

# VALLOX

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Vallox 51 MV  
Vallox 51K MV

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**MyVALLOX** 51 MV      **MyVALLOX** 51K MV

Manual

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Ventilation units

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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](http://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 only be carried out 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.

## 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](http://www.vallox.com)

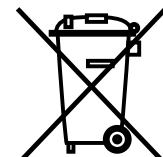


### WARNING

The unit is not intended for use by children under 8 years of age 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 51 MV and 51K MV can only be mounted on the wall.

There are two unit models, left- (L) and right-handed (R). In the right-handed version, outdoor air comes into the unit from the right. In the left-handed version, outdoor air comes into the unit from the left. The location of the filters, bypass damper, and heating radiator is also mirrored in the left-handed model.

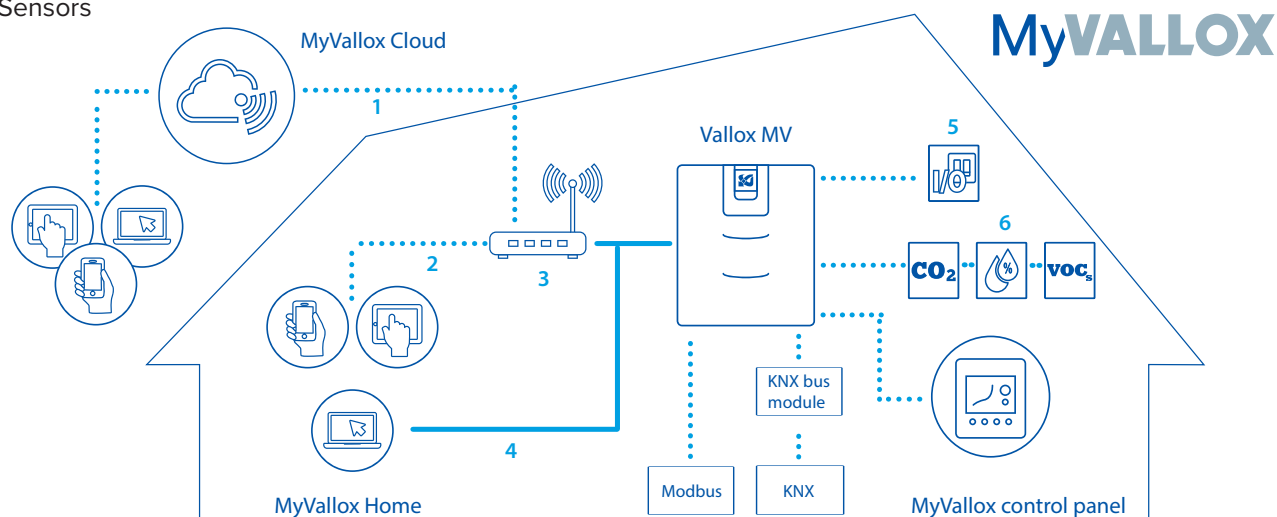


### NOTE

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.

### Changing the ventilation mode

#### Vallox 51 MV

The Vallox 51 MV ventilation unit is controlled by using the MyVallox control panel. Press the left button of the control panel (see the Figure) repeatedly until the desired status is shown as the middle option on the display.



#### At home

Use this mode when the dwelling is occupied.



#### Away

Use this mode when the dwelling is unoccupied, e.g. during a trip or other long absence.



#### Boost

Use this mode to increase the ventilation rate, e.g. when there are more people than usual in the dwelling or elsewhere on the premises.



#### Custom

Use this mode when, for example, you are making a fire in the fireplace. The mode is primarily used to create momentary overpressure in the dwelling.



MyVallox control panel



#### 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.

## Vallox 51K MV

The Vallox 51K MV ventilation unit is controlled by using the Vallox Captura cooker hood that is connected to the unit. The cooker hood is designed to be used above the cooker top, as a general extraction valve in the kitchen, and as a ventilation system control panel.

### Front panel buttons

The front panel of the cooker hood has four buttons and four signal lights.



#### Position of the damper

The damper is opened by pressing the damper button (light turns on). The damper is closed (light turns off) by pressing the damper button or automatically after one hour (without a timer or 45-120 min when programmed).

**In normal circumstances, the damper must be closed** (the signal light is off), which boosts the extract air flow from other premises.

**The damper must be open** (the signal light is turned on) **when the user wants to increase the extract air flow from the cooker hood** e.g.

- when the cooker top or the oven is used for cooking;
- the load in the kitchen is exceptional due to the use of strong detergents, presence of a large number of people, or similar.

#### Cooker hood light

Turn the light on or off by pressing the light switch. The light is dimmable. Adjust the brightness by pressing the light switch until the brightness is adequate.

#### Ventilation modes

Select the mode by pressing the fan speed button repeatedly until the signal light indicates the desired ventilation mode:

#### 1 Away mode

Use this mode when the dwelling is unoccupied, e.g. during a trip or other long absence.

#### 2 At home mode

Use this mode when the dwelling is occupied.

#### 3 Boost mode

Use this mode to enhance ventilation, e.g. when there are more people than usual in the apartment.

#### Selection button

The selection button is roughly 3 cm to the left from the damper button. The selection button is not marked on the front panel.



#### CAUTION

- Neglecting the cleaning of the grease filter can cause a fire hazard.
- The outer surfaces of the hood can become hot when the cooker or the oven is turned on.
- Flaming is forbidden underneath the cooker hood.
- Always follow the instructions provided on adjusting the efficiency of ventilation.
- Enable a sufficient supply air flow into the room if the cooker hood and non-electric devices are used simultaneously.



#### NOTE

The unit reminds the user of the need to change the filters with the red signal light of the Vallox Captura cooker hood.

To set off the filter reminder, close the damper and then open-close-open-close. Press at a less than one second interval.

## 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](http://www.myvallox.com).

**NOTE**

For the MyVallox Cloud/Home instructions, please go to [vallox.techmanuals.info/ValloxMV/ENG/help/webhelp](http://vallox.techmanuals.info/ValloxMV/ENG/help/webhelp)

## Brightness of the light

To adjust the brightness of the light:

1. Turn on the light, close the damper, and set the ventilation to the Away mode.
2. Press the selection button for roughly 10 seconds until the setting mode signal light starts to flash.
3. Adjust the brightness of the light by pressing the light button until the brightness is adequate.
4. To save the setting, press the selection button for roughly 3 seconds until the setting mode signal light stops to flash.

To read about the other functions of the selection button, go to our website, [www.vallox.com](http://www.vallox.com).

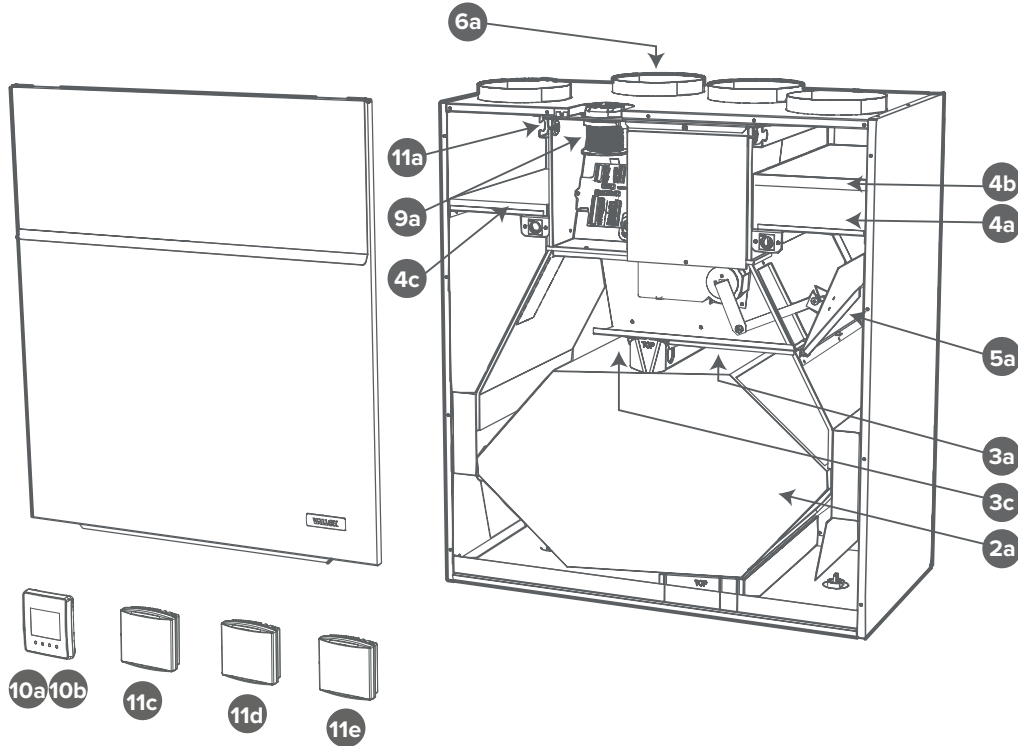
## Guard function

The cooker hood has a guard function that is activated when the temperature of the cooker hood exceeds +60 °C or after a sudden increase in temperature (> 8 °C/min). In such a case, all signal lights and the LED light of the cooker hood will flash, the controlled fan or ventilation unit turns off, and the damper closes. If this kind of alarm is noticed before fire damage, it can be acknowledged by pressing any of the cooker hood buttons.


















**MAIN PARTS**

**Vallox 51 MV**

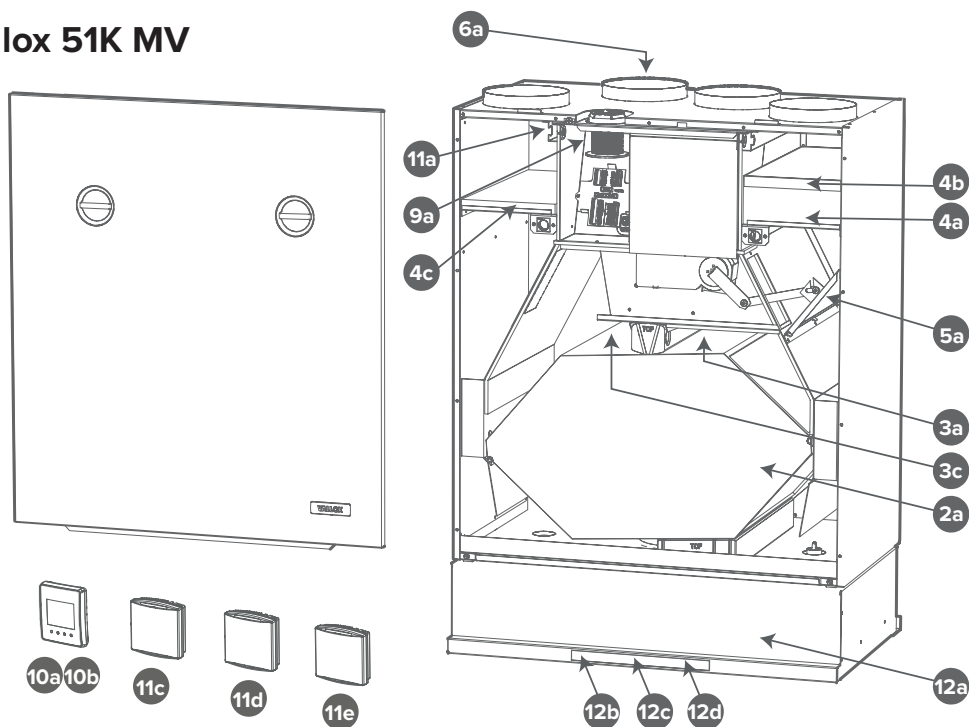


R model in the figure. In the L model, the parts are mirrored.

- |   |                               |    |   |                                    |            |
|---|-------------------------------|----|---|------------------------------------|------------|
|  | Heat recovery cell            | 2a |  | Post-heating resistor              | 6a         |
|  | Extract air fan               | 3a |  | Ceiling bushing for electric wires | 9a         |
|  | Supply air fan                | 3c |  | Control panel                      | 10a<br>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        |
|   |                               |    |  | VOC sensor (Optional)              | 11e        |

**MAIN PARTS**

**Vallox 51K MV**



R model in the figure. In the L model, the parts are mirrored.

