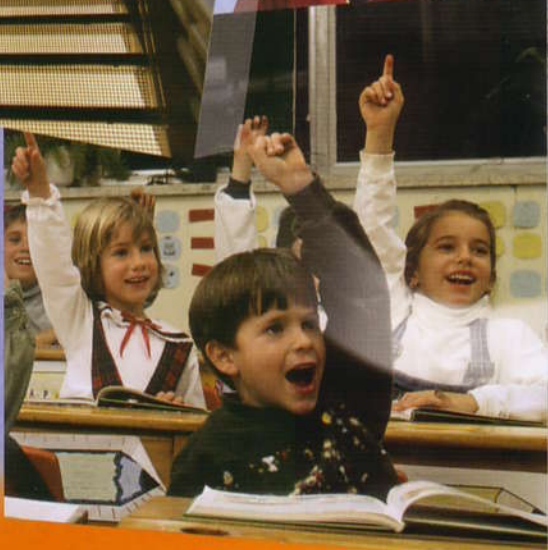


Dynamic Air Cleaners

The Next Generation of Air Filtration



Dynamic Air Cleaners are the next generation of air cleaning technology—providing superior air quality for virtually any application, improving satisfaction and health of building occupants.

Customer Satisfaction and Clean Air

Indoor air quality has a direct impact on the comfort and well-being of the people in a building. The hospitality industry has known this for years: customer satisfaction is directly tied to the ability of the establishment to control smoke and odors. But pick up any newspaper and you will see that molds, bacteria, volatile organic compounds, particles, and other airborne contaminants are causing problems in offices, factories, schools, and hospitals. Furthermore, in two recent studies, improvements in air

quality in offices have yielded significant decreases in absenteeism.

Good air quality can benefit the bottom line in other ways as well. Cleaner coils, lower system static, less housekeeping, and potentially less outdoor air can all bring about substantial savings.

Unfortunately, most HVAC systems are designed to heat and cool air, not clean it. And system upgrades can be costly and difficult.

Dynamic Air Cleaners

That's where Dynamic Air Cleaners come in. Dynamic Air Cleaners install into virtually any HVAC system. From 200 cfm PTACs to 200,000 cfm built-up units, there is a Dynamic Air Cleaner to provide superior air quality and lower operating costs.



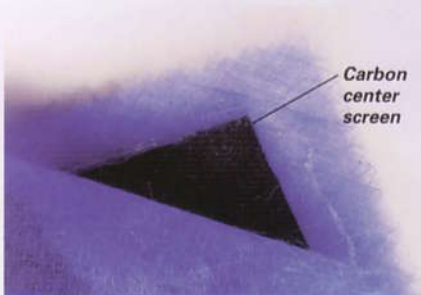
CASINO

In casinos, industrial plants, and hospitals, Dynamic Air Cleaners have proven themselves worldwide in the most rigorous environments. But they are also able to bring air quality to schools, offices and hotel rooms.

How They Work— Dynamic Air Cleaners’ Patented Technology

Dynamic Air Cleaners combine elements of both passive filters and electronic air cleaners. In our unique system, safe, low-current DC power is continuously applied to the center screen (either aluminum or carbon mesh) within the disposable filter pad. This creates an electrostatic field between the center screen and the filter frame. This force field polarizes each fiber

of the filter pad, giving each fiber a negative and positive pole—just like a magnet. Particles entering the filter then become polarized and are drawn to the filter fibers, the same way that paper clips are drawn to a magnet. Just as paper clips on a magnet attract other paper clips, the dirt collected by the filter becomes part of the collecting surface, giving the filter increasing efficiency as it



loads with contaminants. Furthermore, the polarizing field causes the smallest particles to form into larger groups that are more easily captured. This agglomeration plus the carbon center screen allow Dynamic Air Cleaners to capture odors and gas-phase contaminants as well.

How They Perform

There are three basic problem categories in indoor air: particle, biological, and gas phase. To fully impact air quality, an air cleaner must be able to address all three.

The one control measure that does this is the ability to agglomerate and capture submicron particles. (A micron is a 25,000th of an inch; a human hair is about 150 microns.) Submicron particles are the vast majority of what is in the air (by count, over 98% of the particles), including contaminants such as cigarette smoke, viruses, and dust damaging to lungs, and are linked to an increasing number of health problems. Because of their mechanisms, Dynamic Air Cleaners are able to capture over 98% of particles 0.3 microns and greater in a recirculating system. Furthermore, they are able to agglomerate and capture the smallest contaminants.

