



Independent Heat Recovery  
Ventilation Specialists



***RELAX!***

*We've got all of your ventilation  
needs covered!*

Design | Supply | Installation | Service | Spares

## Why Choose ADM?

When you are designing and building your own dream self-build or custom build home or creating one for your client there are so many decisions to be made. Nothing is more important than getting your ventilation system right first time and choosing the right ventilation partner to help you do that is also essential.

As pioneers in mechanical ventilation with heat recovery (MVHR) in the early 90s, you can be confident we know our subject matter! Because ADM Systems is completely independent from any one manufacturer, we are in the best position to provide you with a ventilation solution which is as individual as you are.

All our heat recovery ventilation systems are totally bespoke and are designed to suit your needs and your budget. We guarantee never to provide you with an "indicative design" unless you ask for it, you can be confident that whatever we provide you with will be specifically designed to work.

We are experienced, knowledgeable and patient and are happy to talk you through the options as many times as you like until you are at ease with what we have proposed. We will also be there to help demystify domestic ventilation regulations to ensure compliance. If you want to have a go at installing for yourself we can also provide help with that too through our very popular "Buddy Service".

Our sole purpose is to carefully guide and support you at every project milestone from design concept to supply and installation, and we will even help you regularly service and maintain your MVHR system, long after your project is complete - we are in this together for the long haul!



*Bespoke ventilation solutions as individual as you*

## Don't take our word for it...

*“ADM have been very professional throughout the whole process. Their engineer was very helpful indeed, a real conscientious guy and a credit to the company”*

MARK GROGAN, Derby, New Self-Build

*“We are delighted with the efficiency of the MVHR system as it saves us a huge amount on our heating bills. It was an added advantage that it avoided the need for trickle vents in our beautiful new oak windows!”*

ANTHONY ROBINSON, Devon, New Self-Build

*“There is much less dust in the house thanks to the filters on the MVHR system which makes cleaning much easier. It has also helped us save a significant amount on our heating bills”*

PHIL SMITH, Poole, Dorset, Renovation

*“The service and advice I received from ADM was exceptional and I would rate it as “A Plus”! I found the company friendly and helpful – they provided me with invaluable independent advice on what system would best suit my property”*

PETER DRUMMOND, Glasgow, Renovation

*“I would estimate a 20-25% improvement in my heating bills and the issue of condensation has been completely resolved”*

MARCUS KWAN, Ipswich, Renovation

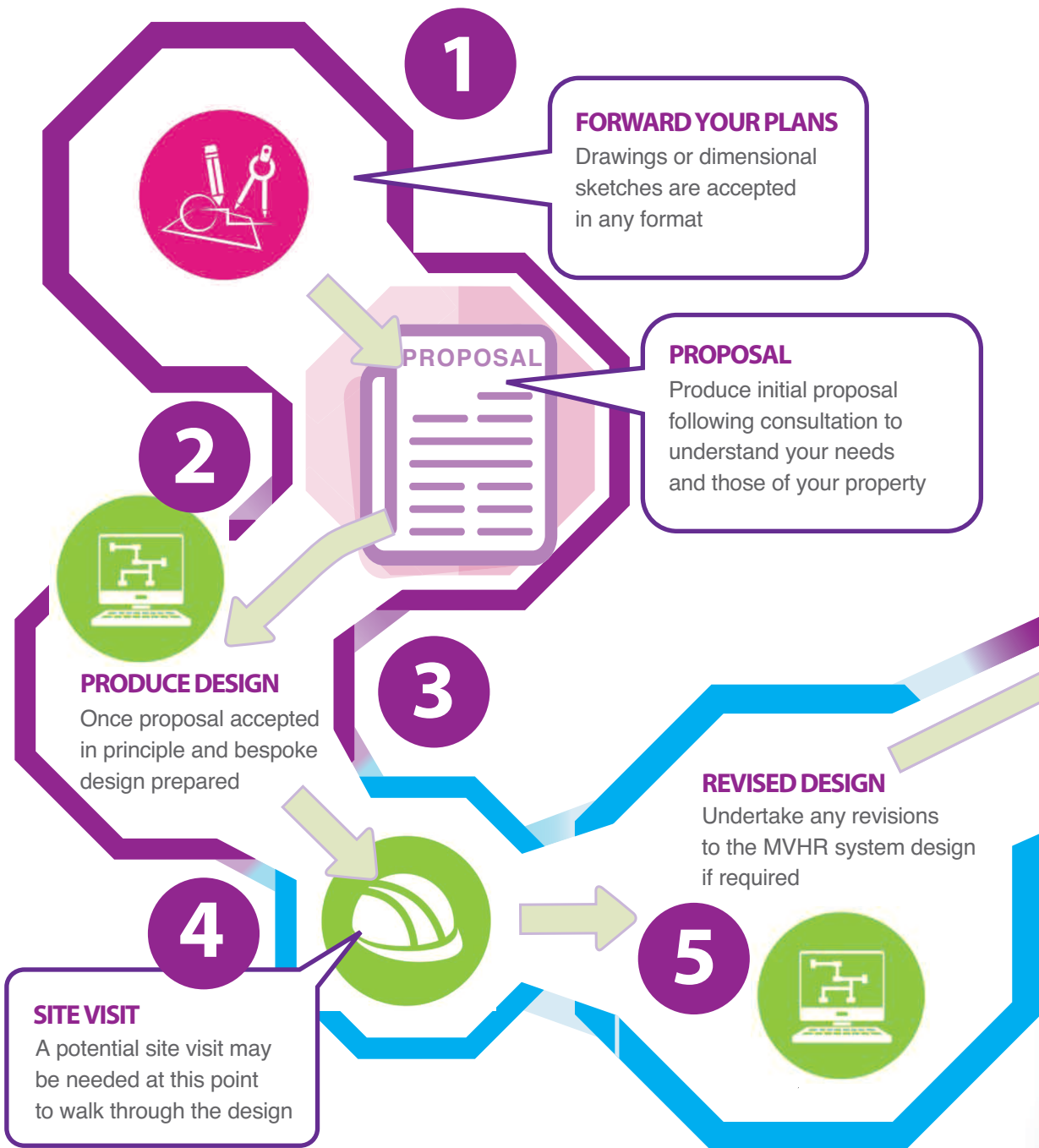
*“The MVHR system from ADM was a central part of creating an energy efficient and more comfortable building”*

