AGF 10.0 D

In contrast to the AGF 10.0, the AGF 10.0 D is pressure-resistant up to 10 bar overpressure and can therefore be used in applications with an absolute pressure of up to 11 bar, e.g. for testing compressed air filters and optical flow measurement methods in overpressure up to 10 bar.

Operation principle

Pressure-resistant aerosol generator

Unlike the AGF 10.0, the AGF 10.0 D is pressure-resistant up to 10 bar positive pressure and is thus able to be used for applications with an absolute pressure value of up to 11 bar, e.g., to test compressed air filters and optical flow measurement procedures with positive pressure values of up to 10 bar.

The AGF series aerosol generators can atomize liquids with a binary nozzle.

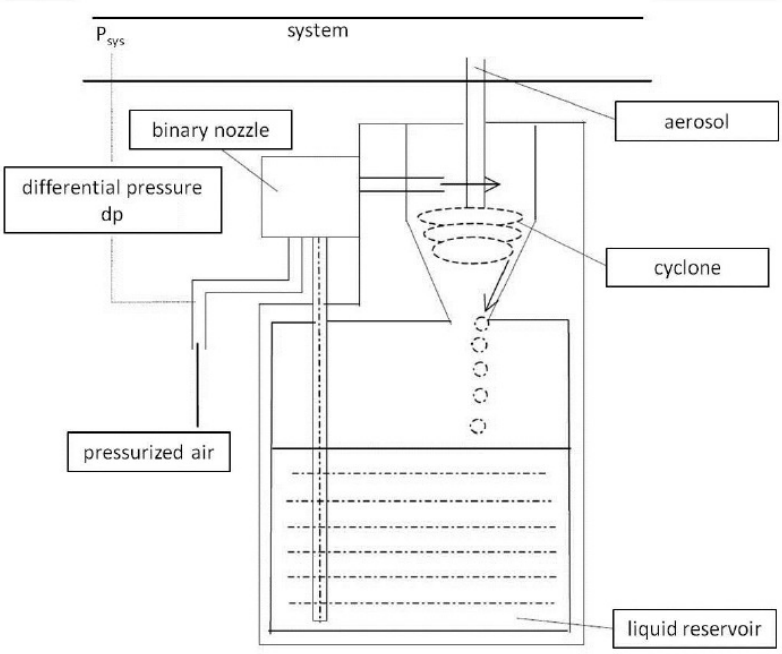

Fig. 1: Schematic diagram of the aerosol generator

Compressed air is supplied to a binary nozzle. The primary pressure on the nozzle can be adjusted to between 0 and 10 bar above the ambient pressure. The volume flow through the AGF 10.0 D should be determined using a pressure-tight flow meter and must be between 14 and 35 L/min. The negative pressure in the nozzle suctions the liquid to be atomized from a reservoir. The volume flow of the liquid and thus the aerosol concentration can be adjusted via a needle valve integrated in the nozzle.

BENEFITS

- Generation of high mass flows of up to approx. 25 g/h
- Exact adjustment of the operating parameters
- Number concentration (C_N) can be varied by the factor 10
- Particle size distribution remains virtually constant, if C_N is modified
- Number distribution maximum is within the MPPS range
- Virtually no power losses
- Optimal concentration, no coagulation losses
- Resistant to numerous acids, bases, and solvents
- Robust design, stainless steel housing
- Easy to operate
- Long dosing time

NORMS AND CERTIFICATES

VDI 3491-6

DATASHEET

Volume flow	14 – 35 l/min
Mass flow (particles)	< 20 g/h (DEHS)
Filling quantity	300 ml
Particle material	DEHS, DOP, Emery 3004, paraffin oil, other non-resinous oils
Dosing time	> 24 h
Compressed air connection	Quick coupling
Aerosol outlet connection	$Ø_{inside}$ = 20 mm, $Ø_{outside}$ = 30 mm
Mean particle diameter (number)	0.5 μm
Particle diameter (maximum)	10 μm
Dimensions	200 • 300 mm (Ø • L)
Weight	Approx. 8 kg
Special features	Pressure-tight up to 10 bar

Applications

- Clean room technology
  - Acceptance tests and leak tests as per ISO 14644 and VDI 2083
  - Leak tests, fit testing
  - Recovery tests
- Filter testing, quality control
  - Filter cartridges
  - Car interior filters
  - Filter media, particulate air filters, HEPA/ULPA filters
  - Compressed air filters
- Tracer particles
  - Optical flow measurement procedures with positive pressure values of up to 10 bar (model version AGF 10.0 D)
  - Inhalation experiments
  - LDV
- Calibration of counting particle measurement methods
  - Nebulization of latex suspensions < 5 μm
- Smoke detector tests

Mehr Informationen:
https://www.palas.de/en/product/agf10d