

HAZ-DUST®

Real-Time Particulate Air Monitors

www.hazdust.com



Model EPAM-5000

Ambient Portable Direct Reading Aerosol Monitor
for Measuring Lung Damaging Airborne Particles

Calibrated for United States EPA Federal
Reference Methods PM-10 & PM-2.5



"Monitoring the Air You Breathe"



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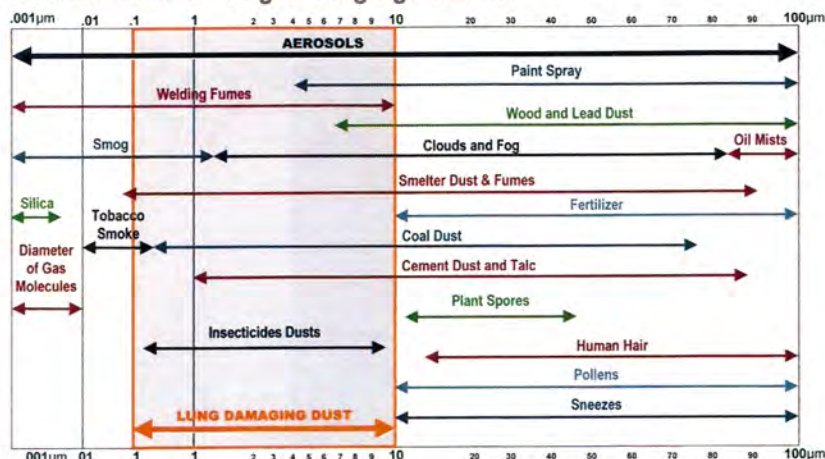


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Particulate Matter (PM) is becoming an increasing concern and making current news headlines due to its adverse link to human respiratory health and environmental danger. These lung damaging particles called aerosols, are found everywhere; inside commercial and residential buildings, industrial work places and the outside ambient environment. Tiny particles are affecting the health of industrial workers, children, the elderly and all individuals who are over exposed. The need for surveying and tracking the quality of air has never been greater. The new EPAM-5000 direct reading Environmental Particulate Air Monitor can identify potential problems with airborne contaminants, before they become a health concern.

Aer•o•sol (âr'e sol), n. 1. a suspension of solid or liquid particles in a gas (air). These particles range from .001 to 100 microns and include dust, smoke, fume and mists.

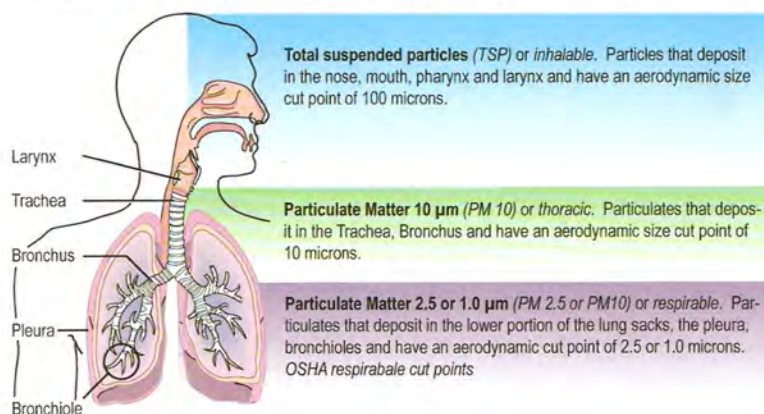
Relative Size of Lung Damaging Particles



Size Selective Regions of the Lungs

The human respiratory system is divided into three regions where particles of certain sizes or aerodynamic diameter are likely to be deposited. Both the United States EPA (Environmental Protection Agency) and OSHA (Occupational Safety and Health Administration) set strict guidelines and methods for these different particle sizes.

An understanding of how and where particles are deposited is necessary to properly evaluate the hazards. The EPAM-5000 has the proper size selective features for measuring the three respiratory regions that are applicable to both EPA and OSHA standards.



Model EPAM 5000 -

EPAM-5000 is an innovative light scattering nephelometer and filter gravimetric air sampler combined in one portable compact and lightweight design.

The unique design allows the air quality investigator to collect size selective particulate matter using two proven techniques: light scattering and filter gravimetric. Size selective sampling is achieved by a single jet impactor for PM-10, PM-2.5, PM-1.0µm, TSP, or 4.5µm with OSHA approved respirable cyclone.

