



Air Filtering Fans

Recently EHS has been asked to review several air cleaning units. In order to distinguish themselves many manufacturers are adding features to the units that we do not recommend or allow in some cases. Some units use technology that is ineffective, provides less efficient filtering or even adds toxic contaminants into the air.

HEPA air purifiers. These air cleaners use pleated High Efficiency Particle Arresting (HEPA) filters to trap particles, along with a fan to pull air through the filter. By a wide margin, reviews say this type of air purifier is the most effective.

Electronic ionizers. This type of air cleaner uses an electronic process to reverse the charge of particles in the air. The charged particles are then attracted to collection plates in the air purifier, as well as to objects in the room -- such as clothing, walls, floors and furniture. In effect, particles are removed from the air and deposited on your furnishings and clothing. To actually remove them from the room, you need to dust and vacuum to prevent allergens from being reintroduced into the air. Electronic and electrostatic air purifiers produce a small amount of ozone. Electrostatic units are not as efficient in cleaning the air as HEPA filtering units.

UV purifiers. These devices rely on ultraviolet light to neutralize biological contaminants. Experts agree that UV light is effective in destroying microbes such as bacteria, dust mites and mold spores, given sufficient exposure time. According to the Federal Trade Commission (FTC), however, most home air purifiers fall short: "Bacterial spores would require a relatively long time under the light for the light to have a killing effect. Most household air cleaners move air too quickly to provide adequate exposure time." Without the addition of a filter and fan, UV purifiers are ineffective against particles such as dust, pollen and pet dander, and some experts have raised concerns about the safety of UV units in household settings. Depending on the UV light spectrum used, they can produce ozone.

Ozone generators. Some air purifiers do nothing but produce large amounts of ozone. These units do not remove allergens from the air. Ozone in large amounts can neutralize strong odors (such as the smoke odor from fire damage), but according to the EPA, this is dangerous for human health. These air purifiers get around the FDA limits for ozone production by not claiming to be medical devices. Ozone alone has no effect on particulate allergens at all.

The standard HVAC systems at the University clean the air to a level that is safe and healthy. Environmental Health and Safety does, on occasion, recommend stand alone air filtration in some areas where individuals are reacting to normal office levels of dust, and in these situations this can be effective in relieving the affected individual's symptoms.

The only filtration approved for installation in office environments is the standard HEPA air filter fan combination. This is effective and does not introduce other contaminants into the breathing air. EHS will evaluate offices if employees suspect there is a problem with the quality of the environment and if appropriate, air filtering fans will be recommended.

Consumer Reports offers a comprehensive review of different air cleaning fans at:

<http://www.consumersearch.com/air-purifiers/review>