

Installation Instruction

Renovent Small



Climate Systems
Comfort, all year round

Installation instructions

Heat recovery unit Renovent HR Small



STORE NEAR THE APPLIANCE

Country : GB

BRINK

Climate Systems

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An appliance from the updated Brink Renovent HR series is a heat recovery unit with an efficiency of 95% and energy-saving constant-volume fans. The new generation stands out for its:

- steplessly adjustable air flow rates through a control panel;
- filter indication on the appliance and the possibility for filter indication on the multiple switch;
- completely new frost protection system that ensures optimum performance of the appliance, even at very low atmospheric temperatures;
- limited sound production due to pressure fluctuation.

The appliance comes ready for use. All control equipment has been mounted and checked in the factory.

On installation, the appliance must be connected to the air ducts, the condensate discharge, the mains supply and the multiple switch.

The installer can change the desired air flow for every setting with the aid of the control panel on the appliance. See Chapter 4 for a detailed description 4.

The Renovent HR Small is designed for a maximum ventilation capacity of 180 m³/h at 150 Pa resistance in the duct system.

The Renovent HR Small comes ready to plug in with a 230 V mains plug for a low-voltage multiple switch on the outside of the appliance.

2.1 Connecting ducts

The Renovent HR Small is only available with all connections at the top; type 4/0.

See sections 5.6.1 and 5.6.2 for pictures and dimensions of the appliance.

2.2 Filter door position options

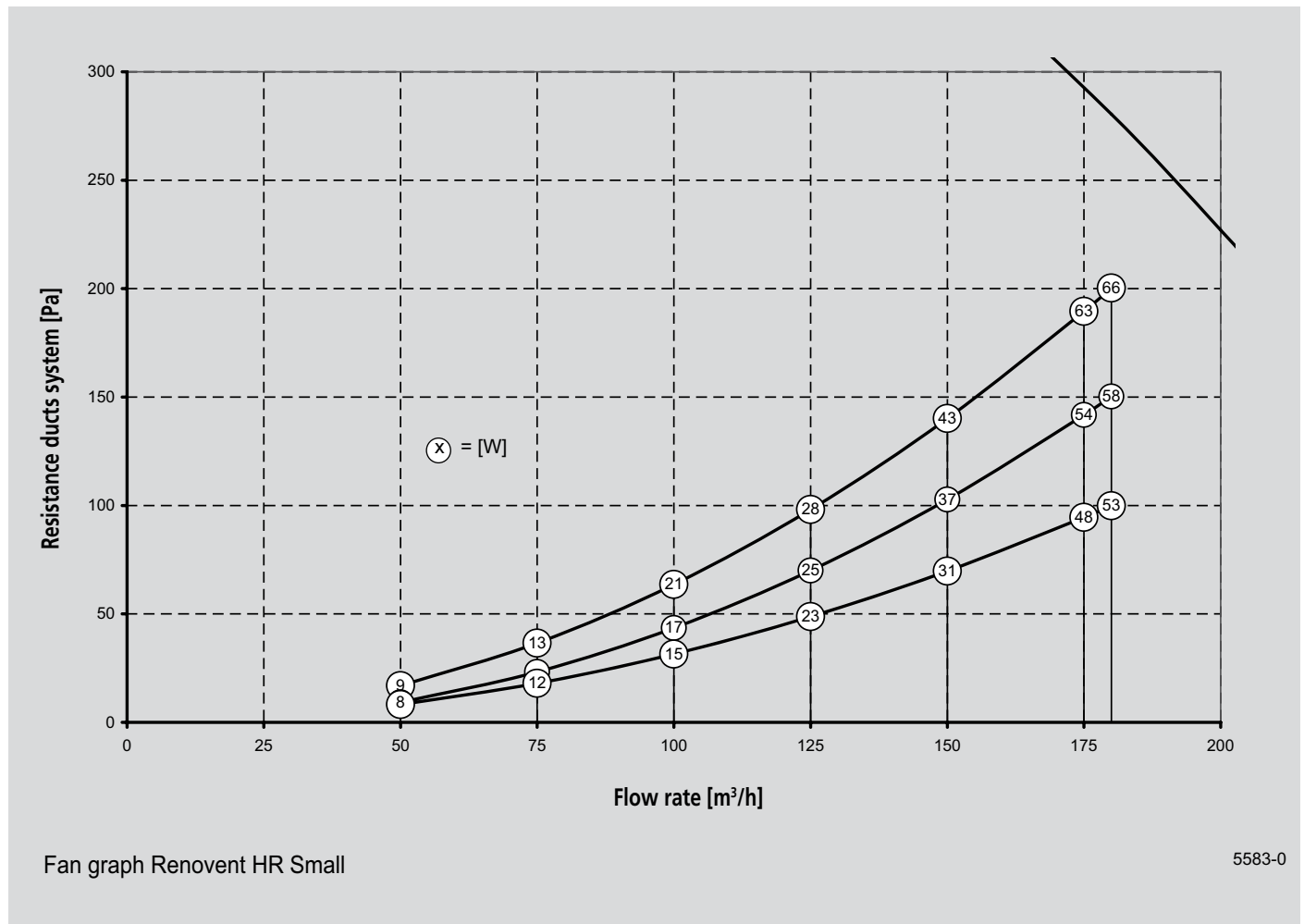
The appliance is available ex factory in a right-hand or left-hand version. That changes the position of the duct connections. The right-hand version has the filter door on the right-hand side of the appliance and the left-hand appliance has the filter door on the left-hand side of the appliance.

It is not possible to convert a right-hand appliance into a left-hand one. When ordering, it must be stated whether the appliance must be supplied as left-hand or right-hand version.

2.3 Technical information

		Renovent HR Small		
Supply voltage [V/Hz]		230/50		
Protection degree		IP31		
Dimensions (w x h x d) [mm]		560 x 600 x 315		
Duct diameter [mm]		Ø125		
External diameter condensate discharge [mm]		Ø20		
Mass [kg]		25		
Filter class		G3		
Fan setting		1	2	3
Ventilation capacity [m ³ /h]		75	100	150
Permissible resistance ducts system [Pa]		18 - 40	30 - 68	60 - 150
Rated power [W]		24 - 26	30 - 42	62 - 86
Rated current [A]		0.17 - 0.18	0.23 - 0.28	0.43 - 0.57
Cos φ		0.58 - 0.59	0.61 - 0.64	0.64 - 0.67
Noise capacity level L _w (A)	Static pressure [Pa]	40	80	160
	Housing emission [dB(A)]	32	39	48
	Duct "from dwelling" [dB(A)]	31	37	45.5
	Duct "to dwelling"	49	56	66

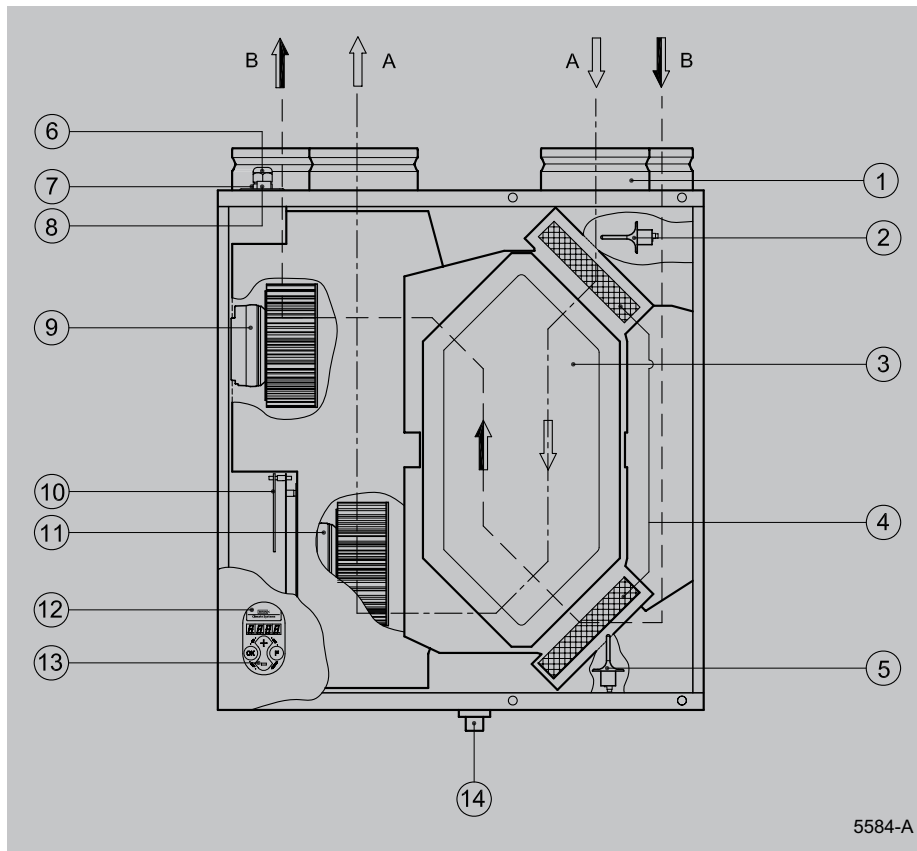
2.4 Fan graph



Note: The value stated in the circle is the capacity per fan (in Watt).



3.1 Exploded view appliance



A = Output air flow
 B = Input air flow

3.2 Function components

1	Duct spigots	Connections for the input and output ducts.
2	Interior temperature sensor	Measures the temperature of the air from the dwelling.
3	Heat exchanger	Ensures heat transfer between input and output air
4	Filters	Filter both air flows.
5	Atmospheric temperature sensor	Measures outside air temperature.
6	Communication port	Connections for cable to multiple switch, if desired with filter indicator.
7	Metric swivel	Swivel for feeding through power cable 230 Volt
8	OpenTherm connection	Two-pole screw connector for OpenTherm control
9	Input fan	Feeds fresh air into the dwelling.
10	Basic pcb	Contains the control electronics for the basic functions.
11	Output fan	Discharges fouled air from the dwelling to the atmosphere.
12	Computer port	Computer connection for service purposes.
13	Control panel	Interface between user and control electronics.
14	Connection condensate discharge	Connection condensate discharge.

4.1 Outline description

An appliance from the Renovent HR series is a highly advanced heat recovery unit, specially designed for minimum energy consumption and maximum comfort. This is achieved with the aid of various electronic control systems. A control unit with microprocessor controls and monitors the safe operation of the appliance and ensures that the air quantities remain constant

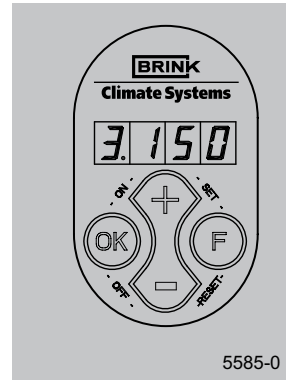
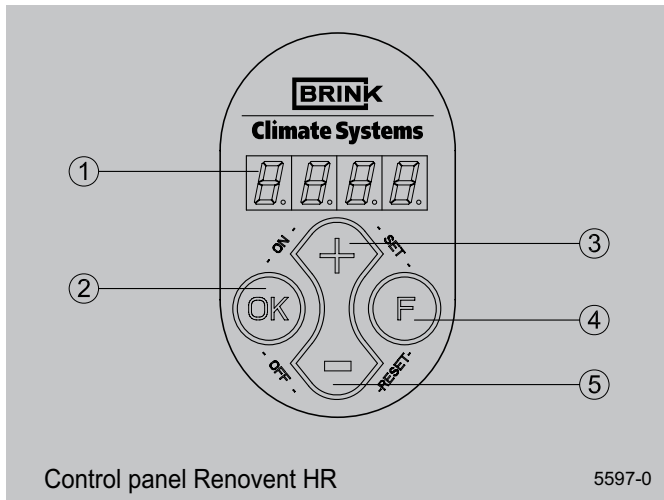
and at the preset values.

