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DEPARTMENT OF PHYSICS
PANJAB UNIVERSITY, CHANDIGARH-160014

PHS/ 4880-4883

Dated: 08/02/2017

Dear Sir,


Please quote your lowest rates in duplicate should be clearly written or typed (cutting avoided) for the item/s given below or attached list, specifying make, quality, period of supply of each item along with detailed information and should reach the undersigned on or before

22-02-2017 till 5.00 p.m.

1. **Please quote 'Technical and Financial Bid (in two separate envelopes) along with EMD.** Rates quoted should be FOR Chandigarh with Validity atleast 3 months.
2. The rates of insurance, excise duty, S.T. should be clearly mentioned, original receipts for the insurance charges are required along with the bill of supply.
3. We have been exempted from paying Central Excise Duty, vide Govt. of India notification No.10/97-Central Excise dated March 1, 1997 and is valid upto 31.8.2020.
4. Special Discount for educational institutions, University teaching department may be mentioned.
5. The present rate of S.T./VAT applicable on the articles should be clearly mentioned.
6. The quotation in a sealed envelope giving our/your reference No./Date of quotation should be sent on or before last date.
7. **IMPORTANT:-** The bidders are requested to attach the EMD Demand Draft @ 2% of Total Value of the Quotation in the name of The Chairperson, Dept. of Physics, P.U. Chandigarh. Without EMD amount quotation will not be entertained.
8. **The quotations will be opened on 23-02-2017 at 3.00 p.m.** in the department committee room and you may attend or depute your representative at the time of opening of quotations.

Thanking you,

Yours faithfully,


Chairperson,
Dept. of Physics,

| S.No. | Specifications | Qty. |
|-------|--|------|
| 1. | Vacuum Thermal Coating Unit:- Detailed specifications are attached as Annexure 'A'. | 01 |

Annexure – 'A'

Technical Specifications for Vacuum Thermal Coater

Vacuum Thermal Coater equipped with thickness monitor unit is required for evaporating metals and chemicals on to substrate of few inch diameter.

1) Vacuum Chamber:

- (i) Box Type with front Door opening and made out of non magnetic quality stainless steel SS- 304.
- (ii) Chamber size is better than 300 mm (W) x 400mm (H) x 300mm (D). The chamber bottom and Top flanges are welded with chamber.
- (iii) Chamber is having Ports for substrate holder, Rotation etc. mechanism.
- (iv) The Bottom of the chamber having atleast 11 Ports for fixing mechanical and electrical feed throughs. Extra Ports on both Top and Bottom Plates are provided for additional accessories.
- (v) Two view ports with Toughed glasses.

2) System should have 2 Nos. LT Evaporation Feedthrough and Evaporation Source Holder as Standard on Base Plate of the Chamber.

This holder should accept Filaments / Baskets / Boats as evaporation sources and a power supply capable of delivering 200 Amp at 10V and 100 Amps at 20 Volts, 160 Amps, 10 Volts etc or similar values for evaporation purpose.

3) HT electrical feed through to carry power for Ion cleaning is provided with A 5000 volts DC Open circuit, 3500 volts at 50 mA HT Power Supply.

4) LT/HT Control: A Thyristor Controller in the input circuit of LT/HT selector provides the output power variation.

5) A Substrate holder to be provided. Rotary Drive mechanism for Substrate Rotation for Uniform Deposition of thin film. A special Substrate Heater which can achieve Temperature upto 250 deg C.

6) Manually operated Source Shutter with a shaft seal to cover and uncover the Evaporation Source to be provided.

7) Vacuum Pumping System: Ultimate chamber pressure of 5×10^{-6} mbar or better to be achieved in less than 1 hour of pumping time from atmosphere.

Reputed & renowned make vacuum pumping parts should be provided:

- (i) Rotary Vacuum of 250 Lit/Minute and
- (ii) 4" Diffusion Pump of 300 Lit/sec or better
- (iii) 4" High Vacuum Valve & Combination Valve having Roughing & backing operation in Single Valve should be provided.
- (iv) Liquid Nitrogen Trap should be provided.
- (v) System should be provided with Digital Gauges for Measuring pressure from atm to High Vacuum 1×10^{-6} mbar.
- (vi) System should have provision to purge Gas from Fine control Needle Valve and Vent Valve to break vacuum.

8) Digital Thickness Monitor for Vacuum Coating Monitoring.

9) Safety interlocks should include water flow switch, thermostat on DP, Safety switches on cabinet to cut off Power on Door Open, Electrical overload circuit.

Glow lamps are provided to indicate the ON/OFF status of Rotary pump, diffusion pump, LT, HT and other accessories like radiant heater.

10) Spares - such as 'O' rings, One charge of Molecular distilled oil, One charge of Diffusion pump oil DC-704, Instruction manual, One DP heater. 20 nos. Each of Filaments, Baskets and Boats.

11) Two years warranty on the equipment with atleast two maintenance visits per year.

12) Complete set of manuals for the operation of equipment will be supplied with supply.

13) Free Installation & Training should be provided free of cost.

14) Optional Accessories:


(i) Provision and necessary additional accessories for coevaporation of two materials.

(ii) Closed loop water cooling unit (chiller): Closed Loop Water Cooling System for Vacuum Box Coater.

15) The institute reserves the right to accept or reject any / all the quotations without assigning any reasons thereof.

16) Prices to be Quoted F.O.R. Panjab University.

17) Bid Should be submitted as two part bid (Technical bid and Commercial bid)


Chairperson
Deptt. of Physics
P.U., Chandigarh.