



# VALLOX 252 D

VALLOX Product Code: 3158400 L  
VALLOX 252 D 3158410 R



**INSTRUCTIONS FOR USE AND MAINTENANCE**

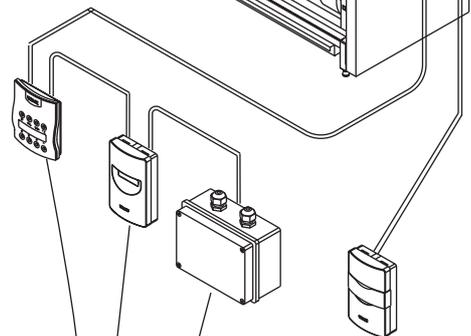
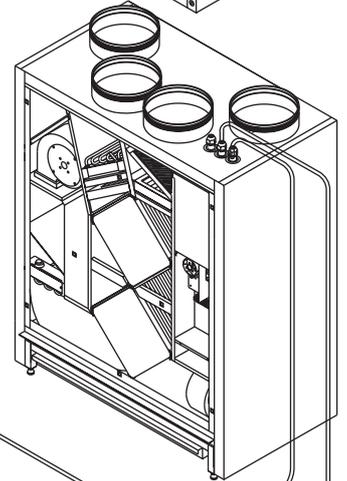
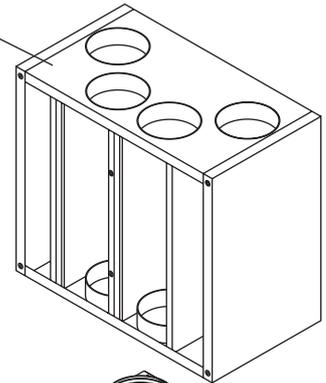
SILENCER (OPTIONAL)

WATER CIRCULATED POST-HEATING UNIT (OPTIONAL)

ELECTRIC POST-HEATING UNIT (OPTIONAL)

PREHEATER (OPTIONAL)

PRESSURE DIFFERENCE SWITCH (OPTIONAL)



DIGIT CONTROL PANEL

CO<sub>2</sub> SENSOR (OPTIONAL)

LON CONVERTER (OPTIONAL)

%RH SENSOR (OPTIONAL)

<b>Power supply</b>	230 V, 50 Hz (400 V) 13.9 A (+ preheater 10.9 A)
<b>Protection class</b>	IP 34
<b>Fans</b>	Supply air 2x230 W 1 A 210 dm <sup>3</sup> /s 100 Pa Extract air 2x230 W 1 A 230 dm <sup>3</sup> /s 100 Pa
<b>Heat recovery</b>	2 heat recovery cells, η>70 %
<b>Heat recovery bypass</b>	Summer/winter automation
<b>Preheater</b>	2.5kW 11 A
<b>Electric post-heating unit</b>	2.5kW 11 A
<b>Water circulated post-heating unit</b>	ca. 5kW
<b>Filters</b>	Supply air EU3 EU7
<b>Filters</b>	Discharge air EU3 EU5
<b>Basic unit</b>	Weight 210 kg
<b>Ventilation adjustment options</b>	– Manual control (DIGIT control panel) – CO <sub>2</sub> and %RH control – Remote monitoring control (LON) – Remote monitoring control (voltage / current signal)
<b>Options</b>	– Silencer – Preheater unit – Electric post-heating unit – Water circulated post-heating unit – CO <sub>2</sub> sensor – %RH sensor – Pressure difference switch – LON converter

VA  
VALL  
VALLOX  
VALLOX  
VALLOX



# VALLOX 252 D

## OPERATING PRINCIPLE OF THE VENTILATION UNIT

### Models:

#### VALLOX 252 D-L

#### VALLOX 252 D-R

VALLOX 252 D 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 the rooms via the unit. Good filtering of extract air (EU3 + EU5) diminishes the contamination of the unit and ensures effective operation of heat recovery and the extract air fans. Clogging of the supply/extract air filters and the ductwork can be monitored if the unit is equipped with a pressure difference switch.

With efficient 2-step heat recovery, most of the heat of contaminated extract 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.

