



Community Development and Sustainability Department

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WHOLE HOUSE FAN

Whole house fans can be a very efficient way to cool homes in the Sacramento region and on many days limit or eliminate the need for a typical HVAC system which utilizes a compressor and air handler. Compressor-less cooling takes advantage of the significant diurnal temperature swings over the course of summer day. If sized and used properly the fan can cool the mass of the building (walls, floors, furniture etc.) as well as the air in the home and attic. When the mass within the home is cooled then it takes longer for the house to heat up the next day.

There are a few things to think about when considering a whole house fan system:

1. A building permit is required. Manufacturer's installation instructions need to be available at time of inspection.
2. Windows must be opened when operating the whole-house fan to avoid creating excessive negative pressure in the house.
3. A whole house fan may affect the operation and performance of gas fired appliances.
Exception: Direct vent appliances with sealed combustion chambers.
 - a. If you want to use your whole house fan to air-out your home during heating season you will need to turn off any gas fired furnace before operating the fan.
Note: Interlocks for attic furnaces are not required.
 - b. A gas fired, natural draft water heater will need to be completely separated from the space to be ventilated by the fan.
For example: a weather-stripped closet with combustion air ducts that extend to the exterior of the building and not to an attic that is affected by the fan.
 - c. Whole house fans should not be installed in homes with appliances that utilize standing pilot lights (older water heaters and wall furnaces).
4. The fan is only effective when the outdoor air temperature is cooler than the indoor temperature.
5. If you have a natural draft water heater or other appliance in the attic that may be in use during the operation of the fan you have the option to duct the fan directly to the exterior.
6. Consult manufacturer's information to ensure that the fan is sized appropriately for the building in order to maximize the benefit.
7. Compare the fans under consideration to determine how many cfm per watt are provided by the specific fan. The cfm/watt is a measure of the efficiency of the fan.
8. Many fan manufacturers provide information on sound levels (dBA) which can be an important factor for some occupants.