

®

green
building

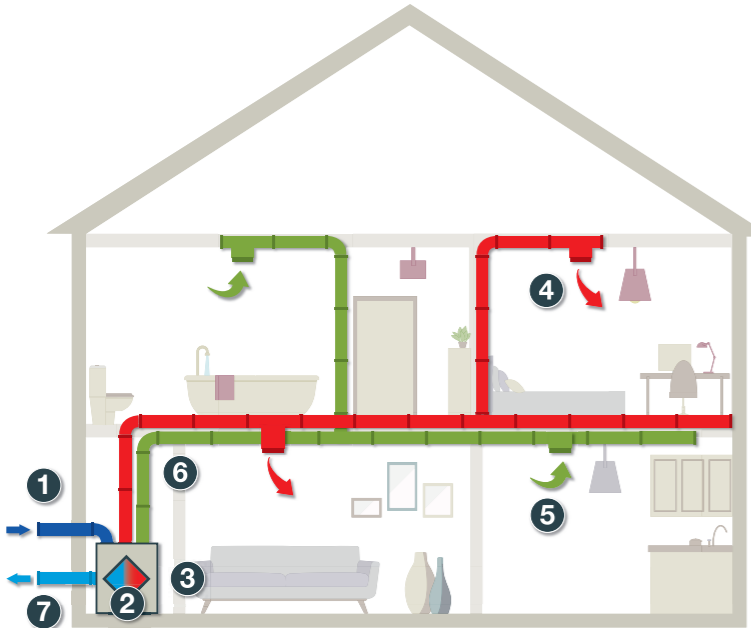
store

MVHR Mechanical ventilation with heat recovery

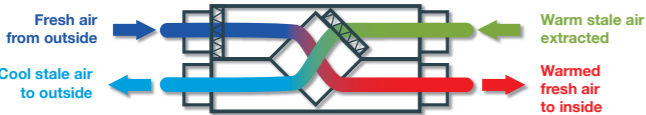


From the experts of low energy homes

How does Mechanical Ventilation with Heat Recovery (MVHR) work?



2 Heat Exchanger



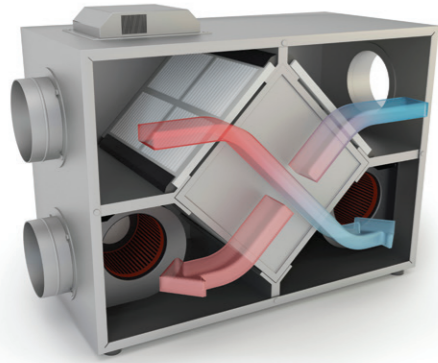
- 1 Fresh air intake from outside
- 2 The heat exchanger transfers heat from inside the home to fresh filtered air coming in from the outside
- 3 Fresh air runs through a high grade filter to the heat exchanger
- 4 The clean, warmed air is supplied back in to habitable rooms
- 5 Continuous extract from wet rooms (bathrooms, utility, kitchen etc.)
- 6 Stale air brought back to heat exchanger
- 7 Cool stale air exhausted to outside



MVHR brings comfort – to your home and family

Mechanical Ventilation with Heat Recovery (MVHR) provides fresh, filtered air that promotes a healthy, comfortable environment for your home and family. It also recovers the heat from the stale, polluted air that is being extracted and uses this heat to pre-warm the fresh air being brought into the home.

Well-designed and correctly installed heat recovery ventilation systems should be practically unnoticeable and virtually inaudible to the inhabitants while ensuring good air quality throughout the building. Mechanical ventilation with heat recovery is a relatively new technology in the UK and problems can arise if it is poorly designed or installed. For complete peace of mind, come to the experts on MVHR for Passivhaus and low energy projects for quiet, efficient and robust heat recovery ventilation systems.



The best MVHR system is the one you don't know is there...

A correctly installed MVHR system can bring a host of benefits to your home and family.

