



Installation and Operating Instructions

**Xcell 300 QV
Xcell 300 QVW
Xcell 300 QVI**

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 & warnings fully before commencing installation.

These installation and operating instructions must be observed during installation, operation, service and maintenance. This MVHR should only be installed and repaired by a qualified service technician. Improper repairs may expose the user to considerable danger. Under current regulations, the installation and operating instructions must be accessible at all times and must be handed to the technician for reference whenever work is being done on the MVHR. When moving out of the premises this MVHR has been installed in, 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.

2 Components and Materials of Construction

The MVHR comprises of the following main components:

Item	Description
Outer casing:	Powder-coated stainless steel, colour white to RAL 9010.
Access hatch:	PS plastic.
Ducting spigots, Ø 150mm:	EPP, black.
Internal air paths and internal casing:	EPP, black.
Filters:	G4 Filters fitted as standard. An external Air Filter Box with F5 or F7 Filters is also available as a separate accessory.
Heat Exchanger:	The Heat Exchanger is made from fully recyclable PS plastic. The Heat Exchanger integrated into the MVHR is based on the counter flow principle with triangular air ducts for supply and exhaust air.
Fans:	Energy-saving EC DC Fans with optimal efficiency.

3 Regulations and Safety Instructions

The Xcell 300 MVHRs are 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 MVHR. 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 (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 50°C.

When the MVHR 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 instructions on periodic cleaning and/or changing of the Filters, the air inlet/outlet valves and the air inlet/outlet grilles must be strictly observed.

The unit may only be connected to a 220-240V AC power supply.

The following applications / installations are prohibited:

- The use of excessive fat-contaminated exhaust air, extracting explosive gases, extracting particle-contaminated air, extracting adhesive particulate matter.
- Installing the MVHR outdoors
- Connecting extractor hoods in the ventilation system

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

4 Application and Planning

4.1 Application

This MVHR 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 assumes no liability for this.

4.2 MVHR operation overview

Using two Fans, each with a filter in separate air paths, the MVHR draws in external air from the outside and exhaust air from odour-contaminated and moisture-laden rooms (i.e. kitchen, bathroom, WC) in the house. Both of these air flows are passed through a cross counter flow Heat Exchanger whereby 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 (separately purchased accessories), the heated external air is blown into the house and the cooled exhaust air is ducted out of the building.

There are numerous accessories available for manually or automatically controlling the MVHR, see section 6.6.

4.3 MVHR installation planning

MVHR system designs must comply with the current standards or the approved edition on the original planning consent. Approved documents for Building Regulation in England and Wales are as follows:

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 are as follows:

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 should be aligned horizontally using a spirit level (for effective condensate drainage).

The mains voltage must be 220-240V / 50-60 Hz.

If mounting on low density walls i.e. plaster boarded stud walls use the following fixing method:

- Use 15mm nominal plywood backing board to connect directly to the wall internal frame stud 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 must be installed in a frost-free room preferably within the thermal envelope in order to keep heat losses via the MVHR surfaces and ventilation ducting to a minimum. Cellars, store rooms and insulated attics are suitable for this purpose.

The MVHR may only be installed in dry, non-explosion proof rooms (protection category IP20). The ambient temperature must not exceed 50°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.

The following criteria 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 Impact noise reduction

With installation on wooden floors or other vibration-prone components, there may be a combined impact noise (use rubber mounting feet).

5.3 Wall mounting the MVHR

There is a metal bracket fixed to the rear of the metal casing for mounting the MVHR on the wall. The corresponding metal wall bracket, which is to be fixed to the wall, is supplied (without fixing screws) in the product packaging.

- Mark out the fixing holes for the wall bracket and drill the holes to suit the fixing screws to be used.
- Precisely align the bracket on the wall using a spirit level and fix the bracket to the wall with suitable fixing screws.
- Fix the two self-adhesive rubber feet supplied to the rear bottom corners of the MVHR.
- Lift the MVHR up to the wall and hang onto the bracket on the wall. Ensure the MVHR is positioned centrally to the bracket fixed to the wall.

5.4 Heat exchanger retaining bracket

Once the MVHR has been mounted in the right or left-handed orientation, the Heat Exchanger Retaining Bracket supplied (see picture below) must be fitted to the front of the MVHR as follows:

- Remove the Access Hatch on the front of the MVHR by turning it to the left.
- Fit the Retaining Bracket and retaining screw supplied with the MVHR.
- Replace the Access Hatch by turning it to the right.



Important: The Heat Exchanger must only be removed for cleaning. Before removing the Heat Exchanger disconnect the MVHR from the mains supply.

5.5 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.

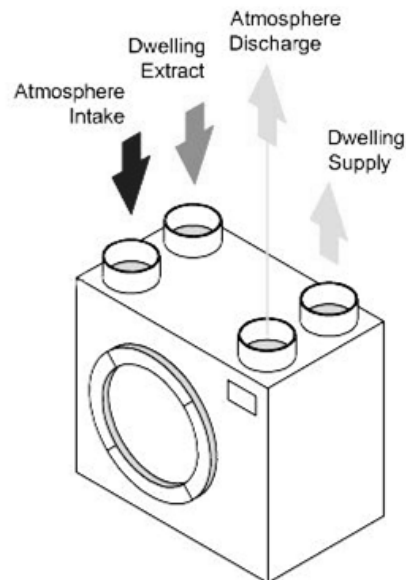
All ducting fitted to the spigots on the MVHR should be secured in place with jubilee clips or a suitably sized plastic cable tie.



5.5.1 Duct connections

For ease of installation the duct connections are located on top of the MVHR.

- When viewed from the front of the MVHR in a right handed installation, the two duct connections on the left hand side are for:
 - Drawing in fresh air from the outside (Atmosphere Intake)
 - Extracting used air from the building (Dwelling Extract)
- When viewed from the front of the MVHR in a right handed installation, the two duct connections on the right hand side are for:
 - Extracting the used air out to atmosphere (Atmosphere Discharge)
 - Supplying the heated fresh air into the building (Dwelling Supply)



- The Xcell 300 MVHRs are manufactured for either a right or left-handed installation and therefore cannot be changed on-site.
- Right-handed MVHRs are available as follows:
 - Xcell 300 QV
 - Xcell 300 QVW
 - Xcell 300 QVI
- Left-handed MVHRs are available as follows:
 - Xcell 300 QV-L
 - Xcell 300 QVW-L
 - Xcell 300 QVI-L
- See section 5.8.2 below for the correct duct connections for a left-handed installation.

5.6 Condensate drain

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

The Condensate Drain Tube is connected to the MVHR through the hole on the underside of the plastic base. The Condensate Drain Tube can be adapted to the installation requirements. It is important that the Condensate Drain Tube 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.

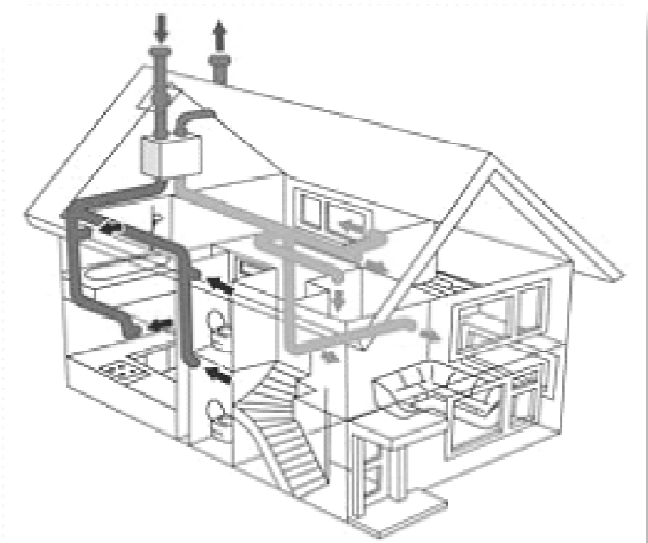
A Condensate Drain Tube (Ø 20mm and 1.0m long) is supplied with each MVHR.

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

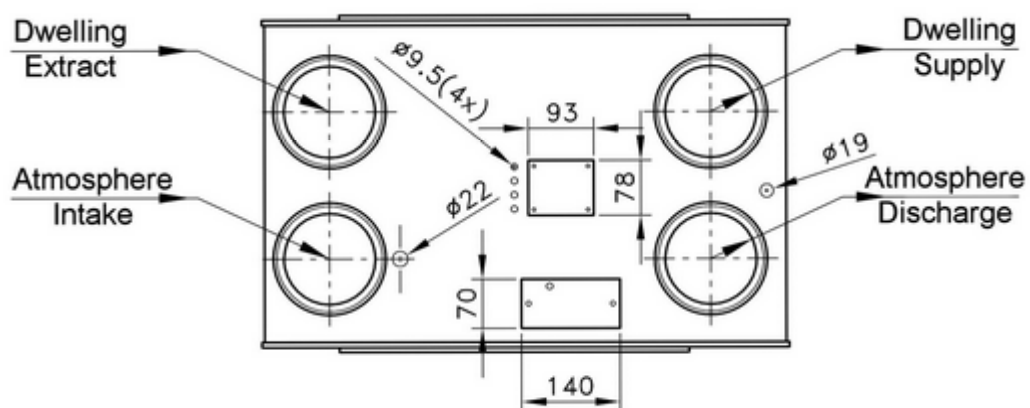


5.7 Installation example

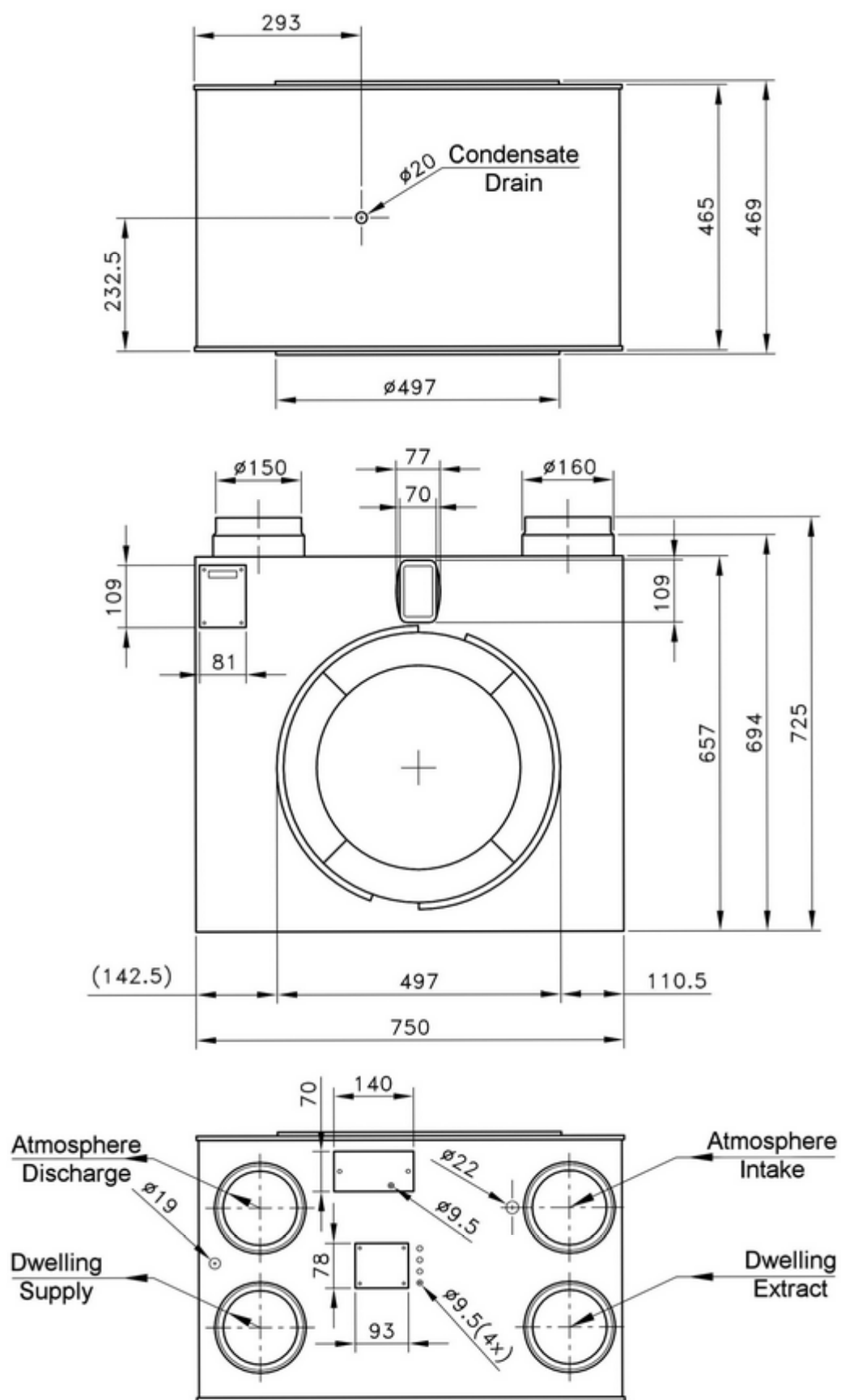
- **Exhaust air** from the rooms (kitchen/bathroom/toilet)
- **Supply air** into the building (living rooms/bedrooms/children's rooms)
- **External air** (fresh air) with vapour diffusion-resistant insulation
- **Outgoing air** from inside to outside with vapour diffusion-resistant insulation



5.8.1 Right hand installation



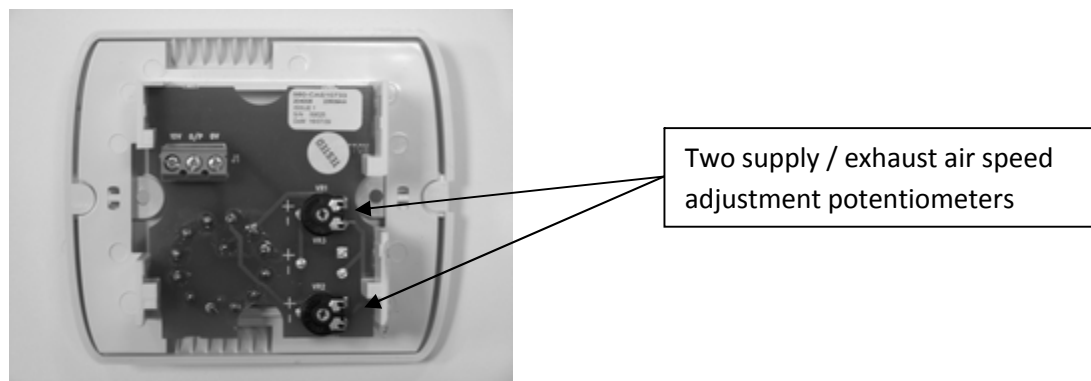
5.8.2 Left hand installation



6 Technical Data

6.1 Air flow settings (Xcell 300 QV model only)

Air flow rates can be changed by a qualified service technician using the adjustment potentiometers inside the Manual 2-Speed Switch purchased for this MVHR, as shown in the picture below.

