

VALLOX

Model
Vallox 096 MC R
Vallox 096 MC L

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Vallox 096_{MC}

Manual

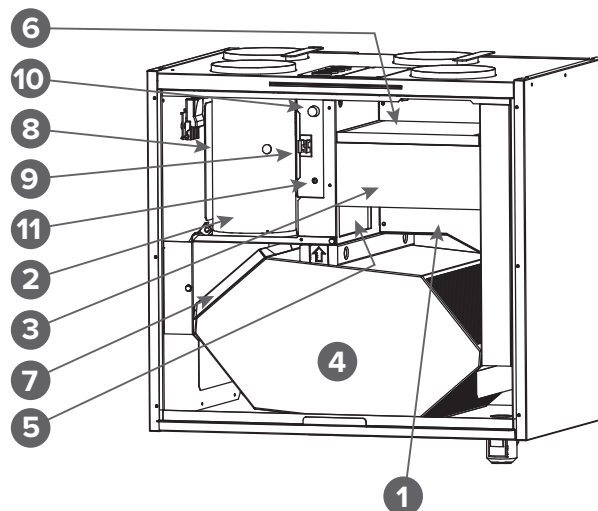


Ventilation unit

-  Extract air fan (behind the protective cover) 1
-  Supply air fan (behind the extract air duct) 2
-  Fine filter for supply air 3
-  Heat recovery cell 4
-  Bypass damper of the HR cell 5
-  Coarse filter for supply air 6
-  Coarse filter for extract air 7
-  Post-heating resistor (behind the extract air duct) 8
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-  Vallox Delico PTD EC control hood, Vallox Capto PTC EC control hood, Vallox X-Line PTXP MC control hood, or Vallox X-Line PTXPA MC control hood (ordered separately) 14

R model in the figure.

In the L model, the parts are mirrored



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.

FAN SPEED ADJUSTMENT

The fan speed of the Vallox ventilation unit is adjusted using a four-step control.

The available speed options of the control switch are 1, 2, 3, and 4:

1. Away mode. The ventilation efficiency can be temporarily reduced when the apartment is unoccupied.
- 2-3. Standard mode. In standard mode, the air inside the apartment is replaced once every two hours.
4. Boost mode. Cooking, sauna, bathing, drying of clothes, guests, and other similar situations can require that ventilation be increased from the standard setting.

The fan speed can also be controlled through a separate Vallox control hood, the Vallox ProControl panel, or directly through voltage messages (0-10 V).

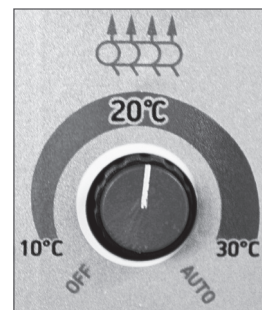


Vallox Simple Control panel

ADJUSTING THE SUPPLY AIR TEMPERATURE AND SUMMER/WINTER FUNCTION

The temperature of the air blown into the apartment can be adjusted approximately between +10 °C and +30 °C. The unit has an automatic summer/winter function (a bypass flap).

- When the adjusted temperature is between +10 °C and +30 °C, the heat recovery cell is not bypassed, i.e. the unit is in winter mode.
- In the OFF position, the unit is in the summer mode, i.e. post-heating is turned off and the heat recovery cell is bypassed when the outdoor temperature is above +14°C. The heat recovery will be turned on when the outdoor temperature falls below +12 °C.
- In the AUTO position, the unit will operate as follows around the year: The default post-heating setting is +17 °C. The unit will bypass the heat recovery cell when the temperature of the outdoor air exceeds +14 °C. The heat recovery will be turned on when the outdoor temperature falls below +12 °C. During the bypass, post-heating is turned off.



Adjusting supply air temperature

The winter function of the ventilation unit

The limit value has been set in the factory for freezing of the heat recovery cell. When this limit value is exceeded, the ventilation unit starts to defrost the heat recovery cell by directing the outdoor air past the heat recovery cell.

The duration of the defrost cycle is 15-45 min depending on the amount of ice accumulated in the heat recovery cell and on the extract air flow. The factory settings ensure optimal operation in standard living and detached house conditions. Even though the winter operation parameters can be adjusted for certain extreme conditions, such as swimming pool facilities, it is always advisable to contact Vallox maintenance services.

FIREPLACE SWITCH

A switch with timer functions can be connected to the unit. The switch stops the extract air fan when the fireplace is being used. **NOTE!** Starting up the extract air fan can reduce the draw of the fireplace! In winter, this can disturb the winter mode of the ventilation unit. The situation will return to normal soon after the fireplace mode is turned off.

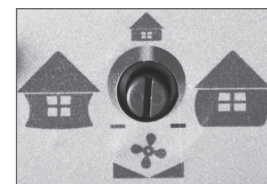


Concealed installation
of the fireplace switch (optional)

ADJUSTING THE SUPPLY AND EXTRACT AIR RATIO

This function might be needed when the air flows are adjusted at the valves during installation. The user does not need to adjust this function once the valves have been adjusted, and indeed should not adjust it at all. A potentiometer can be used to reduce the supply or extract air flow as required.

When the potentiometer is set roughly in the centre position, neither the supply nor the extract air flow has been reduced. When the potentiometer is turned anti-clockwise, the supply air flow is reduced, and when the potentiometer is turned clockwise, the extract air flow is reduced.



The potentiometer for adjusting
the supply and extract air flows

MAINTENANCE REMINDER

If a signal light is connected to the connectors of the unit's error relay, the unit will send a reminder of service need every six months. If connected, the signal light will flash every second. Sounds made by the relay can then be heard from inside the unit. The maintenance reminder will be set off automatically when the door of the ventilation unit is opened or the power is turned off.

The maintenance reminder can also be set off manually.

Vallox Simple Control panel, and Vallox X-Line PTXP MC and PTXPA MC control hoods, VAK 0-10 VDC:

- The low speed is turned on, then higher-lower-higher
 - Low speed under 4 V
 - High speed over 6 V
- The selected speed will always be turned on for 1-5 seconds

Vallox Delico PTD EC and Vallox Capto PTC EC control hoods:

- The damper is closed, then open-closed-open
- Press at a 1-5 second interval.

The service reminder will only be set off if it has been activated. Refer to the maintenance instructions for the necessary maintenance measures.

TROUBLESHOOTING TABLE

If the ventilation unit is affected by any of the errors listed in the table, the unit will report the error through the error relay, signal light, and circuit board LEDs. The number of flashes indicates the nature of the error.

The error relay can be connected to remote monitoring.

NOTE! When remote monitoring is used, the signal light of the control panel cannot be turned on.

