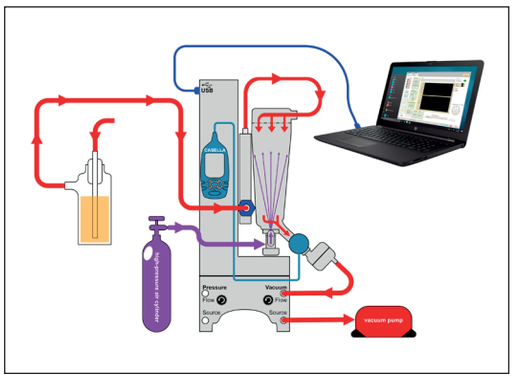
PreciseInhale® Dry Powder

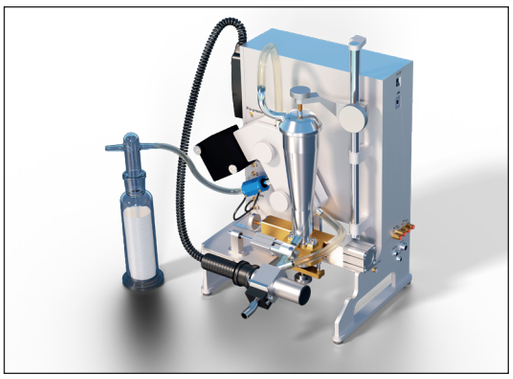
Art. No.: PIBS1

Inhalation Sciences

Applications

The PreciseInhale® system is a robust benchtop aerosol generation system enabling controlled and precise dosing of *in vitro* and *in vivo* exposure modules.



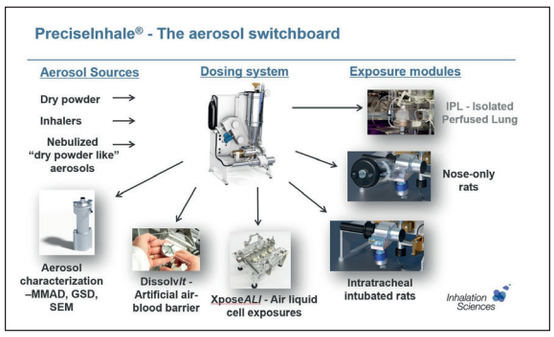


Features

- Precise dosing of the exposure object with the Active Dose Control System
- Reproducible, batchwise aerosol generation
- Several options for deagglomeration of micronized powders
- Aerosol switchboard - flexible configuration possibilities

Benefits

- Repetitive and accurate dosing
- Minimized standard deviation in between delivered doses
- Homogenous aerosols
- Even aerosol concentration during the exposure cycle
- Aerosol generation of a broad range of dry powders
- Same aerosol source throughout the whole drug development process
- Low substance consumption



PreciseInhale® - The aerosol switchboard

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Technical specifications

Base unit	32 x 28 x 54 cm (W x D x H)
Additional height (stand)	9 or 27 cm, depending on which stand is used
Weight	20 kg
Noise level	45 dBA (at 50 Hz)
High-pressure regulator	1.7 kg
Compressed air cylinder	Typically 3 – 10 L
Vacuum pump	12.1 x 24.7 x 14.5 cm (W x D x H)
Weight	5 kg
Verified exposure modules	Aerosol characterization
	Dissolv*It*
	Xpose*ALI*
	Isolated Perfused Lung (IPL)
	Rat Intratracheal Exposure Module (IT)
	Rat Nose-Only Exposure Module (NO)
Suitable materials	Micronized dry powders and nanoparticles
Generation pressure	10 – 160 bar
Exposure flow rate	100 – 1 000 mL/min
Pressurized air volume	0.3 – 10 mL
Substance correlation factor (scf)	0 < scf ≤ 1
Aerosol monitor ranges	0 – 25 mg/m^3, 0 – 250 mg/m^3, 0 – 2 500 mg/m^3, 0 – 25 g/m^3, 0 – 250 g/m^3
Aerosol holding chamber volumes	300 mL, 1 500 mL
Aerosol nozzles	Decompression nozzle (Ø 150 µm), Impactor nozzle (Ø 300 µm)
Powder chamber load	0.1 – 15 mg
Power	Input voltages: 90 – 264 VAC, Line Frequency: 47 – 63 Hz
Operating environment	15 – 30 °C, 10 – 90 % non-condensing relative humidity. Fume hood is recommended
System precision based on yield reproducibility	RSD ≤ 15 % (intra- and inter equipment)
	(TiO_2, generation pressure 100 bar, reset level 40 bar, plunger displacement 7 mm, final delay 0.6 s, loaded amount 0.6 – 0.7 mg)
	n ≥ 10 (intra)
	n = 4 (inter)
Consumables	Silicone tubes w guide springs 200 mm and 270 mm (PICstc1)
	Silicone tubes 200 mm and 270 mm (PICst2027x10)
	64 mm pinch-valve tubes, for metal coupling kit x3 (PICst64x3)
	64 mm pinch-valve tubes, for metal coupling kit x12 (PICst64x12)
	HiYield tubes x10 (PIChyx10)
	Overflow protection filter x100 (PICpfx100)
	Air Humidifier Paper Inserts 12.5x15 cm, glass flask x50 (PIChpgfx50)
	Humidifier Paper Inserts, 300 mL holding chambersx30 (PIChphcx30)
	25 mm GF/A end-filters x 100 (PICf25x100)
	Cascade Impactor, stage 1-8 filter, 100 pcs GF/A (PICps1-8x100)
	Cascade Impactor, end-filter, 100 pcs, GF/F (PICps34x100)

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