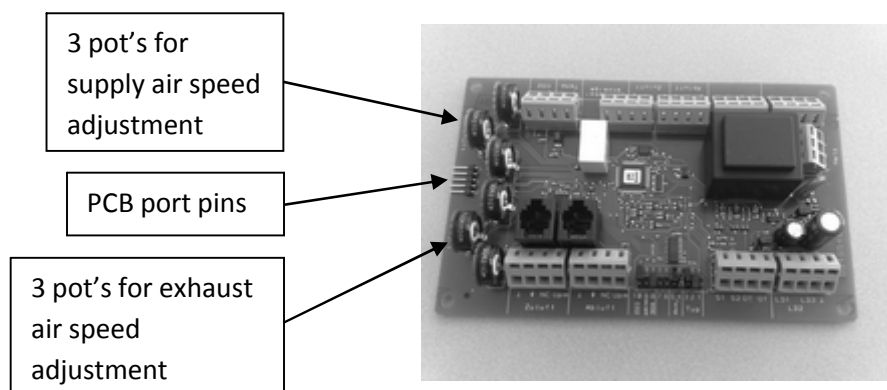


The potentiometers adjust both Fan speeds simultaneously i.e. independent Fan speed control is not available.

Turning the potentiometer to the right increases the control voltage / speed of both Fans and turning it to the left reduces the control voltage / speed of both Fans. There are two potentiometers, see section 6.4 below for the factory default speed settings.

6.2 Air flow settings (Xcell 300 QVW model only)

Air flow rates can be changed by a qualified service technician using the adjustment potentiometers (3x blue) for the supply air Fan and (3x red) for the exhaust air Fan, as shown in the picture below.



The potentiometers adjust the Fan speeds independently i.e. common Fan speed control is not available.

Depending on the Fan speed selected (1, 2 or 3) the Fans have a specific control voltage of between 1.7 V minimum up to a maximum of 10.0 V. The control voltage for the supply air and exhaust air Fans is also adjusted via each set of three potentiometers on the PCB.

S1 – Supply air speed 1 - blue potentiometer

and

S1 – Exhaust air speed 1 - red potentiometer

S2 – Supply air speed 2 - blue potentiometer

and

S2 – Exhaust air speed 2 - red potentiometer

S3 – Supply air speed 3 - blue potentiometer

and

S3 – Exhaust air speed 3 - red potentiometer

Turning the potentiometer to the right increases the control voltage / speed of each Fan and turning it to the left reduces the control voltage / speed of each Fan.

6.2.1 PCB port pins (Xcell 300 QVW model only)

Via port pins on the PCB, the control voltage for each speed setting can be measured with a voltmeter.

The control voltage for the exhaust air and supply air Fans can be set separately at between 1.7 V and 10.0 V by adjusting the potentiometers as described above.

See also the wiring diagrams in section 7.

6.3 Air flow settings (Xcell 300 QVI model only)

Air flow rates can be changed by a qualified service technician using the control panel shown below. The supply air Fan speed can be modified independently from the exhaust air Fan speed, between 50-280 m³/h in the 'Customer Settings' menu. See the Service Manual for further details.



6.4 Factory speed settings (All Xcell 300 models)

Speed 1: 90 m³/h - Low speed - preferably at night or during periods of absence

Speed 2: 160 m³/h - Normal daytime operation

Speed 3: 250 m³/h - Boost setting for increased air exchange

Note:

When the MVHR is being used with a Manual 2-Speed Switch (Xcell 300 QV model only); only speeds 2 and 3 will apply.

6.5 Technical data

Technical data	Units	Specification
Voltage / Frequency	V / Hz	~ 220-240V / 50-60 Hz
Max. current consumption	A	1.19
Power consumption - Speeds 1, 2, 3	W	33 / 61 / 130
Air flow rate - Speeds 1, 2, 3	m³/h	90 / 160 / 250
Air flow rate at 120 Pa Static Pressure	m³/h	280
Protection category	IP	20
Max. ambient temperature	°C	50
Dimensions (without ducting) - W x H x D	mm	750 x 725 x 469
Weight of MVHR	Kg	32
Duct connections	mm	Ø 150
Condensate drain tube connections	mm	Ø 20
Filter class	-	G4
Efficiency of Heat Exchanger	%	Up to 90%
Sound pressure level (measured at a distance of 1m) - Speeds 1, 2, 3	dB (A)	30.0 / 34.0 / 45.0
Sound pressure level (measured at a distance of 3m) - Speeds 1, 2, 3		20.5 / 24.5 / 35.5

6.6 Applied Energy accessories for manual or automatic MVHR operation

Description	Part Number	Notes
Manual 2-Speed Switch	23513AW	Suitable for the Xcell 300 QV model only. Only one Manual 2-Speed Switch can be used per MVHR. Can be flush or surface mounted.
Automatic 3-Speed Switch	96005AA	Suitable for the Xcell 300 QVW model only. Up to ten Automatic 3-Speed Switches can be used per MVHR. Can be flush or surface mounted.
CO ₂ Sensor	96003AA	Suitable for the Xcell 300 QVW & Xcell 300 QVI models only. Only one CO ₂ Sensor can be used per MVHR unit. Can be surface mounted only.
Humidity Sensor	96009AA	Suitable for the Xcell 300 QVW & Xcell 300 QVI models only. Can be surface mounted only. <u>When used with the Xcell 300 QVW model:</u> <ul style="list-style-type: none"> When used in conjunction with an Automatic 3-Speed Switch a maximum of four Humidity Sensors can be connected. When used in conjunction with an Automatic 3-Speed Switch and a CO₂ Sensor a maximum of three Humidity Sensors can be connected. Humidity Sensors cannot be used in conjunction with the 7-Day Timer Switch or the RF Receiver and RF Transmitter products. <u>When used with the Xcell 300 QVI model:</u> <ul style="list-style-type: none"> When used in conjunction with a 7-Day Timer Switch a maximum of eight Humidity Sensors can be connected. When used in conjunction with a 7-Day Timer Switch and a CO₂ Sensor a maximum of four Humidity Sensors can be connected.
7-Day Timer Switch	96004AA	Suitable for the Xcell 300 QVI models only. Only one 7-Day Timer Switch can be used per MVHR. Can be surface mounted only.
RF Remote Control Receiver	96006AA	Suitable for the Xcell 300 QVI model only. Only one RF Receiver can be used per MVHR.
RF Remote Control Transmitter	96007AA	Suitable for the Xcell 300 QVI model only. Up to six RF Transmitters can be used per MVHR. Can be flush mounted only.
Smoke Alarm	96021AA	Suitable for the Xcell 300 QVI model only. Up to four Smoke Alarms can be used per MVHR. Can be flush mounted only.
Air Filter Box	45014AA	Suitable for all Xcell 300 models. Only one Air Filter Box is required per MVHR. Not supplied with Filters fitted, see below.
Class F5 Filter	95045AA	Suitable for all Xcell 300 models. F5 filter used in the Air Filter Box only.
Class F7 Filter	95047AA	Suitable for all Xcell 300 models. F7 filter used in the Air Filter Box only.
Defrost Heater Unit	44001AA	Suitable for the Xcell 300 QVW & Xcell 300 QVI models only. Only one Defrost Heater Unit is required per MVHR.

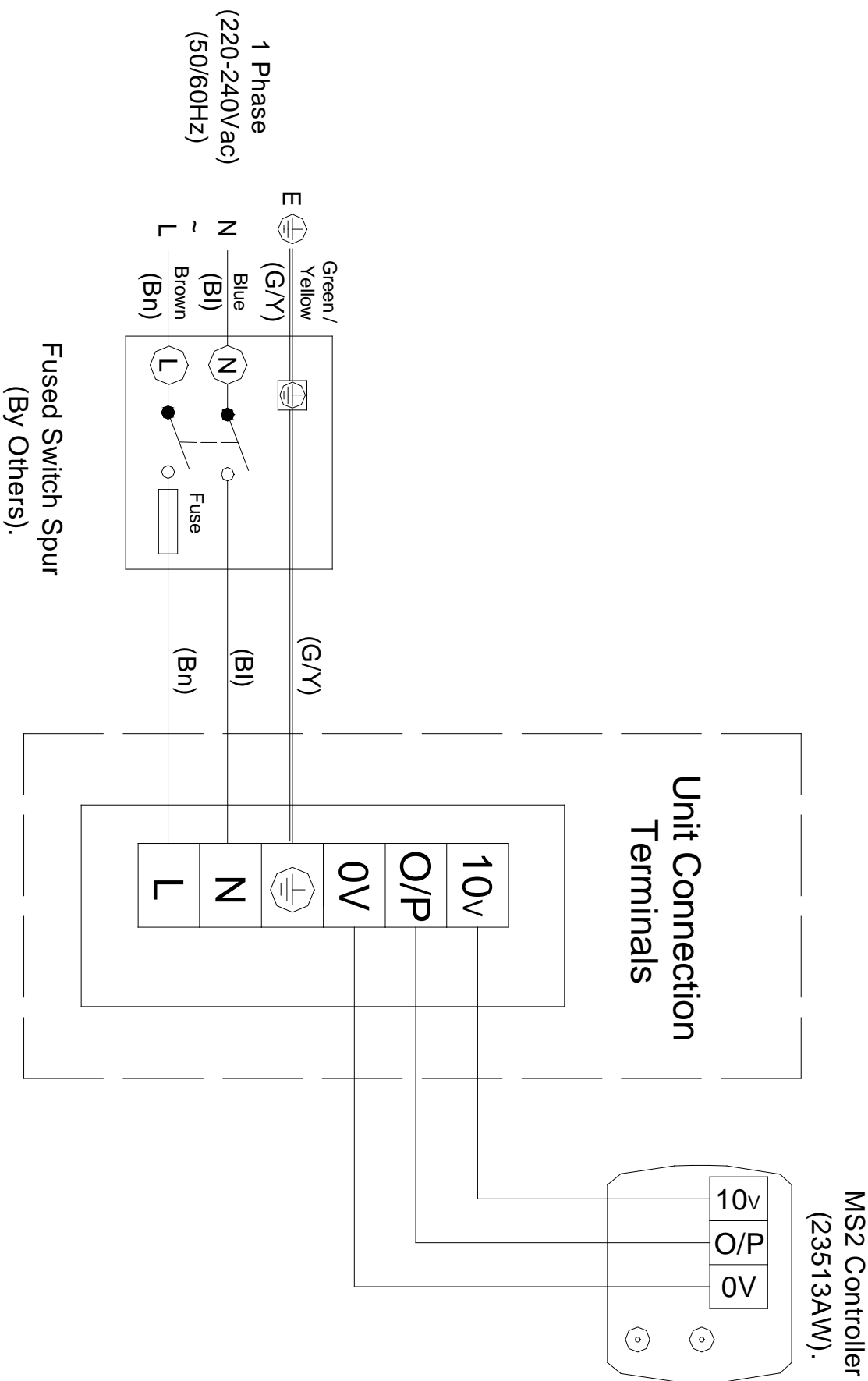
6.7 Applied Energy MVHR spares

Description	Part Number
Control PCB (Xcell 300 QVW only)	44306SK
Control PCB (Xcell 300 QVI only)	44309SK
Controller PCB (Xcell 300 QVI only)	44310SK
Display Panel PCB (Xcell 300 QVI only)	44311SK
Motor (All Xcell 300 models)	44312SK
G4 Filters - 2 Pack (All Xcell 300 models)	44313SK
Summer Bypass Filter (Xcell 300 QVI only)	44314SK
Heat Exchanger (All Xcell 300 models)	44315SK