The Renovent HR comes with a control panel with display, enabling stepless adjustment of the volume without having to open the appliance. Moreover, information regarding the operation can be read out from the outside of the appliance.

4.2 LED display system and operating panel

The Renovent HR appliance is fitted with a control panel. It can be used to retrieve and modify the settings in the control unit program.

The control panel has four keys and a display.



Example:
The display now shows that the appliance is running at ventilation setting 3 at a flow rate of 150 m³/h.

The 4 keys have the following functions:

- F Function key / switching on and off parameter menu
- + Next parameter / increase value
- - Previous parameter / decrease value
- OK Switching on and off settings menu / manual fault reset / filter indication reset

Other commands can be entered with key combinations.

- F & + (set), confirm parameter value
- F & - (reset), reset parameter value to factory setting
- OK & + (ON), switch on appliance
- OK & - (OFF), switch off appliance

Everywhere in this booklet it applies that when a key has to be pressed, the key in question is printed in quotation marks and in bold.

Example: - press key "**OK**"

- 1 = Display
- 2 = Key "OK" (confirm, ready, filter indication reset)
- 3 = Key increase parameter
- 4 = Function key
- 5 = Key reduce parameter

On the left the display indicates the ventilation setting or the parameter type. On the right it shows the readout value, for instance the preset volume.

4.3 Frost protection

The frost protection system ensures that the secondary side of the heat exchanger (outlet side) does not freeze up by introducing an imbalance between the inlet and outlet air flows,

dependent on the outside air temperature and the pressure across the heat exchanger.

4.4 Filter indication

The appliance is fitted with a filter indication system. It indicates on the display when the filter is fouled.

For more detailed information refer to sections 7.2 and 8.1



5.1 Installation general

The appliance installation procedure can be summarised as follows:

1. Placing the appliance (§5.2)
2. Connecting the ducts (§5.3)
3. Connecting the condensate discharge (§5.4)
4. Electric connection:
Connecting the multiple switch and, if necessary, the mains power and the OpenTherm connector (§5.5)

The Renovent HR must be installed in accordance with:

- Quality requirements ventilation systems dwellings.
- Quality requirements balanced ventilation in dwellings.
- The capacity calculations in accordance with the Building Decree.
- The regulations for ventilation of dwellings and residential buildings.
- The safety regulations for low-voltage installations,
- The regulations for connection to interior sewers in dwellings and residential buildings,
- Any additional regulations of the local utilities.
- The installation instructions for the Renovent HR.

5.2 Placing the appliance

An appliance from the Renovent HR series can directly be mounted to the wall using the suspension strips supplied for that purpose. For a vibration-free result the appliance must be mounted to a solid wall with a minimum mass of 200 kg/m². A gypsum block or metal stud wall does not suffice! Additional measures such as double panelling or extra studs are required.

In addition, the following aspects must be taken into account.

- The appliance must be placed level.
- The installation room must be such that a good condensate discharge with air trap and pitch for condensate can be made.
- The installation room must be frost-free.
- Make sure there is a free space of at least 70 cm at the front of the appliance and a free headroom of 1.8 m for cleaning the filters and carrying out maintenance..

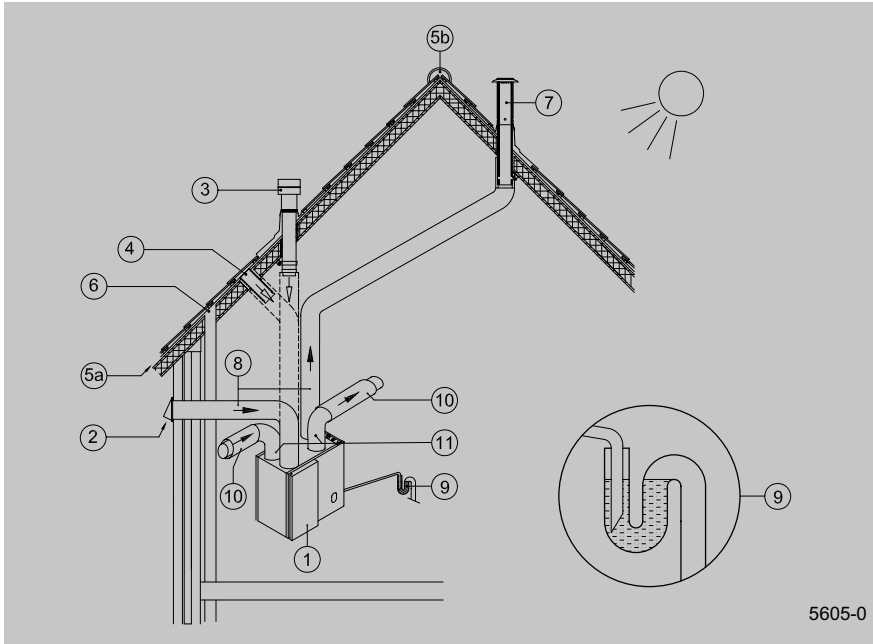
5.3 Connecting ducts

The air outlet duct does not have to be fitted with a control valve. The appliance itself controls the air quantities.

To prevent condensation on the outside of the outside air input duct and the air output duct from the Renovent HR, these ducts must externally be provided with a vapour barrier as far as the appliance. If Brink synthetic (EPE) pipe is used here, additional insulation is not necessary.

Use Brink thermally insulated hoses for deviating diameters. For optimum fan noise damping, it is recommended to use Brink

acoustic hoses with a length of 1 m between the appliance and the ducts from and to the dwelling. Pay attention to crosstalk and installation noise, also for incorporated ducts. Design the duct with separate branches to the dampers to prevent crosstalk. If necessary, the input ducts must be insulated, for instance when they are installed outside the insulated envelope. Preferably use Brink incorporated ducts. These ducts have been developed with a view to a low duct resistance.



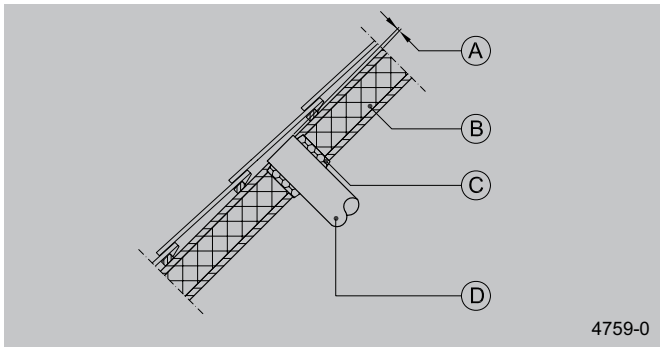
- 1 = Renovent HR (place level)
- 2 = Recommended inlet air suction
- 3 = Input air suction through the roof area
- 4 = Input air suction under the tiles
- 5a = Free suction bottom roof area
- 5b = Free suction top roof area
- 6 = Sewer relief
- 7 = Recommended location ventilation air output; use Brink insulated sleeve.
- 8 = Brink synthetic high efficiency heat recovery pipe
- 9 = Condensate discharge
- 10 = Acoustic hose
- 11 = Ducts from and to dwelling

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- Arrange the exterior air supply from the shadowed side of the dwelling, for instance from the wall or overhang. If the outdoor air is sucked in from under the tiles, it must be ensured that no condensation develops in the roof boarding and no water can run in. Ventilation air can be sucked in from under the tiles if air can access freely at the top and the bottom of the roof area and the sewage vent stack does not end under the tiles.

- The maximum permissible resistance in the duct system is 150 Pa at the maximum ventilation capacity. If the resistance of the duct system is higher, the maximum ventilation capacity will be lower.
- The location of the mechanical ventilation output and the sewer stack vent relative to the input must be chosen to prevent nuisance.
- Choose the location of the input valves to prevent fouling and draught. We recommend to use the Brink weak-inductive input dampers.

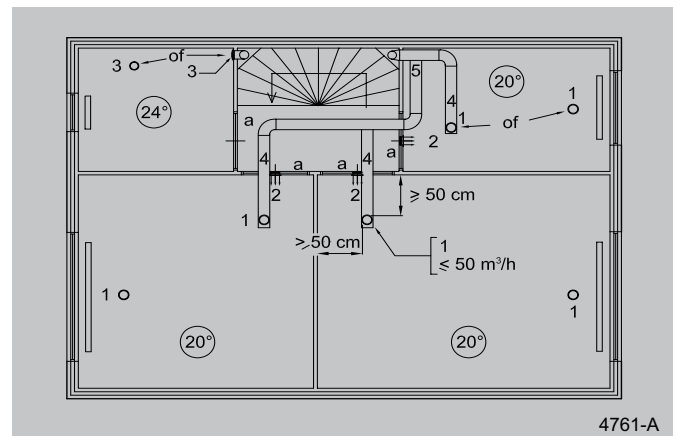
Install sufficient overflow openings, door gap 2 cm.



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- A = Spacing 10 mm above roof deck
- B = Roof insulation
- C = Seal with foam
- D = Pipe for make-up air to be carefully insulated and provided with vapour barrier

- Feed the output duct through the roof boarding in such a manner that no condensation develops in the roof boarding.
- Install the output duct between the Renovent HR and the roof sleeve in such a manner that surface condensation is prevented.
- Always use an insulated ventilation roof sleeve.



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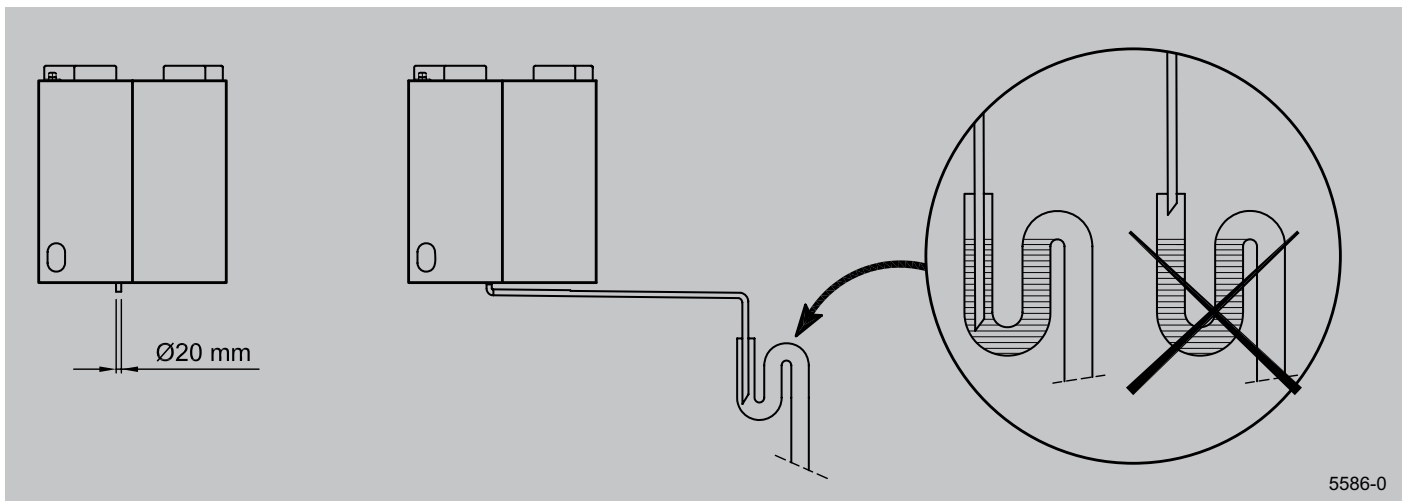
- 1 = Brink low-inductive supply valves
- 2 = Input from wall
- 3 = Suction valve in ceiling or high in wall
- 4 = Prevent crosstalk
- 5 = Preferably Brink incorporated ducts
- a = Gap under the door 2 cm.

