



Vallox 132_E

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- Code A3550 E
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INSTRUCTIONS FOR USE AND MAINTENANCE



MODELS:
VALLOX 132 E
VALLOX 132 E VKL





VALLOX 132 E/VKL

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EVERYDAY QUICK GUIDE

VALLOX 1302 E has been initially adjusted for normal circumstances in your home. Ventilation adjustment is needed mainly in the following circumstances:

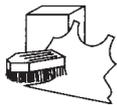
• **Taking a bath**

Boost ventilation in bathing and washing facilities in order to ensure that the rooms get dry as quickly as possible. It is recommended to have boosted ventilation on for 2 to 3 hours after taking a sauna bath.



• **Washing and drying clothes**

Boost ventilation in washing and drying facilities during these activities.



• **Sleeping**

Ventilation in a bedroom has to be sufficient throughout the night. The level is correct when air does not smell musty when you enter the room in the morning.



• **Empty dwelling**

To save energy, ventilation can be adjusted to the minimum level.



• **Cooking**

If the ventilation unit is connected to a cooker hood, boost ventilation during cooking.

The most common way to abate cooking fumes is to have a separate cooker hood.



NOTE!

Never switch ventilation off, because ventilation keeps indoor air quality uniform and removes gases and dust emanating from the structures.

VALLOX 132 E models

Code: A3550 E.

Models: Vallox 132 E, Vallox 132 E VKL

VALLOX 132 E

- Preheating radiator: electric, 1200 W
- Post-heating radiator: electric, 1200 W

VALLOX 132 E VKL

- Preheating radiator: electric, 1200 W
- Post-heating radiator: liquid radiator

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This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.



THREE QUESTIONS ABOUT VENTILATION

1. THREE QUESTIONS ABOUT VENTILATION

1.1. Why is air replaced in dwellings?

Good ventilation promotes healthy living for both residents and the building. Air in a dwelling needs to be replaced in order to remove not only humidity brought about by living but also impurities emanating from structures and human bodies. Impurities of indoor air include carbon dioxide, formaldehyde, radon and other gases as well as dust.

Mechanical ventilation is needed in order to be able to adjust air circulation as needed by the residents. In a tightly sealed house, air does not circulate sufficiently by natural means. Even in a poorly sealed house air is only replaced because of differences between indoor and outdoor air temperatures, or because of winds. This means that ventilation is dependent on weather conditions and cannot be regulated.

It is especially important that humidity and carbon dioxide content of the indoor air stay at a healthy level. Recommended humidity content of good indoor air is approximately 45%. Humidity content is lower in winter and higher in summer and autumn. Dust mites thrive in indoor air if humidity exceeds 50%, and if humidity stays at over 60% for a long time in winter, water will condense in the cold structures of the house and mould will start to form.

The recommended maximum carbon dioxide content in good indoor air is circa 1,000 ppm.

1.2. What are the characteristics of adequate ventilation?

- Indoor air stays fresh in all the rooms of the dwelling, also in bedrooms during night.
Without adequate ventilation carbon dioxide content tends to rise high especially in bedrooms.
- The bathroom and the sauna get dry quickly.
- During the heating season, the windows and other outer wall structures remain dry.
- Humidity in indoor air is not condensed in the ventilation ducts.
- Air is fresh in the toilet as well.

1.3. How much air is replaced?

For air to be clean to breathe, **it has to be replaced with outdoor air every two hours.** In a new and a renovated house, air circulation needs to be boosted during the first year in order to remove harmful gases and structural humidity. In buildings that are more than a year old and dry, ventilation can be regulated as needed. Ventilation is boosted during for instance a sauna bath, clothes washing and cooking, and reduced during very cold periods or when there is nobody at home.

SEASONAL CALENDAR

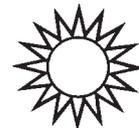
Autumn

- Wash or change the coarse filter and clean or change the fine filter if needed.
- Check that the heat recovery cell is clean.
- Check that the condensing water outlet is not clogged.



Spring

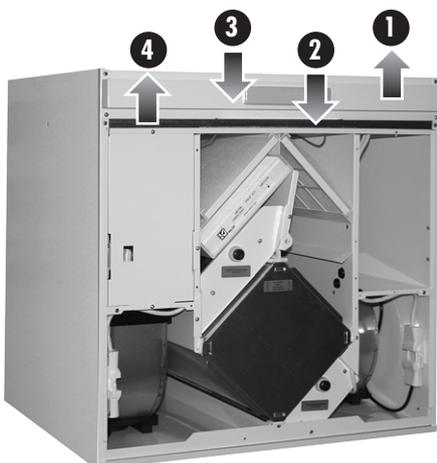
- Wash or change the coarse filter and clean or change the fine filter if needed.
- Clean the fan blades and the post-heating unit if needed.
- Check that summer ventilation is in operation.



