

Automatic Sequential Ambient Air Particulate Sampler Model PM162M

**Air quality
monitoring**



EN12341 certified
(n° RC/L 9826 by LECES)

Benefits from the 2M Series technology

- Modular design
- LCD Graphic Display
- SMD enhanced electronics
- Remote maintenance and diagnosis

Major fields of applications:

- Sampling through PM₁₀, PM_{2.5}, PM₁ and TSP size selective inlets
- Sampling of particulate matter for heavy metals analysis
- Indoor air sampling
- Follow-up of a specific pollutant

Exclusive features:

- EN12341 compliant
- Designed to automatically sample particulate on a filter using a TSP, PM₁₀, PM_{2.5} or PM₁ inlet
- Compact lightweight design for easy transportation and lower integration cost
- Large filter holder capacity allowing up to 3 weeks of unattended daily sampling of particulate matter
- Compliant with the last EU CEN recommendations for PM_{2.5} sampling and measurement
- True volumetric air flow control with atmospheric temperature and pressure sensors to avoid artifacts in the size fractionating inlet
- Exclusive temperature-regulated sampling tube to avoid artefacts on the filter (evaporative losses of semi-volatile particulate matter during sampling...)
- Interactive user-friendly multi-task software
- 2 serial ports for remote access and downloading of stored data



Remote Control



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Specifications:

- Filter holder capacity: 22 filter cassettes
- Filter diameter: 47mm
- Filtering diameter: 40 mm (EN12341 compliant)
- Flow rate: 2.3 m³/h or 1 m³/h (user selectable)
- Filter temperature measurement
- External sampling pump
- Presentation: rack mount 19"/5U
- Dimensions: (W x D x H) 430 x 256 x 225 mm
- Weight: 16 kg
- Power: 230 V, 50 Hz - 115 V, 60Hz
- Power consumption: 250 VA
- Operating temperature: +5 / + 40 °C
- Digital output: 2 RS232 or RS 422 ports

Options:

- Available sampling inlets: TSP, PM₁₀, PM_{2.5} or PM₁
- Temperature-regulated sampling tube: 1m, 2m (2.75m upon request)
- High capacity filter holder (max 70 filter cassettes)
- Outdoor cabinet
- Memory extension
- Modem for remote data collection
- ESTEL board (from 1 to 2 cards) each including:
 - 4 independent analog inputs
 - 4 independent analog outputs
 - 6 dry contacts
 - 4 remote control inputs
- SOREL board including:
 - 4 remote control inputs
 - 4 remote control outputs (1 A / 24 V)
 - 1 Inlet for 24 V power supply

The ESTEL & SOREL boards can be used for connection of external sensors to the sampler, e.g meteorological sensors.

Operating principle:

User-selectable programming of sampling periods:

- 1, 2, 4, 6, 12, 24, 48H sampling cycles
- 24 hour sampling, either every day or every other days or 1 in 3 days.
- Cumulative sampling : (8 hrs, 24 hrs, 48 hrs...)
- Time-based sampling at user selectable intervals (eg. 3 hrs / day for one week using the same filter)

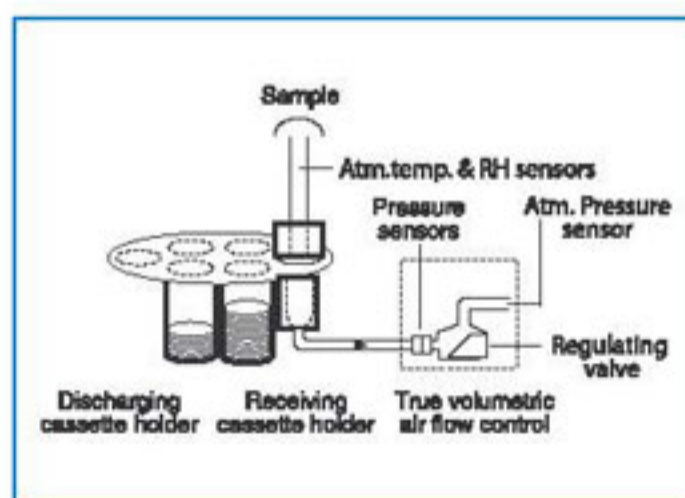
Atmospheric temperature, pressure and relative humidity are essential factors that must be taken into account in order to maintain precise and reliable sampling. This is why the sampler hosts atmospheric pressure and temperature sensors to ensure a constant true volumetric flow control at the inlet. According to the relative humidity, the sampling tube is temperature-regulated to 5°C (approx.) above the atmospheric temperature, to prevent from condensing and from altering the sample.

Up to 16 average parameters can be recorded during each sampling cycle (i.e. ambient and filter temperatures, ambient pressure and humidity, total sampled volume and sample flow rate, alert flags, etc...). If an optional wind vane/anemometer is connected to the sampler, each input data record contains the average wind speed, and vector-based averages of wind velocity and direction. The PM162M can be operated remotely through RS232 serial link using ConTACT™ software. Remote data collection is made possible using ConTACT™ or WinLOAD automatic data acquisition software.

The filters are mounted on convenient reusable cassettes. A unique serial number stamped on each cassette facilitates tracking for quality insurance purposes. The cassettes, designed to avoid any filter alteration during handling, have been made for use with different types of filters: Nitrocellulose, PTFE, fiber quartz and fiberglass.



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