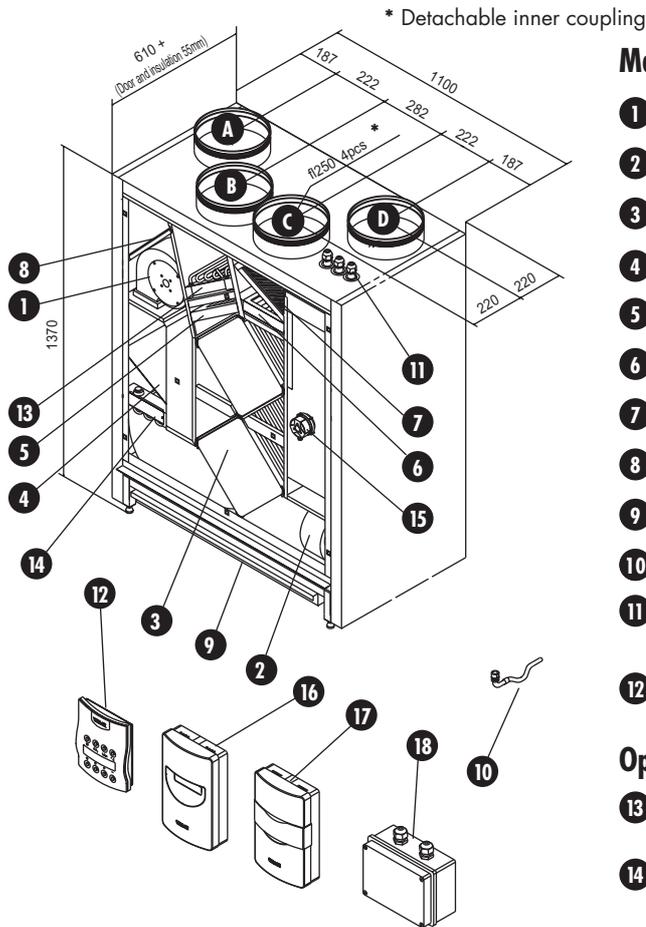
The unit features an automatic heat recovery bypass function, which eliminates needless heating of outdoor air in the summertime. The unit also includes an automatic defrosting function of the water operated post-heating unit.

The automatic defrosting of the heat recovery cells intermittently stops the supply air fans when the temperature of exhaust air goes under the preset threshold value. To avoid or to decrease the stopping of the supply air fans, you can heat outdoor air with an electric 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 flow). Without preheating, defrosting starts when outdoor air temperature falls below ca. -5°C.

VALLOX 252 D can be controlled with the control panel coming with the unit (3 at most) and with optional CO<sub>2</sub> (5 at most) and %Rh sensors (2 at most).

Fan speeds can be monitored remotely with current or voltage signals. In case of failures in the ventilation unit, a potential-free relay point signal is received.

The optional VALLOX LON converter allows remote monitoring based control of the unit.



### Main Parts

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

### Options

- 13 Post-heating unit
  - Electric or water
- 14 Preheater
  - Electric
- 15 Pressure difference switch
- 16 Carbon dioxide sensor
- 17 Humidity sensor
- 18 LON converter

### VALLOX 252 D-L

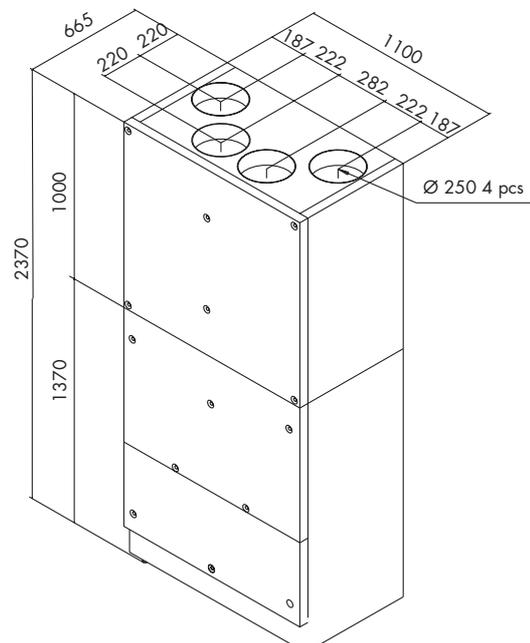
- A = OUTDOOR AIR
- B = SUPPLY AIR
- C = EXTRACT AIR
- D = EXHAUST AIR

### VALLOX 252 D-R

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

### Silencer

Installed above the unit





### Ventilation control

The ventilation unit can be controlled completely with the control panel included in the delivery, or with an optional LON converter.

In addition, optional carbon dioxide and humidity sensors can be used for demand controlled ventilation.

Fan capacity can also be controlled with voltage or current signals.

### Ventilation control with control panel

The following ventilation control functions can be performed at the control panel:

#### Ventilation rate regulation

- Capacity regulation (8 positions).
- Setting the basic fan speed and the maximum fan speed. Ventilation rate cannot be set lower than the basic fan speed. When CO<sub>2</sub> and/or %RH adjustments are activated, capacity cannot be adjusted to exceed the maximum fan speed. When CO<sub>2</sub> and %RH adjustments are not enabled, fan speed can be raised to speed 8.

#### Supply air temperature control functions

- Switching the electric or water-circulated post-heating unit on or off.
- Setting the desired supply air temperature (+10°C...+30°C).
- Choosing the control mode for desired supply air temperature (constant temperature control, cascade control).

#### Preheating

- Setting the control temperature for the preheating unit (-6°C...+15°C exhaust air).

The maximum number of control panels is 3. If two or more control panels are used, the most recent control function is the one that is valid.

