Code
A3550 SE
Models
VALLOX Digit2 SE R
VALLOX Digit2 SE L

Vallox Digit 2 SE

Low-energy ventilation unit with heat recovery

1.09.391 E
Valid from:
1.9.2014

Operating, maintenance and technical instructions

VALLOX DIGIT2 SE models
Code: A3550 SE

VALLOX DIGIT2 SE
- Preheating radiator: electric, 1200 W
- Post-heating radiator: electric, 1200 W

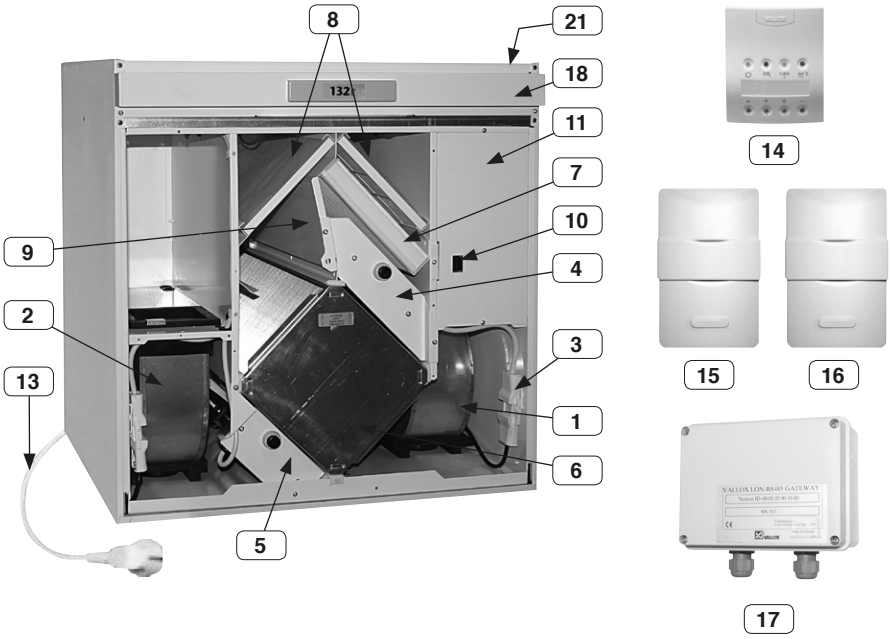
VALLOX DIGIT2 SE VKL
- Preheating radiator: electric, 1200 W
- Post-heating radiator: VKL water radiator

VALLOX DIGIT2 SE MLV VKL
- Preheating radiator: MLV liquid radiator
- Post-heating radiator: VKL water radiator

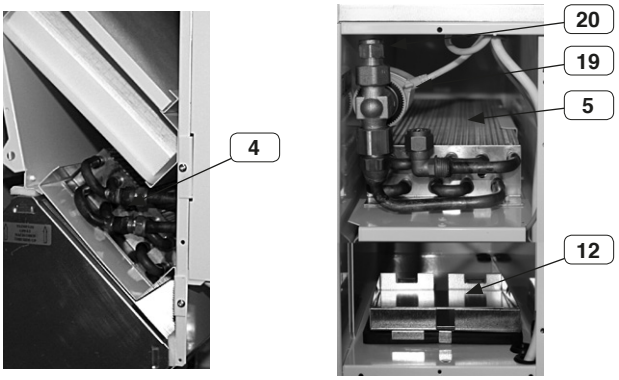
VALLOX DIGIT2 SE MLV electric
- Preheating radiator: MLV liquid radiator
- Post-heating radiator: electric, 1200 W

1 Extract air fan 210 W/0.92 A, alternating current (AC)
2 Supply air fan 210 W/0.92 A, alternating current (AC)
3 Electrical quick-connect terminal for fan
4 Preheating unit (electric 1.2 kW, or liquid)
5 Post-heating unit (electric 1.2 kW, or water)
6 Heat recovery cell
7 Outdoor air filter F7
8 Outdoor and extract air prefilter G4
9 Summer/winter damper
10 Maintenance switch
11 Connection box cover plate
12 Self-actuated one-way dampers (only in VKL and MLV models)
13 Plug 1.8 m
14 Control panel
15 Humidity sensor (option)
16 CO_2 sensor (option)
17 LON converter (option)
18 Air flow measurement outlets (behind cover plate)
19 Water radiator actuator/valve
20 Connection ø12
21 MLV connection ø10 Cu

The letter L or R after the name of the unit indicates whether the unit is left- or right-handed. The figure shows the R model of VALLOX DIGIT2 SE (electric radiator model).



VKL/MLV units:



TECHNICAL DATA

Electrical connection		230 V, 50 Hz
Degree of protection provided by enclosures		IP 34
Fans	Extract air 210 W, 0.91 A (AC)	120 dm^3/s (120 Pa)
	Supply air 210 W, 0.91 A (AC)	110 dm^3/s (100 Pa)
Heat recovery		Cross- flow heat recovery cell, $\eta > 60\%$
VALLOX DIGIT2 SE		2.7 kW, 12.0 A
	Preheating unit	Electric, 1200 W, 5.2 A
	Post-heating unit	Electric, 1200 W, 5.2 A
VALLOX DIGIT2 SE VKL		1.55 kW, 6.7 A
	Preheating unit	Electric, 1200 W, 5.2 A
	Post-heating unit	VKL water radiator
VALLOX DIGIT2 SE MLV VKL		0.35 kW, 1.5 A
	Preheating unit	MLV liquid radiator
	Post-heating unit	VKL water radiator
VALLOX DIGIT2 SE MLV electric		1.55 kW, 6.7 A
	Preheating unit	MLV liquid radiator
	Post-heating unit	Electric, 1200 W, 5.2 A
Filters	Supply air	G4 and F7
	Extract air	G4
Weight		71 kg
Ventilation adjustment options		Control panel control
		Week-clock control
		CO_2 and %RH control (option)
Options		CO_2 sensor
		%RH sensor
		Filter guard (supply and/or extract air)
		LON converter
		Ceiling mounting
		Attic floor penetration
		Silencer unit
		VKL expansion tank + stand
		VKL heat exchanger pipe

Voltage signal values

Voltage values for each fan speed:

0	0.20...1.25 VDC
1	1.75...2.25 VDC
2	2.75...3.25 VDC
3	3.75...4.25 VDC
4	4.75...5.25 VDC
5	5.75...6.25 VDC
6	6.75...7.25 VDC
7	7.75...8.25 VDC
8	8.75...10.00 VDC

Operating instructions VALLOX Digit2 SE

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

Making the unit ready for operation

1. Connect the plug to the mains supply. VALLOX Digit2 SE is now ready for operation.
2. Start the unit and choose a suitable ventilation power at the control panel. There is either one or more control panels. See the operating instructions for control panel.

In normal conditions basic ventilation, with a change of air every two hours, is sufficient in living areas. Boosting is needed during for example sauna baths, cooking, clothes washing or family parties. If carbon dioxide and/or humidity sensors have been installed in the system, VALLOX Digit2 SE automatically takes care of demand-controlled ventilation.

Ventilation control

The unit can be controlled with a control panel. 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 signal.

Controlling ventilation with Vallox Digit SED control panel

The control panel can be used for the following ventilation control functions:

Functions for adjusting ventilation power

- Starting and stopping.
- Power adjustment (8 positions).
- Setting of base fan speed and maximum fan speed.

Ventilation power cannot be set lower than the base fan speed. When carbon dioxide and/or relative humidity adjustments are activated, power cannot be adjusted higher than the maximum fan speed. When humidity and carbon dioxide adjustments have been switched off, fan speed can be raised to speed 8.

Controlling ventilation with voltage signal

- VALLOX Digit2 SE fan power can be controlled with a voltage signal coming from remote monitoring.
- The signal can be used to select speeds 0 to 8. However, if carbon dioxide or humidity adjustment is enabled, the maximum fan speed cannot be exceeded.
- The signal changes the base fan speed.
- The signal does not lock fan speed. In other words, fan speed can be changed at the control panel within the limits set. Carbon dioxide and humidity adjustment also operate within the limits set.

Ventilation control with carbon dioxide sensor (option)

- In carbon dioxide control, VALLOX Digit2 SE adjusts fan speed so as to keep carbon dioxide content in the ventilation zone below the setpoint. When two or more sensors are used, fan speed is adjusted according to the highest measuring result.
- 1…5 carbon dioxide sensors can be connected as options to the VALLOX Digit2 SE unit.
- The adjustment is switched on/off and, if needed, the setpoint (500…2000 ppm) is set at the control panel. The factory setting is 900 ppm. The recommended maximum carbon dioxide content in good indoor air is circa 1,000 ppm.
- When this control is on, the control panel may be used to raise fan speed to the maximum fan speed and to decrease it to the base fan speed. In carbon dioxide control, maximum fan speed limitation is enabled.

Controlling ventilation with humidity sensor (option)

There are two modes of adjusting fan speed.

1 Automatic humidity setting, which is suitable for controlling humidity for instance in washing rooms.

  The program records current humidity level and selects it as the setpoint, which it then uses as the target for drying air for instance after a shower in the bathroom. The setpoint automatically varies for instance according to season and is always at the right level. This setting is factory selected.

2 Humidity level can also be set fixed. The setting can range between 1 and 99 %RH and is set at the control panel. This can be used for instance in public saunas and swimming pools. The program aims at keeping humidity at the setpoint. The setpoint can be changed if needed. The mode of adjustment is chosen at the controller. Recommended humidity content of good indoor air is approximately 45%.

- When this control is on, the control panel may be used to raise fan speed to the maximum fan speed and to decrease it to the base fan speed.
- In humidity control, fan speed varies between the base and maximum fan speeds selected.
- When the unit is first taken into use with automatic setpoint search enabled (factory setting), it takes 3 to 10 hours for the program to define the value. During this time, humidity adjustment is not enabled (because the first value, selected at the factory, is 100%).
- Automatic search is enabled even if humidity control is not selected.

Adjustment of supply air temperature and summer/winter function

The temperature of air coming to the dwelling can be adjusted between circa +10 °C and +30 °C. When there is a light on the post-heating indicator (see picture below), post-heating is activated and the unit heats air as needed. The need for heating depends on the setpoint of supply air temperature.

When there is no light on the post-heating indicator, post-heating is off. This means that the summer function is activated for the ventilation unit. The unit has a motorised summer/winter function. When the summer function is on, the heat recovery cell is bypassed as soon as outdoor air temperature has risen above the setpoint. See the setpoint for cell bypass; factory setting is +12 °C. When outdoor air temperature goes below the setpoint (factory setting +12 °C), the unit starts to recover heat. If there is water-circulating post-heating in the unit, supply air finds the desired value very slowly. It takes hours for the unit to reach the correct setpoint. The amount of time depends on the temperature of the liquid circulating in the post-heating radiator.

Two different kinds of supply air temperature adjustment can be chosen at the unit: constant temperature control or cascade control. In constant temperature control, the unit controls the temperature of supply air directly in accordance with the measurement information on the temperature of supply air blown to the ventilation area. In cascade control, the unit controls supply air temperature according to the temperature of air extracted from the ventilation area. The unit calculates the difference between the air extracted and the setpoint for supply air and uses this difference to control the need for post-heating.

Remember!
Switch post-heating off when it starts to get too warm in the dwelling because of warm weathers.
Switch post-heating on again when it gets cooler in autumn.

