



**NOISE**

**OVER HEATING**

**MECHANICAL VENTILATION WITH HEAT RECOVERY**

**POOR INSTALLATION**

**POOR COMMISSIONING**

## ‘Think System Solution’ to get it right first time

Overcoming issues when Heat Recovery Ventilation goes wrong is costly and time consuming. Like many whole house systems, the individual components and their specification are important, however it is a ‘holistic’ system strategy that will deliver installed performance.

On paper, the benefits of the system are clear but the system needs to work correctly. Right now we couldn’t be more focused on the impacts of Indoor Air Quality on our health.

**Did you know indoor air can be up to 50 times more polluted than outdoor air?**

### Complaints, Costs and Call Backs

MVHR isn’t difficult if you think about the system approach through the design, installation and commissioning phases. Poor design and installation result in these common issues:

- **Airflow** rates not meeting Building Regulation requirements
- Nuisance **noise** from having to run the system at higher fan speed to overcome unnecessary pressure and resistance
- Increased **energy** bills from the system not running at optimal speeds

## Overcoming issues with Heat Recovery - A system approach

### NOISE

Noise issues result in call backs to site and further costs post installation. Whilst the noise from the unit itself is a factor, this isn't usually the root cause. Noise is usually a consequence of the following:

- Undersized MVHR unit for dwelling size
- Using incorrect ducting
- Poor duct connections
- Incorrect installation and commissioning
- Not using sound attenuators

**Our approach to noise is simple - get the design right, always keep the continuous running speed around 60% or less and consider radial ducting for the best pressure handling**

### OVER HEATING

Comfort is crucial in new energy efficient homes and issues surrounding overheating can cause re-works and increasing costs - including people having to be moved out of their homes.

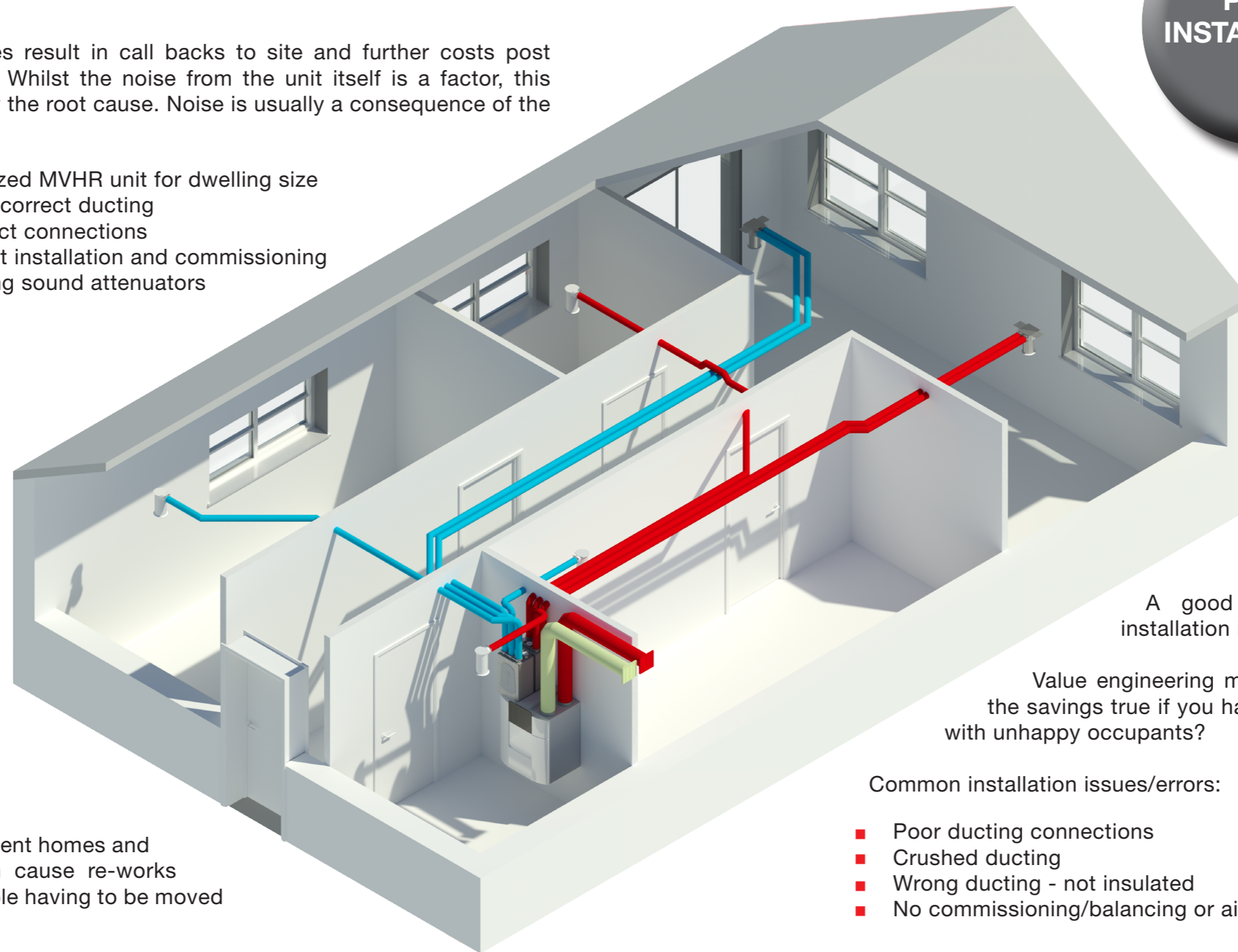
MVHR can play its part in delivering comfort - important factors to consider:

