

# ACS Modular Purification Systems



**Indoor Air Quality has become one of the top concerns for building owners, occupants, and visitors. At SecureAire our mission is to provide state-of-the-art technologies to help reduce or eliminate all unfriendly airborne contaminants from Indoor Air.**

To successfully accomplish this feat, SecureAire developed ACTIVE Particle Control (APC), a revolutionary breakthrough in air purification. With our Modular Purification Systems, 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.

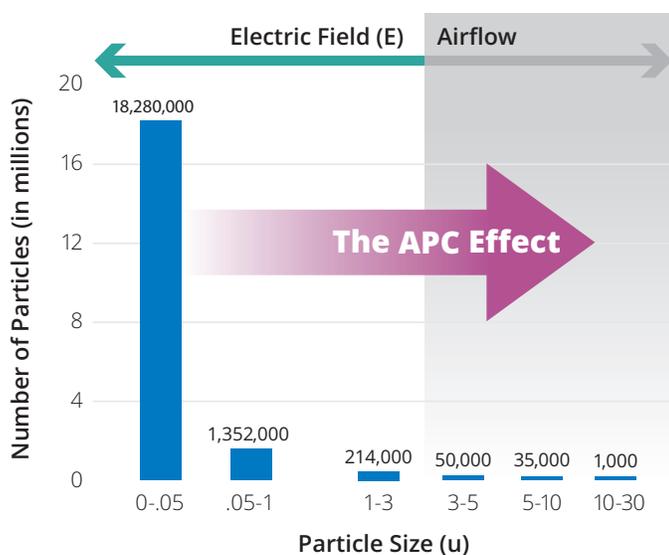
SecureAire's ACTIVE Particle Control technology conditions the smallest particles to attract to each other forming ever-larger clusters that can then be brought to the filter by air currents. Once these airborne contaminants are attracted to the filter, they are held there and can't escape. The charged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

The ACS Modular Air Purification System consists of the ACTIVE Particle Control Technology System, a replaceable SecureAire filter cartridge, which is augmented by the buildings fan systems. This complete system can deliver up to a continuous 8,000 cubic feet per minute of particle-free air.

The ACS Modular Systems utilize 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 Transport.** With particle coagulation and existing fan power, the ACS Modular Systems transport airborne contamination out of any indoor space in an effort to create a safe environment.
- 3. High Efficiency Filtration.** Through innovative use of positive and negative charges on particles and oxidative stress, the ACS Modular Systems filter cartridge(s) safely inactivates and kills 99% of all captured pathogens.

**Particle 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 ACS Modular System is today's most advanced electrically enhanced Air Purification System. SecureAire's Patented 4-Step Process is always working to create the Safest, Healthiest and Cleanest Indoor Air Possible.**

## System Specifications

ACS Modular Part Numbers	ACS-2000X, ACS-4000X, ACS-6000X and ACS-8000X
Filtration Efficiency Rating	MERV 15 per ASHRAE 52.2 standard test
Air Flow Range	Up to 8000 CFM in a single unit
Power Supply	120 Single Phase VAC
Safety Current Protection	SB 1.0 A/125V fuses
Humidity Range	<95% Non-Condensing RH
Safety Interlocks	The filter replacement door safety switch turns the system off to accommodate a filter change.
Dimensions/Weight	<b>ACS-2000X:</b> H: 30" W: 29.65" D: 29" Weight: 80 lbs. <b>ACS-4000X:</b> H: 30" W: 52.75" D: 29" Weight: 210 lbs. <b>ACS-6000X:</b> H: 30" W: 76.75" D: 29" Weight: 320 lbs. <b>ACS-8000X:</b> H: 30" W: 100.75" D: 29" Weight: 440 lbs.

**SecureAire Technologies, LLC**

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