IAN BRAMWELL of Mole Architects  
New Build Holiday Let, award-winning  
designers of “The Balancing Barn”



## How we work with you

Let us help you take the guesswork and stress out of planning your ventilation system for your property. Our process for looking after you is quite simple as the diagram below will confirm, we are with you every step of the way from when your plans are forwarded and your design is complete right through to installation, commissioning, balancing and beyond. If you are keen to fit the system yourself we are on-hand to help you with that too by means of our "Buddy Service" which puts you in the driving seat.





**INSTALLING YOURSELF?**  
Ask about our **OPTIONAL 'BUDDY SERVICE'** to help get your project off to a flying start!

**SUPPLY & INSTALL**  
Supply and install (if required) Your products will be supplied straight to site and we can arrange installation

**COMMISSION & BALANCE**  
Commission & balance your MVHR system and demonstrate the equipment at handover

**FIRM UP COSTS**  
Firm-up the specification and confirm cost of system\*\*



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**SERVICING OPTIONS**  
Extend the life of your system with our servicing and maintenance support options



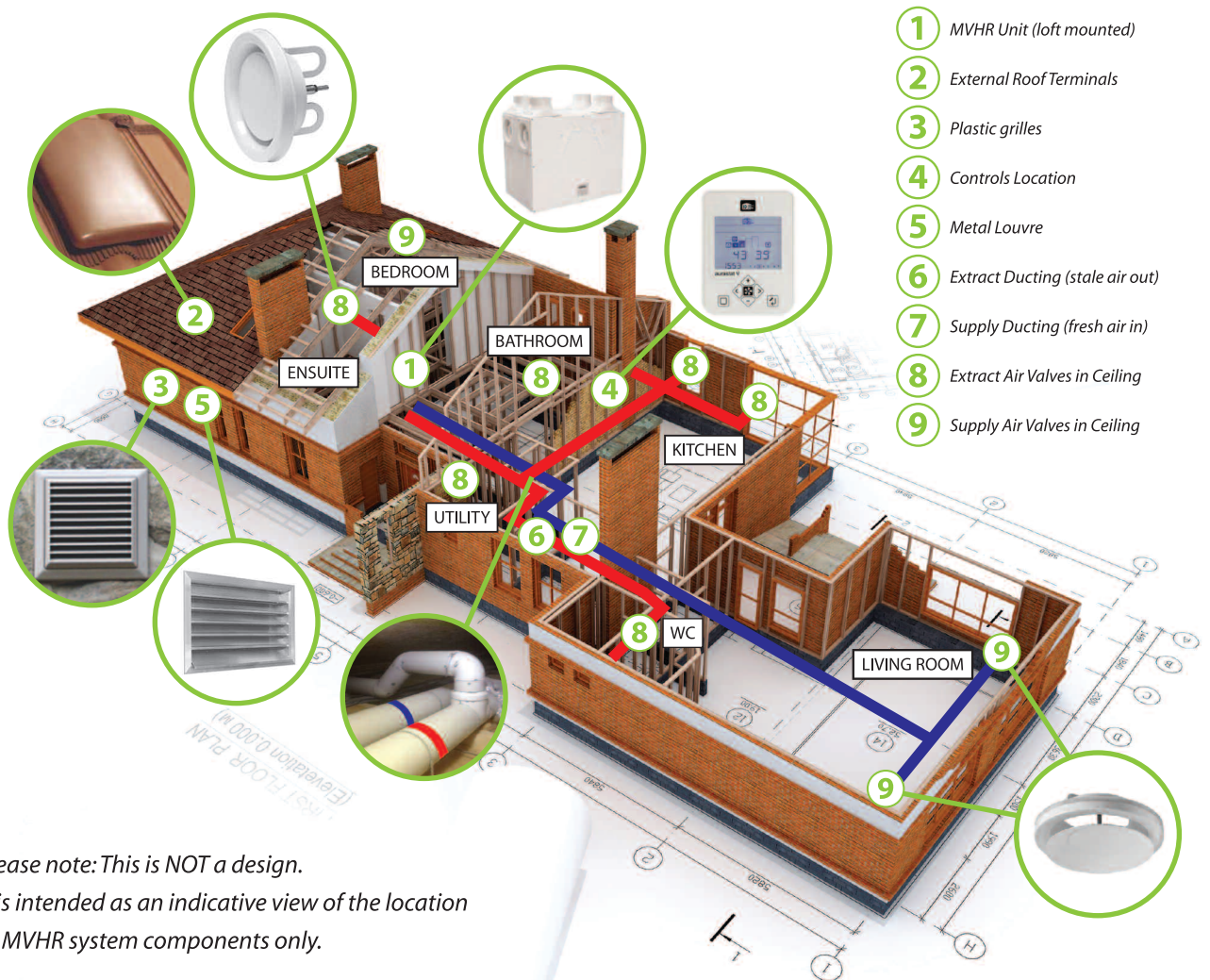
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\*\*Please note; the proposal price may be subject to change and can be either higher or lower than the initial figure. Final costs can only be fully determined once the design specification has been agreed.



