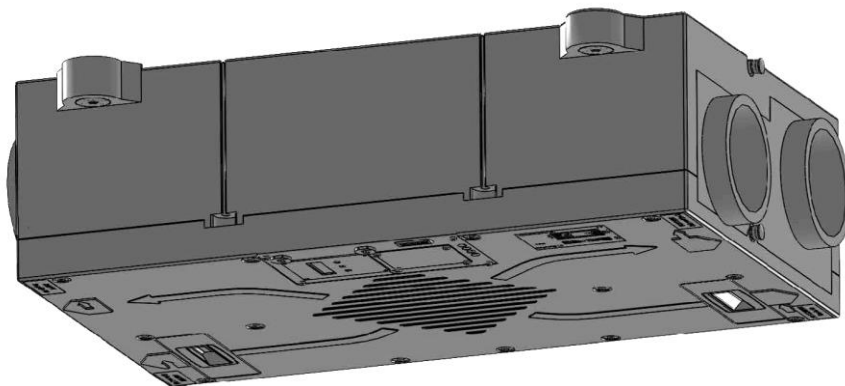




Installation and user manual

Xcell Stratum S120Q

Mechanical Ventilation Unit with Heat Recovery



Please ensure these instructions are kept safe and accessible at all times

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1 General Information

Read all these instructions and warnings fully before commencing installation.

These installation and operating instructions must be observed during installation, operation, service and maintenance. This MVHR unit should only be installed and repaired by a qualified technician. Improper repairs may expose users to danger. Current regulation requires that installation and operating instructions are accessible at all times and must be handed to the technician for reference

2 Components and Construction

The MVHR comprises of the following components:

Case EPP 30mm B1 material

Ducting spigots: Ø125mm

Summer Bypass: Fixed temperature

Winter Defrost: Fixed temperature

Filters: F5 Pleated panel type in frame

whenever work is being undertaken. If you move, please pass the instructions on to the next tenant/owner. Unpack the MVHR carefully and check for any visible signs of damage. If any damage is found contact the supplier. Only use original spares in order to avoid secondary damage. Please ensure that all packaging materials are disposed of properly in accordance with current environmental requirements.

F5 Filters fitted as standard

Access covers: EPP 30mm B1 material

Recuperator: The heat exchanger is made from fully recyclable PS plastic.

The heat exchanger integrated into the MVHR unit operates on the counter flow principle.

Fans: Ultra EC Fans

3 Regulations and Safety Instructions

Stratum MVHR is tested in accordance with the low voltage directive 2006/95/EC and EMC directive 2004/108/EC.

This appliance is not intended for use by persons (including children and the infirm) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Ensure that all relevant safety precautions (correct eye protection and protective clothing etc) are taken when installing, operating and maintaining this unit. Observe the safety regulations and warnings contained in this manual at all times. Failure to do so may result in damage to the unit or personal injury.

This MVHR is intended for connection to fixed wiring. A means for disconnection must be incorporated in the fixed wiring. Installations and wiring must conform to current IEE Regulations (UK), local or appropriate regulations (for other countries). All installations must be supervised by a qualified electrician. It is the installer's responsibility to ensure that the appropriate building codes of practice are adhered to.

This MVHR must not be installed near to sources of direct heat such as cookers/grills or where ambient temperatures may exceed 40°C.

If the MVHR unit is installed in a room containing a fuel burning appliance, precautions must be taken to avoid the backflow of gases into the room from the open flue of the fuel burning appliance.

The maintenance instructions for periodic cleaning of the air inlet/outlet valves and grilles and changing of filters, must be strictly observed.

Connection to 220-240V AC power supply required.

The following applications/installations are prohibited:

- Where excessive fat-contaminated exhaust air, extracting explosive gases, extracting particle-contaminated air, extracting adhesive particulate matter are present.
- Installing the MVHR unit outdoors
- Connecting extractor hoods in to the MVHR ventilation system

Servicing of the MVHR unit may only be carried out by a qualified service technician. Contact details for authorised servicing by a Redring Xpelair approved technician can be found on the back of this booklet.

4 Application and Planning

4.1 Application

This MVHR unit is intended for installation in ventilation systems in houses, residential buildings and light commercial applications (e.g. offices and meeting rooms etc). Upon completion of the system, there should be no safety, health or environmental risks present. The manufacturer of the MVHR unit assumes no liability for this.

4.2 MVHR operation overview

Using two fans in separate ducts, the MVHR draws in external air from the outside and exhaust air from odour-contaminated and moisture-laden rooms (kitchen, bathroom, WC) in the house.

Both of these air flows are passed through filters to a cross counter flow recuperator. The exhaust air releases heat and the external air absorbs heat. The air ducts are separated from one another to prevent odour pollution between external and exhaust air.