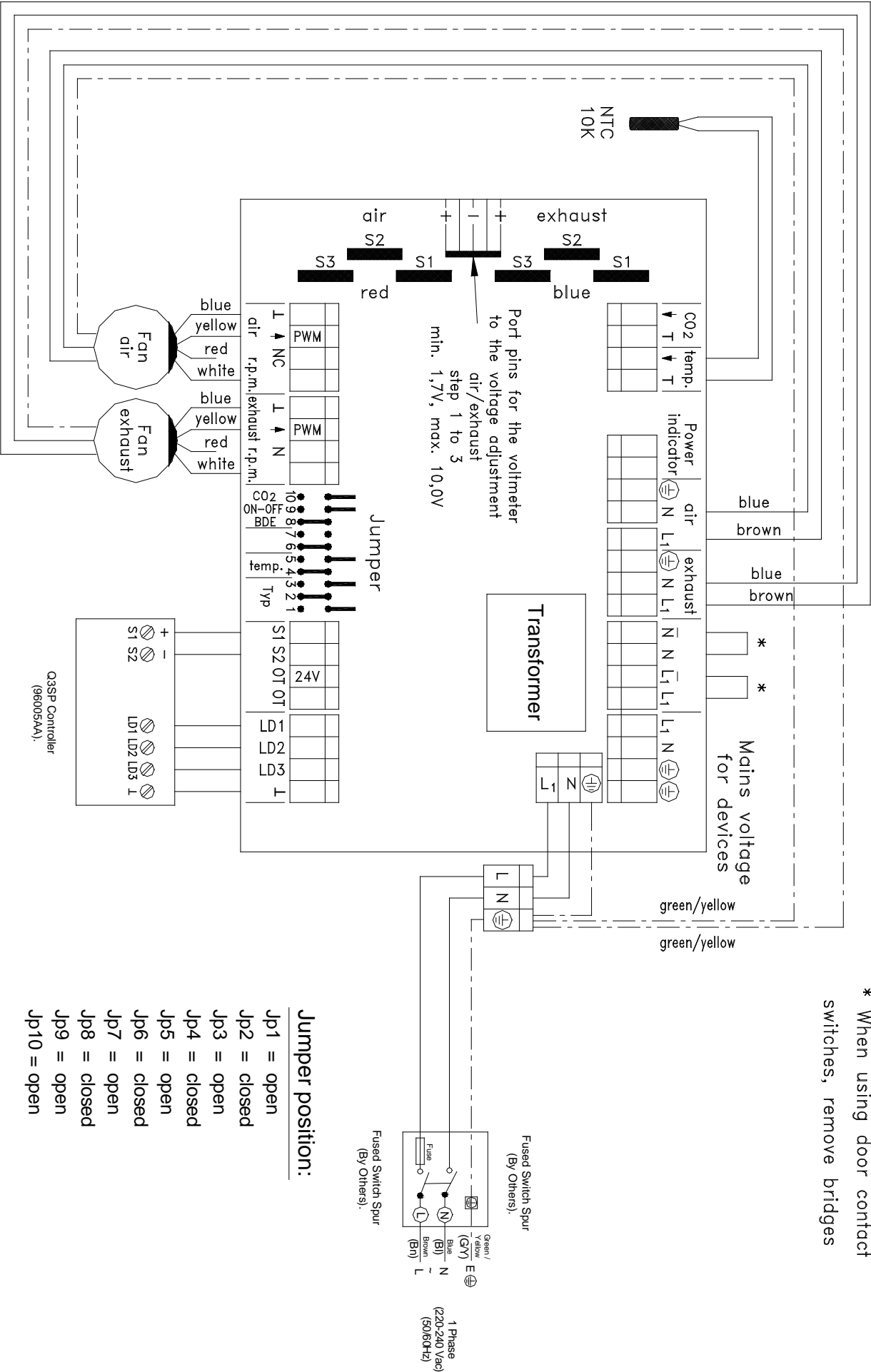
Note: Contact details for the Xpelair Sales Department can be found on the back of this booklet.

7 Electrical Wiring Diagrams

7.1 Manual 2-speed switch (Xcell 300 QV model only)

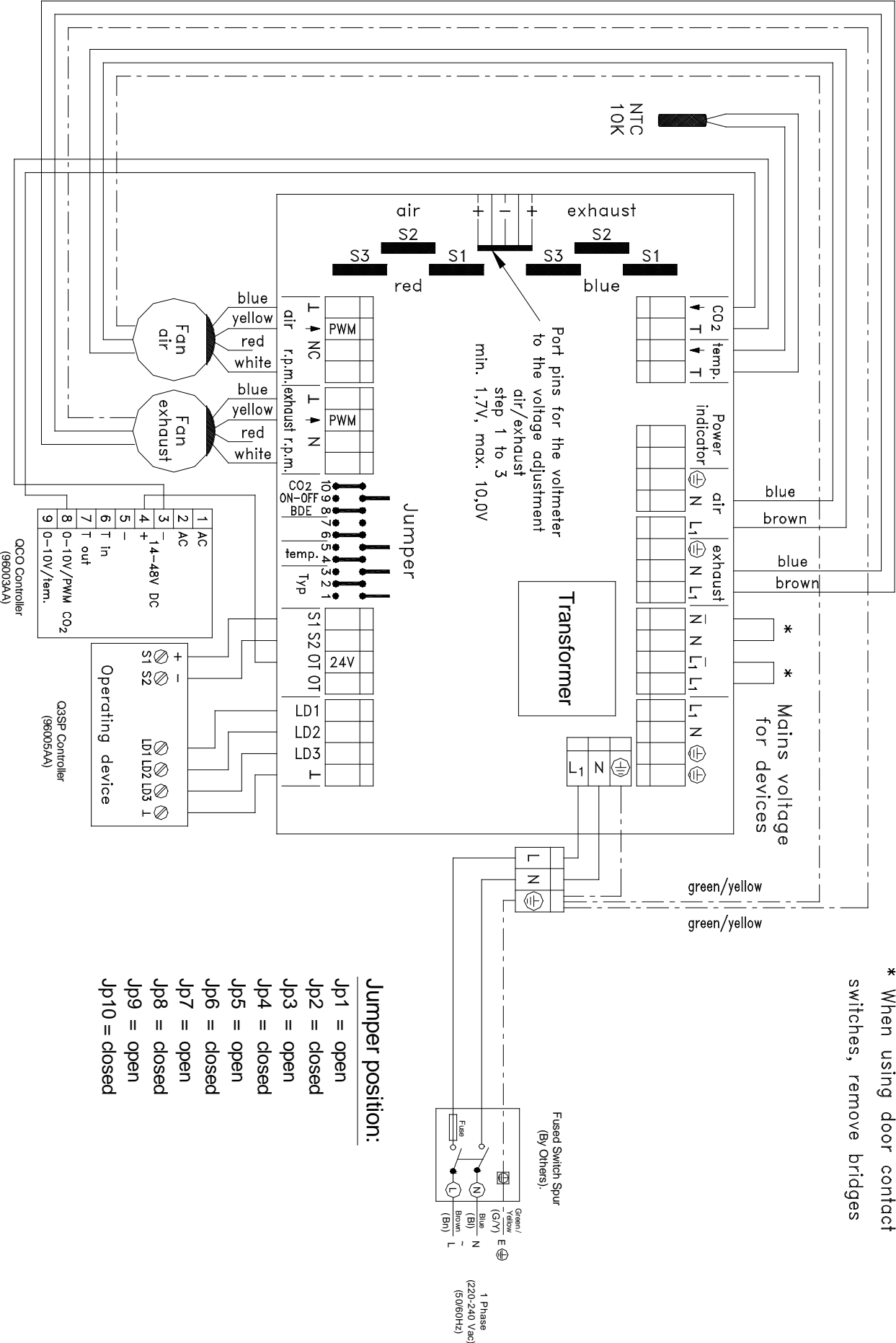


7.2 Automatic 3-speed switch (Xcell 300 QVW model only)

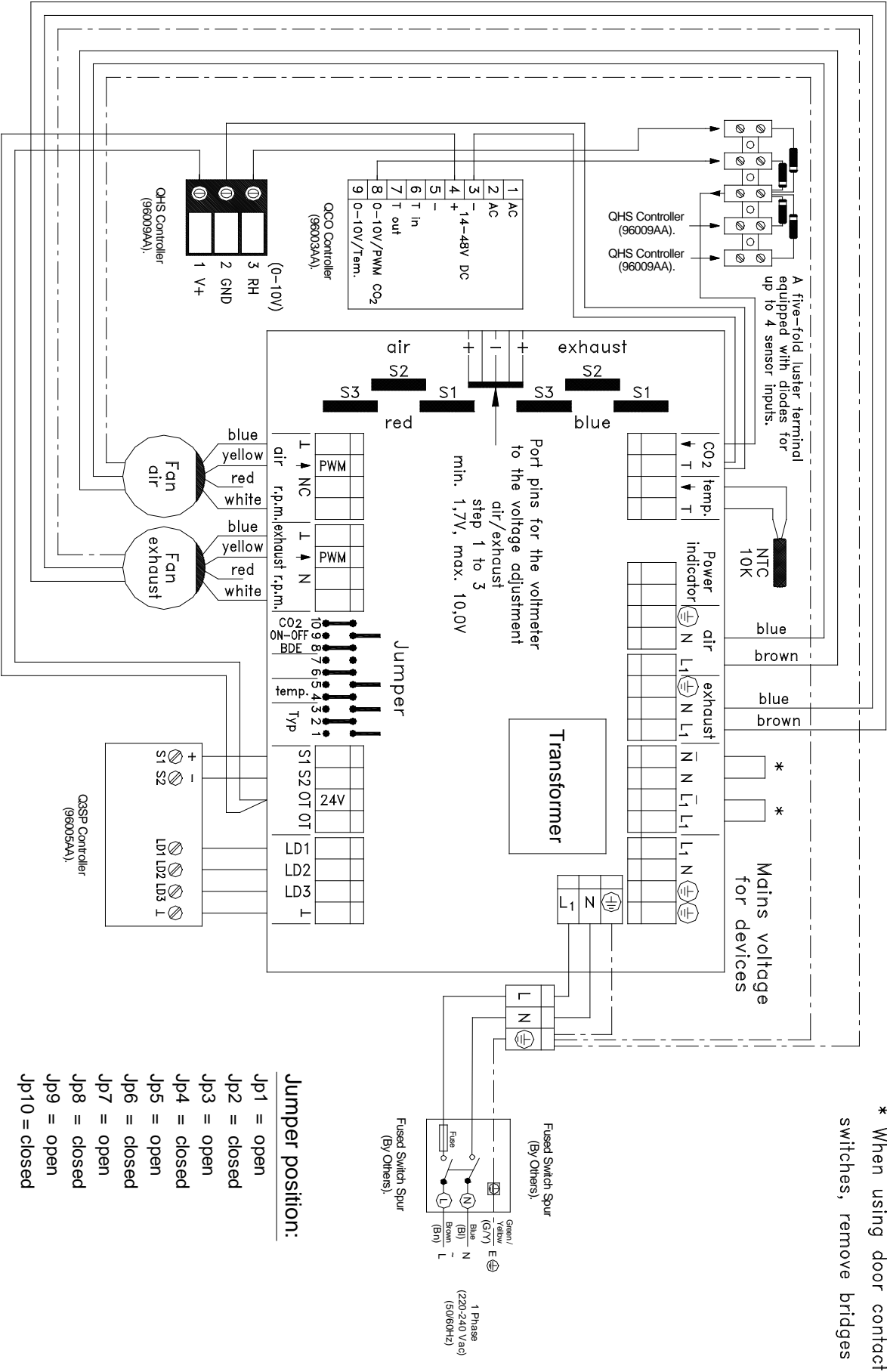


* When using door contact switches, remove bridges

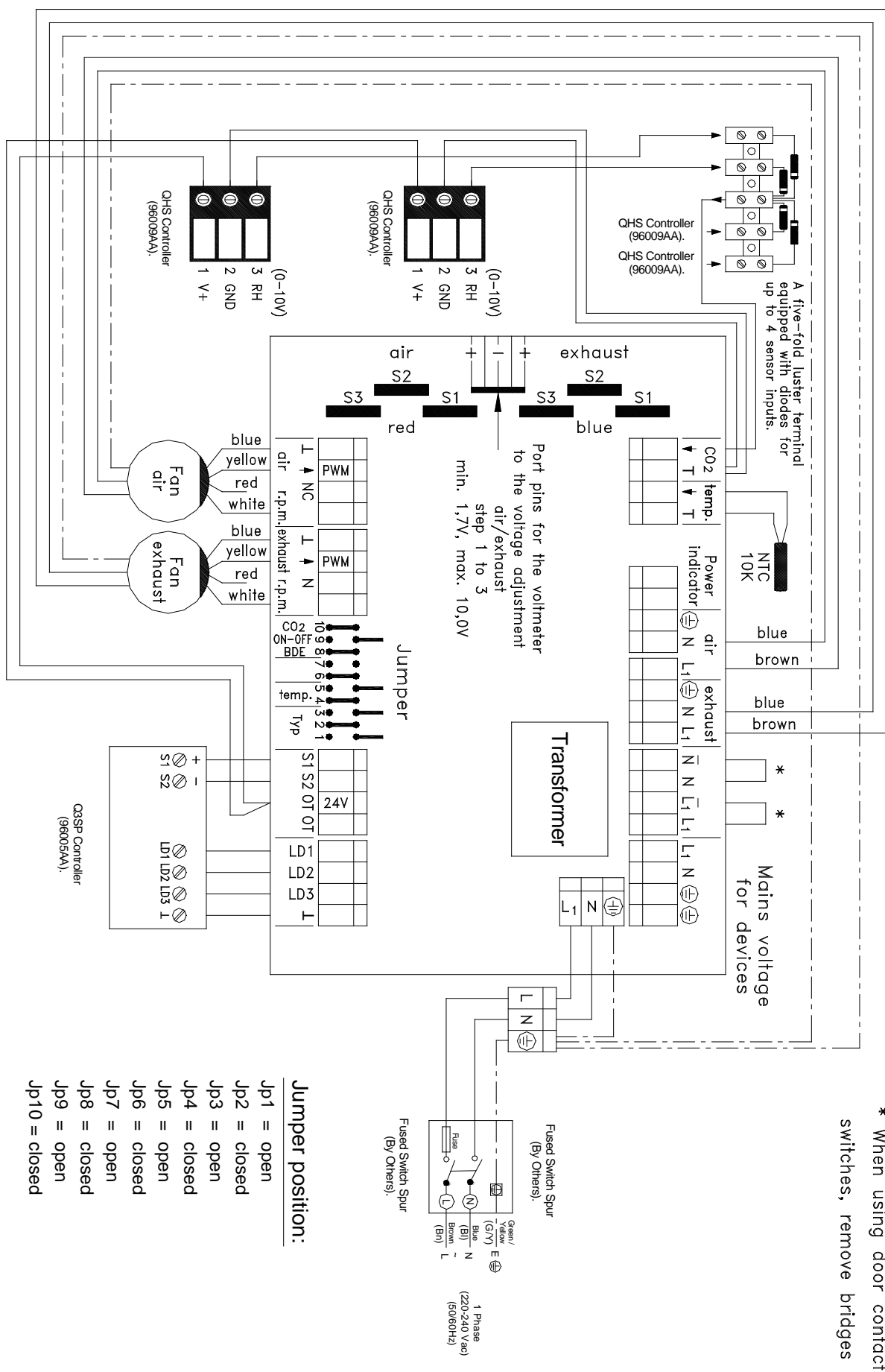
7.3 Automatic 3-speed switch & CO₂ sensor (Xcell 300 QVW model only)