Post-heating indicator light

Maintenance reminder symbol

Maintenance reminder

- The maintenance reminder switches on the maintenance reminder symbol (🔧) on the main display of the control panel at defined intervals. The factory setting is 4 months.
- The maintenance reminder symbol is acknowledged at the main display of the control panel. (See the operating instructions for control panel, section 3.1.)
- The interval can be set between 1 and 15 months at the control panel.

Liquid-circulating preheating and precooling

- Setting control temperature (-6 °C... + 15 °C, outdoor air) for the heating function in the liquid-circulating preheating unit (MLV model). The function is on when outdoor temperature goes below the setpoint temperature and when post-heating is on (see the operating instructions for control panel, section 3.19.).

  The temperature value must be lower than the temperature of the liquid coming from the ground collector. When this is the case, the liquid is used to heat outdoor air. If preheating cannot keep exhaust air temperature warmer than the stopping temperature, the outdoor air fan stops.
- Setting control temperature (+10 °C...+30 °C, supply air) for cooling in the liquid-circulating preheating unit (MLV model). The cooling function starts when the post-heating radiator has been switched off and the temperature of air coming from the unit to the dwelling exceeds the setpoint for supply air. (See the operating instructions for control panel, section 2.6.). When choosing the setpoint for supply air, care must be taken so as not to bring too cold air into the duct, which causes humidity damage. The risk is small when the ground collectors of the heat pump are situated in the ground or in a water system and the liquid received from them is warmer in summer than the liquid circulating in a drilled well.

  If the duct is not insulated against condensation indoors, the temperature of air travelling in it must be confined to below the dew point, which depends on the ambient temperature and relative humidity. In hot weather, supply air temperature should not go below +16...+20 °C.

Fireplace switch function/boosting

Fireplace switch function

- The fireplace switch stops the extract air fan for 15 minutes and produces overpressure in the ventilation zone. This makes it easier to for instance light a fireplace.
- The function is started on the main display of the control panel by simultaneously pressing and holding down the + and - buttons for 2 seconds.
- The function can also be started at a separate auto-reset push-button switch, wired from the connection box of the unit for example to a wall in the fireplace room. Upon each pressing, the stopping function continues for 15 minutes (the switch is not included in the delivery).
- During the function, the fireplace/booster switch symbol (🔥) is visible in the main display of the control panel.

NOTE! The starting of the extract air fan may weaken draught in the fireplace! In winter, this situation may disturb the winter function of the unit. The situation will normalise in a while, after the fireplace function stops.

Boosting switch function

- The booster switch function raises fan speed to the set maximum fan speed for 45 minutes.
- The function is started on the main display of the control panel by simultaneously pressing and holding down the + and - buttons for 2 seconds.
- The function can also be started at a separate auto-reset push-button switch, wired from the connection box of the unit to for instance a wall in a classroom. Upon each pressing, the boosting function continues for 45 minutes.
- During the function, the fireplace/booster switch symbol (🔥) is visible in the main display of the control panel.
- The function is chosen at the control panel.

Fault signal relay (remote monitoring)

- The fault signal relay has potential-free contacts (24 VDC, 1 A).
- The contacts provide information on faulty states of the unit.
- Alarm of high carbon dioxide content switches the relay at 1-second intervals.
- In other fault situations, the contacts are closed.

1. Control panel operation

1.1 Keyboard

1. **Start button**
   Press the button to turn the ventilation unit on and off. When the indicator is lit, the unit is on.
2. **Carbon dioxide adjustment**
   Press the button to turn carbon dioxide adjustment on and off. When the indicator is lit, the adjustment is on.
3. **Humidity adjustment**
   Press the button to turn humidity adjustment on and off. When the indicator is lit, the adjustment is on.
4. **Post-heating**
   Press the button to turn post-heating on and off. The summer function is on 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**
   Use this button to increase values.
8. **Decrease button**
   Use this button to decrease values.

Power failure

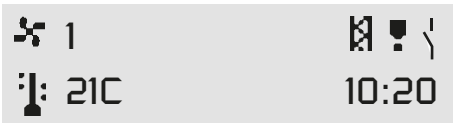
After a power failure, the unit starts at minimum fan speed. The adjustments and setpoints chosen will remain in the memory of the unit in spite of the power failure.

Ventilation operating menus

2. Operating menu

The displays of the Operating menu (sections 2.1–2.6) can be scrolled with the scrolling buttons (see section 1, figure items 5 and 6).

2.1. Main display and change of fan speed



Main display

Main display

- 3 Fan speed (3).
- 21 Supply air temperature (21°C).
- 10:20 Time.
- Filter guard alarm.
- Maintenance reminder alarm.
- 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 1.1, figure items 7 and 8).

2.2 Moving to the Settings menu

To settings menu see manual

In order to move to the Settings menu, press the + and – buttons simultaneously. In the Settings menu you can change setpoints for the ventilation unit.

2.3 Week-clock control

Week program on

Week-clock control can be switched on with the + button and off with the – button. Week-clock control is on when the week-clock control symbol is in the main display. In week clock control, the base fan speed and supply air temperature of the unit are adjusted in accordance with the programme as described in section 4.1.

2.4 Content display

RH 35%	RH2	40%
CO2	0821	PPM

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

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.

2.6 Setting supply air temperature

Temp. setting 20C

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

3. Settings menu

You can move to the Settings menu from the Operating menu as described in section 2.2

The displays of the Settings menu (sections 3.1–3.29) can be scrolled with the scrolling buttons (see section 1., items 5 and 6 in the figure).

3.1 Resetting maintenance 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.

3.2 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 Choosing language version

Kieli / Language
English

The desired language is chosen with the + and – buttons.

3.4 Adjusting time

Adjust time
Press + and -

You can adjust time by simultaneously pressing the + and – buttons. See separate instructions in 4.2.

3.5 Week programme programming

Adjust wk. prog.
Press + and -

To go to the week-clock programme programming mode press the + and – buttons simultaneously. See the instructions in 4.1.

3.6 Erasing week programme

Erase wk. prog.
Press + and -

You can totally erase the week programme by pressing the + and – buttons simultaneously.

3.7 Choosing 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.

3.8 Basic humidity level setpoint

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 3.7).

3.9 Changing setpoint for carbon dioxide adjustment

CO2 setting
0900 PPM

The setpoint for CO_2 adjustment is chosen with the + and – buttons.

3.10 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.

3.11 Changing 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.

3.12 Mode of operation of 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.

3.13 Address of 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 go to bus fault state and do not work.

3.14 Contrast of control panel display

Display contrast
05

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

3.15 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.

3.16 Choosing cascade adjustment for supply air temperature

Cascade adjust
off

Cascade adjustment is chosen to be on or off with the + and – buttons.

3.17 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 may cause a faulty post-heating function.

3.18 Choosing additional heater for unit

Extraheater type
MLV radiator

An electric or MLV radiator is chosen according to ventilation unit type with the + and – buttons.

3.19. Selection of setpoints for preheating resistor or MLV radiator

Preheater
07 C

MLV winter temp
0C

Electric model

The temperature of the preheating resistor for the antifrost function in the heat recovery cell is chosen with the + and – buttons.

MLV model

Choose a suitable outdoor temperature in which the preheating radiator is on. (Note! temperature < temperature of the liquid circulating in the radiator).

3.20. Choosing melting mode

Defrost mode
fan stop

NOTE! The FAN STOPPING FUNCTION must be always ON in a Vallox Digit2 SE unit. MELTING MODE MUST NOT BE CHANGED.

3.21. Stopping temperature of supply air fan for antifrost function in heat recovery cell

Supply fan stop
05 C

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

3.22. Hysteresis of antifrost function in heat recovery cell

Hysteresis
03 C

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

3.23 Setting base fan speed

MIN speed
1

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

3.24 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 always. See section 3.25. Mode of operation of maximum speed setting.

3.25 Mode of operation of maximum speed setting

MAX speed limit
with adjustments

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

3.26 Adjusting fan on the supply air side

DC fan, supply
100%

Not in use in Digit2 SE.

3.27 Adjusting fan on the extract air side

DC fan, exhaust
100%

Not in use in Digit2 SE.

3.28 Fan speed level adjustment

Speed 1 level
15%

In Vallox Digit2 SE, it is not possible to adjust fan speed levels.

3.29 Moving to Operating menu

To Main menu
press + and –

To move back to the Operating menu, press the + and – buttons simultaneously.

4. Week-clock control

4.1 Week programme programming

The week programme can be used to set the desired fan speed (base 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 base fan speed set in the week programme.

Example: Monday

It is the intention to decrease fan speed to speed 2 and supply air temperature to 17 °C between 07:00 (7 a.m.) and 16:00 (4 p.m.). 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 (7 p.m. and 9 p.m.), after which fan speed is lowered back to 4.

STARTING POINT

d	hr	sp	tmp	
1	0	N	N	Exit

Move the cursor with the arrow keys and change values with the + and – buttons. Note that to exit and save when the programming is finished, move the cursor below the word Exit and press + or –.

Cursor
D Day 1…7
1 = Monday, 2 = Tuesday etc.
H Hour
0…23
Sp. Fan speed
1…8
Temp Supply air temperature
10…30°C
Exit Save the setting and exit
N No change to previous hour setting

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

d	hr	sp	tmp	
1	7	2	17	Exit

Monday (d=1), 07:00 (h=7), fan speed 2 (sp. = 2), supply air temperature 17 °C (temp =17).

Move the cursor to the following hour.

d	hr	sp	tmp	
1	16	4	20	Exit

Monday (d=1), 16:00 (h=16), fan speed 4 (sp. = 4), supply air temperature 20 °C (temp =20).

Move the cursor to the following hour.

d	hr	sp	tmp	
1	19	6	N	Exit

Monday (d=1), 19:00 (h=19), fan speed 6 (sp.=6), supply air temperature no change (temp=N).

Move the cursor to the following hour.

d	hr	sp	tmp	
1	21	4	N	Exit

Monday (d=1), 21:00 (h=21), fan speed 4 (sp.=4), supply air temperature no change (temp=N).

Move the cursor to the following hour.

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 3.6. 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.

4.2 Adjusting time

day	hour	min	
1	15	30	Exit

Move the cursor with the arrow keys and change values with the + and – buttons. Exit and save 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. (See section 1.1, figure items 5 and 6).

Cursor
D Day 1…7
1 = Monday, 2 = Tuesday etc.
H Hour, 0…23
M Minutes, 0…60
Exit Save the setting and exit

5. Factory settings

Base fan speed	=	1
Maximum fan speed	=	8
Carbon dioxide adjustment (CO_2)	=	900 ppm CO_2
Basic humidity level	=	automatic or manual selection
Adjustment interval	=	10 min.
Stopping of supply air fan (cell)	=	5 °C
Freezing protection hysteresis	=	3 °C
Preheating setting	=	0 °C
Maintenance reminder	=	4 months
Cell bypass	=	12 °C
Cascade adjustment	=	not in use
Humidity level (Rh level) setting	=	automatic
Switch type	=	fireplace switch
Supply air setting	=	10 °C (MLV and VKL models 18 °C)

Speed steps are not in use in Vallox Digit2 models

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

Children shall not play with the appliance.