Using suitable air ducts and adjustable air inlet valves (accessories), the heated external air is distributed into the house and the cooled exhaust air is ducted out of the building.

4.3 MVHR installation planning

MVHR system designs must comply with the current standards, good practice guidelines and the approved edition on the original planning consent.

Approved documents for Building Regulation in England and Wales:

Part B:

- Approved Document B (Fire Safety) - Volume 1: Dwelling houses
- Approved Document B (Fire Safety) - Volume 2: Buildings other than dwelling houses

Part F:

- Approved Document F - Ventilation

Part L - Dwellings:

- Approved Document L1A: Conservation of fuel and power (New dwellings)
- Approved Document L1B: Conservation of fuel and power (Existing dwellings)

Part L – Buildings other than dwellings:

- Approved Document L2A: Conservation of fuel and power (New buildings other than dwellings)
- Approved Document L2B: Conservation of fuel and power (Existing buildings other than dwellings)
- Scottish Building Standards approved technical handbooks:

Domestic Handbook:

- Section 2 – Fire
- Section 3 – Environment
- Section 6 – Energy

Non-domestic Handbook:

- Section 2 – Fire
- Section 3 – Environment
- Section 6 – Energy

5 Installation

5.1 General information

The MVHR unit should be mounted slightly tilted from the horizontal to ensure effective condensate drainage.

If mounting on plaster board use the following fixing method:

- Use 15 mm nominal plywood backing board to connect directly to the internal ceiling studwork and then mount the MVHR unit on the plywood
- Ensure internal thermal or sound insulation is installed inside the stud wall to prevent reverberation

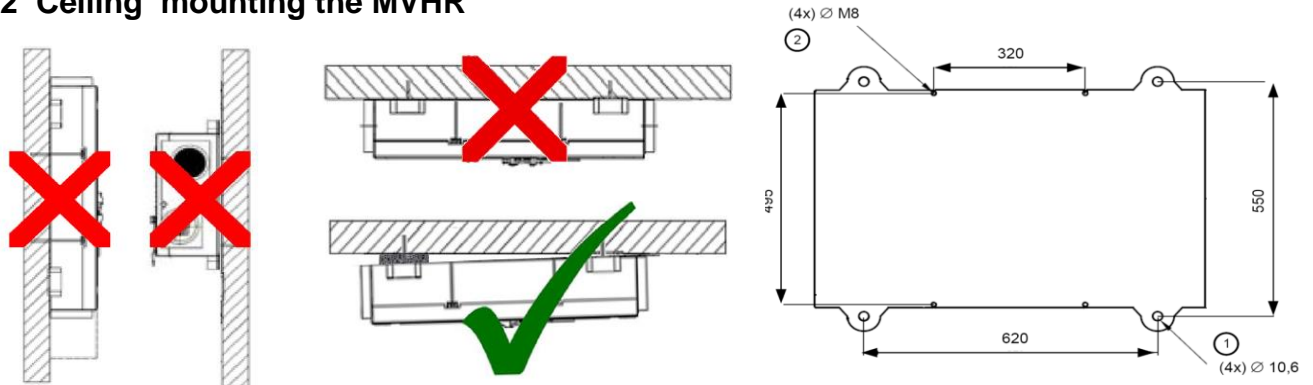
The MVHR unit may only be installed in dry, non-explosion proof rooms (protection category IPX2). The ambient temperature must not exceed +40°C.

This MVHR must not be fitted in rooms or areas of the house with strong odours, which could then permeate into the MVHR and contaminate the fresh air supplied from the MVHR unit.

The following must also be met:

- Access is required for maintenance work (e.g. changing the filter)
- The condensate drain must be connected to a closed water trap and must have a sufficient gap (Approx. 50cm is ideal)
- If the condensate drain is located in a frost prone area, then heat tracing must be provided.

5.2 Ceiling mounting the MVHR



A spacer bar is provided which is placed between the unit and the fixing surface to provide a fall to the condensate drain outlet

There are two fixing methods provided for direct bolting or threaded down rods.

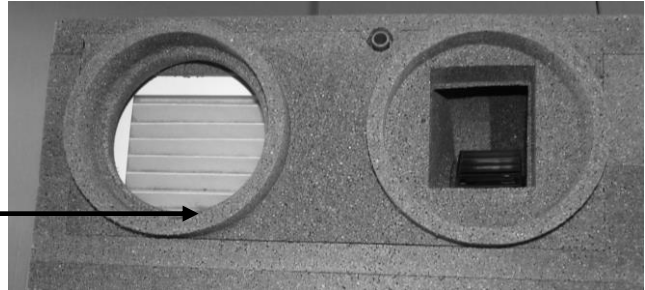
- Mark out the fixing holes mounting brackets using the diagram shown in section 5.3.1 and drill the holes to suit the fixing bolts or anchors to be used
- Fix the unit using suitable locking bolts and washers

