

Model

Vallox TSK Multi 50 MV
Vallox TSK Multi 50 MV EH
Vallox TSK Multi 80 MV
Vallox TSK Multi 80 MV EH

Document

D5321

Valid from

7.3.2022

Type

A3609
C3608

Updated

06.03.2024

MyVALLOX
TSK MULTI 50 MV

MyVALLOX
TSK MULTI 80 MV

Manual



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.

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. Retain 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 be carried out only by qualified experts. Electrical installations and connections must be carried out only by an electrician and in compliance with local regulations.

GUARANTEE

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

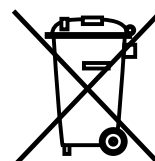


WARNING

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 TSK Multi 50 MV and Vallox TSK Multi 80 MV are designed to be mounted above a false ceiling.

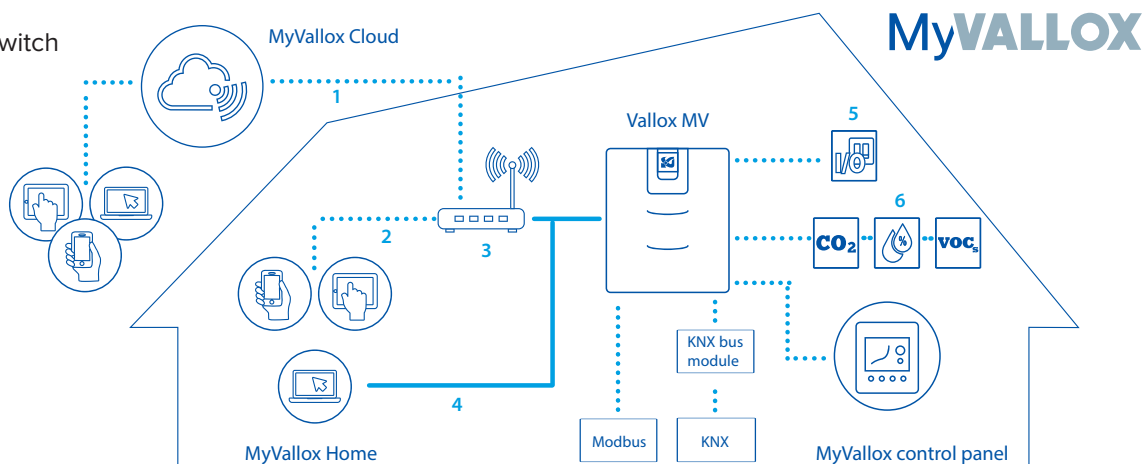


NOTE

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

SYSTEM DESCRIPTION

- Internet
- WLAN
- Router
- WLAN/LAN
- Additional switch
- 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.

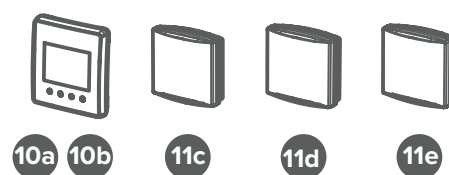
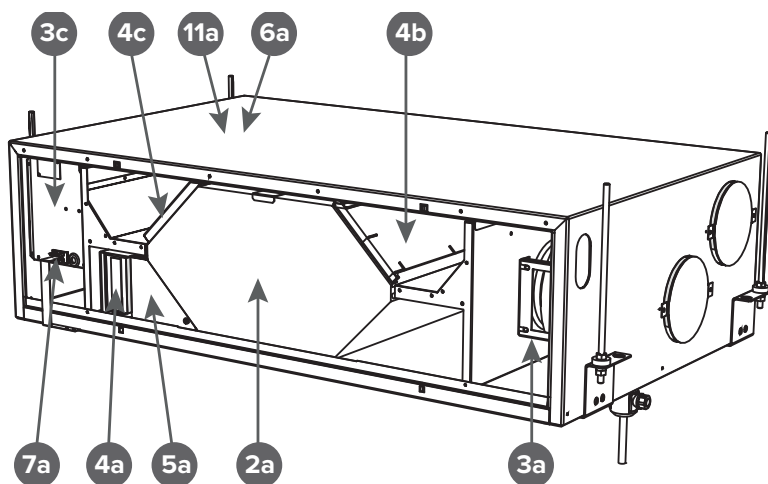


IMPORTANT
















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 TSK Multi 50 MV and Vallox TSK Multi 80 MV



R model in the figure

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

INSTALLATION SITE

The Vallox ventilation unit must be installed in a location where the temperature remains above +10°C. When the unit is installed without a protective enclosure, the location must be chosen so that its noise does not cause any disturbance (e.g. storage premises, technical spaces, and false ceilings).

Vallox TSK Multi 50 MV and Vallox TSK Multi 80 MV must be mounted on the ceiling. Use the mounting hooks (4 pcs) delivered with the unit to mount the ventilation unit on the ceiling. Observe the weight of the unit (45 kg / 58.5 kg) when mounting.



IMPORTANT

The unit must be installed straight so that the condensing water that collects in the bottom pool drains through the condensing water outlet.



NOTE

Reserve a space equal to the depth of the unit in front of the unit for servicing purposes.

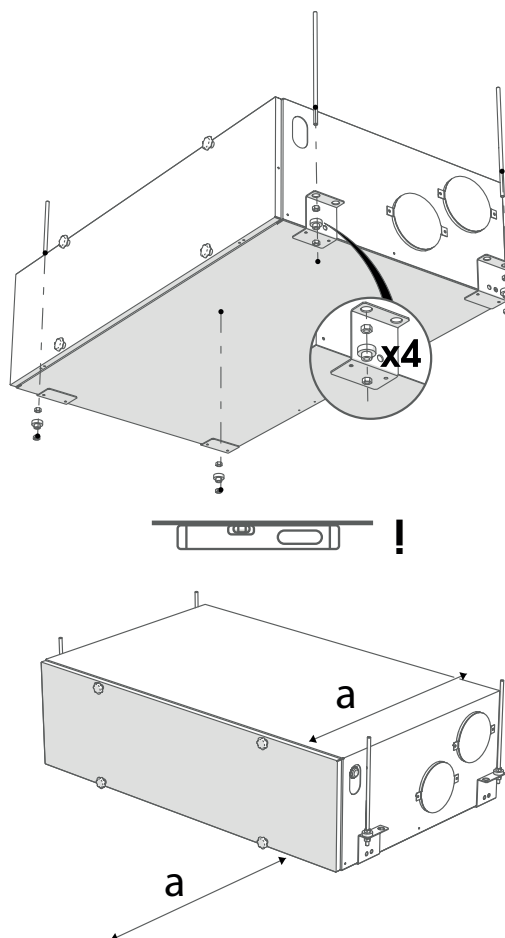
The service space in front of Vallox TSK Multi 50 MV must be at least 530 mm.

The service space in front of Vallox TSK Multi 80 MV must be at least 600 mm.



NOTE

The whole length of the outdoor air duct to the unit and exhaust air duct from the unit must be insulated using closed cell insulation.



REMOVAL OF CONDENSING WATER

The unit is delivered with a siphon that has an air lock and a more compact elbow. When the elbow is used, an air lock must be installed somewhere else between the extraction pipes (the parts needed are included in the accessory bag). The air lock ensures the removal of condensing water and muffles any noise.

