Duct and HVAC System Cleaning

Since 1985, indoor air quality professionals have relied on Abatement Technologies, Inc. for professional indoor air quality products that provide exceptional performance, quality, value and reliability. Environmental remediation contractors rely on our HEPA-AIRE negative air machines and portable air scrubbers for HEPA filtration and negative pressure during mold abatement, asbestos abatement, or disaster remediation projects.

Healthcare facilities rely on our HEPA-CARE and HEPA-AIRE systems to meet CDC, JHACO and OSHA infection control requirements for positive or negative pressure patient isolation rooms, construction, and renovation projects, and bioterrorism preparedness.

HVAC and IAQ remediation contractors and their customers rely on Abatement Technologies for portable duct cleaning equipment to decontaminate HVAC systems and for HVAC mounted central air filtration units to keep them clean.

Facilities, both commercial and industrial, rely on HEPA-AIRE portable air filtration systems to remove airborne contaminants and odors from the indoor environment. We would be pleased to discuss how Abatement Technologies might be able to meet your needs. Below are a list of questions and considerations for your duct cleaning needs from the EPA?s website:

What is Air Duct Cleaning?
Most people are now aware that indoor air pollution is an issue of growing concern and increased visibility. Many companies are marketing products and services intended to improve the quality of your indoor air. You have probably seen an advertisement, received a coupon in the mail, or been approached directly by a company offering to clean your air ducts as a means of improving your home's indoor air quality. These services typically -- but not always -- range in cost from $450 to $1,000 per heating and cooling system, depending on the services offered, the size of the system to be cleaned, system accessibility, climatic region, and level of contamination.

Duct cleaning generally refers to the cleaning of various heating and cooling system components of forced air systems, including the supply and return air ducts and registers, grilles and diffusers, heat exchangers heating and cooling coils, condensate drain pans (drip pans), fan motor and fan housing, and the air handling unit housing.

If not properly installed, maintained, and operated, these components may become contaminated with particles of dust, pollen or other debris. If moisture is present, the potential for microbiological growth (e.g., mold) is increased and spores from such growth may be released into the home's living space. Some of these contaminants may cause allergic reactions or other symptoms in people if they are exposed to them. If you decide to have your heating and cooling system cleaned, it is important to make sure the service provider agrees to clean all components of the system and is qualified to do so. Failure to clean a component of a contaminated system can result in re-contamination of the entire system, thus negating any potential benefits. Methods of duct cleaning vary, although standards have been established by industry associations concerned with air duct cleaning. Typically, a service provider will use specialized tools to dislodge dirt and other debris in ducts, then vacuum them out with a high-powered vacuum cleaner.

In addition, the service provider may propose applying chemical biocides, designed to kill microbiological contaminants, to the inside of the duct work and to other system components. Some service providers may also suggest applying chemical treatments (sealants or other encapsulants) to encapsulate or cover the inside surfaces of the air ducts and equipment housings because they believe it will control mold growth or prevent the release of dirt particles or fibers from ducts. These practices have yet to be fully researched and you should be fully informed before deciding to permit the use of biocides or chemical treatments in your air ducts. They should only be applied, if at all, after the system has been properly cleaned of all visible dust or debris.

Deciding Whether or Not to Have Your Air Ducts Cleaned
Knowledge about the potential benefits and possible problems of air duct cleaning is limited. Since conditions in every home are different, it is impossible to generalize about whether or not air duct cleaning in your home would be beneficial.

If no one in your household suffers from allergies or unexplained symptoms or illnesses and if, after a visual inspection of the inside of the ducts, you see no indication that your air ducts are contaminated with large deposits of dust or mold (no musty odor or visible mold growth), having your air ducts cleaned is probably unnecessary. It is normal for the return registers to get dusty as dust-laden air is pulled through the grate. This does not indicate that your air ducts are contaminated with heavy deposits of dust or debris; the registers can be easily vacuumed or removed and cleaned.

On the other hand, if family members are experiencing unusual or unexplained symptoms or illnesses that you think might be related to your home environment, you should discuss the situation with your doctor. EPA has published Indoor Air Quality: An Introduction for Health Professionals and The Inside Story: A Guide to Indoor Air Quality for guidance on identifying possible indoor air quality problems and ways to prevent or fix them.

You may consider having your air ducts cleaned simply because it seems logical that air ducts will get dirty over time and should occasionally be cleaned. While the debate about the value of periodic duct cleaning continues, no evidence suggests that such cleaning would be detrimental, provided that it is done properly.

On the other hand, if a service provider fails to follow proper duct cleaning procedures, duct cleaning can cause indoor air problems. For example, an inadequate vacuum collection system can release more dust, dirt, and other contaminants than if you had left the ducts alone. A careless or inadequately trained service provider can damage your ducts or heating and cooling system, possibly increasing your heating and air conditioning costs or forcing you to undertake difficult and costly repairs or replacements. You should consider having the air ducts in your home cleaned if:

There is substantial visible mold growth inside hard surface (e.g., sheet metal) ducts or on other components of your heating and cooling system. There are several important points to understand concerning mold detection in heating and cooling systems:

Many sections of your heating and cooling system may not be accessible for a visible inspection, so ask the service provider to show you any mold they say exists.

