

Renovent Excellent 180 (Plus)



INSTALLATION INSTRUCTIONS (English)

Air for Life

BRINK

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614293-K

Renovent Excellent 180 (Plus)



STORE NEAR THE APPLIANCE

This appliance may be used by children as of 8 years of age, persons with reduced physical or mental capacities, and persons with limited knowledge and experience if they are supervised or have received instructions on how to use the appliance safely and are aware of the possible dangers.

Children younger than 3 years of age must be kept away from the appliance, unless they are under constant supervision.

Children between the ages of 3 and 8 may only switch the appliance on or off, but only if supervised or if they have received clear instructions on the safe use of the appliance and understand the possible dangers, on the condition that the appliance has been placed and installed in the normal position for use. Children between the ages of 3 and 8 may not insert the plug into the socket, nor clean or make changes to the settings of the appliance, nor carry out any maintenance on the appliance that would normally be carried out by the user. Children may not play with the appliance.

If you need a new power cable, always order the replacement from Brink Climate Systems B.V. To prevent dangerous situations, a damaged mains connection must only be replaced by a qualified expert!

Country: GB



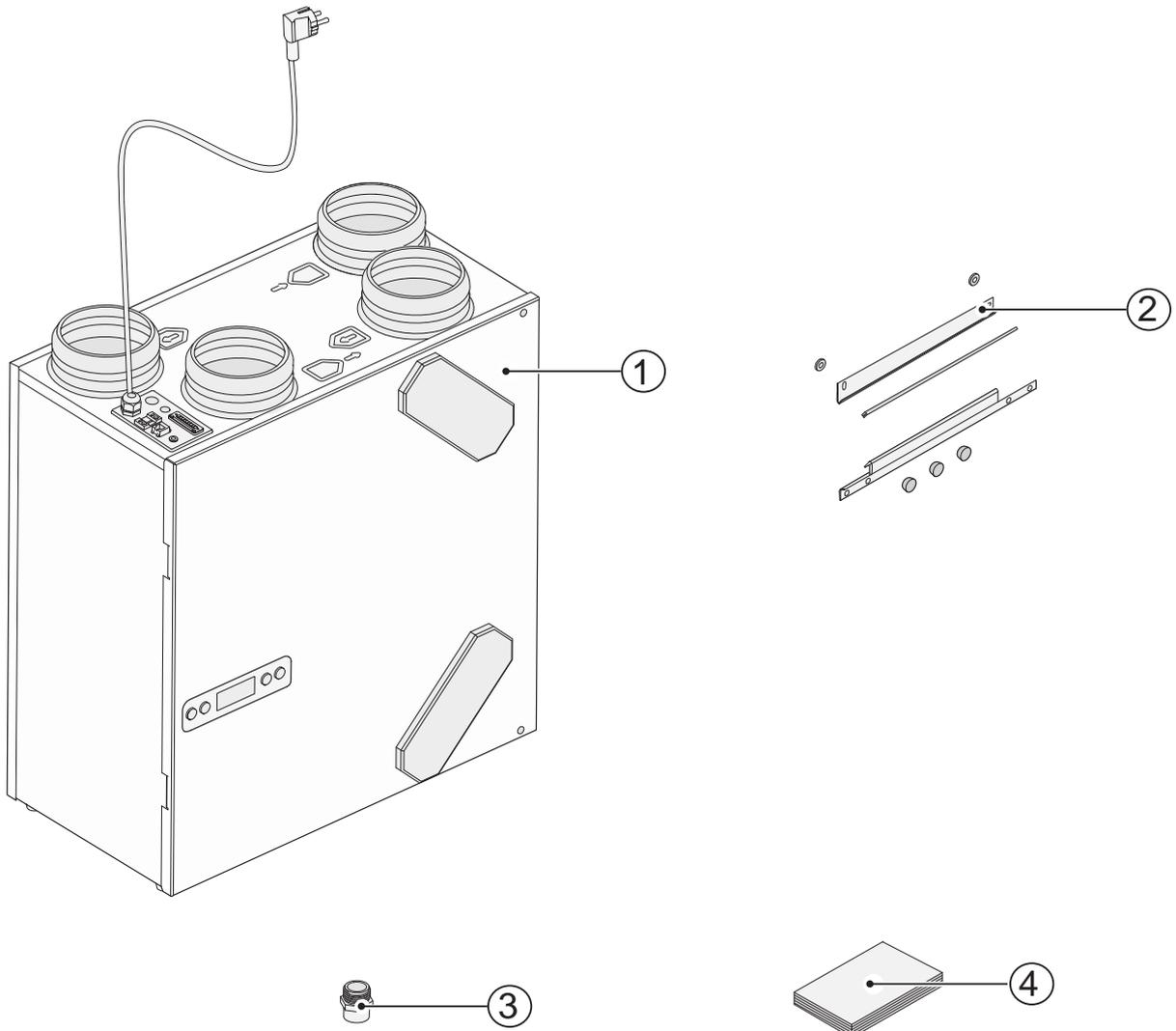
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1.1 Scope of delivery

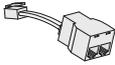
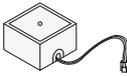
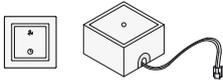
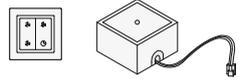
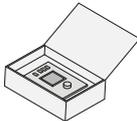
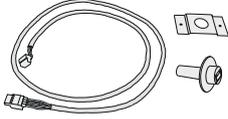
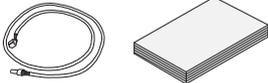
Before starting installation of the heat recovery unit, check that it has been supplied complete and undamaged.

The scope of delivery of the heat recovery unit Renovent Excellent 180 includes the following components:

- ① Heat recovery appliance type Renovent Excellent 180
- ② Wall mounting bracket kit containing:
 - 2 x suspension strips
 - 3x protective caps
 - 1 x rubber strip
 - 2 x rubber rings
 - 1 x mounting instructions
- ③ PVC condensate discharge connection containing:
 - 1x synthetic expanding liner 1.5" x 20 mm
- ④ Documentation including:
 - 1 x installation instructions



1.2 Accessories Renovent Excellent 180

Article description		Article code
Splitter RJ12		510472
CO ₂ sensor eBus surface-mounted		532126
Transmitter wireless remote control 2 positions (with battery)		532170
Transmitter wireless remote control 4 positions (with battery)		532171
Receiver wireless remote control (for battery version)		532172
Kit wireless remote control 2 positions (1 transmitter & 1 receiver)		532173
Kit wireless remote control 4 positions (1 transmitter & 1 receiver)		532174
4-way switch with filter indication; flush mounted; modular connection. Delivered with insert plate and cover frame		540262
Brink Air Control		510498
Electric postheater Excellent 180		310730
Electric preheater Excellent 180		310740
RH (humidity)-sensor		310657
Filter kit ISO ePM 2.5 50% (F6) filter (2 pcs)		531600
Filter ISO ePM 1 50% (F7) (1 pcs)		553025
Servicetool		531961

The Brink Renovent Excellent is a heat recovery ventilation unit with an efficiency of 95%, a maximum ventilation capacity of 180 m³/h and low-energy fans.

Features Renovent Excellent 180:

- steplessly adjustable air flowrates through a control panel;
- filter indication on the appliance and the possibility for filter indication on the multiple switch;
- a frost protection system which ensures that also at low outdoor temperatures the appliance's performance remains optimal and that, if necessary, it activates the optional mounted preheater;
- low sound level;
- comes as standard with automatic bypass function
- constant flow control;
- low energy consumption
- high efficiency

The Renovent Excellent 180 is available in two types:

- **“Renovent Excellent 180”**
- **“Renovent Excellent 180 Plus”**

Compared to the standard Renovent Excellent 180, the Renovent Excellent 180 Plus has a more extensive control board which increases the connection options.

These installation instructions describe both the standard Renovent Excellent 180 and the Renovent Excellent 180 Plus. The Renovent Excellent (Plus) is available in a left-handed or right-handed version. A left-handed version has the filters on the left behind the filter plugs; a right-handed version has the filters on the right behind the filter plugs. The position of the air ducts differs for these two versions! For the correct position of the connection ducts and dimensions see §3.4.1 or §3.4.2, respectively.

When ordering an appliance always state the correct type; subsequent conversion to a different version is not possible.

The Renovent Excellent 180 comes ready to plug in with a 230 V mains plug and a connection for a low-voltage multiple switch on the outside of the appliance.

Version types Renovent Excellent 180				
Type	Version L or R	Position air ducts	Power supply	Type code
Renovent Excellent 180	Left-handed version	4 top connections	Power plug	4/0 L
	Right-hand version	4 top connections	Power plug	4/0 R
Renovent Excellent 180 Plus	Left-handed version	4 top connections	Power plug	4/0 L+
	Right-handed version	4 top connections	Power plug	4/0 R+

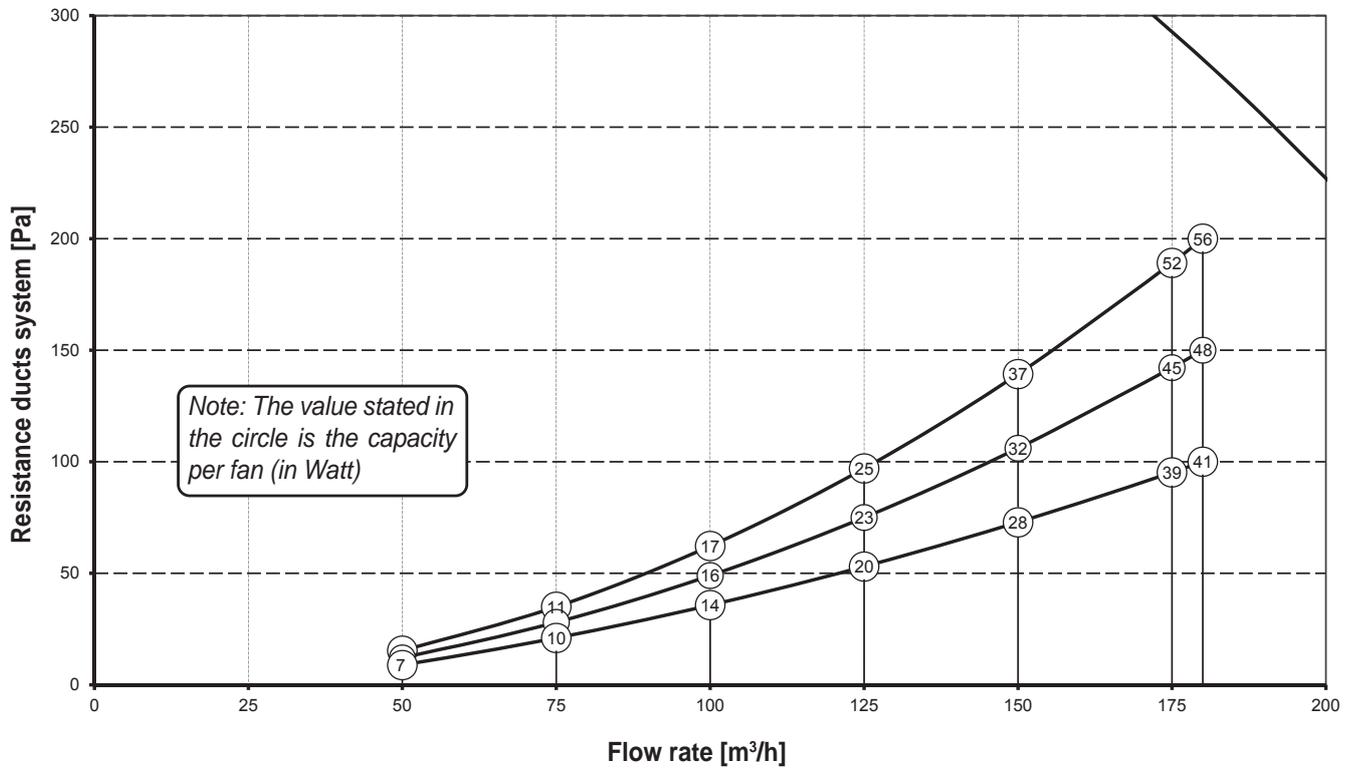
3.1 Technical information

	Renovent Excellent 180			
Supply voltage [V/Hz]	230/50			
Protection degree	IP20			
Dimensions (w x h x d) [mm]	560 x 600 x 315			
Duct diameter [mm]	Ø 125			
External diameter condensate discharge [mm]	Ø 20			
Weight [kg]	25			
Filter class	ISO Coarse 45% (G3) {ISO ePM 2.5 50% (F6) optional}			
Fan setting (factory setting)		1	2	3
Ventilation capacity [m³/h]	50	75	100	150
Permissible resistance ducts system [Pa]	7 - 15	21 - 35	36 - 62	73 - 139
Rated power [W]	13 - 14	20 - 22	28 - 34	56 - 74
Rated current [A]	0.12 - 0.14	0.19 - 0.20	0.26 - 0.29	0.51 - 0.62
Max. Rated current [A]	1.48			
Cos φ	0.44 - 0.46	0.45 - 0.49	0.47 - 0.51	0.48 - 0.52

Sound power Excellent 180				
Ventilation capacity [m³/h]		75	100	150
Sound power 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" [dB(A)]	49	56	66

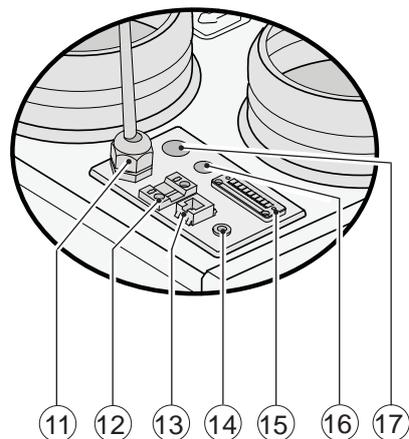
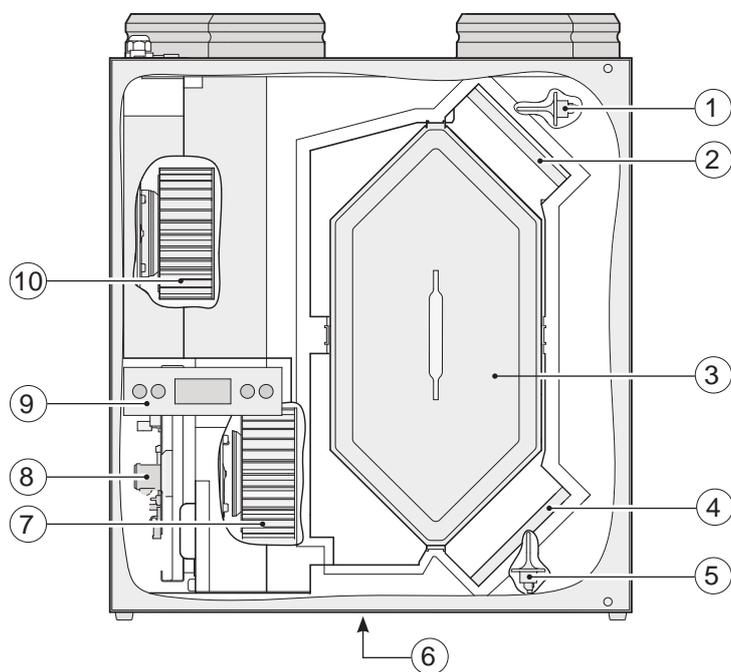
In practice, the value may deviate 1 dB(A) as a result of measuring tolerances