### Ventilation control with carbon dioxide sensor (option)

- In carbon dioxide control, VALLOX 252 D adjusts fan speed so as to keep the carbon dioxide content in the ventilation zone below the setpoint. If two or more sensors are used, fan speed is adjusted in accordance with the highest measuring result.
- 1...5 optional carbon dioxide sensors may be connected to the VALLOX 252 D unit.
- The adjustment is switched on / off and, if needed, the setpoint (500...2000ppm) is defined on the control panel. The factory setting is 900 ppm.
- While control is activated, you can use the control panel to raise fan speed to the maximum speed and to lower it to the basic fan speed.

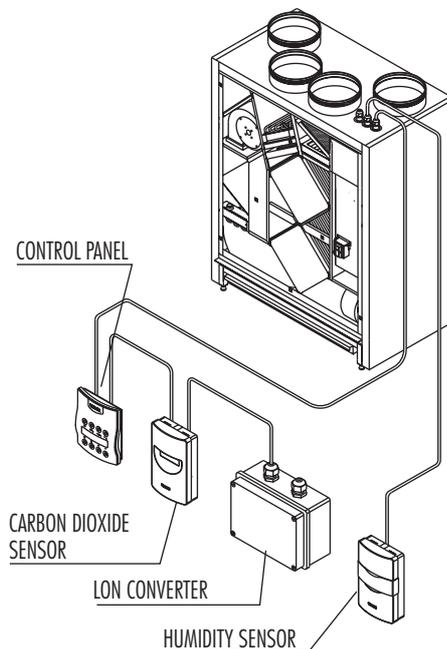
In carbon dioxide control, maximum fan speed limitation is enabled.

### Ventilation control with relative humidity sensor

- When the relative humidity control is activated, VALLOX 252 D adjusts fan speed, keeping %RH low compared to humidity level in the ventilation zone. When two sensors are in use, fan speed is adjusted according to the higher measuring result.
- VALLOX 252 D can be equipped with one or two optional relative humidity sensors.
- The sensor is switched on / off on the control panel.
- The setpoint of humidity control changes automatically according to the humidity conditions. You can switch the automatic search off and change the setpoint manually (1...99 %RH). Automatic search is the factory setting.
- When ventilation is controlled with a %RH sensor, you can raise fan speed to the maximum level from the control panel, and lower it to the basic fan speed.

In humidity control, maximum fan speed limitation is enabled.

**When the unit is taken into use for the first time, it will take the program 3...10 hours to search the setpoint. During this time, humidity control is not active.**



Control panel



Carbon dioxide sensor

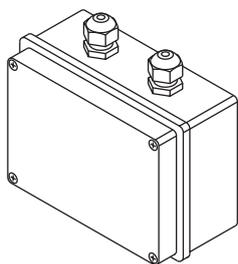


Humidity sensor

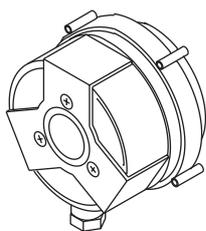


# VALLOX 252 D

## INSTRUCTIONS FOR USE



LON converter



Pressure difference switch

### Ventilation control with voltage or current signals

- The fan speeds of VALLOX 252 D can be controlled with voltage or current signals coming from the remote monitoring system.
- The signal can be used to select speeds 0...8. However, the maximum fan speed may not be exceeded, if carbon dioxide or humidity control is active.
- The signal changes the basic fan speed.
- The signal does not lock the fan speed, i.e. it can be changed on the control panel within the defined range. Carbon dioxide and humidity controls also operate within the defined range.

### Ventilation control with remote monitoring system

- With the help of an optional LON converter, VALLOX 252 D can be connected to a remote monitoring system.
- Before connecting VALLOX 252 D to the remote monitoring system, make sure that they are compatible.
- The remote monitoring system may be used to control the same functions that can be controlled on the control panel.
- The remote monitoring system works in parallel with the control panel and the carbon dioxide and humidity sensors.

### Heat recovery bypass

- The aim of the heat recovery bypass function is to ensure that supply air coming to the ventilation zone is as cool as possible. To do this, the heat recovery bypass function compares the measurement data of the outdoor and extract air sensors.
- The heat recovery cell is bypassed when the post-heating function is off and outdoor air temperature exceeds the setpoint.
- Heat recovery is active whenever outdoor temperature is two degrees below the setpoint.
- The setpoint may be changed within the range 0°...+25°C. (The factory setting is 10°C.)

### Heat recovery cell defrosting function

- The defrosting function prevents the heat recovery cell from freezing, thereby ensuring that ventilation works in cold periods, too.
- The defrosting function uses preheating and, when needed, stops the supply air fan on the basis of the measurement data received from the temperature sensor that detects the temperature of exhaust air after the heat recovery cell. When the risk of freezing passes, preheating will be switched off and the supply air fan will start automatically.
- The preheating activation temperature of the defrosting function (factory setting +3°C), the temperature for stopping the supply air fan (factory setting +1°C) and the operating temperature hysteresis (factory setting 1°C) can be set on the control panel.

