

Real Time Atmosphere Particulate Matter Monitor For PM₁₀ & PM_{2.5} with Beta Attenuation

MODEL : Vair-9009

US EPA Certification Number :- EQPM-0923-262



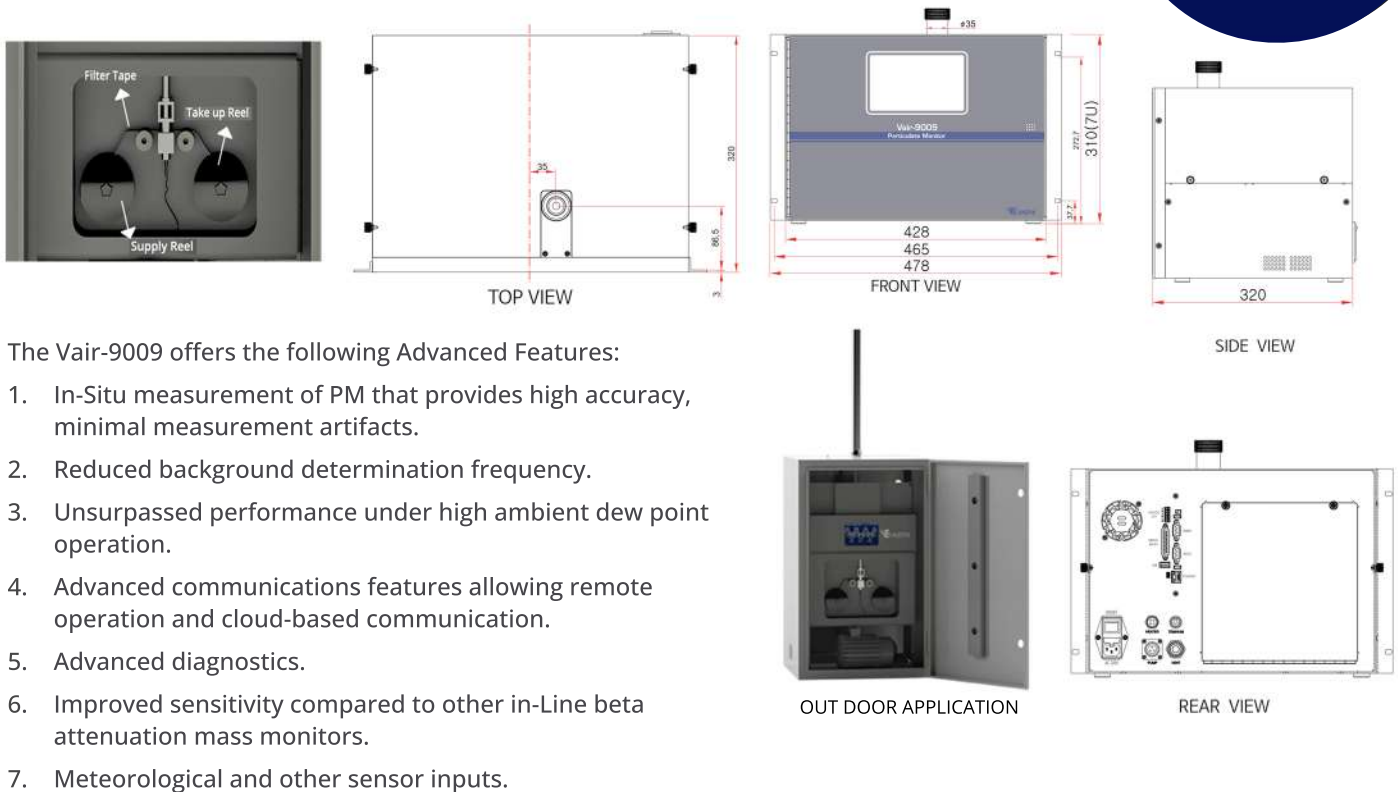
Particulate Matter Monitor

The Vair-9009 by Vasthi Instruments is an Online real-time Beta attenuation monitor. The device continuously measures the particulate matter concentration of ambient particulate collected on a glass filter tape with a time resolution of 1 hour. The V.air-9009 uses an in-line sampling geometry that measures beta attenuation across the filter media while simultaneously sampling particles. This allows environmental samples to be taken 24/7 continuously. It also enables accurate reading of beta radiation measurements throughout the hour, improving sensitivity and temporal resolution.