- Always ensure the airflow rates can be met with good design and installation
- Evaluate controls that work with the installed environment - a summer bypass that modulates its operation and maximises the benefit of passive cooling at night
- Consider options that help reduce the humidity levels of incoming air
- Investigate low energy cooling options that integrate with MVHR for added comfort

**Our approach to overheating is consultation at the design phase - we have many solutions to help overcome overheating with well designed and installed ventilation.**

### POOR INSTALLATION

### POOR COMMISSIONING



A good design isn't enough. Quality of installation is crucial to installed performance.

Value engineering may help save costs up front, but are the savings true if you have to return to site, re-work and deal with unhappy occupants?

Common installation issues/errors:

- Poor ducting connections
- Crushed ducting
- Wrong ducting - not insulated
- No commissioning/balancing or airflow for unit and in-room grilles

**Installation is where the 'system' mentality is crucial as what happens on-site is fundamental to delivering installed performance. Our approach is to support with on-site training and give access to our technical experts who have designed the system.**

We have a range of excellent stand alone products but we think 'system solution, to deliver the best performance and get it right first time

The Zehnder System approach  
We want you to get it right first time

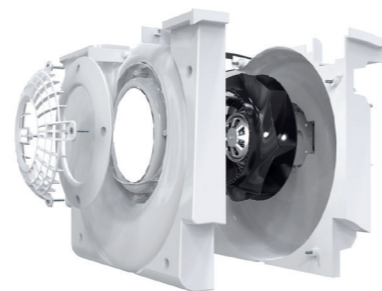
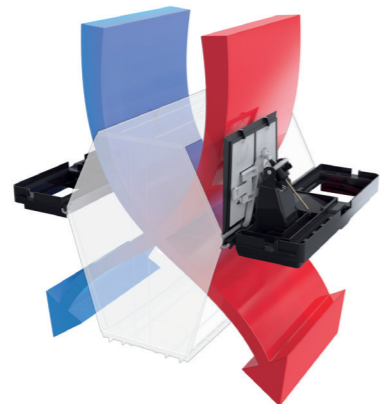
# 1 The MVHR unit - Zehnder ComfoAir Q range



The innovative design of the Zehnder ComfoAir Q range brings simplicity and confidence from design right through to commissioning of the Heat Recovery Ventilation System.

With world class heat recovery efficiency at 96% and practically silent noise performance, the unit offers the easiest on-site experience for the installer as a result of a new Smartphone app and 'dial a duty airflow' set up.

From performance to onsite practice and homeowner comfort and control, the ComfoAir Q offers the best option for Heat Recovery Ventilation.



## Energy Efficiency at its best

The innovative diamond shaped heat exchanger in ComfoAir Q helps maximise heat transfer (96%) and minimise air resistance during operation which allows the unit to run at optimal speeds to deliver the correct airflow.

## Help Control Overheating

A unique modulating summer bypass adapts its operation based on the external and internal temperatures and humidity conditions - rather than just using a temperature set point to open and close.

## Eliminating Nuisance Noise

ComfoAir Q delivers ultra quiet noise levels to the home by managing airflow and lowering resistance – the innovative and patented airflow channels and grids allow air to move easily through the unit without noise.

