

HEPA air filtration units, aka air purifiers, remove the tiny particulate matter in wildfire smoke that can cause problems with our hearts, lungs, and general health. It's crucial to buy the right one and use it properly. Here we provide basic recommendations. For more about the health effects of wildfire smoke and who benefits the most from a HEPA air filter, see missoulaclimate.org/wildfire-smoke.html.

What's a HEPA Air Filtration Unit?

HEPA air filtration units, also known as air purifiers, are portable appliances that filter out really tiny particulate matter (PM) - 2.5 microns and smaller. These ultrafine bits are the most common and dangerous component of wildfire smoke, which is rolling into the Missoula Valley more frequently as our climate changes.

Portable HEPA air filtration units typically come with replaceable pre-filters that also remove larger PM, including allergens such as pollen. And one more bonus: because they blow out filtered air, they double as fans!

HEPA air filters are available for central heating and cooling systems as well, but here we'll be talking exclusively about portable filtration units. These you can plug into a standard wall outlet in your home. For information about filtration for central heating and cooling systems, visit missoulaclimate.org/improving-indoor-air.html.



How Do I Know Which Model to Buy?

Most importantly, **make sure the unit uses a genuine HEPA air filter**. Other filter types and air purification methods may not filter the smallest PM that causes the greatest health problems. Avoid "HEPA-like" units.

Other key considerations:

- **True HEPA.** Make sure the air filtration unit you choose is labeled HEPA, not HEPA-like. True HEPA filters are able to filter out 99.97% of particles as small as 0.3 microns. Some units only filter down to 3 microns - which means they do NOT filter out smoke.
- **Room size.** Buy the right air filtration unit to fit the room where you'll use it most frequently. (We recommend the bedroom; see below.) Most units list the size room they can filter effectively. Others list a Clean Air Delivery Rate (CADR), in which case, choose a tobacco smoke CADR at least 2/3 the room's area. For example, a 10' x 12' room (120 square feet) would require an air cleaner with a tobacco smoke CADR of at least 80.
- **Filter maintenance.** Most HEPA filters must be replaced from time to time. A few models can be cleaned with occasional washing or vacuuming. Consider how much cleaning you're capable of doing, how much you're willing to spend on replacement filters.
- **Ozone.** Some air purifiers produce ozone, which is a pollutant and harmful to human health. Check to make sure the unit you're interested in has been approved by the California Air Resources Board (CARB). If you're unit has a "PlasmaWave" function, we recommend turning it off, as it may emit small amounts of ozone.
- **Noise level.** Some units are noisier than others. If this is a concern, check user comments and feedback online.
- **Energy Star rating.** To save energy and money on your electricity bill, choose units with the U.S. Department of Energy's Energy Star rating.

Flip to the Back for Recommended HEPA Purifiers, and How Best to Use Them

For more info, see Climate Smart Missoula's *Wildfire Smoke* and *Summer Smart* pages at climatesmartmissoula.org

Contact us: info@climatesmartmissoula.org, 406-926-2847

HEPA Air Filtration for Wildfire Smoke

Portable HEPA Purifiers We Recommend

All of these air filtration units filter PM as small as 0.3 microns and have an Energy Star rating. They are all available online, and some are available in local stores. Prices vary depending where you buy them. These are by no means the only ones, just a helpful start.



- The **Winix 5300-2** works for rooms up to 360 square feet and costs about \$150-200. It comes with four replaceable carbon pre-filters.
- The **Winix 5500-2** is very similar to the one above. It also has a remote control, and costs ~\$230. Both the Winix 5300 and 5500 filters are particularly quiet and have good CADR specifications.
- The **Lasko Pure Silver HF25610** works for rooms up to 160 square feet and costs about \$150. It has replaceable filters and is available at ACE Hardware.
- The **Honeywell HPA 160** works for rooms up to 170 square feet and costs about \$180. It has replaceable filters.
- The **Germ Guardian AC4825** works for rooms up to 150 square feet and costs about \$90. Replace the filter when it turns gray.



Got One! Now How Do I Use It?

We highly recommend using your HEPA air filtration unit **in your bedroom at night**. This way your body gets a break while you sleep, and for most people, this is the longest period of time you'll spend in one room. For most of us, the portable nature of these units allow you to move them to a more central room during the day. For people who cannot move their filter, simply keep it in the room you spend the most time in.

HEPA air filtration units work best when all windows and doors are closed. This works well for indoor allergies in the winter, but it can be more complicated with hotter weather during wildfire season. During **high temperatures**, we generally recommend closing windows and blinds to keep your home cool, then opening them back up at night to draw in cool air. So in this case, running your filter during the day in the room where people hang out might be best. When it's both smoky and hot, it's complicated. Luckily HEPA filtration units do not use much energy to run, so keep them on!

Ideally, air filter users can open bedroom windows in the early evening and close them again just before going to bed and turning on their air filtration units. But if your home is just too hot, it could be more important to cool off your bedroom than to clean the air. Fans can also help, as can air conditioners set on recirculate (if the A/C filter is clean). For more tips on how to cool your home, see our **Hotter Days, Warmer Nights** webpages: missoulaclimate.org/hotter-days-and-nights.html.

Change your filters! Especially if you are using an activated carbon pre-filter to remove larger PM including pollen and volatile organic compounds (VOC'S), be sure to change the filters frequently, as they can be quickly saturated with particles.