

MyVALLOX
125 MV

Manual



Ventilation unit

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**NOTE**

You can register your Vallox MV ventilation unit with the MyVallox Cloud service and sign in into your MyVallox Cloud account at www.myvallox.com.

SAFETY

Safe and appropriate handling requires knowledge of the basic safety regulations, and of the intended use of the ventilation system. Read this manual before operating the ventilation unit. Please keep the manual for later reference. If you lose the manual, it can be downloaded from our website.

This user manual contains all the information necessary for safe operation of the system. All persons who operate and maintain the ventilation system must follow the instructions provided in this manual. Furthermore, all local accident prevention regulations must be observed.

Installation

Installation and setup should only be carried out by a qualified specialist. Electrical installations and connections must be carried out only by an electrician and in compliance with local regulations.

WARRANTY

The guarantee and liability exclude damage resulting from:

- Inappropriate use of the ventilation system or the control unit
- Incorrect or inappropriate installation, setup or use
- Neglect of instructions concerning transportation, installation, use, or maintenance
- Structural or electronic modifications or changes made to the software

INTENDED USE

All Vallox ventilation units have been designed to provide appropriate and continuous ventilation so as to present no threat to health and to maintain structures in good condition.



IMPORTANT

In order to ensure that the indoor air presents no harm to health and remains optimal also for the structures of the building, ventilation must be kept on without disruptions. It is recommended that ventilation be left turned on during long holidays also. This keeps the indoor air fresh and prevents humidity from condensing in the ventilation ducts and structures. It also reduces the risk of moisture damage.

DISPOSAL OF THE VENTILATION UNIT

Do not dispose of electronic devices with household waste. Follow local laws and regulations on safe and ecological disposal of the product.



NOTE

For further information, go to www.vallox.com

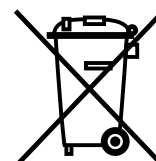


WARNING

The unit is not intended for use by children under 8 or by persons with reduced sensory, physical or mental capabilities, or whose lack of knowledge and experience do not ensure safe operation of the unit.

Such persons can use the unit under supervision, or by following the instructions of someone who is responsible for their safety.

Children must be supervised and not be allowed to play with the device.



SAFETY SIGNS USED IN THE INSTRUCTIONS



DANGER

Indicates a hazard that will result in death or serious injury if not avoided.



WARNING

Indicates a hazard that can result in death or serious injury if not avoided.



CAUTION

Indicates a hazard that can result in minor or moderate injury if not avoided.



IMPORTANT

Indicates a hazard that can result in damage to property or loss of data if not avoided.



NOTE

Indicates essential information about the product.



TIP

Provides additional information about the use of the product and its benefits.

INSTALLATION OPTIONS

- Vallox 125 MV can be mounted either on the wall, or on the ceiling by using a mounting plate (optional).

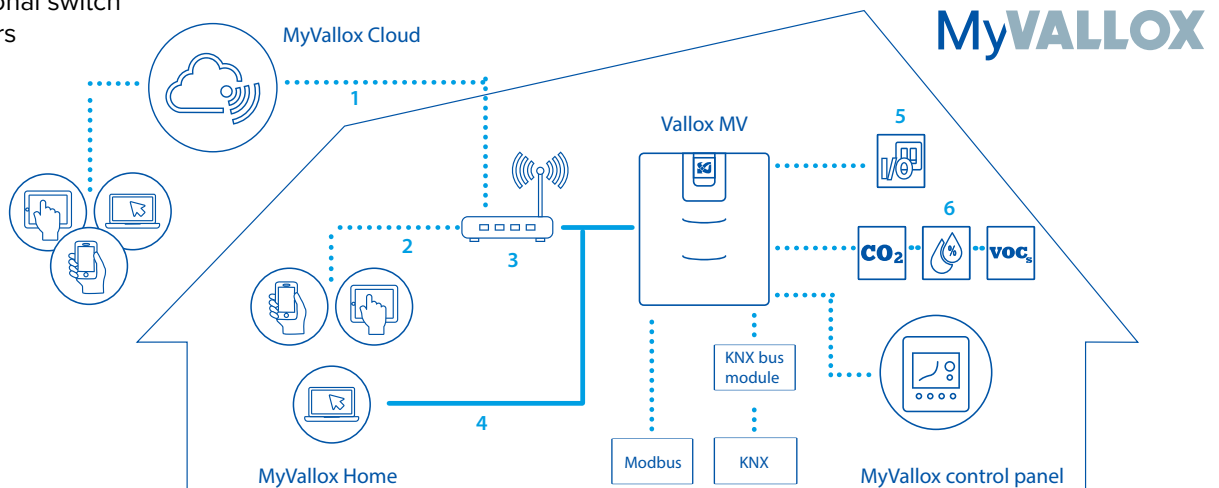


NOTE

The standard equipment and available accessories vary from country to country.

SYSTEM DESCRIPTION

1. Internet
2. WLAN
3. Router
4. WLAN/LAN
5. Additional switch
6. Sensors



VENTILATION UNIT CONTROL

Ventilation unit control options

Operation of the Vallox ventilation unit can be controlled by the following means:

- Through a MyVallox control panel installed in the building.
- Through the MyVallox Home local area network connection and the MyVallox Home/Cloud user interface.
- Through the MyVallox Cloud service and the MyVallox Home/Cloud user interface.
- Through a remote monitoring service or building automation that uses voltage signals or Modbus messages.

In addition to the integrated humidity and carbon dioxide sensor, ventilation can also be adjusted automatically by using the optional carbon dioxide, humidity, or VOC (air quality) sensor. When these are used, ventilation remains optimal even when the dwelling is unoccupied. Each user can use the week clock to adjust the ventilation to fit their individual lifestyle.

The ventilation unit's integrated humidity and carbon dioxide sensors adjust ventilation automatically according to the need. In addition, ventilation can be automated by using optional carbon dioxide, humidity or air quality (VOC) sensors.

Filter reminder

The unit reminds of the need to change filters in the popup window of the compatible MyVallox control panel, in the MyVallox Home/Cloud user interface and by changing the relay status, provided that a signal light has been connected to the relay connectors and Maintenance reminder has been chosen as the relay setting.

The filter reminder can be acknowledged by the following means:

- **from the MyVallox control panel**
- **from the MyVallox Home/Cloud user interface**
- **with the Vallox Delico PTD EC and Vallox Capto PTC EC cooker hoods** — Push the **damper position** button four times at less than one second intervals, starting from the Damper closed position.

Ventilation unit setup without a control panel

The ventilation unit setup can also be completed without a control panel. For instructions, please go to

<https://vallox.techmanuals.info/ValloxMV/ENG/help/webhelp>

See instructions provided in the section Connecting the ventilation unit to the computer.

Connecting the ventilation unit to the cloud service

The ventilation unit can be connected to the MyVallox Cloud service. The cloud service allows for controlling ventilation remotely also, using e.g. a smartphone or tablet. Also the unit software is updated automatically through the cloud service. To connect to the cloud service, the ventilation unit must be connected to the Internet via LAN and registered with the cloud service. At the same time you create a MyVallox Cloud account for yourself. Read more about the service at www.myvallox.com.



NOTE

For the MyVallox Cloud/Home instructions, please go to vallox.techmanuals.info/ValloxMV/ENG/help/webhelp



IMPORTANT

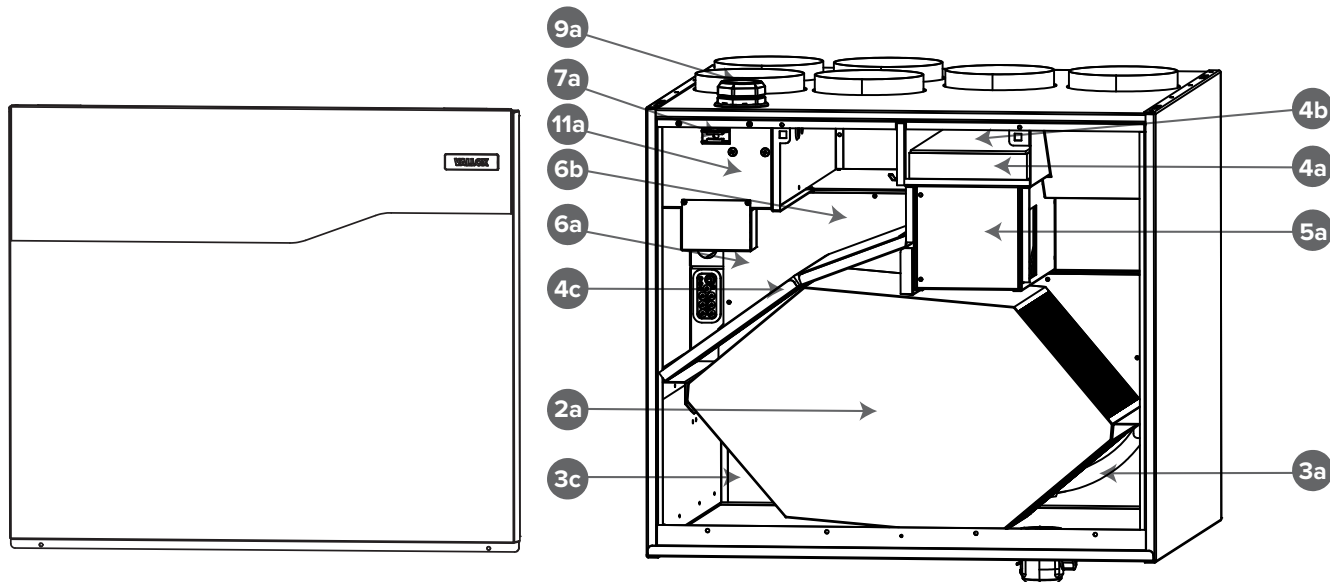
Prolonged overpressure can result in damage to the structures of the building.