- |   |                                    |     |
|---|------------------------------------|-----|
|  | Control panel                      | 10a |
|  |                                    | 10b |
|  | Heat recovery cell                 | 2a  |
|  | Internal humidity sensor           | 11a |
|  | Extract air fan                    | 3a  |
|  | Internal carbon dioxide sensor     | 11a |
|  | Supply air fan                     | 3c  |
|  | Carbon dioxide sensor (optional)   | 11c |
|  | Fine filter for supply air         | 4a  |
|  | Humidity sensor (optional)         | 11d |
|  | Coarse filter for supply air       | 4b  |
|  | VOC sensor (Optional)              | 11e |
|  | Coarse filter for extract air      | 4c  |
|  | Cooker hood                        | 12a |
|  | Bypass damper of the HR cell       | 5a  |
|  | Damper button                      | 12b |
|  | Post-heating resistor              | 6a  |
|  | Fan speed adjustment               | 12c |
|  | Ceiling bushing for electric wires | 9a  |
|  | Light switch                       | 12d |

## MOUNTING ON THE WALL

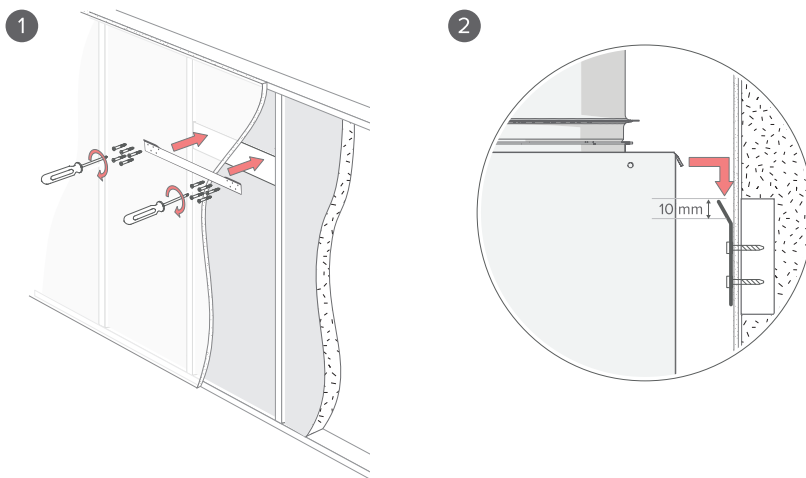


### NOTE

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



Vallox 51K MV must be mounted so that the clearance between the bottom of the cooker hood and the cooker top is at least 426 mm in case of an electric stove and 650 mm in case a gas stove. The clearance is 134 mm (i.e. the height of the cooker hood) more between the bottom of the ventilation unit and the cooker top.

## MOUNTING ON THE CEILING

Vallox 51 MV can be equipped with an optional ceiling mounting plate. To attach the ceiling mounting plate:

- On rafter frames or other frame structure with M8 thread bars so that they withstand the weight of the unit.
- Ensure that the installation plate is horizontally level, as this determines the position of the unit.
- The top edge of the white covering strip of the ceiling mounting plate can be installed against the ceiling. Alternatively, a concealed mounting method can be used, in which case the ceiling can be 30 mm below the top of the white covering strip.

Insulate the ducts against condensation also between the unit and the ceiling mounting plate.

### Mounting the ceiling mounting plate

1. Fasten the thread bars on the rafter frames or other frame structure, and screw the nuts onto the bars.
2. Lift the ceiling mounting plate in place.



### NOTE

A space of at least 330 mm must be reserved in front of the unit for maintenance purposes.



### NOTE

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

3. Push a rubber damper and a washer to each thread bar to the cup of the plate.
4. Turn the nuts to make sure that the unit is horizontally level.
5. Shorten the lower ends of the thread bars so that they will be at no more than 10 mm from the lower surface of the ceiling mounting plate.



**CAUTION**

The ventilation unit is very heavy. Do not perform this procedure alone.

## Installing the ventilation unit to the ceiling mounting plate

1. Install the ceiling mounting plate with M8 thread bars so that it is horizontally level.



**NOTE**

The end of the thread bars must be 5 mm or less below the fastening nut. Do not fasten the ceiling mounting plate too tight to the ceiling. Ensure that the sliding bars move and restore to their original position by pulling from the operating levers (A).

The top edge of the white covering strip of the ceiling mounting plate can be installed against the ceiling. Alternatively, a concealed mounting method can be used, in which case the ceiling can be 30 mm below the top of the white covering strip.

2. Ensure that the insulation washers are in place in the outlet collars below the ceiling mounting plate.
3. The door of the unit must be removed when the Vallox 51 ventilation unit is installed onto the wall mounting plate.
4. Lift the ventilation unit close to the ceiling mounting plate and feed the cables through the hole in the ceiling mounting plate on top of the ceiling. Alternatively, the cables can be fed between the ceiling mounting plate and the ventilation unit to the rear wall, to the area shown in the adjacent figure.

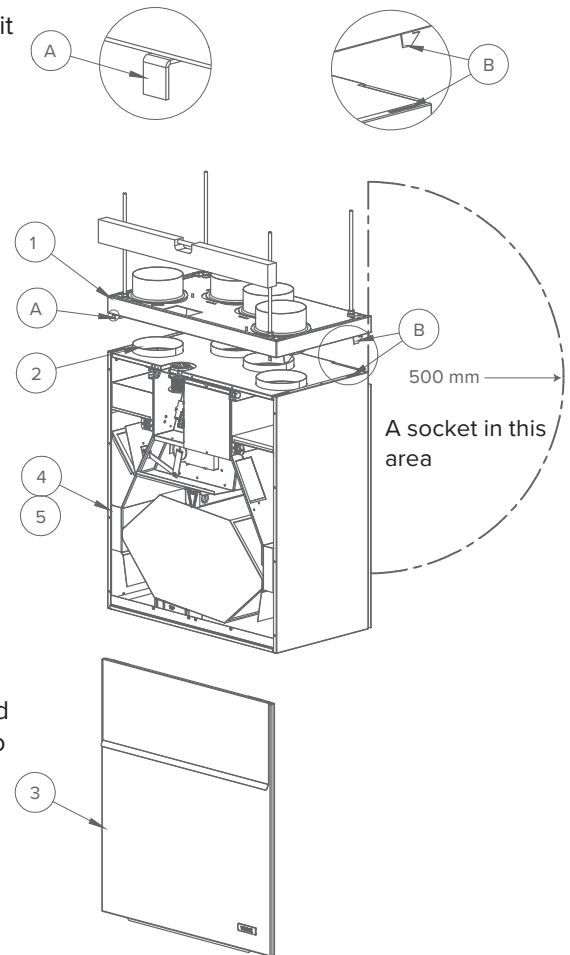


**NOTE**

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.

When the ventilation unit is lifted against the ceiling mounting plate, the unit locks in place. (Where needed, guide the mounting hooks on the ceiling mounting plate (B) to the grooves on the side panels of the ventilation unit).

There are operating levers (A) on the front bottom corners of the ceiling mounting plate. When the levers have been restored to the same level with the white covering strip of the ceiling mounting plate, the unit has been locked in place.



- Where required, the unit can be detached from the ceiling mounting plate. Remove the door of the unit. Lift the unit slightly upwards and pull simultaneously from both operating levers (A) of the ceiling mounting plate to detach the unit from the ceiling mounting plate.

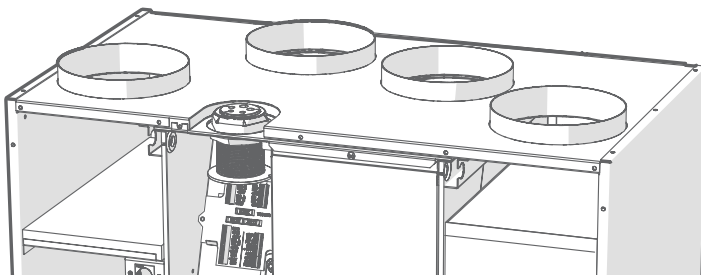
### Attic floor penetration plate

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

The minimum distance of the attic floor penetration plate from the rear wall is 5 mm. The minimum distance of the attic floor penetration plate from the side walls is 15 mm.

## EXTERNAL ELECTRICAL CONNECTIONS

External electrical connections are led to the ventilation unit through the ceiling bushing for electric wires. The length of the wires must enable pulling the fan chamber assembly out of the unit without having to disconnect any of the connections.



## REMOVAL OF CONDENSING WATER

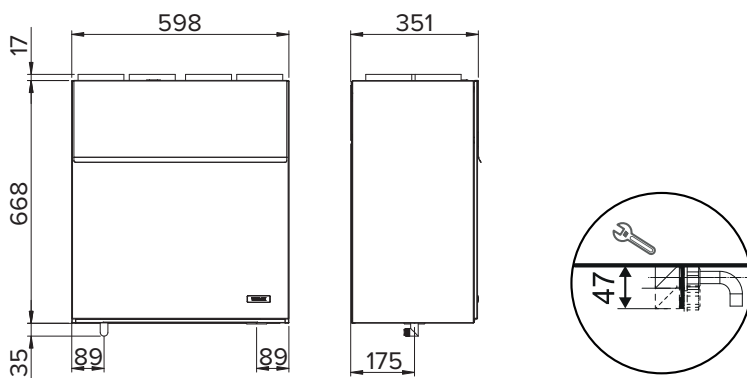
### Vallox 51 MV

The Vallox Silent Klick siphon is installed in the bottom pool of Vallox 51 MV. The condensing water tube is led from the siphon e.g. to the siphon of the sink or to the floor drain. Alternatively, an elbow can be installed in the bottom pool, in which case the Vallox Silent Klick siphon is installed in the condensing water tube to enable maintenance measures.



**NOTE**

The Vallox Silent Klick siphon package is delivered with Vallox 51 MV and 51K MV. Installation instructions for the siphon are enclosed with the packaging, and can also be found online at [www.vallox.com](http://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.

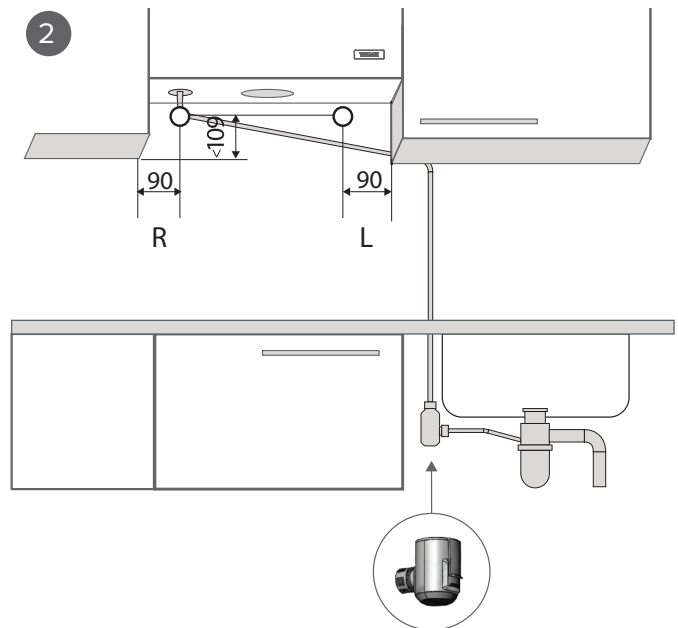
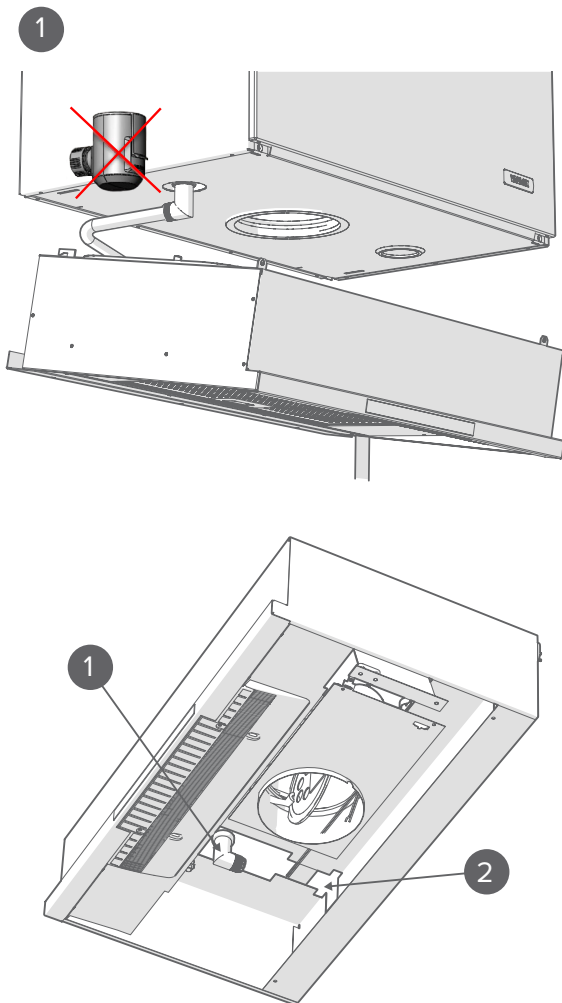




## Vallox 51K MV

In Vallox 51K MV, an elbow is mounted on the bottom pool between the unit and the cooker hood. A condensing water tube is led from the elbow e.g. into the siphon of the sink or to the floor drain. The siphon must not be installed inside the cooker hood. Instead, it must be installed in the condensing water tube so as to enable maintenance measures. There are approx. 2 mm wide holes at the rear of the bottom of the Vallox 51K MV ventilation unit marking the position where the condensing water tube must be installed.