3.2 Fan graph



Fan graph Renovent Excellent 180

3.3 Exploded view appliance

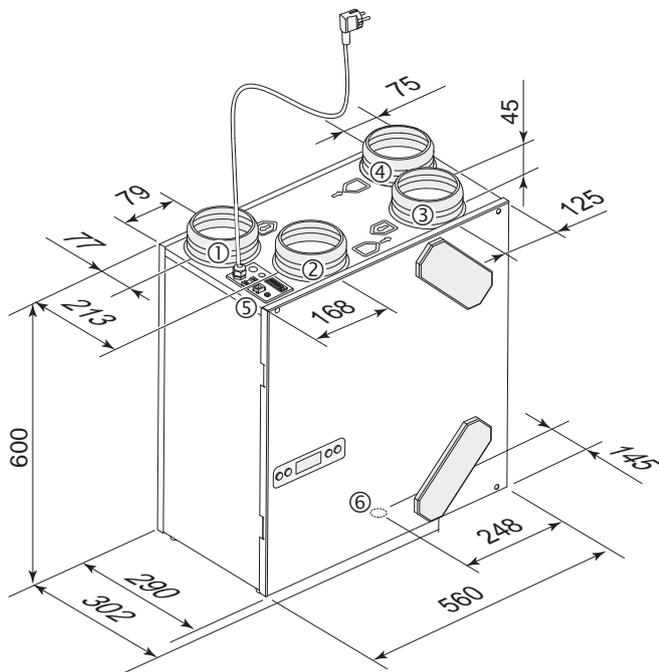


Connections top appliance

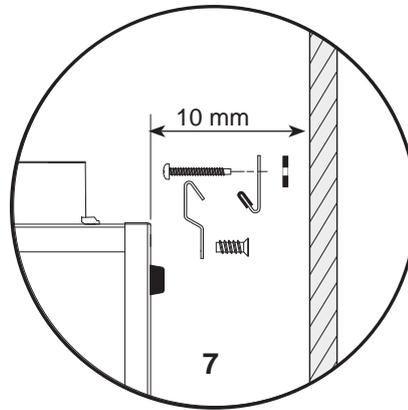
1	Indoor temperature sensor	Measures the dwelling exhaust air temperature
2	Exhaust air filter	Filters air flow from dwelling
3	Heat exchanger	Ensures heat transfer between supply and exhaust air
4	Supply air filter	Filters outdoor air supplied to the dwelling
5	Outdoor temperature sensor	Measures outside air temperature.
6	Condensate discharge	Connection condensate discharge
7	Exhaust fan	Discharges air from the dwelling to the atmosphere.
8	Control board	Contains the control electronics for the functions.
9	Display and 4 control buttons	Interface between user and control electronics.
10	Supply fan	Feeds fresh air into the dwelling.
11	Mains cable 230 V	Gland power cable 230 V
12	eBus connection	Two-pole screw connector for eBus connection
13	Modular connector multiple switch	Connections for cable to multiple switch, optionally with filter indicator.
14	Service connector	Computer connection for service purposes.
15	Connector 9-pole	Contains the various control inputs and outputs; only for Plus version
16	Extra gland	For instance for cable to RH (humidity) sensor
17	Extra gland	For instance for 230 V cable to preheater or postheater; only for Plus version

3.4 Connections and dimensions Renovent Excellent 180

3.4.1 Renovent Excellent right-handed version

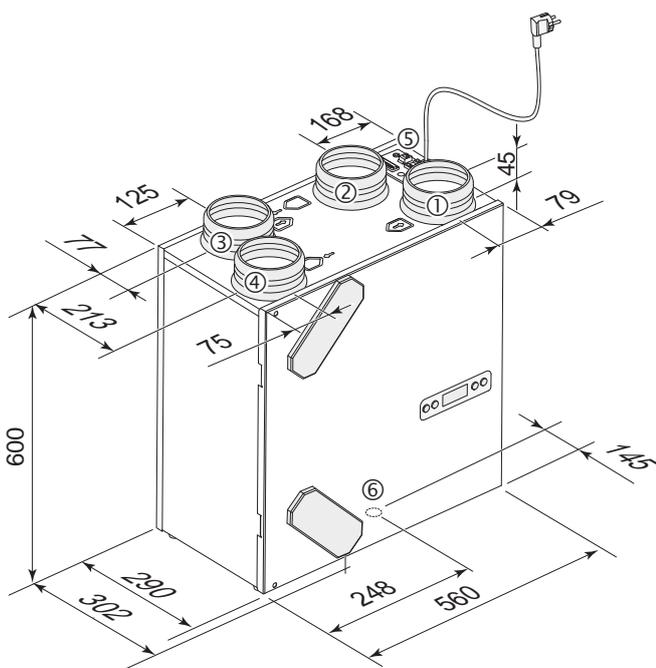


Renovent Excellent 180 right-handed 4/0



Placing the wall mounting kit

3.4.2 Renovent Excellent 180 left-handed version



Renovent Excellent 180 left-handed 4/0

- ① = To dwelling 
- ② = To atmosphere 
- ③ = From dwelling 
- ④ = From atmosphere 
- ⑤ = Electric connections
- ⑥ = Connection condensate discharge
- ⑦ = Wall mounting bracket (note the correct position of the rubber strip, washers and caps)

4.1 Description

The appliance comes plug and play and operates fully automatically. The exhausted indoor air heats up the fresh, clean outdoor air. That saves energy and fresh air is sent to the required rooms.

The control system has four ventilation modes.

Dependent on the connected multiple switch, 3 or 4 ventilation modes can be used. The air flow rate can separately be adjusted for each ventilation mode. The constant volume control system ensures that the air flowrate of the supply and exhaust fans is realised independent of the duct pressure.

4.2 Bypass function preconditions

Because of its compact design, the appliance is not equipped with a bypass diffuser but it uses bypass functionality. Bypass functionality means that the supply fan is switched off when the bypass preconditions are satisfied. Then there is only a mechanical exhaust air flow through the heat exchanger, so under these conditions -undesired- heat recovery does not occur.

Optimum performance of this system requires natural supply. It is assumed that at very high indoor temperatures the user will automatically open the windows for reasons of comfort. The operation of the bypass function can be adjusted using step number 5, step numbers 6 and step number 7 in the settings menu (see chapter 13).

Bypass function preconditions	
Bypass function active	<ul style="list-style-type: none"> - The outdoor temperature is higher than 7°C and - the outdoor temperature is lower than the indoor temperature in the dwelling and - the temperature in the dwelling is higher than the temperature set at step no. 5 in the settings menu (set a standard at 24°C)
Bypass function not active	<ul style="list-style-type: none"> - The outdoor temperature is lower than 7°C or - the outdoor temperature is higher than the indoor temperature in the dwelling or - the temperature from the dwelling is higher than the temperature set at step no. 5 in the settings menu minus the preset temperature at hysteresis (step no. 6); the factory setting for this temperature is 22°C (24.0°C minus 2.0°C).

4.3 Frost safety

To prevent freezing of the heat exchanger at extremely low outdoor temperatures, the Renovent Excellent 180 features frost control. Temperature sensors measure the temperatures across the heat exchanger and, if an optional preheater is installed, it will be switched on when required.

That guarantees a proper ventilation balance, also at very low outdoor temperatures. If, with switched on preheater, the exchanger temperature still starts to drop below zero, stepless unbalance is created in the appliance.

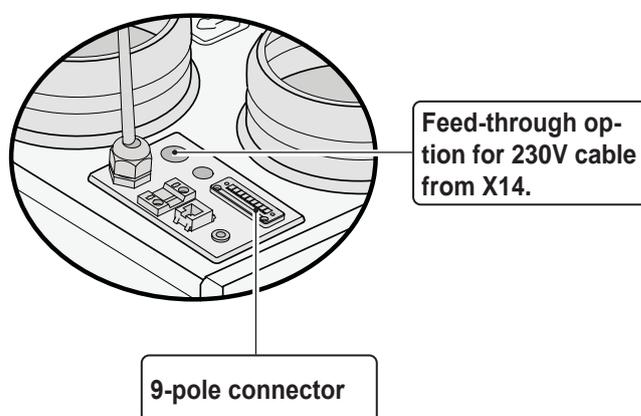
4.3 Renovent Excellent Plus version

The Renovent Excellent 180 is also available as "Plus" version. This version is equipped with a different control board with 2 additional connectors (X14 & X15) with more connection options for various applications.

The "Plus" version has a 9-pole connector which is connected to X15 from the control board. This 9-pole connector is accessible from the top of the Renovent Excellent 180.

The 2-pole connector X14 is accessible after sliding the control board to the front from the appliance (see §9.2 item 1 - 5). An additional gland is available at the top of the appliance in "Plus" version>. That makes it possible to feed a 230 V cable, which may be connected to connector X14, to outside the appliance. Always use a gland with strain reliever.

See § 11.1 for more information on the connection possibilities of connectors X14 and X15.



5.1 Installation general

Installing the appliance

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

Installation must take place under:

- Quality requirements ventilation systems dwellings
- Quality requirements balanced ventilation in dwellings
- 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 Excellent 180

5.2 Placing the appliance

The Renovent Excellent can directly be mounted to the wall using the suspension brackets 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 that case. On request, a mounting support for floor mounting is available. 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.

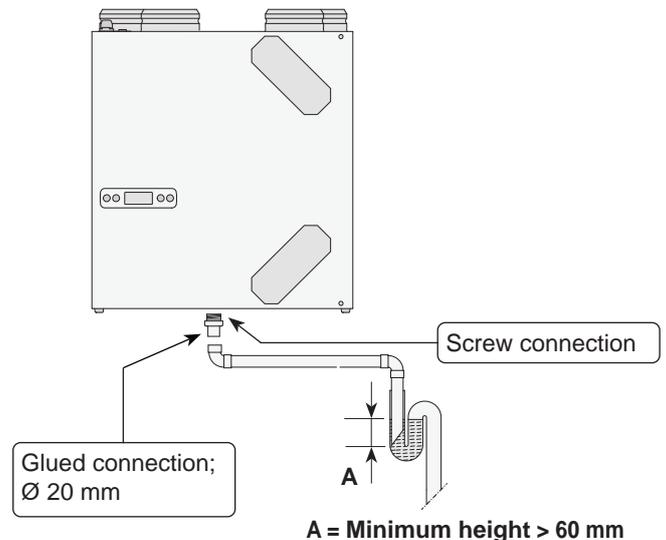
- The temperature in the installation room must be at least 10°C.
- Make sure there is a free space of at least 70 cm at the front of the appliance and a free headroom of 1.8 m.
- We recommend not to install the heat recovery unit in spaces with an average high RH (for instance bathroom). That will prevent condensation on the outside of the heat recovery unit.

5.3 Connecting the condensate discharge

The condensate discharge line for the Renovent Excellent is fed through the lower panel. The condensate must be discharged through a drainpipe.

The condensate discharge comes separately with the appliance and the installer must screw. Use PTFE (Teflon) tape to obtain a leakproof connection. Maximum torque is 10 Nm. This condensate discharge connection has an external connection 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. The drain must discharge under the water level in the U-trap. Before connecting the condensate discharge to the appliance, pour water into the U- or S-trap to create an air seal.



5.4 Connecting ducts

The air exhaust duct does not have to be fitted with a control diffuser. The appliance itself controls the air flowrates. To prevent condensation on the outside of the outdoor air supply duct and the air exhaust duct downstream of the Renovent Excellent, these ducts must be provided with an external vapour barrier as far as the appliance. If thermally insulated piping is used here, additional insulation is not necessary.

For compliance with the maximum installation noise level of 30 dB, it will have to be assessed for every installation specifically what measures will be required to limit the noise.

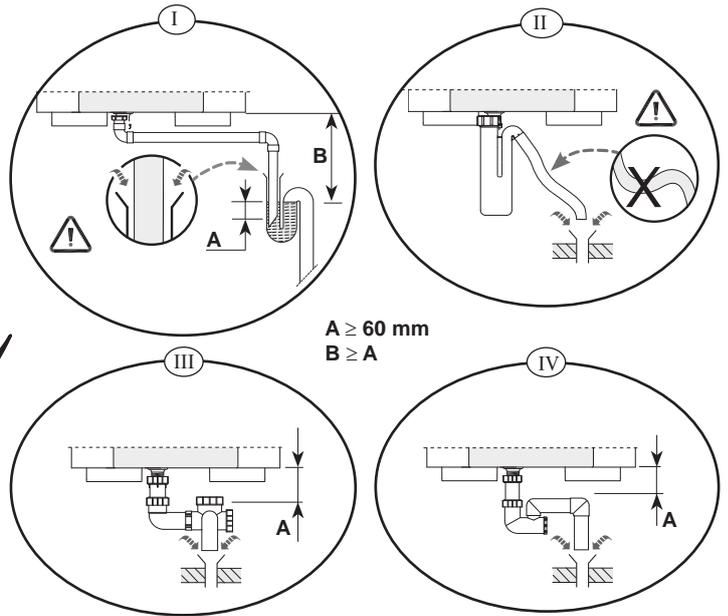
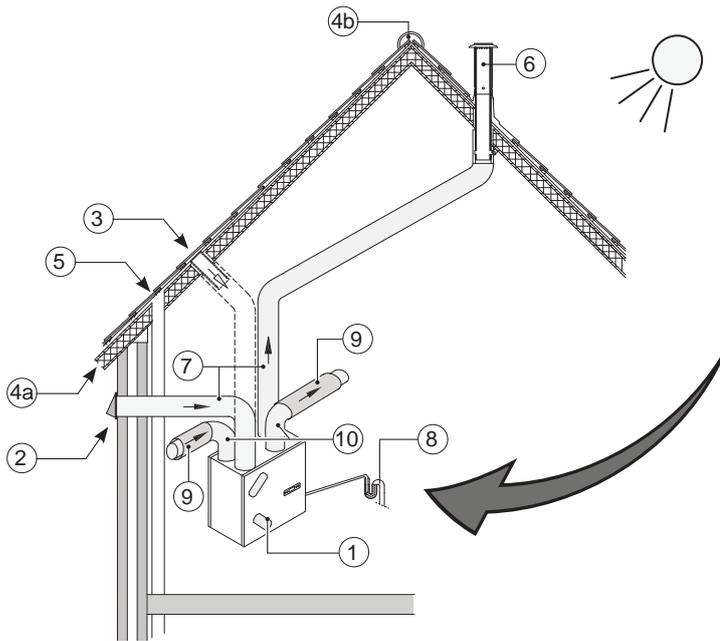
At least a muffler with a length of not less than 1 m is re-

quired, but additional measures may be necessary. Please contact the Brink Consultancy Department if you have any questions on this subject.

