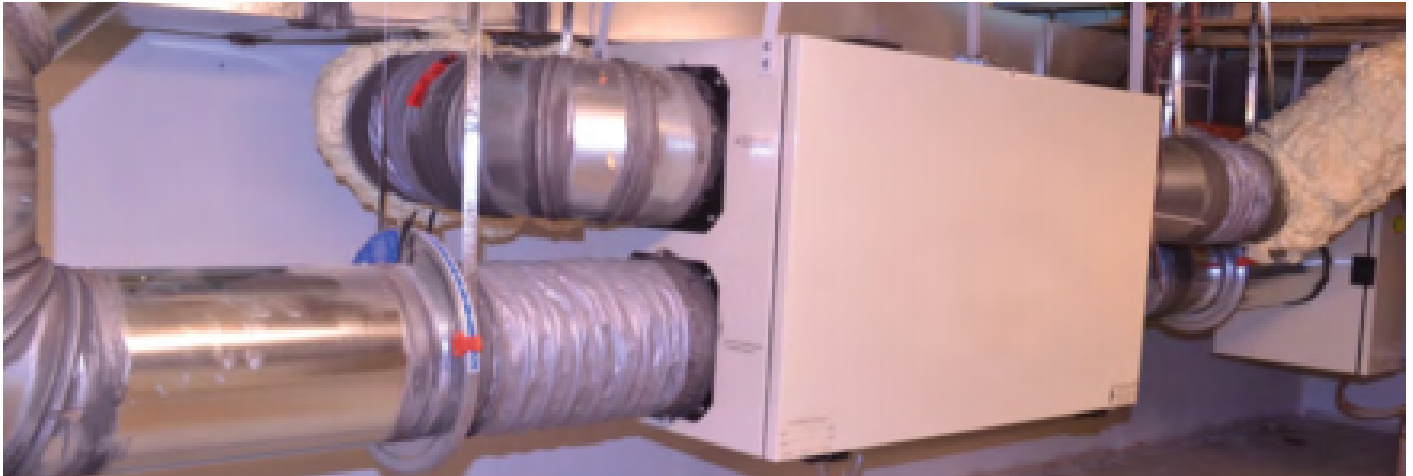


HOUSING NEWSLETTER

FALL ISSUE | 2020



Heat Recovery Ventilators (HRVs)

"Shut that door and keep the heat in!" — it's a familiar cry in winter. However, in summertime you're more likely to see people closing doors and windows to keep the heat out and save on the air-conditioning.

How can you have an airtight, energy efficient home that's also healthy and well-ventilated? Heat recovery ventilation (HRV) offers a solution. Bringing fresh air into your home without letting the heat escape.

This newsletter will be focusing on Heat Recovery Ventilators (HRVs), The topics include How it Operates, Maintenance, and Troubleshooting. Let's take a closer look at what it is and how it works!

CONTENTS:

- 2 - *What is An HRV?*
- 3 - *Operating An HRV*
- 4 - *Benefits of HRVs*
- 5 - *Common HRV Questions*
- 6 - *HRV Maintenance*
- 7 - *HRV Troubleshooting*
- 9 - *Contractor List*

POINTS OF INTEREST:

- Common Questions*
- Benefits of an HRV*
- Troubleshooting*

What Is The Heat Recovery Ventilator (HRV)?

A stuffy house isn't a comfortable house. Sure, you can always open a window or door, but that isn't practical during the really hot or cold Ontario months. Not to mention, this invites pollen and other possible allergens into your home. So what's the solution for fresh air in your home?

A Heat Recovery Ventilator, or HRV.

The HRV is a great way to enjoy natural, fresh air in your home year-round. The Heat Recovery Ventilator acts both as humidity control as well as the home's primary ventilation system.