1. Install the elbow at the bottom of the ventilation unit without the siphon (Figure 1). Install the siphon in the condensing water tube before the drain or odour trap (Figure 2). The Vallox Silent Klick siphon helps prevent noise disturbance caused by the removal of condensing water.
2. The condensing water tube must be installed either directly backwards from the cooker hood through the wall, if there is a sewer connection behind the wall (see figure 2 for the dimensions of the tube location), or to the odour trap of the sink (Figure 2).
3. The condensing water tube must be placed at an angle so that it always points downwards.



Observe in the figure:

1. Elbow.
2. Exit hole for the condensing water outlet.

## INSTALLATION OF THE VALLOX CAPTURA COOKER HOOD

The Vallox Captura cooker hood is installed on the bottom of Vallox 51K MV.

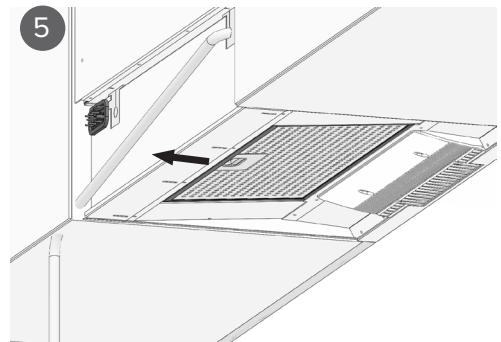
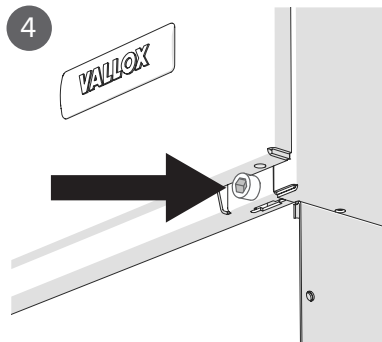
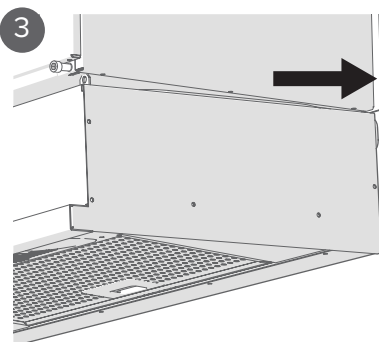
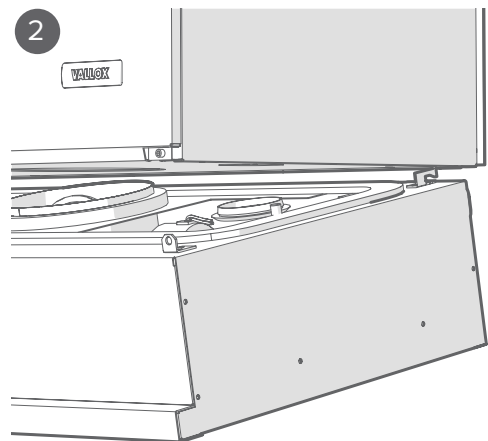
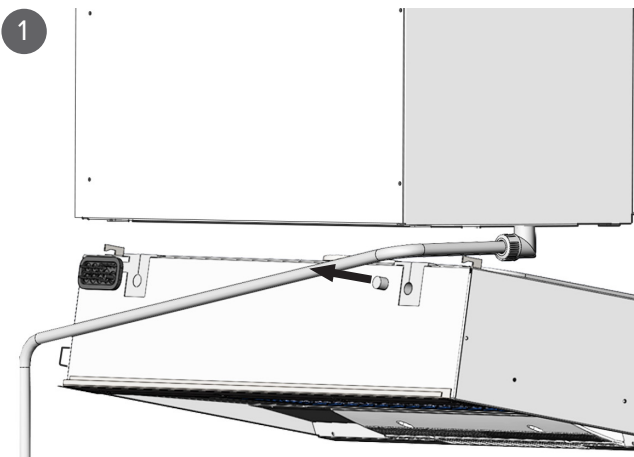
1. Remove the plug from the feedthrough seal of the condensing water tube of the cooker hood (Figure 1).
2. Lift the cooker hood and fit the hooks at the rear of the cooker hood into the holes at the bottom of the ventilation unit. Push in place (Figure 2).
3. Ensure that the feedthrough seal of the condensing water tube sits firmly around the tube.
4. Lift the front of the cooker hood to fit the mountings into the penetrations in the bottom of the ventilation unit (Figure 3).
5. Fasten the M5 hexagon screws (2) through the mountings (Figure 4).

Lead the power cord and the control cable up along the cable channel (Figure 3). Wind approx. half a metre of the cables behind the cooker hood so that it can be removed for maintenance purposes where required. Move the metal cover backwards so that it covers the opening between the cooker hood and the wall (Figure 5).



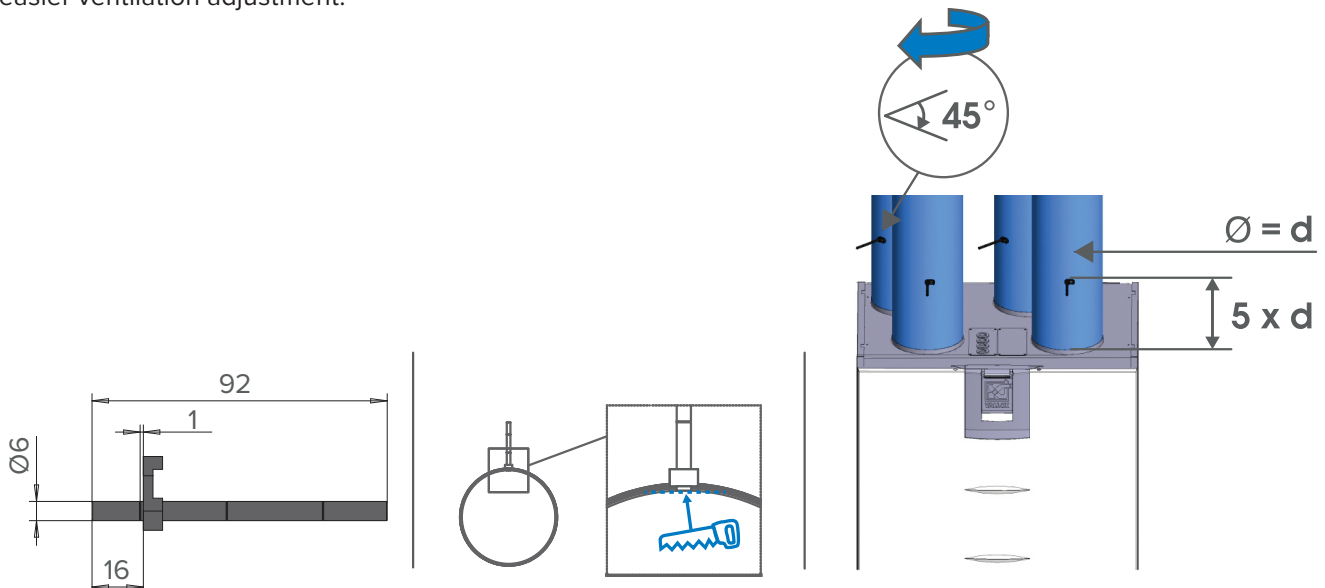
### CAUTION

The minimum clearance between the bottom edge of the cooker hood and an electric stove is 426 mm.



## 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.

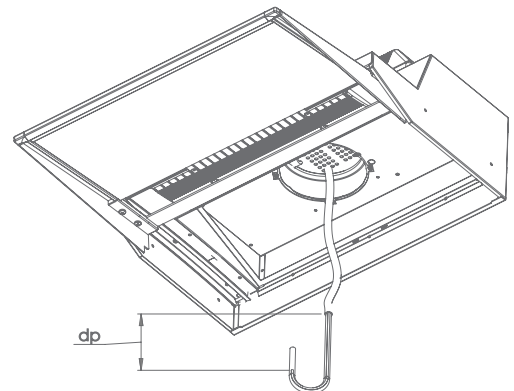


## MEASURING AND ADJUSTING THE AIR FLOWS OF THE COOKER HOOD

### Standard ventilation

The volume flow rate of the air inside the cooker hood is measured with the damper closed and, where required, adjusted based on the static pressure loss and the performance scheme of the cooker hood.

- Measure the static pressure loss of the cooker hood by pushing the probe through the hole in the damper (see the figure).
- Determine the volume flow rate from the performance scheme based on the measured pressure and the number of open holes in the damper.



### Adjustment:

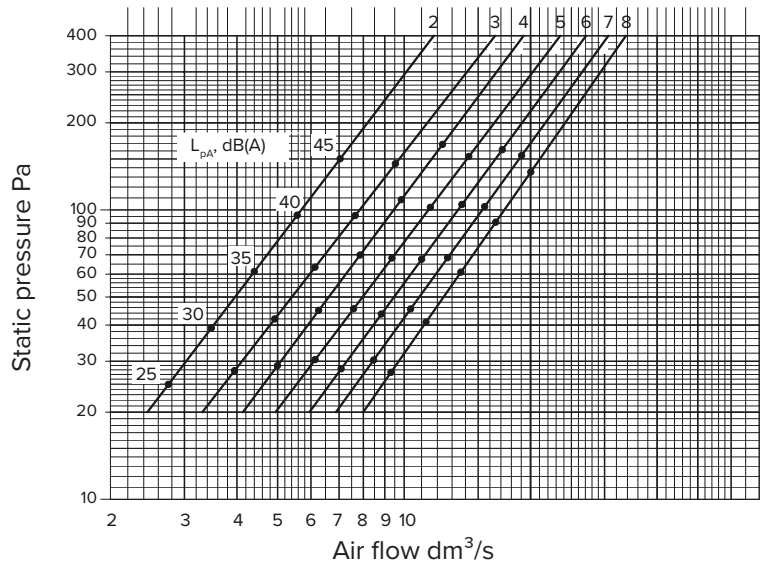
- Cover the required number of holes in the damper with the magnetic strip that is delivered with the cooker hood.

**STANDARD VENTILATION OF THE COOKER HOOD**

Damper in the closed position

Adjustment position	Holes of the damper open
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Standard ventilation (settings 2-8)

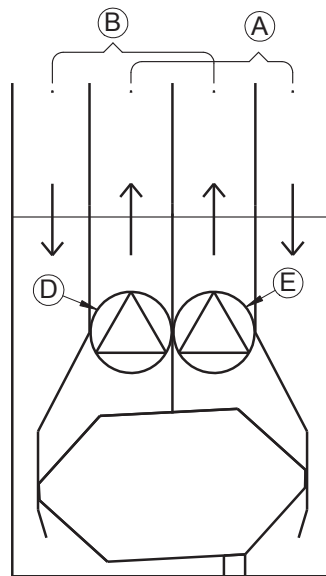


**Air flow measurement points**

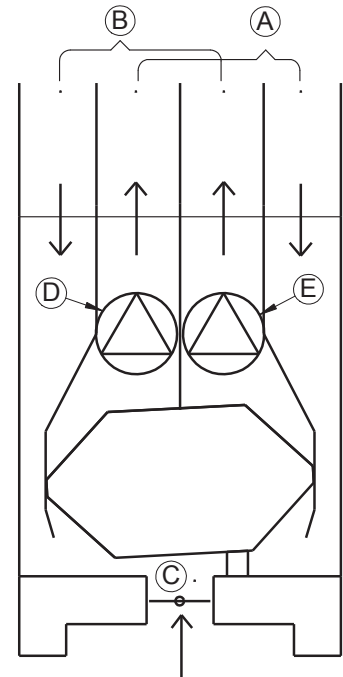
Air flow measuring tubes are placed in the ventilation ducts in accordance with the instructions. The standard air flow from the cooker hood is measured past the damper. The fan curves indicate the total pressure accounted for by duct losses.

