Technical specifications

Sl No	Specifications
1.	Water produced by the system should meet or exceed Type II water quality (corresponding to analytical-grade water) as defined by ASTM, CLSI and ISO 3696/BS 3997. This system water also complies with the purified water requirements from the US, Japanese and European Pharmacopeias.
2.	System should include reverse osmosis with conductivity sensors after the membrane to ensure the quality of purification. The water system should include an automatic regenerative EDI (Electro Deionization). Electro -Deionization cartridges with suitable technology for maintain PH.
3.	**Product Water quality:** Resistivity : 5-15 Mohm×cm @ 25° C TOC: <30-50 PPb Product water delivery: At least 10 Lt/hr Microorganism content: <1-10 CFU/ml
4.	**Feed water quality:** Potable tap water Conductivity: ≤ 2000 µs/Cm pH: 4-10 Free Chlorine: ≤ 4 ppm Fouling index: ≤ 12
5.	The System should be quoted with proper prefilter & Iron Removal Filter. **Prefiltration system:** i) It should have two-stage purification with 5 micron and 1 micron polypropylene graded filter (with low voltage ≤ 20 watts powered DC pump and noise levels of ≤ 50 Db prefilter) attached with tap water. ii) The unit should be comprised of Diaphragm pump with inter connections and built-in pressure sensor ensuring continuous monitoring of cartridge life. iii) System should deliver water at the outlet at a minimum pressure of 2.6 bar till a maximum of 2.8 bar. iv) System should Feed water with TDS as high as 5000 ppm and SDI upto 50. **Iron Removal filter:** The system should be connected with back wash able iron removal filter or any suitable device to deliver ≤ 0.1 ppm output.

6.	**Reservoir tank:** Reservoir tank or closed bag tank with 50-60 Lt capacity. System should have technologies to protect the prepared pure water against secondary contamination over a prolonged period.
7.	**Final Ultra-pure water quality:** A final Ultrapure water purification system to produce TYPE I water connected with the tank should have the following specifications: Resistivity: ≥ 18.2 Mohm×cm TOC: ≤ 5ppb Microorganism: ≤ 0.01 CFU/ml
8.	**Water quality monitoring:** System should provide assurance of water quality with precise on-line conductivity monitoring having a 0.01 cm-1 cell constant and a 0.1° C sensitive thermistor. Online TOC monitor should have a minimum detection limit of 5ppb or less to 50 ppb or more.
9.	**Water Quality dispensing:** ○ To meet laboratory demanding requirements and to save time, System should have an assisted dispensing which will allow to adjust meniscus after filling upto 95-96% of desired volume. ○ To manage high volume buffer preparation system should have a volumetric dispensing with an option for mL and Litres.
10.	**Ultrapure water dispenser:** ○ 2-3 dispensing unit should be there for each unit. This should allow water for several different applications to be accessed from the same system. ○ The dispensing unit should have all the information of water quality and instrument performance.
11.	**Cartridge maintenance:** ○ To maintain the consistency of water quality, cartridges should be easily replaceable without any tools. ○ Automatic alarms should be available well before exhaustion, maybe a pictorial representation.
12.	In case of any performance failure of the system, the company needs to provide service support within 48h.
13.	**Warranty: 3 years comprehensive warranty that includes spare parts, operational costs and consumables required to maintain water quality.**