It will:

- Ensure an even temperature throughout the home and eliminate the need for natural ventilation, therefore eliminating cold drafts
- Extract excess moisture, stale air and odours
- Extract housebound pollutants such as VOCs (volatile organic compounds) from items such as paints and carpets
- Deliver fresh filtered air, free of pollutants and pollen without the need to open windows
- Solve the problem of heat loss from ventilating your home e.g. opening windows and letting cold air in
- Eradicate the need for trickle vents and bathroom and kitchen extractors which dump heat to the outside
- Be a fully controllable system with a user-friendly interface
- Exceed the current Building Regulation requirements for ventilation, creating a comfortable and healthy internal air quality
- Be designed and installed to PassivHaus standards



What makes our MVHR systems different?

Quality MVHR units

We offer a wide range of units for all projects and specifications. We help you choose a quality MVHR unit to suit the ventilation demands of the building and to achieve optimal heat recovery efficiency.

Commissioning

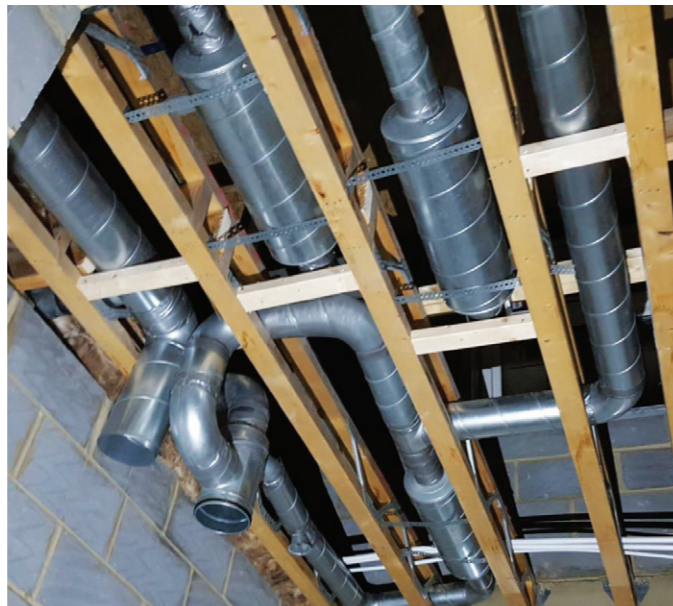
The system must be correctly commissioned in order to maximise comfort and energy efficiency. Green Building Store's commissioning service also offers a valuable check on the installation process and functioning of the MVHR system.

Robust ducting

MVHR ductwork is embedded into the fabric of the building and would be very disruptive to replace, so it is worth investing in a high quality system from the outset. We recommend galvanised steel spiral wound rigid ducting or semi rigid radial ducting for our systems, designed to last the lifetime of the building.

Preventing condensation

Condensation within an MVHR system could cause damage to ductwork, the unit or the building fabric. We design out potential problems by paying attention to the ductwork detailing and insulation requirements where temperature and humidity differences will cause condensation inside or outside the duct.



Constant air flows

We carefully calculate the air flow rates of our systems to each room and look to select MVHR units which use constant volume fans. Ductwork airtightness is essential to ensure that the designed airflow is delivered to the rooms. Air leakage is designed out through the specification of a high quality ducting system with good airtight seals. By minimising air leakage we reduce air speeds in the system, helping ensure lower energy consumption and noise levels.

Tried & trusted

Green Building Store has a national reputation for designing high quality MVHR systems for Passivhaus and low energy builds, from one-off houses to large social housing schemes and community centres.

Virtually inaudible

MVHR systems must run quietly, especially within already quieter well-insulated buildings. Unlike most competitors, we model the acoustics of our systems so that we choose the right size of sound silencer for each duct run. We specify primary attenuators (silencers) to reduce noise generated by the MVHR unit fans and secondary 'cross talk' attenuators to reduce voice transmission between rooms. The cross-talk attenuators also offer further sound suppression for duct generated noise. Duct sizes in our designs are typically larger than those specified by other companies, helping to keep air speeds low, thus minimising duct generated noise. As a result, we design our MVHR systems to have noise levels of no more than 30 dB(A) at the extract valves and no more than 25 dB(A) at the supply valves.

Support & guidance

As well as offering advice on recommended installers, we can also offer telephone support for installers and supply clearly labelled ducting drawings to facilitate step by step installation.



