

HiVol 3000 Particulate Sampler

The HiVol 3000 particulate sampler performs remote unattended sampling of PM_{2.5}, PM₁₀ or TSP along with basic meteorological parameters.

The HiVol 3000 incorporates advanced programming functions and electronic volumetric flow control to maintain a consistent flow and collect a truly representative sample of particulate matter.

Optional attachments allow the sampler to measure wind speed and direction, used as triggers to start sampling and capture other meteorological parameters.



Standards

- U.S. EPA approval as a reference Method for PM₁₀ particulate air monitoring (RFPS-0706-162).
- Confirms to Appendix B to 40 CFR Part 50, "Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-volume Method)" for TSP Lead Sampling (using gabled roof configuration).

Reliable sampling

- Volumetric flow control automatically corrected to standard reference temperature
- Industrial brushless motor (100 000 hours continuous field operation)
- Weather-proof marine quality anodised aluminium cabinet
- Automatic supply voltage monitoring and shut-down facility prevents damage to instrument

Directional sampling

- Wind direction and speed used to activate/de-activate sampler
- Fence line monitoring available with a network of samplers

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

Specifications

Operation:	Microprocessor controlled (internal data logging)
Pump/Motor:	Side channel blower driven by an induction motor (brushless)
Flow controller:	Variable frequency drive
Volumetric flow range:	Nominal 45-96 m ³ /hr
Vacuum capability:	140 mBar max
Flow accuracy:	Better than ± 1 m ³ /hr
Flow repeatability:	$\pm 1\%$ of reading
Construction:	Anodised aluminium and Stainless steel
Filter size:	8.5 x 11in rectangular element (250 x 200mm)
Construction:	Anodised aluminium cabinet with SS fasteners
Dimensions:	15in (W) x 15in (D) x 47in (H) plus inlet (380 x 380 x 1200mm)
Weight:	100 lbs (45kg) plus inlet weight
Operating voltage:	115V 60Hz (optional 200-240V $\pm 10\%$ 50/60 Hz)
Running current:	4A nominal (depending on filter loading & flow rate) Start up current no more than 4A.
Temp measurement range:	0-50°C
Barometric pressure:	600-900 mmHg ± 4 mmHg

Communications/Data logging

No. of readings:	150 (averaging period is user selectable, for example 75 hours of 30min averages)
External inputs:	1 x wind direction sensor input (10k potentiometer) 1 x wind speed sensor input (contact closure) or alternatively 1 x spare contact closure input (eg. Tipping bucket rain gauge)

Options

- Calibration plate
- Field calibration transport case
- Manometer
- WS/WD sensors
- RH Sensor
- Muffler