

ATMOSPHERIC PM_x PARTICLES MONITOR - SAMPLER

SWAM 5A Monitor

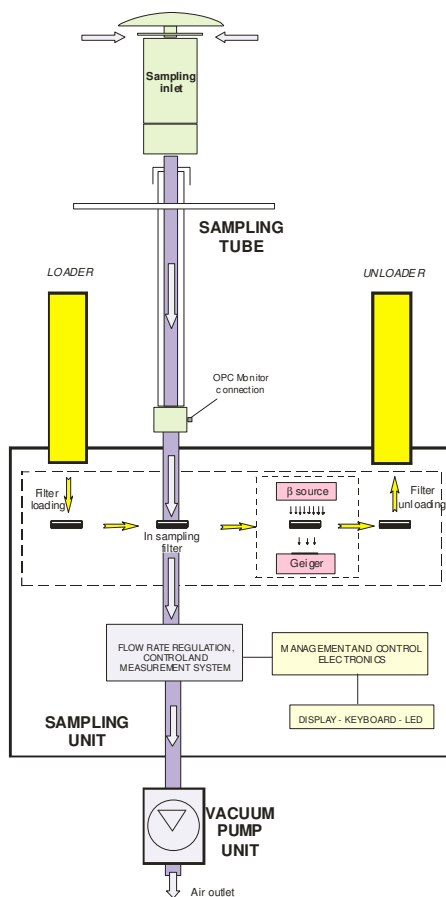


APPLICATIONS

- PM₁₀ sampling and measurement in compliance with the European Directive 99/30/EC, acknowledged by the Italian Minister's Decree no. 60
- PTS, PM₁₀, PM_{2.5}, PM₁ particulate matter sampling and measurement in compliance with EN 1234.1 and USEPA standards
- TÜV Certification for PM₁₀ or PM_{2.5} in compliance with the European Standards EN 12341 and EN 14907

MAIN FEATURES

1. Swam 5A Monitor **can work with any sampling inlet** (for example: PM₁₀, PM_{2.5}, PM₁) within the operating flow rate range 0.8 ÷ 2.5m³/h
2. **Sampling at ambient temperature** with measurement of the external temperature and of the temperature near the filter
3. Sampling on **Ø 47mm filter membranes**, exploitable for further analysis
4. **Mass measurement** using the β attenuation method
5. Completely automatic management of sampling and measurement **quality controls** with immediate validation of the PM_x concentration data
6. **On line monitoring** of all parameters characterizing the sampling process, with diagnostic warnings. These warnings can be automatically sent to the operator via SMS.
7. **Storage of sampling and measurement data** on the internal buffer
8. **Local control** with RS232 serial interface
9. **Complete remote instrumental control** via Modem/GSM



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**SAMPLER - MONITOR
OF PARTICULATE MATTER
SWAM 5A Monitor**



TECHNICAL SPECIFICATIONS

Sampled mass measurement range	0 ÷ 50 mg	
Mass measurement precision (expressed as standard deviation)	β equivalent spot area 11.95 cm ²	: 33 µg
	β equivalent spot area 7.07 cm ²	: 20 µg
	β equivalent spot area 5.20 cm ²	: 15 µg
Mass concentration measurement precision:	± 0.3 µg/ m ³ (24 hours cycle 2,3 m ³ /h operating flow rate)	
Mass concentration measurement detection limit:	1 µg/ m ³ (24 hours cycle 2,3 m ³ /h operating flow rate)	
¹⁴C radioactive source	activity ≤ 100 µCurie	
Filter cartridges	β equivalent spot area 11.95 cm ²	(standard – supplied with the instrument)
	β equivalent spot area 7.07 cm ²	(supplied on demand)
	β equivalent spot area 5.20 cm ²	(supplied on demand)
Filters Loader/Unloader capacity	No. 36 filter cartridges (or 72 on demand)	
Filter membranes	size Ø 47 mm	(not supplied with the instrument)
Operating flow rate	Programmable in the range	0.8 – 2.5 m ³ /h
Usable sampling inlet	The instrument can work with any sampling inlet within the instrument operating flow rate range	
Supplied sampling inlet	The instrument is usually supplied with a sampling inlet for PM ₁₀ cut size (LVS-PM ₁₀ model in compliance with the EN 1234-1 standard, working at 2.3 m ³ /h)	
Max allowed pressure drop	40 kPa at 2.3 m ³ /h	
Flow rate measurement precision	± 1% of the measured value	
Flow rate measurement accuracy	< 2% of the measured value	
Power supply	230 Vac (± 10%) 50 Hz single-phase 5 A	
Absorbed electric power	1000 W (max)	
Compressed air feeding	200 ÷ 300 kPa	
Power supply continuity in direct current	2 Floating batteries 12 V 3.5 Ah - 4 hours endurance to complete mass measurements and filters handling	
Operating conditions (inside the installation 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)	
Non operating or storage conditions	Temperature between - 10 and + 55 °C	
	Relative Humidity lower than 85% (with no condensation)	
Sizes and Weights	(W x D x H)	Weight (kg)
Sampling unit:	430 x 540 x 240 mm	38 kg
Vacuum pump unit:	200 x 320 x 200 mm	10 kg
Sampling inlet	Ø 145 mm H 200 mm	1 kg
Sampling tube	Ø 100 mm H 1500 mm	4.5 kg
Service air compressor unit	180 x 420 x 240 mm	18 kg