

Department of Chemical Engineering
Indian Institute of Technology
Hauz Khas, New Delhi 110016.
Ph (Off): 91-11-26591020, 1021
Fax: 91-11-26591020, 26581120

January 22, 2013

Ref: IITD/BCHE/Stores/PLN03/BCHE/2012-2013/zeta

Sub: Minutes of meeting to decide the technical specifications of Zetameter

The purchase committee met at 12.00 Hours on 21st January 2013 to decide the technical specifications of particle size analyzer along with zetameter. The committee members decided the following technical specifications and terms and conditions for the NIQ.

Technical Specifications of Particle Size Analyzer along with zeta-potential:

1. The system should be able to measure both particle size and zeta potential together of dispersed particles in liquid medium.
2. Works based on dynamic light scattering
3. Particle Size measurement range: 1 nm to 3 micrometer or better.
4. Minimum Concentration of particles: 0.001% w/v to 10%w/v or better.
5. Minimum Sample volume requirement: 20-30 microlitres.
6. Particle size for zeta potential measurement: 5 nm to 10 micrometer or better.
7. Zeta potential voltage range: -200mV to 200mV or better
8. Conductivity range: 0 to 200 mS/cm or better
9. Temperature range: 0°C to 90°C with an accuracy of +/- 0.2 degrees celcius or better
10. Particle Mobility range: $\pm 10\mu$ Cm/Vs or better
11. The instrument should use completely disposable cuvettes for particle size, zeta potential & molecular weight measurements. Molecular weight range – 1000Da to 2×10^7 Da
12. Essential accessories: Required Consumable kit for operation of instrument for 3years should be included. These may be folded capillary cell (of polycarbonate with gold plated electrodes and stoppers); glass cuvettes with stoppers; polystyrene cuvettes with stoppers; electrophoresis standards; test samples etc.
13. Software should be able to analyze data on particle size and zeta potential measurements; prepare reports and perform statistical analysis.
14. Optional Upgrade: The system can be fitted with Autotitrator for Zeta Potential, pH, Additive, conductivity titration. Autotitrator unit must be fitted with Degasser unit for the degassing of the titrants.

15. Price for Three year comprehensive on –site Warranty should be quoted
16. Performance of the equipment and vendor
 - a) The performance and claimed specifications of the instrument should be explained using some proven example systems. Published literature in peer reviewed journals of international repute may be used for this purpose.
 - b) A list of the users of such instrument preferably in India and feedback from them should be included in the technical bid. Proven record of after sales service and support should be attached.

Terms and Conditions

1. Letter from the manufacturer specifically to quote for this tender is to be attached with the technical quotation for authenticity of dealership/agency.
2. Sealed quotations in separate envelopes of Technical and Commercial bids kept in one sealed outer envelope should be submitted
3. Special discount/ rebate wherever admissible keeping in view that the supplies made for educational purposes in respect of the public institution of national importance may please be indicated.
4. Taxes, terms and conditions should be clearly mentioned. The rates quoted must be *CIF Delhi price as well as FOB*.
5. Payment terms and conditions should be clearly mentioned. No advance payment is encouraged by IIT Delhi.
6. The Institute/ purchase committee has the right to accept or reject any bid or all quotations without assigning any reason whatsoever.
7. The claims made about the equipment should be verifiable when installed in our laboratory and your installation expert must show that the claimed specifications are all met, failing which the machine will not be accepted.
8. Appropriate training should be given to one person of IIT Delhi at installation site. All the necessary technical support should be provided to maintain the instrument at our site, which may be required from time to time, due its use over a period of time.
9. Commitment for extended periods of such support at IIT Delhi for not less than three to four years beyond the warranty period is expected. The vendor should provide the details of his service strengths to maintain and/or trouble shoot or provide service to this equipment, in order to reduce the machine down time.
10. The technical bid should contain compliance statement vis-à-vis specifications in a “tabular form” clearly stating the compliance and giving justification, 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).

11. Sealed quotations in separate envelopes of Technical and Commercial bids kept in one sealed outer envelope (super-scribed "Quotation for **zetameter**") should be addressed to Head of Department Attn: Dr. Sudip K. Pattanayek, Department of Chemical Engineering, Indian Institute of Technology, Hauz Khas, New Delhi 110016, INDIA and should reach by 5.00pm on **February 15, 2013**

Dr. S. K. Pattanayek