7.4 Automatic 3-speed switch, CO₂ sensor & up to three humidity sensors (Xcell 300 QVW model only)



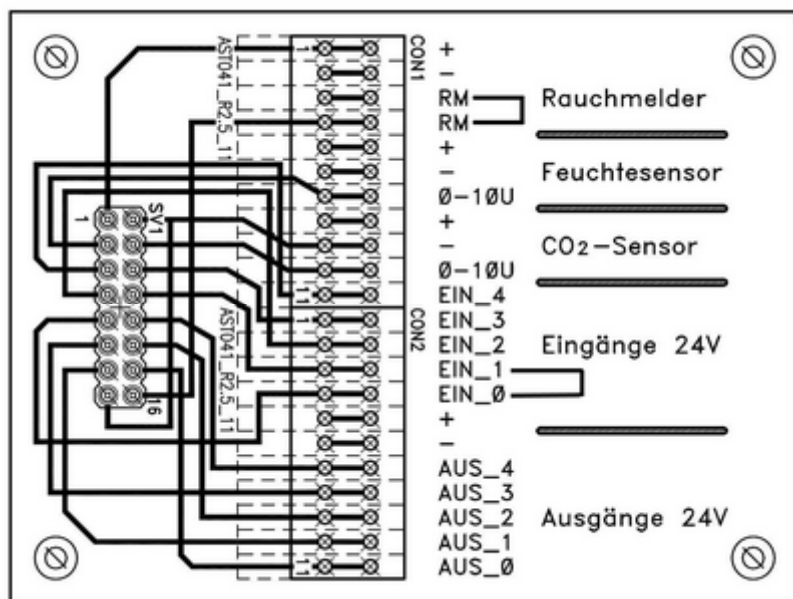
7.5 Automatic 3-speed switch & up to four humidity sensors (Xcell 300 QVW model only)



Jumper position:

- Jp1 = open
- Jp2 = closed
- Jp3 = open
- Jp4 = closed
- Jp5 = open
- Jp6 = closed
- Jp7 = open
- Jp8 = closed
- Jp9 = open
- Jp10 = closed

7.6 MVHR automatic control – connection PCB (Xcell 300 QVI model only)



German translations from the PCB:

- Rauchmelder – Smoke Detector
- Feuchtesensor – Humidity Sensor
- CO₂ Sensor – CO₂ Sensor
- Eingänge 24V – 24V DC Inputs
- EIN – Input
- Ausgänge 24V – 24V DC Outputs
- AUS – Output

The Connection PCB is situated under a metal Cover Plate on top of the MVHR.

Remove the four fixing screws to remove the Cover Plate.

Ensure all cables are fitted to the PCB via the rubber grommets also located on top of the MVHR.

When all connections have been made, replace the Cover Plate and secure with the four fixing screws provided.

Automatic controllers and sensors are powered with an input voltage of 24V DC, see the relevant wiring diagrams below for the automatic controller(s) to be connected to the MVHR.

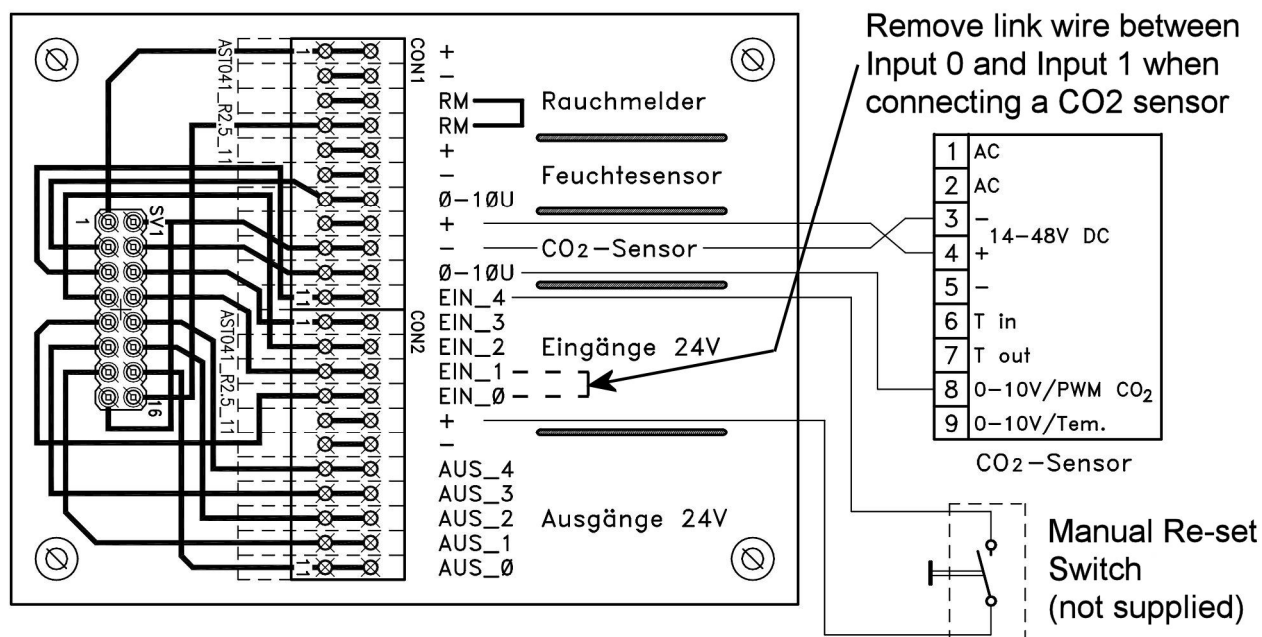
24V DC outputs are available for bussed control (e.g. BMS systems):

- Output 0 (AUS_0) - Operating display
- Output 1 (AUS_1) - Filter display
- Output 2 (AUS_2) - Fan fault message
- Output 3 (AUS_3) - Automatic defrost protection for living areas
- Output 4 (AUS_4) - Smoke detector monitoring

Note:

1. The link wire between RM and RM must only be removed if required. Refer to the relevant section for the any other controllers connected to the PCB for more details.
2. The link wire between EIN_0 and EIN_1 must only be removed if required. Refer to the relevant section for the any other controllers connected to the PCB for more details.

7.7 CO₂ sensor (Xcell 300 QVI model only)



German translations from the PCB:

- Rauchmelder – Smoke Detector
- Feuchtesensor – Humidity Sensor
- CO₂ Sensor – CO₂ Sensor
- Eingänge 24V – 24V DC Inputs
- EIN – Input
- Ausgänge 24V – 24V DC Outputs
- AUS – Output

The Connection PCB is situated under a metal Cover Plate on top of the MVHR.

Remove the four fixing screws to remove the Cover Plate.

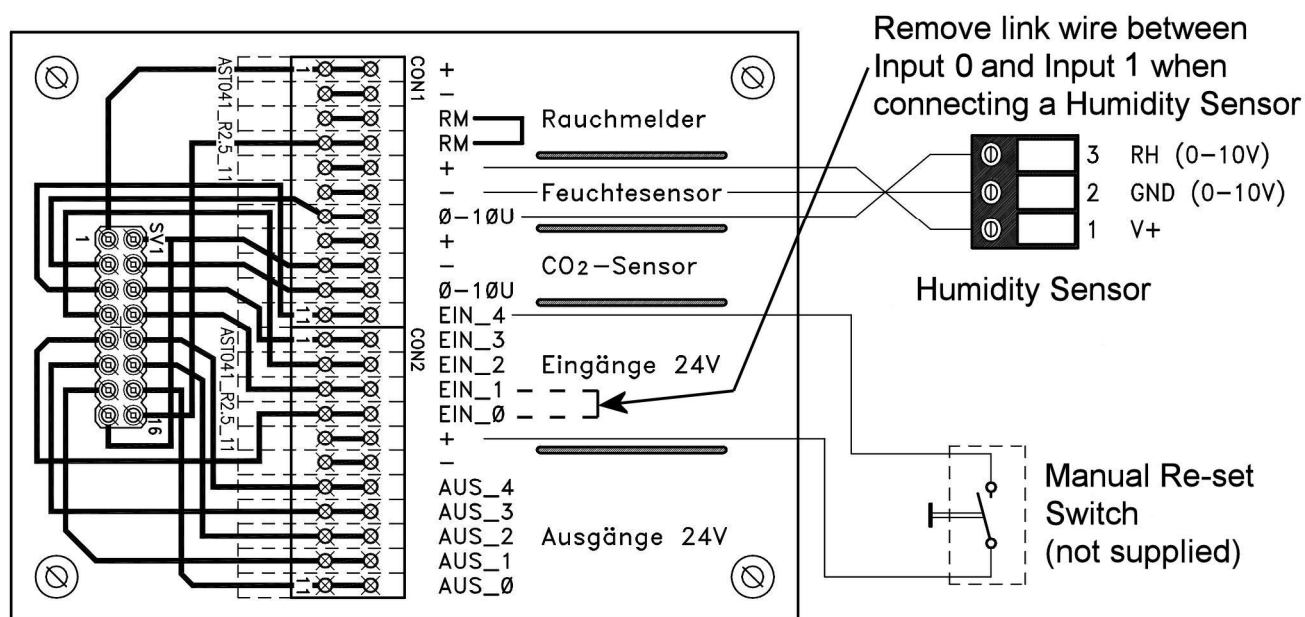
Ensure all cables are fitted to the PCB via the rubber grommets also located on top of the MVHR.

When all connections have been made, replace the Cover Plate and secure with the four fixing screws provided.

Note:

1. When a CO₂ Sensor is connected to the PCB, the link wire between RM and RM must not be removed.
2. When a CO₂ Sensor is connected to the PCB, the link wire between EIN_0 and EIN_1 must be removed.
3. After the initial installation or once the power is restored following a power loss, the MVHR will only become operational by pressing the manual re-set switch, if fitted, see note below.
 - a. A manual re-set switch is only required if no other switch is fitted together with the CO₂ Sensor shown above. See section 6.6 for the range of automatic switch accessories available for the Xcell 300 QVI MVHR.

7.8 Humidity sensor (Xcell 300 QVI model only)



German translations from the PCB:

- Rauchmelder – Smoke Detector
- Feuchtesensor – Humidity Sensor
- CO₂ Sensor – CO₂ Sensor
- Eingänge 24V – 24V DC Inputs
- EIN – Input
- Ausgänge 24V – 24V DC Outputs
- AUS – Output

The Connection PCB is situated under a metal Cover Plate on top of the MVHR.

Remove the four fixing screws to remove the Cover Plate.

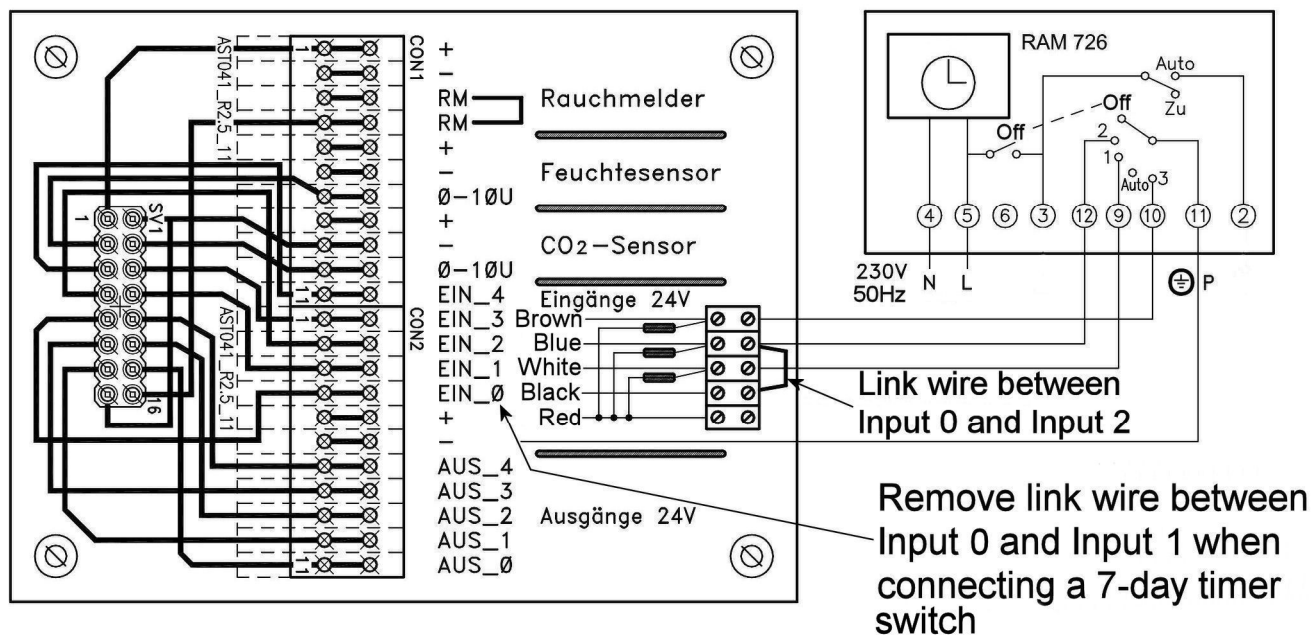
Ensure all cables are fitted to the PCB via the rubber grommets also located on top of the MVHR.

