



VALLOX 252

VALLOX-product code:	3158500 L
VALLOX 252 M	3158510 R
HVAC code:	7911076 L
VALLOX 252 M	7911077 R

INSTRUCTIONS FOR USE AND MAINTENANCE



VALLOX 252 M

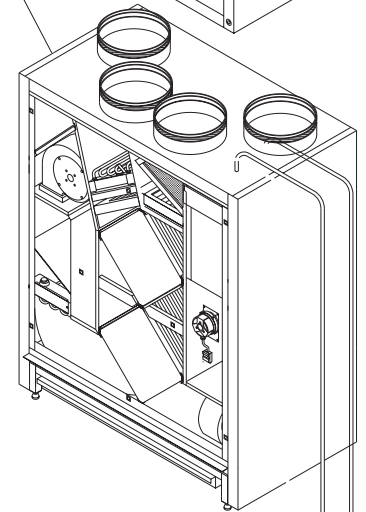
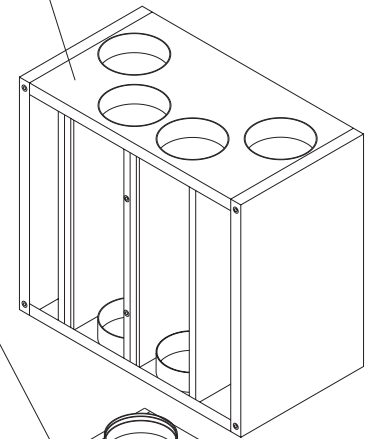
WATER OPERATED POST-HEATING UNIT (OPTIONAL)

ELECTRICAL POST-HEATING UNIT (OPTIONAL)

ELECTRICAL PREHEATER (OPTIONAL)

PRESSURE DIFFERENCE SWITCH (OPTIONAL)

SOUND ATTENUATOR (OPTIONAL)
IVALLOX 252



MANUAL CONTROL CENTER

REMOTE MONITORING CONNECTION

INSTRUCTIONS FOR USE AND MAINTENANCE

Power supply	230 V, 50 Hz, (230 V / 400 V) 13,9 A (+preheater 10,9 A)
Protection class	IP 34
Fans	Supply air 2x230 W 1 A 210 dm ³ /s 100 Pa Discharge air 2x230 W 1 A 230 dm ³ /s 100 Pa
Heat recovery	2 heat recovery cells, η>70 %
Heat recovery bypass	Manual or remote monitoring control
Preheater	2,5 kW 11 A
Electric post-heating unit	2,5 kW 11 A
Water post-heating unit	Approx. 5kW
Filters	Supply air EU 3 EU 7 Discharge air EU 3 EU 5
Weight/basic unit	210 kg
Ventilation adjustment options	- manual control (manual control unit) - remote monitoring control
Options	- sound attenuator - preheater - electric post-heating unit - water post-heating - pressure difference switch unit

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VALLOX 252 M

OPERATING PRINCIPLE OF THE VENTILATION UNIT

Models:

VALLOX 252 M L

VALLOX 252 M R

VALLOX 252 M removes contaminated air and replaces it with filtered and heated outdoor air.

Efficient filtering of outdoor air (EU3 + EU7) prevents harmful particles from entering the ductwork and rooms via the unit. Good filtering of discharge air (EU3 + EU5) diminishes the contamination of the unit and ensures effective operation of heat recovery and the discharge air fans. Clogging of the filters and the ductwork can be monitored if the unit is equipped with pressure difference switches.

With efficient 2-step heat recovery, most of the heat of contaminated discharge air can be transmitted to outdoor air coming inside. The efficiency of the heat recovery cells is approx. 70%, or 75...80% if supply air fan heat is taken into account. If outdoor air does not get sufficiently warm in the heat recovery cells, it is possible to use an (optional) heating unit operated by water or electricity.

In the summertime, needless heating of outdoor air can be avoided with the heat recovery bypass function, operated either manually or by remote control.

The automatic defrosting of the heat recovery cells intermittently stops the supply air fans when the temperature of discharge air goes under the pre-set threshold value. To avoid or to decrease the stopping of the supply air fans, supply air can be heated with an electrical preheater. If the unit is equipped with a preheater, defrosting starts when outdoor air temperature goes below ca. -15/-25°C (max./min. supply air stream). Without preheating, the operation starts when outdoor air temperature falls below ca. -5°C.