You should be aware that although a substance may look like mold, a positive determination of whether it is mold or not can be made only by an expert and may require laboratory analysis for final confirmation. For about $50, some microbiology laboratories can tell you whether a sample sent to them on a clear strip of sticky household tape is mold or simply a substance that resembles it.

If you have insulated air ducts and the insulation gets wet or moldy it cannot be effectively cleaned and should be removed and replaced.

If the conditions causing the mold growth in the first place are not corrected, mold growth will recur.

Ducts are infested with vermin, e.g. (rodents or insects); or Ducts are clogged with excessive

amounts of dust and debris and/or particles are actually released into the home from your supply registers.

Other Important Considerations ...
Duct cleaning has never been shown to actually prevent health problems.
Neither do studies conclusively demonstrate that particle (e.g., dust) levels in homes increase because of dirty air ducts or go down after cleaning. This is because much of the dirt that may accumulate inside air ducts adheres to duct surfaces and does not necessarily enter the living space. It is important to keep in mind that dirty air ducts are only one of many possible sources of particles that are present in homes. Pollutants that enter the home both from outdoors and indoor activities such as cooking, cleaning, smoking, or just moving around can cause greater exposure to contaminants than dirty air ducts. Moreover, there is no evidence that a light amount of household dust or other particulate matter in air ducts poses any risk to health.

EPA does not recommend that air ducts be cleaned except on an as-needed basis because of the continuing uncertainty about the benefits of duct cleaning under most circumstances. If a service provider or advertiser asserts that EPA recommends routine duct cleaning or makes claims about its health benefits, you should notify EPA by writing to the address listed at the end of this guidance. EPA does, however, recommend that if you have a fuel burning furnace, stove, or fireplace, they be inspected for proper functioning and serviced before each heating season to protect against carbon monoxide poisoning. Some research also suggests that cleaning dirty cooling coils, fans and heat exchangers can improve the efficiency of heating and cooling systems. However, little evidence exists to indicate that simply cleaning the duct system will increase your system's efficiency.

If you think duct cleaning might be a good idea for your home, but you are not sure, talk to a professional.
The company that services your heating and cooling system may be a good source of advice. You may also want to contact professional duct cleaning service providers and ask them about the services they provide. Remember, they are trying to sell you a service, so ask questions and insist on complete and knowledgeable answers.

How to Prevent Duct Contamination
Whether or not you decide to have the air ducts in your home cleaned, committing to a good preventive maintenance program is essential to minimize duct contamination. To prevent dirt from entering the system:

Use the highest efficiency air filter recommended by the manufacturer of your heating and cooling system.

Change filters regularly.

If your filters become clogged, change them more frequently.

Be sure you do not have any missing filters and that air cannot bypass filters through gaps around the filter holder.

When having your heating and cooling system maintained or checked for other reasons, be sure to ask the service provider to clean cooling coils and drain pans.

During construction or renovation work that produces dust in your home, seal off supply and return registers and do not operate the heating and cooling system until after cleaning up the dust.

Remove dust and vacuum your home regularly. (Use a high efficiency vacuum (HEPA) cleaner or the highest efficiency filter bags your vacuum cleaner can take. Vacuuming can increase the amount of dust in the air during and after vacuuming as well as in your ducts).

If your heating system includes in-duct humidification equipment, be sure to operate and maintain the

humidifier strictly as recommended by the manufacturer.

To prevent ducts from becoming wet:
Moisture should not be present in ducts. Controlling moisture is the most effective way to prevent biological growth in air ducts. Moisture can enter the duct system through leaks or if the system has been improperly installed or serviced. Research suggests that condensation (which occurs when a surface temperature is lower than the dew point temperature of the surrounding air) on or near cooling coils of air conditioning units is a major factor in moisture contamination of the system. The presence of condensation or high relative humidity is an important indicator of the potential for mold growth on any type of duct. Controlling moisture can often be difficult, but here are some steps you can take:

Promptly and properly repair any leaks or water damage.

Pay particular attention to cooling coils, which are designed to remove water from the air and can be a major source of moisture contamination of the system that can lead to mold growth. Make sure the condensate pan drains properly. The presence of substantial standing water and/or debris indicates a problem requiring immediate attention. Check any insulation near cooling coils for wet spots.

Make sure ducts are properly sealed and insulated in all non-air-conditioned spaces (e.g., attics and crawl spaces). This will help to prevent moisture due to condensation from entering the system and is important to make the system work as intended. To prevent water condensation, the heating and cooling system must be properly insulated.

If you are replacing your air conditioning system, make sure that the unit is the proper size for your needs and that all ducts are sealed at the joints. A unit that is too big will cycle on and off frequently, resulting in poor moisture removal, particularly in areas with high humidity. Also make sure that your new system is designed to manage condensation effectively.