IMPORTANT

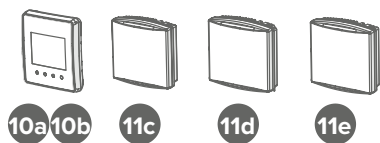
Apartment-specific ventilation units allows residents to adjust the ventilation efficiency. Ventilation is controlled based on the need e.g. through the cooker hood, ventilation control panel, or a separate control centre. In order to ensure that the indoor air presents no harm to health and remains optimal also for the structures of the building, **ventilation must be kept on without disruptions**. It is recommended that ventilation be left turned on during long holidays also. This keeps the indoor air fresh and prevents humidity from condensing in the ventilation ducts and structures. It also reduces the risk of moisture damage.


MAIN PARTS



Vallox 125A R model is shown in the figure.

In the L model, the parts are mirrored.



- | | | | | | |
|---|---|----|---|------------------------------------|------------|
|  | Heat recovery cell | 2a |  | Safety switch | 7a |
|  | Extract air fan | 3a |  | Ceiling bushing for electric wires | 9a |
|  | Supply air fan | 3c |  | Control panel | 10a 10b |
|  | Fine filter for supply air | 4a |  | Internal humidity sensor | 11a |
|  | Coarse filter for supply air | 4b |  | Internal carbon dioxide sensor | 11a |
|  | Coarse filter for extract air | 4c |  | Carbon dioxide sensor (optional) | 11c |
|  | Bypass damper of the HR cell | 5a |  | Humidity sensor (optional) | 11d |
|  | Post-heating resistor (in front of the supply air fan) | 6a |  | VOC sensor (Optional) | 11e |
|  | Additional heating resistor | 6b | | | |

MOUNTING ON THE WALL

NOTE
Avoid mounting the unit on a hollow, echoing partition wall or on a bedroom wall, or prevent the conduction of sound.

The minimum distance between the top of the unit and the finished ceiling surface is 30 mm. Note that during mounting the unit rises 10 mm higher than the final height.

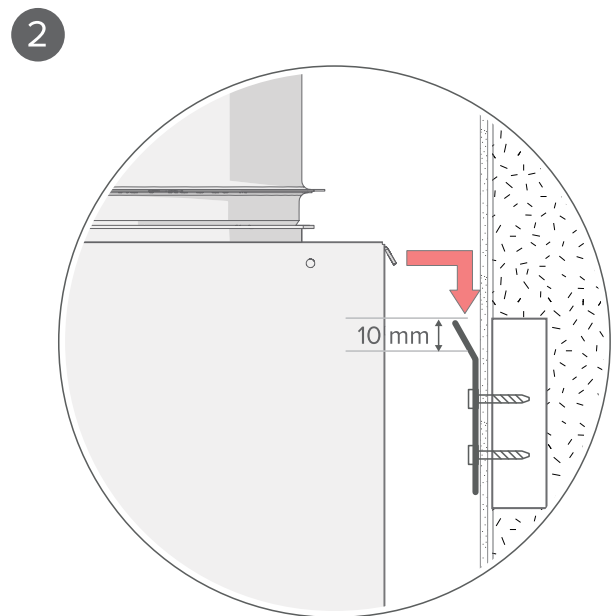
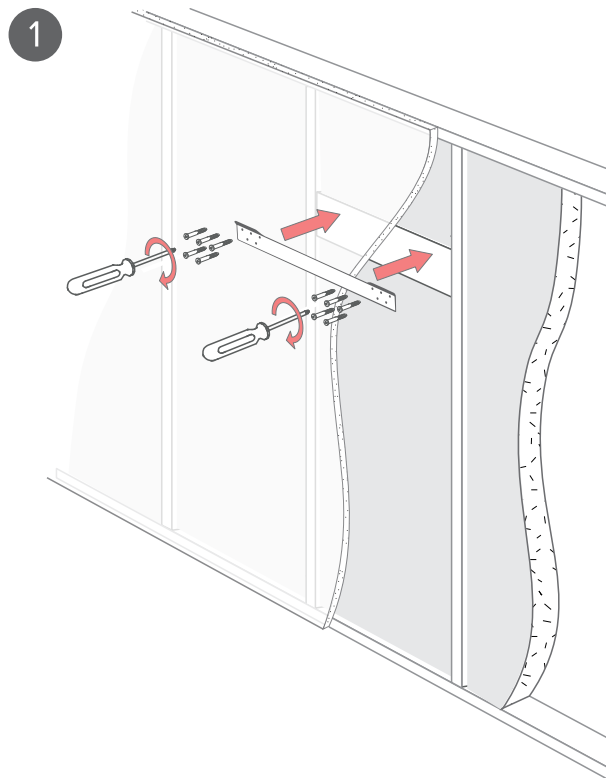
Mount the ventilation unit on the wall with a mounting plate, as shown in the figures below. Make sure that the unit is horizontally level after mounting.



NOTE
When installing the unit, reserve a space of at least 500 mm in front of the unit for servicing purposes.



NOTE
Mount the ventilation unit in a place where the temperature does not fall below +10°C.



MOUNTING ON THE CEILING

The Vallox 125 MV units (excluding model B) can be equipped with an optional ceiling mounting plate.

Installing the ventilation unit to the ceiling mounting plate

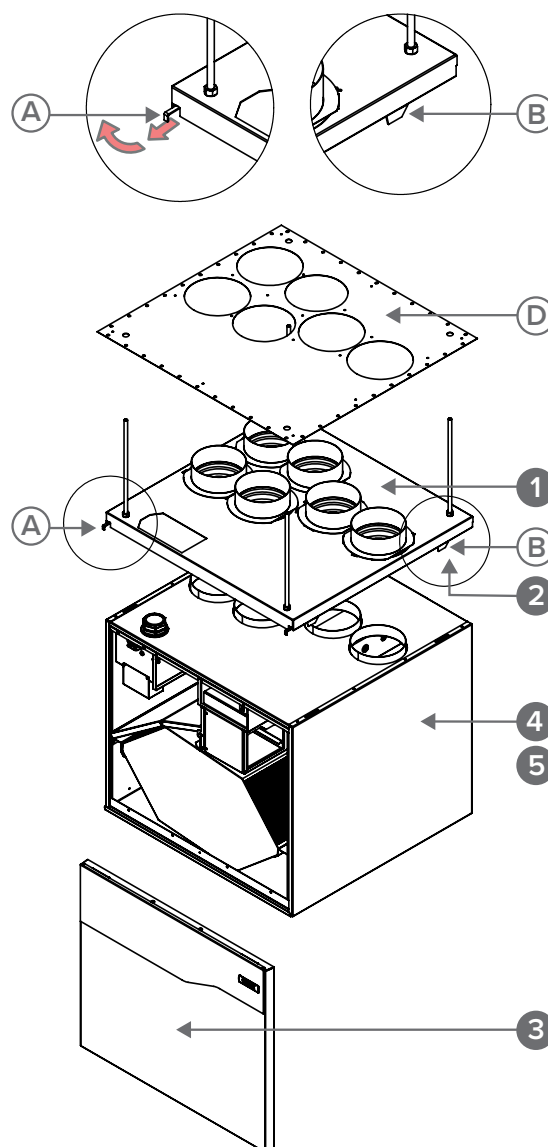
CAUTION
The ventilation unit is very heavy. Do not perform this procedure alone. Use appropriate lifting equipment, where necessary.

1. Check that the condensate insulation rings are in place in the outlet collars below the ceiling mounting plate.
2. Pull the operating levers (A) out and lock them by turning them towards the outer sides of the unit.
3. Remove the door before installing the ventilation unit to the ceiling mounting plate.
4. Lift the ventilation unit close to the ceiling mounting plate and feed the cables and the connection box through the hole in the ceiling mounting plate on top of the ceiling.

NOTE
Remember to make a service door in the ceiling so that the cables and the connection box can be accessed. The distance between the service door and the ceiling mounting plate must be around 500 mm.

Alternatively, the cables can be fed to the rear wall between the ceiling mounting plate and the ventilation unit.

5. Lift the ventilation unit up against the ceiling mounting plate by releasing the locking of the levers (A) by turning them towards the center of the unit; the levers will lock the unit to the ceiling mounting plate. Where needed, guide the mounting hooks on the ceiling mounting plate (B) to the grooves on the side panels of the ventilation unit. In the locked position, the levers are at the same level as the front edge of the ceiling mounting plate.
6. Where required, the unit can be detached from the ceiling mounting plate. Remove the door of the unit, lift the unit slightly upwards, pull out both operating levers (A) and lock them (see section 2).



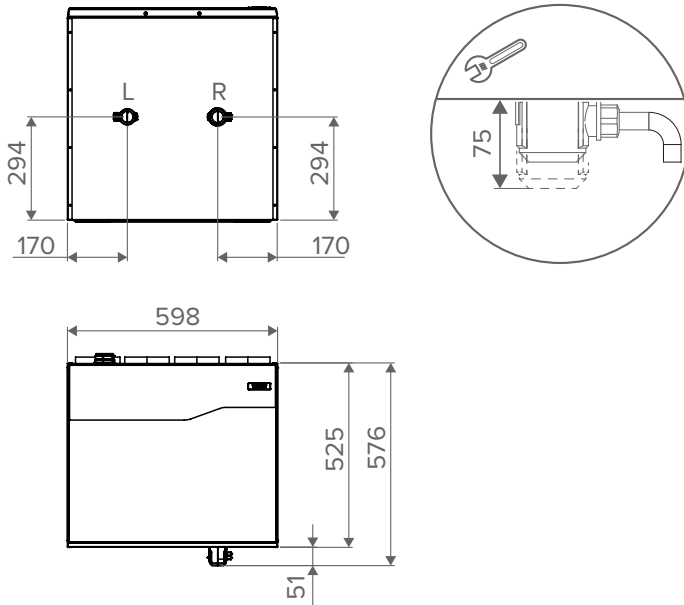
Attic floor penetration plate

The attic floor penetration plate (D) is optional. When an insulated attic floor penetration plate is used, the airtightness of the vapour barrier must be ensured.

