



A Complete Air Purification System  
Specifically for Roof Top Units

# ACS-Slim Line

**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 electrostatic forces remain suspended in the air, nearly unaffected by air currents.

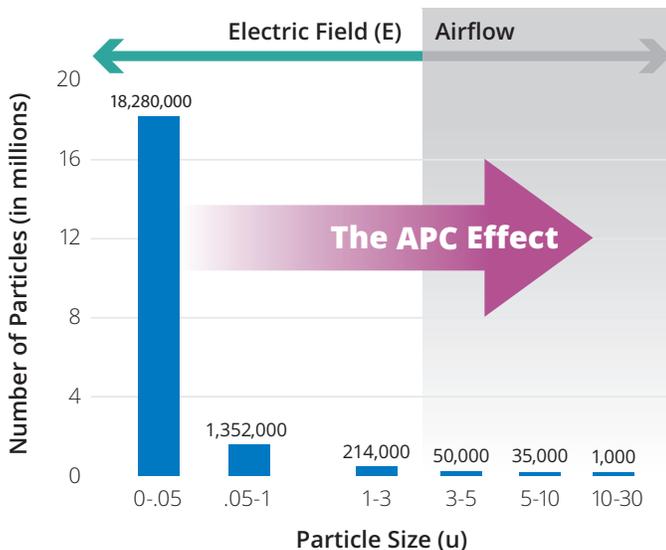
SecureAire's ACTIVE Particle Control technology conditions the smallest particles to attract to each other forming ever-larger clusters that can then be brought to the filter by air currents. Once these airborne contaminants are attracted to the filter, they are held there and can't escape. The charged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

The ACS Slim Line 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 RTU 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.

The ACS Slim Line 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 Rates.** With particle coagulation and the power of any RTU's fan system, the ACS Slim Line 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 ACS Slim Line filter cartridge safely and cleanly kills 99% of all captured particles.

**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 Slim Line is today's most advanced electrically enhanced Air Purification System for RTU'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 (Width/Height)	24" x 24", 25" x 20", 25" x 16", 20" x 20", 20" x 16" and 24" x 12"
Filtration Efficiency Rating	MERV 13 per ASHRAE 52.2 Standard Test
Power Supply/Power Consumption	5 watts per filter position; 120/240 Single Phase VAC
Clean Pressure Drop	<0.1" WG at 500 fpm
Safety Current Protection	SB 0.5 A/250V fuses
Electrical Safety Ratings	UL 867: 2011 R8.13, CSA C22.2 NO. 187-09, and UL 2998
Humidity Range	< 95% Non-Condensing RH
Overall System Depth	2" in airway length
Racking Requirements	2" U-channel (Nominal 2" ID, and 0.45" ID rise)
Blank-offs	As required to prevent air bypass
Safety Interlocks	Turns ACS system off if RTU filter access door is opened
BAS Integration	SCM easily integrates into a building's automation system

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