

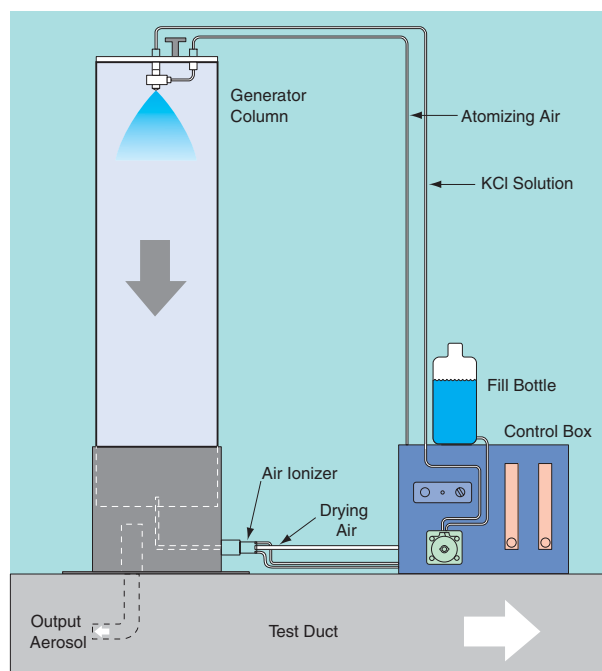
Model 8108 Large-particle Aerosol Generator

Produce highly concentrated salt particles up to 10 μm in diameter

Capable of producing highly concentrated salt aerosol from 0.1 to 10 micrometers in diameter, the CERTITEST® Model 8108 Large-particle Aerosol Generator meets the requirements of the new SAE J1669 and the proposed ASHRAE 52.2 test codes. Test aerosol is produced using potassium chloride (KCl). The Model 8108 generates, dries, and neutralizes the aerosol to ensure accurate, repeatable results, day after day.

Operation

Model 8108 consists of two parts: a generator column and a control box. The generator column includes a spray nozzle, drying cylinder, and electronic air ionizer (a nonradioactive aerosol-charge neutralizer). The control box contains an air-pressure regulator, air filter, peristaltic liquid pump, heater, flowmeters, and ionizer power supply.



Typical application of Model 8108 Large-particle Aerosol Generator

The 8108 is designed for long-term, stable operation. When powered up, the generator sprays salt droplets into the top of the drying cylinder. The spray nozzle is easily accessible and can be removed from the drying cylinder for cleaning. The large volume inside the cylinder allows a residence time sufficient enough to dry the aerosol. Heated and ionized dilution air injected from the base of the cylinder aids in this process. The dilution air mixes and dries the droplets thoroughly to form solid salt particles, which exit the cylinder at the base of the generator column. Because there are no bends in the flow path, the aerosol can be directed into your test duct with minimal particle loss.

Applications

Model 8108 generates aerosol suitable for automotive-cabin and ventilation air-filter tests, vacuum-cleaner performance tests, and other industrial air-filtration studies.

Specifications

Model 8108 Large-particle Aerosol Generator

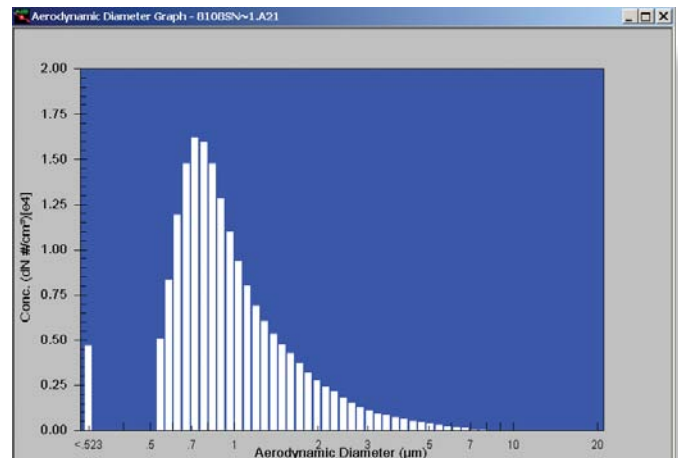
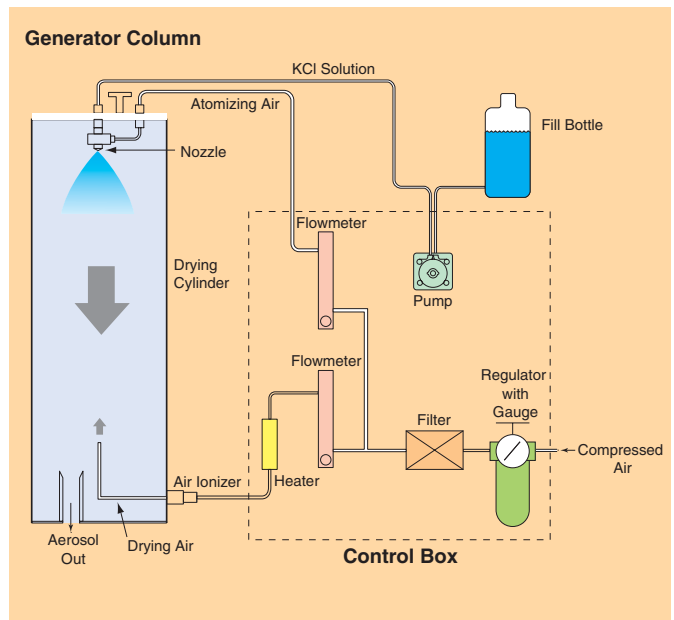
Mode of Operation	Constant liquid feed through a spray nozzle
Particle Size Range	0.1 to 10 μm in diameter
Particle Concentration	Approximately 600 particles/cm ³ at 1 μm and 10 particles/cm ³ at 10 μm (aerodynamic size* with 30% KCl concentration)
Particle Type	Potassium chloride (KCl), other materials are possible
Liquid Feed Rate	1.2 ml/min
Operational Requirements	
Electrical	115 VAC, 60 Hz, 3 A; or 230 VAC, 50 Hz, 1.5A
Compressed Air	344 kPa, 141 std. L/min (50 psi, 5 scfm)
Dimensions	
Generator Column	
Height	132 cm (52 in.)
OD	30.5 cm (12 in.)
Base Plate	47 × 47 cm (18.5 × 18.5 in.)
Weight	24.5 kg (54 lb)
Control Box	
LWH	43 × 56 × 32 cm (17 × 22 × 12.5 in.) without fill bottle and bracket installed
Weight	20 kg (44 lb)

*Particle size determined using the TSI Model 3310 Aerodynamic Particle Sizer® Spectrometer.

Specifications are subject to change without notice. TSI, the TSI logo, CERTITEST, and Aerodynamic Particle Sizer are registered trademarks of TSI Incorporated.

Bibliography

Hanley J, D Smith, D Ensor; Define a Fractional Efficiency Test Method That is Compatible with Particulate Removal Air Cleaners Used in General Ventilation: Final Report; ASHRAE 671-RP, December 1993.



Aerodynamic diameter of potassium chloride

TO Order

Large-particle Aerosol Generator

Specify	Description
8108	Generator and accessories

Please specify voltage requirements.

The CERTITEST line includes a complete family of automated air filter and respirator testers. Ask your TSI representative for additional information.



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