The attic floor penetration plate is installed at the same level as the rear wall of the ventilation unit. The minimum distance of the attic floor penetration plate from the rear wall is 10 mm, and the width varies depending on the model. Follow the model-specific instructions on the penetration plate.

REMOVAL OF CONDENSING WATER

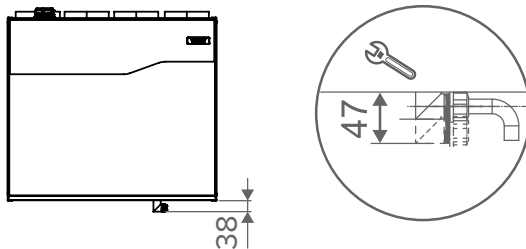
Dimensioning figures and space required for installation of the Vallox Silent Klick siphon



NOTE

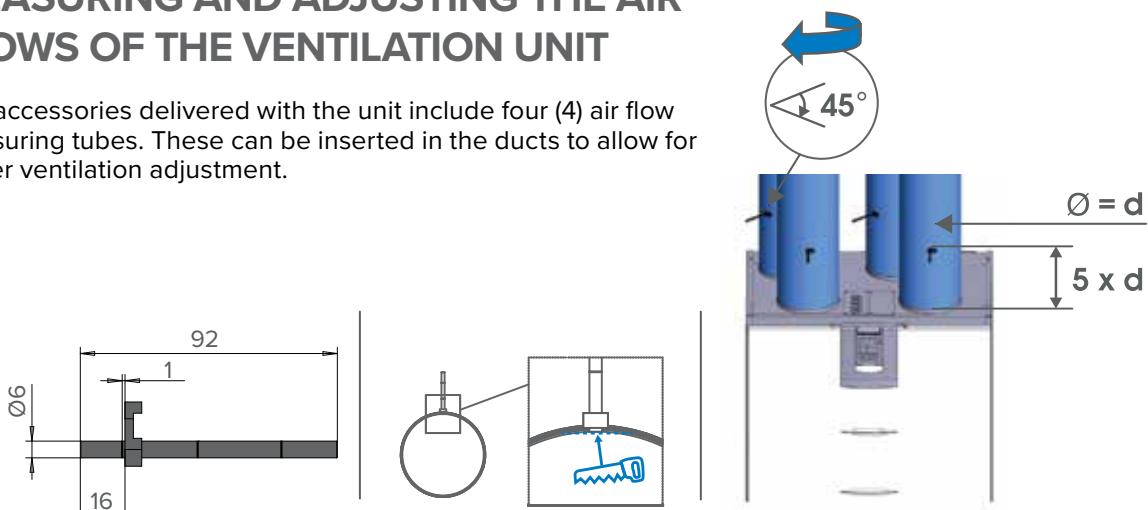
The Vallox Silent Klick siphon package is delivered with the unit. Installation instructions for the siphon are enclosed with the packaging, and can also be found online at www.vallox.com. When the alternative siphon installation method is used, the ring seal and the locking part must be moved to the pipe connection part that is mounted on the wall.

Space required by the alternative Vallox Silent Klick siphon installation method (elbow)

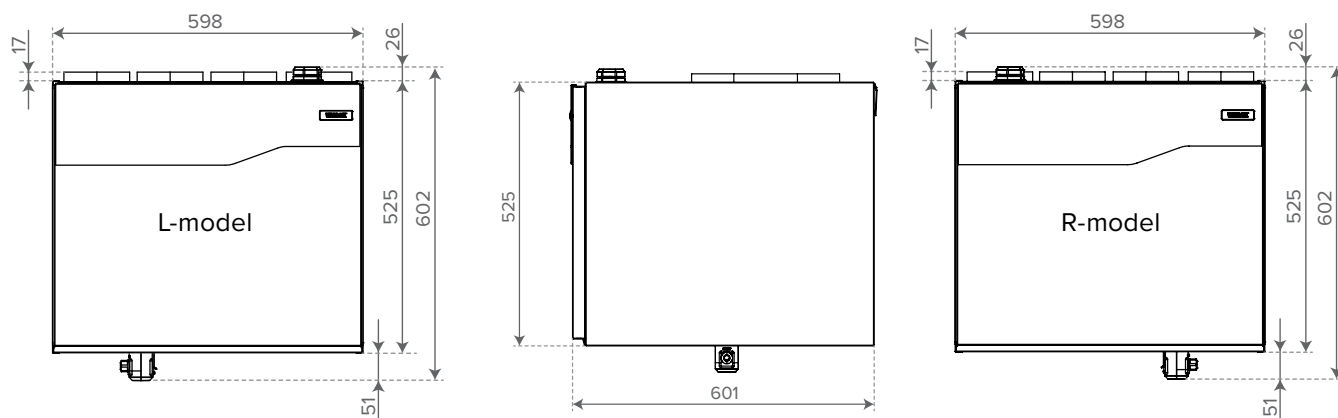


MEASURING AND ADJUSTING THE AIR FLOWS OF THE VENTILATION UNIT

The accessories delivered with the unit include four (4) air flow measuring tubes. These can be inserted in the ducts to allow for easier ventilation adjustment.



Dimensions and duct outlets

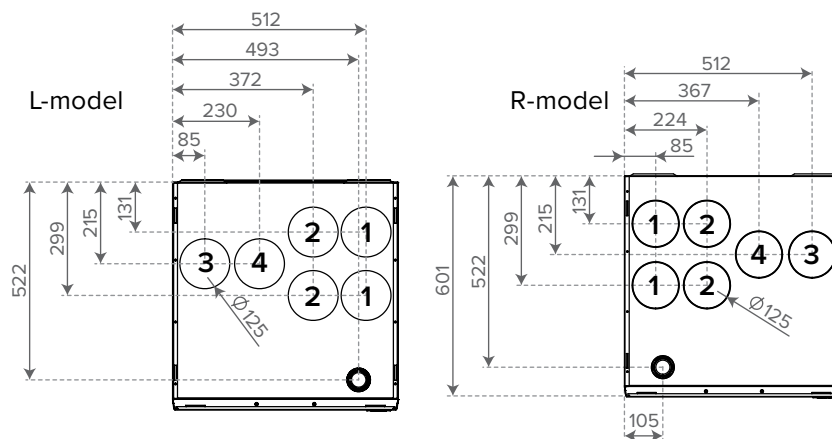


Duct outlets

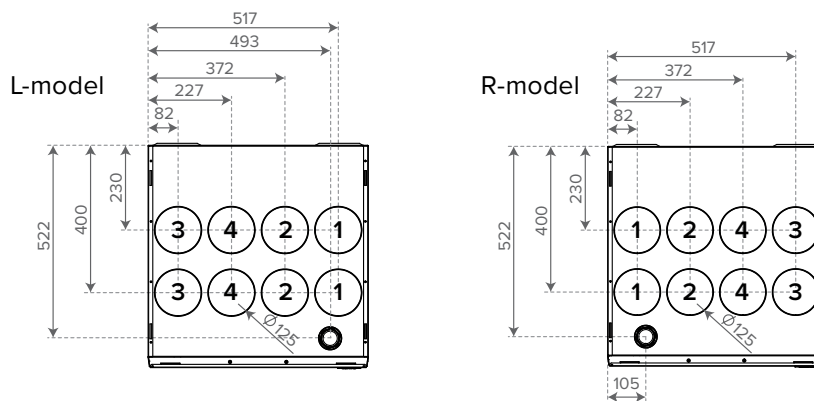
The inner diameter of the female outlet collar is 125 or 160 mm, depending on the model.

1. Supply air from the unit to the apartment
2. Extract air from the apartment to the unit
3. Exhaust air flowing outdoors from the unit
4. Outdoor air to the unit

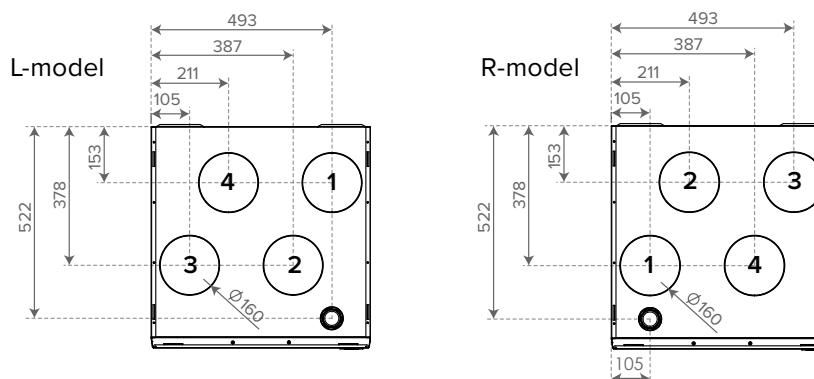
125A



125B



125C



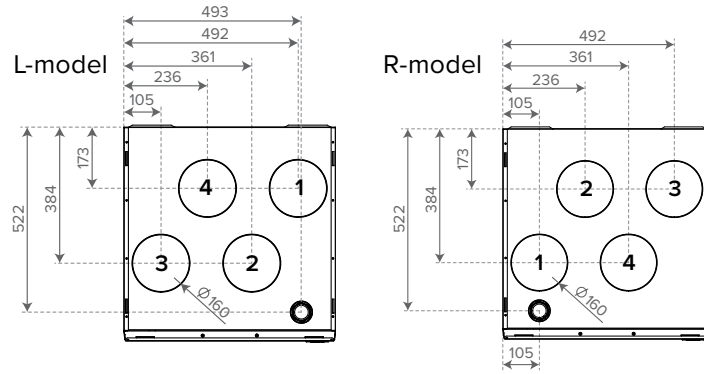
B model

NOTE

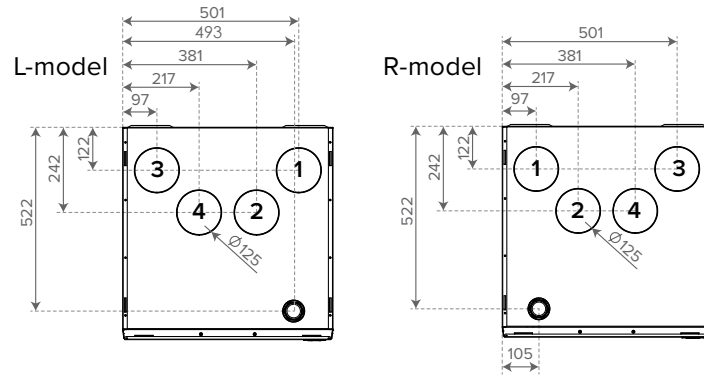
The plugs of any outdoor and extract air ducts that remain unused must be insulated with condensate insulation.



