



Atomizer Aerosol Generator ATM 230

Anwendung

- Generation of tracer particles
- Clean room measurements and certification of laminar flow boxes
- Testing of HEPA and ULPA filters and filter media

Advantages

- Polydisperse aerosol, mainly below 1 μm
- Excellent constant particle size distribution
- Defined and high particle number concentration

Product Description

The aerosol generator ATM 230 produces aerosols with known properties according to the guideline VDI 3491. Its operation principle enables high aerosol output over long operation times.

The design and technical solution warrants constant particle size distribution as well as particle concentration with high reproducibility.

The Atomizer Aerosol Generator ATM 230 enables to atomize various liquids, for example DEHS, PAO (Emery 3004) and salt solutions. It can also be used for generation of PSL-standards.

The generator is designed as a serial instrument with extern pressurized air supply. Operating controls and pressure indication are so installed, that the instrument can be easily and safety operated.

The liquid reservoir is arranged inside the chassis of the ATM 230.

Principle

A liquid is atomized into small droplets by means of a two-stream nozzle in an atomizer vessel.

A baffle plate removes coarse spray droplets and leads in the excessive liquid back into the atomizer vessel. This principle effects a resulting particle size number distribution mainly below 1 μm .

The atomizer operating pressure can be adjusted in the range of 1 to 6 bar ($6 \times 10^5 \text{Pa}$) with the pressure regulator at the front panel of the device. An internal HEPA filter cleans the compressed air before it passes the manometer and the atomizer nozzle. The particle production rate of the ATM 230 can be adjusted in a wide range by changing the operating pressure.

The generated aerosol is led to the measuring point through the aerosol outlet at the vessel cover.

To follow safety requirements all pressurized components are located inside the device and the atomizer vessel is equipped with a safety valve.

Specifications

Technical Data

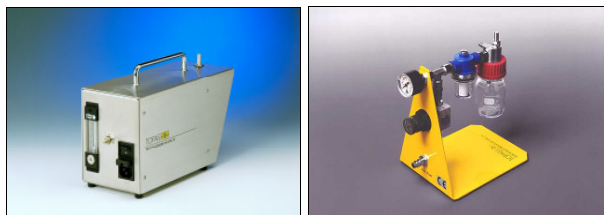
Aerosol substances	DEHS, PAO (Emery 3004), paraffin oil, PSL suspensions
Aerosol Outlet	Ø19 mm
Flow rate	500 ... 2500 l/h
Compressed air supply	max. 800 kPa (8 bar)
Dimensions (H x W x D)	240 x 300 x 225 mm
Weight	3,9 kg

Other Generators Series ATM

Especially for clean room measurements and certification of laminar flow boxes the ATM 220 and ATM 226 were used. They work with the same principle of atomizing like the ATM 230 but with a lower aerosol output.

The ATM 226 has a low-noise compressor producing the compressed air, therefore no external compressed air supply is necessary. The adjustment of the volumetric flow rate can be done with the integrated needle valve and will be shown on the integrated flow meter. That influences directly the particle production rate.

A much higher particle production rate is realized by the ATM 240s with a new developed patented nozzle. The ATM 240s can be used for generation of tracer particle or for clean room measurements with large filter areas.

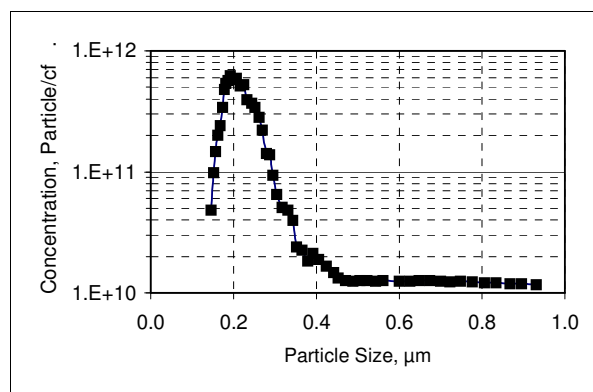


Atomizer Aerosol Generators ATM 226 and ATM 220

Specification of DEHS-Aerosol

DEHS (Di-2-Ethylhexyl-Sebacat) is an oily liquid, which is suitable for producing steady aerosols. DEHS is a proven aerosol liquid for challenging clean rooms and laminar flow boxes. The main proportion of droplets generated by aerosol generators series ATM can be stated in the most penetration particle size (MPPS, approx. 0.2 µm).

Total Number Concentration:	>10 ¹¹ particles/cf
at 0.2 µm:	5·10 ¹¹ particles/cf
at 0.5 µm:	1·10 ¹⁰ particles/cf
at 1 µm:	3·10 ⁹ particles/cf
0.3 - 0.5 µm:	4·10 ¹¹ particles/cf
0.5 - 1.0 µm:	2·10 ¹¹ particles/cf
Modal	0.25 µm



Number Concentration of a DEHS-ATM Aerosol vs. Particle Size

QMS certified to
DIN EN ISO 9001.



12 100 11908 TMS

For more information please
visit our website at
www.topas-gmbh.de

Specifications are subject to
change without notice.

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