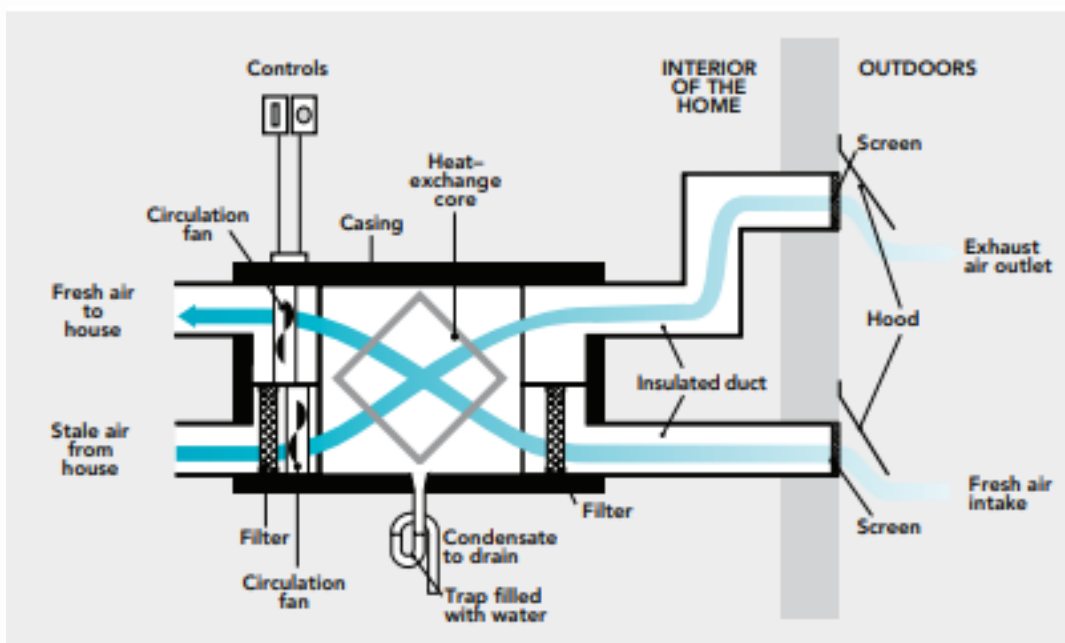
It is a very energy efficient system that pulls the stale air from inside your home while simultaneously replacing it with fresh air from outside your home.

HRVs supply and exhaust equal quantities of air to and from a house while transferring heat between the two air streams to reduce energy consumption and improve thermal comfort.

What makes an HRV unique and energy efficient is that it uses heat transfer to ensure that the air being supplied to the home is a comfortable temperature.

The HRV's heat exchange core transfers heat from the outgoing stale air stream to heat up the incoming air stream.

This heat transfer is done without the two airstreams ever mixing; ensuring that you only have fresh air being supplied to your home.



The illustration to the left shows the components of a ventilation system using an HRV.

Note: Your HRV may not have all the parts shown here.

HRVs: How They Operate



An HRV works by drawing in the stale, warm air from inside your home along with the cooler, fresh air from outside your home. With these two separate airstreams in the system, they cross paths and a heat transfer occurs between them.

Following the heat transfer, the stale air from inside your home is now cooler and is deposited outside.

Meanwhile, the fresh air is now warmer and is supplied to the home. Through this transfer, there is no energy wasted and your home is kept comfortable.

The HRV system provides the primary source of outdoor air for the house. In order to ensure that indoor air quality is maintained at the desired level, keep the following key points in mind:

⇒ Although windows can be opened at any time of the year, they will not necessarily enhance indoor air quality and, in many cases, will lead to increased heating and cooling costs.

⇒ The HRV is intended to operate on a continuous basis to remove moisture and pollutants generated by normal human activities.

⇒ Shutting off the HRV for prolonged periods can lead to a build-up of indoor air pollutants and humidity, which can lead to the growth of mould and mildew, and can potentially void your warranty insurance policy.

BASIC OPERATING MODES:

Units may be specified with a range of operating modes. You should know which operational options are available for your system and what they can control.

PROGRAMMING THE HUMIDISTAT:

If a central humidistat is used to raise or lower the ventilation rate of an HRV system, it can be programmed and/or manually adjusted to respond to seasonal changes in climates where humidity control is a concern. For example, the humidistat can be set to a higher relative humidity (RH) percentage during warmer months if desired. The setting should be based on what you find comfortable, but should always be low enough to prevent condensation from forming on the windows. The typical range is between 30% and 60% relative humidity.

SCHEDULING:

A timer may be used and programmed to occupants' schedules. For hourly schedules, daylight savings time will typically require reprogramming twice per year.



Benefits of A Heat Recovery Ventilator

Heat ventilation systems offer homeowners many benefits. The most prominent benefit of all is fresh air ventilation. As the quality of homes has improved with better seals and insulation, homes have become more airtight and as a result, less well ventilated.

An HRV system provides much needed home ventilation without the loss of heat or humidity in your home. This saves stress on your home's furnace or air conditioning system and ultimately helps keep utility costs lower.