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

Filters

When the maintenance reminder or filter guard lights up the indicator, check if the filters are clean. Outdoor air is filtered with two kinds of filters in the unit. A G4-class coarse filter (A) filters off insects, rough pollen and other dust. An F7-class fine filter (B) filters off fine dust invisible to the eye. Extract air is filtered with a similar G4-class filter to that used for filtering outdoor air.

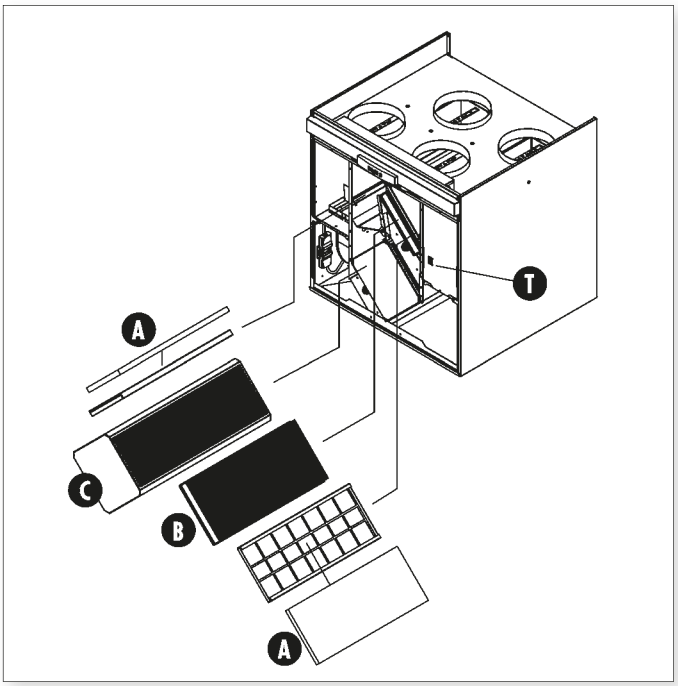
Clean the coarse filters (A) when needed, for instance by vacuuming them 2 to 4 times a year and whenever the maintenance reminder or filter guard notifies of the need for maintenance. When you open the door of DIGIT2 SE, the safety switch (T) turns power off from the unit. You can also wash the filters with circa +25…30 °C warm water and washing-up liquid, pressing them smoothly. Do not handle the filters with force. When washing is done properly, filters stand cleaning a few times. In other words, you have to replace them at least once a year or when needed.

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

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

REMEMBER!

Clean the filters at least twice a year. Set the maintenance reminder interval as needed; see section 3.2. (The setting depends on the cleanliness of outdoor and indoor air.)



VALLOX DIGIT2 SE filters and heat recovery cell. The units are available as right- and left-handed models.

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

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

Fans and post-heating radiator

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

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

If you use water for cleaning the unit or parts of it, do not let it enter the electrical parts.

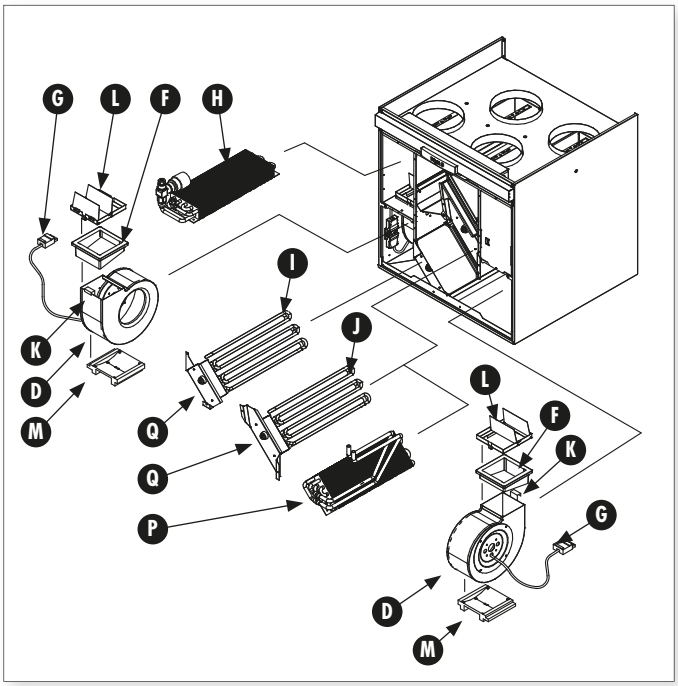
Radiators

I Post-heating radiator: Electric

J Preheating radiator: Electric

H Post-heating radiator and actuator: Liquid

P Preheating radiator: Liquid

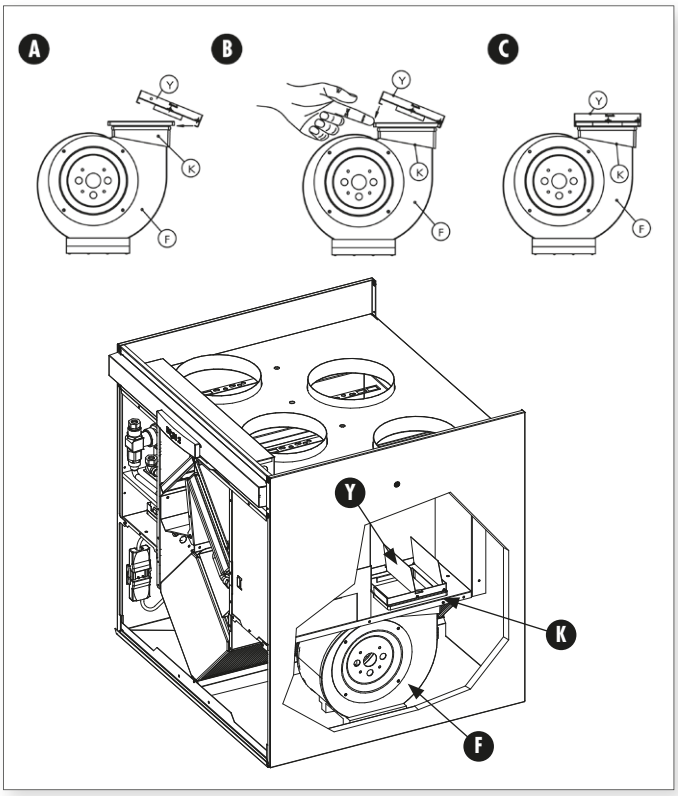


Detaching and attaching of self-actuated one-way damper (vacuum damper), MLV and VKL models

A Put the hook of the damper (Y) rim 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.

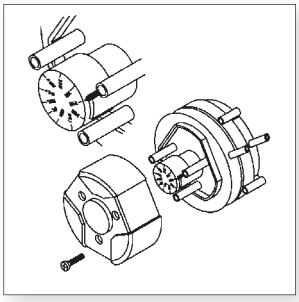
B Push the other side of the collar with a finger.

C Put the hook on the other side edge of the damper below the front edge of the collar. Detaching takes place in the opposite order.



Filter guard

DIGIT SE can be equipped with a filter guard as an option. The filter guard symbol (⚠) lights up in the main display of the control panel normally at fan speeds 7 and 8 when the filters are clean, and this does not require any maintenance 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.

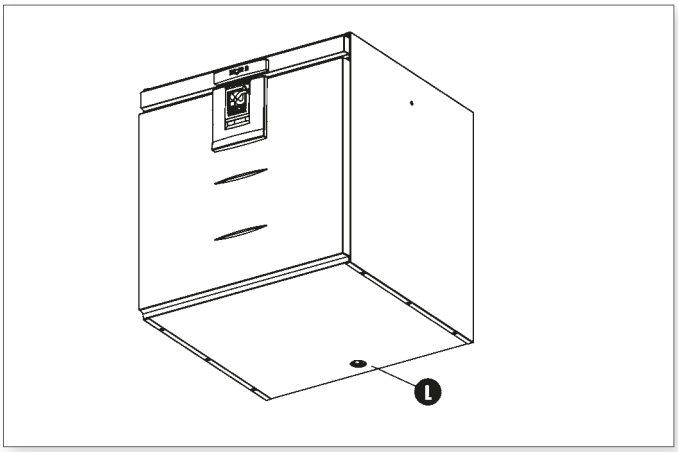


If this is the case, adjust the filter guard setpoint lower inside the unit. If the filter guard symbol lights up at fan speed 4 or 5, the filters probably need cleaning. If the filters are clean, the lighting up may be caused by too dense a mosquito net in the external grille or by the closing of the supply air valves in the rooms. If, after checking these things, the symbol continues to light up at small speeds, adjust the setpoint greater.

Condensing water

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

Do not let water flow into electrical devices.

