

veriDART® uses liquid aerosols that desiccate and shrink to particle sizes within the range of expelled human emissions

eSprayer Particle Distribution

The particle distribution of the liquid aerosols generated with the veriDART eSprayer (ES-1) was evaluated by an independent laboratory.

Two Measurement Types were done:

- At 6 inches from the nozzle with a Spraytec
- At 108 inches from the nozzle with an Aerodynamic Particle Sizer (APS)

The measurements at 108 inches were performed inside an aerosol test chamber equipped with an air-tight lockable door, and an internal volume of 579 ft³ (16,000 liters).

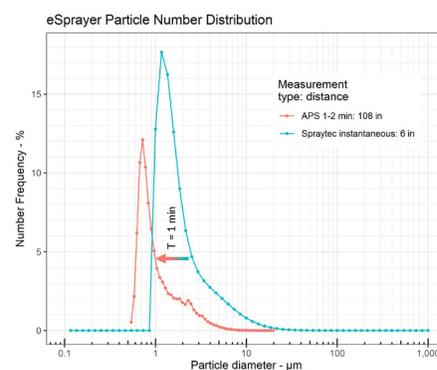
To ensure that the aerosolized solution was mixed evenly throughout the space, two mixing fans were turned on in the back corners of the testing chamber.



Findings:

Results showed how the particle distribution depends significantly on the distance and time of measurement.

At close distance, the size distribution ranges between 1 to 20 μm, with a peak at 1.2 μm. However, within 1 minute, the liquid aerosol particles that travelled 9 feet desiccated and shrank; a peak is observed at 0.7 μm and most of the distribution ranged from 0.5 to 5 μm.



Particle Distribution Stability:

The APS was connected to a sample probe on the exterior of the chamber that sampled every 60 seconds.

The plot to the right shows how the desiccated particles maintained practically the same distribution of particle counts across time within 1 hour of measurements.

