



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

Technical Specifications for PM Size & Mass Concentration Measuring Instrument

Name: Real-time air borne particulate matter (PM) size distribution and mass concentration measuring instrument.

Purpose: Measurement of indoor & ambient particle size distribution and mass concentration.

Parameters:

Measurement frequency: Parameters should be measured in real-time; one measurement in every 10 minutes

Particle Size range: At least 0.30 -10 μm

No of Bins/ Size channels: At least 8 size channels

Particle Number concentration: At least 2000 particles/cc with well characterized and low counting/incidence error.

Particle mass concentration: At least 0.010 – 20 mg/m^3 , data should be directly given in size segregated mass fractions; PM_1 , $\text{PM}_{2.5}$, & PM_{10} etc.

Form factor & ease of handling: Should be portable and light weight, ideally with battery back-up. Instrument should be easy to handle with simple calibration and maintenance procedures.

Reliability and accuracy: Should be very robust, reliable and with high accuracy & stability. Ideally with international certification, peer reviewed publications and well compared with standard FRM techniques. Any existing or can arise in future errors and uncertainties should be well characterized and properly mentioned I manual/other technical documents.

Temperature (T) and RH: Should be able to work between 0-40°C and 0-90% humidity
Any corrections regarding T & RH should be well characterized and clearly mentioned in the manual/other supplied technical documents.

After sales support: The supplier should have well trained technicians/engineers for timely and satisfactory resolution of any issues with the equipment after procurement.

Academic discount: IITB is a well renowned academic and research institution with a long and illustrious history. The procured equipment will be used for research purposes only so appropriately supplier should quote a discounted price.

Warranty: Three years from the date of successful installation/commissioning of equipment