Pay attention to crosstalk and installation noise, also for incorporated ducts. Design the duct with separate branches to the diffusers to prevent crosstalk. If necessary, the supply 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.

A duct diameter of 125 mm is required for the Renovent Excellent 180.

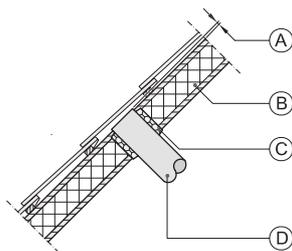


A ≥ 60 mm
B ≥ A

- 1 = Renovent Excellent 180 left-handed 4/0 (install level)
- 2 = Preferred ventilation air supply
- 3 = Ventilation air supply under the tiles
- 4a = Free suction bottom roof area
- 4b = Free suction top roof area
- 5 = Sewage system vent stack

- 6 = Preferred location exhaust ventilation air; use Brink insulated ventilation roof sleeve.
- 7 = Thermally isolated pipe
- 8 = Condensate discharge
- 9 = Muffler
- 10 = Ducts from and to dwelling

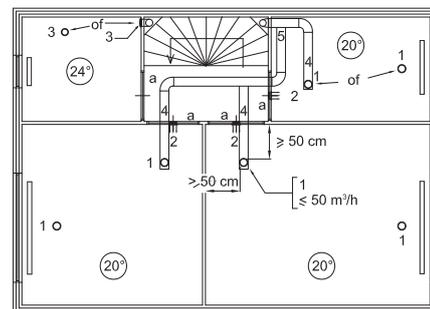
- Arrange the exterior air supply preferably from the shadowed side of the dwelling, preferably from the wall or an overhang. If the outdoor air is sucked in from under the tiles, it must be ensured that no condensation develops in the roof boarding and no water can run in. Ventilation air can be sucked 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.



- 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 exhaust duct between the Renovent Excellent and the roof sleeve in such a manner that surface condensation is prevented.
- 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.

- Always use an insulated ventilation roof sleeve.
- 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 supply diffusers.
- Avoid the use of petroleum-based adhesives in air plant systems.
- Dwellings with construction moisture must be ventilated naturally during a certain period!



- 1 = Brink supply diffusers
- 2 = Supply from wall
- 3 = Exhaust valve in ceiling or high in wall
- 4 = Prevent crosstalk
- 5 = Preferably Brink incorporated ducts
- a = Gap under the door 2 cm.

Install sufficient overflow openings, door gap 2 cm.

5.5 Electric connections

5.5.1 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.

Make allowance for a 1000 W preheater/postheater that may optionally be connected.



Warning

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

5.5.2 Connecting the multiple switch

The multiple switch (not supplied with the appliance) is connected to the modular connector type RJ12 (connected to X2 on the control board) that is placed at the top of the appliance.

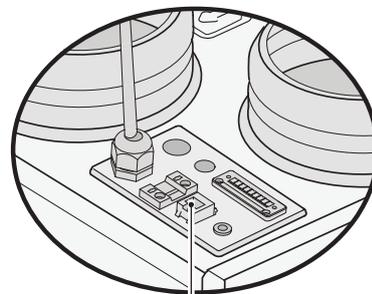
Dependent on the type of multiple switch that is used, a plug RJ11 or RJ12 can be connected to it.

- Application of a multiple 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 diagrams §11.2.1 to §11.2.4 for connection examples multiple switch.

Other options include wireless remote control or a combination of multiple switches.

The 4-way switch can also be used to activate a 30-minutes boost mode by putting the switch to setting 3 for less than 2 seconds and directly turning it back to setting 1 or 2. The boost mode can be reset by putting the switch to setting 3 for longer than 2 seconds or by switching it to absence mode (S).

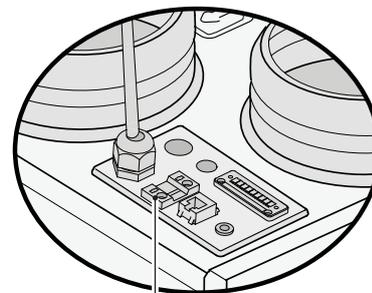


modular connector

5.5.3 Connecting the eBus connector

The Renovent Excellent uses the eBus protocol. The 2-pole - detachable - screw connector for the eBus connection is at the top of the appliance.

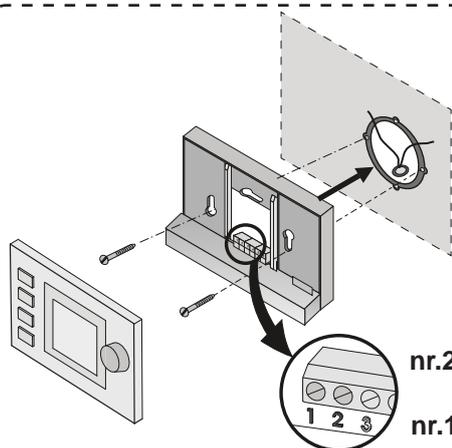
The eBus protocol may for instance be used to connect (the cascade control of) appliances (see §11.3). Because of polarity sensitivity, always connect contacts X1-1 to X1-1 and contacts X1-2 to X1-2; the appliance will not work when these contacts are interchanged!



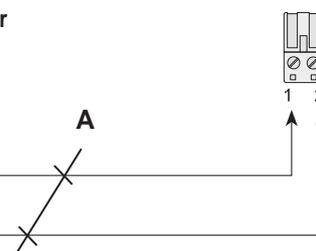
2-pole eBus connector

The optionally available Brink Air control must be connected to these eBus connector.

A Cables to be connected by installer
(wire diameter at least 0,34 mm²)



nr.2
nr.1



6.1 General explanation control panel

The display shows the appliance's current operating mode. Four control keys can be used to call up and modify settings in the control unit programme.

When the mains power to the Renovent Excellent is switched on, all display symbols will appear during 2 seconds; at the same time the backlight is switched on for 60 seconds.

When one of the control keys is operated, the display will light up during 30 seconds.

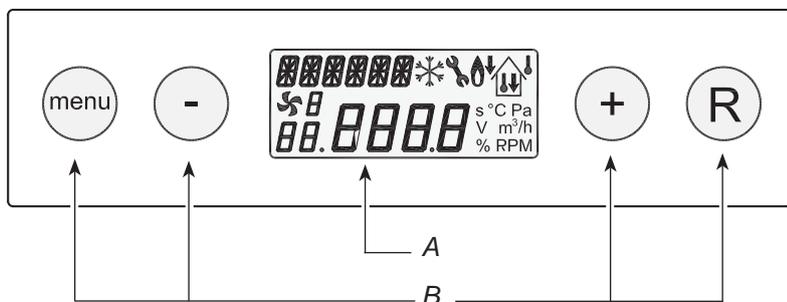
When no keys are operated or when no deviating situation has developed (such as a blocking fault) the display will show the **operating mode** (see § 6.2).

After operating the key 'Menu', the keys "+" or "-" can be used to select from three different menus, including:

- **Settings menu** (SET); see § 6.3
- **Readout menu** (READ), see § 6.4
- **Service menu** (SERV), see § 6.5

Press the R key to leave any menu and return to operating mode.

Briefly press the R key (shorter than 5 seconds) to switch on the display backlight without changing anything in the menu.



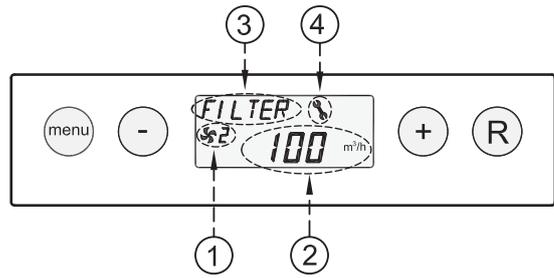
A = display
B = 4 control keys

Key	Function key
Menu	Activate the settings menu; to the next step in the submenu; confirm value change
-	Scroll; modify value; Switching on or off the Renovent Excellent from operating mode (press for 5 seconds)
+	Scroll; modify value
R	One step back in menu; cancel value modification; filter reset (press for 5 seconds), delete fault history

6.2 Operating mode

In operating mode, the display may simultaneously show 4 different situations/values.

- 1 = **Status fan mode**, shows coupled appliances (see § 6.2.1)
- 2 = **Air flowrate** (see § 6.2.2)
- 3 = **Message text** e.g. text filter condition, activation external switch contact etc. (see § 6.2.3)
- 4 = **Fault symbol** (see § 8.1 and § 8.2)

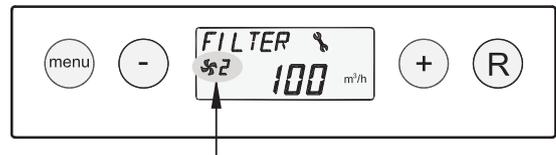


6.2.1 Status system fan

This part of the display shows a fan symbol together with a number.

When the supply and exhaust fans are running, the fan symbol is displayed. When the fans are stopped, the fan symbol is not visible.

The number behind the fan symbol indicates the fan mode. Refer to the table below for an explanation of the numbers.



Status fan mode on display	Description
	The supply and exhaust fans are running at 50 m ³ /h or they are stopped. ¹⁾ This situation depends on the setting of step number 1 (see chapter 13)
1	The supply and exhaust fans are running under mode 1 of the multiple switch. The air flowrate depends on the setting of step number 2 (see chapter 13).
2	The supply and exhaust fans are running under mode 2 of the multiple switch. The air flowrate depends on the setting of step number 3 (see chapter 13).
3	The supply and exhaust fans are running under mode 3 of the multiple switch. The air flowrate depends on the setting of step number 4 (see chapter 13).
□	This Renovent Excellent is linked through eBus. The supply and exhaust fans of the Renovent Excellent are running under the switched mode of the ventilation mode “master” Renovent; in addition, (only for cascade connection) the display shows the “slave” number of the relevant Renovent. The air flowrate depends on the set step numbers “master” Renovent.

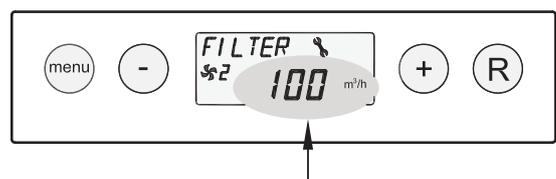
¹⁾With application of a 3-way switch, mode cannot be used.

6.2.2 Display air flowrate

This shows the air flowrate setting of the supply or exhaust fan.

When the air flow rates of the supply and exhaust fans differ, for instance when using an external switch contact, in all cases the highest air flow rate is shown.

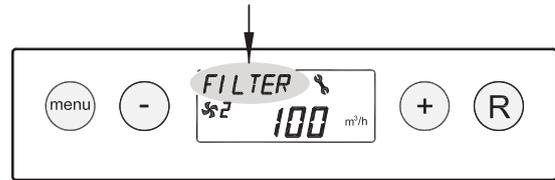
When the appliance is switched off through software, the text “OFF” appears here (see §7.1).



6.2.3 Message text for operating mode

This part of the display may show a message text. The message text “Filter” always takes precedence over the other message texts.

The following message texts may appear during operating mode.



Message text on display	Description	
FILTER	When the text “FILTER” appears on the display, the filter must be cleaned or replaced; for detailed information on this subject see § 9.1	
Slave 1, Slave 2 etc.	For coupled appliances the message text shows which appliance is “Slave 1” - “Slave 9”; for detailed information on this subject see §11.3. The “Master” appliance displays the regular layout regarding ventilation mode.	<div style="text-align: center;"> <i>Master - appliance</i> </div> <div style="text-align: center;"> <i>Slave - appliance</i> </div>
EWT (Only for Plus version)	When the text “EWT” appears on the display, the geo-heat exchanger is active. For detailed information, also refer to §11.8.	
CN1 or CN2 (Only for Plus version)	When the text “CN1 or CN2” appears on the display, one of the external switch inputs is active, also see §11.6.	
V1 or V2 (Only for Plus version)	When the text “CN1 or CN2” appears on the display, one of the external 0 - 10 V inputs is active, also see §11.7.	

6.3 Settings menu

For optimum performance of the appliance, set values can be modified in the settings menu to adjust the appliance to the installation situation; refer to chapter 13 for a list of the set values. A number of set values, such as the air flowrates, are laid down in the design data.

Warning:

Because changes may affect the proper performance of the appliance, changes of settings not described here require consultation with Brink. Incorrect settings may seriously affect the proper performance of the appliance!

Modifying the set value in the settings menu:

1. In operating mode, press the 'MENU' key.



1x



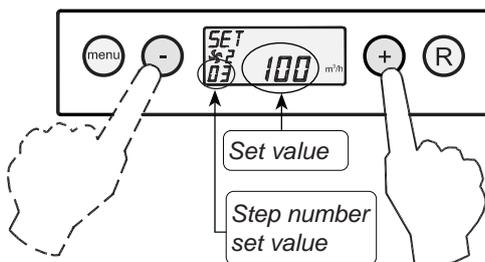
2. Press the 'MENU' key to activate the "settings menu".



Settings menu is active

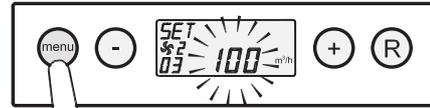
2x

3. Select the set value to be modified with the '+' or '-' key.



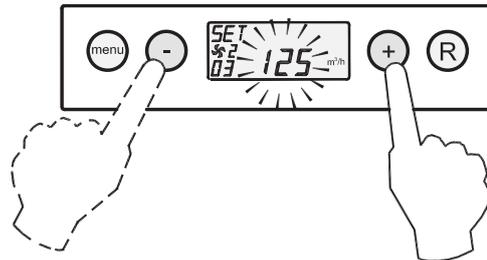
Select set value to be modified

4. Press the 'Menu' key to select the required set value.



1x

Use keys '-' and '+' to modify the selected set value.



6. **Store the modified set value**



1x

Store modified set value

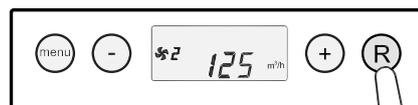
Do not store the modified set value



Do not store modified value

1x

7. To modify other set values, repeat steps 3 - 6. When you do not want to modify any more set values and return to operating mode, then press the 'R' key.