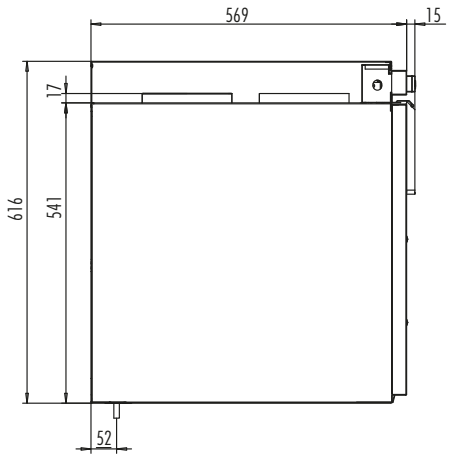


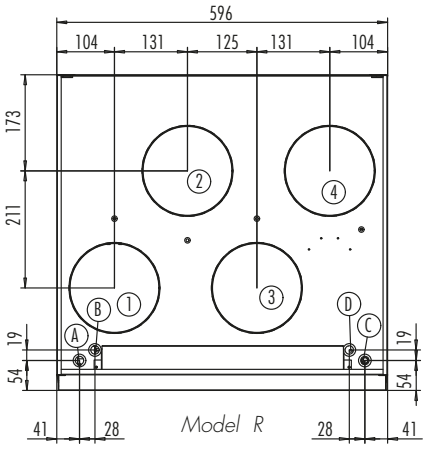
Troubleshooting

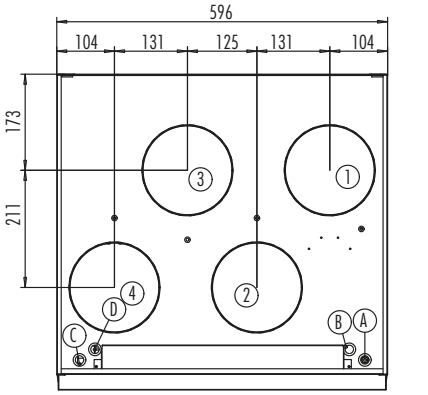
	Symptom	Cause	Do this
1	**Outdoor air coming to the dwelling is cold.**	• Air cools down in the attic ducts. • The heat recovery cell is frozen, which is why extract air cannot heat outdoor air. • The post-heating radiator does not work. • The extract air filter or cell is clogged. • The initial adjustment of ventilation has not been done.	• Check the insulation of the attic ducts. • Check the cleanliness of the filters and heat recovery cell.
2	**The maintenance reminder symbol ( ) is displayed and the unit operates otherwise normally.**	• The maintenance reminder lights up the maintenance reminder symbol in the main display of the control panel at an interval of circa 4 months (factory setting). • You may change the interval (see the operating instructions for control panel, section 3.2).	• 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 (see the operating instructions for control panel, section 3.1.).
3	**"Exh air sensor faulty" message is displayed and the unit is stopped.**	• There is a fault in the freezing protection sensor.	• Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
4	**"Sup. air sensor faulty" message is displayed and the unit is stopped.**	• There is a fault in the supply air sensor.	• Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
5	**"Ind. air sensor faulty" message is displayed and the unit is stopped.**	• There is a fault in the extract air sensor.	• Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
6	**"Out. air sensor faulty" message is displayed and the unit is stopped.**	• There is a fault in the outdoor air sensor.	• Contact a maintenance company. Sensor mounting needs to be checked and the sensor has to be replaced if necessary.
7	**"Cell sensor faulty" message is displayed and the unit is stopped.**	• There is a fault in the sensor of the heat recovery cell.	• Contact a maintenance company. Sensor mounting needs to be checked and corrected if necessary.
8	**"Bus fault" message is displayed and the unit operates at speed 1 (check the fan speed).**	• Wiring fault in the carbon dioxide sensor, in the control panel or in the humidity sensor, or the cable is of the wrong type.	• Contact a maintenance company. The connections have to be checked and corrected if necessary.
9	**"Freezing alert" message is displayed and the unit is stopped.**	• Antifreeze of the water-circulating radiator is active. NOTE! If there is no non-freezing solution in the water of the radiator, the radiator is at risk of freezing.	• 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.
10	**The desired automatic adjustment does not stay on.**	• There is a fault in the humidity or carbon dioxide sensor. One of the sensors is broken or missing.	• Contact a maintenance company. Sensor mounting and connections have to be checked. (Sensors are options.)
11	**The fans are not running and no indicator light is lit at the control panel.**	• Door switch may be broken or the door is not quite closed. • The unit is out of power, for instance because a fuse has blown. • The glass tube fuse (located in the control card behind a protecting plate) protecting the electronics inside the unit may have blown.	• Check the door switch and fuses. The unit has a T800 mA glass-tube fuse. • If needed, contact a maintenance company (for instance to check the glass tube fuse).
12	**The unit does not obey the control panel.**		• Disconnect the plug of the unit from the wall socket, wait for 30 seconds and put the plug back. If this does not help, contact a maintenance company.
13	**"Carbon dioxide alarm" message is displayed and the unit is stopped.**	• Carbon dioxide alarm. Carbon dioxide content has exceeded 5000 PPM for two minutes. May be caused by for instance a fire.	• If there is a fire, take the necessary steps. • You can make the unit operational by disconnecting the plug from the wall socket, waiting for 30 seconds and putting the plug back.
14	**Filter guard symbol ( ) is displayed and the unit operates otherwise normally.**	• The pressure in the filter guard (pressure difference switch) has risen above the adjustment value or speed is 7 or 8 (option).	• Check the cleanliness of the filters and the unit. If needed, clean or replace the filters. Also check the external grille.

TECHNICAL DATA

Dimensions and duct outlets







Model L

Duct outlets

Inner diameter of female outlet collar 160 mm

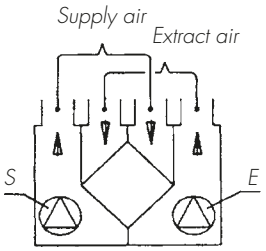
1 Supply air
2. Extract air
3. Outdoor air
4. Exhaust air
A supply water to VKL unit
B return water from VKL unit
C supply liquid to MLV unit
D return liquid from MLV unit

NOTE!

When the system is being adjusted, post-heating must be selected (winter setting).

Measuring points

Measuring points after the connection outlet. Fan curves indicate the total pressure available for duct losses.



Air flow measurement outlets

The fixed air flow measurement outlets of the unit are located behind the cover plate.

You can measure the total pressure of the supply and extract air ductwork at the measurement outlets, using a pressure gauge. Pressure readings and air volume curves show air flow rates at various adjustment positions.

The red measurement hose corresponds to the supply air fan curve and the black hose to the extract air fan curve. Take into account the unit model and setting (summer or winter).

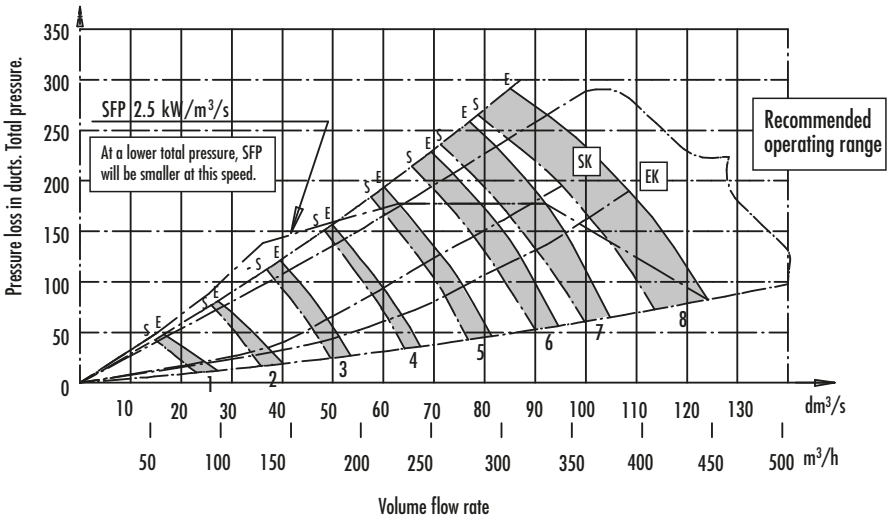
Air flows/DIGIT2 SE (electric radiator unit, winter setting)

E = Extract air fan
S = Supply air fan

EK and SK are examples of pressure losses in supply and extract ducts.

SFP (Specific Fan Power) recommended value <2.5 (kW m³/s)

$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max.) (dm}^3\text{/s)}}$$



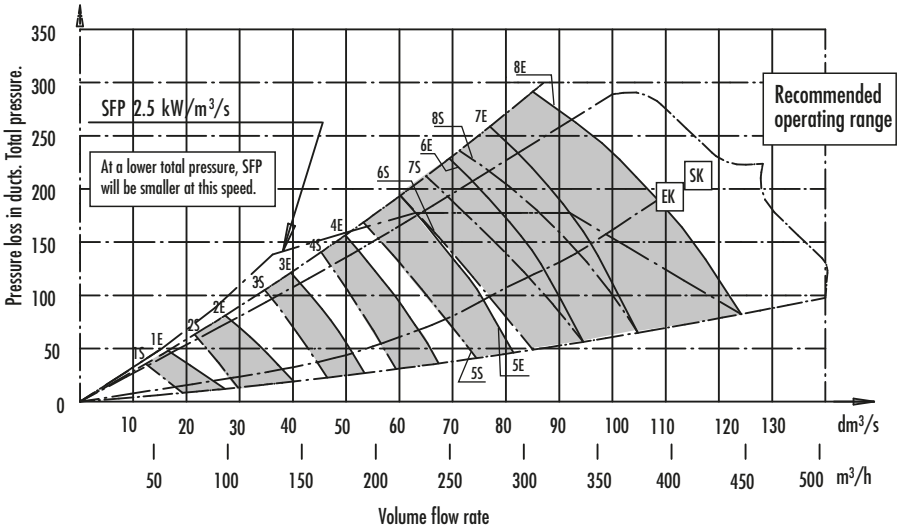
Air flows/DIGIT2 SE VKL (liquid radiator unit, winter setting)

E = Extract air fan
S = Supply air fan

EK and SK are examples of pressure losses in supply and extract ducts.

SFP (Specific Fan Power) recommended value <2.5 (kW m³/s)

$$SFP = \frac{\text{Input power (total) (W)}}{\text{Air flow (max.) (dm}^3\text{/s)}}$$

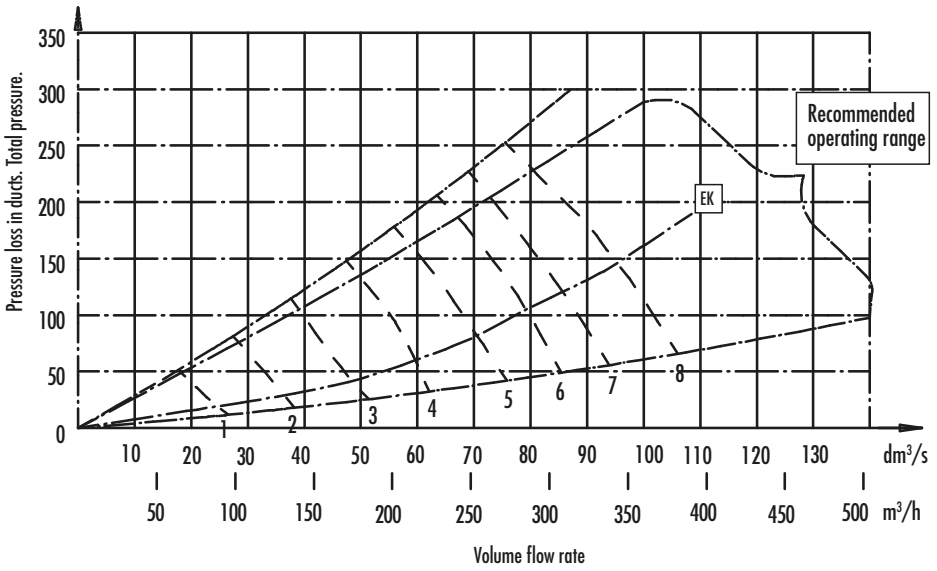


Fan input power

Fan speed	Adjusting voltage (V)	Fan input power W
1	60	42
2	80	67
3	100	97
4	120	130
5	140	167
6	160	205
7	180	242
8	230	315

Extract air flow in heat recovery bypass situation (summer setting)

