

Whole House Fans

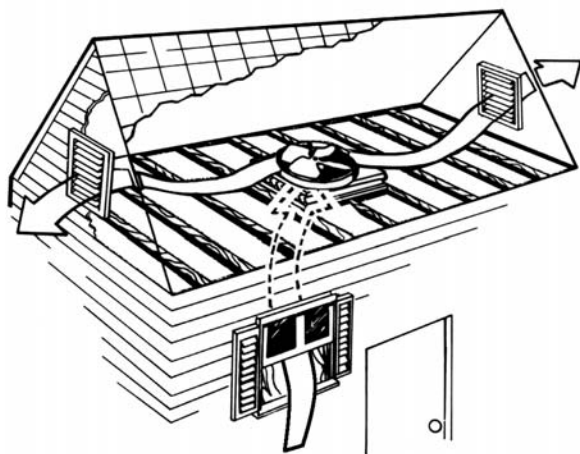
The cost-effective, energy-efficient alternative to central air-conditioning

Installed flush to the ceiling below the attic, a whole house fan pulls cool air in through open windows or doors and expels hot air through attic vents. By moving the air and creating a breeze, a whole house fan cools your home. These fans are especially effective at night when the outside air is cooler.

Whole house fans cost far less to operate than central air-conditioning units. A 2½-ton central air conditioner with a Seasonal Energy Efficiency Rating (SEER) of 10 costs about \$156 every year to operate. A standard 30-inch whole house fan costs about \$29 annually to run.*

Try before you buy

To simulate the effect of a small whole house fan, secure two or three fans into open windows so they're blowing air out. (For a two-story house, do this on the second story.) Be sure to open other windows as air inlets. If this experiment improves your comfort, a whole house fan may be a good choice for you.



Caution: Always open windows or doors before turning on a whole house fan.

*Based on 13 cents/kWh, 400 hours of operation

Potential drawbacks

- Open windows may be a security risk.
- If you're allergic to pollen, a whole house fan may bring more pollen into the house.
- Whole house fans don't remove humidity, so if humidity is high, they may not improve comfort as much as an air conditioner.
- If an insulated cover isn't used, whole house fans can lose heat to the attic in winter.

Practical features to look for in a fan

- Sturdy construction/vibration isolation for quiet operation.
- Two-speed or variable-speed control to improve comfort and reduce noise.
- Timer or thermostat for automatic start/stop control.
- Insulated cover to reduce winter heat loss—some units may require a custom cover. Some models come with insulated covers that open automatically.
- Certified by Home Ventilating Institute and approved by Underwriters Laboratories Inc.
- Safety shutoff to automatically shut off fan in case of a house fire.

How do you size a whole house fan?

Check the manufacturer's specifications. Traditional whole house fans are sized to flush the hot air out quickly. Now, some manufacturers are making smaller fans that take longer but are quieter.

(continued on reverse)

Attic exhaust vents

A whole house fan requires attic vents to let the hot air out. To figure the necessary square footage of attic vents, simply divide the CFM by 750.

Example:

Fan capacity: 6,000 CFM at (0.1" Static Pressure)
 $6,000 \div 750 = 8$ square feet

A whole house fan rated at 6,000 CFM needs 8 square feet of attic vents. Note: Standard roof vents have an area of approximately $\frac{1}{2}$ square foot.

Purchasing and installing

Whole house fans are sold by most home-building centers and on the Web. Consider whether you will hire someone to install it or do it yourself. Electrical and finish carpentry skills are required. Ask your dealer for details.

If you would like to discuss whole house fans, call MGE's Home Energy Line at 252-7117.

User tips

- Open windows before turning on the fan.
- Turn off air conditioner before operating the fan.

Resources

Installing and using a whole house fan:
www.eere.energy.gov/buildings/info/homes/wholehousefan.html

California Energy Commission fact sheet on ceiling and whole house fans: www.energy.ca.gov/efficiency/home_energy_guide/FANS.PDF