

Model

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

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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

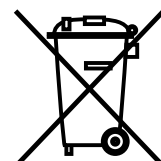


WARNING

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

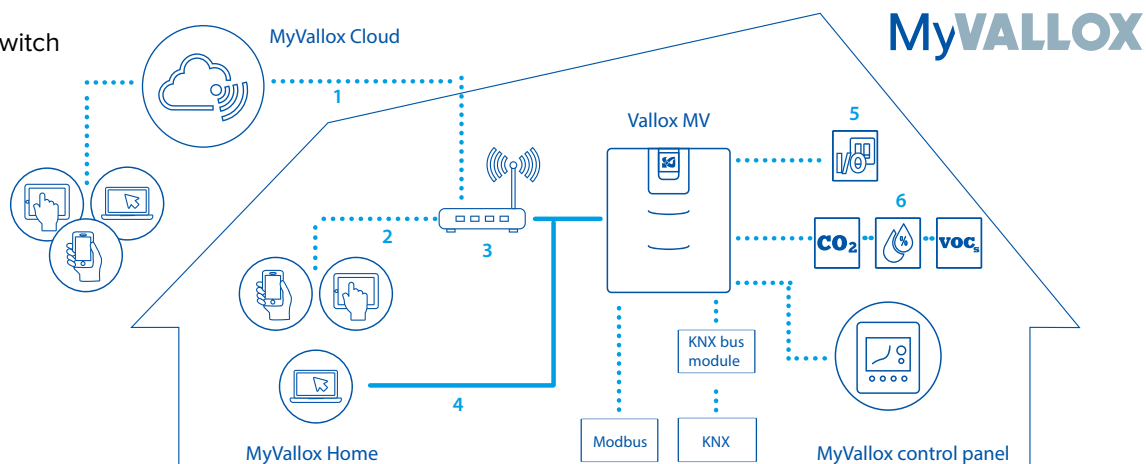
- Vallox TSK Multi 50 MV and Vallox TSK Multi 80 MV are designed to be mounted above a false ceiling.

**NOTE**

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

SYSTEM DESCRIPTION

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 the 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.

Filter reminder

The unit reminds the user of the need to change the filters through the MyVallox control panel and the MyVallox Home/Cloud user interface, as well as by changing the relay status, if a signal light has been connected to the relay connectors of the unit.

The filter reminder can be acknowledged:

- **From the MyVallox control panel**
- **From the MyVallox Home/Cloud user interface**
- **From the Vallox Delico PTD EC and Vallox Capto PTC EC control hoods** — Damper closed, then open-closed-open-closed. Press at a less than 1 second interval.

Ventilation unit setup without a MyVallox control panel

The ventilation unit setup can also be completed without a MyVallox 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.

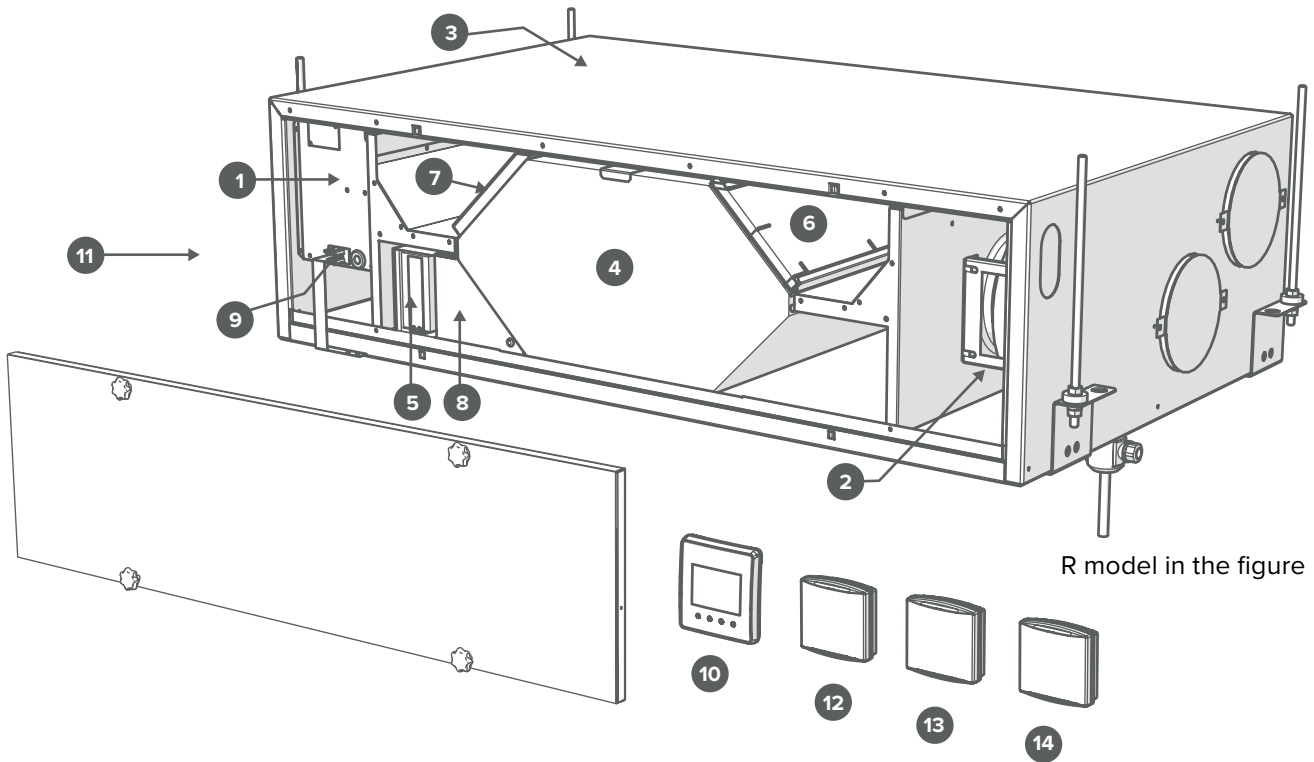


IMPORTANT
















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

- | | | | | | |
|---|-------------------------------|---|---|----------------------------------|----|
|  | Supply air fan | 1 |  | Safety switch | 9 |
|  | Extract air fan | 2 |  | Control panel | 10 |
|  | Post-heating resistor | 3 |  | Internal humidity sensor | 11 |
|  | Heat recovery cell | 4 |  | Internal carbon dioxide sensor | 11 |
|  | Fine filter for supply air | 5 |  | Carbon dioxide sensor (optional) | 12 |
|  | Coarse filter for supply air | 6 |  | Humidity sensor (optional) | 13 |
|  | Coarse filter for extract air | 7 |  | VOC sensor (Optional) | 14 |
|  | Bypass damper of the HR cell | 8 | | | |

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.