The benefits to HRVs don't end there! HRVs also provide improved indoor air quality, increase home longevity through the removal of moisture, control winter condensation and reduce the amount of allergens such as pollen that get introduced into your home.



CONTINUOUS CLEAN FRESH INDOOR AIR

A HRV system supplies fresh clean air continuously into your house at all times. The system has the capacity to remove indoor pollutants, bad odors and reduce humidity. This ensures that you and your family live in a healthy environment with plenty of fresh air.

ENERGY EFFICIENT

HRVs are designed to operate optimally at a low energy consumption level. It is designed to absorb heat and air from your house, pump it to the outside environment, absorb fresh air from the outside and pump it into your house without using too much energy

REDUCES CONDENSATION

Dampness and condensation are among the most common problems faced by most homeowners. Condensation can cause a number of health issues and can lead to growth of moulds in your home. A HRV system removes water vapor that is produced in the home and ensures that there is no moisture that will cause condensation and dampness in your home.

EASY TO INSTALL

HRVs are compact in size. It can be installed in the attic, in the adjoining garage, or basement. Other models can be easily fitted in a hot-press in the kitchen. This means that you can fit the unit anywhere in the house without taking up too much space.

DURABLE

These systems require minimal maintenance and they last longer. With proper and professional installation, a unit can serve you for years without breaking down. Scheduled maintenance practices are however required once every few months.

Common Questions About the HRV

WHY IS PROPER VENTILATION IN MY HOME SO IMPORTANT?

Controlling Moisture Levels in your home - from cooking, bathing and breathing. Too much moisture may not only cause condensation which can damage the structure of your home but also provides a breeding ground for mould, mildew & bacteria. *Ridding your home of pollutants and Contaminants* – construction materials used in new homes and furniture as well as regular household products may release toxic fumes and gases that contribute to poor indoor air quality and possible health issues.

HOW IS AN HRV SYSTEM DIFFERENT FROM A REGULAR AIR EXCHANGER?

HVR systems move old, stale air out of your home and draw fresh air in. A HRV system transfers (recovers) as much as 80% of the heat energy from the out-going air to the clean fresh air coming in. Good for the environment and for your wallet.

CAN AN HRV SYSTEM BE INSTALLED IN AN OLDER HOME?

Yes. A heat recovery ventilation system can be custom fit to your home.

HOW DO I MAINTAIN MY VENTILATION SYSTEM ONCE IT'S INSTALLED?

Regular Maintenance of your HRV system is required to keep it working properly. In fact an improperly serviced HRV may not only contaminate the incoming air but also reduce the transfer of heat energy from 80% to as low as 20%.



HOW DO I ADJUST THE HRV SETTINGS?

Recommended settings for your HRV system:

Spring | Mid-June: Turn wall control to a high setting (above 70)

Fall | Mid-October: Turn wall control back to its regular setting (usually 45)

Every 3 Months: Remove & Clean Filters and Clean Exterior Vents

Annually: Get your HRV serviced by a licensed technician.

WILL AN HRV SYSTEM WORK WITH ALL HEATING SYSTEMS?

Yes. It is independent of the heating system in the house.

ARE THERE HEALTH BENEFITS TO INSTALLING AN HRV?

According to Health Canada, 1 in 4 Canadians reported health problems linked to poor indoor air quality. Indoor pollutants can contribute to health issues such as allergies, headaches, fatigue, asthma and other respiratory conditions. Removing contaminated air from your home and bringing in fresh air can alleviate these symptoms.

DOES THE SAME AIR GET RECYCLED?

No. There are two vents: one draws the warm stale and polluted air from the living areas of your home through the HRV system to be released outside. The second draws a continuous stream of cool fresh air in through the system to be distributed throughout your home. The ducts run side by side and only the heat energy is transferred from one to the other.

HOW MUCH DOES IT COSTS TO INSTALL AND HRV SYSTEM?

The cost to install a HRV will vary depending on the size of the home, whether it's newly constructed or requires retrofitting, and the complexity of the installation,



HRV Maintenance

Your heat recovery ventilator (HRV) can help make your house a clean, healthy living environment, while keeping your fuel bills down. But your HRV can't do this without your help. It only takes seven simple steps every three months to keep your HRV in good working order:

STEP 1: Turn off your HRV: First, turn off your HRV and unplug it.



