

## Atomizer Aerosol Generator

## ATM 243



Atomizer Aerosol Generator ATM 243

The aerosol generator of the ATM 243 series is a special development for testing oil mist separators. Its innovative design is protected by a utility model and the generated aerosols comply with the requirements regarding particle size and concentrations for testing oil mist separators. The design of this generator ensures a very constant particle size distribution and concentration while at the same time providing a high degree of reproducibility. The device features the possibility to adjust the temperature of the generated aerosols and can be used on a variety of oils. Depending on the type of oil and the pressure of the carrier gas various mass flow rates can be adjusted for a set working temperature.

### Special Advantages

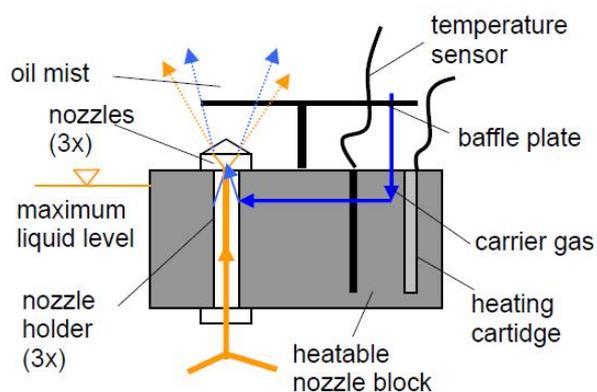
- Very stable particle size distributions and concentrations
- Generates polydisperse test aerosol with a mean particle size of 1 – 2  $\mu\text{m}$
- Very high aerosol particle concentration and particle mass flow
- Adjustable and regulated aerosol temperature
- For pressures up to 0.3 bar

### Applications

- Testing of oil mist separators
- Capacity tests of filters
- Research & Development

### Operating Principle

The oil is atomised via 3No. discrete shiftable two-component jet nozzles which are located under a baffle plate. The carrier gas and the oil are heated in the nozzle block to the set temperature.



Schematic of the nozzle assembly

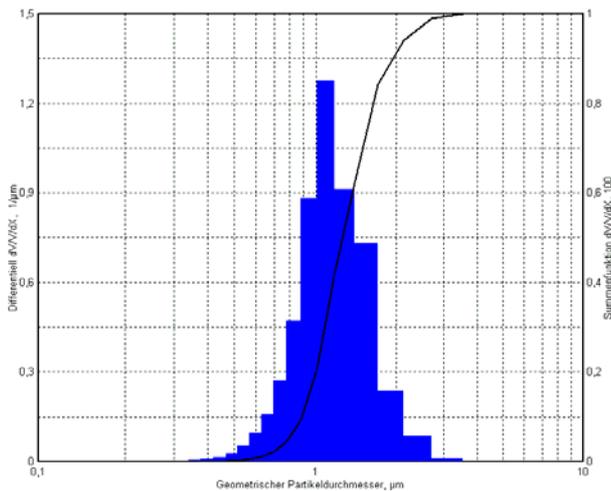


## Specifications

### Details

The adjustment of the particle production rate (mass flow) can be done by

- Changing the temperature
- Varying the carrier gas pressure or manually activating / deactivating the nozzles 1-3, this is at a constant temperature and depending on the used oil



Particle size distribution of an aerosol generated by the ATM 243 with a  $d_{50} < 1.5 \mu\text{m}$  (Motor oil 15W40, 130°C)

The ATM 243 is equipped with a temperature limiter to avoid overheating. This safety device switches off the heating cartridges in case of the temperature exceeding 135°C.

To avoid dangerous over pressure in the vessel the generator is equipped with a safety valve with a release pressure of 0.3 bar.

An externally mounted level control for the liquid in the vessel can be supplied optionally.

### Technical Data

Particle material	Motor oil
Particle concentration	$>10^8$ Particles/cm <sup>3</sup>
Particle size (modal value $d_{p,3}$ )	1...2 µm *
Maximum counter pressure	3 x 10 <sup>4</sup> Pa (0.3 bar)
Aerosol outlet	Ø 24 mm
Maximum filling amount	3 l
Temperature range of test aerosol	20°C...130°C
Flow rate	0.8...18 m <sup>3</sup> /h
Examples for mass flow	5...110 g/h (at 80...130°C, carrier gas pressure 1...4 bar; Motor oil 0W30) 1...90 g/h (at 80...130°C, pressure 1...5 bar; Motor oil 15W40)
Compressed air supply	100...max. 600 kPa (1...max. 6 bar)
Power supply	240 VAC/50Hz
Dimensions	530 x 650 x 710 mm
Weight	52 kg

\* depending on particle material used (viscosity)

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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