- A Supply air
- B Extract air
- C Cooker hood extract air
- D Supply air fan
- E Extract air fan

R model in the figures. In the L model, the order of the ducts is mirrored.



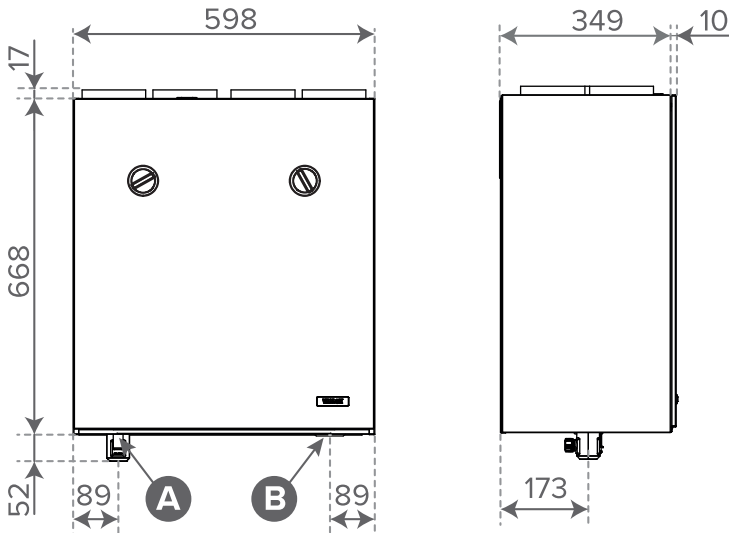
Vallox 51 MV



Vallox 51K MV

## DIMENSIONS AND DUCT OUTLETS

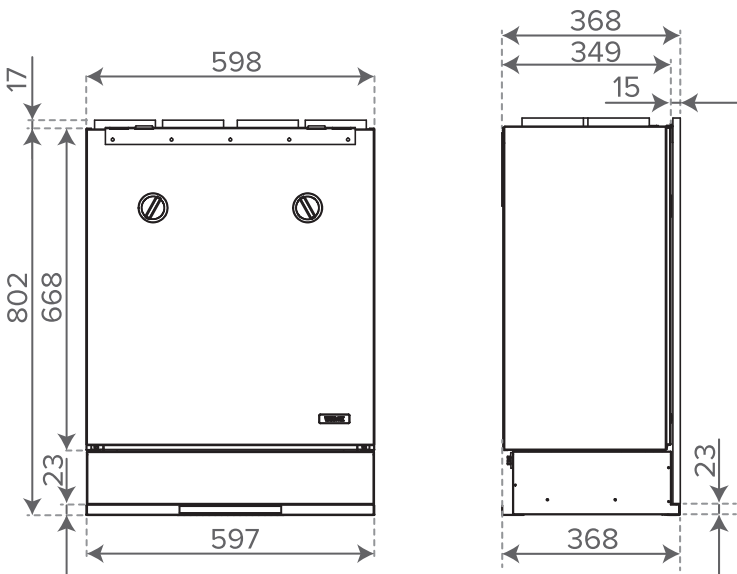
### Vallox 51 MV



There are two condensing water discharge outlets at the bottom. The condensing water outlet or siphon is connected to a free, not plugged, discharge outlet.

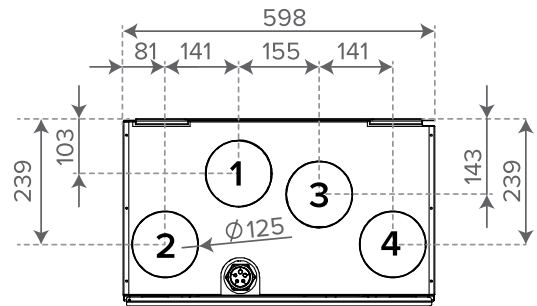
- A. The condensing water outlet /siphon is connected here in case of a right-handed unit
- B. The condensing water outlet /siphon is connected here in case of a left-handed unit

### Vallox 51K MV

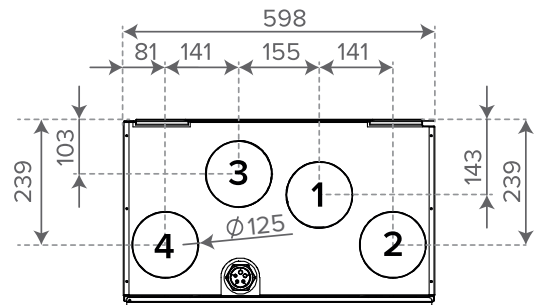


### Dimensions

#### R model



#### L model



### Duct outlets

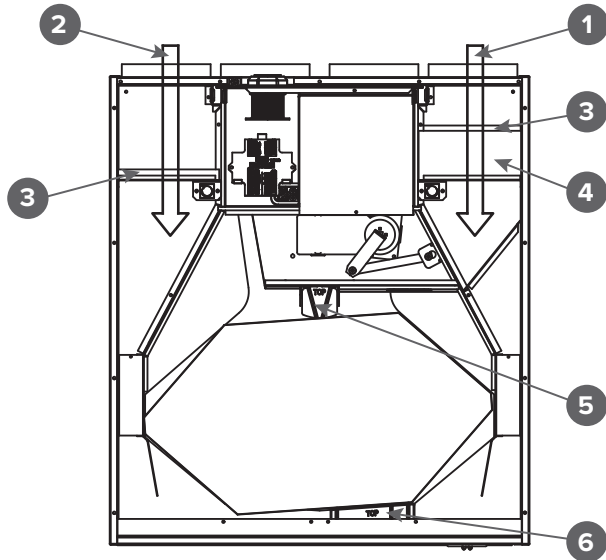
Inner diameter of the female collar: 125mm

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

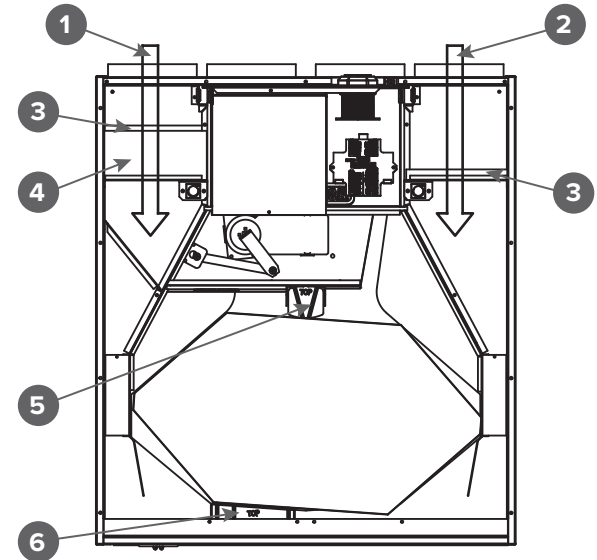
Locations of supports for HR cell

Vallox 51 MV

R model

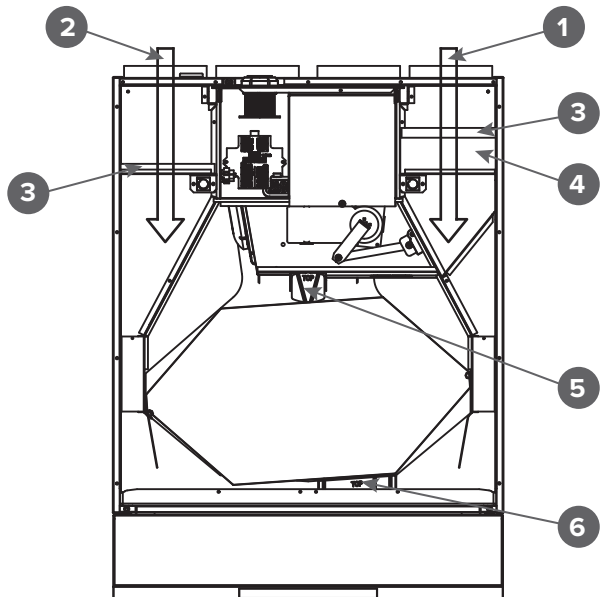


L model

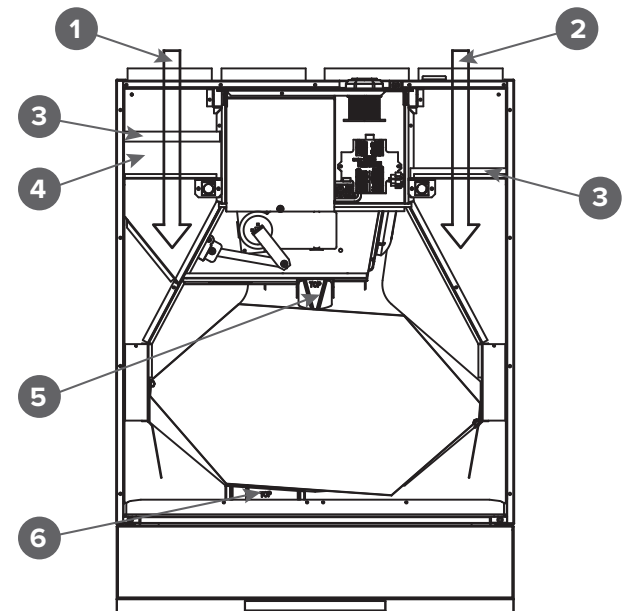


Vallox 51K MV

R model



L model



- 1. Supply air
- 2. Extract air
- 3. Coarse filter
- 4. Fine filter
- 5. Upper support of the cell
- 6. Lower support of the cell

## BEFORE BEGINNING MAINTENANCE WORK

**WARNING**  
Always disconnect the power plug before starting maintenance on the ventilation unit. The unit has no safety switch that would switch the power off when the door of the unit is opened.



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

## REPLACING THE FILTERS

The Vallox ventilation unit has three 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. Open the door of the unit.

**CAUTION**  
The door is heavy.

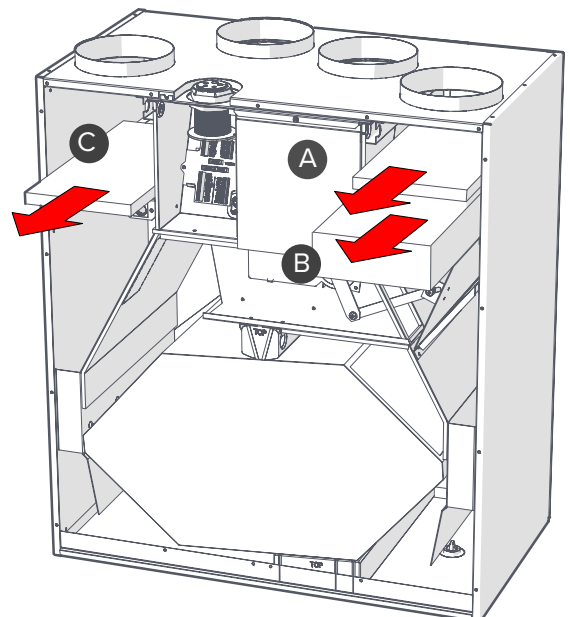
3. Remove the old filters (A, B, C) and discard them.
4. Install the new filters (A, B, C).
5. Close the door of the unit.
6. Plug the ventilation unit back into the mains.
7. The filters have now been successfully replaced.



**NOTE**  
The service space in front of the ventilation unit must be at least 330 mm.



**TIP**  
Using original Vallox filters ensures that the ventilation unit remains in top condition, giving the best results. To select and order filter packages, please go to: [filters.vallox.com](http://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.

Cleaning the heat recovery cell:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Open the door of the ventilation unit by undoing the finger screws and by lifting the door off.