Applications

- Survey sampling for lung damaging ambient PM-10 µm and PM-2.5 µm particulates
- EPA Saturation Monitoring studies to define problem areas
- Complements fix monitoring sites with real-time graphical reports
- Waste site fence line monitoring for quantifying off site particulate migration
- Evaluating pollution controls and equipment
- Tactical Trend Analysis data for particulate air quality
- First Responder and Emergency Response Monitoring
- Particulate indoor air quality studies
- Wild fire and controlled burning studies
- Urban transportation air quality studies
- Determining levels of respiratory production
- A useful tool in all environmental and occupational health and safety studies
- Walk through IAQ surveys

Features

- Immediate display and data storage of lung damaging aerosols
- Unique aerodynamic particle sizing real-time sensor and in line FRM 47mm filter cassette which allows concurrent gravimetric samplings
- High correlation to EPA PM-10 methods and TEOM™ & MiniVol™
- Easy to use data analysis software
- Easy to clean optical sensor with self-purging capabilities
- 4.0 lpm flow compensated sampling pump
- True 24 hour interchangeable battery capacity or continuous A/C power operation
- Audible alarm siren
- Optional Wireless Data Transmission up to 5 miles
- Optional accessories such as: solar power panel, strobe light, inlet heater & enhance EPAM-5000 performance
- Interface to Video Dust Monitoring System VDM-7500 for Visual Studies

