

# RBG BASIC



Low-concentration solid particle aerosols produced from powders are required for many applications in research, development, and quality assurance and for calibrating particle measurement devices.

For more than 25 years, the RBG system has been used worldwide with great success for the reliable dispersion of non-cohesive powders such as mineral dusts, active pharmaceutical ingredients, pollen, etc., in the size range of  $< 200 \mu\text{m}$  and with a fine fraction of  $< 100 \text{ nm}$ . Monolithic solid materials like blackboard chalk are finely dispersed with the highest dosing constancy.

The unique advantage of this dosing and dispersion system is that in the RBG system, mass flows range from approx. 40 mg/h up to approx. 800 g/h are dispersed with the highest level of dosing constancy.

RBG basic can be operated with compressed air and nitrogen as carrier gas.

## BENEFITS

- Very high short-term and long-term dosing constancy
- Dispersion of virtually all non-cohesive dusts
- Easy and fast exchange of different solid material reservoirs and dispersing covers
- Simple determination and adjustment of the mass flow
- Pulse mode
- All unit parameters on LCD-display at a glance
- Remote operation with included software
- Device easy to clean
- Little maintenance required
- Low operating expenses

## APPLICATIONS

- 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

## DATASHEET

Particle size range	0.1 – 200 $\mu\text{m}$	Maximum particle number concentration	Approx. $10^7$ particles/ $\text{cm}^3$
Volume flow	8 – 85 $\text{Nl}/\text{min}$	Mass flow (particles)	0.04 – 800 g/h (with an assumed compacted density of $1 \text{ g}/\text{cm}^3$ )
Filling height	110 mm	Filling quantity	2.7 g (reservoir $\varnothing = 7 \text{ mm}$ ), 5.5 g (reservoir $\varnothing = 10 \text{ mm}$ ), 17 g (reservoir $\varnothing = 14 \text{ mm}$ ), 35 g (reservoir $\varnothing = 20 \text{ mm}$ ), 88 g (reservoir $\varnothing = 32 \text{ mm}$ ) (with an assumed compacted density of $1 \text{ g}/\text{cm}^3$ )
Interfaces	USB type B	Power supply	115 – 230 V, 50/60 Hz
Particle material	Non-cohesive powders and bulks	Dosing time	Several hours nonstop
Pre-pressure	4 – 8 bar	Carrier/dispersion gas	Air, nitrogen
Maximum counter pressure	0.2 barg	Compressed air connection	Quick coupling
Feed rate	1 – 1,000 $\text{mm}/\text{h}$	Reservoir inner diameter	7, 10, 14, 20, 32 mm
Aerosol outlet connection	$\varnothing_{\text{inside}} = 5 \text{ mm}$ , $\varnothing_{\text{outside}} = 8 \text{ mm}$	Dispersion cover	Type A, type B, type C, type D
Dimensions	515 • 330 • 240 mm (H • W • D)	Weight	Approx. 15 kg