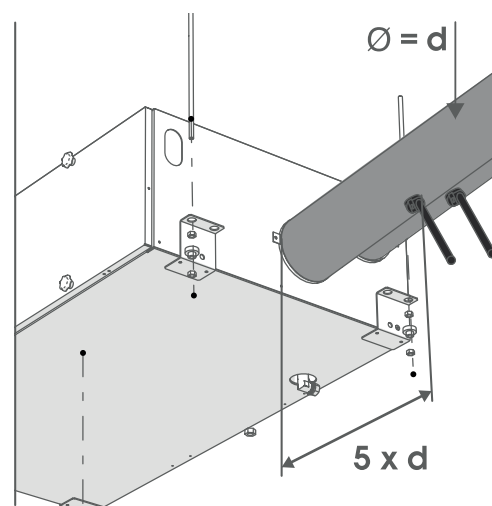
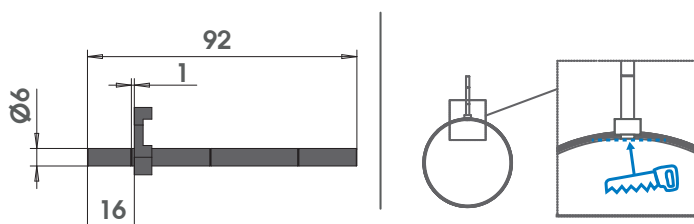


WARNING

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

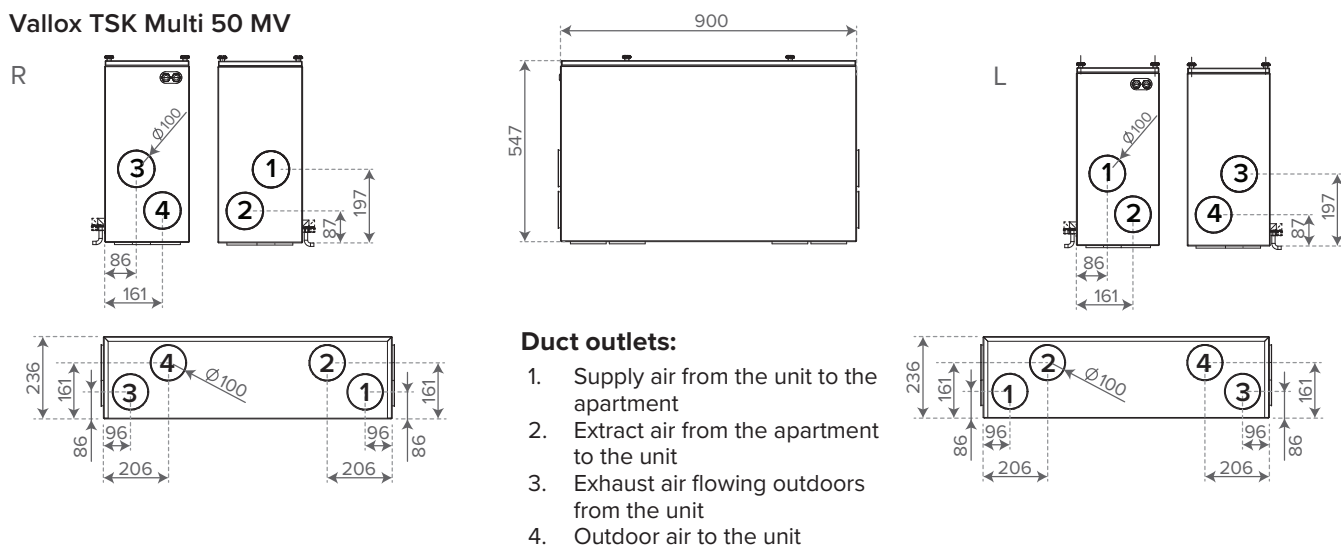
MEASURING AND ADJUSTING THE AIR FLOWS OF THE VENTILATION UNIT

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.

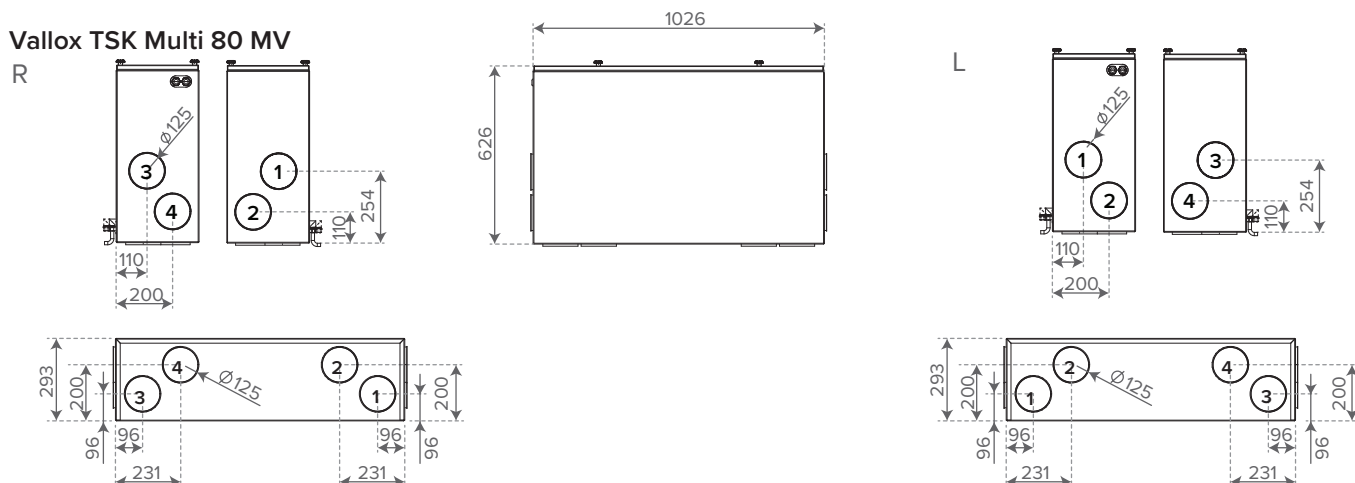


DIMENSIONS AND DUCT OUTLETS

Vallox TSK Multi 50 MV

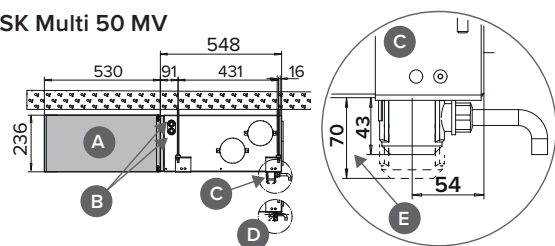


Vallox TSK Multi 80 MV

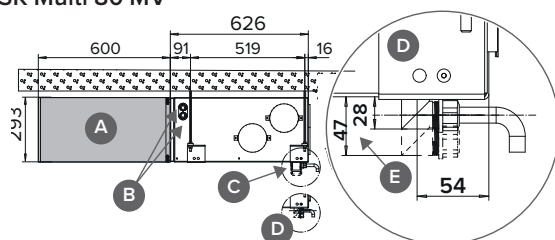


Dimensioning figure and space required for installation of the Vallox Silent Klick siphon

Vallox TSK Multi 50 MV



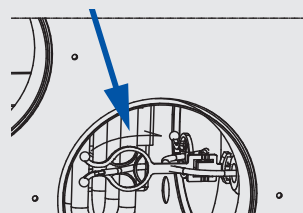
Vallox TSK Multi 80 MV



| | |
|---|---------------------------------|
| A | Service space |
| B | Power plug cord |
| C | Siphon |
| D | Alternative siphon |
| E | Space required for installation |

NOTE

Fold the temperature sensor holder if the supply air duct at the rear of the unit is used. Ensure that the sensor cable is not in contact with the heater.



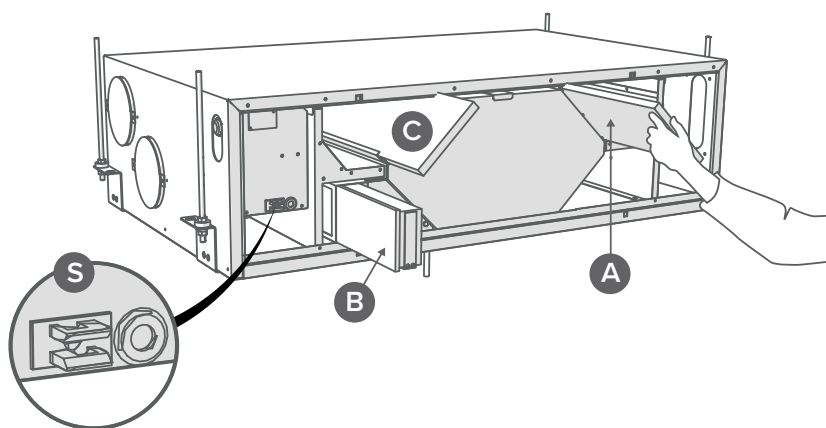
BEFORE BEGINNING MAINTENANCE WORK

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.