### Defrosting of water circulated post-heating unit

- The defrosting function aims at preventing the water circulated post-heating unit from freezing. The automatic function stops the supply and extract air fans of the ventilation unit whenever outdoor temperature descends below 0°C and supply air temperature goes below +7°C, in which case the control valve becomes wide open and the message FREEZING ALERT shows in the control panel display. The function opens and closes the points of the fault signalling relay at 10-second intervals.
- The fans start automatically as soon as supply air temperature exceeds 10°C.

### Filter guard function

- If VALLOX 252 D is equipped with a pressure difference switch for the supply and/or extract air ductwork, the switch monitors the pressure difference in the whole ductwork. When pressure has risen (e.g. because of a clogged filter), the filter guard indicator (🚫) in the main display of the control panel lights up.
- When the lamp is lit, the filter guard closes the points of the fault signalling relay.



### Service reminder

- The maintenance reminder switches on the maintenance reminder symbol (🔧) in the control panel at defined intervals, the factory setting being 4 months.
- The maintenance reminder symbol is acknowledged at the main display of the control panel (see the instructions for using the control panel, Section 1.3.7.).
- The interval may be set between 1 and 15 months on the control panel.

### Supply air constant temperature control

- The basic setting for supply air temperature control is constant temperature control.
- The aim is to permanently keep the temperature of air blown to the ventilation zone within the range +10...+30°C.
- Temperature control is only active when post-heating has been switched on.

### Supply air cascade control

- Supply air temperature control can be replaced with cascade control.
- Cascade control changes the mode of regulating the post-heating radiator: the temperature of air blown to the ventilation zone is controlled on the basis of extract air.
- Temperature is controlled on the basis of the difference between the setpoint and the actual temperature. For instance, if indoor air temperature is 25°C and the setpoint is 24°C, the aim is to blow 23°C air to the ventilation zone. If the temperature in the ventilation zone is 24°C and the setpoint is 25°C, the aim is to blow 26°C air to the ventilation zone.
- The aim is to permanently keep the temperature of air blown to the ventilation zone within the range +10...+30°C.
- Cascade control can be chosen on the control panel, and it is active when post-heating has been switched on.

### Fireplace switch / boosting function

- The booster switch raises fan speed to the preset maximum fan speed for 45 minutes.
- The fireplace switch stops the extract air fan for 15 minutes and causes overpressure in the ventilation zone. This facilitates lighting up the fireplace, for instance.

**NOTE! When the extract air fan starts, the draft in the fireplace may stop.**

- The function is selected on the control panel.

### Fault signalling relay

- The fault signalling relay has potential free points (24VDC, 1A).
- The points provide information on failure modes of the ventilation unit.
- During water radiator defrosting, the points of the relay close and open at 10-second intervals.
- High carbon dioxide content alarm switches the relay every second.
- In other failure situations, the points are closed.



Control panel



# VALLOX 252 D

## INSTRUCTIONS FOR USING THE CONTROL PANEL

### 1. Control panel

#### 1.1. Keyboard



##### 1 Start button

With this button, you switch the unit on and off. When the indicator is lit, the unit is on.

##### 2 Carbon dioxide adjustment

With this button, you set carbon dioxide adjustment on and off. When the indicator is lit, the adjustment is on.

##### 3 Humidity adjustment

With this button, you set humidity adjustment on and off. When the indicator is lit, the adjustment is on.

##### 4 Post-heating

With this button, you set post-heating on and off. When the indicator is lit, post-heating is on. The summer function is active when the indicator is not lit.

##### 5 Scrolling up

With this button, you can scroll the displays upward.

##### 6 Scrolling down

With this button, you can scroll the displays downward.

##### 7 Increase button

With this button, you can increase values.

##### 8 Decrease button

With this button, you can decrease values.

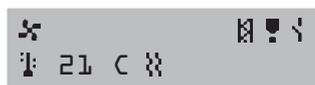
#### Power failure

**After a power failure, the unit starts at minimum fan speed. The adjustments and setpoints chosen will remain in the memory of the unit in spite of the power failure.**

### 1.2. Operating menu

The displays of the operating menu (Sections 1.2.1.–1.2.5.) can be scrolled with the scrolling buttons. (See Section 1.1., legend numbers 5 and 6 in the figure).

#### 1.2.1. Main display and change of fan speed



⚙ Fan speed

🌡 Supply air temperature (21°C)

🔥 Post-heating on

🛡 Filter guard alarm

🕒 Maintenance reminder alarm

🔥 Fireplace / booster switch on

You can change fan speed in this play with the + and - buttons. (See Section 1.1., legend numbers 7 and 8 in the figure).

#### 1.2.2. Moving to the settings menu



In order to move the control panel to the settings menu, press the + and - buttons simultaneously.

In the settings menu, you can change setpoints for the ventilation unit.