5.3 Ducting

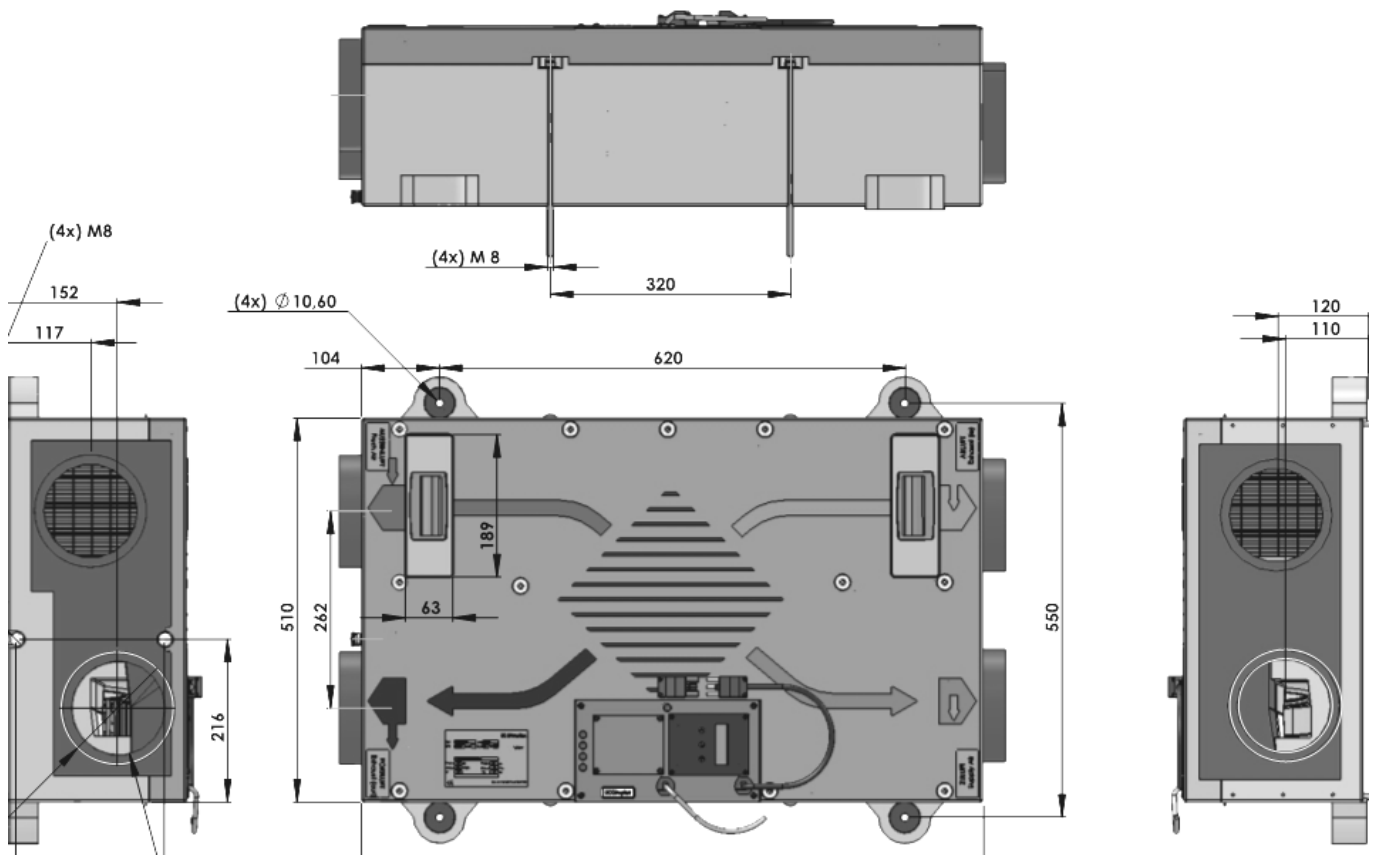
Flexible ducting should only be used for final connections with special care taken to avoid restrictions and other conditions which will restrict air flow. When installing ducting, care should be taken to ensure it is properly supported and secure with joints properly sealed. All ducting located in loft spaces and roof voids etc., which are unheated, must be insulated, together with the duct runs from the unit to atmosphere. If the air inlet from outside is less than 2 meters a frost protect pre-heater is recommended.

