



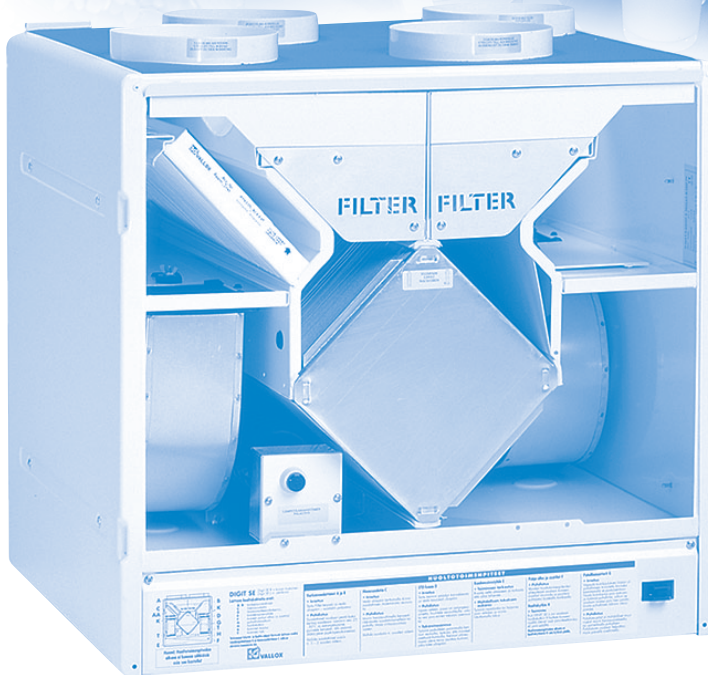
VALLOX DIGIT

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- CODE B 3500 SE
- © VALLOX

SE

SE VKL

INSTRUCTIONS FOR USE AND MAINTENANCE



MODELS:
VALLOX DIGIT SE
VALLOX DIGIT SE VKL

DIGIT SED
ELECTRONIC CONTROLLER
WITH LCD DISPLAY





TABLE OF CONTENTS

EVERYDAY QUICK GUIDE

VALLOX DIGIT SE 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 advisable to have boosted ventilation on for 2 to 3 hours after taking a sauna bath, unless automatic adjustment based on humidity content is used.



• Washing and drying clothes:

Boost ventilation in washing and drying rooms during the activity, unless automatic adjustment based on humidity content is used.



• Sleeping:

Ventilation in a bedroom has to be sufficient throughout the night. The level is correct when air does not smell fusty when you enter the room in the morning. If the carbon dioxide content of a room is monitored and ventilation is adjusted accordingly, air will always be fresh.



• 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 DIGIT SE models

Code: B3500 SE

VALLOX DIGIT SE

- Post-heating radiator: electric radiator 1000 W

ALLOX DIGIT SE VKL

- Post-heating radiator: water radiator
- Letter L or R after the name of the unit indicates whether the unit is left- or right-handed.

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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 humidity brought about by living as well as 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 condenses in the cold structures of the house and mould starts 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 needs to be circulated continually, at least once an hour, 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. Carbon dioxide and humidity sensors adjust ventilation in the rooms automatically as needed.

SEASONAL CALENDAR

Autumn

- Wash or change the coarse filter and clean or change the fine filter if needed. The recommendation is approximately once a year.
- Check that the heat recovery cell is clean.
- Check that the condensing water outlet is not clogged.
- Switch the post-heating radiator on.



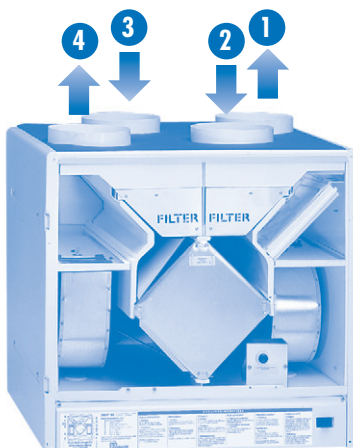
Spring:

- 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.
- Switch the post-heating radiator off.



NOTE!

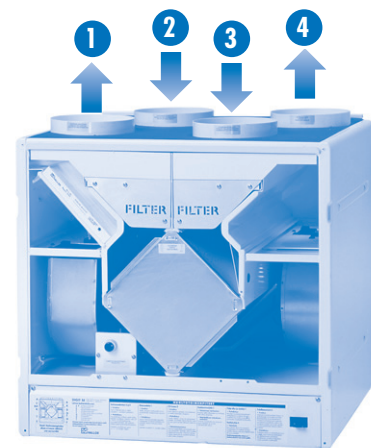
For further details, see inner pages.