TROUBLESHOOTING		
Flashing LED	Problem	Correction
1	NTC sensor of the supply air from the cell is faulty	Check the sensor and the wires, replace as required
2	NTC sensor of the extract air is faulty	Check the sensor and the wires, replace as required
3	NTC sensor of the supply air is faulty	Check the sensor and the wires, replace as required
4	NTC sensor of the exhaust air is faulty	Check the sensor and the wires, replace as required
5	NTC sensor of the outdoor air is faulty	Check the sensor and the wires, replace as required
6	The supply air fan has stopped.	Check the wiring of the fan, replace the fan as required
7	The extract air fan has stopped.	Check the wiring of the fan, replace the fan as required
8	EEPROM is faulty	Replace the circuit board

BEFORE BEGINNING MAINTENANCE WORK

When you open the door of Vallox 096 MC, the safety switch (S) cuts the power. Despite this, disconnect the power supply plug anyway. Always disconnect the power plug before starting maintenance on the Vallox 096 MC.

FILTERS

When the maintenance reminder becomes activated, check the cleanliness of the filters and replace them if required. The Vallox ventilation unit has three air filters:

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

Using original Vallox filters ensures the best operation of the ventilation unit and the best filtering results. The filter replacement interval depends on the ambient dust concentration. It is recommended that the filters be replaced every spring and autumn, or at the very least once a year.

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.

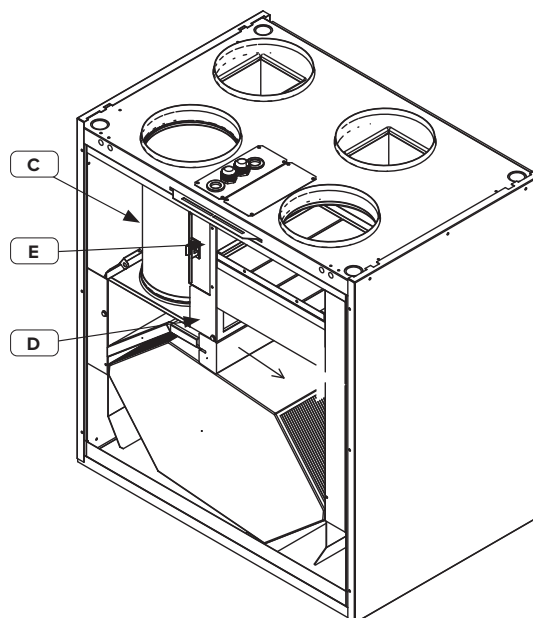
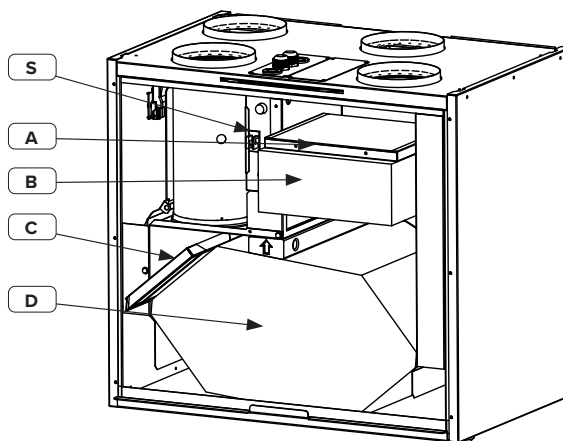
- Remove the sealing strip (E) above the heat recovery cell in the direction of the arrow.
- Once you have removed the sealing strip, pull the heat recovery cell out of the unit.

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

If the heat recovery cell is dirty, clean it by immersing it in water containing a small amount of a mild detergent. Rinse the heat recovery cell clean with a water spray. When all the water has drained from between the layers, push the cell recovery cell back in place. Lastly, push the sealing strip back in place.

R model in the figure.

In the L model, the parts are mirrored



FANS

Check the cleanliness of the fans when servicing the filters and the heat recovery cell. Clean the fans as required. The fans are very sensitive to external impacts, and it is recommended that they be cleaned in place rather than removing them.

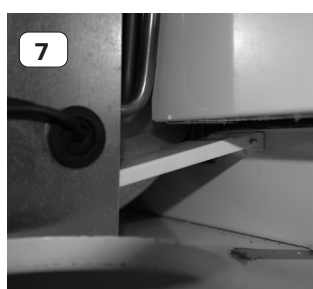
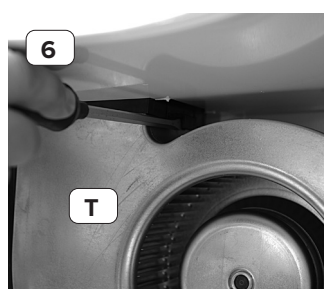
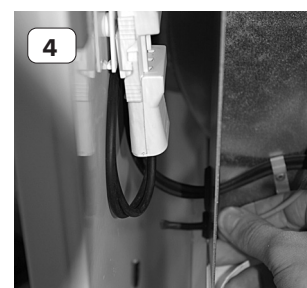
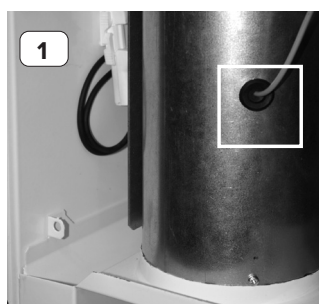
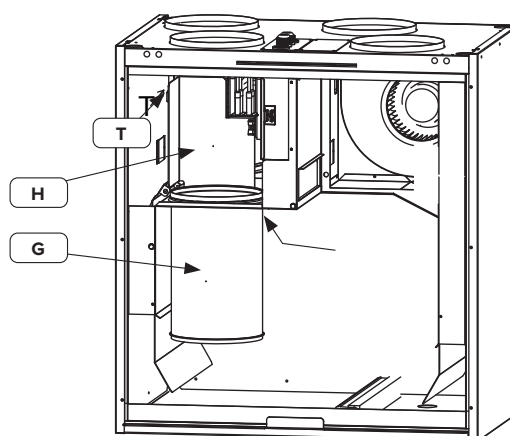
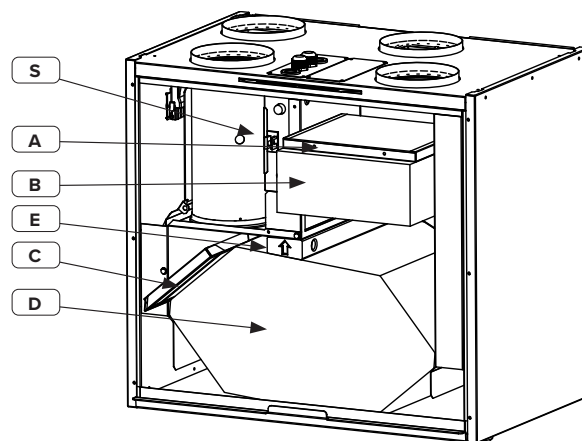
You can clean the fan blades with compressed air or by brushing them gently. Do not remove or move the fan blade balancing weights.

