

Are you up to date  
with the latest  
Ventilation Building  
Regulations?



**AIRFLOW**   
The future of ventilation



# About Airflow Developments

A British innovator and manufacturer of air movement solutions since 1955

We supply everything from a toilet extractor fan to a MVHR system for the home, workplace and at leisure.

For Domestic, Residential, Commercial and Industrial, we cover it all.

**Air Academy** 

A centre of Excellence for  
Ventilation Solutions



**AIRFLOW**   
The future of ventilation





# Why Do We Need Ventilation

Effective ventilation is needed for:

- Provision of fresh air
- Extraction of stale, waste air
- Dilution/removal of airborne pollutants
- Controlling excess humidity
- Avoid condensation build up leading to damp and mould.





# Characteristics of the Modern Home

- Solid-fuel fires replaced by gas fires
- No air bricks
- Central heating
- Cavity wall insulation
- Double or triple-glazed windows
- Heavily insulated loft spaces





# The Result?

- Well insulated , very energy efficient homes
- Cosy and warm indoor environment

## But

- The home is effectively sealed and unable to “breathe” creating an unhealthy indoor climate





# What are the effects of poor ventilation?

- 40,000 deaths a year linked to air pollution Toxic Home Syndrome can develop Allergies, Alzheimer's and strokes
- The health problems resulting from exposure to air pollution leads to premature death, a high cost to people who suffer from illness and to our health services and to business.
- In the UK, these costs add up to more than £20 billion every year.

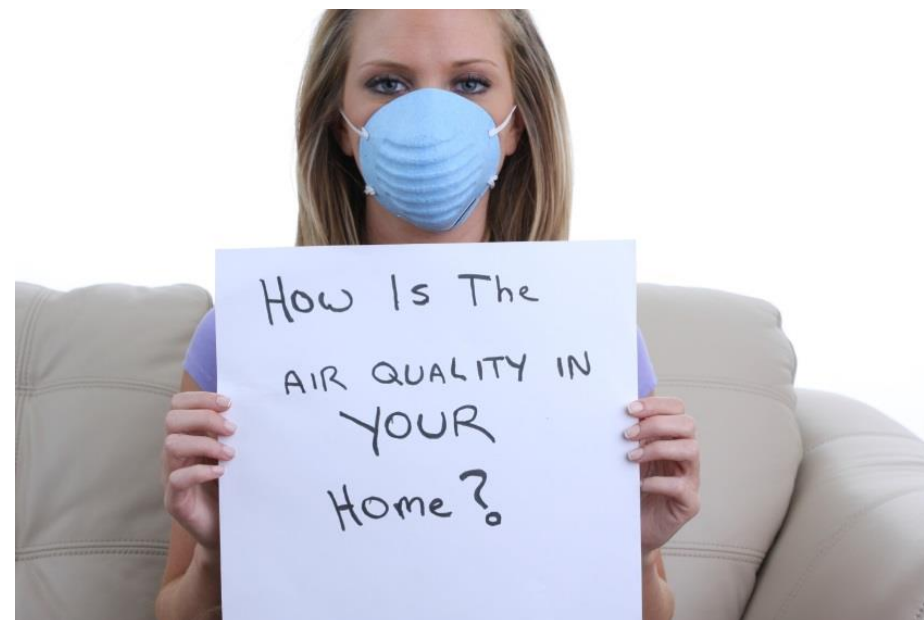


{Source: The Royal College of Physicians: Every Breath We Take: the lifelong impact of air pollution April 2016}



# What is Toxic Home Syndrome?

- It is a build-up of pollutants within the air of your home from fabric, furnishing, paint, cleaning products, VOCs etc
- 15,300,000 homes in the UK are at risk of creating an environment that can cause an increase in respiratory issues
- Uncontrolled moisture is a major source of ill health
- 58% of British people have experience damp and mould in their home







# Landlords Legal Responsibility

- Property owners have a Duty of Care to their tenant's wellbeing
- Dwellings must be fit for human habitation
  - The Housing Act
  - The Home Standard
- Landlord and Tenant act 1985 lists ventilation and freedom from damp as something that can deem a property unfit.
- Under the Defective Premises Act 1972, landlords are responsible for ensuring the habitability of rented accommodation





# Homes (Fitness for Human Habitation) Act 2018

- New amendments came to force in March 2019
- The bill gives private and social renters the right to take their landlord to court over unfit conditions in their home.
  - Including : damp, mould and lack of ventilation