VALLOX DIGIT SE, order of duct outlets

L MODEL

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



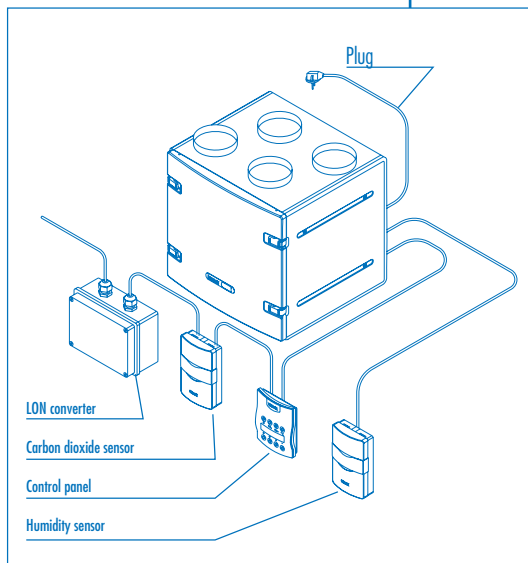
R MODEL

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



VALLOX DIGIT SE/SE VKL

INSTRUCTIONS FOR USE



2. Instructions for use: VALLOX DIGIT SE

In order for indoor air to remain healthy, also for the structures of the building, ventilation has to be in continuous operation. Do not stop ventilation even for longer holidays, because that will make room air musty, and during the heating period room air humidity may condensate in the ducts and the structures, thereby causing humidity damage. The sensors automatically set ventilation to an optimal level even if the house is empty.

2.1. Taking into use

1. Connect the plug into the power supply. VALLOX DIGIT SE is now ready for operation.
2. Start the unit and select an appropriate ventilation rate on the control panel. The unit includes one or more control panels. For instructions on how to use them, see Section 3.2.1. and 3.2.2.

In normal conditions, **basic ventilation is adequate**, which means that air is replaced once every two hours. Increased ventilation is needed during sauna baths, cooking, washing of clothes or family parties. If CO₂ and humidity sensors have been installed in the system, VALLOX DIGIT SE will also take care of demand controlled ventilation.

Remember: Never turn DIGIT off, or else you'll keep catching a cough.

The table below shows the fan speed that is adequate for normal basic ventilation in dwellings of different sizes, if there are no better measurement data available. The table also indicates the total electricity consumption of the fans in each case.

SPEED	1	2	3	4	5	6	7	8
Living space (m ²)	50	92	130	165	215	245	275	330
Living space (m ³ /h)	65	115	162	209	270	306	349	414
Total electricity consumption of the fans (W)	40	60	90	125	160	200	235	305

2.2. Ventilation control

The unit can be fully controlled with the control panel delivered with the unit or with an optional LON converter.

The standard week clock control can be used to control the fan power of the unit and the setpoint for supply air temperature.

Furthermore, demand controlled ventilation can be adjusted with optional carbon dioxide and humidity sensors.

The fan power of the unit can also be controlled with a voltage or current signal.

2.3. Ventilation control with control panel

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

Ventilation rate regulation

- Starting and stopping
- 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 CO₂ and/or %RH adjustments are activated, capacity cannot be adjusted to exceed the maximum fan speed. When CO₂ 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).
- Changing the setpoints.

Max 3 control panels may be in operation. When two or more control panels are used, the most recent control function is the one that is valid.



DIGIT SED
ELECTRONIC CONTROLLER
WITH LCD DISPLAY



2.4. Ventilation control with carbon dioxide sensor (option)

- In carbon dioxide control, DIGIT SE 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 DIGIT SE unit.
- The adjustment is switched on / off and, if needed, the setpoint (500...2000 ppm) is defined on the control panel. The factory setting is 900 ppm. The maximum carbon dioxide content of indoor air should be 1000 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.

2.5. Ventilation control with humidity sensor (option)

Fan speed can be controlled in two ways:

- 1 Automatic humidity setting. This is suitable for controlling the washrooms in residential buildings, for instance. The program records the current humidity level and defines it as the setpoint used as the target value for making air dry after a shower, for instance. The setpoint changes automatically according to season, and is always correct. This is the factory setting.
- 2 You can also set a fixed humidity level of 1...99 %RH on the control panel. This setting can be used in public saunas and public swimming pools. The program aims at maintaining humidity at the chosen value. The setpoint can be changed as needed.

The mode of regulation is selected on the controller. The relative humidity of indoor air should preferably be about 45%.

- 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 humidity control, the fan speed varies between the basic and maximum fan speeds set.
- When the unit is taken into use for the first time, with automatic setpoint search selected (factory setting), it will take the program 3...10 hours to determine the value. During this time, humidity control is not active (because the first value set at the factory is 100%).
- Automatic search is active, even if humidity control has not been selected.

2.6. Ventilation control with voltage or current signals

- The fan speeds of DIGIT SE 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.

2.7. Ventilation control with remote monitoring system (option)

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

2.8. Post-heating

For most of the year, the heat recovered from air to be extracted is enough to heat the cool air coming from outside to a suitable temperature. If the heat of extract air is not enough, the air coming from outside can be heated with the radiator included in the unit. The post-heating radiator may be electric or water circulated. In both cases, heating can be activated on the control panel (see section 3.1. of the instructions for use). When heating has been activated, the unit automatically sets the temperature selected.



Carbon dioxide (CO₂) sensor



Humidity (RH) sensor



LON converter


2.8.






INSTRUCTIONS FOR USE

2.9. Supply air constant temperature control

- In DIGIT SE, post-heating control is proportional: when the chosen temperature exceeds supply air temperature by more than 2.5°C, the radiator is on 100% of the time; when the temperature differential gets smaller, the on time of the radiator is reduced automatically in two-minute sequences. The temperature range is 10...30°C.
- The heating radiator is on when the -sign is displayed.
- Temperature control is only active when post-heating has been switched on.

