TOPAS®
Technologie-orientierte Partikel-, Analysen- und Sensortechnik

Atomizer Aerosol Generator acc. to VDI 3491-2 for clean room validation acc. to ISO 14644-3

ATM 228

Aerosol generator ATM 228

Principle

The aerosol generator ATM 228 is a further development of the aerosol generator ATM 226 and fully complies with the requirements of VDI 3491-2.
According to ISO 14644-3 this device can be used to test the filter integrity of HEPA and ULPA filters as well as measuring the recovery time. For the test of very small filter cross sections very low aerosol quantities are required. Therefore the ATM 228 has therefore been developed for particularly stable aerosol generation at low nozzle volume flows or nozzle pressures.

The special advantage of the generator lies in a very wide adjustable concentration range with highest aerosol stability.

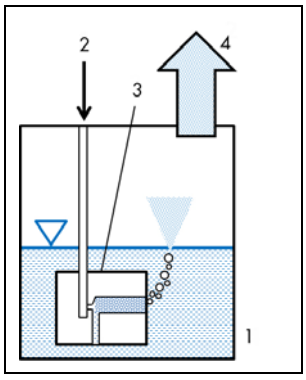
To ensure aerosol generation at low nozzle pressures, the two-fluid nozzle used is in the submerged state ("Laskin mode").

Special Advantages

- Very wide working range with exact reproducible adjustable particle production rate
- Accurate setting of minimum aerosol volume flows
- Digital display
- Interface for external control
- Internal brushless compressor
- Mains connection with integrated wide-voltage power supply
- Optional operation in battery mode

Applications

- Test of HEPA and ULPA filters in the installed extension and recovery time measurement according to ISO 14644-3 (filter integrity test)
- Validation measurements of clean rooms and safety cabinets
- Tracer particle generation at low volume flows



1 Sample container (liquid reservoir)
2 Dispersing gas volume flow
3 Two stream nozzle
4 Aerosol

Two stream nozzle in dipped state according to VDI 3491-2

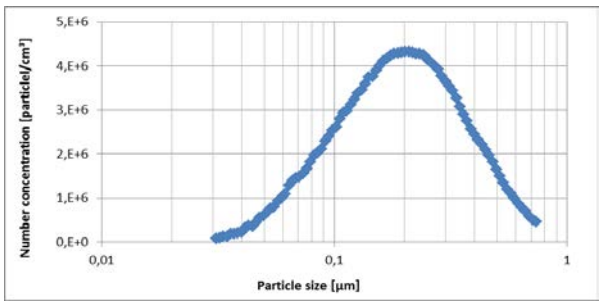
Specificationen

Instrument specification ATM 228 at 250 l/h

Number concentration (class <0,2 µm):	1,0·10^8 particle/cm^3
Number concentration (class > 0,2 ... 0,4 µm):	7,3·10^7 particle/cm^3
Number concentration (class > 0,4 µm):	2,2·10^7 particle/cm^3
Particle size dustribution (Modal value)	0,15 ... 0,25 µm

Aerosol specification for DEHS

DEHS (di-ethylhexyl-sebacate) is an oily substance commonly used in the monitoring of clean room systems as well as testing filters for aerosol generation. The liquid has a long service life as an aerosol. The particle sizes produced with the generators of the series ATM are in the area of the Most Penetration Particle Size (MPPS, approx. 0.2 µm).



Particle size distribution of a DEHS aerosol measured by the Scanning Mobility Particle Sizer (SMPS)

Options

- External battery pack
- Interface control via serial connection

Technical Data ATM 228

Volume flow	20 ... 250 l/h
Mass flow	0 ...1.4 g/h
Particle number flow	4,7·10^2 ..1,4·10^{10} Partikel/s **infinitely variable**
Aerosol liquids	DEHS, PAO (Emery 3004). Paraffin oil, latex suspensions (PSL), salt solutions
Filling amount	20 .. 80ml
Dosing period	approx. 44 h in continuous operation mode (in battery operation 2 h at full load)
Overpressure	max. 40 kPa
Aerosol outlet	∅ 8 mm
Air supply	Internal compressor
Power Supply	100 .. 240 V AC. 12 VDC
Dimensions	300 x 120 x 195 mm
Weight	3.9 kg

Backside of ATM 228 with atomizer glass vessel

ATM 228 with external battery pack (optional)

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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