

Portable Air Cleaners for Wildfire Smoke

Wildfire smoke is a complex mixture of air pollutants, including small particles that can cause irritation and inflammation when inhaled. Smoke can come into buildings through windows, doors vents air intakes and other openings.

Most people spend up to 90% of their time indoors, where portable air cleaners can be used to reduce the impacts of wildfire smoke.

- Portable air cleaners plug into regular wall sockets and can be moved between rooms.
- Studies have tested indoor portable air cleaners on pollution from many different sources, including wildfire smoke. In most of these studies, portable air cleaners have reduced small particle concentrations by 40-80%.
- Use of portable air cleaners has been associated with better lung function, lower blood pressure, and reduced inflammation in children and adults.

Most portable air cleaners use high efficiency HEPA filters to trap the very small particles in wildfire smoke

- Some air cleaners use electrostatic precipitators to remove particles from the air. This process creates ozone gas, which can be a lung irritant. People with respiratory conditions should only consider purchasing HEPA filtration units.
- Both HEPA filters and electrostatic precipitators can only remove particles from the air, not gases. However, some units also have activated carbon filters that can reduce the gaseous pollutants in wildfire smoke.
- Ozone generators and negative ionizers cannot effectively remove smoke particles from the air.

The people who can benefit the most from portable air cleaners are those with asthma, COPD, heart disease, pregnant women, infants and young children and the elderly.

Types of Air Cleaners

There are many kinds of portable air cleaners on the market, so it is important to do some research before making a purchase.

- Look for a unit certified by the **Association of Home Appliance Manufacturers (AHAM)**.
- The AHAM label indicates the square footage that each unit can clean. Make use to find one that is appropriate for your needs, and to use it where people spend most of their time.
- The AHAM label also indicates the clean air delivery for particles of different sizes, including tobacco smoke, dust, and pollen. Tobacco smoke is the most similar to wildfire smoke.
- Portable air cleaners must be maintained to continue working properly. Look for a unit that clearly indicates when the filter needs to be changed or when the precipitators plates need to be cleaned.
- Prices range from less than \$100 to \$1000 per unit. Online reviews can provide information about reliability and noise levels.

How to Use

Portable air cleaners work best when run continuously with doors and windows closed.

- Closing doors and windows can be dangerous on hot days if you do not have air conditioning. Be aware of your body temperature and use common sense. For most people, heat stress is a bigger health risk than smoky air.