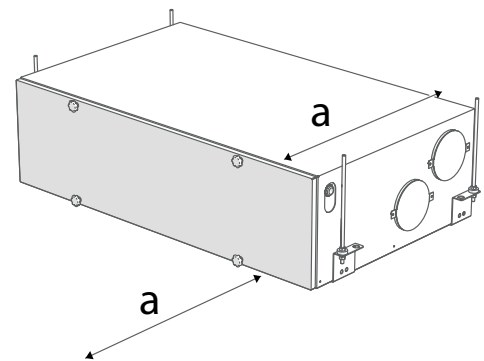
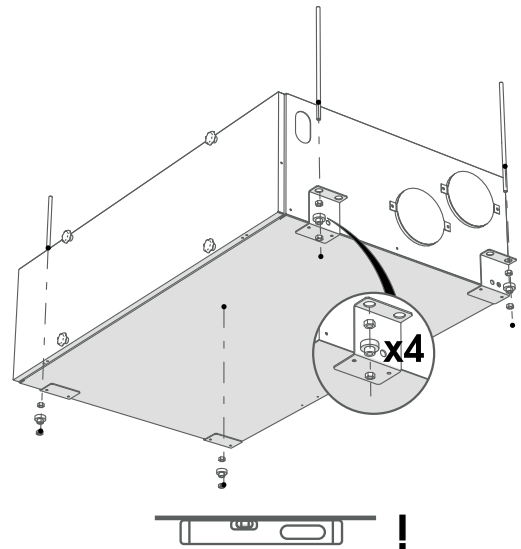
! IMPORTANT
The unit must be installed straight so that the condensing water that collects in the bottom pool drains through the condensing water outlet.

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

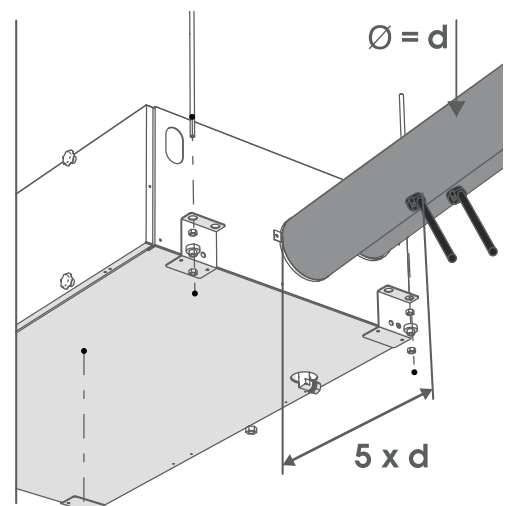
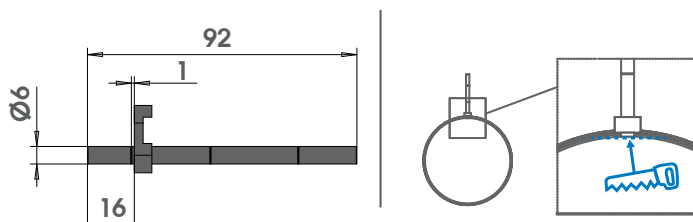
The unit is delivered with a siphon that has an air lock and a more compact elbow. When the elbow is used, an air lock must be installed somewhere else between the extraction pipes (the parts needed are included in the accessory bag). The air lock ensures the removal of condensing water and muffles any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



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

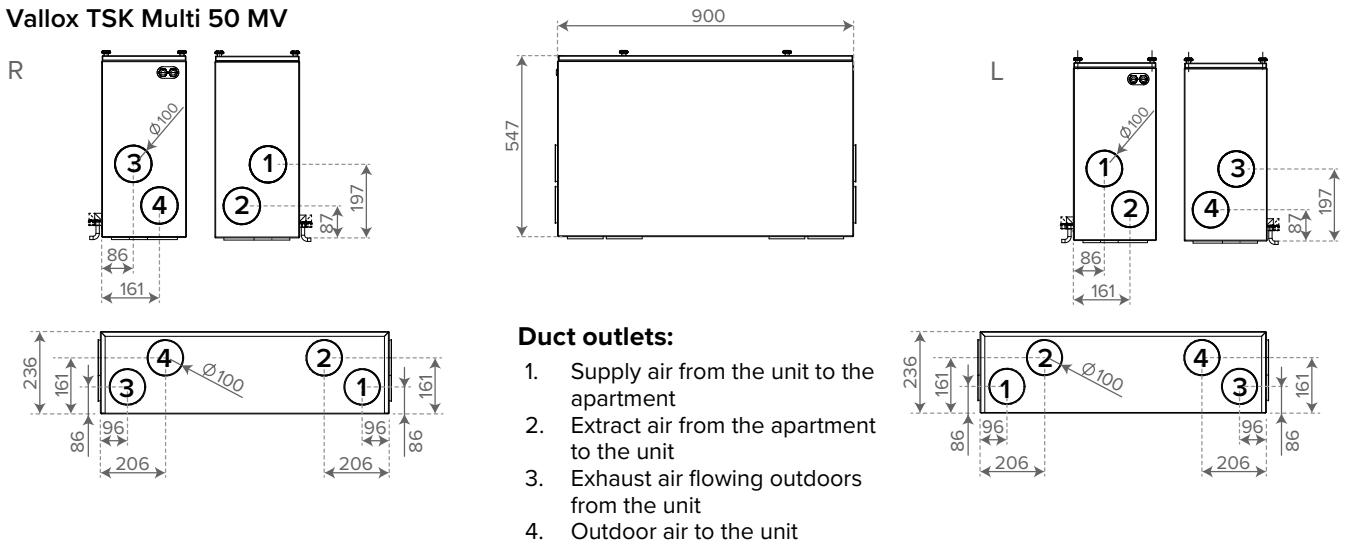
MEASURING AND ADJUSTING THE AIR FLOWS OF THE VENTILATION UNIT

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.