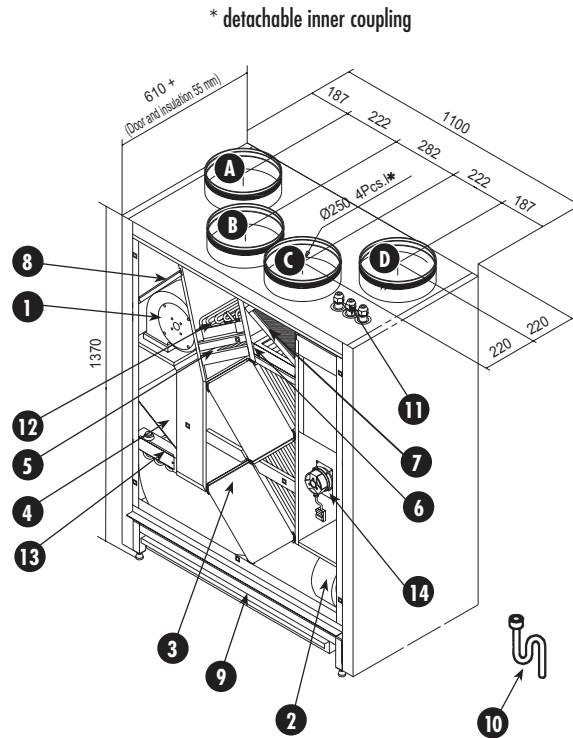
VALLOX 252 M can be operated with the manual control unit contained in the delivery. With the manual control unit, you can select the min. or max. ventilation power, and stop the unit. The control unit also features a heat recovery bypass switch. The manual control unit cannot be used in remote monitoring control.

In remote monitoring, you can stop the unit, and adjust three different power positions (min, half, max). Heat recovery bypass can also be controlled in remote monitoring. Control voltage in remote monitoring is 24 VAC.

The unit gives potential-free signals of operation modes of the selected power positions and the optionally installed pressure difference switches of the ductwork.

The unit can supply control voltage (24VDC) to separate damper motors of the outdoor air and extract air ducts. This control voltage is switched off when the unit is stopped. The function can be used in both manual and remote monitoring control.

The separate damper motors are not included in the delivery.



Main parts

- 1 Supply air fans
- 2 Discharge air fans
- 3 Heat recovery cells
- 4 Heat recovery bypass
- 5 Supply air filter EU7
- 6 Discharge air filter EU5
- 7 Discharge air filter EU3
- 8 Outdoor air filter EU3
- 9 Condensing water reservoir
- 10 Condensing water outlet
- 11 Electrical connection lead-throughs

Optional equipment

- 12 Post-heating unit
 - water operated or electrical
- 13 Preheater
 - electrical
- 14 Pressure difference switch unit

VALLOX 252 M-L

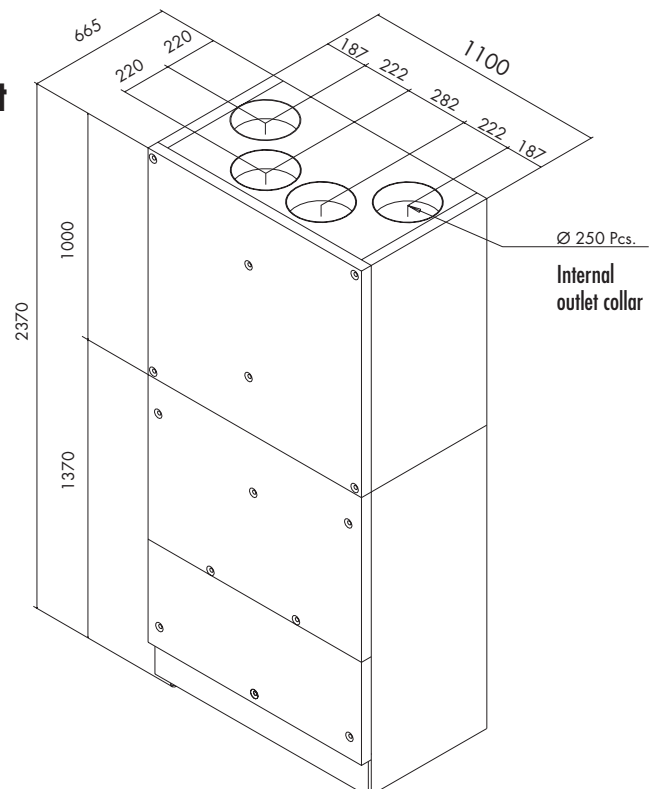
- A = OUTDOOR AIR
- B = SUPPLY AIR
- C = DISCHARGE AIR
- D = EXTRACT AIR