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

Vallox TSK Multi 50 MV:
The service space in front of the unit must be at least 530 mm.

Vallox TSK Multi 80 MV:
The service space in front of the unit must be at least 600 mm.

There are two unit models, left- (L) and right-handed (R). In the right handed version, outdoor air blows into the unit from the right side of the centre line as shown in the instructions. In the left-handed version, outdoor air blows into the unit from the left side. Also the position of the filters, HR cell bypass damper, and heating resistor is mirrored in the left-handed model.

CHANGING 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.

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

Using original Vallox filters ensures that the ventilation unit remains in top condition, giving the best results. 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 select and order filter packages, please go to: filters.vallox.com

CLEANING THE HEAT RECOVERY CELL

Check that the heat recovery cell (D) is clean roughly once a year when the filters are being replaced. Clean by washing as required.

To check the heat recovery cell (HR cell):

1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift the door off.



CAUTION

The door is heavy.

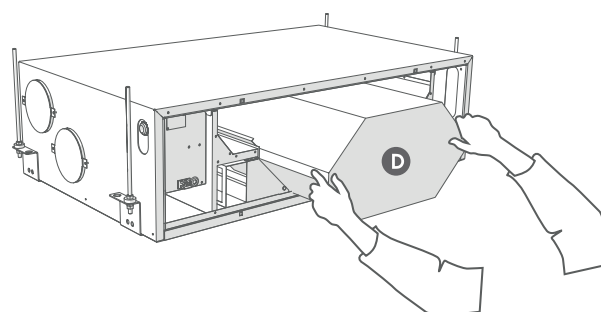
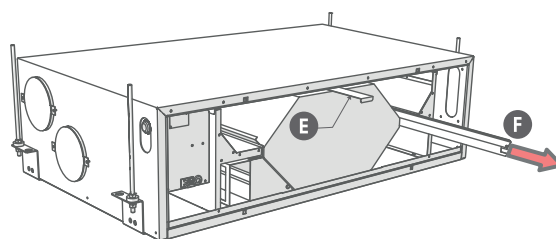
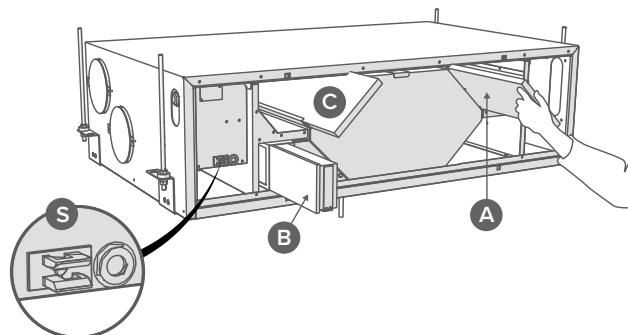
3. Pull the coarse filters (A, C) and filter supports out of the unit.
4. Remove the sealing strip (E) above the HR cell.
5. Remove the side sealing strip (F).
6. Remove the fine filter (B).
7. Lift and pull the cell (D) out of the unit.



IMPORTANT

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

8. 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.
9. Rinse the cell clean with a water spray. Do not use a high-pressure cleaner.
10. When all the water has drained from between the layers, reassemble the ventilation unit in the reverse order.
11. Close the door. Ensure that the safety switch catch of the door is touching the safety switch.
12. Plug the ventilation unit back into the mains.
13. 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, condensation runoff can form rapidly. 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. 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.



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. Remove the fan beds and the bypass duct carefully in accordance with the below instructions to prevent damage to the unit. The small size of the unit restricts the space available for servicing.



IMPORTANT

Handle the fan blades carefully. Do not remove or move the fan blade balancing weights.

Cleaning the supply air fan

The steps are mirrored for the left handed unit.

To remove and clean the supply air fan:

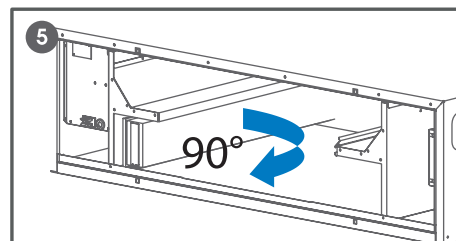
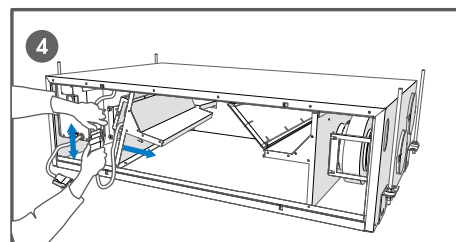
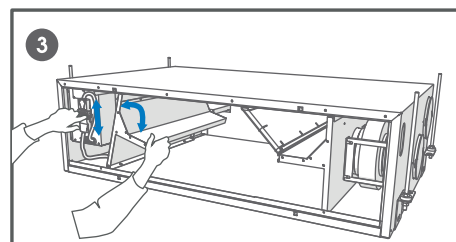
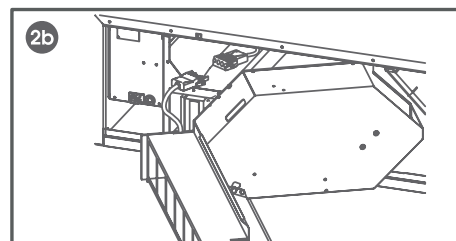
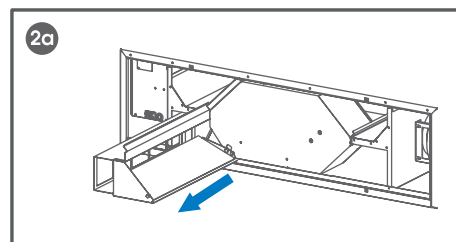
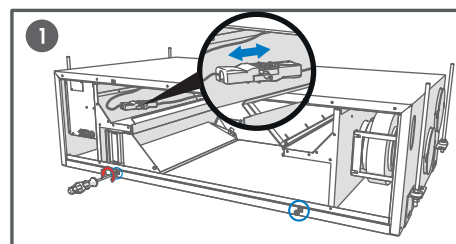
1. Disconnect the ventilation unit from the mains electricity supply.
2. Unfasten the four screws to open the door of the unit.
3. Lift the door off.



CAUTION

The door is heavy.

4. Remove the extract air filter (C), the cell top bracket (E) and the heat recovery cell (D), as described in sections "Filters" and "Heat recovery cell".
5. Remove the mounting screws of the fan bed (2 pcs).
6. Pull the bypass duct/filter stand package out of the unit and turn to the right.
7. Remove the cable connector (black) of the fan and move the supply air fan slightly to the right.
8. Disconnect the connector of the post heating resistor. The post heating resistor can be removed once the supply air fan has been moved slightly to the right.
9. Tilt the supply air fan to the right and push the connectors out of the way. Turn the fan 90° and tilt it forward to pull it out of the unit.
10. The fan has now been removed for cleaning.
11. To reassemble the ventilation unit, follow the above steps in reverse order.
12. Close the door. Ensure that the safety switch catch of the door is touching the safety switch.
13. Plug the ventilation unit back into the mains. The fan has now been checked and cleaned.



NOTE

The steps are mirrored for the left handed unit.

Cleaning the extract air fan

To remove and clean the extract air fan:

1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift the door off.

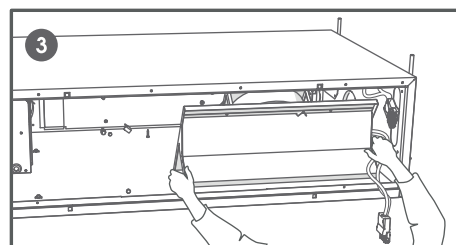
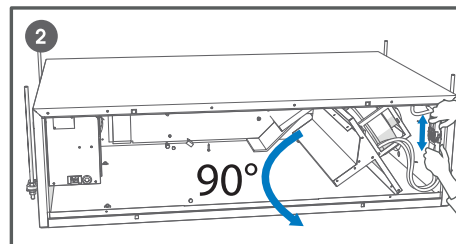
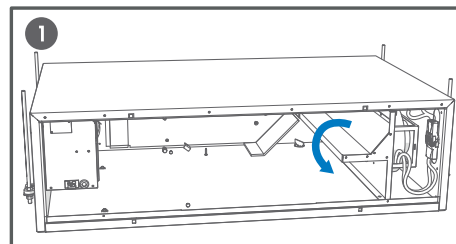


CAUTION

The door is heavy.