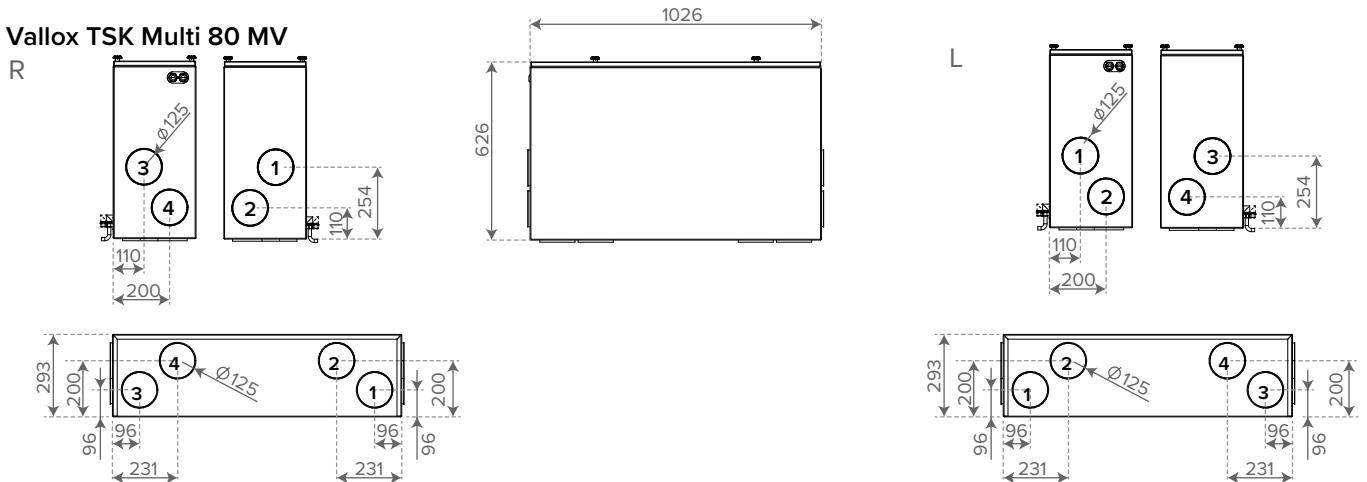


DIMENSIONS AND DUCT OUTLETS

Vallox TSK Multi 50 MV

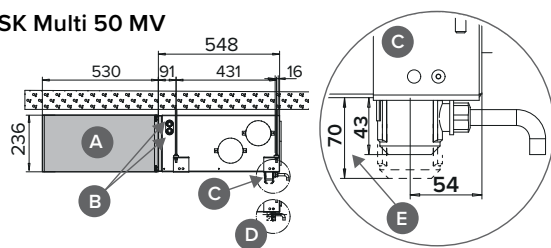


Vallox TSK Multi 80 MV

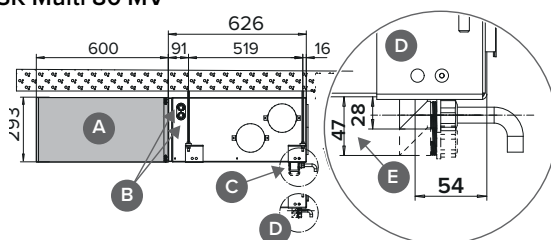


Dimensioning figure and space required for installation of the Vallox Silent Klick siphon

Vallox TSK Multi 50 MV



Vallox TSK Multi 80 MV

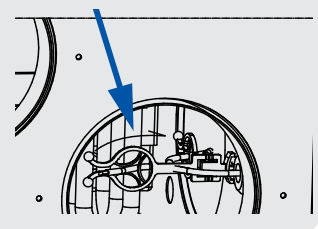


A	Service space
B	Power plug cord
C	Siphon
D	Alternative siphon
E	Space required for installation



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.



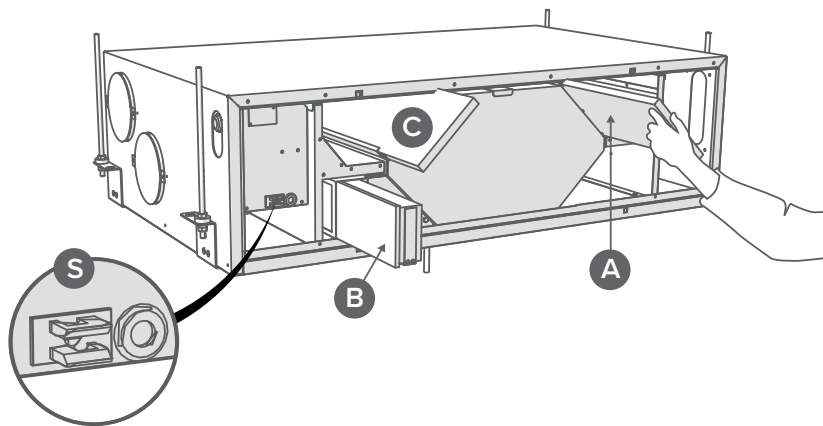
BEFORE BEGINNING MAINTENANCE WORK

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):

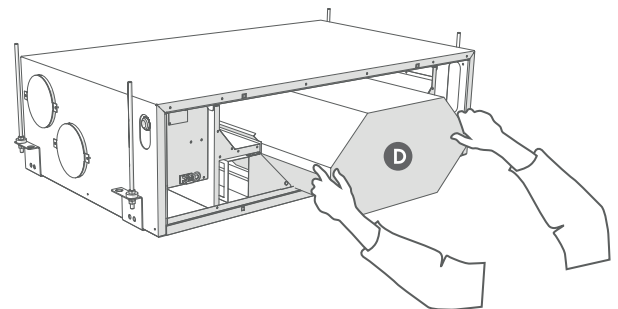
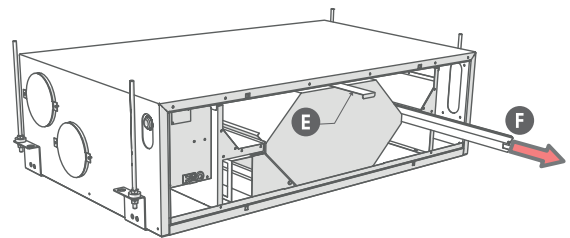
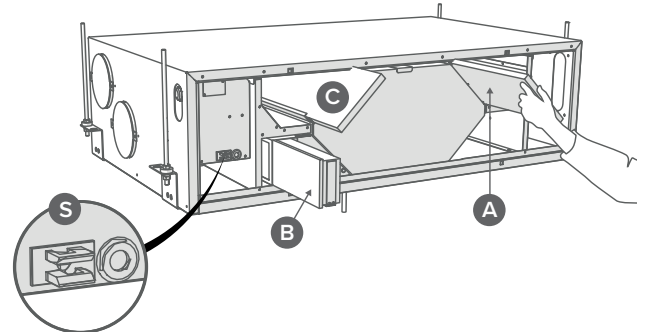
1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift the door off.

 **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

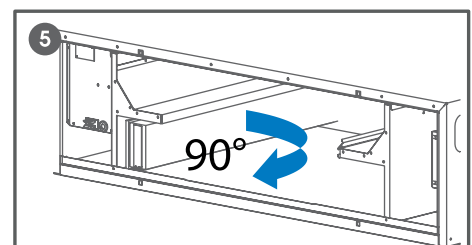
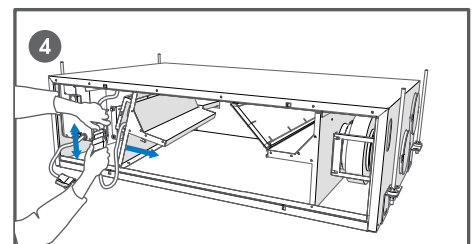
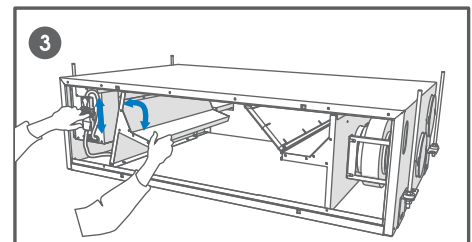
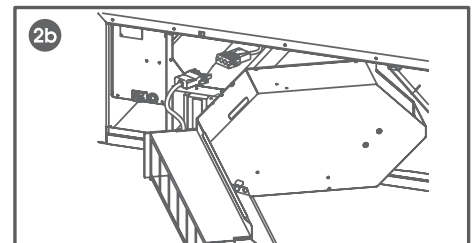
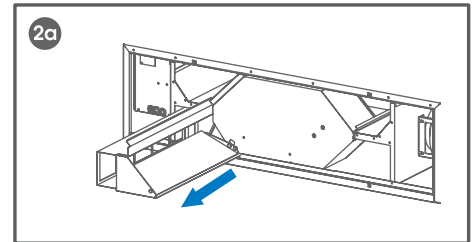
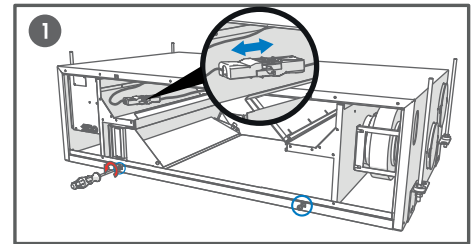
The steps are mirrored for the left handed unit.