NOTE!

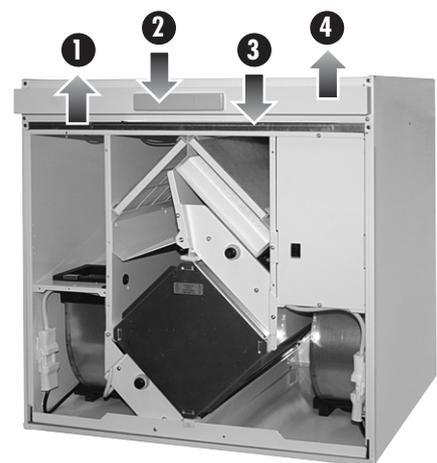
For more detailed instructions, see page 8.

VALLOX 132 E, order of duct outlets



MODEL L

1. Supply air to rooms
2. Extract air to the unit
3. Outdoor air to the unit
4. Exhaust air outside



MODEL R

1. Supply air to rooms
2. Extract air to the unit
3. Outdoor air to the unit
4. Exhaust air outside



VALLOX 132 E/VKL

INSTRUCTIONS FOR USE

REMEMBER!

Never turn VALLOX 132 E off, or else you'll risk catching a cough!

2. INSTRUCTIONS FOR USING VALLOX 132 E AND VALLOX 132 E VKL

For indoor air to stay healthy and beneficial also for the structures of the dwelling, ventilation has to be in operation continuously. It is not advisable to stop ventilation even for longer holidays because it makes indoor air stuffy. Also, during the heating season indoor air humidity may condense in the ducts and structures and therefore cause humidity damage.

2.1. Initial adjustment

The ventilation system works properly when air flows in the rooms have been measured and adjusted with the valves in accordance with the planned values. **After the initial adjustment, the position of the ventilation valves must not be changed**, with the exception of the outlet valve with a knob located on the ceiling of a sauna, which can be adjusted if needed. The initial adjustment ensures that a sufficient amount of air is circulated and that extract air flow is always greater than supply air flow, i.e. the dwelling is negatively pressured compared to outdoor air. If the dwelling is positively pressured, air in the dwelling penetrates the outer envelope of the building and between windows, which may cause humidity damage during the heating season.

In normal conditions **basic ventilation**, with a change of air every two hours, is sufficient in living areas. Boosting is needed during for example sauna baths, cooking, clothes washing or family parties.

If the user does not know the measured air flows, the adjacent table shows approximate extract air flows as well as the total electricity consumption of the fans at various fan speeds. The table also shows the fan speed that is sufficient for recommended basic ventilation in dwellings of different sizes.

SPEED		1	2	3	4			
Living area (m ²)	55	100	140	175	215	245	275	314
Air flow (l/s)	20	35	50	62	75	85	97	110
Total electricity consumption of fans (W)	40	60	90	125	160	200	235	305

The speed selector positions displayed in the table against a darker background are factory preset values. If needed, an expert or electrician can change settings and select speeds shown against a white background instead. Speed changes are always made by an expert, not the user himself. (Room height is 2.5 metres.)



Speed selector

2.2. Selection of fan speed

Fan speed is selected by using a separate speed selector or a cooker hood. (YK control centre can be used for the remote monitoring of public facilities.)

2.2.1. Speed selector

The speed selector can be used to select speeds 1, 2, 3 and 4:

- Use during absence.** When the dwelling is empty, ventilation can temporarily be diminished.
- Normal use.** In normal conditions air needs to be replaced once in two hours (see the previous page).
- Boosted operation.** Cooking, bathing in the sauna or bathroom, drying clothes, using the toilet, having guests or a similar situation may cause a need for higher than normal ventilation.

If there is a cooker hood independent of the ventilation system in the dwelling, it is not necessary to raise the speed of Vallox 132 E during cooking.

2.2.2. Cooker hood connected to ventilation unit

Open the boost flap when cooking and if necessary increase the power of the fans of Vallox 132 E at the ventilation switch of the cooker hood. Keep the cooker hood flap closed at other times. Select speed as described in Section 2.2.1.