All ducting fitted to the spigots on the MVHR should be secured via a suitable sealed duct connector to prevent air leakage (e.g. Xpelair CPC125 – 91485AA)

Duct spigots



5.3.1 Duct connections



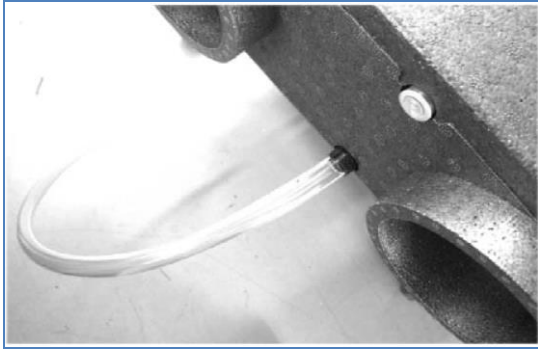
For ease of installation the duct connections are located at the ends of the MVHR when viewed with the condensate drains on left hand side:

- Top left with Filter: Drawing in fresh air from the outside (Atmosphere Intake)
- Top right with Filter :Extracting used air from the building (Dwelling Extract)
- Bottom left: Extracting the used air out to atmosphere (Atmosphere Discharge)
- Bottom right: Supplying the tempered fresh air into the building (Dwelling Supply)

5.4 Condensate drain

Ensure that the spacer bar provided is fitted between the unit and the fixing surface to provide a fall to the condensate drain outlet

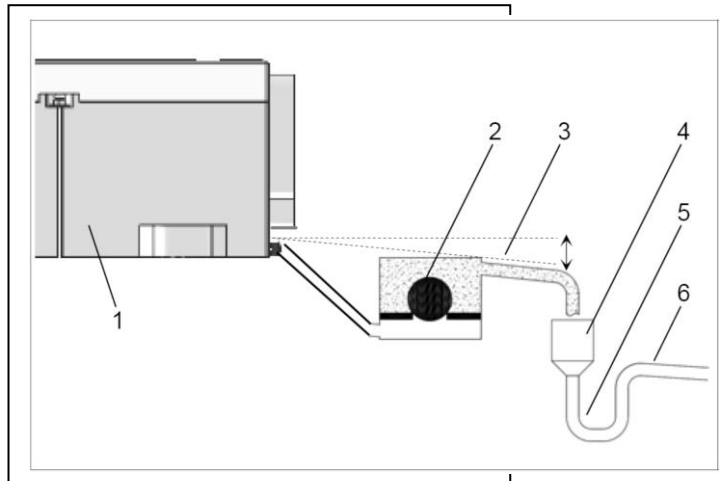
A condensate drain must be fitted to run to the building waste water system in accordance with the Building Regulation H1.



There are two condensate outlets. Both have caps fitted - remove the cap from the lower outlet. The condensate drain tube is then connected to the outlet on the end of the unit. The condensate drain tube can be adapted to the installation requirement. It is important that the condensate drain tube at the unit is positioned higher than the water surface of the water trap and that the condensate drain tube ends within the water head of the water trap.

The condensate drain tube should be checked annually and cleaned if necessary. A condensate drain tube (Ø 20mm and 1.0m long) is supplied.

The water trap must be purchased separately from a local plumbing stockist.



1. Stratum MVHR ventilation unit
2. Condensate hose (inclined)
3. Siphon with dry running protection preventing air filtration
4. Funnel receiving water from the outlet
5. Siphon preventing infiltration of sewer gases
6. Drainage pipe (inclined)

NOTE: Water trap must be prefilled with water after completion.

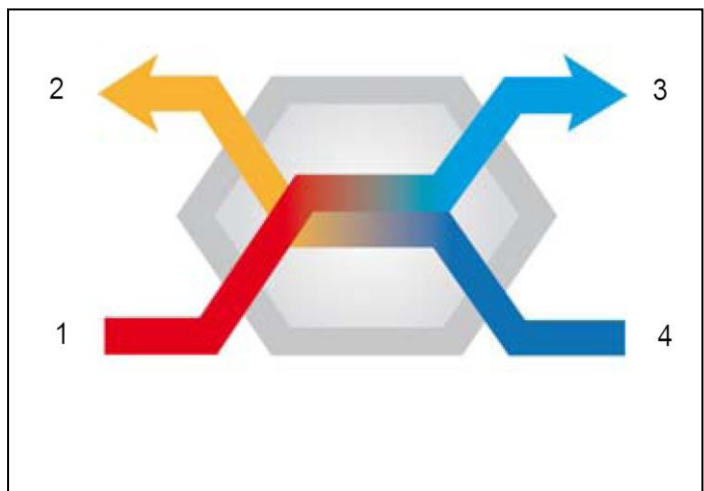
NOTE: Ensure that the condensation hose is sufficiently inclined. Incorrect installation can cause water damage.

NOTE: The condensate hose must be checked and cleaned regularly, at least annually.

