Met One Instruments

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E-BAM

Portable Environmental Beta Attenuation Mass Monitor

The **E-BAM** is in a class of its own as a portable, real-time beta gauge, which is comparable to US-EPA methods for $PM_{2.5}$ and PM_{10} particulate measurements.

The **E-BAM** simply automates particulate measurement by continuously sampling and reporting concentration data. Data records are updated every minute. The **E-BAM** eliminates the involved process of filter collection and filter weighing of other more expensive, high maintenance instruments. With the adoption of beta attenuation for ambient monitoring, the process has become simple, streamlined, and inexpensive.

E-BAM results are automatically reported in near real time. Because sampling occurs under true ambient conditions, semi-volatile organic compounds and nitrates are easily detected thereby avoiding under-measurement of particulates. The **E-BAM** will therefore produce comparable results to the manual reference method. The **E-BAM** is a lightweight, portable instrument that operates reliably in diverse and challenging environments with its own self-contained enclosure. The robust **E-BAM** portable sampler system is easily installed in less than 15 minutes.

Applications

- **Ambient Monitoring**
- **Dust Monitoring**
- **Emission Sampling**
- **Environmental Surveys**
- **Fence line Monitoring**

Features

- Accuracyand precision consistent with U.S.-EPA requirements for Class III PM2.5 and PM10 measurement.
- Real-time, accurate results without correction factors, regardless of season or geographic lo c ation.
- True ambient sampling provides accurate measurement of semi-volatile nitrates and organic compounds.
- Lightweight, rugged construction is easily mounted on a tripod in minutes.
- All-weather construction allows for true ambient sampling.
- Operates on AC or DC power. Battery and Solar options available upon request.

Specifications

Measurement Principle:	Particulate Mass Concentration by Beta Attenuation
Measurement Sample Time:	1 Hour W/ Selectable 8 – 60 minute average real-time output
Flow Rate:	16.7 L/min inlet flow rate; actual volumetric flow
Filter Tape:	Continuous glass fiber filter; 30 mm x 21 m roll; > 60 days/roll
Span Check:	Manual, 800 µg (typical, span foil included)
Beta Source:	^{14}C (carbon-14); 60 µCi ±15 µCi (2.22 MBq)
Beta Detector Type:	Photomultiplier tube with organic plastic scintillator
Operating Temp. Range:	-25° to +50°C.
Operating Humidity Range:	0 - 90% RH, noncondensing
Inlet Humidity Control:	Actively controlled inlet heater module
User Interface:	4.3" graphical touch screen
Ambient Sensor:	Model 597A combination AT, RH, and BP serial sensor AT: -50° to +70°C; RH: 0 to 98%; BP: 375 to 825 mmHg
7500 Digital Serial Interface:	2 channels, half duplex RS-485
Serial Interface:	1 channel; full duplex RS-232, USB Shared common serial output 1 channel; half duplex RS-485 Baud rates 2400, 4800, 9600, 19200, 38400, 57600, 115200
Internal Data Storage:	15 Days 1-minute average, 2.6 years 60-minute average
External Data Storage:	1 USB Flash drive device
Compatible Software:	Air Plus 5, COMET™, HyperTerminal®
Power Supply:	AC Version: 100 – 230 VAC; 1 Amp AC, 50/60 Hz; 144 W, 15 VDC @ 9.6 Amp
Weight:	31 lbs. (14.1 kg)
Dimensions:	Without Tripod – Height: 18 in (46 cm) Width: 16 in (41 cm) Depth: 9 in (23 cm)

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