2.10. 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.
- The program aims at keeping supply air temperature at the value that depends on the difference between extract air and the setpoint as follows: if extract air is hotter than the setpoint, the temperature of supply air is lower than the setpoint by the same amount. If extract air is cooler than the setpoint, supply air is hotter by the same amount. 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.
- The heating radiator is on when the -sign is displayed.

2.11. 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, when outdoor air temperature exceeds two degrees the setpoint and when extract air is hotter than outdoor air.
- The setpoint can be changed between 0...+25°C. (Factory setting 10°C).


2.12. Heat recovery defrost function and preheating

- Defrost prevents the heat recovery cell from freezing, thus ensuring proper ventilation even in cold periods.
- In a standard ventilation unit, defrosting is implemented by intermittently stopping the supply air fan. The stopping function is controlled on the basis of the measurement data given by the temperature sensor that measures the temperature of exhaust air after the heat recovery cell.
- The supply air fan stops when exhaust air temperature falls to the setpoint (factory setting +4°C) and starts when exhaust air temperature has risen to the value set (hysteresis setting, factory setting +3°C).

Preheating

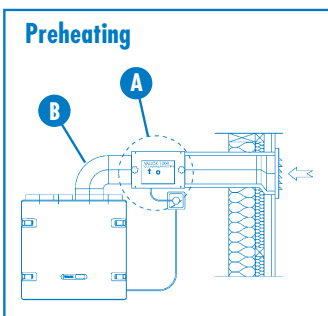
- The system can also be equipped with an optional preheating facility. The preheating radiator (A) has been installed in the outdoor air duct (B). It is switched on before the supply air fan stops. The operation is controlled by the same sensor that has been installed in exhaust air. The heater is switched on at a temperature higher than the stopping temperature (factory setting +6°C). If preheating cannot keep exhaust air temperature warmer than the stopping temperature, the outdoor air fan stops. When the risk of freezing has passed, preheating is switched off and the supply air fan starts automatically.
- Post-heating is on throughout the freezing risk period.

2.13. Maintenance reminder

- The maintenance reminder switches on the maintenance reminder symbol () in the main display of the control panel at defined intervals, the factory setting being 4 months.
- The maintenance reminder symbol is acknowledged at the control panel (see the instructions for using the control panel, Section 3.3.10.).
- The interval can be set between 1...15 months at the control panel.

Remember:

Switch post-heating off when it gets too warm in the dwelling. Switch post-heating on again when it gets cooler in autumn.





2.14. Filter guard function

- If DIGIT SE 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 symbol (⊠) in the main display of the control panel is lit up.
- The filter guard closes the points of the fault signal relay, and the filter guard symbol (⊠) is seen in the main display.
- The maintenance reminder is on even during this function.
- The operation threshold for the pressure difference switch is adjusted at the pressure difference switch regulator (0...500 Pa). Factory setting is ca. 260 Pa; the setting can be changed if needed. With clean filters, the symbol should light up at speeds 7 and 8.

2.15. Anti-freeze function in water-circulating post-heating unit

- The anti-freeze function aims at preventing a water-circulating post-heating unit from freezing. The automatic function stops the supply and extract air fans as soon as outdoor air temperature falls below 0 °C and supply air temperature falls below +7 °C. At the same time, the self-actuated dampers of the fans close and the control valve becomes wide open. The control panel displays the fault message FREEZING ALERT, irrespective of display.
- The fans start automatically and the dampers open as soon as supply air temperature exceeds 10 °C.

2.16. Fireplace switch / boosting function

Fireplace switch function

- 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.
- The function is activated by pressing a self-resetting push-button switch. On each pressing of the switch, the stopping function goes on for 15 minutes.
- During the function, the fireplace/booster switch symbol (⌋) is visible in the main display of the control panel.

Note! When the extract air fan starts, the draft in the fireplace may get weaker!

In cold winter, the anti-freezing and defrosting functions may start when cool air flows to the extract air ducts. If the post-heating radiator does not contain any non-freezing liquid, there is a risk of freezing. The situation will get back to normal some time after the function has stopped.

Booster switch function

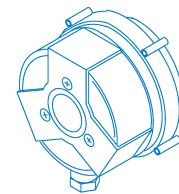
- The booster switch raises fan speed to the preset maximum fan speed for 45 minutes.
- The function is activated by pressing a self-resetting push-button switch. On each pressing of the switch, the stopping function goes on for 45 minutes.
- During the function, the fireplace/booster switch symbol (⌋) is visible in the main display of the control panel.
- The function is selected on the control panel.

2.17. Fault signalling relay (remote monitoring)

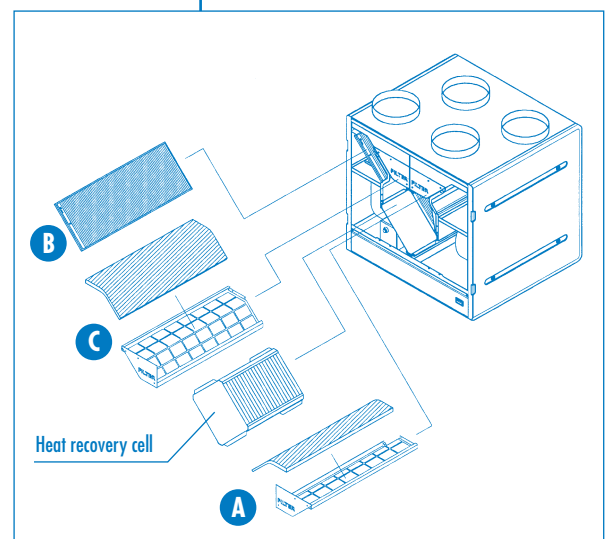
- The fault signalling relay has potential free points (24VDC, 1A).
- The points provide information on failure modes of the ventilation unit.
- During water radiator defrosting, the points of the relay close and open at 10-second intervals.
- High carbon dioxide content alarm switches the relay every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