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:

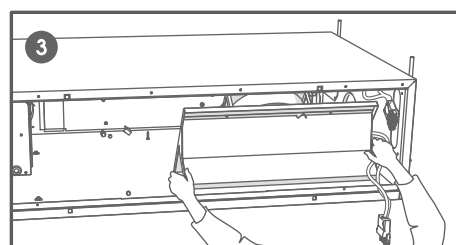
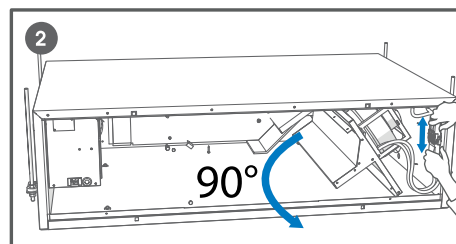
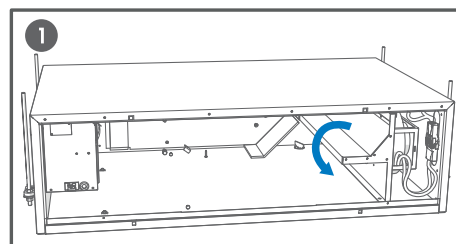
1. Disconnect the ventilation unit from the mains electricity supply.
2. Lift the door off.



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

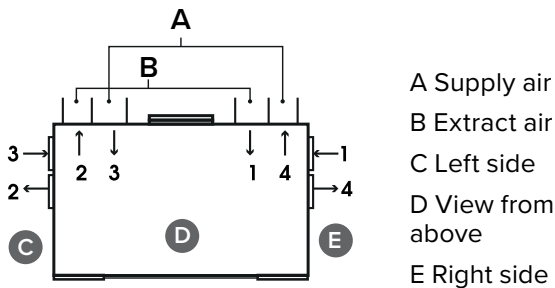
TECHNICAL SPECIFICATIONS

Product title	Vallox TSK Multi 50 MV R Vallox TSK Multi 50 MV L	Product number	3520700 3520800
Air volumes Supply air Extract air	47 dm ³ /s, 100 Pa 56 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 ISO Coarse > 75 %		
Specific energy consumption (SEC) in a cold climate in a temperate climate	A+ B	Operating efficiencies* Annual efficiency Supply air efficiency Specific Fan Power (SFP)	79 % 86 % 1.3 kW/m ³ /h (34 dm ³ /s)
Dimensions (w x h x d)	900 x 236 x 547 mm	Weight	45 kg

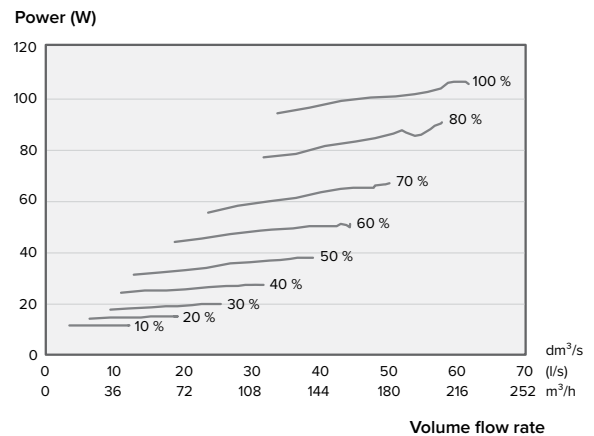
*Working point defined in the Ecodesign Directive (2009/125/EC), Southern Finland, Helsinki-Vantaa TRY year 2012.

AIR FLOW MEASUREMENT POINTS

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

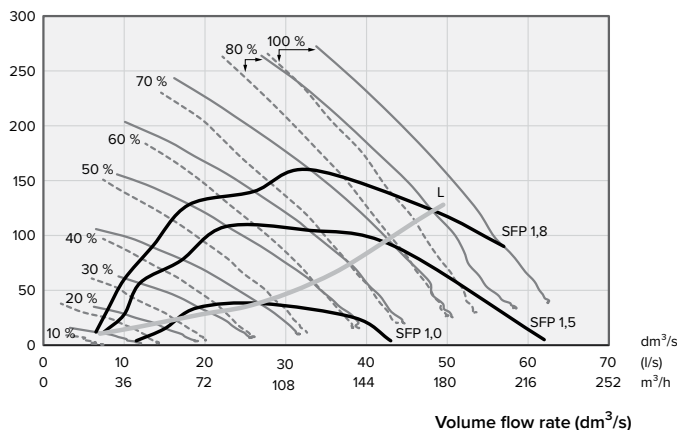


FAN INPUT POWER



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)

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

SOUND VALUES

		Sound power level in the supply air duct (one duct) by octave band L_w , dB Adjustment position									Sound power level in the extract air duct (one duct) by octave band L_w , dB Adjustment position									
		10	20	30	40	50	60	70	80	100	10	20	30	40	50	60	70	80	100	
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 , 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

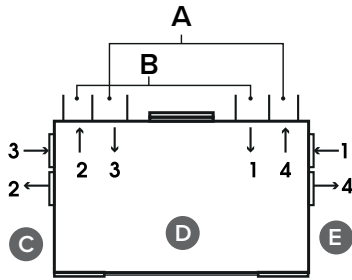
TECHNICAL SPECIFICATIONS

Product title	Vallox TSK Multi 80 MV R Vallox TSK Multi 80 MV L	Product number 3530300 3530400	
Air volumes Supply air Extract air	85 dm^3/s , 100 Pa 91 dm^3/s , 100 Pa	Fans Supply air Extract air	0.081 kW, 0.65 A EC 0.081 kW, 0.65 A EC
Post-heating	Electrical resistor, 900 W	Electrical connection	230 V, 50 Hz, 8.8 A power plug
Pre-heating	–	Enclosure protection class	IP 34
Additional heating	Electrical resistor, 900 W	Heat recovery bypass	Automatic
Filters Supply air Extract air	ISO Coarse > 75 % + ISO ePM ₁ ISO Coarse > 75 %		
Specific energy consumption (SEC) in a cold climate in a temperate climate	A+ B	Operating efficiencies* Annual efficiency Supply air efficiency Specific Fan Power (SFP)	79 % 86 % 1.26 $\text{kW}/\text{m}^3/\text{h}$ (60 dm^3/s)
Dimensions (w x h x d)	1026 x 293 x 626 mm	Weight	58.5 kg

*Working point defined in the Ecodesign Directive (2009/125/EC), Southern Finland, Helsinki-Vantaa TRY year 2012.

