

NANO PARTICLE ANALYSER

- System must be suitable for ultra-high sensitive direct real-time counting, sizing and visualizing of nanoparticles in liquid suspension, using Brownian motion.
- Particle Size Range: 10 nm to 1000 nm
- Particle size to be calculated on a particle-by-particle basis without any bias against larger or more refractile particles in average size distribution with spectroscopic technique
- Able to analyze sample with concentration as low as 10^7 particles per ml
- Real-time technique enabling changes in particle size distribution through aggregation or dissolution to be detected and followed
- Absolute technique that does not require calibration and knowledge of solvent or particle refractive index
- Integrated Peltier temperature control with range from 15deg C to 55deg C and Accuracy of 1°C
- Integrated single-mode diode Green Laser illumination of 532 nm wavelength
- Particles tracking using light scattering principle with high sensitivity CMOS Camera with a minimum Speed of 30 frames per second
- Power supply (Input 100-240V, 50/60Hz), USB2.0 input / output
- Zeta potential capability (Conductivity: $5\ \mu\text{S}/\text{cm}$ – $20,000\ \mu\text{S}/\text{cm}$, Concentration: 10^8 - 10^9 particles/ml, Zeta Potential from -150mV – 150mV)
- Two on board stepper controlled peristaltic pumps for sample introduction, dilution and flushing
- Computer controlled motorised stages for focusing, location memory for rapid ejection (<10 second) and loading of sample chamber
- Particle concentration to be estimated directly as the particle size distribution profile obtained by software, a direct number / frequency distribution
- Polystyrene latex spheres in sizes 100, 200 & 400 nm (1 x 3ml of each) for standardization and calibration of the Equipment and installation CD to be provided with instrument
- **Computer controlled unit** (minimum specs): 3Ghz Dual core, 2Gb RAM, 320Gb , 21.5" flat display monitor pre-installed with Analytical Software Suite and pre-calibrated to system. The Software should have a dedicated particle tracking image analysis program to track Brownian motion of each nanoparticles . Image analysis software to evaluate mean squared displacements of each visible particle and determine particle sizes based on Stokes Einstein equation . Capable to resolve polydisperse and heterogeneous particle mixtures by simultaneously measuring particle size and particle scattering intensity .

General terms and conditions:

- Technical and commercial bids must be sent separately in two sealed envelope, subscribed with "technical bid" or "commercial bid" and put together in one envelope address to Prof. Harpal Singh, CBME, BLOCK III/297.IIT, Hauz Khas, New Delhi-110016, latest by 4th October 2012
- Price must be quoted FOB/CIF Delhi basis
- Mode of payment as per institute rules
- The cost should include installation and demonstration
- Warranty and delivery period should be mentioned
- Tax/Vat if any, should be clearly indicated in the quotation