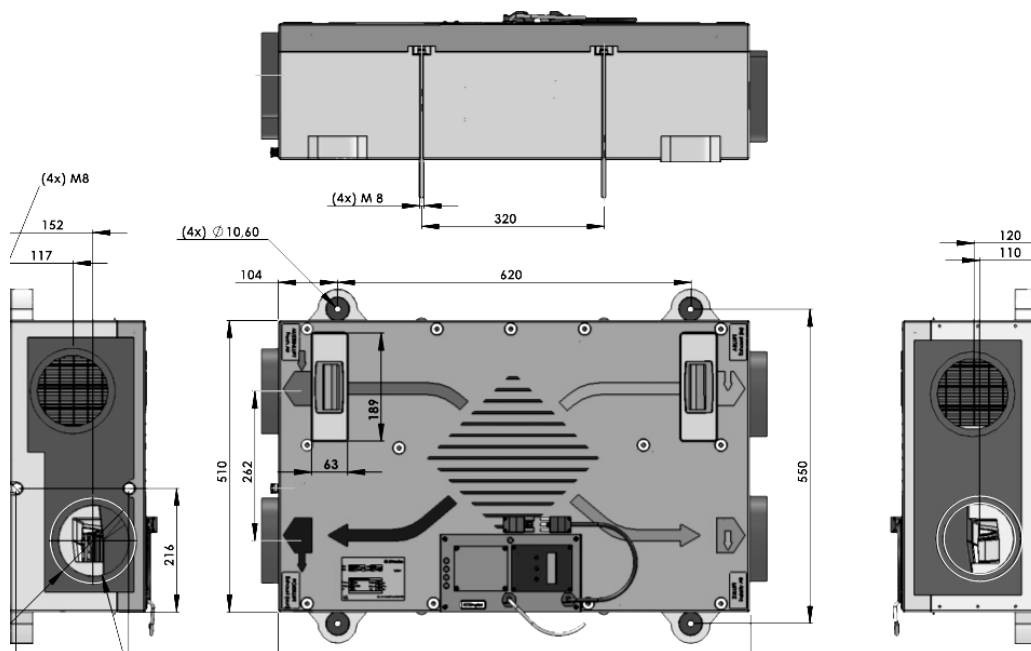
5.5 Typical installation example

1. **Exhaust air** from the Wet rooms kitchen / bathroom / toilet
2. **Supply air** into the building via living rooms/ bedrooms
3. **Exhaust air** (from inside to outside)
4. **External air** (fresh air)

Heat is transferred from stale warm extracted air to warm the incoming cool fresh air saving energy.



5.6 Installation dimensions:



6. Technical Data

6.1 Technical data:

Technical Data	Units	Specification
Voltage / Frequency	V / Hz	~ 220-240V / 50-60 Hz
Max. current consumption	A	0.86
Power consumption - Speeds 1, 2	W	17 -65 Max110
Air flow rate – min - max	m ³ /h	Min 30 - 120
Max external Static Pressure	Pa	120
Protection category	IP	X2
ambient temperature	°C	-20 to +40
Dimensions (without ducting) - W x H x D	mm	550 x 240 x 510
Weight of MVHR	Kg	10
Duct connections	mm	Ø 125 4xDN125
Condensate drain tube connections	mm	Ø 20
Filter class	-	F5
Efficiency of Recuperator	%	88
Weight	Kg	11

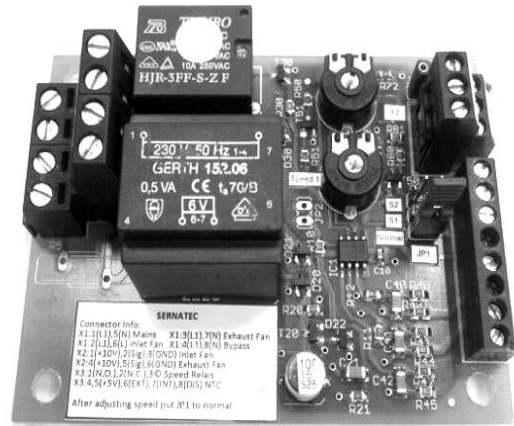
6.2 Accessories:

Description	Part Number	Notes
Air Filter Box	45014AA	Suitable for all Xcell MVHRs. Only one air filter box is required per MVHR. Not supplied with filters fitted.
Class F7 Filter	95047AA	F7 Filter used in the air filter box only.
Pre Heater Unit	44001AA	Only one defrost heater unit is required per MVHR.

