Balanced ventilation

Air exchangers provide fresh air for occupants that used to be provided by leaky houses—before we insulated and sealed them properly.

**Balanced ventilation**

Air exchangers do exactly what their name implies: they exchange stale indoor air with fresh air from the outside. Although the energy savings derived from using an air exchanger is often minimal, the benefits to occupants are significant. As buildings have become tighter, less air moves through leaks around windows, doors, chimneys, etc. This can lead to an unhealthy build-up of odors, carbon dioxide, or volatile organic compounds (VOC). Opening a window may allow fresh air in, but at a considerable energy loss. Air exchangers provide the fresh air needed for occupants and minimize the energy losses for heating or cooling.

- **Heat recovery ventilation (HRV)** is a system that exhausts air from inside of a home and replaces it with outdoor air. During this process the system captures heat from the air being exhausted and uses it to preheat the air entering the home. The air flows (fresh and exhaust) don’t mix.

- **Energy recovery ventilation (ERV)** is a system that does everything that an HRV does with the addition of transferring moisture from the exhausted air into the air entering the home (in the winter) and restricting moisture from incoming air (in the summer). This can provide higher comfort for occupants by balancing the humidity levels inside the home.

**Maintenance of ventilation systems**

All ventilation systems require periodic maintenance to ensure safe and efficient operation.

- HRV and ERV units should have filters cleaned or replaced in the spring and the fall. Vent openings on the exterior of the home should also be checked for blockages from snow, debris, or insects.

- Exhaust fans should have the fan cleaned once a year, and the dampers on the venting should be inspected once a year to ensure that they are working properly. Kitchen exhaust fans should have the metal filters in the hood washed every few months or when grease builds up.