2.18. Air filtration

DIGIT SE VALLOX DIGIT SE features coarse filtering of both extract and supply air before the fans. The unit has a F7 class (B) fine filter and a G3 class (A) coarse filter on the supply side, and a G3 class (C) coarse filter on the extract side. The filters need to be in place in the unit whenever ventilation is in operation.



Pressure difference switch





INSTRUCTIONS FOR USING THE CONTROL PANEL

3. Control panel

3.1. 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.

3.2. Operating menu

The displays of the operating menu (sections 3.2.1.–3.2.6.) can be scrolled with the scrolling buttons (see section 3.1., items 5 and 6 in the figure).

3.2.1. Main display and change of fan speed



3 Fan speed (3).

21 °C Supply air temperature (21 °C).

Post-heating is on.

10:20 Time.

Filter guard alert.

! Maintenance reminder alert.

Fireplace / booster switch on. The fireplace / booster switch is activated in this display by simultaneously pressing down the + and – buttons for 2 seconds.

Week clock control on.

Fan speed can be changed in this display with the + and – buttons (see section 3.1., items 7 and 8 in the figure).

3.2.2. Moving to the settings menu

To settings menu
See manual

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.

3.2.3. Week clock control

Week program
on

Week clock control can be activated by pressing the + button and deactivated by pressing the – button. Week clock control is on when the symbol of week clock control is shown in the main display. In week clock control, the basic fan speed and supply air temperature of the unit are adjusted in accordance with the programme in section 3.3.4.

3.2.4. Content display

RH1 35% RH2 40%
CO2 0821 PPM

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

3.2.5. Temperature display

Out 20 In 20
Sup. 20 Exh. 20

The temperature display shows the temperatures of outdoor air, indoor air, supply air and exhaust air. The accuracy of the temperature sensors is ± 2 °C.

3.2.6. Setting supply air temperature

Temp. setting
20C

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



INSTRUCTIONS FOR USING THE CONTROL PANEL

3.3. Settings menu

You can reach the settings menu from the operating menu as indicated in section 3.2.2. The displays of the settings menu (sections 3.3.1.–3.3.26.) can be scrolled with the scrolling buttons (see section 3.1., items 5 and 6 in the figure).

3.3.1. Setting the basic fan speed

MIN speed
1

The desired basic fan speed (minimum fan speed) is selected with the + and – buttons. Active when week clock control is not on. Week clock control changes this speed.

3.3.2. Moving to the operating menu

To main menu
Press + and -

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

3.3.3. Erasing the week programme

Erase week prog.
Press + and -

The week programme can be totally erased by simultaneously pressing the + and – buttons.

3.3.4. Week programme programming

Adjust week prog.
Press + and -

You can access the programming mode for the week clock programme by simultaneously pressing the + and – buttons. See section 3.4.1.

3.3.5. Adjusting time

Adjust time
Press + and -

You can adjust time by simultaneously pressing the + and – buttons. For more details, see section 3.4.2.

3.3.6. 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 in connection with (carbon dioxide and humidity) adjustments or permanently. The selection is done with the + and – buttons.

3.3.7. Choosing the language version

Kieli / Language
English

Select the desired language (German, English, Swedish, French or Finnish) with the + and – buttons.

3.3.8. Restoring factory settings

Factory settings
see manual

The general factory settings can be restored by pressing the + and – buttons simultaneously. Remember to ensure that the setpoints are in accordance with the factory settings for this unit. Especially, check the unit model (electricity / water) and change if needed as stated in section 3.3.20.

3.3.9. 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.

3.3.10. Resetting the service reminder

Mainten. reset
Press + and -

The maintenance reminder is reset by pressing the + and – buttons simultaneously. This turns out the maintenance reminder symbol (🔧) in the main display.

3.3.11. Contrast of the control panel display

Display contrast
05

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

3.3.12. 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.

3.3.13. Adjusting the direct current fan on the extract air side (does not refer VALLOX DIGIT SE)

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. If the unit has alternating current fans, this adjustment has no impact on the operation of the unit.



INSTRUCTIONS FOR USING THE CONTROL PANEL

3.3.14. Adjusting the direct current fan of the supply air side (does not refer VALLOX DIGIT SE)

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. If the unit has alternating current fans, this adjustment has no impact on the functioning of the unit.

3.3.15. 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.

3.3.16. Setpoint of the basic humidity level

Basic %RH level
40%

The desired setpoint is chosen with the + and – buttons when manual adjustment has been selected as the Rh level setting (humidity setting, section 3.3.19).

3.3.17. 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.

3.3.18. Choosing cascade control for supply air temperature

Cascade adjust
Off

Cascade control is activated or deactivated with the + and – buttons.