5.4 Connecting the condensate discharge

The condensate discharge line for the Brink Renovent HR is fed through the lower panel. The condensate must be discharged through a drainpipe. The drain must discharge under the water level in the U-trap. The condensate discharge comes separately with the appliance and the installer must screw it into the underside of the appliance. This condensate discharge connection has an external connecting diameter of 20 mm.

The condensate discharge line can be glued to it, if necessary using a square bend. The installer can glue the condensate discharge in the desired position in the lower part of the appliance.

See the drawing below for an example of a connection to a drainpipe. (Pour water into the drip tray to create an air trap).



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5.5 Electric connections

The appliance comes with a 230 V mains plug

5.5.1 Connecting the multiple switch

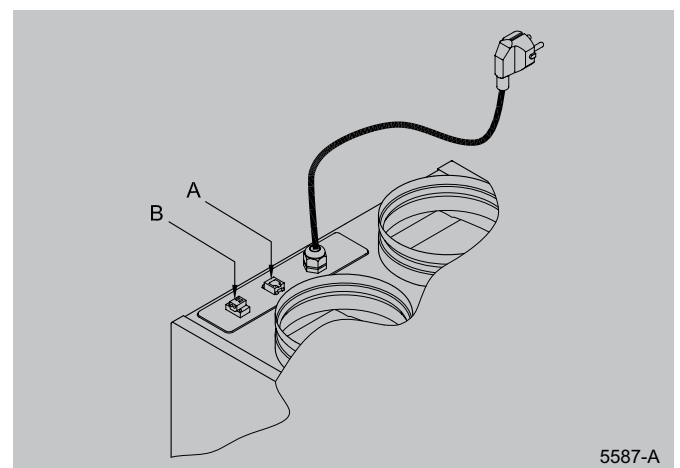
The multiple switch (not supplied with the appliance) is connected to the modular connector type RJ12 that is placed at the top of the appliance. (See figure A opposite)

Dependent on the type of multiple switch that is used, a plug RJ11 or RJ12 can be connected to it.

- Application of a 3-way switch with filter indication in all cases requires an RJ12 plug in combination with a 6-core modular cable.
- Application of a 3-way switch without filter indication in all cases requires an RJ11 plug in combination with a 4-core modular cable.

Refer to the next page for examples of wiring diagrams.

Connector B is a 2-pole screw connector which is used in combination with demand-controlled ventilation.

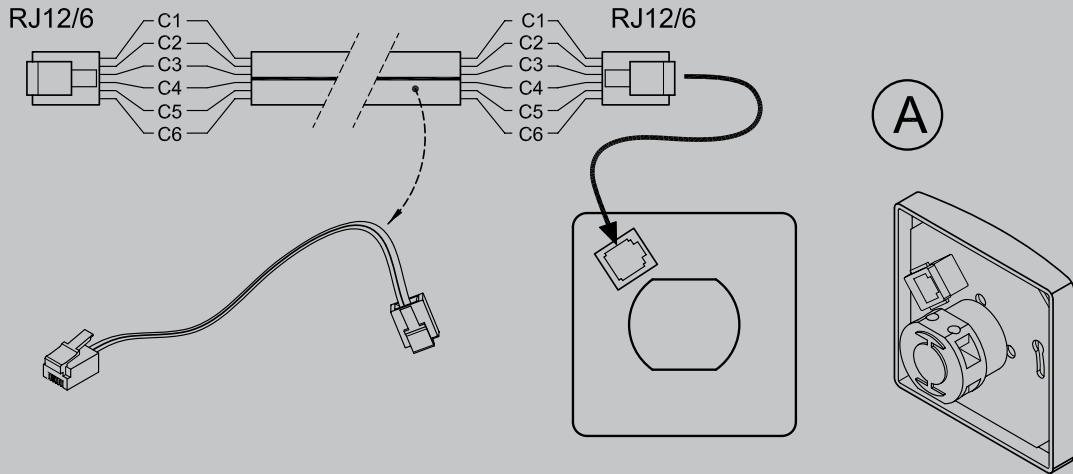


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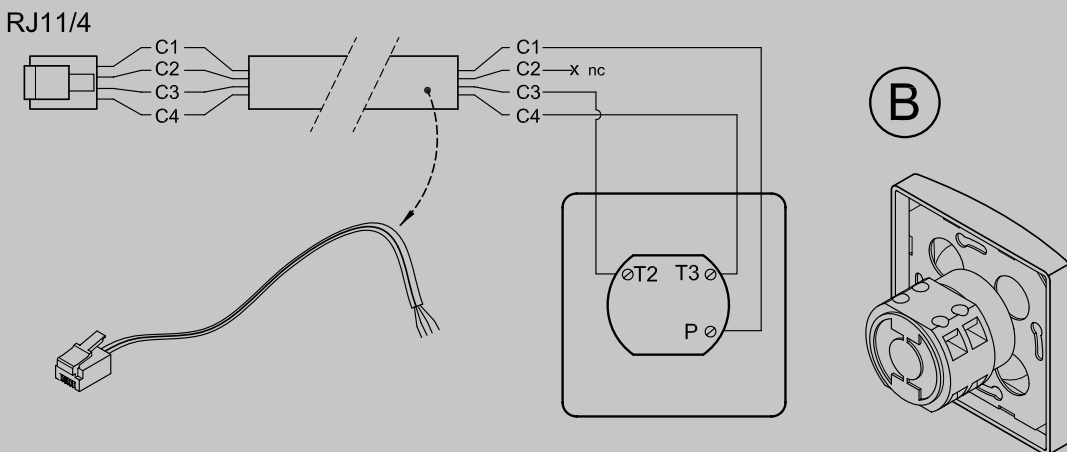
A = modular connector
B = OpenTherm connector

The figure below shows 2 options for connecting a 3-way switch, viz.:

- A. 3-way switch with filter indication; switch with modular connector (6-core cable, two modular connectors RJ12/6),
- B. 3-way switch without filter indication; switch with screw connector (4-core cable, one modular connector RJ11/4)



Wiring diagram 3-way switch with filter indication with modular connector
 (Note that for both modular connectors the “tab” must be mounted on the side of the mark on the modular cable)



Wiring diagram 3-way switch without filter indication

E2075-E

The colours of the wires C1 to C6 respectively, indicated in the diagrams above may vary, that depends on the type of modular cable used.

5.5.2 Connecting the OpenTherm connector

In combination with demand-controlled ventilation, the appliance can also be controlled with the OpenTherm protocol instead of a low-voltage switch. OpenTherm allows continuous adjustment of the rpm for the flow rate. A 2-core low-voltage

cable with a core diameter of at least 0.8 mm² must be used as connecting cable. Interchanging the cable connection to the 2-pole screw connector does not influence the appliance's performance.

5.5.3 Connecting the power plug

The appliance can be connected to an easily accessible, earthed wall socket with the plug that is mounted to the appliance. The electric installation must comply with the requirements of your power company.

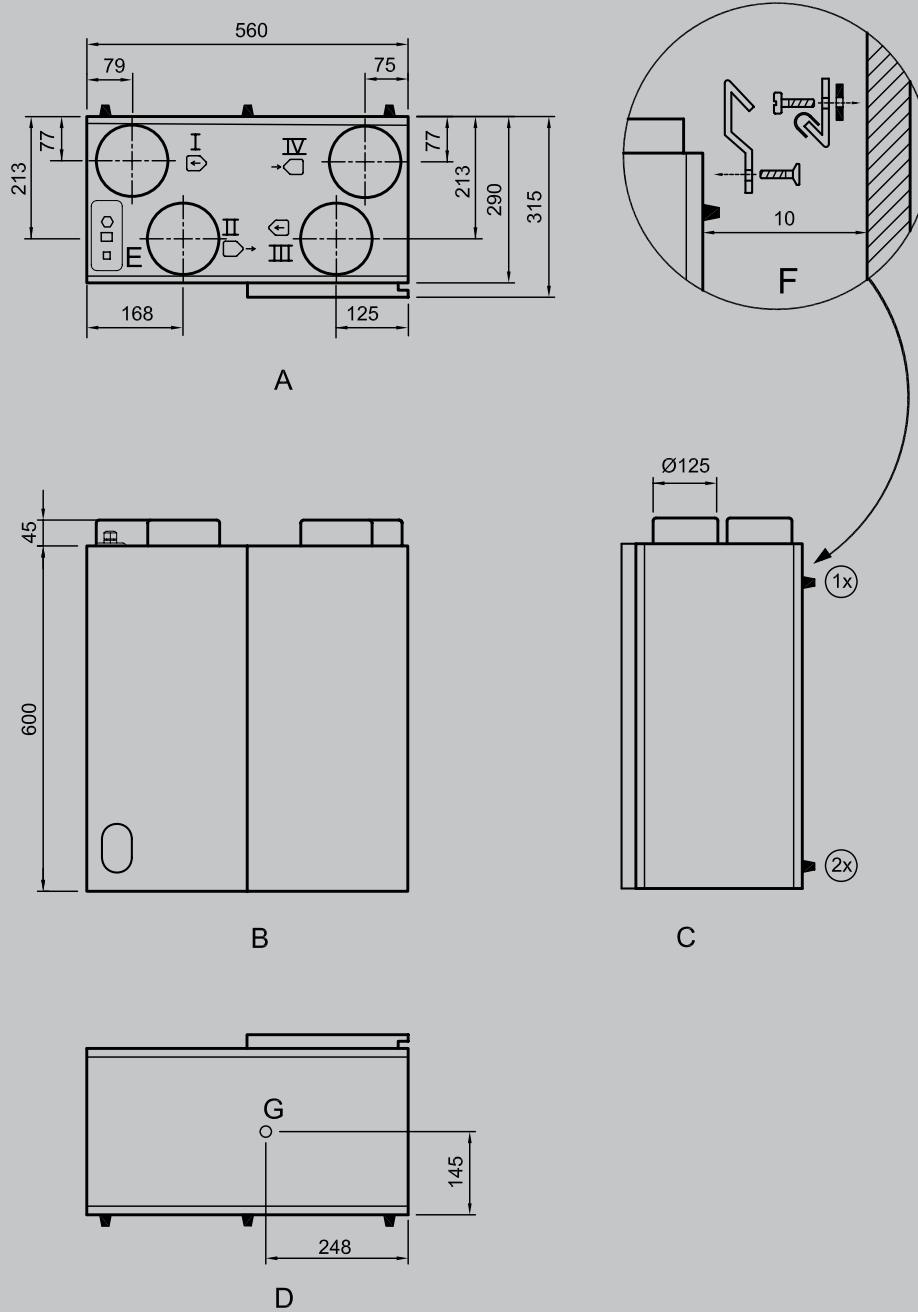


Warning

The fans and control prints carry a high voltage. Always take the voltage from the appliance by pulling the mains plug when working on the appliance.