## HEAT RECOVERY VENTILATION (MVHR)

It's important to note that heat recovery ventilation is NOT a heating system nor is it an air conditioning system. However, it can and does minimise the heat losses from within your property. Mechanical Ventilation with Heat Recovery (MVHR) is a balanced whole house ventilation system that both supplies fresh air and extracts stale air throughout a property.



*Please note: This is NOT a design.  
It is intended as an indicative view of the location  
of MVHR system components only.*

It offers an efficient low energy solution primarily aimed at highly insulated airtight properties to improve or maintain good indoor air quality. Your MVHR ventilation system can be fitted into new self build homes or custom build homes as well as commercial properties such as care homes or offices. The system can also be successfully retrofitted during the renovation of your property. It eliminates the need for unsightly trickle vents and noisy extractor fans and increases the security of your property.

Your heat recovery ventilation system can recycle around 90% of the heat that would otherwise have been lost in your property and help reduce your carbon footprint. It is designed to run quietly and continuously in the background and will not be affected if you open your windows!

A compliant heat recovery ventilation system is generally made up of an MVHR unit, vent ducting, internal air control valves and external wall or roof vents, as well as all the necessary insulation and acoustic attenuation required.

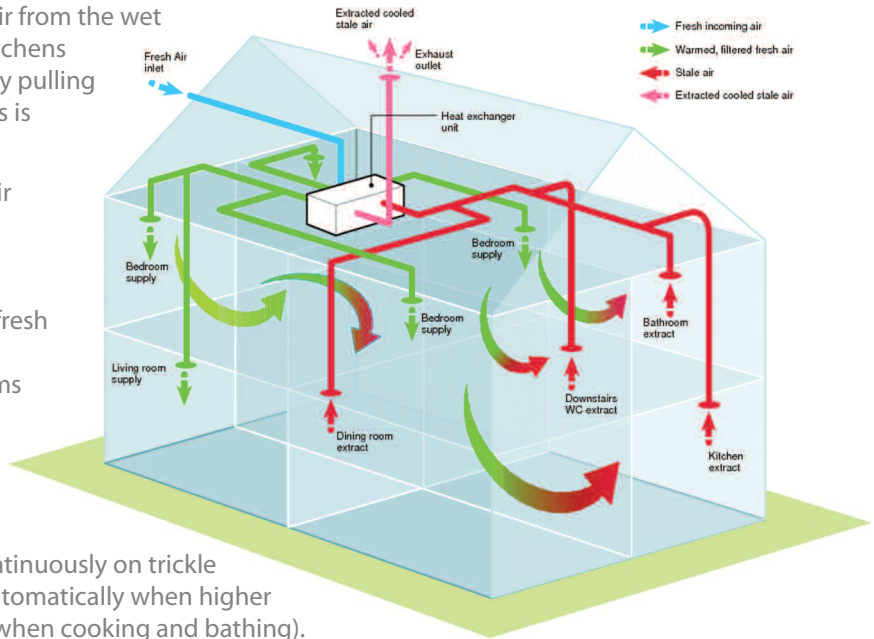
# How Does MVHR Work?

A balanced mechanical heat recovery ventilation system (MVHR) works by continuously extracting air from the wet rooms within your property (e.g. kitchens and bathrooms) and simultaneously pulling in fresh filtered air from outside, this is achieved via a network of ducting.

The heat from the extracted stale air is drawn through an air-to-air heat exchanger located within the heat recovery ventilation unit itself and is used to warm the incoming fresh filtered air for the habitable rooms in your property such as living rooms and bedrooms. In some cases up to 90% of the heat generated within your property can be retained.

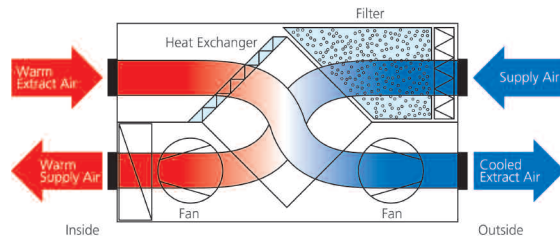
The system is designed to work continuously on trickle and can be boosted manually or automatically when higher levels of moisture are present (e.g. when cooking and bathing).

Some systems also offer a summer bypass facility which normally activates during the summer months and allows the heat to exit the property without passing through the heat exchanger. Depending on the unit specification, this feature can be controlled automatically or via a manual switch.



