



Separate dispersing unit and control unit, pressure-resistant at positive pressure values of up to 3 bar, optional low pressure operation from 300 mbar (absolute pressure)

Description

This device disperses particles at positive pressure values of up to 3 bar. Dispersing unit and electronic control unit able to be set up separately at a distance of up to 2 m from each other. In addition, the return speed is very fast when switching out reservoirs. It is approx. 1 minute. Optional operation with low pressure from 300 mbar absolute is possible (please see accessories). **Please note:** The feed stock reservoirs with a diameter of 7, 10, 14 or 20 mm are pressure-resistant. For operation with low pressure special pressure-resistant feed stock reservoirs are needed. Their piston is strongly connected to the feeding unit by a claw. This enables an undisturbed operation with low pressure. Old RBG models can be upgraded with this function by Palas®. The feed stock reservoir with a diameter of 28 mm is not pressure-resistant, but can be used with the RBG 1000 IGD under atmospheric conditions. Nitrogen cannot be used as the dispersing gas in the pressure-resistant version of the RBG 1000.

RBG 1000				
Reservoir Ø	Fill quantity	Feed rate 1 mm/h	Feed rate 5 mm/h	Feed rate 700 mm/h
7 mm	2.7 g	38 mg/h	190 mg/h	27 g/h
10 mm	5.5 g	79 mg/h	395 mg/h	55 g/h
14 mm	10.8 g	154 mg/h	770 mg/h	107 g/h
20 mm	22 g	314 mg/h	1570 mg/h	219 g/h
28 mm	43 g	616 mg/h	3080 mg/h	430 g/h
RBG 2000				
16 mm	36 g	0.2 g/h	1 g/h	140 g/h
20 mm	56 g	0.3 g/h	1.5 g/h	220 g/h
28 mm	110 g	0.6 g/h	3 g/h	430 g/h
32 mm	144 g	0.8 g/h	4 g/h	562 g/h

Table 1: Mass flows of RBG system (compacted density 1 g/cm³)

	Particle size	Reservoir ∅	Volume flows
Cover A	<0,1–100 µm	7-32 mm	2–5 m ³ /h
Cover B	<0,1–100 µm	7, 10 and 14 mm	1–2.5 m ³ /h
Cover C	<0.1–100 µm	7 mm	0.5–1.2 m ³ /h
Cover D	200–1000 µm	7-32 mm	2–5 m ³ /h

Table 2: Dispersion covers

	Feed rate mm/h	Reservoir ∅ mm	Reservoir length mm
RBG 1000	700	7–28	70
RBG 1000 D	700	7–20	70
RBG 1000 G	300	7–28	70
RBG 1000 GD	300	7–20	70
RBG 1000 L	700	10, 14	70
RBG 1000 SD	700	7-20	70
RBG 1000 SG	300	7-20	70
RBG 1000 I	700	7-28	70
RBG 1000 ID	700	7-20	70
RBG 1000 ISD	700	7-20	70
RBG 2000	700	16 - 32	180
RBG 2000 D	700	16, 20, 28	180
RBG 2000 SD	700	16, 20, 28	180

Table 3: Different versions of the RBG system I = version for inhalation, D = pressure-resistant, G = low feed rate, L = easily removable and weighable dosing unit, S = nitrogen version

RBG 1000 IGD



Benefits

- Pressure-resistant up to 3 barg overpressure
- 2 m distance between dispersing unit and control unit

Datasheet

Parameter	Description
Volume flow	0.5 – 5.0 m ³ /h
Power supply	115/230 V, 50 – 60 Hz
Dimensions	300 • 430 • 1,800 mm (L • W • H, dispersion unit)
Weight	approx. 19 kg
Particle material	Non-cohesive powders and bulks
Dosing time	Several hours nonstop
Maximum particle number concentration	ca. 10 ⁷ particles/cm ³
Mass flow (particles)	0.04 – 185 g/h (with an assumed compacted density of 1 g/cm ³)
Particle size range	0.1 – 100 µm
Carrier/dispersion gas	Air
Pre-pressure	4 – 8 bar
Feed rate	1 – 300 mm/h
Reservoir diameter	7, 10, 14, 20, 28 mm
Maximum counter pressure	200 mbar _g
Reservoir length	70 mm
dispersion cover	Type A, type B, type C, type D
Compressed air connection	Quick coupling
Aerosol outlet connection	Dispersion cover type A: Ø _{inside} = 5 mm, Ø _{outside} = 8 mm; Dispersion cover type B: Ø _{inside} = 3,6 mm, Ø _{outside} = 6 mm; Dispersion cover type: Ø _{inside} = 2,5 mm, Ø _{outside} = 6 mm
Filling quantity	2.7 g (reservoir Ø = 7 mm), 5.5 g (reservoir Ø = 10 mm), 10.8 g (reservoir Ø = 14 mm), 22 g (reservoir Ø = 20 mm), 43 g (reservoir Ø = 28 mm)

Applications

- All applications pressure-resistant up to 3 barg overpressure
- Dispersion of radioactive substances
- Dispersion of pharmaceutical powders
- Filter industry:
 - Determination of fractional separation efficiency
 - Determination of total separation efficiency
 - Long-term dusting
 - Filter media and ready-made filters
 - Dust removal filters
 - Vacuum cleaners and vacuum cleaner filters
 - Car interior filters
 - Engine air filters
- Calibration of particle measurement devices
- Flow visualization
- Inhalation tests
- Tracer particles for LDA, PIV, etc.
- Coating of surfaces

Palas GmbH
Partikel- und Lasermesstechnik
Greschbachstrasse 3 b
76229 Karlsruhe
Germany

Managing Partner:
Dr.-Ing. Maximilian Weiß
Commercial Register:
register court: Mannheim
company registration number: HRB 103813
USt-Id: DE143585902



Contact: E-Mail: mail@palas.de Internet: www.palas.de Tel: +49 (0)721 96213-0 Fax: +49 (0)721 96213-33