STEP 2: Clean or replace air filters: Dirty or clogged filters can lower ventilation efficiency. Try to clean your filters at least every three months. Filters in most new HRVs can be easily removed, cleaned with a vacuum cleaner, and then washed with mild soap and water. Older units have replaceable filters. If your HRV is easily accessible, this is a five-minute job.

STEP 3: Check outdoor intake and exhaust hoods: Remove leaves, waste paper or other obstructions that may be blocking the outside vents of your HRV. Without this vital airflow, your HRV won't function properly. During winter, clear any snow or frost build-up blocking outside vents.

STEP 4: Inspect the condensate drain: Check to see if your HRV has a condensate drain – a pipe or plastic tube coming out of the bottom – that connects to the sanitary drain. If it does, slowly pour about two litres of warm, clean water in each drain pan inside the HRV to make sure it is flowing freely. If there's a backup, clean the drain.

STEP 5: Clean the heat-exchange core: Check your HRV owner's manual for instructions on cleaning the heat-exchange core. Vacuuming the core and washing it with soap and water will reduce dust that can build up inside the core.

STEP 6: Clean grilles and inspect the ductwork: Once a year, check the ductwork leading to and from your HRV. Remove and inspect the grilles covering the duct ends, then vacuum inside the ducts. If a more thorough cleaning is required, call your service technician.

STEP 7: Service the fans: Remove the dirt that has accumulated on the blades by gently brushing them. Most new HRVs are designed to run continuously without lubrication, but older models require a few drops of proper motor lubricating oil in a designated oil intake. Check your manual for complete instructions.

Follow these seven simple steps every three months to keep your HRV in good working order!



Troubleshooting: Common Operational Issues With the HRV System



THE HRV IS NOT OPERATING:

1. Verify that the HRV control is turned on.
2. Ensure that the HRV is plugged in and the electrical cord undamaged.
3. Check for a tripped circuit breaker or blown fuse.
4. Check that the access door is fully closed.

THE HRV IS OPERATING BUT THERE IS LITTLE OR NO FRESH AIR FLOW:

1. Check the exterior hoods and associated ductwork for blockage and clean as required.
2. Check the filters and clean or replace as required.
3. Check the indoor ducts and registers in rooms for blockage (closed dampers, lodged items, etc.).
4. Check the core for freezing/frosting (see next issue)

THE CORE HAS FROZEN:

1. Open the access panel and let any ice melt. Some cores can be removed and thawed in a sink.
2. Check the filters and clean or replace as required.
3. With some HRV models, the preheating or defrosting mechanism can be checked by following the manufacturer's instructions in the owner's manual.

THERE ARE COLD DRAFTS COMING FROM THE FRESH AIR GRILLES:

1. Check to see if the exhaust or return air stream is blocked.
2. Check the core for freezing.
3. Check that adequate insulation is covering ducts running within unheated spaces.



Troubleshooting: Common Operational Issues With the HRV System

THERE IS POOR AIR QUALITY, EXCESS MOISTURE OR HIGH HUMIDITY THROUGHOUT THE HOUSE:

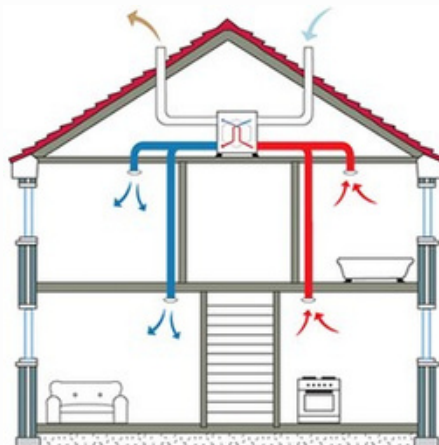
1. Adjust the humidistat (if any) to provide more dehumidification.
2. Check the core for freezing.
3. Reduce sources of interior humidity through the following measures:
 - a. Put lids on cooking pots and use the kitchen exhaust fan
 - b. Clean dryer lint traps
 - c. Store fireplace wood outdoors
 - d. Don't hang laundry to dry inside except in bathrooms (where the HRV exhausts are located)
4. Ensure HRV is operating continuously or on sufficient cycle over 24-hour period; adjust flow rate upwards in small increments so the right amount (and not too much) ventilation is provided.
5. Check that condensate pans in HRV housing are clean and are draining properly.
6. If the problem persists, consult with a professional as the HRV's flow rate may be inadequate.