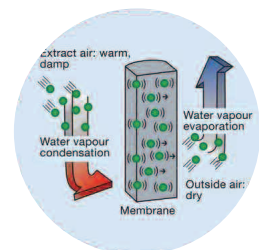
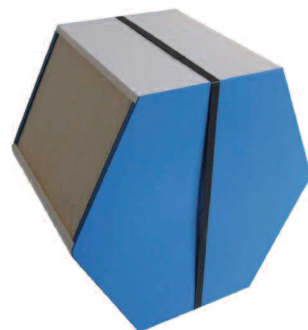
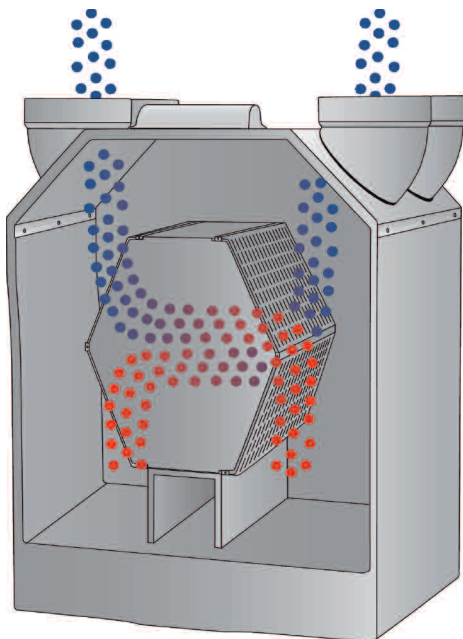
## Heat Exchanger Options

The heat exchanger itself is the heart of the machine. The extract and supply airstreams are pulled through the heat exchanger which allows the outgoing air to pass most of its heat to the incoming air without the two airstreams actually mixing together.



The Heat Exchanger Principle

## The Enthalpy Heat Exchanger



The Enthalpy Heat Exchanger is an optional energy recovery ventilation (ERV) heat exchanger. This super efficient ultimate heat exchanger is designed to recover the heat and also water vapour for low humidity indoor spaces. (Only available with a range of Passive House certified units).

## Integrated Air Tempering

The ComfoCool air tempering unit used in conjunction with the ComfoAir Q helps to reduce humidity along with the intake air temperature which in turn impacts on the internal environment and comfort levels. It can be easily integrated into your ventilation system to provide filtered fresh supply air whilst consuming a low amount of energy and at low noise levels.

Cooling is automatically activated by a user defined comfort temperature in combination with monitoring both intake air and internal air temperatures. It is also equipped with a compression cooling system, as is used in refrigerators to reduce the temperature, in this case of the incoming supply of filtered air. The unit differs from traditional air-conditioning by using the air performance of its sister MVHR system to deliver the available cooling power.

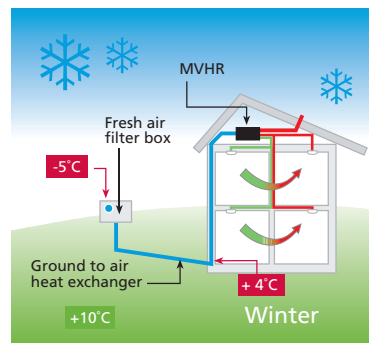
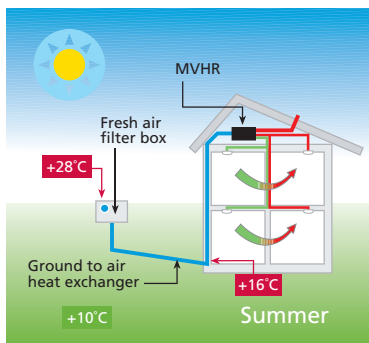
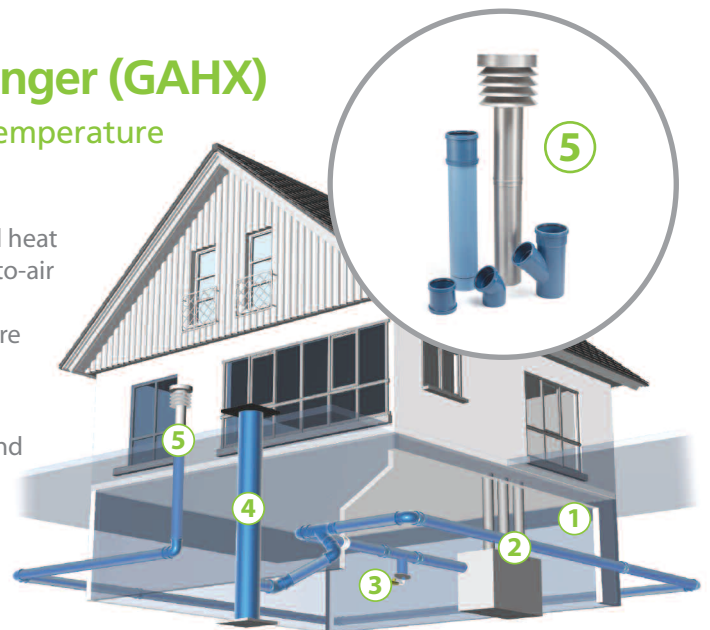


## Ground-to-Air Heat Exchanger (GAHX)

Utilises the natural constant 8-12°C temperature 1.5m - 2m beneath ground level

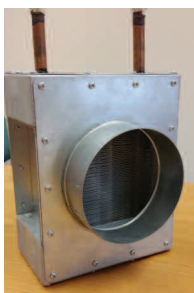
When used in combination with your mechanical heat recovery ventilation system (MVHR), the ground-to-air heat exchanger (also known as earth tube) takes advantage of the natural geo-thermal temperature of the earth 1.5-2m below the ground generally a constant 8-12°C all year round.