Cleaning the supply air fan (T)

- Remove the extract air filter (C), the upper support of the cell (E), and the heat recovery cell (D) from the unit following the instructions provided earlier.
- Remove the temperature sensor from the top of the extract air duct (G) (figure 1) by pulling and next remove the stopper screw from the bottom edge of the duct. The extract air duct can now be removed by simultaneously turning and pushing it downwards (figures 2 and 3).
- Remove the temperature sensor from the resistance support (figure 4).
- Next, remove the additional and post-heating radiator support (H), which is attached by two wing nuts from below (figure 5).
- Pull the resistor and the support out of the unit and remove the quick connector of the radiator wires. The fan can now be cleaned in place.
- To remove the fan, lift the fan upwards and push the plastic locking of the fan to the right using e.g. a flat-headed screwdriver (figure 6). This will make the fan fall downwards.
- Pull the fan out of the unit. Disconnect the quick connector of the fan cables.
- If required, remove the bypass arm from the end of the intermediate wall (figure 7).

R model in the figure.

In the L model, the parts are mirrored

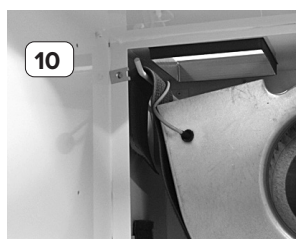
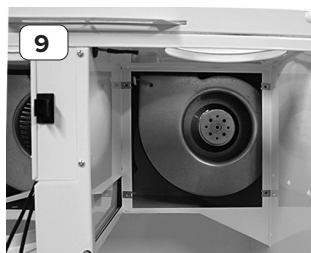
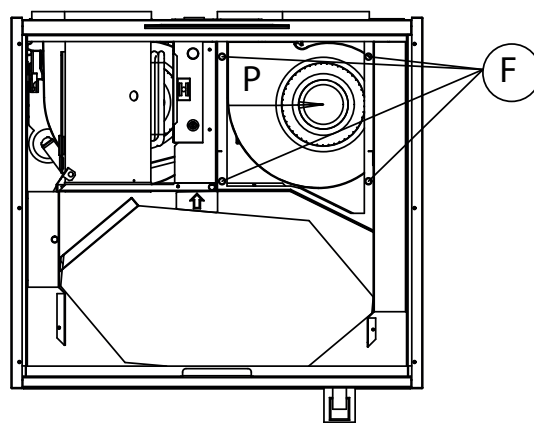
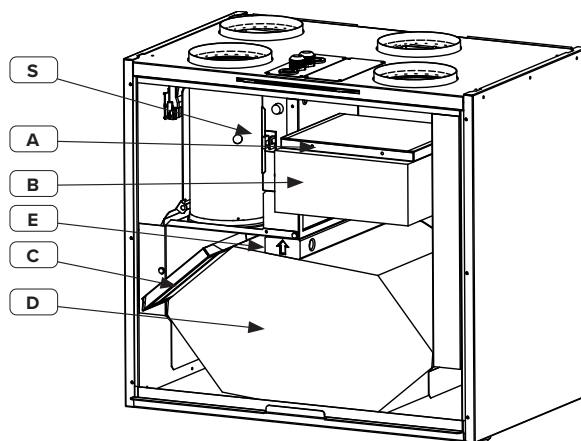


Cleaning the extract air fan (P)

- Remove the extract air filter (C), the upper support of the cell (E), and the heat recovery cell (D) from the unit following the instructions provided earlier.
- Remove the supply air filters.
- Open the four screws (F, figure 8) on the extract air fan cover and remove the cover by pulling it downwards. Now the extract air fan can be cleaned without removing it (figure 9).
- To remove the fan, lift the fan upwards and push the plastic locking of the fan to the right using e.g. a flat-headed screwdriver (figure 6). This will make the fan fall downwards.
- Pull the fan out of the unit (figure 10). Disconnect the quick connector of the fan cables.

R model in the figure.

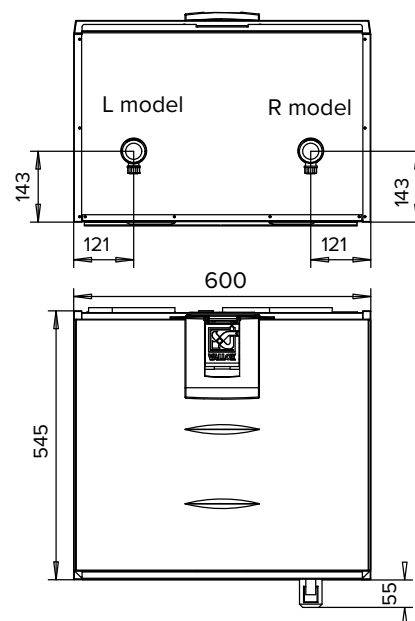
In the L model, the parts are mirrored



CONDENSING WATER

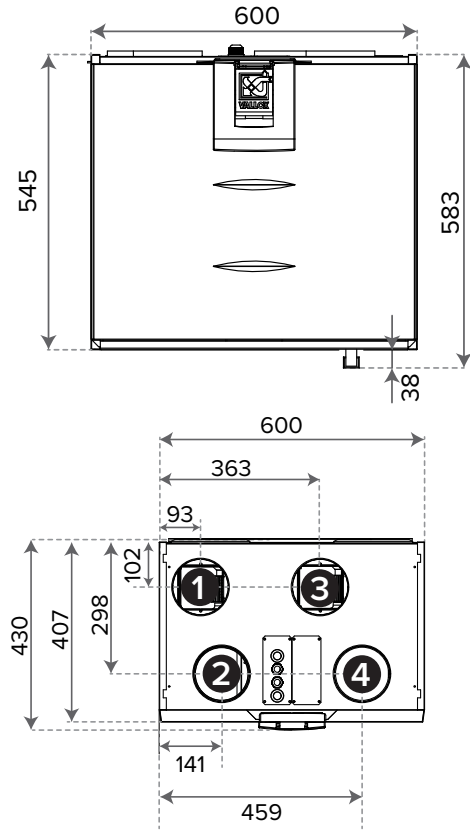
In the heating season, the extract air humidity condenses to water. In new buildings, condensation runoff can form rapidly. Condensed water must be able to freely leave the unit. At some time before the heating season begins (e.g. during autumn maintenance), check that the condensing water outlets in the bottom pool are not clogged. To check this, pour some water into the pool. Clean as required. Water must at all times be kept out of the electrical system.

See the condensing water connections on page 15.