3.3.19. Choosing the basic humidity level

Rh-level setting
automatic

The basic humidity level can be chosen as either automatic or manual. The selection is done with the + and – buttons.

3.3.20. Choosing post-heating for the unit

Radiator type
electric rad.

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 causes a faulty post-heating function.

3.3.21. Choosing maintenance reminder interval

Maintenance rem.
04

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

3.3.22. Hysteresis of the anti-frost function in the heat recovery cell

Hysteresis
03C

The hysteresis of the anti-frost function in the heat recovery cell is selected with the + and – buttons.

3.3.23. Stopping temperature of the supply air fan for the anti-frost function in the heat recovery cell

Supply fan stop
05C

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

3.3.24. Pre-heating temperature for the anti-frost function in the heat recovery cell

Preheater
07C

The preheating temperature for the anti-frost function in the heat recovery cell is chosen with the + and – buttons.

3.3.25. Changing the setpoint for carbon dioxide adjustment

CO₂-setting
0900 PPM

The setpoint for CO₂ adjustment is chosen with the + and – buttons.

3.3.26. Choosing maximum fan speed

MAX 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 3.3.6. Mode of operation of the maximum speed setting.



INSTRUCTIONS FOR USING THE CONTROL PANEL

3.4. Week clock control

3.4.1. Week programme programming

D	Hr	Sp	Tmp	Exit
1	12	5	20	Exit

↑
Cursor

D Day 1...7
1 = Monday, 2 = Tuesday, etc.
Hr Hours, 0...23
Sp Fan speed, 1...8
Tmp Supply air temperature, 10...30 °C
Exit Save the setting and exit
N No change to previous

The week programme can be used to set the desired fan speed (basic fan speed) and supply air temperature for each hour of the day on seven days a week. The week programme overrides manual adjustments.

Carbon dioxide and humidity adjustment can increase fan speed but never decrease it below the basic fan speed set in the week programme.

Example: Monday

Fan speed is increased to speed 2 and supply air temperature to 17 °C between 07:00 (7 a.m.) and 17:00 (5 p.m.) hours. After that, fan speed is raised to speed 4 and supply air temperature to 20 °C. For the evening, fan speed is boosted to speed 6 between 19:00 and 21:00 hours (for the period when a sauna bath is taken), after which fan speed is lowered back to 4.

Move the cursor with the arrow keys and change values with the + and – buttons. Note that Exit and saving are done when the programming is finished by moving the cursor below the word Exit and pressing + or –.

Changes in fan speed (Sp) and supply air temperature (Tmp) are only made for the hours desired; in other cases, use N (no change to previous).

D	Hr	Sp	Tmp	Exit
1	7	2	17	Exit

Monday (D = 1), 07:00 hours (H = 7), fan speed 2 (Sp = 2), supply air temperature 17 °C (Tmp = 17). Move the cursor to the following hour.

D	Hr	Sp	Tmp	Exit
1	16	4	20	Exit

Monday (D = 1), 16:00 hours (H = 16), fan speed 4 (Sp = 4), supply air temperature 20 °C (Tmp = 20). Move the cursor to the following hour.

D	Hr	Sp	Tmp	Exit
1	19	6	N	Exit

Monday (D = 1), 19:00 hours (H = 19), fan speed 6 (Sp = 6), supply air temperature unchanged (Tmp = N). Move the cursor to the following hour.

D	Hr	Sp	Tmp	Exit
1	21	4	N	Exit

Monday (D = 1), 21:00 hours (H = 21), fan speed 4 (Sp = 4), supply air temperature unchanged (Tmp = N). Move the cursor to the following day.

Similar changes have to be made separately for each day. Finally, exit the programming mode by selecting Exit. If you wish, you can erase the week programme as indicated in section 3.3.3. You can then start programming from the start. You can see the settings programmed by choosing a day and by scrolling the hours with the + or – button.

3.4.2. Adjusting time

day	hour	min	Exit
1	15	30	Exit

↑
Cursor

day Day 1...7
1 = Monday, 2 = Tuesday, etc.
hour Hours, 0...23.
min Minutes 0...60
Exit Save the setting and exit

Move the cursor with the arrow keys and change values with the + and – buttons. Exit and saving are done when the programming is finished.

Monday (D = 1), hours 15 (H = 15), minutes (M = 30).

Time is maintained even though there is a power failure.



INSTRUCTIONS FOR USING THE CONTROL PANEL

3.5. Factory settings

Basic fan speed	= 1
Maximum fan speed	= 8
Carbon dioxide adjustment (CO ₂)	= 900 ppm CO ₂
Basic humidity level	= value chosen either automatically or manually
Adjustment interval	= 10 min.
Freezing protection (cell)	= 4°C
Freezing protection hysteresis	= 3°C
Preheating setpoint	= 6°C with preheating, otherwise 1°C
Maintenance reminder	= 4 months
Cell bypass	= 12°C
Cascade control	= not active
Humidity level (RH level) adjustment	= automatic
Switch type	= fireplace switch



4. MAINTENANCE INSTRUCTIONS

4.1. Filters

When the maintenance reminder or the filter guard light the indicator lamp, check the cleanliness of the filters. Outdoor air is filtered in the unit with two kinds of filters. The G3 coarse filter (A) filters insects and coarse pollen and dust. The F7 fine filter (B) filters fine dust that is not discernible to the eye. Extract air is filtered with a similar G3 filter as outdoor air.

