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ARE BALANCED AIRCHANGE SYSTEMS WORTHWHILE?

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A balanced air-change system is a fan operated system that forces out stale air through exhaust ducts and forces in an equal amount of fresh air through controlled intake ducts. The difference between this and a central exhaust system is that the input air is under active control and balanced with the exhaust air making it easier to heat and distribute. These systems will usually eliminate the problems of cold drafts associated with central exhaust systems. They usually provide better removal of pollutants from a house. Because they are balanced (input and output) they will not compete with a furnace for combustion air. (search keyword "combustion air" for the title "DOES MY FURNACE GET ENOUGH AIR?")They are worthwhile in all cases except where the house is so drafty that they will only tend to over ventilate the house and add to a dryness problem. (Such houses should be sealed to the point where ventilation systems are desirable anyway.) Their drawback of course is that they are more expensive to install than simpler schemes.There is much debate over the best way to control balanced air-change system. Viewed strictly from an "air-change to control humidity" point of view, an on/off switch controlled by an in-house humidistat is the simplest and most economical control. This is also the easiest to sell to the public. But to continuously control other forms of pollution between cycles of rising humidity, most of the independent research on the subject suggests that a slow, constant operation is best (100 to 200 cubic feet per minute, CFM), with some kind of demand override when the air needs to be changed faster because of many guests or some other special source of pollution. This is becoming standard in the industry and you should insist on it when buying one.These systems are common in Europe but little known in North America as our market has been dominated by one special, and expensive, form of the balanced air-change system -- the air-to-air heat exchanger or Heat Recovery Ventilator HRV.

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