



FRESH AIR FOR A HEALTHY HOME!

We all know that fresh air does you good.

But our homes are becoming ever more airtight. With blocked up or no chimneys, well-sealed doors and windows, blocked air bricks, higher levels of insulation and our indoor air quality is getting worse. Gases and humidity can build up within our homes causing condensation, mould, and potential breathing issues.



Pollutants and moisture generators in our home can come from:

- People and pets
- Cooking
- Moisture from showers
- Cleaning products
- VOC (Volatile organic compounds) gases from furniture
- Naturally occurring gases such as radon

Air in homes can become stale from these pollutants and needs to be replaced with fresh air supplies.

PURGE AND BACKGROUND VENTILATION

There are two ways to get fresh air into our homes, purge ventilation (by opening doors and windows) and background ventilation which is a method allowing fresh air into the property at a low level continuously.

Background ventilation can be achieved by using trickle ventilators in windows, passive wall vents (no power supply required) or PIV (positive Input ventilation) which is a powered system or MHRV (Mechanical Heat Recovery Ventilation) which are whole house systems.



The more expensive the system generally the better it is at reducing heat loss and sound pollution and the more controllable it is.

BUILDING REGULATIONS

The Government has created new Building Regulation requirements for England from 15th June 2022. Whenever a property's windows are replaced, then background ventilation should be provided to habitable rooms, kitchens, bathrooms etc as the new windows may be more airtight than those being replaced.



The drive to make buildings more energy efficient using improved insulation in walls, floors, roofs and doors/windows, is also a driver for more airtight buildings.

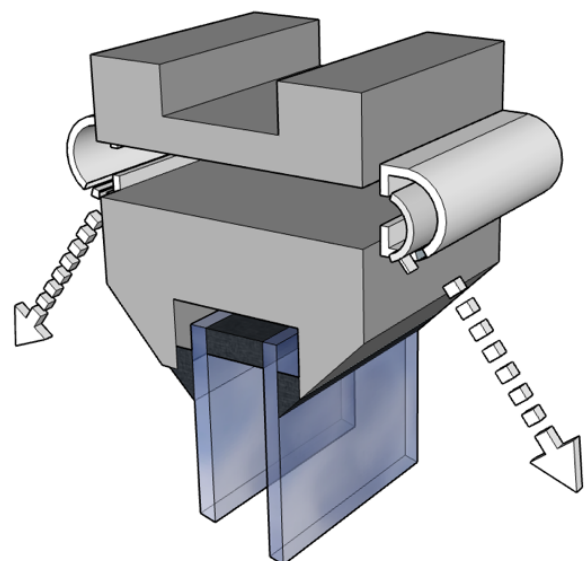
Habitable rooms are those classed as living rooms, dining rooms bedrooms etc. Kitchens and bathrooms which generally have mechanical extraction as well as hallways and utility rooms and while not described as 'habitable' rooms, they are not excluded from the need to incorporate background ventilation, although it may have a different air infiltration rate from those rooms described as a habitable room.

BACKGROUND VENTILATION METHODS

Window Trickle Ventilators

Window trickle vents are generally the cheapest method of complying with background ventilation requirements. They are often considered the least controllable with poorest energy efficiency and most visually intrusive method of providing background ventilation. This may make homeowners adverse to their installation.

To install trickle vents, holes are drilled through the frame, then an external and internal cover is mounted over the holes. The internal side has a plastic flap to manually open or close the trickle vent.



Passive Wall Ventilation

Passive wall ventilation is a method of gaining fresh air into a room via a small hole in the wall. The vents are generally unobtrusive and there are products which are far more controllable, thermally efficient, better sound proofing than window-based vents. They are quick and easy to install into existing properties, it usually involves core drilling a hole in the wall around the same size as a modern gas boiler flue hole. They do not need a power supply, so can be located anywhere in the room generally at high level.

Passive wall vents are generally far superior to using window trickle vents. Two examples of wall vent products are shown below. There are many other options available.

Triton Home Dry Vents

This system is a through wall system requiring a core drilled hole. The system includes a cleanable filter that reduces noise, thermal loss, and pollution ingress.



