**Indian Institute of Technology Kanpur**

**Department of Chemistry**

**Enquiry No.: IITK/CHM/DHD/17-18/06**

**Enquiry Date: 23.6.2017**

**Closing Date: 07/07/2017**

# Quotations are invited for " Rotary Evaporator system with Vacuum Pump, Controller and Circulating Chiller - 2 Nos" for laboratory usage

## Specifications:

## 1) Rotavapor (2 Nos):

| S. No | Specifications required |
|---|---|
| 1 | Electronic lift with provisions for automatic lifting of the flask in case of power failure. |
| 2 | Rotation speed up to 280 rpm or better with microprocessor control. |
| 3 | **All glass components should be made of Borosilicate 3.3 glass and Cooling surface area of 1500 $cm^2$ or better.** |
| 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 |
| 6 | 7-stage adjustable immersion angle for the use of different flask sizes with maximum adjustable angle of 40 degrees. |
| 7 | **Should be supplied with P+G coated Vertical Glass Assembly.** |
| 8 | Large top hole Vertical condenser with Screw cap SVL 22. |
| 9 | Digital display of set/actual bath temperature, rotation speed and lift position. |
| 10 | Microprocessor controlled bath temperature ranging from ambient to 220°C with an accuracy of ± 1°C. |
| 11 | **Transition of heating bath data to vacuum controller through Infrared Communication.** |
| 12 | Automatic over heat cut-off protection |

## 2) Vacuum Controller (2 Nos):

| S. No | Specifications required |
|---|---|
| 1 | Control unit with large 4.3 inchs. LCD display for centrally controlling all process parameters of a Rotavapor like rotation speed, bath and coolant temperature, pressure, process time etc. |
| 2 | Manual management of pressure settings and aeration with timer function |
| 3 | **Should have facility to program Clock-wise and anti-clockwise rotation of evaporating flask for a defined time range.** |
| 4 | Integrated aeration valve and precision pressure sensor. |
| 5 | Automatic aeration when pressure is above 1400 bar. |
| 6 | **Should have integrated solvent database for setting up dynamic distillation conditions**. |

| | |
|---|---|
| 7 | **Integrated wear part library for common wear parts with order code.** |
| 8 | **Should have facility of Integrated leak test to check possible leaks.** |
| 9 | Should have remote monitoring function that allows to track current status of distillation remotely via smartphones / tablets and informs user when process is terminated. |
| 10 | Measuring range: 1400 - 0 mbar; Control range: ambient to 0 mbar. |
| 11 | Woulff bottle included. |

## 3) Vacuum Pump (2 Nos):

| S. No | Specifications required |
|---|---|
| 1 | Single stroke Speed control vacuum pump with a flow rate of 1.8 $m^3$ /h. |
| 2 | Ultimate vacuum – 5 mbar or better. |
| 3 | Chemically resistant diaphragm made of PTFE |
| 4 | Should have glass window to check solvent build up and contamination. |
| 5 | Sound Level adjustable as per EN 61010-1 between 32-57 dBA. |
| 6 | Should be supplied with silencer. |
| 7 | Should be speed controlled pump and stops after reaching desired vacuum pressure |

## 4) Re-circulating Chiller (2 Nos):

| S. No | Specifications required |
|---|---|
| 1 | Compact and Robust Re-circulating Chiller with a cooling capacity of 550 Watts at 15'C. |
| 2 | Should have automatic stop function when the distillation process is terminated. |
| 3 | Temperature Range: -10 to +25' C |
| 4 | Flow rate: 2.5 liters/min at 0.6 bar and tank volume: 3 Litres |
| 5 | Coolant: CFC Free |
| 6 | Built-in features like ECO mode, temperature lock. |

**Note-**

1. **All components like Rotary Evaporator, Vacuum Pump, Controller and Circulating Chiller should be from the same Manufacturer/Company.**
2. **Company/Vender should have local service support and service engineer must attend the complaint within 48 hours.**
3. **Warranty of Rotary Evaporator System Should be 3 Years from the date of installation.**
4. **Should be quoted with optional accessories - vacuum gasket (4 Pcs.), evaporation flask (1 no.) and Vapour duct (1 No.).**

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**INSTALLATION:**

Should be carried out by vendor's skilled team with testing of the same.

**WARRANTY:**

Minimum 3 years warranty against all manufacturing defects from the date of installation.

**DELIVERY:**

As soon as possible after the release of P. O..

## Terms and Conditions:

1. Prices should include transportation, installation, and maintenance for three year, including all manufacturing flaws.

3. Maximum educational discount.

4. Other specification according to the above technical requirements including commercial bids.

5. Quoted price should be in Indian Rupees only.

**Please mention "Quotation for " Rotary Evaporator system with Vacuum Pump, Controller and Circulating Chiller - 2 Nos" on the sealed envelope carrying the quotation and related literature. Send your best offer on or before 07.07.2017 to the following address.**


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