MVHR Design Service

Our MVHR design service includes:

- A specialist MVHR designer assigned to work with you and your project team
- Specialist knowledge of Passivhaus and low energy construction
- Advice on the most suitable MVHR unit and ducting system for your specific needs and budget
- Noise minimisation through careful positioning of attenuation
- Considered positioning of ducting within the building structure modelling for pressure loss and sound levels
- Airflow calculations provided for building control
- 2D and 3D plans, fully labelled products and parts list for ease of installation
- Technical support, including telephone support to installers and end users

Our services

Supply

We can supply a wide range of quality MVHR units to suit the needs of your project to achieve optimal heat recovery efficiency for your home. We supply you with everything from a fully designed system to spare parts and filters.

Installer network

We can recommend experienced, reliable installers who will work with us to ensure the MVHR systems are installed as designed to achieve optimum performance.

Commissioning

Commissioning is the last stage of the installation and is required by law as “notifiable work” as part of the UK’s building regulations. Checks are undertaken by our qualified technicians using air flow meters (anemometers and balometers) to ensure the system provides optimum comfort and energy efficiency levels. Commissioning is available throughout mainland Great Britain.

Servicing your MVHR system

We recommend servicing your MVHR system to prolong the units life and ensure it continues running at its optimum performance. A service takes our qualified Service Engineers approximately four hours and we recommend yearly servicing to maintain performance and system health. We also offer a 5-year service plan for those with systems which have been installed and not serviced. Servicing is available throughout most of mainland Great Britain.





Choice of MVHR units

As an independent company, we are not tied to a specific manufacturer, we can therefore select from a wide range of MVHR units on the market to suit all projects, specifications and budgets. We will help you choose a quality MVHR unit to suit the needs of your project. The high-end range of units we choose from typically includes:

- MVHR units with up to 93% heat recovery
- Automatic summer bypass
- Constant volume fans
- Integrated frost protection
- Range of capacities to suit all building sizes
- Flexible mounting/installation options for ease of installation





Ducting

A well-designed high quality ducting system is critical to the efficiency of an MVHR system and the comfort of the building occupants. **The best products on the market will only perform efficiently if they are parcelled with a well designed ducting system. Our ducting designs:**

- Increases the energy efficiency of the MVHR unit and reduces the energy required to power the fans
- Ensures MVHR systems are practically unnoticeable to the inhabitants, while ensuring good air quality throughout the building
- Allows the MVHR system to continue to perform well for the lifetime of the building
- Are chosen depending upon the building structure.



Semi-rigid ducting system

Typically used where space is at a premium as the ducts are typically smaller in diameter. This can mean that more ducting is required resulting in a bigger plant space.

When well designed, a semi rigid system should be as efficient as a rigid ducting system.

Rigid ducting system

A rigid galvanized steel ducting system is often considered the premium product, providing an efficient, robust and long lasting ducting system.

Green Building Store prides itself in the design and supply of these high-end systems.





Air valves

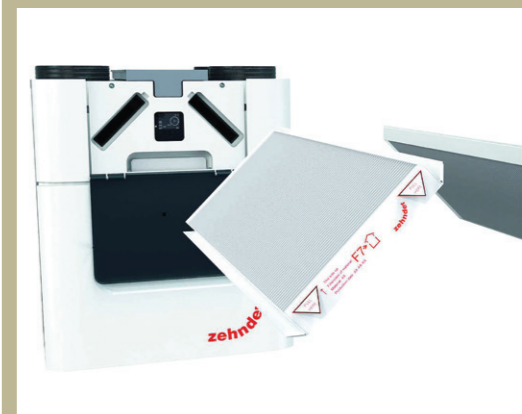
Air valves are an important part of the MVHR system. Placed in rooms where the ducting meets the ceilings or walls, the air is extracted or supplied through them. We offer a comprehensive range of air valves to complement our MVHR systems. These are selected carefully to reduce noise, prevent drafts and ensure good air flow throughout the room.

Please contact our MVHR team for more information.

Filtration

We stock a wide range of MVHR filters to ensure the smooth running of the MVHR system. Filters are required for the MVHR units, frost protection units and kitchen extract valves. We recommend replacing these 2-4 times yearly (depending on local air quality factors etc.) It is important to change filters regularly to optimise energy efficiency and comfort levels.