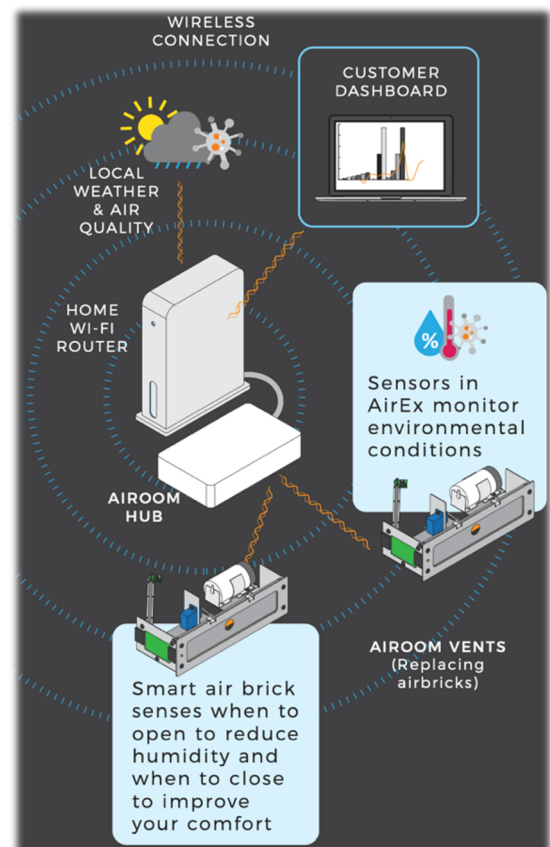
Airex Airoom

Airoom is the size of a standard airbrick and contains smart tech which detects internal air quality and opens and closes as required.

The internal grill can be specified to meet internal decorative requirements.

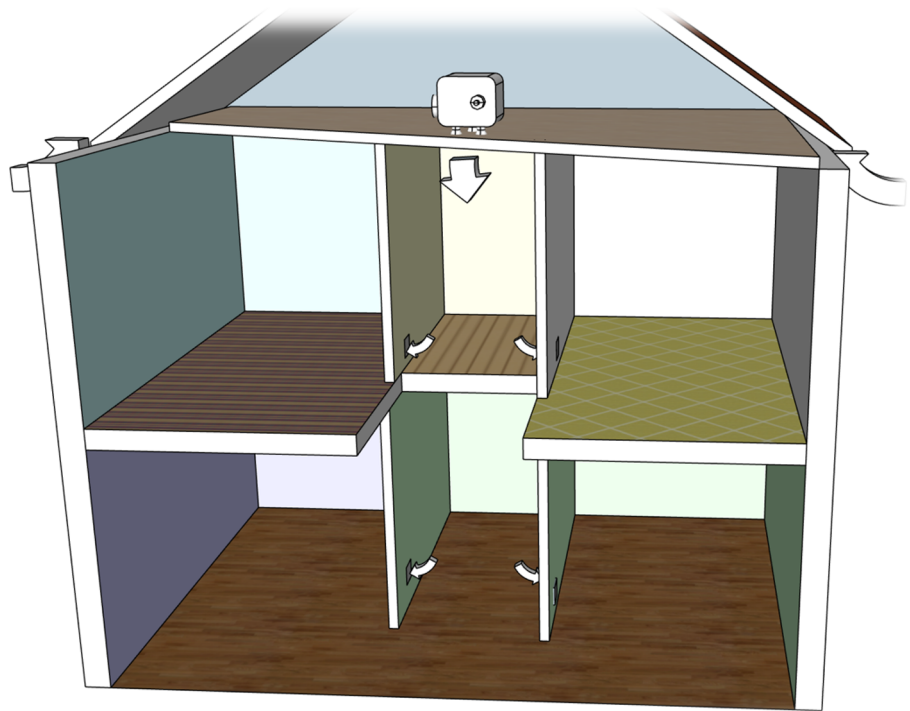
Each vent has replaceable batteries that last up to 3 years before needing replacement. It has a hub which connects to the internet.

The system is independently validated to reduce whole house heat loss by up to 12% and improve airtightness by 9% over standard air vents. Saving up to £88 per year (at 2021 energy) prices with a typical payback period of around 3 years.