NOTE! When the cooker hood flap is open, there is smaller ventilation in other rooms, such as the bathroom.

2.2.3. YK control centre

It may be appropriate to use remote monitoring for public premises, in which case fan speed is selected at the YK control centre. The unit is started and stopped at the ON/OFF switch.

1 to 3 speeds can be selected at the control centre, depending on the type of centre. It is customary to select minimum and maximum speeds, and one of them is chosen in accordance with occupancy on the basis of the instructions given by automatic remote monitoring (control with week clock, for instance). For more detailed instructions on the remote monitoring control centre, see the documentation delivered with the control centre.



VALLOX 1993 A YK control centre



2.3. Post-heating

For most of the year, heat recovered from the air being extracted is enough to warm the cold air coming from the outside to a suitable temperature. If the heat of extract air is not enough, air coming from the outside may be heated further with the post-heating radiator delivered with the unit.

Vallox 132 E model (electric post-heating)

VALLOX 132 E comes standard with a 1200 W electric radiator (1) for heating supply air. The temperature of supply air is adjusted at the thermostat regulator (B) located inside the unit behind the cover plate. Temperature adjustment range is +0...+25 °C. Supply air temperature will not go below the adjusted value.

It is advisable to set the thermostat at 0 °C in summer. In this case, the radiator does not heat air.

Vallox 132 E VKL model (water-circulating post-heating)

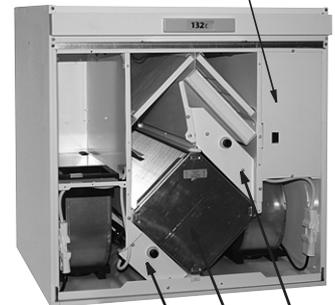
VALLOX 132 E VKL model has a water radiator (3) for post-heating. It is regulated using ON/OFF control. The circulation pump is put on in autumn, when the heating season has started, and off in spring when the weather is warm. The temperature of supply air can also be adjusted with a separate self-actuated thermostat (not included in the unit delivery). In detached houses, it is customary to use water/glycol mixture as the liquid in order to prevent the freezing of the radiator. Heating of air depends on the temperature of the water/glycol mixture flowing in the radiator and on the air flow rate.

If it has not been considered appropriate to build a water/glycol circuit (schools, office buildings etc.), the radiator may have been connected directly to the radiator network. Supply air temperature is then regulated by the temperature controller of the radiator network or by a separate self-actuated thermostat.

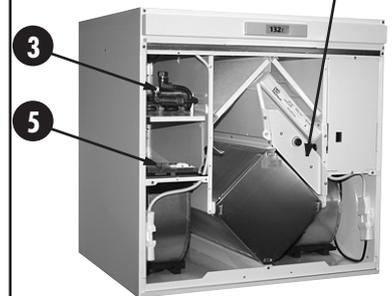
A post-heating radiator connected directly to the radiator network runs a risk of freezing (see Section 2.4.2.). For antifreeze, see Section 2.4.

Note! Power supply to the unit must be turned off on the electric board before opening the connection box coverplate.

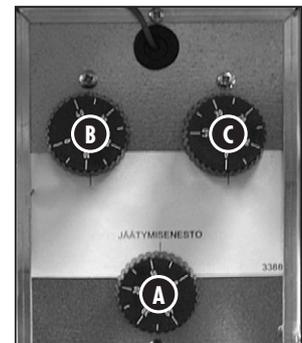
Connection box cover plate



Vallox 132 E R 1 4 2



Vallox 132 E VKL R
Thermostats (behind cover plate)



Vallox 132 E thermostats (electric post-heating radiator)

- A Antifreeze thermostat of heat recovery cell
- B Post-heating thermostat (regulation of supply air temperature)
- C Preheating thermostat

Vallox 132 E VKL thermostats (water-circulating post-heating radiator)

- A Antifreeze thermostat of heat recovery cell
- B Post-heating antifreeze thermostat
- C Preheating thermostat

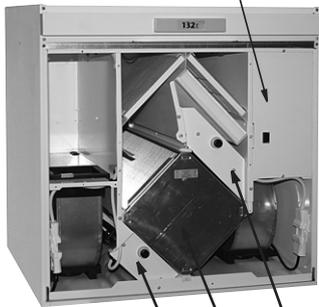


VALLOX 132 E/VKL

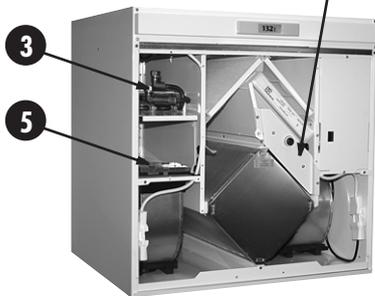
INSTRUCTIONS FOR USE

Note! Power supply to the unit must be turned off on the electric board before opening the connection box coverplate.

