PRODUCT

INFORMATION

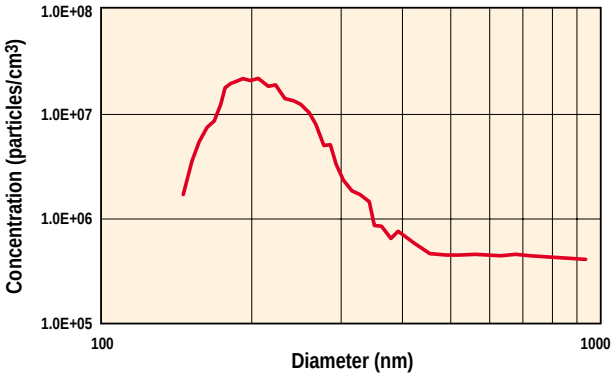
Model 3079 Atomizer Aerosol Generator

The Model 3079 is a new, innovative aerosol generator that produces aerosol particles in the submicrometer range. It generates polydisperse aerosol by atomizing a solution. It will generate monodisperse particles by atomizing monodisperse particles in suspension. The mode of the particle size produced is between 0.2 and 0.3 micrometers. Particle concentration can be changed by adjusting the flow through the atomizer.

The Atomizer Aerosol Generator is portable and of a very compact and rugged design. A built-in low-noise compressor provides the compressed air needed for the atomizing process. The Model 3079 uses a completely new atomizer head made entirely of stainless steel. The atomizer head and the glass vessel containing the solution are protected by a hinged cover that opens easily.

A self-contained atomizer that generates polydisperse, high-concentration test aerosols

DES test aerosol produced by the Model 3079, measured with TSI's Model 3936-Series Scanning Mobility Particle Sizer (SMPS)





APPLICATIONS

Model 3079 is compact, lightweight, and truly portable. It can be used for many applications requiring a high-concentration test aerosol, including:

- Filter testing
- Particle-sizing instrument evaluation
- LDV seeding
- Wind-tunnel seeding
- Laminar-flow box testing
- Acceptance tests
- General-purpose test-aerosol production

OPERATION

The Model 3079 uses a compressed air atomizer with a stainless-steel twin-stream injection nozzle to produce a polydisperse aerosol. A built-in compressor provides the required compressed air. A flowmeter with a needle valve allows the user to set the flow rate. The operator varies particle concentration simply by adjusting the valve.

The compressed air passes through a high-efficiency filter, where contaminants are removed from the air flow. The air is then expanded through the atomizer nozzle, producing a high-velocity jet. As a result of the Bernoulli effect, the aqueous

TSI®

solution is drawn from the atomizer vessel. Subsequently, a high-velocity air flow breaks up the solution into droplets and suspends the droplets in the flow.

The wall of the atomizer vessel serves as a baffle. Large droplets impact on it and are removed from the flow. This leads to a resulting particle size predominantly below 1 micrometer. The fine droplet aerosol exits the Model 3079 through the aerosol outlet on top of the atomizer.

TO ORDER

Specify	*Description*
3079	Atomizer Aerosol Generator

Model 3079 is produced in Germany by TOPAS GmbH and marketed by TSI Incorporated. Contact your TSI representative for additional information.

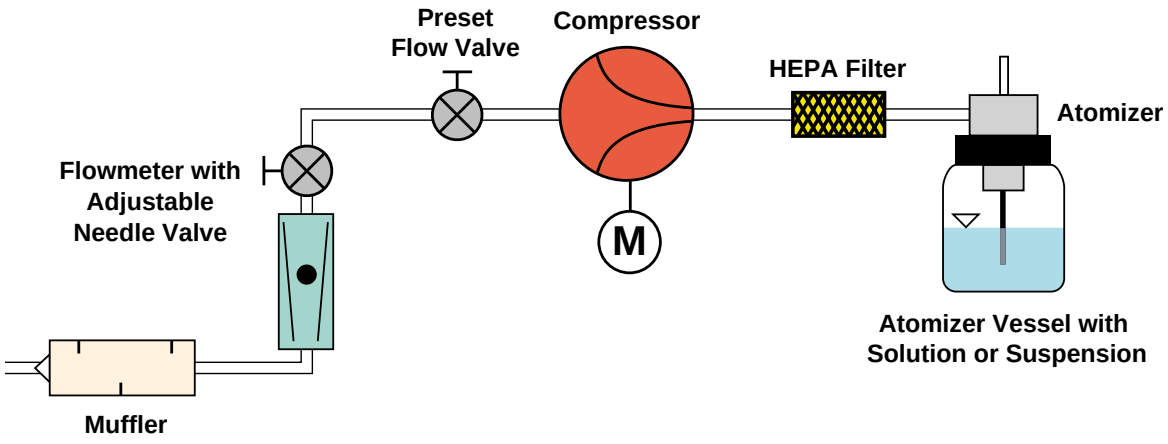
SPECIFICATIONS

For the most current information available on this instrument, go to www.tsi.com and select "Particle Instruments."

Mode of operation: Atomizer with twin-stream injection nozzle and baffle
Particle size, d_{mode}: 0.2 to 0.3 µm (for DES)
Particle concentration: $>10^7/cm^3$
Particle type
Liquid: DES (nontoxic), DOP, PAO, paraffin
Solid: PSL latex particles, NaCl, other salt solutions
Flow rate: 1.0 to 4.2 L/min
Maximum counter-pressure: 10 kPa (0.1 bar)
Dimensions (LWH): 28 cm × 20 cm × 17.5 cm (11 in. × 7.9 in. × 6.9 in.)
Weight: 4.5 kg (10 lb)
Power requirements: Operates on 12.0 VDC, supplied by power supply (standard EC adapter)
Power supply: 110/230 VAC (included)

Specifications are subject to change without notice. TSI and the TSI logo are registered trademarks of TSI Incorporated.

Model 3079 Flow Schematic



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