When all connections have been made, replace the Cover Plate and secure with the four fixing screws provided.

Note:

1. When a Humidity Sensor is connected to the PCB, the link wire between RM and RM must not be removed.
2. When a Humidity Sensor is connected to the PCB, the link wire between EIN_0 and EIN_1 must be removed.
3. After the initial installation or once the power is restored following a power loss, the MVHR will only become operational by pressing the manual re-set switch, if fitted, see note below.
 - a. A manual re-set switch is only required if no other switch is fitted together with the Humidity Sensor shown above. See section 6.6 for the range of automatic switch accessories available for the Xcell 300 QVI MVHR.

7.9 7-day timer switch (Xcell 300 QVI model only)



German translations from the PCB:

- Rauchmelder – Smoke Detector
- Feuchtesensor – Humidity Sensor
- CO₂ Sensor – CO₂ Sensor
- Eingänge 24V – 24V DC Inputs
- EIN – Input
- Ausgänge 24V – 24V DC Outputs
- AUS – Output

German translations from the 7-Day Timer Switch wiring diagram:

- Zu – Automatic Setting Off (feature non-operational see note below)
- Aus – Switch Off
- P – Mains Earth Connection

The Connection PCB is situated under a metal Cover Plate on top of the MVHR.

Remove the four fixing screws to remove the Cover Plate.

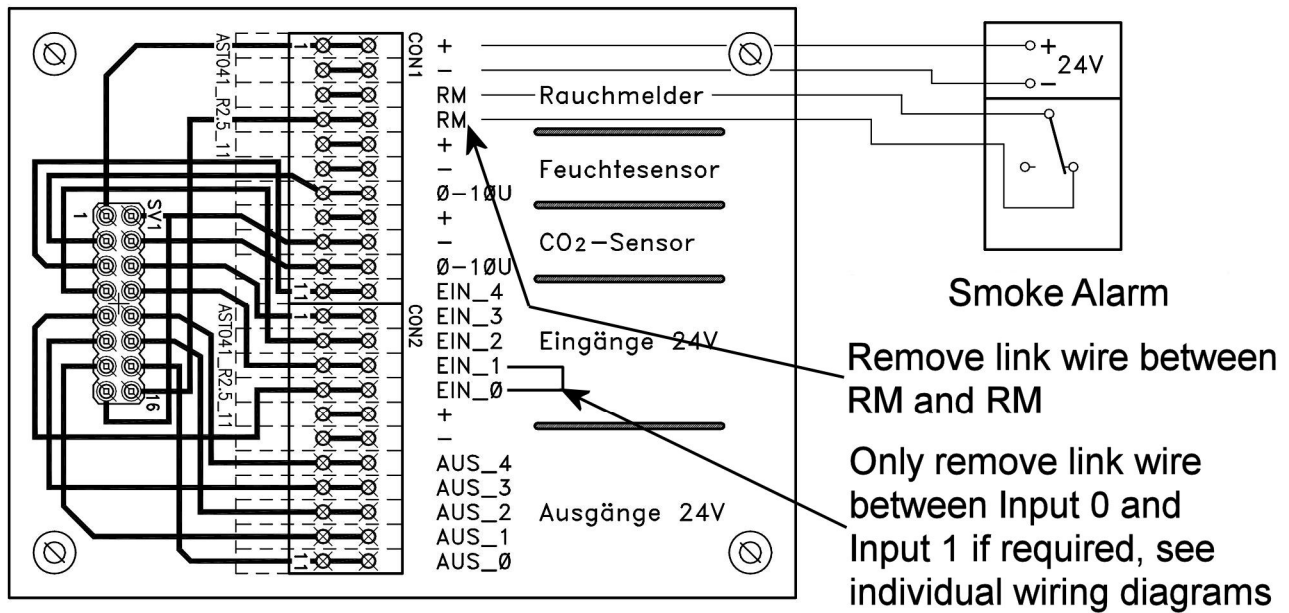
Ensure all cables are fitted to the PCB via the rubber grommets also located on top of the MVHR.

When all connections have been made, replace the Cover Plate and secure with the four fixing screws provided.

Note:

1. The 'Auto / Zu' switch on the Front Panel of the 7-Day Timer Switch is non-operational when connected to the Xcell 300 QVI MVHR.
2. The terminal block shown in the above wiring diagram is supplied separately with the 7-Day Timer Switch.
 - a. This terminal block must be secured with suitable screws after the wiring is complete.
3. When a 7-Day Timer Switch is connected to the PCB, the link wire between RM and RM must not be removed.
4. When a 7-Day Timer Switch is connected to the PCB, the link wire between EIN_0 and EIN_1 must be removed.
5. When a CO₂ Sensor and/or a Humidity Sensor is connected to the PCB along with the 7-Day Timer Switch, the link wire between EIN_0 and EIN_1 must be re-wired to be linked between EIN_0 and EIN_4.
6. When a 7-Day Timer Switch is connected to the PCB along with a CO₂ Sensor and/or a Humidity Sensor, the 'Off' position on the 7-Day Timer Switch acts as automatic mode for all controllers.

7.10 Smoke alarm (Xcell 300 QVI model only)



German translations from the PCB:

- Rauchmelder – Smoke Detector
- Feuchtesensor – Humidity Sensor
- CO₂ Sensor – CO₂ Sensor
- Eingänge 24V – 24V DC Inputs
- EIN – Input
- Ausgänge 24V – 24V DC Outputs
- AUS – Output

The Connection PCB is situated under a metal Cover Plate on top of the MVHR.

Remove the four fixing screws to remove the Cover Plate.

Ensure all cables are fitted to the PCB via the rubber grommets also located on top of the MVHR.

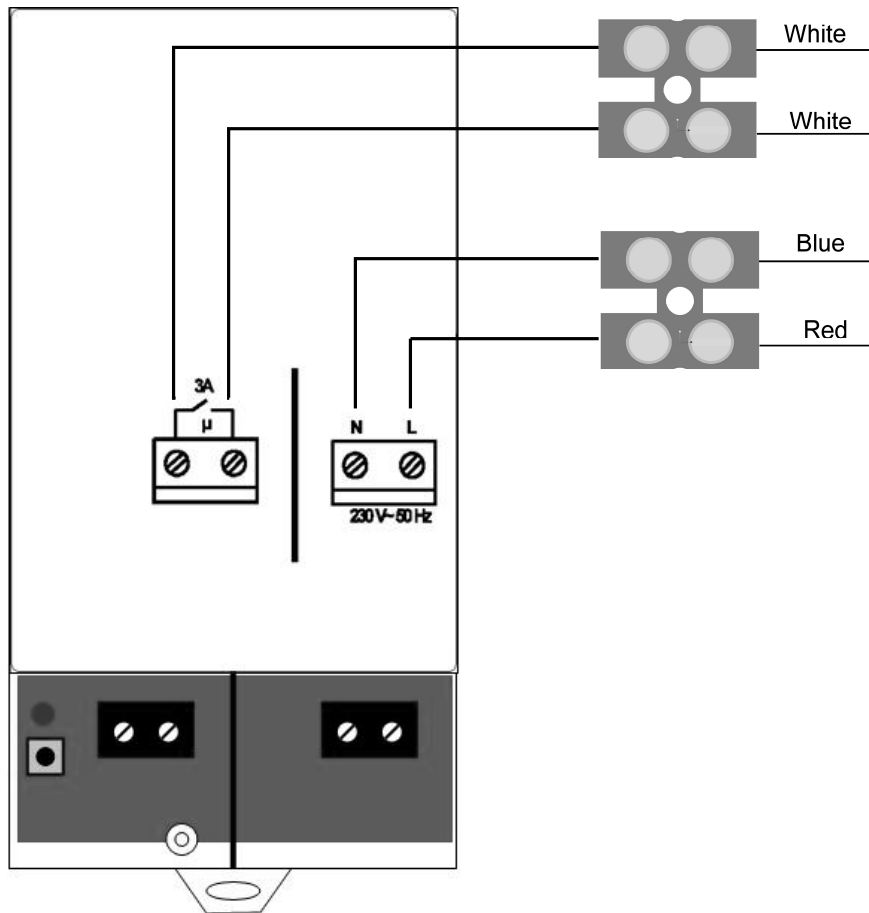
When all connections have been made, replace the Cover Plate and secure with the four fixing screws provided.

Note:

1. When a Smoke Detector is connected to the PCB, the link wire between RM and RM must be removed.
2. The link wire between EIN_0 and EIN_1 must only be removed if required. Refer to the relevant sections for the other controllers connected to the PCB for more details.

7.11 RF Receiver (Xcell 300 QVI model only)

Remove the cover plate on top of the MVHR to reveal two terminal blocks, pre-wired with white, blue and red cables. Connect the terminal blocks to the RF Receiver as shown in the wiring diagram below. Push the aerial of the RF Receiver through the grommet in the cover plate, place the RF Receiver inside the pocket provided and re-secure the cover plate with the screws provided. Move the aerial into an upright position.

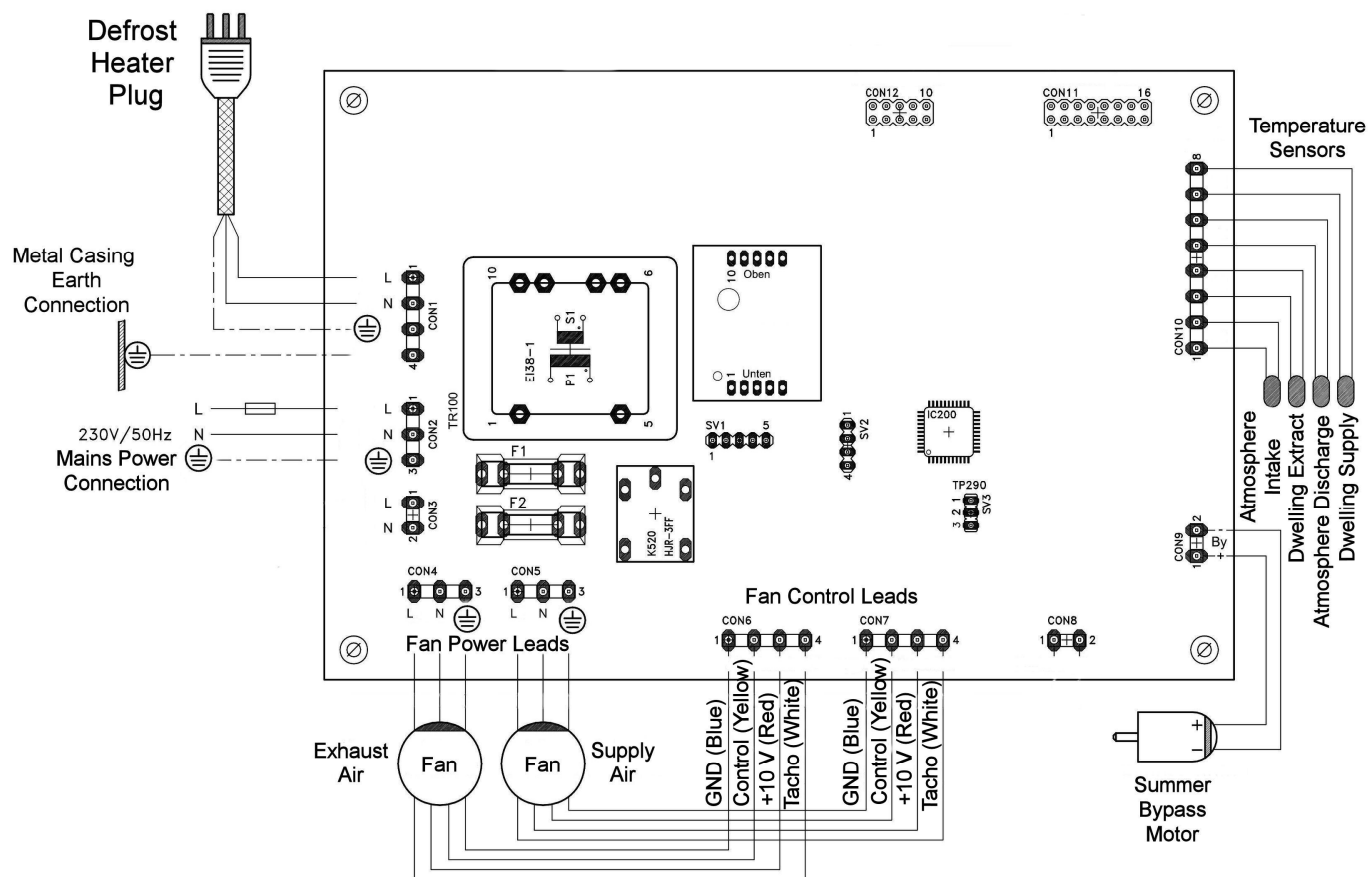


7.12 RF Transmitter (Xcell 300 QVI model only)

No wiring is required for the RF Transmitter. Mount the RF Transmitter on the wall in each of the required rooms. Up to six RF Transmitters can be used per MVHR.

