



How to Use Your Air Conditioner During a Wildfire Smoke Event

» If your home has an air conditioning unit and you are experiencing a wildfire smoke event, follow these tips to recirculate indoor air. This will keep the air inside your home as clean and safe as possible.

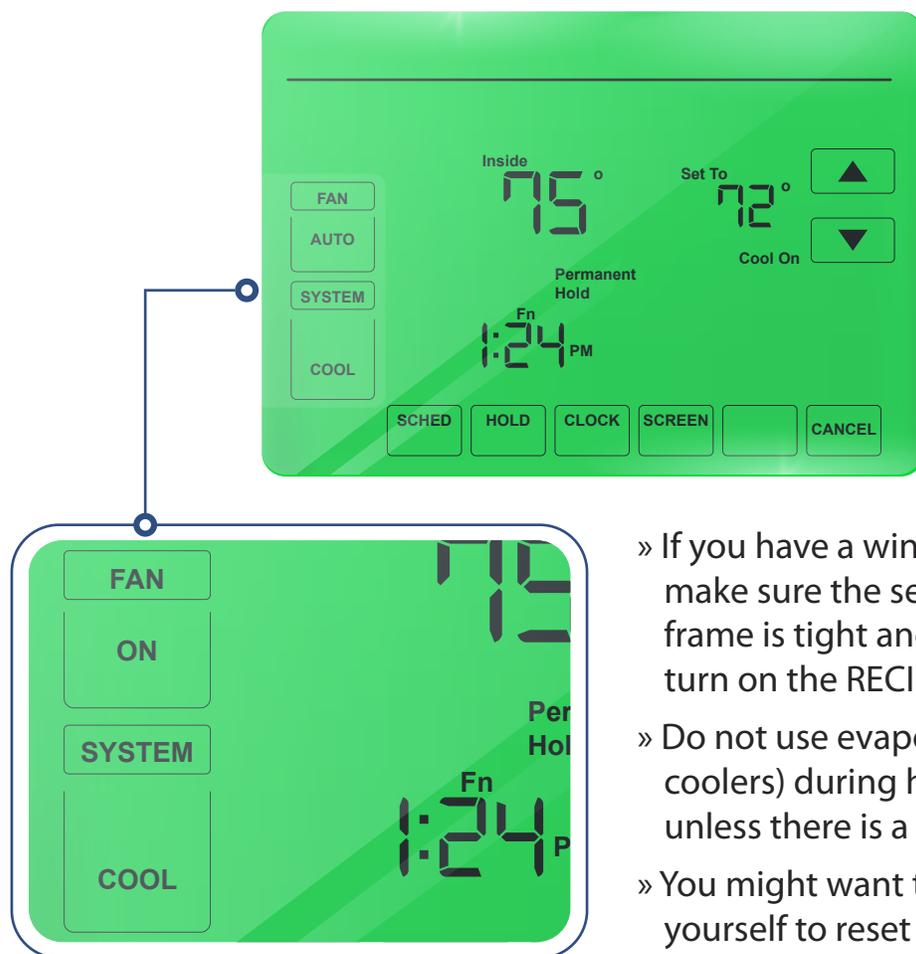
≈ Keep the windows closed.

≈ Turn off the AC unit's fresh air intake/fresh air setting, if it has one.

- This may require closing the outdoor damper or sealing off outdoor air intakes.
- Turn on the RECIRCULATE ONLY setting.

» Switch your thermostat fan from AUTO to ON to run the system continuously.

(See the image below.)



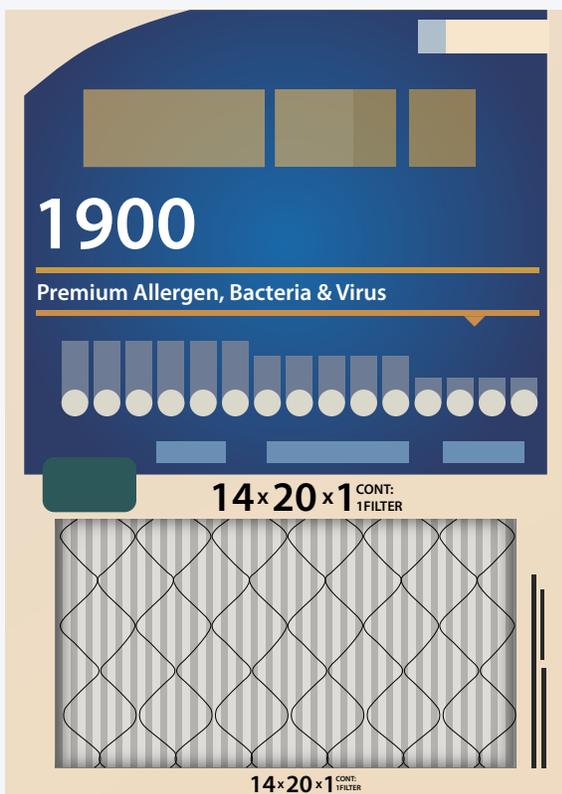
This enlargement shows the change from FAN AUTO to FAN ON.