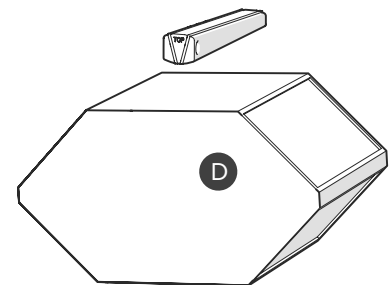
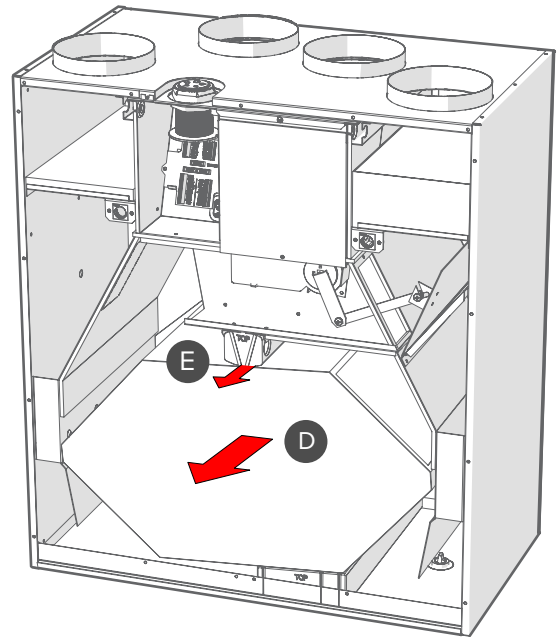
**CAUTION**  
The door is heavy.

3. Pull out the black upper support of the cell (E) located above the cell.
4. Lift and pull the cell (D) out of the unit.



**IMPORTANT**  
Handle the cell carefully! Do not lift the cell by the layers. The cell layers are very thin and easily damaged.

5. 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.
6. Rinse the cell clean with a water spray. Do not use a high-pressure cleaner.
7. When all the water has drained from between the layers, reassemble the ventilation unit in the reverse order.
8. Close the door.
9. Plug the ventilation unit back into the mains. The heat recovery cell has now been 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.



**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.

### Removing and cleaning the fans

To clean the fans:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Undo the door screws to open the door of the Vallox ventilation unit.
3. Lift the door off.



#### CAUTION

The door is heavy.

4. If the length of the cables that are led out of the unit through the ceiling bushing (G) and connected to the connection card (F) in the electric box prevents moving the fan chamber sufficiently far from the ventilation unit, disconnect the cables. Pull these cables out of the unit through the ceiling bushing.
5. Detach outdoor and extract air temperature sensors from the ceiling mounts. Remove the round feedthrough rubbers (H) from the slots on the intermediate walls of the unit by pulling.
6. Undo the earthing screw (K) on the upper left corner of the electric box.
7. Release the damper motor (J) by placing an orange magnet (I) on the magnet icon on the damper motor. Observe the location of the magnet so that you will be able to return it to its original location after maintenance. Remove the bar from the joint of the damper. Turn the crank of the damper motor so that the bar comes off from the bypass damper and turn the damper into the cell bypass position.
8. Pull out the upper support of the cell (E). Lift and pull the cell (D) out of the unit.
9. Pull the fan chamber (M) out of the unit (contains the fans, electric box, and the bypass duct incl. the damper motor).
10. The fans are mounted on the fan chamber by means of three screws (L). Do not undo the earthing screw at the bottom edge on the rear wall side.
11. Disconnect the quick connectors of the fan cable.
12. Clean the fans. The fan can be cleaned with compressed air (wear protective goggles) or by brushing it gently.
13. To reassemble the ventilation unit, follow the above steps in reverse order.

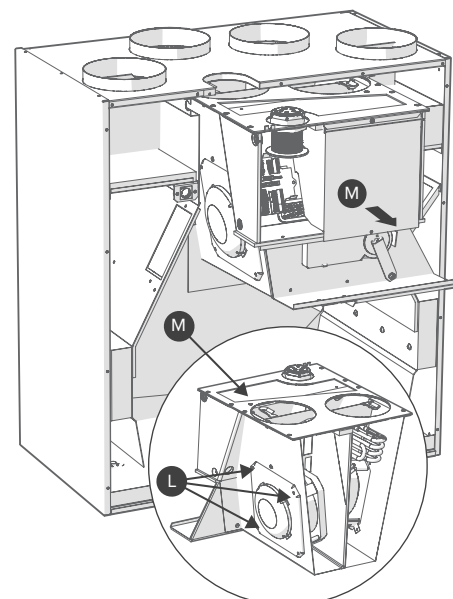
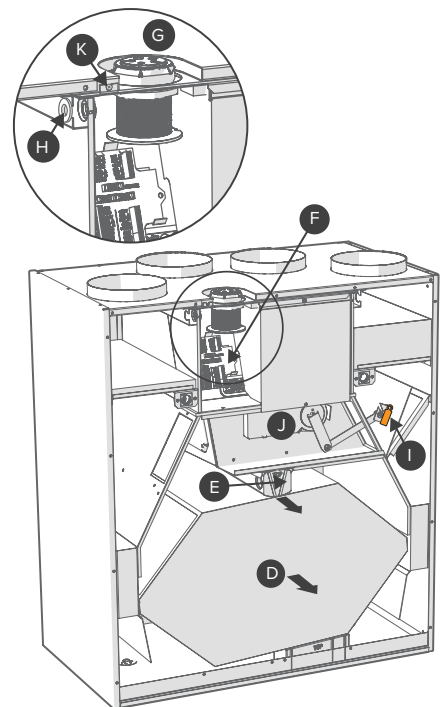
**NOTE! Remember to reconnect the bar of the damper motor into the joint of the damper and to lock the connection with the orange magnet. Ensure that the sensors and their feedthrough rubbers are in correct locations. Also ensure that all the connections have been correctly implemented and the earthing screw is in place in the left corner.**



#### IMPORTANT

The fans are extremely sensitive to external shocks. It is recommended that the fans be cleaned in place, i.e. without attempting to remove them. Handle the fan blades carefully.

It is recommended that the fans be cleaned by a professional.



## CLEANING THE GREASE FILTER OF THE COOKER HOOD

Keep the cooker hood clean. Wipe outer surfaces regularly with water containing a small amount of a mild detergent. Clean off any grease stains immediately. Do not use abrasive or corrosive detergents or tools.

Keep the grease filter clean to ensure an adequate extract air flow. The grease filter must be washed with warm water and detergent or in a dishwasher at least 1-2 times a month.

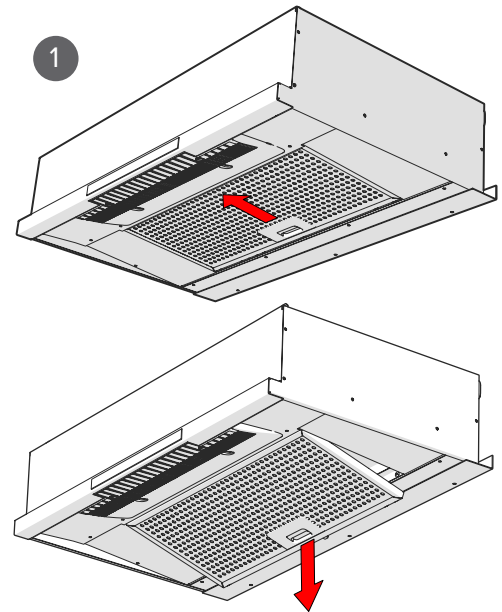
### Removing and mounting the grease filter

1. Pull the locking device of the grease filter towards the front edge of the cooker hood while pulling the grease filter downwards until it comes off.
2. Clean the grease filter either by washing it with hot water and hand-washing detergent or in a dishwasher.
3. Mount the grease filter back in place. Push the front edge of the filter onto the shelf of the cooker hood and lift the rear edge in place with the locking device pressed down.

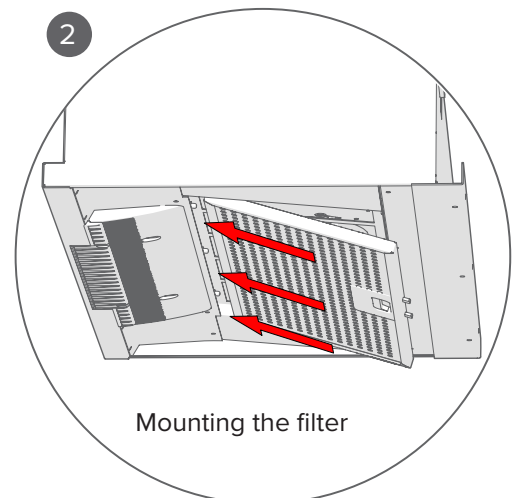
**NOTE!** Ensure that the locking device points downwards.



**WARNING**  
Neglecting the cleaning of the grease filter can cause a fire hazard.



Removing the filter



Mounting the filter

### Light

The cooker hood has a long-lasting LED lighting module. If the light is not working, contact a servicing company.

**Vallox 51 MV**

TECHNICAL SPECIFICATIONS			
<b>Product title</b>	Vallox 51 MV R Vallox 51 MV L		
<b>Air volumes</b> Supply air Extract air	46 dm <sup>3</sup> /s, 100 Pa 51 dm <sup>3</sup> /s, 100 Pa	<b>Fans</b> Supply air Extract air	0.035 kW 0.35 A EC 0.035 kW 0.35 A EC
<b>Post-heating</b>	Electrical resistor, 900 W	<b>Electrical connection</b>	230 V, 50 Hz, 4.24 A power plug
<b>Pre-heating</b>	–	<b>Enclosure protection class</b>	IP34
<b>Additional heating</b>	–	<b>Heat recovery bypass</b>	Automatic
<b>Filters</b> Supply air Extract air	ISO Coarse > 75% + ISO ePM <sub>1</sub> ≥ 50% ISO Coarse > 75%		
<b>Specific energy consumption (SEC)</b> in a cold climate in a temperate climate	A+ A	<b>Operating efficiencies*</b> Annual efficiency Supply air efficiency Specific Fan Power (SFP)	77% 84% 1.04 kW/m <sup>3</sup> /s (32 dm <sup>3</sup> /s)
<b>Dimensions (w x h x d)</b>	598x668x349 mm	<b>Weight</b>	45 kg

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

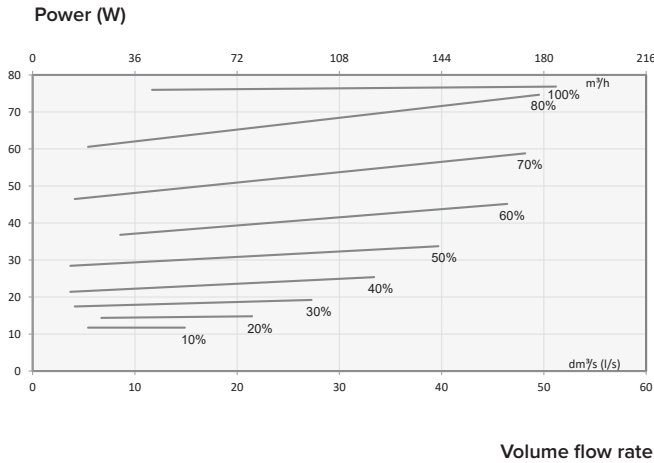
**Vallox 51K MV**

TECHNICAL SPECIFICATIONS			
<b>Product title</b>	Vallox 51K MV R Vallox 51K MV L Vallox Captura white hood Vallox Captura stainless steel hood		
<b>Air volumes</b> Supply air Extract air	46 dm <sup>3</sup> /s, 100 Pa 51 dm <sup>3</sup> /s, 100 Pa	<b>Fans</b> Supply air Extract air	0.035 kW 0.35 A EC 0.035 kW 0.35 A EC
<b>Post-heating</b>	Electrical resistor, 900 W	<b>Electrical connection</b>	230 V, 50 Hz, 4.24 A 2 x power plug
<b>Pre-heating</b>	–	<b>Enclosure protection class</b>	IP34
<b>Additional heating</b>	–	<b>Heat recovery bypass</b>	Automatic
<b>Filters</b> Supply air Extract air	ISO Coarse > 75% + ISO ePM <sub>1</sub> ≥ 50% ISO Coarse > 75%		
<b>Specific energy consumption (SEC)</b> in a cold climate in a temperate climate	A+ A	<b>Operating efficiencies*</b> Annual efficiency Supply air efficiency Specific Fan Power (SFP)	77% 84% 1.04 kW/m <sup>3</sup> /s (32 dm <sup>3</sup> /s)
<b>Dimensions (w x h x d)</b>	598 x 802 x 349 mm	<b>Weight</b>	51 kg

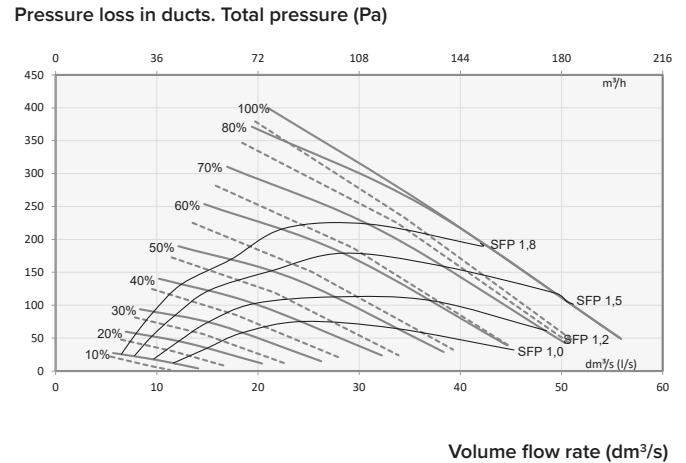
\*Working point defined in the Ecodesign Directive (2009/125/EC), Southern Finland, Helsinki-Vantaa TRY year 2020.