The Vair-9009 uses a unique 'in-situ' sampling technique to keep the beta ray measurement at a nearly constant temperature above ambient conditions. This prevents the loss of semi-volatile particulate matter or excess moisture in the sample stream, minimizing measurement errors. Accurate measurements are performed without the need for expensive Nation dryers, improving reliability and reducing operating costs. The integrated shelter does not use air conditioning, and the sampling system does not use flow splitters. This makes maintenance easier, improves reliability, and reduces power consumption.

The Vair-9009 is encased in a lightweight equipment shelter with an easily removable pump box, making it ideal for installation in places where permanent structures or walk-in shelters are not available. The device does not require an air conditioner, resulting in less power consumption. No component of the instrument weighs more than 40 pounds (18.14 kg), allowing it to be easily carried by one person. The user can get the whole system up and running in less than 10 minutes.

PARTICULATE MATTER MONITOR



The Vair-9009 offers the following Advanced Features:

1. In-Situ measurement of PM that provides high accuracy, minimal measurement artifacts.
2. Reduced background determination frequency.
3. Unsurpassed performance under high ambient dew point operation.
4. Advanced communications features allowing remote operation and cloud-based communication.
5. Advanced diagnostics.
6. Improved sensitivity compared to other in-Line beta attenuation mass monitors.
7. Meteorological and other sensor inputs.

Technical Specifications

| | | | |
|------------------------------|--|-----------------------------|---|
| ➤ Product Name | Particulate Matter Monitor | ➤ Sampling Time | 54 min |
| ➤ Model | Vair-9009 | ➤ Material of Filter Tape | Glass Fiber Filter |
| ➤ Measuring Object | Particulate Matter In Ambient Air (PM ₁₀) | ➤ Internal Storage Capacity | 365 days for 1 h measuring values |
| ➤ Measuring Method | β-ray Attenuation Method | ➤ Display | 7" LCD Capacitive touch display |
| ➤ Measuring Range | 0-1, 0-5, 0-10 mg/m ³ , (optional) | ➤ Analogue Output | 4-20 mA, 0-1, 0-5V (Optional) |
| ➤ Lower Detection Limit | 3-4 µg/m ³ | ➤ Digital Output | Ethernet, RS-232 & RS-485 |
| ➤ Accuracy | ±1% for < 100 µg/m ³ ±2% for < 500 µg/m ³ ±5% for < 1000 µg/m ³ ±10% for < 10000 µg/m ³ | ➤ Protocol | Modbus RTU (serial), Modbus RTU Over TCP/IP (Ethernet) |
| ➤ Repeatability | <±3% | ➤ Environmental Conditions | Temperature 0-40°C, Humidity 0-90% |
| ➤ Detector or β ray Detector | Scintillation Photomultiplier Tube | ➤ Power Supply | 220v/60hZ OR 230v/50hZ |
| ➤ Radio active | C14 (Carbon-14), 60 µCi | ➤ Power Consumption | <200W |
| ➤ Sample Flowrate | 16.7 LPM with automatic flow Regulation | ➤ Maintenance Interval | 3 Months |
| ➤ Sampling Period | 1 hour | ➤ Dimensions | Please Refer to 2.3 & 2.3.1 (Manual) |
| | | ➤ Weight | 15-20 kgs |
| | | ➤ Shelter Weight | 50-60 kgs |



VASTHI INSTRUMENTS

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