- » If you have a window AC unit, check to make sure the seal with the window frame is tight and not leaking air. Then turn on the RECIRCULATE ONLY setting.
- » Do not use evaporative coolers (swamp coolers) during heavy wildfire smoke unless there is a heat emergency.
- » You might want to set a reminder for yourself to reset the system when the air quality in your area improves and returns to a safe level.

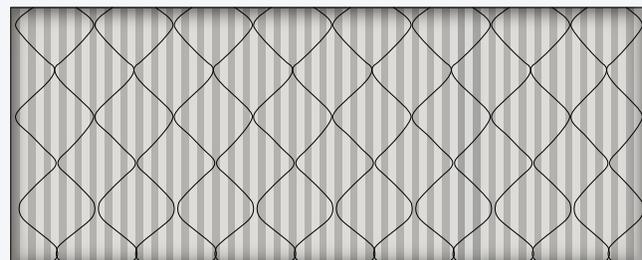


How to Assess Your Central Cooling System's Filter

- » Filters are rated for their performance and ability to capture particles. This rating is called MERV rating. MERV stands for *minimum efficiency reporting values*.
- » MERV ratings of residential filters range from 1-20. The higher the MERV rating the better the filter is at capturing certain types of particles. A HEPA filter has a MERV rating of 17-20.
- » Before buying and replacing your filter, consult with a local technician or manufacturer to ensure it will work with your system and that you understand how to install it properly.
- » You can find the MERV rating on your filter product label. (See the image below.)



This is what a typical filter looks like.



MERV	(um PSE %)	0.30-1.0	1.0-3.0	3.0-10	Airflow rate (CFM) Debit of air Initial Resistance (IWC) Resistance initiate (IWC)	290	430	575	720	970	Max rated Airflow Debit of air nominal max
						0.08	0.14	0.19	0.28	0.14	
13		62	87	95							

This enlargement shows where to find the MERV 13 rating.

? What You Should Know About Air Cleaners

- » Most retailers refer to air cleaners as *air purifiers*. There are two types of air cleaners: mechanical and electronic.
 - *Mechanical air cleaners* physically pull air through a filter to capture particles.
 - *Electronic air cleaners* use electricity to charge and remove particles; however electronic air cleaners can produce ozone and other toxic chemicals.
 - Ozone generators should not be used in homes.
 - Learn more about air cleaners and whether your device is certified by the California Air Resources Board (CARB) here: <https://ww2.arb.ca.gov/list-carb-certified-air-cleaning-devices>.

- » Make sure your air cleaner's capacity matches the space of the room you want it to clean.
 - Check the size rating or square footage rating of the air cleaner. You can also estimate the appropriate size of the air cleaner by its *clean air delivery rate* or CADR.



Where to find square footage on product box/label.

? What You Should Know About Air Cleaners

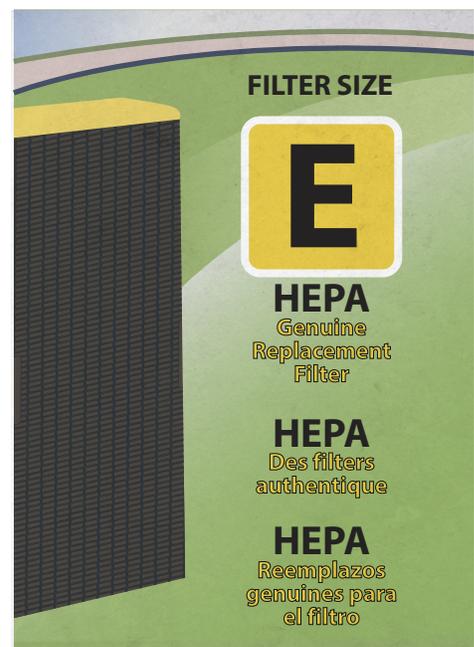
- » Make sure your air cleaner is rated for its efficiency.
 - Purchase an air cleaner with a filter rated as "high efficiency" with a high MERV rating or a HEPA filter.