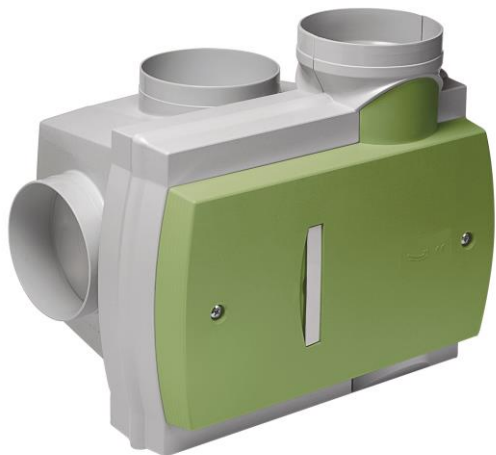




The importance of building and crucially maintaining homes to provide a safe, comfortable living environment and to protect the fabric of the dwelling is paramount



# Our Solutions





# The Technical Bits





# Building Regulations – Approved Document F1 Means of Ventilation:

- Statutory of all new build and refurbishment projects where the work is 'Notifiable to Building Control'
- In any case it is the 'Best Practice' to provide balanced ventilation in any upgrade/refurbishment
- Specifies minimum standard for prescribes ventilation levels by determining extract rates in dwellings for 4 primary approved systems.



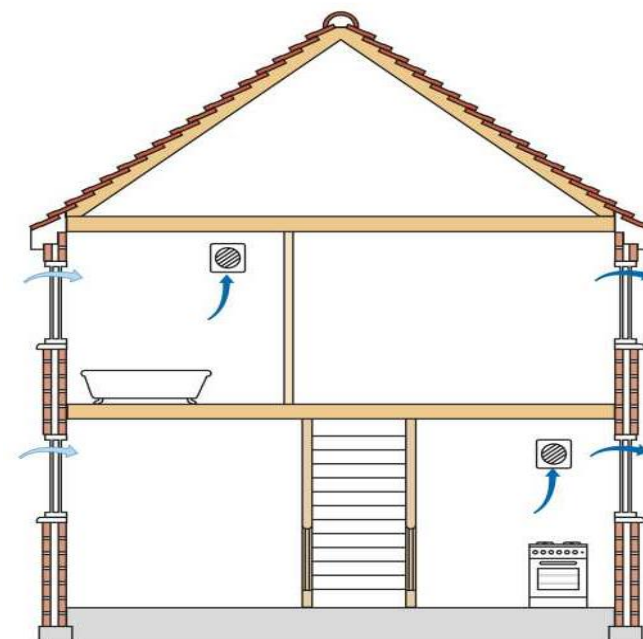
# System 1 – Intermittent Extract Fans

- Extract fans operating intermittently are in all **wet rooms** (bathrooms, kitchens, utility rooms, ensuites, toilets etc.)
- Fresh, replacement air enters the building typically via window vents

## Prescribed minimum air flow rates

<b>Sanitary</b>	6 l/sec	<b>Bathroom</b>	15 l/sec
<b>Utility</b>	30 l/sec	<b>Kitchen</b>	60l/sec