#### 1.2.3. Content display



The content display shows humidity and carbon dioxide content. The corresponding sensors required (options).

#### 1.2.4. Temperature display



The temperature display shows the temperatures of outdoor air, indoor air, supply air and exhaust air. The accuracy of the temperature sensors is  $\pm 2^{\circ}\text{C}$ .

#### 1.2.5. Setting supply air temperature



Supply air temperature setting is changed with the + and - buttons.

## INSTRUCTIONS FOR USING THE CONTROL PANEL

### 1.3. Settings menu

You can reach the settings menu from the operating menu as indicated in Section 1.2.2. The displays of the settings menu (Sections 1.3.1.–1.3.23.) can be scrolled with the scrolling buttons. (See Section 1.1., legend numbers 5 and 6 in the figure).

#### 1.3.1. Setting the basic fan speed

MIN fan speed  
1

The basic fan speed (minimum fan speed) is selected with the + and - buttons.

#### 1.3.2. Moving to the operating menu

To main menu  
Press + and -

You can return to the operating menu by pressing the + and - buttons simultaneously.

#### 1.3.3. Mode of operation of the maximum speed setting

MAX Speed limit  
With adjustments

The maximum fan speed setting can be selected to be active either with adjustments (carbon dioxide and humidity) or permanently. The selection is done with the + and - buttons.

#### 1.3.4. Choosing the language version

Kieli / Language  
English

The language (German, English or Finnish) is selected with the + and - buttons.

#### 1.3.5. Restoring the factory settings

Factory settings  
see manual

The general factory settings can be restored by pressing the + and - buttons simultaneously. It has to be checked for each unit that the setpoints are as stated in Section 1.4. Especially, check the unit model (electricity/water) and change if needed as stated in Section 1.3.17.

#### 1.3.6. Adjustment interval

Adjust interval  
10

The adjustment interval for humidity and carbon dioxide adjustments is selected with the + and - buttons. The adjustment interval refers to minutes.

#### 1.3.7. Acknowledging the maintenance reminder

Mainten. reset  
Press + and -

The maintenance reminder is acknowledged by pressing the + and - buttons simultaneously.

#### 1.3.8. Contrast of the control panel display

Display contrast  
05

The contrast setting for the control panel display is changed with the + and - buttons.

#### 1.3.9. Address of the control panel

Panel address  
1

The address of the control panel is changed with the + and - buttons. Two control panels cannot have the same address. If control panels have the same address, they will go to the bus fault state and will not operate.

#### 1.3.10. Adjusting the DC fan on the extract/exhaust air side

DC fan exhaust  
100%

The desired adjustment value for the DC fan is selected with the + and - buttons. The rotation speed of the extract air fan can be lowered by decreasing the percentage value.

## INSTRUCTIONS FOR USING THE CONTROL PANEL

### 1.3.11. Adjusting the DC fan of the supply air side

DC fan supply  
100%

The desired adjustment value for the DC fan is selected with the + and - buttons. The rotation speed of the supply air fan can be lowered by decreasing the percentage value.

### 1.3.12. Changing the operating temperature of heat recovery cell bypass

Cell bypass  
10C

The desired cell bypass temperature is selected with the + and - buttons. If outdoor temperature is lower than cell bypass temperature, the summer / winter damper is in the winter position.

### 1.3.13. Setpoint of the basic humidity level

Basic %RH level  
40%

The desired setpoint is selected with the + and - buttons, unless automatic search of the basic humidity level is used.

### 1.3.14. Mode of operation of the fireplace / booster switch

Switch type  
Fireplace switch

The mode of operation of the switch (either fireplace or booster switch) is selected with the + and - buttons.

### 1.3.15. Choosing cascade control for supply air temperature

Cascade adjust  
Off

Cascade control is chosen to be on or off with the + and - buttons.

### 1.3.16. Choosing the basic humidity level

Rh-level setting  
automatic

Automatic or manual search of the basic humidity level. The selection is done with the + and - buttons.

### 1.3.17. Choosing post-heating for the unit

Radiator type  
electric rad.

Either a water or electric radiator is selected with the + and - buttons, depending on the type of post-heating radiator the unit is equipped with. Note! Choosing the wrong type of post-heating may cause a faulty post-heating function.

### 1.3.18. Choosing the interval for the maintenance reminder

Maintenance rem.  
04

The interval for the maintenance reminder is selected with the + and - buttons. The maintenance reminder interval refers to months.

### 1.3.19. The hysteresis of the defrost function of the heat recovery cell

Hysteresis  
03C

The hysteresis of the defrost function of the heat recovery cell is selected with the + and - buttons.

### 1.3.20. The stopping temperature of the supply air fan for the defrost function of the heat recovery cell

Input fan stop  
05C

The stopping temperature of the supply air fan for the defrost function of the heat recovery cell is chosen with the + and - buttons.

