

Ten Questions Homeowners Should Ask Before Buying an Air Filtration System

1 - How much difference is there in the technologies being used to clean the air? There's lots of difference. Most electronic air cleaners use positively-charged ionizing wires and grounded collection plates to clean the air. Some use ionizing pins instead of wires, and some had added pre-filters and post filters. AspenAir does not use these things. We charge the air via our grids. The front grid is positively charged and the back grid is negatively charged. AspenAir's is the first bi-polar system. Everything between the grids is charged, including our collection media. The surface area of our grids is much greater than that of a few wires or pins, so they do a much better job of charging particles. As particles enter the front chamber, they ball up or "agglomerate" and since our system treats our collection media the same as particles, they become attached to the media. Over time, the wires and pins in other's systems lose their ability to charge the air, because they become coated with silicon dioxide, a common element in our air. Unless the wires and pins are regularly sanded, the wires quickly lose their ability to charge particles, which is necessary if they are to become attached to the grounded collection plates. Silicon dioxide has no effect on our system because the grids are non-metallic. The bottom line, ours is a breakthrough technology, and the wire and plate technology has outlived its usefulness.

2 - What sizes of airborne particles pose the greatest health risk to me and my family? The EPA has determined that the sizes of particles that pose the greatest health risk to people are in the 0.3 micron to 3.0 micron range. They call these "Respirable Suspended Particles - RSPS" because they're small enough to stay suspended in the air, they don't fall out of the air like larger particles, and they can be easily "respired" or breathed into the lungs, where they can become lodged, and cause health problems. AspenAir's lab tested performance in this range is essentially 100%.

3 - What is static pressure and why is this important for me to consider? The air that moves through ducted HVAC systems is pressurized. Fans suck the air in; circulate it through the ducts, push it out through the registers, and then the air is returned to the system via the return grills that are located on walls or ceilings. Anything that restricts airflow will increase static pressure, and as static pressure increases, so will your energy bills. In addition, high static pressure can make many HVAC systems operate noisily.

4 - How can an air filter affect my energy bills? HVAC systems may account for as much as 60% of a home's energy consumption. As filters become clogged with dirt, HVAC systems have to work harder to pull air into the returns, through the filters, and returned to the home, which means they consume more electricity. Clean filters use less electricity than dirty filters. AspenAir introduces the lowest static pressure of any filtration system on the market today. And because our collection media is of such a loose weave, and has such an enormous dirt holding capacity, that when it loads with dirt, it does so without significantly increasing static pressure. In addition, dirty coils can reduce system efficiency by as much as 21%. Additionally, because static pressure restricts the ability of the HVAC system to deliver the BTUs required to reach the target temperature, either cool or warm, the system must run longer, consuming even more energy. Simply stated, lower static pressure means lower energy usage, lower energy bills, prolonged system life, and less system noise. At a minimum, AspenAir can help your HVAC system use 65% less energy and could lower your home's energy bill by as much as 30%, which will significantly reduce your home's carbon footprint.

5 - Why is ozone something I should be concerned about? Absolutely. The EPA makes it very clear that ozone is a toxic gas with vastly different chemical and toxicological properties from the oxygen we breathe and that it can be harmful to the respiratory system... Breathing ozone can result in decreases in lung function, aggravation of asthma, throat irritation and cough, chest pain and shortness of breath, inflammation of the lung tissue, and a higher susceptibility to respiratory infection. Ozone is to be avoided at all costs and AspenAir, unlike most of our competitor's products, does not emit it.

6 - What does microbial "kill rate" mean and is this something that should concern me?

Yes. Recent events have led to an increased awareness of the risks of airborne germs, bacteria and viruses, and you should understand what is being said, and what is not being said. The term “kill rate” has been misused for a long time. Many systems don’t actually “kill” the microorganisms they capture, and some systems don’t capture or remove anything at all from the air, such as many UV systems. What they do is render these microorganisms incapable of reproducing, and eventually, they die on their own. Therefore, organisms that are still circulating can be breathed in and can still pose health risks. Once again, AspenAir has made it simple. Independent, third-party lab tests have confirmed that we “capture” 99%+ of particles down to 0.1 microns, and that we “kill” meaning “annihilate and destroy” 99% of them within the first 60 minutes of capture. AspenAir’s constant barrage of 24,000 volts means these microorganisms are quickly removed from the indoor air and killed, as in “dead”.

