



Department of Mechanical Engineering
Indian Institute of Technology Madras
Chennai – 600 036, India

Dr. Pallab Sinha Mahapatra
Associate Professor

Ref: No. IITM/FSL/23-24/Electrospinning Machine

DATE: 06.11.2023

27.11.2023
Due Date: 20.11.2023

Time: 03.00P.M.

Sub: Quotation Invited for Purchase of Electrospinning Machine – Reg.

Dear Sir/Madam,

1. Quotations are invited in duplicate for the various items shown below / overleaf / **Enclosed list**.
2. The **quotations are to be in two parts as Technical Bid and as Financial Bid**: The two parts of the offer are to be clearly marked on the envelopes. The two parts of the offer in separate envelopes must be enclosed in the one bigger envelope duly sealed and super scribed with reference number and due date and must be addressed to the undersigned so as to reach him on or before the due date stipulated above.
3. **Fax and Email quotation are not acceptable**.
4. Quotations should be valid for 90 days from the due date and period of delivery required, warranty terms etc. should also be clearly indicated.
5. Imported supplies should be quoted **for CIF Madras**.
6. Local firms to quote for free delivery to this Institute. If quoted for Ex-Godown delivery charges be indicated separately.
7. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses. Compliancy certificate is to be provided indicating conformity to the technical specifications
8. Custom Duty / ED if applicable and such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. If this is not indicated no such claim will be admitted at any stage.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
12. The Guarantee period of the item may be indicated clearly.
13. In case of LC. Payment, 90% of the payment will be made after completion of the supply. The balance 10% of the payment will be made after satisfactory installation of the equipment.
14. **Acceptance and Rejection**:- I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.


[Dr. PALLAB SINHA MAHAPATRA]

Note: Also enclose OEM authorization certificate, Local Content Certificate and Land Border declaration

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Technical Specification Electrospinning machine

1. High Voltage unit: One number

- Input voltage: 230-240 VAC \pm 50 Hz
- Output voltage: 0 to 50 KV \pm 0.05%
- Output current: 0 to 400 μ A
- Digital voltage and current monitoring display
- Voltage Regulation: 0.1 KV resolution
- Overload trip- unit shut down if current exceeds 20% of the maximum output current
- Auto cut high voltage protection when door is opened

2. Syringe Pump: Dual Channel with independent control

- Dual Syringe attachment
- Volume, Time and Flow control
- Acceptable syringe volume: 5 μ l-20ml
- Flow rate resolution: 0.1
- Flow rate: 1 μ l/min- 2 ml/min \pm 1

3. Collector

- Plate
- Drum
- Disk
- Rod
- RPM: 200 to 4000 \pm 500

4. Spinneret

- Co-axial nozzle (Stainless steel arrangement with fixed needle geometry)
- Multi-nozzle (4 changeable nozzle geometry)
- Single Nozzle

5. Linear stage

- X-Axis: Software automated distance adjustment
- Y-Axis: Programmable transverse motion
Specification:
 - Stroke distance: 250 mm
 - Speed: Three speed adjustment (Slow, Medium and Fast)
- Z-Axis: Manual/programmable control

6. Spinning arrangement

- Vertical spinning
- Horizontal spinning
- Co-Spinning

- Under solvent spinning (should be compatible for water, Acetone, Methanol and other solvents)

7. Spinning chamber

- Digital Temperature and Humidity display.
- Exhaust fan with HEPA filter to remove the harmful chemical/vapours
- Syringe Temperature ambient to 100 ± 30
- Illuminating Light: 10 W or higher LED tube
- UV Light: 10 watts
- Computer control interface

8. Control Panel

- Emergency stop
- Main switch ON/OFF
- Exhaust speed regulator

9. Operational Control

- Branded Laptop with pre-installed software
- USB drivers

10. Accessories

- Standard syringes with needles (3ml/5ml) 1 box
- Standard spinning samples (PAN or PVDF)
- Insulation pad/Foot pad
- Teflon sheet to avoid the solution spillage
- Chemical resistance tube (5 m or higher) for vertical electrospinning
- Tube connectors

Warranty Period: 1 year after installation

Delivery Period: 6 Weeks