

Microbe Reduction Testing: Bacteria and Mold

Test Supervised by	Independent Laboratory
Device Tested	AirSource 3000
Objective	To evaluate the unit's effectiveness in reducing airborne microorganisms: bacteria, fungi (mold and yeast)
Test Chamber	Lived-in residence, 2700 square feet, Northern California
Test Equipment	Microbial air sampler
Test Procedure	Airborne microorganisms were generated throughout the test through normal daily activities of the resident occupants and their pets and from infiltration of outdoor air. The AirSource 3000 was placed in the largest room with good ventilation and samples were taken 15' from the unit. Baseline samples were taken for 2 days prior to the experiment which lasted for 3 days.
Results	74% reduction of bacteria and 76% reduction of fungi in 3 days compared to baseline samples.
Qualifications	Microbiologist and food scientist. Recognized expert and consultant to various air, water, and food processing industries.

Particulate Reduction Testing

Test Supervised by	Independent Laboratory
Device Tested	AirSource 3000
Objective	To evaluate the unit's effectiveness in reducing airborne particulate matter (particles). 1,008 cubic foot testing room in a climate controlled environment (temperature and humidity) and ceiling mounted mixing fan.
Test Chamber	
Test Equipment	Laser particle counter
Test Procedure	Environmental tobacco smoke (ETS) was generated in the test chamber as the challenge particles. Experimental trials (with unit operating) and control trials (with unit off) were conducted and compared. Each trial was 72 hours in duration. 0.5 to 0.7 micron particles were reduced 1.5 times faster than the control.
Results	1.0 to 5 micron particles were reduced 2 times faster than the control.
Qualifications	This test was conducted by a NELAP accredited laboratory that is certified for organic analysis by the American Industrial Hygiene Association.

VOC Reduction Testing

Test Supervised by	Independent Laboratory
Device Tested	AirSource 3000
Objective	To evaluate the unit's effectiveness in reducing particular VOCs (volatile organic compounds).
Test Chamber	1,008 cubic foot testing room in a climate controlled environment (temperature and humidity) and ceiling mounted mixing fan.
Test Equipment	Gas chromatograph, mass spectrometer
Test Procedure	An atmosphere of select VOCs was prepared in the chamber and thoroughly mixed. Control: With the AirSource 3000 present in the chamber but not operating, samples were collected at 0, 0.25, 0.5, 1, 2, 4, and 8 hours and analyzed for each VOC. Experiment: The procedure was repeated with the AirSource 3000 operating and samples were collected as before. All samples were analyzed using US EPA procedures.
Results	d-Limonene was reduced 84% greater than the control. Styrene was reduced 31% greater than the control.
Qualifications	This test was conducted by a NELAP accredited laboratory that is certified for organic analysis by the American Industrial Hygiene Association.