7.13 Main MVHR PCB (Xcell 300 QVI model only)

The diagram below shows the additional factory installed wiring connections made to the main MVHR control PCB. Access to this PCB is not necessary under normal operating conditions, however should a fault develop see section 10.3 for details of how an qualified service technician may access this PCB within the MVHR.



8 Controller Functions

8.1 Manual 2-speed switch (Xcell 300 QV model only)

The terminal box for all wiring connections is situated on top of the MVHR. Refer to section 7.1 for the relevant wiring diagram. Only one Manual 2-Speed Switch may be connected to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

This switch option is for manual control only and therefore none of the Xpelair automatic control accessories listed below are compatible with this switch.

Speed settings:

- Speed 1: Normal operation
- Speed 2: Boost setting for increased air exchange
 - Refer to Section 6 for details on default speed settings / adjustment.

8.2 Automatic 3-speed switch (Xcell 300 QVW model only)

The terminal box for all wiring connections is situated on top of the MVHR. Refer to sections 7.2, 7.3, 7.4 and 7.5 for the relevant wiring diagrams and additional controllers that are compatible with the Automatic 3-Speed Switch.

With jumper 8 selected on the PCB, the Automatic 3-Speed Switch is active. Up to ten Automatic 3-Speed Switches can be connected in parallel to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

Key features:

- Plus and minus keys to manually change speed
- 3 LEDs for speed indication / white housing

Indicators:

- Moisture Protection → LED 1 flashes briefly every second
→ **Important:** an interval time is programmed into the Moisture Protection setting.
→ Interval time: 17 mins. ON
13 mins. OFF, etc.
- Speed 1 → LED 1 on
- Speed 2 → LED 2 on
- Speed 3 → LED 3 on
- MVHR OFF* → LEDs 1+2+3 off
- Filter service → LED 1 flashes quickly continuously (until reset as described below)
- Timer reset → LEDs 1+2+3 flash 5 times in quick succession (to acknowledge reset is complete)
- Fault alarm → LEDs 1+2+3 flash every second
- Fault alarm reset → Mains voltage briefly interrupted

Settings:

- MVHR On* → Press plus key
- MVHR Off* → Press minus key until speed 0 is reached, i.e. 3>2>1>Moisture Protection>0, MVHR OFF
- Reset timer → Press plus and minus keys together and hold for 2 seconds
- Speed 3 → Speed 3 time-limited (only when no other controllers are used alongside the Automatic 3-Speed Switch): after 1 hour, the MVHR automatically switches back to Fan speed 2.
- On/off function (only possible when no other controllers are used alongside the Automatic 3-Speed Switch) can be disabled with jumper 9 on the PCB. This means the speed switches from Ventilation to Moisture Protection – the lowest Fan speed.

Filter service indicator:

The period for the filter service timer (3 months) is set and stored and cannot be changed.

Once the period of 3 months has expired, the switch will indicate that a filter service is necessary whereby the LED for Fan speed 1 flashes every second.

Once the filter has been successfully serviced i.e. cleaned or changed, the filter service timer on the switch can be reset by pressing both OPERATING KEYS (and holding for 2 seconds) and the filter service indicator on the switch will go out. Resetting is acknowledged by LED 1 flashing quickly 5 times.

In the event of a full MVHR service outside the above 3 month period, the timer can also be reset, without the filter service timer having completed its runtime, by pressing both operating keys together and holding for 10 seconds. Resetting is acknowledged by LED 1 flashing quickly 5 times.

8.3 CO₂ sensor (Xcell 300 QVW model only)

The terminal box for all wiring connections is situated on top of the MVHR. The CO₂ Sensor will only function in conjunction with the Automatic 3-Speed Switch, described in section 8.2. Refer to sections 7.3 and 7.4 for the relevant wiring diagrams and associated controllers that are compatible with the CO₂ Sensor. With jumper 10 selected on the PCB, the CO₂ Sensor is active. Only one CO₂ Sensor may be connected to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

The MVHR only reacts to the CO₂ Sensor when Fan speed 2 is activated on the Automatic 3-Speed Switch. Fan speed 2 is always displayed on the Automatic 3-Speed Switch, regardless of whether the CO₂ values are displayed as <900 ppm (speed 1) or >1100 ppm (speed 3) on the CO₂ Sensor. With this setting, the CO₂ Sensor is always prioritised. As soon as the Moisture Protection speed, speed 1 or speed 3 is manually activated on the Automatic 3-Speed Switch, the CO₂ Sensor is deactivated.

Switch points of the CO₂ Sensor:

> 1.5 V MVHR switches from speed 2 to speed 1;	< 900 ppm
> 5.0 V MVHR switches from speed 1 to speed 2;	> 1000 ppm
> 7.5 V MVHR switches from speed 2 to speed 3;	> 1100 ppm
< 5.0 V MVHR switches from speed 3 to speed 2;	< 1000 ppm

8.4 Humidity sensor (Xcell 300 QVW model only)

The terminal box for all wiring connections is situated on top of the MVHR.
Refer to sections 7.4 & 7.5 for the relevant wiring diagrams.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

This product is designed to measure humidity and temperature in indoor applications.
It uses a capacitive sensor element for the humidity measurement.

Factory default setting is 40% RH, no adjustment is possible.

Note:

When using Humidity Sensors in conjunction with the Automatic 3-Speed Switch a maximum of four Humidity Sensors can be connected. When using Humidity Sensors in conjunction with the Automatic 3-Speed Switch and a CO₂ Sensor a maximum of three Humidity Sensors can be connected.

8.5 Control panel (Xcell 300 QVI model only)

8.5.1 Control panel – normal operation

The pictures below show the various modes of the MVHR, which are displayed on the Control Panel in normal operation.

Normal Operation

Off

Esc. Enter ➡

Normal Operation

Speed 1

Esc. Enter ➡

Normal Operation

Speed 2

Esc. Enter ➡

Normal Operation

Speed 3

Esc. Enter ➡

Normal Operation

Automatic

Esc. Enter ➡

Normal Operation

Off
Smoke Alarm

Esc. Enter ➡

8.5.2 Control panel – main menus

The picture sequence below shows how to access the main menus within the Control Panel.

Normal Operation

Speed 1

Esc. Enter ➡



Esc. Enter
(Press and hold for 5 seconds)



Customer menu

Customer menu
Settings

Esc. Enter ➡

Customer menu

Customer menu
Operational Dimensions

Esc. Enter ➡

Customer menu

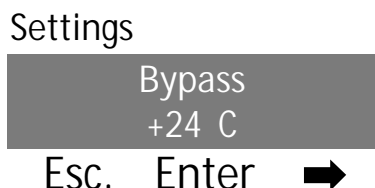
Customer menu
Real-time timer

Esc. Enter ➡

Press ➡ to go to next menu
Press Enter to access current menu
Press Esc to return to previous menu

8.5.3 Control panel – summer bypass temperature (settings menu)

The sequence below describes how to modify the Summer Bypass temperatures within the 'Settings Menu' on the Control Panel. The default factory setting is 24°C.



Follow the instructions above to display the Settings Menu on the Control Panel.

Press the Enter button (S2) briefly.

'Bypass temperature 24°C' appears in the display.

Press the Enter button (S2) briefly again.

The bypass temperature now flashes in the display.

By pressing S1 or S2, the bypass temperature can be changed between 18°C and 26°C.

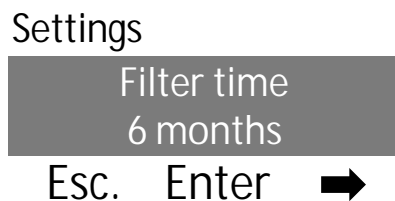
The selected bypass temperature can be saved by pressing the Enter button (S2).

Exit the settings menu by pressing ESC (S1) twice

Note - when no settings are altered for a period of 120 seconds, the display switches automatically to normal operation

8.5.4 Control panel – filter cleaning or replacement reminder (settings menu)

The sequence below describes how to modify the time period between reminders to clean or replace the MVHR Filters. The default factory setting is 6 months.



Follow the instructions above to display the Settings Menu on the Control Panel.

Press the arrow button (S3) briefly.

'Filter time 6 months' appears in the display.

Press the Enter button (S2) briefly again.

The filter time now flashes in the display.

By pressing S1 or S2, the filter time can now be changed between 2 and 6 months.

The selected filter time can be saved by pressing the Enter button (S2).

Exit the settings menu by pressing ESC (S1) twice.

Note - when no settings are altered for a period of 120 seconds, the display switches automatically to normal operation

8.5.5 Control panel – operational dimensions menu

The picture sequence below describes how to access the operational dimensions menu to check the air temperature readings for each of the four air paths, the Summer Bypass status and the total operating time.

Operational dimensions

Fresh air temp.
+20 C

Esc. Enter ➡

Operational dimensions

Exhaust air temp.
+21 C

Esc. Enter ➡

Operational dimensions

Outside air temp.
+18 C

Esc. Enter ➡

Operational dimensions

Outgoing air temp.
+15 C

Esc. Enter ➡

Follow the instructions above to display the Settings Menu on the Control Panel.

Use the arrow button (S3) to switch from the Settings Menu to the 'Operational Dimensions' menu.

Use the arrow button (S3) to switch to each air temperature reading in the 'Operational Dimensions' menu

Use the arrow button (S3) to check the status of the Summer Bypass i.e. open or closed in the 'Operational Dimensions' menu.

Use the arrow button (S3) to check the current length of operating time in the 'Operational Dimensions' menu.

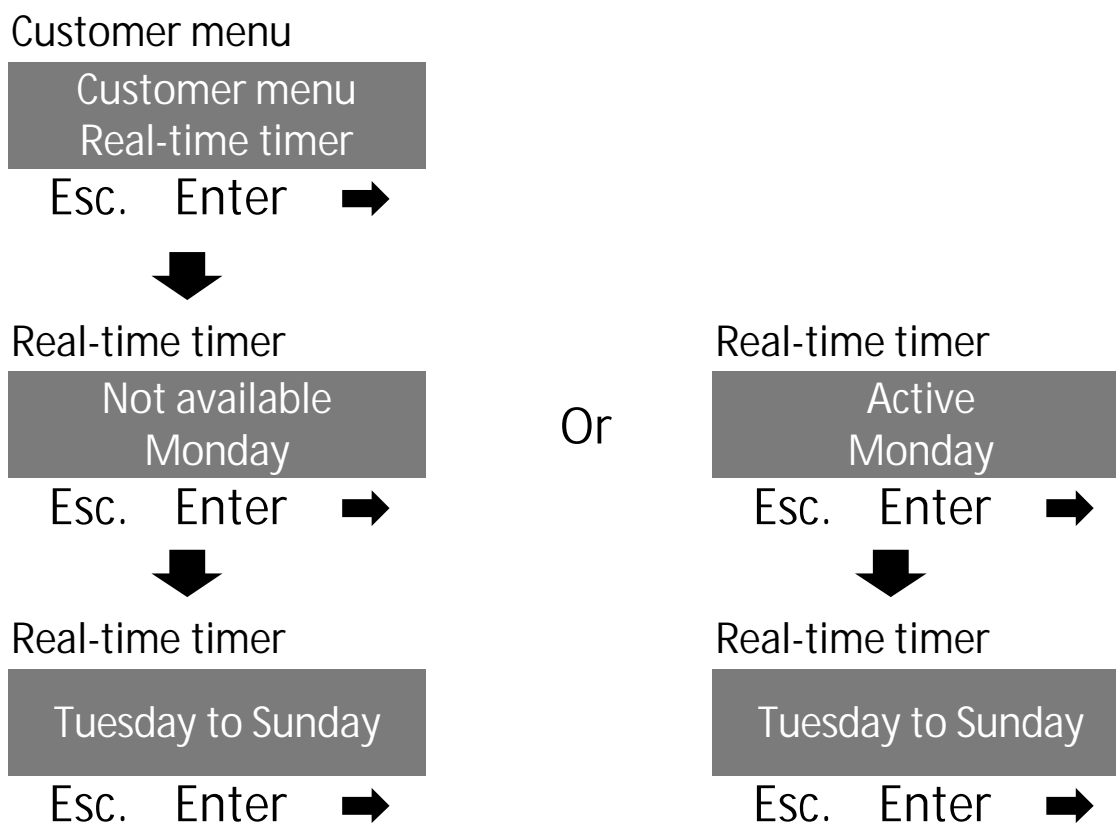
These are readings for information only and cannot be altered.

Exit the Operational Dimensions menu by pressing the ESC button (S1) twice.

Note - when no menu changes are made for a period of 120 seconds, the display switches automatically to normal operation.

8.5.6 Control panel – real-time timer menu (optional)

The picture sequence below describes how to access the 'Real-time timer' menu to set up to three speed settings and time periods for each day of the week. Default real-time timer factory settings are not available.



Follow the instructions above to display the Settings Menu on the Control Panel.

Use the arrow button (S3) to switch from the Settings Menu to the 'Real-time timer' menu.

Press the Enter button (S2) briefly.

'Not available on Monday' or 'Active on Monday' is displayed.

Three setting options are available per day – automatic, speed level 1 or speed level 2.

Use the arrow button (S3) to switch between the days of the week.

Exit the real-time timer menu by pressing the ESC button (S1) twice.

Note - when no settings are altered for a period of 120 seconds, the display switches automatically to normal operation.

8.6 CO₂ Sensor (Xcell 300 QVI model only)

Refer to sections 7.6 and 7.7 for the relevant wiring diagrams.