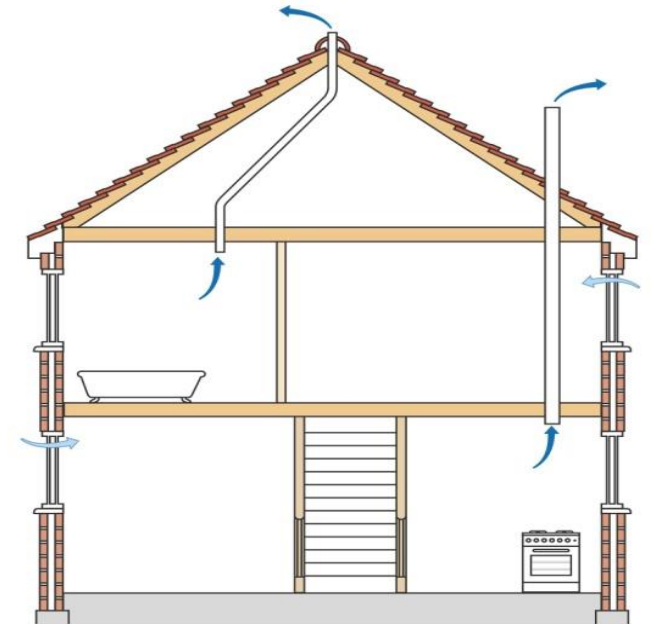
\* Options apply





## System 2 – Passive Stack Ventilation

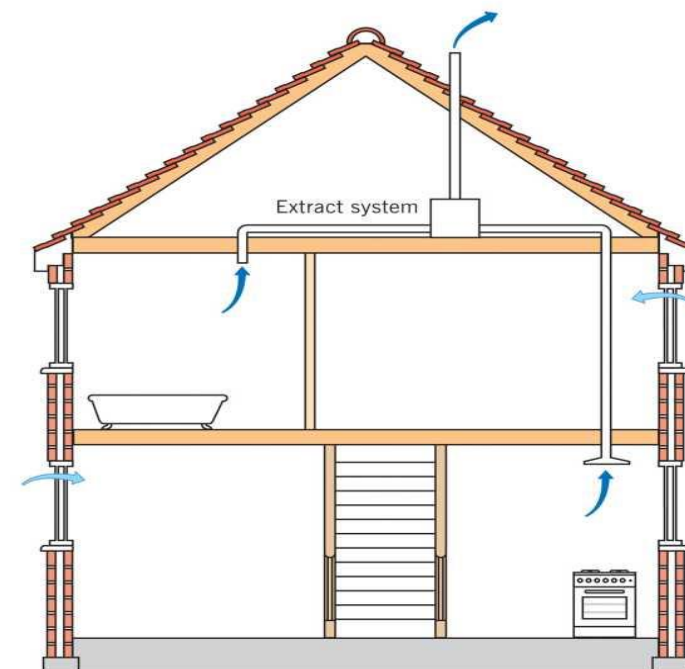
- Provides continuous non-electromechanical ventilation
- It is driven by the wind effect and thermal buoyancy
- As the warm air raised, the air pressure passing over the outlet helps to draw it out the building.
- Background ventilation is only required to the habitable rooms
- Least effective of all systems





## System 3 – Central Mechanical Extract

- Continuously extracts from all **wet rooms** at a low, steady flow rate.
- A higher boost level is used to extract pollutants when required
- Background ventilation located in all **habitable rooms**





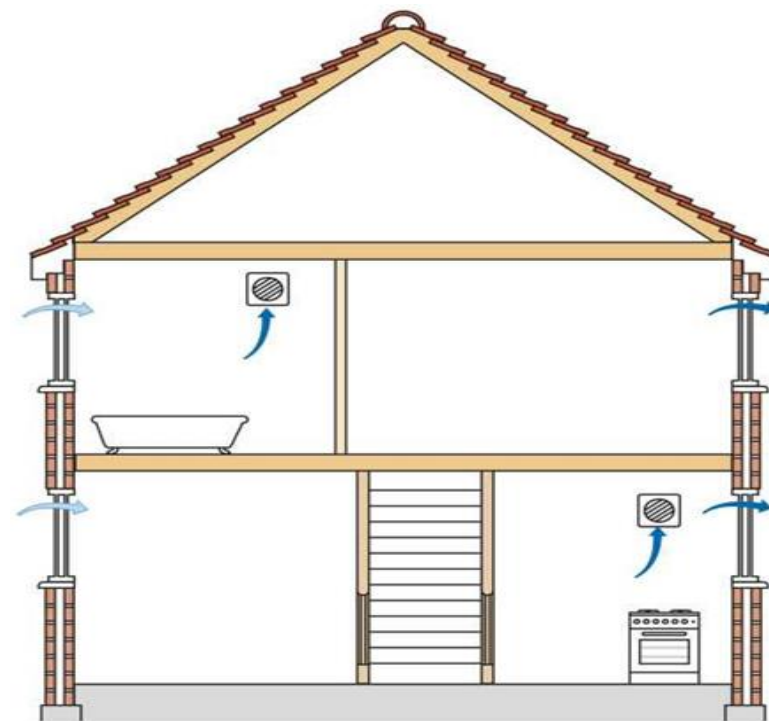


# System 3.1 - Decentralised Mechanical Extract

- Similar to Central Mechanical Extract (lower continuous extract rate with boost facility) but each extract is independent.
- Extract fans are located in all **wet rooms**
- Background ventilation is located in all **habitable** rooms.