VALLOX M 252-R

- A = EXTRACT AIR
- B = DISCHARGE AIR
- C = SUPPLY AIR
- D = OUTDOOR AIR

Sound attenuator unit

Installed above the unit





Ventilation Control

- The unit can be used with manual control unit (included in the delivery) or with an optional remote monitoring system.
- The manual control unit cannot be used together with remote monitoring control.

Ventilation Control With Manual Control Unit

The manual control unit can be used in the following control functions:

Adjusting ventilation power:

- Starting and stopping
- Power adjustment with two positions (MIN and MAX). The adjustment voltages of the power positions are preset in the factory, but they can be reset if needed. (See VALLOX 252 M Technical Instructions / Selecting Adjustment voltages)

Heat Recovery Bypass

When needed, heat recovery can be bypassed with the lever switch "Summer/Winter" in the manual control unit.

- Position WINTER: bypass is switched off (outdoor air is led through the heat recovery cells of VALLOX 252 M)
- Position SUMMER: bypass is switched on (outdoor air is led past the heat recovery cells of VALLOX 252 M)
- In the SUMMER position, the electrical heating units (preheating and post-heating resistors) are switched off.

Ventilation Control With Remote Monitoring System

Remote monitoring control can be used in the following control functions:

Adjusting Ventilation Power:

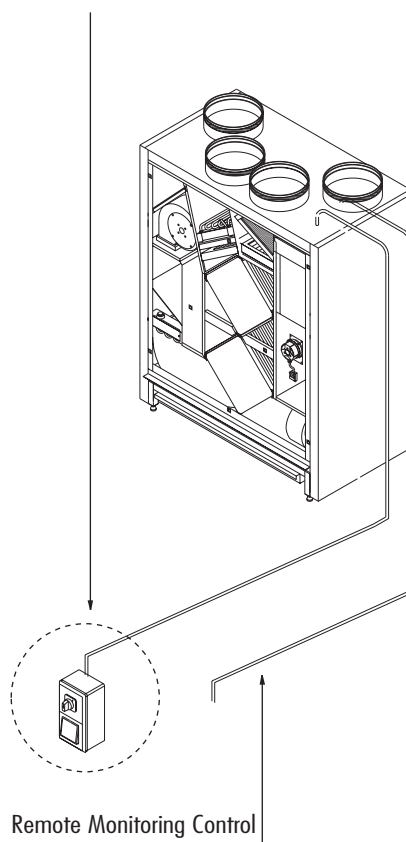
- Starting and stopping
- Power adjustment with three positions (MIN, 1/2 and MAX). The adjustment voltages of the power positions are preset in the factory, but they can be reset if needed. (See VALLOX 252 M Technical Instructions / Selecting the adjustment voltages)
- Control voltage of power adjustment is 24 VAC. Control voltage to the remote monitoring system can be supplied from the VALLOX 252 M (See VALLOX 252 M, Technical Instructions)
- Potential-free signal of operation modes of the selected power position (MIN, 1/2, MAX) is given to the remote monitoring system.

Heat Recovery Bypass

Heat recovery can be controlled by the remote monitoring system. Control voltage is 24 VAC.

- Control voltage 24 VAC switched on: the bypass is switched off (outdoor air is led through the heat recovery cells of VALLOX 252 M)
- Control voltage 24 VAC switched off: the bypass is switched on (outdoor air is led past the heat recovery cells of VALLOX 252 M)
- When the bypass is switched on, the electrical heating units (preheating and post-heating resistors) are switched off.

Manual Control Unit



Remote Monitoring Control



VALLOX 252 M

OPERATION INSTRUCTIONS

Adjusting the Electrical Post-heating Unit

- The electrical post-heating unit can be adjusted via a thermostat placed inside the unit. With this thermostat, you can select supply air temperature between +10...+25°C. The factory-set value is +10°C (see the adjoining picture, pos.1).