## AIR FLOWS AND SOUND VALUES

### FAN INPUT POWER



### SUPPLY/EXTRACT AIR VOLUMES



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

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

————— extract air  
- - - - - supply air

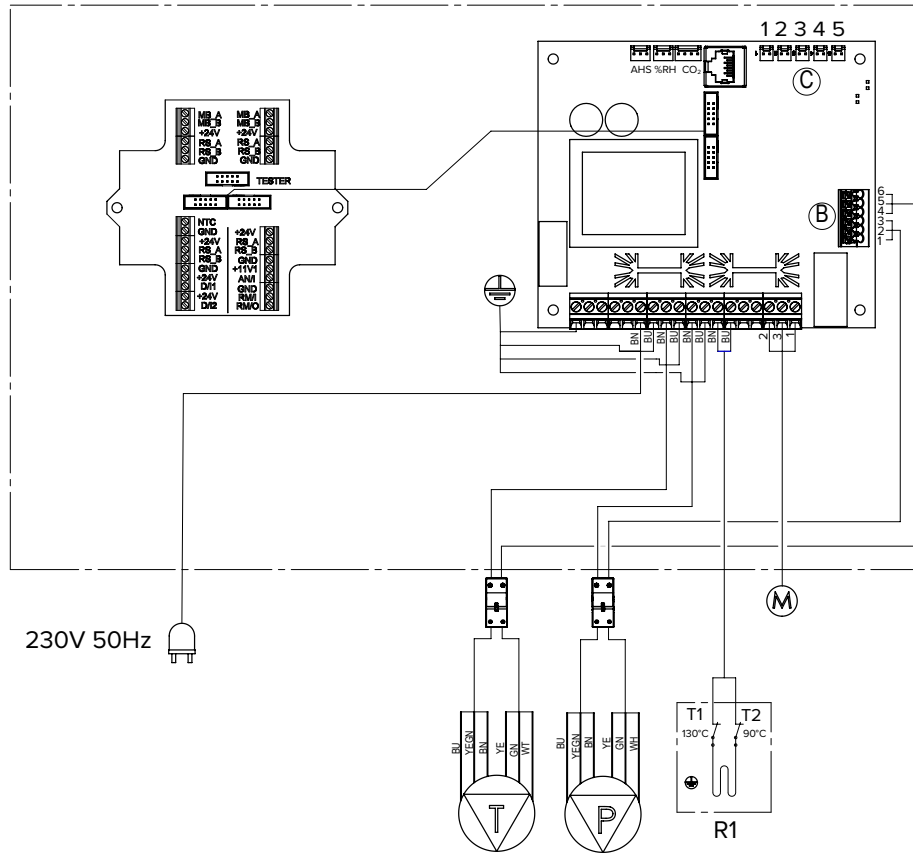
### SOUND VALUES

		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	57	61	64	65	68	70	73	79	81	60	58	58	61	64	64	71	70	72	
	125	51	54	58	60	62	64	66	68	69	51	52	54	54	57	59	60	62	62	
	250	45	50	55	57	62	61	64	66	66	30	34	38	40	45	45	47	49	50	
	500	40	46	51	53	57	59	63	66	68	31	38	40	42	45	49	51	56	56	
	1000	32	39	45	47	51	55	59	64	64	21	26	30	33	36	40	42	45	46	
	2000	20	30	37	41	44	47	49	52	52	14	15	20	24	28	30	33	35	36	
	4000	18	22	29	35	40	44	47	50	51	18	17	17	17	18	20	22	24	25	
	8000	21	21	23	27	33	38	43	47	47	21	21	21	21	21	21	21	21	21	
$L_w$ , dB		58	62	66	67	70	72	75	80	82	61	59	59	62	65	65	72	71	73	
$L_{WA}$ , dB(A)		42	47	52	54	59	60	64	67	68	38	40	42	43	46	49	52	55	55	
Vallox 51 MV, Vallox 51K MV (no standard extraction through the hood in the kitchen) Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m² sound absorption)																				
Adjustment position																				
Adjustment position (%)		10	20	30	40	50	60	70	80	100										
$L_{pA}$ , dB (A)		21	24	28	29	32	35	38	40	40										
Vallox 51K MV (standard extraction 8 dm³/s through the hood in the kitchen) Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m² sound absorption)																				
Adjustment position																				
Adjustment position (%)			22		40															
$L_{pA}$ , dB (A)			28		32															

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

## INTERNAL ELECTRICAL CONNECTION

### Vallox 51 MV / Vallox 51K MV



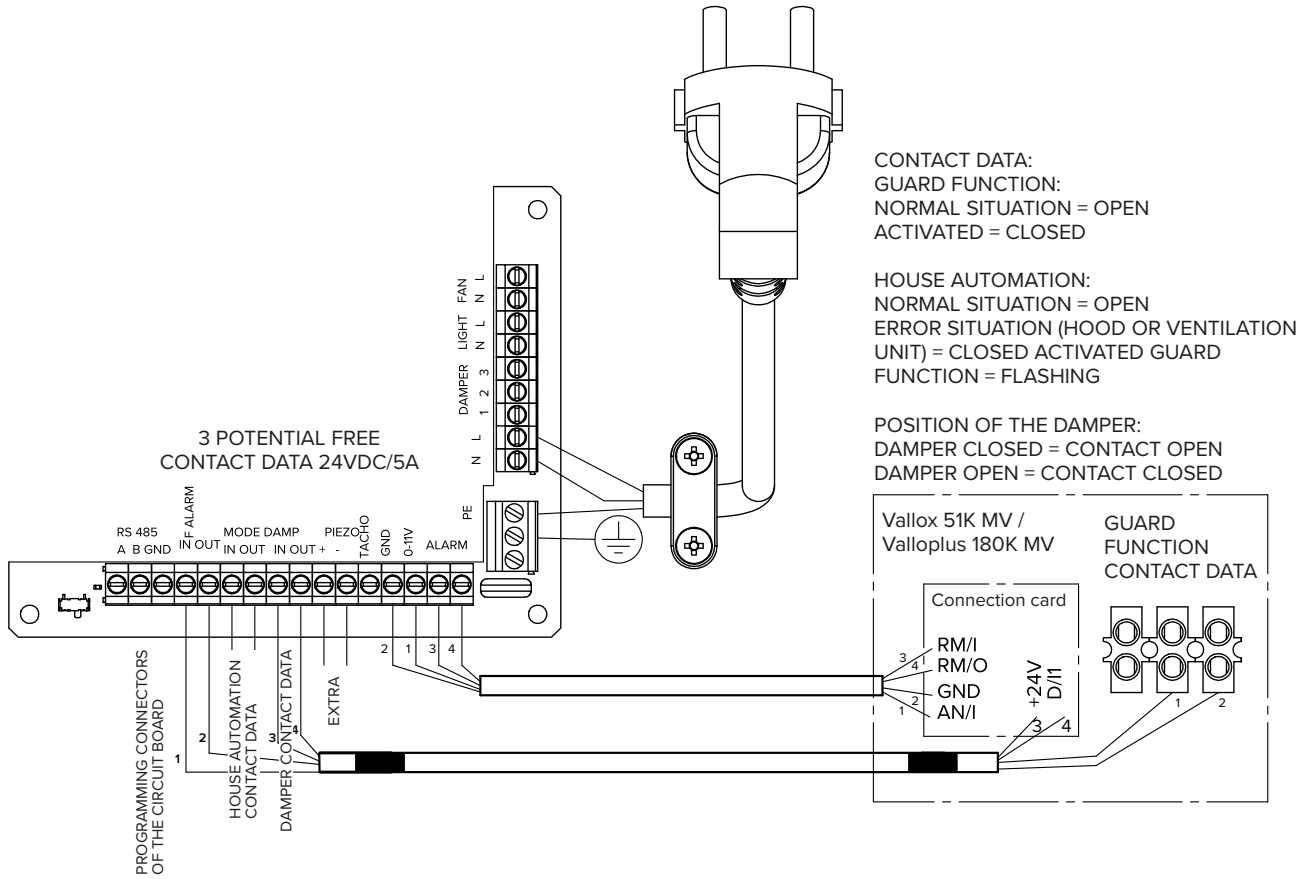
A	Motherboard	MB_A	External Modbus A signal	T	Supply air fan
B	1. Extract air fan tacho (WT)	MB_B	External Modbus B signal	P	Extract air fan
	2. GND (GN)	+24V	+24V voltage (DC)	M	Damper motor
	3. Extract air fan PWM (YE)	GND	Digital and analog ground potential	AHS	Post-heating control
	4. Supply air fan tacho (WT)	RS_A	Local hardware Modbus A signal	CO <sub>2</sub>	Internal carbon dioxide sensor
	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	R1	Post-heating resistor with 90°C and 130°C overheating protection
C	1. Extract air	D/I1	Digital input 1		
	2. Outdoor air	D/I2	Digital input 2		
	3. Supply air	11V1	11.1V operating voltage		
	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