DIMENSIONS AND DUCT OUTLETS

Dimensions



Duct outlets

R model

Inner diameter of the female collar: $\varnothing 125$ mm

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

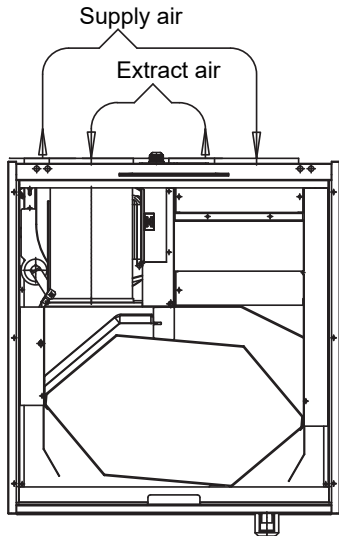
L model

Inner diameter of the female collar: 125 mm

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

Air flow measurement points

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

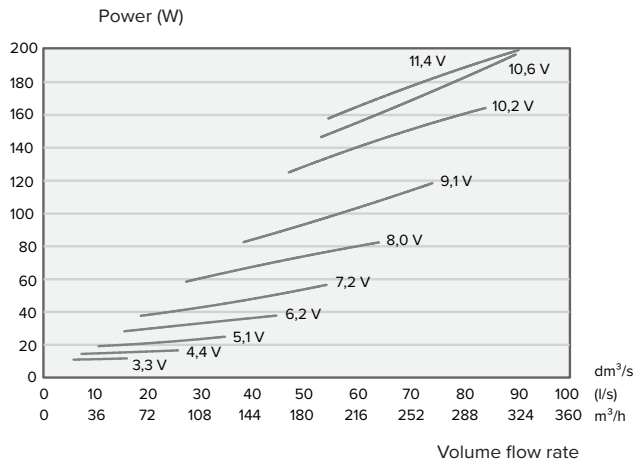


TECHNICAL SPECIFICATIONS

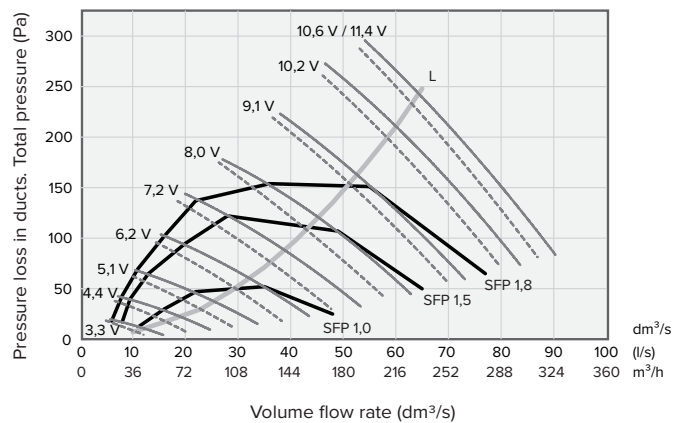
Nimike Vallox 096 MC R Vallox 096 MC L		Product number 3474600 3474700
Air volumes	Supply air Extract air	92 dm ³ /s, 100 Pa 95 dm ³ /s, 100 Pa
Electrical connection	230 V, 50 Hz, 5.1 A power plug	
Enclosure protection class	IP 34	
Post-heating	Electrical resistor, 900 W	
Pre-heating	–	
Additional heating	–	
Fans	Supply air Extract air	0,119 kW 0,9 A EC 0,119 kW 0,9 A EC
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)	75% A+ 85.7% 1.0 kW (38 dm ³ /s) B
Filters	Supply air Extract air	ISO Coarse > 75 % + ISO ePM ₁ ISO Coarse > 75 %
Heat recovery bypass	Automatic	
Dimensions (w x h x d) and weight	600 x 545 x 428 53 kg	

AIR FLOWS AND SOUND VALUES

FAN INPUT POWER



SUPPLY/EXTRACT AIR VOLUMES



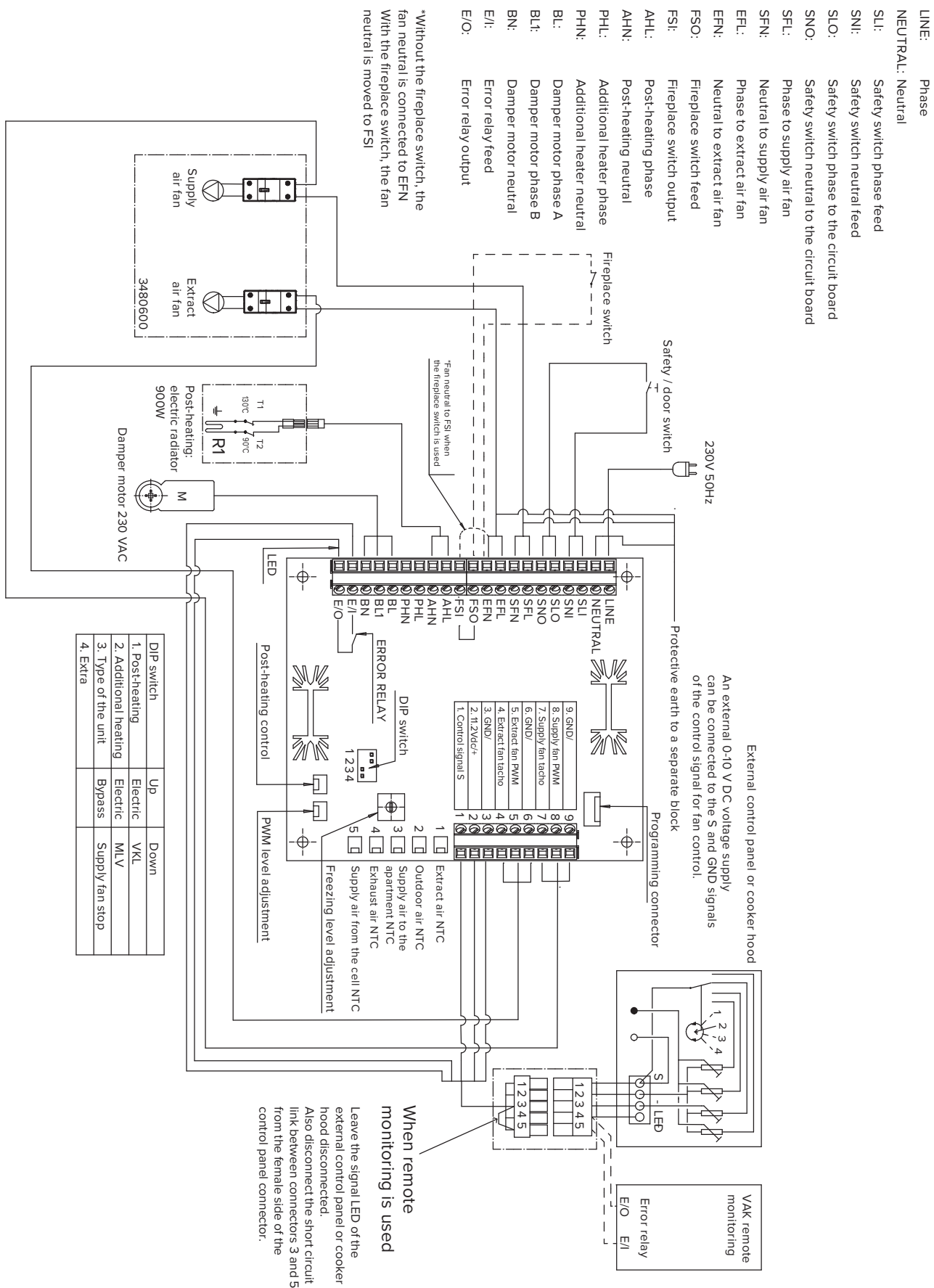
SFP rate (Specific Fan Power)
 recommended value <1.8 (kW / m³/s)

$$SFP = \frac{\text{Combined input power of the fans (kW)}}{\text{Airflow specified in the ventilation plan (m}^3\text{/s)}}$$