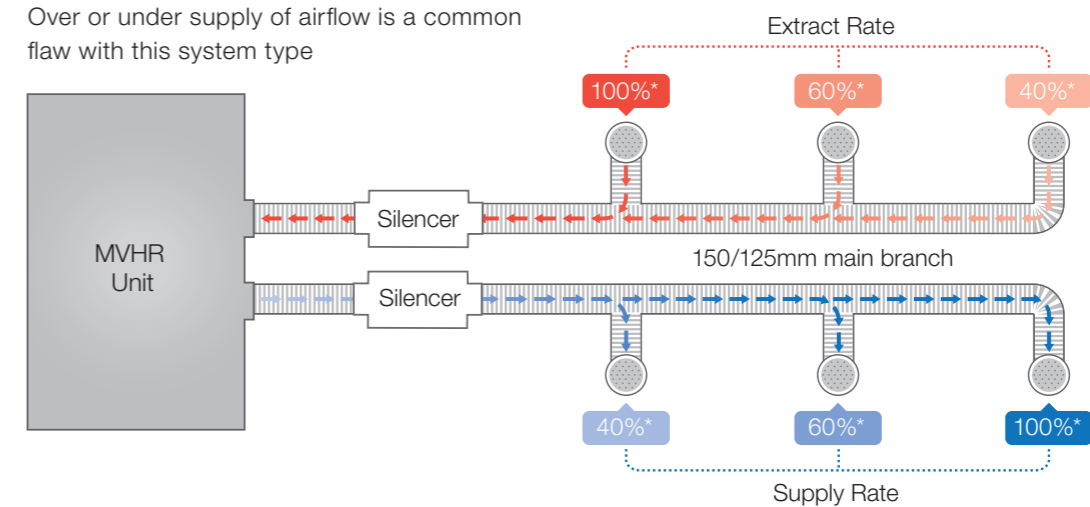
# 2 Radial Ducting - Manifold and Air Distribution

Ducting is a fundamental part of achieving installed performance. Why choose the best unit and impacts its performance with a poor ducting system?  
Our system solution utilises radial ducting which is the best option for MVHR as it helps:

1. Reduce the speed of the unit as a result of reduced pressure within the system
2. Reduce the noise performance of the system
3. Optimise energy performance of the home, providing savings for the homeowner
4. Can be easily cleaned for long term maintenance

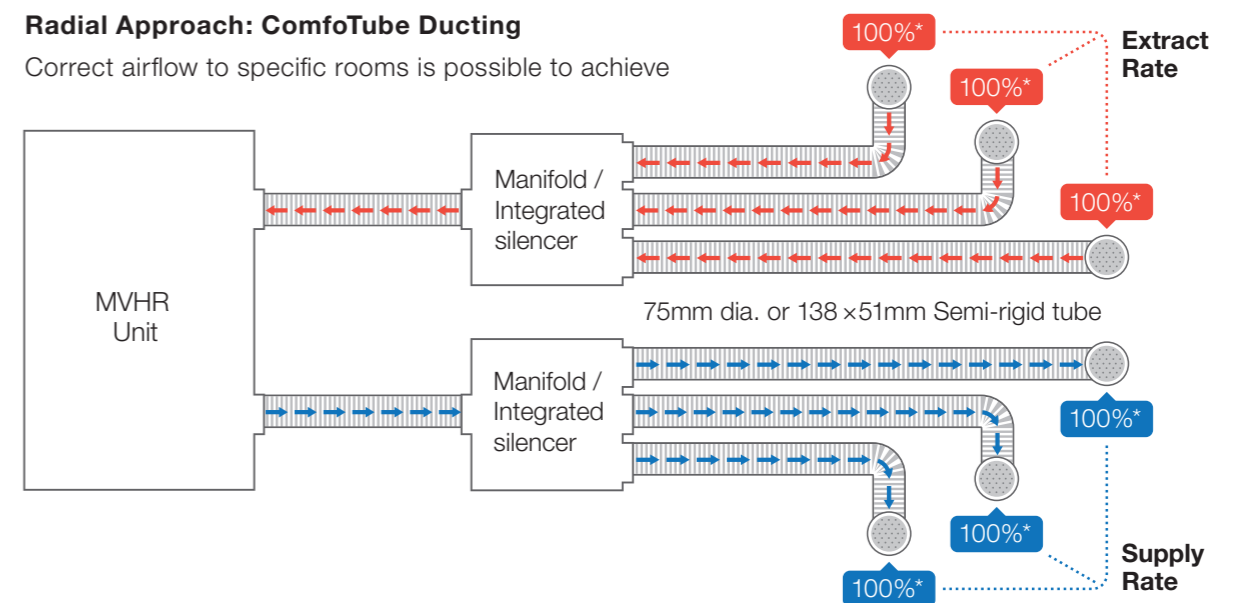
### Branch/leg Approach: Traditional Ducting

Over or under supply of airflow is a common flaw with this system type



### Radial Approach: ComfoTube Ducting

Correct airflow to specific rooms is possible to achieve



ComfoAir Q's sound performance of 28dB(A) means one competitor unit is equivalent to 8 ComfoAir Q units in operational noise!

