Product data sheet

Palas® Aerosol Generator for Liquids AGF 2.0

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
  - Aerosol generation for MPPS determination of HEPA/ULPA 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
- Calibration of counting particle measurement methods
- Nebulization of latex suspensions < 1 µm
- Smoke detector test

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Benefits

- Exact adjustment of the operating parameters
- Number concentration (CN) can be varied by the factor 10
- Particle size distribution remains virtually constant, if CN 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 µm thanks to its cyclone.
- Due to the fact that the AGF generates virtually no droplets > 2 µm, the consumption of materials is very low, thus ensuring a long dosing time.
- With the use of DEHS the mean particle size is within the MPPS range for HEPA/ULPA filters

Description

The AGF 2.0 is an aerosol generator for the atomization of liquids and latex suspensions with a constant particle rate and defined particle spectrum.

The AGF 2.0 system comprises an adjustable binary nozzle for adjustment of the desired mass flow and a cyclone with a cut-off of 2 µm. As a result, virtually no particles > 2 µm are generated. AGF 2.0 functional principle

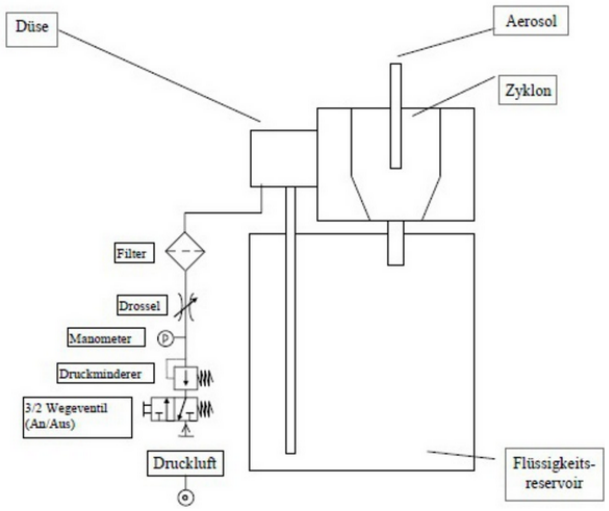

Fig. 2: Functional principle of the AGF series, including cyclone

Startup

The liquid to be dispersed is filled in the reservoir and the AGF 2.0 is connected to the compressed air connection. A manometer enables the mass flow of the liquid to be continuously adjusted using the primary pressure on the nozzle. The mist of droplets generated by the nozzle flows tangentially into a cyclone. Large particles are separated here by centrifugal force and drip back into the reservoir. The remaining droplets leave the cyclone via the so-called "immersion tube". The size spectrum of these droplets is determined on the one hand by the primary droplet spectrum generated by the nozzle, but especially by the separation characteristics of the cyclone on the other hand.

The separation size is able to be calculated: daerodyn.max = 2 µm, i.e. regardless of the liquid to be atomized, the max. particle size is daerodyn ≈ 2 µm.

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Specifications

Volume flow	6 - 17 l/min
Dimensions	300 mm • 330 mm • 240 mm
Weight	Approx. 9 kg
Particle material	DEHS, DOP, Emery 3004, paraffin oil, other non-resinous oils
Dosing time	> 24 h
Mass flow (particles)	< 4 g/h (DEHS)
Compressed air connection	Quick coupling
Mean particle diameter (number)	0.25 µm
Largest particle diameter	2 µm

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