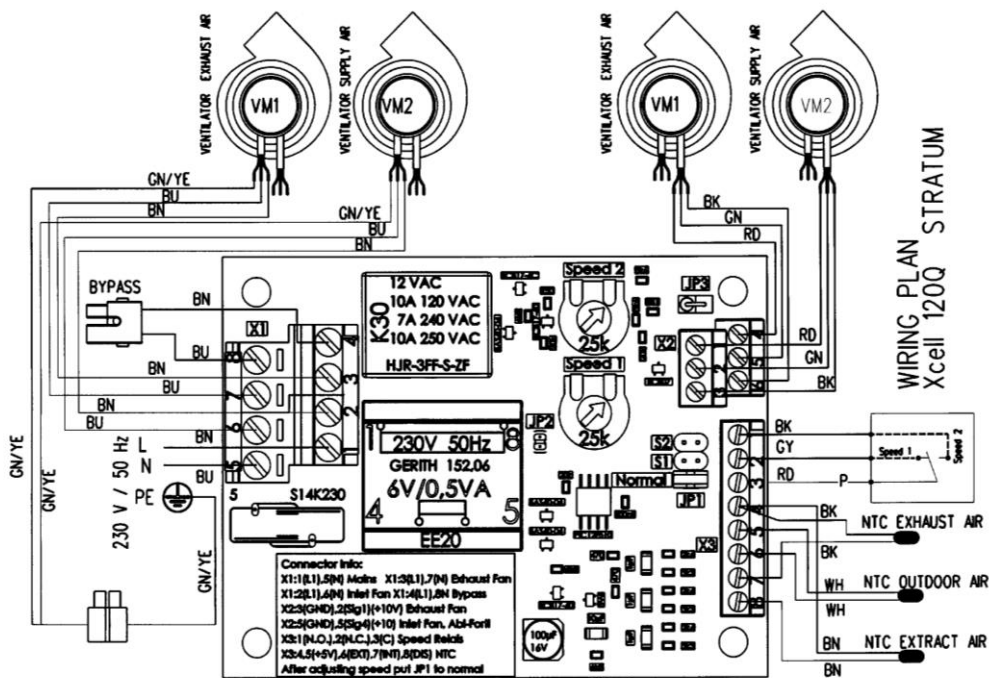
6.3 Replacement filters:

Description	Part Number
Replacement filters (set of 2)	40552AA

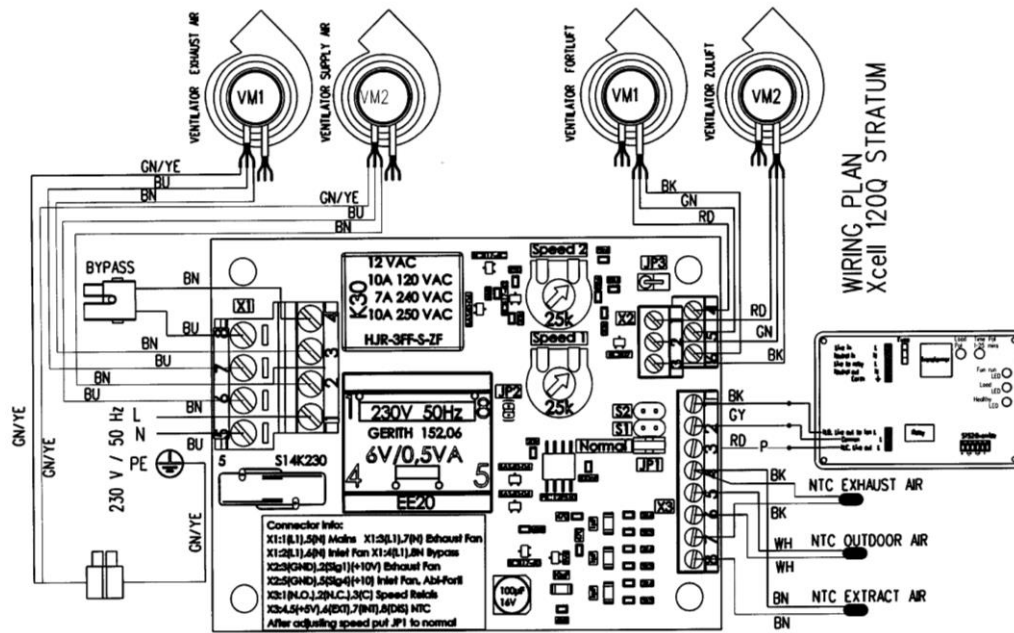
7. Electrical Wiring



7a. Electrical Wiring: (to a two way switch)



7b. Electrical Wiring: (to a West controller)



Stratum 120Q run continuously at normal or boost speed triggered by a West controller (Accessory)
 Three core wiring - a common and high or low.

7.1 Set up procedure

Move jumper to Test 1 position Balance system to desired 'normal' extract rate using pot 'speed 1'

Move jumper to Test 2 position Balance system to desired 'boost' extract rate using pot 'speed 2'

Return jumper to 'Normal'. The West Controller will switch between the two selected speeds.

8. Automatic Defrost Protection

In order to prevent the Heat Exchanger from freezing when the outside temperature is low, a frost protection monitor has been integrated

Factory setting (No user adjustment):

If the temperature in the outgoing air duct falls below 4°C the supply air Fan will stop (the exhaust air Fan will remain on). When the outgoing air temperature reaches 7°C again the supply air Fan comes back on automatically.

Fan fault safety shut down

Should the supply air Fan fail the exhaust air Fan will switch off automatically.