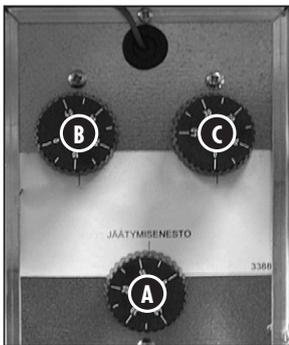
Connection box cover plate



Vallox 132E R



Vallox 132 E VKL R
Thermostats (behind cover plate)



Vallox 132 E thermostats (electric post-heating radiator)

- A Antifreeze thermostat of heat recovery cell
- B Post-heating thermostat (regulation of supply air temperature)
- C Preheating thermostat

Vallox 132 E VKL thermostats (water-circulating post-heating radiator)

- A Antifreeze thermostat of heat recovery cell
- B Post-heating antifreeze thermostat
- C Preheating thermostat

2.4. Antifreeze and preheating

Water condensing from extract air may freeze in the heat recovery cell (4). Freezing can be prevented by stopping the supply air fan (standard function) or by using a preheating resistor (see Section 2.4.4.). Both functions are automatic.

Vallox 132 E VKL

Vallox 132 E VKL model includes a water radiator antifreeze thermostat (B). When there is a risk of freezing in the radiator, the antifreeze thermostat stops both fans and the self-actuated dampers (5) of the fans close.

2.4.1. Stopping of supply air fan

Antifreeze thermostat (A) of the heat recovery cell stops the supply air fan whenever the temperature of extract air goes down to circa + 5 °C. The fan restarts when temperature has risen by three degrees, i.e. to +8 °C. The threshold value of the thermostat can be adjusted.

2.4.2. Antifreeze of post-heating radiator of Vallox 132 E VKL

The VKL model has an antifreeze thermostat (B) for the water radiator and self-actuated dampers (5) for the fans. When there is a risk of the radiator freezing, the thermostat (B) stops all functions of the unit and the self-actuated dampers of the fans close at the same time. This happens when the temperature of the water radiator is lower than the value set at the thermostat. As soon as the temperature of the radiator has risen, the unit automatically restarts and the dampers open. The thermostat has been factory set to stop at circa +5 °C and to restart at +10 °C.

2.4.3. Preheating

Vallox 132 E comes standard with a preheating radiator (2). **The factory-preset setpoint of the preheating radiator thermostat is 0 °C, i.e. it is not used.** A separate thermostat (C) for preheating measures the temperature of exhaust air. The preheating radiator switches on when exhaust air temperature goes below the setpoint of the thermostat. If exhaust air temperature continues to go down, the antifreeze thermostat (A) of the HR cell of Vallox 132 E stops the supply air fan. The preheating resistor (2) switches off when exhaust air temperature is by circa 3 °C higher than the value set for the thermostat.

Note! You can adjust the antifreeze thermostats (C and A) for Vallox 132 E preheating radiator and HR cell. However, observe the following things:

Taking preheating into use and adjusting it

If you wish to use the preheating radiator, the recommended setting for the thermostat (C) is circa +5 °C...+ 10 °C, but in any case a little higher than the setting for the HR cell antifreeze thermostat (A) of Vallox 132 E. In this case the preheating resistor will become active before the fan stops, which means that preheating is truly beneficial.

Instructions for antifreeze thermostat adjustment

- You may check how antifreeze works by comparing the functioning of the supply air fan and the preheating radiator. If the fan stops before the preheating radiator (2) switches on to heat, you have to adjust the HR cell antifreeze thermostat (A) somewhat lower, from +5 °C to +3 °C for example. Alternatively, you may increase the setting for the thermostat (C) of the preheating radiator.
- Observe the difference in how the thermostats function. The scales in the thermostats indicate the temperature in which they switch on. In other words, the supply air fan of Vallox 132 E stops at a temperature that is circa 3 ... 5 °C cooler than the scale indicates.
- The preheating radiator heats even if the supply air fan is stopped. Consequently, underpressure causes air coming from the outside to become warmer before the cell, shortening the time during which the fan is stopped.