Back to operating mode

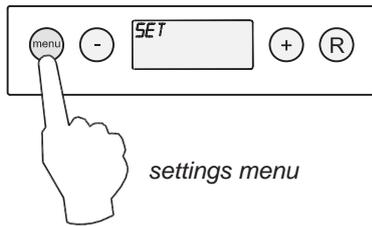
6.4 Readout menu

The readout menu can be used to call up a number of current sensor values to obtain more information on the appliance's performance. Modifying values or settings is **not** possible in this menu. The readout menu is displayed as follows:

1. In operating mode, press the 'Menu' key. Now the display shows the **settings menu**.

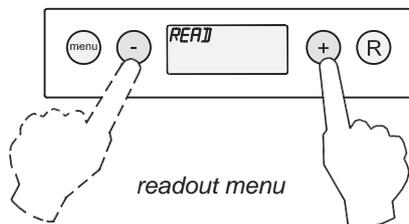


operating mode



settings menu

2. Use the '+' and '-' keys to go to the **readout menu**.



readout menu

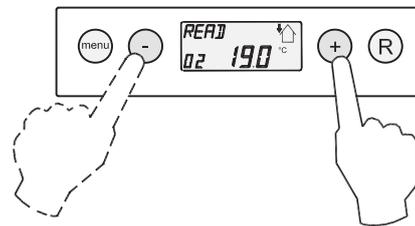
3. Activate the **readout menu**.



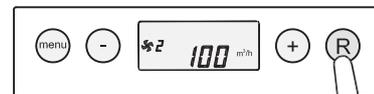
readout value

Step no. readout value;
refer to the table below
for an explanation

4. Use the '+' and the '-' key to scroll through the readout menu.



5. Press the 'R' key twice to go to operating mode. If no key is operated during 5 minutes, the appliance automatically returns to operating mode.



operating mode

2x

Step no. readout value	Description readout value	Unit
01	Current temperature from dwelling	°C
02	Current temperature outdoor sensor	°C
03	Bypass status (ON = bypass function active, OFF = bypass function not active)	
04	Status frost protection (ON = frost protection active, OFF = frost protection not active)	
05	Current channel pressure supply	Pa
06	Current duct pressure extract	Pa
07	Current air flow rate supply fan	m³/h
08	Current air flow rate extract fan	m³/h
09	Current relative humidity (option)	%
10	Readout CO ₂ sensor 1 (CO ₂ sensor only as an option for Plus version)	PPM
11	Readout CO ₂ sensor 2 (CO ₂ sensor only as an option for Plus version)	PPM
12	Readout CO ₂ sensor 3 (CO ₂ sensor only as an option for Plus version)	PPM
13	Readout CO ₂ sensor 4 (CO ₂ sensor only as an option for Plus version)	PPM

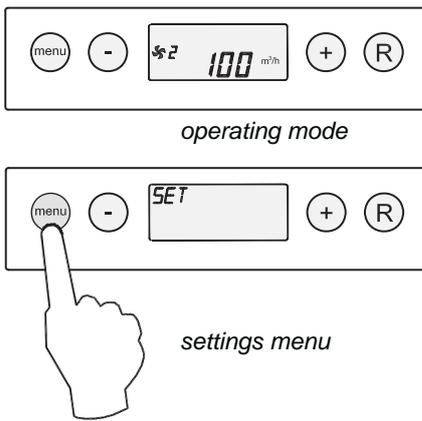
6.5 Service menu

The service menu shows the most recent 10 fault messages.

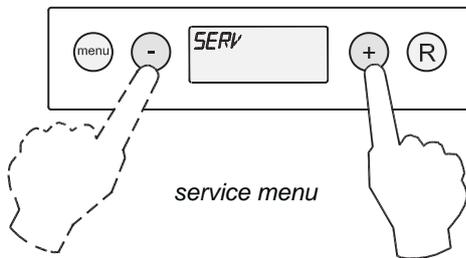
In the event of a locking fault, the settings menu and the readout menu are blocked and only the service menu can be opened; Pressing the 'menu' key directly opens the service menu (only for a locking fault).

The **service menu** can be called up as follows:

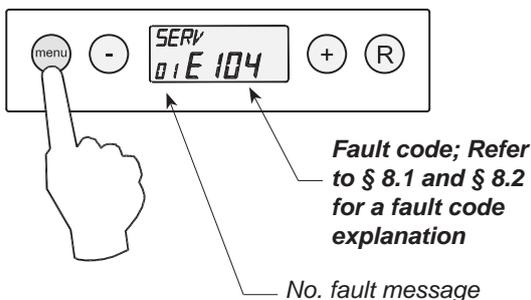
1. In operating mode, press the 'MENU' key. The display now shows the settings menu.



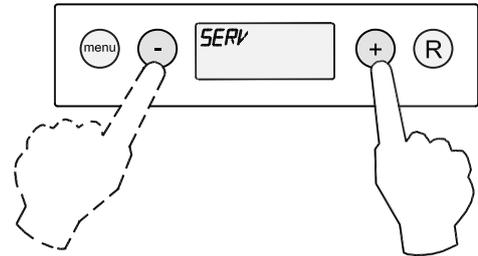
2. Use the '+' and '-' keys to go to the **service menu**.



3. Activate the **service menu**.



4. Use the '+' and the '-' key to scroll through the readout menu'.



- Display not any fault message.



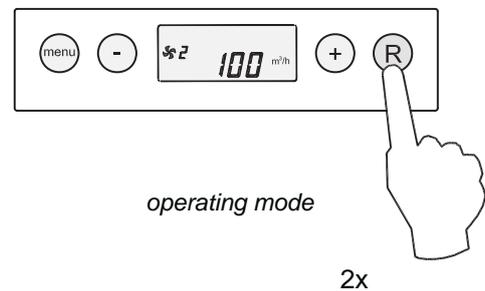
- Current fault message (spanner on display).



- Unsolved fault message (no spanner on display).



5. Press the 'R' key twice to go to operating mode. If no key is operated during 5 minutes, the appliance automatically returns to operating mode.



All fault messages can be deleted by pressing the "R" key in the service menu during 5 seconds; This is only possible when there is no active fault!

7.1 Switching the appliance on and off

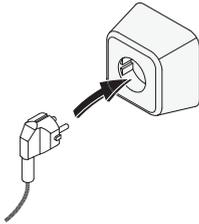
There are two methods to switch the appliance on or off.

- Switching on and off by inserting or pulling the power plug
- Switching on and off through software on the appliance display

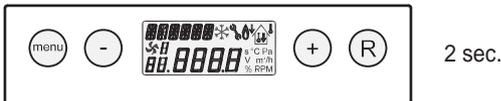
Switching on:

- Switching on the mains power:

Connect the 230 V power plug to the electric system.



All display symbols appear during 2 seconds.



The software version appears during 2 seconds.



Directly after that the Renovent Excellent will be running in the mode as set on the multiple switch. If no multiple switch is connected, the appliance will always run in mode 1.

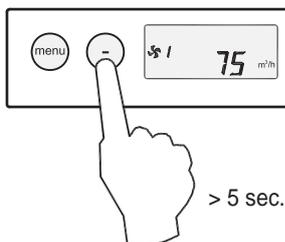


- Switching on through software:

When the Renovent Excellent is switched off through software, the display will show the text "OFF".



The appliance can be switched on by pressing the '-' key during 5 seconds.



Switching off:

- Switching off through software:

Press the "-" key for 5 sec. to switch off the appliance through software. The text 'OFF' appears on the display.

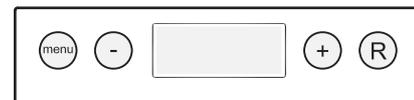
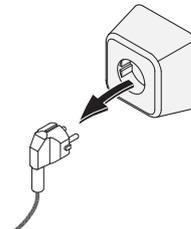


>5 sec.

- Switching off the mains power:

Pull the 230 V mains plug from the mains to take the voltage from the appliance.

Nothing is shown on the display now.



Warning

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

7.2 Setting the air flow

The air flowrates from the Renovent Excellent 180 are set ex factory at 50, 75, 100 and 150 m³/h. The performance and the energy consumption of the Renovent Excellent depend on the pressure drop in the duct system as well as on the filter resistance.

Important:

Setting : is 0 or 50 m³/h (not for 3-way switch),
 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 m³/h.

If these conditions are not complied with, the air flowrate of the higher mode will automatically be adjusted.

For modifying the air flowrates in the settings menu, see § 6.3.

7.3 Other settings installer

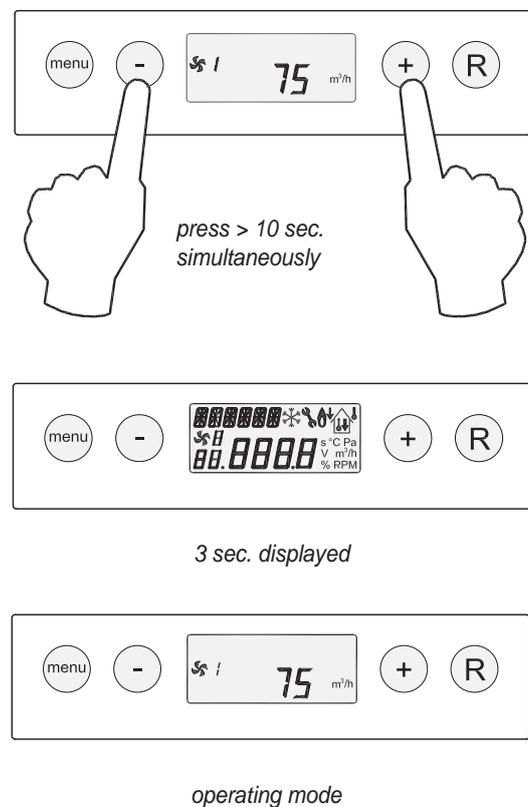
Various other settings of the Renovent Excellent can also be modified. How to modify these is explained in §6.3.

7.4 Factory setting

It is possible to reset all modified settings back to factory setting in one go.

All modified settings will be at the values they had when the Renovent Excellent was supplied from the factory; all message codes / fault codes will be erased from the service menu as well.

The filter message will not be reset!

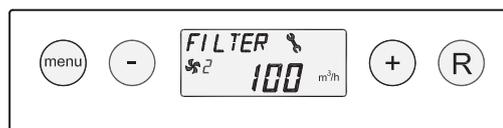


8.1 Trouble shooting

When the appliance control system detects a fault, it is indicated on the display with a spanner symbol, possibly together with a fault code.

The appliance makes a distinction between a fault at which the appliance keeps running (limitedly) and a serious (locking) fault at which both fans are switched off.

In case of locking fault, the settings and readings menu is switched off as well and only the service menu is available.



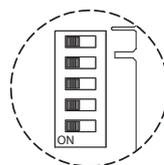
The appliance remains in this fault mode until the problem in question has been solved. Then the appliance will reset itself (auto reset) and the display will once more show the operating mode.

Fault E999

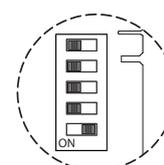
If, when the appliance is powered up directly message **E999** appears on the display, the mounted control board is not suitable for this appliance or the dip switches on the control board are set incorrectly.

See § 10.1 for the location of the dip switches on the board.

In that case, check whether the dip switches on the control board are set as shown in the drawing of the dip switch settings; if they are, and the message E999 still appears, then replace the control board by a board of the correct type.



Renovent Excellent 180

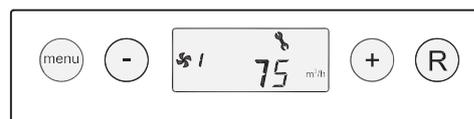


Renovent Excellent 180 Plus

8.2 Display codes

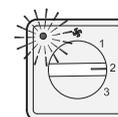
Non-locking fault

When the appliance detects a non-locking fault, it will still keep running (limitedly). The display does show the fault symbol (spanner).



Locking fault

When the appliance detects a locking fault, it will no longer work. The (permanently lighted) display shows the fault symbol (spanner) together with a fault code. The red LED on the multiple switch (if applicable) will be blinking. Contact the installer to remedy this fault. A locking fault cannot be remedied by taking the voltage from the appliance; first the fault must be solved.



Warning

When working on the appliance, always take the voltage from the appliance by pulling the power plug.

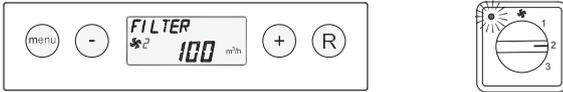
Fault code	Cause	Action appliance	Action installer
E104	Extract fan fault.	<ul style="list-style-type: none"> - Both fans are switched off. - If applicable: Preheater is switched off. - If applicable: Postheater is switched off. - Restart every 5 minutes. 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace exhaust fan. • Put voltage back on appliance; fault is automatically reset. • Check cabling.
E105	Supply fan defective.	<ul style="list-style-type: none"> - Both fans are switched off. - If applicable: Preheater is switched off. - If applicable: Postheater is switched off. - Restart every 5 minutes. 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace supply fan. • Put voltage back on appliance; fault is automatically reset. • Check cabling.
E106	The temperature sensor that measures the outdoor temperature is defective.	<ul style="list-style-type: none"> - Both fans are switched off. - If applicable: Preheater is switched off. - Bypass function is switched off. 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace temperature sensor. • Put voltage back on appliance; fault is automatically reset.
E107	The temperature sensor that measures the temperature of the exhaust air is defective.	<ul style="list-style-type: none"> - Bypass function is switched off. 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace indoor temperature sensor.
E108	If mounted: The temperature sensor that measures the external temperature is defective.	<ul style="list-style-type: none"> - If applicable: Postheater is switched off. - If applicable: Geo-heat exchanger is switched off. 	<ul style="list-style-type: none"> • Replace external temperature-sensor.
E109	Fault on connected CO ₂ sensor	<ul style="list-style-type: none"> - Appliance keeps running 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace CO₂-sensor; Correct setting dipswitches of new CO₂ sensor • Put voltage back on appliance; fault is automatically reset.
E111	If mounted: RH sensor defective	<ul style="list-style-type: none"> - Appliance keeps running 	<ul style="list-style-type: none"> • Take the voltage from the appliance. • Replace RH sensor
E999	Dip switches on control board not set correctly.	<ul style="list-style-type: none"> - Appliance does nothing; red fault LED on multiple switch is not activated either. 	<ul style="list-style-type: none"> • Set dip switches to correct position (see § 8.1).

Note!

If mode 2 of a multiple switch does not work, the modular connector of the multiple switch has been connected the wrong way round. Cut off one of the RJ connectors to the multiple switch and mount a new connector the other way round.

9.1 Filter cleaning

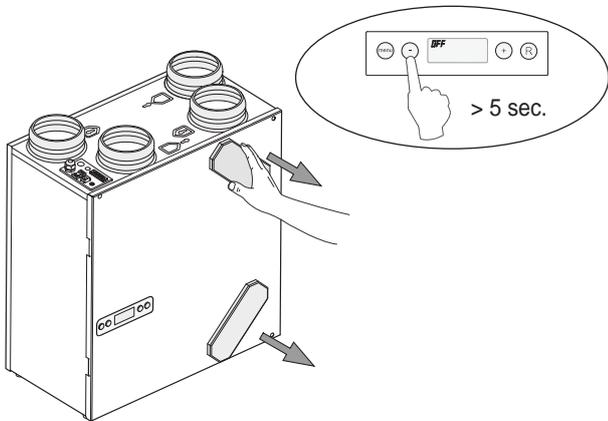
User maintenance is limited to periodically cleaning or replacing the filters. The filter only has to be cleaned when that is indicated on the display (it shows the text "FILTER") or, if a multiple switch with filter indication is installed; when the red LED at the switch lights up.