### 1.3.21. Pre-heating temperature for the defrost function of the heat recovery cell

Preheater  
07C

The preheating temperature for the defrost function of the heat recovery cell is chosen with the + and - buttons.

## INSTRUCTIONS FOR USING THE CONTROL PANEL

### 1.3.22. Changing the setpoint for carbon dioxide adjustment

CO<sub>2</sub>-setting  
0900 PPM

The setpoint for CO<sub>2</sub> adjustment is chosen with the + and - buttons.

### 1.3.23. Choosing maximum fan speed

MAX fan speed  
8

The desired maximum fan speed is selected with the + and - buttons. Maximum fan speed is on either with adjustments or permanently. See Section 1.3.3, Mode of operation of the maximum speed setting.

## 1.4. Factory settings

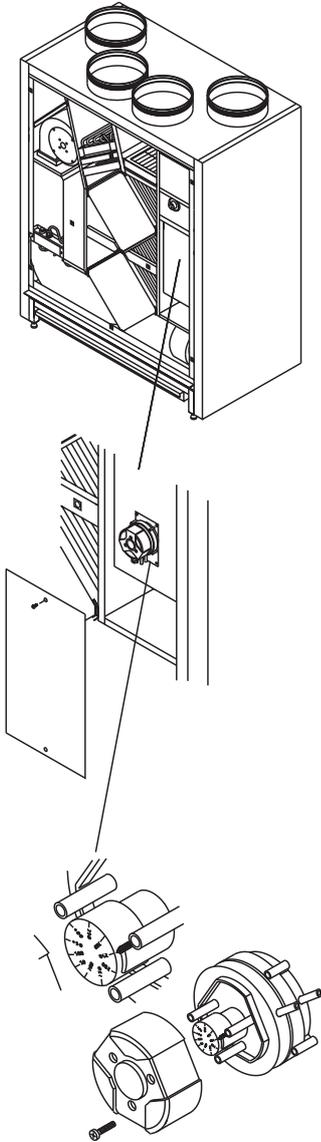
### VALLOX DIGIT SE has the following factory settings:

Basic fan speed	=	1
Maximum fan speed	=	8
Carbon dioxide adjustment (CO <sub>2</sub> )	=	900 ppm CO <sub>2</sub>
Basic humidity level	=	value chosen either automatically or manually
Adjustment interval	=	1 min.
Freezing protection (cell)	=	1°C
Freezing protection hysteresis	=	1°C
Preheating setpoint	=	3°C
Maintenance reminder	=	4 months
Cell bypass	=	10°C
Cascade control	=	not active
Humidity level (RH level) adjustment	=	automatic
Switch type	=	booster switch



# VALLOX 252 D

## PRESSURE DIFFERENCE SWITCH



### Setting the pressure difference switch

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

1. Turn the ventilation unit on and adjust ventilation capacity according to the planned volume. Note! The doors of the ventilation unit have to be mounted.
2. If the filter guard symbol (⊠) does not appear in the main display of the control panel, follow the steps 3...5. If the symbol appears, proceed to step 6.
3. If you want to test the pressure difference switch of the supply air ductwork, cover about half of the supply air filter (EU7) with a piece of cardboard. If you want to test the pressure difference switch of the extract air ductwork, cover about half of the extract air filter (EU5).
4. Restart the ventilation unit and adjust ventilation capacity according to planned air volumes. Note! The doors of the ventilation unit have to be mounted.
5. If the filter guard symbol appears in the main display of the control panel, proceed to step 7. If it does not appear, proceed to step 6.
6. You can increase the setpoint of the pressure difference switch as follows:

**Disconnect VALLOX 252 D from the network by switching off power supply on the distribution panel, for instance.**

- Remove the doors of the unit (upper door first).
  - Remove the bottom cover of the electrical connection box inside the unit.
  - Remove the cover of the pressure difference switch and turn the adjusting wheel, increasing the setpoint (see the adjoining picture).
  - Put the covers and the door in place, restart VALLOX and adjust ventilation capacity according to planned air volumes.
  - Proceed to step 2.
7. The pressure difference switch unit is now adjusted: if pressure difference in the ductwork increases (e.g. clogged filter or grate), the filter guard symbol (⊠) lights up in the main display of the control panel and the points of the fault signal relay close.