VALLOX 132 E/VKL

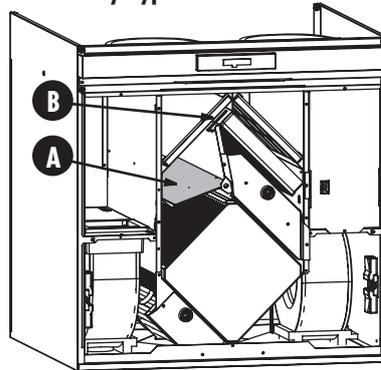
INSTRUCTIONS FOR USE

2.5. Heat recovery bypass

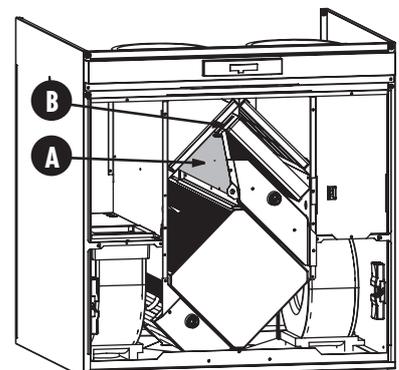
In winter use the heat recovery cell of Vallox 132 E recovers heat from the air leaving the dwelling and uses it to heat the air coming from the outside.

In summer use when it is warm outside, it is unnecessary to heat outdoor air. The heat recovery cell is bypassed in Vallox 132 E with the standard damper (A). The damper can be released from the winter position with a lock (B). In the summer position air flow through the cell is prevented, and heat recovery bypass is activated. In summer set the electric post-heating thermostat at 0 °C so that the radiator will not heat.

Heat recovery bypass



Summer position



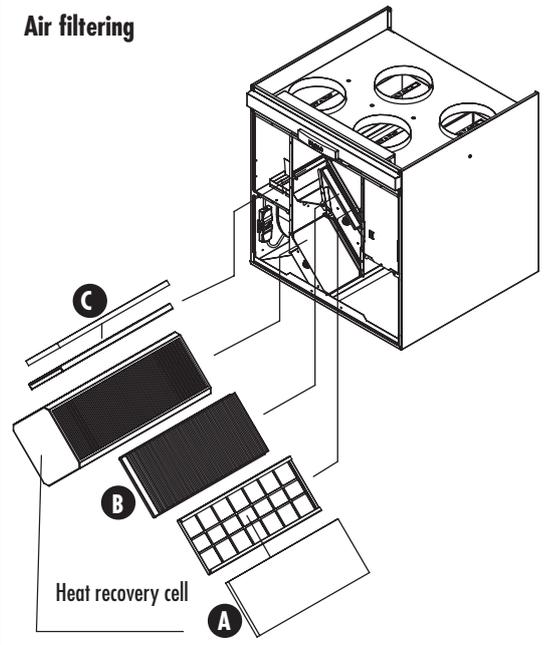
Winter position

Remember to turn the summer/winter damper in front of the cell when it gets too warm in the dwelling because of warm weathers. Turn the summer function off when it gets cooler in autumn.

2.6. Air filtering

Vallox 132 E has both extract and supply air filtering before the fans and the heat recovery cell. The unit comes standard with an F7 class fine filter (B), which captures fine dust, pollen and dust not seen to the eye, and a G4 class coarse filter (A) for insects and heavy pollen, for instance. There is a G4 coarse filter (C) on the extract air side. The filters need to be in place in the unit whenever ventilation is in operation (see Section 3.1.).

Air filtering



2.7. Filter guard (option)

A filter guard (L) available as an option monitors the cleanliness of the unit and filters. The setpoint for the filter guard is adjusted individually for each dwelling so that the filter guard indicator (M) lights up at fan speed 3 or 4 when the filters are clean (see Section 3.3.).

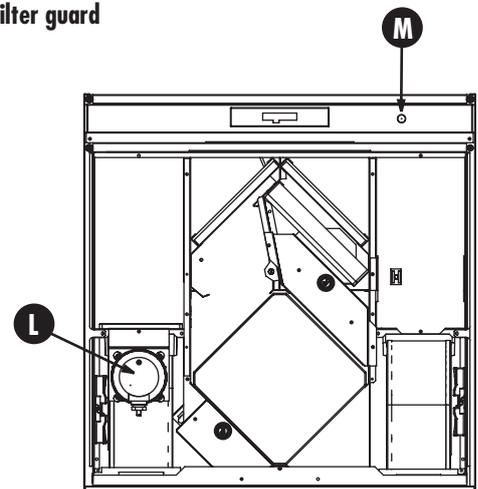
2.8. Fireplace switch function (option)

If the unit has been equipped with a fireplace switch (timer), it can be used to stop the extract air fan for a certain period, such as 15 minutes, producing overpressure in the ventilation zone. This makes it easier to light up a fireplace, for instance.

