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Four Steps To Cleaner Indoor Air

Ways To Improve Air Quality In Your Home.

According to the U.S. Environmental Protection Agency (EPA) the air inside U.S. homes may be two to five times more polluted than outdoor air, and in some cases as much as 100 times more polluted than outdoor air. What's surprising is that newer homes actually can test higher for poorer indoor air quality. In a rush to conserve energy in the '70s we builder's, Architects, and designers started to build tighter homes with better windows and doors, thicker insulation, and taking extra steps to seal out any potential drafts.

While we succeeded in lowering energy bills, we ended up also adding to the problem of trapping Volatile organic compounds (VOCs) inside our homes. These fumes can be from building products, furniture, animal dander, as well as indoor mildew and mold. While it sounds funny, a drafty home is usually a healthier home. Other issues compounding matters is that more Americans than ever before suffer from severe allergies/asthma, an estimated 57 million according to the Asthma and Allergy Foundation of America (AAFA), Americans are spending millions of dollars a year on indoor air filtering systems, from small table top models to whole house units. There is major debate on which ones work the best. The HEPA filtrations units are one of the most used products, and recently a new ionic type of system has been introduced and is gaining popularity among users. But there are some steps that cost little to improve the indoor air you breathe. These steps coupled with the right indoor air cleaning unit can help you breath a little easier this winter and beyond.

Step One: Keep your home as clean as possible. Staying ahead of dust and dust mites can dramatically improve the air you breathing. Dusting window treatments, around window and door trim and out or reach areas can help quite a bit. Use a vacuum cleaner that utilizes a HEPA type filter so that as you are cleaning you're not just spitting the dust back into the air. Also consider a bag-less vacuum to avoid the plume of dust that happens whenever you change a bag.

Step Two: If you have a forced air heating system have the air ducts cleaned and sealed internally. I am always asked the question "is cleaning my air ducts worth it"? The answer is yes. Even if you home is newer you may have more construction debris and dust internally than a home older than 10-15 years. Make sure the contractor is a member of the National Air Duct Cleaners Association (nadca.com) and uses not only high velocity air but a whip that is fed through the ductwork to loosen up any debris stuck to the walls of the sheet-metal. The average cost to clean ductwork in your home is a about $300.00-$500.00. A new process available now can seal your ductwork. The process is called AERO-SEAL. This process was designed at UC Berkley its goal is to eliminate the air that leaks from your ductwork behind the drywall and plaster. When completed your home will be more evenly tempered and your energy bills will be less. But it also improves your indoor air quality. By sealing the leaks, dust and dirt that can be sucked through the return line is also reduced.

Step Three: Improve your air filters on your furnace. For many of us the furnace filter is a spun glass filter that cost less than a dollar. While this filter will protect the blower motor it will do next to nothing when it comes to improving you indoor air quality.

Upgrade to a pleated filter that captures smaller particles some so small the naked eye cannot see. There are many brands available, American Filter and 3M, to name a couple. The key is to change them regularly. Since these do a good job of filtering the air, when they become dirty the can restrict the air flow through your heating system. Plan on changing these filters once every couple of months throughout the year.

Step four: Consider and indoor air purifier. While they can very in performance, size and cost, below are some of the most popular units and what they can do for you. One of the industry standards is put forth by The AHAM Air Cleaner council (aham.org) which is part of the Association of Home Appliance Manufacturers. There testing helps set certain parameters so that all of these units are put against the same criteria. It's the "clean air delivery rate" (cadr.org). I would advise that you use their ratings as a guide, but try the different units for yourself to determine if they work for you. Many manufacturers will offer a trial run with these units for up to 30 days. By that time you will know if you are breathing easier and if the unit is worth the investment.

HEPA filtration (High Efficiency Particulate Air) is one of the most common approaches to cleaning the air. A good quality HEPA filtering system can be up to 99.97% efficient at filtering particulates that are 0.3 microns from the air. For perspective, a strand of human hair is 150 microns. This filtering system has been widely used and accepted by organizations promoting indoor air quality standards to clean the indoor air of smoke, dust, pollen, mold spores and pet dander. Portable units when sized correctly can do a good job of cleaning the air in a particular room. But the key is to make sure that unit is sized for the square footage of that room. Also the faster the fan runs the more air is exchanged through the unit. While this does increase the noise, the units will work much better. HEPA room purifiers can range in price from $30.00-$300.00. The one we showed is a Harmony Air Purifier by Holmes and is available at hardware stores and department stores. It retails for around $99.00 and uses a modular filter system which makes finding and installing the filters much easier. Keep in mind that the filters do need to be changed as the manufacturer requires which means your yearly investment in filters could be around $50.00 depending on the use. For more information visit holmesproducts.com.

Another popular unit uses water as the filter. The Venta-Air-Washer was designed in Germany; it circulates air through two squirrel cages. The airborne particulates are caught by the water in the pan and cleaner air is exhausted. As the water evaporates the particulates stay in the pan. You do not need to buy additional filters and this unit has the added benefit of adding humidity to the indoor air which can make your home much more comfortable in the winter months. This unit ranges in price from $199.00-$500.00 depending on the size, for more information check out venta-airwasher.com.

The biggest seller in room purifier's is the Ionic Breeze from the Sharper Image (sharperimage.com) this technology called electro-static-participation creates ions to attach to the airborne particulate which makes them heavier and they drop to the ground. These units are very quiet since no fan is used and also no filters are needed. The cost is about $350.00; there has been a lot of debate on whether these types of purifier's actually work. There are also many different companies marketing these units. I had an opportunity to try one that used a fan from another company at a vacation home we rent every summer. Two of my friends who always come start sneezing and sniffling the minuet they walk in the door. We ran the unit for two days before they got there, they could not believe that all of their symptoms were gone. While I am not endorsing one unit over another, and this was a unscientific test, the key is to try them for yourself and you decide.

Finally there is a unit that allows a homeowner to filter the air in their entire home either through their existing forced air system or with new ductwork. The unit is called The Guardian Plus by Broan-NuTone (broan-nutone.com). This unit will improve the air quality throughout your home and can also bring in fresh air. It works 24/7 using HEPA technology. The system requires filter changes once a year and a remote sensor tells you when the filters require maintenance. This is a professionally installed unit that installed costs about $1,400-$1,800. But for allergy and asthma sufferers this whole house unit offers you a real one-two punch in cleaning up your indoor air. Another benefit is that The Guardian Plus has been designated as a medical device by the FDA. If a physician writes a prescription for this machine your health insurance may cover some or all of the cost to install this in your home. Follow some of this advice and you should be breathing easier in 2004.