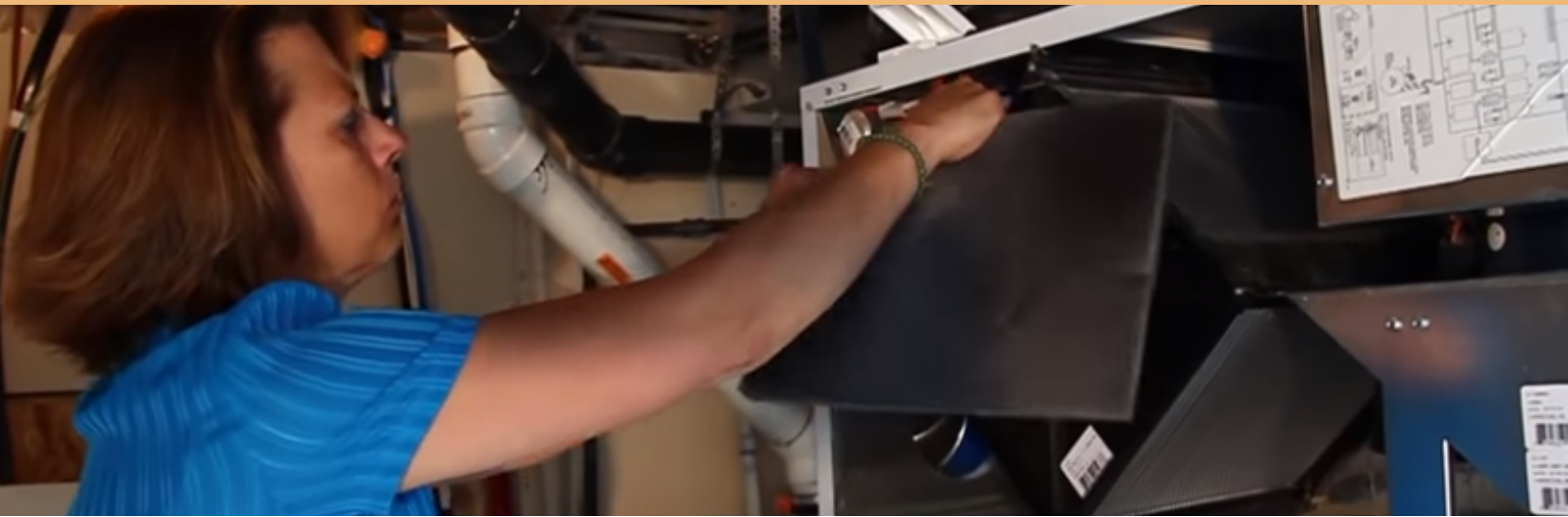
THE AIR IS TOO DRY IN THE WINTER:

1. Adjust the humidistat (if any) to provide less dehumidification.
2. Run the HRV on the lowest setting.
3. Consider installing an Energy Recovery Ventilator (ERV) instead of an HRV, which may increase winter humidity. Some HRVs can be converted to ERVs, at less cost than installing a new unit, by changing the core.

THE UNIT GIVES OFF UNUSUAL NOISE AND VIBRATIONS:

1. Oil the fan motors (if not self-lubricating) using non-detergent motor lubricating oil and as recommended by the manufacturer.
2. Inspect and clean the fan blades and heat-exchange core as required.
3. Check filter and core condition – clean as necessary





Qualified Contractors for HRV Repair



CLOW DARLING
(807) 623-7485

KEMP MECHANICAL
(807) 473-7999

THERMAL MECHANICAL
(807) 345-5200

**** NOTE:** The Fort William First Nation Housing Department **WILL NOT** issue reimbursements for service calls that are not initiated by the Department, or it's staff. Homeowners will be responsible for the costs associated with their service call.**



FWFN HOUSING
(807) 633-3959



Internet Help

There are many Internet sites that help explain the procedure for Troubleshooting your HRV. Going to **www.youtube.com** and typing in **Troubleshooting Your HRV** will take you to many videos on this topic.

There are also videos on the other topics that have been discussed in this newsletter such as the Operation of the HRV, and the Benefits of the HRV System.

Remember: Some videos demonstrate specific details of **Troubleshooting** an HRV System. **DO NOT ATTEMPT any servicing of the internal components of your HRV System. This device contains electrical components which should only be inspected and serviced by a certified technician.**