# AGF 2.0 D


Unlike the AGF 2.0, the AGF 2.0 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.

## Operation principle

## Pressure-resistant up to 10 barg overpressure

The AGF series aerosol generators can atomize liquids with a binary nozzle. Fig. 1 presents a schematic arrangement of the AGF 2.0 D generator components:

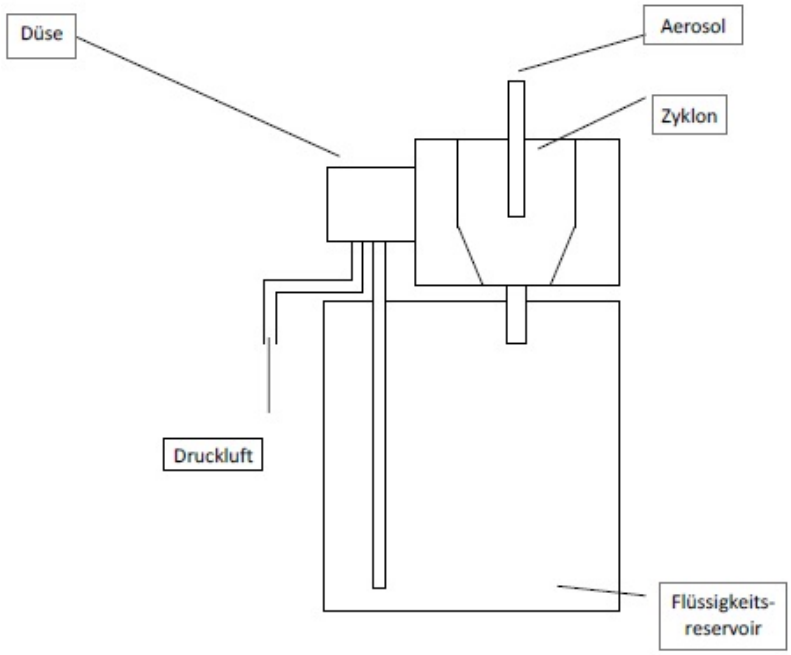

Fig. 1: Schematic diagram of the aerosol generator

The AGF 2.0 D comprises an adjustable binary nozzle to adjust the desired mass flow and a cyclone with a cut-off of 2 $\mu$m. As a result, virtually no particles > 2 $\mu$m are generated.

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. A pressure-tight flow meter should determine the volume flow through the AGF 2.0 D. The volume flow must be between 12 and 22 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

- Pressure-resistant up to 10 barg overpressure
- 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
- As opposed to the collision method, the AGF 2.0 does not generate any particles > 2 $\mu$m thanks to its cyclone.
- Due to the fact that the AGF generates virtually no droplets > 2 $\mu$m, the consumption of materials is very low, thus ensuring a long dosing time.

## NORMS AND CERTIFICATES

ISO 14644, VDI 2083

## DATASHEET

| | |
|---|---|
| Volume flow | 12 – 45 l/min |
| Mass flow (particles) | Up to 4 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 | $Ø_{inside}$ = 6 mm, $Ø_{outside}$ = 8 mm |
| Mean particle diameter (number) | 0.25 $\mu$m |
| Particle diameter (maximum) | 2 $\mu$m |
| Dimensions | 200 • 260 mm (Ø • L) |
| Weight | Approx. 8 kg |
| Special features | Pressure-tight up to 10 bar |

## Applications

- Filter testing, quality control
  - Filter cartridges
  - Car interior filters
  - Filter media, particulate air filters
  - Compressed air filters
- Tracer particles
  - Inhalation experiments
  - Optical flow measurement procedures with positive pressure values of up to 10 bar (model version AGF 2.0 D)
  - LDV
- Clean room technology
  - Acceptance tests and leak tests as per ISO 14644 and VDI 2083
  - Leak tests, fit testing
  - Recovery tests
- Calibration of counting particle measurement methods
  - Nebulisation of latex suspensions < 1 $\mu$m
- Smoke detector tests

Mehr Informationen:
https://www.palas.de/product/agf2d