PK is an example of pressure losses in the extract ductwork



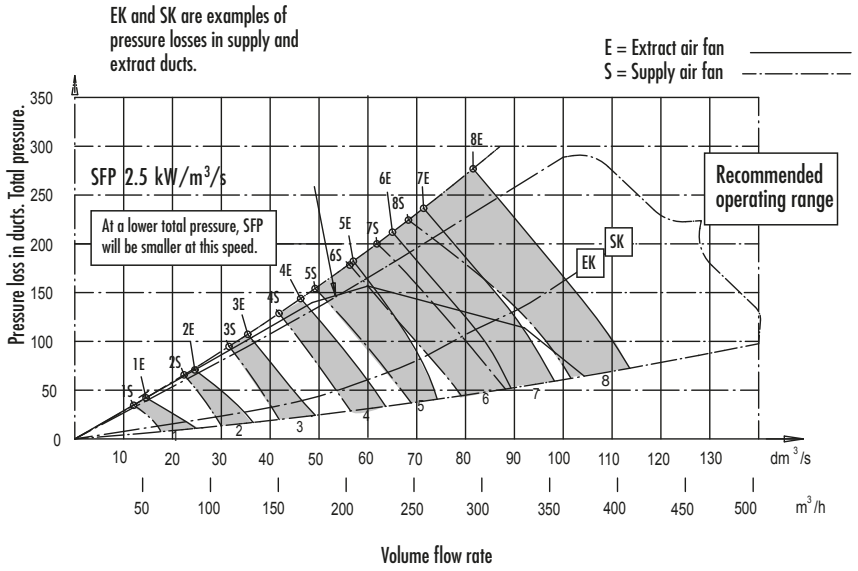
Sound values Digit2 SE

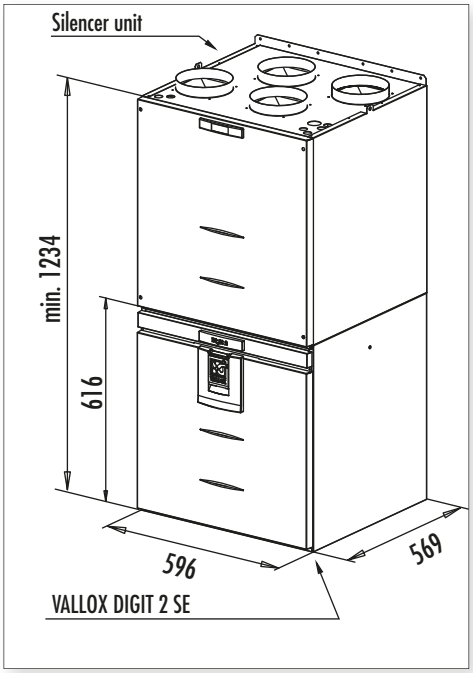
		Sound power level in supply air duct (one duct) by octave band L_W dB								Sound power level in extract air duct (one duct) by octave band L_W dB							
		ADJUSTMENT POSITION/AIR FLOW dm³/s								ADJUSTMENT POSITION/AIR FLOW dm³/s							
Adjustment position		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Air flow dm³/s		15.2	25.8	36.1	48.3	59.2	70.5	79.1	89.8	23.7	33.3	42.2	54.5	68.5	82.7	92.1	109.0
Medium frequency of the octave band Hz	**63**	64.1	68.7	71.2	74.4	73.3	77.0	77.2	78.2	50.3	56.3	63.4	66.8	66.3	64.1	70.2	70.4
	125	52.3	58.4	62.6	68.0	68.3	69.5	70.6	72.8	39.4	50.0	56.7	61.4	62.9	63.4	65.2	66.9
	250	42.8	49.7	54.8	58.1	61.1	63.7	65.3	67.5	31.6	39.8	47.0	52.1	55.4	59.9	60.0	62.2
	500	42.8	46.6	51.0	54.0	56.8	59.1	61.0	63.5	30.3	34.3	40.2	44.2	46.7	48.7	50.6	52.9
	1000	39.8	51.1	52.9	55.6	58.0	59.2	60.3	61.8	25.9	34.2	39.4	42.7	45.0	46.8	48.1	50.2
	2000	29.4	37.3	43.8	48.1	51.6	55.0	58.4	61.0	17.4	27.0	33.9	38.9	42.3	45.0	47.1	49.5
	4000	24.6	32.9	39.4	43.8	47.0	49.9	51.9	54.3			25.2	31.5	34.4	37.1	39.2	41.9
	8000		23.2	31.5	39.4	42.8	45.8	47.9	50.7					24.3	26.5	32.5	36.3
	L_W dB	64.4	69.2	71.9	75.5	74.9	78.0	78.5	79.8	50.8	57.3	64.4	68.0	68.2	69.1	71.8	72.5
	L_{WA} dB(A)	44.7	52.6	55.9	59.3	61.7	63.7	65.5	67.6	32.1	39.5	45.9	50.1	52.5	54.2	56.1	58.2

	Sound pressure level dB (A) coming from the unit through the envelope in the rooms where the unit has been installed (10m² sound absorption)							
	ADJUSTMENT POSITION/AIR FLOW dm³/s							
	1	2	3	4	5	6	7	8
	20.3 / 23.2	32.1 / 35.1	44.5 / 47.8	56.8 / 61.2	68.4 / 74.4	78.4 / 86.2	86.2 / 95.7	97.3 / 109.0
L_{pA} dB (A)	11.8	23.7	28.9	32.8	36.2	38.5	40.7	42.9

TECHNICAL DATA

VALLOX silencer unit + Digit2 SE (winter setting)





Sound values Digit2 E + silencer unit

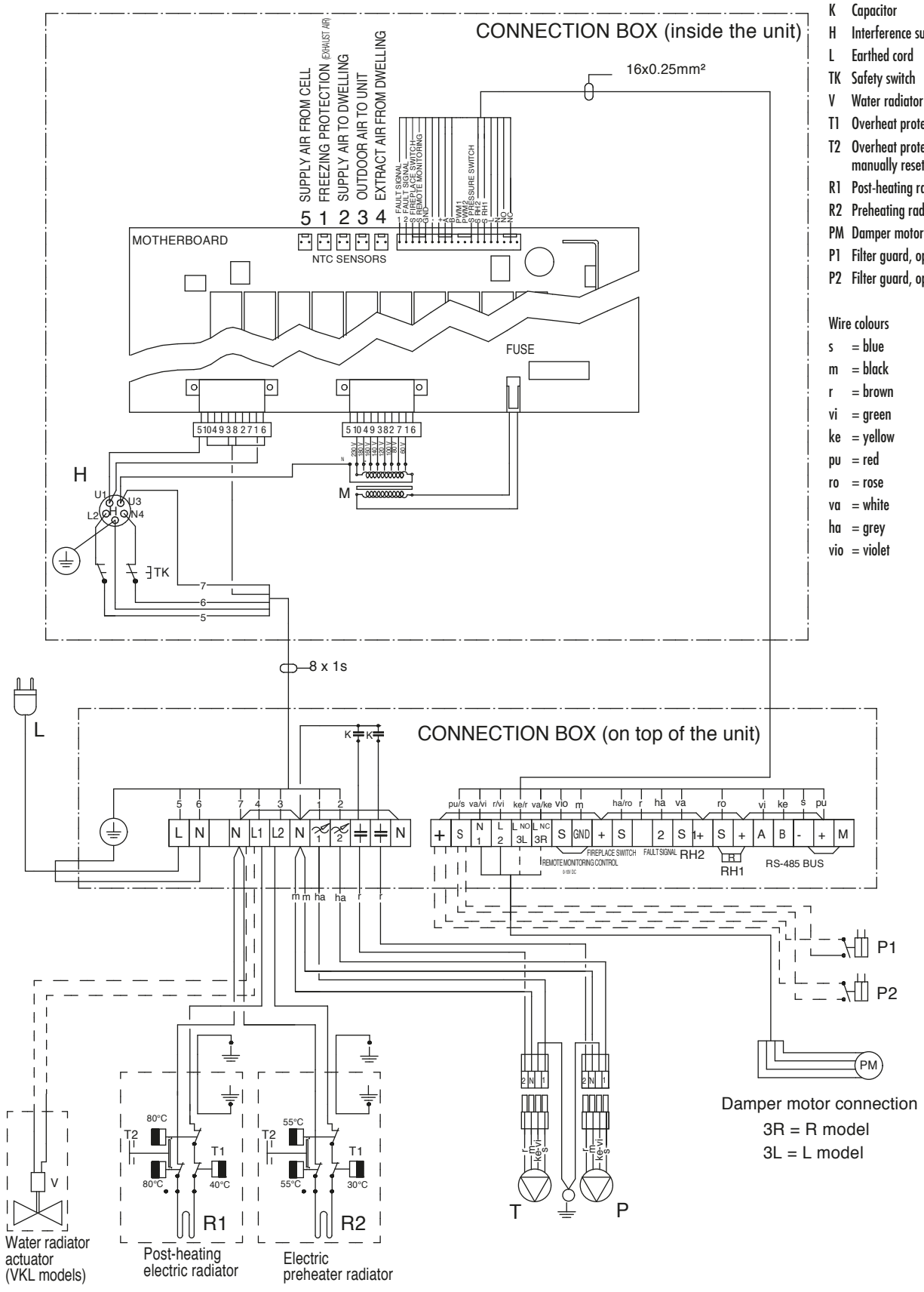
		Sound power level in supply air duct (one duct) by octave band L_W dB								Sound power level in extract air duct (one duct) by octave band L_W dB							
		ADJUSTMENT POSITION/AIR FLOW dm³/s								ADJUSTMENT POSITION/AIR FLOW dm³/s							
Adjustment position		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Air flow dm³/s		16/24	25/47	36/70	48/90	58/104	68/116	75/131	87/148	25/7	38/7	46/46	59/69	72/79	82/106	92/112	104/141
Medium frequency of the octave band Hz	63	64	67	69	72	72	74	77	76	54	61	65	68	69	71	71	74
	125	51	57	61	66	69	68	69	70	*	40	52	56	59	60	63	65
	250	39	45	49	53	56	58	60	62	22	34	42	47	51	54	56	59
	500	25	31	35	38	41	43	45	48	*	18	26	32	37	40	42	45
	1000	10	21	21	24	26	29	31	34	*	*	11	21	28	32	36	39
	2000	*	*	*	13	11	17	18	21	*	*	*	*	12	18	23	28
	4000	*	*	*	*	14	19	22	24	*	*	*	*	*	*	*	16
	8000	*	*	*	*	*	*	*	23	*	*	*	*	*	*	*	*
L_W dB		64	67	70	73	74	75	77	77	54	61	65	68	70	71	72	74
L_{WA} dB(A)		37	43	46	50	53	54	55	56	24	32	39	43	46	48	50	53

	Sound pressure level dB (A) coming from the unit through the envelope in the rooms where the unit has been installed (10m² sound absorption)							
	ADJUSTMENT POSITION/AIR FLOW dm³/s							
	1	2	3	4	5	6	7	8
	20/25	31/37	43/50	55/64	66/77	76/89	84/99	95/112
L_{pA} dB (A)	20	26	31	34	37	40	41	44

