



Stand alone aerosol generator with more than 8 hours of battery operation

Description

The autonomous PAG 1000 (Portable Aerosol Generator), newly developed by Palas®, offers maximum flexibility for the generation of droplet aerosols, for example from DEHS, especially also at low concentrations.

The generator is small and with a weight of only 5 kg quite handy; being battery-powered makes it independent and quickly ready for operation. The fact that no compressed air connection is required demonstrates its flexible application options even more. A battery charge is sufficient for one working day and if needed, the device also operates on mains operation.

Thanks to the changeover operation of the internal pump for aerosol generation, the PAG 1000 offers a wide range of settings for the concentration. The electrical control via the internal display permits the reproducible setting of the particle concentration. Sample applications for the PAG 1000 include testing of laminar flow boxes, clean room acceptance test, test of smoke detectors, HEPA/ ULPA filter testing, laboratory applications or flexible aerosol supplies on site.

Setting	Low (20 % $\hat{=}$ 0.9 l/min)	High (100 % $\hat{=}$ 4.6 l/min)
Number concentration from 0.02 μm	$2.2 \cdot 10^3$ particles/cm ³	$4.7 \cdot 10^7$ particles/cm ³
Number concentration from 0.2 μm	$1.3 \cdot 10^3$ particles/cm ³	$1.6 \cdot 10^7$ particles/cm ³
Number concentration from 0.3 μm	$1.1 \cdot 10^3$ particles/cm ³	$9 \cdot 10^6$ particles/cm ³
Particle flow from 0.02 μm	$3.3 \cdot 10^4$ particles/s	$3.6 \cdot 10^9$ particles/s
Particle flow from 0.2 μm	$2 \cdot 10^4$ particles/s	$1.2 \cdot 10^9$ particles/s
Particle flow from 0.3 μm	$1.7 \cdot 10^4$ particles/s	$6.9 \cdot 10^8$ particles/s
Medium particle diameter (number)	0.19 μm	0.15 μm
Largest particle diameter (number)	Approx. 6 μm	Approx. 6 μm

Table 2: Aerosol generation with DEHS

Temperature 22 °C; rel. humidity 50 %; ambient pressure 1013 mbar

Benefits

- Small, portable
- Easiest handling
- Fast responding qualities
- Internal pump for autonomous operation
- Particle size distribution and concentration
 - Wide setting range by high-/low-switching
 - Highest stability even for very low concentrations
 - Best reproducibility
- Approx. 6 h of operating time in battery mode
- Robust, long-living, low-maintenance
- Cost-effective

Datasheet

Parameter	Description
Volume flow	0.9 – 4.6 l/min
Dimensions	220 • 160 • 230 mm (H • W • D)
Weight	approx. 5 kg
Battery operation	min. 6 h (Laufzeit) Li-Ionen Batterie 77 Wh (14,8 V; 5200 mAh) 8 Zellen nicht ausbaubar
Particle material	DEHS and similar oils; NaCl and KCl
Mass flow (particles)	< 0,9 g/h (DEHS)
Aerosol outlet connection	Ø _{innen} = 7 mm, Ø _{außen} = 8 mm
Filling quantity	70 ml

Applications

- Test of Laminar-Flow-Boxes
- Clean room acceptance test
- Recovery test
- Smoke detector test
- HEPA/ ULPA filter testing
- Laboratory applications
- Flexible aerosol supplies on side

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