AIR FLOW MEASUREMENT POINTS

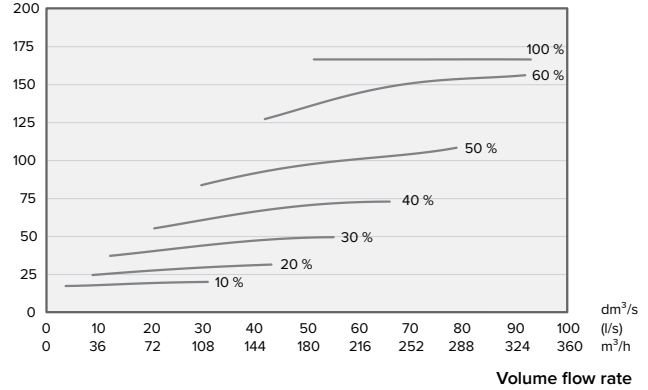
Measurement points after the connection outlet. The fan curves indicate the total pressure accounted for by duct losses.



A Supply air
B Extract air
C Left side
D View from above
E Right side

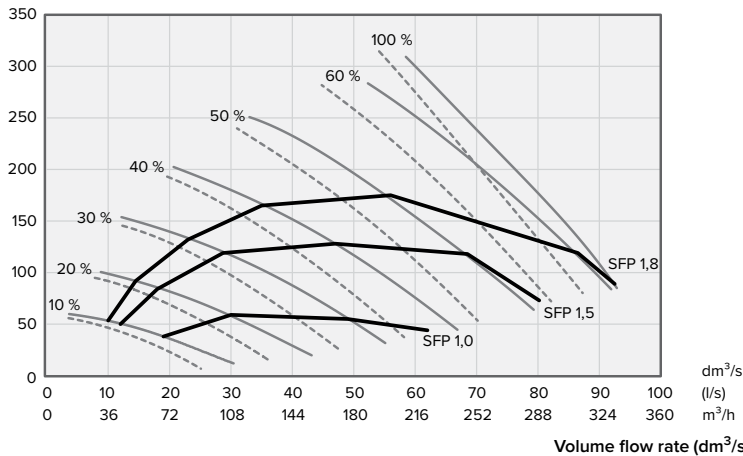
FAN INPUT POWER

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)

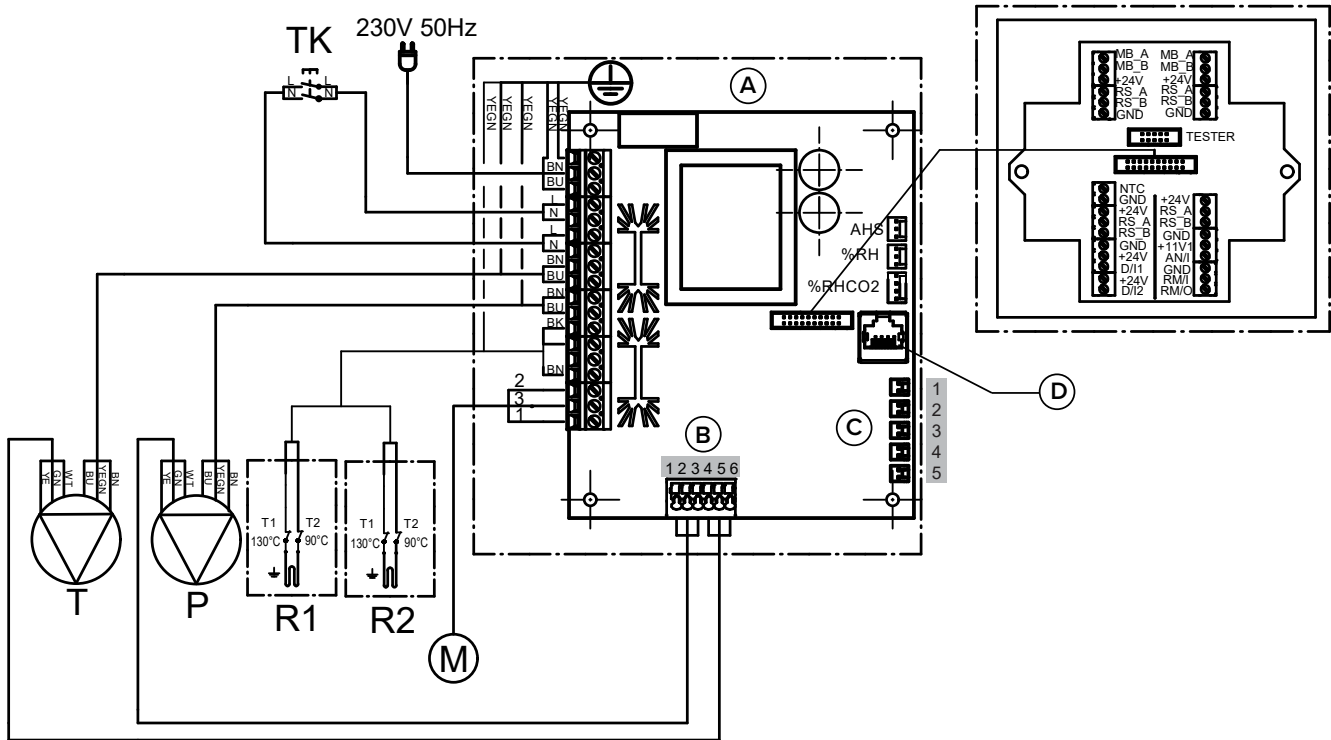
$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max) (dm}^3\text{/s)}}$$

SOUND VALUES

	Sound power level in the supply air duct (one duct) by octave band L _w , dB Adjustment position										Sound power level in the extract air duct (one duct) by octave band L _w , dB Adjustment position									
	10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Adjustment position (%)	10	20	32	37	47	57	62			65	17	22	36	42	51	60	66			67
Air flow dm ³ /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 , dB	61	70	72	75	77	82	82		81	55	61	64	65	68	78	72			74	
L _{WA} , 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 (10m ² sound absorption)																				
Adjustment position / Air flows (supply/extract)																				
Adjustment position (%)	10	20	30	40	50	60	70	80	90	100	10	20	30	40	50	60	70	80	90	100
Air flow dm ³ /s	15/17	33/39	32/36	38/42	47/51	57/60	62/67			65/67	15/17	33/39	32/36	38/42	47/51	57/60	62/67			65/67
L _{pa} , dB (A)	27	33	40	43	46	50	52			52	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