3. Remove the extract air filter (C), the cell top bracket (E) and the heat recovery cell (D), as described in sections "Filters" and "Heat recovery cell".
4. Remove the fan bed mounting screw (see removing the supply air fan, Figure 1).
5. Remove the connector package from the wall.
6. Separate the connectors from each other.
7. Tilt the fan to the left and turn 90°.
8. Tilt the fan forward to pull it out of the unit.
9. The fan has now been removed for cleaning.
10. To reassemble the ventilation unit, follow the above steps in reverse order.
11. Close the door. Ensure that the safety switch catch of the door is touching the safety switch.
12. Plug the ventilation unit back into the mains.

The fan has now been checked and cleaned.



NOTE

The steps are mirrored for the left handed unit.



NOTE

Install the fan beds in a reverse order.

AIR FLOWS AND SOUND VALUES

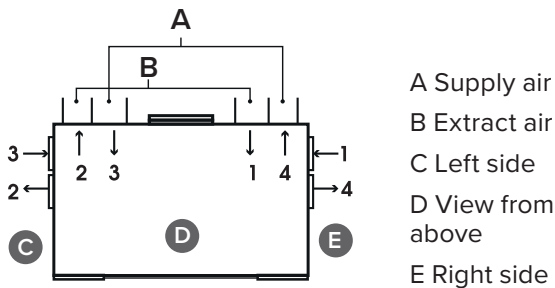
TECHNICAL SPECIFICATIONS

| | | | |
|---|---|--|--|
| Product title | Vallox TSK Multi 50 MV R Vallox TSK Multi 50 MV L | | |
| Air volumes Supply air Extract air | 49 dm ³ /s, 100 Pa 57 dm ³ /s, 100 Pa | Fans Supply air Extract air | 0.043 kW 0.32 A EC 0.043 kW 0.32 A EC |
| Post-heating | Electrical resistor, 900 W | Electrical connection | 230 V, 50 Hz, 4.5 A power plug |
| Pre-heating | – | Enclosure protection class | IP 34 |
| Additional heating | – | 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) | 79% 86% 1.3 kW/m ³ /s (34 dm ³ /s) |
| Dimensions (w x h x d) | 900 x 236 x 547 mm | Weight | 48 kg |

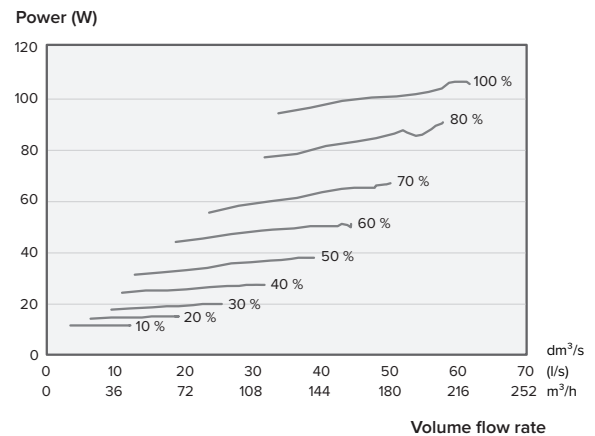
*Working point defined in the Ecodesign Directive (2009/125/EC), Southern Finland, Helsinki-Vantaa TRY year 2020.

AIR FLOW MEASUREMENT POINTS

Measurement points after the outlet collar. The fan curves indicate the total pressure accounted for by duct losses.

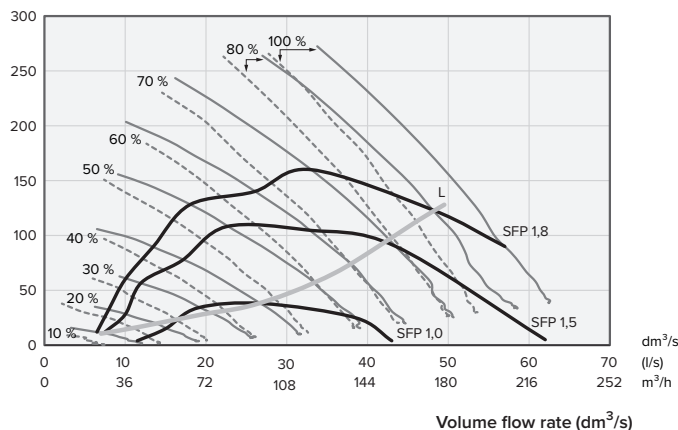


FAN INPUT POWER



AIR VOLUMES VALLOX TSK MULTI 50 MV, SUPPLY AIR (FINE+COARSE), EXTRACT AIR (COARSE)

Pressure loss in ducts. Total pressure (Pa)



— extract air
- - - supply air

PK and TK are examples of pressure loss in the extract and supply air ducts.

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

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

SOUND VALUES

| | | Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ dB Adjustment position | | | | | | | | | Sound power level in the extract air duct (one duct) by octave band $L_{w,i}$ dB Adjustment position | | | | | | | | |
|--|------|--|----|-------|----|-------|----|-------|----|-------|--|-------|----|-------|----|-------|----|-------|-----|
| Adjustment position (%) | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 |
| Air flow dm^3/s | | 6 | 10 | 17 | 21 | 26 | 32 | 35 | 40 | 44 | 7 | 14 | 22 | 24 | 30 | 35 | 40 | 45 | 48 |
| Medium frequency of the octave band Hz | 63 | 59 | 66 | 70 | 72 | 74 | 79 | 78 | 79 | 81 | 55 | 59 | 61 | 64 | 67 | 76 | 72 | 72 | 73 |
| | 125 | 57 | 62 | 64 | 66 | 69 | 71 | 73 | 76 | 76 | 57 | 60 | 62 | 66 | 68 | 70 | 72 | 74 | 77 |
| | 250 | 47 | 55 | 62 | 66 | 68 | 69 | 71 | 73 | 73 | 39 | 47 | 55 | 60 | 61 | 62 | 63 | 65 | 67 |
| | 500 | 36 | 44 | 50 | 55 | 59 | 63 | 66 | 68 | 70 | 26 | 33 | 38 | 42 | 47 | 52 | 55 | 57 | 57 |
| | 1000 | 29 | 39 | 45 | 50 | 54 | 59 | 61 | 63 | 65 | 21 | 29 | 34 | 38 | 42 | 45 | 48 | 50 | 52 |
| | 2000 | 21 | 29 | 39 | 45 | 50 | 53 | 56 | 58 | 60 | 13 | 15 | 22 | 27 | 32 | 35 | 37 | 39 | 41 |
| | 4000 | 18 | 19 | 24 | 32 | 40 | 46 | 50 | 53 | 55 | 17 | 17 | 18 | 18 | 21 | 25 | 28 | 32 | 34 |
| | 8000 | 21 | 21 | 22 | 23 | 26 | 31 | 36 | 40 | 43 | 21 | 22 | 21 | 21 | 22 | 22 | 22 | 22 | 23 |
| $L_{w,i}$ dB | | 62 | 67 | 71 | 74 | 76 | 80 | 80 | 81 | 83 | 59 | 62 | 65 | 69 | 71 | 77 | 75 | 77 | 79 |
| L_{wA} dB(A) | | 44 | 51 | 56 | 60 | 63 | 66 | 68 | 72 | 72 | 41 | 45 | 50 | 54 | 56 | 58 | 60 | 62 | 64 |
| | | Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m^2 sound absorption) | | | | | | | | | | | | | | | | | |
| | | Adjustment position / Air flows (supply/extract) | | | | | | | | | | | | | | | | | |
| Adjustment position (%) | | 10 | | 20 | | 30 | | 40 | | 50 | | 60 | | 70 | | 80 | | 100 | |
| Air flow dm^3/s | | 6/7 | | 12/14 | | 19/22 | | 22/25 | | 27/30 | | 31/34 | | 35/40 | | 41/45 | | 44/48 | |
| L_{pA} dB (A) | | 24 | | 29 | | 35 | | 38 | | 40 | | 45 | | 47 | | 49 | | 50 | |