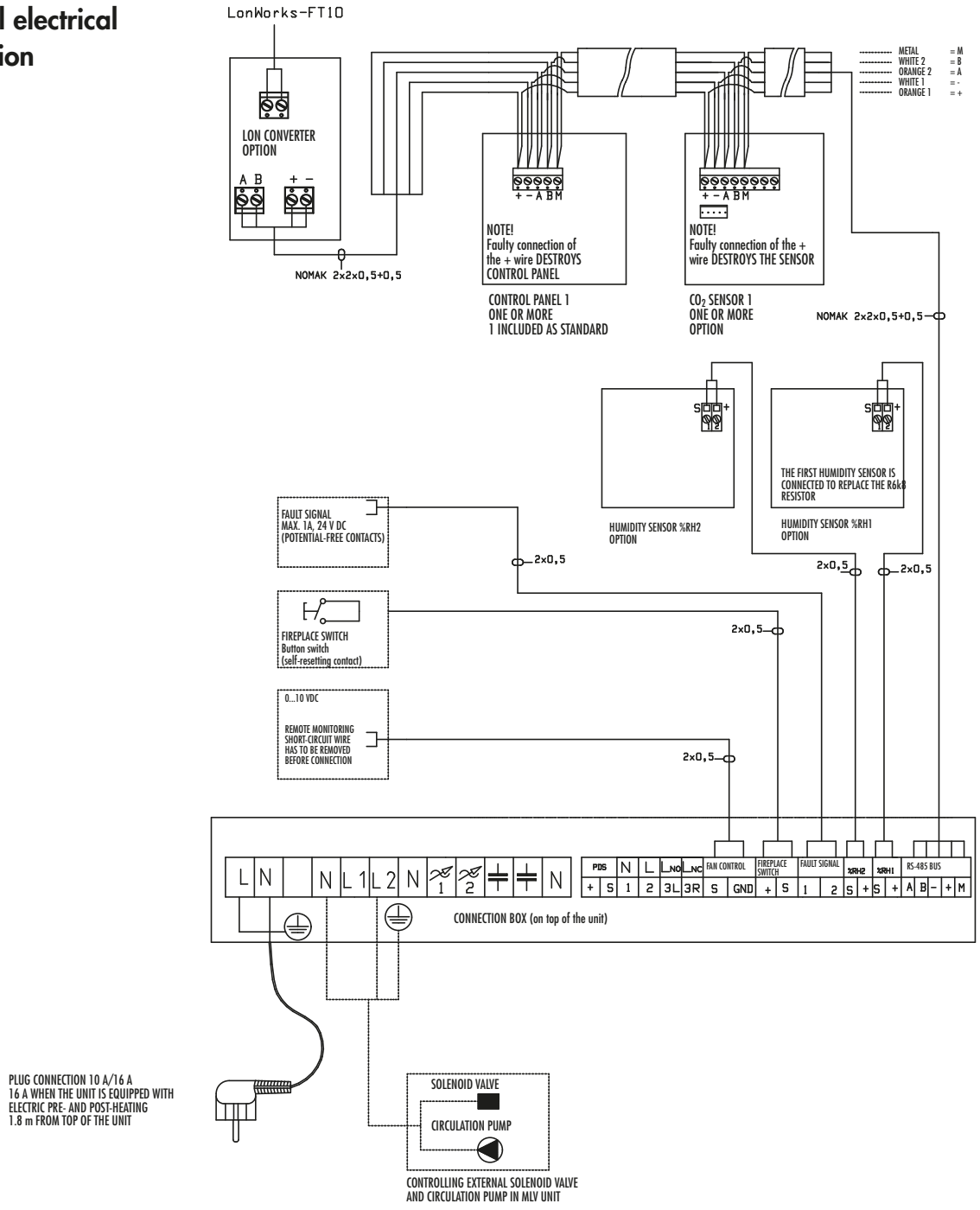
Internal electrical connection Vallox Digit2 SE, code A3550 SE

T Supply air fan
P Extract air fan
M Autotransformer with protective voltage coil
K Capacitor
H Interference suppressor
L Earthed cord
TK Safety switch
V Water radiator actuator/valve
T1 Overheat protection, automatic
T2 Overheat protection, 2 pcs, manually reset
R1 Post-heating radiator
R2 Preheating radiator
PM Damper motor 21 V DC
P1 Filter guard, option (supply)
P2 Filter guard, option (extract)

Wire colours
s = blue
m = black
r = brown
vi = green
ke = yellow
pu = red
ro = rose
va = white
ha = grey
vio = violet



External electrical connection



Mounting, removing and wiring of the control panel

The control panel is wired straight from the electrical connection box. The control panel can also be connected in series with a CO_2 sensor or another control panel. (See External electrical connection.)

Control panel addresses

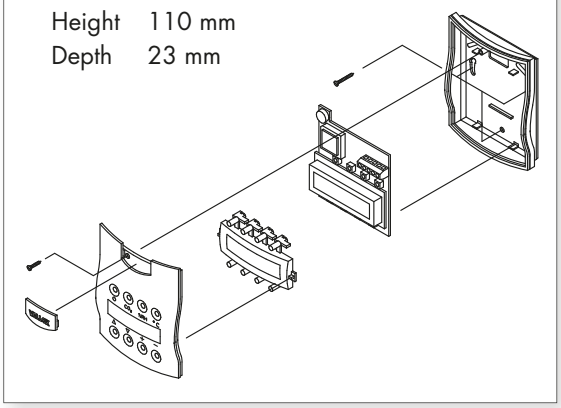
If two or more control panels are connected to the system, the addresses of the control panels have to be changed.

For example 3 control panels.

- Connect the first control panel to the unit and change its address to 3.
- Connect the second control panel to the unit and change its address to 2.
- Connect the third control panel and make sure that its address is 1.

If control panels have the same address, they go to bus fault state. In this case, remove one of the control panels and change the address of the other panel. The above mentioned situation can arise in connection with the later installation of an additional control panel.

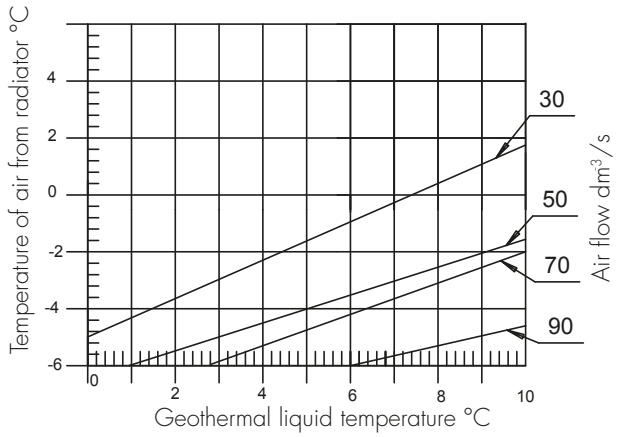
Width 90 mm
Height 110 mm
Depth 23 mm



VALLOX DIGIT2 SE MLV heating/cooling radiator performance

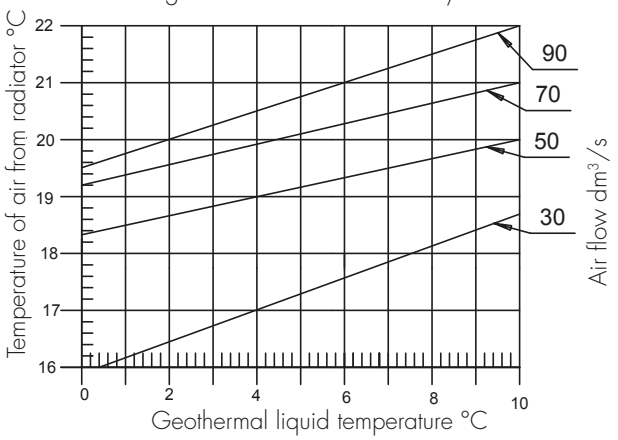
MLV RADIATOR HEATING POWER

Ethanol 30% Flow 0.07 dm³/s
Incoming air -12 °C

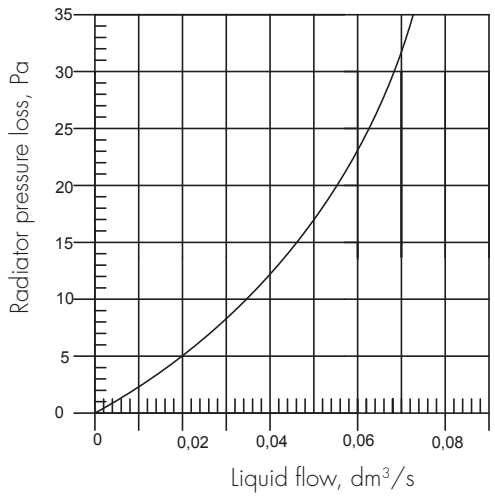


MLV RADIATOR COOLING POWER (1.5...2.5 kW)

Ethanol 30% Flow 0.07 dm³/s
Incoming air 28 °C Relative humidity RH 60%

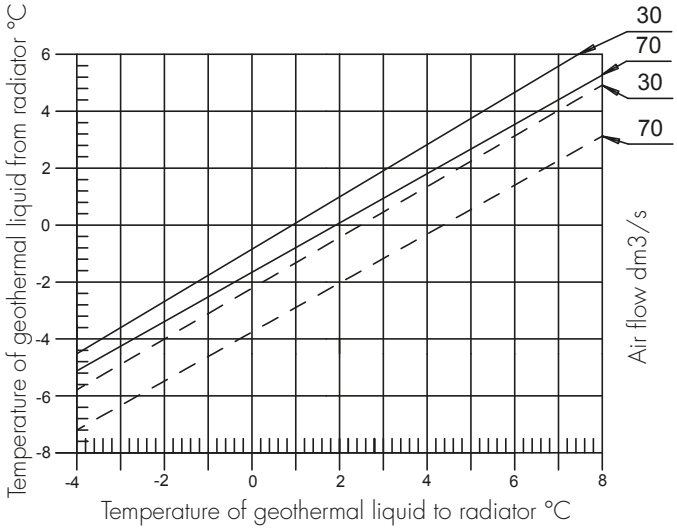


MLV radiator pressure loss

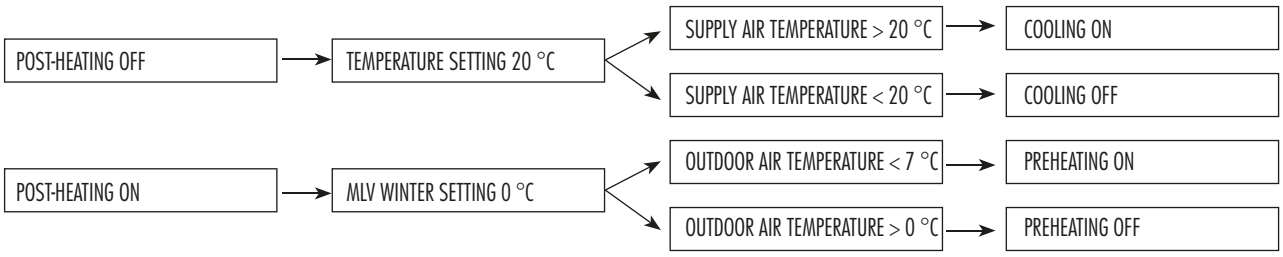


COOLING OF MLV RADIATOR GEOTHERMAL LIQUID

Ethanol 30% Flow 0.07 dm³/s
Incoming air -12 °C ——————
Incoming air -30 °C — — — —

