

Analysing heat exchanger in ventilation systems

Ventilation systems use heat exchangers to heat intake air by using energy from the exhausted air. Up to 83% of the energy from the exhaust can be recovered. This number is referred to as the “Temperature Transfer Efficiency” or the “Heat Exchange Rate” and is a measure of how efficient the heat exchanger is. Heat exchangers wear out over time. An older heat exchanger will not be as efficient as when it was new. Correct installation is required for the heat exchanger to perform optimally

Challenge

- Building owners don't know how efficient the heat exchanger in the ventilation system is.
- Building owners don't understand the cost of an inefficient heat exchanger.

Solution

- Temperature sensors on internal and external intake and exhaust vents logs actual temperatures over a given time period
- Actual Temperature Transfer Efficiency is calculated using the average temperatures logged during the operational hours of the ventilation system
- Energy cost of ventilation system is calculated taking into account the Temperature Transfer Efficiency, average outdoor temperature, air volume, and hours of operation.
- The analysis will show if the ventilation system is working efficiently, or if it is time to install a new heat exchanger.

What you get

- Neuron Temperature sensors with IP67 rating that withstand dusty and humid environments,



which is normal in a ventilation system.

- Electronic logs of internal and external intake and exhaust temperatures, which are used to analyse the efficiency of the ventilation system.

Products in use

- Neuron Temperature IP67