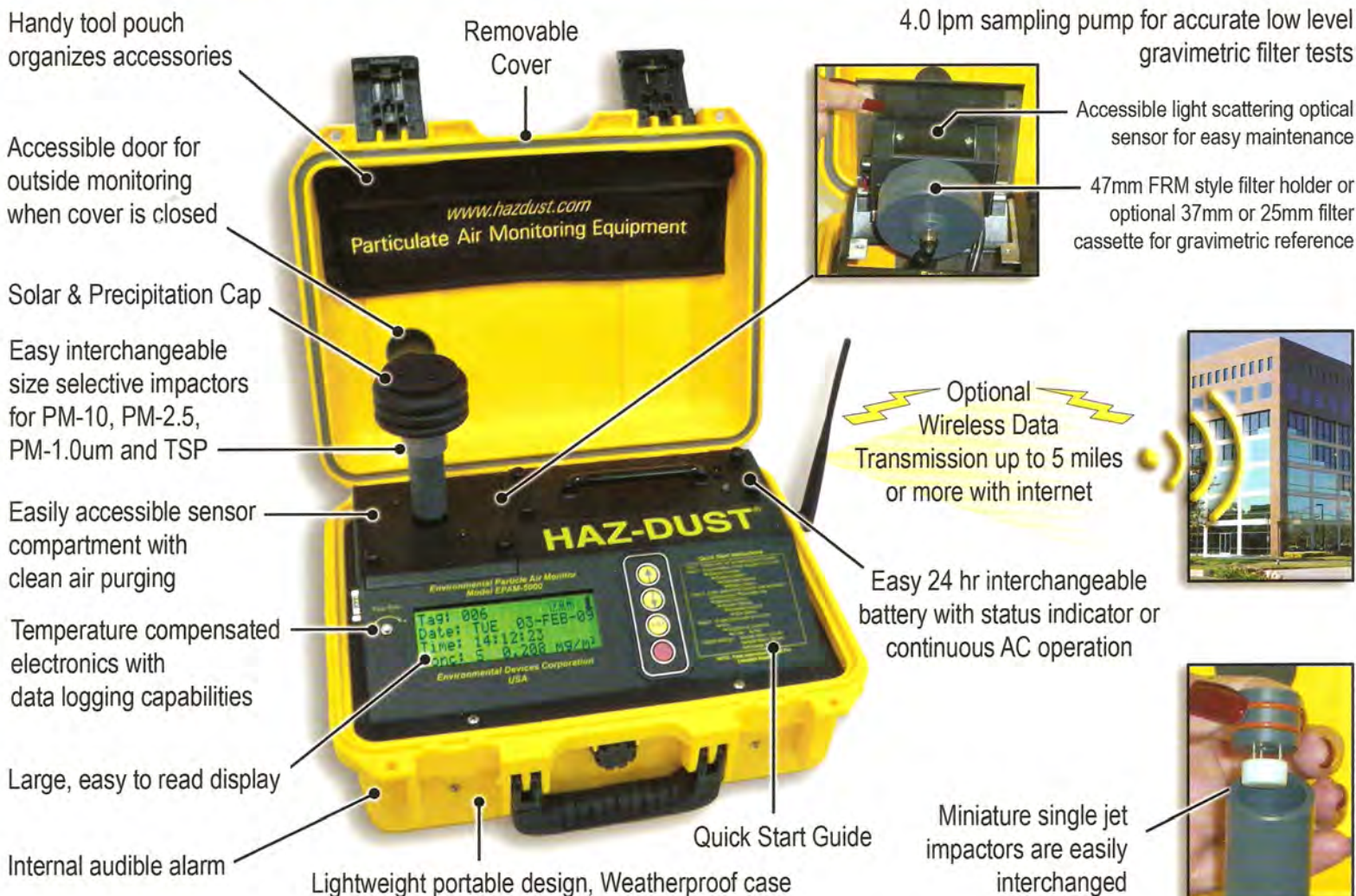
Advantages

- One compact instrument provides two sampling techniques:
 - Light scattering
 - Filter gravimetric
- Immediate display and data logging of particulate concentrations
- Data provides a graphical profile of PM sample
- Added-value survey sampler for Saturation Monitoring studies
- Identify problem areas at a reasonable cost
- Easy set-up and operation – ready to use within 15 seconds



Environmental Particulate Air Monitor

Ideal for outdoor ambient air quality monitoring and Indoor IAQ Monitoring



Portable Real-Time & Direct Reading

The Environmental Particulate Air Monitor model EPAM-5000 provides a complete real-time profile and graphical representation of airborne particulate levels and exposures with data read out in milligrams per cubic meter (mg/m³). This dynamic capability is not possible with using only a gravimetric particulate sampler. The EPAM-5000 combines both the real-time and gravimetric technique, which allows the investigator more accuracy in defining and analyzing the nature and magnitude of potential health risk resulting from the inhalation of lung damaging particulates. Model EPAM-5000 can be coupled with Video Dust Monitoring System model VDM-7500.

The EPAM-5000 offers a 24-hour rechargeable battery for portable flexibility and runs as a continuous monitor when used with the supplied AC power transformer. All is housed in a rugged watertight carrying case for ambient air or indoor air quality monitoring.

The EPAM-5000 requires no special skills or tools and can be easily setup

in minutes for measuring Particulate Matter PM-10, PM-2.5, PM-1.0 or Total Suspended Particulates (optional PUF foam sampling inserts allows for OSHA respirable and thoracic separations). All real time data is immediately stored in the instrument's computer memory and can be viewed on the LCD display or downloaded to a PC using the provided DustComm Pro graphical and statistical software package.

The EPAM-5000 reduces the cost of acquiring data for regulatory compliance program support and safety audit reporting. The benefit of real-time data collection allows for immediate and permanent documentation and assists in reducing the number of manual filter gravimetric tests. This reduces labor costs and associated lab analysis and results in a cost saving for any air monitor program.

The EPAM-5000 complements both EPA and OSHA reference methods, by offering an inexpensive and fast means to define problem areas and to "pin-point" where more study is needed.



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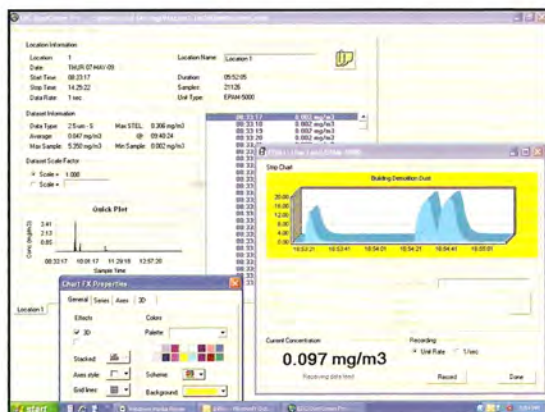