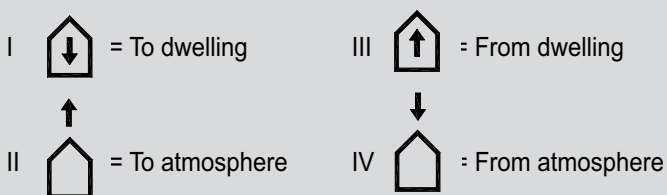
5.6 Connections and dimensions Renovent HR Small

5.6.1 Connections and dimensions Renovent HR Small right-hand version



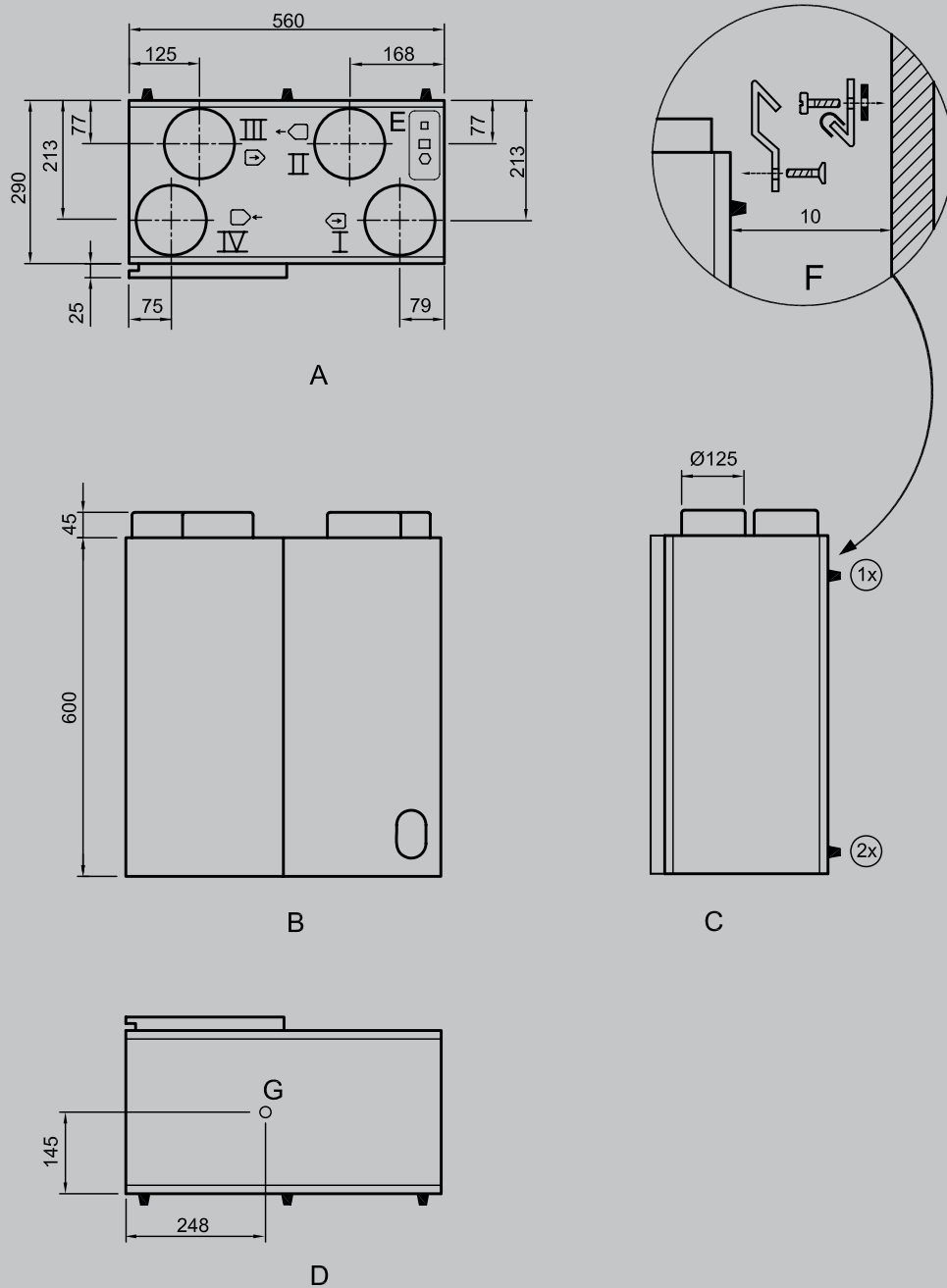
Renovent HR Small right-hand 4/0

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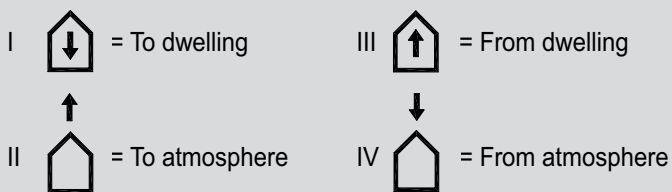
- A = Top view
- B = Front view
- C = Side view
- D = Bottom view
- E = Electric connections
- F = Detail wall mounting (make sure to correctly place the rubber strip, washers and caps)
- G = Connection condensate discharge

5.6.2 Connections and dimensions Renovent HR Small left-hand version



Renovent HR Small left-hand 4/0

5582-0



- A= Top view
- B= Front view
- C= Side view
- D= Bottom view
- E= Electric connections
- F= Detail wall mounting (make sure to correctly place the rubber strip, washers and caps)
- G= Connection condensate discharge

6.1 Switching the appliance on and off

There are two methods to switch the appliance on or off.

1. Through software; the appliance remains connected to the mains, when switching off by software only the fans are stopped.
2. Removing the mains plug or inserting it into the wall socket; after switching off, the appliance no longer carries a voltage.

Switching on

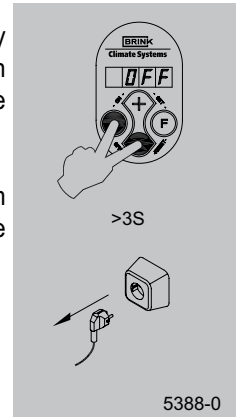
- Mains power: connect the mains plug to the electric installation
- Through software; simultaneously press keys "OK" and "+" to switch on the appliance through software (Only possible after the appliance has been switched off through software.)

The first digit on the display indicates the position of the 3-way switch.



Switching off

- Through software; simultaneously press keys "OK" and "-" to switch on the appliance through software. The text OFF appears on the display.
- Mains power: pull the mains plug from the mains to take the voltage from the appliance.



NOTE!
When working on the appliance, always take the voltage from the appliance by first switching it off through software and subsequently pulling the mains plug.

6.2 Setting the air quantity

The air quantities of the Renovent HR Small for settings 1, 2 and 3 are factory-set at 75 and 100 and 150 m³/h respectively. The performance of the Renovent depends on the quality of the duct system as well as on the filter resistance.

Important:

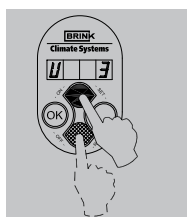
Setting 1: must always be lower than setting 2.
Setting 2: must always be lower than setting 3;
Setting 3: adjustable between 50 and 180/400 m³/h;
If these conditions are not complied with, the air quantity of the higher setting will automatically be adjusted.

The air quantities can be modified as follows (as an example here the air quantity for setting 3 will be changed from 150 to 180 m³/h):

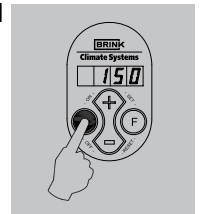
1. Press key "F" during 3 seconds to call up the settings menu.



2. Use key "+" to select the desired parameter (U1 = setting 1; U2 = setting 2; U3 = setting 3; U4, U5 and U8 do not apply for a Renovent Small).



3. Press key "OK" during 1 second to read the selected parameter value.



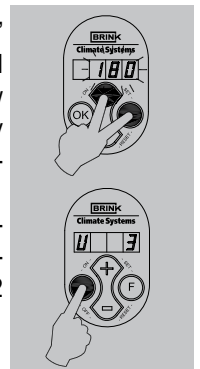
4. The keys "+" or "-" can be used to modify the selected parameter value.



5. The modified setting can now be:

- A saved and stored;**
- B be removed;**
- C put back to factory setting.**

- A** Simultaneously press keys "F" and "+" (first F then +) to save the modified setting; the modified value will now blink 3x as confirmation. The display readout will remain at this modified value.



Press key "OK" to go back to the settings menu; if required, several settings can now be modified (see item 2 to 5 inclusive 5).
Now continue with item 6.

B Press key “OK” to go back to the settings menu without saving the modified setting; the previous setting will be maintained.

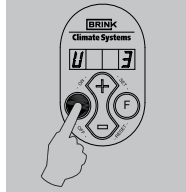
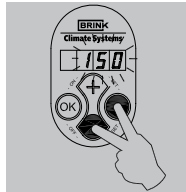
If required, several settings can now be modified (see item 2 to 5 inclusive). Now continue with item 6.



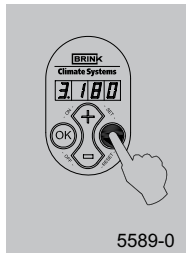
C Simultaneously press keys “F” and “-” to go back to the factory setting. The factory setting will blink 3x as confirmation. The modified setting is removed. The factory setting remains on the display.

Press key “OK” to go back to the settings menu; if required, several settings can now be modified (see item 2 to 5 inclusive).

Now continue with item 6.



6. Press key “F” during 1 second to leave the settings menu.



6.3 Installer settings

Various other settings of the control unit can also be modified. Because some settings have an influence on the correct operation of the appliance, these have been placed in a separate installer parameters set. Consequently, these parameters can only be modified by the installer.

How to modify these is explained in section 6.6.2.

11. Fixed imbalance. This can be used to keep the pressure in the dwelling at a higher (+) or lower (-) level than the atmospheric pressure.
 Positive imbalance (+): the output fan ventilates the set value in [m³/h] less than the input fan.
 Negative imbalance (-): the input fan ventilates the set value in [m³/h] less than the output fan.

12. No contact step 11
 This setting determines the ventilation position when no switch contact is connected to position; the appliance will start running at the ventilation position set here.

13. Not applicable.

14. Switch line 1 step.
 Determines what position of the multiple switch matches line 1 on the control unit.

15. Switch line 2 step.
 Determines what position of the multiple switch matches line 2 on the control unit.

16. Switch line 3 step.
 Determines what position of the multiple switch matches line 3 on the control unit.

17. Imbalance permissible?
 This determines whether for instance the frost protection may affect the imbalance./

18/ 19/ 111/ 112 & 114
 These do not apply for Renovent HR Small.