It works by drawing in fresh air via an underground pipe which can cool the air in the summer and works in reverse in the winter months to ensure that the temperature is never below 5°C even with outdoor temperatures as low as -15°C.



- 1 250mm diameter pipe with anti-microbial inner layer (sits 1.5-2m below the surface of the ground)
- 2 MVHR unit located in the basement
- 3 Condensation Discharge (for buildings with cellars)
- 4 Condensation Chamber (for buildings without cellars)
- 5 Air inlet tower (Other terminals are available)

System available with 42m or 60m pipe lengths



### Pre & Post Heat Options

In some instances there may be an opportunity to increase the air temperature coming into your property during cold spells to ensure that balanced ventilation can be achieved, and you can also add further heat to achieve a preferred "comfort" temperature. Pre- and post-heaters are usually fitted in-line in the ducting.

We strongly recommend that you speak with your appointed heating engineers in order to determine what system is best for your property, as this arrangement normally will not replace a traditional heating system.

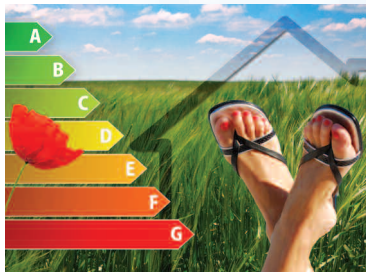


## Benefits of MVHR

Mechanical ventilation with heat recovery (MHRV) is a simple technology that has a multitude of benefits. Not only does it provide you with a constant supply of fresh filtered air for a healthier indoor environment but it will also have a direct impact on the Dwelling Emission Rate required in SAP which will ultimately reduce your carbon footprint.

There are so many decisions to be made. Nothing is more important than getting your ventilation system right first time and choosing the right ventilation partner to help you do that is also essential.

### Energy efficient



#### Looking to make energy savings?

MVHR recovers and reuses up to 90% of the waste heat within your property and has a direct impact on the Dwelling Emission Rate required for the Standard Assessment Procedure (SAP) energy assessment. All of our units are either SAP Appendix Q accredited or Passive House approved.

### Alleviates allergies & asthma symptoms



#### Suffer from allergies or asthma?

As the incoming fresh air is filtered, allergy and asthma symptoms are reduced. This will not only help asthma sufferers but also those with bronchitis, rhinitis, hay fever and chronic obstructive pulmonary disease (COPD).

### Controls condensation



#### Don't let the rot set in!

Concerned condensation might take over your home? An MVHR system will control moisture and condensation in your property and not only put a stop to condensation on windows but also the development of damp and mould growth to ultimately improve indoor air quality

### Tackles unpleasant odours



#### Can smells linger in your home for days?

The fresh air from the MVHR system will tackle everyday strong odours in your property typically emanating from cooking and pets that would ordinarily linger for days!

### Filters out harmful pollutants



#### Everyday household products and furnishings can be detrimental to your health!

Volatile organic compounds (VOCs) are 2.5 times more likely to be present in your home than outside. They can be found in everyday household products such as paints, cleaning fluids, aerosol sprays as well as building materials and furnishings.

### Reduces outside noise pollution



#### Ventilating your home through noisy open windows?

Fresh air will still circulate within your property so don't worry about keeping your windows closed! Not only will you keep the noises out you will also increase security in the home.

## Choice of Units

ADM offer an extensive range of SAP Appendix Q and Passive House certified heat recovery ventilation units suitable for most residential applications from a single room to a multi-storey property.

Quiet by design, they can be installed either vertically or horizontally, wall or ceiling mounted within a loft void or in a designated plant room.

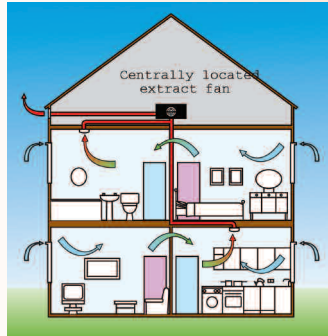


## OTHER VENTILATION OPTIONS

There are other ways to ventilate your property, whatever your requirements or your budget, ADM Systems can help provide you with a solution that meets your needs.

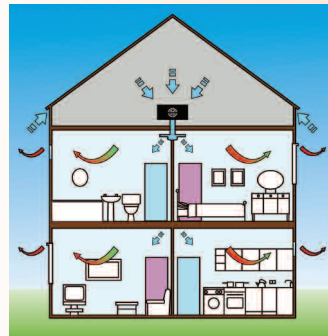
### Central Extract Ventilation (CEV or MEV)

Is often referred to as MEV or Mechanical Extract Ventilation, it works by removing contaminated air from the 'wet rooms' – bathrooms, kitchens, utility rooms – and normally replaces it with fresh air from trickle vents, together with air leakage in the habitable rooms.