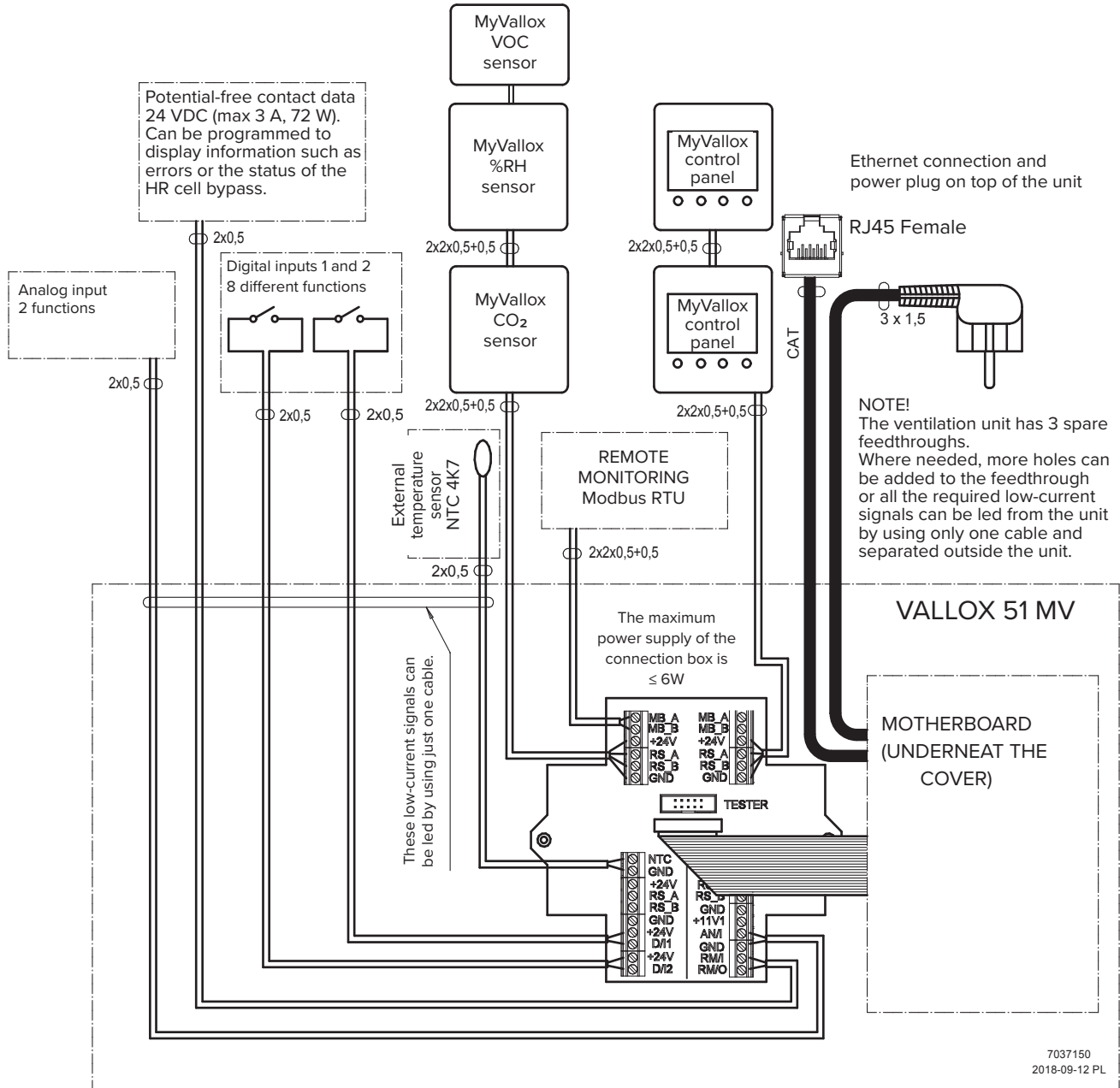
## EXTERNAL ELECTRICAL CONNECTION

### Vallox Captura cooker hood



## EXTERNAL ELECTRICAL CONNECTION

### Vallox 51 MV



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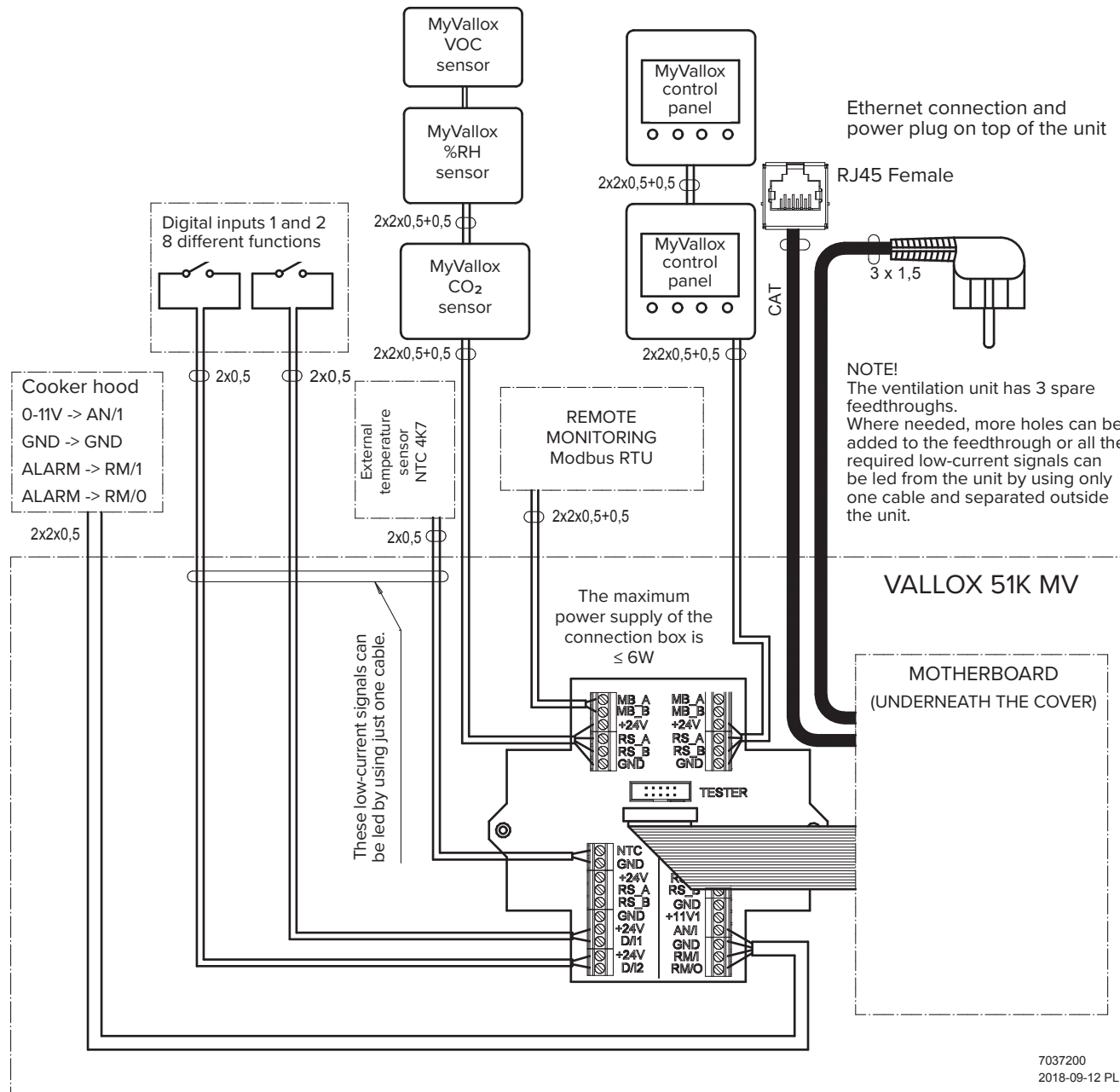
POWER SUPPLY	
Maximum	≤6 W
MyVallox Control	1 W
MyVallox Touch	0.5 W
MyVallox %RH sensor	0.3 W
MyVallox CO <sub>2</sub> sensor	1.2 W
MyVallox VOC sensor	2 W
External actuator or damper motor of the unit that receives feed from the relay	
Voltage	24 VDC

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 0-10 VDC
RM/I	24V relay input
RM/O	24V relay output

## EXTERNAL ELECTRICAL CONNECTION

### Vallox 51K MV



#### POWER SUPPLY

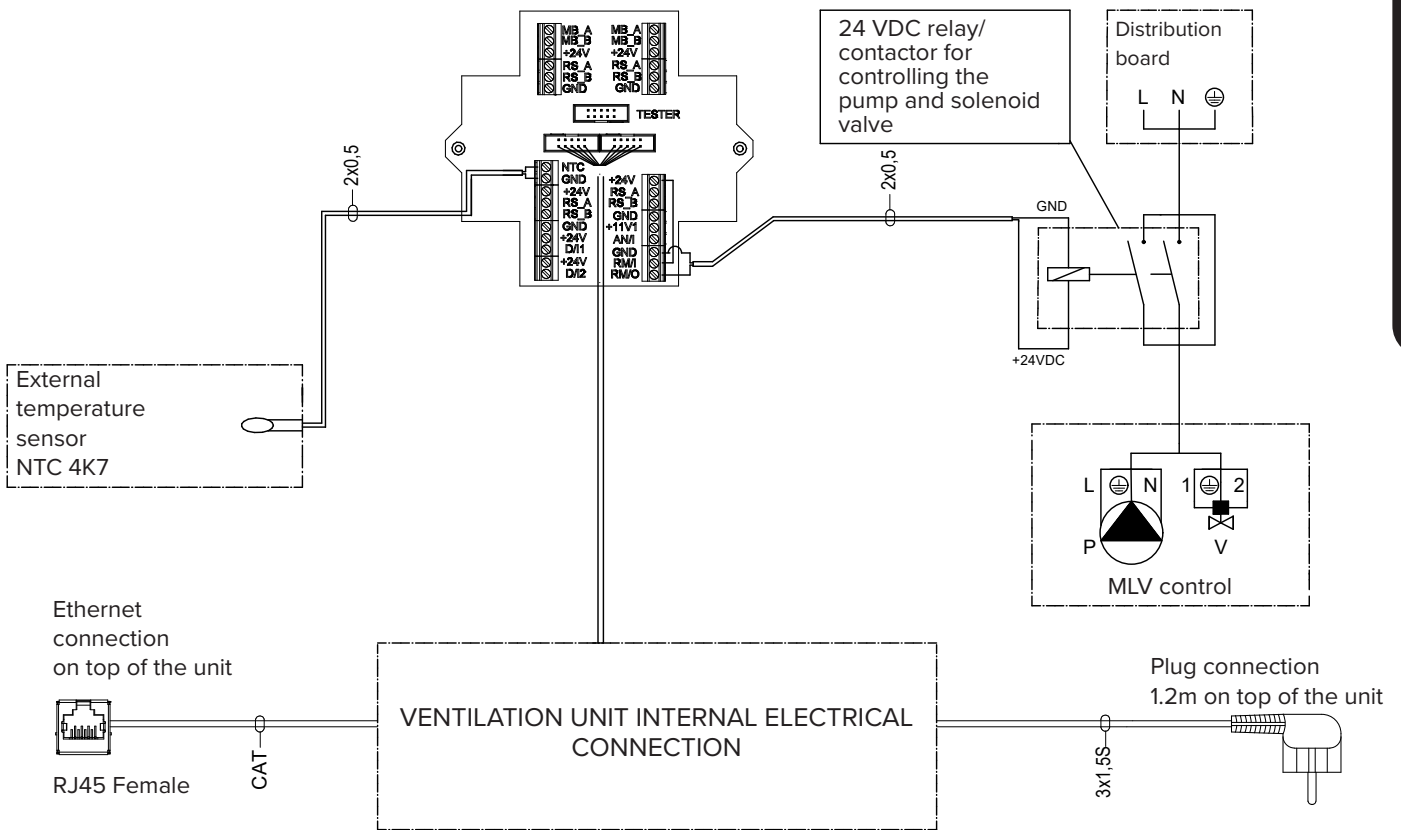
Maximum	≤6 W
MyVallox Control	1 W
MyVallox Touch	0.5 W
MyVallox %RH sensor	0.3 W
MyVallox CO <sub>2</sub> sensor	1.2 W
MyVallox VOC sensor	2 W
External actuator or damper motor of the unit that receives feed from the relay	
Voltage	24 VDC

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 0-10 VDC
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
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
P	Circulation pump
V	Solenoid valve

## 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.



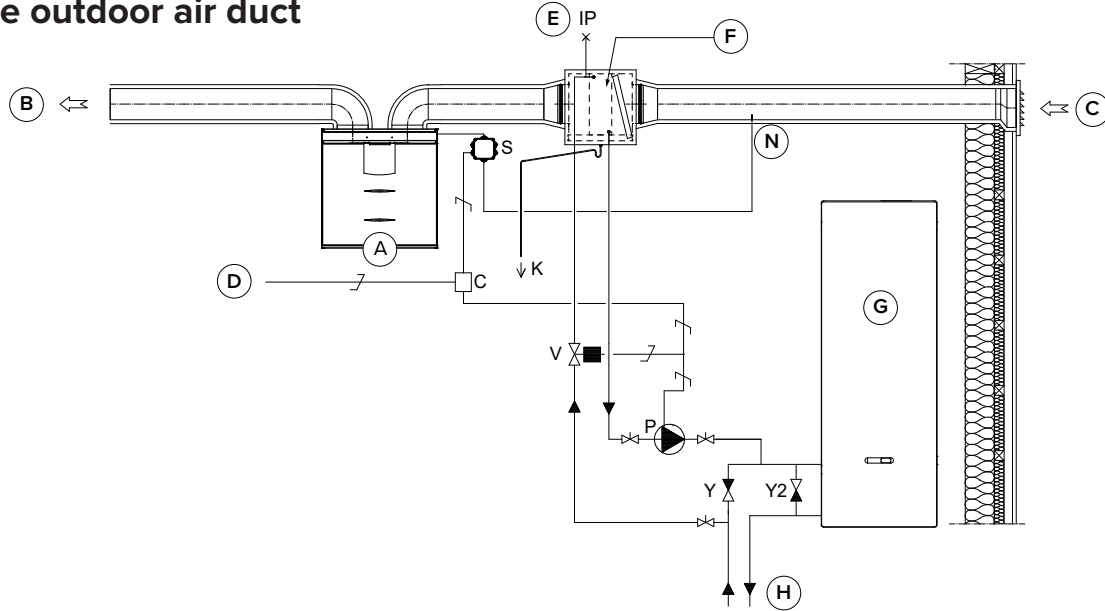
**NOTE:** When selecting the relay (C), take account of the maximum allowed combined power supply (6W) of the circuit board in the external MV electrical box, if the relay power supply comes from the circuit board's +24V connector.