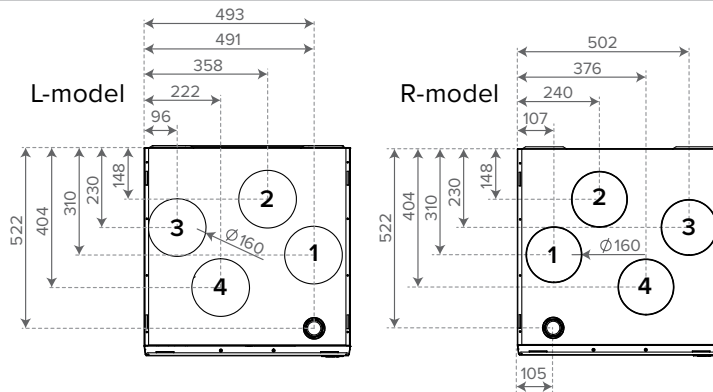
125D



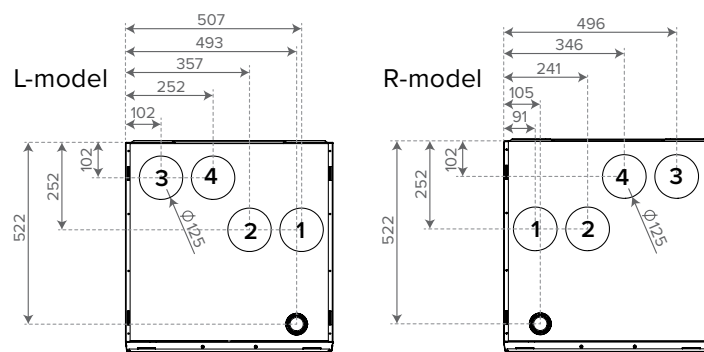
125E



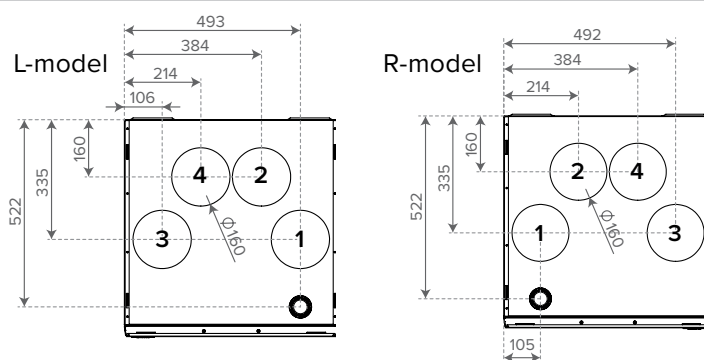
125F



125G



125H



BEFORE BEGINNING MAINTENANCE WORK

The safety switch (S) automatically turns off the power when the door of the unit is opened.

WARNING
Always disconnect the power plug before starting the ventilation unit maintenance.

There is a left-handed (L) and right-handed (R) version of each model. The figure shows the right-handed model.

REPLACING THE FILTERS

When the maintenance reminder becomes activated, check the cleanliness of the filters and replace them if required.

The Vallox ventilation unit has three air filters:

- Coarse filter for supply air filters insects, heavy pollen and other relatively large foreign objects out of the outdoor air.
- Fine filter for supply air filters microscopic pollen and dust particles out of the supply air.
- Coarse filter for extract air filters the extract air and keeps the heat recovery cell clean.

The filter replacement interval depends on the ambient particle concentration. It is recommended that the filters be replaced every spring and autumn, or, at the very least, once a year.

To replace the filters:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift off the door cover panel. Undo the door's mounting screws (4 mm hexagon).
3. Lift the door off.
4. Remove the old filters (A, B, C) and discard them.

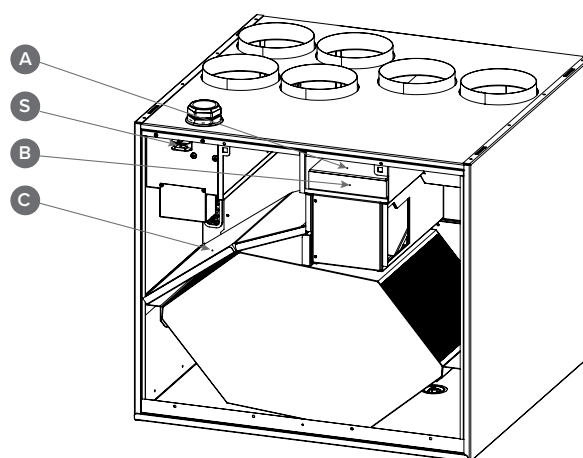
CAUTION
The door is heavy (8.5 kg).

5. Install the new filters (A, B, C).
6. Close the door of the unit. Ensure that the safety switch catch of the door is engaged (S), allowing the unit to be turned on. Tighten the door tightening screws only to the extent that the outdoor damper of the door comes into contact with the frame of the unit. The outdoor damper of the door must not be pressed in around the screws.
7. Plug the ventilation unit back into the mains.

The filters have now been successfully replaced.



IMPORTANT
If the power cord is damaged, the manufacturer, its service representative or other person with similar qualifications must replace it to avoid danger.



NOTE
The service space in front of the ventilation unit must be at least 500 mm.



TIP
Using original Vallox filters ensures that the ventilation unit remains in top condition, giving the best results. Selection and ordering of filter packages: filters.vallox.com

CLEANING THE HEAT RECOVERY CELL

Check that the heat recovery cell is clean roughly once a year, or whenever the filters are being replaced. Clean by washing as required.

To check and clean the heat recovery cell:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift off the door cover panel. Undo the door's mounting screws (4 mm hexagon).
3. Lift the door off.

CAUTION
The door is heavy (8.5 kg).

4. Remove the extract air filter (B).
5. Unlock the locking nuts in the upper support of the cell (A) and pull the upper support of the cell outwards.
6. Lift and pull the HR cell (D) out of the unit.
7. If the cell is dirty, clean it by immersing it in warm water, to which a small amount of a mild detergent has been added.
8. Rinse the cell clean with a water spray. Do not use a high-pressure cleaner.
9. When all the water has drained from between the layers, reassemble the ventilation unit as follows:
10. Ensure that the lower support (C) is in place against the knobs at the bottom of the unit.
11. Lift the HR cell in place.
12. Push the upper support (A) against the cell. Ensure that the upper support is properly nestled against the cell (remains upright). Tighten the locking nuts.
13. Install the extract air filter (B) in place.
14. Close the door. Ensure that the safety switch catch of the door is touching the safety switch (S). Tighten the door tightening screws only to the extent that the outdoor damper of the door comes into contact with the frame of the unit. The outdoor damper of the door must not be pressed in around the screws.
15. Plug the ventilation unit back into the mains.

The heat recovery cell has now been checked and cleaned.

CONDENSING WATER

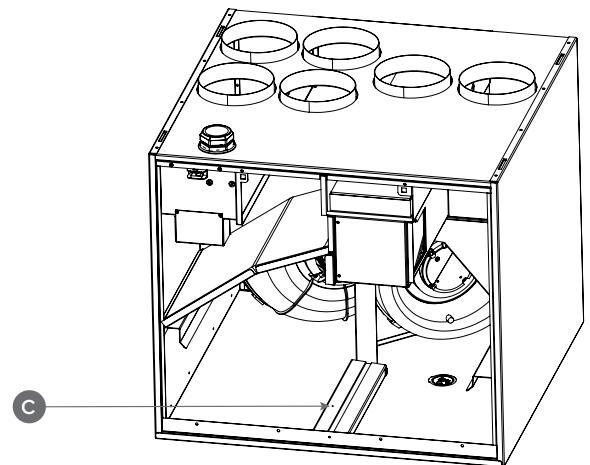
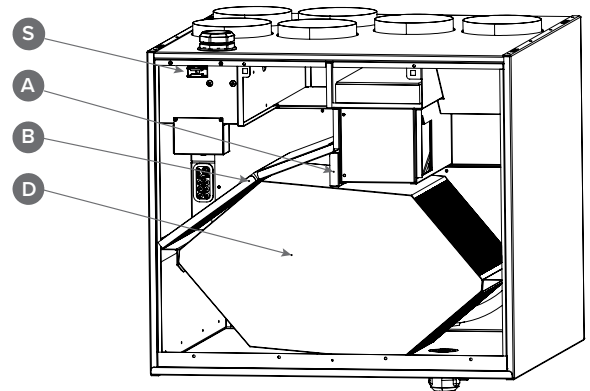
In the heating season, the extract air humidity condenses to water. In new buildings, the volume of condensing water can be high. Condensed water must be able to freely leave the unit.

At some time before the heating season begins (e.g. during autumn maintenance), check that the siphon or the condensing water outlet in the bottom pool are not clogged. To check this, pour some water into the pool. Clean as required.



IMPORTANT

Handle the cell carefully! For example, do not lift the cell by the layers. The cell layers are very thin and easily damaged.



NOTE

Some condensing water may have accumulated in the bottom pool of the unit; this is normal and requires no corrective action.



WARNING

Water must at all times be kept out of the electrical system.

CLEANING THE FANS

Check the cleanliness of the fans when servicing the filters and the heat recovery cell. Clean the fans as required.