Prescribed minimum high air flow rates

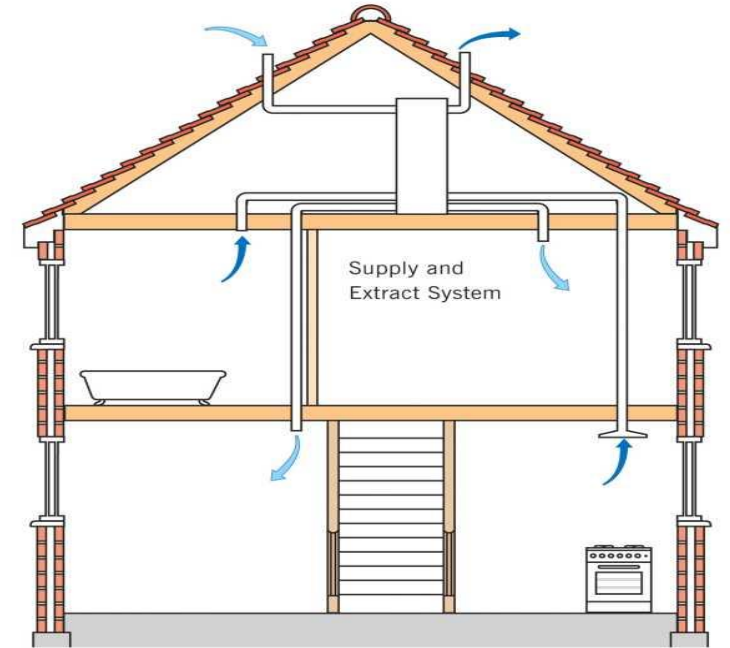
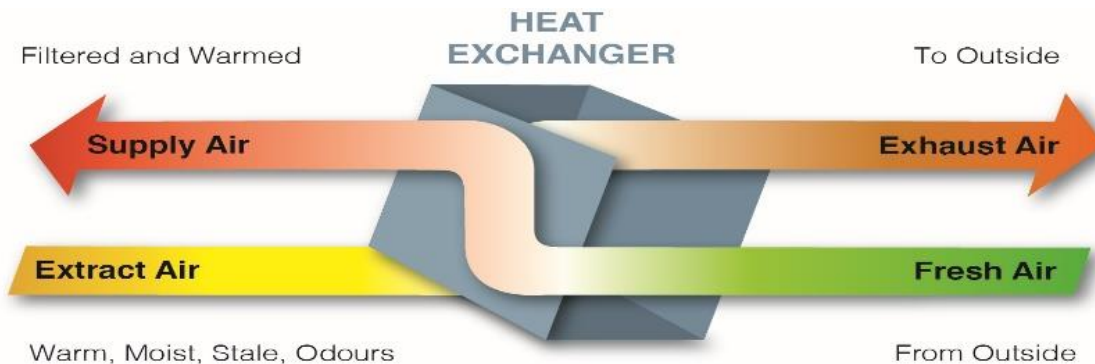
<b>Bathroom</b>	8 l/sec
<b>Kitchen</b>	13 l/sec





# System 4 – Mechanical Ventilation with Heat Recovery

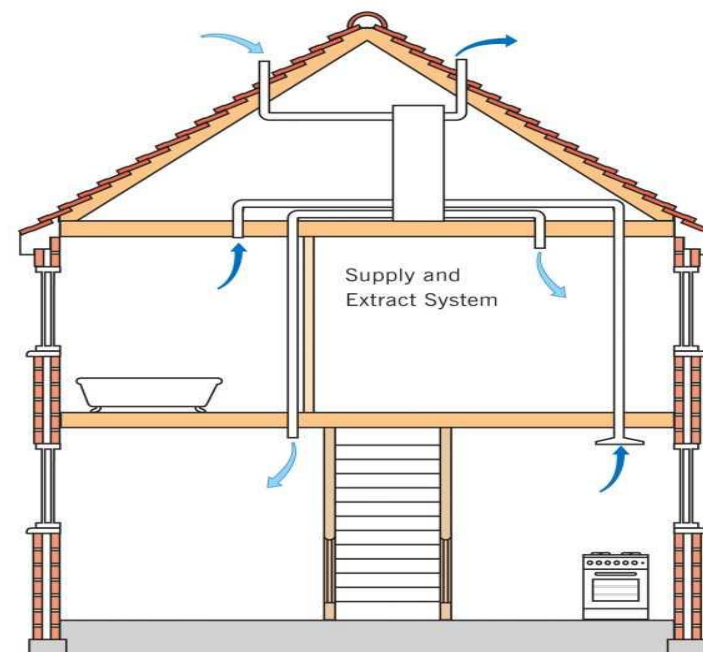
- Whole house ventilation system
- Heat energy is continuously recovered from the extract air. The heat is then used to pre-warm the incoming supply air. The supply air is filtered and ventilates habitable rooms





## System 4 – Mechanical Ventilation with Heat Recovery (MVHR)

- Background ventilation is not required
- Helps reduce your heating bills over the course of a year
- Unit is often sited in a cupboard where it can be accessed for maintenance i.e.: clean / replace filters





# The Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings

- This document is the first stage of a two-part consultation about proposed changes to the Building Regulations
- It also covers the wider impacts of Part L for new homes, including changes to Part F (ventilation) its associated Approved Document guidance, airtightness and improving as-built performance of the constructed home
- **The proposed changes will have a big impact on ventilation for new homes so its important you are taking them into account for future projects**
- Consultation closes at 11:45pm on 10<sup>th</sup> January 2020





# Use a Qualified Installer

- The Ventilation industry has introduced a **Competent Persons Ventilation installer** scheme, backed by a £25,000 Platinum Promise warranty





# Beware of Imitations

- Ensure the products you are installing meet the expectations you have and the minimum requirements in the building regulations.
- Is your 'Quiet' fan really quiet?
- Look out for key badges and accredited products like below:



red<sup>dot</sup> design award  
winner





Thankyou for  
Listening



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The future of ventilation

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