9. Pre Heater Accessory

When the incoming air temperature drops below the set temperature (0°C to 3°C), the Defrost Pre-Heater Unit will switch on and warm vent ice forming within Exchanger.

When the incoming air temperature rises above the set temp.



the incoming air prior to it arriving at the MVHR to pre-

(0°C to 3°C), the defrost heater unit will switch off.

10. Maintenance

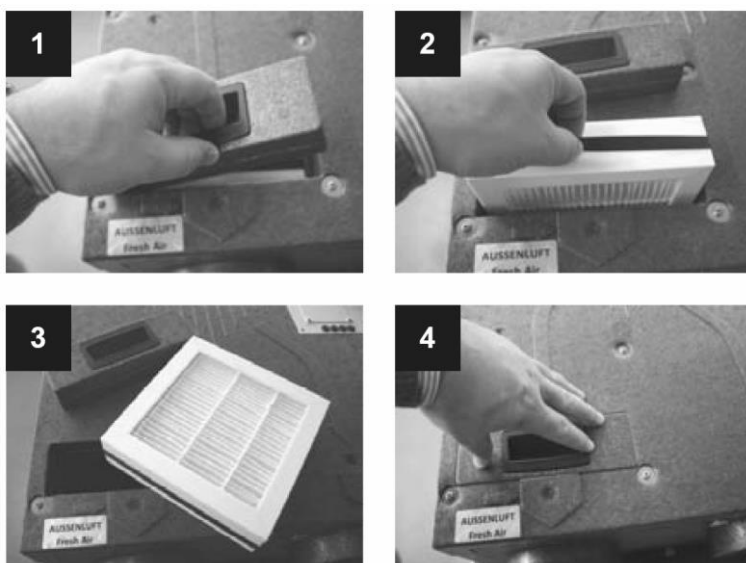
10.1 Filters

The MVHR should never be operated without Filters. However, depending on the actual volume of contaminants in the environment, the MVHR Filters need to be checked and cleaned at least twice a year and replaced at least on an annual basis. The original external / exhaust F5 quilted filters are enclosed in a frame. Contact details for purchasing new filters or servicing by Xpelair approved technicians can be found on the back of this booklet.

10.1.1 Removing and re-fitting the filters

Important: A planned filter replacement regime protects the recuperator from needing to be cleaned. Before removing the recuperator disconnect the MVHR from the mains supply.

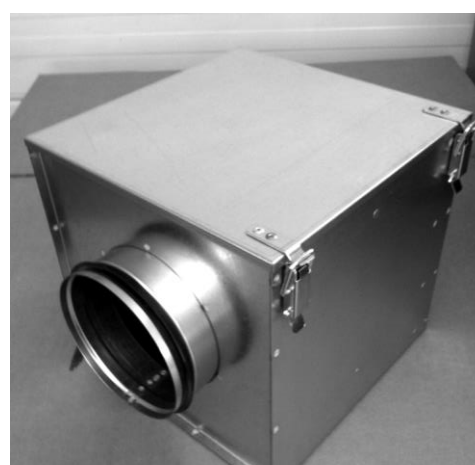
1. Remove filter access covers using finger grip
2. Remove the two Filters
3. Insert cleaned or new Filters. Filters can be cleaned by gently knocking together to remove dust/dirt
4. Replace the Access covers
5. The MVHR is ready to recommence operation.



11. Air Filter Box (Optional accessory)

The MVHR is fitted with F5 Filters as standard. To protect allergy sufferers against environmental pollution, for example, it may be useful to install a filter box with finer Filters. These Filters are designed to offer the longest service life and lowest pressure loss and are installed in a box immediately after the supply air outlet. Class F7 Panel Filters are available as the filter elements.

The Filters fitted in the Air Filter Box should be checked for cleaning/



replacement at the same time as the other MVHR Filters.

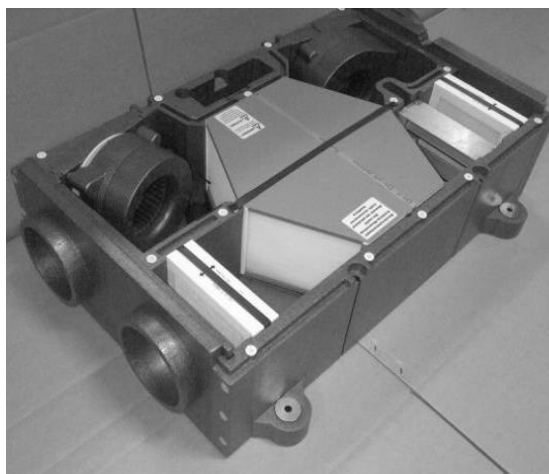
Please contact the UK sales office for further details, contact details can be found on the back of this booklet.

