# **Indoor Air Cleaners and Filters**

Idaho Department of Health and Welfare Division of Health Bureau of Community and Environmental Health Indoor Environment Program

A ccording to the Environmental Protection Agency (EPA), the main case of poor indoor air quality in homes is pollution. Certain pollutants release gas or small dust-like fragments into the air. Examples of these fragments are dust, pollen, pet dander, tobacco smoke, chemicals, and gases such as carbon monoxide and radon. Air cleaners are devices that attempt to remove such pollutants from the indoor air you breathe. Air cleaning alone cannot remove all pollutants found in homes. The first thing that should be done is to remove the source of pollution from the home. For example, smoke outside and keep pets outside. If that is not possible, try mixing outside air with indoor air by opening windows and doors and using fans. If air quality is still a problem, then you may want to try an air cleaner.

There are two main types of air cleaning devices. One type of air filter is installed in the ducts of your central heating and air conditioning units. The second type is a portable or moveable air cleaner that can be placed in any room. The portable unit helps clean air in a single room, while the central heating and air conditioning filtering unit helps improve the air throughout the house.

## **Types of Air Cleaners**



There are three specific air cleaner devices: Mechanical filters (furnace filters, HEPA filters), Electronic Air Cleaners (electrostatic precipitators, ion generators), and Hybrid devices (combination of two or more devices). If you are trying to remove particles such as dust, smoke, and allergens from the air, medium and high powered mechanical filters and electronic air cleaners can be the most useful. If you have odors that are difficult to get rid of, a carbon filter may be more useful if the odor is in one room. However, in most homes a particle filter is all that you need

A ir cleaners are only useful when pollutants are floating in the air. However, some pollutants settle out of the air quickly, making it difficult for air cleaners to work properly, unless they are disturbed or brought back into the air again.

Note: Some electronic air cleaners and ion generators produce ozone which can be irritating to the lungs, especially for those with respiratory problems such as asthma.

#### **Guidelines for Air Cleaners**

The federal government has not published guidelines or standards to determine how well air cleaners work. Standards have been developed, however, by private standard setting trade associations which may be helpful in comparing and choosing an air cleaner. For information on standards for air cleaners that go into the air ducts for central units, contact your local HVAC

contractor or the Air Conditioning & Refrigeration Institute at (703) 524-8800. For information on standards for portable air cleaners, contact the Home Appliance Manufacturers at (202) 872 - 5955 or visit their web site at www.cadr.org.



# **Purchasing an Air Cleaner**

In purchasing air cleaners you should look at the Clean Air Delivery Rate (CADR). This will tell you the cubic feet of clean air delivered per minute and the usefulness for getting rid of smoke, dust, and pollen pollutants. Find an air cleaner that is appropriate for the size of room that you want cleaned. For example, a portable unit used in a room within a large building where air flows between several offices would be of little or no value. Determine the amount of air that an air cleaner can handle. In some cases, pollutants may grow more quickly in a home than a filtering device can remove. Determine how often the filter must be changed and how it affects the way it runs.

Note: Before purchasing a filter for your central unit, consult with a HVAC contractor to find out which filter would be most the useful for your air cleaning system without reducing the amount of air flow.

### **Quick Reminders to Help Reduce Household Pollutants**

People can help reduce the amount of household pollutants in the home by:

- · Removing shoes before you enter
- Keeping major dust sources out of the home (smoke, pets)
- · Reducing dust amounts that get onto open surfaces such as shelves, carpet, furniture
- · Vacuuming often and using a powerful vacuum cleaner
- Reducing the amount of pollution that can enter your home by keeping windows and doors closed as much as possible

For More Information
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