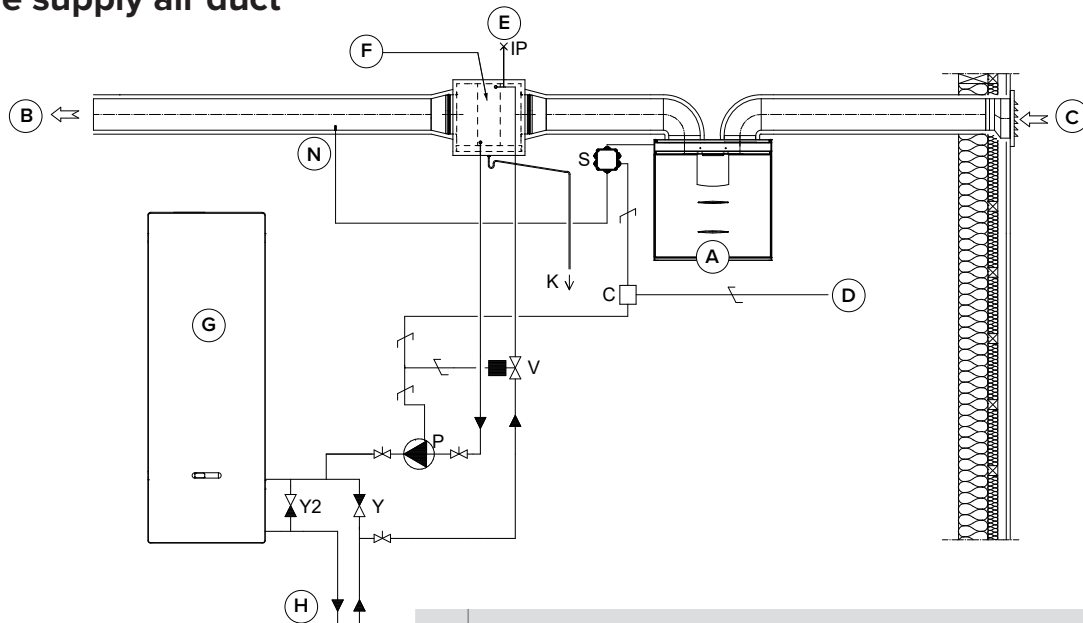
**NOTE:** Due to the risk of humidity damage, in a duct that has not been insulated for condensation the supply air temperature must not fall below +16 ... 20 °C.

## DUCT RADIATOR OPERATION CHART

### In the outdoor air duct



### In the supply air duct

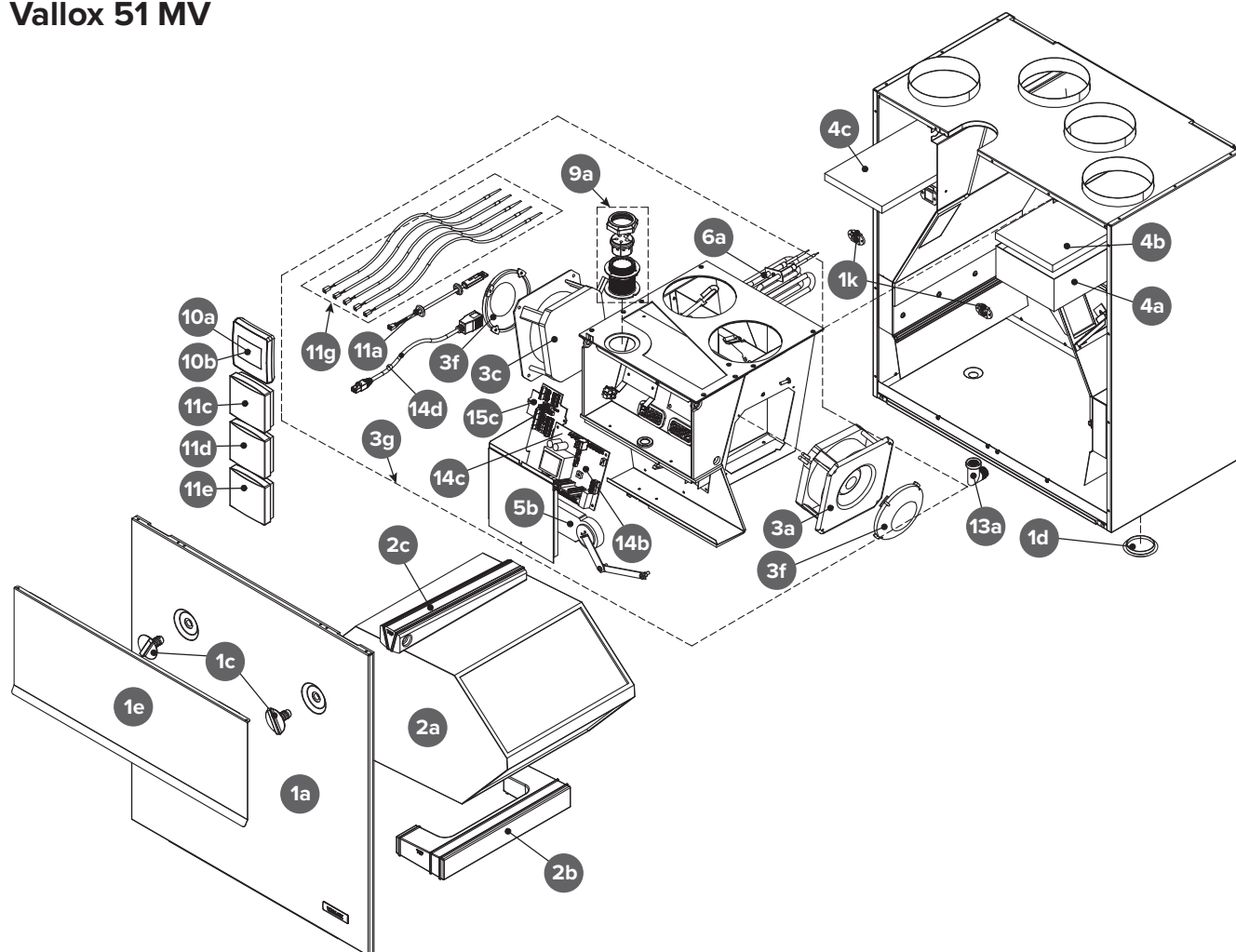


A	Ventilation unit
B	Supply air
C	Outdoor air
D	Feed from the distribution board
E	Air extraction
F	Duct radiator (reverse connection)
G	Heat pump
H	Heat collection circuit
N	External NTC sensor

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.

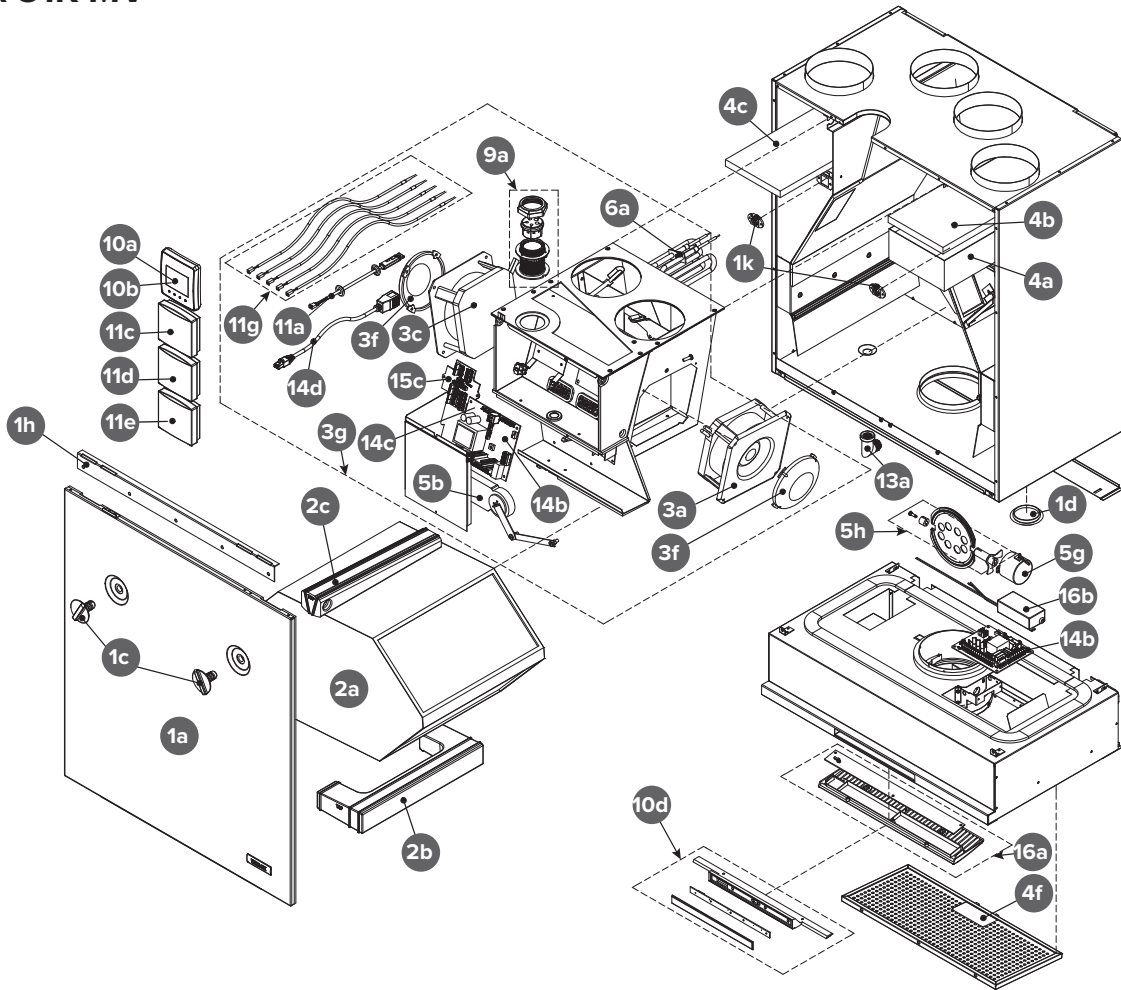
## EXPLODED VIEW AND SPARE PARTS LIST

### Vallox 51 MV



NO. PART	PRODUCT NO.	NO. PART	PRODUCT NO.	NO. PART	PRODUCT NO.
1a	4106304	3g	4105049 4105048	11c	949111
1c	990715	4a		11d	946149
1d	990151 4105656	4b		11e	949112
1e	4106644	4c		11g	4106207
1k	990715	5b	930621	13a	3494701
2a	4103227 933156	6a	4106543 4106544	14b	949032-1
2b	4103427	9a	950445 950446	14c	952490
2c	4103238	10a	949033	14d	952196
3a	4104020	10b	949090	15c	949038
3c	4104020	11a	4107971		
3f	4104868				

**Vallox 51K MV**



NO.	PART	PRODUCT NO.	NO.	PART	PRODUCT NO.	NO.	PART	PRODUCT NO.
1a	Door	4106304	4b	Coarse filter for supply air		11c	MyVallox carbon dioxide sensor (optional)	949111
1c	Door screw (supplied together with the lock nut of the door screw)	990715	4c	Coarse filter for extract air		11d	MyVallox humidity sensor (optional)	946149
1d	Plastic screw Cover plug	990151 4105656	4f	Grease filter	2052310	11e	MyVallox VOC sensor (optional)	949112
1h	Cover door mounting strip	3296000	5b	Bypass damper motor	930621	11g	NTC sensor kit	4106207
1k	Lock nut of the door screw (supplied together with the door screw)	990715	5g	Damper actuator	930622	13a	Siphon Vallox Silent Klick	3494701
2a	HR cell (aluminium) HR cell (enthalpy)	4103227 933156	5h	Damper assembly	2131310	14b	Motherboard Motherboard	949032-1 949041
2b	Lower support for HR cell	4103427	6a	Post-heating resistor, R model Post-heating resistor, L model	4106543 4106544	14c	Glass tube fuse 63mA slow 5x20mm	952490
2c	Upper support for HR cell	4103238	9a	Ceiling bushing for electric wires Ceiling feed-through seal	950445 950446	14d	RJ45 extension cable	952196
3a	Extract air fan	4104020	10a	MyVallox Control panel	949033	15c	Connection card	949038
3c	Supply air fan		10b	MyVallox Touch control panel	949090	16a	LED light Light fixture frame	944030 2131500
3f	Air flow control grille	4104868	10d	Front panel assembly white Front panel assembly stainless steel	2131950 2131900	16b	LED power source	940028
3g	Fan chamber assembly, R Fan chamber assembly, L	4105049 4105048		11a	Internal humidity and carbon dioxide sensor	4107971		
4a	Fine filter for supply air							

## DECLARATION OF CONFORMITY

**Manufacturer** Vallox Oy

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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, 7<sup>th</sup> August 2023



Jukka-Pekka Korja  
Managing Director



# VALLOX

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