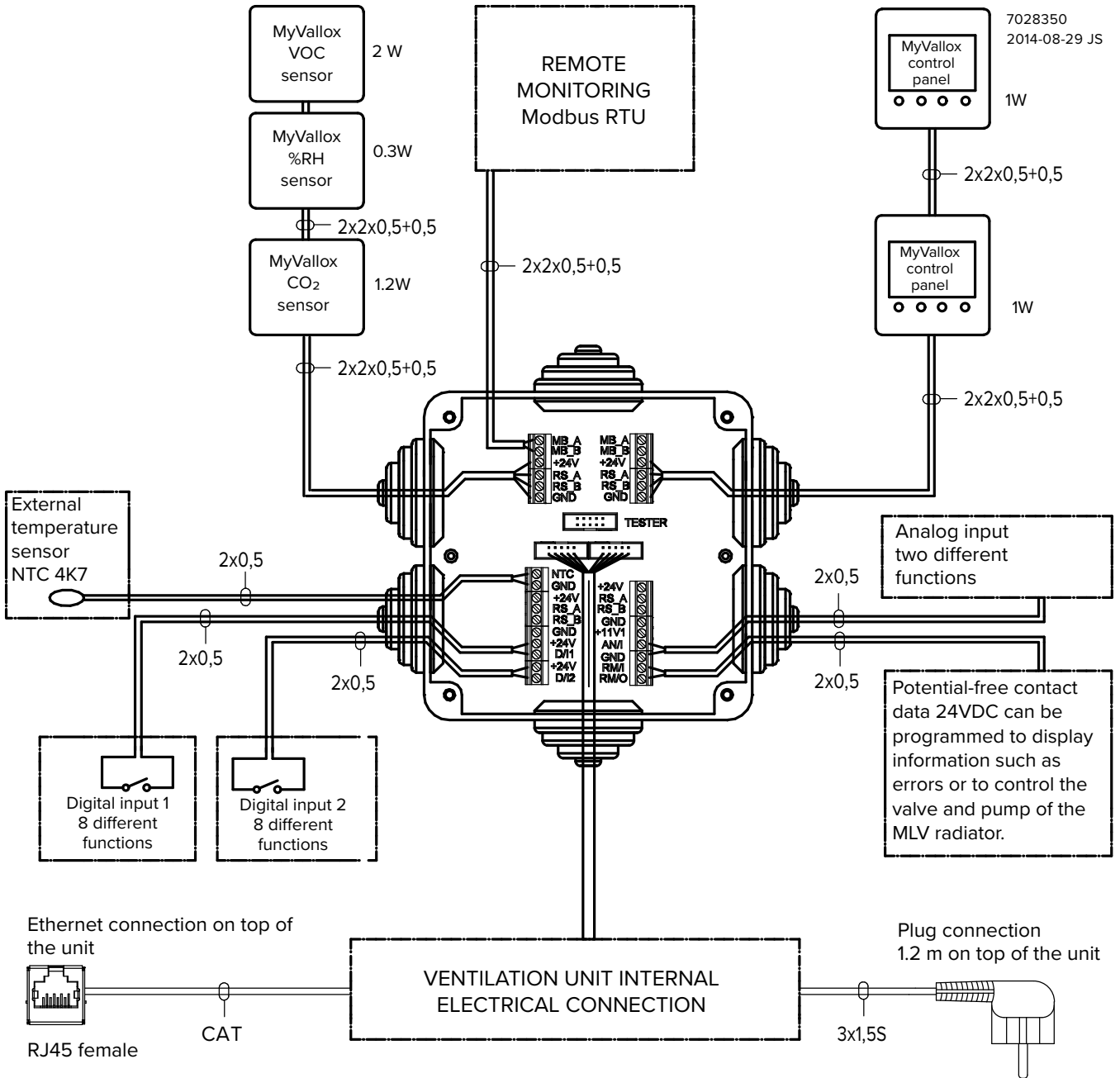


A	Motherboard	MB_A	External Modbus A signal	T	Supply air fan
B	1. Extract air fan tachometer (WT)	MB_B	External Modbus B signal	P	Extract air fan
	2. GND (GN)	+24V	+24V voltage (DC)	M	Damper motor
	3. Extract air fan PWM (YE)	GND	Digital and analog ground potential	TK	Safety switch
	4. Supply air fan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

CABLE COLOURS

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

EXTERNAL ELECTRICAL CONNECTION



POWER SUPPLY	
Maximum	≤6W
MyVallox Control	1W
MyVallox Touch	0.5 W
MyVallox %RH sensor	0.3 W
MyVallox CO ₂ sensor	1.2 W
MyVallox VOC sensor	2 W
Voltage	24 VDC

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

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

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.



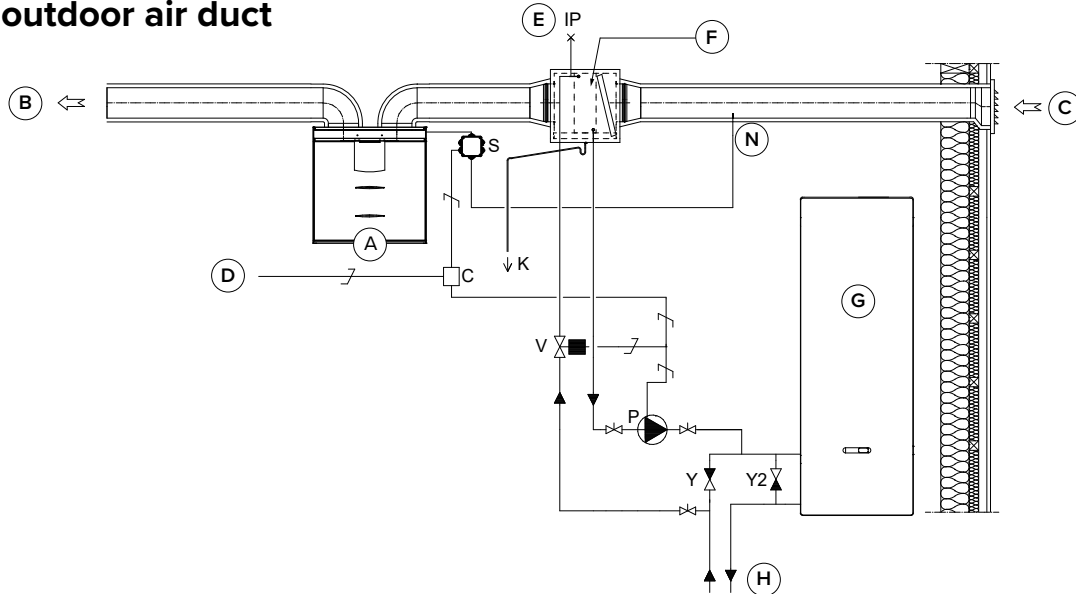
NOTE: When selecting the relay (C), take account of the maximum allowed combined power supply (6W) of the circuit board in the external MV electrical box, if the relay power supply comes from the circuit board's +24V connector.