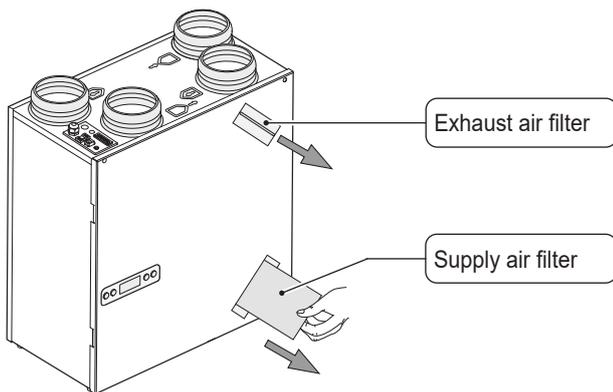
The filters must be replaced every year. It is not permitted to use the appliance without filters.

Cleaning or replacing the filters:

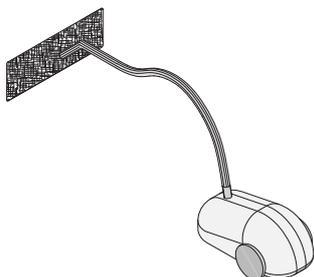
- 1 - Press the '←' key for 5 seconds.
- Remove the two filter plugs.



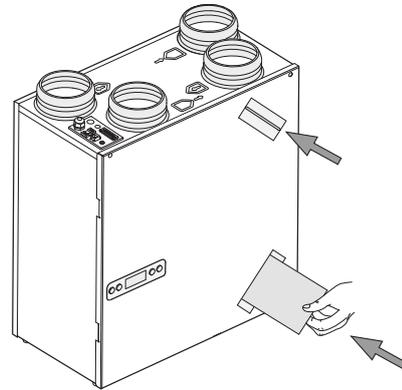
- 2 Remove the filters. Remember in what way the filters are taken out.



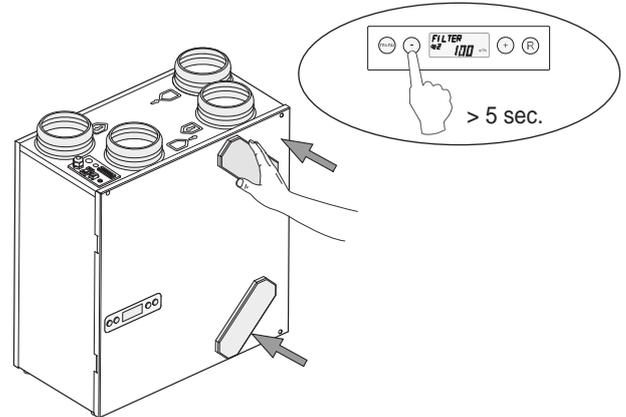
- 3 Clean the filters.



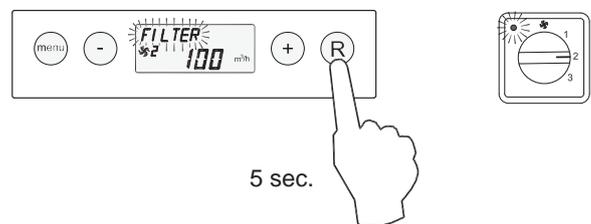
- 4 Place the filters back the same way as they were taken out.



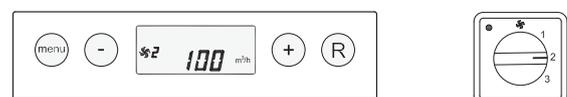
- 5 - Mount the two filter plugs.
- Switch on the appliance by pressing the '←' key during 5 seconds.



- 6 After the filters have been cleaned or replaced, press the "R" key for 5 seconds to reset the filter indication. The text "FILTER" will blink briefly to confirm that the filters have been reset. Also when the message "FILTER" has not yet appeared on the display, a filter reset can be carried out. the "counter" will be reset to zero.



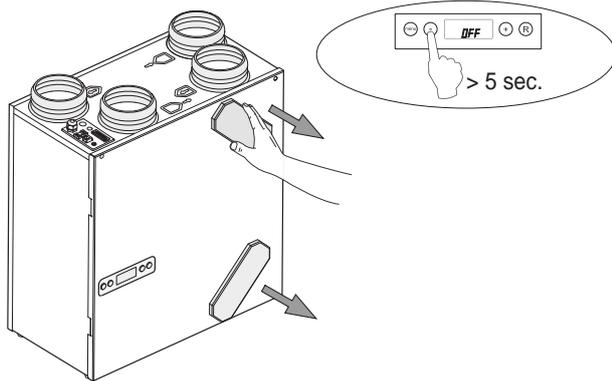
After the filter reset, the text **FILTER** disappears; the light at the multiple switch is off and the display is back to operating mode.



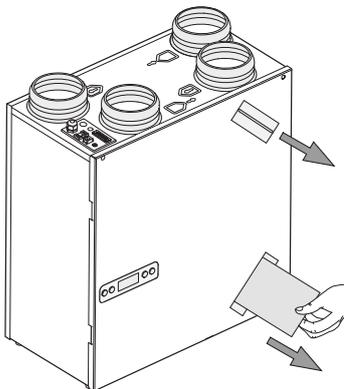
9.2 Maintenance

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

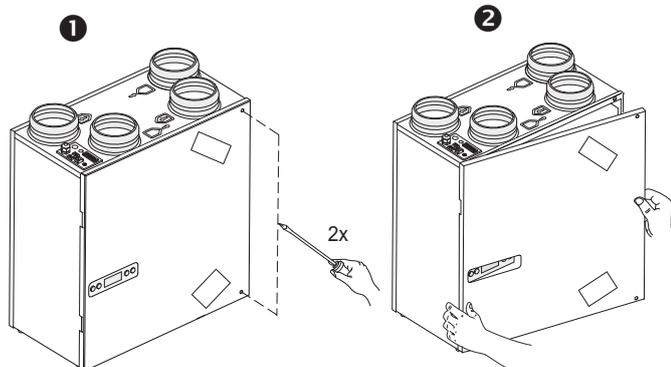
- 1 Switch off the appliance on the operating panel (press the '-' key during 5 seconds; the appliance is switched off through software) and switch off the power. Remove the two filter plugs.



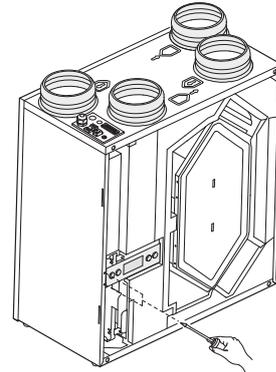
- 2 Remove the filters.



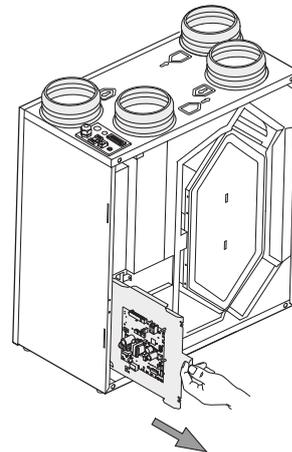
- 3 Remove the front cover.



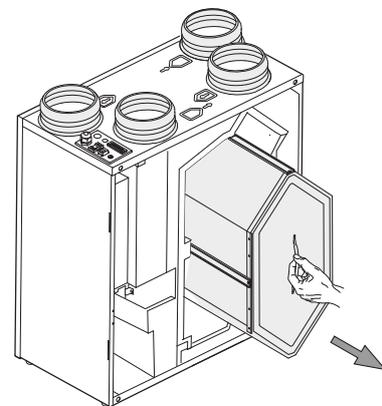
- 4 Remove the display.



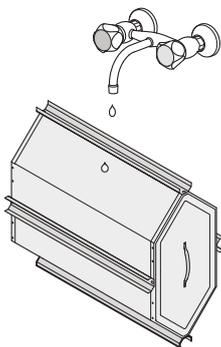
- 5 Pull out the slide on which the control board is mounted. Pull all connectors from the print that are connected to connectors at the top of the appliance. Take the earth wire from the housing.



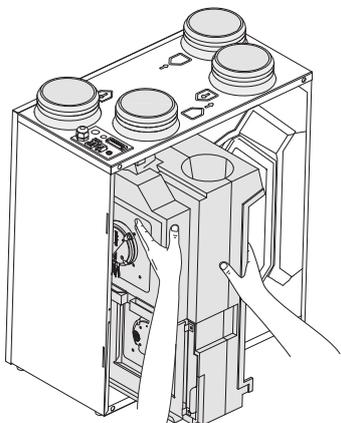
- 6 Remove the heat exchanger. Be careful not to damage the foam parts in the appliance.



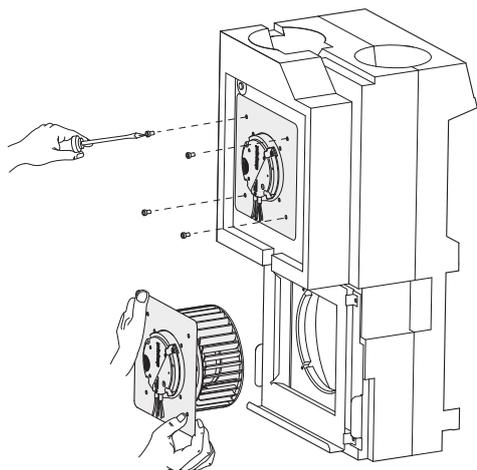
- 7 Wash the exchanger with hot water (max. 45°C) and a regular detergent. Then rinse the exchanger with clean hot water.



- 8 Slide the fan assembly out of the appliance.



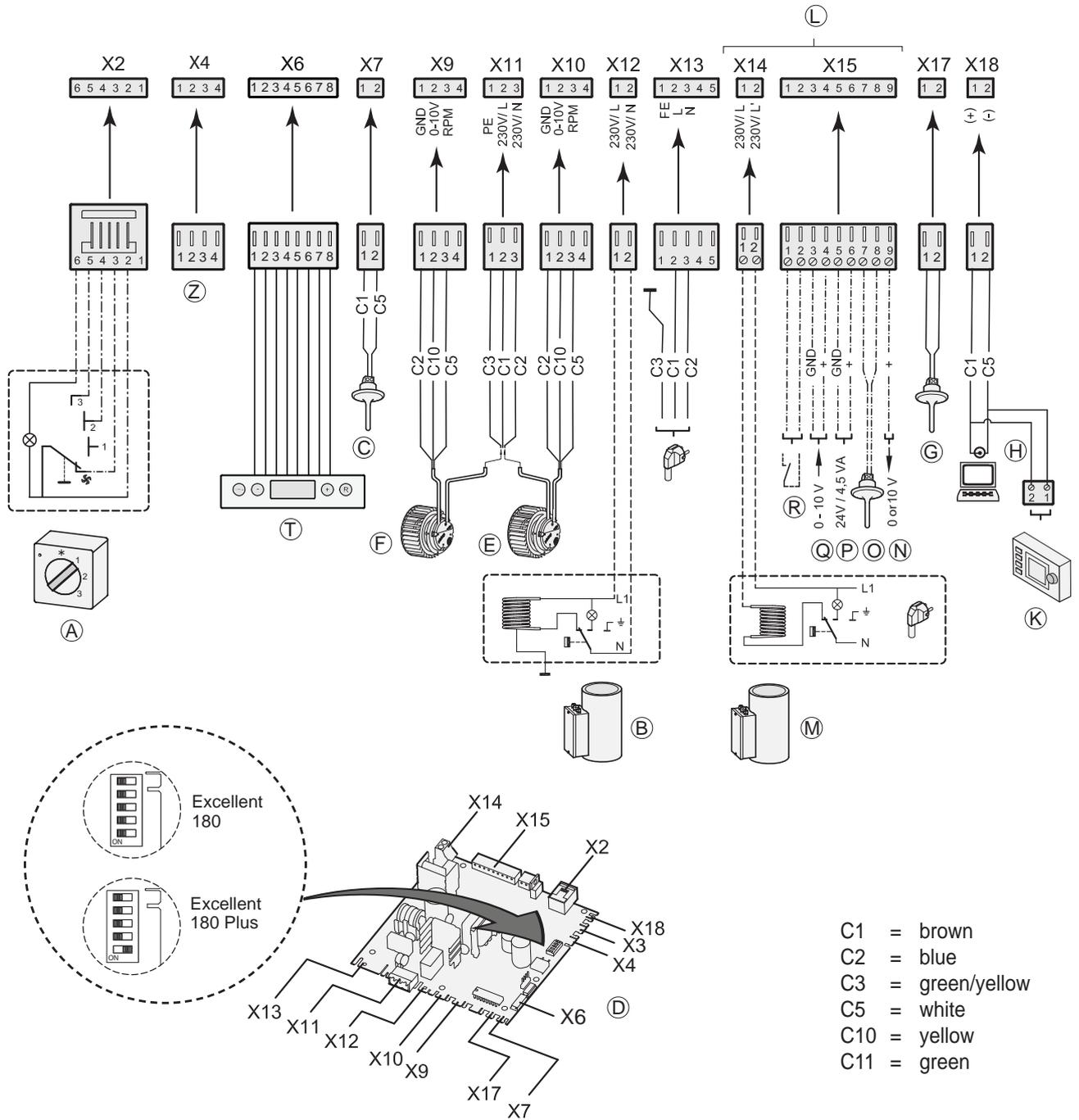
- 9 Both fans are now accessible and can be taken out.



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

- 11 Place the fans back.
12 Place the complete fan assembly back into the appliance.
13 Connect the fan cables to the board again. Refer to the sticker in the appliance for the correct position of the connectors.
14 Slide the mounting plate with the control board into the appliance and mount the display. Reconnect all disconnected cables back into their original positions.
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 on the appliance on the control panel (press “-” key for 5 seconds).
21 After cleaning the filter or placing a new filter, reset the filter indication by pressing the “R” key for 5 seconds.

