

Model No : V.air - 9009

**REAL TIME ATMOSPHERE PARTICULATE  
MONITOR FOR PM10 PM2.5 WITH  
BETA ATTENUATION**



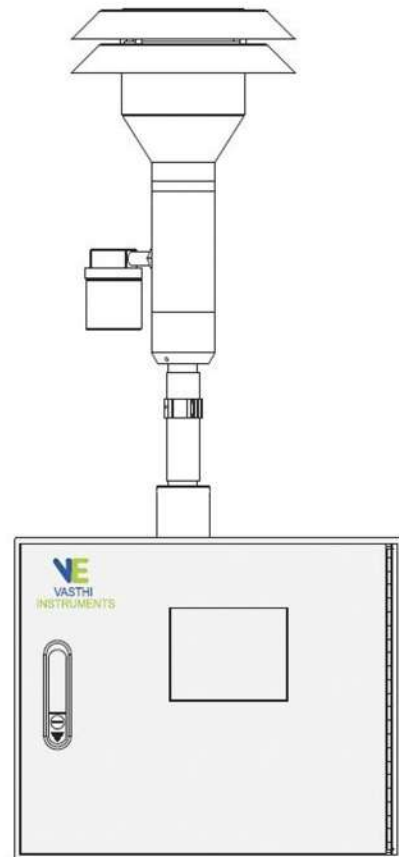
## **REAL TIME ATMOSPHERE PARTICULATE MONITOR FOR PM10 PM2.5 WITH BETA ATTENUATION**

**The Vasthi Instruments, V.air - 9009, Real - Time Portable Beta Attenuation Mass Monitor, continuously measures the mass concentration of ambient particulate matter collected onto glass filter tape with time resolution of one-minute. The V.air - 9009 employs an in-line sampling geometry in which the attenuation of beta rays across filter media is measured and particulate matter is sampled simultaneously. This allows ambient sampling to occur for virtually 60 minutes each hour. It also allows for beta ray measurements to be made for virtually the entire hour thereby improving sensitivity and time resolution.**

**V.air - 9009 employs a unique "in-situ" sampling technique where the beta measurement is kept at a near fixed temperature above ambient conditions, thereby minimizing measurement error due to loss of semi-volatile particulate material or due to excessive moisture in the sample stream. Highly accurate measurements are made without having to employ expensive Nafion dryers thereby increasing reliability and decreasing operating costs. The integrated shelter does not employ air conditioning, nor does the sampling system employ flow splitters. This results in easier service, enhanced reliability and lower power consumption.**

**V.air - 9009 comes integrated into its own lightweight equipment shelter with easily detachable pump box making it ideal for installation in areas where no permanent structure or walk-in shelter is available. Power consumption is modest as no air conditioning is required. No component weighs more than 40 lb. meaning that it is easily transportable by one person. The entire system may be set up and put into operation in less than ten minutes.**

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**The V.air - 9009 offers the following advanced features:**

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

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<b>Measurement Principle:</b>	<b>Beta Attenuation</b>
<b>Measurement Range:</b>	<b>0-5000ug/M3</b>
<b>Data Resolution:</b>	<b>1 µg/m3</b>
<b>Sampling Time:</b>	<b>0-1000min (settable)</b>
<b>Measurement Cycles:</b>	
<b>Primary:</b>	<b>Automatic Hourly PM Measurement</b>
<b>Secondary:</b>	<b>User Selectable Short Term Averages 30 minute</b>
<b>Sample Flow Rate:</b>	<b>16.7 liters/minute or 0-20 liters/minute</b>
<b>Filter Tape:</b>	<b>Continuous glass fiber filter, 40mm x 30m roll. Up to 3 months operation per roll.</b>
<b>Maintenance Interval:</b>	<b>3 months</b>
<b>Span Check:</b>	<b>Manual Audits Performed with Zero and Span Foils (Included)</b>
<b>Beta Source:</b>	<b>14C (carbon-14), 60 µCi ±15 µCi (&lt; 2.22 X 10<sup>6</sup> Beq), Half-Life 5730 years.</b>
<b>Detector Type:</b>	<b>Scintillation Photomultiplier Tube.</b>
<b>Operating Temperature Range:</b>	<b>-30° to +50° C</b>
<b>Operating Humidity Range :</b>	<b>0 to 90% RH, non-condensing</b>
<b>Analog Output:</b>	<b>2way 4-20 mA</b>
<b>Power :</b>	<b>24VDC.220AC</b>
<b>Serial communication:</b>	<b>RS232</b>

**VASTHI INSTRUMENTS**Plot no: 21 & 22 , Block no: 24, Phase - IV ,  
Auto Nagar, Guntur - 522 001, Andhra Pradesh,Inda.

Tel : +91 863 2238 667, +91 738 2708 685, +91 958 1678 685

web: [www.vasthi.com](http://www.vasthi.com),E: [info@vasthi.com](mailto:info@vasthi.com), [sales@vasthi.com](mailto:sales@vasthi.com)