Only one CO₂ Sensor may be connected to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

Switch points of the CO₂ Sensor:

> 1.5 V MVHR switches from speed 2 to speed 1;	< 900 ppm
> 5.0 V MVHR switches from speed 1 to speed 2;	> 1000 ppm
> 7.5 V MVHR switches from speed 2 to speed 3;	> 1100 ppm
< 5.0 V MVHR switches from speed 3 to speed 2;	< 1000 ppm

8.7 Humidity sensor (Xcell 300 QVI model only)

Refer to sections 7.6 and 7.8 for the relevant wiring diagrams.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

This product is designed to measure humidity and temperature in indoor applications.

It uses a capacitive sensor element for the humidity measurement.

The humidistat housing can be fixed directly on the wall or flush mounted.

Factory default setting is 40% RH, no adjustment is possible.

Note:

When using Humidity Sensors in conjunction with the 7-Day Timer Switch a maximum of eight Humidity Sensors can be connected. When using Humidity Sensors in conjunction with the 7-Day Timer Switch and a CO₂ Sensor a maximum of four Humidity Sensors can be connected.

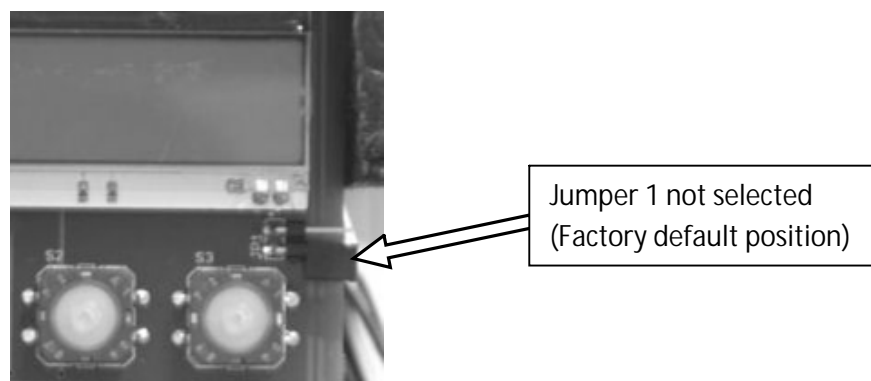
8.8 Filter monitoring (Xcell 300 QVI model only)

Monitoring of the G4 Filters in the MVHR is carried out via a time function, which can be adjusted between 2 and 6 months (factory default setting 6 months), see section 8.5.4 for further details of how to change this feature.

8.9 Automatic defrost protection for the MVHR (Xcell 300 QVW model only)

Automatic defrosting becomes active when the outgoing air temperature in the MVHR unit drops below around 3°C (i.e. there is a risk of ice). The supply air Fan will be switched off for 2 hours, during which only warm exhaust air will flow into the Heat Exchanger. The Heat Exchanger will then be defrosted during this period. If the exhaust air temperature increases from 3°C to 8°C within these two hours, the MVHR will switch back to normal heat recovery operation.

8.10 Automatic defrost protection for the MVHR (Xcell 300 QVI model only)



Setting 1 (default factory setting):

Jumper 1 is not selected on the display panel.

Automatic defrosting becomes active when the outgoing air temperature in the MVHR unit drops below around 3°C (i.e. there is a risk of ice). The supply air Fan will be switched off for 2 hours, during which only warm exhaust air will flow into the Heat Exchanger. The Heat Exchanger will then be defrosted during this period. If the exhaust air temperature increases from 3°C to 8°C within these two hours, the MVHR will switch back to normal heat recovery operation.

Setting 2:

Jumper 1 can be selected by removing the display panel cover screws and moving the Jumper Key onto both pins.

When using the MVHR in houses with open fireplaces, the MVHR must be set in such a way that the supply Fan does not switch off, but instead the Summer Bypass flap is opened and the supply air flows directly into the living area. When active the Summer Bypass flap remains open for 2 hours, during which only warm exhaust air will flow to the Heat Exchanger. The Heat Exchanger will then be defrosted during this period. If the exhaust air temperature increases from 3°C to 8°C within these two hours, the Summer Bypass flap closes automatically and the MVHR will switch back to normal heat recovery operation.

For setting 2, an electric Defrost Heater Unit is highly recommended. The Defrost Heater Unit is fitted to the MVHR ducting system. When a Defrost Heater Unit is being used, automatic defrosting does not occur, meaning that the MVHR runs constantly in heat recovery mode. Please contact the UK sales office for further details, contact details can be found on the back of this booklet.

8.11 Automatic defrost protection for living areas (Xcell 300 QVI model only)

Provides protection against freezing in case of a central heating failure.
If activated, the display flashes GREEN and 'Frost Protection Monitoring' is displayed.






A temperature sensor is located on the exhaust air side of the MVHR, which monitors the exhaust air temperature. When the temperature drops below 8°C the MVHR switches off automatically. When the exhaust air temperature in the MVHR increases by approx. 10% (0.8°C), the MVHR switches on again automatically. During the initial installation, the frost protection monitoring mode is suppressed for 90 minutes. If the exhaust air temperature is still below 8°C after this period has elapsed, the MVHR switches off again, the display flashes GREEN again and 'Frost Protection Monitoring' is displayed.

8.12 7-day timer switch (Xcell 300 QVI model only)

Refer to sections 7.6 and 7.9 for the relevant wiring diagrams.
Only one 7-Day Timer Switch may be connected to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

Functions of the 7-Day Timer Switch:

	Off	- MVHR switched off or automatic mode, see note below
	Day mode	- MVHR runs permanently on Fan speed 2
	Night mode	- MVHR runs permanently on Fan speed 1
	Automatic time mode	- The MVHR switches between day mode (Fan speed 2) and night mode (Fan speed 1) according to the times set on the timer switch.
	Boost mode	- MVHR runs permanently in Boost mode (Fan speed 3) Boost mode is also signified by an LED on the display panel.

Filter service indicator:

On the 7-Day Timer Switch there is a dial inside the front panel for setting the filter service time between 2 and 6 months. Upon expiry of the filter service period, the LED flashes to indicate the filter needs servicing i.e. cleaning or changing.

Note:

When a 7-Day Timer Switch is connected to the MVHR along with a CO₂ Sensor and/or a Humidity Sensor, the 'Off' position on the 7-Day Timer Switch acts as automatic mode for all controllers.

8.13 Smoke detector (Xcell 300 QVI model only)

Refer to sections 7.6 and 7.10 for the relevant wiring diagrams.
Up to four Smoke Detectors can be connected to each MVHR.

Minimum size of 3-core cable to be used for switch connections: 0.5mm².

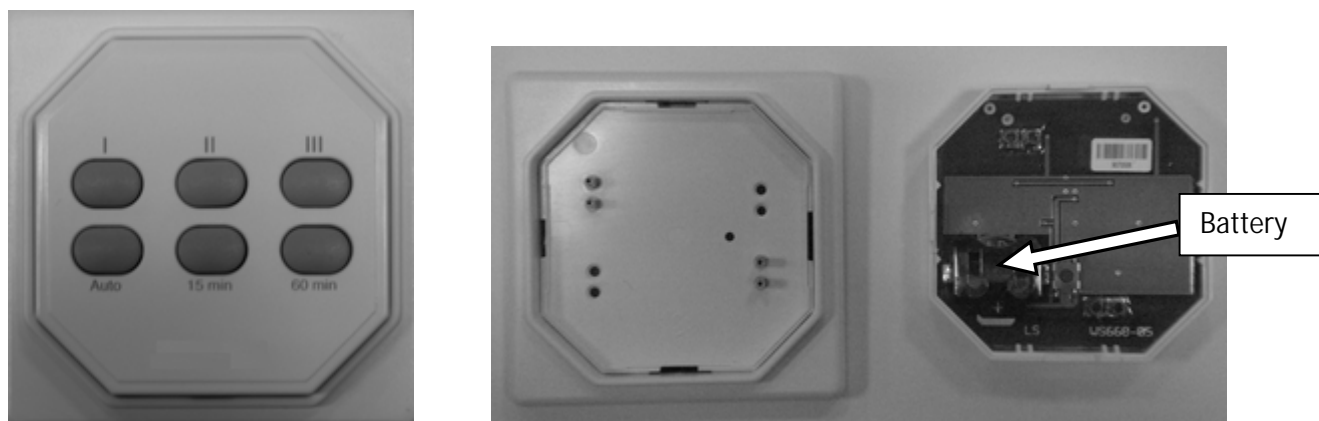
When a Smoke Detector is used with the MVHR, the MVHR switches off immediately if smoke is detected.
When this occurs, the display on the MVHR flashes GREEN and “smoke alarm monitoring” is displayed on the display panel.

Note – there is no audible noise emitted from the MVHR or the Smoke Detector if smoke is detected.

Technical Data:

Operating voltage:	24V DC
Residual ripple:	<20%
Current:	5-7mA
Normal operating temperature:	0°C to 60°C
Storage temperature:	75°C max.
Protection category:	IP42
Weight:	100g
Relative humidity:	10-90%

8.14 RF (remote control) receiver and transmitter (Xcell 300 QVI model only)



Refer to sections 7.6 and 7.11 for the relevant wiring diagrams for the RF Receiver. No wiring is required for the RF Transmitter, refer also section 7.12. Only one RF Receiver is required for each MVHR. Up to six RF Transmitters can be used with each MVHR, placed in various locations around the house.

Minimum size of 3-core cable to be used for RF Receiver connections: 0.5mm².

Button 'I' - switches the MVHR to speed 1 (Night speed).

Button 'II' - switches the MVHR to speed 2 (Normal running).

Button 'III' - switches the MVHR to speed 3 (Boost).

'Auto' button - switches the MVHR to automatic mode (gives the CO₂ / Humidity Sensors priority over speed control).

'15 min' button - switches the MVHR to boost speed for 15 minutes then returns to automatic setting.

'60 min' button - switches the MVHR to boost speed for 60 minutes then returns to automatic setting.

- 1) When the RF controllers are used without additional CO₂ / Humidity Sensors, automatic mode always switches the MVHR to speed 1.
- 2) When the RF controllers are being used with a CO₂ Sensor and/or a Humidity Sensor, automatic mode always gives the CO₂ Sensor and/or Humidity Sensor priority over the speed control.
When button I, II or III is selected, the RF controller changes over to manual speed control.
- 3) When pressing the '15 min' or '60 min' buttons, the MVHR switches to speed 3, boost. After the selected time period has elapsed, the MVHR returns to automatic operation, giving the CO₂ Sensor or Humidity Sensor priority over speed control again, if connected to the MVHR.

RF Transmitters are powered by a CR2032 Lithium Manganese (Li-Mn) 3V battery. Remove from the wall and carefully remove the casing to access the battery compartment for replacement.

Ensure the casing, rear panel and front panel are correctly aligned before re-assembly.

8.15 Summer bypass (Xcell 300 QVI model only)

Using a temperature sensor, the incoming and the exhaust air temperatures are monitored automatically. The factory default setting is 24°C.

When the exhaust air temperature increases above 24°C and the incoming air temperature remains below 24°C, the Summer Bypass flap opens automatically, allowing cool outside air to flow directly into the living area. The Summer Bypass flap remains open until the exhaust air temperature drops below 24°C.

When both the exhaust air and the incoming air temperatures exceed 24°C, the Summer Bypass flap remains closed until the incoming air temperature drops to below 24°C. When the exhaust air in the living area drops below 24°C, the Summer Bypass flap closes and the MVHR runs in heat recovery mode.

The Summer Bypass temperature setting can be adjusted from 18°C to 26°C via the control panel, see Section 8.5.3.

8.16 Defrost heater unit

An electrical connection coupling for the Defrost Heater Unit is located on the top of the MVHR.

When the incoming air temperature drops below the set temperature (0°C to 3°C), the Defrost Heater Unit will switch on and warm the incoming air prior to it arriving at the MVHR to prevent ice forming within the MVHR Heat Exchanger.

When the incoming air temperature rises above the set temperature (0°C to 3°C), the Defrost Heater Unit will switch off.

Note: The fly screen must be cleaned regularly.

8.17 Fan fault monitoring (Xcell 300 QVW model only)

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

Fault indication:

On the Automatic 3-Speed Switch, all 3 LEDs will flash.

Should the exhaust air Fan fail the supply air Fan does not switch off.

Fault indication:

On the Automatic 3-Speed Switch, all 3 LEDs will flash.

Using the Δ key, the supply air Fan speed can be switched down in stages until OFF is reached, whereby the fault indicator will also go out. Resetting is executed by briefly switching off the mains voltage.

8.18 Fan fault monitoring (Xcell 300 QVI model only)

Should either the external air or the supply air Fan fail, the MVHR will switch off after approx. 120 seconds. The fault is displayed accordingly, e.g. 'Fresh air Fan fault' or 'Exhaust air Fan fault'.

Switch off the supply voltage and seek assistance from a qualified service technician to correct the problem.

