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MicroVol 1100

Low volume air sampler

The MicroVol 1100 low volume air sampler provides a flexible sampling platform for PM₁₀, PM_{2.5} or TSP particulates and basic meteorological parameters.

The MicroVol 1100 is suitable for both indoor and outdoor applications. The unit is microprocessor controlled and uses a mass flow sensor in conjunction with ambient temperature and pressure sensors to automatically maintain a constant volumetric flow rate.

Particulates are size selected and collected on a sample filter for gravimetric analysis.

Standards

- PM₁₀: AS/NZS 3580.9.9 2006
- PM_{2.5}: AS/NZS 3580.9.10 2006
- CE and C-tick approval
- Manufactured under ISO9001 and ISO14001



Indoor sampling

- Low power consumption
- Quiet operation-ideal for indoor air quality studies
- Volumetric flow control automatically corrected to standard reference temperature
- Ultra-efficient, long life DC pump delivers flow rates of 1.0 to 4.5 l/min

Outdoor sampling

- Wind direction and speed used to activate/de-activate sampler
- Fence line monitoring available with a network of samplers
- Built for all conditions - light weight, rugged weatherproof construction
- Can operate via battery or solar power sources (optional)

Enhanced communication

- RS232 output for data collection and networking
- Filter block and instrument error alarms available to email & sms
- Total control of instrument remotely from PC
- Simple programming of sampling periods, including daily and weekly programs, with in built '1-in-X day' sampling capability



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Specifications

Volumetric flow range/accuracy:	1.0 - 4.5 l/min
Flow accuracy:	± 2% of reading
Flow repeatability:	± 0.5% of reading.
Temperature range/accuracy:	0 - 45 deg C ± 1 deg.
Barometric pressure range:	600 - 900 Torr ± 4 Torr.
Filter types:	47 mm ringed circular filter.
Inlets available:	PM ₁₀ , TSP (standard), PM _{2.5} (optional)
Sampler dimensions:	11.8 in (height) x 6.7 in (diameter)(300 x 170 mm)
Sampler weight:	8.3 lbs (3.75 kg)
Battery pack dimensions:	7.3 in (height) x 6.7 in (diameter)(185 x 170 mm)
Battery pack weight:	8.8 lbs (4.4 kg)
Battery pack life:	48 hours sampling from fully charged battery pack.
Operating voltage:	12 V DC.
Power consumption:	2.5 - 3 watts depending on filter loading.
Standard Accessories:	TSP/PM ₁₀ size selective inlet. Single 47mm filter holder. 100 - 240V AC to 12V DC power converter. MicroVol Downloader software & RS232 cable.

Communications/Data logging

Number of readings:	150 averaging periods for each parameter monitored.
Averaging periods:	User selectable.
External inputs:	1x wind direction sensor input (10 Kohm potentiometer). 1x wind speed sensor or tipping bucket rain gauge input (contact closure).
Data collection:	Via RS232 port.

Options

- Purpose built battery pack, or solar panel and battery pack.
- Optional two stage filter pack:
 - 1st stage collects fine particulate, inorganic anion concentrates or acidic particulates.
 - 2nd stage collects non reactive gases.
- Optional PM_{2.5} size selective inlet adaptor.
- Optional wind speed and direction sensor or tipping bucket rain gauge.

The MicroVol 1100 is also available as a Weather Station unit which can log humidity, temperature, wind speed, wind direction and pressure. This unit can hold 2 days worth of 15 minute data or continuously send data to a report writing program i.e. WinCollect.

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