



THE SECRET TO GOOD INDOOR AIR QUALITY: GOOD VENTILATION

JUST LIKE RELIABLE PLUMBING AND DEPENDABLE HEAT, GOOD VENTILATION INSIDE YOUR HOME IS ESSENTIAL FOR YOUR COMFORT AND SAFETY.

You've heard all about outdoor air pollution and how harmful it is for your health, but did you know that indoor air pollution can be just as bad? In fact, because most of us spend about 90 per cent of our time indoors, indoor air pollution can actually be a bigger health risk than pollution in the air outside, even in crowded cities and industrial areas.

All homes need good ventilation—the exchange of stale indoor air for fresh outdoor air—to reduce harmful indoor air pollution; protect against potentially dangerous gases like carbon monoxide or formaldehyde (used in a number of different building materials and household products); eliminate excess moisture, which can lead to mold, mildew and allergies; and remove unpleasant odours.

KNOW THE SIGNS

It's usually pretty easy to tell if you have a ventilation problem in your home. For example, your ventilation most likely needs work if you consistently notice:

- your eyes become red and irritated when you're at home
- condensation on the inside of your windows
- strong, lingering odours in your kitchen or bathroom, or
- mold or mildew in a closet or on a ceiling or wall.

You may be able to fix your ventilation problems easily, just by removing or avoiding common sources of moisture and odours. For example, you may simply need to take shorter showers or run the bathroom fan longer to reduce the moisture in the air (please see our tip sheet called *Reduce Condensation, Increase Health and Comfort* for detailed information about reducing moisture in your home).

But if you can't solve your ventilation problems through simple measures, you may need to consider changing your current ventilation system or adding additional ventilation to your home.

WATCH OUT!

Some homeowners today go overboard in their attempts to make their homes energy-efficient and cut down on their energy bills. Just remember that it is possible to seal your home too tightly.

To ensure good indoor air quality and manage indoor moisture sources, you need at least some fresh outside air coming into your home.

VENTILATION STRATEGIES

There are three basic ventilation strategies:

NATURAL VENTILATION

Natural ventilation is fresh, outside air brought into your home either deliberately, through open windows and doors, or accidentally, through cracks, gaps and small holes.

Natural ventilation used to be the most common way to ventilate a home. Today, however, many of us live in noisy or crowded areas or have central heating and cooling systems, so we don't want to open windows and doors as often, and most of us are also trying to make our homes more energy-efficient, so we're sealing them better to avoid cold drafts and air leaks.

The result is less natural ventilation in many homes, and more need for spot ventilation or whole-house ventilation.

SPOT VENTILATION

Spot ventilation improves the effectiveness of both natural ventilation and whole-house ventilation by removing indoor air pollutants and moisture or odours at the source.

Your home should have good, efficient exhaust fans over the kitchen range and in every bathroom, and you should use them during and for a few minutes after you cook or shower. Make sure that all your fans exhaust directly outdoors; they should not exhaust into your attic or simply re-circulate indoor air.

To improve the ventilation in your home, we recommend that you invest in new kitchen and bathroom fans if yours are more than about 10 years old.

WHOLE-HOUSE VENTILATION

Whole-house ventilation systems use fans and ducts to provide controlled, uniform ventilation throughout a home. They come in four types:

- Exhaust ventilation systems force inside air out of the home, and rely on outside air coming in through what are called passive vents (small openings deliberately cut through outside walls), as well as small cracks and gaps. These systems are relatively simple and easy to install and usually consist of a single fan connected to a single exhaust point.
- Supply ventilation systems force outside air into the home. Like exhaust ventilation systems, they are relatively simple and easy to install, but do require ductwork. The typical supply ventilation system uses both a fan and a series of ducts to deliver fresh air into the rooms that you use most often, such as the living room and bedrooms.
- Balanced ventilation systems force equal amounts of air into and out of the home, usually using two fans and two duct systems: one to send fresh outside air into the rooms where you spend most of your time (living room and bedrooms), and one to force stale indoor air out of the rooms where most pollutants, moisture and odours are generated (kitchen and bathrooms). These are usually more expensive to install and to operate than exhaust or supply systems.
- Heat recovery ventilation (HRV) systems transfer heat from incoming or outgoing air to minimize energy loss. An HRV system uses a supply fan to replace the air removed by an exhaust fan, and will recover up to 80 per cent of the heat from outgoing moist air—which is great for your energy bills, but an HRV unit is expensive so you'll need to think carefully before you buy.

Talk to a contractor or the staff at your local home improvement or hardware store about selecting the right ventilation system for your home and your location, and hire a professional to install it.

WHAT TO LOOK FOR IN A NEW KITCHEN OR BATHROOM FAN

There are three things to keep in mind when you look for a new exhaust fan for your kitchen or bathroom: size, noise level and energy efficiency.

- **Size:** Big is not always better in fans. A fan that's too large and powerful can cause backdrafting, where air and potentially dangerous gases are sucked down a chimney and into your home. You want a bathroom fan that will supply eight air changes an hour and a kitchen fan that provides about 40 cfm per lineal foot of range hood.
- **Noise:** A fan's sound output is measured in sones. The quietest bathroom fans have sound ratings of 0.5 sones or less. Kitchen fans move more air and are louder, with the quietest rated at about 2.0 sones. Buy as quiet a fan as you can afford—you'll use it more often!
- **Energy Efficiency:** The energy efficiency of an exhaust fan is expressed as cubic feet per watt (cfm/W); the larger the cfm/w, the more efficient a fan is. Look for small bathroom fans with a minimum of 1.4 cfm/W, and larger bathroom fans and range hoods with a minimum of 2.8 cfm/W.

POWER SMART IS YOUR SOURCE FOR HELPFUL AND PRACTICAL INFORMATION ABOUT YOUR HOME, INCLUDING HOW YOU CAN SAVE ENERGY EVERY DAY.

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