110. Constant pressure switched off
 Here it can be set whether in all cases the fans are running at constant flow or that they start running at constant pressure when a certain resistance is exceeded

113 Filter message
 Sets whether the filter message is shown on the display and the led of the 3-way switch

115 Heat recovery configuration
 Option setting when heat recovery is used in combination with central heating; only heat recovery or the combination central heating + heat recovery.
 Only heat recovery = 0;
 Central heating + heat recovery = 1

116 Fan setting for central heating + heat recovery
 Fan(s) off for central heating + heat recovery (only if 115 = 1).

Setting I16	Situation fan(s)
1	Output fan off
2	Input fan off
3	Both fans off

117 Repeat time in hours for switching off the fan(s) selected under I16 for central heating + heat recovery.

118 Maximum switch-off time in seconds for the fan(s) selected under I16 for central heating + heat recovery.

119 Minimum switch-off time in seconds for the fan(s) selected under I16 after switching on 230V for central heating + heat recovery.

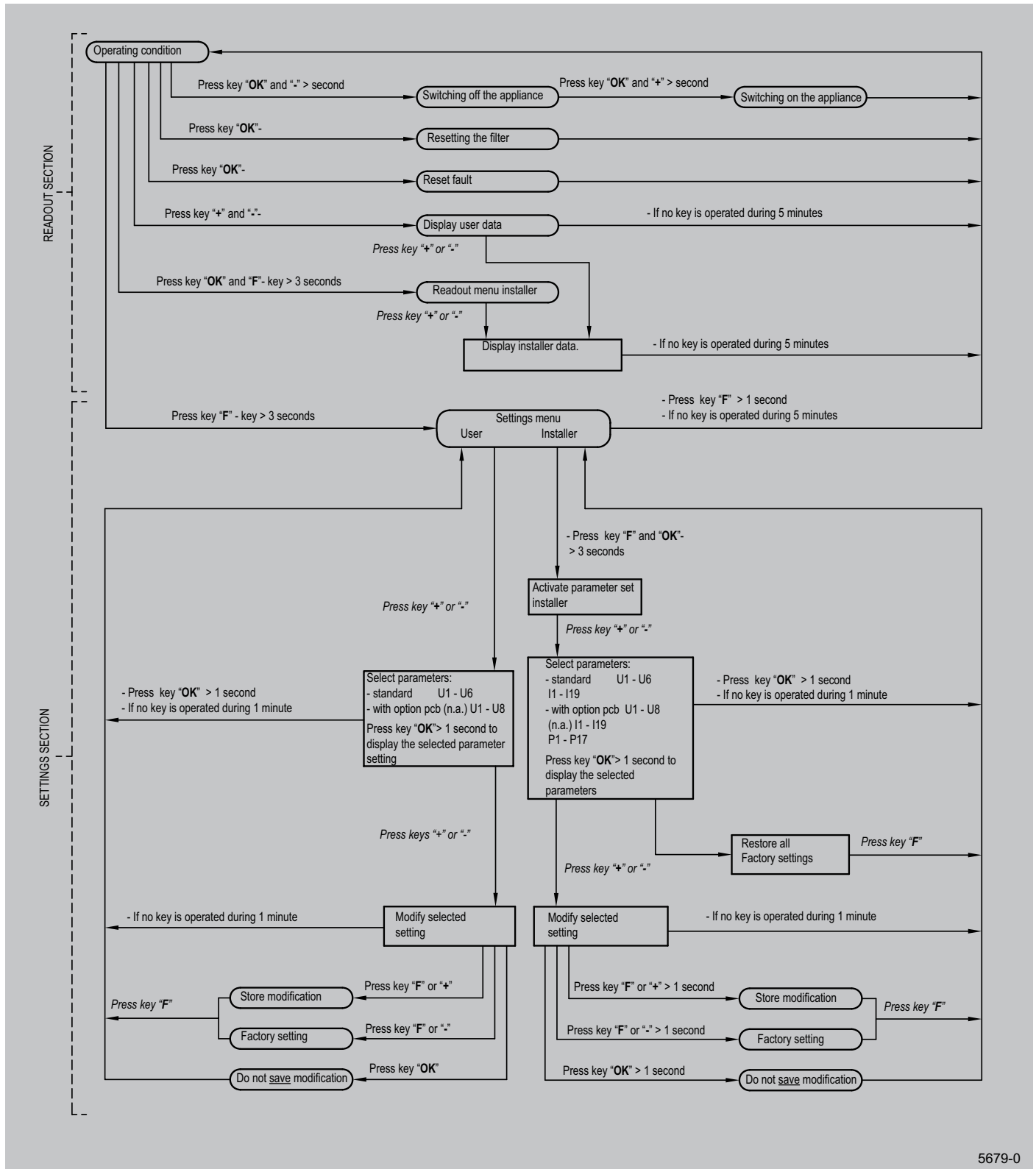
Refer to the table in section 6.6.3 for the factory setting.

6.4 Menu structure display

The menu structure is divided into a readout section and a settings section.
 The number of visible parameters depends on the parameter set. The user has the parameter set "user"; a more compre-

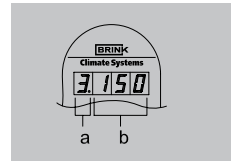
hensive readout programme is available for the installer. It can be activated -0 and deactivated - by simultaneously pressing keys "F" and "OK" during 1 second.

6.4.1 Menu structure diagram



6.5 Readouts settings

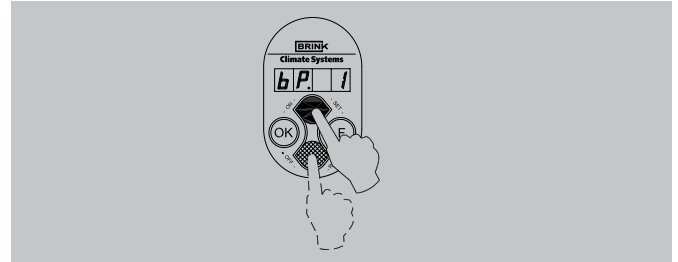
As standard the current position of the multiple switch and the connected output volume are shown (Operational mode). On the left the position of the multiple switch (position 1, 2 or 3) is shown and to the right of the dot the volume of the output fan is shown.



a = Position multiple switch
b = Volume output fan

6.5.1 Reading out settings by the user

The user can read out other relevant data using keys "+" and "-" (step 0 to step 6). Step numbers are not shown on the display! See the table below for user readout; when no key is operated during 5 minutes, the display automatically returns to operational mode. Key "+" can be used to scroll through the menu; key "-" always takes you back to step 0. Modifying settings is not possible in this situation.



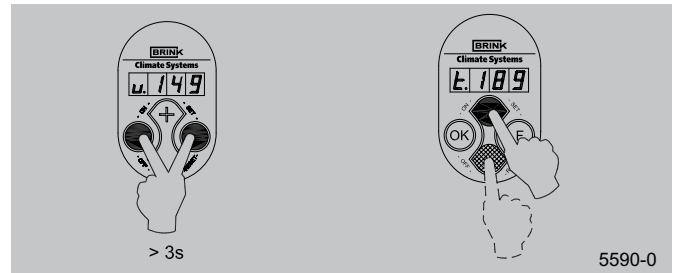
6.5.2 Reading out settings by the installer

A more comprehensive readout programme is available for the installer. Pressing keys "F" and " during 3 seconds. "OK" during 3 seconds calls up all installer data. In this menu the values cannot be modified.

Activating this menu always calls up step no. 7 (see table below); using key "+" the further installer and user data can be displayed and key "-" takes you back to step no. 1.

After 5 minutes this menu automatically disappears and the display will show the operational situation again.

In the event of an error, the error code appears on the display; see also chapter 7.



User

installer

Step number	Readout (example)	Description	Remark
No.1	2,100	Current position/outlet volume [m ³ /h]	
No.2	C 0	Message code operating condition	C0 = No message C3 = The input fan runs in constant pressure mode C6 = The output fan runs in constant pressure mode C7 = Correction maximum air flow
No.3	bP.1	n.a.	
No.4	tP.9	Temperature from atmosphere [°C]	At negative temperature (below 0°C) then readout tP.9.
No.5	tS.21	Temperature from indoors [°C]	
No.6	In.0	n.a.	
No.7	u.156	Current input volume [m ³ /h]	
No.8	o.156	Current output volume [m ³ /h]	
No.9	t.180	Current pressure input duct [Pa]	
No.10	A.180	Current pressure output duct [Pa]	
No.11	u0.0	Status frost protection	0 = none, 1 - 4 = imbalance, 5 = input fan off
No.12	St.9	Temperature to atmosphere [°C] (Sensor not connected as standard)	If not connected St.75
No.13	Pt.18	Temperature to indoors [°C] (Sensor not connected as standard)	If not connected Pt.75

6.6 Modifying settings

A number of settings can be modified by both user and installer to adapt the appliance to the specific situation.

6.6.1 Modifying settings by the user

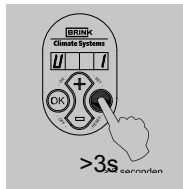
The user can modify 3 settings, that is U1, U2 and U3 (see table section 6.6.3); U4, U5 and U8 do not apply for a Renovent HR Small; how to modify these settings is described in detail in

section 6.2 and is also shown in the diagram menu structure of section 6.4.1

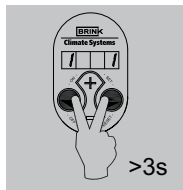
6.6.2 Modifying settings by the installer

The installer can modify more settings. When parameters are set incorrectly, the appliance can no longer perform up to standard, so make sure no parameters are modified incorrectly. Also refer to the diagram menu structure section 6.4.1 and table 6.4.3. The following actions are required to modify the settings from operational mode: (By way of example parameter I7 is changed from 1 to 0.)

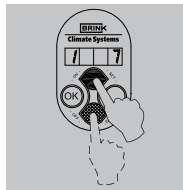
- 1 Press key "F" during 3 seconds to activate the settings menu.



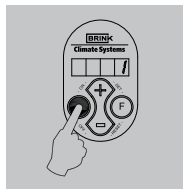
- 2 Press key "F" and "OK" during 3 seconds to activate the comprehensive installer parameters set.



- 3 The desired parameter can be found with the aid of keys "+" and "-" during 3 seconds."



- 4 Pressing key "OK" calls up this setting.



- 5 Use keys "+" and "-" during 3 seconds." to modify the value.



- 6 The modified setting can now be:

- A saved and stored**
- B removed;**
- C restored to factory setting.**

- A Simultaneously press keys "F" and "+" (first press "F" and then "+") save the modified setting; this value now blinks 3x to confirm that it has been stored; the value remains on the display.



Press key "OK" to return to the settings menu; if required, other settings can now be modified (step 2 - step 5)
Continue with step 7.



- B Press key "OK" to go back to the settings menu without saving the modified setting; the previous setting will be maintained.
Continue with step 7.



- C Simultaneously press keys "F" and "-" during 3 seconds." to go back to the factory setting. The factory setting will blink 3 times and remain at that value. The modified setting has now been removed.
Press key "OK" to return to the settings menu.
Continue with step 7.



- 7 Press key "F" during 1 second to leave the settings menu



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6.6.3 Adjustable settings table

De user-adjustable parameters are indicated with "U"; and the installer-adjustable parameters are indicated with "I" (basic pcb) .

