

Pl.A1/Phy/2505-1/2021

**Department of Physics, University of Kerala, Kariavattom,  
Thiruvananthapuram, Kerala, India – 695 581, Ph: 91 471 2308920**

Date: 08/11/2021

**E-Tender Notice**

Department of Physics, University of Kerala, Thiruvananthapuram invites open tenders through e-Procurement (in two bid system) for the purchase of Electrospinning unit suitable to produce nanofibers.

Last date and time for submission of tender online	:07/12/2021 5 pm
Last date and time for submission of tender offline	: 07/12/2021 5 pm
Date and time of opening of tender	: 10/12/2021 11 am
Hard copies of the sealed tenders to be submitted to the office of	<b>The Head, Department of Physics, University of Kerala, Kariavattom, Thiruvananthapuram, Kerala – 695 581.</b> <b>e-mail: sibi@keralauniversity.ac.in</b>
For technical details contact	<b>Dr. Subodh G., Assistant Professor, Department of Physics, University of Kerala, Thiruvananthapuram, Ph. No. 9633983404</b>  E-Mail: gsubodh@gmail.com

**For further details logon to [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in)**

**Technical specifications of the required item**

1	Spinning Orientation	Should be vertical.
2	High Voltage Power supply	Should be variable within 0-30kV range.
3	Software	Electronic hardware & software should be controlled by various modules through programmable logic controller (PLC) system.
4	Display	Digital
5	Current	Should be variable within 0-10 mA range.
6	Safety	Shorting stick should be provided as Static Removal Device to ensure safety.
7	Syringe dispenser	Micro Processor based standalone – programmable (Servo with programmable) with PLC programmed type.
	a) Syringe Pump 1	At least four syringes should be able to be used at a time (needle type spinneret). The syringe pump should be compatible with 2.5- and 5-ml syringes and the same should be provided.
	b) Syringe Pump 2	Coaxial spinning for core, sheath and hollow tube
	c) Flow rate	Should be variable within 0.01 ml to 500 ml/h range.
4	Vertical & Horizontal dispensing	Should be by quick changing mechanism.
5	Drum Collector	Should be $\geq 100$ mm dia x $\geq 150$ mm length.
	Drum Collector Speed	Should be variable within 300 rpm to 3000 rpm range.
6	Plate Collector	
	a) Dimensions	Should be $\geq 220$ x 115mm.
	b) Motorized robotics movement	X direction – Plate Y Direction – $\geq 10$ mm to 100 mm
	c) Collector Speed	Should be between 0.01 to 1m/min.
7	Distance adjustment (Tip to collector)	Should be able to vary distance between needle tip to the collector through manual adjustment/software controller. Vertical (in Z-direction) distance should be variable between 5cm to 20cm.

8	Electro – spinning enclosure	
	a)  Spinning chamber	The complete chamber should be made of poly carbonate or glass which is chemicalresistant. The chamber temperature should be able to be digitally set with controller up to a maximum of at least 60 degrees. Exhaust Fans should be provided. Total area needed is $\geq 1000 \times 800 \times 1800$ mm.
	b) Structure	The enclosure should have an aluminum profilewith doors. It should be a suitable dust proof enclosure with control panels.
9	Safety	The door should be assembled with accurate limit switch mechanism with relay logic so as to switch off the power when the door is open, and static removal device should be provided with shorting disc.
10	Additional Features and Safety	Additional emergency switch should be provided by the side of machine. Strong earth terminal must be connected to the collector area.
11	Syringe material	The Syringe material should to be resistible to at least the given organic solvents.,  Acetone,Dimethyl formamide Hexane, Isopropyl Alcohol Chloroform/Dichloromethane, Isopropyl Alcohol, N-Methyl pyrrolidone
	Other Specifications	1.Syringe holder should be made of insulating material. 2.Software interface should be there to control the syringe volume, spin duration and distance to the target. Associated accessories should be provided.
12	Power supply	230V AC 50 Hz
13	User manual	Has to be provided

**General Conditions:**

1. Every tenderer should submit Tender fee of **Rs. 2,500/-**
2. Every tenderer should submit Earnest Money Deposit (EMD) of **Rs. 8,000/-**
3. The tender shall be submitted in the two bids viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.
4. The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization Form and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the “Technical Specification”. Such equipment must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.
5. **Compliance Statement:** Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Venders should provide clear brochures/data sheets about the equipment and its working. Also include adequate proof for the claim regarding the performance.**
6. **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India [Preferably South India] shall be mentioned in the bid.
7. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.
8. The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ.
9. Validity of tender: Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.
10. Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery and installation and training (one week) should be made at the Department of Physics, University of Kerala, Kariavattom campus, Trivandrum without extra cost cost (inclusive of

documentation, demurrage, customs duty, clearance and transportation charges). University of Kerala will provide customs duty exemption certificates if required.

11. Service facility: Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.
12. The model number, make, and a printed literature of the product shall submit positively.
13. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
14. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.
15. The quoted item should be under **comprehensive warranty for 1 year and AMC for 2 years** or more.
16. If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.
17. For any queries please contact, Dr. Subodh G. Assistant Professor, Department of Physics, University of Kerala, Thiruvananthapuram, Ph. No. 9633983404 E-Mail: gsubodh@gmail.com

### **Documents to be Uploaded**

1. Signed Compliance Matrix
2. Detailed Technical Brochure
3. Under taking of support for next 10 Years
4. BoQ
5. Detailed Financial Bid
6. Hard copy of Bank Guarantee if opted

**The Head,  
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