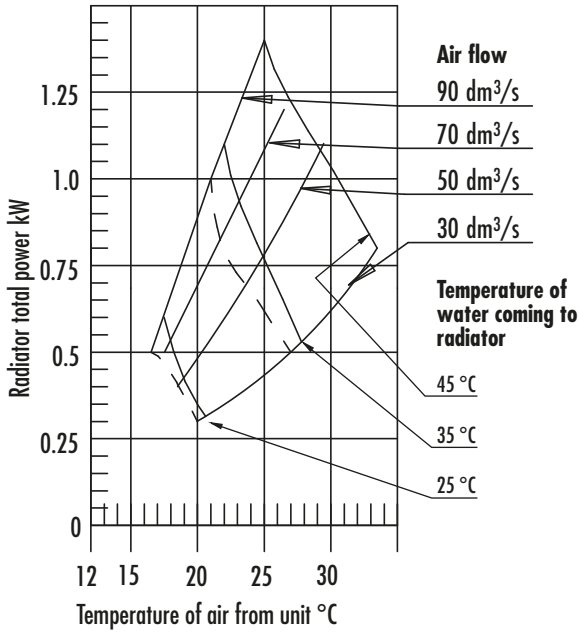


MLV radiator control



VALLOX DIGIT2 SE VKL post-heating radiator performance

VKL water radiator power

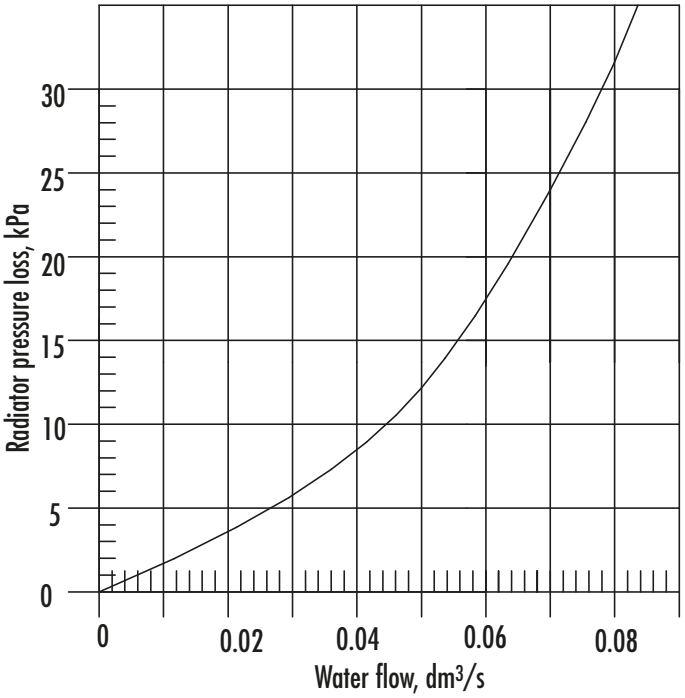


Temperature of air coming to radiator 12 °C

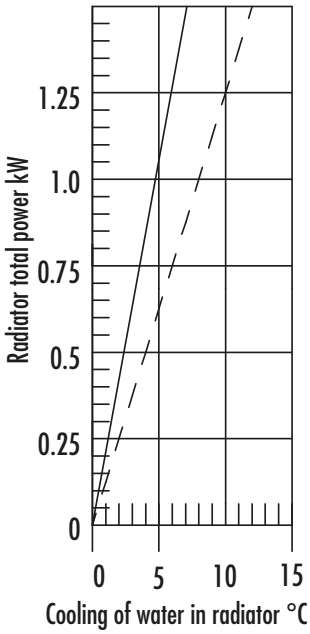
——— liquid flow 0.05 dm³/s

– — – liquid flow 0.03 dm³/s

VKL radiator pressure loss



Cooling of water in radiator

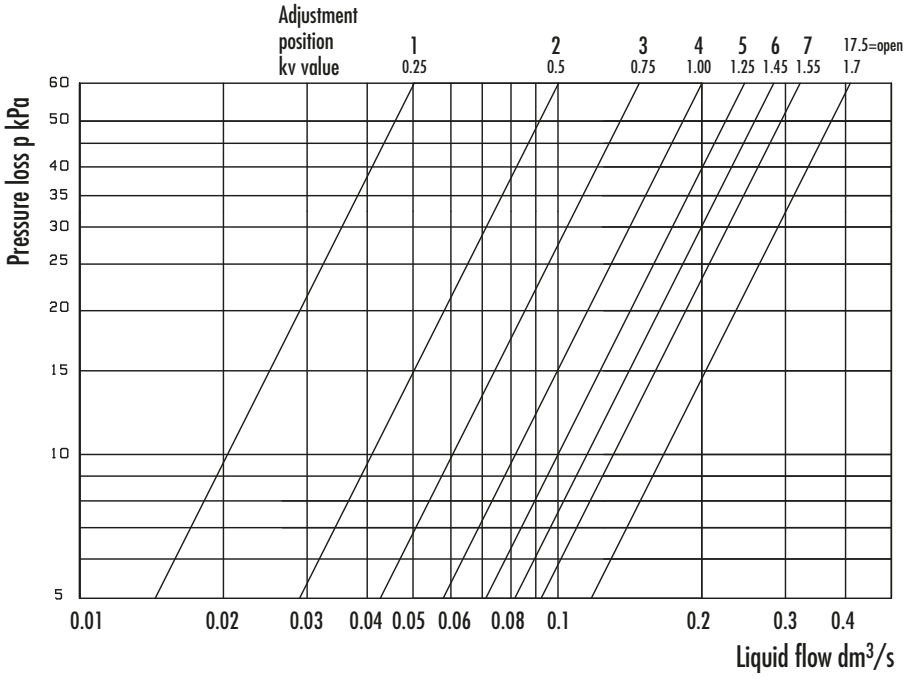


Temperature of air coming to radiator 12 °C

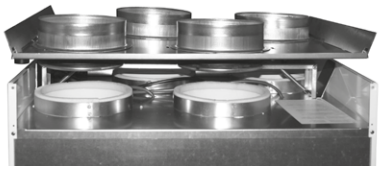
——— liquid flow 0.05 dm³/s

– — – liquid flow 0.03 dm³/s

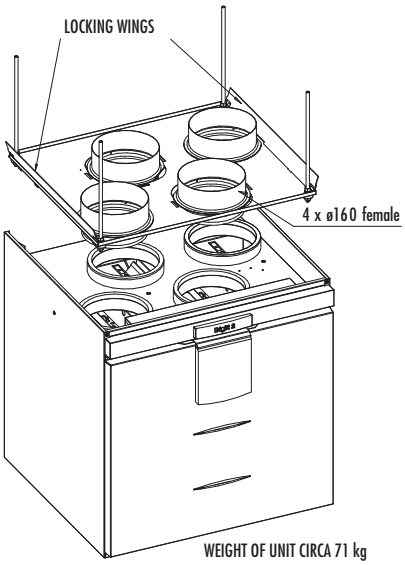
Valve pressure loss



VALLOX DIGIT2 SE ceiling mounting



Ceiling mounting plate before fastening

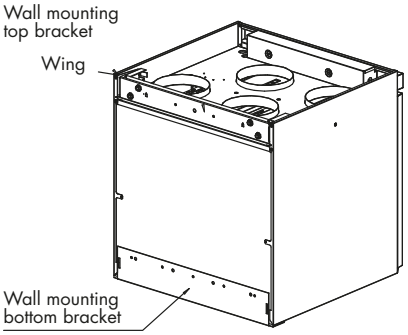


VALLOX DIGIT2 SE wall mounting

Top part of wall bracket

Bottom part of wall bracket

Wall bracket mounted



MOUNTING/Ceiling and wall mounting

DIGIT2 SE location

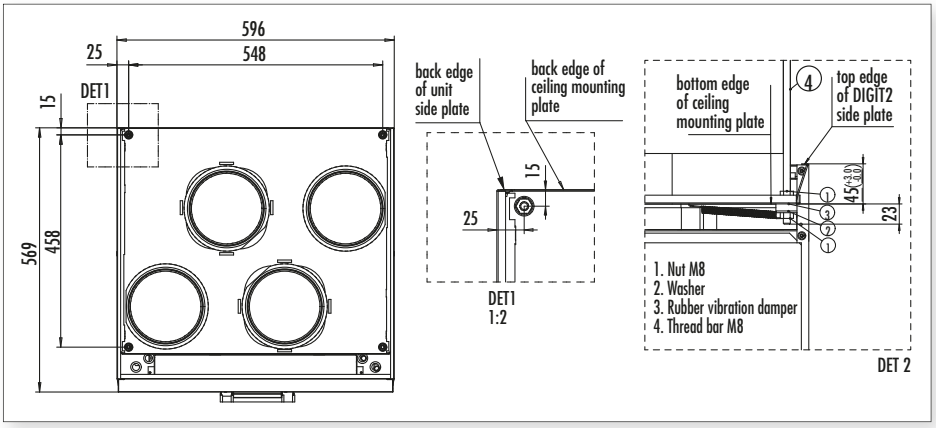
Mount DIGIT2 SE in a place where temperature does not go below +10 °C. Without protective enclosure, the unit must be located in a place with no acoustic disturbance, such as storerooms or technical rooms. DIGIT2 SE can also be located in a damp room, but not in a bathroom next to a sauna bath.

Ceiling mounting

VALLOX DIGIT2 SE unit can be equipped with an easy-to-use ceiling mounting plate as an option (pat. pending). The ceiling mounting plate is fastened to the ceiling with M8 thread bars. Fix the bars so that they stand the weight of the unit (circa 71 kg). The ceiling mounting plate has to be fixed horizontally in order to ensure that the unit will be straight. The outdoor air duct must be insulated against condensation, also between the unit and the ceiling mounting plate.

Mounting

Lift the unit straight upward, till the locking wings on the sides of the mounting plate lock into the side plates of the unit. You can detach the unit from the mounting plate by releasing the locking wings from the side plates. To facilitate mounting, you may use a lubricant, such as O-ring grease, in the collar seals. Mounting accessories include rubber silencers, base plates and nuts. Thread bars are not included in the delivery.

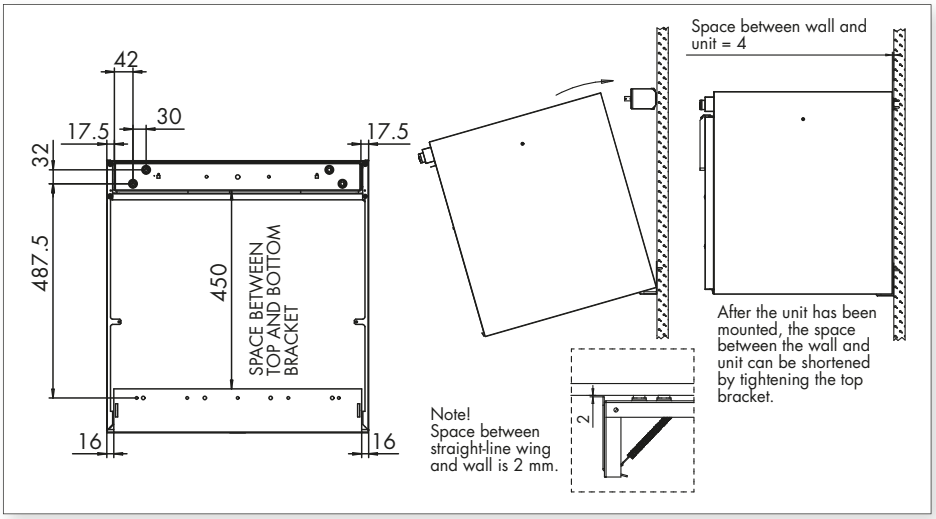


Wall mounting

DIGIT2 SE is mounted on the wall with a mounting plate as shown in the adjacent figure.

Wall construction

Pay attention to the wall construction when mounting the unit. Avoid mounting the unit on a hollow, echoing dividing wall and on a bedroom wall because of sound conduction, or prevent sound conduction.



Condensing water

The delivery includes a water seal. By connecting a pipe to the water seal the water condensing from extract air can be led to a floor drain. The pipe must never be connected directly to the drain. The condensing water pipe must have a downward slope. The unit comes with separate instructions for mounting and using the water seal.

Connection of VKL post-heating radiator to underfloor heating circuit

Efforts have been made to minimise the risk of freezing caused by the connection with a number of antifreeze functions.