SOUND VALUES

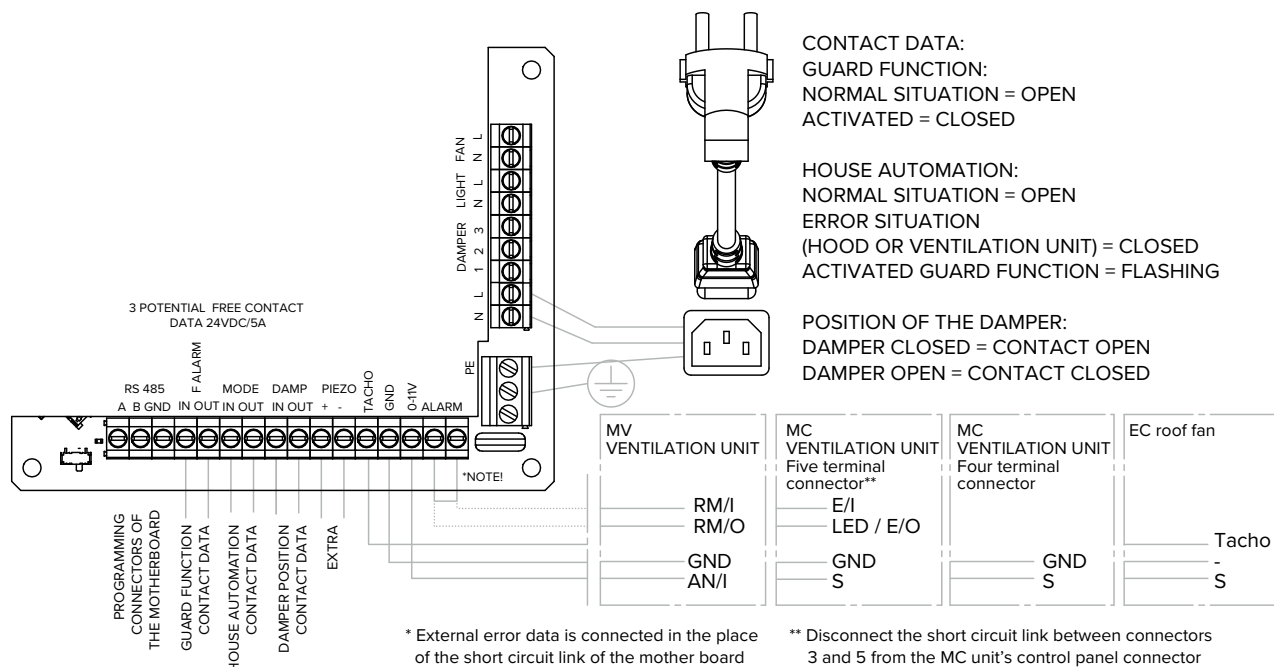
		Sound power level in the supply air duct (one duct) by octave band L _w , dB										Sound power level in the extract air duct (one duct) by octave band L _w , dB									
		Adjustment position										Adjustment position									
Adjustment position (V)		3,3	4,4	5,1	6,2	7,2	8,0	9,1	10,2	10,6	11,4	3,3	4,4	5,1	6,2	7,2	8,0	9,1	10,2	10,6	11,4
Medium frequency of the octave band Hz	63	54	64	69	74	76	80	84	87	87	86	51	56	63	66	70	73	76	78	79	79
	125	50	56	62	66	70	73	77	80	82	81	43	46	52	55	60	63	66	68	71	71
	250	46	54	59	63	66	69	72	75	77	77	33	38	44	47	51	55	58	61	63	63
	500	40	48	54	57	61	63	66	68	70	71	29	38	44	47	51	54	57	59	61	61
	1000	34	44	51	55	60	62	64	66	68	68	24	32	38	42	46	49	52	55	57	57
	2000	21	35	44	49	54	57	61	63	66	66	13	17	24	29	33	36	39	42	44	44
	4000	17	23	34	41	47	51	55	58	61	61	17	17	18	20	23	26	29	32	34	34
	8000	21	21	26	34	42	47	52	56	59	59	21	21	21	21	21	22	23	25	27	27
L _w , dB		56	65	70	75	78	81	85	88	89	88	52	56	64	66	71	74	76	79	80	80
L _{WA} , dB(A)		42	50	57	61	64	67	70	73	75	75	33	39	45	48	52	55	58	61	63	63
Sound pressure level coming through the envelope of the unit in the room in which it is installed (10m ² sound absorption)																					
Adjustment position																					
Adjustment position (V)		3,3	4,4	5,1	6,2	7,2	8,0	9,1	10,2	10,6	11,4										
L _{pA} , dB (A)		24	28	34	33	37	41	44	46	48	48										

INTERNAL ELECTRICAL CONNECTION (3721-1)