	Adjustable parameter	Description	Setting range	Factory setting
User	U 1	Volume step 1	50..(max-10)	75
	U 2	Volume step 2	50..(max-5)	100
	U 3	Volume step 3	50-180	150
	U 4	n.a.	n.a.	10
	U 5	n.a.	n.a.	22
	U 8	n.a.	n.a.	0
installer	I 1	Fixed imbalance	-100..+100	0
	I 2	No contact step	0,1,2,3	1
	I 3	Not applicable	2,3	2
	I 4	Switch line 1 step	0,1,2,3	1
	I 5	Switch line 2 step	0,1,2,3	2
	I 6	Switch line 3 step	0,1,2,3	3
	I 7	Imbalance permissible	0.1	1 (Yes)
	I 8	n.a.	n.a.	0
	I 9	n.a.	n.a.	0
	I10	Constant pressure switched off	0.1	0 (no)
	I11	n.a.	0, 1, 2, 3	0
	I12	n.a.	-30 .. + 30	0
	I13	Filter message on/off	1.0	1 (on)
I14	n.a.	1.0	0	
I15	Heat recovery configuration	0.1	0 (heat recovery)	
I16	Fan off	1,2,3	1 (Output fan)	
I17	Repeat time	1 .. 24	24 (hours)	
I18	Minimum switch-off time fan(s)	1 .. 240	60 (seconds)	
I19	Minimum switch-off time fan(s) after switching on 230V.	1 .. 240	1 (second)	

For a description of these settings refer to section 6.2 for U1, U2 and U3 and section 6.3 for I1 - I19



7.1 Trouble shooting

If the control system detects a faults, this is shown on the display by means of a number, preceded by a letter **F** (Failure). If a 3-way switch with filter indication is mounted, the LED on the 3-way switch will also start blinking.

The examples shown here is the fault **F9**; This means something is wrong with the wiring to the atmospheric temperature sensor or with the sensor itself.



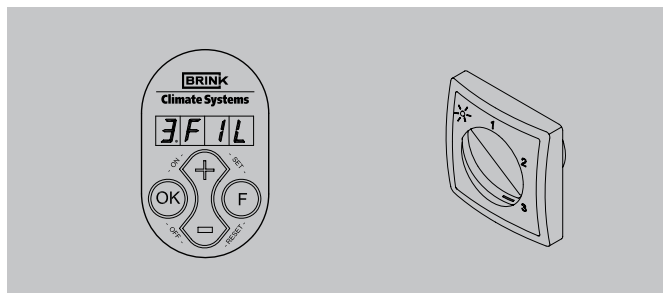
The appliance remains in this fault mode until the problem in question has been solved. Then the appliance will reset itself (auto reset) and the display will once more show operational mode.

The table to section 7.3 gives an overview of the faults, possible causes and the actions to be undertaken.

7.2 Filter indication

If the display shows the message **"FIL"** then this means the filters have to be cleaned. If a multiple switch with filter indication has been mounted (= option), then simultaneously with this message on the display, the LED on the switch will light up.

After the filters have been cleaned or replaced, the key **"OK"** must be pressed to reset the filter indication. The text **"FIL"** will blink for a moment and then the display will return to operational mode.



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7.3 Display codes

Table fault codes

Fault code	Cause	Action user	Action installer
F2	The inlet fan has stopped.	• Contact the installer.	• Replace the inlet fan; it is defective
F5	The outlet fan has stopped.	• Contact the installer.	• Replace the outlet fan; it is defective
F9	The temperature sensor that measures the temperature of the input air is defective.	• Contact the installer.	<ul style="list-style-type: none"> • Check the wiring from the sensor to the basic pcb • Check the sensor connection to the wiring. • Replace the sensor.
F10	The temperature sensor that measures the temperature of the output air is defective.	• Contact the installer.	<ul style="list-style-type: none"> • Check the wiring from the sensor to the basic pcb. • Check the sensor connection to the wiring. • Replace the sensor.

Note!

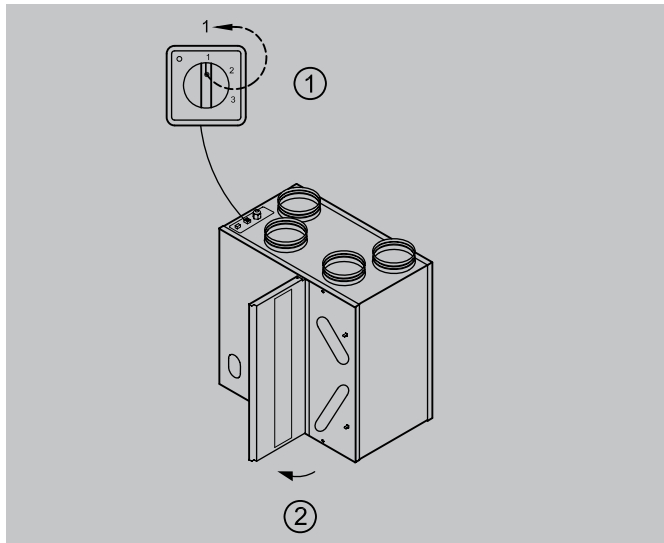
If setting 2 does not work with a mechanical rpm control device such as a multiple switch, the RJ connector has been connected the wrong way round. Cut off one of the RJ connectors

to the rpm control and mount a new connector the other way round.

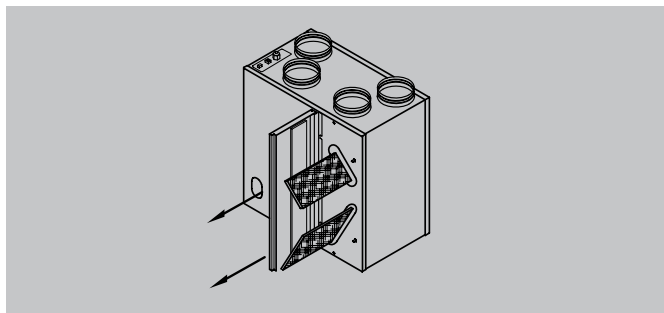
8.1 User maintenance

User maintenance is limited to periodically cleaning or replacing the filters. The filter only has to be cleaned when that is indicated on the display (it shows the text "FIL") or, if a multiple switch with filter indication is mounted; when the red LED at the switch lights up. The filters must be replaced every year. It is not permitted to use the appliance without filters.

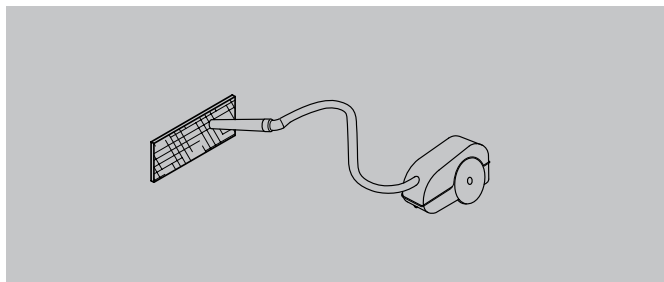
- 1 Put the 3-way switch at setting 1 to let the appliance's fans run at low speed. Open the filter door.



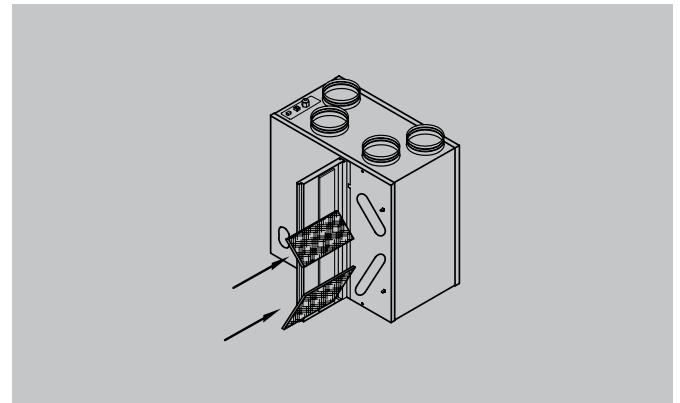
- 2 Remove the filters. Remember in what way the filters are taken out.



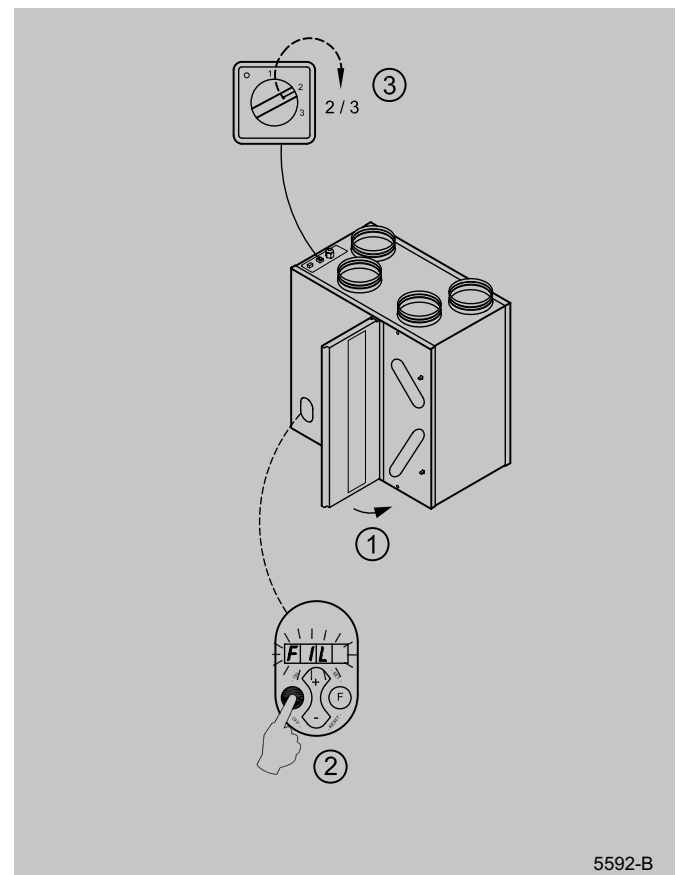
- 3 Use a vacuum cleaner to clean the filters.



- 4 Place the filters back the same way as they were taken out.



- 5 Close the filter door. After cleaning the filter or placing a new filter, the filter indication must be reset by pressing key "OK" during 1 second. The display will blink for a moment to confirm that the filter has been reset. The appliance will return to operational mode. Put the 3-way switch back to the original setting.

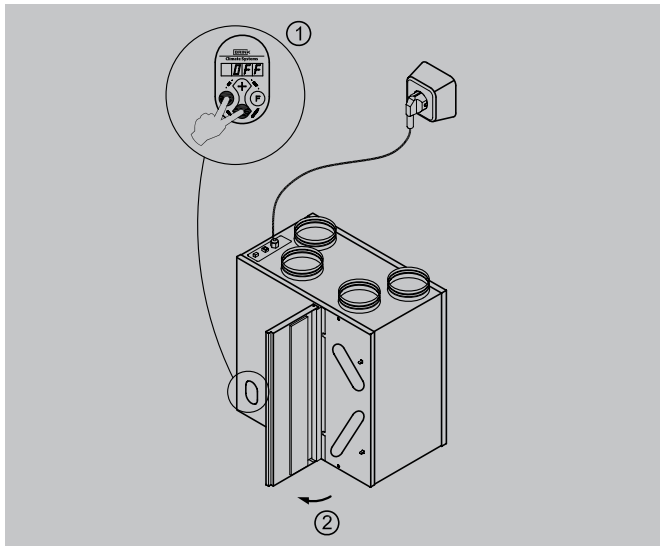


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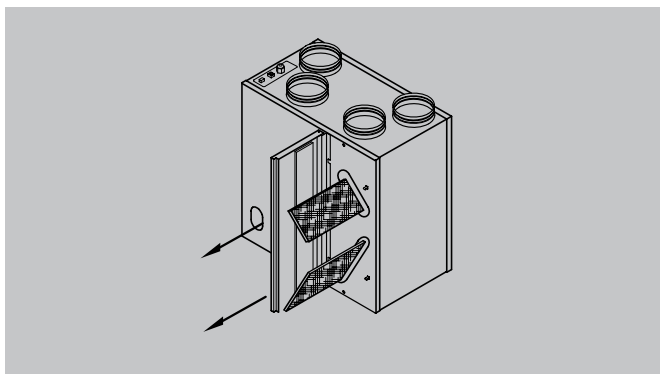
8.2 Installer maintenance

Installer maintenance includes cleaning the heat exchanger and fans. Dependent on the conditions, this must be done about once every three years.

