



Particulate Monitors and Samplers

Designed for environmental and industrial monitoring

Particulate Monitoring

Airborne particulate matter (PM) is all around us and has a wide variety of sources, both natural (e.g. sea spray, entrained dust, fires, Saharan dust) and from anthropogenic activities (e.g. road transport, combustion, industry, minerals extraction, construction)

Particulate matter suspended in the air is made up of a complex mixture of solid and liquid particles that come from local and regional sources and sources in other countries (trans boundary sources).

Why do we need to measure particles in the air?

The short answer is: They have impacts on climate and precipitation that adversely affect human health.

The World Health Organisation state that particulates are the deadliest form of air pollution due to their ability to penetrate deep into the lungs and blood streams unfiltered. Primary health effects include damage to the respiratory and cardiovascular systems leading to premature death.

Real-time “Equivalent” Particulate Monitors

BAM1020 Continuous Beta-attenuation Particulate Monitor

The BAM-1020 automatically measures and records airborne particulate concentration levels (in milligrams or micrograms per cubic meter) using the industry-proven principle of beta ray attenuation.

Thousands of BAM-1020 units are currently deployed worldwide, making the unit one of the most successful air monitoring platforms in the world.

TSP / PM₁₀ / PM_{2.5} / PM₁ inlet heads are available on request.



Environmental Dust Monitor EDM 180

This is the ultimate solution for any measurement container to measure simultaneously and in real-time PM₁₀, PM_{2.5}, PM₁ and the TC (Total counts) with one unit. This fully approved unit can even measure the particle size distribution in 31 size channels simultaneous to the PM values.

The EDM180 can also supply the complete meteorological information; next to the standard of temperature and humidity it can optionally provide wind direction and speed, pressure and precipitation.



Real-time “Indicative” Particulate Monitors

E-Sampler - Laser Backscatter Particulate Monitor

The E-SAMPLER is the most feature-packed light-scatter Aerosol Monitor available. Whatever your monitoring need the E-sampler will provide accurate, dependable and relevant data.

The E-SAMPLER is a dual technology instrument that combines the unequalled real-time measurement of light scatter with the accuracy standard of filter methods. The simple filter loading process testifies to the seamless blending of both technologies.



E-BAM Beta-attenuation Particulate Monitor

The E-BAM has been built to satisfy users, regulators and those from the health community by providing truly accurate, precise, real time measurement of fine particulate matter automatically. In addition, it is rugged, portable, battery operated, and deployable in 15 minutes.



CDM (Construction Dust Monitor)

The ET CDM is a small, stand-alone, weatherproof, web-enabled, real-time, particulate monitor available as either single channel (CDM1) or dual channel (CDM2).

The CDM can be fitted with precise sharp-cut cyclone inlet heads for either PM_{10} or $PM_{2.5}$ and a TSP inlet head is also available.



Low Cost “Indicative” Particulate Monitors



Neighborhood Monitor - Real-time $PM_{2.5}$ monitoring
(PM_{10} & TSP also available)

- Ultra-simple field installation
- 3-year data package included in price
- GPS Included
- Saturation Monitoring
- Emergency Responders
- Research Applications
- Criteria Data Enhancement

ES642

The ES-642 Remote Dust Monitor is an industrial air-quality sensor designed to provide accurate measurements of particle concentration in both indoor and outdoor environments.

The unit is supplied in a rugged weatherproof enclosure. It includes an LCD display to provide information about particulate concentration, flow rate, instrument status and power.

Other monitors for the measurement of gases and PM are available such as the AQT420

AQT420 measures the most common gaseous pollutants nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO) and ozone (O_3) with default configuration, plus Particulate Matter ($PM_{2.5}$ and PM_{10}) in the ambient air.

See our website or contact us for further information.



Manual Gravimetric Samplers

Digitel HVS Automat DHA 80

A High Volume Sampler (HVS) for autonomous, continuous measurements. DIGITEL DHA-80 is a system for sampling dust and aerosol particles for later assessment and analysis.

The sampler operation range in standard execution is from 100 - 1000 l/min (6 - 60 m³/h).

The system is usually called 'High Volume Sampler'. Various models of samplers are available from different applications.

Leckel LVS-3 / MVS-6

The Small Filter Devices LVS3 and MVS6 are designed for outdoor use at very high as well as very low temperatures. The devices can be used also indoors.

All relevant data is shown on the display and can be stored on a memory stick. In case of a power failure, all data stored in the micro controller and in the system's memory will be safe for several years thanks to a built-in high-capacity battery.

The LVS-3 can be operated with controlled flow rates between 1,0 and 2,3 m³/h and the MVS6 can be operated with controlled flow rates between 2,3 and 3,5 m³/h



Leckel SEQ 47/50 Sequential Gravimetric Sampler

The sequential sampler SEQ47/50 is designed for outdoor use at all temperatures and environmental conditions.

The sampler can also be installed into a 19" rack.

The flow rates as well as the temperature and pressure sensors can be easily re-calibrated by means of the 3 front keys.



Black Carbon Monitors

PAX (Photoacoustic Extinctionmeter) Black Carbon Monitor

The Photoacoustic Extinctionmeter (PAX) is a sensitive, high-resolution, fast-response instrument for measuring aerosol optical properties relevant for climate change and carbon particle sensing. The instrument directly measures in-situ light absorption and scattering of aerosol particles, from which it derives extinction, single scattering albedo and black carbon (soot) mass concentration. With no filter collection required, and consequently no filter-media artifacts, the PAX provides a highly accurate measure of absorption from black carbon.



BC 1050 Black Carbon Monitor

The Met One Instruments, Inc. model BC 1050 is a dual-wavelength black carbon monitor which automatically measures and records airborne carbon particulate concentration levels. The instrument uses the scientifically established infrared absorption properties of Black Carbon (BC), and generates results that closely correlate to classic laboratory filter-based chemical analysis methods for Elemental Carbon (EC).



Hand-held Portable Particulate Monitors / Counters

Aerocet 531 Handheld Particle Mass Profiler & Counter

The Aerocet 531 is a small, handheld, battery operated, and completely portable unit. This unit provides both particle counts or mass PM measurements as stored datalogged values, real-time networked data, or printed results.



831 Aerosol Mass Monitor

Four Mass Ranges (PM₁, PM_{2.5}, PM₄, PM₁₀)

A mass monitor that simultaneously provides data of four important mass ranges in one minute.

Survey the environment with this extremely portable, size selective mass monitor. This small lightweight instrument is only 28 ounces and is the perfect survey tool for a wide range of applications.



Four Channel Handheld Particle Counter 804

The 804 handheld particle counter is a 4 channel portable particle counter that counts particles 0.3 microns to 10.0 microns - giving you portability and reliability at the lowest price in the industry.



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