



The Only Complete Air Purification System Specifically Made for Custom and Semi-custom Air Handling Units

Advanced Collector System (ACS)

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

ACTIVE Particle Control Technology 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 everyone 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, killing them, and rendering them harmless.

The ACS Air Purification System consists of the ACTIVE Particle Control System and a replaceable SecureAire filter cartridge. This complete Air Purification system can be adapted to multiple AHU configurations and does not inhibit air flow through the system with excessive pressure drop characteristics and can handle up to 600 feet per minute air velocities.

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.

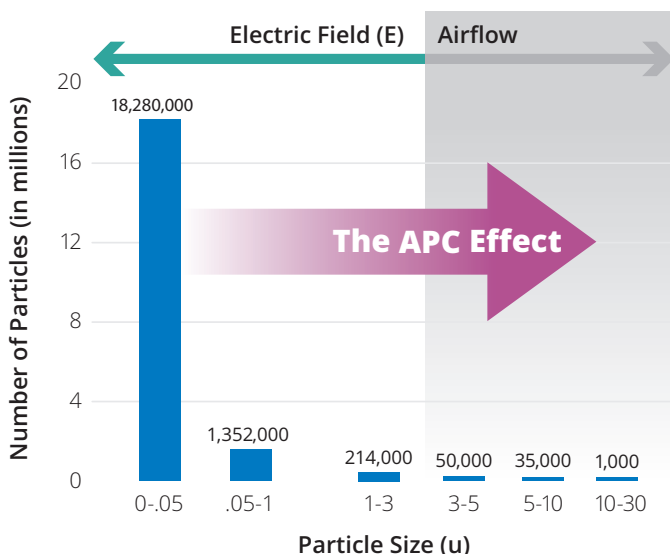
STEP 1: CONDITION

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.

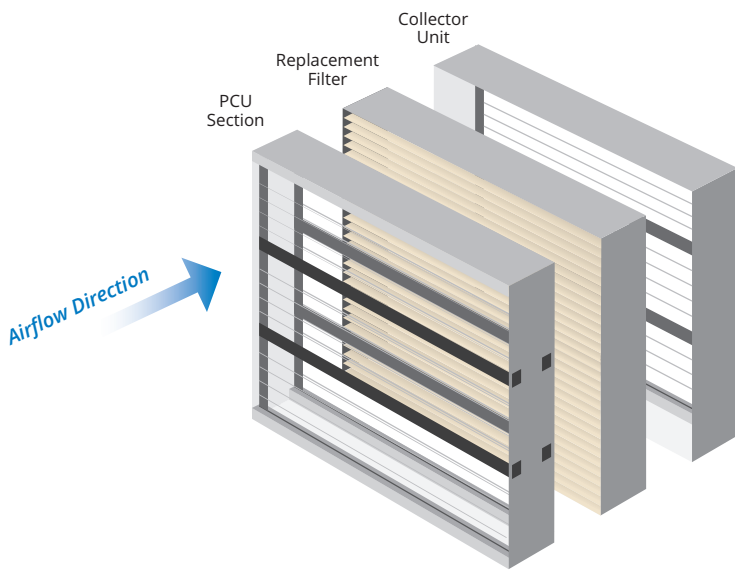
STEP 2: COLLISION

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.

Particle Distribution in Air



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

System Specifications

Standard Filter Sizes:	24" x 24", 24" x 18", 24" x 12", 18" x 24", 12" x 24", and 12" x 12".
Filtration Efficiency Rating:	MERV 15 per ASHRAE 52.2 Standard Test
Power Consumption:	5 watts per filter position; 120/240 Single Phase VAC
Clean Pressure Drop	< 0.28" WG at 500 fpm
Safety Current Protection	SB 0.5 A/250V fuses
Humidity Range	< 95% Non-Condensing RH
Overall System Depth:	12" in airway length (Units are 9" plus 3" for racking)
Racking Requirements	1" Square Bar (not included) for attachment to the supplied Collector Brackets
Blank-offs	As required to prevent air bypass
Safety Interlocks	Turn ACS system off if any AHU Filter section door is opened
BAS Integration	SCM easily integrates into a building's BAS (0, +5 VDC)

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