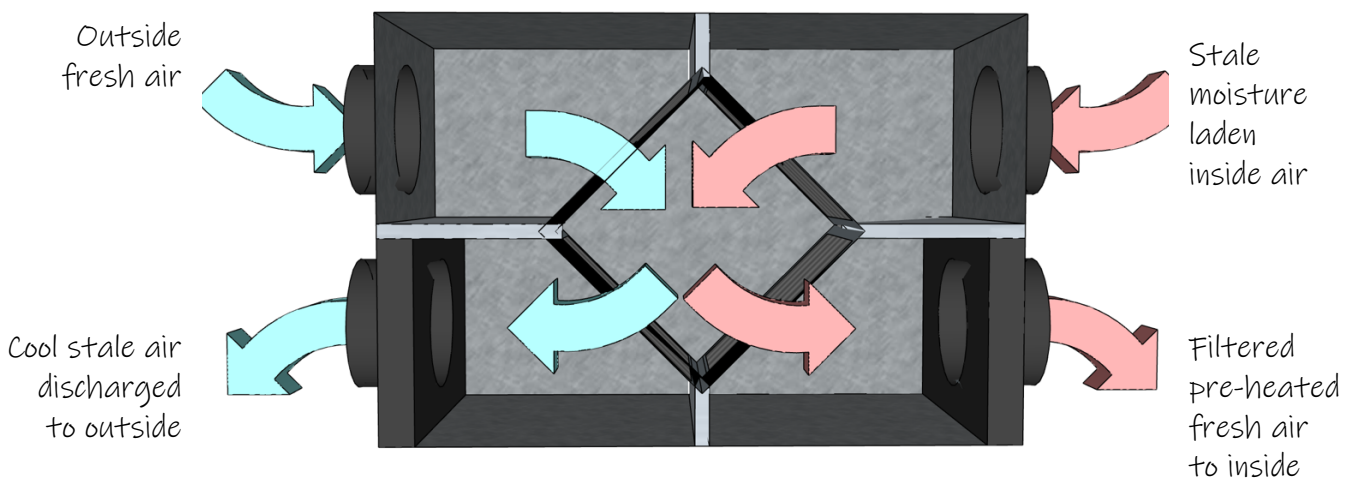
Positive Input Ventilation

Positive input ventilation works basically in the same way as an extractor fan you would find in kitchens and bathrooms, but in reverse. The fan would generally be very low speed to minimise noise and would push fresh air into the room. They can be wall mounted or mounted in a loft and provides filtered air input. They can also be wall mounted.



Mechanical Heat Recovery Ventilation

A whole house system moves warm stale air and fresh air through a heat exchanger. The fresh air is warmed prior to entry into the property. Each room has ducts to extract stale air and input the fresh air. The units contain fans to direct the flow of air and filters to help clean the air also.



This is the best system to use but installation costs will be several thousand pounds.

YOUR CHOICE OF BACKGROUND VENTILATION

Building regulations are legally enforceable and there are potential fines for not complying with them. A window installer makes the legal declaration that an installation meets building regulations through a Competent Person Scheme on your behalf, but you as the homeowner, are ultimately responsible. You may have issues selling your home if the work carried out is not compliant with the Building Regulations, notwithstanding the potential negative health impacts on you and your family from poor air quality.

At the time of ordering new windows, you must choose the type of background ventilation you require and declare it to your window installer to record within the installation contract.

If you are using window trickle vents, these will be specified and installed as part of your window installation contract.

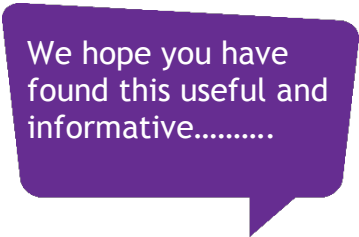
If you are choosing passive walls vents, the installer may be able to carry out this work for you as part of the window replacement work to minimise disruption to you. Alternatively, you can choose an alternate contractor to carry out this work.

Some installers may carry out PIV or MHRV but generally this would be carried out by a separate contractor.

Where you choose passive wall vents, PIV or MHRV installation as a method for background ventilation then **you must** declare this to the installer in the window installation contract documentation and also endeavour to have the work carried out in a timely manner from when the window installation work takes place.

Supplier references uses in this document

- www.tritonsystems.co.uk
- <https://www.airex.tech/airex-room>



We hope you have found this useful and informative.....

If there are any topics that you think you would benefit from, please let us know as soon as possible and if possible, we will add them to the agenda.