

BOSE INSTITUTE
Centenary Building,
P-1/12, CIT Scheme - VII M, Kankurgachi,
Kolkata - 700 054 (INDIA)

Minutes of the Prebid Conference held on 18.01.2017 at 12.30 p.m. in the Seminar room of the Department of Microbiology regarding Tender Notice No. BI-K/E-END/24/2016-17 with tender id : 2016_BIK_164452_1 for procurement of (i) Laser based Scanner (Gel Imaging System) (ii) Analytical cum semi-preparative & preparative HPLC system with photo diode array, fluorescence & refractive index detector with buyback offer (iii) Multi-stage Water Purification System and (iv) Automated Protein Purification System (FPLC)

Members of the Technical Committee present :

- Prof. Pinakpani Chakrabarti, Chairman
- Prof. S.K. DasGupta, Member
- Prof. S. Majumdar, Member
- Prof. D. Basu, Member
- Prof. T.K. Dutta, Member
- Dr. J. Mukherjee, Member
- Dr. P. Kundu, Member
- Mr. Sougato Banerjee, Convener

Prospective bidder(s) present :

Representative of M/s Perceptive Biotech Pvt. Ltd.

Resolution of the Prebid Conference :

<i>Name of the Instrument</i>	<i>Existing Specifications</i>	<i>Amended specifications (to be read as)</i>
Multi-stage Water Purification System	<p>1. Single four stage Integrated System capable of producing type-II (10-15Megaohm resistivity) and type-I (18.2Megaohm resistivity) water with pretreatment cartridge, Reverse osmosis, electro Deionization, two UV lamps (for type-I and type-II). Mixed bed ion exchange resin, inbuilt TOC monitor and final optional membrane filter with feed water acceptance up to 2000micro Siemens conductivity, Fouling Index (SDI)<12, Total chlorine<3ppm.</p> <p style="text-align: center;">The specification for the four stages of the system are as follows.</p> <p>2. Stage I: Pre-Filter unit to counter particulate Load</p> <p style="padding-left: 20px;">a. Pretreatment cartridge with anti- scaling compounds. Activated carbon filter and 1 micron particulate filter to obtain chlorine and colloid free water. Compatible with feed water quality of SDI levels up to 12 and total chlorine level of 3ppm and conductivity of 2000 micro Siemens/cm.</p>	<p>2. <i>stage I :Pre-filter unit to counter particulate load, iron and hardness.</i></p>

	<p>Additional RO based pre filtration unit should be there.</p> <p>b. Product water specification- Nature: potable as per WHO,EC,EPA and ISO. Conductivity: <2000 micro siemens, Temperature: 2- 35°C, and pH: 4-10. Fouling Index SDI upto 12. Free chlorine- up to 3ppm. LSI<0.3, and CaCO₃ <3000ppm.</p> <p>3. Stage II: Analytical grade water system with a minimum flow rate of 40 L/hr</p> <p>a. Electro Deionization Module (EDI) with mixed bed ions. Exchange resins along with carbon beads at cathode to above scaling show that the regeneration of the resin happens on application of electric current.</p> <p>b. EDI module should contain carbon beads at cathode that does not require softening pre-treatment and should allow automatic regeneration to reduce consumable replacement.</p> <p>c. The system should have a high Flux thin RO membrane with 200 Daltons. This system should compulsorily have conductivity cells before and after the RO membrane to monitor 95-99% rejection of inorganic ions 99% rejection of all dissolved organic substances.</p> <p>d. RO cartridge should have high recovery loop to reduce the wastage of feed water up to 70%.</p> <p>e. The system should have temperature compensation of product water resistivity irrespective of temperature changes.</p> <p>f. The system should also have (i) an in-built display to ensure the system parameters are displayed all the times, (ii) Auto diagnostic facility with date and time to ensure complete traceability, (iii) indication mechanism to report overdue maintenance and poor quality of water delivery, (iv) Automatic cleaning, rising and flush mode will be preferred.</p> <p>g. Water quality after this stage should reach (i) Resistivity: 10-15 Mega ohms, (ii) TOC less than 30 ppb, (iii) Bacteria count of</p>	<p><i>b.EDI module should contain softening pre-treatment and should allow automatic regeneration to reduce consumable replacement.</i></p>
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	<p style="text-align: center;">maximum 10 cfu/ml.</p> <p>4. Stage-III: Storage reservoir</p> <p style="padding-left: 20px;">a. Reservoir should have a minimum capacity of 200 Ltrs and made of chemically inert material (such as polypropylene).</p> <p style="padding-left: 20px;">b. Reservoir should be equipped with a sensor rod containing a float switch and a single 3 stage vent filter and have the option of using automatic sanitization.</p> <p>5. Stage –IV: Ultrapure water System</p> <p style="padding-left: 20px;">a. Type I water should be produced from two stage mixed bed ion exchange and activated carbon cartridge and conductivity sensor, and an option for final filtering in the dispensing arm.</p> <p style="padding-left: 20px;">b. Type II water should pass through feed water specific cartridge for removal of trace contaminants.</p> <p style="padding-left: 20px;">c. Application specific cartridge to remove ionic and organic contaminants to trace level.</p> <p style="padding-left: 20px;">d. System should be able to recirculate ultra-pure water to maintain water quality.</p> <p style="padding-left: 20px;">e. System can either be bench or wall mounted with LCD monitor displaying resistivity, TOC, level of water in the reservoir, volume dispensed, consumables replacement, and requirement of services and alarm.</p> <p style="padding-left: 20px;">f. Built in TOC monitor with a 0.5 Quartz cell and UV lamp which accurately measure TOC online from 1-999pp</p> <p style="padding-left: 20px;">g. Ultra Pure Product water specification- Ultrapure water flow rate 2ltrs/min Resistivity-18.2 micro Siemens Particulates>0.22um/ml <1. pyrogen levels (EU/ml)<0.001 RNase level (ng/ml)<0.01 DNase level (pg/uL)<4 TOC(ppb)<5 VOC filter- to remove volatile organic compound EDIpolisher – water for endocrine disrupter experiments</p> <p>6. WARRANTY A minimum of 3 (THREE) years comprehensive warranty/replacement guarantee on all items from the date of installation.</p>	<p style="padding-left: 20px;">e. System can either be bench or wall mounted with LCD monitor displaying resistivity, level of water in the reservoir, volume dispensed, onsumables replacement, and requirement of services and alarm.</p> <p style="padding-left: 20px;">f. preferably a built-in TOC Monitor with a 0.5 Quartz cell and UV lamp which accurately measure TOC online from 1-999pp</p>
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	<p>Other Items</p> <ol style="list-style-type: none"> 1. One additional complete set of consumables/cartridges is to be included along with the system proposal. 2. One RO based pre filtration unit should be supplied (Which is mentioned in Stage I) 3. Instruments must be attended within 48 hours in case of breakdown. 4. Operation and maintenance training should be arranged at Buyer's facility (free of cost). 5. Extended warranty/AMC charge beyond standard warranty period of three years may be quoted separately as an optional item. 	
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- *Other three items namely (i) Laser based Scanner (Gel Imaging System) (ii) Analytical cum semi-preparative & preparative HPLC system with photo diode array, fluorescence & refractive index detector with buyback offer and (iii) Automated Protein Purification System (FPLC) have no amendments in the specifications.*

Sr. Prof. & Incharge, Registrar's Office