

Dual channel sampler of suspended particulate matter

HYDRA Dual sampler



MAIN FEATURES

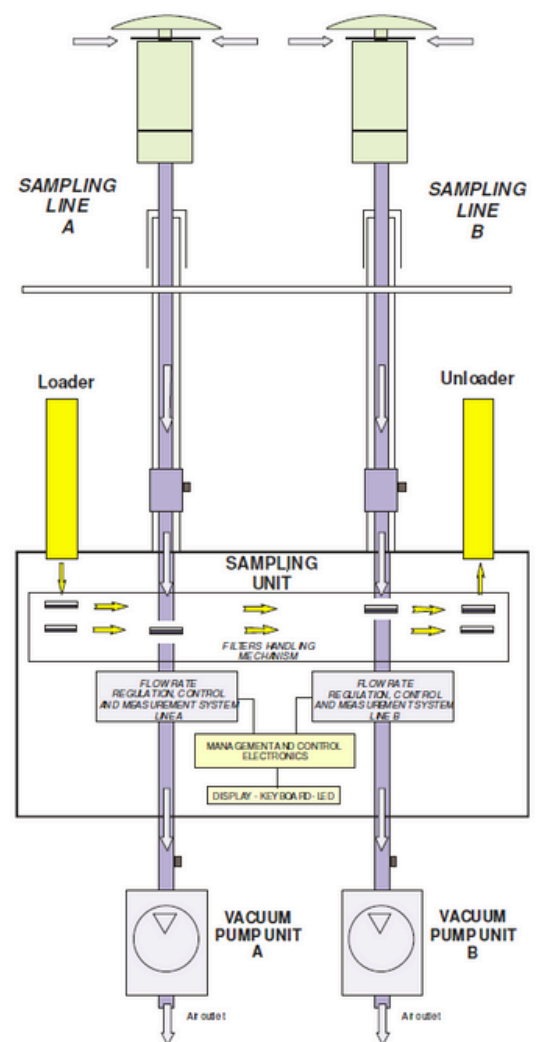
- The instrument can work with any sampling inlet (for example PM10, PM2.5, PM1) within the flow rate range $0.8 \div 2.5 \text{ m}^3/\text{h}$, on two distinct independent channels
- Temperature control of the air flow through one or both the sampling lines, in order to minimize the volatile material losses (optional feature)
- Cooling system for the sampled filters Unloader to assure samples stability (optional feature)
- Sampling on $\varnothing 47\text{mm}$ filter membranes, exploitable for further analysis
- Completely automatic management of the sampling quality controls
- On line monitoring of all parameters characterizing the sampling process, with diagnostic warnings of possible anomalies
- Sampling data storage on internal buffer
- Local control with RS232 serial interface
- Complete remote instrumental control via Modem/GSM. Automatic SMS generation for diagnostic warnings

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Applications

- **Simultaneous sampling** on two independent sampling lines. Possibility of sampling different granulometric fractions (for example PM10 and PM2.5)
- Sampling with a single sampling inlet. In this application the sample can be divided on two distinct filter membranes, suitable for different chemico-physical analysis
- Support for metrological studies in the PM_x sampling field



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Precisely Right.

Standard & Reference
Low Volume Sampler
in compliance with the European
Standards EN 12341 and EN 14907

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Technical Specifications

Operating flow rate	Programmable in the range 0.8 – 2.5 m ³ /h
Flow rate measurement reproducibility	1% of the measured value
Flow rate measurement relative uncertainty	2% of the measured value
Flow rate control	Automatic with regulation valve moved by a step motor, with relative precision < 1% of the requested nominal value
Max allowed pressure drop	40 kPa at 2.3 m ³ /h
Filters Loader/Unloader capacity	No. 36 filter cartridges (or 72 on demand)
Filter cartridges	Standard supply: for Ø 47mm filter membranes
I/O devices	RS232 interface for PC connection (equipped with 2 DB9 male connectors usable in reciprocal exclusion) RS232 interface for GSM/PSTN Modem connection (equipped with 1 DB9 female connector)
Storage capacity	Buffer data with 750 records (battery backed-up) Trace files buffer [till 1500 storable events]
Service compressed air	Operating pressure 200 ÷ 300 kPa (supplied by an auxiliary air compressor supplied with the instrument)
Power supply	230 V (± 10%) 50 Hz single-phase
Absorbed electric power	900 W (max)
Floating batteries	2 (12V) rechargeable floating batteries
Air compressor unit	12 l/min at 300 kPa
Operating conditions inside the cabinet	Temperature between + 5 and + 35 °C (within this cabinet internal temperature range, specified precision and accuracy values are guaranteed) Relative Humidity lower than 85% (with no condensation)
Storage conditions	Temperature between - 10 and + 55 °C
Sizes (W x D x H)	Sampling unit: 430 x 540 x 240 mm Vacuum pump unit (A or B): 350 x 550 x 200 mm Service air unit: 180 x 420 x 240 mm
Weights	Sampling unit: 42 Kg Vacuum pump unit (A or B): 10 Kg Service air unit: 18 Kg
Sampling inlets manufactured by FAI Instruments (on customer demand)	<ul style="list-style-type: none"> – PM10 sampling inlet (LVS-PM10 model, in compliance with EN 1234-1 standard, working at 2.3 m³/h) – PM10 sampling inlet LVS-PM10 with 1 m³/h nominal flow rate (equivalent to the LVS-PM10 EN 1234-1 model) – PM2.5 sampling inlet (LVS-PM2.5 model, nominal flow rate 2.3 m³/h) – PM2.5 sampling inlet (LVS-PM2.5 model, nominal flow rate 1 m³/h) – PM1 sampling inlet (LVS-PM1 model, nominal flow rate 2.3 m³/h)

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