



Indian Institute of Technology Kanpur

National Centre for Flexible Electronics

Enquiry number: SCDT/FlexE/2017-18/11

Date: 26/07/2017

Opening Date : 14/07/2017

Closing Date : 25/07/2017 Extended till 01/08/2017

Subject: Purchase of dynamic light scattering system.

Sealed Quotations from prospective vendors are invited by Samtel center for display technologies, IIT Kanpur for the purchase of **“Dynamic Light Scattering System** with following specifications:

Note- All vendors are requested to submit **“technical and financial bids”** together in separately sealed envelopes.

System Description (Technical requirements): We are looking for a system to measure particle size, zeta potential and molecular weight of dispersed particles/molecules in solution. System should be compatible to handle all kind of solvent from non-polar to polar solvents. The optics must be fully pre-aligned with no user adjustment required. The system based on dynamic light scattering and/or DLS phase analysis light scattering to improve the repeatability of measurements of low mobility samples.

Specifications for Dynamic Light Scattering System:

1. **Measurement type** : particle size, molecular weight and zeta potential
2. **Detector** : Photodiode detector
3. **Temperature** : System should handle variable temperature from at least 2-90oC or better
4. **Light source** : Laser

5. **Particle Size**
 - a. Measurement Principle : Dynamic Light Scattering
 - b. Size Range : 0.5nm to 8.0 microns (hydrodynamic dia.) or better
 - c. Sample Conc. Range : 0.00001% to 40% (% volume) or better
 - d. Accuracy : Better than +/- 2%
 - e. Precision/repeatability : Better than +/- 2% of NIST traceable latex standards

6. **Molecular Weight**
 - a. Measured range : 1000 Da to 2x10⁷ Da
 - b. Measured principle : Static light scattering using Debye plot or using Dynamic Light Scattering.

7. **Zeta Potential**
 - a. Measured Principle : Electrophoretic light scattering
 - b. Measured range : +/- 500mV
 - c. Size Range for Zeta Potential : 5 nm to 50 microns or above.
 - d. Maximum sample conductivity : 200 mS/cm

8. Scattering Angle (Back)

It must be fixed angle and/or System should use minimum 5 variable positions for measuring samples from various positions within the cell to minimize multiple scattering effects.

9. Output

- a. For particle size : differential/cumulative distributions; values for sizes at given percentages, fits to distribution models
- b. For zeta potential : plot of zeta potential distribution, mean zeta value
- c. For molecular weight: mean molecular weight value.

10. Software

- a. The software should be Window based. Output should provide results such as particle size, zeta potential measurement and molecular Weight determination without doing any further calculations.
- b. The software should have in built diagnostic features like Size Quality Report and Zeta Quality Report with the ability to provide expert advice based on the rate data that has been accumulated.
- c. The raw data should be stored and available later for analysis & use with other software modules as well.

11. Computer

The Pc required for the system must comply with the following specification

- a. PC Should be provided with the system Intel Core i5 Processor,
- b. 4 GB RAM,
- c. 250 GB HD,
- d. CD-ROM or DVD + RW drive,
- e. USB port,
- f. Windows XP pro, Windows Vista or Windows 7 Professional (genuine) (32 bit and 64 bit),
- g. One wide Screen Monitor & Software supports for the equipment.

12. Accessories

- a. 12mm square disposable polystyrene cuvettes with stoppers: 500 numbers
- b. Disposable Zeta Potential cells should be quoted to remove any cross contamination: 50 numbers
- c. Cuvette cell (Two pairs of Quartz cuvette) should be included with the main system
- d. Low volume quartz cuvette should also be quoted

13. Warranty

- Two year warranty and its terms.

14. Optional items

Option of Cell for the measurement of Zeta Potential of solid surfaces (eg. nano Coatings, thin films etc.) Should also be quoted if it is available with the system.

Terms and Conditions:

1. Evaluation will be done on the basis of technical specifications as per our tender notice.
2. Financial bids will be open only for those, who meets all technical specification.
3. Please do mention tender number clearly on envelop.
4. Please send the name and contact details of the person to whom company had supplied a similar systems. Committee may ask for the feedback.
5. The supplier must have supplied systems to institutions of national and/or international repute.
6. Quotation must indicate FCA or FOB prices.
7. Payment terms & condition is 70% against delivery, 20% after installation and 10% after successful running of equipment for 3 months & approval.
8. Warranty/Guarantee should be clearly mentioned. The Warranty must start from the date of installation at IITK.
9. Installation, demonstration, and training-sessions at IIT Kanpur will have to be provided by the manufacturer or the vendor for the quoted system.
10. Quotation should carry proper certifications like proprietary certificate, authorization certificate from manufacturer, etc.
11. Validity of quotation should be at least for 60 days.
12. Maximum educational discounts should be applied.
13. Institute is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).
14. Institute is exempted from payment of Excise Duty under notification No. 10/97.
15. The delivery period should be specifically stated. Earlier delivery may be preferred.
16. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.

Kindly send the quotation in sealed envelope latest by 2:00PM on 01/08/2017 to the following address;

To,
Dr Ashish,
Room No.310,
Samtel Centre for Display Technologies (SCDT), Indian Institute of Technology Kanpur,
Kanpur – 208016, Uttar Pradesh, India