Adjusting the Electrical Preheater

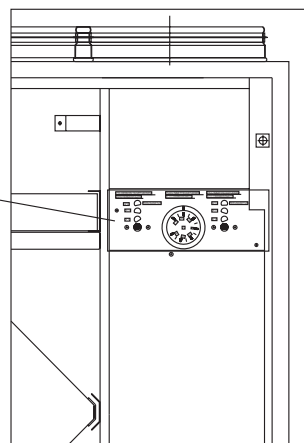
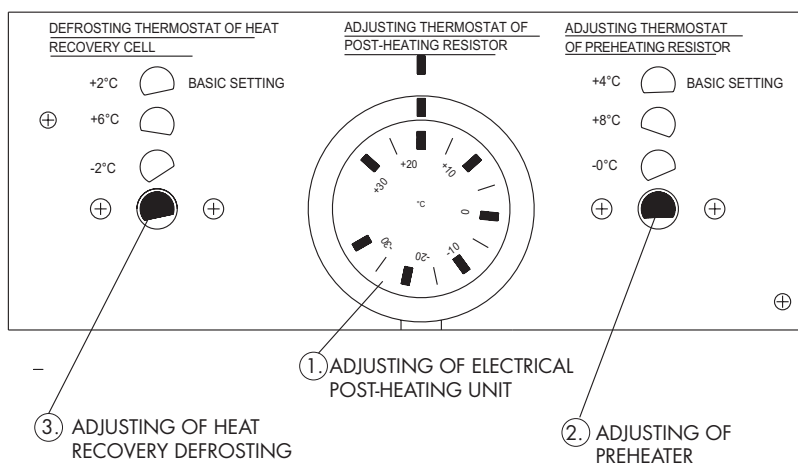
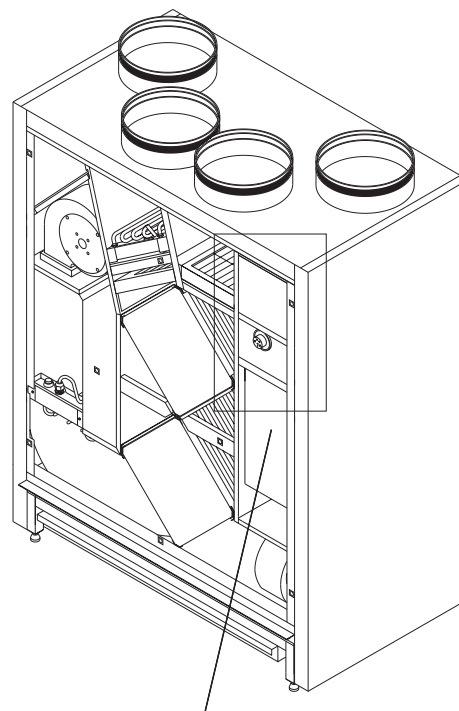
- The electrical post-heating unit can be adjusted via a thermostat placed inside the unit. The factory-set value is +4°C (see the adjoining picture, pos.2).

NOTE! When changing the preheat setpoint, ensure that it is ca. 2°C higher than setpoint of defrosting protector of the heat recovery cells.

Adjusting the Defrosting of the Heat Recovery Cells

- The unit comes standard with heat recovery defrosting system, based on the stopping of the supply air fans.
 - The defrosting setpoint value can be adjusted with the thermostat placed inside the unit. Factory setting is +2°C (see the adjacent picture, item 3).
- NOTE! If the defrosting setpoint is too low (<0°C), the heat recovery cells may freeze.

NOTE! When the defrosting setpoint is changed, the setpoint of the optional preheater has to be changed, too. The defrosting setpoint is ca. 2°C lower than that of the preheater.





Adjusting the Heater Unit with Water Circulation

* The heater unit with water circulation can be adjusted with the self-operated radiator thermostat valve (R1/2"). It can be installed outside the unit, in the return pipe of the heater unit, and the separate sensor can be fixed to the supply air duct.

