



# Indian Institute of Technology, Kanpur

Department of Chemical Engineering

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Feb 27, 2012

## Quotation Request Notice

Sealed quotations are invited from dealers/distributors by 'Water Purification System' of at least following specifications. The quote should be submitted to the Department of Chemical Engineering, IIT Kanpur by 06.02.2012.

Enquiry No: PG research/CHE/YMJ

Opening date: 27.02.2012

Closing date: 06.03.2012

### The Following Specifications are as under:

**a) PRE FILTRATION STAGE:** One stage purification step involving 5 micron and 1 micron filter.

**b) ANALYTICAL GRADE WATER SYSTEM:**

1. The system should respond favourably to feedwater having

- Fouling Index greater than 12
- Total Chlorine greater than 2ppm.
- Feedwater conductivity more than 2000 microS/cm

2. Four stage purification process:

- Primary purification by a pre-filter( with anti-scaling and activated carbon for bacteriostasis)
- Secondary purification through RO membrane to remove impurities with MW >200 daltons
- Third purification step should involve a self regenerating Electro deionization module with carbon bead at cathode to AVOID DE-IONIZATION CARTIDGE REPLACEMENT and hazardous chemical regeneration.

3. Conductivity meter present before and after the RO cartridge to monitor RO cartridge efficiency.

4. Product water quality-

Resistivity	:>5Megohm-cm
TOC	:<30ppb
CONDUCTIVITY	:< 0.2uS/cm
Flow rate	: 3 L/hr

### **c) ULTRAPURE WATER SYSTEM**

1. Purification process with ultrapure cartridge and an absolute 0.22 micron PVDF membrane final filter in stacked configuration.
2. The resistivity cell should be coaxial with a cell constant of  $0.01\text{cm}^{-1}$ .
3. The system should have automatic re circulation, an alphanumeric backlit LCD display with auto-diagnostic features and alarms.
4. The system should have a provision to connect an Ultra Filtration cartridge to produce RNA's DNA,s free water.
5. The system should have a facility for volumetric dispensing as an option, with flow rate upto 1 litre/min.
6. Product water quality-

Resistivity	:18.2 Meg-ohm
Bacteria	:< 1cfu/ml
TOC	:<10 ppb
Particulates	:<1/ml
Pyrogen levels	:<0.001 EU/ml
Flow rate	:1 l/min

#### **TANK specifications**

1. A 50 Litre tank to store purified water
2. Should possess a sensor rod float switch for determining the level of stored water.

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