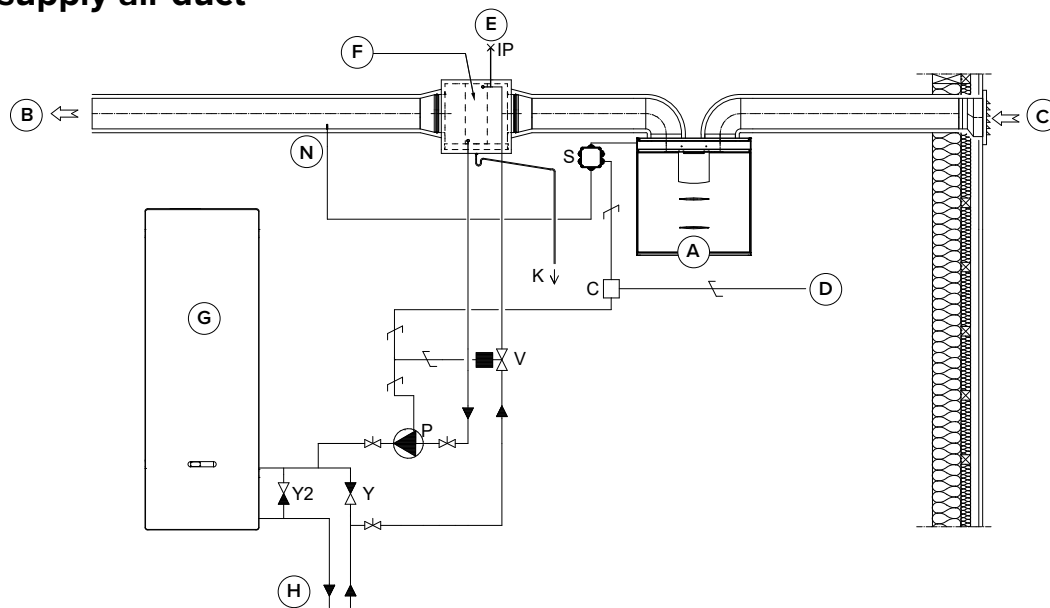
NOTE: Due to the risk of humidity damage, in a duct that has not been insulated for condensation the supply air temperature must not fall below +16 ... 20 °C.