### Positive Input Ventilation (PIV)

Tempered fresh air introduced from the loft by a single fan unit through a ceiling diffuser often mounted over the landing. This creates a positive pressure, reversing the normal airflow and forcing stale air out of the building. The incoming air collects and residual heat from the loft and redistributes heat that naturally accumulates at the top of the stairs.



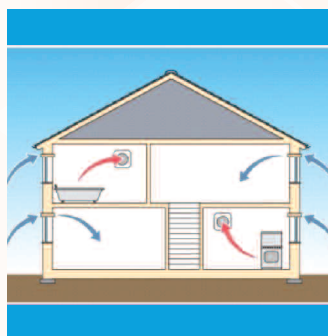
### Decentralised Mechanical Extract Ventilation (DMEV)

Consists of a number of individual extract fans and background ventilators running continuously at a low trickle speeds designed to boost as required.



### Extract Fans

If you are currently working to Building Regulations that do not insist on a system 4 ventilation system (i.e. heat recovery ventilation) or you are simply looking to ventilate one room, then you may be considering installing extract fans and trickle vents. ADM Systems has access to a wide range of through the wall extract fans including some heat recovery models. Please ask for details.



## DUCTING OPTIONS

As your ducting is an integral part of your build, it should be your primary consideration, it is well worth thinking about this not only in terms of its quality but also its life cycle. The more air we can distribute at any one time whether it is through a larger diameter rigid duct or a multiple port radial system, the quieter your system will be and the more efficiently your unit will run\*. ADM's independence means that we can offer a wide range of ducting to suit all applications and budgets.

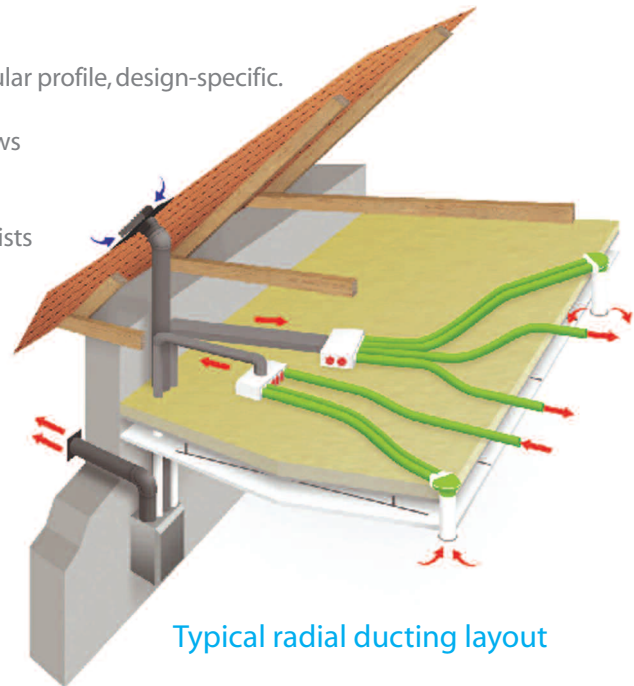


### uPVC Smooth Bore Rigid Branch Ducting

- Push fit connections
- Easy to cut with hand tools
- Smooth bore to improve air flows
- Available in 150mm and 125mm diameter, 180mm only available in spiral wound metal duct
- SAP Appendix Q compliant
- Also available in 204 x 60mm, 220mm x 90mm for limited void space

### Radial Semi-Rigid Ducting

- Available outside diameter of 75mm or 90mm circular profile, design-specific.
  - SAP Appendix Q and Passive House compliant
  - Smooth-bore anti-microbial lining improves air flows and reduces possible contaminants
  - Ideal for limited void spaces
  - Suitable for Metal Web Joists, engineered timber joists and retro-fit projects
  - Simpler to install than branch ducting
  - Manifold system reduces any chance of "cross talk" between rooms.
- Used in conjunction with a multiple port distribution manifold for central air distribution
- Rubber seal on joints ensures 100% air tightness



Typical radial ducting layout

#### Radial ducting and 12 port manifold



#### Ceiling plenum with radial



#### Radial 10 port manifold



#### Wall plenum



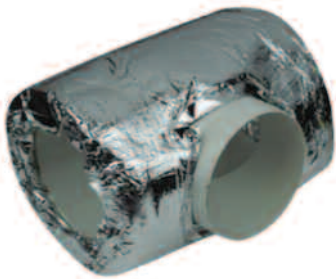
\*Please note; we strongly advise against conventional flexible ducting of ALL types because of its high air resistance (especially when kinked or restricted). Not only is it easily punctured or crushed but it will also lower the efficiency of any heat recovery unit. This is typically of the kind you might find attached to domestic tumble dryers.



## Safe Seal Connectors

- Parts provided as standard where applicable
- Galvanised steel construction fittings
- Used with either uPVC or galvanized steel ducting
- Double rubber seal = supreme air tightness
- Improves system performance compared to uPVC fittings
- Normally a requirement in Passive House properties
- SAP Appendix Q compliant
- For use with Branch or spiral metal ducting only
- Plastic safe seal parts also available

## DUCTING INSULATION



### 25mm pre Insulated ducting

This product is mandatory for NHBC Certificate compliance. The factory fitted thermal duct insulation prevents condensation within cold void areas and is available in 150mm and 125mm circular and 204 x 60mm diameter and has a thermal conductivity of 0.04W/mK. Supplied pre-applied to branch uPVC ducting only.

