorial machining: Movement during the machining on all 4 axes at the same time (synchronized)	Required	Yes / No / Explain		

79	Expansion: The ability to machine two-dimensional machining withundersize electrode	Required	Yes / No / Explain		
80	Possible to EDM in all the axis X, Y, Z or only one axis out of X, Y, Z at a timelocking the other two axes	Required	Yes / No / Explain		
81	Sphere: Spherical machining by defining sphere radius and final dimension along selected axis	Required	Yes / No / Explain		
82	Technology for special applications such as machining deep ribs, polishing, micro machining, large area machining etc.	Required - Vendor to provide details	Yes / No / Explain		
83	Automatic real-time optimization of EDM parameters	Required - Vendor to provide details	Yes / No / Explain		
84	Automatic measurement cycles for workpiece and electrode – edge find, inside/outside centre find, corner find	Required - Vendor to provide details	Yes / No / Explain		
85	Graphic simulation of program	Required -- Vendor to provide details	Yes / No / Explain		
86	Electronic handwheel	Required - Vendor to confirm	Yes / No / Explain		
87	I/O of programs and data transfer	Through both Ethernet and USB	Yes / No / Explain		
88	Ethernet	Required, Minimum 1 no	Yes / No / Explain		
89	USB Ports	Required, Minimum 1 no	Yes / No / Explain		
90	Program/data storage capacity	Pls specify	Yes / No / Explain		
91	Language	English	Yes / No / Explain		

92	UPS for control system backup (to know last executed NC block in case of power failure)	Required	Yes / No / Explain		
93	Onboard operating manual	Required	Yes / No / Explain		
94	Touch trigger probe for workpiece and electrode measurement (compatible with System 3R Macro chuck)	Required (Renishaw preferable)	Yes / No / Explain		
95	System 3R Macro chuck	Required	Yes / No / Explain		
96	Optical microscope with 50X zoom (compatible with System 3R Macro chuck)	Required	Yes / No / Explain		
97	Fume exhaust system	Required (Pls provide complete details)	Yes / No / Explain		
98	Dielectric fluid for initial filling	Required (as per requirement)	Yes / No / Explain		
99	Dielectric fluid for top-up	Required	Yes / No / Explain		
100	C-axis mandrel to check C-axis alignment	Required -- Vendor to confirm	Yes / No / Explain		
101	Complete machine backup including CNC, PLC as image to be provided as a spare workable hard disk as fitted on CNC control. It shall be used in case of original hard disk failure	Required - Vendor to confirm	Yes / No / Explain		
102	Machine shall be equipped with a Fire Protection System	Required - Vendor to confirm	Yes / No / Explain		
103	Machine shall have collision protection in all axes	Required - Vendor to confirm	Yes / No / Explain		
104	Machine shall have overheating protection	Required - Vendor to confirm	Yes / No / Explain		
105	Machine shall have inbuilt arc and short circuit protection	Required - Vendor to confirm	Yes / No / Explain		

106	Machine shall have automatic lubrication of vital lubrication points and automatic shut-off in case of lubrication failure	Required - Vendor to confirm	Yes / No / Explain		
107	All moving parts/guide ways/ball screws shall be protected against dust incursion by providing suitable covers/bellows wherever necessary	Required - Vendor to confirm	Yes / No / Explain		
108	Machine shall be provided with adequate guarding & doors.	Required - Vendor to confirm	Yes / No / Explain		
109	Control system elements shall be enclosed in a controlled environmental condition & dust proof cabin	Required - Vendor to confirm	Yes / No / Explain		
110	Machine shall be capable of working in tropical weather condition with maximum ambient temperature of 40°C and 95%RH. All electrical & electronic components shall be tropicalised. Vendor shall confirm the suitability of operating the machine for such environmental conditions	Vendor to confirm	Yes / No / Explain		
111	There shall not be any emissions and effluent from the machine	Vendor to confirm	Yes / No / Explain		

112	Maximum noise level shall be less than 70 dB(A) at normal load condition, 1 m away from the machine with correction factor for back ground noise if necessary. This will be measured as per international standards like DIN 45635-16. Supplier to demonstrate compliance to noise level, if so required	Vendor to confirm	Yes / No / Explain		
113	Operator's manual hard copy	Min 2 no.	Yes / No / Explain		
114	Programming manual hard copy	Min 2 no.	Yes / No / Explain		
115	Maintenance manual hard copy for mechanical, hydraulic, pneumatic and electronics (Diagnostic, parameter, machine data, PLC, axis/spindle motor, digital drive, startup etc.)	Min 2 no.	Yes / No / Explain		
116	Spare parts manual with complete specifications	Min 2 no.	Yes / No / Explain		
117	Machine layout drawings	Min 2 no.	Yes / No / Explain		
118	Electrical schematics/wiring, lubrication & hydraulic schematics	Min 2 no.	Yes / No / Explain		
119	Preventive maintenance checklist, troubleshooting charts & guidelines	Required	Yes / No / Explain		
120	Machine test charts	Required - Vendor to submit test charts	Yes / No / Explain		
121	Training and tutorials	Required - Vendor to confirm	Yes / No / Explain		
122	Technical manuals (O & M) for OEM accessories to be provided	Min 2 no.	Yes / No / Explain		