You can clean the fan blades with compressed air (wear protective goggles) or by brushing them gently. Do not remove or move the fan blade balancing weights.

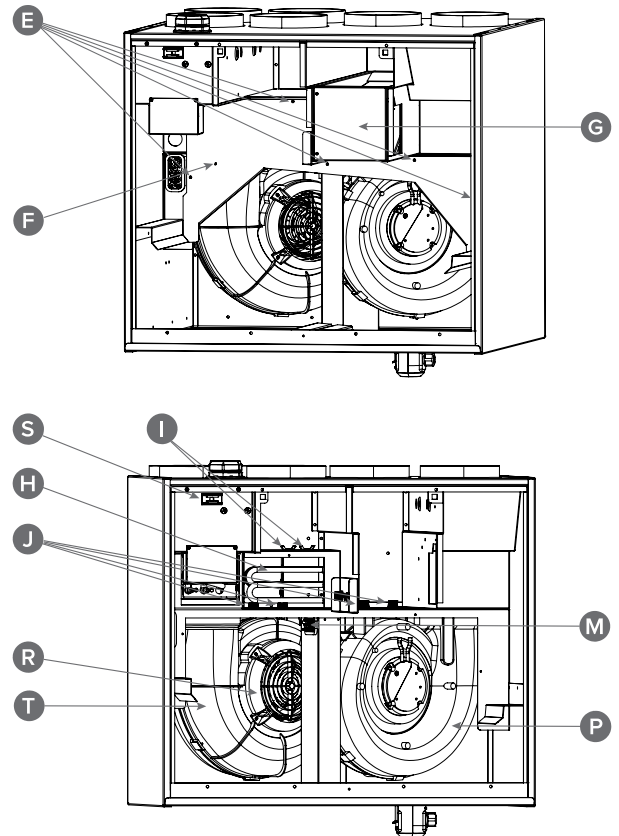
To clean the fan:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift off the door cover panel. Undo the door's mounting screws (4 mm hexagon).
3. Lift the door off.

CAUTION
The door is heavy (8.5 kg).

4. Remove the filters and the heat recovery cell. See chapters "Replacing the filters" and "Cleaning the heat recovery cell".
5. Remove the support plate (F) by undoing the screws (E).
6. Detach the bypass module (G) cable from the connector (found in front of the extract fan (P)). Pull the bypass module (G) out of the unit.
7. Remove the plastic nuts used to fasten the fans (J) (2 per fan). Remove the two wing screws (I) of the post-heating resistor (H) (only when changing the supply air fan) and remove the cable of the resistor (H) from the connector.
8. Remove the fan from the unit by lowering it before turning the fan anti-clockwise, whilst tilting it. Remove the control grille by undoing the screws (4 pcs).
9. You can now clean the fan. Put the control grille (R) back in place after cleaning.
10. Reassemble in reverse order after cleaning. After reassembling the fan, ensure that the rubber feedthrough (M) is in place.
11. Close the door. Ensure that the safety switch catch of the door is touching the safety switch (S). Tighten the door tightening screws only to the extent that the outdoor damper of the door comes into contact with the frame of the unit. The outdoor damper of the door must not be pressed in around the screws.
12. Plug the ventilation unit back into the mains.

The fan has now been checked and cleaned.

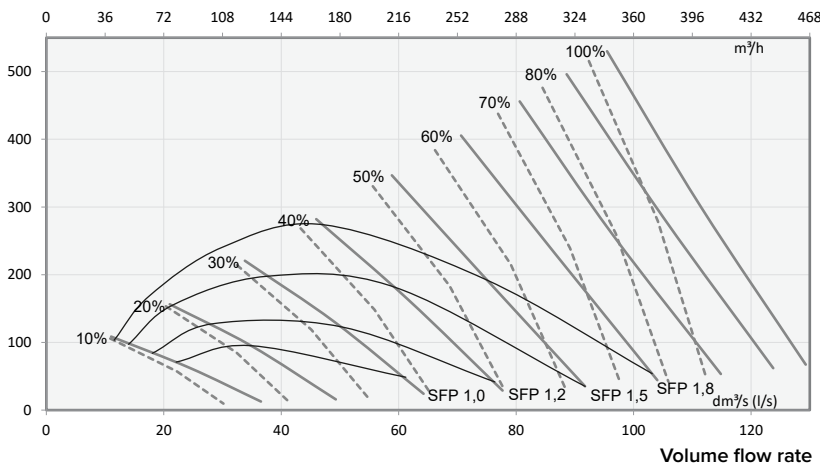


| TECHNICAL SPECIFICATIONS | | | |
|---|---|--|---|
| Product title | Vallox 125 MV R Vallox 125 MV L | | |
| Air volumes Supply air Extract air | 111 dm ³ /s, 100 Pa 127 dm ³ /s, 100 Pa | Fans Supply air Extract air | 0.165 kW 1.35 A EC 0.165 kW 1.35 A EC |
| Post-heating | Electrical resistor, 900 W | Electrical connection | 230 V, 50 Hz 9.3 A power plug |
| Pre-heating | – | Enclosure protection class | IP 34 |
| Additional heating | Electrical resistor, 900 W | Heat recovery bypass | Automatic |
| Filters Supply air Extract air | ISO Coarse > 75% + ISO ePM ₁ ≥ 50% ISO Coarse > 75% | | |
| Specific energy consumption (SEC) in a cold climate in a temperate climate | A+ A | Operating efficiencies* Annual efficiency Supply air efficiency Specific Fan Power (SFP) | 75% 76% 1.52 kW/m ³ /s (77 dm ³ /s) |
| Dimensions (w x h x d) | 598 x 525 x 601 mm | Weight | 66 kg |

*Working point defined in the Ecodesign Directive (2009/125/EC), Southern Finland, Helsinki-Vantaa TRY year 2020.

THE FAN'S SUPPLY AND EXTRACT AIR VOLUMES AND SPECIFIC ELECTRICITY CONSUMPTION

Pressure loss in the ducts. Total pressure (Pa)



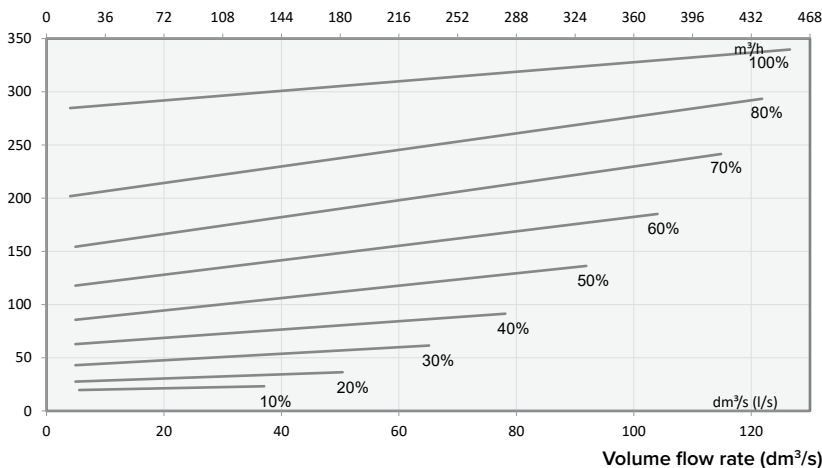
$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3\text{/s)}}$$

SFP rate (Specific Fan Power)
recommended value <1.8 (kW m³/s)

— extract air
- - - supply air

FAN INPUT POWER

Power (W)