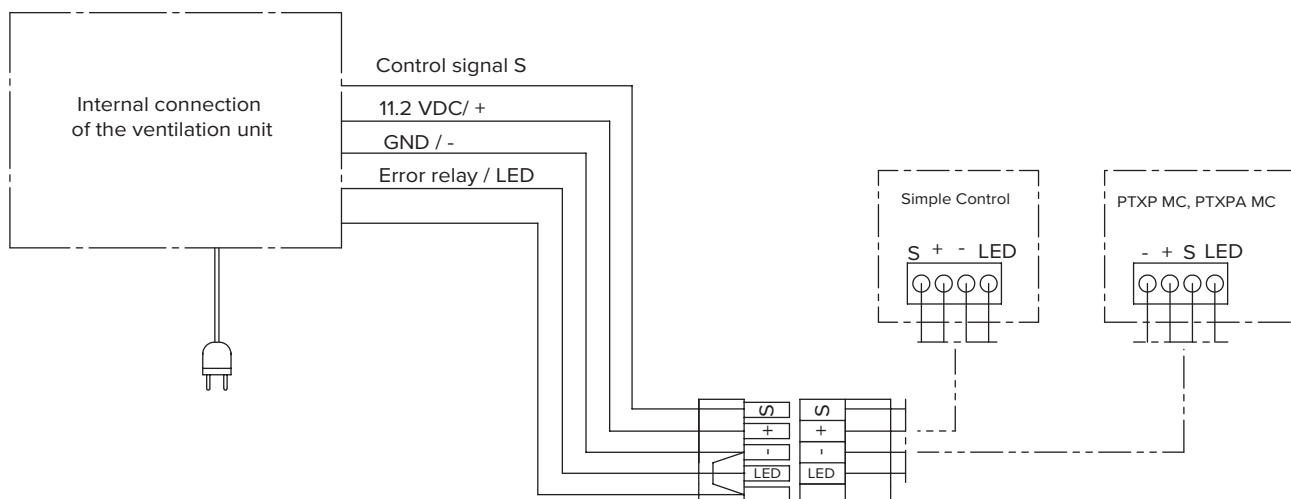
EXTERNAL ELECTRICAL CONNECTION

With Vallox Delico PTD EC and Vallox Capto PTC EC control hood



EXTERNAL ELECTRICAL CONNECTION

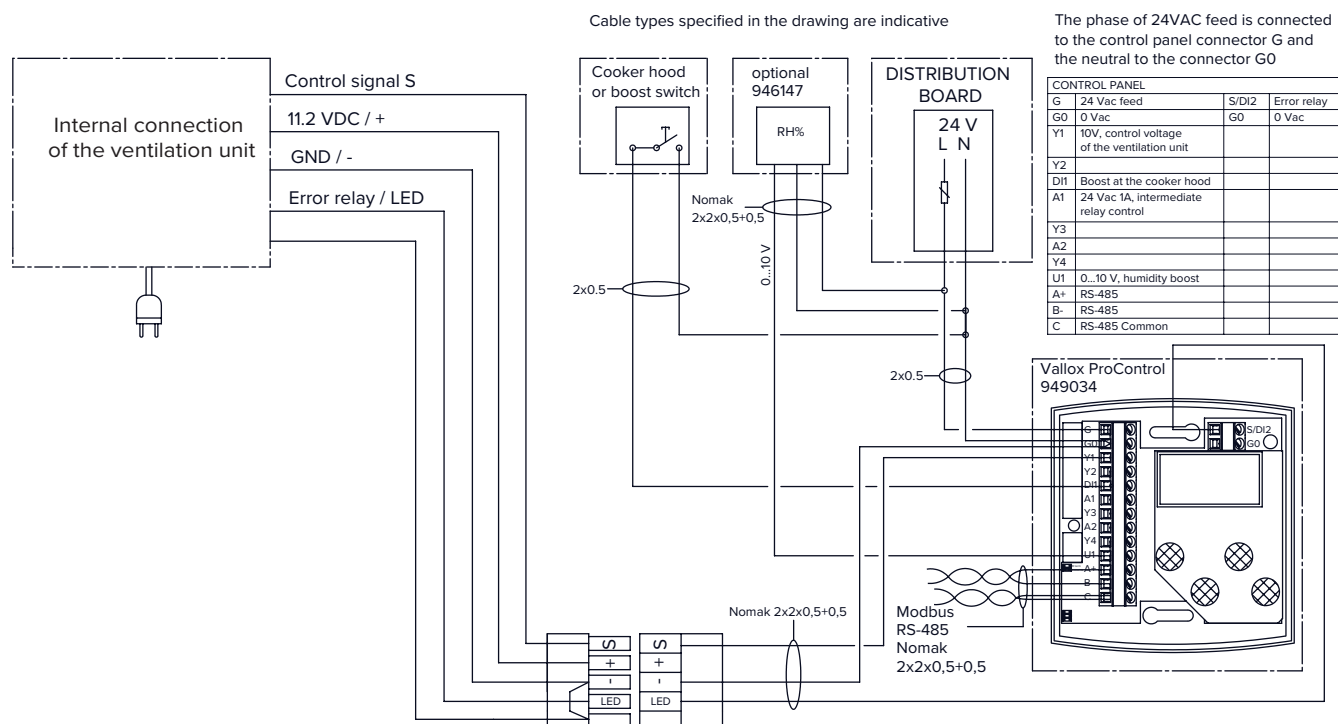
With the Vallox Simple Control panel / Vallox PTXP MC,
Vallox PTXPA MC cooker hood



EXTERNAL ELECTRICAL CONNECTION

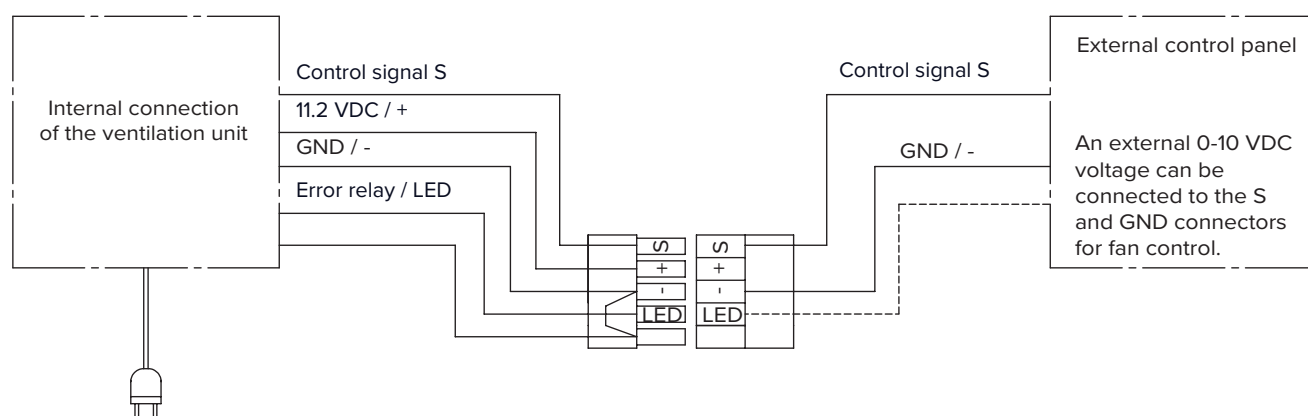
with Vallox ProControl panel

Wiring between the control panel and the ventilation unit, NOMAK 2x2x0,5+0,5	
Ventilation unit cable	Control panel connector
S	Y1
+	leave disconnected
-	G0
LED	S/DI2



EXTERNAL ELECTRICAL CONNECTION

with an external control panel



Ceiling mounting by using a ceiling mounting plate (optional)

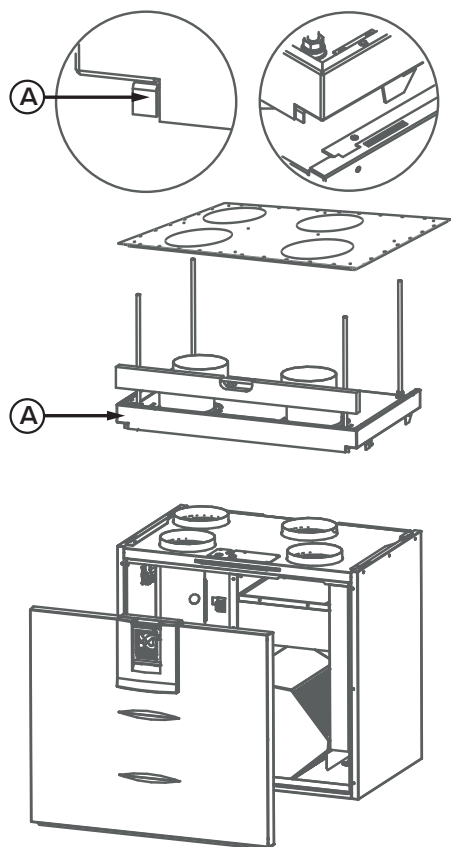
The unit can be equipped with an optional ceiling mounting plate. The ceiling mounting plate is fastened on the ceiling with M8 thread bars. The bars must be fastened so that they withstand the weight of the unit.

