



Atomizer Aerosol Generator ATM 226

Atomizer aerosol generators of series ATM 220 and ATM 226 provide generation of test aerosols with defined properties (according VDI-guideline 3491). Its design and technical solution warrants highly constant particle size distribution as well as particle concentration with high reproducibility. The generators enable to atomize various liquids, for example DEHS, PAO (Emery 3004) and saline solutions. The aerosol generators can also be used for generation of PSL-standards.

The generator ATM 220 is designed as an instrument with external compressed air supply, whereas the ATM 226 has a low-noise compressor producing the compressed air. All aerosol generators are characterised by compact and robust design. Operating controls, connectors and indicators are so installed, that the instrument can be easily and safe operated.

With its stainless steel housing the ATM 226 is excellent qualified for measurements in clean room environments.

#### **Adjustable Particle Production Rate**

The adjustment of the volumetric flow rate can be done for ATM 226 with the integrated needle valve and is shown on the integrated flow meter. Lower volumetric flow rates will lead to a reduced particle production rate.

Compressed air operated atomizer aerosol generators of series ATM can vary the particle production rate by regulation of nozzle pressure.

#### **Advantages**

- Polydisperse aerosol mainly below 1µm
- Excellent constant particle size distribution
- Defined and high particle number concentration
- ATM 226 with stainless steel housing

#### **Applications**

- Testing of HEPA and ULPA filter media
- Clean room measurements and certification of laminar flow boxes
- Generation of tracer particle at low flow rates
- Visualisation of flows



Atomizer Aerosol Generator ATM 220

## Specifications

### Generation of Aerosol with DEHS

For evaluation measurements of cleanrooms and similar facilities DEHS (Di-2-Ethylhexyl-Sebacate)-aerosol is often used.

Atomizer aerosol generators of series ATM produce DEHS-aerosols with most particles in the size range of the MPPS (Most Penetration Particle Size, 0.2...0.3µm).

DEHS-aerosols are characterised by very long life times.

### Latex Aerosol

Aerosol generators of series ATM are likewise suitable for generation of monodisperse PSL-aerosols. These are applied for instance for calibration of aerosol measuring devices or for scientific analysis. The operational area for generation of PSL-aerosols is limited to <2µm. Because of the excellent deposition characteristics of the baffle the proportion of agglomerates is very low.

### Generation of salt aerosols

By means of atomizer aerosol generators of series ATM also salt aerosols can be generated while a saline solution is used as aerosol fluid. The salt concentration determines the size of the awaited particles. Following equation can be used for calculation with  $d_p$  (resulting particle diameter),  $d_d$  (droplet diameter at atomizer outlet) and  $c$  (salt concentration):

$$d_p = d_d \sqrt[3]{c}$$



Atomizer Aerosol Generator ATM 220 (with diffusion dryer), suitable for generation of aerosols for calibration

### Technical Data

Aerosol materials	DEHS, PAO (Emery 3004), salt solutions, PSL etc	
Flow rate	50...250 l/h	ATM 220
	70...300 l/h	ATM 226
Mass flow	max. 2.0 g/h	ATM 220
	max. 2.5 g/h	ATM 226
Filling volume	10 ... 80 ml	
Counter- pressure	200 mbar	
Aerosol outlet	Ø 8 mm	
Compressed air supply	max. 8 bar (ATM 220)	
Power supply	100...240 V AC (ATM 226)	
Dimensions	22 x 15 x 20 cm (ATM 220)	
	30 x 12 x 20 cm (ATM 226)	
Weight	1,6 kg (ATM 220)	
	4,8 kg (ATM 226)	

### Aerosol-Specification for DEHS

Number concentration	>10 <sup>8</sup> particles/cm <sup>3</sup>
Number concentration (0.2 µm)	2·10 <sup>7</sup> particles/cm <sup>3</sup>
Number concentration (0.5 µm)	5·10 <sup>5</sup> particles/cm <sup>3</sup>
Number concentration (1 µm)	1·10 <sup>5</sup> particles/cm <sup>3</sup>
Number concentration (class 0.3 to 0.5 µm)	1.5·10 <sup>7</sup> particles/cm <sup>3</sup>
Number concentration (class 0.5 to 1.0 µm)	8·10 <sup>6</sup> particles/cm <sup>3</sup>
Median value	0.1 .. 0.5 µm

QMS certified to  
DIN EN ISO 9001.



12 100 11908 TMS

For more information please  
visit our website at  
[www.topas-gmbh.de](http://www.topas-gmbh.de)

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