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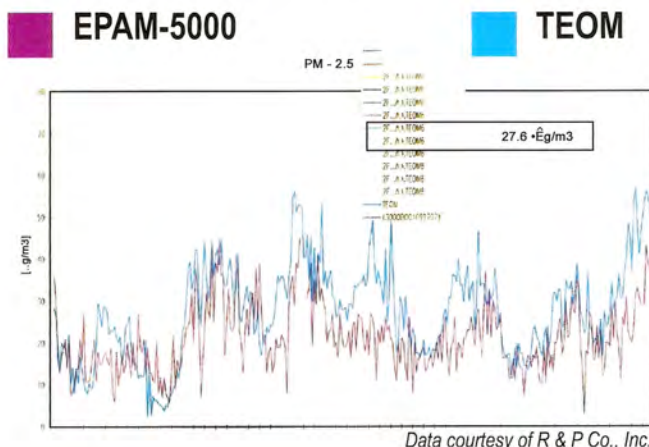
Actual field study of worker exposure during building demolition

Several EPAM-5000 units were deployed to measure workers and perimeter of construction site for dust migration during demolition of a factory building. Comprehensive provided DustComm Pro Software provides creative management ready graphs and reports.



Comparison of two real-time particulate monitors

EPAM-5000 has high correlation to TEOM monitor US EPA equivalency method designation EQPM-1090-079



Environmental Devices Corporation is a manufacturer of scientific instrumentation specializing in real-time monitoring of particulates, gases, and meteorological equipment. Since its incorporation in 1990, EDC has designed and commercialized several advanced product lines of air monitoring equipment. All Products are highly portable, light weight and compact. EDC has gained worldwide recognition and is committed to ISO-9001 quality standards in accordance with requirements and procedures of ANSI/ASQC.

Particulate Monitors Also Available:



Hand Held Dust Survey Tool
Haz-Dust I HD-1100 Particulate Monitor



Breathing Zone Measurements
Haz-Dust IV HD-1004 Personal Real-Time Dust Monitor



Indoor Air Quality Monitor
Air-Aide AA-3500 Airborne Particulate Monitor



Fix Point Continuous Aerosol Monitor
AQ-10 Industrial Air Quality Monitor



Low cost Filter Based PM-2.5 and PM-10 Air Sampler
Dust-Sol DS-2.5 Portable Particulate Ambient Air Sampler



Direct Reading Dust & Video Monitor to Record Visual Proof of Exposure
VDM-7500 Wireless Video Dust Monitoring System



Personal Direct Reading Diesel Particulate Monitor
Haz-Dust DPM-4000 Diesel Particulate Monitor

See Our website for gas and meteorological product information
www.hazdust.com

Custom Manufacturing Design Services Available

EPAM-5000 Specifications

Display: Large alphanumeric LCD-4 Line, 20 character display
Operation: Four key splash proof membrane switch – menu driven
Calibration: Gravimetric reference NIST Traceable - SAE fine test dust-ISO12103-1
Accuracy: $\pm 10\%$ to filter gravimetric SAE fine test dust
Sensing range: .001-20.0 mg/m³ or optional .01-200.0 mg/m³ or .1-2000.0 mg/m³
Particle size range: .1 – 100µm
Precision: $\pm .003$ mg/m³ (3µg/m³)
Sampling flow rate: 1.0 – 5.0 liters/minute
Filter cassette: 47mm FRM Style or Optional 37mm or 25mm Cassette
Alarm output: 90 db at 3 ft
Analog output: 0-2 vdc
Recording time: 1 sec. to 15 months
Sampling rate: 1 sec., 10 sec., 1 min., and 30 min.
Data storage: 21,600 data points
Memory & time storage: > 5 years
Real-time clock & data display: Hours, min., sec., day, month, year
Data display: Concentration in mg/m³ & TWA, MAX, MIN, STEL, Date, Time
Digital output: RS-232 serial
Optional Wireless Modem: 916 MHZ (US) 868 MHZ (Euro)
DustComm Pro Software: Windows™ driven for graphical and data translation
Power: Rechargeable and interchangeable battery
Operating time: ≥ 24 hours on battery
Charging time: approximately 22 hours
Operating temperature: -10°C to 50°C
Storage temperature: -20°C to 70°C
Humidity: 95% non-condensing
Dimensions (case): 14.0" x 6.0" x 10.0"
Weight: 10 lbs



Manufactured by:
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ISO-9001 Certified



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