SAMPLING SOLUTIONS

MEGA SYSTEM

CALIBRATION & METROLOGY

LIFETEK PMS

- Sequential system for fine dust particles
- Compliant with EN1234
- Certified from -20 °C to 50 °C
- Up to 21 filters capacity
- Peltier conditioning system for sampled filters
- GSM Modem remote alarm management
- Ethernet port RJ45 for web server connection (optional)
- Available in Rack 19" version

TÜVRheinland CERTIFIED
Tested AMS Regular Surveillance
www.tuv.com ID 0000054060

Lifetek PMS_REV02 ENG_04/2025

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LIFETEK PMS

LIFETEK PMS is a sequential system for sampling fine dust particles in compliance with UNI EN 12341:2014 and **TÜV (ID 0000054060)**.


TÜVRheinland®
Precisely Right.

CERTIFICATE

TUV Approved

Certificate number: 0000054060_01

Manufacturer:	Mega System s.r.l. Via Don Fracassi, 41 20010 Bareggio (MI) Italy
Product:	LIFETEK PMS and LIFETEK 100 PMS
Components:	PM_{10} & $PM_{2.5}$
Test Report:	936/21224744/A of 2016-12-01
Valid until:	2026-11-30

The LIFETEK PMS and LIFETEK 100 PMS
complies with the
European standard EN 12341:2014 (PM10 & PM2.5)
and can be used as a
Standard / Reference Low Volume Sampler

TÜVRheinland CERTIFIED

Tested: AMS
Regular Surveillance

Cologne, 2021-11-30

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Test institute accredited to EN ISO/IEC 17025:2005 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

Compact, easy to move and resistant to weather conditions, Lifetek PMS is certified for **outdoor use** in temperatures ranging from -20 C° to 50 °C.
To ensure compliance with industry standards, the sampler must be equipped with a 2,5 m (maxim length) ventilated tube.

The **continuous monitoring** of atmospheric particulate matter is carried out using the **gravimetric method** on a 47 mm diameter filter membrane. In order to extend the sampling autonomy, 'blank filters' can be added and 'sampled filters' replaced without interrupting the ongoing sampling process.

The electronic flow control system manages sampling and ensures suction flow stability under 2,0% during sampling (average flow) and less than 5.0% of nominal flow instantaneous flow) – (UNI EN 12341:2014 – point 5.1.5.).

The sampling ventilation ramp system ensures a variation in temperature within 5 °C between the filter and sampling point with an ambient temperature above or equal to 20 °C (UNI EN 12341:2014 – point 5.1.4.).

The cabin is equipped with a **Peltier conditioning system** to keep the sampled filters at a controlled temperature – less than 23 °C (UNI EN 12341:2014 – point 5.1.8.).
A series of sensors controls the loading system for mechanically inserting clean filters, thus preventing jamming.
Pump capabilities exceed the standard sampling flow, which ensures a longer duration of palettes and reduces maintenance costs.

The **reduced noise emission** allows the monitoring unit to be used even in residential urban areas, preserving quiet during nighttime hours.

The unit's GSM modem remotely manages sampling and alarms by text message (SIM not included).

SAMPLING HEADS

Available for sampling PM10 / PM2,5 / PM1 / PTS with 3/4'' gas connection.

LIFETEK PMS

TECHNICAL FEATURES

- Constant flow rate with automatic compensation for load losses. If there is a significant pressure loss on the filter, the system registers the event and transfers the sample to the next filter, without interruption.
- An electronic system adjusts the sampling flow rate in real time to keep airspeed constant at the fractionator inlet. This guarantees a constant volumetric flow rate of 2,3 m^3/h in the sampling area where granulometric separation takes place.
- The filter storage protects the filters from dust and sunlight.
- The system guarantees load loss of less than 1% of the set nominal flow.
- Memory for archiving all data sampled.
- Backup battery to restart sampling in the case of power failure and to record the event.
- The parameters can be certified, on request, by EN 17025 accreditated laboratories.
- Flow regulation is performed via an electronic flowmeter in accordance with the UNI EN ISO 5167 standard

SOFTWARE FEATURES

Environmental sampling at constant flow in compliance with European and American
regulation.