Please note:

If the external air is drawn in via a geothermal Heat Exchanger, a class G4 Filter should be installed in the intake tower.

12. Cleaning the Recuperator

The Recuperator should be cleaned by a specialist technician as and when required depending on the level of contamination, but at least every 2 years. Contact details for servicing by Xpelair approved technicians can be found on the back of this booklet. The cleaning procedure is as follows:



1. Disconnect the MVHR from the mains supply
2. Remove the top cover
3. Remove the Retaining Bracket located in front of the
4. Carefully pull the Recuperator outwards using the black strap around the Heat Exchanger, keeping it
5. Thoroughly rinse the Recuperator with lukewarm water and allow all the water to drain off
6. Residual moisture will evaporate when the MVHR is operated
7. Carefully insert the cleaned Recuperator, keeping it parallel to avoid damaging the EPP housing
8. Replace the Recuperator Retaining Bracket and retaining screw
9. Switch the mains supply back on
10. The MVHR is ready to recommence operation

Heat Exchanger by removing the screw
horizontal to avoid damaging the EPP housing plastic

13. Troubleshooting

Important:

Servicing of the MVHR may only be carried out by a qualified service technician. Contact details for servicing by Xpelair approved technicians can be found on the back of this booklet.

13a. Fault locating table

SYMPTOM	CHECK	POSSIBLE CAUSE
Fan does not work	The mains supply is on	<ul style="list-style-type: none"> - Mains supply interrupted - Fuse has blown: - Mains supply fuse or supply cord plug fuse - Supply air Fan defective - Exhaust air Fan defective - Fan blade catching on inner EPP housing - Contact fault on Fan control or power leads - Control PCB defective
Supply air and/or exhaust air flow rate is too low	Filters Room air valves Outside grilles	<ul style="list-style-type: none"> - Filter service period has expired
No water coming through Condensate Drain Tube	Correct connection Connection to dwelling Building Waste System and not directly outside	<ul style="list-style-type: none"> - No water in siphon - Condensate water drain blocked
Noise coming from the MVHR unit	Fans are noisy	<ul style="list-style-type: none"> - Increased air resistance due to contaminated Filters and/or Heat Exchanger - Obstruction in the duct system

		- Room air regulator valves not open wide enough
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Note - This table may be subject to technical amendments.

GUARANTEE

Terms and Conditions for UK & ROI (outside UK & ROI contact your local distributor)

Redring Xpelair Group guarantee this product against faulty workmanship and material defects for a period of two years (motors only for five years) from the date of purchase subject to regular servicing by Redring Xpelair Group, or their approved agents.

In the event of a product breakdown during the guarantee period, initially contact your installer.

The guarantee is valid provided:

- a) The product has been installed in a residential or light commercial environment.
- b) The product has been correctly installed and commissioned in accordance with the instructions and is used on the supply circuit or voltage printed on the rating plate.
- c) The product has been used in accordance with these instructions and has not been tampered with or otherwise been modified, subjected to misuse, neglect or accident.
- d) The product has been regularly maintained in accordance with these instructions and the airway is unobstructed.
- e) The product has not been taken apart, modified or repaired except by a person authorised by Redring Xpelair.
- f) Evidence of the date of purchase in the form of an invoice or receipt will be required in order to qualify under the terms of this guarantee.
- g) For the service work to be undertaken free of charge, the work must only be undertaken by Redring Xpelair or their approved agents.
- h) Service under guarantee has no effect on the expiry date. The guarantee on any exchanged parts or product ends when the original guarantee period ends.
- i) In the event of a product being returned to Redring Xpelair and not found to be faulty, the product will be available for collection from the relevant premises for one month and if not collected will be disposed of or delivered by Redring Xpelair for a delivery charge made.

EXCLUSIONS

This guarantee does not apply to the repair or replacement of filters, accessories, isolating switches, electrical cable, fuses and/or circuit breakers or annual servicing..

This guarantee covers products supplied by Redring Xpelair only and does not cover other products and components used to create a system from elsewhere- in particular the West controller.

The responsibility for the suitability of the complete system for the specific application remains the responsibility of the original specification engineer.

This guarantee does not cover damage or defects arising from poor or incorrect installation, improper use or lack of maintenance. It is the responsibility of the installer to check that the installation parameters meet the requirements of the product, and any relevant regulations.

Site visits to a fault, which are subsequently identified as being an installation fault, a chargeable. It is important that the routine checks are completed before requesting a call out, as many issues can be simply diagnosed and resolved.

In the event of a site visit, we will endeavour to achieve the most timely response possible but while we indicate an average response time, this should not be taken as a guarantee.

The guarantee applies to a repair or replacement (at Redring Xpelair's discretion) of the product subject to the conditions above, and does not cover compensation for the loss of the product or consequential loss of any kind.

This guarantee does not affect your statutory rights



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