

Are PCO Air Purifiers Better Than HEPA Filters?

By Jeanie Wong

HEPA air purifiers have been on the market for a while, but there have also been some recent advances made in air purification technologies as of late. Many air purifier manufacturers are now utilizing Photocatalytic Oxidation (PCO) technology as a way of removing toxins from the air. This purification method may be the most advanced one yet, and some leading air purifier manufacturers are beginning to add PCO air cleaners to their product lines.



For years, has been FDA approved for reducing bacteria in meat processing plants, and it is even used to cleanse pesticides from the fruits and vegetables we eat. Essentially, filtration can be summed up as such: An intense light is reflected onto a metal surface which in turns oxidizes toxins from the air. In chemistry, photocatalysis is defined as the acceleration of a photoreaction in the presence of a catalyst, and an example of this would be the oxidation of organic contaminants such as bacteria and mold using magnetic particles coated with titanium dioxide nanoparticles, and agitated using a magnetic field that is exposed to UV light. Therefore, this type of air purification technology converts harmful particulates and toxic gases into safer compounds such as carbon dioxide and water.

Because PCO technology is an extremely powerful purification method, PCO air purifiers have the ability to eliminate particles as small as 0.001 microns, including the tiny penetrating particles that can absorb into your lungs and cause damage (HEPA filters are only able to filter out particles as small as 0.3 microns). Studies have also shown that in addition to VOCs, toxic gases, and chemicals, photocatalytic air purifiers can also render gases like carbon monoxide and nitrous oxide harmless - pollutants which can often escape standard air purifiers utilizing HEPA or ionic technology alone.

Those concerned with the possible health effects associated with air purifiers will be glad to know that PCO air cleaners have been found to be much safer than ozone and ionization, and they work wonderfully well for those with asthma, allergies, and multiple chemical sensitivity.

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