The situation will normalise in a while, after the functions stops.

Note! The starting of the extract air fan may weaken draught in the fireplace. During cold winter periods, the flowing of cold air to the extract ducts may cause the antifreeze and antifrost functions to start. If the post-heating radiator does not contain non-freezing solution, there is a freezing risk.

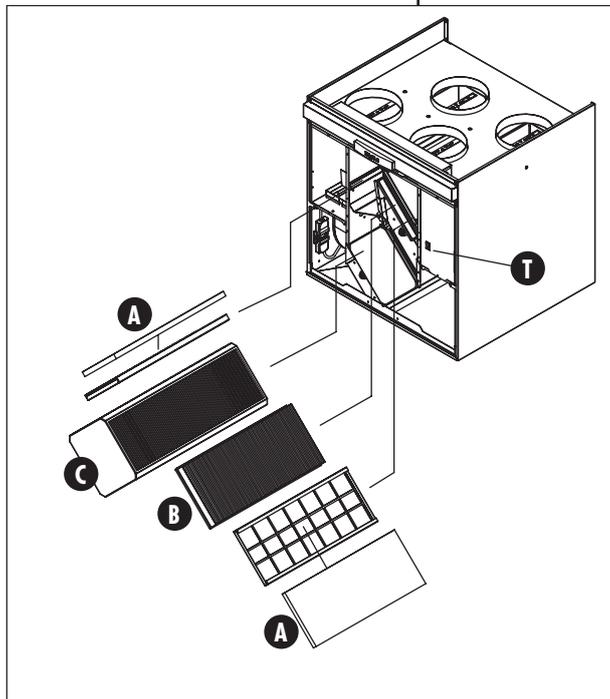
Filter guard





VALLOX 132 E/VKL

MAINTENANCE INSTRUCTIONS



3. Maintenance instructions

3.1. Filters

When the filter guard (option) indicator lights up, check the cleanliness of the filters. Outdoor air is filtered in the unit with two kinds of filters. A G4 class coarse filter (A) filters off insects, heavy pollen and other dust. An F7 class fine filter (B) filters off fine dust invisible to the eye. Extract air is filtered with a similar G4 class filter as outside air.

Clean the coarse filters (A) by e.g. vacuuming them 2 to 4 times a year and whenever the filter guard indicates a need for maintenance. When you open the door of Vallox 132 E, the security switch (T) turns voltage off. You can also wash the filters with +25...30 °C warm water and washing-up liquid, pressing them smoothly. Do not handle the filters with force. When washing is done properly, filters stand cleaning a few times. In other words, you have to replace them at least once a year or when needed.

The fine filter (B) is not washable. Clean it at the same time as the G4 class filters by vacuuming it with a brush nozzle. When cleaning, be careful not to break filter material. To ensure good supply air quality, replace the filter when needed, at least at one-year intervals, depending on local air quality. It is recommended to replace filters in autumn. This way the filters stay cleaner through the winter and can effectively filter off dust in the following spring.

VALLOX 132 E filters and heat recovery cell. The units are available as right and left handed models.

In the right handed model (model R) outdoor air comes to the unit from the right side of the centre line as shown in the instructions.

In the left handed model (model L) outdoor air comes in from the left side of the unit. The filters, summer/winter damper and the heating radiator change places correspondingly.

REMEMBER!

Clean the filters at least twice a year.

When cleaning the filters, it is also advisable to check the cleanliness of the heat recovery cell (C) every two years or so. Grab the ears at the ends of the cell and pull the cell out of the unit. If the cell is contaminated, soak it in a solution of water and washing-up liquid. Rinse the cell clean with a jet of water. When all the water has drained from between the laminas, push the cell back so that the seals next to the sliding surfaces are in place and the "up" sticker at the end of the cell points to the corner next to the upper support.



3.2. Fans and post-heating radiator

The supply and extract air fans (D and E) have been fastened with rubber collars (F). When removing the fans for maintenance remove the one-way dampers (L) from the VKL model, open the ear (K), which is bent over the rubber collar (F). Then lift the rubber collar off and turn the fan off from above the lower support (M) made of rubber. Then disconnect the electric connector (G).