Sampling Modes:

- Timed sampling with adjustable sampling duration.
- Volumetric sampling with setting of the target sampling volume.
- Synchronized start at midnight (00:00) for both sampling initiation and filter change.
- Firmware updates for the motherboard can be performed via USB pendrive.
- Intermittent sampling, both uniform and non-uniform, with configurable sampling and pause durations (optional).
- Web server connection via RJ45 port (optional)

LIFETEK PMS

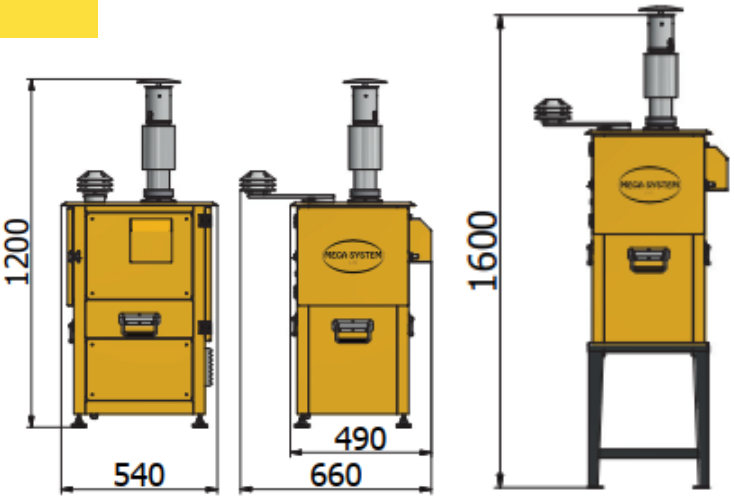
TECHNICAL SPECIFICATIONS

• COMPLIANCE	
Certification	TÜV approved EN 12341:2014 (ID0000054060)
• GENERAL	
Filter storage capacity	Up to 21 filters
Filter diameter	47 mm
• PERFORMANCE	
Pump type	Rotary vane
Flow rate range	12÷70 L/min
Maximum vacuum	> 600 mmHg
Pump cooling system	Ventilation cooling system with dissipation coil
Gas meter/Resolution/Accuracy	G4 / 0,2 L / ± 2%
Volume: Resolution/Accuracy	1 L / 2 %
Flow: Resolution/Accuracy	0,01 L/min / 1,5%
Sampling time	Uncertainty: < 30 s/gg
• INTERFACE, DATA ARCHIVING	
Display	LCD Alfanumerico (40x2)
Interface	USB host-download dati
Modem GSM	✓
• ENVIRONMENTAL CONDITIONS	
Temperature	-20 ÷ +50 °C
Humidity	95% rH
Atmospheric pressure	800 ÷1100 mbar
• ENERGY	
Power supply	230 ± 10 Vac / 50 ÷ 60 Hz
Power consumption	840 VA
Acoustic power (8 m distance)	<33 dB(A)
• FEATURES	
Protection level	IP55
Weight (Lifetek PMS)	51 kg
Weigtht (Lifetek PMS Rack 19")	33 kg (main unit) 15 kg (pump)

• OPTIONS
Weather parameter sensors (speed and wind direction)
Interface for connection to a TSP sampling system (Select 8)
Integrated serial printer
Stand for fixed position installation
LAT certificate for volumetric meter
RJ45 (Ethernet port) for web server system collection
• SUPPLIED WITH
Technical manual
Test report

• TEMPERATURE SENSORS			
	Range	Resolution	Accuracy
Gas Inlet Meter	-20 ÷ +50 °C	0,1°C	±1°C
Environment			
Filters			
Filters storage			
• PRESSURE SENNSORS			
	Range	Resolution	Accuracy
Gas Inlet Meter	±1000 mmH2O	0,1 mmH2O	1%
Barometric	800 ÷1100 mbar	0,1 mbar	±2 mbar
Vacuum (line load loss)	0÷760 mmHg	1 mmHg	1% FS

LIFETEK PMS



LIFETEK PMS RACK 19"