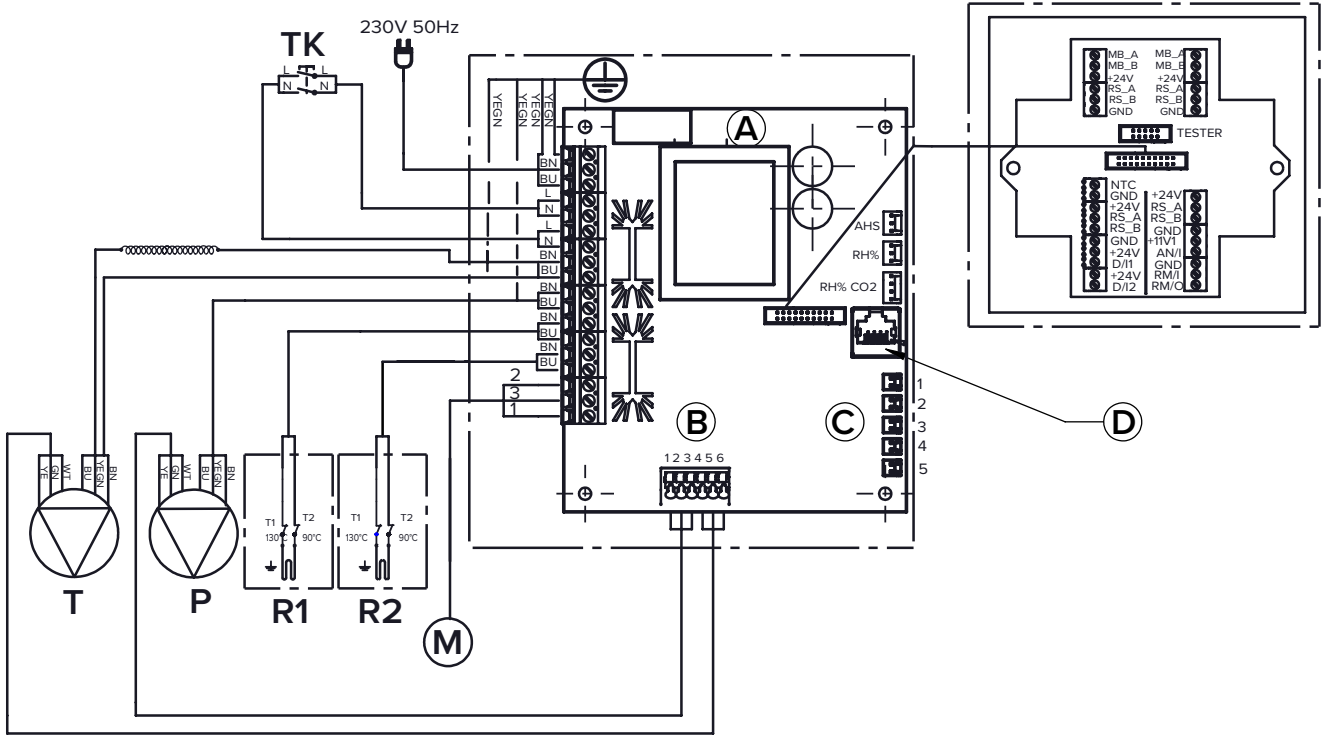


SOUND VALUES

| | | Sound power level in the supply air duct (one duct) by octave band L_w , dB | | | | | | | | | Sound power level in the extract air duct (one duct) by octave band L_w , dB | | | | | | | | |
|--|------|---|----|----|----|----|----|----|----|-----|---|----|----|----|----|----|----|-----|-----|
| | | Adjustment position | | | | | | | | | Adjustment position | | | | | | | | |
| Adjustment position (%) | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 |
| Medium frequency of the octave band Hz | 63 | 61 | 65 | 68 | 73 | 73 | 79 | 80 | 81 | 84 | 56 | 61 | 66 | 69 | 74 | 78 | 79 | 81 | 82 |
| | 125 | 57 | 61 | 64 | 65 | 68 | 71 | 72 | 74 | 81 | 48 | 53 | 58 | 62 | 64 | 67 | 69 | 72 | 78 |
| | 250 | 57 | 64 | 71 | 65 | 67 | 69 | 71 | 73 | 74 | 46 | 50 | 55 | 58 | 61 | 64 | 66 | 67 | 68 |
| | 500 | 43 | 48 | 58 | 63 | 60 | 62 | 64 | 70 | 76 | 30 | 36 | 43 | 46 | 49 | 56 | 52 | 54 | 56 |
| | 1000 | 43 | 49 | 54 | 58 | 61 | 64 | 67 | 67 | 70 | 24 | 30 | 35 | 39 | 42 | 45 | 47 | 48 | 50 |
| | 2000 | 33 | 41 | 47 | 51 | 54 | 57 | 59 | 62 | 64 | 16 | 21 | 27 | 32 | 35 | 39 | 41 | 43 | 44 |
| | 4000 | 23 | 32 | 40 | 45 | 49 | 53 | 55 | 57 | 59 | 16 | 17 | 20 | 24 | 28 | 31 | 34 | 36 | 37 |
| | 8000 | 21 | 24 | 32 | 38 | 43 | 47 | 50 | 53 | 55 | 20 | 20 | 20 | 21 | 23 | 25 | 28 | 30 | 32 |
| L_w , dB | | 64 | 69 | 73 | 75 | 76 | 81 | 81 | 82 | 87 | 57 | 62 | 67 | 70 | 75 | 78 | 80 | 82 | 84 |
| L_{WA} , dB(A) | | 51 | 57 | 64 | 64 | 65 | 68 | 70 | 72 | 76 | 40 | 44 | 49 | 53 | 56 | 59 | 60 | 62 | 65 |
| | | Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m ² sound absorption) | | | | | | | | | | | | | | | | | |
| | | Adjustment position | | | | | | | | | | | | | | | | | |
| Adjustment position (%) | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | | | | | | | | 100 | |
| L_{pA} , dB (A) | | 26 | 30 | 36 | 41 | 43 | 44 | 45 | 47 | | | | | | | | | 47 | |

You can calculate the sound values for each operating point with the Vallox MySelecta software.

INTERNAL ELECTRICAL CONNECTION

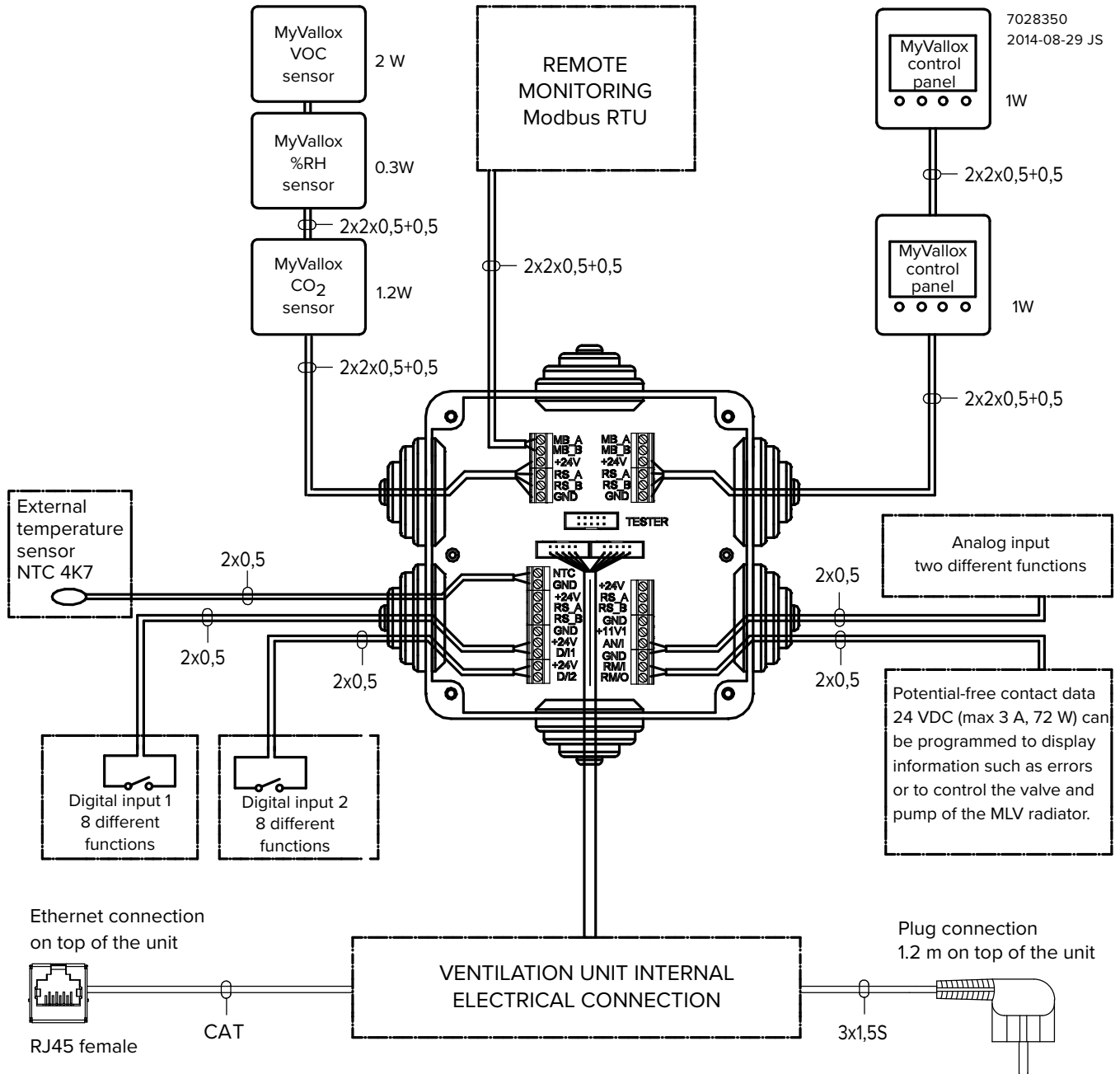


| | | | | | |
|----------|--------------------------------|-------------|---------------------------------------|---------------------------|--|
| A | Motherboard | MB_A | External Modbus A signal | T | Supply air fan |
| B | 1. Extract air fan tacho (WT) | MB_B | External Modbus B signal | P | Extract air fan |
| | 2. GND (GN) | +24V | +24V voltage (DC) | M | Damper motor |
| | 3. Extract air fan PWM (YE) | GND | Digital and analog ground potential | TK | Safety switch |
| | 4. Supply air fan tacho (WT) | RS_A | Local hardware Modbus A signal | AHS | Post-heating control |
| | 5. GND (GN) | RS_B | Local hardware Modbus B signal | %RH | Internal humidity sensor |
| | 6. Supply air fan PWM (YE) | NTC | External temperature sensor connector | %RH CO₂ | Internal humidity and carbon dioxide sensor |
| C | 1. Extract air | D/I1 | Digital input 1 | R1 | Post-heating resistor with 90°C and 130°C overheating protection |
| | 2. Outdoor air | D/I2 | Digital input 2 | R2 | Post-heating resistor with 90°C and 130°C overheating protection |
| | 3. Supply air | 11V1 | 11.1 V operating voltage | K | Harmonic filter |
| | 4. Exhaust air | AN/I | Analog input 0-10VDC | | |
| | 5. Supply air from the HR cell | RM/I | 24V relay input | | |
| D | LAN | RM/O | 24V relay output | | |

CABLE COLOURS

| | |
|-------------|--------------|
| BK | Black |
| BU | Blue |
| BN | Brown |
| WT | White |
| GY | Grey |
| YE | Yellow |
| YEGN | Yellow-green |

