



www.grimm-aerosol.com

Aerosol Spectrometer and Dust Monitor Model 1.108

Applications:

IAQ-Monitoring
at workplaces
in schools
in public places ...

Occupational studies

Filter-tests

Measuring of oil droplets

Industrial air monitoring

Ventilation control



Benefit:

Measuring in real time

15 size channels

Particle number
concentration and
size distribution

Particle mass
concentrations and
mass distribution

Particle sampling
on integrated PTFE-filter

Work place monitoring
according to EN 481

Portable with battery
(2.4 kg)

Easy to use

Particle size, number and mass with Dual-Technology

The portable Aerosol spectrometer model 1.108 detects airborne aerosol particles in the size range **0.3 μm to 20 μm in 15 size channels** in real time and represents the results in particle **number concentration** or particle **mass**.

In addition all particles were collected after optical detection on an **integrated 47mm PTFE-filter** inside of the spectrometer (Dual-Technology) for further investigation e.g. chemically, microscopically or gravimetric.

Portable, flexible, and easy to use

The Grimm Aerosol spectrometer model 1.108 can be operated with battery or via AC power supply. The data are shown on a display and are stored on a removable data storage card in the spectrometer. Due to the extensive accessories various applications can be handled like e.g. isokinetic sampling in ducts, at high air velocities or in compressed air. Simultaneous measurement of temperature, relative humidity and wind speed with optional sensors enables source apportionment. Long term measurements with a protection housing, including an air conditioning system are possible and additional sensor attachments e.g. for PAH or nano particles are available.

Powerful software

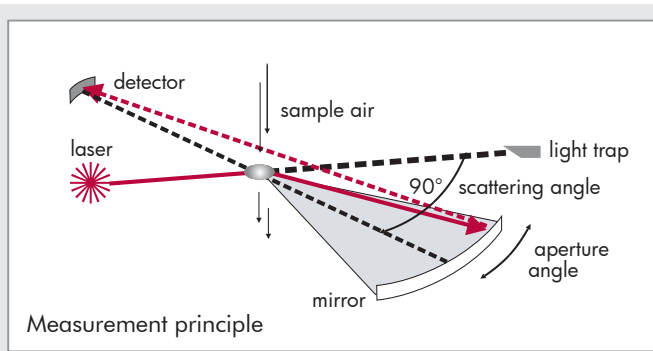
The data can be transferred online via USB or RS-232 connection by the Grimm Windows® Software on a computer for data presentation or analysis. The following application settings are possible:

- **Particle number concentration** in counts/litre, for all 15 size channels
- **Dust mass concentration** in $\mu\text{g}/\text{m}^3$, for all size channels
- **Dust mass fractions** inhalable, thoracic and alveolic, according to EN 481
- Dust mass fractions PM_{10} , $\text{PM}_{2.5}$ and $\text{PM}_{10-2.5}$, on the basis of US EPA guideline

With this software graphs can be realised easily and quickly, also statistical numbers or data exportation directly into Excel™.

Specification

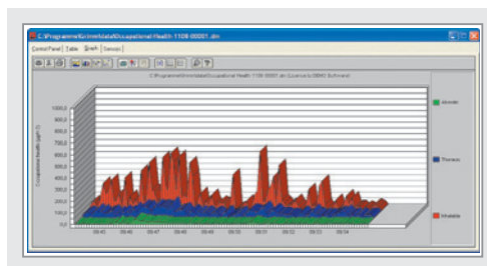
Principle:	90° light scattering and filter-sampling (Dual-Technology)
Particle concentration:	1 to 2.000.000 particles/litre
Dust mass:	0.1 to 100.000 µg/m ³
Reproducibility:	5 % for whole range
Light source:	Diode-Laser (λ = 780 nm, P _{max} = 40 mW)
Measuring range:	0.3 µm to 20 µm in 15 size channels
Volume flow-rate:	1.2 litre/minute, volume controlled
Sampling time:	6 sec (normal), 1, 2, 3 sec (fast mode)
Data storage:	intern 80 KByte, with storage card 4 MByte
Storage interval:	1 sec to 1 h selectable
Interface:	RS-232 Interface (USB, modem optional)
Power supply:	110 ... 230 VAC, 50-60 Hz
Battery:	12 VDC for 6-8 h
Temperature range:	0 to + 40 °C (32 to 104 °F)
Humidity range:	relative humidity < 95 % (non condensing)
Dimensions (LxWxH):	24 x 13 x 7 cm
Weight:	2.4 kg (5.3 lb)
Size channels:	(0.23) - 0.3- 0.4- 0.5- 0.65- 0.8- 1.0- 1.6- 2- 3- 4- 5- 7.5- 10- 15- 20 µm



Software

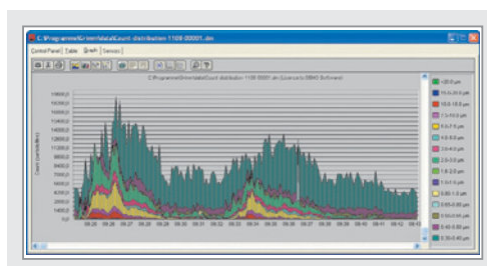
Time series, maximum and minimum values, graphs and other results can be shown online on a connected computer with the 32 bit Windows® Software.

The data also can be exported easily as text files for further analysis.



The picture above shows the three occupational dust mass fractions inhalable, thoracic and alveolar measured simultaneously and displayed in real time.

Below the particle number concentration in 15 size channels is shown, measured with a time resolution of 6 seconds.



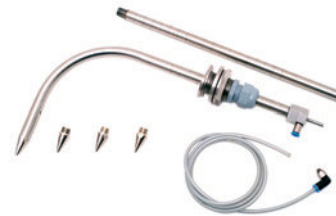
Accessory examples and PTFE-filter chamber on the backside



Climate sensors



Integrated sampling filter



Isokinetic sampling probe

The European Leader in Particle Measurement Technology

DISTRIBUTORE UFFICIALE per L'ITALIA:

XEARPRO SRL.

Via delle Primule, 16 Cogliate (MB) Italy
+39 02 9646.0317 - info@xearpro.com

www.xearpro.com