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

MyVALLOX

TSK MULTI 80 MV

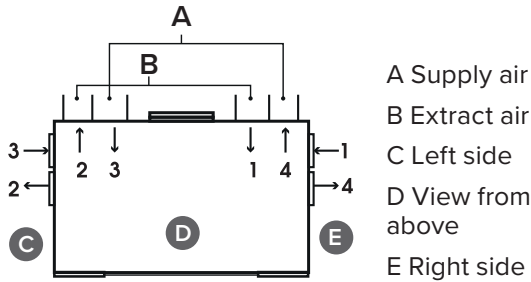
TECHNICAL SPECIFICATIONS

| Product title | | Vallox TSK Multi 80 MV R Vallox TSK Multi 80 MV L | |
|-----------------------------------|--|--|--|
| Air volumes | | Fans | |
| Supply air | | Supply air | |
| Extract air | | Extract air | |
| Post-heating | | Electrical connection | |
| Pre-heating | | Enclosure protection class | |
| Additional heating | | Heat recovery bypass | |
| Filters | | Operating efficiencies* | |
| Supply air | | Annual efficiency | |
| Extract air | | Supply air efficiency | |
| Specific energy consumption (SEC) | | Specific Fan Power (SFP) | |
| in a cold climate | | 80% | |
| in a temperate climate | | 86% | |
| Dimensions (w x h x d) | | Weight | |
| 1026 x 293 x 626 mm | | 62 kg | |

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

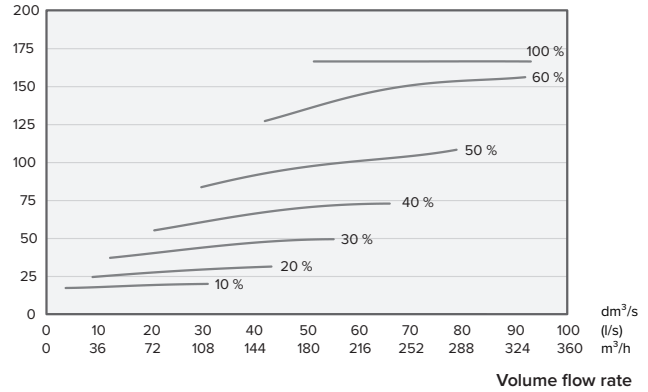
AIR FLOW MEASUREMENT POINTS

Measurement points after the connection outlet. The fan curves indicate the total pressure accounted for by duct losses.



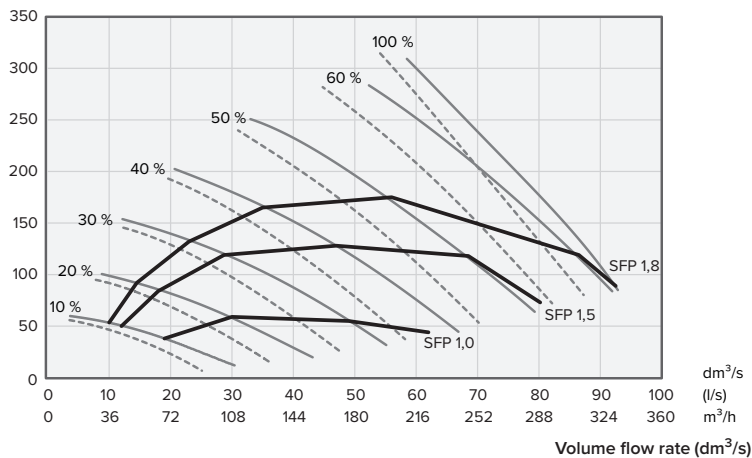
FAN INPUT POWER

Power (W)



AIR VOLUMES VALLOX TSK MULTI 80 MV, SUPPLY AIR (FINE+COARSE), EXTRACT AIR (COARSE)

Pressure loss in ducts. Total pressure (Pa)



— extract air
- - - supply air

PK and TK are examples of pressure loss in the extract and supply air ducts.

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

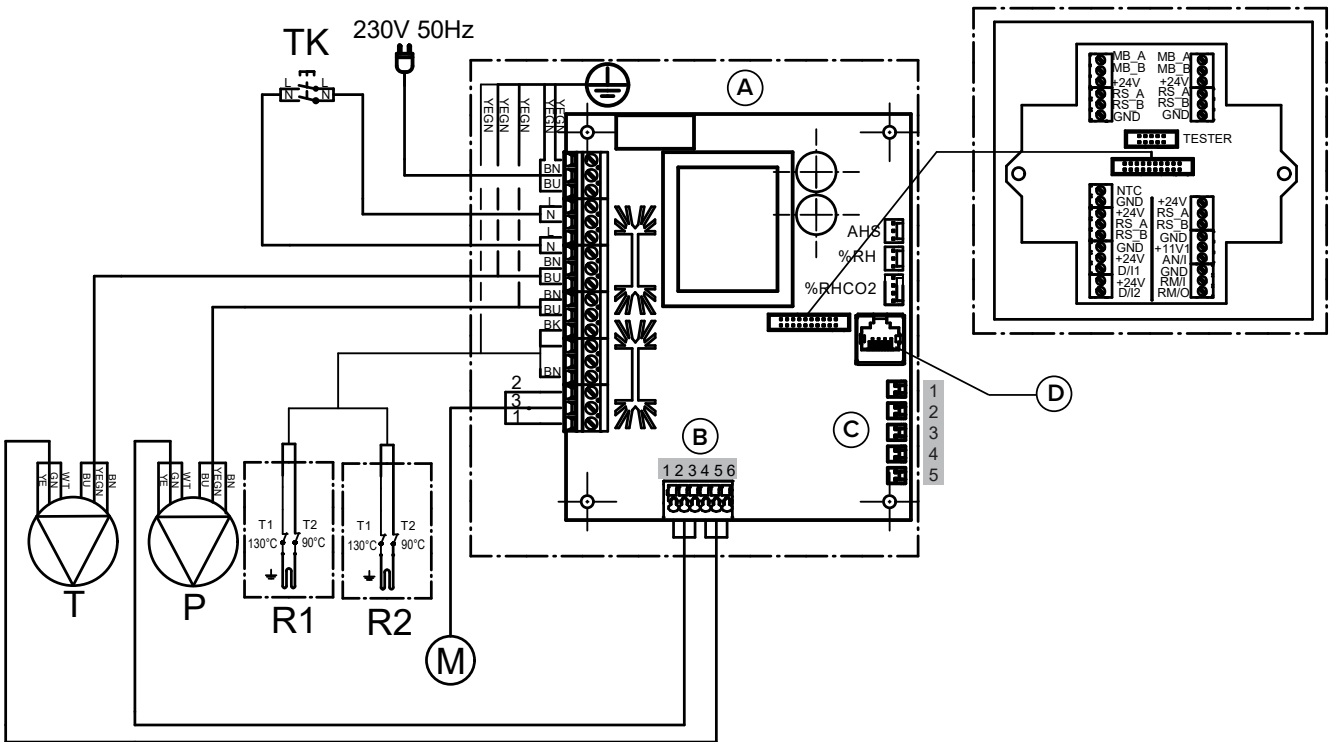
$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3/\text{s)}}$$