**Note! Remove any filter covers used during the adjustment!**



# VALLOX 252 D

## TROUBLESHOOTING

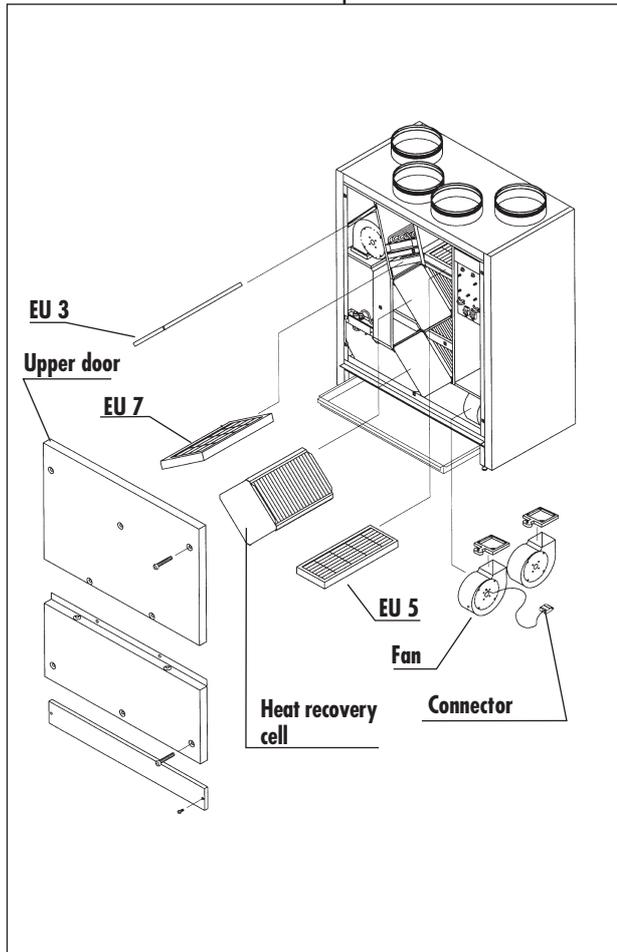
	SYMPTOM	CAUSE	DO THIS
1	Outdoor air is cool when entering the house.	<ul style="list-style-type: none"> <li>Air cools down in the attic ducts.</li> <li>The heat recovery cell has frozen, and extract air cannot heat outdoor air.</li> <li>The post-heating radiator is not functioning.</li> <li>The extract air filter or the cell is clogged.</li> <li>The initial adjustments for ventilation have not been made.</li> </ul>	<ul style="list-style-type: none"> <li>Check the insulation of the attic ducts.</li> <li>If the heat recovery cell has frozen, check the defrosting protection setpoint. You may increase the setpoint by 1 or 2°C, or you can bend the sensor closer to the cell, which causes the supply air fan to stop earlier (see the instructions for using the control panel, Section 1.3.20). Defrost the cell before closing the door.</li> <li>If the post-heating radiator does not operate, check to see if overheating protection prevents it from operating. Press the overheating protection button, and measure the temperature of supply air inside the unit when the door is closed. If, even after this, the radiator does not function, contact a service representative.</li> <li>Check the cleanliness of the filters and the heat recovery cell.</li> </ul>
2	The supply air fan keeps stopping.	<ul style="list-style-type: none"> <li>Stopping of the supply air fan is active.</li> </ul> <p><b>NOTE! If you decrease the threshold by too much, the cell may freeze. See item 1 on this page.</b></p>	<ul style="list-style-type: none"> <li>The fan stops less often and the efficiency of the heat recovery cell is enhanced if the setpoint is decreased by 1 or 2°C. (See the instructions for using the control panel, Section 1.3.20.).</li> </ul>
3	The supply air fan stops and starts too frequently.	<ul style="list-style-type: none"> <li>The difference between the stopping and starting temperatures is too small.</li> </ul>	<ul style="list-style-type: none"> <li>Increase the difference by 1 or 2°C, thereby lengthening the interval between the stopping and starting of the supply air fan. (See the instructions for using the control panel, Section 1.3.19).</li> </ul>
4	The maintenance reminder symbol (⌘) is displayed and the unit operates otherwise normally.	<ul style="list-style-type: none"> <li>The maintenance reminder lights up the maintenance reminder symbol in the main display of the control panel at an interval of approximately 4 months (factory setting).</li> <li>You may change the interval (see the instructions for using the control panel, Section 1.3.18.).</li> </ul>	<ul style="list-style-type: none"> <li>Check the cleanliness of the filters and the unit, and clean or replace the filters if needed. Check the external grille as well.</li> <li>Acknowledge the maintenance reminder symbol to make it disappear. (See the instructions for using the control panel, Section 1.3.7.).</li> </ul>
5	"Exh. air sensor fault" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>There is a fault in the defrosting sensor.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The sensor mounting has to be checked, and the sensor has to be replaced if necessary.</li> </ul>
6	"Sup. air sensor fault" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>There is a fault in the supply air sensor.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The sensor mounting has to be checked, and the sensor has to be replaced if necessary.</li> </ul>
7	"Ind. air sensor fault" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>There is a fault in the extract air sensor.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The sensor mounting has to be checked, and the sensor has to be replaced if necessary.</li> </ul>
8	"Out air sensor fault" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>There is a fault in the outdoor air sensor.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The sensor mounting has to be checked, and the sensor has to be replaced if necessary.</li> </ul>
9	"Bus fault" message is displayed and unit runs at fan speed 1.	<ul style="list-style-type: none"> <li>There is a wiring fault in the CO<sub>2</sub> sensor, humidity sensor or in the control panel.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The couplings have to be checked and repaired if needed.</li> </ul>
10	"Freezing alert" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>The defrosting of the water circulated radiator is operating.</li> </ul> <p><b>NOTE! If there is no anti-freezing agent in the water of the radiator, there is a risk that the radiator will freeze.</b></p>	<ul style="list-style-type: none"> <li>Immediately sort out the situation. Contact your service representative to find out if there is any anti-freezing agent in the radiator. Check if the circulating water pump has been broken, if the heating boiler is out of operation, etc. The situation may pass by itself when supply air temperature rises above 10°C, but do not await that.</li> </ul>
11	The desired automatic adjustment does not stay activated.	<ul style="list-style-type: none"> <li>There is a fault in the humidity sensor, pressure sensor or CO<sub>2</sub> sensor; one of the sensors is broken or missing.</li> </ul>	<ul style="list-style-type: none"> <li>Contact a service representative. The mounting and couplings of the sensors have to be checked. (The sensors are optional.)</li> </ul>
12	The unit is deaf, the fans do not rotate, and none of the indicator lamps of the control panel is lit.	<ul style="list-style-type: none"> <li>The door switch may be broken or has not closed properly.</li> <li>The socket is dead; the fuse may have burned out, for instance.</li> <li>The glass tube fuse protecting the internal electronics of the unit (located on the control board behind the protective plate) may have burned out.</li> </ul>	<ul style="list-style-type: none"> <li>Check the door switch and the fuses. The unit has a glass tube fuse, T800mA.</li> <li>If needed, contact a service representative (in order to check the glass tube fuse, for instance).</li> </ul>
13	The unit does not obey the control panel.		<ul style="list-style-type: none"> <li>Remove the plug from the wall outlet, wait for 30 seconds and put it back. If this does not help, contact a service representative.</li> </ul>
14	"Carbon dioxide alarm!!" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> <li>CO<sub>2</sub> alarm. Carbon dioxide content has exceeded 5000 ppm for more than two minutes. This may be because of a fire, for instance.</li> </ul>	<ul style="list-style-type: none"> <li>If there is a fire, take the necessary steps.</li> <li>The unit can be brought back to operation by removing the plug from the wall outlet, waiting for 30 seconds and putting the plug back.</li> </ul>
15	The filter guard symbol (⌘) is displayed and the unit operates otherwise normally.	<ul style="list-style-type: none"> <li>Pressure in the filter guard (pressure difference switch) has risen above the setup, or speed is 7 or 8.</li> </ul>	<ul style="list-style-type: none"> <li>Check the cleanliness of the filters and the unit. Clean or replace the filters, if necessary. Also check the external grille.</li> </ul>

