

November 22, 2013

**NIO for 1 (one) litre autoclavable fermentor with accessories**

Sealed quotations are invited for supply of a 1 (one) litre autoclavable fermentor with accessories in the Department of Biochemical Engineering and Biotechnology. The essential technical specifications for the autoclavable fermentor with accessories are given below.

**Essential Specifications:**

<b>1 (one) litre autoclavable fermentor with accessories</b>
Borosilicate glass vessel with about 1.5 l total capacity and working capacity of 1 litre
Stainless steel support plates (top & bottom) with ports & fittings for air inlet to sparger, vent, inoculation cum sampling, cooling finger heat exchanger, thermo well, sensor port(s), additional port(s), spare port(s) with blind plug(s)
Agitation (stirring) arrangement with heating Bottom driven seal-less and totally leak-proof magnetic drive agitator
Aeration control system: Oil-free mini air compressor Air flow rotameter with manual flow control valve Autoclave able air filter capsules for air inlet & exhaust Interconnecting flexible tubing
Temperature measurement system: Platinum resistance based temperature sensor with microprocessor-based digital temperature indicator
Cooling based temperature control system employing feed forward control strategy
pH control system: Microprocessor-based digital on/off type pH indicator-controller with dual control output for acid + alkali based control. Variable speed peristaltic pump for acid &/or alkali dosing
Dissolved oxygen measurement system: Autoclavable glass body galvanic DO electrode Microprocessor-based digital DO indicator
Foam control system: Autoclavable foam sensor with stainless steel electrodes Microprocessor-based on/off type blind foam controller Variable speed peristaltic pump for antifoam dosing
UPS (minimum 1 kW)
One Year Warranty (preferred: two years warranty)

**General instructions:**

1. Letter from the manufacturer specifically to quote for this tender is to be attached for authenticity of dealership / agency and the dealer should be authorized service provider.

2. Vendor should get a fresh certificate directly from their product principal's clearly mentioning about warranty for three years of the equipment to be delivered from the date of installation.
3. The lowest quotation, however, does not depend upon the warranty period.
4. Validity of the quotation should be at least three months. Vendors will do the installation and demonstration of the equipment at IIT Delhi premises without additional charges.
5. Taxes, terms and conditions should be clearly mentioned.
6. In the case the items are proprietary products of the company, a proprietary item certificate stating the same may be provided.
7. Specifications form should be similar to the given specifications sheet.
8. A compliance statement for required specifications should be attached.
9. Payment terms and conditions should be clearly mentioned. No advance payment is encouraged by IIT Delhi.
10. Firm MUST provide a compliance statement vis-à-vis specifications in a "tabular form" clearly stating the compliance and giving justification, if any supported by technical literature with clear reference of page number, paragraph or lines. This statement must be signed, with the company seal, by the tendered for its authenticity and acceptance that any incorrect or ambiguous information found submitted will result in disqualification of the tender. The quotation should be complete in all respects (as per IIT-Delhi rules).

**The Institute/ purchase committee has the right to accept or reject any bid or all quotations without assigning any reason whatsoever.**

Sealed quotations in separate envelopes of Technical and Commercial bids kept in one sealed outer envelope (super-scribed "Quotation for 1 (one) litre autoclavable fermentor with accessories") should be addressed to **Dr. Shilpi Sharma, Department of Biochemical Engineering and Biotechnology, IIT-Delhi, Hauz Khas, New Delhi 110016** and should reach the **Department of Biochemical Engineering and Biotechnology, IIT-Delhi by 1200 hrs on December 15, 2013.**