



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

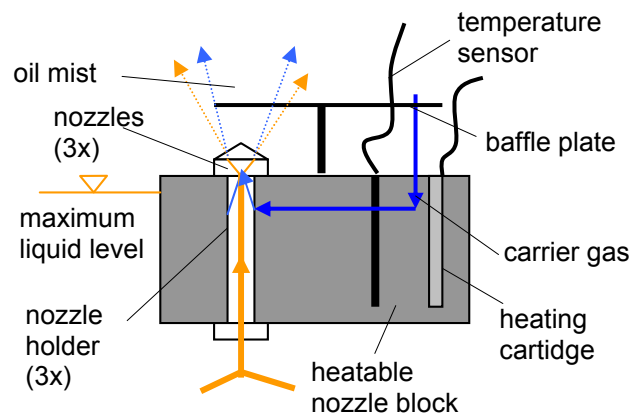
- Very stable particle size distributions and concentrations
- Generates polydisperse test aerosol with a mean particle size of 1 – 2  $\mu\text{m}$
- Very high aerosol particle concentration and particle mass flow
- Adjustable and regulated aerosol temperature
- For pressures up to 0.3 bar

### Applications

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

### Operating Principle

The oil is atomised via 3No. 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.



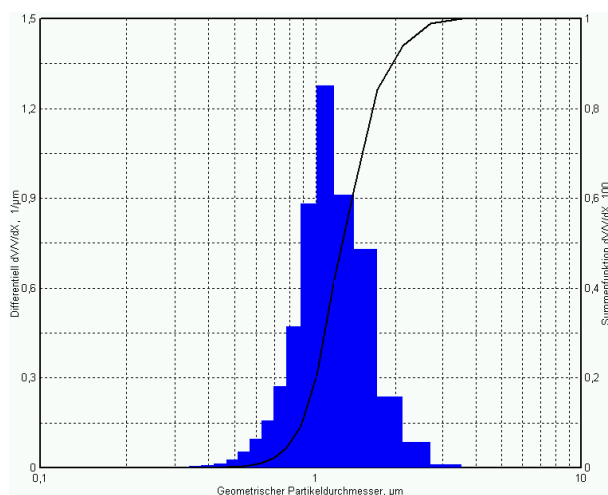
Schematic of the nozzle assembly

## 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  $d_{50,3} < 1.5 \mu\text{m}$  (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 130°C.

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)       | 1.3...1.9 µm  |
| Maximum counter pressure          | $3 \times 10^4$ Pa (0.3 bar)  |
| Aerosol outlet                    | Ø 24 mm   |
| Maximum filling amount            | 4 l   |
| Temperature range of test aerosol | 20°C...130°C  |
| Flow rate                         | 1.5...18 m <sup>3</sup> /h  |
| Examples for mass flow            | 1...72 g/h<br>(at 80...120°C, carrier gas pressure 1...4 bar; Motor oil 0W30)<br>5...75 g/h<br>(at 80...120°C, pressure 1...5 bar; Motor oil 15W40) |
| Compressed air supply             | 100...max. 600 kPa<br>(1...max. 6 bar)  |
| Dimensions (WxDxH)                | 530 x 650 x 710 mm  |
| Weight                            | 48.6 kg   |

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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