



Environmental Dust Monitors



ENVIRO - EDM365

ISO 9001 certified

2011

www.GRIMM-aerosol.com
EXPERIENCE AND EXPERTISE
SINCE 1981

Advantages

- ✓ Fully automatic
- ✓ Outdoor stainless steel housing
- ✓ Housing with auto ventilation and heating
- ✓ 3 different PM's
- ✓ Auto dehumidification
- ✓ Particle size (opt.)
- ✓ Relative humidity
- ✓ Air temperature
- ✓ Air pressure
- ✓ GESYTEC protocol
- ✓ Data logger card
- ✓ RS-232 port
- ✓ Meteorology (opt.)
- ✓ TC values

Applications

- ✓ Enviro station
- ✓ Mobile PM monitoring
- ✓ Aerosol sizer
- ✓ Hot spot monitoring
- ✓ Source identification

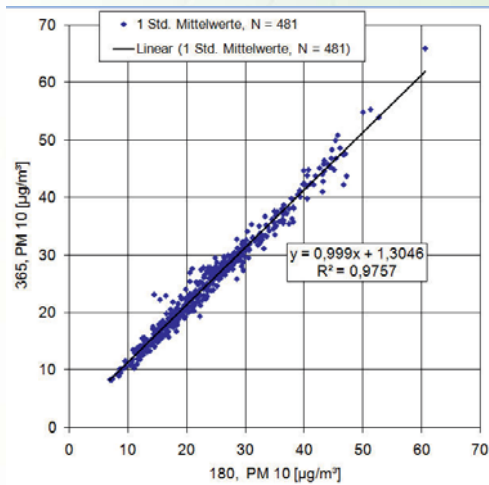
Construction Benefits

- ✓ Mobile housing
- ✓ No need for shelter
- ✓ All-in-one system
- ✓ Space for nano sensor
- ✓ Space for met. sensors
- ✓ Space for PAH sensor
- ✓ Not critical to vibration
- ✓ No radioactive source
- ✓ No loss of SVC
- ✓ Low maintenance
- ✓ Chemical analysis (opt.)
- ✓ Gravimetric analysis (opt.)

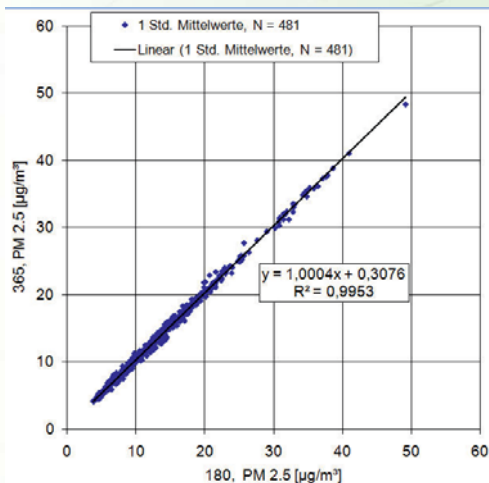
Mobile Stand-Alone Environmental Monitoring Station

For a simultaneous measuring of PM₁₀, PM_{2.5} and Pm₁ (or TSP) in real-time plus - optionally - rel. humidity, temperature, wind speed, wind direction, precipitation and atm. pressure
All data are transferred online to the world wide web.

GRIMM sets a new trend: instead of big measurement containers with cost-intensive maintenance requirements, our units are small and compact while making no compromises regarding dust and meteorological demands. Our EDM 365 meets all demands and today, many of these stations are successfully operating in places all over the world and under the most adverse atmospheric conditions. Starting in 2011 we will offer devices of the next generation with **additional gas sensors** to permit the measurements of airborne gaseous pollutants (such as VOC, NO_x, ozone, and CO), for better chemical differentiation.



Correlation of two different GRIMM instruments



Specifications EDM 365:

Equivalent to our certified EDM 180 complying with:

EN12341 & EN14907
US-EPA
GOST R

Measuring principle:

Laser light scattering

Measurement reporting modes:

EDM 365-C: PM₁₀ and PM_{2.5}
EDM 365-CE: TSP and PM₁₀
EDM 365-D: PM₁₀, PM_{2.5}, PM₁ and TC
EDM 365-E: 31 size channels from 0.25 to >32 µm or PM₁₀, PM_{2.5}, PM₁ and TC

Particle concentration:

1 to 2,000,000 particles/liter

Dust mass:

0.1 to >6,000 µg/m³

Sample flow:

72 l/h, flow-controlled

Dehumidification:

Automatic nafion dryer system

Reproducibility: 3 % in max. range

Power supply:

230 VAC, 50 Hz
(Optional: 110 VAC, 60 Hz)

Dimensions:

80 x 60 x 40 cm

Weight:

25 kg

Temp. range:

- 25°C to + 50°C

EDM 365 Features and Options



Size: 10 x 10 x 4cm

1142.M5 Data Logger System

The EDM 365 series comes with an integrated data logger system and remote control system. This logger combines the information from the GRIMM dust monitor with other integrated sensors.

