WATER PURIFICATION SYSTEMS-3Nos.
(Tender Ref. No. NIN/ST/12/Tender/2019/Water Pur. Sys/27)

PROPOSED APPLICATION:
- To perform Tissue Culture and Biochemical Analysis
- To perform HPLC Analysis as solvent system

FEATURES:
- Three stage purification system providing the highest quality water, free of contaminants that are determined to trace elemental analysis.
- Foot-pedal activation for hands-free, contaminant-free operation.
- Continuous on-line monitoring of water quality, resistivity, temperature and TOC.

SPECIFICATIONS:

FEED WATER: Potable Tap Water with Conductivity < 2000 uS.

FIRST STAGE: PREFILTRATION STAGE The First Stage Water Purification System should consist of Pre-filtration to remove the initial suspended particles up to 5 micron level from the Portable Tap Water and to ensure an optimum and required pressure is generated with the support of a Booster Pump to the main water system.

SECOND STAGE: PURIFICATION STAGE
- The System should remove Hardness, particles up to 1micron, free chlorine.
- The system should remove bacteria up to 99% and 95% of monovalent and polyvalent ions.
- The system should have Built-in Softener, Micro Filtration, Activated Carbon, Reverse Osmosis and Electro Deionization Technology such that output Water Quality should be equivalent to Type II Analytical Grade Water as per ASTM, NCCLS, CAP etc. as per the following specifications:

  Resistivity : 10 -15 M Ohm @ 25 Degree Centigrade.
  TOC : < 30 ppb Flow Rate : 10 Liters / Hour
  Conductivity : ≤ 0.1 Micro-Siemens

The system should have provision for auto-sanitization, auto-rinsing, auto-recirculation and temperature control feed back loop for constant flow rate. The Analytical Grade should be stored in a 30 Liters Poly Ethylene Reservoir which should have a provision for Collecting the Analytical Grade Water as well as feed to the Third Stage Water Purification System.

THIRD STAGE : ELEMENTAL ULTRA-TRACE ANALYSIS

The Third Stage Ultrapure Water System should remove any fine particles, weakly bonded ions, 100% Bacteria, Total Organic Carbon, particles etc.

THE SYSTEM SHOULD HAVE:

Built-in Boron removal cartridge
Dual Wave Length UV Lamp of 185nm & 254nm
PE 0.1µm filter to minimize inorganic/particles release
PVDF solenoid valve with Viton diaphragm after PE filter for minimum ionic release.
Valve activated by a pedal to avoid cross contamination & hands free operation.

Resistivity : ≥ 18.2 M-Ohms
Conductivity : ≤0.05 micro Semens
TOC : < 5 ppb
Micro-Organisms : < 1 cfu/ml
Particles : < 1/ml of 0.22 pore size
Flow rate : 1.5 liters/min
Operating voltage : 230 v ac / 50 hz

- System should have built-in point of use dispenser and led display for both system performance as well as product water parameters.
- Water purification systems should be compact in size and built in facility for either wall mounted or bench top and comply with GLP.
- The necessary compact booster pump along with necessary prefilteration cartridges should be supplied for the optimum performance of the first stage water system.

OPTIONAL ITEMS: Consumables required for the next three years
*** Any other items required to make it a complete system to be quoted**