Where a project is in an Air Quality Management Zone (AQM) or where building occupiers have specific concerns relating to air quality, higher grade, specially designed filters can be specified to remove specific particulates from the air, such as NOX.



Tried and trusted

We have a national reputation for designing high-quality MVHR systems for passive houses and low energy builds, from one-off houses, to sizeable social housing schemes and community centres. But don't just take our word for it.

"The MVHR design process was very smooth, with the Green Building Store team working alongside the architects. The MVHR system is working very quietly and well."

Graham & Sally, Halifax Passivhaus

The MVHR system delivers brilliant air quality into the house while operating noiselessly – so quietly, in fact, that we forget it is there!"

Andrew & Linda, Woodlands Passivhaus

"The MVHR system is working well and silently. I don't notice the MVHR system. When I first moved in, I noticed it was quite noisy but that was because the filter was quite clogged up with building dust. Once I'd hoovered the filter, it worked a lot better."

Laurie Michaelis

"We love our MVHR system – it does exactly what you'd expect it to do. The house never gets stuffy, the air is always fresh and it is very quiet. We can only hear the system if we are in the utility room where the unit is located."

Clients at Sw-n-y-Yant

"The MVHR system is working very smoothly – so smoothly that we often forget it is there. The effect is that the house is constantly refreshed with pre-warmed air, with the system running along quietly in the background."

Polly and Kirk, Passivhaus selfbuild, Herefordshire



Why you can trust us

Our MVHR systems are virtually inaudible, energy efficient and physically robust. All of these are provided to you by our friendly technical support and aftercare team.

Choosing Green Building Store means choosing an MVHR system you can trust from a company with a nationwide reputation for quality and expertise. Since 2008, we have worked on over 1500 MVHR new build & retrofit projects.

Our MVHR step by step guide



1 Get an estimate

Use our online tool to get a quick cost estimate for your project. Proceed to a formal quotation by following the steps in the form or call to speak to a specialist.



2 Accept your quotation

Complete and return your quote acceptance form when you are happy to proceed. At this point, you will be sent payment instructions for paying the design fee. DWG files are required at this stage.



3 Development of initial design

A Green Building Store MVHR designer will be assigned to your project. They will work with you and other project designers to issue an initial design of your system, including duct runs.



6 Final order raised

Following sign-off, the bill of materials and final order is produced. At this point, payment is required for the supply of the goods. Payment should be made around five weeks before parts are needed.



5 Design sign off

When you or your project team are happy with the design, we require a sign-off email. A design can typically take up to three revisions before it is finalised; however, it can often be more.



4 Any revisions?

Following a review of the initial design by yourself or your project team, your designer will revise the design to suit any feedback.



7 Supply

The goods will be supplied directly to the site at a time to suit you.



8 Commission

A specialist GBS commissioning engineer will visit the site to commission and balance the system to ensure it is performing as designed. A detailed handover of the system and its controls will be given to the end-user, and a certificate will be provided for Building Control.



9 Servicing options

Extend the life and ensure continued superior performance with our servicing options. A yearly or five-year option is available for those happy to keep on top of the annual requirements.



Sit back and enjoy the benefits of your MVHR system





We believe in better building

Delivering a low energy or Passivhaus building is complex and you need a whole solution rather than a single product.

At Green Building Store we are committed to using a whole house approach to provide better performing buildings from a comfort, cost and carbon perspective. We supply a range of specialist products and services including triple glazed timber windows and doors, MVHR heat recovery ventilation, insulation and airtightness.

We've worked hard to build a reputation for customer service, integrity and responsibility. We are committed to ensuring that our products are of the highest quality, backed by industry accreditations and specified by companies at the forefront of energy efficient construction. By choosing us you can rely on expert consultation at every step of your project.

Seeing our MVHR units in action

Visit us at our showrooms in Huddersfield and Swindon where we can show you working MVHR units. Alternatively, you can find us at exhibitions around the UK. Check out our website for details. mvhrenquiries@greenbuildingstore.co.uk 01484 461705



greenbuildingstore.co.uk

01484 461705

info@greenbuildingstore.co.uk

Heath House Mill, Heath House Lane, Golcar, Huddersfield HD7 4JW.



The paper used to make this brochure is 100% recycled and carbon offset



Green Building Store, an Efficient Building Solutions Business