123	Spares and consumables for 2-year trouble free operation to be listed and quoted separately along with price	Split-up cost for each spare shall be quoted. List to be submitted along with technical bid also	Yes / No / Explain		
124	Any other relevant spare or accessory required for safe operation of machine	Please quote	Yes / No / Explain		
125	Pre-Delivery Inspection and Acceptance	As Mentioned in Serial no.126 to 128	Yes / No / Explain		
126	The machine shall be inspected as per ISO 230-2 standards for positional and geometrical accuracies as per standard test chart and after clearance only, the machine shall be dispatched	Vendor to confirm	Yes / No / Explain		
127	Demonstration of all features of the machine, control system and accessories.	Vendor to confirm	Yes / No / Explain		
128	Vendor to demonstrate machining capabilities (including surface finish) on a standard test piece	Vendor to confirm	Yes / No / Explain		
129	Installation and commissioning at VSSC site	Machine to be installed at location identified by VSSC, Thiruvananthapuram	Yes / No / Explain		
130	Machine to be installed and commissioned at VSSC site by trained engineers	Vendor to confirm	Yes / No / Explain		
131	Machine shall be inspected as per ISO 230-2 standards for positional and geometrical accuracies as per standard test chart	Vendor to confirm	Yes / No / Explain		
132	Demonstration of all features of the CNC EDM machine, control system and accessories.	Vendor to confirm	Yes / No / Explain		

133	Vendor has to demonstrate machining capabilities (including surface finish) on a standard test piece as per VSSC discretion (onsite)	Vendor to confirm	Yes / No / Explain		
134	Training after installation at VSSC for programming, operation and basic troubleshooting	Required - Vendor to confirm	Yes / No / Explain		
135	Machine Acceptance at VSSC - Acceptance of the machine based on completion of activities of serial no. 131,132, 133 & 134 & compliance of test charts	Vendor to confirm	Yes / No / Explain		
136	Warranty:	Minimum two year onsite comprehensive warranty from the date of commissioning.	Yes / No / Explain		
137	Annual Maintenance Contract for a period of 3 years after expiry of warranty period.	Please quote separately.	Yes / No / Explain		
138	Vendor shall supply spares and support for both machine and control system for at least 10 years from the date of commissioning to ensure smooth operation	Vendor to give an undertaking that spares & service support for machine & control system shall be provided for the aforesaid period	Yes / No / Explain		
139	Delivery period	The delivery schedule shall be 6 months after acceptance PO by vendor.	Yes / No / Explain		
140	Items quoted by the vendor under Spares and Consumables (Serial No. 123 & 124) will not be considered for price bid comparison	Vendor to note	Yes / No / Explain		

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	First fill of oil, grease or any other consumable & list of deliverables shall be included in scope of supply.	Required - Vendor to confirm and provide details	Yes / No / Explain		
2	In case of foreign suppliers, Indian equivalent of oil, grease & other consumables (supplied along with the machine) shall be mentioned with complete technical specs, vendor addresses and contact persons details.	Required - Vendor to confirm and provide details	Yes / No / Explain		
3	Machine Levelling Pad shall be included in scope of supply	Required - Vendor to confirm and provide details	Yes / No / Explain		
4	Standard printed catalogue and technical write-up of the offered specifications for basic equipment and CNC system must be enclosed along with the quotation	Required - Vendor to confirm and provide details	Yes / No / Explain		
5	Quotation shall be prepared and signed by the original machine manufacturer	Vendor to confirm and provide details	Yes / No / Explain		

6	Actual test values for both linear and geometrical test certificates of same model manufactured by the manufacturer shall be enclosed with the quotation	Required - Vendor to confirm and provide details	Yes / No / Explain		
7	The quoted machine shall be standard and proven model. The bidders should have manufactured and supplied same machines during the last three years.	Required - Vendor to confirm and provide details	Yes / No / Explain		
8	The bidders should provide a comprehensive list of the OEM components used in the machine. The offer shall include the technical brochure indicating clearly the model used for each part/component.	Required - Vendor to confirm and provide details	Yes / No / Explain		

