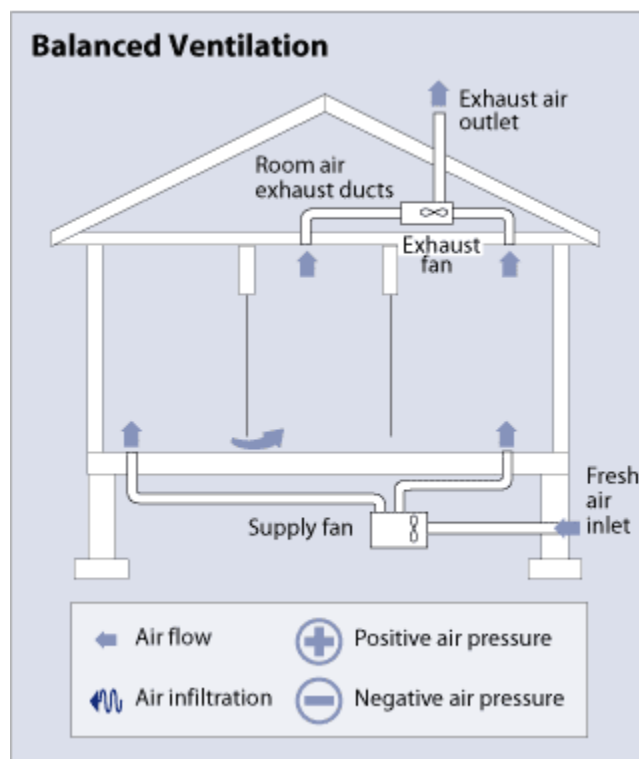


U.S. Department of Energy - Energy Efficiency and Renewable Energy Energy Savers

Whole-House Balanced Ventilation Systems

Balanced ventilation systems, if properly designed and installed, neither pressurize nor depressurize a house. Rather, they introduce and exhaust approximately equal quantities of fresh outside air and polluted inside air, respectively.

A balanced ventilation system usually has two fans and two duct systems. It facilitates good distribution of fresh air by placing supply and exhaust vents in appropriate places. Fresh air supply and exhaust vents can be installed in every room. But a typical balanced ventilation system is designed to supply fresh air to bedrooms and living rooms where people spend the most time. It also exhausts air from rooms where moisture and pollutants are most often generated (kitchen, bathrooms, and perhaps the laundry room). Some designs may use a single-point exhaust. Because they directly supply outside air, balanced systems allow the use of filters to remove dust and pollen from outside air before introducing it into the house.



Balanced ventilation systems are appropriate for all climates. However, because they require two duct and fan systems, balanced ventilation systems are usually more expensive to install and operate than [supply](#) or [exhaust](#) systems.

Like both supply and exhaust systems, balanced ventilation systems do not temper or remove moisture from the make-up air before it enters the house. Therefore, they may contribute to higher heating and cooling costs, unlike [energy recovery ventilation systems](#). Also, like supply ventilation systems, outdoor air may need to be mixed with indoor air before delivery to avoid cold air drafts in the winter.

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Reading List

- *Whole-House Ventilation* ([PDF 399 KB](#)). (December 2002). DOE/GO-102002-0778.
U.S. Department of Energy.

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Content Last Updated: March 24, 2009

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