

# CERTIFICATE

## TUV Approved

Certificate number: 0000054060\_00

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<b>Manufacturer:</b>	Mega System s.r.l. Via Don Fracassi, 41 20010 Bareggio (MI) Italy
<b>Product:</b>	LIFETEK PMS and LIFETEK 100 PMS
<b>Components:</b>	PM <sub>10</sub> & PM <sub>2.5</sub>
<b>Test Report:</b>	936/21224744/A of 2016-12-01
<b>Valid until:</b>	2021-11-30

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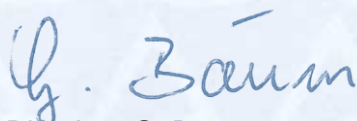
The LIFETEK PMS and LIFETEK 100 PMS  
complies with the  
European standard EN 12341:2014 (PM10 & PM2.5)  
and can be used as a  
Standard / Reference Low Volume Sampler



Tested AMS  
Regular  
Surveillance

www.tuv.com  
ID 0000054060

Cologne, 2016-12-01



i.V. Dipl.-Ing. G. Baum



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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.

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## Overview

In order to show compliance of LIFETEK PMS and LIFETEK 100 PMS to the requirements on standard samplers according to EN 12341:2014, the following test points have been investigated and assessed:

### For PM10 and PM2.5 (EN 12341:2014):

- Geometrical design of the sampling inlets (Annex A)
- Sampling system components
- Sampling period
- Sample storage and transport
- Applicable QA- and QC procedure
- Guide: Demonstration of Equivalence of Ambient Air Monitoring Methods
- The test has been performed as follows:
  - Preparation of two complete LIFETEK PMS Systems and one LIFETEK 100 PMS System to TÜV Rheinland.
  - Verification of compliance with the standard for all above mentioned points with traceable measurements (geometric design, flow rate...).
  - Check of the efficiency of the ambient temperature compensation, with comparing the ambient and filter temperature at different ambient conditions (EN 12341:2014 stipulates a max. difference: 5°C) – this test was performed in the climate chamber.
  - Check, if the conditioning of the housing of the instrument can secure the required storage conditions for loaded filters at different ambient temperatures (EN 12341:2014 stipulates a temperature of 23°C or below) – this test was performed in the climate chamber.

## Field of Application

The LIFETEK PMS and LIFETEK 100 PMS are suitable for continuous ambient air monitoring (stationary operation).

The LIFETEK PMS is approved for the ambient air temperature range of -20 to +50°C and the LIFETEK 100 PMS system is approved for the ambient temperature range of +5 to +40°C.

## Description of the AMS tested

This certificate applies to automated measurement systems conforming to the following description:

The LIFETEK 100 PMS and LIFETEK 100 are automatic and sequential devices for dust monitoring on membrane filters. As the system is designed as a sequential system, a gravimetric weighing of the dusts on the filters is possible, and the filters can be used for additional analytic procedures such as the detection of heavy metals.

The LIFETEK 100 PMS and LIFETEK 100 consists of a sampling inlet (PM10 or PM2.5), inlet tubes, vacuum pump, a measuring device, a water cooling system and two filter magazines (loading and unloading device) for new and sampled filters.

### LIFETEK PMS

The central unit of the LIFETEK PMS comprises all servo-mechanical parts as well as the measuring unit, and all electronic units and microprocessors for system operation, control, and monitoring. The pump and the water cooling are installed in the bottom part of the device. The operating panel and system display can be found on the front side and the inlet tube is installed to the upper side of the sampler. To load and unload the filters the device can be opened on the back to remove the storages easily.

### LIFETEK 100 PMS

The central unit of the LIFETEK 100 PMS comprises all servo-mechanical parts as well as the measuring unit, and all electronic units and microprocessors for system operation, control, monitoring, the pump and the water cooling. The operating panel, system display and storages can be found on the front side behind the front plate and the inlet tube is installed to the upper side of the sampler.

To ensure a secure operation it is recommended the use of a LIFETEK PMS system with GSM module installed. Depending on the application the user needs to ensure that the water cooling is not set too low to avoid condensation on the sampled filters.