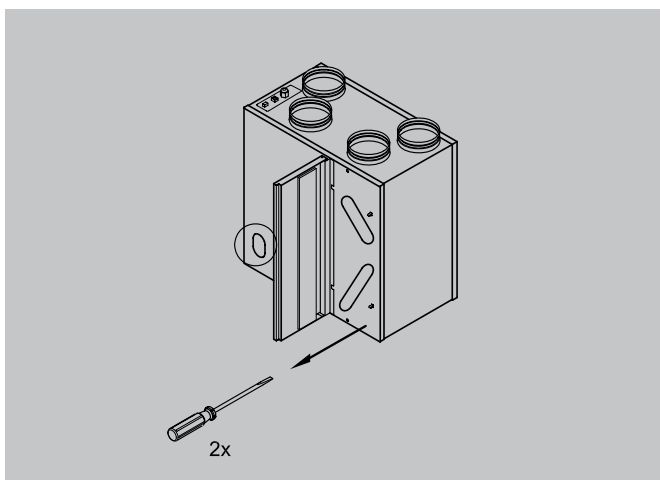
- 1 Switch off the appliance on the control panel (simultaneously press keys "OK" and "-" during 3 seconds) and switch off the power supply.
Open the filter door.



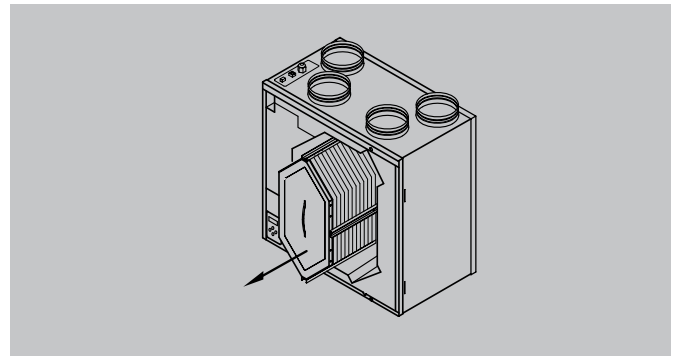
- 2 Remove the filters.



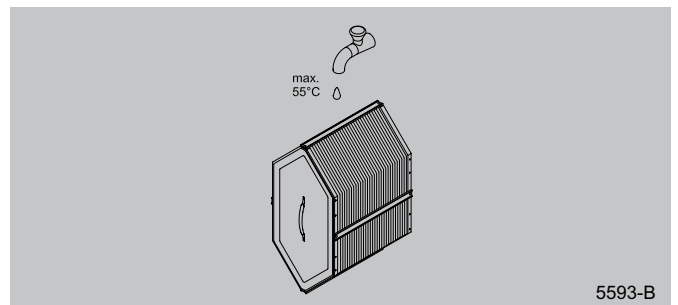
- 3 Remove the front cover.



- 4 Remove the heat exchanger. Be careful not to damage the foam parts in the appliance.

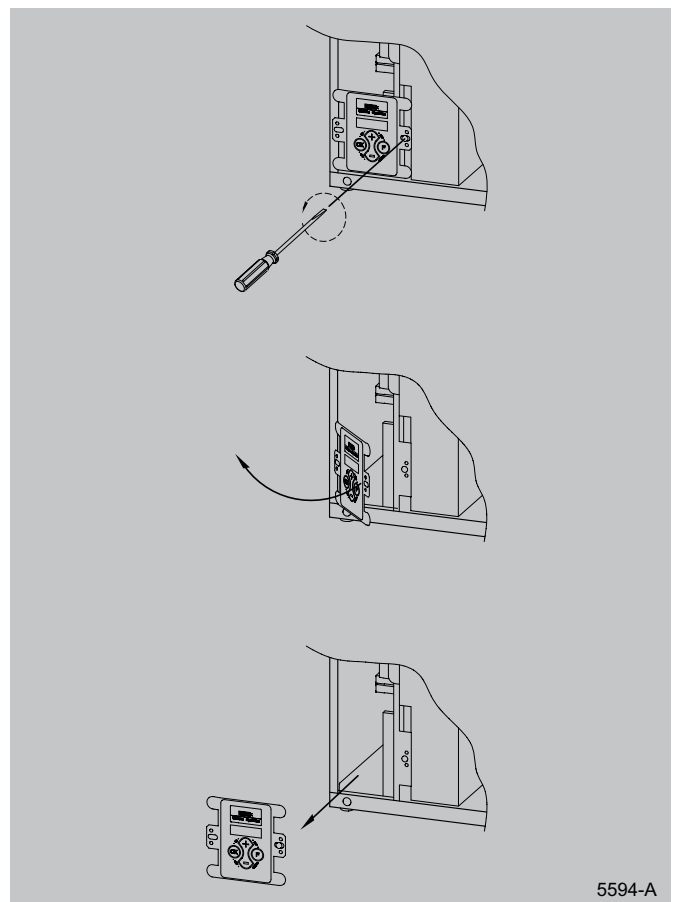


- 5 Clean the heat exchanger using hot water (55°C max.) and a regular detergent. Rinse the exchanger with hot water.



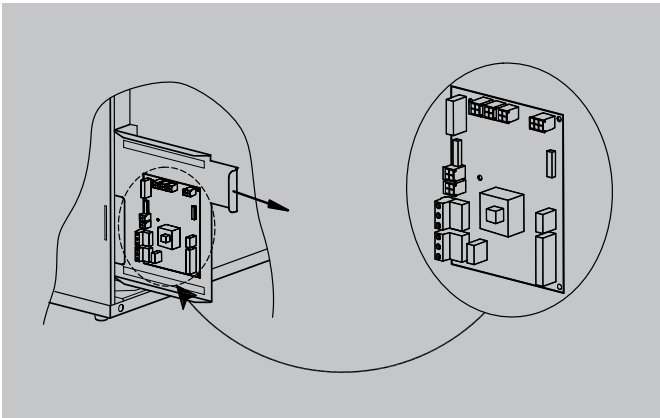
5593-B

- 6 Remove the control panel.

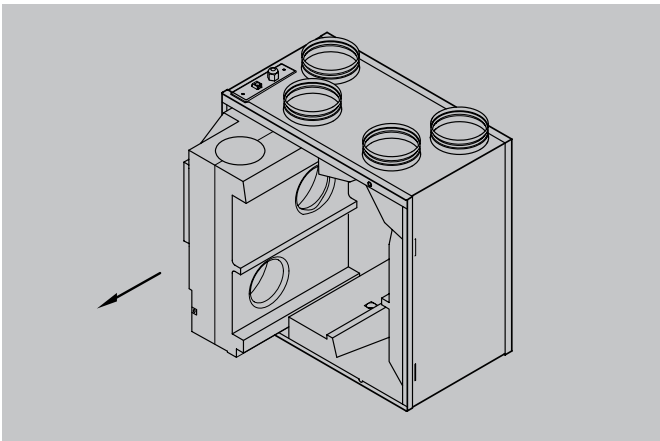


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- 7 Pull out the slide on which the basic pcb is mounted. Pull all connectors from the basic pcb that are connected with the swivel plate. Take the earth wire from the housing.

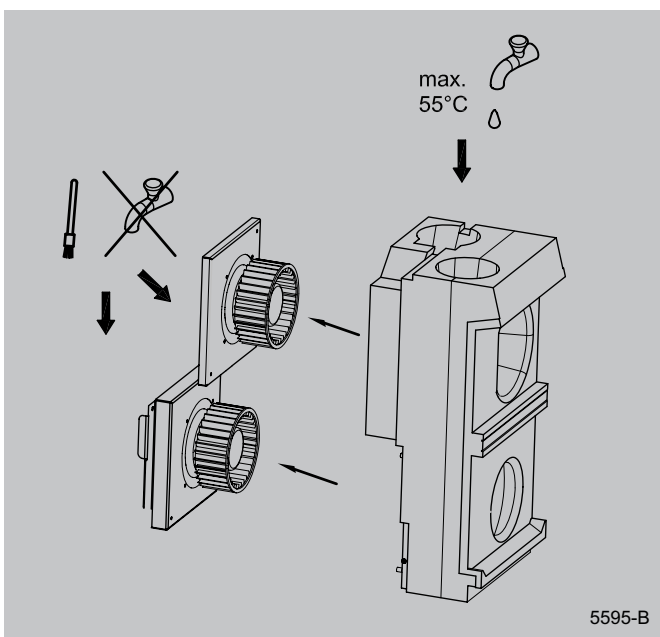


- 8 Remove the fan unit.



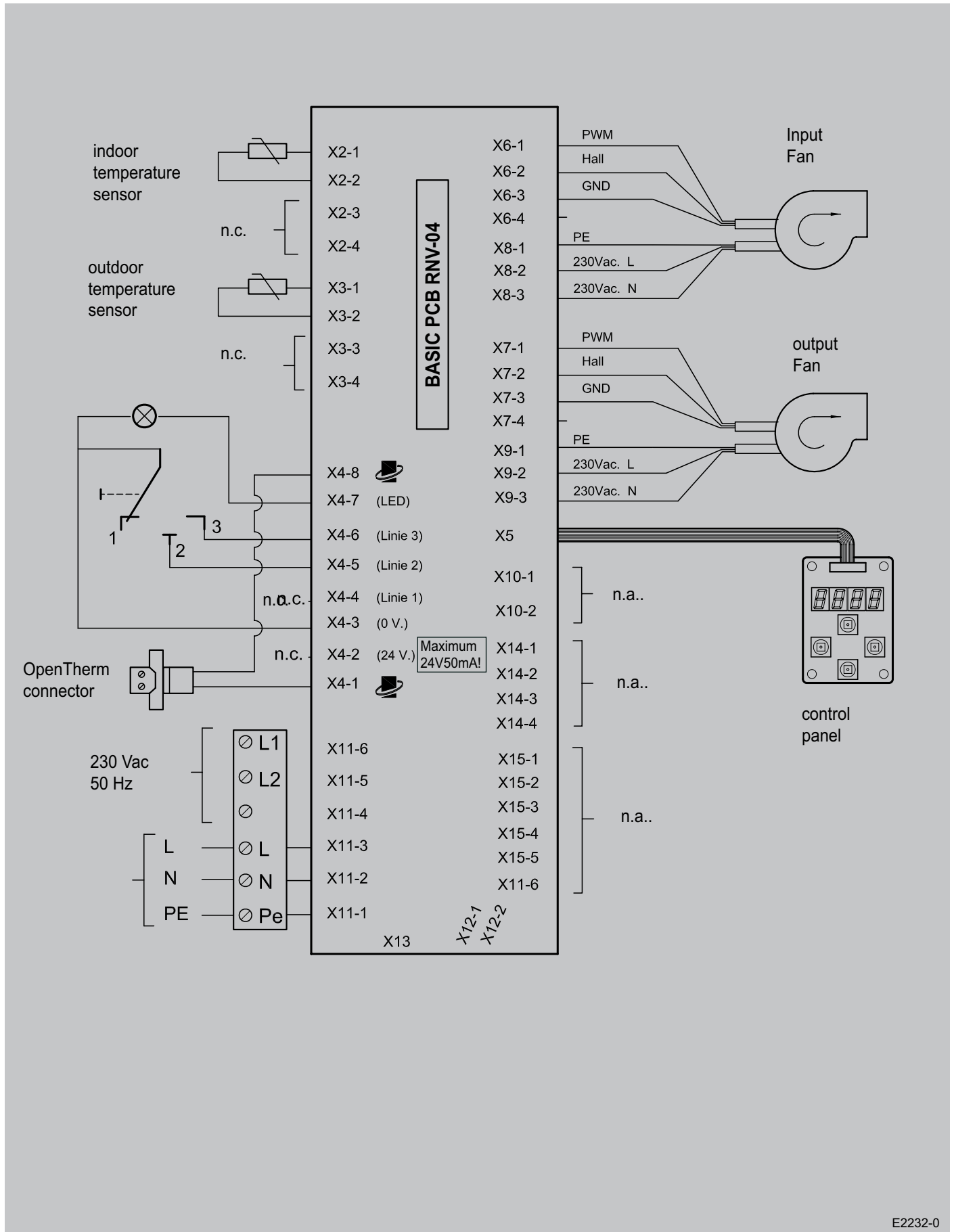
- 9 Remove the spiral casing.