SOUND VALUES

| | | Sound power level in the supply air duct (one duct) by octave band $L_{w,i}$ dB Adjustment position | | | | | | | | | | Sound power level in the extract air duct (one duct) by octave band $L_{w,i}$ dB Adjustment position | | | | | | | | | |
|--|------|---|----|-------|----|-------|----|-------|----|-------|-----|--|----|-------|----|----|----|----|----|-------|-----|
| Adjustment position (%) | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Air flow dm³/s | | 15 | 20 | 32 | 37 | 47 | 57 | 62 | | | 65 | 17 | 22 | 36 | 42 | 51 | 60 | 66 | | | 67 |
| Medium frequency of the octave band Hz | 63 | 60 | 67 | 68 | 72 | 73 | 79 | 79 | | | 78 | 54 | 58 | 59 | 63 | 66 | 78 | 70 | | | 73 |
| | 125 | 56 | 65 | 64 | 66 | 68 | 70 | 72 | | | 73 | 48 | 56 | 54 | 56 | 58 | 62 | 63 | | | 64 |
| | 250 | 51 | 58 | 67 | 70 | 74 | 78 | 76 | | | 76 | 43 | 50 | 61 | 59 | 61 | 63 | 65 | | | 64 |
| | 500 | 41 | 49 | 55 | 59 | 63 | 66 | 70 | | | 70 | 30 | 37 | 43 | 46 | 49 | 53 | 60 | | | 60 |
| | 1000 | 39 | 47 | 52 | 55 | 58 | 62 | 65 | | | 66 | 27 | 35 | 39 | 43 | 46 | 50 | 52 | | | 53 |
| | 2000 | 30 | 41 | 48 | 52 | 56 | 59 | 62 | | | 62 | 15 | 23 | 29 | 33 | 37 | 40 | 42 | | | 43 |
| | 4000 | 19 | 28 | 36 | 42 | 46 | 51 | 54 | | | 55 | 17 | 17 | 18 | 21 | 25 | 29 | 31 | | | 32 |
| 8000 | 21 | 22 | 28 | 35 | 42 | 48 | 52 | | | 53 | 21 | 21 | 21 | 21 | 22 | 23 | 25 | | | 26 | |
| $L_{w,i}$ dB | | 61 | 70 | 72 | 75 | 77 | 82 | 82 | | | 81 | 55 | 61 | 64 | 65 | 68 | 78 | 72 | | | 74 |
| $L_{wA,i}$ dB(A) | | 46 | 55 | 61 | 64 | 68 | 72 | 72 | | | 75 | 38 | 45 | 53 | 52 | 54 | 58 | 61 | | | 61 |
| | | Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m² sound absorption) | | | | | | | | | | | | | | | | | | | |
| | | Adjustment position / Air flows (supply/extract) | | | | | | | | | | | | | | | | | | | |
| Adjustment position (%) | | 10 | | 20 | | 30 | | 40 | | 50 | | 60 | | 70 | | 80 | | 90 | | 100 | |
| Air flow dm³/s | | 15/17 | | 33/39 | | 32/36 | | 38/42 | | 47/51 | | 57/60 | | 62/67 | | | | | | 65/67 | |
| $L_{pA,i}$ dB (A) | | 27 | | 33 | | 40 | | 43 | | 46 | | 50 | | 52 | | | | | | 52 | |

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

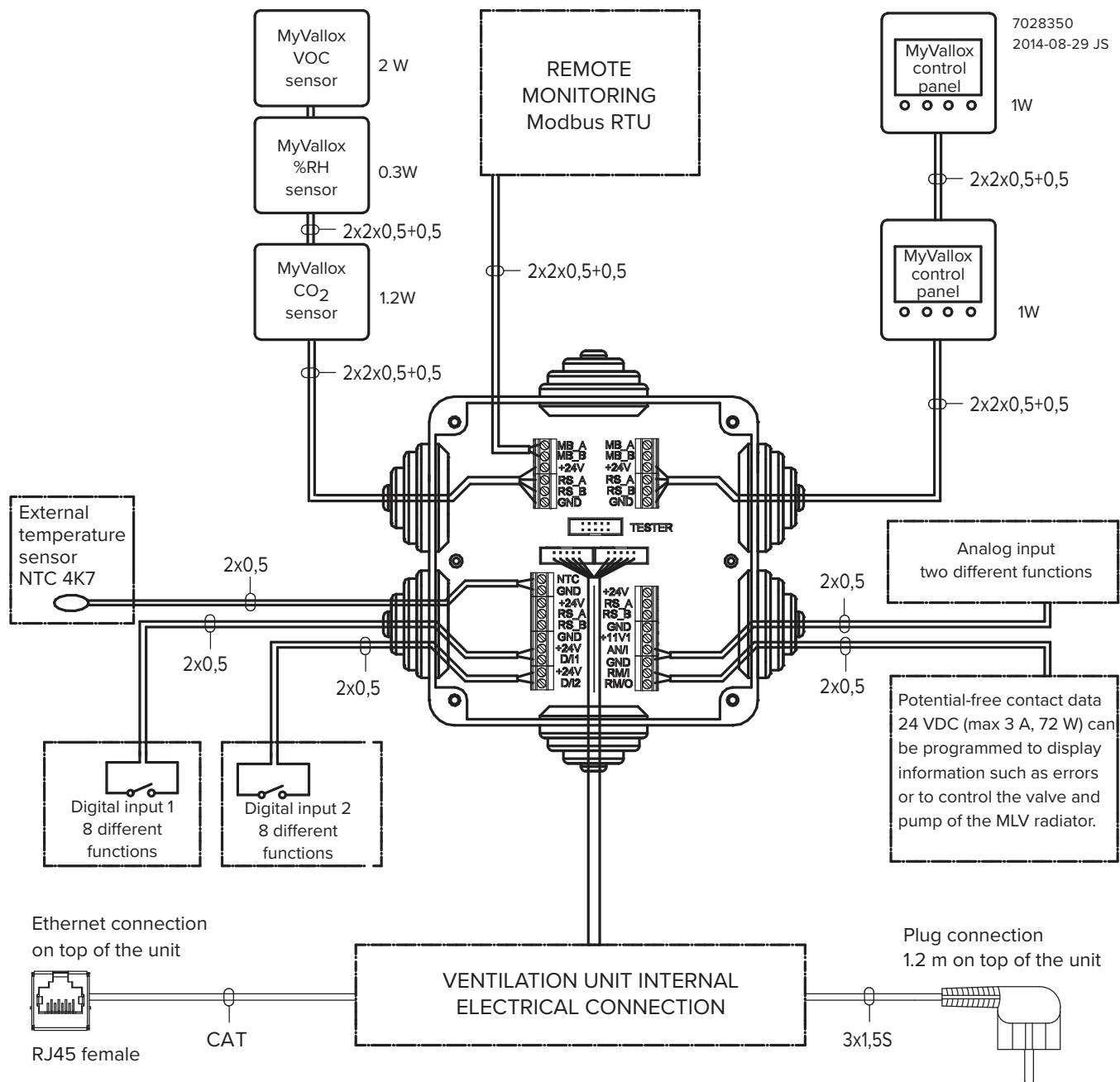
INTERNAL ELECTRICAL CONNECTION



| | | | | | |
|---|-------------|------|---------------------------------------|---------------------|---|
| A | Motherboard | MB_A | External Modbus A signal | T | Supply air fan |
| | | MB_B | External Modbus B signal | P | Extract air fan |
| | | +24V | +24V voltage (DC) | M | Damper motor |
| | | GND | Digital and analog ground potential | TK | Safety switch |
| | | RS_A | Local hardware Modbus A signal | AHS | Post-heating control |
| | | RS_B | Local hardware Modbus B signal | %RH | Internal humidity sensor |
| B | | NTC | External temperature sensor connector | %RH CO ₂ | Internal humidity and carbon dioxide sensor |
| | | D/I1 | Digital input 1 | R1 | Post-heating resistor with 90°C and 130°C overheating protection (Vallox TSK Multi 50 MV EH / Vallox TSK Multi 80 MV EH, EHX) |
| | | D/I2 | Digital input 2 | R2 | Additional heating resistor with 90°C and 130°C overheating protection (Vallox TSK Multi 80 MV EHX) |
| | | 11V1 | 11.1 V operating voltage | | |
| | | AN/I | Analog input 0-10VDC | | |
| | | RM/I | 24V relay input | | |
| C | | RM/O | 24V relay output | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| D | LAN | | | | |
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| 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 | 0.3 W |
| MyVallox CO ₂ 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 |

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.