EXTERNAL ELECTRICAL CONNECTION



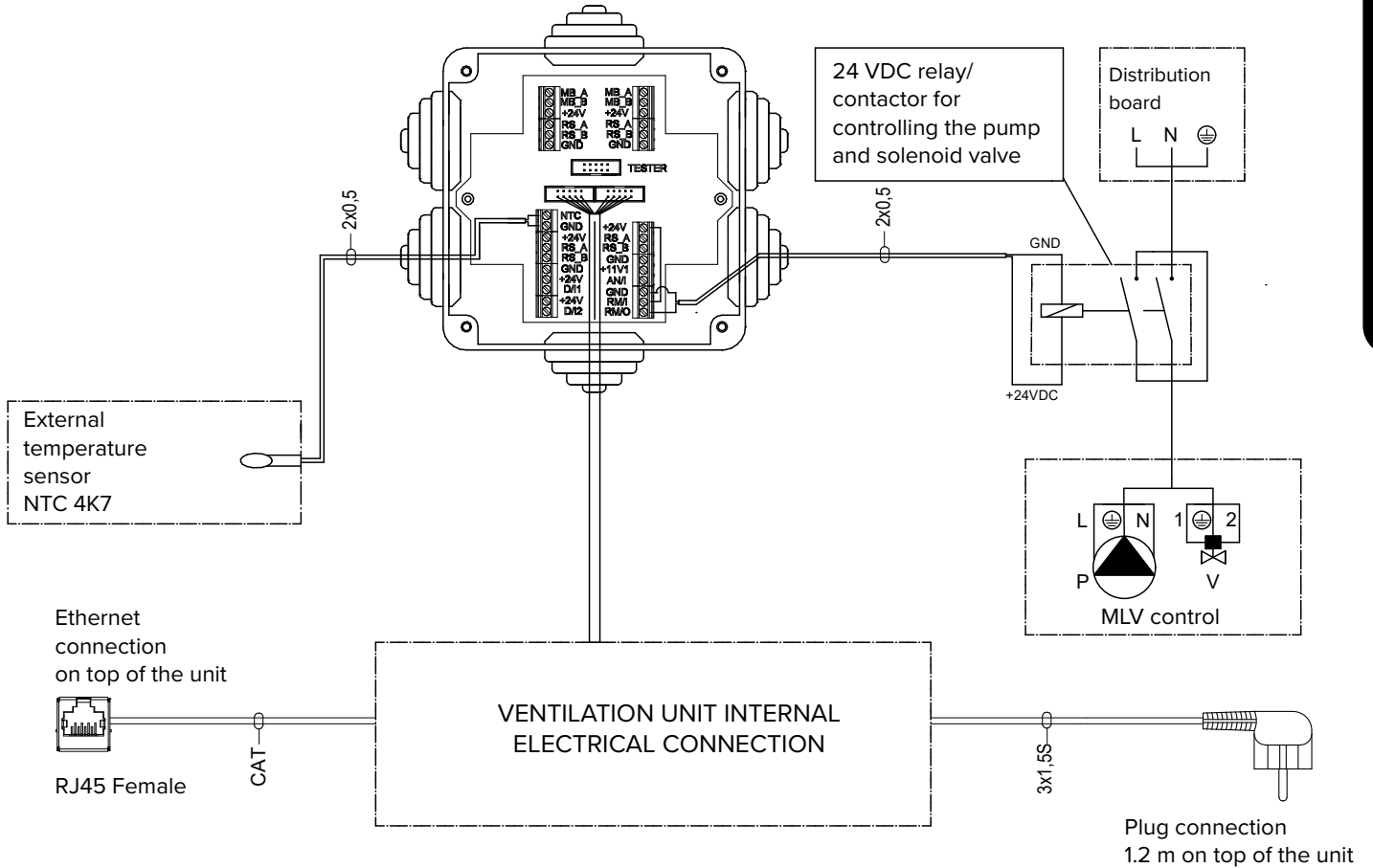
POWER SUPPLY

| | |
|---|--------|
| Maximum | ≤6 W |
| MyVallox Control | 1 W |
| MyVallox Touch | 0.5 W. |
| MyVallox %RH sensor | 0.3W |
| MyVallox CO ₂ sensor | 1.2W |
| MyVallox VOC sensor | 2W |
| External actuator or damper motor of the unit that receives feed from the relay | |
| Voltage | 24 VDC |

| | |
|------|---------------------------------------|
| MB_A | External Modbus A signal |
| MB_B | External Modbus B signal |
| +24V | +24V voltage (DC) |
| GND | Digital and analog ground potential |
| RS_A | Local hardware Modbus A signal |
| RS_B | Local hardware Modbus B signal |
| NTC | External temperature sensor connector |

| | |
|------|--------------------------|
| D/I1 | Digital input 1 |
| D/I2 | Digital input 2 |
| 11V1 | 11.1 V operating voltage |
| AN/I | Analog input 0-10VDC |
| RM/I | 24V relay input |
| RM/O | 24V relay output |

EXTERNAL ELECTRICAL CONNECTION FOR CONTROLLING THE MLV DUCT RADIATOR



| | | | |
|------|---------------------------------------|------|--------------------------|
| MB_A | External Modbus A signal | D/I2 | Digital input 2 |
| MB_B | External Modbus B signal | 11V1 | 11.1 V operating voltage |
| +24V | +24V voltage (DC) | AN/I | Analog input 0-10VDC |
| GND | Digital and analog ground potential | RM/I | 24V relay input |
| RS_A | Local hardware Modbus A signal | RM/O | 24V relay output |
| RS_B | Local hardware Modbus B signal | P | Circulation pump |
| NTC | External temperature sensor connector | V | Solenoid valve |
| D/I1 | Digital input 1 | | |

DUCT RADIATOR OPERATION

Always follow first and foremost the connection diagram provided by the HVAC designer or heat pump manufacturer. Also read the duct radiator manual.

The accompanying figure shows an example of the arrangement for connecting the heating/cooling radiator unit to the heat collection circuit.

Connect the radiator output pipe to the heat collection circuit return pipe. Direct the fluid returning from the radiator unit to the heat collection circuit return pipe. If you know that there is a large loss of internal pressure inside the heat pump, the heat pump should be bypassed. If this is done, the fluid circuit will come into operation when the heat pump comes to a halt. When this happens the pressure loss in the one-way bypass valve Y2 must be lower than the pressure loss in the heat pump.

Heating: The pump starts when the outdoor air temperature drops below the winter limit value set at the factory (-5 °C).

Cooling The supply air setpoint value for the active mode (for example, At home) controls the pump start-up. The pump starts when the supply air setting is below the temperature of the supply air that is blown into the apartment.

The duct radiator can be installed in both the supply air duct and the outdoor air duct. If the radiator is installed in the outdoor air duct, it can be used for both preheating and cooling. If the radiator is installed in the supply air duct, it can be used for heating or for cooling only.

The duct radiator can be set to function either automatically or manually.

- **Automatic** - In summer, the supply air temperature will be maintained at the level specified in the temperature setting. In winter, the duct radiator will turn on, when the outdoor temperature falls below the winter setting.
- **Manual** - In summer, the duct radiator will turn on, when the outdoor temperature rises above the summer setting. In winter, the duct radiator will turn on, when the outdoor temperature falls below the winter setting.

To prevent the risk of condensation in the supply air duct, you can set the adjustment of the supply air limit to automatic or manual.

- **Automatic** - The supply air limit is adjusted automatically based on the dew point of the extract air. When the supply air temperature falls too low, the duct radiator will turn off.
- **Manual** - The supply air limit can be set manually. When the supply air temperature falls down to the set value, the duct radiator will turn off.

If an external sensor is in use, it is selected from the settings of the external sensor whether it is used to control the outdoor air duct radiator or the supply air duct radiator. The temperature of the external sensor can be read from the service menu: **menu** > **service menu** > unit information page 5 "External sensor".



NOTE: If the duct radiator is used in the supply air duct, it can only be used for cooling.



NOTE: When used to control the outdoor air duct radiator, the external NTC sensor is installed in the outdoor air duct before the radiator. When used to control the supply air duct radiator, the external NTC sensor is installed after the radiator.



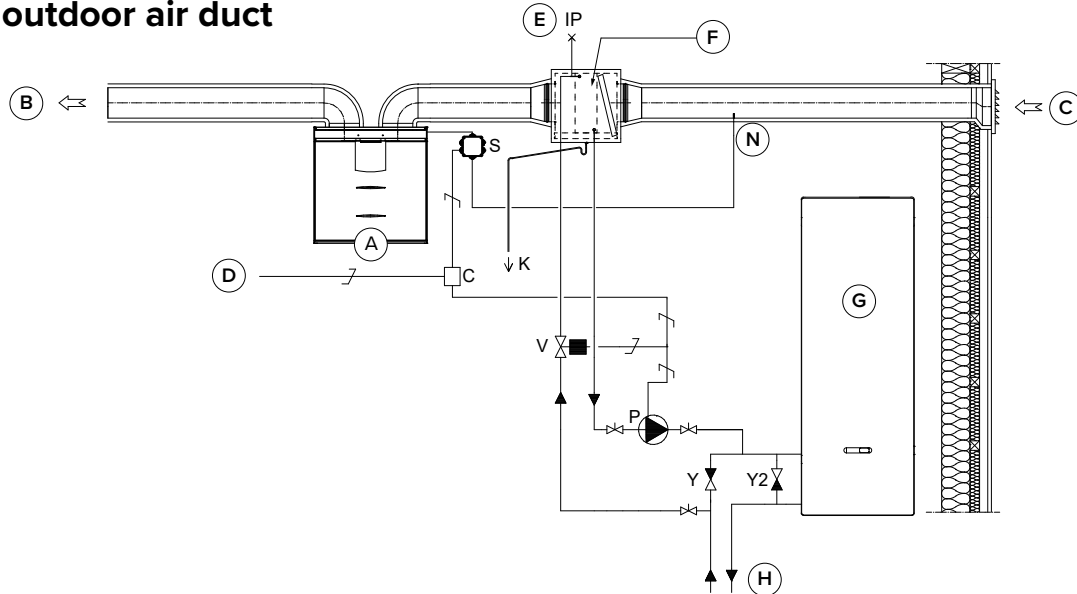
NOTE: When selecting the relay (C), take account of the maximum allowed combined power supply (6W) of the circuit board in the external MV electrical box, if the relay power supply comes from the circuit board's +24V connector.



