



Assuring good ventilation will protect everyone. Good ventilation will keep bad odours, irritating pollutants and potentially harmful gases like carbon monoxide as well as the formation of mould and/or mildew out and away. People spend about 90% of their time indoors which reinforces the need for clean, ventilated air. Proper ventilation will protect your home from many different kinds of damage.

How to save your air

There are many ways to keep your home ventilated and fresh air is one of them. You can open a window; turn on fans in the bathroom or over the stove, which removes moisture and odour. There are other common ways that the home ventilates which include chimneys and clothes dryer fans.

There are signs that will tell you that there is a ventilation problem in your home as well as some questions you should be asking about your home ventilation system. If there is a mouldy, locker-room like smell coming from the walls, mould or mildew in the closet, or on the ceiling or exterior wall, condensation on the inside of your window, whether or not the exhaust fan that is over your kitchen stove is vented to the outdoors, and if there is an exhaust fan in every bathroom.

The main thing to remember is that you must identify the source before you can solve the problem. There are a few ways to improve the problem once you have discovered what it is. To limit your risk you should do the following; remove firewood that is kept in the house, clean an empty trash can, use milder cleaners and water based paints to avoid chemical odours, clean surface mould and mildew but keep in mind that some moulds can be dangerous when released, open a window to help ventilation and in order for the fresh air to circulate, turn on a fan and allow the fresh air to get around.



Costs of ventilation

There are many ways to ensure proper ventilation at a sensible cost. Depending on the design of your house, location and specific ventilation needs, a ventilation system can range from \$500 to \$5000. The cost to operate a ventilation system can vary from almost nothing to a couple hundred dollars a year depending on the aforementioned variables. To ensure that operating costs are as minimal as possible for a new home, try to make sure that your home is well insulated, tightly sealed and has a well designed ventilation system.



How to ventilate properly

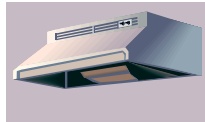
There are two general methods to ventilate your home, the first is called, "spot ventilation", and the second is called, "general ventilation". *Spot ventilation* is meant for localized pollution sources. Spot ventilation uses exhaust fans to collect, then remove pollutants before they spread through your home. Main areas in the home that use spot ventilation are; bathrooms, kitchens, and laundry rooms because these rooms generally contain the highest amount of odours and moisture. *General ventilation* fans are always running so that they can control pollutants from sources that cannot be spot-ventilated. These sources include carpets, furniture and drapes, which release fabric fibres and gases such as formaldehyde. Spot-ventilation is not effective in these areas because the areas are too large and spread-out. *General ventilation* mixes the outdoor air with stale indoor air.





What to look for in a ventilation system

There are three main things to look for and they are; the size of the fan, the noise level of the fan and the energy efficiency. If the fan does not meet the three main criteria then it will not be used very often and would therefore not be very efficient. It is best if your range hood has a larger capacity than suggested and it should also have multiple speeds so that it can meet specific needs. However, a fan that is too large could cause back-draft problems. The sound output of fans is rated by something called "sones"; this gives the fan the appropriate rating according to how loud the fan is. The higher the sone rating the louder the fan. It is important to get a fan with a low sone rating, because the louder the fan the less likely people are to turn it on. A fan needs to be turned on in order to operate and people do not like loudness. For this reason you should buy the quietest fan that you can afford.



Once you have chosen the appropriate fan for your home, you must be sure to install or have it installed correctly. The exhaust ducting should be sized, sealed and properly insulated. If the ducting is too small or has too many bends in it, the fan will not operate to its full potential. The exterior vent hood must be positioned so that it will not cause moisture damage to exterior surfaces.

Controls are important in making sure that the fan operates when and as often as it should. There are two main types of controls, manual and automatic.

Manual controls; have a simple on and off switch, timers (spring wound or electronic) and delay-off switches. The basic advantage to the manual control is that you can turn it on and off when ever you please. The disadvantage is that because you can shut it off, often it is never used.

Automatic controls; come fully or semi-automatic. A fully automatic switch, allows you to set it and forget it. A semi-automatic control is an automatic control that has an override switch. Automatic controls have motion sensors, humidity sensors and automatic timers. The automatic timers are occasionally used to control



bathroom fans that provide ventilation for the whole house at the rates described under the building code. This means that it must have two 4-hour operating periods per day.

It is absolutely vital that if you have heating appliances with chimneys, make sure that the fan will not cause the appliances to back draft. Most systems rely on leaks and cracks throughout the house to replace the air that is being exhausted out by the fan. If you intend on installing a high capacity exhaust fan, you might need a matching supply air fan to balance the air pressures within the home. When determining the many details involved in deciding on a ventilation system, it is advised that you consult with a professional contractor.