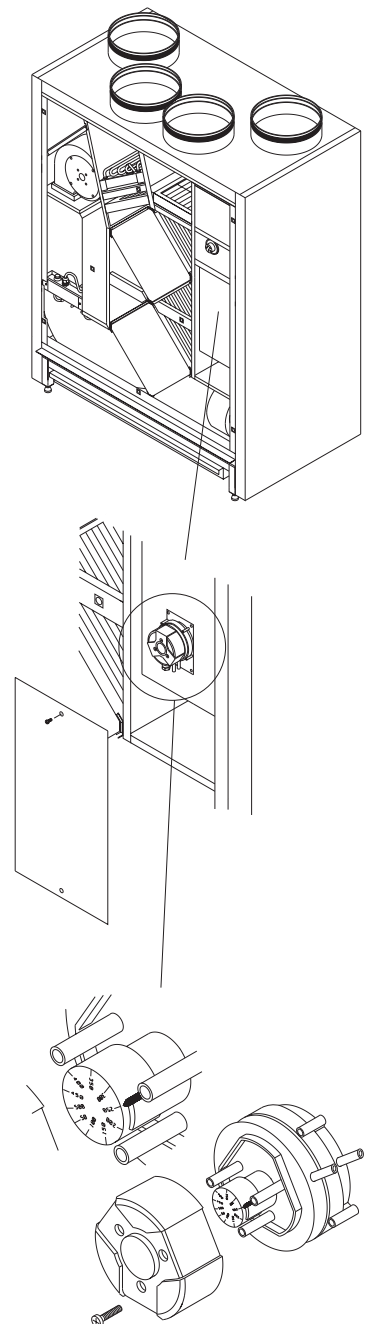
NOTE! THE THERMOSTAT VALVE IS NOT INCLUDED IN THE DELIVERY

Adjusting the Pressure Difference Switch

You can test the function of the factory-set pressure difference switch and adjust it, if needed, as follows:

1. Start the ventilation unit and adjust its ventilation power according to the planned air volume. Note! The doors of the ventilation unit must be installed.
2. If the pressure difference switch does not give an operation mode signal, do steps 3...5. If the operation mode signal is received, proceed to step 6.
3. If you want to test the pressure difference switch of the supply air duct, cover about 50% of the supply air filter (EU7) with a piece of cardboard, for instance. Respectively, if you want to test the pressure difference switch of the discharge air duct, cover about 50% of the discharge air filter (EU5).
4. Restart the unit and adjust its ventilation power according to the planned air volume. Note! The doors of the ventilation unit must be installed.
5. If the pressure difference switch gives an operation mode signal, proceed to step 7. If not, proceed to step 6.
6. You can change the setting of the pressure difference switch as follows:
 - **Switch off the power supply of VALLOX 252 M, e.g. from the distribution panel.**
 - Detach the upper door of VALLOX.
 - Detach the cover of the pressure difference switch, and raise the setpoint by turning the adjusting wheel (see the adjoining picture).
 - Fix the covers and the door. Start VALLOX and adjust its ventilation power according to the planned air volume.
 - Go back to step 2.
7. The pressure difference switch is now adjusted: when pressure difference in the ductwork rises (e.g. because of a clogged filter or a clogged outer grate), the respective unit sends an operation mode signal.

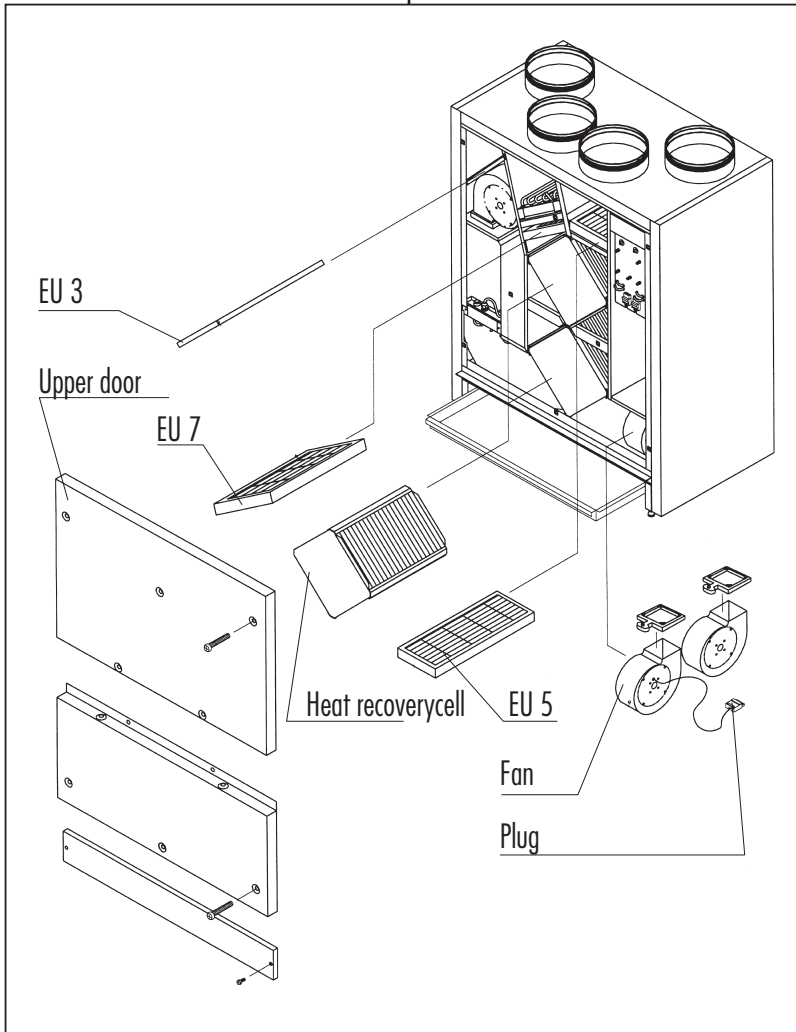
NOTE! AFTER ADJUSTING, REMOVE ANY CARDBOARD PIECES FROM ABOVE THE FILTERS.





