



Air Cleaning Blowers, LLC

1521 U.S. HIGHWAY 9W BUILDING 4C-4D, SELKIRK, NEW YORK 12158 U.S.A.

Mail: P.O. Box 803, Selkirk, New York 12158

Telephone: (518) 635-4169 www.AirCleaningBlowers.com

A Truly Sustainable Future for Air Filtration

The technology behind Air-Cleaning Blowers™ (ACBs) constitutes a fundamental disruption in the air and gas filtering industry. With this technology available, there are thousands of applications where it no longer makes sense to capture debris that nobody wants. ACBs use no filter elements to clog or maintain. As a result, they eliminate the need for buying, shipping, storing, cleaning, changing, and disposing of filter media in millions of situations in just the United States alone.

For centuries people have cleaned the air by trapping the unwanted particles in something, from simple cloths or screens to highly sophisticated bags, panels, cartridges and other materials. Instead, in the simplest versions, ACBs simply separate out the contaminants from the gas, fling the debris back into the atmosphere from which it came, and then send the clean air toward where the users need it. In addition, since a filter medium can only remove debris if air passes through it, as blowers ACBs also eliminate the need for an additional propelling force to drive the air to its application, which makes the entire package simpler and unitary, hence easier to install, operate, and maintain.

Since ACBs contain no media, they have nothing to clog and interfere with the flow of air. Consequently, they prevent the fluctuations caused by clogging. Eliminating the clogging of the filter elements makes designing systems to cool, heat, pressurize and ventilate easier by assuring:

- Constant and Predictable Air Flow
- Constant and Predictable Air Pressure
- Constant and Predictable Air Quality
- Constant and Predictable Energy Consumption

Utilizing technology protected by several patents, Air-Cleaning Blowers™ can facilitate the design and manufacture of products that require clean air to pressurize and/or ventilate. Such uses include control buildings, air-compressor systems, and electrical equipment such as motor-control centers (MCCs). ACBs can also serve clean rooms, classrooms, hospitals, apartments, and grain elevators. In military and emergency response situations, ejecting particles, such as pathogens and radio-active dusts, eliminates the dangers of handling, changing and disposing of filter media that collect them.

Used in homes, mines, steel plants and military applications worldwide, ACBs have proven themselves under both simple and harsh conditions. Since they treat liquids essentially as they

do particles, they even keep out rain and snow, both of which hamper the functioning of filter media, especially if they trap water and freeze.

Unlike other purportedly self-cleaning air filtration systems, ACBs truly do keep themselves clean. All media-based bag or cartridge systems that use shaking and/or compressed air to remove some of the accumulated material eventually require replacing the bags or cartridges, which costs money and labor.

Some filter companies claim that they offer "sustainable" (green) filtration systems when they simply make the filter media deeper or otherwise capable of trapping more dirt to postpone the need for maintenance or replacement. However, in most cases doing that just prolongs the clogging period and spreads the energy and other costs of clogging over a longer period between changes; it does not reduce the consumption of energy in total. In contrast, by not clogging, the ACBs truly sustain the same air flow, air pressure, air quality, and energy consumption the life of the blower motor.

Another type of self-cleaning air-filtration device, the cyclonic system, operates by spinning air around in a chamber to separate out the particles. It then, in most designs, passively counts on gravity or other weak forces to move the debris to the bottom of a vessel where a valve opens and closes to let the dirt out. Cyclonic systems' process of air spinning consumes substantial amounts of air pressure, air flow and, critically, electricity or other energy, because it impedes the flow of the air to its application. In contrast, as blowers, Air-Cleaning Blowers™ increase the movement of the air. In addition, the ACBs' impellers forcefully throw out the particles and do not count on them to settle gradually as cyclonic systems do. To function, cyclonic systems often need expensive and sensitive valves, timers and other controls that require servicing, training, staffing, and supervision. Simple-to-use ("plug-and-play", if you will) Air Cleaning Blowers eliminate the need for all those components and their maintenance.

Since ACBs do not clog, blasts of dirt- or sand-laden air will not fill them the way they would filter elements. As a result, ACBs will keep working properly even after storms or other disruptions, allowing the users to focus on other problems while the ACBs keep the air quality consistent.

Filter-element manufacturers normally label their media as removing a certain size of particle and having a certain pressure drop when brand new. However, they generally do not actually attain that level of particle-capturing effectiveness (as many food processors have learned) until a certain amount of debris has accumulated in them. Those manufacturers design the elements to need those collected contaminants to close the pores in the elements enough that they can block and capture those smaller particles. Therefore, those filter makers rate their products based on the airflows and pressure drops when new, not after they have clogged enough to remove what the label says. Again, in contrast, ACBs remove their rated sizes of particles predictably and maintain consistent air flow, pressure and quality—and steady electrical consumption—throughout their lives.

An often-overlooked consideration: deferred maintenance. If a media or cyclonic filter does not receive proper and timely maintenance, many kinds of problems and costs can occur. among the most dramatic is rupturing of the media which lets a blast of accumulated material into the application. Less obvious consequences of deferment, such as increased electrical and other energy consumption, can cost even more. By not collecting contaminants that users do not even

want, thereby eliminating clogging, ACBs minimize the risk of deferred maintenance and its more dire consequences.

Independent testing and success in the field have established the effectiveness of the ACBs. Their scalability from fewer than 50 CFM (85 M³/hour) to many thousands allow them to solve problems in a wide range of applications. Without media they eliminate the never-ending need to buy, transport, stock, clean, and replace and dispose of exhausted, and potentially hazardous, filter elements and bags. This short [video](#) shows ACBs working in a variety of tough applications.

Air-Cleaning Blowers[™] (ACBs) have just begun to disrupt the gas and air-filtration industries. As we develop more refinements and additional products using them, Air Cleaning Blowers, LLC will play an increasing role in the world's air-filtration industry and in the lives of its users.

33T00-220422-1834