INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref No. (PR No. 1000051930) **(Rfx No. 6100002544)**

Technical Specifications : Dynamic Light Scattering System (Qty : 1)

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1.	**Dynamic Light Scattering System** (DLS) Instrument Particle Size and Zeta Potential Analyzer			
1.1	Instrument Type	DLS system for particle size, zeta potential, molecular mass, A_2, transmittance & refractive index in aqueous & non-aqueous media.		
1.2	Laser Source	630–660 nm He-Ne/Solid-state; ≥4 mW.		
1.3	Measurement Angles	≥2 angles: backscatter ≥165°; forward 10–15° (or equivalent).		
1.4	Detector	High-resolution photodiode.		
1.5	Optics	Auto-adjust distance; ≥5 measurement positions to optimize S/N and reduce multiple scattering.		
1.6	Laser Attenuation	Automatic, 100%–0.01%.		
1.7	Temperature Range	0 – 120°C; stability/accuracy ±0.2°C.		
1.8	Fluorescent Sample Handling	Supports fluorescent samples without sensitivity loss; includes polarization filters for DDLS.		
1.9	Transient Detection	Captures steady & transient scattering to detect aggregates/large particles.		
1.10	Laser Warm-up	<10 minutes.		

1.11	Particle Size Measurement Principle	Dynamic Light Scattering.		
1.12	Particle Size Range	0.3 nm – 10 µm.		
1.13	Minimum Sample Volume	12 µL.		
1.14	Sample Concentration	Min 0.1 mg/mL; Max 40% w/v.		
1.15	Solvent Compatibility	Water, ethanol, aqueous & organic solvents.		
1.16	Zeta Potential Technique	Phase analysis light scattering; fast & slow field reversal.		
1.17	Constant Current Mode	Available for high-salinity samples (prevents cell burnout).		
1.18	Solvent Compatibility for Zeta	Supports organic solvents.		
1.19	Electrode Isolation	Prevents electrode fouling/polarization.		
1.20	Size Range for Zeta	4 nm – 100 µm.		
1.21	Zeta Potential Range	±500 mV.		
1.22	Electrophoretic Mobility Range	+/- 20 µ.cm/V. s		
1.23	Zeta Sample Volume	Min 20 µL; concentration ≥1 mg/mL.		
1.24	Max Conductivity	20 mS/cm.		
1.25	Molecular Mass Range	980 Da – 20 MDa.		
1.26	Molecular Mass Principle	Static light scattering (Debye plot).		
1.27	Transmittance	Measuring time 5–10 s; accuracy ±1%.		
1.28	Refractive Index	Range 1.28–1.50; accuracy ±0.5%.		
1.29	Sample Cells	100 disposable cells; 1 glass/quartz cuvette; 20 capillary zeta cells; 1 solvent-resistant zeta cell; 1 low- volume quartz cell.		
1.30	Software	Windows-based; single-page results; data-quality feedback; branded PC: i7, 6 GB RAM, 500 GB HDD, Windows OS.		
1.31	UPS	2 kVA UPS included.		
	Warranty	3 years warranty		