10.1 Wiring diagram

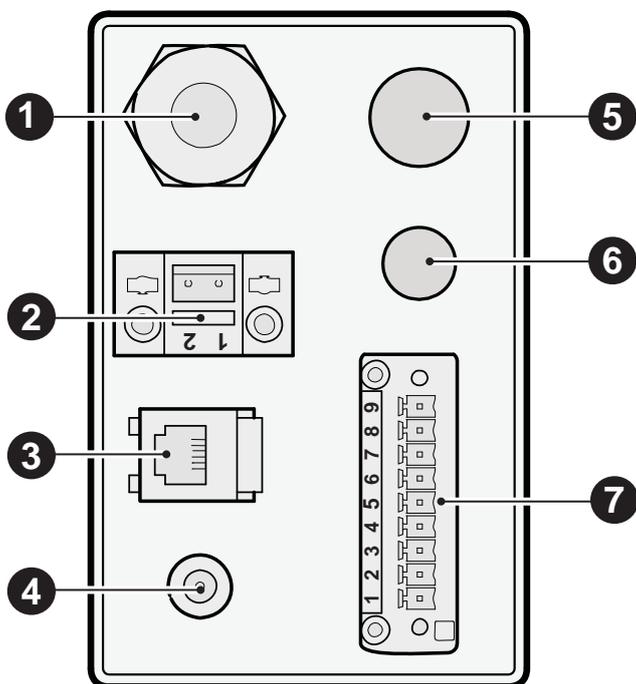


- C1 = brown
- C2 = blue
- C3 = green/yellow
- C5 = white
- C10 = yellow
- C11 = green

- A = Multiple switch
- B = Preheater
- C = Outdoor temperature sensor
- D = Control board
- E = Supply fan
- F = Exhaust fan
- G = Indoor temperature sensor
- H = Service connector
- K = Brink Air Control (accessory)
- L = Only for Renovent Plus version

- M = Postheater (Plus version)
- N = Output 0 or 10 V (Plus version)
- O = Sensor postheater or outdoor geo-heat exchanger (Plus version)
- P = 24 V connection (Plus version)
- Q = Input 0-10V (or NO contact) (Plus version)
- R = NO contact or input 0-10 V)(Plus version)
- T = Control panel
- Z = RH sensor (optional)

11.1 Connections connectors



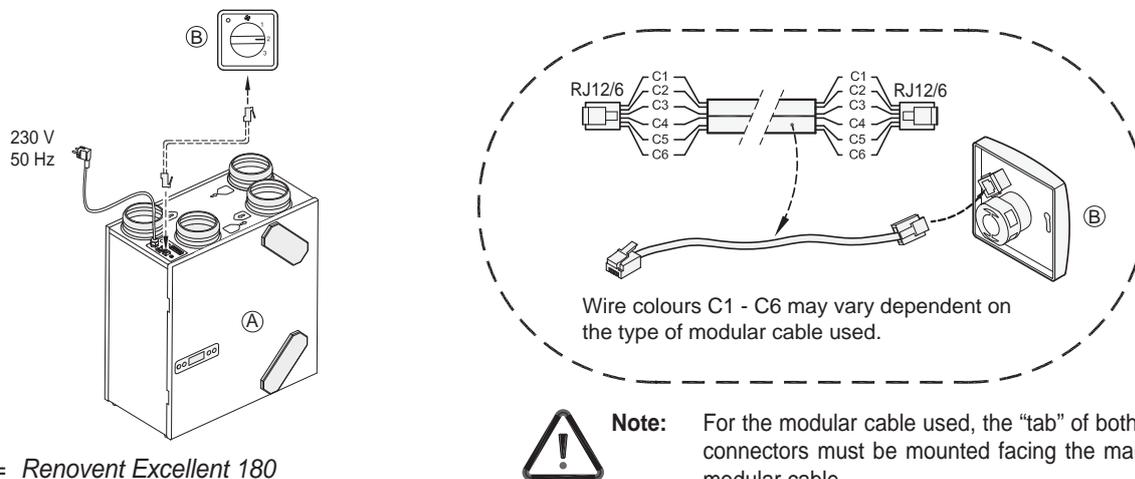
- 1 Power supply cable 230 V**
- 2 eBus connector**
Two-pole screw connector
Only suitable for low voltage.
Note: This connector is polarity sensitive.
- 3 Modular connector for rpm control**
Modular connector type RJ-12
Only suitable for low voltage!
- 4 Service connector**
Computer connection for service purposes
- 5 Extra cable gland**
Gland for 230 V cable from X14 when connecting a postheater or 230 V cable from f X12 for preheater. Always use a strain reliever.
- 6 Extra cable gland**
Gland low voltage cable, for instance for installation of an RH (humidity) sensor. Cut out an opening in the available grommet for feeding through the cable.
- 7 9-pole connector (only for Plus version)**

Connection	Application
1 & 2 (input 1)	<p>Step no.15 = 0: NO contact (= factory setting) §11.6)</p> <p>Step no.15 = 1: 0 - 10 V input; X15-1= GND & 15-2=0-10 V (see §11.7)</p> <p>Step no.15 = 2: NC contact</p> <p>Step no.15 = 3: switching output 1: bypass function active →12V; bypass function not active→0V</p> <p>Step no.15 = 4: switching output 1: bypass function active →0V; bypass not active → 12V</p>
3 & 4 (input 2)	<p>Step no. 21 = 0: NO contact</p> <p>Step no.21 = 1: 0 - 10 V input (= factory setting) see §11.7.</p> <p>Step no. 21 = 2: NC contact</p> <p>Step no. 21 = 3: switching output 2: bypass function active →12V; bypass not active →0V</p> <p>Step no. 21 = 4: switching output 2: bypass function active →0V; bypass not active → 12V</p>
5 & 6	Connection 24 V, Max. 4.5 VA; (5 = ground , 6 = +)
7 & 8	Connection postheater sensor or and outdoor geo-heat exchanger
9	Control signal valve 0 or 10 V (9 = +, 5 = ground)

11.2 Connection examples multiple switch

A multiple switch can be connected to the modular connector X180 of the Renovent Excellent. This modular connector is directly accessible from the top of the appliance (see §11.1).

11.2.1 Multiple switch with filter indication

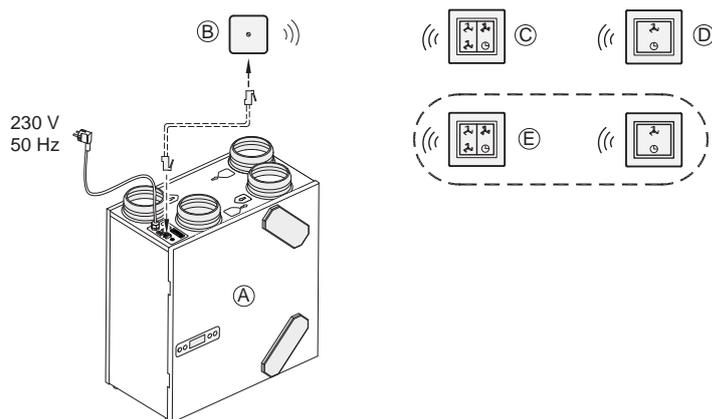


A = Renovent Excellent 180
B = Multiple switch with filter indication



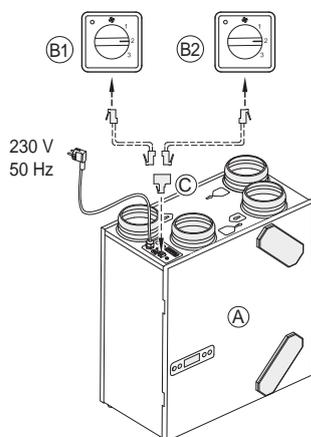
Note: For the modular cable used, the "tab" of both modular connectors must be mounted facing the mark on the modular cable.

11.2.2 Wireless remote control (without filter indication)



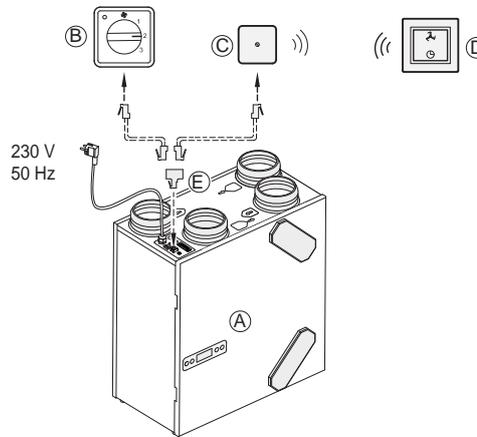
A = Renovent Excellent 180
B = Receiver for wireless remote control
C = Transmitter with 4 settings (for instance the kitchen)
D = Transmitter with 2 settings (for instance the bathroom)
E = Any additional 2- or 4-settings transmitters (A maximum of 6 transmitters can be signed on to 1 receiver)

11.2.3 Additional multiple switch with filter indication



A = Renovent Excellent 180
B1 = Multiple switch with filter indication
B2 = Additional multiple switch with filter indication
C = Splitter

11.2.4 Additional multiple switch wireless remote control

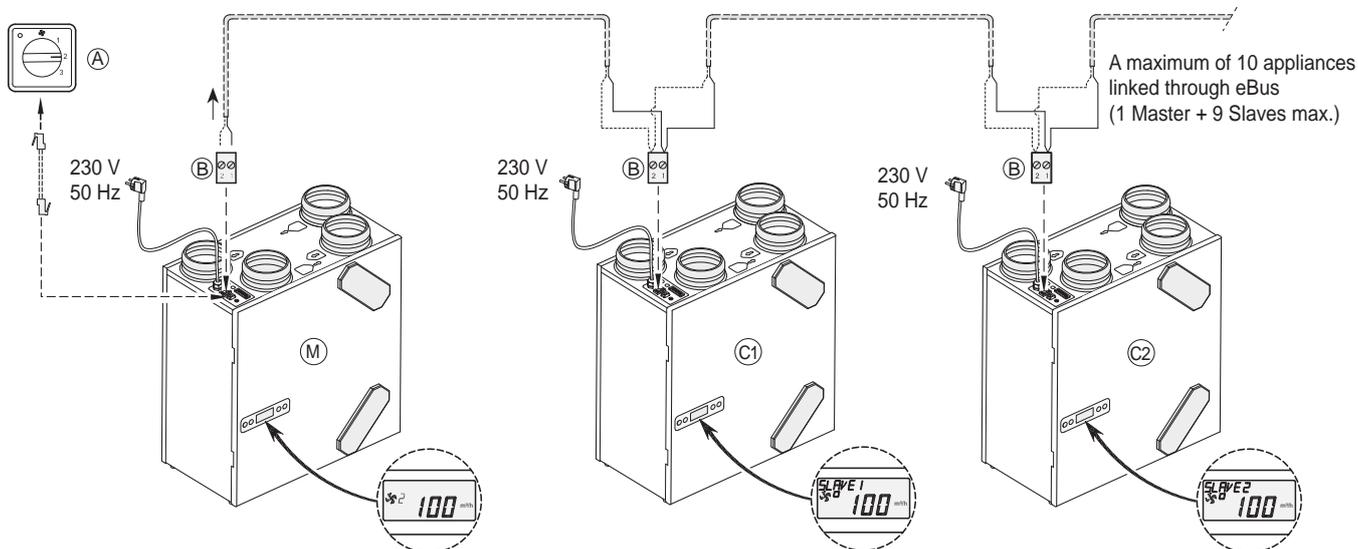


A = Renovent Excellent 180
B = Multiple switch with filter indication
C = Receiver for wireless remote control
D = Transmitter with 2 settings
E = Splitter

11.3 Coupling several Renovent Excellent appliances through eBus; all appliances equal air flowrate



Important: Because of polarity sensitivity, always connect contacts X1-1 to X1-1 and contacts X1-2 to X1-2. Never connect X1-1 and X1-2!



For M (Master):
Set step number 8 to 0
(= factory setting).
Display shows
ventilation mode 1, 2 or 3.

For C1 (Slave1):
Set step number 8 to 1
(= Slave 1).
Display always shows
ventilation mode □.

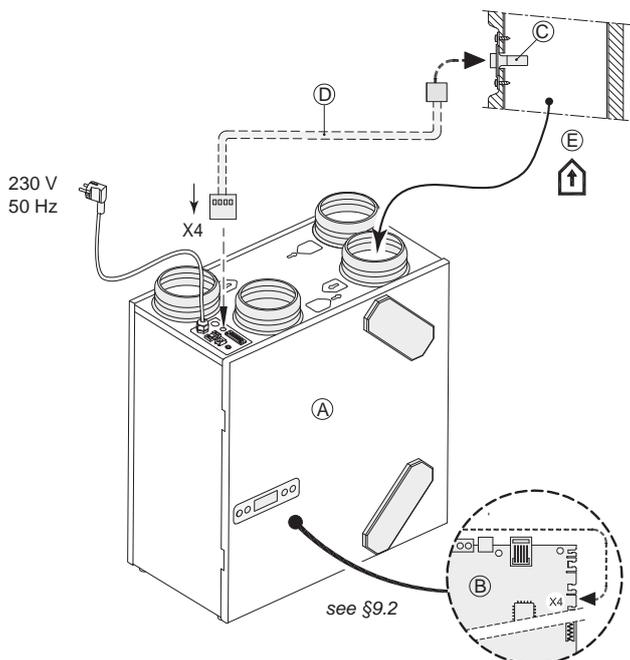
For C2 (Slave2):
Set step number 8 to 2
(= Slave 2).
Display always shows
ventilation mode □.

- A = Multiple switch
- B = 2-Pole connector
- M = Renovent Excellent (Master)
- C1 - C* = Renovent Excellent (Slave)

All Renovents have the same air flow rates as the Renovent set as "Master".

Step no.	Description	(factory setting)	Range
8	eBus address	0	0 = master 1 - 9 = slave 1 - 9

11.4 Connecting RH (humidity) sensor



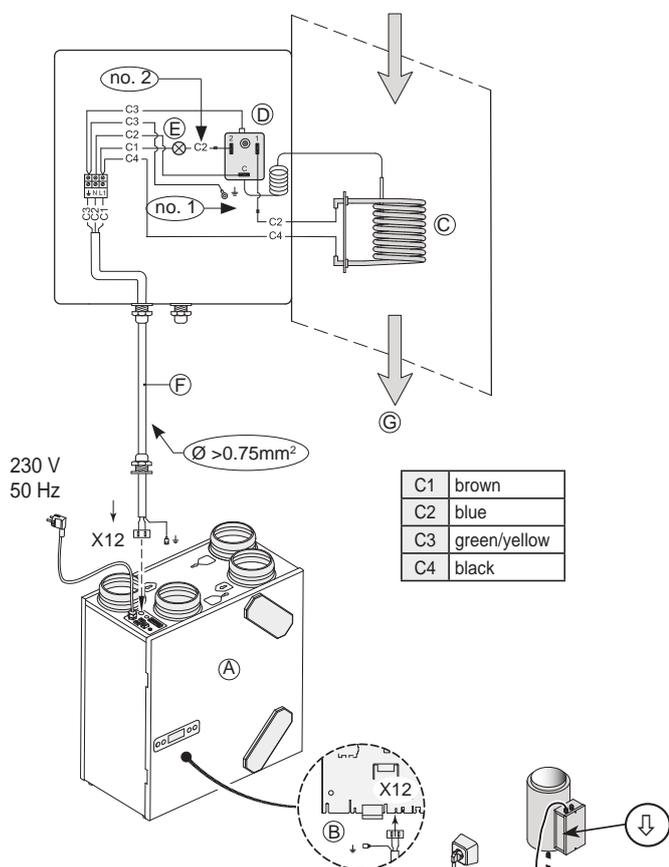
- A = Renovent Excellent 180
- B = Control board; to access board, see §9.2 item 1 - 5
- C = RH (humidity) sensor
- D = The cable that comes with RH sensor;
Cut out an opening in the available grommet for feeding through the sensor cable
- E = Duct "from dwelling" ↑

Step no.	Description	Factory setting	Range
30	Switching on RH sensor	OFF	OFF = switched off ON = switched on
31	Sensitivity	0	+2 most sensitive +1 ↑ 0 basic setting RH sensor -1 ↓ -2 least sensitive

11.5 Connection diagram preheater or postheater connection (only possible for Renovent Excellent Plus)

The preheater and postheater (postheater only possible for Plus version) are connected electrically to connector X14 and connector X12 on the control board (accessible after sliding the board out of the appliance; see §9.2 point 1 - 5); just for a postheater there is also a temperature sensor that must be connected to no. 7 and no. 8 of the 9-pole connector. Please refer to the supplied mounting instructions for more extensive information regarding installation of the postheater or the extra preheater.