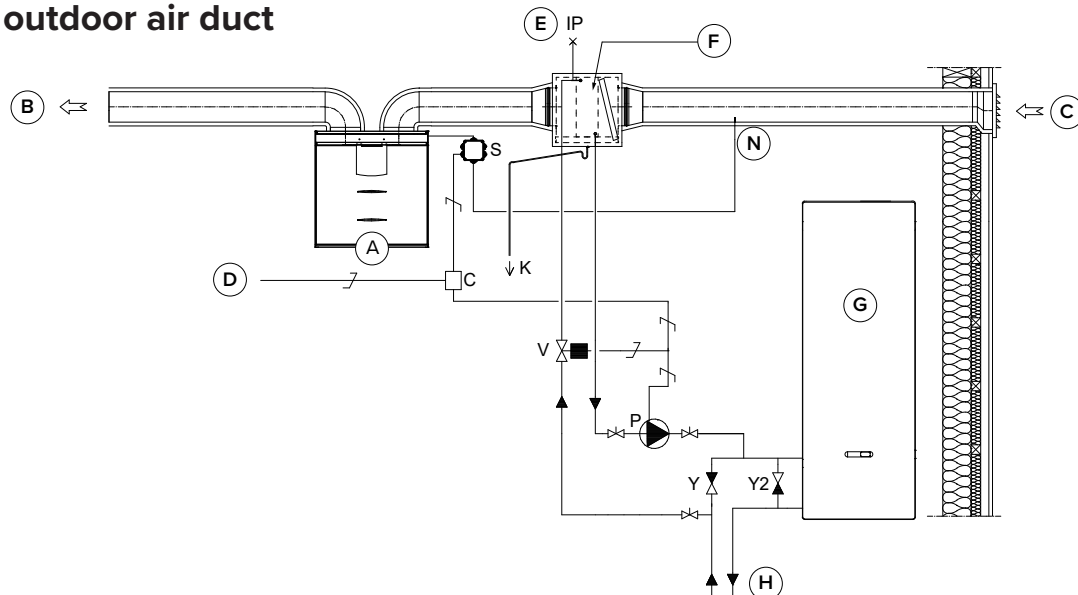
NOTE: When selecting the relay (C), take account of the maximum allowed combined power supply (6W) of the circuit board in the external MV electrical box, if the relay power supply comes from the circuit board's +24V connector.



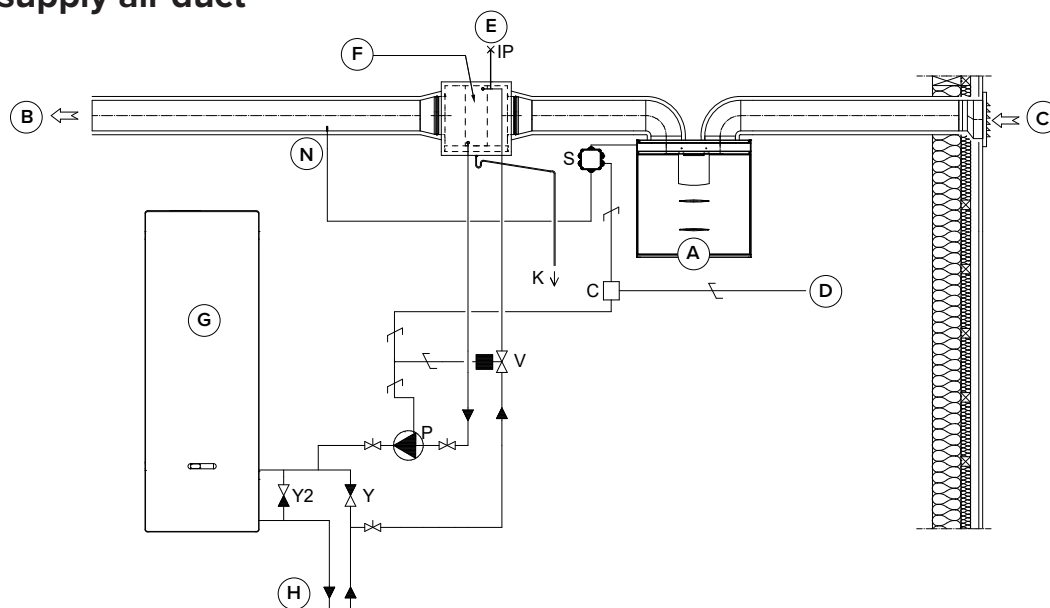
NOTE: Due to the risk of humidity damage, in a duct that has not been insulated for condensation the supply air temperature must not fall below +16 ... 20 °C.

DUCT RADIATOR OPERATION CHART

In the outdoor air duct



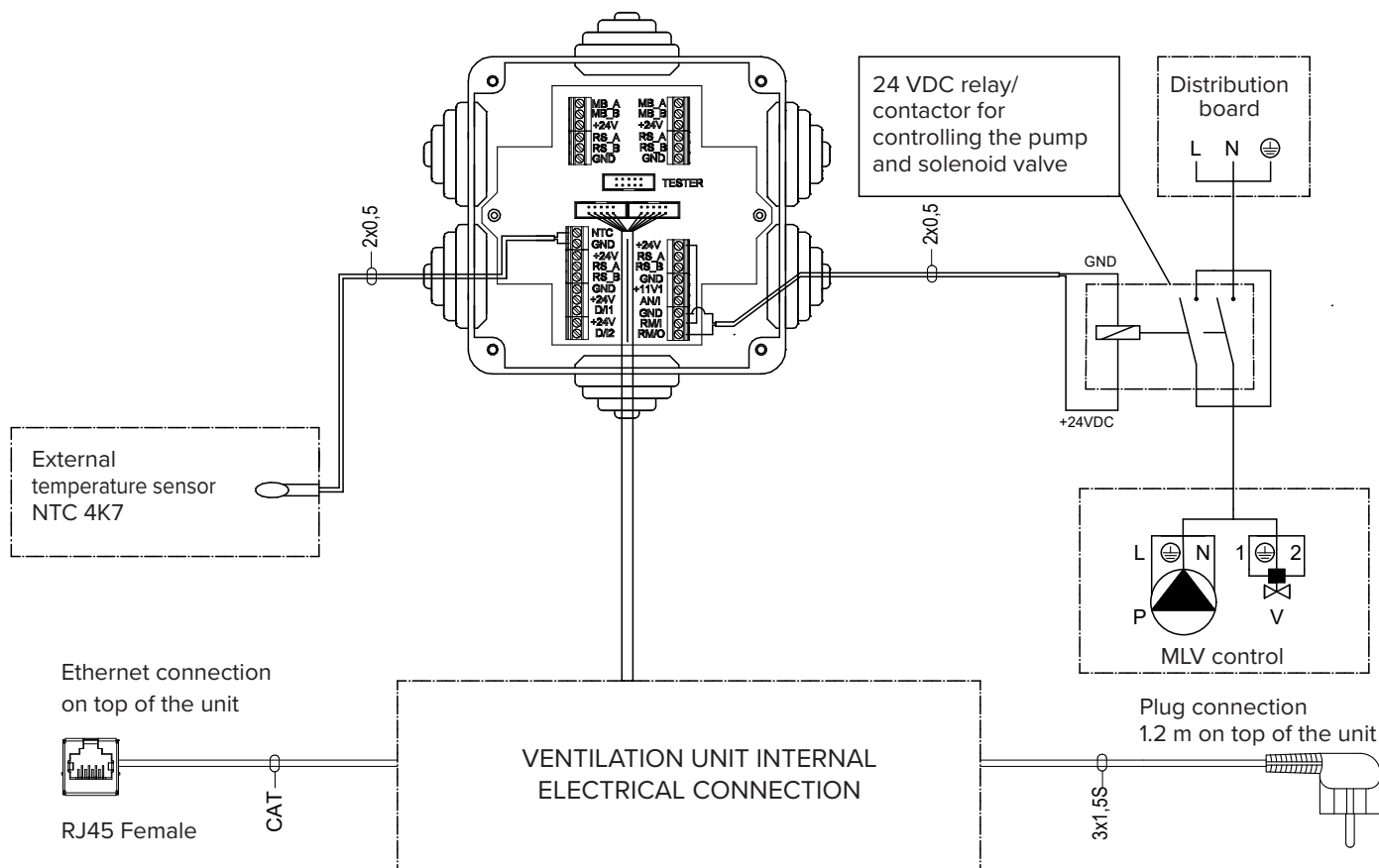
In the supply air duct



| | |
|---|------------------------------------|
| 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 |

