AGF 10.0



The AGF 10.0 is an aerosol generator for atomizing liquids and latex suspensions with a constant particle rate and defined particle spectrum.

Model Variations



AGF 10.0 D
Pressure-resistant version of the AGF 10.0 series

OPERATION PRINCIPLE

LIQUID NEBULIZER WITH BINARY NOZZLE AND CYCLONE

The AGF 10.0 system comprises an adjustable binary nozzle to adjust the desired mass flow and a cyclone with a cut-off of 10 μm.

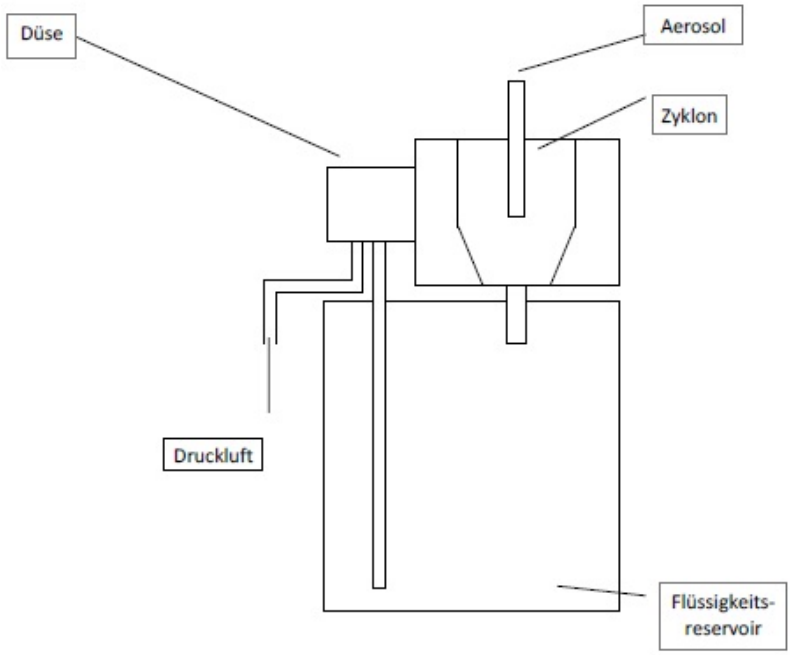


Fig.1: Schematic diagram of the aerosol generator

The liquid to be dispersed is filled in the reservoir, and the AGF 10 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 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 can be calculated: $d_{aerodyn.max}$ = 10 μm, i.e., regardless of the liquid to be atomized, the maximum particle size is $d_{aerodyn} \approx 10$ μm.

	Maße BxHxT mm	Gewicht Kg	Volumen l/m	m_{max}* g/h	dp_{mean}*** μm	d_{max} μm	115/230 V 50/60 Hz	Druckdicht bis zu 10 bar	Druckluftzufuhr
AGF 2.0	300 x 325 x 175	Ca. 9	6 - 17	4	0,25	2			x
AGF 2.0 iP	300 x 325 x 175	Ca. 15	12 - 14	2	0,25	2	x		
AGF 10.0	Ø240 x 385	Ca. 4	14 - 35	20	0,5	10			x
AGF 2.0 D	Ø200 x 260	Ca. 8	12 - 45	4	0,25	2		x	x
AGF 10.0 D	Ø200 x 300	Ca. 8	14 - 35	20	0,5	10		x	x
UGF 2000	270 x 200 x 175	Ca. 4	Ca. 1 - 13	1,5	0,2	1,5			x

Table 2: Übersicht AGF System

*applied for DEHS **test rig version ***average number diameter

Table 1: Overview of the AGF and UGF systems

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)	< 25 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	240 • 385 mm (Ø • L)
Weight	Approx. 4 kg

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/agf10