Preheater



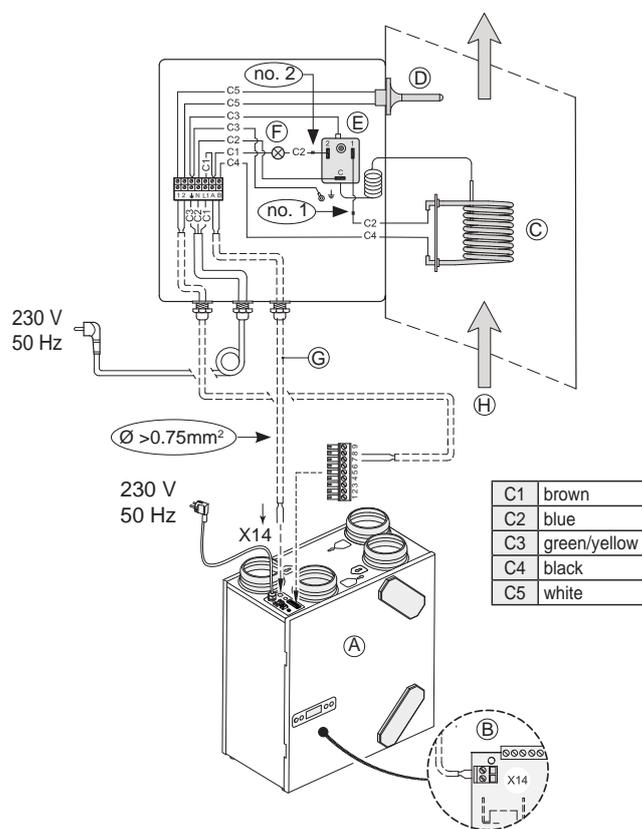
C1	brown
C2	blue
C3	green/yellow
C4	black

A	Renovent Excellent
B	Print
C	Heating coil 1000W max.
D	Maximum safety with manual reset
E	LED maximum safety; lights up when enabled
F	Cable to be connected by installer
G	Air flow direction through heater

I =		To dwelling
II =		To atmosphere
III =		From dwelling
IV =		From atmosphere

Step no.	Description	Factory setting	Range
12	Preheater connected	OFF	OFF = switched off ON = switched on
13	Heater	0	0 = off 1 = preheater 2 = postheater

Postheater (only possible for Plus version)



C1	brown
C2	blue
C3	green/yellow
C4	black
C5	white

A	Renovent Excellent Plus
B	Plus board
C	Heating coil 1000W max.
D	Temperature sensor
E	Maximum safety with manual reset
F	LED maximum safety; lights up when enabled
G	Cables to be connected by installer
H	Air flow direction through heater

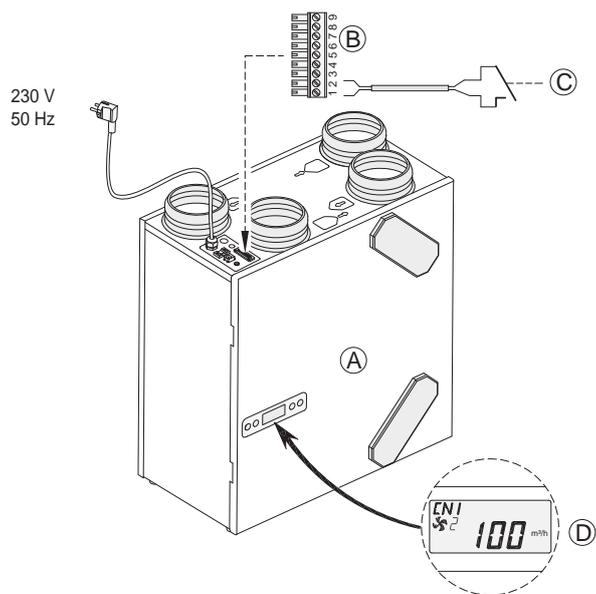
I =		To dwelling
II =		To atmosphere
III =		From dwelling
IV =		From atmosphere

Step no.	Description	Factory setting	Range
13	Heater	0	0 = off 1 = preheater 2 = postheater
14	Temp. postheater	21 °C	15°C - 30°C

11.6 Connecting external switch contact (only possible for Renovent Excellent Plus)

An external switch contact (e.g. switch or relay contact) can be connected to the Renovent Excellent Plus. This external switch contact can be connected to connections no. 1 and no. 2 of the 9-pole connector; this 9-pole connector is directly accessible at the top of the appliance (also refer to §11.1).

If a second input is required as external switch contact, if necessary connections no. 3 and no. 4 of the 9-pole connector, which as standard are preprogrammed as 0-10 V input, can be reprogrammed as second input switch contact. Changing step number 21 from "1" to "0" or "2" makes this 0-10V input an NO contact or NC contact respectively. On application of to switch inputs, switch contact 1 (9-pole connector no. 1 & no. 2) always takes precedence over switch contact 2 (9-pole connector no. 3 & no. 4).



- A = Renovent Excellent 180 Plus
 B = 9-pole connector
 C = Contact connected to switch input 1; for instance a switch or a relay contact
 D = Display Renovent Excellent Plus (text "CN1" appears when contact C is closed.)

Modifying step number 18 enables, when closing the input external switch contact 1 no. 1 and no. 2, setting five different modes for the supply and exhaust fans; dependent on the setting of step numbers 19 and 20, the supply and exhaust fans can run at various flowrates (highest flowrate is shown on the display).

Setting step no. 18	Function conditions	Mode supply fan and exhaust fan	Setting step no. 19 and 20	Action supply or exhaust fan when closing 9-pole connector no. 1 and no. 2
0 (factory setting)	Contact input 1 no. 1 & no. 2 closed	No action possible because contact input 1 has not been activated yet (step number 18 is still at 0)		
1	Contact input 1 no. 1 & no. 2 closed	Action dependent on setting supply fan (step number 19) and exhaust fan (step number 20)	0	Fan switches off
2	Contact input 1 no. 1 & no. 2 closed Satisfies for bypass function active ¹		1	Fan minimum flowrate (50 m ³ /h)
3	Contact input 1 no. 1 & no. 2 closed	The bypass funct. active; automatic bypass control in Renovent Excellent is "overruled"; action fans dependent on step nos. 19 & 20.	2	Fan to flowrate setting 1
			3	Fan to flowrate setting 2
4	Contact input 1 no. 1 & no. 2 closed	The bedroom diffuser opens. Bedroom diffuser 24 V is connected to no. 5 (24V GND) no. 6 (24V +) and no. 9 (0-10 V control); action fans dependent on step nos. 19 & 20.	4	Fan to flowrate setting 3
			5	Fan to flowrate multiple switch
			6	Fan to maximum flowrate
			7	No signal from fan

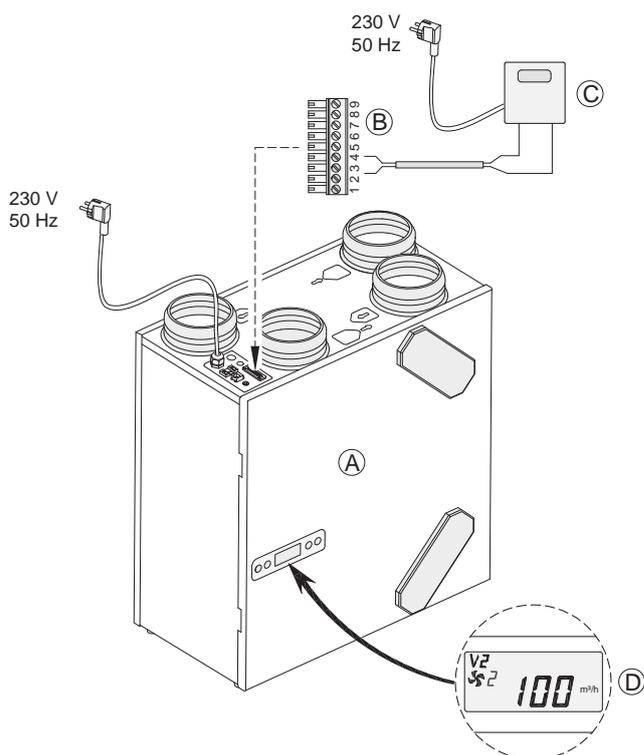
- 1) Bypass function active conditions:
- Outdoor temperature is higher than 10°C
 - Temperature atmosphere is at least lower than temperature from dwelling
 - Temperature from dwelling is higher than the preset bypass temperature (step no. 5).

When connections no. 3 and no. 4 of the 9-pole connector are programmed as switch input 2, step number 24, 25 and 26 can be used to set the various modes the same as for contact input 1. When closing contact input 2, the display shows the text "CN2".

11.7 Connection to 0-10 V input (only possible for Renovent Excellent Plus)

The Renovent Excellent Plus can be equipped with an external provision with 0-10 V control) (e.g. humidity sensor or CO₂-sensor). This external provision can be connected to pins no. 3 and no. 4 of the 9-pole connector; this 9-pole connector is directly accessible at the top of the appliance (also refer to §11.1).

As standard these connections are set as 0-10 V input; it is activated as standard. Ex factory, step number 21 is at "1". When the connected provision is active, the display shows the message V2. The minimum and maximum voltage for a connected provision can be set between 0 and 10 V with step numbers 22 (minimum voltage) and 23 (maximum voltage). The minimum voltage for step number 22 cannot be set higher than the voltage set for step number 23; the maximum voltage for step number 23 cannot be set higher than the voltage set for step number 22.



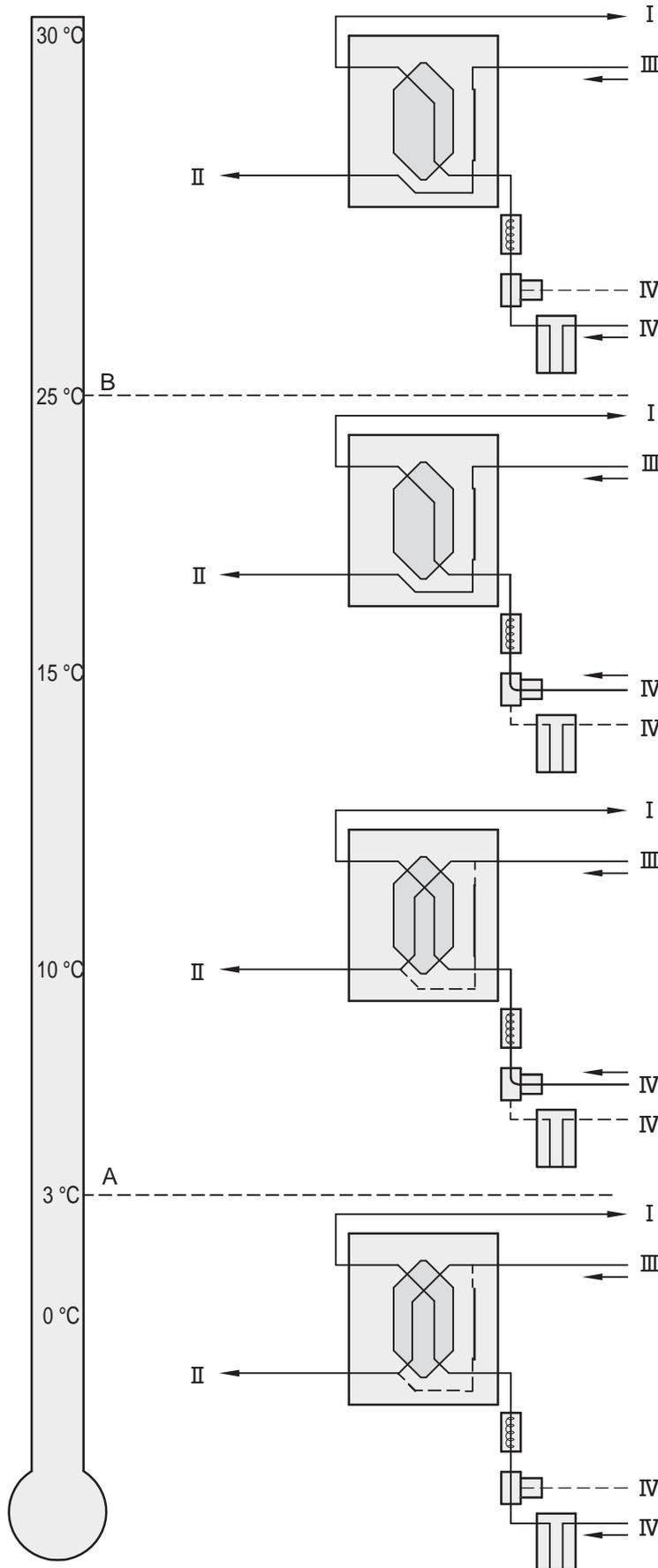
- A = Renovent Excellent Plus
- B = 9-pole connector
- C = Provision connected to 0-10 V input; for instance a humidity sensor or a CO₂ sensor. Connected provision has its own power supply.
- D = Display Renovent Excellent Plus (text "V2" appears when the provision is active on input 2.)

If a second 0-10 V input is required, if necessary connections no. 1 and no. 2 of the 9-pole connector, standard preprogrammed as switch contact, can be reprogrammed to a second input 0-10 V. Modifying step number 15 from "0" or "2" to "1" makes this input into a proportional 0-10 V input. When using two 0 - 10 V inputs, the 0 - 10 V input with the highest flowrate always takes precedence.

Ex factory activated 0 - 10 V input (when active, the display shows the text "V2")				
Connection 9-pole connector	Step number	Description	Setting range	Factory setting
No. 3 and no. 4	21	do/ do not activate 0 - 10 V input	1 = switched on 0 = NO contact 2 = NC contact	1
	22	minimum voltage 0 - 10 V	0.0 V - 10.0 V	0.0 V
	23	maximum voltage 0 - 10 V	0.0 V - 10.0 V	10.0 V

If connection no. 1 and no. 2 on the 9-pole connector are programmed as second 0-10 V input, step numbers 15, 16 and 17 can be used to modify the various modes the same as for the standard 0-10 V input. When the provision is active on the optional second 0-10 V input, the display shows the text "V1".

