



Helping Your Home Breathe

By Tom Lienhard, PE, CEM

Besides people and pets, there are many things in our homes that need clean fresh air to stay safe and healthy, but stopping air leaks is an important step in making our homes energy efficient. So, what is the right balance?

All homes need air to keep combustion devices like natural gas furnaces and water heaters operating efficiently and safely, and to keep down moisture and mold, eliminate stale air, and reduce contaminants from building materials like carpet, paint and drywall. According to the Building Performance Institute, one air change of the entire house is needed every three hours.

Usually the air exchange occurs through doors and windows being opened as we use them, from "air in-takes" in home or furnace duct systems, from fireplaces, and from using exhaust fans in bathrooms and kitchens. Air is also exchanged through cracks or holes around windows, doors and pipes, but you lose mechanically heated or cooled air through those openings. To help make your home energy efficient, you should seal those and other air leaks by caulking, adding insulation, painting and installing vapor barriers, among other measures.

No-cost or low-cost ways to ensure that your home is energy efficient yet has adequate air exchanges are opening windows and doors when weather permits and using bathroom and kitchen fans for limited times. Changing the filter on your furnace and air conditioning system will help ensure they are operating efficiently and keeping the air in your home clean.

Another option is installing an energy recovery ventilator that exchanges indoor air with outside air with minimal impact to your energy use. Also, installing a dedicated outside air duct (OSA) that is connected to the main return duct on your furnace can ensure a fresh air source, allowing you to be able to seal your home as tightly as you would like.

A certified Heating, Ventilation and Air Conditioning (HVAC) professional can help you determine the best equipment for your home. A professional home energy audit can also give you the exact figures and understanding you need to maintain the air quality in your home.

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