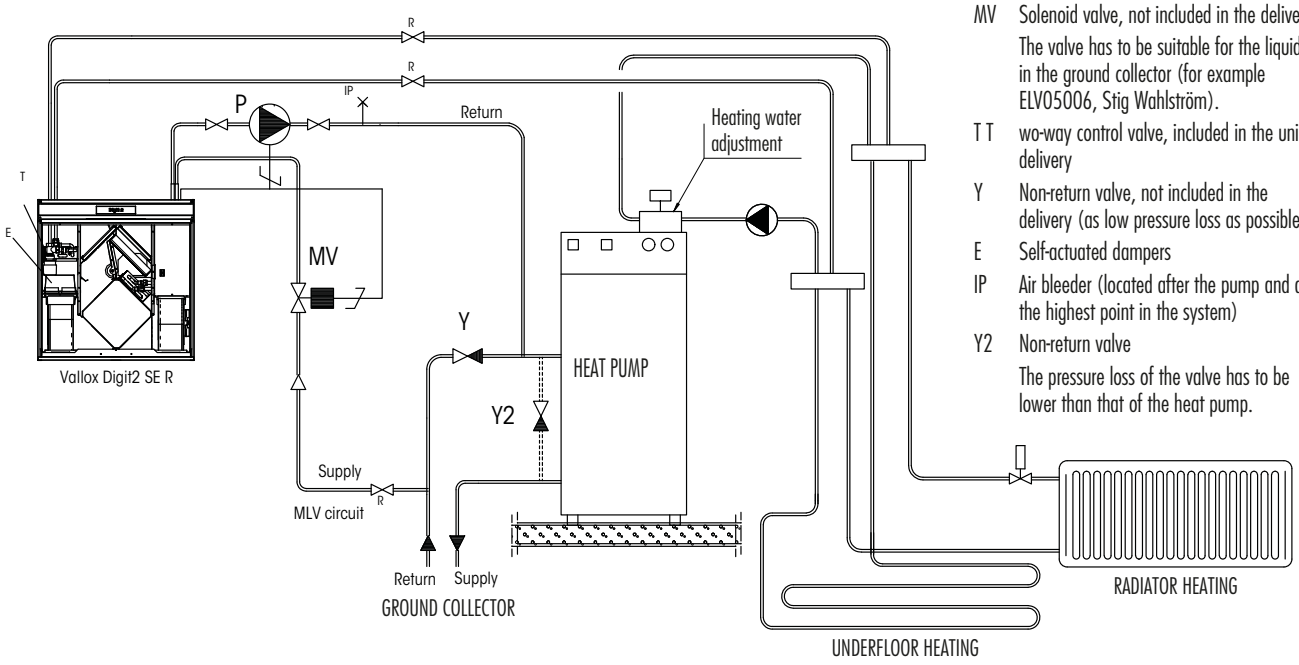
1. The unit stops if supply air temperature goes below the temperature set and automatically starts as soon as temperature rises.
2. When the unit stops, the self-actuated dampers (E) that have been mounted in the fans close.
3. The electric valve (T) opens when the unit becomes dead.
4. The unit also issues an alarm of freezing risk at the controller.

Operation of VKL post-heating radiator

- The temperature of heating water must be adjusted according to the temperature of outdoor air.
- No water must be led into the radiator of the unit until the system has been adjusted for operation and heating is on in the heating network, or other measures have been taken to ensure that the radiator will not freeze.
- Water circulation in the heating network connected to the unit and the circulation pump must not be stopped during the heating season.
- Basic adjustment of water flow in the VKL radiator is done by means of valves (R), which also act as stop valves when needed (not included in the delivery).

Other connections

Heat can be led to the Digit2 SE VKL post-heating radiator in other ways than that presented above. It is possible to build a separate heat transfer circuit for the radiator in order to ensure a higher power or to eliminate the risk of freezing by means of a non-freezing heat transfer liquid. For more information, see the instructions "VALLOX VKL connections". The instructions are found at the website of Vallox Oy: www.vallox.com.



P Circulation pump (size for example 0.07 dm3/s, 60 kPa), not included in the delivery

Because of the risk of condensing the pump should be suitable for pumping liquid that is colder than the ambient temperature (e.g. Magna1 25-60 by Grundfos).

MV Solenoid valve, not included in the delivery

The valve has to be suitable for the liquid in the ground collector (for example ELV05006, Stig Wahlström).

T T wo-way control valve, included in the unit delivery

Y Non-return valve, not included in the delivery (as low pressure loss as possible)

E Self-actuated dampers

IP Air bleeder (located after the pump and at the highest point in the system)

Y2 Non-return valve

The pressure loss of the valve has to be lower than that of the heat pump.

Connection of MLV preheating/cooling radiator

ALWAYS PRIMARILY FOLLOW THE CONNECTION PLAN PREPARED BY THE HVAC PLANNER OR THE HEAT PUMP MANUFACTURER.

See the adjoining example of connecting an MLV unit to the ground collector.

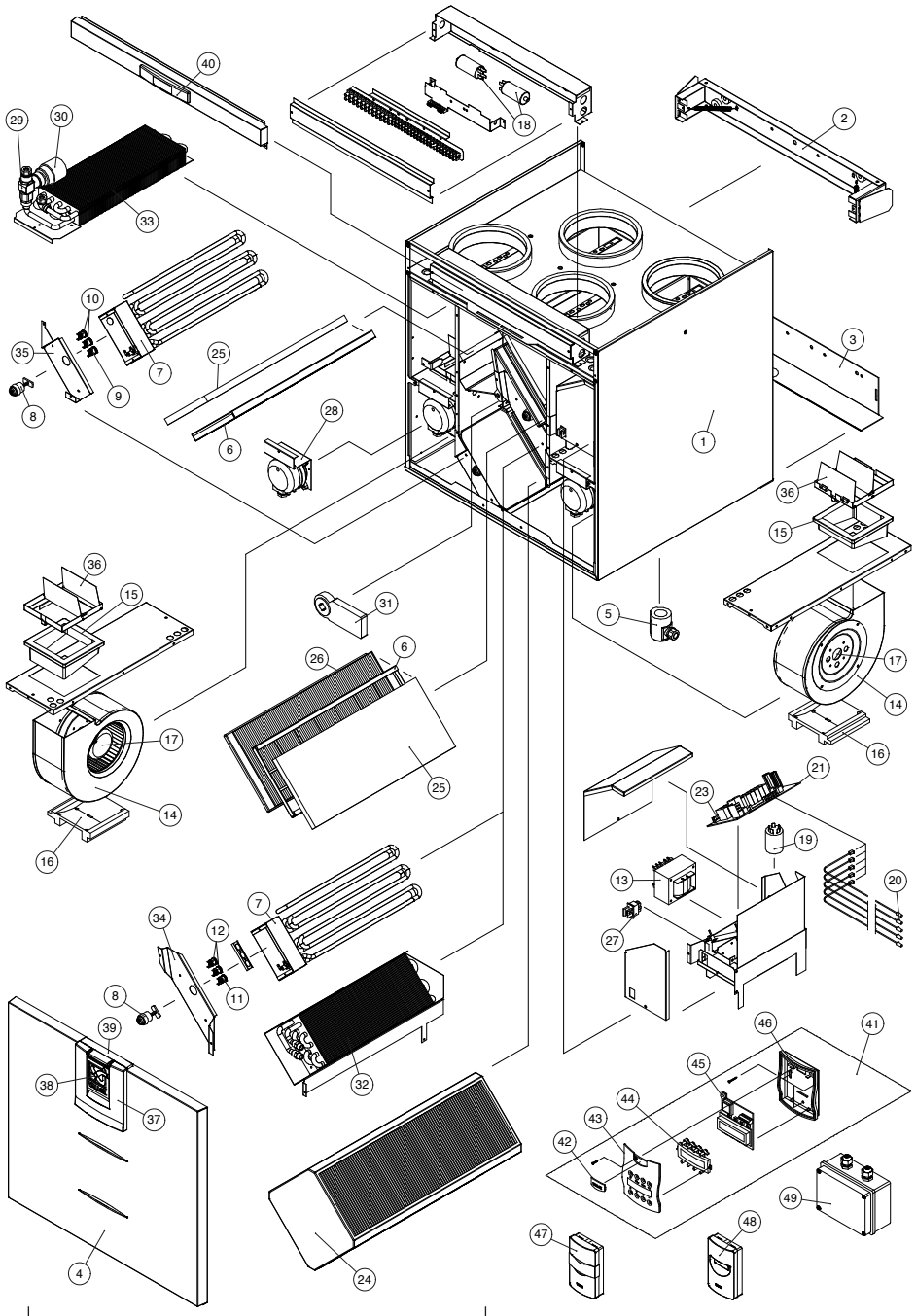
The supply pipe of the MLV circuit is connected to the pipe returning from the collector. The liquid returning from the MLV circuit is taken to the return pipe of the ground collector. If it can be presumed that the internal pressure losses of the heat pump in the ground collector are high, it is recommended to bypass the heat pump so that the liquid will circulate when the heat pump is stopped. In this case the pressure loss of the bypass non-return valve has to be lower than that of the heat pump.

When the requirements for starting the heating or cooling function are met, the control function of the unit opens the solenoid valve (MV) and starts the pump (P). The components of the MLV circuit mentioned in the diagram are not included in the delivery. Observe the freeze resistance of the liquid used in the ground collector.

The connection pipes of the MLV radiator have to insulated against condensation. If the heat pump has an open expansion tank, it must be situated at the highest point of the network.

Note! Because of the risk of humidity damage, supply air temperature in a duct with no condensation insulation should not go below +16...20 °C.

Exploded view and parts list VALLOX Digit2 SE
(A3550 SE)



No.	Part		Code
1	Side plate		3323100
2	Wall mounting plate	Upper	3347600
3	Wall mounting plate	Lower	3347800
4	Door		3351700
5	Plastic water seal (klick)		3292500
6	Filter stand		3326000
7	Pre- and post-heating resistor	1200 W	942190
8	Push button		948450
9	Post-heating resistor thermal protector, needs to be reset	+80 °C	946025
10	Post-heating resistor thermal protector, automatic	+40 °C	946091
11	Preheating resistor thermal protector, needs to be reset	+55 °C	946080
12	Preheating resistor thermal protector, automatic	+30 °C	946085
13	Transformer, 9-pole		940027
14	Fan 210 W, with hood		1069100
15	Fan collar rubber		3146500
16	Fan bottom support		3146600
17	Fan motor 210 W	R2E140	935170
18	Capacitor	4 µF	942035
19	Interference suppressor		942200
20	NTC sensors		946140
21	Motherboard PK		949037
23	Glass tube fuse, slow	5*20 0.8A	952484
24	Heat exchanger, cross-flow heat recovery cell	200*200*520	933090
25	G4 filter		3327000
26	F7 fine filter		978125
27	Safety switch		948370
28	Filter guard	(option)	948600
29	2-way valve V5822A1048 DN 1.5, kv 1.0	(alternative)	946300
30	Actuator MT8-230LC-NO (open when dead)	(alternative)	946320
31	Damper motor	CM24	930613
32	Preheating water radiator		
	a Right-handed		3363200
	b Left-handed		3363100

No.	Part	Code
33	Post-heating water radiator	
	a Right-handed	342980
	b Left-handed	3429900
34	Preheating radiator attachment plate. Either right- or left-handed model has to be chosen	3327600
35	Post-heating radiator attachment plate. Either right- or left-handed model has to be chosen	3327500
36	Closure flap	3247900
37	Latch body	990990
38	Lever with print	990992
39	Latch Aquamid 6G40	990985

No.	Part		Code
40	Name plate		990991
41	SED controller		3214000
42	Cover plate		3214400
43	Cover		3214200
44	Lens		3214300
45	Circuit board		949026
46	Base		3214100
47	Humidity sensor	(option)	946142
48	CO_2 sensor	(option)	946146
49	LON converter	(option)	3151600

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