7- What factors comprise the total cost of ownership of a home air filtration system? There are at least six factors that you should consider regarding your total cost to own and operate an air filtration system. 1, the cost to purchase the filter, 2, the cost the HVAC company charges you to install the filter, 3, the cost of replacement media, 4, the cost of the electricity to run the filter, 5, the impact the filter will have on the cost to operate the HVAC system whether the filter is running or not, and 6, the cost of maintenance, whether you do it yourself, or pay the contractor via a service contract to maintain your system. When you add items 1 and 2 together, with AspenAir your cost could be 50% less than with a competitor’s product. Installations are faster and cost less because we run on low voltage wiring and fit existing housings, and the contractor does not have to cut into walls or ducts to install housings nor do they have to hire electrical contractors to run 120V power to the filter. Regarding item 3, our replacement media costs are drastically lower than competitors’ collection medias, and it lasts longer between changes. Regarding items 4 and 5, we have already explained that our systems consume 95% less energy and can lower your home every bills by as much as 30%. And in regards to item 6, maintenance is quick and simple. Whether you do it yourself or have the contractor do it for you, the cost will be low because maintenance takes less than 5 minutes to perform and it needs to be once or twice a year.

8 - Why are installation difficulty and maintenance difficulty and frequency important considerations? HVAC contractors charge for their services by the hour. Systems that are difficult to install and maintain will require more time. While the hourly fees charged by HVAC contractors may vary, rates of \$75-85 an hour or more are not uncommon. If major modification to the ductwork are required to install an air filtration system, that will require considerably more time and additional materials which means additional cost. If 120V electricity has to be run to where the filter is being installed, this could require the services of an electrical contractor. Sometimes, modifications to the home to install an indoor air filtration product require either the homeowner or their contractor to secure a permit from either the city or county, or both. With Aspen Air you can be assured that the installation will be fast and simple which equates to lower cost... AspenAir fits into existing housings and runs on 124 volt low voltage wiring so expensive modifications to the duct work or to walls or ceilings are not required, and your HVAC contractor can run the low voltage wiring himself and a permit is not required. Maintenance is fast and simple. Simply replace the disposable collection media once or twice a year, an operation that takes less than five minutes to perform. If the surfaces of the grids are dirty, you may wipe them with a dry clothe. That’s it! Many competitive systems may require two hours our more to clean, and may require more frequent changes of their expensive “proprietary” collection media. Some systems are never cleaned to the manufacturer’s specifications. Not so with AspenAir Inside. We’ve made the installation process fast and simple, and therefore, inexpensive to homeowners.

9 - Some manufacturer’s products only come in only a few sizes. Why might this be important to me? As we all know, one size does not fit all. Many competitive products come in one or two sizes, and therefore, to make them fit, expensive modifications to your home or ductwork may be required. At AspenAir, we’ve taken a different approach. We build systems that conform to what is already there. We currently build twenty two sizes of filter grille systems, and four sizes of furnace mount systems, and we’ll build more if necessary. Our goal is to have the size that fits. And if, if for some reason the HVAC contractor has to modify a housing to enable our system to fit, we want that modification to be fast, simple, and inexpensive. We’ve put a lot of thought into being the fastest, easiest, and least expensive systems to install because that’s very important to

homeowners and HVAC contractors alike. Nobody likes installations that go on and on especially when the cash register is ringing. Time is money, so by offering more sizes, we make installations go faster, which saves everyone time, money, and aggravation.

10 – Is the system effective at removing odors such as cigarette smoke?

Many airborne odors, such as the odors resulting from cigarette smoke, are comprised of particles and gases. One of AspenAir's earliest objectives was to remove cigarette smoke from indoor air, which is comprised of very large to very small airborne particles. To achieve the required high capture rate of this wide range of particle sizes, we knew that we would need to bring a lot of power to bear on the problem of separating them from the air, which is what we did with our 24,000 volt system. This is nearly three times more power than competitive systems. We've tested our systems in smoke chambers using smoke consisting of hickory, hemp, paper and tobacco, and have been able to remove that smoke from the chamber in less than 30 seconds. We have received many testimonials from customers who have been delighted at AspenAir's ability to remove smoke and odors from their indoor air. One such testimonial talked about how well AspenAir handled the odors from a skunk under their home, and another described how effective AspenAir was in removing smoke from a nearby grass/forest fire from their home. While no system can remove odors that have permanently permeated carpets, draperies, furniture and wall coverings and paint, AspenAir will remove the airborne particles of many odor producing pathogens. Less powerful systems are simply incapable at removing the range of airborne odors that AspenAir can remove.

Produced: July, 2009 by AspenAir Inside.