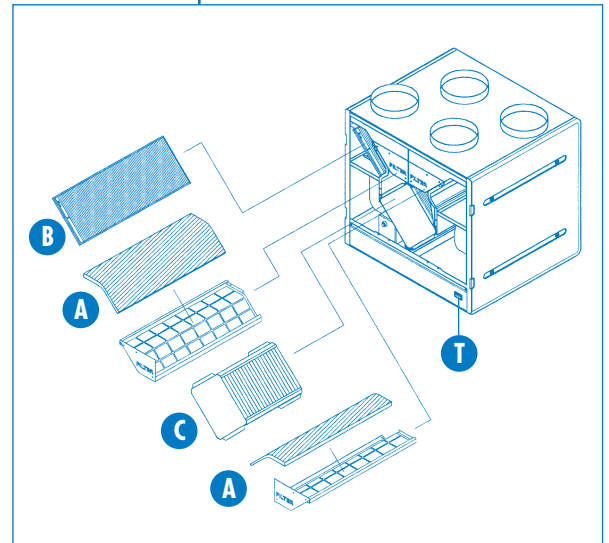
Clean the coarse filters (A) when needed i.e by washing them 2 to 4 times a year and whenever the filter guard indicates a need for maintenance. When you open the door of VALLOX DIGIT SE, the safety switch (T) turns the unit off. Clean the filters with 25...30°C water and washing-up liquid, pressing them lightly. Do not handle the filters with force. When properly cleaned, the filters stand cleaning 3 to 4 times. This means **they have to be replaced every two years or when needed.**

The fine filter (B) cannot be cleaned with water. Clean it in connection with the cleaning of the G3 filters, vacuuming it with a brush roll. When cleaning, take care not to break the filtration material. **To ensure good supply air quality, replace the filter when needed, preferably at one-year intervals, depending on local air quality.** It is recommended to replace the filters in the autumn. In this way, the filter will stay fresh during the winter and will efficiently filter dust in the following spring.

It is advisable to check the cleanliness of the heat recovery cell (C) about every two years, in connection with the cleaning of the filters. Holding the ears at the end of the cell, pull the cell out of the unit. If the cell is dirty, wash it by sinking it to water containing washing-up liquid. Rinse the cell clean by showering it with water. When water has flown from between the sheets, push the cell back into the unit, making sure the sealings against the slide surfaces are in place and that the "this side up" label at the end of the cell points to the corner against the upper support.

4.1.1 Preheating filter

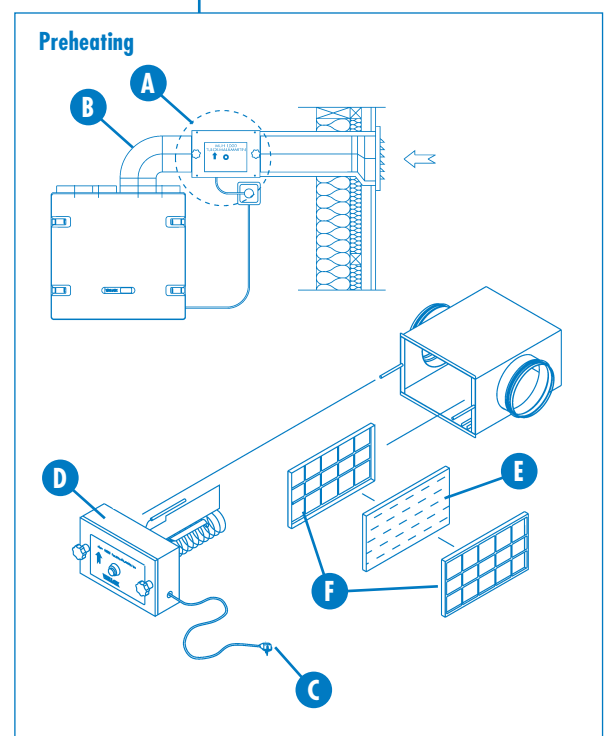
If the system has been equipped with optional preheating for preventing the heat recovery cell from freezing, it needs to be serviced at least twice a year. The heater (A) has been installed in the outdoor air duct (B). Remove the plug (C) and inner part (D) of the heater. After this, you can pull out the filter (E) and its frame (F). Remove the filter from the frame. You can vacuum the filter or carefully wash it in water under 40°C and a detergent. If the filter is damaged, replace it with a new one. Only use original filters in the heater. **USING THE HEATER WITHOUT FILTER IS PROHIBITED.** Clean the heater of litter and insects at the same time.



The filters and the heat recovery cell. Units are either right- or left-handed. In the right-handed model (R) outdoor air comes to the unit from the right side of the center line as in these instructions. In the L model, outdoor air comes from the left side of the unit. The filters, summer / winter damper and heating radiator are also on opposite sides as compared to the R model.

