



Air Purification System

APS-2000XL

At the heart of the SecureAire APS-2000XL Air Purification System is SecureAire's ACTIVE Particle Control (APC), a revolutionary breakthrough in air purification. With the APS system, every aspect of indoor air pollution is addressed: removing airborne particulates, disinfecting dangerous pathogens, and eliminating toxic VOCs (volatile organic compounds).

ACTIVE Particle Control (APC) is based on the same particle-control technology used in semiconductor manufacturing cleanrooms, some of the most rigorously clean environments on the planet. APC has also been deployed in hospital operating rooms, greatly reducing infection rates. Now, this same advanced air purification technology is providing families with the safest, healthiest, and cleanest indoor air possible.

Research has shown that some of the smallest airborne particles can also be the most harmful. Viruses, bacteria, and VOCs are on that list. Yet the smallest particles are also the least susceptible to airflow and, due to electro-static forces remain suspended in the air, nearly unaffected by air currents.

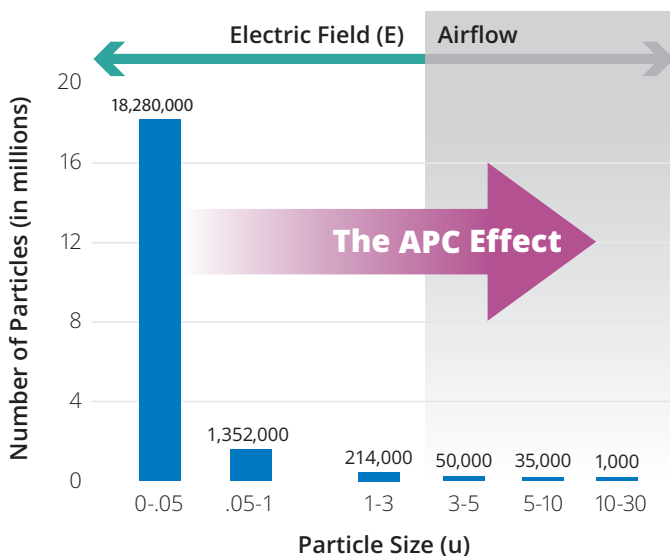
SecureAire's ACTIVE Particle Control technology conditions the smallest particles to attract to each other forming ever-larger clusters that can then be brought to the filter by air currents. Once these airborne contaminants are attracted to the filter, they are held there and can't escape. The charged media within the filtration cartridge creates oxidative cellular stress on any pathogens, rendering them harmless.

The APS-2000XL Air Purification System consists of the ACTIVE Particle Control Technology System, a replaceable SecureAire filter cartridge, a quiet and powerful fan, and a variable-speed controller. This complete system can deliver up to 2000 cubic feet per minute of particle-free air, enough to purify a room as large as 2000 square feet. **The system is placed above the ceiling, in the ductwork, thus treating the specific and desired space.**

The APS-2000XL System utilizes all three of the essential components necessary for the highest indoor air quality:

- 1. Particle Coagulation.** In order to overcome the static effect of electromagnetic forces on small particles, Particle Coagulation creates larger particles making airflow the dominant transport mechanism.
- 2. Optimized Air Change Rate.** With particle coagulation and a quiet yet powerful fan, the APS-2000XL brings particles back to the filter for inactivation and elimination.
- 3. High Efficiency Filtration.** Through innovative use of positive and negative charges on particles and oxidative stress, the APS-2000XL filter cartridge safely inactivates and kills 99% of all captured pathogens.

Particle Size Distribution in Air



System Technology

SecureAire's ACTIVE Particle Control Technology is a complete air purification system that employs a patented 4-step process to create the Safest, Healthiest and Cleanest Indoor Air Possible.

STEP 1: CONDITION

As particles in unfiltered air move through the SecureAire system, they are Conditioned. The Conditioner emits equal amounts of positive and negative charges, and as particles pass through, they pick up these charges.

STEP 2: COLLISION

During the Conditioning phase, particles acquire either a positive or negative charge. The Collision step forces them to collide with each other through inelastic collisions creating ionic bonds, one of the strongest bonds in nature. Thousands of times a second, conditioned particles are forced to collide, gaining weight in the process, and becoming neutral in charge.

Due to electrostatic forces, the smallest particles remain suspended in air and are not very susceptible to airflow movement. But SecureAire's Conditioning and Collision process helps to transform small particles/pathogens into larger clusters that now have enough weight to be carried by air currents.

STEP 3: CAPTURE AND INACTIVATE

Once these larger clusters of particles/pathogens are carried via airflow to the SecureAire Cartridge, they are captured and permanently held on the filter via strong ionic bonds. Within the cartridge, viable pathogens are exposed to an energy field that causes extreme oxidative cellular stress, destroying them and rendering them harmless.

STEP 4: TRANSPORT

Finally, perhaps the most critical aspect of any air purification process is Transport. SecureAire's ACTIVE Particle Control Technology's 4-Step Process is one of the only known air purification technologies to be able to transport small and harmful airborne pathogens from a treated space.

The 4-Step process never stops.

The smallest particles that escape capture are again electrically conditioned and propelled back into the treated space to further collect pathogens, TVOCs, gases, odors, bacteria, viruses, and other harmful airborne particles.

The APS-2000XL system is contained within a horizontal cabinet that houses the pre-filter, fan, Advanced Collector System (ACS), SCM-300 power supply, fan controls and a replaceable final filter.

System Specifications

Filtration Efficiency Rating	MERV 15 per ASHRAE 52.2 standard test
Power Supply/Power Consumption	120/240 single phase VAC/75 watts/system
Safety Current Protection	SB 1.0 A/250V fuses
Humidity Range	<95% non-condensing RH
Safety Interlocks	The APS-2000XL access panel safety switch turns the system off when the panel is opened.
Dimensions/Weight	Height: 26" Width: 26" Depth: 42" Weight: 195 pounds
Mounting	Hanger mounts provided

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