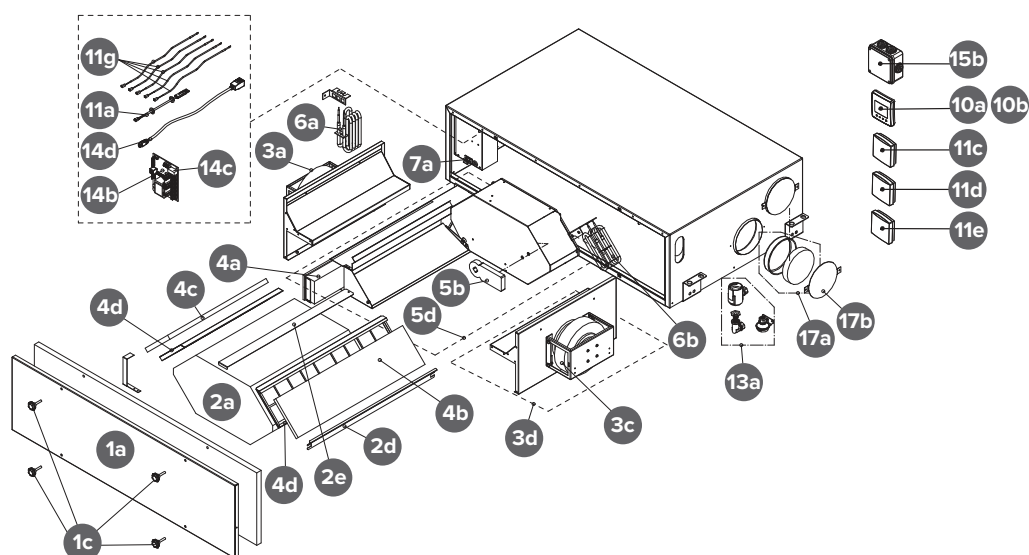
| | |
|----|--|
| P | Circulation pump. Not included in the delivery. The pump should be suited to pumping liquid colder than the surrounding air, due to risk of condensation (for example, Grundfos Magna 125-80). |
| V | Solenoid valve. Not included in the delivery. The valve that is chosen must be compatible with the heat collection circuit fluid (for example, Danfoss 032U161431). |
| 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/contacter 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. |

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 | | |

EXPLODED VIEW AND PARTS LIST



| NO. PART | PRODUCT NO. | NO. PART | PRODUCT NO. |
|---|-------------|---|-------------|
| 1a Door (Vallox TSK Multi 50 MV) | 3473500 | 4d Filter stand (coarse filter for extract air, 450 mm, Vallox TSK Multi 80 MV) | 3368500 |
| 1a Door (Vallox TSK Multi 80 MV) | 3483000 | 5b Bypass damper motor, R model | 930621 |
| 1c Finger screw for the door | 990698 | 5b Bypass damper motor, L model | 930620 |
| 2a HR cell, plastic (Vallox TSK Multi 50 MV) | 933175 | 5d HR cell bypass damper assembly (Vallox TSK Multi 50 MV R) | 3432700 |
| 2a HR cell, aluminium (Vallox TSK Multi 50 MV) | 933120 | 5d HR cell bypass damper assembly (Vallox TSK Multi 50 MV L) | 3551300 |
| 2a HR cell, enthalpy (Vallox TSK Multi 50 MV) | 933151 | 5d HR cell bypass damper assembly (Vallox TSK Multi 80 MV R) | 3479500 |
| 2a HR cell, plastic (Vallox TSK Multi 80 MV) | 933195 | 5d HR cell bypass damper assembly (Vallox TSK Multi 80 MV L) | 3551400 |
| 2a HR cell, aluminium (Vallox TSK Multi 80 MV) | 933130 | 6a Post-heating resistor, R model | 942210 |
| 2a HR cell, enthalpy (Vallox TSK Multi 80 MV) | 933152 | 6a Post-heating resistor, L model | 942211 |
| 2d Side sealing strip of HR cell (Vallox TSK Multi 50 MV) | 3356300 | 6b Additional heating resistor, R model (Vallox TSK Multi 80 MV) | 942210 |
| 2d Side sealing strip of HR cell (Vallox TSK Multi 80 MV) | 3352600 | 6b Additional heating resistor, L model (Vallox TSK Multi 80 MV) | 942211 |
| 2e Upper sealing strip of HR cell (Vallox TSK Multi 50 MV) | 3463400 | 7a Safety switch | 948370 |
| 2e Upper sealing strip of HR cell (Vallox TSK Multi 80 MV) | 3488700 | 10a MyVallox Control panel | 949033 |
| 3a Extract air fan (Vallox TSK Multi 50 MV) | 935385 | 10b MyVallox Touch control panel | 949090 |
| 3a Extract air fan (Vallox TSK Multi 80 MV) | 935490 | 11a Internal humidity and carbon dioxide sensor | 4107985 |
| 3c Supply air fan (Vallox TSK Multi 50 MV) | 935385 | 11c MyVallox carbon dioxide sensor (optional) | 949111 |
| 3c Supply air fan (Vallox TSK Multi 80 MV) | 935490 | 11d MyVallox humidity sensor (optional) | 946149 |
| 3d Fan assembly, R and L models (Vallox TSK Multi 50 MV) | 3473400 | 11e MyVallox VOC sensor (optional) | 949112 |
| 3d Fan assembly, R and L models (Vallox TSK Multi 80 MV) | 3482900 | 11g NTC sensor kit | 3494100 |
| 4a Fine filter for supply air (Vallox TSK Multi 50 MV) | 978136 | 13a Siphon Vallox Silent Klick | 3494701 |
| 4a Fine filter for supply air (Vallox TSK Multi 80 MV) | 978135 | 14b Motherboard | 949032-1 |
| 4b Coarse filter for supply air (Vallox TSK Multi 50 MV) | 978036 | 14c Glass tube fuse 63mA slow 5x20mm | 952490 |
| 4b Coarse filter for supply air (Vallox TSK Multi 80 MV) | 3326700 | 14d RJ45 extension cable | 952196 |
| 4c Coarse filter for extract air (Vallox TSK Multi 50 MV) | 978035 | 15b Connection box assembly | 3526700 |
| 4c Coarse filter for extract air (Vallox TSK Multi 80 MV) | 3379700 | 17a Plug (Vallox TSK Multi 50 MV) | 990630 |
| 4d Filter stand (coarse filter for supply air, 500 mm, Vallox TSK Multi 50 MV) | 3356400 | 17a Plug (Vallox TSK Multi 80 MV) | 990640 |
| 4d Filter stand (coarse filter for supply air, 580 mm, Vallox TSK Multi 80 MV) | 3352700 | 17b Cover panel 100mm (Vallox TSK Multi 50 MV) | 3363500 |
| 4d Filter stand (coarse filter for extract air, 400 mm, Vallox TSK Multi 50 MV) | 3382800 | 17b Cover panel 125mm (Vallox TSK Multi 80 MV) | 3363600 |

DECLARATION OF CONFORMITY

Manufacturer Vallox Oy

Address Myllykyläntie 9-11, FIN-32200 LOIMAA, FINLAND

Telephone number +358 10 7732 200

Fax +358 10 7732 201

The person who compiles the technical file Petri Koivunen
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Email petri.koivunen@vallox.com

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 + A1:2019 + 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

www.vallox.com

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D5321/06.03.2024FIN/06.03.2024ENG/PDF