The ceiling mounting plate must be fastened horizontally to make sure that the unit is level. The outdoor air and exhaust air duct must be insulated against condensation also between the unit and the ceiling mounting plate.

The ceiling mounting plate is installed horizontally, and it must be fastened so that there is a roughly 10mm space between the rear edge of the ceiling mounting plate and the wall. This way the ventilation unit will be installed as close to the wall as possible. The top edge of the white covering strip of the ceiling mounting plate can be installed against the finished ceiling. Alternatively, a concealed mounting method can be used, in which case the finished ceiling can be 20mm or less from the top edge of the white covering strip.

Ceiling mounting plate (optional)

The top edge of the side bends of the ceiling mounting plate can be installed so that they touch the finished ceiling.

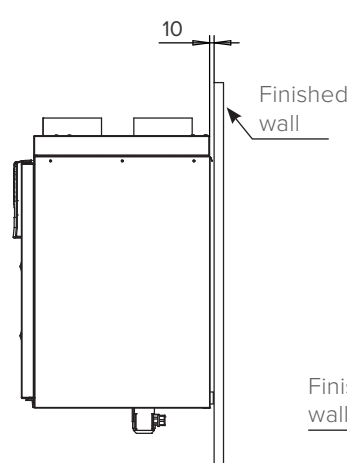


The ceiling mounting plate is fastened to the M8 thread bars with the mounting supplies delivered with the mounting plate. Note! The end of the thread bars must be 5mm or less below the fastening nut (more detailed instructions are provided with the ceiling mounting plate).

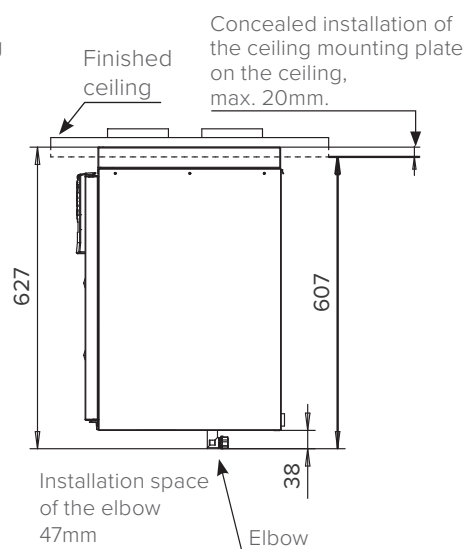
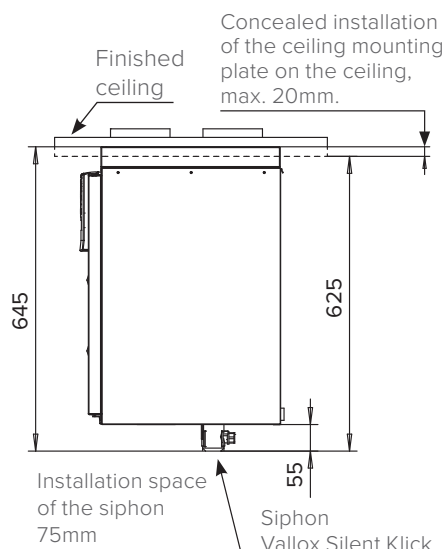
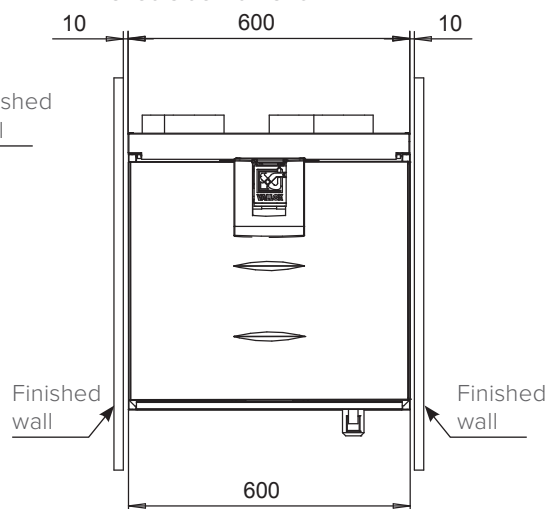
Installing the ventilation unit to the ceiling mounting plate

Remove the unit door. Lift the unit and take the wires through the opening in the ceiling mounting plate. Lift the ventilation unit against the ceiling mounting plate so that it locks in place. The unit has become locked on the ceiling mounting plate when the two operating levers A on the mounting plate have been restored to the same level with the white covering strip of the ceiling mounting plate (more detailed instructions are provided with the ceiling mounting plate).

The minimum distance from the finished rear wall is 10mm

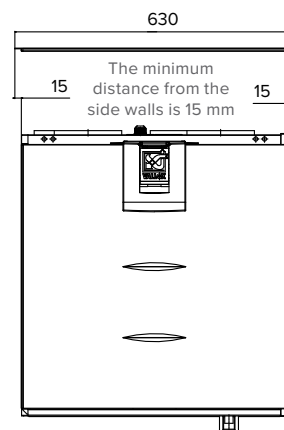
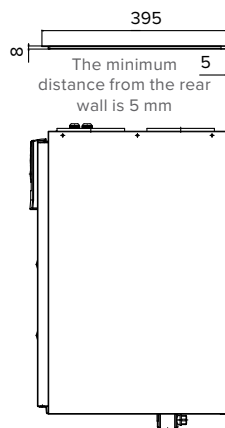
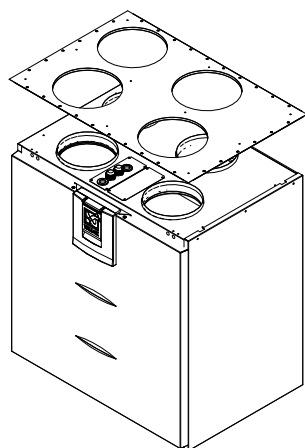


The recommended distance from the finished side wall is 10mm



Attic floor penetration plate (optional)

When an attic floor penetration plate is used, the tightness of the vapour barrier has to be ensured.

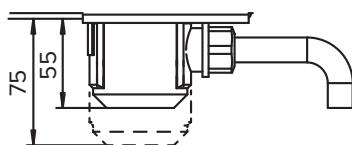


CONDENSING WATER CONNECTIONS

Installation of the Vallox Silent Klick siphon on the bottom pool

The delivery includes the Vallox Silent Klick siphon. A pipe will be connected to the siphon that leads the water that is condensed from the extract air to the floor drain (not directly into the sewer). The pipe must not rise after the siphon. The ventilation unit must be installed straight to ensure that condensing water can exit the unit unobstructed.