## Overcoming noise and airflow issues: Branched Ducting vs. Radial Ducting

**23%** LESS ENERGY CONSUMPTION

**2dB(A)** AVERAGE REDUCTION IN SYSTEM NOISE (**3dB(A)** reduces noise by half)

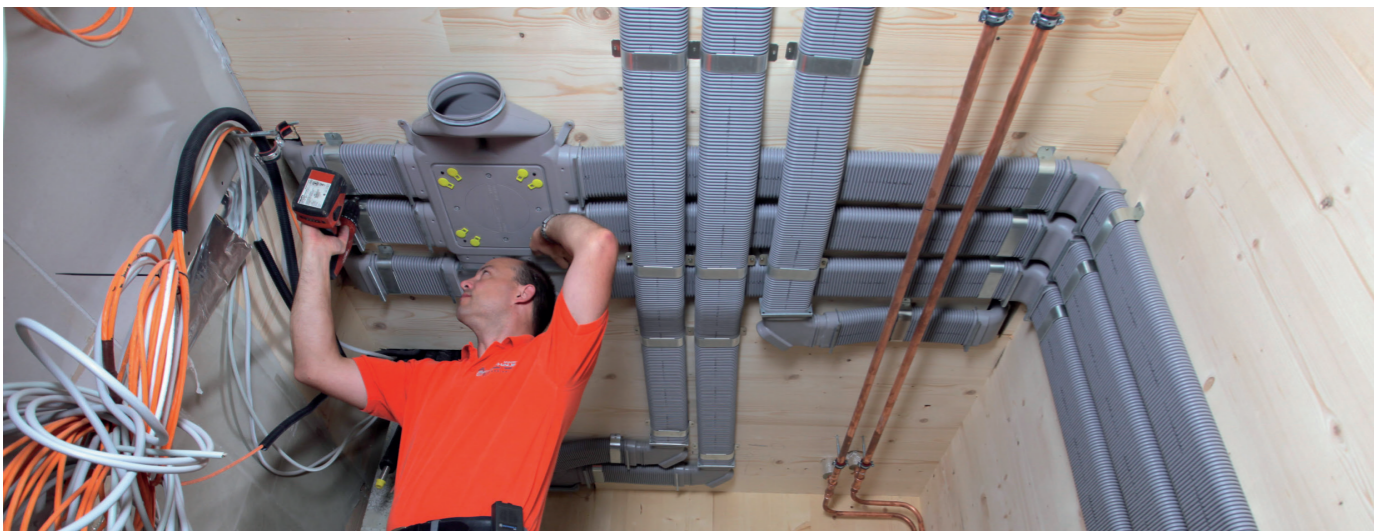
# 3

## Zehnder ComfoTube and Flat 51



Radial Systems use Semi-Rigid Ducting, which in addition to excellent performance benefits, can dramatically reduce time and make on-site practice as simple as possible - helping to get it right first time!

- **Less connections:** Semi Rigid ducting provided on long rolls, is simply cut to length on-site, dramatically reducing the number of connections required.
- **Zero leakage and reduced pressure within the system:** Semi-Rigid Ducting has zero leakage thanks to its pushfit airtight connections, eliminating pressure increases through poor connections and having to increase the speed of the unit to compensate.
- **Prevents clogging, limits dirt build up and easy to maintain:** Semi-Rigid Radial Ducting systems are easy to clean as a result of the 'Clinside' smooth internal coating which means simple maintenance for the system and longevity of performance for the home.



# 4

## Integrated Silencers & Filters - Zehnder ComfoWell



Our system solution approach is focused on getting it right first time and overcoming some of the issues that are faced on site that impact installed performance.

Zehnder ComfoWell is a single solution for attenuators, filters and manifolds.

### A total space saving solution for MVHR Installations

- The only attenuator on the market which can be cleaned
- All air treatment functions available: attenuator, fine filter, active carbon filter, manifold box
- Components connected with metal slides for easy mounting
- Pipes easily connected by end pieces with connectors
- Maximum noise reduction through the option of connecting two attenuators in series

# 104

connections with traditional rigid ducting systems\*

**VS**

# 18

connections with ComfoTube GIP ducting systems\*

\*Based on 4 bedroom house with 3 wet rooms

\*This means that in a four bedroom property with three wet rooms, connections can be reduced by 75% - at five minutes per connection and £5.00 labour cost you are already looking at a £432.00 saving as it is so quick to install.

# +

## More to offer



### Zehnder Enthalpy Heat Exchanger

This heat exchanger helps manage humidity effectively throughout the year - reducing in summer and adding in winter - to help contribute to a comfortable and healthy indoor environment.



### Zehnder ComfoCool Q600

Low energy cooling solution: Provides additional fresh air tempering to the home for added comfort in summer months.



### Zehnder ComfoFond-L Q

Sub Soil Heat Exchangers: Helps improve overall efficiency of the system by utilising the constant temperature of the earth.



**Contact us for more information and technical advice**

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