Clean the fan propellers with compressed air or with a brush. Each propeller has to be equally clean so that the fans stay balanced. Take care not to remove the balancing pieces attached to the propellers.

If you use water in cleaning the unit or its parts, do not let it flow into the electrical parts.

3.2.1. Radiators

I Post-heating radiator: Electricity

J Preheating radiator: Electricity

H Post-heating radiator (liquid)

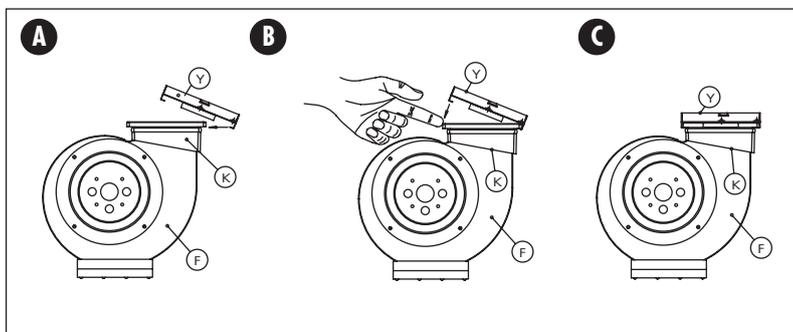
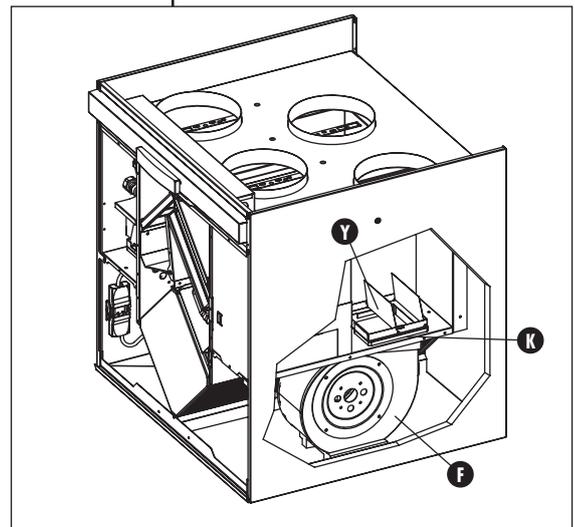
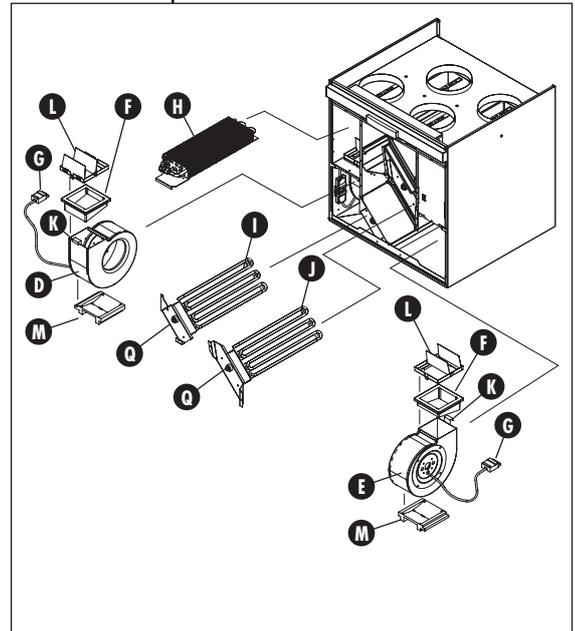
3.2.2. Detaching and attaching of self-actuated one-way damper (vacuum damper), VKL model

A Put the hook of the damper (Y) rim under the back edge of the fastening collar (K) of the fan (F). Then push the damper downward until the steering edges of the valve go inside the rubber collar.

B Push the other side of the collar with a finger.

C Put the hook of the front edge of the damper below the front edge of the collar.

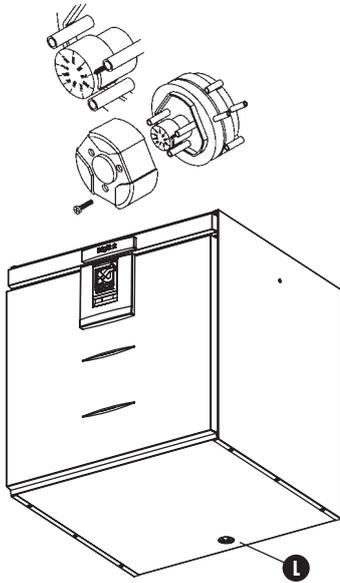
To detach the damper take the same steps in the opposite order.