After a power failure, the unit will start at the basic speed. All the other adjustments and setpoints chosen will remain in the memory of the unit.



# VALLOX 252 D

## MAINTENANCE INSTRUCTIONS



### General

- The door of the unit has two parts. The fixing screw of the upper door - 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, remember to turn the screw far enough in order to switch on power supply.

- When only filters are serviced, it is only necessary to detach the upper door. For other service operations, both doors must be detached.

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

### Filters

- The unit includes an EU3 rough filter for outdoor and extract air; an EU7 fine filter for supply air, and an EU3 and EU5 fine filter for extract air. The filters must be cleaned and replaced at regular intervals (once or twice a year), and depending on their contamination.
  - If the unit is equipped with pressure difference switch units, they give an indication with the symbol (⊠) appearing in the main display of the control panel or 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.
    - An EU3 (blue-white) filter can be washed with +25...30°C warm water and washing-up liquid. Do not wash or dry the filter with force, but press them smoothly. When this is done properly, filters can be cleaned 4...5 times.
    - EU5 and EU7 filters (fibre filters) are not washable, but they can be cleaned with pressure air, carefully blowing against the direction of contamination. When needed, replace the filters with new ones.
- The recommended interval for filter change is one year, depending on the circumstances.

### Other cleaning

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

### Heat recovery cells

- The heat recovery cells of the unit can be contaminated in spite of filters. Therefore the cleanliness of the cells must be checked regularly, approximately once a year. It is recommended to check the cells whenever the filters are serviced.
- The cells can be detached by pulling out the ears on the end plates. Contaminated cells can be washed with spraying some washing-up liquid inside them, or soaking them in the solution of water and washing-up liquid. After that, rinse the cells with a jet of water. Let the cells drain and remount them. When mounting, 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 electric connections (see the instruction label on the fan hood). The fan impeller can be cleaned by cautiously blowing compressed air to it, by brushing it, or by wiping it with damp cloth. Each impeller has to be so clean that the fan will stay 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 there is one - and detach it for emptying and cleaning.
- If a condensing water outlet is in use, check it and ensure that it is not clogged.



# VALLOX

Vallox Oy FIN-32200 Loimaa Phone +358 2 7636 300 Fax +358 2 7631 539  
Internet: www.vallox.com