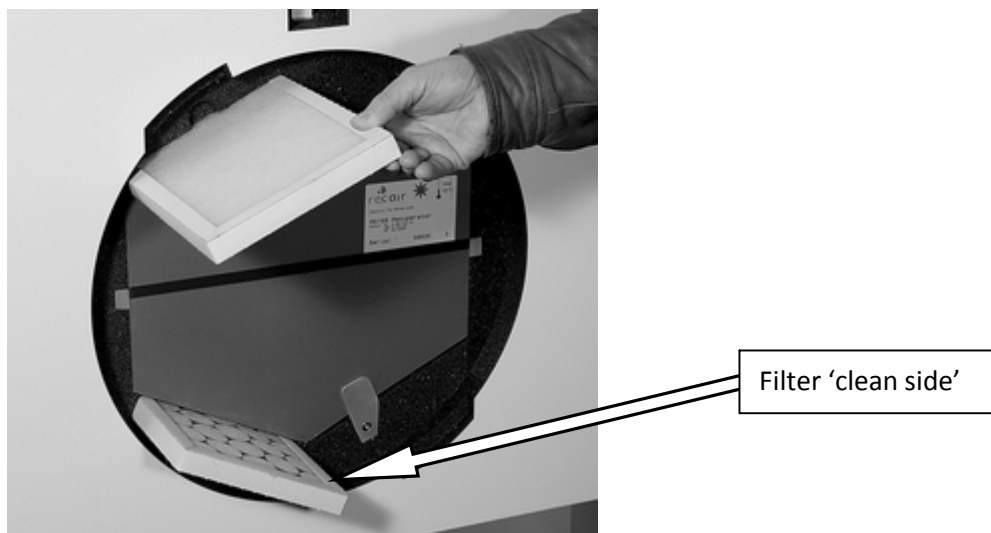
The failure message is acknowledged by pressing the Enter button (S2).

9 Maintenance

9.1 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 air Filters contain G4 Filter fibre enclosed in a cardboard frame. Replacement G4 Filters are of a frameless construction. Contact details for purchasing new Filters or servicing by Xpelair approved technicians can be found on the back of this booklet.

9.1.1 Removing and re-fitting the heat exchanger filters



1. Disconnect the MVHR from the mains supply.
2. Remove the Access Hatch by turning it to the left.
3. Remove the two Filters from the MVHR (see picture above).
4. Insert cleaned or new Filters into their correct positions in the MVHR.
 - a. Please note the 'clean side' of the filter is placed next to the Heat Exchanger.
 - b. Filters can be cleaned by gently knocking together to remove any dust / dirt.
5. Replace the Access Hatch by locating and turning to the right.
6. Switch the mains supply back on.
7. The MVHR is ready to recommence operation.

9.1.2 Removing and re-fitting the summer bypass filter



1. Disconnect the MVHR from the mains supply.
2. Remove the filter from the MVHR (see picture above).
3. Insert the cleaned or a new filter.
 - a. Filters can be cleaned by gently knocking to remove any dust / dirt.
4. Switch the mains supply back on.
5. The MVHR is ready to recommence operation.

9.2 Air filter box (optional accessory)

The MVHR is fitted with G4 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 F5 or F7 Panel Filters are available as the filter elements.

The F5 or F7 Panel 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.

9.3 Cleaning the heat exchanger

The Heat Exchanger 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 Access Hatch by turning it to the left.
3. Remove the Retaining Bracket located in front of the Heat Exchanger by removing the screw, see picture below.



4. Carefully pull the Heat Exchanger out forwards using the black plastic strap around the Heat Exchanger, keeping it horizontal to avoid damaging the EPP housing, see picture below.



5. Thoroughly rinse the Heat Exchanger 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 Heat Exchanger, keeping it horizontal to avoid damaging the EPP housing.
8. Replace the Heat Exchanger Retaining Bracket and retaining screw.
9. Replace the Access Hatch by locating and turning to the right.
10. Switch the mains supply back on.
11. The MVHR is ready to recommence operation.

10 Malfunctions

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.

10.1 Fault locating table

FAULT / MALFUNCTION	CHECK	POSSIBLE CAUSE
Supply air and/or exhaust air Fan does not work	<p>The mains supply is on.</p> <p>All 3 LEDs on the Automatic 3-Speed Switch are flashing. (Xcell 300 QVW model only).</p> <p>Error message on the display panel for which Fan is faulty. (Xcell 300 QVI model only).</p>	<p><u>All Xcell 300 models:</u></p> <ul style="list-style-type: none"> - Supply air Fan defective - Exhaust air Fan defective - Fan blade catching on inner EPP housing - Contact fault on Fan control or power leads <p><u>Xcell 300 QV model only:</u></p> <ul style="list-style-type: none"> - The Manual 2-Speed Switch PCB is defective <p><u>Xcell 300 QVW model only:</u></p> <ul style="list-style-type: none"> - The main Control PCB is defective <p><u>Xcell 300 QVW model only:</u></p> <ul style="list-style-type: none"> - The main Control PCB is defective - The 2A fuse has blown on the main Control PCB - Controller PCB is defective - Display PCB is defective
Supply air and/or exhaust air Fan does not work	<p>The mains supply is on.</p> <p>No LEDs on the Automatic 3-Speed Switch are flashing. (Xcell 300 QVW model only).</p> <p>No error message on the display panel. (Xcell 300 QVI model only).</p>	<ul style="list-style-type: none"> - Mains supply interrupted - Contact fault on Fan control or power leads - Fuse has blown: <ul style="list-style-type: none"> - Mains supply fuse or - Supply cord plug fuse or - Main Control PCB fuse (Xcell 300 QVI model only)
Supply air and/or exhaust air Fan does not work	Display is flashing GREEN. 'Frost Protection Monitoring' is displayed. (Xcell 300 QVI model only).	<ul style="list-style-type: none"> - Exhaust air temperature sensor signals exhaust air is below 8°C - overcooling protection has been activated
Supply air and/or exhaust air flow rate is too low	<p>LED on the Automatic 3-Speed Switch is flashing - filter service indicated. (Xcell 300 QVW model only).</p> <p>Display is GREEN and "Change Filter" or "Clean" is displayed. (Xcell 300 QVI model only).</p>	<ul style="list-style-type: none"> - Filter service period has expired
No water coming through the Condensate Drain Tube	Drops of water on the underside of the MVHR.	<ul style="list-style-type: none"> - No water in the siphon - Condensate water drain blocked
Noise coming from the MVHR	Fans are noisy.	<ul style="list-style-type: none"> - Increased air resistance due to dirty Filters and/or Heat Exchanger - Obstruction in the duct system - Room based air regulator valves not open wide enough - Fan blade touching inner EPP housing
RF Transmitter(s) do not work	The mains supply is on.	<ul style="list-style-type: none"> - Battery inside RF Transmitter needs replacing, see Section 8.13

Note - This table may be subject to technical amendments.

10.2 Installation of replacement fans

Should either Fan develop a fault and need to be replaced, contact details for servicing by Xpelair approved technicians can be found on the back of this booklet. The replacement procedure is as follows:

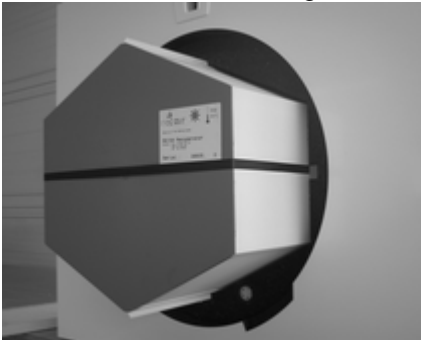
1. Disconnect the MVHR from the mains supply.
2. Remove the Access Hatch by turning it to the left.



3. Remove the two G4 Filters.
4. Remove the Heat Exchanger Retaining Bracket and retaining screw.

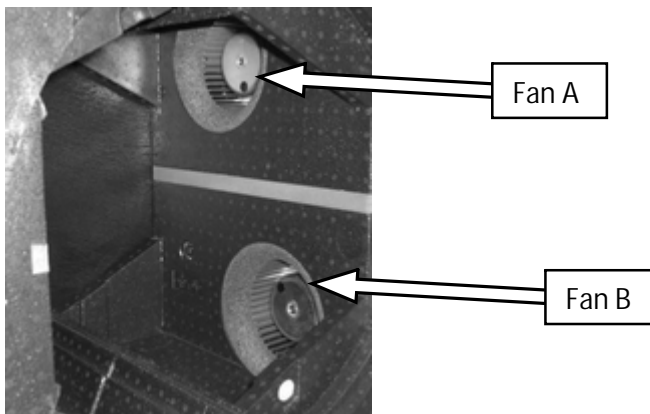


5. Remove the Heat Exchanger carefully, keeping it horizontal to avoid damaging the EPP housing.



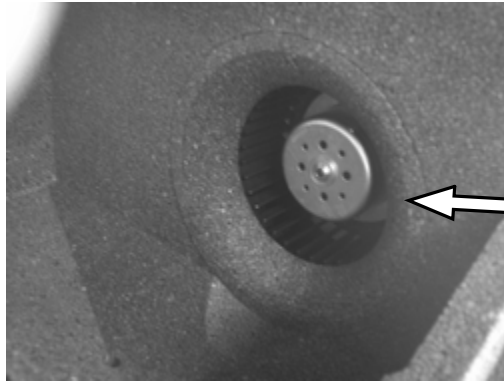
6. The following procedure applies to both MVHR Fans, only remove faulty Fans from the MVHR:
 - a) Identify the faulty Fan within the MVHR.

Note: The upper Fan (A) provides the supply air and the lower Fan (B) provides the exhaust air. The picture below shows a typical right-handed installation, the Fans would appear on the opposite side in a left-handed installation.



- b) Remove the Bell Mouth covering the faulty Fan.

Note: Insert a flat bladed screwdriver into the recess on the edge of the Bell Mouth & lever it out carefully to avoid damaging the EPP housing.

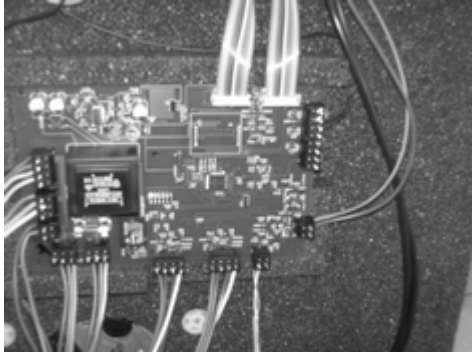


Removable Bell Mouth component

- c) Remove the three retaining screws of the faulty Fan.
 - d) Pull out the faulty Fan (attached to the plastic Motor Mount) and disconnect the plug connections on the Control PCB for both Fan leads – note the position of the plugs for fitting the replacement Fan.
 - e) Remove the four retaining screws to remove the plastic Motor Mount from the faulty Fan, note the orientation of the faulty Fan and its leads in relation to the slots in the plastic Motor Mount.
 - f) Assemble the plastic Motor Mount to the new Fan & secure with the four retaining screws.
 - g) Re-connect the plug connections for both Fan leads onto the Control PCB.
 - h) Position the new Fan in the MVHR, ensuring that the plastic Motor Mount is correctly orientated and is flat against the EPP housing.
 - i) Secure the new Fan into place with the three retaining screws.
 - j) Replace the Bell Mouth, push gently into the EPP housing but ensure it is clips fully into place.
 - k) Spin the blades of the new Fan to ensure that it moves freely and is not obstructed in any way. If any obstruction is present the Fan has not been positioned correctly within the EPP housing. Dismantle again to correctly fit ensuring that the plastic Motor Mount is correctly orientated and is flat against the EPP housing.
7. Repeat step 6 for the other Fan should both Fans need replacing. It is recommended that only one Fan is replaced at a time.
8. Replace the Heat Exchanger carefully, keeping it horizontal to avoid damaging the EPP housing.
9. Replace the Heat Exchanger Retaining Bracket & retaining screw.
10. Replace the two G4 Filters.
11. Replace the Access Hatch by locating and turning to the right.
12. Switch the mains supply back on.
13. The MVHR is ready to recommence operation.

10.3 Installation of a replacement control PCB

1. Disconnect the MVHR from the mains supply.
2. Remove the Access Hatch by turning it to the left.
3. Remove the metal Front Panel by removing the sixteen screws along its four edges.
4. The Control PCB can now be removed from inside the MVHR by accessing it through the opening on the right hand side.



5. Disconnect all leads carefully from the Control PCB.
6. Re-connect all leads to the new Control PCB and push it into place.
7. Re-fit the metal Front Panel to the MVHR and secure with the sixteen screws.
8. Replace the Access Hatch by locating and turning to the right.
9. Switch the mains supply back on.
10. The MVHR is ready to recommence operation.

10.4 Installation of a replacement display PCB

1. Disconnect the MVHR from the mains supply.
2. Remove the Access Hatch by turning it to the left.
3. Remove the metal Front Panel by removing the sixteen screws along its four edges.
4. Remove the Display PCB and disconnect the power leads of the faulty Display PCB from the Control PCB, located in the opening on the right hand side of the MVHR.



5. Push the new Display PCB into the EPP mounting in the front of the MVHR and re-connect the power leads of the new Display PCB to the Control PCB.
6. Re-fit the metal Front Panel to the MVHR and secure with the sixteen screws.
7. Replace the Access Hatch by locating and turning to the right.
8. Switch the mains supply back on.
9. The MVHR is ready to recommence operation.

11 Customer Notes (to record details of filter / recuperator cleaning etc.)

Maintenance Log

[illegible]

This Xpelair MVHR was purchased from:

Supplier stamp

On _____ (date)

GUARANTEE

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

We, Applied Energy Products, guarantee this product against faulty workmanship and material defects for a period of 5 years from the date of purchase subject to regular servicing by Applied Energy Products Limited, or our approved agents.

In the event of a product breakdown during the guarantee period, you should initially contact your installer, before contacting Applied Energy Products on the Technical line number below providing that:

- 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 our instructions and is being 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 subject 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 us.
- 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 Applied Energy Products Limited, or our 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 Applied Energy Products Limited and not found to be faulty, the product would be available for collection from the relevant premises within one month and if not collected it would be disposed of or delivered by Applied Energy Products Limited and 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 Applied Energy Products only and does not cover other products and components used to create a system that have not been purchased from Applied Energy Products.

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.

If we are called out to a fault, which is subsequently identified as being an installation fault, we will make a charge. It is important that the routine checks are completed before calling us out, as many issues can be simply diagnosed and resolved.

We make no guarantees as to response times for repairs. 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 our 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.



Booklet 23812AA Rev. A

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