

Atomizer Aerosol Generator

ATM 230



Atomizer Aerosol Generator ATM 230

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.

Special Features

- Polydisperse aerosol, mainly below 1 μm
- Excellent constant particle size distribution
- Defined and high particle number concentration
- By variation of the nozzle pressure, the particle production rate can be adjusted in a wide range

Applications

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

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.

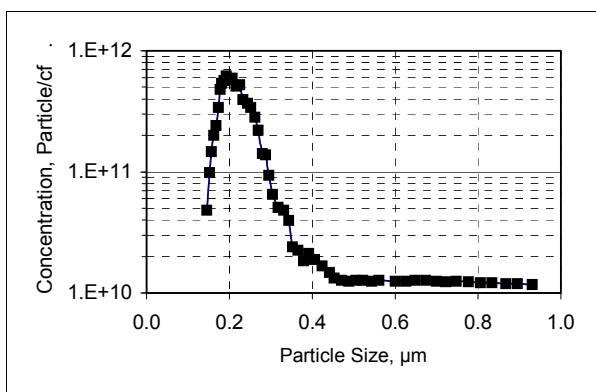


Specifications

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 :	$5 \cdot 10^{11}$ particles/cf
at 0.5 μm :	$1 \cdot 10^{10}$ particles/cf
at 1 μm :	$3 \cdot 10^9$ particles/cf
0.3 - 0.5 μm :	$4 \cdot 10^{11}$ particles/cf
0.5 - 1.0 μm :	$2 \cdot 10^{11}$ particles/cf
Median value	0.1 ... 0.5 μm



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

Specifications / Technical Data

Aerosol substances	DEHS, PAO, PSL Suspensions, Salt Solutions
Aerosol outlet	$\varnothing 19$ 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

QMS certified to
DIN EN ISO 9001.



12 100 11908 TMS

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

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