This all-in-one microcomputer interface features an integrated web server, facilitating customer interaction with the instrument on the basis of TCP/IP protocols.

TSP

PM₁₀

PM_{2.5}

PM₁

TC

COUNTS

NANO

Meteorology

GAS

PAH

Digital Meteorological Sensors

Our new digital meteorological sensor program is now available for all GRIMM EDM systems and has already become a standard in the EDM 365 product range.

This 158L model delivers information on temperature, relative humidity, pressure, wind speed and wind direction.

The optional model #159L combines the features of the #158L with a ultra sonic sensor for rain and snow information.



1.320 NanoCheck Sensor

Since optical measuring technologies reach their limit with particle diameters of less than 150 nm, we developed our NanoCheck 1.320: A device closing this gap down to 25 nm and providing information on the number and mean size of these nano particles.

The combination of our optical spectrometer with the NanoCheck delivers additional information on ultrafine aerosols (soot particles from vehicle emissions, for instance) and mechanically created aerosols (such as tire and brake abrasion). AS a consequence, the NanoCheck add-on in combination with the EDM 365 represents the perfect tool for assessing air quality at road sites. Just think of the "Green Zones" currently set up all over the world, which can now be properly evaluated by such an instrument combination.



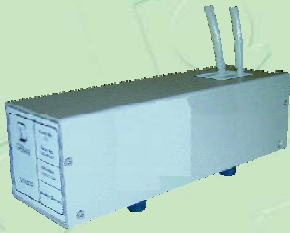
Automated Filter Sampling:

To obtain specific samples for laboratory testing (to determine the chemical composition for instance) of dust exceeding a certain value, we also supply intelligent filter sampling systems. Sampling time and sampling intervals are computer-controlled and can be set / modified by the end user, which is true for the filter change of the 14 or more filters (25 to 47 mm).

Another useful feature of the GRIMM instruments.



GAS OPTIONAL



365 Gas Sensors

This indicative sensor was recently added to the GRIMM product portfolio to give customers the opportunity of acquiring an even more extensive environmental monitoring system.

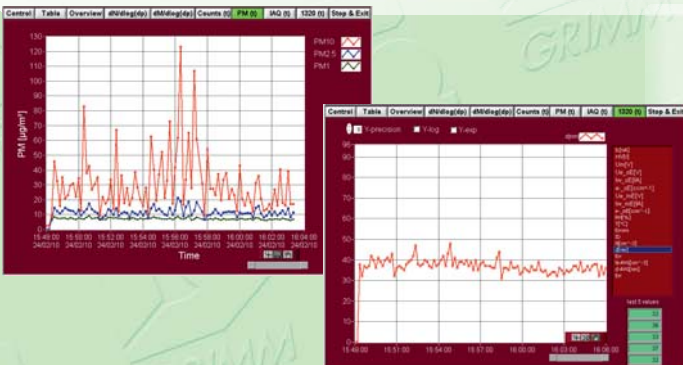
The gas system can be equipped with 2 different toxic gas detectors (CO, H₂S, SO₂, NO_x or NH₂) as well as a PID sensor. The sensor is fully integrated in the EDM365 and is linked to the system with the included 1142.M5 logger system.

The #365G3XX gas sensor module is a multiple-gas monitor to provide continuous exposure of toxic organic and inorganic gases, oxygen and combustible gases in hazardous environments. It is an flexible on-to-five sensor module for use as emergency response, industrial hygiene and many other monitoring applications.

It can offer protection using both standard gas detection sensors for the detection of oxygen, combustible gas, and specific toxic gases as well as an integrated Photo-Ionization Detector (PID) for the ultimate broad-range toxic gas detection.

Available set ups are:

365G313	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, H ₂ S, SO ₂
365G312	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, H ₂ S, CO
365G315	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, H ₂ S, NO ₂
365G325	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, CO, NO ₂
365G335	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, SO ₂ , NO ₂
366G35C	Gas Sensor Modul for the EDM365. Small metall housing w ith indicative electrochemical sensors for VOC, CO ₂ , NO ₂



Detection limits:

VOC's: range 0 to 199ppm - res. 0.1ppm or
range 200 to 2,000ppm - res. 1ppm

Carbon Monoxid:
range 10 to 2000ppm - res. 10ppm

Hydrogen Sulfide:
range 0 to 100ppm - res. 1ppm

Sulfur Dioxide:
range 0 to 20ppm - res. 0.1ppm

Nitrogen Dioxide
range 0 to 20ppm - res. 0.1ppm

TSP

PM₁₀

PM_{2.5}

PM₁

TC

VOC

SO₂

H₂S

CO/CO₂

NO_x

Our GRIMM TEAM is traveling all around the world to advise customers the best available solution in DUST Monitoring.

FOR YOUR NEAREST EXHIBITION, ROAD SHOW OR SYMPOSIA VISIT OUR WEB OR CONTACT US.