

whole house fans

A whole house fan is a large fan mounted in the ceiling between the lived-in area of the house and the unlive-in area of the attic. On a cool summer night turning the fan on can quickly pull the day's heat out of your home.



However in the winter, if your whole house fan is not sealed and insulated, it is a giant hole in the top of your home letting heat escape.

If you have a fan like this, air-seal and insulate it either by:

- Having contractors build a box out of rigid insulation to fit on top of the fan (up in the attic)
OR
- Buying a damper (aka cover) that you install yourself on the underside of the fan (inside the living space)

From then on, every fall you will have to seal off the fan with the box or the damper. And every spring, in order to use the fan when the temperatures start to soar, you will have to remove the box or the damper.

A damper is easier to install and remove, because you can do it from inside the living space of your home. Unfortunately it doesn't insulate quite as well as the box.

To install or remove the box, you will have to go into the attic and walk across the attic to wherever the fan is. If your attic is hard to move around in, or you aren't comfortable standing on joists, the box might not be the best method for you.

Make sure you choose a method that will actually work for you. The box or damper will do no good if you don't install it each winter.

How the pros should install a whole house fan box

- The box is built of rigid insulation, with the sides of the box fixed in place by being screwed into the joists (of course how the box is built and secured depends on the configuration of the attic and the space available). The seams of the box are then sealed with spray foam from the inside and taped on the outside with foil tape.
- The lid is cut to be larger than the box so there is at least a 1" overhang on all sides. On the inner lip of the lid or on the inside of the box, a gasket is installed to air-seal the lid.

How to know the pros did a good job

They should check the seal by turning on the blower door and puffing smoke out of a smoke puffer from inside the living space just below the whole house fan. If the fan isn't sealed well, the smoke from the puffer will be whisked away quickly. If this happens, they should fix their work and recheck it afterward with the blower door and puffer.

The post-work CFM number on the blower door should go down by a hundred or two at least.

How you can install a whole house fan damper

- You can buy a whole house fan damper from ConservationStrategies.com. It will cost you somewhere between \$95 and \$110 and offers R-10 worth of insulation.
- Or here's a [slightly less expensive one](#) from BatticDoor that offers the lower R-value of R-8.

Follow the directions to install whichever model you choose. It will take just a few minutes to install.

Checking your work

If you want to check your work after you install the damper, close all the windows and exterior doors in your home and then turn on every bathroom and kitchen fan, as well as the dryer, in order to slightly depressurize your home (the effect is akin to a weak blower door test).

Then wet your hands a bit and hold them around the edges of the damper to feel for a draft. Wetting your skin helps you feel air movement better. If you feel a draft, shift the damper to seal that area a bit better, and then recheck your work.