- 10 Clean the fan with a soft brush. Make sure the balancing weights do not shift.



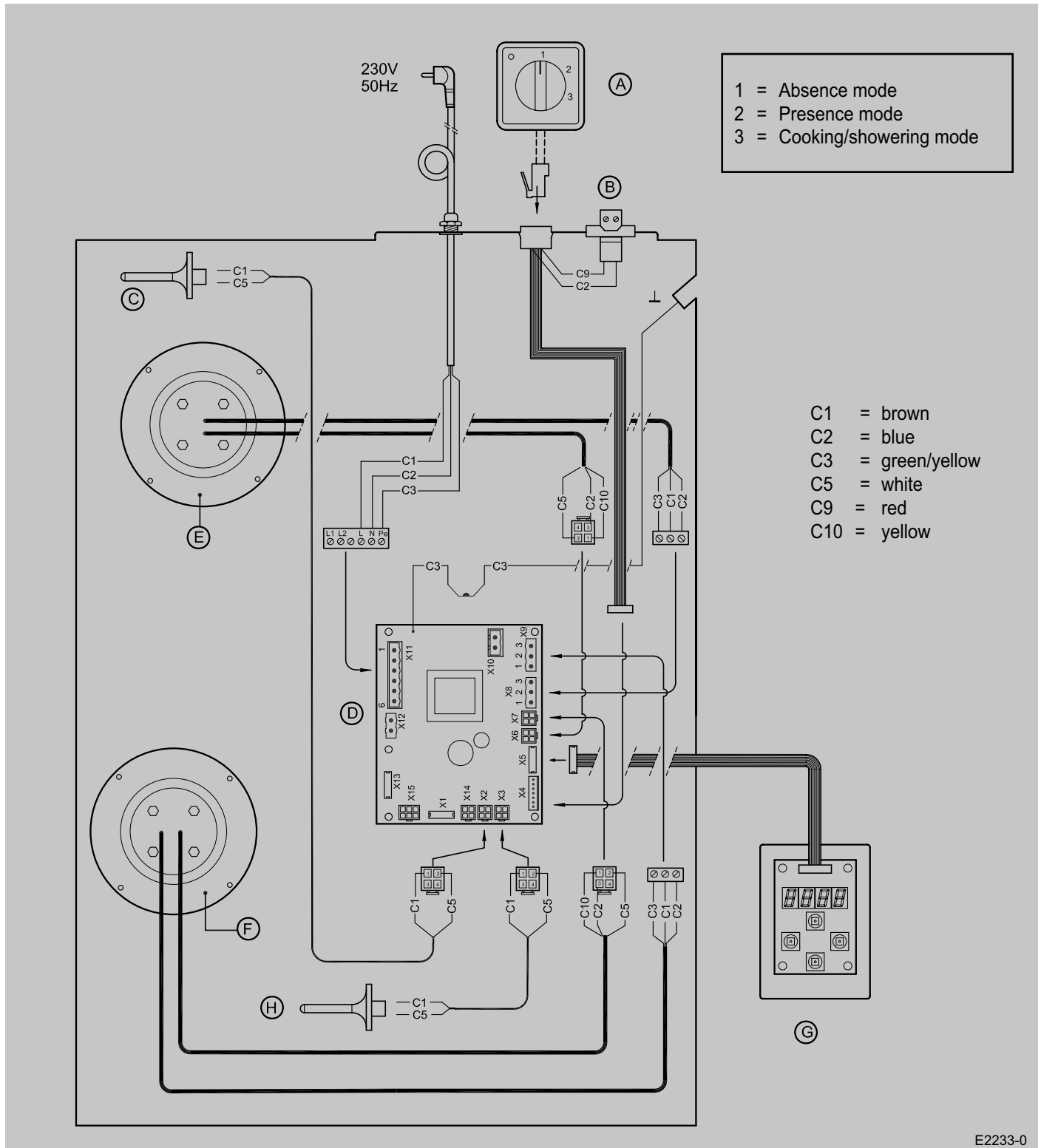
- 11 Place the spiral casing back on the fan unit.
- 12 Place the fan unit back in the appliance.
- 13 Place the earth wire back and replace the connectors that were pulled.
- 14 Mount the control panel.
- 15 Place the heat exchanger back into the appliance.
- 16 Place the front cover
- 17 Place the filters back into the appliance with the clean side facing the exchanger.
- 18 Close the filter door.
- 19 Switch on the power supply.
- 20 Switch off the appliance on the control panel (simultaneously press keys "OK" and "+" during 3 seconds).
- 21 After cleaning the filter or a placing a new filter, the filter indication must be reset by pressing key "OK" during 1 second.

9.1 Basic diagram Renovent HR Small



E2232-0

9.2 Wiring diagram Renovent HR Small



E2233-0

- | | |
|---------------------------------|------------------------------------|
| A = 3-way switch | E = Input fan |
| B = OpenTherm connector | F = Output fan |
| C = Interior temperature sensor | G = Control panel |
| D = Basic pcb | H = Atmospheric temperature sensor |

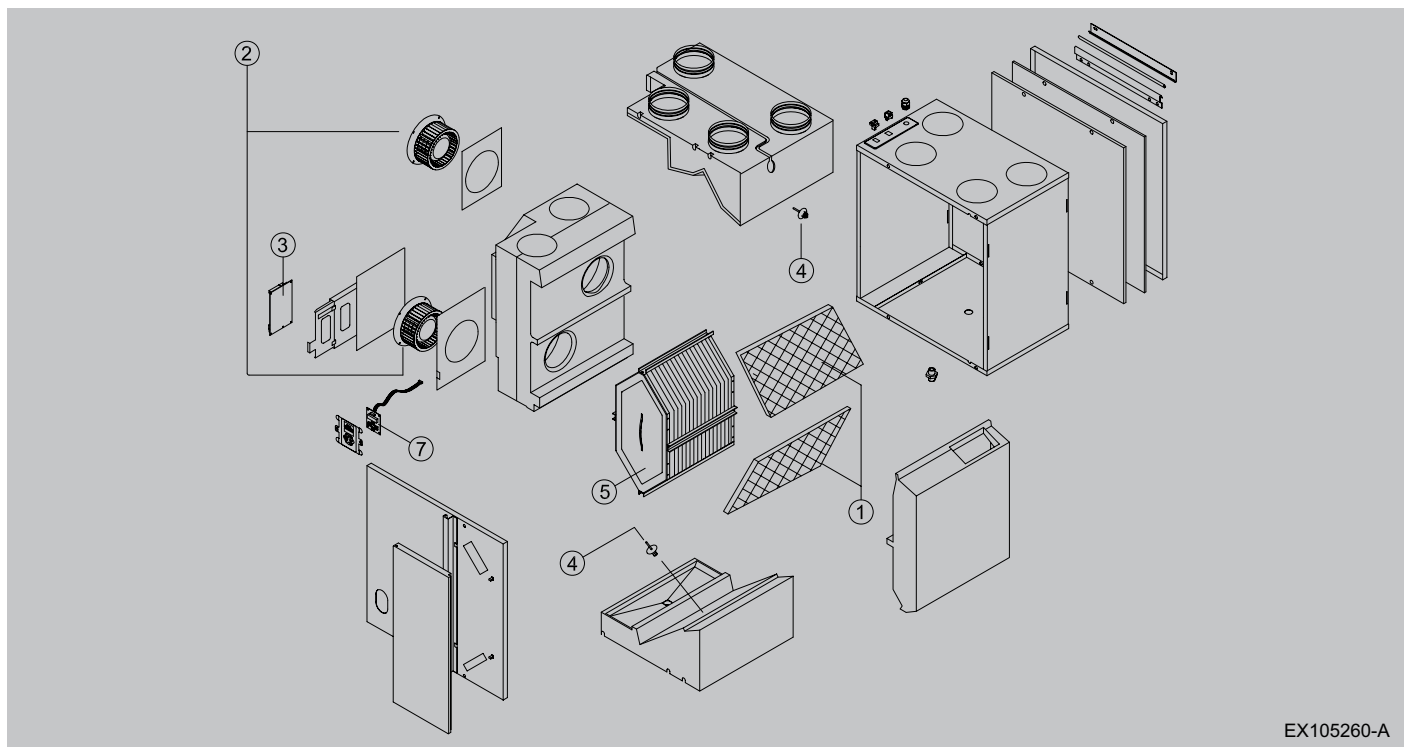


10.1 Exploded view Renovent HR Small

When ordering parts, in addition to the article code number (see exploded view), please state the type of the heat recovery appliance, the serial number, the year of production and the name of the part:

NOTE:
Appliance type, serial number and year of production are stated on the identification plate on top of the appliance.

Example:	
Appliance type	Renovent HR 4/0 Small
Serial number	280020072101
Year of construction	2007
Part	Fan
Article code	531496
Quantity	1



EX105260-A

10.2 Service Articles Renovent HR Small

No.	Article description	Article code
1	Filter kit	531525
2	Fan	531496
3	Basic pcb	531497
4	Temperature sensor	531451
5	Heat exchanger	531498
6	Installation instructions	611299
7	Control panel with display	531499

Modifications reserved

Brink Climate Systems B.V. the Netherlands continuously strives after improvement of products and reserves the right to change the specifications without prior notice.

DECLARATION OF CONFORMITY

The heat recovery appliances type

Renovent HR Small,

manufactured by Brink Climate Systems B.V. in Staphorst, the Netherlands

bear the CE label

and satisfy the machine directive 89/392/EC, the low voltage directive 73/23/EC,

the materials directive ROHS 2002/95/EC and the EMC directive 89/336/EC.

Brink Climate systems B.V. warrants that the Renovent HR Small

heat recovery appliances are manufactured from high-quality materials and that

continuous quality control ensures that they comply with the above directives.

Brink Climate Systems B.V.



W. Hijmissen, Managing director

BRINK

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