

Chapter 4

Specifications and allied Technical details

- Particle Size measurements range : 1 nm to 5 microns.
- Sample volume requirement : Less than 2.0 ml for particle size and zeta potential measurements. Additional options of small capacity cell with < 80 micro-litre for particle size measurements should be provided.
- Zeta potential measurement range : -150mV to +150mV.
- Conductivity range : 0 to 200mS/cm
- Solid content of liquid suspension or slurry : 1 % w/v to 30 % w/v
- LASER source : Suitable power of LASER to meet the measurement range
- Measurement angle : Suitable for back scattering mode
- Temperature range : 15- 80⁰ C
- Suitable Auto-titrator should be provided.
- The system should have photodiode detector or photomultiplier tube to maximize the concentration sensitivity of the system
- Zeta potential measurement using the electrophoretic light scattering method.
- Molecular weight determination facility using static / **dynamic** light scattering principle.

Software :

- Measurements with manually defined parameters like Laser attenuation, measurement position or by defining a 'Standard Operating Procedure(SOP)'
- The software should be compatible with latest Windows based operating systems.
- Trend plots to allow plotting any one measured parameter from selected records Vs a second parameter.
- Facility for overlaying several plots with facility to export plots in image mode
- Results should be exported to word processing packages or spreadsheets using a template or cut and paste.
- Access to all measured data including correlation functions, fitted data points, residuals and all experimental parameters should be possible and stored for subsequent examination.
- The ability to edit sample data parameters to allow recalculation of measurement data
- Statistical data/distribution by intensity, volume and number
- Branded lap top computer and printer with latest configurations and with all the required softwares in licensed version