**PLEASE NOTE:** It is important to note that ALL ductwork within cold voids MUST be correctly insulated.



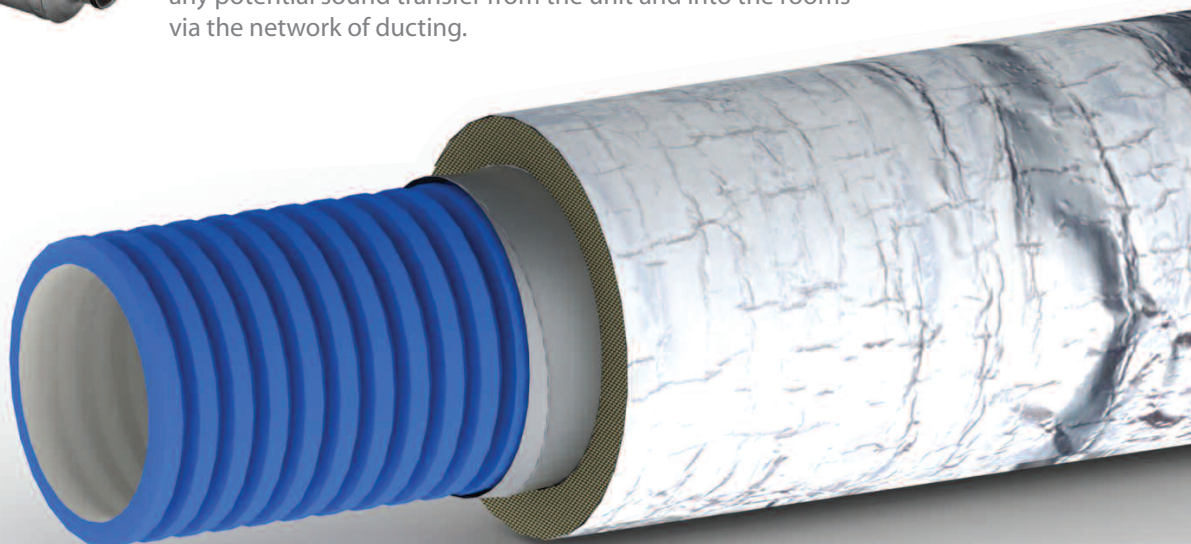
### Foil Faced Mineral Wool Wrap

- Used for external unit feeds
- Required for ducting passing within cold voids
- Improves thermal performance and reduces duct noise ingress/egress
- Available in 25mm or 50mm thickness
- Suitable for all ducts sizes and profiles available
- Required for use with heating or cooling option ductwork
- Prevents condensation formation in cold void areas
- Thermal conductivity of 0.032W/mK at 10°C
- For use with both Branch and Radial ducting systems
- Supplied in 13.5m rolls for cutting to size on site



### Sound Attenuation

Locating the heat recovery ventilation unit away from sleeping areas and adding sound attenuation fittings to your system will reduce any potential sound transfer from the unit and into the rooms via the network of ducting.



## ANCILLARIES

Not only are you spoilt for choice for heat recovery units and ducting, we also provide you with access to a wide range of air valves, external grilles, control options to complete your system.



### Air Valves

Although white powder-coated metal diffusers are supplied as standard to suit 125mm and 150mm diameter ducting, other types of air control valves are available on request including stainless steel.

We also offer the AIRY diffusers which have the lowest sound levels on the market. They are available in five different shapes and a wide range of colours to give you even more choice.

### External Penetrations

Stale air can either be exhausted through the roof, walls or soffit. As a general rule, PVC-u Universal roof terminals or plastic fixed louvre grilles for the walls are supplied as standard. Specials including tile-based roof tile vents or metal grilles are available on request and can be colour matched to any RAL reference.

### Control Options

It's important to consider how you might want to control your heat recovery ventilation system. Integral humidistats are recommended but if you would like your system to react to excess moisture you may like to consider a manual speed controller. We also offer a range of remote controls, touch screens, automatic PIR and CO<sub>2</sub> sensors and summer bypass options. Don't forget to discuss these options with our design team.

## CENTRAL VACUUM SYSTEMS

Conventional vacuum cleaners are cumbersome and can be heavy to carry around the house. Not only are they noisy but they also release fine dust particles into the air on operation.

Not only is a Central Vacuum System up to five times more powerful than the conventional cleaner, it is quieter, cleaner and simple to operate. You simply plug in a lightweight hose into a discreet wall socket and away you go!



**Wally Flex**  
A handy auxillary hose that fits into any standard vacuum inlet



**Retractable Hoses** - no need to carry from room to room



**Automatic Dustpan**



**Flexible Filtration Options**



**Quality Ergonomic Hoses**



## SERVICES

The wide range of services we offer have been specifically developed from years of customer feedback and are specifically designed to meet your needs. We can now offer 3D design, site survey (not always required), supply and installation. Our popular “Buddy Service” can provide that extra support on your first day of installation to give you that confidence to do it yourself. We also have a range of service and maintenance options too to keep your system in good working order throughout its lifetime.