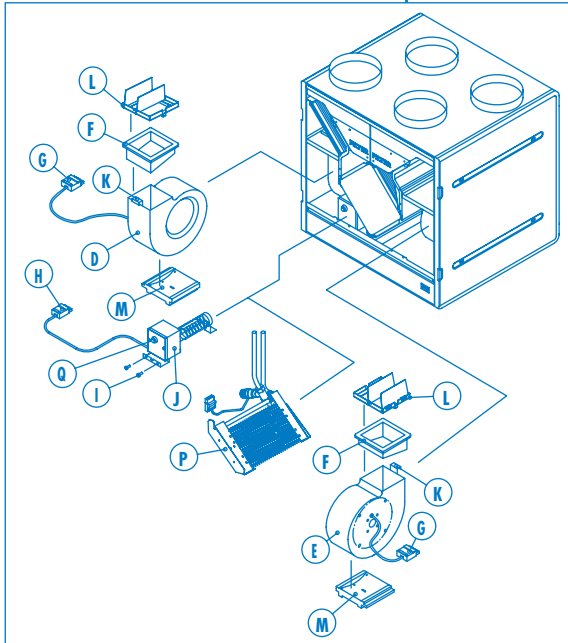
REMEMBER:

Clean the filters at least twice a year. Define the maintenance reminder interval to suit your needs; see the instruction in section 3.3.21. (The interval is dependent on the purity of outdoor and indoor air).





MAINTENANCE INSTRUCTIONS



4.2. 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) attached to the fan, bent over the rubber collar. Then lift the rubber collar away and turn the fan away from above the lower support (M) made of rubber. Then take the electrical connector (G) off from behind the fan.

Clean the fan blades with compressed air.

If you use water when cleaning the unit or its parts, do not let water enter the electric parts.

For cleaning the post-heating radiator (J), remove the filters and the heat recovery cell. Clean the post-heating radiator while it is in place in the unit either by vacuuming it or blowing it with compressed air. The radiator can be either electric or water circulated. If needed, you can remove the electric radiator for maintenance by removing the electrical connector (H) as well as the two tightening-up screws (I) and the adhesive or screw fixing the support against the bottom reservoir.

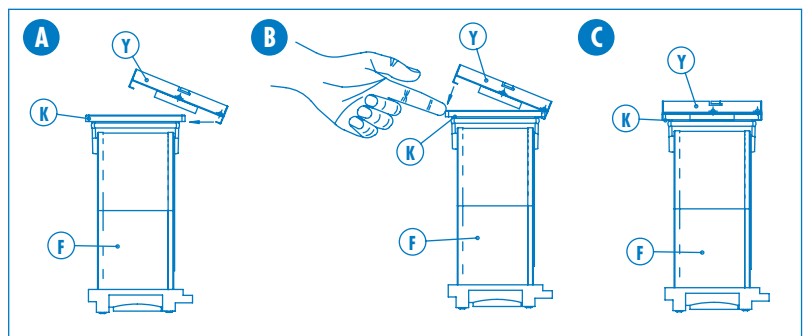
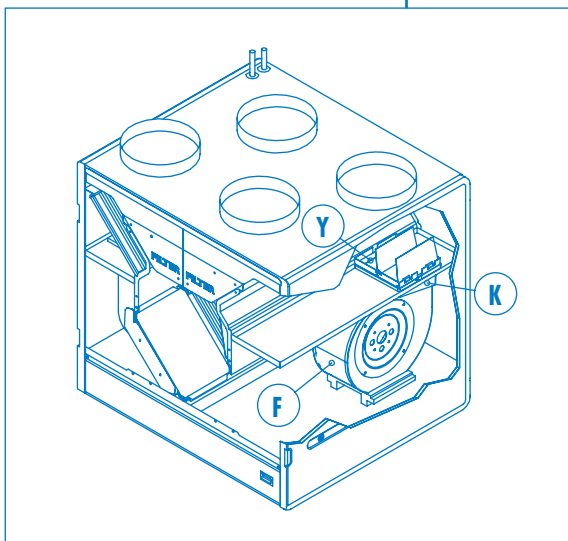
4.2.1. Detaching and attaching of one-way damper.

Detaching and attaching of self-actuated one-way damper (vacuum damper):

- A Put the hook on the rim of the damper (Y) under the side edge of the fastening collar (K) of the fan (F). Then push the damper downwards so that the guide edges of the valve go inside the rubber collar.
- B Push the other side of the collar with a finger.
- C Put the hook on the other side edge of the damper below the edge of the collar.

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

Self-actuated one-way dampers are only used in VKL model units. Observe the position of the damper so that it can also operate on the F7 filter side.

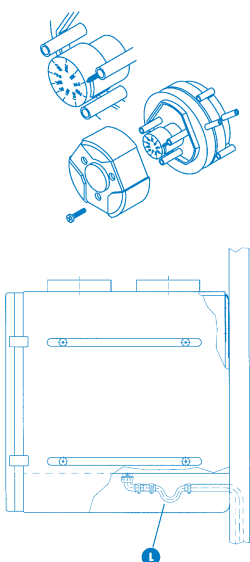


4.3. Filter guard

DIGIT SE can be equipped with an optional filter guard. The filter guard symbol (⊠) normally lights up in the main display at speeds 7 and 8, when the filters are clean, and this does not cause any service activities. If the symbol does not light up at speed 8, the pressure in the ventilation ductwork of the building differs from the factory setting. In that case, adjust the filter guard setpoint lower in the inside of the unit (see Section 2.14). If the filter guard symbol lights up at fan speed 4 or 5, the filters need cleaning. If they are clean, the lighting up may be caused by too dense a mosquito net installed in the external grille or by the closing of the supply air valves in the rooms. If, after checking these things, the symbol continues to light up at small speeds, adjust the setpoint greater.