Vallox Silent Klick siphon



Installation height: 55 mm, installation space: 75 mm

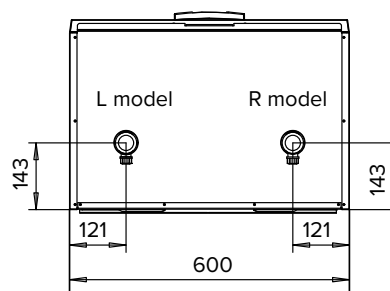
Installation of the Vallox Silent Klick siphon on the wall

If the Vallox Silent Klick siphon does not fit into the unit directly, the elbow can be installed at the bottom, and the siphon can be installed on the wall. This installation method requires that there is a 47mm space underneath the unit. The elbow requires a 38mm space when installed.

Elbow

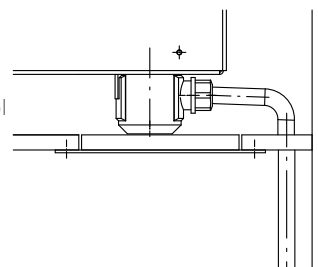


Installation height: 38 mm, installation space: 47 mm

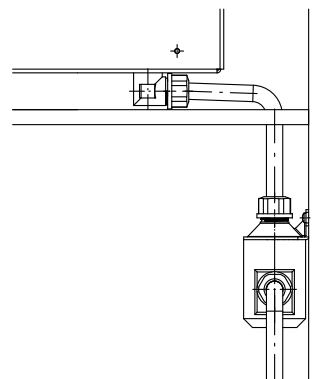


Location of the condensing water outlets, R and L models

Installation of the Vallox Silent Klick siphon on the bottom pool



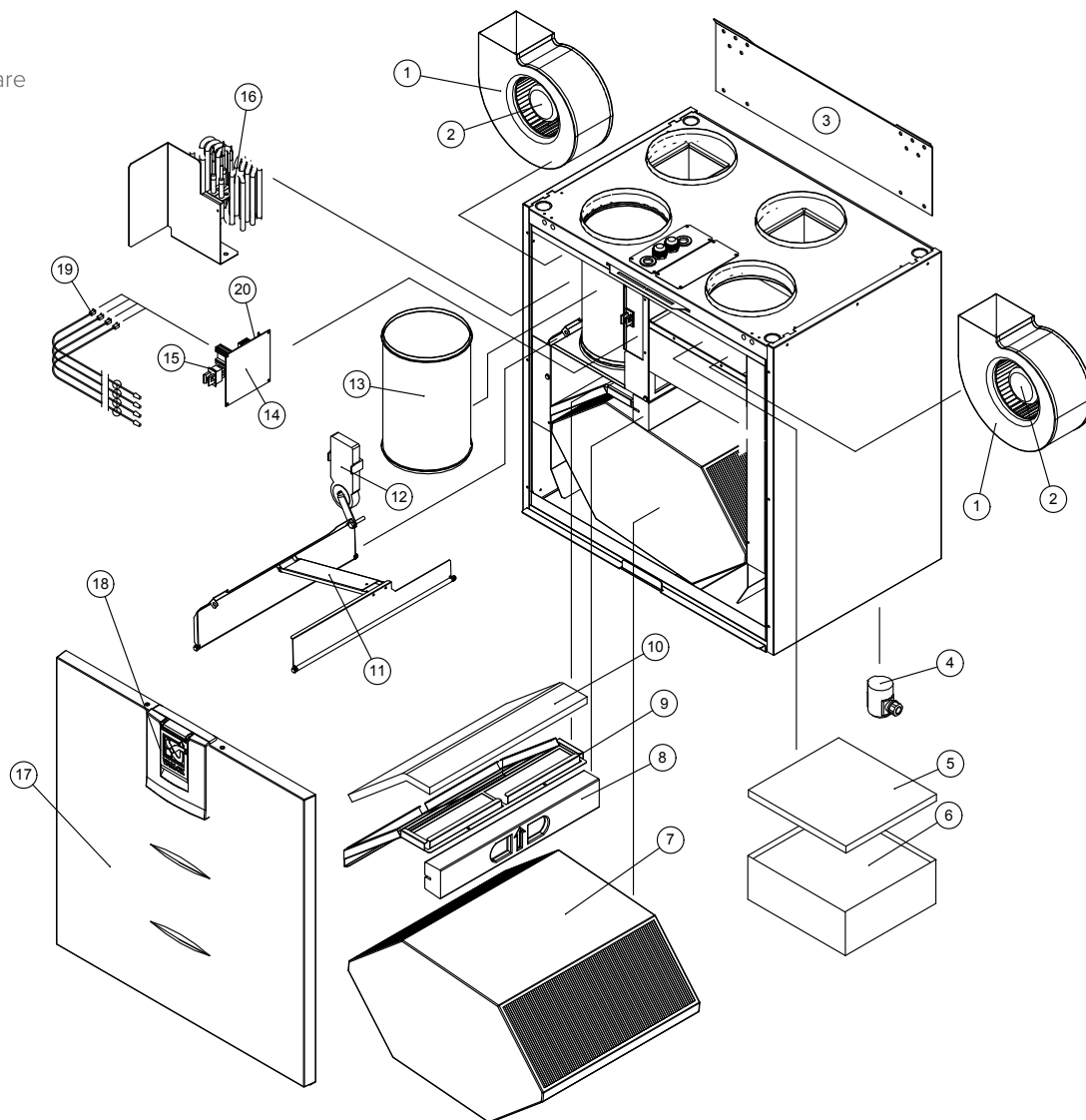
Installation of the Vallox Silent Klick siphon on the wall. The elbow underneath the unit takes less space than the siphon.



EXPLODED VIEW AND PARTS LIST

(Type 3721-1)

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



NO.Part	Product number	NO.Part	Product number
1. Supply / extract air fan (with a hood).....	1108800	11. Bypass flap assembly. L model.....	3491201
2. Fan.....	935365	12. Damper motor	930620
3. Wall mounting plate	3080700	13. Extract air outlet.....	985026
4. Siphon Vallox Silent Klick.....	3292500	14. Motherboard.....	949035
5. Coarse filter for supply air.....	978044	15. Safety switch.....	948370
6. Fine filter for supply air.....	978220	16. Post-heating resistor, R and L models	942210
7. HR cell	933260	17. Door	3475200
8. Upper support for HR cell	3467200	18. Door latch	3355900
9. Filter stand (extract)	3464500	19. NTC sensor (specify the sensor reference number in the order).....	946140
10. Coarse filter for extract air	978045	20. Glass tube fuse 32mA slow 5x20mm.....	952486
11. Bypass flap assembly, R model.....	3491200		

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