9	Reference list of organizations to whom same equipment has been supplied by the bidder and performance certificates issued by few reputed users of same equipment in recent past, shall be furnished along with the offer.	Postal address, contact person and fax number of the organization provided for reference. Government Organisation in india will be preferred for reference.	Yes / No / Explain		
10	Complete address, contact person, telephone number and fax number of original manufacturer of the equipment to be furnished	Required - Vendor to confirm and provide details	Yes / No / Explain		
11	The foreign machine manufacturer & supplier shall have dedicated service centre in India. The service centre should have been functioning during last 5 years and shall have proven track record of servicing. They shall have trained & experienced service personnel.	Please give complete details with documentary evidence.	Yes / No / Explain		

12	Offered machine specification, compliance statement (if separate), & catalogue specification must match. In case of any deviation, the worst will be considered for technical evaluation.	Vendor to note	Yes / No / Explain		
13	Specifications without quantitative values (wherever applicable) shall not be considered and will be treated as non-conformance.	Vendor to note	Yes / No / Explain		
14	The tender shall be necessarily submitted in two parts; >Technical & commercial (excluding price details) >Commercial including price detail	Required - Vendor to confirm	Yes / No / Explain		
15	Split-up cost details to be provided for various elements of machine, accessories, spares and other options.	Required - Vendor to confirm and provide details	Yes / No / Explain		
16	Max weight, numbers & size of packing shall be indicated. Packing material details shall be mentioned.	Required - Vendor to confirm and provide details	Yes / No / Explain		

17	VSSC reserves the right to verify the information provided by the vendor/bidder. In case the information provided by the vendor/bidder is found to be false/incorrect, the offer shall be rejected.	Vendor to note	Yes / No / Explain		
18	VSSC has the absolute right to reject the offer at any point if any non conformance is observed.	Vendor to note	Yes / No / Explain		

Supporting Documents required from Vendor

1. Transportation details

2. All relevant and important documents related to machine

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	All components/items of the machine shall be protected against water/rain damages. Waterproofing the packages are required	Yes / No / Explain	
2	All items shall be properly packed to avoid transit damages	Yes / No / Explain	
3	Taxes and other costs, if any . GST : (In line with Notification No. 01/2017-Central Tax (Rate) dated 28-06-2017, as amended by Notification No. 06/2018-Central Tax (Rate) dated 25-01-2018 and Notification No. 24/2018 Central Tax (Rate) dated 31-12-2018 and corresponding SGST Rate Notifications, GST rate for the goods at Sl. No. 243 B : Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock up and modules, raw material and consumable required for Launch Vehicles and Satellites and Payloads is 2.5% CGST and 2.5% SGST. IGST is charged at 5 % in terms of Notification No. 01/2017-IGST dated 28-06-2017 as amended by Notification No. 07/2018 IGST dated 25-01-2018 and Notification No. 25/2018 IGST dated 31-12-2018, necessary IGST/CGST/SGST concession certificate shall be issued)	Yes / No / Explain	
4	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. The percentage reconsideration shall be based on guidelines issued by Govt. of India ,from time to time)	Yes / No / Explain	

5	Payment Term: (Our Defalut payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site.)	Yes / No / Explain	
6	Warranty-2 years	Yes / No / Explain	
7	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 The percentage reconsideration shall be based on guidelines issued by Govt. of India ,from time to time).	Yes / No / Explain	
8	Delivery Terms - FOR VSSC	Yes / No / Explain	
9	Delivery Period - 6 Months after acceptance of PO	Yes / No / Explain	
10	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	
11	Quote Validity - 90 days	Yes / No / Explain	
12	Annual Maintenance Contract - 3 years	Yes / No / Explain	
13	PO Ordering Address with Name and Contact Details of Sales Person concerned (e-mail and phone number).	Yes / No / Explain	
14	Any Other Terms	Yes / No / Explain	
15	If a vendor is not able to submit bid against this tender due to any reason, such vendor is requested to post their REGRET message in the eprocurement portal with clear reasons or email to spso_mme_pur@vssc.gov.in. Non-submission of bids without regrets will be viewed seriously	Yes / No / Explain	

16	AMC Charges will NOT consider for arriving L1	Yes / No / Explain	
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C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Packing & Forwarding	Freight	Remark
1	CNC EDM - High Precision CNC 4 axis Die Sinking EDM	1.00 Nos.		-				

Common charges (Applicable for all items)

AMC Charges for 1st Year after warranty period	
AMC Charges for 2nd Year after warranty period	
AMC Charges for 3rd Year after warranty period	
Any Other Charges (Amount)	
Installation Charges	