11.8 Connection example geo-heat exchanger (only possible for the Renovent Excellent Plus)



A geo-heat exchanger can be connected to the Renovent Excellent Plus.

The geo-heat exchanger can be connected to connection no. 5 (GND), no. 6 (24V) and no. 9 (0-10V) of 9-pole connector; this 9-pole connector is directly accessible at the top of the appliance. Connect the outside temperature sensor on 7 and 8 of the 9-pole connector.

When the geo-heat exchanger is connected, it is no longer possible to connect a postheater to the Renovent!

A = Minimum temperature

B = Maximum temperature

- I = To dwelling 
- II = To atmosphere 
- III = From dwelling 
- IV = From atmosphere 

When using a geo-heat exchanger, step number 27 must be changed from "OFF" to "ON". When the air is routed through the geo-heat exchanger, the Renovent Excellent Plus display shows the text "EWT".

Step no.	Description	Factory setting	Range
27	Switching on geo-heat exchanger	OFF	ON = Switched on OFF = Switched off
28	Minimum temperature geo-heat exchanger	5 °C	0 - 10°C
29	Maximum temperature geo-heat exchanger	25 °C	15 - 40°C

12.1 Exploded view

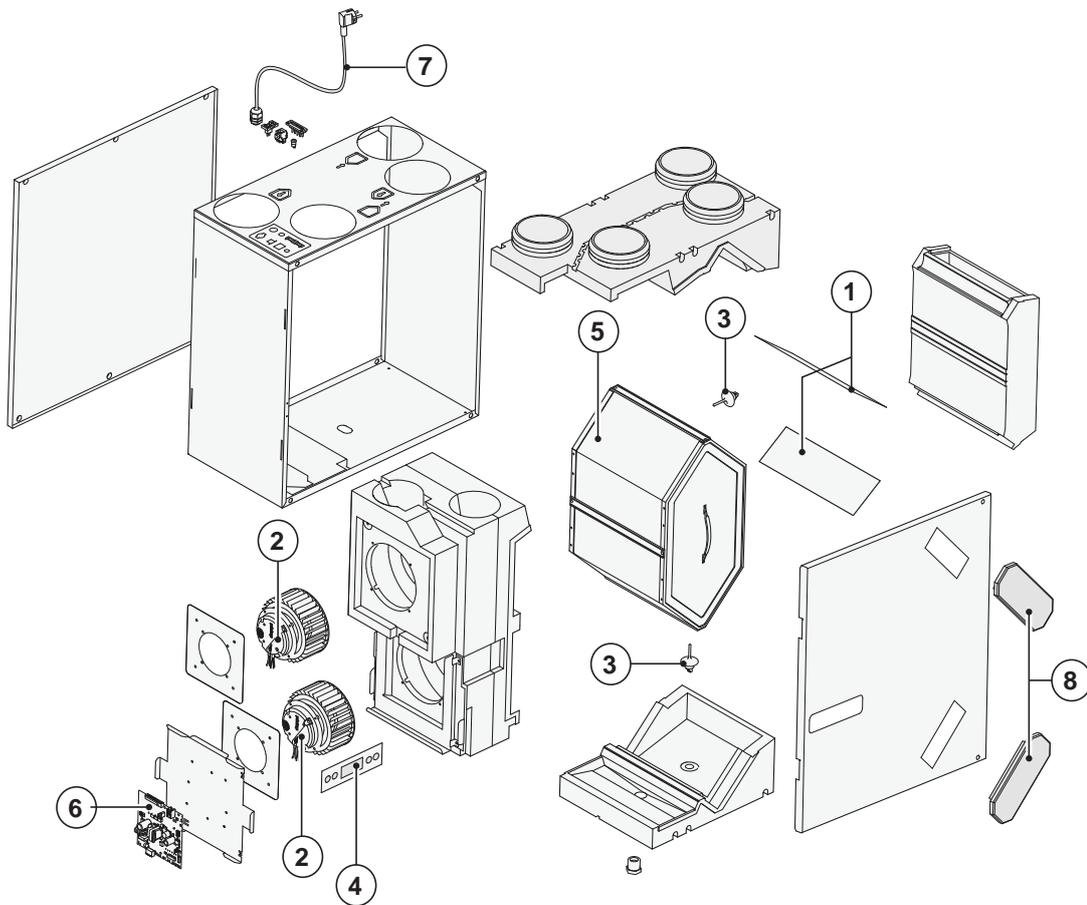
When ordering parts, in addition to the article code number (see exploded view), please state the type of the heat recovery appliance, the serial number, the year of production and the name of the part:

N. B.:

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

Example	
Appliance type	: Renovent Excellent 4/0 R
Serial number	: 282000222501
Year of production	: 2022
Part	: Fan
Article code	: 531618
Quantity	: 1

12.2 Service parts



No.	Article description	Article code
1	Filter kit 2x ISO Coarse 45% (G3) filter (standard version)	531525
2	Fan Excellent 180 (1 pcs)	531618
3	Temperature sensor NTC 10K (1 pcs)	531775
4	Control panel UBP-01	531776
5	Heat exchanger Excellent 180	531498
6	Control board (Plus version) When replacing, please note the correct dip switch settings; see §8.1	531780
7	Cord with mains plug 230 V *	531782
8	Filter plug (2 pcs)	531841

* The mains cable has a print connector.
 When replacing it, always order a replacement mains cable from Brink.
To prevent dangerous situations, a damaged mains connection can only be replaced by a qualified expert.

STEP NO.	DESCRIPTION	FACTORY SETTING	SETTING RANGE	STEP	DISPLAY TEXT + SYMBOLS
01	Air flowrate Excellent 180 : setting	50 m ³ /h	0 m ³ /h or 50 m ³ /h		
02	Air flowrate Excellent 180 : setting 1	75 m ³ /h	50 m ³ /h - 180 m ³ /h	5 m ³ /h	1
03	Air flowrate Excellent 180 : setting 2	100 m ³ /h	50 m ³ /h - 180 m ³ /h	5 m ³ /h	2
04	Air flowrate Excellent 180 : setting 3	150 m ³ /h	50 m ³ /h - 180 m ³ /h	5 m ³ /h	3
05	Bypass function temperature	24.0 °C	15.0°C - 35.0°C	0.5 °C	BYPASS
06	Bypass function hysteresis	2.0 °C	0.0°C - 5.0°C	0.5 °C	BY HYS
07	Operation bypass function	1	0 (= bypass function automatic) 1 (= bypass function-permanently not active) 2 (= bypass function-permanently active)		BYPASS
08	Bus address	0	0 - 9 (0 = Master)		BUSADR
09	Central heating + heat recovery	OFF	OFF (= Central heating+heat recovery off) ON (= Central heating+heat recovery on)		Central heating + heat recovery
10	Imbalance permissible	ON	OFF (= flow rate supply equals exhaust) ON (= imbalance permissible)		
11	Fixed imbalance	0 m ³ /h	-50 m ³ /h - 50 m ³ /h	1 m ³ /h	
12	Preheater connected	OFF	ON (= preheater connected) OFF (= no preheater)		
STEP NO.	DESCRIPTION	FACTORY SETTINGS PLUS	SETTING RANGE	STEP	DISPLAY TEXT + SYMBOLS
13	Heater	0	0 (= off) 1 (= preheater) 2 (= postheater)		HEATER
14	Temperature postheater	21.0 °C	15.0°C to 30.0°C	0.5 °C	HEATER
15	Selection input 1	0	0 (= NO contact) 1 (= 0 - 10 V input) 2 (= NC contact) 3 (= switching output 1/ bypass active → 12V; bypass function not active → 0V) 4 (= switching output bypass active → 0V; bypass function not active → 12V)		V1
16	Minimum voltage input 1	0.0 V	0 V - 10 V	0.5 V	V1 MIN
17	Maximum voltage input 1	10.0 V	0 V - 10 V	0.5 V	V1 MAX
18	Conditions switching input 1	0	0 (= Off) 1 (= On) 2 (= On if conditions bypass function active) 3 (= Bypass function control) 4 (= Bedroom diffuser)		CN1
19	Supply fan mode switching input 1	5	0 (= Supply fan off) 1 (= Absolute min. flowrate 50 m ³ /h) 2 (= Flowrate setting 1) 3 (= Flowrate setting 2) 4 (= Flowrate setting 3) 5 (= Multiple switch) 6 (= Maximum flowrate) 7 (= No signal supply fan)		CN1

STEP NO.	DESCRIPTION	FACTORY SET-TINGS PLUS	SETTING RANGE	STEP	DISPLAY TEXT + SYMBOLS
20	Exhaust fan mode switching input 1	5	0 (= Exhaust fan off) 1 (= Absolute min. flowrate 50 m ³ /h) 2 (= Flowrate setting 1) 3 (= Flowrate setting 2) 4 (= Flowrate setting 3) 5 (= Multiple switch) 6 (= Maximum flowrate) 7 (= No signal exhaust fan)		CN1  
21	Selection input 2	1	0 (= NO contact) 1 (= 0 - 10 V input) 2 (= NC contact) 3 (= switching output 2/ bypass active → 12V; bypass not active → 0V) 4 (= switching output 2/ bypass active → 0V; bypass not active → 12V)		V2
22	Minimum voltage input 2	0.0 V	0.0 V - 10.0 V	0.5 V	V2 MIN
23	Maximum voltage input 2	10.0 V	0.0 V - 10.0 V	0.5 V	V2 MAX
24	Conditions switching input 2	0	0 (= Off) 1 (= On) 2 (= On if conditions bypass function active) 3 (= Bypass function control) 4 (= Bedroom diffuser)		CN2
25	Supply fan mode switching input 2	5	0 (= Supply fan off) 1 (= Absolute min. flowrate 50 m ³ /h) 2 (= Flowrate setting 1) 3 (= Flowrate setting 2) 4 (= Flowrate setting 3) 5 (= Multiple switch) 6 (= Maximum flowrate) 7 (= No signal supply fan)		CN2  
26	Exhaust fan mode switching input 2	5	0 (= Exhaust fan off) 1 (= Absolute min. flowrate 50 m ³ /h) 2 (= Flowrate setting 1) 3 (= Flowrate setting 2) 4 (= Flowrate setting 3) 5 (= Multiple switch) 6 (= Maximum flowrate) 7 (= No signal exhaust fan)		CN2  
27	Geo-heat exchanger	OFF	OFF (= Diffuser control geo-heat exchanger off) ON (= Diffuser control geo-heat exchanger on)		EWT
28	Minimum temperature geo-heat exchanger (Below this temperature the diffuser opens.)	5.0 °C	0.0°C - 10.0°C	0.5 °C	EWT T- 
29	Maximum temperature geo-heat exchanger (Above this temperature the diffuser opens.)	25.0 °C	15.0°C - 40.0°C	0.5 °C	EWT T+ 
STEP NO.	DESCRIPTION	FACTORY SETTING	SETTING RANGE	STEP	DISPLAY TEXT + SYMBOLS
30	RH sensor	OFF	OFF (= RH sensor switched off) ON (= RH sensor switched on)		
31	Sensitivity RH sensor	0	+2 most sensitive +1 ↑ 0 basic setting RH sensor -1 ↓ -2 least sensitive		

STEP NO.	DESCRIPTION	FACTORY SETTING RENOVENT EXC. PLUS	ADJUSTING RANGE	STEP
35	Switching on and off eBus CO ₂ sensor	OFF	ON - OFF	-
36	Min. PPM eBus CO ₂ -sensor 1	400	400-2000	25
37	Max. PPM eBus CO ₂ -sensor 1	1200		
38	Min. PPM eBus CO ₂ -sensor 2	400		
39	Max. PPM eBus CO ₂ -sensor 2	1200		
40	Min. PPM eBus CO ₂ -sensor 3	400		
41	Max. PPM eBus CO ₂ -sensor 3	1200		
42	Min. PPM eBus CO ₂ -sensor 4	400		
43	Max. PPM eBus CO ₂ -sensor 4	1200		
44	Flow correction	100%	90% - 110%	%
45	Default position switch	1	0 - 1	-

STEP NO.	DESCRIPTION	FACTORY SETTING	ADJUSTING RANGE	STEP
46	Brink Connect	1	1 Brink Connect function (extern, Brink Connect no RHT sensor) 3 Brink Connect (intern)	

Productdatasheet conform Ecodesign (EU), nr. 1254/2014 (Annex IV)					
Supplier:		Brink Climate Systems B.V.			
Model:		Renovent Excellent 180 (Plus)			
Climate zone	Type of control	SEC-Value in kWh/m ² /a	Energyclass (SEC)	The annual electricity consumption (AEC) in kWh	The annual heating saved (AHS) in kWh
Average	Manual	-33,11	B	433	4377
	Clock	-34,35	A	395	4356
	Central demand control	-36,67	A	326	4413
	Local demand control	-40,73	A	209	4528
Cold	Manual	-69,12	A+	970	8465
	Clock	-70,63	A+	932	8521
	Central demand control	-73,50	A+	863	8633
	Local demand control	-78,65	A+	746	8857
Warm	Manual	-9,86	F	388	1957
	Clock	-10,93	E	350	1970
	Central demand control	-12,94	E	281	1996
	Local demand control	-16,37	E	164	2047
Type of ventilation unit:		Ventilation unit with heat recovery			
Fan:		Variable speed EC fan			
Type of heat exchanger:		Recuperative plastic cross-counterflow heatexchanger			
Thermal efficiency:		82%			
Maximum flow rate:		180 m ³ /h			
Electric power input:		82 W			
Sound power level Lwa:		42 dB(A)			
Reference flow rate :		126 m ³ /h			
Reference pressure difference:		50 Pa			
Specific Power Input (SEL):		0,31 Wh/m ³			
Control factor:		1,0 in combination with manual switch			
		0,95 in combination with clock			
		0,85 in combination with central demand control with 1 sensor			
		0,65 in combination with local demand control with at least two or more sensors and with at least a two-zone control			
Leakage*:	Internal	0,7%			
	External	0,8%			
Filterwarning:		On the display of the ventilation unit / Manual switch / clock control. Attention! For optimal energy efficiency and a proper operation a regular filter inspection, cleaning or replacement is necessary.			
Internet address for Assembly instructions:		https://www.brinkclimatesystems.nl/support/downloads			
Bypass:		Yes (supply air fan off)			

* Measurements executed by TZWL according to the DIBT-standards (TZWL-report M.94.10.01.095.AA.0409, Octobre 2007)

Classification from 1 January 2016	
SEC class ("Average climate")	SEC in kWh/m ² /a
A+ (Most efficient)	SEC < -42
A	-42 ≤ SEC < -34
B	-34 ≤ SEC < -26
C	-26 ≤ SEC < -23
D	-23 ≤ SEC < -20
E (Least efficient)	-20 ≤ SEC < -10

Modifications reserved

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

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Air for life

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