Is Your **Air Clean?**

What's in my air and **what can I do about it?**

Unfortunately, in today's world, pollution is everywhere. And with the type of cleaning products, manmade goods, and activities undertaken within homes and buildings, indoor environments can become very uncomfortable. Even the air we consider to be "fresh" outdoor air has as many as 30 million dust or pollutant particles per cubic foot. There are, however, measures that can be taken to lessen the effects of these particles in our homes.

Since the home is essentially an enclosed system, we are able to take pollution head-on because the air is artificially moved around in our homes. By moving the air through a high efficiency air cleaner, we can remove many of the pollutants that cause discomfort.

Questions and answers for your home's air quality control

Q: What does an air cleaner do?

At a basic level, an air cleaner should filter out the particles that cause irritation such as pollen, spores, dust and other contaminates that circulate in our homes everyday. In order for any air cleaner to work correctly, the particles need to pass through it. Hence, if the particles are not in the airstream (i.e., dust on furniture), it is unreasonable to assume that these particles will be removed. However, a good air cleaner will:

- Remove allergy-causing particles that pass through it.
- Perform well consistently.
- Be economical to maintain.
- Handle a large volume of air efficiently.

Q: How can an air cleaner help with allergies?

Ask most doctors and they're likely to tell you that the best way to treat someone with allergies is to remove the offending allergen. By using an air cleaner, you can effectively reduce or remove pollutants, pollen, airborne mold spores and other harmful, unwanted irritants. This can be accomplished by selecting a portable air cleaner for smaller spaces or a whole-house air cleaner that works in conjunction with your forced air system to provide cleaner air throughout your home.

Q: What kinds of residential air cleaners are out there?

There are basically two: a furnace-mounted, whole-house unit and portable single-room unit. Both types of cleaners have different models with varying methods of cleaning the air and capacities for doing so.

Your dwelling may help determine the right unit for your needs. An apartment, for example, may better utilize a room air cleaner, while a home with a furnace and/or air conditioning system might be best suited to a whole-house unit. It's important to note that both room and system air cleaners come in a variety of models, and that not all models use the same technology to clean the air.

Each cleaner type has its pros and cons, which may differ depending on your air cleaning requirements. Take a look at what your needs are based on your dwelling and choose the best unit to maximize the benefits.

Q: What are the most effective air cleaners?

Media Air Cleaners

These units use high efficiency pleated media to remove larger particles with over 99% efficiency, including many allergens. With irritants in the spore and pollen range, they are as effective as HEPA filters. Where they differ is in their capability to filter out the super small particulate such as bacteria, viruses and respirable dust. Media air cleaners are cost effective compared to HEPA filters because the media is usually less expensive and generally needs to be replaced only once every one or two years.

HEPA Air Cleaners

HEPA (High Efficiency Particulate Air) cleaners use high efficiency pleated media (filter) to remove particles. To be designated a HEPA, an air cleaner must remove 99.97% of all particles 0.3 microns (dust and mold spores) in size. Due to high cost, operational complications and other problems, HEPA units are usually seen in residential applications as one-room, portable units. When media in these units needs to be replaced, it's often relatively expensive to do so. Some require charcoal filters that need to be cleaned frequently. Warranties for HEPA cleaners are normally one to three years.

Electrostatic Air Filters

Based on heating and air conditioning industry standards, electrostatic air filters are not recognized as true high efficiency air cleaners. However, they are generally recognized as being more effective than the standard one-inch throw-away filters. Electrostatic air filters depend on the movement of the air through the filter to give particles a weak electronic charge. Usually, these models are less than 20% efficient, with some models having efficiencies of less than 5%. They need to be cleaned often to maintain air flow, sometimes weekly. Electrostatic air filters have warranties ranging from one year to lifetime.

Electronic Air Cleaners

There are two types of electronic air cleaners. Both electrically charge particles and attract them to a collection material.

The standard electronic air cleaner will collect charged particles on a "plate" designed to attract those particles. Most electronic cleaners can obtain 95% efficiency or more on various particles when the collection plates and ionizing wires are clean, but they can lose some efficiency as they collect dirt.

A newer technology in electronic air cleaners is called electronically enhanced media. It combines elements of both electronic and media air cleaners. Particles are electrically charged and then collected by the massive air cleaning media of a traditional high efficiency cleaner. The replacement of the media is simple and there are no plates to clean, efficiency is maintained throughout the media's life. Electronically enhanced media air cleaners are 99% effective in the removal of numerous particle categories. Electronic air cleaners generally have warranties of one to five years.

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