### Design

All our heat recovery ventilation systems are bespoke, they are individually designed to suit your specific requirements.

Unless you request it, we promise never to provide you with an “indicative design”, our experience proves they rarely work in practice. Our team of designers and engineers will work alongside you to ensure that the system we design together suits your needs and your budget.

It is important that we understand the way your property is constructed, including the type and direction of joists, the types of building materials used, the layout of rooms and special architectural features such as exposed beams, vaulted ceilings, stone lintels and fireplaces. We will also listen to what you want to achieve and discuss in detail your preferred unit locations, ducting routes, control options and ancillaries.



### Supply

ADM Systems’ independence means that we are best placed to provide you with a wide range of products and allow you to select from some of the best products in the marketplace.

We shop around for the most efficient and effective heat recovery ventilation products to ensure that our systems are fully compliant and give you, our customer, the best value for money.

We will be happy to supply you with everything from a fully designed system to spare parts and filters for your existing machine.



### Site Survey

A site survey is not always necessary, although for some projects it could discern any potential problems that could emerge during the installation. The engineer or surveyor will confirm positions of the heat recovery ventilation unit(s), ducting routes, control panels and air control valves with you on site and relay this information back to the designer. The programme of works and time scheduled will also be established based on the site conditions and progress of other trades on site.



## Installation

As part of the 2010 revision of the Building Regulations for England and Wales or the Technical Handbook Section 3.14 in Scotland, it became necessary for domestic ventilation to be “notifiable work” as part of Approved Document Part F. This means that all installation work must now be commissioned by a suitably qualified person trained and registered with BPEC.

Although self-installations are perfectly feasible, it is worth bearing in mind that when fitting Systems 1-4 as specified in Part F of the Building Regulations it is recommended that these are carried out by a BPEC accredited engineer, which will also improve your SAP rating.

All our installers are BPEC accredited which not only assures you of their competence but could also improve your SAP rating. They will meticulously complete the checklist provided as part of the Domestic Ventilation Compliance Guide 2010 to satisfy the requirements of Building Control.

Even if you've purchased your ventilation products elsewhere, or have inherited a system that requires maintenance, our installation team will be happy to assist you.



## “Buddy Service”

If you would like to install your own heat recovery ventilation system but would feel more assured if there was a little expert help close to hand, please ask about our flexible low cost “Buddy Service”.

We can be there to help, give advice and guide you on day one to ensure your project gets off to a flying start.

You can also call upon our help at any time during the project for an agreed daily rate, giving you the flexibility and support you need.



## SERVICES



### Commissioning & Balancing

Commissioning and balancing of your system post installation is essential to be certain of adequate airflow throughout your property and compliance with Building Regulations for England and Wales or the Technical Handbook Section 3.14 in Scotland.

We will ensure that the system is functioning at its optimum performance, and check that all the components are correctly fitted. In accordance with the Domestic Ventilation Compliance Guide 2010, the system must be commissioned and balanced by a BPEC accredited engineer.

The commissioning and balancing not only provides you with a fully compliant system, but also end user training to ensure years of trouble-free system operation (although the end user for the system is required to be on site to facilitate this).

Please note, this is a stand-alone service and is not reliant on ADM Systems having installed the system.



# Extend the life of your MVHR system through regular servicing

Your heat recovery ventilation system is a lifetime investment. Serviced regularly, it will ensure your property receives a constant flow of fresh filtered air and provide you with a healthier indoor environment.

Servicing will not only increase your system's life span, it also plays an important part in its effective day-to-day operation. The filters within the unit can soon become blocked and may, over a period of 6-12 months, start to degrade which could in turn jeopardise the effectiveness of your system. In addition to your annual service, we would also recommend that you check your filters every three months to safeguard their performance. If they are found to be excessively dirty, we suggest that they are removed, cleaned and replaced in accordance with the manufacturer's instructions.



Cleaning the heat exchanger


Replacing the filters



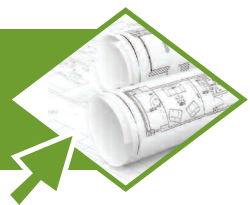
## A typical service\* carried out by one of ADM's competent service engineers involves:

- Replacing the filters
- Cleaning the air valves (where accessible)
- Removing and cleaning the heat exchanger
- Cleaning inside the unit
- Checking and cleaning the fan impellers
- Checking the system for satisfactory operation
- Re-balancing the system  
(optional – an additional charge will apply)
- Visual inspection of external grilles  
(Subject to safe access closer inspection is possible but an additional charge may apply)

*\*Please note: our standard servicing charge does not cover the cost of surveys or remedial works. If you are having operational issues with your system please provide us with full details and we will be pleased to quote accordingly.*



**FORWARD YOUR PLANS TO:**  
[plans@admsystems.co.uk](mailto:plans@admsystems.co.uk)



**adm systems**

Independent Heat Recovery  
Ventilation Specialists

ADM Systems | Fairfax House | 7 Wool Gate | Cottingley Business Park | Bingley | BD16 1PE  
t: 01756 701051 | e: [enquiries@admsystems.co.uk](mailto:enquiries@admsystems.co.uk) | w: [www.admsystems.co.uk](http://www.admsystems.co.uk)

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