- » *MERV* stands for *minimum efficiency reporting values*. MERV ratings of residential filters range from 1-20. The higher the MERV rating, the better the filter is at capturing certain types of particles.

- » *HEPA* stands for *high-efficiency particulate air*.

- » Do not use a filter with a MERV rating that is higher than that which is recommended by the manufacturer.

- » Other tips: operate continuously, position in a room where people spend the most time, set to the highest fan speed, and make sure air flow is not obstructed.



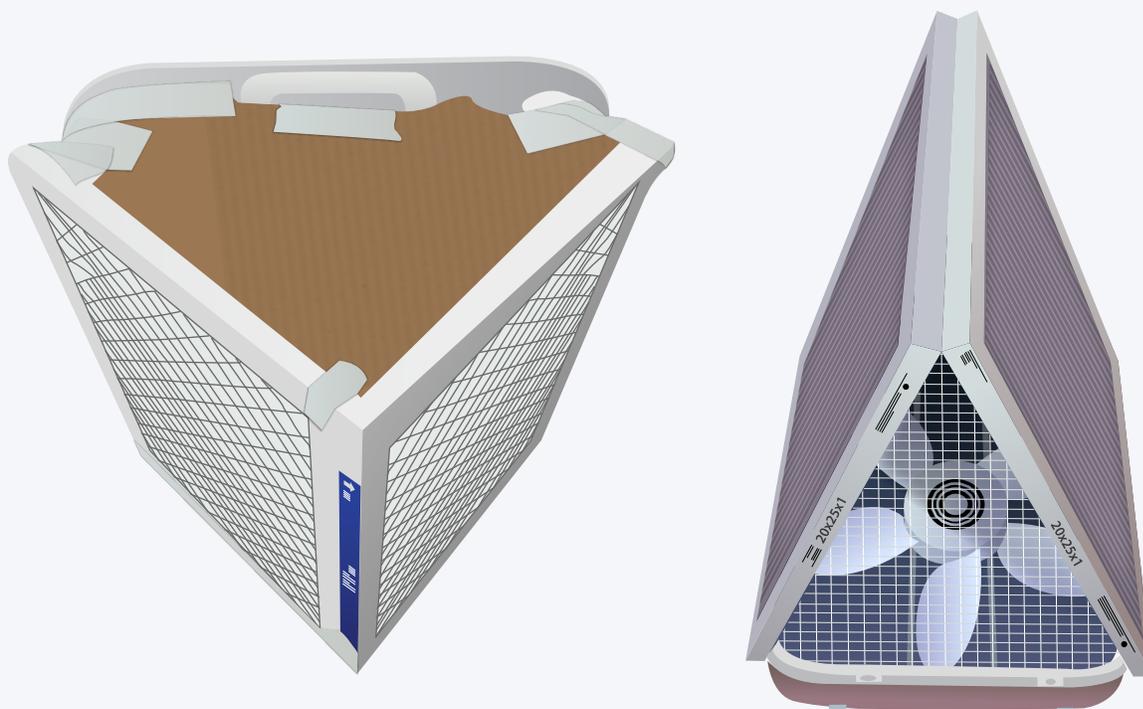
The HEPA label on an air cleaner product package.



Tips for Using a Box Fan

There is a low-cost option for filtration by assembling and using a do-it-yourself (DIY) box fan air cleaner during wildfire smoke events. This option is popular for those who do not have access to air cleaners in their homes. It involves attaching one or more high-efficiency filter(s) to a box fan. While some local governments and organizations provide instructions on how to assemble air cleaners, neither the CDC nor the EPA have endorsed their use; however, preliminary research on DIY cleaners built from box fans indicate they effectively reduce PM_{2.5} particles in a single room during a smoke event. Further study of box fan air cleaners is needed.

If you choose to construct a box fan air cleaner, note that the motors on box fans sold before 2012 can overheat, creating a fire or electrical hazard. Only use box fans made after 2012 that have a fused plug, keep the fan and motor clean to prevent a buildup of lint and dirt, and keep curtains or any loose clothing away from the fan to prevent overheating and fire hazards. Do not use a fan that does not start quickly or run smoothly. Finally, never run a box fan air cleaner unattended or while sleeping.



Shown above are two views of a DIY box fan air cleaner created with two air filters. The top (left) is sealed with cardboard so that air may only pass through the filters, which are taped firmly against the fan. The fan motor draws contaminated air through the filters and fills the room with cleaner air. This is just one example of how to construct a DIY box fan air cleaner.

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