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**Technical Specification of Optical Transmissometer (Quantity-1)**

Sr. No	Technical Specifications	Compliance	Remark
	<p><b>Optical Transmissometer</b></p> <p><b>Measurement Technique:</b> Attenuation of transmitted light through filter-deposited aerosols at 370 nm and 880 nm. Should be able to give quantitative information on Black Carbon (BC) and Brown carbon (BrC), respectively.</p> <p><b>Data Format:</b> Attenuation (<math>100 * \ln[I_0/I]</math>) in 'ATN units' at both wavelengths.</p> <p><b>INTERCOMPARISON:</b> Light absorption measurements could be converted to BC or EC equivalents of other techniques.</p> <p><b>Sensitivity:</b> 1 ATN unit <math>\leq</math> 0.08 <math>\mu\text{g}/\text{cm}^2</math> BC on a filter, Limit of Detection for BC: <math>\leq</math> 0.08 <math>\mu\text{g}/\text{m}^3</math>.</p> <p><b>Measurement Range:</b> Optimal loading <math>\geq</math> 120 ATN units, equivalent to an average BC concentration of <math>&gt;</math> 3 <math>\mu\text{g}/\text{m}^3</math>. Should offer choices via hardware/software tweaks regarding filter collection area, sampling flow rate, and sample collection time to permit accurate data over a wide range of BC concentrations.</p> <p><b>Sample Media:</b> Should support Quartz and Teflon filter media.</p> <p><b>Sample Analysis Area:</b> Should accommodate commonly available filter sizes; 25 mm, 37 mm, and 47 mm diameter filter media.</p>		

	<p><b>Validation:</b> NIST-traceable neutral density filter kit option should be available.</p> <p><b>Data Output:</b> Digital data should be via RS-232 and USB ports, PC connectivity software to be provided.</p> <p><b>Display and Interface:</b> Display screen with keypad for menu selection.</p> <p><b>Temperature:</b> Operating range: 0 ~ 40 °C with active temperature stabilization.</p> <p><b>Dimensions (HxWxD):</b> Should be <math>\leq 105 \times 280 \times 300</math> mm</p> <p><b>Weight:</b> Should be <math>&lt; 8</math> kg (only equipment)</p> <p><b>Power Supply:</b> 100-230VAC, 50/60Hz (auto-switching).</p> <p><b>Software:</b> PC Connectivity software</p> <p><b>Instrument Package should include:</b> Self-contained portable case with a carrying handle, The Instrument, Interconnect cable(s), and filter tray.</p> <p><b>Warranty: - 01 Year</b></p>		
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