DUCT RADIATOR OPERATION CHART

In the outdoor air duct

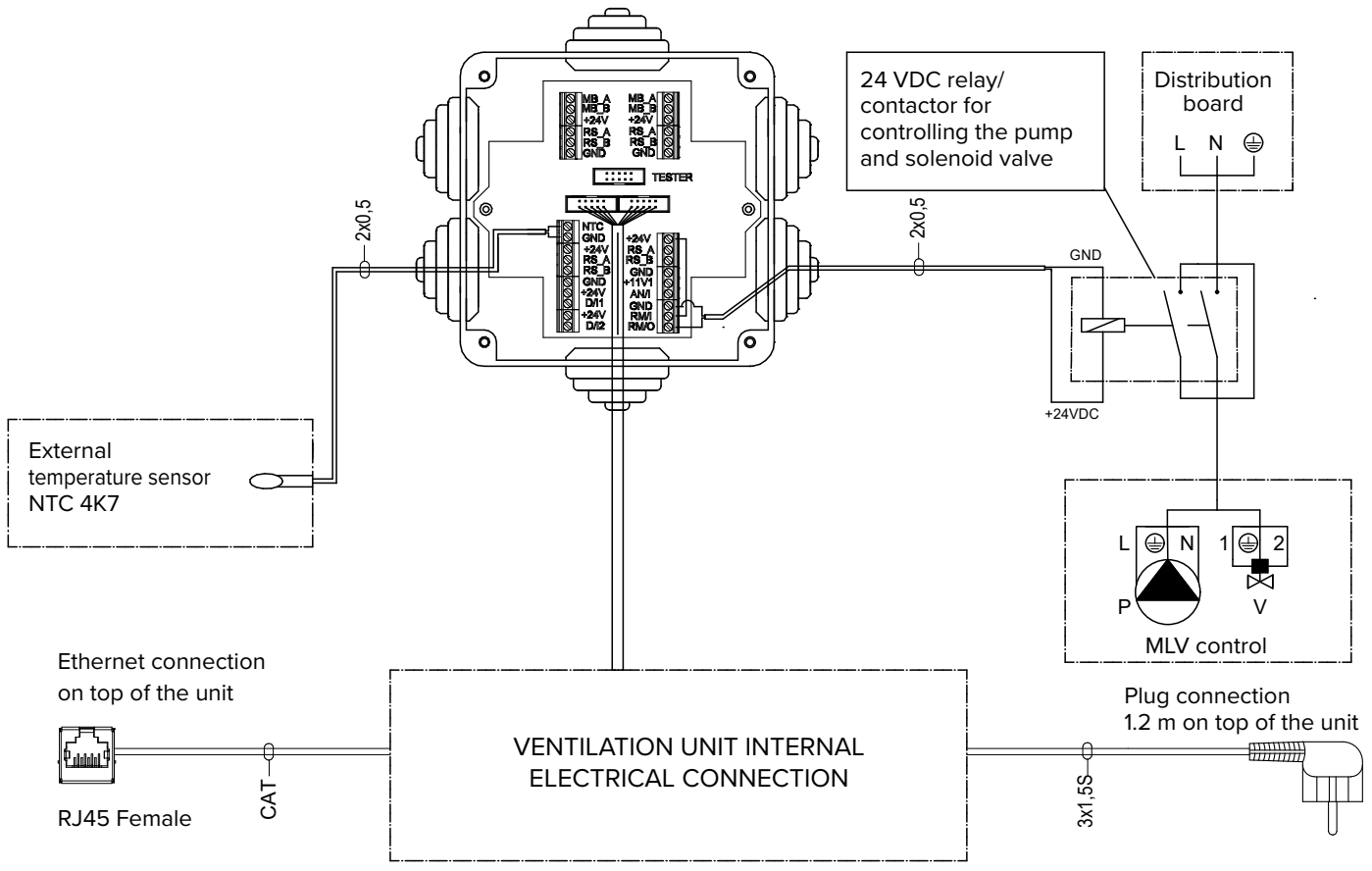


In the supply air duct



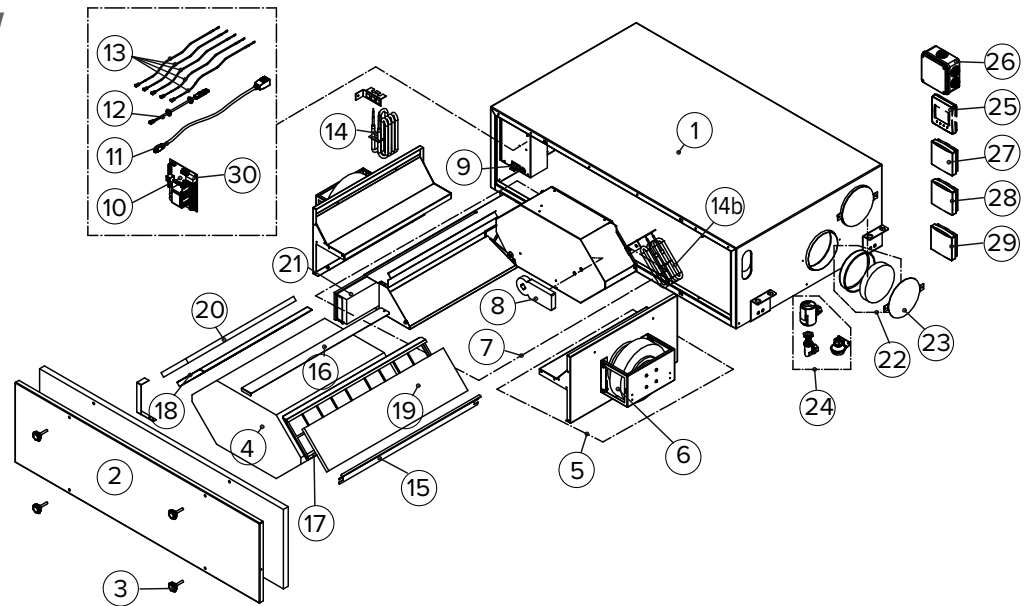
A	Ventilation unit	P	Circulation pump. Not included in the delivery. The pump should be suited to pumping liquid colder than the surrounding air, due to risk of condensation (for example, Grundfos Magna 125-80).
B	Supply air	V	Solenoid valve. Not included in the delivery. The valve that is chosen must be compatible with the heat collection circuit fluid (for example, Danfoss 032U161431).
C	Outdoor air	K	Condensing water tube. Not included in the delivery.
D	Feed from the distribution board	IP	De-aerator. Not included in the delivery.
E	Air extraction	S	External electrical junction box for the MV
F	Duct radiator (reverse connection)	N	External NTC sensor for Vallox MV ventilation units
G	Heat pump	C	24 VDC relay/contacter for controlling the pump and the solenoid valve. Not included in the delivery. (For example, ABB CR-P024DC2)
H	Heat collection circuit	Y	One-way valve. Not included in the delivery.
N	External NTC sensor	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	CODE
1. Frame: Vallox TSK Multi 50 MV / 80 MV	
2. Door (Vallox TSK Multi 50 MV)	3473500
2. Door (Vallox TSK Multi 80 MV)	3483000
3. Finger screw for the door	990698
4. HR cell, plastic (Vallox TSK Multi 50 MV)	933175
4. HR cell, aluminium (Vallox TSK Multi 50 MV)	933120
4. HR cell, enthalpy (Vallox TSK Multi 50 MV)	933151
4. HR cell, plastic (Vallox TSK Multi 80 MV)	933195
4. HR cell, aluminium (Vallox TSK Multi 80 MV)	933130
4. HR cell, enthalpy (Vallox TSK Multi 80 MV)	933152
5. Fan assembly, R and L models (Vallox TSK Multi 50 MV)	3473400
5. Fan assembly, R and L models (Vallox TSK Multi 80 MV)	3482900
6. Fan (Vallox TSK Multi 50 MV)	935385
6. Fan (Vallox TSK Multi 80 MV)	935490
7. Bypass duct assembly (Vallox TSK Multi 50 MV R)	3432700
7. Bypass duct assembly (Vallox TSK Multi 50 MV L)	3551300
7. Bypass duct assembly (Vallox TSK Multi 80 MV R)	3479500
7. Bypass duct assembly (Vallox TSK Multi 80 MV L)	3551400
8. Damper actuator, R model	930621
8. Damper actuator, L model	930620
9. Safety switch	948370
10. Motherboard	949032-1
11. RJ45 extension cable	952196
12. Internal humidity and carbon dioxide sensor	4107985
13. NTC sensor kit	3494100
14. Post-heating resistor, R model	942210
14. Post-heating resistor, L model	942211

NO. PART	CODE
14 b. Additional heating resistor, R model (Vallox TSK Multi 80 MV)	942210
14 b. Additional heating resistor, L model (Vallox TSK Multi 80 MV)	942211
15. Side sealing strip of the heat recovery cell (Vallox TSK Multi 50 MV)	3356300
15. Side sealing strip of the heat recovery cell (Vallox TSK Multi 80 MV)	3352600
16. Upper sealing strip of the heat recovery cell (Vallox TSK Multi 50 MV)	3463400
16. Upper sealing strip of the heat recovery cell (Vallox TSK Multi 80 MV)	3488700
17. Filter stand (coarse filter for supply air, 500 mm, Vallox TSK Multi 50 MV)	3356400
17. Filter stand (coarse filter for supply air, 580 mm, Vallox TSK Multi 80 MV)	3352700
18. Filter stand (coarse filter for extract air, 400 mm, Vallox TSK Multi 50 MV)	3382800
18. Filter stand (coarse filter for extract air, 450 mm, Vallox TSK Multi 80 MV)	3368500
19. Coarse filter for supply air (Vallox TSK Multi 50 MV)	978036
19. Coarse filter for supply air (Vallox TSK Multi 80 MV)	3326700
20. Coarse filter for extract air (Vallox TSK Multi 50 MV)	978035
20. Coarse filter for extract air (Vallox TSK Multi 80 MV)	3379700
21. Fine filter for supply air (Vallox TSK Multi 50 MV)	978136
21. Fine filter for supply air (Vallox TSK Multi 80 MV)	978135
22. Plug (Vallox TSK Multi 50 MV)	990630
22. Plug (Vallox TSK Multi 80 MV)	990640
23. Cover panel 100mm (Vallox TSK Multi 50 MV)	3363500
23. Cover panel 125mm (Vallox TSK Multi 80 MV)	3363600
24. Siphon Vallox Silent Klick	3494701
25. MyVallox Control panel	949033
25. MyVallox Touch control panel	949090
26. Connection box assembly	3526700
27. MyVallox humidity sensor (optional)	946149
28. MyVallox carbon dioxide sensor (optional)	949111
29. MyVallox VOC sensor (optional)	949112
30. Glass tube fuse 63mA slow 5x20mm	952490

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

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Email petri.koivunen@vallox.com

Description of unit Ventilation unit with heat recovery

Model Vallox 51 MV R, Vallox 51 MV L, Vallox 51K MV R, Vallox 51K MV L, Vallox 51 SC R, Vallox 51 SC L, Vallox 51K SC R, Vallox 51K SC L, ValloPlus 180 MV R, ValloPlus 180 MV L, ValloPlus 180 MV-K R, ValloPlus 180 MV-K L, ValloPlus 180 MV-E R, ValloPlus 180 MV-E L, ValloPlus 180 SC R, ValloPlus 180 SC L, Vallox 90 MC R, Vallox 90 MC L, Vallox 90K MC R, Vallox 90K MC L, Vallox 90 MV R, Vallox 90 MV L, Vallox 90K MV R, Vallox 90K MV L, ValloPlus 240 MV R, ValloPlus 240 MV L, ValloPlus 240K MV R, ValloPlus 240K MV L, ValloPlus 240 SC R, ValloPlus 240 SC L, Vallox 096 MC R, Vallox 096 MC L, Vallox 096 MV R, Vallox 096 MV L, ValloPlus 270 SC R, ValloPlus 270 SC L, ValloPlus 270 MV R, ValloPlus 270 MV L, Vallox 101 MC R, Vallox 101 MC L, Vallox 101 MV R, Vallox 101 MV L, Vallox 110 MV R, Vallox 110 MV L, ValloPlus 350 SC R, ValloPlus 350 SC L, ValloPlus 350 MV R, ValloPlus 350 MV L, Vallox 145 MV R, Vallox 145 MV L, ValloPlus 510 SC R, ValloPlus 510 SC L, ValloPlus 510 MV R, ValloPlus 510 MV L, Vallox 99 MV R, Vallox 99 MV L, ValloPlus 370 MV, ValloPlus 370 MV-E

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, 17th March 2023



Jukka-Pekka Korja
Managing Director

VALLOX

www.vallox.com

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D5321/08.05.2023FIN/16.05.2023ENG/PDF