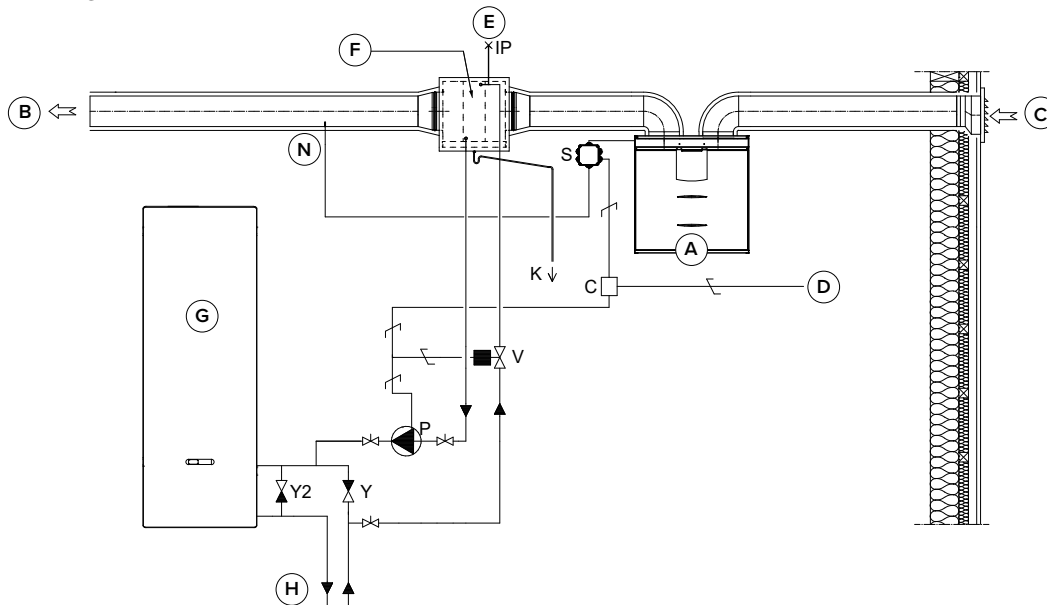
NOTE: Due to the risk of humidity damage, in a duct that has not been insulated for condensation the supply air temperature must not fall below +16 ... 20 °C.

DUCT RADIATOR OPERATION CHART

In the outdoor air duct



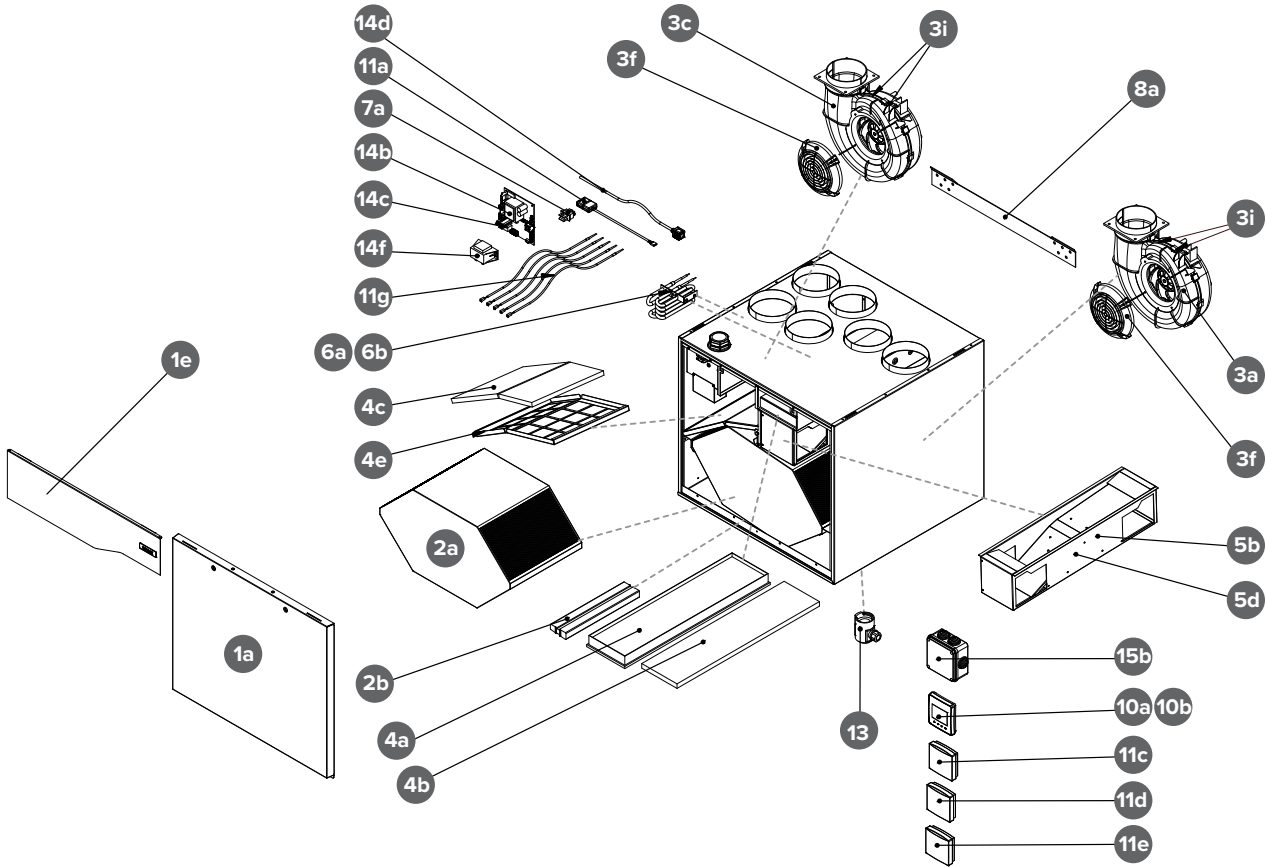
In the supply air duct



| | |
|---|------------------------------------|
| A | Ventilation unit |
| B | Supply air |
| C | Outdoor air |
| D | Feed from the distribution board |
| E | Air extraction |
| F | Duct radiator (reverse connection) |
| G | Heat pump |
| H | Heat collection circuit |
| N | External NTC sensor |

| | |
|----|--|
| P | Circulation pump. Not included in the delivery. The pump should be suited to pumping liquid colder than the surrounding air, due to risk of condensation (for example, Grundfos Magna 125-80). |
| V | Solenoid valve. Not included in the delivery. The valve that is chosen must be compatible with the heat collection circuit fluid (for example, Danfoss 032U161431, HVAC code 4122110) |
| K | Condensing water tube. Not included in the delivery. |
| IP | De-aerator. Not included in the delivery. |
| S | External electrical junction box for the MV |
| N | External NTC sensor for Vallox MV ventilation units |
| C | 24 VDC relay/contactors for controlling the pump and the solenoid valve. Not included in the delivery. (For example, ABB CR-P024DC2) |
| Y | One-way valve. Not included in the delivery. |
| Y2 | One-way valve. Not included in the delivery. The pressure loss must be less than the pressure loss of the heat pump. |

EXPLODED VIEW AND SPARE PARTS LIST



| NO. | PART | PRODUCT NO. | NO. | PART | PRODUCT NO. | NO. | PART | PRODUCT NO. |
|-----|-------------------------------|-------------|-----|---|--------------------|-----|---|-------------|
| 1a | Door | 4118898 | 4e | Extract air filter frame | 4116488 | 11c | MyVallox carbon dioxide sensor (optional) | 949111 |
| 1e | Door cover panel | 4120090 | 5b | Bypass damper motor | 930660 | 11d | MyVallox humidity sensor (optional) | 946149 |
| 2a | HR cell | 933230 | 5d | HR cell bypass damper assembly | 4119599 | 11e | MyVallox VOC sensor (optional) | 949112 |
| 2b | Lower support for HR cell | 4114303 | 6a | Post-heating resistor (R-handed) (L-handed) | 4122071 4122072 | 11g | NTC sensor kit | 4121590 |
| 3a | Extract air fan | 4120259 | 6b | Additional heating resistor (R-handed) (L-handed) | 4122071 4122072 | 13a | Siphon Vallox Silent Klick | 3494701 |
| 3c | Supply air fan | | 7a | Safety switch | 948377 | 14b | Motherboard | 949032-1 |
| 3f | Air flow control grille | 4114497 | 8a | Wall mounting plate | 3080750 | 14c | Glass tube fuse 63mA slow 5x20mm | 952490 |
| 3i | Plastic nut M5x16x12 | 950308 | 10a | MyVallox Control panel | 949033 | 14d | RJ45 extension cable | 952196 |
| 4a | Fine filter for supply air | | 10b | MyVallox Touch control panel | 949090 | 14f | Choke/inductor | 940230 |
| 4b | Coarse filter for supply air | | 11a | Internal humidity and carbon dioxide sensor | 4107982 | 15b | Connection box | 3526700 |
| 4c | Coarse filter for extract air | | | | | | | |

DECLARATION OF CONFORMITY

Manufacturer Vallox Oy

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Telephone number +358 10 7732 200

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Description of unit Ventilation unit with heat recovery

Model Vallox 121 SE,
Vallox 51/51K SC/MV,
Vallox 99/101/125/096/110/145/245/245 VKL MV,
Vallox TSK Multi 50/80 MV,
ValloPlus 180/180K/270/350/370/510/850 MV,
ValloPlus 180/270/350/510 SC,
ValloMulti 200/300 SC/MV

Declares that the ventilation unit for supply and extract air, equipped with heat recovery and operating as part of a ventilation system has been designed and manufactured to the following specifications:

1. Low Voltage Directive (2014/35/EU) – EN 60335-1:2012 + A11:2014, A13:2017 + A1:2919 + A14:2019 + A2:2019; EN 62233:2008
2. EMC Directive (2014/30/EU) – EN 61000-6-1:2007, EN 61000-3-2:2014 + A1:2009 + A2:2009, EN 61000-3-3:2013, EN 61000-6-3:2007 + A1:2011
3. Ecodesign Directive (2009/125/EY) – Commission regulation 1253/2014 – EN 13141-7 Annex B, EN 308, EN 13141-7, ISO 3741, ISO 5135

This is the original Declaration of Conformity

Loimaa, 7th August 2023



Jukka-Pekka Korja
Managing Director

VALLOX

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