



BEYOND THE BASICS: Whole-House Fans

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Defeat Trapped Heat

As the outdoor temperature rises during the day, heat is captured in the attic and interior spaces of your home. This trapped heat can make your home uncomfortably warm. Before your home can effectively begin to cool down, this trapped heat must be removed. Mechanical air-conditioning units have been the modern solution to this problem, but air-conditioning is expensive and energy intensive. Whole-house fans are an inexpensive means for removing this built up heat by flushing the house with cool night air. In our geographical region, cool nights and low humidity provide the perfect conditions for cooling your home with a whole-house fan.



Whole-house fans draw cool air in through windows and purge warm air through roof vents

How a Whole-House Fan Works

A whole-house fan can provide effective natural cooling for a fraction of the energy cost of air-conditioning by drawing cool fresh air in through open windows and purging hot stale air out through the roof vents (see diagram below). Homes with good passive-solar design, tight envelopes, and good insulation can benefit greatly from a whole-house fan. In fact, in our region these types of homes may not need air-conditioning units at all to maintain a comfortable inside temperature.

How to Use your Whole-House Fan

In the morning, before the temperature begins to rise, open most of the windows in the house and run the fan for 20 to 30 minutes. This flushes out the stale night air and replaces it with cool fresh air. Then close the windows. Throughout the day, keep the windows tightly closed and shaded as much as possible. After the sun has set, or when the outside temperature begins to cool down, open most of the windows in the house and run the fan again for 20 to 30 minutes. This flushes out the trapped heat from the day and replaces it with cool night air. During the night, windows can be left open or closed as conditions (and comfort) dictate. In the morning, repeat the cycle.

Purchasing a Whole-House Fan

There are many types and brands of whole-house fans on the market today. When selecting one for your home, choose a well-designed unit that has a motorized, insulated cover that seals and insulates the unit when not in use. If you have an older whole-house fan, check the insulation of and for leaks in the unit's cover; if needed, consider replacing it with a modern unit like the one pictured below. Whole-house fans can be purchased and installed from your local Heating Ventilation Air Conditioning (HVAC) contractor. If you prefer to do-it-yourself, whole-house fans can be purchased from your local HVAC supply shop or on the internet.



Whole-House Fan Unit Cover