VALLOX 252 M

MAINTENANCE INSTRUCTIONS



General

- The door of the unit has two parts. The fixing screw of the upper door - located in the upper corner, on the same side as the electricity lead-throughs - is also the service switch of the unit. When loosened, this screw with the door switch cuts off power supply. Always detach the upper door first, and attach it last.

When attaching the upper door, turn the screw tight enough to enable switching on of the unit.

- When servicing only the filters, you only need to detach the upper door. For other service operations, both doors must be detached.

Always detach the upper door first, and attach it last.

- The parts needing maintenance are:

- Filters
- Heat recovery cells
- Fans
- Condensing water couplings

Filters

- The unit includes rough filters, class EU 3, for outdoor and discharge air; fine filters EU7 for supply air, and EU5 for discharge air. The filters must be cleaned and replaced at regular intervals (once or twice a year), depending on their contamination.
- If the unit is equipped with pressure difference switches, they indicate in the remote monitoring units when the filters need cleaning or replacing if needed. In this context, you should also control if there are any other factors which increase pressure difference in the ductwork (e.g. a clogged grate or exhaust unit).
- Servicing filters:
 - Open the fixing screws of the upper door.
 - Lift the door off.
 - Check the cleanliness of the filter.
- A filter of class EU3 (blue-white) can be cleaned with +25...30°C warm water and washing-up liquid. Do not handle the filter with force, but press them smoothly. When this is done properly, filters stand cleaning 4...5 times.
- Filters of classes EU5 and EU7 (fiber filters) are not washable, but they can be cleaned with pressure air, cautiously blowing against the direction of contamination. When needed, replace the filters with new ones.



Heat Recovery Cells

- The heat recovery cells of the unit can be contaminated in spite of the filters. Therefore, the cleanliness of the cells must be checked regularly, approximately once a year. It is recommended to check the cells in connection with filter change.
- The cells can be detached by pulling out the ears at the end plates. Contaminated cells can be washed by spraying some washing-up liquid inside them, or soaking them in a solution of water and washing-up liquid. After that, rinse the cells with a jet of water. Let the cells drain and install them. When installing, note the "this side up" labels in the cells.

Fans

- It is advisable to check the cleanliness of the fans in connection with the maintenance of the filters and heat recovery cells. When needed, clean the fans.
- You can detach the fans by loosening the finger nuts and electrical connections (see the instruction label on the fan hood). The blade wheel can be cleaned by carefully blowing compressed air, brushing, or wiping with damp cloth. Clean each blade so that the fan stays balanced. The fan hoods must be cleaned, too.
- **Do not let water flow to the fan motor!**

Condensing Water Outlets

- In connection with maintenance, also check the bottom reservoir with condensing water outlets.
- Condensing water outlets become visible when the base plate is detached. Pull forward the condensing water reservoir - if used - and detach it for emptying and cleaning.
- If the condensing water outlet is in use, check it and ensure that it is not clogged.

Other Cleaning Activities

- In connection with maintenance also check the internal cleanliness of the unit: preheater and post-heating unit, bottom reservoir and internal casing. Remove dirt with vacuum-cleaner, brush, damp cloth, etc.
- **Do not let water flow to the electrical devices!**

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