

AGF 2.0 iP



AGF series aerosol generator with built-in pump

Description

The AGF 2.0 iP aerosol generator is able to atomize liquids with a binary nozzle. Unlike the other versions in the AGF series, the AGF 2.0 iP is equipped with a built-in pump that generates volume flow, making an additional compressed air connection unnecessary in order to operate the device.



Fig 1: AGF 2.0 iP Fig. 2 presents a schematic arrangement of the generator components.

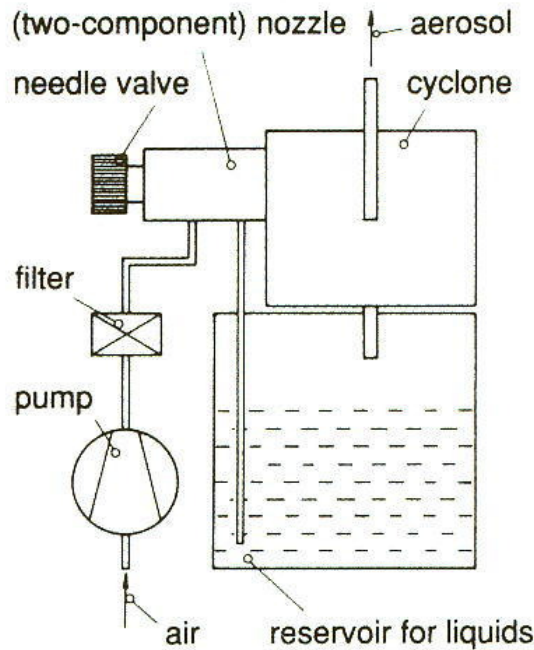


Fig. 2: Schematic diagram of the AGF 2.0 iP aerosol generator **Startup A** built-in pump suctions ambient air via a prefilter and directs it to a binary nozzle via a particulate air filter. The primary pressure on the nozzle is 0.6 bar above ambient pressure. The negative pressure in the nozzle suctions the liquid to be atomized from a reservoir, while the volume flow of this liquid is able to be adjusted using a needle valve that is incorporated into the nozzle.

	Dimensions WxHxD mm	Weight kg	\dot{V} l/min	\dot{m}_{max} g/h *	dp_{mean} μm ***	d_{max} μm	115/230V 50/60 Hz	Pressure- tight up to 10 bar	Compressed air supply
AGF 2.0	300x330x240	ca. 9	6-17	4	0,25	2			x
AGF 2.0 iP	300x330x240	ca. 15	16-18	2	0,25	2	x		
AGF 10.0	$\varnothing 240 \times 385$	ca. 4	12-45	20	0,5	10			x
AGF 2.0 D	$\varnothing 200 \times 260$	ca. 8	12-45	4	0,25	2		x	x
AGF 10.0 D	$\varnothing 200 \times 300$	ca. 8	12-45	20	0,5	10		x	x
AGF 2.0 B**	$\varnothing 210 \times 300$	ca. 4	6 -25	4	0,25	2			x
UGF 2000	270x200x175	ca. 4	ca. 1 -13	1,5	0,2	1,5			x

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

Table 1: Overview of the AGF and UGF systems

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 $> 2 \mu\text{m}$ thanks to its cyclone.
- Due to the fact that the AGF generates virtually no droplets $> 2 \mu\text{m}$, 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

Datasheet

Parameter	Description
Volume flow	16 - 18 l/min
Power supply	115 - 230 V, 50 - 60 Hz
Dimensions	300 • 330 • 240 mm
Weight	approx. 15 kg
Particle material	DEHS, DOP, Emery 3004, paraffin oil, other non-resinous oils
Dosing time	> 24 h
Mass flow (particles)	< 2 g/h (DEHS)
Compressed air connection	No
Aerosol outlet connection	Ø _{inside} = 6 mm, Ø _{outside} = 8 mm
Mean particle diameter (number)	0.25 µm
Biggest particle diameter	2 µm
Filling quantity	300 ml

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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