VALLOX 132 E/VKL

MAINTENANCE INSTRUCTIONS



3.3. Filter guard

A filter guard is available for Vallox 132 E as an option. Its indicator normally lights up at speeds 3 and 4 when the filters are clean, and this does not require any maintenance activities. If the indicator does not light up at speed 4, the pressure in the ventilation ductwork of the building differs from the factory setting. An expert may change the setpoint when needed. If the filter guard indicator lights up at fan speed 1 or 2, the filters need cleaning. If they are clean, the lighting up may be caused by a dense mosquito net which has been installed in the external grille contrary to what is said in the installation instructions and has been clogged, or by the closing of the supply air valves in the rooms.

3.4. Condensing water

During the heating season, humidity of extract air condenses into condensing water. Water formation may be abundant in new buildings or if ventilation is low compared to the humidity build-up caused by the residents. Condensing water needs to flow out from the ventilation unit without hindrance. In connection with maintenance, e.g. in autumn before the beginning of the heating season, make sure that the condensing water outlet (L) in the bottom tank is not clogged. You may check it by pouring a little water in the tank. Clean if necessary.

Do not let water flow into electrical devices.

	SYMPTOM	REASON	DO THIS
1	Outdoor air coming to the dwelling is cold.	<ul style="list-style-type: none"> • Air cools down in the attic ducts. • The heat recovery cell is frozen, which is why extract air cannot heat outdoor air. • The post-heating radiator does not work. • The extract air filter or cell is clogged. • The initial adjustment of ventilation has not been done. 	<ul style="list-style-type: none"> • Measure the temperature of supply air in the unit and compare it with the air coming from the valve. • Check the insulation of the attic ducts. • If the heat recovery cell is frozen, check the setpoints for heat recovery cell freeze protection and preheating (see Section 2.4.). The setpoint for freezing protection can be raised by 1 or 2 °C, or the sensor can be bent closer to the cell, in which case the supply air fan stops earlier. Thaw the cell before closing the door. • If the post-heating radiator does not operate, check to see if overheat protection prevents it from operating: press the black button at the end of the radiator. If the protector has tripped, you hear a click when pressing the button. Pressing the button resets the radiator in working order after the tripping of the overheat protector. • Consult an expert to find out why the overheat protector tripped. • Check that the filters and the heat recovery cell are clean. • Check the initial adjustment.
2	Supply air fan keeps stopping.	<ul style="list-style-type: none"> • The stopping of the supply air filter is active. 	<ul style="list-style-type: none"> • The fan stops more rarely and the efficiency of the heat recovery cell gets better when the setpoint is decreased by 1 or 2 °C. <p>NOTE! If you decrease the setpoint too much, the cell may freeze. Compare with list item 1.</p>
3	Supply air fan stops and starts too frequently.	<ul style="list-style-type: none"> • The difference between the stopping and starting temperatures is too small. • The preheating radiator does not work. 	<ul style="list-style-type: none"> • Raise the difference between the stopping and starting temperatures by 1 or 2 °C. It extends the period between the stopping and starting of the supply air fan. • If the (electric) preheating radiator does not function, check if overheat protection prevents it from operating: press the black button at the end of the radiator. Also check whether the preheating radiator has been taken into use and adjusted correctly. • If the radiator does still not work, i.e. the fan does not stop more rarely, contact a maintenance company.
4	VKL unit has stopped.	<ul style="list-style-type: none"> • Antifreeze of the water-circulating radiator is active. <p>NOTE! If there is no non-freezing solution in the water of the radiator, the radiator is at risk of freezing and breaking down. If the radiator breaks down, there is a risk of water damage.</p>	<ul style="list-style-type: none"> • Immediately troubleshoot the situation. Check if the circulation pump is broken, the boiler out of operation etc. The situation may pass by itself as soon as supply air temperature exceeds 10 °C, but do not wait till it happens.
5	Filter guard indicator is lit and the unit operates otherwise normally.	<ul style="list-style-type: none"> • The pressure in the filter guard (pressure difference switch) has risen above the adjustment value or fan speed is 3 or 4. 	<ul style="list-style-type: none"> • If fan speed is 3 or 4, no maintenance activities are needed. • If fan speed is 1 or 2, check the cleanliness of the filters and the unit, and clean or replace the filters if needed. Also check the external grille.



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