



# Indian Institute of Technology Kanpur

## Samtel Centre for Display Technologies

Enquiry number: SCDT/FlexE/2015-16/10

Date: 01/10/2015

Quotations from prospective vendors are invited by Samtel Center for Display Technologies, IIT Kanpur for rotary evaporator and hot dryer.

Note: **The technical and financial bid should be submitted together in separately sealed envelopes.** The Rotary evaporator and hot dryer must have following minimum technical specifications.

1. Receiving flask and condensing coil should be made of borosilicate 3.3 glass, and cooling surface zone of condenser should be 1500 cm<sup>2</sup> or more.
2. Rotating flask should be motorized up and down movement and should rotate on a speed 250rpm or better with microprocessor control.
3. Should have digital display of rotation speed, set & actual temperature and lift position.
4. End stop positioner adjustable via button within a range of 170 mm with a stroke distance of 220 mm.
5. Multifunctional combi-clip for easy removal and fixation of evaporating flask 7-stage adjustable immersion angle for the use of different flask sizes with maximum adjustable angle of 40 degrees.
6. Large top hole vertical condenser with Screw cap.
7. Bath specification: Bath should have facility to lock of heating temperature. Temperature range up to 220°C or better. Bath capacity- 5 Liters or better. Should have infrared communication for transition of heating bath data to vacuum controller. Automatic over heat cut-off protection. Cordless contacts on the heating bath both for power supply and communication for better safety.
8. Evaporating flask from 50-5000 ml can be used on the same joint adapter without additional connections. Should be supplied with Vertical Glass Assembly and PTFE stop cock. 1 liter Evaporating Flask and Receiving Flask should be provided in standard scope of supply. There should be one spare of receiving flask should be included as a extra spare.
9. All connections (for vacuum, water circulation etc.) should be at the lower part of the condenser.
10. Should be supplied along with woulff bottle.
11. Vacuum Controller - Should have LCD display. Should have facility to program evaporation flask rotation i.e. evaporation flask rotates alternating clock wise and anti-clock wise for a defined time range. Integrated solvent database of solvents for convenient setting of distillation conditions. Integrated wear part library for common wear parts with order code. Integrated leak test to check possible leaks. Should have automatic aeration when pressure is above 1400 mbar. Speed control for vacuum pump. Measuring range: 1400- 0 mbar. Control range: Ambient - 0 mbar. Integrated aeration valve and precision pressure sensor. All controls for the Rotary evaporator e.g., up and down movement of evaporating flask, Rotation start/stop should be controlled via the vacuum controller. Provision for display of Chiller temperature and control.
12. Vacuum Pump – Single stroke Speed control vacuum pump with a flow rate of 1.6 m<sup>3</sup> /h or better. Should have facility to control via controller. Ultimate vacuum – 5 mbar. Diaphragms made of Teflon and should have 2 stage diaphragms. Should be supplied with silencer. Soundproofing with enclosed housing to minimize noise and vibrations.
13. Chiller- Re-circulating chiller with cooling capacity of 550 Watts at 15°C or better. Should have automatic stop function when the distillation process is terminated. Temperature Range: -10<sup>0</sup>C to +25<sup>0</sup> C. Tank Capacity: 3 liters or better. Flow rate: 2.5L/min. at pump pressure of 0.6 bar. Coolant: CFC Free Temperature lock and instant start with dynamic pressure adjustments.
14. Glass Oven dryer with controlled vacuum through pump and should be integrated with rotary evaporator with following specification (a)Glass Oven drying volume : 5 - 40 mL (b) Adjustable angle : 0 - 90 ° (c)Rotation speed : 0 - 50 rpm (d)Operating voltage : 100 V - 230 V ± 15 % Frequency : 50/60

- Hz (e) Warm-up time approx. : 10 min. Or less (from 20 to 300 °C) with temperature precision :  $\pm 5$  °C (in center of the oven at 300 °C) (f) Programmable temperature controller with gradient steps of 1 °C (g) Should be supplied with fractional distillation, drying and sublimation accessory.
15. All the components like glass oven, controlled vacuum pump rotary evaporator system must be from same manufacture/ company
  16. Please also quote the extra accessories as an optional item to run hot dryer as a separate system from rotary evaporator.

Terms and Conditions:

1. Supplier/Vendors should submit technical and financial bid together in separately sealed envelopes.
2. Evaluation will be done on the basis of technical specifications format provided as per our tender notice
3. Supplier who have experienced in Rotary evaporator and hot dryer and supplied in the national and international institutions will be preferred.
4. Financial bid will be open only for those, who meet tender technical specification.
5. The format for specification and complies statement is same as provided tender sheet for supplier/vendors for submitting technical specification in their own letter heads.
6. Please do mention tender number clearly on envelop.
7. Please send the name and contact details of the person to whom company had supplied a similar systems. Committee may ask for the feedback.
8. Vendors should have to submit the detail's designed as per tender specification.
9. Optical design should be submitted along with the technical bid.
10. The supplier must have supplied systems to institutions of national and/or international repute.
11. Quotation must indicate CIF Kanpur prices.
12. Payment terms & condition is 70% against delivery, 20% after installation and 10% after successful running of equipment for 3 months & approval.
13. Warranty/Guarantee should be clearly mentioned. The Warranty must start from the date of installation at IITK.
14. Installation, demonstration, and training-sessions at IIT Kanpur will have to be provided by the manufacturer or the vendor for the quoted system.
15. Quotation should carry proper certifications like proprietary certificate, authorization certificate from manufacturer, etc.
16. Validity of quotation should be at least for 60 days.
17. Maximum educational discounts should be applied.
18. Institute is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).
19. Institute is exempted from payment of Excise Duty under notification No. 10/97.
20. The delivery period should be specifically stated. Earlier delivery may be preferred.
21. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.

Kindly send the quotation in sealed envelopes latest by 3:00 pm on dated 08/10/2015 to the following address:

To,  
Dr. Monica Katiyar  
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