4.4. Condensing water

During the heating season, the humidity in extract air condenses as condensing water. Water formation may be abundant in new buildings or if ventilation is scarce in terms of moisture production by the inhabitants. The condensing water must exit the unit without hindrance. In connection with maintenance operations, for example in the autumn before the start of the heating season, make sure that the condensing water joint (L) in the bottom reservoir is not clogged. You can check this by pouring a little water in the reservoir. Clean if needed. Do not let any water enter the electrical devices.





TROUBLESHOOTING

	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 the cell is clogged. The initial adjustment of ventilation has not been done. 	<ul style="list-style-type: none"> Check the insulation of the attic ducts. If the heat recovery cell is frozen, check the setpoint for freezing protection. 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 (see the instructions for using the control panel in Section 3.3.23.). Thaw the cell before closing the door. If the post-heating radiator does not operate, check to see if overheating protection prevents it from operating. Press the overheating protection reset button (see page 14, Q), and measure the temperature of supply air inside the unit when the door is closed. If the radiator does still not work, contact a maintenance company. Check that the filters and the heat recovery cell are clean.
2	Supply air fan keeps stopping	<ul style="list-style-type: none"> HR cell antifreeze is in operation. <p>NOTE! If you decrease the setpoint too much, the cell may freeze. Compare with list item 1.</p>	<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. (See the instructions for using the control panel, Section 3.3.23.)
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 stopping and starting. (See the instructions for using the control panel, Section 3.3.22.) If the preheating radiator does not operate, check if overheating protection prevents it from operating: press the overheating protection reset button, and measure the temperature of outdoor air inside the unit before the heat recovery cell when the door is closed. If the radiator does still not work, contact a maintenance company.
4	The maintenance reminder symbol (⚠) is displayed and the unit operates otherwise normally.	<ul style="list-style-type: none"> The maintenance reminder lights up the service reminder symbol in the main display of the control panel at an interval of approximately 4 months (factory setting). You may change the interval (see the instructions for using the control panel, Section 3.3.21.). 	<ul style="list-style-type: none"> Check the cleanliness of the filters and the unit. If needed, clean or replace the filters. Also check the external grille. Reset the maintenance reminder symbol to make it disappear. (See the instructions for using the control panel, Section 3.3.10.)
5	"Exh air sensor faulty" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> There is a fault in the freezing protection sensor. 	<ul style="list-style-type: none"> Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
6	"Sup. air sensor faulty" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> There is a fault in the supply air sensor. 	<ul style="list-style-type: none"> Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
7	"Inp. air sensor faulty" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> There is a fault in the extract air sensor. 	<ul style="list-style-type: none"> Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
8	"Out air sensor faulty" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> There is a fault in the outdoor air sensor. 	<ul style="list-style-type: none"> Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.



TROUBLESHOOTING

	SYMPTOM	REASON	DO THIS
9	"Bus fault" message is displayed and the unit operates at speed 1 (check the fan speed).	<ul style="list-style-type: none"> Wiring fault in the carbon dioxide sensor, in the control panel or in the humidity sensor. 	<ul style="list-style-type: none"> Contact a maintenance company. The connections have to be checked and corrected if necessary.
10	"Freezing alert" message is displayed and the unit is 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.</p>	<ul style="list-style-type: none"> Immediately troubleshoot the situation. Consult a maintenance company to find out if there is any non-freezing solution in the radiator. 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 degrees, but do not wait till it happens.
11	The desired automatic adjustment does not stay on.	<ul style="list-style-type: none"> There is a fault in the humidity or carbon dioxide sensor. One of the sensors is broken or missing. 	<ul style="list-style-type: none"> Contact a maintenance company. The sensor installation and connections have to be checked. (The sensors are optional.)
12	The unit does not work, the fans are not running and no indicator light is lit in the control panel.	<ul style="list-style-type: none"> The door switch may be broken, or the door is possibly not quite closed. The unit is out of power, e.g. because a fuse has blown. The glass tube fuse (located in the control card behind a protecting plate) the electronics inside the unit may have blown. 	<ul style="list-style-type: none"> Check the door switch and fuses. The unit includes a T800 mA glass tube fuse. If needed, contact a maintenance company (e.g. to check the glass tube fuse).
13	The unit does not obey the control panel.		<ul style="list-style-type: none"> Remove the plug from the wall outlet, wait for 30 seconds and put it back. If this does not help, contact a service representative.
14	"Carbon dioxide alarm" message is displayed and the unit is stopped.	<ul style="list-style-type: none"> Carbon dioxide alarm. Carbon dioxide content has exceeded 5000 PPM for two minutes. May be caused by a fire. 	<ul style="list-style-type: none"> If there is a fire, take the necessary steps. You can make the unit operative by disconnecting the plug from the wall socket, waiting for 30 seconds and putting the plug back again.
15	The filter guard symbol (⚠) is displayed 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 speed is 7 or 8. 	<ul style="list-style-type: none"> Check the cleanliness of the filters and the unit. If needed, clean or replace the filters. Also check the external grille.

After a power failure, the unit starts at minimum fan speed.

All the other selected adjustments and setpoints remain in the memory of the unit.



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