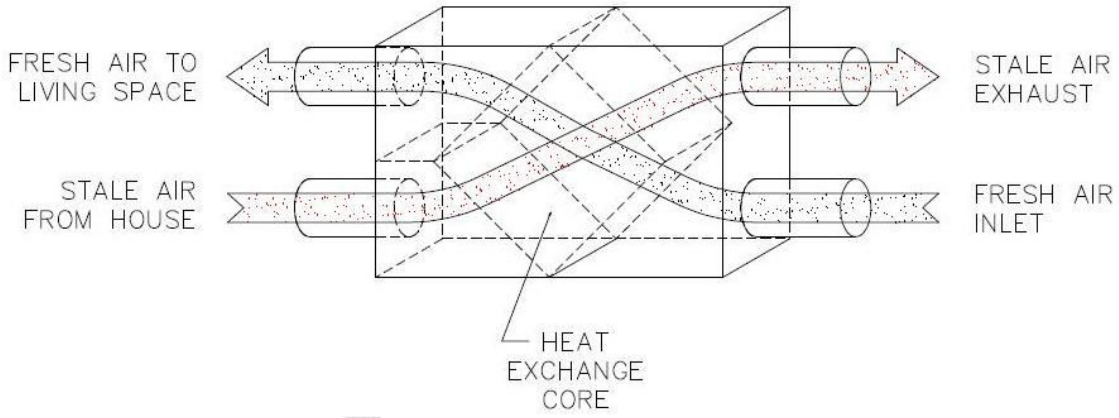
Heat Recovery Ventilation (HRV) and Energy Recovery Ventilation (ERV)

True Heat Recovery Ventilation (HRV) and Energy Recovery Ventilation (ERV) both are designed to pass the waste stale warm heat and energy from your home through an air to air heat exchanger in your roof cavity to warm the fresh cold outside air coming into your home.

Basically they preheat the air coming into your home with the waste air that is being exhausted from your home.

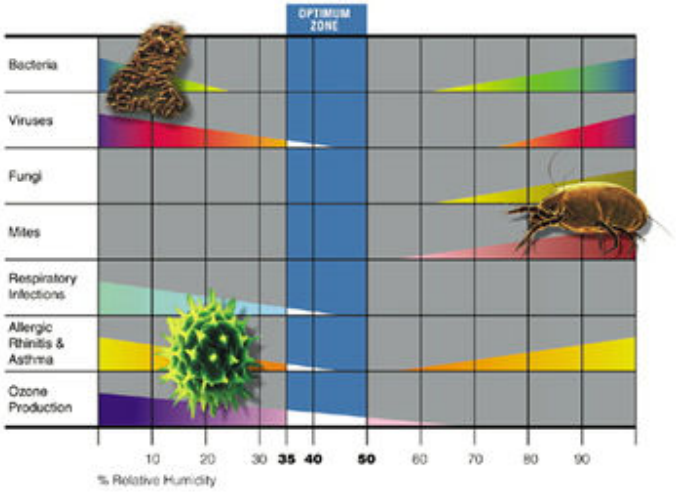
These systems are best used in situations where you will be heating the home for many months of the year for 24 hours of the day using central heating, whether it is ducted hot air or radiators through out the house, countries like Canada and northern Europe for example. New Zealand has quite a temperate climate in comparison and these products are likely to be of benefit only up in the central plateau in the North Island and from Omaru south in the South Island.



A true Heat Recovery Ventilation system (HRV) uses a metal heat exchanger (often aluminum). As the stale damp warm air from the home passes through the heat exchanger the moisture condenses and requires a drain to run the excess away.

This type of system can also take the steam from your bathroom and ensuite fans and Kitchen range hood using even more waste heat to heat the incoming cold fresh air, the downfall with doing this is that you increase the quantity of moisture and fats etc that then needs to be filtered to both keep your heat exchanger clean and catch and control more water to waste. This will increase the need to have the heat exchanger cleaned and inspected more often.

The Energy Recovery Ventilation system (ERV) is basically the same as the HRV but uses a paper/fabric type of heat exchanger. This was designed for use in dry cold climates such as Canada and Northern Europe. The reason for this is that the paper heat exchanger is dampened by the outgoing air which in turn dampens the incoming fresh air helping to keep more moisture in your home, this system is not recommended for damp climates as we have in most of New Zealand.



Both the HRV and the ERV - when used in the correct conditions and environment will benefit a home, that is where the home is typically heated 24/7 and for more than 5 months of the year, this is when they start to become an economic proposition, in other more temperate climates they will be an over kill in both cost and complication.

The difference is that the HRV is best used in damp or coastal areas, where in these conditions we need to keep the Relative Humidity **down** to 50% humitity. The ERV is best used in the dryer inland climates where the out going moisture is collected and brought back into the home, to help keep the Relative Humidity **up** to 50% humitity

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