Performance

Single-Pass Efficiency

Particles 0.3 to 0.5 microns: 33% to 75%

Particles 0.5 to 1.0 microns: 75% to 95%

Multiple-Pass Efficiency

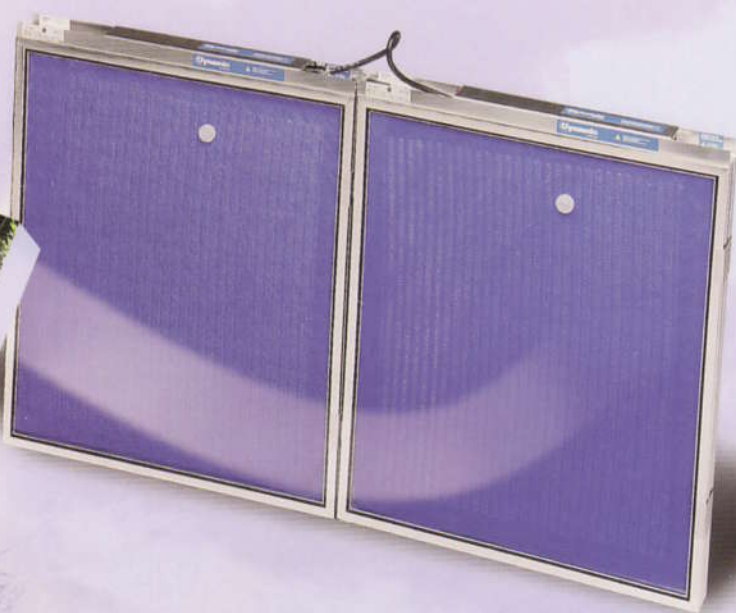
Particles 0.3 to 0.5 microns: 97%

Particles 0.5 to 1.0 microns: 98.6%

Pressure Drop @ 300 fpm

0.15" wg, 0.37 Pa for standard filter pad

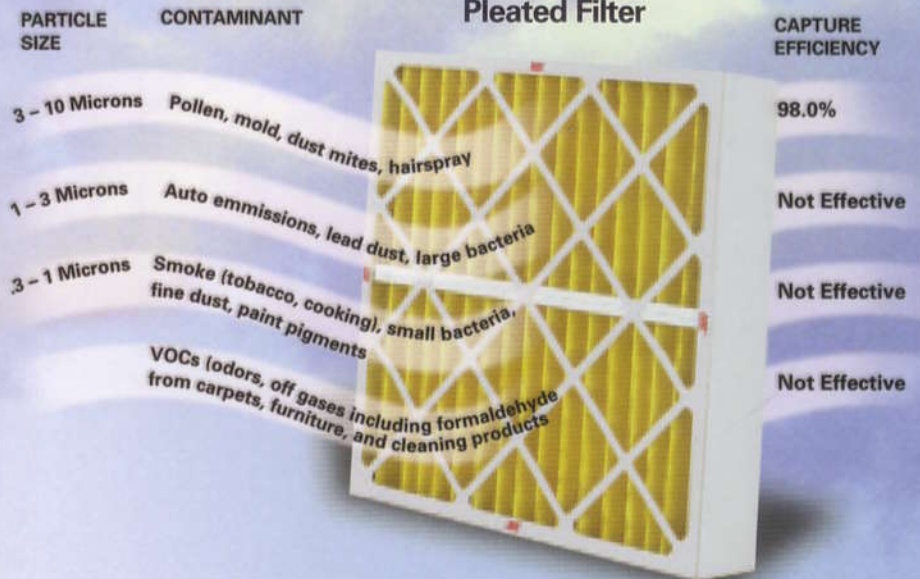
0.21 wg for carbon pad



Dynamic Air Cleaner



Pleated Filter



How They Compare

Traditional high-efficiency alternatives are in two categories: passive filters and electronic air cleaners. Passive filters rely on the density of the media for capture and the tradeoff for efficiency is pressure drop and cost. Filters in most buildings just keep visible dust (10 microns and larger) from building up on the coil and other equipment. In other words, they are there to clean the air for the equipment and not the people. Because of space and static requirements, unless an HVAC system was designed for high-efficiency passive filters, retrofitting them can be difficult and costly. Also, passive filters have little or no ability to influence gas-phase contaminants. Where 1" and 2" passive filters are used, Dynamic Air

Cleaners can provide another level of air quality. Where high-efficiency passive filters are an alternative, angled Dynamic Air Cleaners can supply equal or better air quality at a far lower cost.

Electronic air cleaners rely on electrostatic attraction, using a high DC voltage to charge (or ionize) particles and then collecting them on oppositely-charged plates. When the plates are clean, the electronic air cleaner can be very efficient. However, as the plates load, the efficiency declines significantly. Then the unit will generate charged particles that, uncaught, will stick to grounded surfaces such as duct work, coils, furnishings, and people. Electronic air cleaners also generate toxic Ozone.



Configurations, Installation, and Maintenance

Dynamic Air Cleaners come in a number of configurations to meet the requirements of each installation. Our Panel Air Cleaners can slide into existing 1" and 2" filter tracks, our V-Banks can slide into bag and box filter headers, and our attractive overhead and console units can provide additional air cleaning where it is needed.

In addition to being highly effective, Dynamic Air Cleaners are easy and inexpensive to maintain. The filter itself consumes pennies' worth of power per month. When the filter pad is fully loaded, generally after four to six months of operation, it is removed and a new

pad is put in its place. There are no parts to regularly clean.

Whether a home, hospital, or corporate headquarters, the most valuable assets in any building are the people inside. Dynamic air cleaning systems will protect the people and your other assets from the harmful effects of airborne contaminants.

