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Carbon Filters-- Why Every Home Should Have This Technology To Remove the Impurities in the Air and Water 69

By [Taylor Omri](#)

*With so much pollution in our drinking water and air, how do we protect ourselves from impurities that may ultimately impact our health? One solution is to use **carbon filters**, which are one of the best and most effective technologies for purifying air and water. Activated carbon filters are used to remove harmful and impurities via chemical absorption. The carbon is activated with a positive charge, which will attract negatively charged contaminants. If you didn't know about this groundbreaking technology, read on to discover how carbon filters can protect you and your family.*

Carbon air filter

Carbon filter systems are not only powerful pollutant removers, but are also the most effective odor removers used in air purifiers. In addition to odor removal, carbon filters can get rid of pesticides and chlorine. In fact, the Environmental Protection Agency (EPA) recognizes activated carbon to remove harmful and sometimes deadly chemicals from the air.

Carbon air filters are made up of an abundance of molecular sized pores that behave as high absorbent sponges. This is achieved by chemical bonding and attraction to airborne gases and odor. Activated carbon is a piece of charcoal treated with oxygen. The oxygen opens millions of small pores between carbon atoms. Because of the large surface area of carbon granules, almost all carbon filters have the ability to trap gases, chemicals, odors and cigarette smoke. Carbon air filters are also powerful in that they do not allow the pollutants back into the air, eliminating contamination.

As the pores of the carbon filters fill up with trapped contaminants, the filters lose effectiveness and need to be replaced immediately. Fortunately have a carbon air filter is easy to maintain, and replacement parts are readily available.

There are a few drawbacks using a carbon air filter. First, carbon filters aren't effective at removing allergens, micro-organisms, and dust. Also, carbon filters have limitations in eliminating contaminants that is not near, pulled and forced to pass through the filter. You can counteract the carbon filter's weakness by using complimentary technology. To get rid of allergens or micro-organisms, you can use a germicidal ultra-violet (UV) light filter. You can also use an ionizer to help eliminate chemical contamination from afar, since it has a stronger attraction ability than that

of carbon filters. Lastly, Hepa air filters are often used in conjunction with carbon filters to trap allergens and pollutants that the carbon cannot trap.

When buying a carbon filter, pay attention to the amount of activation carbon is in the filter. Generally, the more activate carbon the filter has, the longer it will last. When absorption occurs to the point that there is no longer any surface left, then the filter must be replaced. You should also opt to buy an air purifier with granulated carbon opposed to carbon pads, since it has more surface area, making the filter last longer.



Activated Carbon is a piece of charcoal activated by oxygen.
source:http://commons.wikimedia.org/wiki/File:Activated_Carbon.jpg

Carbon water filter

Unfortunately, our water supply is not as clean as it should be. Using a carbon filter, particularly a granular activated carbon (GAC) filter, is an effective way to treat your water at home. GAC filters are effective at removing inorganic and organic chemicals, and chemicals that give the water a "rotten eggs" (due to hydrogen sulfide) odor or taste. GAC filter can also remove harmful chlorine. However, some chemicals such as nitrate and sodium is not removed by the carbon filter. You can compliment a GAC filter with a reverse osmosis system to further remove organic chemicals from the drinking water.

Granular activated carbon is a charcoal made from natural raw materials that have a high carbon content. Such materials can come from a variety of organic sources, for example, coconut shells or coal. GAC filters are also called charcoal filters, since heat is used to increase the surface area of the carbon; this is also known as activated carbon. Activated carbon removes impurities by trapping the chemicals in the GAC filter.

There are two types of GAC filter systems: whole-house (point of entry) and point of use filters. Whole-House carbon water filters are large, cylindrical objects that is directly installed to the main source of the home's water supply plumbing. This means that all water that travels throughout the home to any faucet will be treated. Usually these types of filters come in pairs to make sure that any missed filtration by the first filter will be caught by the second filter. The point of use (POU) filter is locally installed in the water supply pipe just before the faucet. These can be either under or over the sink units, or can even be used in refrigerator/icemaker water filtration.

When considering which GAC system you need, determine how much and the type of pollutants in the water, chemicals, and ways the water is exposed to the body. Typically, harmful exposure to chemicals can be introduced to the body via ingestion, inhalation, or entering the skin. A whole house filter treats all water traveling to all faucets in the home, removing the chemical before it can be ingested or inhaled. A point of use filter will protect you from ingesting the chemical, but it not will not protect you from inhaling or absorbing chemicals while bathing or showering. A point of use filter also will not protect other faucets in the home. Either carbon filtration system requires regular filter replacement and consistent maintenance to avoid bacterial build-up and ensure continued effectiveness.

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